Reconstructing the Chernobyl Nuclear Power Plant (CNPP) accident 30 years after. A unique database of air concentration and deposition measurements over Europe

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Supplementary Data

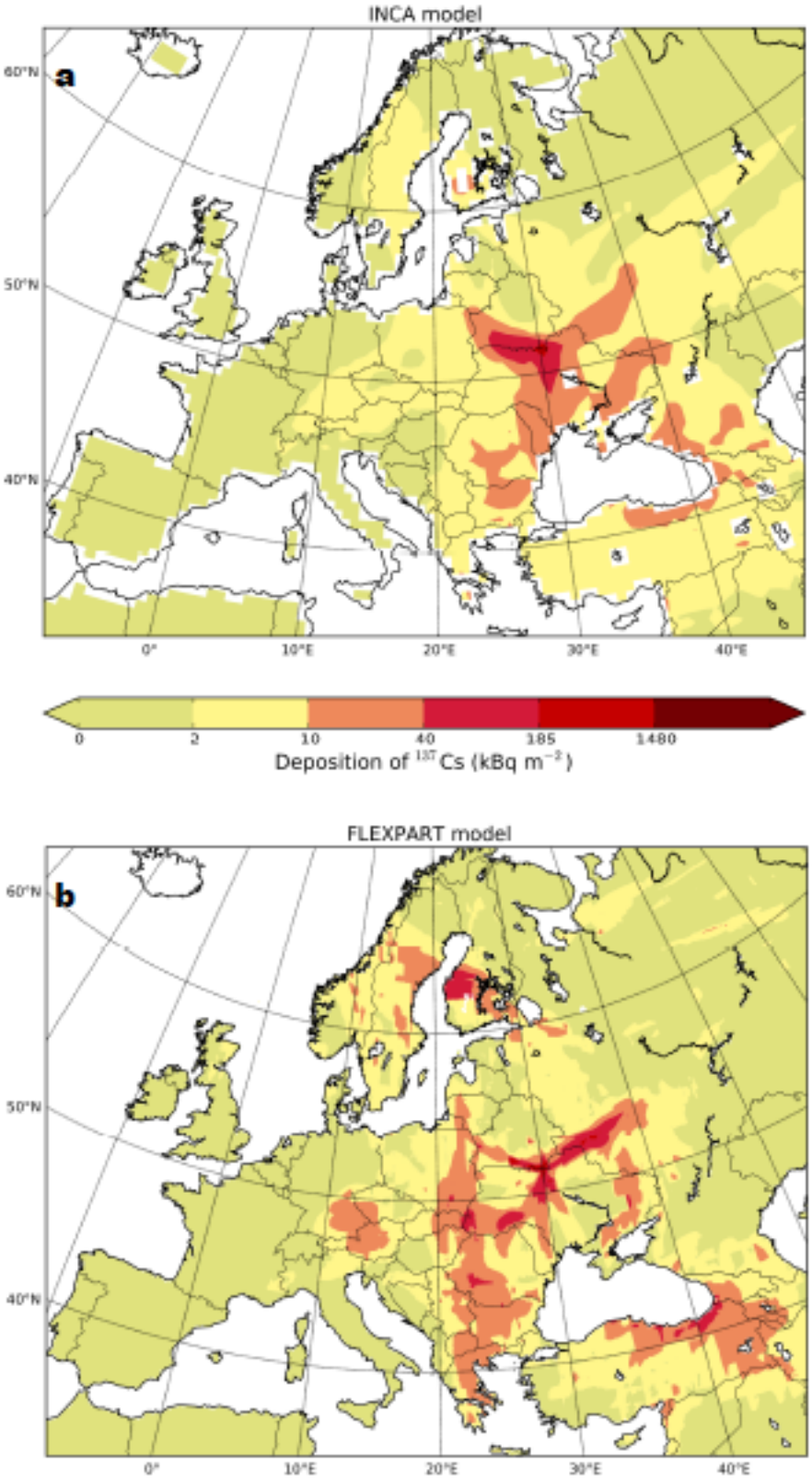

Fig. S1. (a) Deposition maps of ^{137}Cs based on simulations of the Euleurian transport model LMDZORINCA (INCA) and **(b)** the Lagrangian particle dispersion model FLEXPART.

Although biases are observed, deposition patterns similar to the observations have been obtained.

References

Aakrog A., Botter-Jensen L., Chen Quing Jiang D.H. et al. Environmental Radioactivity in Denmark in 1986. Riso National Laboratory Report Riso. - Demark: Roskilde, R-549, 1988.

Anspaugh L.R., Shinn J.H., Phelps P.L., Kennedy N.C. Resuspension and redistribution of plutonium in soils // Health Phys. - 1975. - 29. - P. 571 - 582.

Anttila P., Kulmala M., Raunemaa T. Dry and wet deposition of Chernobyl aerosols in southern Finland // J. Aerosol Sci. - 1987. - Vol. 18. - P. 939 - 942.

Besnus F., Peres J.M., Guillou P. et al. Contamination characteristics of podzols from districts of Ukraine, Belarus and Russia strongly affected by the Chernobyl accident. Luxembourg, Office for Official Publications of the European Communities, Report EUR 16912 EN. - 1997.

Bunzl K., Schimmack W., Krouglov S.V., Alexakhin R.M. Changes with time in the migration of radiocesium in the soil, as observed near Chernobyl and in Germany, 1986-1994 // Sci. Total Environ. - 1995. - Vol. 175. - P. 49 - 56.

Devell L., Tovedal H., Bergström U. et al. Initial observations of fallout from the reactor accident at Chernobyl // Nature. - 1986. - Vol. 321.

Devil L., Toverdal H., Bergström U. et al. Initial observation of fallout from the reactor accident at Chernobyl // Nature. - 1986. - Vol. 321.

Feher I. Experience in Hungary on the radiological consequences of the Chernobyl accident // Environment International. - 1988. - Vol. 14. - P. 113 - 135.

Garger E.K. Air concentrations of radionuclides in the vicinity of Chernobyl and effects of resuspension // J. Aerosol Sci. - 1994. - Vol. 25. - P. 745 - 753.

Garger E.K., Hofman F.O., Thiessen K.M. Uncertainty of the long-term ressuspension factor // Atmos. Environ. - 1997. - Vol. 31. - P. 1647 - 1656.

Garger E.K., Kashpur V., Belov G. et al. Measurement of resuspended aerosol in the Chernobyl area. Part I: Discussion of instrumentation and uncertainty of measurement // Radiation and Environmental Biophysics. - 1997.

Garger E.K., Kashpur V., Paretzke H.G., Tschiersch J. Measurement of resuspended aerosol in the Chernobyl area. Part II: Size distribution of radioactive particles // Radiat. Environ. Biophys. - 1998. - Vol. 36 . - P. 275 - 283.

Garger E.K., Kashpur V.A., Belov G. et al. Measurement of resuspended aerosol in the Chernobyl area. 1. Discussion of instrumentation and estimation of measurement uncertainty // Radiat. Environ. Biophys. - 1997. - Vol. 36. - P. 139 - 148.

Garland J.A. and Pomeroy I.R. Resuspension of fall-out material following the Chernobyl accident // J. Aerosol Science. - 1994. - 25(5). - P. 793 - 806.

Garland J.A., Pattenden N.J., Playford K. Resuspension following Chernobyl. Expert Reviews of the Modelling of Resuspension, Seasonality and Losses during Food Processing. IAEA-TECDOC-647. - Vienna, Austria, 1991.

Garland J.A., Pomeroy I.R. Resuspension of fall-out material following the Chernobyl accident // J. Aerosol Science. - 1994. - Vol. 25 (5). - P. 793 - 806.

Gudihy R.G., Finch G.L., Hahn F.F. et al. Characteristics of Radioactive Particles Released from the Chernobyl Nuclear Reactor // Environ. Sci. Technology. - 1989. - Vol. 23. - P. 89 - 95.

Holander W., Garger E. et al. Contamination of surfaces by resuspended material. Experimental collaboration project no. 1. Final report. Office for Official Publications of the European Communities, Luxembourg, EUR 16527, 1996.

Hollander W. Resuspension factors of 137 Cs in Hannover after the Chernobyl accident // J. Aerosol Sci. - 1994. - Vol. 25. - P. 789 - 792.

Horn H.-G., Bonka H., Maqua M. Measured particle bound activity size distribution, deposition velocity, and activity concentration in rainwater after the Chernobyl accident // J. Aerosol Sci. - 1987. - Vol. 18. - P. 681 - 684.

Hotzl H., Rosner G., Winkler R. Ground deposition and air concentrations of Chernobyl fallout radionuclides at Munich-Neuherberg // Radiochimica Acta. - 1987. - Vol. 41. - P. 181 - 190.

Jost D.T., Gäggeler H.W., Baltensperger U. et al. Chernobyl fallout in size fractionated aerosol // Nature. - 1986. - 324. - P. 22 - 23.

Kuriny V., Ivanov Y., Kashparov V. et al. Particle-associated Chernobyl fall-out in the local and intermediate zones // Ann. Nucl. Energy. - 1993. - Vol. 20. - P. 415 - 420.

Livens F.R., Baxter M.S. Particle size and radionuclide levels in some West Cumbrian soils // Sci. Total Env. - 1988. - Vol. 70. - P. 1 - 17.

Makhon`ko K.P., Robotnova F.A. Resuspension and radioactive fallout from soil surface and particulate contamination of vegetative cover // Pure Appl. Geophys. - 1982. - Vol. 120. - P. 54 - 66.

Makhonko K.P. Wind uplift of radioactive dust from the ground // Atomic Energy. - 1992. - Vol. 72, No. 5, May, translated from Russian.

Reineking A., Becker K.H., Porstendцrfer J., Wicke A. Air activity concentrations and particle size distributions of the Chernobyl aerosol // Radiation Protection Dosimetry. - 1987. - Vol. 19. - P. 159 - 163.

Rosner G., Wincler R. Long-term variation (1986 - 1998) of post – Chernobyl 90Sr,137Cs, 238Pu and 239,240Pu concentrations in air, depositions to ground, resuspension factors and resuspension rates in south Germany // The Science of the Total Environment. - 2001. - Vol. 273. - P. 11 - 25.

Saari H., Luokkanen S., Kulmala M. et al. Isolation and characterization of hot particles from Chernobyl fallout in southwestern Finland // Health Physics. - 1989. - Vol. 57, No. 6. - P. 975 - 984.

Slinn W.G.N. Parametrizations for Resuspension and for Wet and Dry Deposition of Particles and Gases for use in Radiation Dose Calculations // Nucl. Saf. - 1978. - Vol. 19 (2). - P. 205 - 219.

Tschiersch J., Georgi B. Chernobyl fallout size distribution in urban areas // J. Aerosol Sci. - 1987. - Vol. 18. - P. 689 - 692.

USSR State Cjmmitee on the Utilization of Atomic Energy “ The Accident at the Chernobyl NPP and its Consequences” IAEA Post Review Meeting, Vienna, 25 – 29 August 1986.

Vintersved I. Intercomparison of large stationary air samplers. In: Dahlgaard H (ed) Nordic radioecology. The transfer of radionuclides through Nordic ecosystems to man. - Amsterdam: Elsevier, 1994. - P. 385 - 405.

Vintersved I., Arntsing R., Bjurman B. et al. Resuspension of radioactive caesium from Chernobyl accident. In: Moberg L. (ed) The Chernobyl fallout in Sweden. - Stockholm: Swedish Radiation Protection Institute, 1991. - P. 85 - 106.

Wagenpheil F. and Tschiersch. Resuspension of coarse fuel particles in the Chernobel area // J. of Environmental Radioactivity. - 2001. - Vol. 52. - P. 5 - 16.

Yoschenko V.I., Kashparov V.A., Protsak V.P., Tsciersch J. Autoradiographical methods for the assessment of radionuclides in hot particles on filter samples // Applied Radiation and Isotopes. - 2002. - Vol. 58. - P. 95 - 102.

Search History
* #1 ((Chernobyl) in TI) and (English in la) (1145 records)

Record 1 of 1145 in INSPEC 2001/05 Week 5

Title: Chernobyl 15 years after: radioactivity release
Author: Borovoi-AA; Gagarinski-AYu
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Nuclear-Europe-Worldscan. vol.21, no.1-2; Jan.-Feb. 2001; p.34-5
Publication Year: 2001
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: During all the active phase of the Chernobyl accident, a major portion of radionuclides was released from the destroyed reactor core in the composition of finely dispersed fuel particles in a UO/sub 2/ matrix. Under the established process of lava formation (~2000 degrees C), only volatile substances, such as halogens, alkaline metals, the tellurium group, could come out of the fuel independently. Over 95% of the irradiated fuel from the destroyed reactor core, and, consequently, >95% of nonvolatile radionuclides related to the fuel matrix, stayed inside the "Ukrytie" facility, which encloses the destroyed unit. Present day assessments of the release of such radiologically hazardous radionuclides, such as /sup 137/Cs, /sup 134/Cs and /sup 131/I, are given. Integral release gives ~90 MCi for radionuclides with T/sub 1/2 / >or= 20 hours, accounting for noble gases.
Number of References: 6
Descriptors: disasters-; fission-reactor-accidents; radioactive-pollution
Identifiers: Chernobyl-; radioactivity-release; fuel-particles; halogens-; alkaline-metals
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A28; A86; A2; A8
Treatment Codes: X (Experimental)
Coden: NEWOEN
ISSN: 1016-5975
SICI: 1016-5975(200101/02)21:1/2L.34:CYAR;1-L

Sort Key: 0001016597520010002100001000000000000034
Material Identity Number: N806-2001-001
Accession Number: 6937012
Update Code: 200121

Record 2 of 1145 in INSPEC 2001/05 Week 2

Title: Stabilization of the Chernobyl shelter
Author: Heriot-ID

Author Affiliation: Eur. Bank for Reconstruction & Dev., London, UK
Source: Proceedings-of-the-Institution-of-Mechanical-Engineers,-Part-A-(Journal-of-Power-and-Energy). vol.215, no.A1; 2001; p.1-11
Publication Year: 2001
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Shelter enclosing the wrecked Chernobyl Unit 4 reactor continues to deteriorate posing an increasing environmental threat due to structural degradation and the ingress of water. The uncertain nature of the wreckage within the Shelter combined with structural instability and high radiation fields make the remediation a very challenging task. A decision-based approach known as the Shelter Implementation Plan (SIP) has been adopted as a way of resolving the many difficulties. This plan has the financial support of more than 20 nations under the Chernobyl Shelter Fund (CSF) which is administrated by the European Bank for Reconstruction and Development (EBRD). Project execution will pose a number of unique problems in technology, project management, contracting, nuclear regulation and risk management.
Number of References: 6
Descriptors: fission-reactor-decommissioning; fission-reactor-safety; nuclear-power-stations; project-management; risk-management
Identifiers: Chernobyl-shelter-stabilisation; environmental-threat; structural-degradation; water-ingress; remediation-; Shelter-Implementation-Plan; Chernobyl-Shelter-Fund; European-Bank-for-Reconstruction-and-Development; project-management; contracting-; nuclear-regulation; risk-management
Classification Codes: A2847 (Fission-reactor-decommissioning); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220 (Nuclear-power-stations-and-plants); B0170C (Project-and-design-engineering); B0140 (Administration-and-management); A28; B82; B01; A2
Treatment Codes: G (General-or-Review)
Coden: PMAEET
ISSN: 0957-6509
SICI: 0957-6509(2001)215:A1L.1:SCS;1-K

Sort Key: 00009576509200100215000010000000000000001
Material Identity Number: N930-2001-002
Accession Number: 6917816
Update Code: 200118

Record 3 of 1145 in INSPEC 2001/05 Week 2

Title: Experiences using laser Doppler vibrometers at Chernobyl Nuclear Power Plant
Author: Yarovoi-L; Robur-L; Siegmund-G; Tushev-D
Author Affiliation: Mech. & Math. Fac., Kyiv Univ., Kiev, Ukraine

Source: Proceedings-of-the-SPIE --The-International-Society-for-Optical-Engineering. vol.4072; 2000; p.479-87
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: Fourth International Conference on Vibration Measurements by Laser Techniques: Advances and Applications. 21-23 June 2000; Ancona, Italy. Sponsored by: SPIE
Country of Publication: USA
Language: English
Abstract: The objective of this work was to evaluate all advantages and disadvantages of the laser Doppler vibrometry with respect to nuclear power plant (NPP) equipment examination. The Chernobyl NPP is the ideal place for these purposes. The diagnostic ability on different Chernobyl NPP systems (e.g. third power unit main circulators, bearing shaft of fifth turbogenerator and various pipelines) has been demonstrated using laser Doppler vibrometers. The measurements performed by laser vibrometers were checked by standard Chernobyl NPP vibration measurement tools. The laser Doppler vibrometers have been tested and have shown full functionality in NPP zone at 0.5 sievert/hour radiation levels, high electromagnetic fields (magnetic component up to 5 kA/m) and significant vibrations.
Number of References: 4
Descriptors: condition-monitoring; Doppler-measurement; fission-reactor-instrumentation; fission-reactor-safety; laser-velocimetry; vibration-measurement
Identifiers: laser-Doppler-vibrometers-use; Chernobyl-Nuclear-Power-Plant; equipment-examination; third-power-unit-main-circulators; bearing-shaft; fifth-turbogenerator; pipelines-; high-electromagnetic-fields; nuclear-power-plant-safety; NDT-; remote-measurement
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0630M (Measurement-of-mechanical-variables); A4262E (Metrological-applications-of-lasers); A2843H (Instrumentation-and-experiments-with-fission-reactors); B8220B (Nuclear-reactors); B7320G (Mechanical-variables-measurement); B4360E (Metrological-applications-of-lasers); A28; A06; A42; B82; B73; B43; A2; A0; A4
Treatment Codes: A (Application); X (Experimental)
Coden: PSISDG
ISSN: 0277-786X
Copyright Clearance Center Code: 0277-786X/2000/$15.00
SICI: 0277-786X(2000)4072L.479:EULD;1-B

Sort Key: 0000277786X20000407200000000000000000479
Material Identity Number: C574-2000-228
Accession Number: 6913839
Update Code: 200118

Title: On the seismic event of April 26, 1986, in the area of the Chernobyl nuclear power plant
Author: Aptikaev-FF; Barkovskii-EV; Kedrov-OK; Kopnichev-YuF; Omel'chenko-VD; Strakhov-VN
Author Affiliation: Inst. of Phys. of the Earth, Acad. of Sci., Moscow, Russia
Source: Izvestiya,-Physics-of-the-Solid-Earth. vol.36, no.3; March 2000; p.256-61
Translated from: Rossiiskaya-Akademiya-Nauk-Fizika-Zemli. no.3; March 2000; p.75-80
Publication Year: 2000
Record Type: Journal-article
Country of Publication: Russia; Translation: Russia
Language: English
Abstract: A weak earthquake of April 26, 1986 (MPV=2.6, MS=-1.4) was recorded at three temporary stations in the Chernobyl nuclear power plant area. Based on the analysis of seismic records and plant operation monitoring data, a seismic source is shown to have arisen at least 11 s before the explosion. A preliminary seismogram analysis yields evidence of the natural origin of the seismic shock. Possible hazardous effects of low-amplitude earthquakes are discussed.
Number of References: 20
Descriptors: accidents-; earthquakes-; fission-reactor-accidents; fission-reactor-safety
Identifiers: Russia-; Ukraine-; earthquake-; AD-1986-04-26; seismic-event; Chernobyl-nuclear-power-plant; nuclear-power-station; weak-earthquake; seismic-records; plant-operation-monitoring-data; seismic-source; natural-origin; hazardous-effect; low-amplitude-earthquake; accident-; nuclear-reactor-safety; fission-reactor
Classification Codes: A9130B (Seismic-sources); A9330G (Europe); A9190 (Other-topics-in-solid-Earth-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A91; A93; A28; A9
Treatment Codes: X (Experimental)
Coden: FIZEEG; Translation: IPSEBQ
ISSN: 0002-3337; Translation: 1069-3513
SICI: 0002-3337(200003)3L.75;1-M
SICI of Translation: 1069-3513(200003)36:3L.256:SEA1;1-7

Sort Key: 00000023337200000000000030000000000000075
Material Identity Number: G436-2000-004
Accession Number: 6902724
Update Code: 200116

Record 5 of 1145 in INSPEC 2001/01-2001/04

Title: Assessment of external dose to inhabitants evacuated from the 30-km zone soon after the Chernobyl accident
Author: Imanaka-T; Koide-H
Author Affiliation: Res. Reactor Inst., Kyoto Univ., Japan
Source: Radiatsionnaya-Biologiya-Radioekologiya. vol.40, no.5; 2000; p.582-8

Publication Year: 2000
Record Type: Journal-article
Country of Publication: Russia
Language: English
Abstract: According to reports by the former USSR government, IAEA and WHO, no case of acute radiation effects was recognized among inhabitants who were evacuated from the 30-km zone around the Chernobyl site soon after the accident on April 26, 1986. Along with the collapse of the USSR, however, several documents appeared that report the occurrence of acute radiation effects among inhabitants. In order to check the possibility of acute radiation effects among evacuees, we evaluated the external dose of evacuees until their evacuation based on the data about the radiation situation soon after the accident. Our estimates indicate that a substantial number of inhabitants in some villages could have received more than 0.5 Sv that is recognized by ICRP and UNSCEAR as a threshold dose for a clinically significant depression of the blood-forming function of bone marrow. Some of them could have received more than 1 Sv.
Number of References: 22
Descriptors: bone-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radiation-protection
Identifiers: former-USSR-government; acute-radiation-effects; inhabitants-; Chernobyl-site; evacuees-; external-dose; evacuation-; radiation-situation; villages-; threshold-; clinically-significant-depression; blood-forming-function; bone-marrow; Chernobyl-accident; 0-5-Sv; 1-Sv
Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry-in-medical-physics); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A8760P (Radiation-protection-in-medical-physics); A28; A87; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 5.0 E01 Sv; radiation dose equivalent 1.0 E00 Sv
Coden: RBIREJ
ISSN: 0869-8031
SICI: 0869-8031(2000)40:5L.582:AEDI;1-8

Sort Key: 00008698031200000040000050000000000000582
Material Identity Number: D079-2001-001
Accession Number: 6895404
Update Code: 200115

Record 6 of 1145 in INSPEC 2001/01-2001/04

Title: The outcome of local radiation injuries: 14 years of follow-up after the Chernobyl accident
Author: Gottlober-P; Steinert-M; Weiss-M; Bebeshko-V; Belyi-D; Nadejina-N; Stefani-FH; Wagemaker-G; Fliedner-TM; Peter-RU

Author Affiliation: Dept. of Dermatology, Ulm Univ., Germany
Source: Radiation-Research. vol.155, no.3; March 2001; p.409-16
Publication Year: 2001
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The Chernobyl nuclear power plant accident on April 26, 1986 was the largest in the history of the peaceful use of nuclear energy. Of the 237 individuals initially suspected to have been significantly exposed to radiation during or in the immediate aftermath of the accident, the diagnosis of acute radiation sickness (ARS) could be confirmed in 134 cases on the basis of clinical symptoms. Of these, 54 patients suffered from cutaneous radiation syndrome (CRS) to varying degrees. Among the 28 patients who died from the immediate consequences of accidental radiation exposure, acute hemopoietic syndrome due to bone marrow failure was the primary cause of death only in a minority. In 16 of these 28 deaths, the primary cause was attributed to CRS. This report describes the characteristic cutaneous sequelae as well as associated clinical symptoms and diseases of 15 survivors of the Chernobyl accident with severe localized exposure who were systematically followed up by the authors' groups between 1991 and 2000. All patients presented with CRS of varying severity, showing xerosis, cutaneous telangiectasias and subungual splinter hemorrhages, hemangiomas and lymphangiomas, epidermal atrophy, disseminated keratoses, extensive dermal and subcutaneous fibrosis with partial ulcerations, and pigmentary changes including radiation lentigo. Surprisingly, no cutaneous malignancies have been detected so far in those areas that received large radiation exposures and that developed keratoses; however, two patients first presented in 1999 with basal cell carcinomas on the nape of the neck and the right lower eyelid, areas that received lower exposures. During the follow-up period, two patients were lost due to death from myelodysplastic syndrome in 1995 and acute myelogenous leukemia in 1998, respectively. Other radiation-induced diseases such as dry eye syndrome (3/15), radiation cataract (5/15), xerostomia (4/15) and increased FSH levels (7/15) indicating impaired fertility were also documented. This study, which analyzes 14 years in the clinical course of a cohort of patients with a unique exposure pattern, corroborates the requirement for long-term, if not life-long, follow-up not only in atomic bomb survivors, but also after predominantly local radiation exposure.
Number of References: 27
Descriptors: biological-effects-of-ionising-radiation; blood-; cancer-; diseases-; fission-reactor-accidents; orthopaedics-; radioactive-pollution; skin-
Identifiers: local-radiation-injuries-outcome; Chernobyl-accident; acute-radiation-sickness; clinical-symptoms; cutaneous-radiation-syndrome; accidental-radiation-exposure; acute-hemopoietic-syndrome; bone-marrow-failure; death-; characteristic-cutaneous-sequelae; severe-localized-exposure; hemorrhages-; hemangiomas-; lymphangiomas-; epidermal-atrophy; disseminated-keratoses; subcutaneous-fibrosis; atomic-bomb-survivors; 14-y
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-

accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 4.4 E08 s
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/2001/$5.00
SICI: 0033-7587(200103)155:3L.409:OLRI;1-X

Sort Key: 00000337587200100155000030000000000000409
Material Identity Number: R066-2001-005
Accession Number: 6892834
Update Code: 200114
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 7 of 1145 in INSPEC 2001/01-2001/04

Title: Soil moisture (water-content) assessment by an airborne scatterometer: the Chernobyl disaster area and the Negev desert
Author: Blumberg-DG; Freilikher-V; Lyalko-IV; Vulfson-LD; Kotlyar-AL; Shevchenko-VN; Ryabokonenko-AD
Author Affiliation: Dept. of Geogr. & Environ. Dev., Ben-Gurion Univ. of the Negev, Beer-Sheva, Israel
Source: Remote-Sensing-of-Environment. vol.71, no.3; March 2000; p.309-19
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0034%2d4257%2371%23309%233&_version=1&md5=9de750507dcb04061a2717ee54c9649c
Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Soil water content is an important component that influences meso- and microscale processes. The agricultural capacity of a site is directly affected by soil water content and it is especially important in arid regions. In temperate and humid regions, soil water content is important in determining flood risks. Environmentally, soil water content will influence the risk of carrying pollutants through the soil. For these reasons, a scatterometer was developed as a remote sensor for mapping soil water content. The scatterometer is frequency modulated using a continuous wave. This scatterometer operates at nadir with a wide antenna diagram of 10 degrees . Measurements were conducted in two environments with different implications. The first was in the Chernobyl nuclear disaster area and the second in the Negev desert. Results show a good correlation between soil water content and the amplitude of the returned signal

measured by the scatterometer. Thus, the scatterometer provides an efficient tool for mapping soil water content. The long wavelength (P-band) and lambda =68 cm makes this scatterometer more sensitive to soil water content and less affected by surface roughness than scatterometers operating at shorter wavelengths.

Number of References: 27

Descriptors: airborne-radar; moisture-measurement; remote-sensing-by-radar; soil-

Identifiers: soil-moisture-assessment; water-content-assessment; airborne-scatterometer; Chernobyl-nuclear-disaster-area; Negev-desert; soil-water-content; agricultural-capacity; arid-regions; flood-risks; pollutants-; remote-sensor; P-band; surface-roughness; Ukraine-; Israel-; 68-cm

Classification Codes: A9240L (Soil-moisture); A9385 (Instrumentation-and-techniques-for-geophysical-hydrospheric-and-lower-atmosphere-research); A9330G (Europe); A9330D (Asia); B6320 (Radar-equipment-systems-and-applications); B7710 (Geophysical-techniques-and-equipment); A92; A93; B63; B77; A9

Treatment Codes: A (Application); P (Practical); X (Experimental)

Numerical Data Indexing: wavelength 6.8 E01 m

Coden: RSEEA7

ISSN: 0034-4257

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SICI: 0034-4257(200003)71:3L.309:SMWC;1-M

Document Number: S0034-4257(99)00087-5

Sort Key: 00000344257200000071000030000000000000309

Material Identity Number: R089-2000-004

Accession Number: 6886173

Update Code: 200113

Record 8 of 1145 in INSPEC 2001/01-2001/04

Title: Contribution of different foodstuffs to the internal exposure of rural inhabitants in Russia after the Chernobyl accident

Author: Travnikova-IG; Bruk-GJ; Shutov-VN; Bazjukin-AB; Balonov-MI; Rahola-T; Tillander-M

Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia

Source: Radiation-Protection-Dosimetry. vol.93, no.4; 2001; p.331-9

Publication Year: 2001

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: In a large village, Veprin of the Bryansk region of Russia contaminated with radionuclides as a result of the Chernobyl accident, /sup 137/Cs concentration in food products of agricultural produce and natural origin was regularly measured, local inhabitants were polled on the composition of their diet, and the /sup 137/Cs content in their bodies was measured at the same time. These results were used as the basis for

calculation of annual effective doses of internal exposure to inhabitants and for reconstruction of the dose during the entire period after the accident (1986-1996). The efficiency of countermeasures performed for reduction of the internal dose was assessed. The internal dose in inhabitants during the 10 years after the accident was shown to be reduced by countermeasures by a factor of 2, namely down to 35 mSv instead of the expected 70 mSv. The dose of external gamma radiation during the same time period is close to the obtained dose of internal exposure. The presence of peat and water-meadow soils in the vicinity of this village that are characterised by high transfer factors for radionuclides from soil to vegetation causes a high contribution of internal exposure to the total dose of population exposure. The contribution of natural products to the internal dose increased from 6% in 1987 increased to 25% in 1996. The individual content of /sup 137/Cs in the body of inhabitants reliably correlates with consumption of milk in the initial period after the accident and with consumption of forest mushrooms in the subsequent period.
Number of References: 16
Descriptors: agriculture-; biotransport-; caesium-; disasters-; dosimetry-; fission-reactor-accidents; gamma-rays; health-hazards; radiation-protection; radioactive-pollution; radioisotopes-; soil-
Identifiers: large-village; Veprin-; Bryansk-region; Russia-; radionuclides-; Chernobyl-accident; 137Cs-concentration; food-products; agricultural-produce; natural-origin; local-inhabitants; composition-; diet-; 137Cs-content; bodies-; foodstuffs-; internal-exposure; rural-inhabitants; annual-effective-doses; countermeasures-; external-gamma-radiation; time-period; peat-; water-meadow-soils; transfer-factors; vegetation-; population-exposure; natural-products; individual-content; consumption-; milk-; forest-mushrooms; 35-mSv; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A9330G (Europe); A8670C (Soil-and-rock-environmental-science); A8725D (Biological-transport-cellular-and-subcellular-transmembrane-physics); A8760P (Radiation-protection-in-medical-physics); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A87; A28; A93; A86; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 3.5 E02 Sv
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2001)93:4L.331:CDFI;1-T

Sort Key: 0000144842020010009300004000000000000331
Material Identity Number: B978-2001-003
Accession Number: 6881791
Update Code: 200113
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 9 of 1145 in INSPEC 2001/01-2001/04

Title: Dry interim storage facility for spent fuel assemblies from Chernobyl nuclear power plant
Author: Revel-P
Author Affiliation: Framatome, Paris, France
Source: JNMM. vol.29, no.1; Fall 2000; p.35-9
Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Final shutdown of the Chernobyl nuclear power plant in Ukraine necessitates safe on-site interim storage of irradiated fuel. Plant operator EnergoAtom placed a contract with a Framatome-led consortium for the design and construction of a facility for dry processing and interim storage of some 25,000 spent fuel assemblies from Chernobyl. The designed solution combines a facility for processing spent fuel arriving from the power plant with the qualified NUHOMS/sup TM/ storage system. Processed spent fuel is packaged in sealed stainless steel containers in an inert atmosphere and placed in horizontal reinforced concrete storage modules. The design takes account of RBMK fuel architecture as well as the need for safe storage of absorber rods. Commissioning is currently scheduled for late 2001. The design service lifetime of the storage facility is one hundred years.
Number of References: 0
Descriptors: nuclear-materials-safeguards; radioactive-waste-storage
Identifiers: dry-interim-storage-facility; spent-fuel-assemblies; Chernobyl-nuclear-power-plant; final-shutdown; Ukraine-; safe-onsite-interim-spent-fuel-storage; irradiated-fuel; plant-operator; EnergoAtom-; Framatome-led-consortium; facility-design; facility-construction; dry-processing; spent-fuel-processing; NUHOMS-storage-system; spent-fuel-packaging; sealed-stainless-steel-containers; inert-atmosphere; horizontal-reinforced-concrete-storage-modules; RBMK-fuel-architecture; safe-storage; absorber-rods; service-lifetime; 100-y
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2842K (Radioactive-wastes-from-fission-reactors); A2846C (Nuclear-safeguards); A28; A2
Treatment Codes: P (Practical)
Numerical Data Indexing: time 3.2 E09 s
Coden: JNMMEK
ISSN: 0893-6188
SICI: 0893-6188(200023)29:1L.35:ISFS;1-U

Sort Key: 000089361882000000290000100000000000035
Material Identity Number: L548-2000-004

Accession Number: 6877792
Update Code: 200112

Record 10 of 1145 in INSPEC 2001/01-2001/04

Title: Children of Chernobyl cleanup workers do not show elevated rates of mutations in minisatellite alleles

Author: Livshits-LA; Malyarchuk-SG; Lukyanova-EM; Antipkin-YG; Arabskaya-LP; Kravchenko-SA; Matsuka-GH; Petit-E; Giraudeau-F; Gourmelon-P; Vergnaud-G; Le-Guen-B

Author Affiliation: Inst. of Molecular Biol. & Genetics, Acad. of Sci., Kiev, Ukraine

Source: Radiation-Research. vol.155, no.1, pt.1; Jan. 2001; p.74-80

Publication Year: 2001

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The disaster at the Chernobyl Nuclear Power Plant in April 1986 was accompanied by the release of large amounts of radioisotopes, resulting in the contamination of extensive regions of the Ukraine, Byelorus and the Russian Federation. Cleanup workers (liquidators) and people living on land contaminated with radioactive materials were most exposed. To assess the genetic effects of exposure to ionizing radiation after the Chernobyl accident, we have measured the frequency of inherited mutant alleles at seven hypermutable minisatellite loci in 183 children born to Chernobyl cleanup workers (liquidators) and 163 children born to control families living in non-irradiated areas of the Ukraine. There was no significant difference in the frequency of inherited mutant alleles between the exposed and control groups. The exposed group was then divided into two subgroups according to the time at which the children were conceived with respect to the fathers' work at the power plant. Eighty-eight children were conceived either while their fathers were working at the facility or up to 2 months later (Subgroup 1). The other 95 children were conceived at least 4 months after their fathers had stopped working at the Chernobyl site (Subgroup 2). The frequencies of mutant alleles were higher for the majority of loci (i.e. 1.44 times higher for CEB1) in Subgroup 1 than in Subgroup 2. This result, if confirmed, would reconcile the apparently conflicting results obtained in the chronically exposed Byelorus population and the Hiroshima-Nagasaki A-bomb survivors.

Number of References: 20

Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; genetics-; personnel-; radioisotopes-

Identifiers: disaster-; Chernobyl-Nuclear-Power-Plant; radioisotopes-; contamination-; Ukraine-; Russian-Federation; Chernobyl-cleanup-workers; mutations-; minisatellite-alleles; liquidators-; land-; genetic-effects; Chernobyl-accident; inherited-mutant-alleles; hypermutable-minisatellite-loci; children-; control-families; nonirradiated-areas; exposed-group; control-group; fathers'-work; Chernobyl-site; chronically-exposed-Byelorus-population; Hiroshima-Nagasaki-A-bomb-survivors

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725F (Physics-of-subcellular-structures); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/2001/$5.00
SICI: 0033-7587(200101)155:1:1L.74:CCCW;1-D

Sort Key: 0000033758720010015500001000000000100074
Material Identity Number: R066-2001-002
Accession Number: 6851724
Update Code: 200108
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 11 of 1145 in INSPEC 2001/01-2001/04

Title: Geographical mapping and associated fractal analysis of the long-lived Chernobyl fallout radionuclides in Greece
Author: Petropoulos-NP; Anagnostakis-MJ; Hinis-EP; Simopoulos-SE
Author Affiliation: Dept. of Mech. Eng., Nat. Tech. Univ. of Athens, Greece
Source: Journal-of-Environmental-Radioactivity. vol.53, no.1; 2001; p.59-66
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2353%2359%231&_version=1&md5=989d22057381501ae354b441229121ab
Publication Year: 2001
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Immediately after the Chernobyl accident, a soil sampling programme was undertaken in order to detect and quantitatively analyse the long-lived radionuclides in the Chernobyl fallout. Soil samples (1242 in number) of 1 cm thick surface soil were collected in Greece during the period from May-November 1986. The samples were counted and analysed using Ge detector set-ups. The /sup 137/Cs fallout data have already been analysed, mapped and published. In an attempt to improve this analysis and also to extend it to other fallout radionuclides, an in-house unix-based data base/geographical information system (DBGIS) was developed. Multifractal analyses of the deposition patterns have also been performed. In the present work, an analysis of the results of the deposition of /sup 137/Cs, /sup 134/Cs, /sup 144/Ce, /sup 141/Ce, /sup 125/Sb, /sup 110/Ag, /sup 106/Ru, /sup 103/Ru, /sup 95/Zr and /sup 54/Mn are presented together with relevant fractal analysis and three characteristic contour maps. The maximum detected values of the above-mentioned radionuclides were 149.5+or-

0.1, 76.1+or-0.1, 32.9+or-0.2, 46+or-2, 4.56+or-0.02, 7.98+or-0.02, 79.1+or-0.4, 337+or-2, 20.1+or-0.2 and 3.02+or-0.02 kBq m/sup -2/, respectively. Furthermore, a statistical technique to compare contour maps was introduced and applied to explain the differences which appeared in the maps of the above-mentioned radionuclides.

Number of References: 12

Descriptors: fission-reactor-accidents; fractals-; radioactive-pollution; radioisotopes-; soil-

Identifiers: fractal-; Chernobyl-; fallout-; Greece-; soil-; 137Cs-; deposition-patterns; 134Cs-; 144Ce-; 141Ce-; 125Sb-; 110Ag-; 106Ru-; 103Ru-; 95Zr-; 54Mn-; contour-maps; Cs-; Ce-; Sb-; Ag-; Ru-; Zr-; Mn-

Classification Codes: A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A0555 (Fractals); A86; A93; A05; A8; A9; A0

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Ce-el; Sb-el; Ag-el; Ru-el; Zr-el; Mn-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/2001/$20.00

SICI: 0265-931X(2001)53:1L.59:GMAF;1-F

Document Number: S0265-931X(00)00111-9

Sort Key: 0000265931X20010005300001000000000000059

Material Identity Number: I664-2001-001

Accession Number: 6849265

Update Code: 200108

Record 12 of 1145 in INSPEC 2001/01-2001/04

Title: Can /sup 239+240/Pu replace /sup 137/Cs as an erosion tracer in agricultural landscapes contaminated with Chernobyl fallout?

Author: Schimmack-W; Auerswald-K; Bunzl-K

Author Affiliation: Inst. for Radiat. Protection, GSF-Nat. Res. Center of Environ. & Health, Neuherberg, Germany

Source: Journal-of-Environmental-Radioactivity. vol.53, no.1; 2001; p.41-57

Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2353%2341%231&_version=1&md5=bc53b96678cf2ddcb7a6b2e48bbdd692

Publication Year: 2001

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Erosion studies often use /sup 137/Cs from global fallout (main period: 1953-1964) as a tracer in the soil. In many European countries, where /sup 137/Cs was deposited in considerable amounts also by the Chernobyl fallout in 1986, the global fallout fraction (GF-Cs) has to be separated from the Chernobyl fraction by means of the isotope /sup

134/Cs. In a few years, this will no longer be possible due to the short half-life of /sup 134/Cs (2 yr). Because GF-Cs in the soil can then no longer be determined, the potential of using /sup 239+240/Pu as a tracer is evaluated. This radionuclide originates in most European countries essentially only from the global fallout. The activities and spatial distributions of Pu and GF-Cs were compared in the soil of a steep field (inclination about 20%, area ca. 3 ha, main soil type Dystric Eutrochrept), sampled at 48 nodes of a 25*25 m/sup 2/ grid. The reference values were determined at 12 points adjacent to the held. Their validity was assured by an inventory study of radiocaesium in a 70 ha area surrounding the field sampling 275 nodes of a 50*50 m/sup 2/ grid. In the field studied, the activity concentrations of GF-Cs and Pu in the Ap horizon were not correlated (Spearman correlation coefficient R=0.20, p>0.05), and the activity balance of Pu differed from that of GF-Cs. Whereas no net loss of GF-Cs from the field was observed as compared to the reference site, Pu was more mobile with an average loss of ca. 11% per unit area. In addition, the spatial pattern of GF-Cs and Pu in the field differed significantly. The reason may be that due to their different associations with soil constituents, Pu and Cs represent different fractions of the soil, exhibiting different properties with respect to erosion/deposition processes. This indicates that both radionuclides or one of them may not be appropriate to quantify past erosion. When tracer losses are used to calibrate or verify erosion prediction models, systematic deviations may not only stem from model shortcomings but also from the tracer technique.

Number of References: 38
Descriptors: plutonium-; radioactive-pollution; soil-
Identifiers: 137Cs-; 239Pu-; 240Pu-; agricultural-landscape; Chernobyl-; fallout-; erosion-; soil-; spatial-distribution; steep-field; Dystric-Eutrochrept; activity-concentration; Ap-horizon; Spearman-correlation-coefficient; Germany-; Munich-; 239+240Pu-; Pu-; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/2001/$20.00
SICI: 0265-931X(2001)53:1L.41:2R1E;1-V
Document Number: S0265-931X(00)00117-X

Sort Key: 0000265931X20010005300001000000000000041
Material Identity Number: I664-2001-001
Accession Number: 6849264
Update Code: 200108

Title: A GIS-based environmental decision support system to assess the transfer of long-lived radiocaesium through food chains in areas contaminated by the Chernobyl accident
Author: Van-der-Perk-M; Burema-JR; Burrough-PA; Gillett-AG; Van-der-Meer-MB
Author Affiliation: Fac. of Geogr. Sci., Utrecht Univ., Netherlands
Source: International-Journal-of-Geographical-Information-Science. vol.15, no.1; Jan.-Feb. 2001; p.43-64
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=1365-8816()15:01L.43
Publication Year: 2001
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: As part of the EC-financed RESTORE project (`Restoration of radioactively contaminated ecosystems'), an operational, user-friendly GIS-based Environmental Decision Support System (EDSS) has been developed. The RESTORE EDSS comprises a GIS-embedded modelling tool to assess the transfer of radiocaesium via food chains and external radiation exposures to humans based on an understanding of the nature of contamination, gee-chemical, hydrological, and biological processes, the different pathways for radiocaesium, and human behaviour. The EDSS accounts for spatial and temporal variation of these factors and is applicable to a variety of ecosystems. The overall aim of the EDSS is to identify vulnerable areas in terms of enhanced radionuclide transfer into food chains and/or the presence of `critical population groups' that suffer enhanced internal and/or external exposure to radionuclides. Therefore, it provides information to support decisions about where to implement countermeasures and where to restore contaminated land most effectively. Predictions made by the EDSS use maps of soil contamination, soil type, and land use, production and production rates, and consumption habits of the affected population. The EDSS is illustrated by an analysis of the entire contaminated area of Ukraine, Belarus, and Russia.
Number of References: 30
Descriptors: decision-support-systems; ecology-; environmental-science-computing; geographic-information-systems
Identifiers: GIS-based; environmental-decision-support-system; long-lived-radiocaesium; food-chains; Chernobyl-accident; contaminated-land; enhanced-radionuclide-transfer; EDSS-
Classification Codes: C7340 (Geophysics-computing); C7840 (Geography-and-cartography-computing); C6160S (Spatial-and-pictorial-databases); C7102 (Decision-support-systems); C7390 (Other-natural-sciences-computing); C3310 (Natural-resources-and-environmental-control); C73; C78; C61; C71; C33; C7
Treatment Codes: P (Practical)
Coden: IGISFR
ISSN: 1365-8816
SICI: 1365-8816(200101/02)15:1L.43:BEDS;1-S

Sort Key: 000136588162001000150000100000000000043

Material Identity Number: F347-2001-001
Accession Number: 6848517
Update Code: 200108
Digital Object Identifier: doi:10.1080/13658810010005552

Record 14 of 1145 in INSPEC 2001/01-2001/04

Title: The impact of Chernobyl fallout on the Southern Saami reindeer herders of Norway in 1996

Author: Mehli-H; Skuterud-L; Mosdol-A; Tonnessen-A
Author Affiliation: Norwegian Radiat. Protection Authority, Osteras, Norway

Source: Health-Physics. vol.79, no.6; Dec. 2000; p.682-90
Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: The reindeer-herding Southern Saamis, from Central Norway, were the population group exposed to the highest levels of radioactivity in Norway, following the Chernobyl accident. Radiocesium whole-body contents and dietary habits have been investigated regularly in this population group since 1987. Meat of semi-domesticated reindeer is important in their diet, and earlier studies have shown that contaminated reindeer meat contributes about 90% to the total intake of radiocesium. A major part of the group also consumes wild food products like game, freshwater fish, mushrooms, and berries. The application of countermeasures has been a common practice for the reindeer herders since the Chernobyl accident. According to the interviews in 1996, the three most commonly used and socially accepted countermeasures were (1) selection of reindeer for consumption after live monitoring of radiocesium concentrations; (2) selection of reindeer for consumption from less contaminated grazing areas; and (3) clean feeding of animals before slaughtering. Despite these countermeasures about one third of the population still have reduced reindeer meat intake because of the Chernobyl fallout. In 1996, the average whole body concentration of /sup 137/Cs for this population was found to be 88+or-7 Bq kg/sup -1/ for women and 164+or-11 Bq kg/sup -1/ for men (arithmetic mean+or-standard error). This is approximately half of the whole-body concentration of /sup 137/Cs measured in the same population in 1990-1991.

Number of References: 27
Descriptors: air-pollution; atmospheric-radioactivity; biotransport-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radiation-monitoring; radiation-protection; radioactive-pollution; radioisotopes-
Identifiers: Southern-Saami-reindeer-herders; Chernobyl-fallout; Norway-; population-group; radioactivity-; Chernobyl-accident; radiocesium-whole-body-contents; dietary-habits; semi-domesticated-reindeer; diet-; contaminated-reindeer-meat; total-intake; wild-food-products; game-; freshwater-fish; mushrooms-; berries-; countermeasures-; consumption-; live-monitoring; radiocesium-concentrations; less-contaminated-grazing-

areas; clean-feeding; animals-; slaughtering-; reindeer-meat-intake; average-whole-body-concentration; 137Cs-; arithmetic-mean; men-; women-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A8725D (Biological-transport-cellular-and-subcellular-transmembrane-physics); A8760P (Radiation-protection-in-medical-physics); A9330G (Europe); A87; A86; A28; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(200012)79:6L.682:ICFS;1-S

Sort Key: 00000179078200000079000060000000000000682
Material Identity Number: P578-2000-020
Accession Number: 6811516
Update Code: 200102
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 15 of 1145 in INSPEC 2001/01-2001/04

Title: Numerical modelling of transport, dispersion, and deposition - validation against ETEX-1, ETEX-2 and Chernobyl
Author: Brandt-J; Christensen-JH; Frohn-LM; Zlatev-Z
Author Affiliation: Dept. of Atmos. Environ., Nat. Environ. Res. Inst., Rockilde, Denmark
Source: Environmental-Modelling-&-Software. vol.15, spec. issue.; 2000; p.521-31
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: APMS98. Air Pollution Modeling and Simulation. Oct. 1998; Champs sur Marne, France
Country of Publication: UK
Language: English
Abstract: A comprehensive, high-resolution, 3D tracer model, named DREAM (Danish Rimpuff and Eulerian Accidental release Model), has been developed for studying transport, dispersion and deposition of air pollution caused by a single but very strong source. The model is based on a combination of a Lagrangian short-scale puff model and an Eulerian long-range transport model. The meteorological meso-scale model MM5V1 is used as a driver for the transport model. The tracer model and the numerical implementation of the model is described in this paper. The Eulerian transport model has been split into different submodels. The advantages of treating the different physical processes on different scales by using different numerical algorithms is discussed. The model has been run and validated against measurements from the two ETEX (European Tracer EXperiment) releases and the Chernobyl accident. 2D and 3D visualizations,

together with some comparisons of model results with measurements, are presented and discussed. The combined model is able to reproduce dosages within a factor of 2-3 in the worst case and arrival times within 2-3 hours, compared to measurements from ETEX-1 and Chernobyl. This is within the currently achievable limits of accuracy in long-range dispersion modelling, according to the ETEX-1 experiment.

Number of References: 18

Descriptors: air-pollution; atmospheric-movements; data-visualisation; environmental-science-computing; fission-reactor-accidents; geophysics-computing; meteorology-; numerical-analysis; tracers-

Identifiers: numerical-modelling; atmospheric-transport; atmospheric-dispersion; particle-deposition; validation-; ETEX-1; ETEX-2; Chernobyl-accident; high-resolution-3D-tracer-model; DREAM-; Danish-Rimpuff-and-Eulerian-Accidental-Release-Model; air-pollution; Lagrangian-short-scale-puff-model; Eulerian-long-range-transport-model; MM5V1-meteorological-meso-scale-model; submodels-; physical-processes; European-Tracer-Experiment; data-visualizations; dosages-; arrival-times; accuracy-; long-range-dispersion-modelling

Classification Codes: A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A0260 (Numerical-approximation-and-analysis); A9260C (Synoptic-and-mesoscale-atmospheric-phenomena); A2844 (Fission-reactor-protection-systems-safety-and-accidents); C7340 (Geophysics-computing); C4100 (Numerical-analysis); C6130B (Graphics-techniques); A86; A92; A02; A28; C73; C41; C61; A8; A9; A0

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

Coden: EMSOFT
ISSN: 1364-8152
Copyright Clearance Center Code: 1364-8152/2000/$20.00
SICI: 1364-8152(2000)15L.521:NMTD;1-S
Document Number: S1364-8152(00)00035-9

Sort Key: 000136481522000000150000000000000000000521
Material Identity Number: F341-2000-005
Accession Number: 6808422
Update Code: 200102

Record 16 of 1145 in INSPEC 2000/07-2000/12

Title: Soil moisture assessment by an airborne scatterometer in Chernobyl disaster area and Negev Desert

Author: Blumberg-DG; Freilikher-V; Lyalko-I; Wolfson-LD; Kotlyar-AL; Shevchenko-VN; Ryabokonenko-AD

Author Affiliation: Dept. of Geogr., Ben-Gurion Univ. of the Negev, Beer-Sheva, Israel

Source: IGARSS 2000. IEEE 2000 International Geoscience and Remote Sensing Symposium. Taking the Pulse of the Planet: The Role of Remote Sensing in Managing the Environment. Proceedings (Cat. No.00CH37120). IEEE, Piscataway, NJ, USA; 2000; 7 vol.(clvi+3242) pp.

p.2011-13 vol.5
Publication Year: 2000
Record Type: Conference-Paper
Conference Details: IGARSS 2000. IEEE 2000 International Geoscience and Remote Sensing Symposium. Taking the Pulse of the Planet: The Role of Remote Sensing in Managing the Environment. vol.5. 24-28 July 2000; Honolulu, HI, USA. Sponsored by: IEEE; IEEE Geosci. & Remote Sensing Soc.; NASA; NOAA; Office of Naval Res.; Nat. Resouces Canada; Canadian Space Agency; Nat. Space Dev. Agency of Japan; URSI
Country of Publication: USA
Language: English
Abstract: The presented results demonstrate the use of airborne radar scatterometers flown aboard a light aircraft for environmental monitoring and precision agriculture. A good agreement between values measured in the field and estimated by the scatterometers has been found with some overestimation for the lower moisture sites. Furthermore, for a more temperate site in Ukraine the scatterometer was found to be very useful also in estimating the depth of the groundwater table. Alongside the scatterometer a gamma-ray radiometer was flown at the Chernobyl nuclear power plant disaster site. The ability to map soil moisture and water table depth in conjunction with gamma-ray radiometry is extremely useful in monitoring the after affects and the rehabilitation of the Chernobyl NPP disaster area. Due to deforestation caused by the Chernobyl disaster high levels of soil moisture can be hazardous themselves in creating swampland. This phenomenon can be monitored and mapped by airborne scatterometers.
Number of References: 1
Descriptors: airborne-radar; hydrological-techniques; moisture-measurement; remote-sensing-by-radar; soil-
Identifiers: hydrology-; soil-moisture; radar-remote-sensing; measurement-technique; airborne-radar; radar-scatterometry; airborne-scatterometer; Chernobyl-disaster-area; Negev-Desert; Israel-; Ukraine-; water-table-depth; groundwater-table; swamp-; swampland-
Classification Codes: A9385 (Instrumentation-and-techniques-for-geophysical-hydrospheric-and-lower-atmosphere-research); A9240L (Soil-moisture); A9330G (Europe); A9330D (Asia); B7710D (Oceanographic-and-hydrological-techniques-and-equipment); B6320 (Radar-equipment-systems-and-applications); A93; A92; B77; B63; A9
Treatment Codes: P (Practical); X (Experimental)
ISBN: 0780363590
Copyright Clearance Center Code: 0 7803 6359 0/2000/$10.00

Sort Key: 1078036359020000000000000000000002011
Material Identity Number: XX-2000-01768
Accession Number: 6788552
Update Code: 200049

Title: Radiation consequences of a hypothetical failure of a dam at the coolant reservoir of the Chernobyl nuclear power plant

Author: Kononovich-AL; Prudovskii-AM; Shkol'nikov-SYa; Asarin-AE; Zhirkevich-AN; Oskolkov-BYa; Nosovskii-AV; Kulikov-LE; Ostryanin-YuA

Source: Atomic-Energy. vol.88, no.4; April 2000; p.314-18
Translated from: Atomnaya-Energiya. vol.88, no.4; April 2000; p.303-7
Publication Year: 2000
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English

Abstract: Mathematical simulation is used to estimate the possible radiation consequences of an accidental failure of the protective dam of the coolant reservoir at the Chernobyl nuclear power plant. The dynamics of the emptying of the reservoir and the escape of radionuclides is calculated. The additional contamination of bottom deposits in the Dnepr River, which can be caused by the accidental escape of radioactive substances from the coolant reservoir, is estimated. The additional dose load to the public is estimated taking account the food chains. A single-step mathematical model, taking account of the contamination of the water and the bottom deposits, is constructed to study the fish food chain. It is established that for an accidental failure of the protective dam of the coolant reservoir of the nuclear power plant the dose to the public will not exceed 2.5.10/sup -3/ Sv in the first year after the failure. Therefore, the destruction of the protective dam of the coolant reservoir of the Chernobyl nuclear power plant, if it occurs, will not be a radiation accident.

Number of References: 9
Descriptors: dosimetry-; fission-reactor-accidents; health-hazards
Identifiers: failure-; dam-; coolant-reservoir; Chernobyl-; radiation-; bottom-deposits; Dnepr-River; dose-; water-; fish-food-chain; 0-0025-sievert
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry-in-medical-physics); A87; A28; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: radiation dose equivalent 2.5 E03 Sv
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/2000/8804-0314$25.00
SICI: 0004-7163(200004)88:4L.303;1-H
SICI of Translation: 1063-4258(200004)88:4L.314:RCHF;1-1

Sort Key: 0000004716320000008800004000000000000303
Material Identity Number: P995-2000-011
Accession Number: 6787609
Update Code: 200049

Bestand: 1.1956-53.1982

Record 18 of 1145 in INSPEC 2000/07-2000/12

Title: Any truth in the "mobile Chernobyl" characterization for SNF transportation?
Author: Richardson-JA
Author Affiliation: Raytheon Nucl. Inc., Princeton, NJ, USA
Source: High-Level Radioactive Waste Management. Proceedings of the Eighth International Conference. American Nucl. Soc, La Grange Park, IL, USA; 1998; xviii+864 pp.
p.823-5
Publication Year: 1998
Record Type: Conference-Paper
Conference Details: Proceedings of 1998 International High Level Radioactive Waste Management Conference. 11-14 May 1998; Las Vegas, NV, USA. Sponsored by: American Nucl. Soc.; U.S. Dept. Energy; OECD Nucl. Energy Agency; et al
Country of Publication: USA
Language: English
Abstract: There have been reports in the technical and popular press that the transportation of high level radioactive waste, such as spent nuclear fuel, exposes the US public to hazards of the magnitude of those resulting from the Chernobyl nuclear power plant accident in the Soviet Union in 1986. This paper attempts to compare the Chernobyl event and its reported radioactive releases to the environment, to those effects resulting from analyses of potential radioactive releases from credible accidents to NRC licensed truck and rail cask systems used for the transportation of spent nuclear fuel. These events are put into the context of the public perception of the issue of solving the high level radioactive waste in the US and whether the basis of making the connection of "Mobile Chernobyl" to the transportation of commercial spent nuclear fuel is justified.
Number of References: 5
Descriptors: nuclear-materials-transportation; radioactive-waste
Identifiers: spent-nuclear-fuel; Chernobyl-; accidents-; truck-; rail-; cask-; Mobile-Chernobyl; transportation-
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2846G (Packaging-and-transportation-of-nuclear-materials); A28; A2
Treatment Codes: P (Practical)
ISBN: 0894486322

Sort Key: 10894486322199800000000000000000000000823
Material Identity Number: XX-1998-01141
Accession Number: 6776391
Update Code: 200047

Record 19 of 1145 in INSPEC 2000/07-2000/12

Title: Measurements of photon ionizing radiation fields in the reactor room of the 4th power-generating unit of the Chernobyl nuclear power plant
Author: Volkovich-AG; Potapov-VN; Smirnov-SV; Urutskoev-LI; Chesnokov-AV; Shcherbak-SB
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Atomic-Energy. vol.88, no.3; March 2000; p.206-9
Translated from: Atomnaya-Energiya. vol.88, no.3; March 2000; p.203-7
Publication Year: 2000
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: A radiation examination of the reactor room of the damaged fourth unit of the Chernobyl nuclear power plant was performed. The most strongly radiating surfaces were determined. Digital maps of the distribution of the effective surface activity on the inner surfaces of the room were constructed from the measurement results.
Number of References: 10
Descriptors: dosimetry-; gamma-ray-detection; radioactivity-measurement
Identifiers: photon-ionizing-radiation-fields; reactor-room; Chernobyl-nuclear-power-plant; radiation-examination; strongly-radiating-surfaces; effective-surface-activity; Cs-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A2880C (Dosimetry-in-nuclear-engineering); A0785 (X-ray-gamma-ray-instruments-and-techniques); A2850G (Light-water-reactors); A8760M (Radiation-dosimetry-in-medical-physics); A28; A07; A87; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/2000/8803-0206$25.00
SICI: 0004-7163(200003)88:3L.203;1-M
SICI of Translation: 1063-4258(200003)88:3L.206:MPIR;1-R

Sort Key: 00000047163200000088000030000000000000203
Material Identity Number: P995-2000-010
Accession Number: 6776149
Update Code: 200047
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 20 of 1145 in INSPEC 2000/07-2000/12

Title: Resuspension of coarse fuel hot particles in the Chernobyl area
Author: Wagenpfeil-F; Tschiersch-J
Author Affiliation: Inst. of Radiat. Protection, GSF-Nat. Res. Center for Environ. & Health, Neuherberg, Germany

Source: Journal-of-Environmental-Radioactivity. vol.52, no.1; 2001; p.5-16
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2352%235%231&_version=1&md5=d403f38e0bc482d74b4e87a6d7e78b77
Publication Year: 2001
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Measurements of resuspended aerosol in the Chernobyl 30-km exclusion zone have shown coarse fuel hot particles in the activity range 1-12 Bq /sup 137/Cs per particle. The particles were sampled with newly designed rotating arm impacters which simultaneously collect during the same experiment three samples with fuel particles in the size ranges larger than 3 mu m, larger than 6 mu m and larger than 9 mu m in geometric diameter. The radionuclide ratios, determined after gamma -spectrometry, were in good agreement with the theoretical calculations for the radionuclide-composition of the Chernobyl Nuclear Power Plant at the moment of the accident and the measured hot particles in soil in the early years after the accident. The number concentrations of airborne hot particles were derived from digital autoradiography. For wind resuspension, maximal concentrations of 2.6 coarse hot particles per 1000 m/sup 3/ and during agricultural activities, 36 coarse hot particles per 1000 m/sup 3/ were measured. The geometric diameter of single hot particles was estimated to be between 6 and 12 mu m.
Number of References: 17
Descriptors: air-pollution; fission-reactor-accidents; fission-reactor-fuel; gamma-ray-spectroscopy; radioactive-pollution; suspensions-
Identifiers: Chernobyl-; resuspended-aerosol; coarse-fuel-hot-particles; 137Cs-; gamma-spectrometry; soil-; airborne-hot-particles; digital-autoradiography; diameter-; 1-to-12-Bq; 6-to-12-micron; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A8270K (Emulsions-and-suspensions); A86; A82; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 1.0 E00 to 1.2 E01 Bq; size 6.0 E06 to 1.2 E05 m
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/2000/$20.00
SICI: 0265-931X(2001)52:1L.5:RCFP;1-S
Document Number: S0265-931X(00)00081-3

Sort Key: 0000265931X20010005200001000000000000005
Material Identity Number: I664-2000-012
Accession Number: 6758575
Update Code: 200045

Record 21 of 1145 in INSPEC 2000/07-2000/12

Title: Radiation effects in lymphocytes of children living in a Chernobyl contaminated region of Belarus

Author: Mikhalevich-LS; de-Zwart-FA; Perepetskaya-GA; Chebotareva-NV; Mikhalevich-EA; Tates-AD

Author Affiliation: Inst. of Genetics & Cytology, Acad. of Sci., Minsk, Byelorussia

Source: International-Journal-of-Radiation-Biology. vol.76, no.10; Oct. 2000; p.1377-85

Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()76:10L.1377

Publication Year: 2000

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Investigates cytogenetic and mutational effects in lymphocytes from individuals chronically exposed to radiation from the Chernobyl catastrophe. Nine years after the Chernobyl accident (1986), peripheral blood lymphocytes from 20 Kalinkovichi children (age 10-15) and 10 Minsk children (age 10-17) were analysed for genetic damage by several assays. Radiation damage in exposed children was investigated in descendants of progenitor cells that were irradiated during a short period immediately after the accident. In the time-span between the accident and blood sampling the cells were also irradiated chronically by internal radiation originating from ingested radionuclides and, to a smaller extent, by external radiation from radionuclides. The parameters measured in whole blood smears were the frequency of micronucleated mononucleated lymphocytes and binucleated lymphocytes with nucleoplasmic bridges and associated micronuclei. Cultures of cytokinesis-blocked lymphocytes were used to analyse mononuclear and binuclear cells for the presence of micronuclei, also cell killing effects. A colony assay was used to study induction of recessive mutations in the HPRT gene. The analysis of whole-blood smears indicated a doubling of the frequency of micronuclei per 100 mononuclear lymphocytes in exposed children compared with unirradiated children. Small numbers of binucleated lymphocytes with nucleoplasmic bridges and associated micronuclei were found in blood smears from exposed children. Analysis of cytokinesis-blocked cultures indicated in mononuclear cells of exposed children a statistically significant increase in the frequency of micronuclei. When the same parameters were studied in binucleated cells there was no difference between exposed and unexposed children. Results of the dye-exclusion assay showed a four-fold increase in the percentage of dead cells between exposed and unexposed children. There was no evidence for induction of HPRT mutations in exposed children. These results indicate that the frequently advocated procedure of simply analysing micronuclei in cytokinesis-blocked binucleated lymphocytes can result in an underestimate of genetic damage induced by radiation accidents. Biodosimetric studies should therefore employ a battery of assays for the detection of several types of genetic damage in different generations of lymphocytes.

Number of References: 36
Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; radioisotopes-
Identifiers: mutational-effects; cytogenetic-effects; exposed-children; Chernobyl-catastrophe; Chernobyl-accident; peripheral-blood-lymphocytes; Kalinkovichi-children; Minsk-children; age-; genetic-damage; radiation-damage; descendants-; progenitor-cells; time-span; blood-sampling; ingested-radionuclides; external-radiation; whole-blood-smears; micronucleated-mononucleated-lymphocytes; binucleated-lymphocyte; nucleoplasmic-bridges; associated-micronuclei; cylokinesis-blocked-lymphocytes; binuclear-cells; mononuclear-cells; cytokinesis-blocked-lymphocytes; cell-killing-effects; colony-assay; recessive-mutations; HPRT-gene; whole-blood-smears; unirradiated-children; binucleated-lymphocytes; cytokinesis-blocked-cultures; binucleated-cells; unexposed-children; dye-exclusion-assay; dead-cells; HPRT-mutations; cytokinesis-blocked-binucleated-lymphocytes; radiation-accidents; biodosimetric-studies; 10-to-17-y
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725 (Cellular-biophysics); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 1.0 E01 to 1.7 E01 yr
Coden: IJRBA3
ISSN: 0955-3002
SICI: 0955-3002(200010)76:10L.1377:RELC;1-W

Sort Key: 00009553002200000076000100000000000001377
Material Identity Number: I200-2000-010
Accession Number: 6744911
Update Code: 200043

Record 22 of 1145 in INSPEC 2000/07-2000/12

Title: Methodology of internal dose reconstruction for a Russian population after the Chernobyl accident
Author: Balonov-MI; Bruk-GY; Zvonova-IA; Pitkevich-VA; Bratilova-AA; Jesko-TV; Shutov-VN
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Source: Radiation-Protection-Dosimetry. vol.92, no.1-3; 2000; p.247-53
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: Environmental Dosimetry. Workshop. 22-24 Nov. 1999; Avignon, France
Country of Publication: UK
Language: English
Abstract: General methodology for reconstruction of the internal dose in groups of inhabitants of the Chernobyl accident area is considered, and practical techniques for

reconstruction of the /sup 131/I absorbed dose in thyroid and the effective doses of /sup 137/Cs and /sup 134/Cs radiation are examined. The techniques are based on the results of radiation monitoring performed since 1986 in the Bryansk, Tula, Orel and Kaluga regions of Russia. The WBC measurements of the thyroid or whole body provide the data most relevant to internal dose, and are of first priority for dose reconstruction. Radionuclide intake estimation with food products is considered as the second priority and application of radioecological models as the third priority when measurement data are absent. For the calculation of internal dose intake functions are suggested that describe both consequences of vegetation surface contamination with /sup 131/I and /sup 134,137/Cs in the early period and long-term radionuclide transfer via root systems. The first experimental data on the dependence of /sup 131/I concentration in milk on time, and on density of soil contamination with /sup 137/Cs in four regions of Russia are given. A strong connection between /sup 131/I concentration in milk and thyroid dose in inhabitants based on /sup 131/I in thyroid measurements is proved. Regularities revealed are used for thyroid dose reconstruction in Russian inhabitants. The results explain the phenomenon of the increased thyroid cancer morbidity in areas with low radioactive contamination.
Number of References: 15
Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; radioisotopes-
Identifiers: internal-dose-reconstruction; Russian-population; radiation-monitoring; inhabitants-; Chernobyl-accident-area; 131I-absorbed-dose; thyroid-dose-reconstruction; effective-doses; 134Cs-radiation; 137Cs-radiation; Kaluga-region; Orel-region; Tula-region; Bryansk-region; Russia-; whole-body; radionuclide-intake-estimation; food-products; radioecological-models; internal-dose-intake-functions; vegetation-surface-contamination; long-term-radionuclide-transfer; root-systems; 131I-concentration; milk-; soil-contamination; Russian-inhabitants; thyroid-cancer-morbidity; radioactive-contamination; I-; Cs-
Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)92:1/3L.247:MIDR;1-J

Sort Key: 000014484202000000920000100000000000247
Material Identity Number: B978-2000-016
Accession Number: 6743147
Update Code: 200043
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 23 of 1145 in INSPEC 2000/07-2000/12

Title: Phytoremediation of Chernobyl contaminated land
Author: Victorova-N; Voitesekhovitch-O; Sorochinsky-B; Vandenhove-H; Konoplev-A; Konopleval-I
Author Affiliation: Ukrainian Hydrometeorol. Inst., Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.92, no.1-3; 2000; p.59-64
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: Environmental Dosimetry. Workshop. 22-24 Nov. 1999; Avignon, France
Country of Publication: UK
Language: English
Abstract: Most of the land within a 10 km radius of the Chernobyl Nuclear Plant is still heavily contaminated by the 1986 accident. In 1998, a 3 year investigation of the potential of willow vegetation systems to stabilise the contaminated land and thereby reduce the dispersion of radionuclides was initiated under the PHYTOR project. During the first year, a number of screening tests were carried out on the contaminated flood plain of the river Pripyat. Survival of new willow plantations was tested at several locations. Except for the predominantly moist peaty soil in the vicinity of Yanov (where survival was nearly 100%), survival was low (0-30%). Notwithstanding, willows are found everywhere on the Pripyat flood plains: 7-8 year old plantations exist on the upper terraces and 1-2 year old saplings cover the newly deposited alluvial sands. For these willows radiocaesium transfer factors ranged from 10/sup -4/ and 10/sup -3/ m/sup 2/.kg/sup -1/ and strontium transfer factors from 10/sup -3/ and 10/sup -2/ m/sup 2/.kg/sup -1/. Biomass production was low: 70-100 kg.ha/sup -1/.y/sup -1/. Therefore, the radionuclide immobilisation in the biomass was insignificant. Even when based on the exchangeable caesium fraction, less than 0.1% for radiocaesium and less than 1% for radiostrontium became incorporated into the wood. Nevertheless, establishment of willow would reduce resuspension and erosion of soil and sediment.
Number of References: 6
Descriptors: biotransport-; botany-; caesium-; fission-reactor-accidents; radiation-protection; radioactive-pollution; radioisotopes-; rivers-; soil-; strontium-; water-pollution
Identifiers: Chernobyl-Nuclear-Plant; Chernobyl-contaminated-land; radius-; willow-vegetation-systems; phytoremediation-; radionuclides-; PHYTOR-project; screening-tests; contaminated-flood-plain; river-Pripyat; willow-plantations; predominantly-moist-peaty-soil; Yanov-; survival-; Pripyat-flood-plains; upper-terraces; newly-deposited-alluvial-sands; 137Cs-transfer-factors; 90Sr-transfer-factors; biomass-production; radionuclide-immobilisation; exchangeable-Cs-fraction; radiostrontium-; wood-; resuspension-; erosion-; sediment-; soil-; Cs-; Sr-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9240F (Rivers-runoff-and-streamflow);

A8670E (Water-environmental-science); A9330G (Europe); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A8760P (Radiation-protection-in-medical-physics); A9240G (Erosion-and-sedimentation-hydrological); A87; A86; A28; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)92:1/3L.59:PCCL;1-8

Sort Key: 000014484202000000920000100000000000059
Material Identity Number: B978-2000-016
Accession Number: 6743119
Update Code: 200043
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 24 of 1145 in INSPEC 2000/07-2000/12

Title: Internal exposure from the ingestion of foods contaminated by /sup 137/Cs after the Chernobyl accident. 2. Ingestion doses of the rural population of Ukraine up to 12 y after the accident (1986-1997)
Author: Likhtarev-IA; Kovgan-LN; Vavilov-SE; Perevoznikov-ON; Litvinets-LN; Anspaugh-LR; Jacob-P; Prohl-G
Author Affiliation: Radiat. Protection Inst., Ukrainian Acad. of Technol. Sci., Kyiv, Ukraine
Source: Health-Physics. vol.79, no.4; Oct. 2000; p.341-57
Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Doses from the ingestion of /sup 134/Cs and /sup 137/Cs during 12 y following the Chernobyl accident have been estimated for approximately 3 million persons living in rural areas of the Zhitomir, Rivne and Kyiv Oblasts of northern Ukraine. This assessment is based upon an extensive monitoring campaign that provided measurements of /sup 137/Cs in more than 120,000 samples of milk and in more than 100,000 persons; such measurements were made in approximately 4,500 locations. Two approaches were used for the dose assessment. In the first approach a so-called reference dose is estimated for each settlement on the basis of measured /sup 137/Cs concentration in milk, determination of the milk equivalent of diet, and consumption rates; a further assumption is that a high fraction of the food consumed is produced locally. The reference dose is used as the official dose estimate, which is the basis for any decision on possible financial compensation and economic privileges. In a second step, the so-called real age-dependent dose is estimated from the results of whole body counter measurements and the kinetics of radiocesium in the human body. Real doses

above 0.5, 5 and 50 mSv were received by about 40%, 10% and 0.2%, respectively, of the considered population. With the exception of 1986, for which the monitoring results were limited, the real individual doses derived from whole-body counting are consistently lower than the reference doses. However, this difference declined from a factor of 3-4 in 1987-1989 to a factor of approximately 1.5 in the mid 1990's. The difference between reference and real doses is attributed to the effectiveness of countermeasures implemented after the accident. The effectiveness of these countermeasures decreased with time due to increasing economic problems in Ukraine. The collective reference and real doses of the rural population due to the intake of /sup 134/Cs and /sup 137/Cs are estimated to be 13,300 and 5,300 person-Sv, respectively. Thus, about 8,000 person-Sv is estimated to have been averted by countermeasures.

Number of References: 18

Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radiation-monitoring; radiation-protection; radioactive-pollution; radioisotopes-

Identifiers: 134Cs-; whole-body-counter-measurements; Chernobyl-accident; rural-areas; Zhitomir-; Rivne-; Kyiv-Oblasts; northern-Ukraine; extensive-monitoring-campaign; milk-; dose-assessment; locations-; so-called-reference-dose; settlement-; measured-137Cs-concentration; consumption-rates; diet-; official-dose-estimate; financial-compensation; economic-privileges; so-called-real-age-dependent-dose; kinetics-; human-body; real-individual-doses; whole-body-counting; countermeasures-; economic-problems; rural-population; foods-; internal-exposure; ingestion-doses; 0-5-mSv; 5-mSv; 50-mSv; Cs-

Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A8760P (Radiation-protection-in-medical-physics); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A28; A87; A2; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation dose equivalent 5.0 E04 Sv; radiation dose equivalent 5.0 E03 Sv; radiation dose equivalent 5.0 E02 Sv

Chemical Indexing: Cs-el

Coden: HLTPAO

ISSN: 0017-9078

SICI: 0017-9078(200010)79:4L.341:IEFI;1-N

Sort Key: 00000179078200000079000040000000000000341

Material Identity Number: P578-2000-017

Accession Number: 6740807

Update Code: 200042

Title: Scale of radionuclide emission at the Chernobyl nuclear power plant in 1986 (the analysis of estimations)
Author: Checherov-KP; Kumshaev-SB; Tokarchuk-MV
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Condensed-Matter-Physics. vol.3, no.3(23); 2000; p.597-606
Publication Year: 2000
Record Type: Journal-article
Country of Publication: Ukraine
Language: English
Abstract: How much fuel remained inside the Chernobyl Unit 4 after the accident? What is the scale of radionuclide emission in the environment? Till now these questions excite the scientific community of the world. The critical analysis of various points of view on a problem of radionuclide emission during the accident at Chernobyl NPP is proposed.
Number of References: 38
Descriptors: air-pollution; fission-reactor-accidents; nuclear-power-stations; radioactive-pollution
Identifiers: radionuclide-emission; Chernobyl-nuclear-power-plant; Chernobyl-Unit-4; accident-; environment-; air-pollution; radioactive-pollution
Classification Codes: A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A86; A92; A28; A8; A9; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: CMPHF5

Sort Key: 00000000000200000003000030000000000000597
Material Identity Number: G206-2000-004
Accession Number: 6730283
Update Code: 200041

Record 26 of 1145 in INSPEC 2000/07-2000/12

Title: Thyroid dosimetry in Europe following the Chernobyl accident
Author: O'Hare-NJ; Murphy-D; Malone-JF
Author Affiliation: Dept. of Med. Phys. & Eng., St. James's Hosp., Dublin, Ireland
Source: British-Journal-of-Radiology. vol.73, no.870; June 2000; p.636-40
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Thyroid dose estimates for European populations following the Chernobyl accident in 1986 have been presented in the literature. These dose estimates used standard values for parameters such as thyroid mass, iodine uptake and biological half-life. Previous work has shown that these values are not representative of European populations and that local values should be utilized. Using published data on revised thyroid dose

estimates, thyroid dosimetry data arising as a result of the Chernobyl accident are presented for 22 European countries. When these are compared with previously published estimates it is found that in all cases the previous results underestimate the thyroid dose by up to a factor of 4. Risk estimates on the incidence of fatal and non-fatal thyroid cancers are also determined from this new data and, again, the results are underestimated. The results show an increase in the number of fatal cancers, rising from 149 as predicted by the NEA to 310 under the new estimates, and from 180 as predicted by UNSCEAR to the new estimate of 380.

Number of References: 17

Descriptors: biological-effects-of-ionising-radiation; biological-organs; cancer-; dosimetry-; fission-reactor-accidents

Identifiers: thyroid-dosimetry-in-Europe; Chernobyl-accident; European-countries; risk-estimates; fatal-cancers; NEA-; UNSCEAR-; biological-half-life; thyroid-mass; iodine-uptake; nonfatal-thyroid-cancers; I-

Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A2880C (Dosimetry-in-nuclear-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); B7530B (Radiation-protection-and-dosimetry); A87; A28; B75; A8; A2

Treatment Codes: X (Experimental)

Chemical Indexing: I-el

Coden: BJRAAP

ISSN: 0007-1285

SICI: 0007-1285(200006)73:870L.636:TDEF;1-Z

Sort Key: 00000071285200000073008700000000000000636

Material Identity Number: B010-2000-007

Accession Number: 6722926

Update Code: 200040

Record 27 of 1145 in INSPEC 2000/07-2000/12

Title: Quantifying nonstationary radioactivity concentration fluctuations near Chernobyl: A complete statistical description

Author: Viswanathan-GM; Buldyrev-SV; Garger-EK; Kashpur-VA; Lucena-LS; Shlyakhter-A; Stanley-HE; Tschiersch-J

Author Affiliation: Center for Polymer Studies, Boston Univ., MA, USA

Source: Physical-Review-E-(Statistical-Physics,-Plasmas,-Fluids,-and-Related-Interdisciplinary-Topics). vol.62, no.3; Sept. 2000; p.4389-92

Full Text: Phys Rev Article http://publish.aps.org/abstract/PRE/v62/p4389

Publication Year: 2000

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: We analyze nonstationary /sup 137/Cs atmospheric activity concentration fluctuations measured near Chernobyl after the 1986 disaster and find three new results: (i) the histogram of fluctuations is well described by a log-normal distribution; (ii) there is a pronounced spectral component with period T=1yr, and (iii) the fluctuations are long-range correlated. These findings allow us to quantify two fundamental statistical properties of the data: the probability distribution and the correlation properties of the time series. We interpret our findings as evidence that the atmospheric radionuclide resuspension processes are tightly coupled to the surrounding ecosystems and to large time scale weather patterns.
Number of References: 17
Descriptors: air-pollution; caesium-; disasters-; fission-reactor-accidents; fluctuations-; meteorology-; probability-; radioactive-pollution; radioisotopes-
Identifiers: nonstationary-radioactivity-concentration-fluctuations; Chernobyl-accident; statistical-description; 137Cs-atmospheric-activity-concentration; disaster-; log-normal-distribution; spectral-component; probability-distribution; atmospheric-radionuclide-resuspension; large-time-scale-weather-patterns; 1-y; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A0540 (Fluctuation-phenomena-random-processes-and-Brownian-motion); A0250 (Probability-theory-stochastic-processes-and-statistics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A92; A05; A02; A28; A8; A9; A0
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 3.2 E07 s
Chemical Indexing: Cs-el
Coden: PLEEE8
ISSN: 1063-651X
Copyright Clearance Center Code: 1063-651X/2000/62(3)/4389(4)/$15.00
SICI: 1063-651X(200009)62:3L.4389:QNRC;1-H
Document Number: S1063-651X(00)05809-8
Copyright Statement: Copyright 2000, IEE
Sort Key: 0001063651X20000006200003000000000004389
Material Identity Number: A367-2000-009
Accession Number: 6716668
Update Code: 200039
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 01072.120
Bestand: E47.1993=>

Record 28 of 1145 in INSPEC 2000/07-2000/12

Title: Results of in vivo monitoring of the witnesses of the Chernobyl accident
Author: Kutkov-VA
Author Affiliation: Res. Centre, Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.89, no.3-4; 2000; p.193-7
Publication Year: 2000

Record Type: Conference-Paper; Journal-article
Conference Details: In Vivo Monitoring for Internal Contamination: New Techniques for New Needs. 21-24 May 1999; Mol, Belgium
Country of Publication: UK
Language: English
Abstract: About 1500 people were involved in emergency operations on 26-27 April 1986 at the site of the Chernobyl Nuclear Power Plant. They worked in different working conditions and were exposed to aerosols of different characteristics. The Chernobyl accident was the first accident in which, when the reactor core was destroyed, aerosol of the dispersed spent nuclear fuel became a significant source of internal and external exposure for a large group of people. Detailed information on the properties of the Chernobyl aerosol for the first post-accident period is absent. Therefore, results of in vivo monitoring of the witnesses of the Chernobyl accident can be an the important source of information for assessing the radiological properties of the Chernobyl aerosol.
Number of References: 20
Descriptors: aerosols-; air-pollution; disasters-; fission-reactor-accidents; health-hazards; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: emergency-operations; people-; Chernobyl-Nuclear-Power-Plant; working-conditions; aerosols-; Chernobyl-accident; reactor-core; dispersed-spent-nuclear-fuel; external-exposure; internal-exposure; Chernobyl-aerosol; first-post-accident-period; in-vivo-monitoring; witnesses-; radiological-properties
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere-environmental-science); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A87; A28; A86; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)89:3/4L.193:RVMW;1-#

Sort Key: 00001448420200000089000030000000000000193
Material Identity Number: B978-2000-010
Accession Number: 6704880
Update Code: 200037
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 29 of 1145 in INSPEC 2000/07-2000/12

Title: Mass internal exposure monitoring of the population in Russia after the Chernobyl accident
Author: Zvonova-IA; Bruk-GYa; Kaidanovsky-GN; Jesko-TV; Balonov-MI
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia

Source: Radiation-Protection-Dosimetry. vol.89, no.3-4; 2000; p.173-8
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: In Vivo Monitoring for Internal Contamination: New Techniques for New Needs. 21-24 May 1999; Mol, Belgium
Country of Publication: UK
Language: English
Abstract: The organisation and carrying out of mass monitoring of radionuclide activity in the inhabitants of Russian regions contaminated with radionuclides after the Chernobyl accident are here reviewed. Methods to calibrate /sup 131/I in the thyroid and /sup 134-137/Cs in the whole body are presented. Dependence of calibration factors for monitoring of /sup 131/I in thyroid, and /sup 134/Cs and /sup 137/Cs in a whole body on age, body mass and size are presented. The shielding of the background radiation by a human body influences significantly the measurement result. It depends on the chosen measurement geometry, the energy range applied, the spectrum of background radiation, mass and dimensions of the measured person. /sup 131/I content in the thyroid should be calculated from the measurement results taking into account the contribution of radiation from radionuclides distributed in the body. Neglect of this factor could result in an overestimation of /sup 131/I content in the thyroid up to a factor of 2 to 4.
Number of References: 12
Descriptors: caesium-; calibration-; disasters-; fission-reactor-accidents; health-hazards; iodine-; radiation-monitoring; radioisotopes-; shielding-
Identifiers: mass-internal-exposure-monitoring; population-; Russia-; Chernobyl-accident; radionuclide-activity; inhabitants-; Russian-regions; 134-137Cs; thyroid-; whole-body; calibration-factors; 134Cs-; 137Cs-; age-; body-mass; size-; shielding-; background-radiation; human-body; chosen-measurement-geometry; energy-range; spectrum-; dimensions-; 131I-content; I-; Cs-
Classification Codes: A8760P (Radiation-protection-in-medical-physics); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); B7530B (Radiation-protection-and-dosimetry); A87; A28; B75; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)89:3/4L.173:MIEM;1-Q

Sort Key: 000014484202000000890000300000000000173
Material Identity Number: B978-2000-010
Accession Number: 6704877
Update Code: 200037
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 30 of 1145 in INSPEC 2000/07-2000/12

Title: Options for the management of Chernobyl-restricted areas in England and Wales
Author: Nisbet-A; Woodman-R
Author Affiliation: Nat. Radiol. Protection Board, Didcot, UK
Source: Journal-of-Environmental-Radioactivity. vol.51, no.2; 2000; p.239-54
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2351%23239%232&_version=1&md5=03d9684f866f024577efacb9267b381f
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Areas in England and Wales are still subject to restrictions on the movement, sale and slaughter of sheep because activity concentrations of /sup 137/Cs in sheepmeat may exceed the 1000 Bq kg/sup -1/ limit imposed after the Chernobyl nuclear power plant accident. The operation of various monitoring programmes has enabled lamb production to be sustained in restricted areas, Under present circumstances, it is predicted that some restrictions will remain until at least 2003. This paper describes an assessment of the practicability and cost-effectiveness of five alternative management options: utilisation of existing improved land for the purposes of clean feeding; improvement of unimproved upland grazing for the purposes of clean feeding; provision of housing and clean feed; administration of boli containing ammonium ferric hexacyanoferrate; and monitoring at the market place. The practicability of each option, which encompasses technical feasibility, capacity, cost, impact and acceptability, was assessed through a series of case studies carried out on farms in the restricted area of north Wales, and through consultation with a range of organisations with interests in farming and/or the environment. Recommendations are made for the future management of the restricted areas.
Number of References: 12
Descriptors: farming-; fission-reactor-accidents; health-hazards; radioactive-pollution
Identifiers: England-; Wales-; Chernobyl-; 137Cs-; land-; upland-grazing; boli-; ammonium-ferric-hexacyanoferrate; market-place; cost-effectiveness; feeding-; north-Wales; sheep-; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/2000/$20.00
SICI: 0265-931X(2000)51:2L.239:OMCR;1-G
Document Number: S0265-931X(00)00080-1
Copyright Statement: Copyright 2000, IEE
Sort Key: 0000265931X2000000510000200000000000239
Material Identity Number: I664-2000-010
Accession Number: 6680361
Update Code: 200033

Record 31 of 1145 in INSPEC 2000/07-2000/12

Title: Refractive properties of separate erythrocytes of Chernobyl clean-up workers at different pH
Author: Mazarevica-G; Freivalds-T; Bruvere-R; Gabruseva-N; Leice-A; Zvagule-T
Author Affiliation: Fac. of Phys. & Math., Latvian Univ., Riga, Latvia
Source: Proceedings-of-the-SPIE --The-International-Society-for-Optical-Engineering. vol.3921; 2000; p.163-71
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: Optical Diagnostics of Living Cells III. 24-25 Jan. 2000; San Jose, CA, USA. Sponsored by: SPIE; IBOS-Int. Biomed. Opt. Soc
Country of Publication: USA
Language: English
Abstract: This study is focused on the modifications in erythrocytes of Chernobyl nuclear power plant accident clean-up workers as a late health effect of short-term impact of high level radioactive contamination. As a result, a new method based on erythrocyte refractive index properties at different pH has been elaborated.
Number of References: 18
Descriptors: bio-optics; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; fission-reactor-accidents; light-refraction; pH-; radioactive-pollution
Identifiers: Chernobyl-clean-up-workers; erythrocyte-refractive-properties; high-level-radioactive-contamination; erythrocyte-refractive-index-properties; erythrocyte-modifications; red-blood-cells; cellular-radiobiology
Classification Codes: A8725 (Cellular-biophysics); A8750B (Interactions-of-biosystems-with-radiations); A4225G (Edge-and-boundary-effects-optical-reflection-and-refraction); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A42; A28; A8
Treatment Codes: X (Experimental)
Coden: PSISDG
ISSN: 0277-786X
Copyright Clearance Center Code: 0277-786X/2000/$15.00
SICI: 0277-786X(2000)3921L.163:RPSE;1-U
Copyright Statement: Copyright 2000, IEE
Sort Key: 0000277786X2000039210000000000000000163

Material Identity Number: C574-2000-122
Accession Number: 6672902
Update Code: 200032

Record 32 of 1145 in INSPEC 2000/07-2000/12

Title: Estimation of whole-body content of /sup 137/Cs from a single urine sample: experience from areas in Russia contaminated after the Chernobyl accident

Author: Thornberg-C; Wallstrom-E; Zvonova-I; Jesko-T; Vesanen-R; Mattsson-S; Alpsten-M; Balonov-M
Author Affiliation: Dept. of Radiat. Phys., Lund Univ., Sweden

Source: Radiation-Protection-Dosimetry. vol.88, no.3; 2000; p.239-46
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Between 1991 and 1997 measurements of the body burden of /sup 137/Cs were performed in people living in the Bryansk region of Russia. A single urine sample was also collected for many of the measured persons. The possibility of estimating the whole-body /sup 137/Cs from a single urine sample was investigated by comparing the body burden of /sup 137/Cs derived from field measurements with data on the urinary excretion of /sup 137/Cs, using various normalisation parameters. Coefficients for assessing the body burden from a single urine sample were calculated for each method. The in vivo measurements were carried out using. A 63 mm diam.*63 mm NaI(Tl) detector and a single-channel analyser in villages in the Bryansk region of Russia, in September each year. The urine samples were collected from adults as well as from children, and later analysed for /sup 137/Cs, potassium and creatinine concentrations. The correlation between whole-body content and urinary excretion of /sup 137/Cs did not improve by introducing potassium or creatinine normalisation. This study indicates that the most reliable method to estimate /sup 137/Cs body burden from urine analysis is simply to use the concentration of /sup 137/Cs. Age and sex dependent factors for the calculation of /sup 137/Cs body burden from a single urine sample are presented.

Number of References: 27
Descriptors: caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: whole-body-content; single-urine-sample; Russia-; Chernobyl-accident; body-burden; people-; Bryansk-region; whole-body-137Cs; urinary-excretion; normalisation-parameters; in-vivo-measurements; NaITl-detector; single-channel-analyser; villages-; adults-; children-; creatinine-concentration; K-concentration; 137Cs-concentrations; creatinine-normalisation; K-normalisation; sex-dependent-factors; age-dependent-factors; Cs-; NaI:Tl-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8

Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; NaI:Tl-ss Na-ss Tl-ss I-ss NaI-bin Na-bin I-bin Tl-el Tl-dop
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)88:3L.239:EWBC;1-3

Sort Key: 000014484202000000880000300000000000239
Material Identity Number: B978-2000-007
Accession Number: 6672269
Update Code: 200032
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 33 of 1145 in INSPEC 2000/07-2000/12

Title: Retrospective estimation of strontium-90 intake dynamics and doses for the population living in the territories affected by the Chernobyl accident
Author: Repin-V; Novak-N; Perevoznikov-O; Tsygankov-N
Author Affiliation: Radiat. Protection Inst., Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.88, no.3; 2000; p.207-21
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: An attempt has been made to find parallels in /sup 137/Cs and /sup 90/Sr transfer from the fallout of these radionuclides after the accident at the Chernobyl nuclear power plant (ChNPP) into humans for the inhabitants of the contaminated territories of the Zhytomir region in Ukraine. A model of the retrospective reconstruction of /sup 90/Sr intake levels in 1986-1998 has been developed. The model's major parameters for the period 1986-1994 are: (1) /sup 90/Sr and /sup 137/Cs fallout density in the territory of the settlement; (2) the value of the /sup 137/Cs annual intake, obtained on the basis of dynamics of /sup 137/Cs intake; (3) the value of /sup 90/Sr relative accessibility coefficient; (4) the coefficient of the countermeasure efficiency. Numerical values of the parameters have been obtained. The model's major parameters for the period 1995-1998 are: (1) /sup 90/Sr and /sup 137/Cs fallout density on the territory of the settlement; (2) value of /sup 90/Sr transfer factor from soil to milk and potato; (3) diet structure for the rural population in Ukraine. Using the proposed model it has been found that the total annual /sup 90/Sr intake in 1986 constituted 37.8, 22.7 and 18.9 Bq per (kBq.m/sup -2/) for the inhabitants of the uncontrolled and controlled territories and for Narodichi residents, respectively. /sup 90/Sr intake in 1986-1994 constituted 280 and 99 Bq per (kBq.m/sup -2/) for the inhabitants of the uncontrolled and controlled territories, respectively. The average rate of the /sup 90/Sr intake for the adult inhabitants for the 1995-1998 period was 0.19+or-0.03 Bq.day/sup -1/ per (kBq.m/sup -2/). The model verification relies on the radionuclide content examination in autopsy

samples and daily urine samples taken from residents of the contaminated area. It demonstrates the adequacy of the retrospective evaluation model for /sup 90/Sr intake levels and the possibilities for its use in dose calculations. The values have been obtained with respect to radiation doses received and expected by the population residing in controlled and uncontrolled areas. The calculations showed that: (l) maximum radiation doses for controlled areas residents reach the values of 1.2 mSv, while for uncontrolled areas they were up to 1.5 mSv; (2) median doses for these categories are within the range of 0.14-0.15 mSv. The average individual committed effective dose for people of the controlled and uncontrolled territories are estimated at the level of 12.1 and 17.6 mu Sv per (kBq.m/sup -2/) respectively. Thus the introduction of countermeasures prevented 5.5 mu Sv per (kBq.m/sup -2/) in the controlled territories.

Number of References: 35
Descriptors: biotransport-; caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radiation-protection; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: 90Sr-transfer; 137Cs-transfer; 137Cs-fallout-density; 90Sr-fallout-density; Chernobyl-nuclear-power-plant; Chernobyl-accident; Ukraine-; 137Cs-annual-intake; 90Sr-relative-accessibility-coefficient; countermeasure-efficiency; 90Sr-transfer-factor; soil-; milk-; potato-; diet-structure; rural-population; total-annual-90Sr-intake; uncontrolled-territories; controlled-territories; Narodichi-residents; adult-inhabitants; model-verification; radionuclide-content-examination; autopsy-samples; daily-urine-samples; contaminated-area; retrospective-evaluation-model; 90Sr-intake-levels; dose-calculations; uncontrolled-areas; controlled-areas; maximum-radiation-doses; controlled-areas-residents; average-individual-committed-effective-dose; people-; 90Sr-intake-dynamics; 1-2-mSv; 1-5-mSv; Cs-; Sr-
Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A8725D (Biological-transport-cellular-and-subcellular-transmembrane-physics); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry-in-nuclear-engineering); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A9330G (Europe); A87; A86; A28; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.2 E03 Sv; radiation dose equivalent 1.5 E03 Sv
Chemical Indexing: Cs-el; Sr-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)88:3L.207:RESI;1-8

Sort Key: 000014484202000000880000300000000000207
Material Identity Number: B978-2000-007
Accession Number: 6672266
Update Code: 200032

Record 34 of 1145 in INSPEC 2000/07-2000/12

Title: Forest fires in the territory contaminated as a result of the Chernobyl accident: radioactive aerosol resuspension and exposure of fire-fighters

Author: Kashparov-VA; Lundin-SM; Kadygrib-AM; Protsak-VP; Levtchuk-SE; Yoschenko-VI; Kashpur-VA; Talerko-NM
Author Affiliation: Inst. of Agric. Radiol., Kiev, Ukraine

Source: Journal-of-Environmental-Radioactivity. vol.51, no.3; 2000; p.281-98
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2351%23281%233&_version=1&md5=55533e33a819575c512b5b04887efebe
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Studies were carried out to investigate the processes of resuspension and redistribution of radionuclides by fire in the territories contaminated as a result of the Chernobyl accident. In this set of experiments, the dispersed radioactive aerosol composition, the values of airborne radioactive aerosol concentrations, the resuspension factor, the resuspension rate, the deposition flux and the deposition velocity have been obtained for the different phases of a fire and at various distances from the fire. In the active phase of a fire, the airborne concentrations of radionuclides increase by several orders of magnitude relative to the background value. The resuspension factor for the active phase of a fire was assessed as 10/sup -7/-10/sup -8/ m/sup -1/, while the value of the resuspension rate had a 10/sup -10/ s/sup -1/ order of magnitude at a deposition velocity of 1-2 cm s/sup -1/. The additional terrestrial contamination due to a forest fire can be estimated as a value in the range 10/sup -4/-10/sup -5/ of its background value. As recommended by ICRP, the human respiratory tract model was applied for calculation of the Effective Equivalent Dose (EED) to firemen. The dose coefficient for radioactive aerosol inhalation was estimated at 1.5*10/sup -8/ Sv (Bq m/sup -3/ h)/sup -1/.

Number of References: 16
Descriptors: aerosols-; dosimetry-; fires-; health-hazards; radioactive-pollution
Identifiers: forest-fires; Chernobyl-accident; radioactive-aerosol-resuspension; fire-fighters; dispersed-radioactive-aerosol-composition; airborne-radioactive-aerosol-concentrations; resuspension-factor; resuspension-rate; deposition-flux; deposition-velocity; terrestrial-contamination; human-respiratory-tract-model; Effective-Equivalent-Dose; firemen-; dose-coefficient; radioactive-aerosol-inhalation

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry-in-medical-physics); A8670C (Soil-and-rock-environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/2000/$20.00
SICI: 0265-931X(2000)51:3L.281:FFTC;1-W
Document Number: S0265-931X(00)00082-5
Copyright Statement: Copyright 2000, IEE
Sort Key: 0000265931X20000005100003000000000000281
Material Identity Number: I664-2000-011
Accession Number: 6667180
Update Code: 200031

Record 35 of 1145 in INSPEC 2000/07-2000/12

Title: Separation of Tc-99 in soil and plant samples collected around the Chernobyl reactor using a Tc-selective chromatographic resin and determination of the nuclide by ICP-MS
Author: Uchida-S; Tagami-K; Ruhm-W; Steiner-M; Wirth-E
Author Affiliation: Environ. & Toxicological Sci. Res. Group, Nat. Inst. of Radiol. Sci., Chiba, Japan
Source: Applied-Radiation-and-Isotopes. vol.53, no.1-2; July-Aug. 2000; p.69-73
Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2353%2369&_version=1&md5=198730a7264d3d4a6a4fb1a5141cfe19
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: ICRM Low-Level Radioactivity Measurement Techniques Conference. Oct. 1999; Mol, Belgium
Country of Publication: UK
Language: English
Abstract: Technetium (Tc) is known to have high mobility in a soil-water system and also high bioavailability for plants, because the most stable form of Tc in natural surface environment is thought to be TcO/sub 4//sup -/ which is highly soluble. The chemical form of Tc, however, changes with environmental conditions. Thus, it is necessary, for realistic assessment, to obtain transfer parameters, such as transfer factors, under natural conditions. However, it is difficult to obtain these parameters using global fallout /sup 99/Tc in actual fields due to its low concentration. In this study, /sup 99/Tc concentrations in surface soil and plant leaf samples collected from forest sites within the 30-km zone around the Chernobyl reactor were measured for the first time.
Number of References: 18

Descriptors: chromatography-; fission-reactor-accidents; forestry-; mass-spectroscopic-chemical-analysis; radioactive-pollution; radioisotopes-; soil-; technetium-
Identifiers: 99Tc-; soil-; plant-samples; Chernobyl-accident; selective-chromatographic-resin; ICP-MS; soil-water-system; natural-surface-environment; transfer-parameters; transfer-factors; global-fallout; plant-leaf; forest-sites; inductively-coupled-plasma-mass-spectrometry; radioactive-pollution; Tc-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8280M (Mass-spectrometry-chemical-analysis); A8280B (Chromatography); A86; A28; A82; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Tc-el
Coden: ARISEF
ISSN: 0969-8043
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Sort Key: 0000969804320000005300001000000000000069
Material Identity Number: J793-2000-007
Accession Number: 6661059
Update Code: 200030
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002
Bestand: 44.1993=>

Record 36 of 1145 in INSPEC 2000/07-2000/12

Title: Chernobyl: how solutions were found in Belarus to remedy the lack of available scientific information
Author: Lazarev-VS
Editor: Sturges-P; Rosenberg-D
Source: Disaster and after. Practicalities of Information Service in Times of War and Other Catastrophes. Proceedings of an International Conference. Taylor Graham, London, UK; 1999; 175 pp.
p.135-49
Publication Year: 1999
Record Type: Conference-Paper
Conference Details: Disaster and after. Practicalities of Information Service in Times of War and Other Catastrophes. Proceedings of an International Conference. 4-6 Sept. 1998; Bristol, UK. Sponsored by: Int. Group of the Libr. Assoc
Country of Publication: UK
Language: English
Abstract: It is demonstrated that the Republic of Belarus is the country most affected by the Chernobyl catastrophe, so research on its medical consequences is vital for Belarussians. However, the success of the research was hampered by the lack of available scientific information caused by the unique character of radiation exposure

that prevented an uncritical `mechanical' use of known models of radiation health effects and the absence of reliable data on the doses of acute exposure; the shortage of knowledge in radiology possessed by clinical medicine specialists; scientific and mass media Chernobyl-related censorship till 1989; the absence of sufficient epidemiological background; postponed and inadequate reaction of the USSR scientific information institutions to the event; the recent loss of access to the information provided by these institutions that became Russian property after the break up of the USSR. The challenge was accepted by enthusiasts who created domestic databases. Four projects, each possessing its own unique features are described. It is argued that the prerequisite for successful development of these projects is international collaboration.

Number of References: 16

Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; medical-computing; medical-information-systems

Identifiers: Republic-of-Belarus; Chernobyl-catastrophe; medical-consequences; scientific-information; radiation-exposure; radiation-health-effect; acute-exposure-doses; radiology-; clinical-medicine-specialists; scientific-Chernobyl-related-censorship; mass-media-Chernobyl-related-censorship; epidemiological-background; information-access; domestic-databases; international-collaboration

Classification Codes: C7140 (Medical-administration); C7330 (Biology-and-medical-computing); C71; C73; C7

Treatment Codes: G (General-or-Review)

ISBN: 0947568778

Sort Key: 1094756877819990000000000000000000000135

Material Identity Number: XX-2000-01606

Accession Number: 6651866

Update Code: 200028

Record 37 of 1145 in INSPEC 2000/07-2000/12

Title: Specific activity of /sup 243/Am and /sup 243/Cm in the fuel of the 4th power-generating unit of the Chernobyl nuclear power plant

Author: Ageev-VA; Vyrichek-SL; Lashko-AP; Lashko-TN; Odintsov-AA

Author Affiliation: Acad. of Sci., Ukraine

Source: Atomic-Energy. vol.87, no.5; Nov. 1999; p.788-90

Translated from: Atomnaya-Energiya. vol.87, no.5; Nov. 1999; p.327-9

Publication Year: 1999

Record Type: Journal-article

Country of Publication: Russia; Translation: USA

Language: English

Abstract: The activity ratios /sup 241/Am//sup 243/Am, /sup 243/Cm//sup 244/Cm, and /sup 242/Cm//sup 244/Cm in core samples taken at the industrial site of the object "Cover" were measured. The content of /sup 243/Am and /sup 243/Cm in the fuel in the 4th power-generating unit of the Chernobyl nuclear power plant was estimated on the basis

of an analysis of these data. The experimental data were compared with the theoretical calculations.
Number of References: 9
Descriptors: americium-; curium-; radioactive-pollution; radioactivity-measurement
Identifiers: specific-activity; 243Am-; 243Cm-; Chernobyl-nuclear-power-plant; activity-ratios; industrial-site; Cm-; Am-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A86; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cm-el; Am-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/99/8705-0788$22.00
SICI: 0004-7163(199911)87:5L.327;1-2
SICI of Translation: 1063-4258(199911)87:5L.788:SA22;1-A

Sort Key: 00000047163199900087000050000000000000327
Material Identity Number: P995-2000-006
Accession Number: 6649638
Update Code: 200028
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 38 of 1145 in INSPEC 2000/07-2000/12

Title: Some aspects of EPR dosimetry of liquidators [Chernobyl cleanup workers]
Author: Sholom-SV; Chumak-VV; Pasalskaja-LF
Author Affiliation: Sci. Center of Radiat. Med., Acad. of Med. Sci., Kiev, Russia
Source: Applied-Radiation-and-Isotopes. vol.52, no.5; May 2000; p.1283-6
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2352%231283%235&_version=1&md5=11fd3e0bde7e8614250f2efd609f8755
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: International Conference on Biodosimetry and 5th International Symposium on ESR Dosimetry and Applications. 22-26 June 1998 & 14-19 May 1995; Obinsk, Moscow & Neuherberg, Germany
Country of Publication: UK
Language: English
Abstract: Doses from a few hundred liquidators (Chernobyl cleanup workers) were reconstructed using a EPR dosimetric technique, developed and routinely used in the Scientific Center of Radiation, Ukraine. Both cumulative and accidental dose values were determined. The obtained results are analyzed and discussed.

Number of References: 11
Descriptors: biomedical-MRI; dosimetry-; EPR-spectroscopy; fission-reactor-accidents
Identifiers: EPR-dosimetry; liquidators-; Chernobyl-; cleanup-workers; cumulative-dose; accidental-dose
Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A8760I (Medical-magnetic-resonance-imaging-and-spectroscopy); A87; A8
Treatment Codes: X (Experimental)
Coden: ARISEF
ISSN: 0969-8043
Copyright Clearance Center Code: 0969-8043/2000/$20.00
SICI: 0969-8043(200005)52:5L.1283:SADL;1-K
Document Number: S0969-8043(00)00084-1
Copyright Statement: Copyright 2000, IEE
Sort Key: 0000969804320000005200005000000000001283
Material Identity Number: J793-2000-005
Accession Number: 6647901
Update Code: 200028
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002
Bestand: 44.1993=>

Record 39 of 1145 in INSPEC 2000/07-2000/12

Title: Cytogenetic features of leukaemias diagnosed in residents of areas contaminated after the Chernobyl nuclear accident
Author: Domracheva-EV; Aseeva-EA; Obukhova-TN; Kobzev-YN; Olshanskaya-YV; D'achenko-LV; Udovichenko-AI; Zakharova-AV; Milyutina-GI; Nechai-VV; Vorobiov-AI
Author Affiliation: Karyology Lab., Acad. of Med. Sci., Moscow, Russia
Source: Applied-Radiation-and-Isotopes. vol.52, no.5; May 2000; p.1171-7
Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2352%231171%235&_version=1&md5=635d1bb2f9117046d3281d4354ca6949
Publication Year: 2000
Record Type: Conference-Paper; Journal-article
Conference Details: International Conference on Biodosimetry and 5th International Symposium on ESR Dosimetry and Applications. 22-26 June 1998 & 14-19 May 1995; Obinsk, Moscow & Neuherberg, Germany
Country of Publication: UK
Language: English
Abstract: A comparison of chromosomal abnormalities in bone marrow leukaemic cells and of stable and unstable aberrations in lymphocytes of patients with hematological malignancies who live in areas with or without contamination by the Chernobyl nuclear accident has been made using FISH and G-banding. Healthy residents of these areas

comprised the control group. No systematic cytogenetic differences of leukaemic cells between patients from contaminated and uncontaminated areas were observed. Lymphocyte aberrations, however, were generally higher in all subjects from contaminated areas. Comparison has been made with specific cytogenetic features of leukaemic cells and a high level of stable aberrations in lymphocytes of patients with secondary leukaemias that had developed after chemo- and/or radio-therapy.

Number of References: 20

Descriptors: biological-effects-of-ionising-radiation; biological-techniques; blood-; bone-; cancer-; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; fluorescence-; genetics-; health-hazards; radioactive-pollution

Identifiers: chromosomal-abnormalities; bone-marrow-leukaemic-cells; stable-aberrations; unstable-aberrations; lymphocytes-; patients-; hematological-malignancies; specific-cytogenetic-features; contamination-; Chernobyl-nuclear-accident; G-banding; fluorescence-in-situ-hybridisation; healthy-residents; control-group; systematic-cytogenetic-differences; contaminated-areas; uncontaminated-areas; secondary-leukaemias; cytogenetic-features

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8780 (Biophysical-instrumentation-and-techniques); A8725F (Physics-of-subcellular-structures); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Coden: ARISEF
ISSN: 0969-8043
Copyright Clearance Center Code: 0969-8043/2000/$20.00
SICI: 0969-8043(200005)52:5L.1171:CFLD;1-K
Document Number: S0969-8043(00)00066-X

Sort Key: 0000969804320000005200005000000000001171
Material Identity Number: J793-2000-005
Accession Number: 6647890
Update Code: 200028

Record 40 of 1145 in INSPEC 2000/07-2000/12

Title: Dosimetry studies in Zaborie village [Russia-Chernobyl accident]

Author: Takada-J; Hoshi-M; Endo-S; Stepanenko-VF; Kondrashov-AE; Petin-D; Skvortsov-V; Ivannikov-A; Tikounov-D; Gavrilin-Y; Snykov-VP
Author Affiliation: Res. Inst. for Radiat. Biol. & Med., Hiroshima Univ., Japan

Source: Applied-Radiation-and-Isotopes. vol.52, no.5; May 2000; p.1165-9
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_url

version=4&_method=citationSearch&_volkey=0969%2d8043%2352%231165%235&_version=1&md5=df3f49d419023937411ec4562cd907d4

Publication Year: 2000

Record Type: Conference-Paper; Journal-article

Conference Details: International Conference on Biodosimetry and 5th International Symposium on ESR Dosimetry and Applications. 22-26 June 1998 & 14-19 May 1995; Obinsk, Moscow & Neuherberg, Germany

Country of Publication: UK

Language: English

Abstract: Dosimetry studies in Zaborie, a territory in Russia highly contaminated by the Chernobyl accident, were carried out in July, 1997. Studies on dosimetry for people are important not only for epidemiology but also for recovery of local social activity. The local contamination of the soil was measured to be 1.5-6.3 MBq/m/sup 2/ of Cs-137 with a 0.7-4 mu Sv/h dose rate. A case study for a villager presently 40 years old indicates estimations of 72 and 269 mSv as the expected internal and external doses for 50 years starting in 1997 based on data from a whole-body measurement of Cs-137 and environmental dose rates, Mean values of accumulated external and internal doses for the period from the year 1986 till 1996 are also estimated to be 130 mSv and 16 mSv for Zaborie. The estimation of the 1986-1996 accumulated dose on the basis of large scale ESR teeth enamel dosimetry provides for this village, the value 180 mSv. For a short term visitor from Japan to this area, the external and internal dose are estimated to be 0.13 mSv/9d (during a visit in 1997) and 0.024 mSv/50y (during 50 years starting from 1997), respectively.

Number of References: 8

Descriptors: dosimetry-; fission-reactor-accidents; health-hazards

Identifiers: Zaborie-; Russia-; Chernobyl-; dosimetry-; people-; soil-; dose-; environmental-dose-rate; external-dose; internal-dose; teeth-enamel-dosimetry; 130-mSv; 269-mSv; 72-mSv; Cs-

Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A87; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation dose equivalent 1.3 E01 Sv; radiation dose equivalent 2.69 E01 Sv; radiation dose equivalent 7.2 E02 Sv

Chemical Indexing: Cs-el

Coden: ARISEF

ISSN: 0969-8043

Copyright Clearance Center Code: 0969-8043/2000/$20.00

SICI: 0969-8043(200005)52:5L.1165:DSZV;1-7

Document Number: S0969-8043(00)00065-8

Sort Key: 0000969804320000005200005000000000001165

Material Identity Number: J793-2000-005

Accession Number: 6647889

Update Code: 200028

Bestand: 44.1993=>

Record 41 of 1145 in INSPEC 2000/07-2000/12

Title: Stable and unstable aberrations in lymphocytes of Chernobyl accident clearance workers carrying rogue cells

Author: Domracheva-EV; Rivkind-NB; Aseeva-EA; Obukhova-TN; D'achenko-LV; Vorobiov-AI

Author Affiliation: Karyology Lab., Acad. of Sci., Moscow, Russia

Source: Applied-Radiation-and-Isotopes. vol.52, no.5; May 2000; p.1153-9

Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2352%231153%235&_version=1&md5=125b4f320bb96d35d8015c2fc4db6f33

Publication Year: 2000

Record Type: Conference-Paper; Journal-article

Conference Details: International Conference on Biodosimetry and 5th International Symposium on ESR Dosimetry and Applications. 22-26 June 1998 & 14-19 May 1995; Obinsk, Moscow & Neuherberg, Germany

Country of Publication: UK

Language: English

Abstract: Cells with multiple chromosomal aberrations, the so-called rogue cells, were found in blood samples from more than 100 Chernobyl accident clearance workers. A comparative analysis of frequencies of stable and unstable chromosomal aberrations in two worker groups-those with or without rogue cells was made. A higher level of unstable aberrations in persons carrying rogue cells was observed. No difference in the level of stable aberrations between the groups was seen. The possibility of low dose alpha irradiation causing the chromosomal damage is raised.

Number of References: 31

Descriptors: alpha-particle-effects; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; fission-reactor-accidents; personnel-

Identifiers: lymphocytes-; Chernobyl-; accident-clearance-workers; rogue-cells; blood-; low-dose-alpha-irradiation

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8

Treatment Codes: X (Experimental)

Coden: ARISEF

ISSN: 0969-8043

Copyright Clearance Center Code: 0969-8043/2000/$20.00

SICI: 0969-8043(200005)52:5L.1153:SUAL;1-F

Document Number: S0969-8043(00)00063-4

Sort Key: 0000969804320000005200005000000000001153

Material Identity Number: J793-2000-005
Accession Number: 6647887
Update Code: 200028
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002
Bestand: 44.1993=>

Record 42 of 1145 in INSPEC 2000/07-2000/12

Title: Dissolution kinetics of particles of irradiated Chernobyl nuclear fuel: influence of pH and oxidation state on the release of radionuclides in the contaminated soil of Chernobyl

Author: Kashparov-VA; Protsak-VP; Ahamdach-N; Stammose-D; Peres-JM; Yoschenko-VI; Zvarich-SI
Author Affiliation: Ukrainian Inst. of Agric. Radiol., Kiev, Ukraine

Source: Journal-of-Nuclear-Materials. vol.279, no.2-3; June 2000; p.225-33
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0022%2d3115%23279%23225&_version=1&md5=951e68f664e02f5673b69ba34b2029e9
Publication Year: 2000
Record Type: Journal-article
Country of Publication: Netherlands
Language: English

Abstract: The radioactive contamination in the exclusion Chernobyl zone is mainly due to fuel particles present on the ground. Dissolution of these particles causes leaching of radionuclides to increase with time. The kinetics of dissolution of Chernobyl fuel particles were determined in solutions of different acidities, using material obtained by crushing actual irradiated Chernobyl fuel and by its oxidation for 1-21 h in air at a temperature of 670 K. Oxidation results in superficial cracking of the particles and an increase in their surface area and, therefore, higher dissolution rates for such particles than for non-oxidised ones. Dissolution rate of fuel particles increases in acid and alkaline mediums. The dissolution rates obtained for non-oxidised and oxidised fuel particles (UO/sub 2+x/) in solutions of different acidities can be used as a basis for narrowing the scope of assessments for prognosis of changes in the radiological situation in the Chernobyl zone.

Number of References: 20
Descriptors: crushing-; dissolving-; fission-reactor-accidents; fission-reactor-fuel; neutron-effects; oxidation-; particle-size; pH-; radioactive-pollution; radioisotopes-; radiology-; scanning-electron-microscopy; soil-; uranium-compounds
Identifiers: irradiated-Chernobyl-nuclear-fuel; exclusion-Chernobyl-zone; fuel-particles; dissolution-kinetics; pH-value-effect; oxidation-; contaminated-soil; radionuclide-leaching; particle-crushing; surface-area; SEM-; scanning-electron-microscopy; radiological-situation; fission-reactor-fuel; 1-to-21-h; 670-K; UO-2

Classification Codes: A8670C (Soil-and-rock-environmental-science); A2842D (Fission-reactor-fuel-elements); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A6180H (Neutron-effects); A6475 (Solubility-segregation-and-mixing); A8160D (Surface-treatment-and-degradation-of-ceramics-and-refractories); A8230L (Decomposition-reactions-pyrolysis-dissociation-and-group-ejection); A8245 (Electrochemistry-and-electrophoresis); A86; A28; A61; A64; A81; A82; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Numerical Data Indexing: time 3.6 E03 to 7.6 E04 s; temperature 6.7 E02 K
Chemical Indexing: UO2-bin O2-bin O-bin U-bin
Coden: JNUMAM
ISSN: 0022-3115
Copyright Clearance Center Code: 0022-3115/2000/$20.00
SICI: 0022-3115(200006)279:2/3L.225:DKPI;1-#
Document Number: S0022-3115(00)00010-6

Sort Key: 00000223115200000279000020000000000000225
Material Identity Number: J093-2000-007
Accession Number: 6640125
Update Code: 200027
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08545.000
Bestand: 1.1959=>

Record 43 of 1145 in INSPEC 1999/11-2000/06

Title: Analysis of blood lymphocyte subsets in children living around Chernobyl exposed long-term to low doses of cesium-137 and various doses of iodine-131
Author: Vykhovanets-EV; Chernyshov-VP; Slukvin-II; Antipkin-YG; Vasyuk-A; Colos-V
Author Affiliation: Lab. of Immunology, Acad. of Med. Sci., Kiev, Russia
Source: Radiation-Research. vol.153, no.6; June 2000; p.760-72
Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Epidemiological studies have found that children living around Chernobyl have rates of respiratory tract illness that are higher than those seen in the area before the Chernobyl accident. The study investigates the possible effects of radiation exposure on the composition of peripheral blood lymphocyte subsets in children living around Chernobyl. Two hundred nineteen healthy children and children suffering from recurrent respiratory diseases aged 6-14 years who received both low doses of radiation to the whole body from /sup 137/Cs and various doses of radiation to the thyroid from /sup 131/I as fallout from the accident were assessed 5 (1991) and 8-10 years (1994-1996) after the accident. A total of 148 healthy children and children suffering from recurrent respiratory diseases living in noncontaminated areas were also evaluated as controls. Children with recurrent respiratory diseases who lived around Chernobyl had a

significantly lower percentage of T cells and a higher percentage of NK cells compared to control children with recurrent respiratory diseases during the study period. In contrast to the findings in 1991, a significant decrease in the percentage of helper-inducer cells was observed in children with recurrent respiratory diseases in 1994-1996. In contrast to 1991, there is a positive correlation between the percentage of helper-inducer cells, the helper-inducer/cytotoxic-suppressor cell ratio, and the dose of radiation to the thyroid of healthy children from /sup 131/I in 1994-1996. There was a positive correlation between the dose of radiation to the thyroid from /sup 131/I and the percentage of helper-inducer cells in children with recurrent respiratory diseases 5 years (1991) after the accident. Further, the dose of radiation to the thyroid from /sup 131/I correlated negatively with the percentage of T and B cells and positively with the percentage of NK cells In children with recurrent respiratory diseases 8-10 years (1994-1996) after the accident. These results raise the possibility that long-term exposure to low doses of /sup 137/Cs may have altered the composition of the T-cell subsets and NK cells in children with recurrent respiratory diseases. The differences in the composition of the peripheral blood lymphocyte subsets between healthy children and those with recurrent respiratory diseases may be attributed to long-term low-dose exposure of the whole body to radiation from /sup 137/Cs and exposure of the thyroid to radiation from /sup 131/I subsequent to the Chernobyl accident.
Number of References: 42
Descriptors: biological-effects-of-ionising-radiation; blood-; caesium-; cellular-effects-of-radiation; disasters-; diseases-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; lung-; radioactive-pollution; radioisotopes-
Identifiers: whole-body; 137Cs-; respiratory-tract-illness; Chernobyl-accident; radiation-exposure; composition-; peripheral-blood-lymphocyte-subsets; healthy-children; recurrent-respiratory-diseases; 131I-; thyroid-; fallout-; noncontaminated-areas; controls-; T-cells; NK-cells; dose-; positive-correlation; helper-inducercytotoxic-suppressor-cell-ratio; B-cells; T-cell-subsets; long-term-low-dose-exposure; 6-to-14-y; I-; Cs-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 6.0 E00 to 1.4 E01 yr
Chemical Indexing: I-el; Cs-el
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/2000/$5.00
SICI: 0033-7587(200006)153:6L.760:ABLS;1-S

Sort Key: 0000033758720000015300006000000000000760
Material Identity Number: R066-2000-009

Accession Number: 6628354
Update Code: 200025
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 44 of 1145 in INSPEC 1999/11-2000/06

Title: The distribution of /sup 137/Cs and /sup 90/Sr in the biomass of pine trees planted in 1987-1988 in the near zone of the Chernobyl nuclear power plant
Author: Buzinny-M; Los-I; Shepelevich-K
Author Affiliation: Res. Center for Radiat. Med., Acad. of Med. Sci. of Ukraine, Kiev, Ukraine
Source: Applied-Radiation-and-Isotopes. vol.52, no.4; April 2000; p.905-10
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2352%23905%234&_version=1&md5=0259c866c704ef4c18c885540c3815f4
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This paper presents the results of a study, carried out in 1996, of the distributions of /sup 137/Cs and /sup 90/Sr in the biomass of a new pine plantation, planted in 1987-1988, in the near field of the Chernobyl nuclear power plant. The maximum observed concentrations were 4.2 M Bq kg/sup -1/ for /sup 137/Cs in the youngest needles and 1.1 M Bq kg/sup -1/ for /sup 90/Sr in the oldest needles. The estimation of the total absorbed doses in the different organs of the pine was also carried out, the observed doses were in the range 2 Gy yr/sup -1/ to 16.8 Gy yr/sup -1/; the lifetime dose for the needles (4 yr) was 44 Gy.
Number of References: 1
Descriptors: caesium-; radioactive-pollution; strontium-
Identifiers: 137Cs-; 90Sr-; biomass-; pine-trees; Chernobyl-nuclear-power-plant; M-Bq-kg-1; total-absorbed-doses; lifetime-dose; Sr-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: ARISEF
ISSN: 0969-8043
Copyright Clearance Center Code: 0969-8043/2000/$20.00
SICI: 0969-8043(200004)52:4L.905:D19B;1-V
Document Number: S0969-8043(99)00142-6

Sort Key: 0000969804320000005200004000000000000905

Material Identity Number: J793-2000-004
Accession Number: 6626910
Update Code: 200025
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002
Bestand: 44.1993=>

Record 45 of 1145 in INSPEC 1999/11-2000/06

Title: Radiation-epidemiological analysis of incidence of non-cancer diseases among the Chernobyl liquidators
Author: Ivanov-VK; Maksioutov-MA; Chekin-SYu; Kruglova-ZG; Petrov-AV; Tsyb-AF
Author Affiliation: Res. Inst. of Med. Radiol., Acad. of Med. Sci., Obninsk, Russia
Source: Health-Physics. vol.78, no.5; May 2000; p.495-501
Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The work is concerned with assessment of radiation risks for non-cancer disease among the Chernobyl liquidators from 1986 to 1996. As of 1 January 1999, the Russian National Medical and Dosimetric Registry contains medical and dosimetric data for 174,000 liquidators. The cohort of 68,309 liquidators for whom best verified medical data are available is discussed. The dose dependency of incidence of non-cancer diseases was estimated by the cohort method and using the software package Epicure. For some classes of non-cancer diseases among liquidators, statistically significant estimates of radiation risk were derived for the first time. The highest excess relative risk per 1 Gy was found for cerebrovascular diseases; ERR Gy/sup -1/=1.17 at the 95% confidence interval (0.45; 1.88).
Number of References: 6
Descriptors: biological-effects-of-ionising-radiation; contaminated-site-remediation; disasters-; diseases-; dosimetry-; fission-reactor-accidents; health-hazards
Identifiers: radiation-risks; noncancer-diseases; Chernobyl-liquidators; dosimetric-data; dose-dependency; cohort-method; software-package-Epicure; excess-relative-risk; cerebrovascular-diseases; radiation-epidemiological-analysis
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(200005)78:5L.495:REAI;1-E

Sort Key: 00000179078200000078000050000000000000495
Material Identity Number: P578-2000-008

Accession Number: 6588312
Update Code: 200019
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 46 of 1145 in INSPEC 1999/11-2000/06

Title: Central Generalized Data Bank on consequences of the Chernobyl accident
Author: Linge-II; Osip'yants-IA; Ilyushkin-AI
Source: Applied-Energy:-Russian-Journal-of-Fuel,-Power-and-Heat-Systems. vol.37, no.1; 1999; p.80-90
Translated from: Energetika. no.1; 1999; p.92-103
Publication Year: 1999
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Since 1991, the Nuclear Safety Institute of the Russian Academy of Sciences has been providing information and analytic support for Russia's government programs to rehabilitate territories and protect the population from the consequences of the accident at the Chernobyl nuclear power plant. Within the scope of this work, an information system has been developed that functions in federal and regional administrative agencies. The system's main information element is the Central Generalized Data Bank, which includes factual, document and personal-information sections. The information accumulated from 1986 up to the present time provides an opportunity for comprehensive analysis and prediction of the hygienic radiation, environmental, demographic, medical statistical, socioeconomic and sociopsychological situation in the affected territories. The article briefly describes the structure, composition, and characteristics of the data bank's main sections. It also gives the data bank's organizational, technical and software implementation.
Number of References: 4
Descriptors: database-management-systems; fission-reactor-accidents; management-information-systems; nuclear-power-stations
Identifiers: Chernobyl-accident-consequences; Central-Generalized-Data-Bank; Nuclear-Safety-Institute; Russian-Academy-of-Sciences; government-programs; nuclear-power-plant; information-system
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220 (Nuclear-power-stations-and-plants); C7165 (Public-utility-administration); C6160 (Database-management-systems-DBMS); C7470 (Nuclear-engineering-computing); C7410B (Power-engineering-computing); A28; B82; C71; C61; C74; A2; B8; C7; C6
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: IRAEEL; Translation: APENEY
ISSN: 0002-3310; Translation: 1068-7181
Copyright Clearance Center Code: 1068-7181/99/$50.00

SICI: 0002-3310(1999)1L.92;1-5
SICI of Translation: 1068-7181(1999)37:1L.80:CGDB;1-K

Sort Key: 00000023310199900000000010000000000000092
Material Identity Number: B311-2000-001
Accession Number: 6573023
Update Code: 200017

Record 47 of 1145 in INSPEC 1999/11-2000/06

Title: Calculations of the deposition of /sup 137/Cs from nuclear bomb tests and from the Chernobyl accident over the Province of Skane in the southern part of Sweden based on precipitation

Author: Isaksson-M; Erlandsson-B; Linderson-M-L
Author Affiliation: Dept. of Radiat. Phys., Goteborg Univ., Sweden

Source: Journal-of-Environmental-Radioactivity. vol.49, no.1; 2000; p.97-112
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2349%2397%231&_version=1&md5=f758545131bfe7fc0cd6eb68e7052401
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The deposition of /sup 137/Cs over the province of Skane (an area of about 100*100 km/sup 2/) in the southern part of Sweden has been investigated. The origin of the deposition of /sup 137/Cs is, in about equal parts, from nuclear weapons tests and from the Chernobyl nuclear accident and amounts to about 1-3 kBq/m/sup 2/. The activity concentrations of /sup 134/Cs and /sup 137/Cs in soil samples from 16 sites distributed in a grid pattern over the investigated area have been measured and the depositions from the nuclear weapons tests and from the Chernobyl accident have been separated. These pre- and post-Chernobyl activities have been compared with depositions calculated from measurements of the activity concentrations of /sup 134/Cs and /sup 137/Cs in precipitation at two places and from measurements of the precipitation from a network of between 113 and 143 precipitation stations. Comparisons with in situ measurements and with aerial survey measurements have also been made. The agreement is good and it has been possible to gain a good and detailed knowledge in retrospect of the deposition from measurements of the deposition per mm of precipitation from just a few stations, and of the precipitation from a network of stations.

Number of References: 22
Descriptors: air-pollution; caesium-; radioactive-pollution

Identifiers: 137Cs-; nuclear-bomb-tests; Chernobyl-accident; Skane-; Sweden-; precipitation-; 134Cs-; activity-concentrations; in-situ-measurements; aerial-survey-measurements; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A92; A87; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X

SICI: 0265-931X(2000)49:1L.97:CD1F;1-C
Document Number: S0265-931X(99)00101-0

Sort Key: 0000265931X20000004900001000000000000097
Material Identity Number: I664-2000-004
Accession Number: 6562687
Update Code: 200015

Record 48 of 1145 in INSPEC 1999/11-2000/06

Title: Time-dependent behaviour of radiocaesium: a new method to compare the mobility of weapons test and Chernobyl derived fallout
Author: Smith-JT; Clarke-RT; Saxen-R
Author Affiliation: Inst. of Freshwater Ecology, Wareham, UK
Source: Journal-of-Environmental-Radioactivity. vol.49, no.1; 2000; p.65-83
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2349%2365%231&_version=1&md5=5e7dbf8dfc2f8a1a55042e2461407316
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Environmental radiocaesium (/sup 137/Cs) originates primarily from two sources, atmospheric nuclear weapons testing, and the Chernobyl accident. It has not, to our knowledge, previously been possible statistically to compare changes in the environmental mobility of /sup 137/Cs from these two sources since the weapons test fallout varied in a complex manner over a number of years. A novel technique is presented for curve-fitting measurements with a time-dependent input function such as that for weapons test fallout. Different models were fitted to measurements of both pre- and post-Chernobyl /sup 137/Cs activity concentrations in five major Finnish rivers. It was shown that there was no significant difference in the temporal changes in /sup 137/Cs mobility from these two sources during the years after fallout. Transport

parameters derived from weapons test measurements gave good predictions of the long-term contamination of these rivers by Chernobyl fallout. Changes in /sup 137/Cs activity concentrations in rivers after Chernobyl have previously been shown to decline as a result of slow sorption to clay minerals in catchment soils. It is shown that weapons test fallout also exhibited this slow decline over time. Rates of decline in /sup 137/Cs activity concentrations 10 years after fallout correspond to effective ecological half-lives (T/sub eff/) in the range 10-30 years. Removal of activity from the catchment was found to have no significant effect on the long-term decline in /sup 137/Cs activity concentrations in these rivers.

Number of References: 23
Descriptors: air-pollution; caesium-; radioactive-pollution; radioactivity-measurement; rivers-; water-pollution
Identifiers: 137Cs-; time-dependent-behaviour; weapons-test; Chernobyl-; fallout-; curve-fitting; activity-concentration; Finland-; river-; effective-ecological-half-lives; Cs-
Classification Codes: A8670E (Water-environmental-science); A8670G (Atmosphere-environmental-science); A9330G (Europe); A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/2000/$20.00
SICI: 0265-931X(2000)49:1L.65:TDBR;1-2
Document Number: S0265-931X(99)00088-0

Sort Key: 0000265931X20000004900001000000000000065
Material Identity Number: I664-2000-004
Accession Number: 6562685
Update Code: 200015

Record 49 of 1145 in INSPEC 1999/11-2000/06

Title: Radiocaesium concentration factors of Chernobyl-contaminated fish: a study of the influence of potassium, and "blind" testing of a previously developed model
Author: Smith-JT; Kudelsky-AV; Ryabov-IN; Hadderingh-RH
Author Affiliation: Inst. of Freshwater Ecology, Wareham, UK
Source: Journal-of-Environmental-Radioactivity. vol.48, no.3; 2000; p.359-69
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2348%23359%233&_version=1&md5=55def2872e26d898b741d2c1fb4959d9
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The radiocaesium concentration factors (CF) of different fish species in 10 lakes in Russia, Belarus and Ukraine were measured between 6 and 11 yr after the Chernobyl accident. Clear inverse relations were observed between fish CF and lakewater K/sup +/ concentration. Perch (a predatory species) had CFs which were two times higher than non-predatory fish. No differences in CFs were observed between different species of non-predatory fish. An empirical model for the prediction of radiocaesium CFs in fish (Rowan and Rasmussen, 1994) was blind-tested against our measurements. The model predictions, based on measurements of K/sup +/ and suspended solids concentrations in the lakewater, were in good agreement with measured values. Our observations, however, implied a stronger effect of K/sup +/ on CF than that used in the Rowan and Rasmussen (1994) model, Further improvements in models could also be made by accounting for the effect of fish size on CF.

Number of References: 14
Descriptors: aquaculture-; caesium-; fission-reactor-accidents; lakes-; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: 137Cs-; radiocaesium-concentration-factors; Chernobyl-contaminated-fish; Russia-; Belarus-; Ukraine-; Chernobyl-accident; inverse-relations; perch-; empirical-model; K-+; 6-to-11-y; Cs-; K-
Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9240N (Lakes); A86; A28; A92; A8; A2; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 1.9 E08 to 3.5 E08 s
Chemical Indexing: Cs-el; K-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/2000/$20.00
SICI: 0265-931X(2000)48:3L.359:RCFC;1-D
Document Number: S0265-931X(99)00089-2

Sort Key: 0000265931X2000000480000300000000000359
Material Identity Number: I664-2000-003
Accession Number: 6548478
Update Code: 200013

Record 50 of 1145 in INSPEC 1999/11-2000/06

Title: Chernobyl fallout in a Swedish spruce forest ecosystem
Author: McGee-EJ; Synnott-HJ; Johanson-KJ; Fawaris-BH; Nielsen-SP; Horrill-AD; Kennedy-VH; Barbayiannis-N; Veresoglou-DS; Dawson-DE; Colgan-PA; McGarry-AT
Author Affiliation: Radiol. Protection Inst. of Ireland, Dublin, Ireland
Source: Journal-of-Environmental-Radioactivity. vol.48, no.1; 2000; p.59-78
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_url

version=4&_method=citationSearch&_volkey=0265%2d931X%2348%2359%231&_version=1&md5=fea9955e391a6a75b4e12753997ce00a

Publication Year: 2000

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: An assessment of the distribution of Chernobyl fallout in a Swedish forest was carried out and showed more than 95% of the /sup 137/Cs in the system to be of Chernobyl origin. The data show that approximately 87% of total fallout is found in soils, 6% in the bryophyte layer and 7% in standing biomass of trees. The mean deposition of /sup 137/Cs in the system (including soils, bryophytes, understorey vegetation, fungi, trees, moose and roe deer) was 54 kBq m/sup -2/. Fungi, understorey vegetation and ruminant populations collectively contained approximately 1% of total radiocaesium in the system. However, actual concentrations in these sample types were higher than in any other category, mostly exceeding the limit of 1500 Bq kg/sup -1/ for consumption of wild produce in Sweden. These categories represent the principal foodstuffs responsible for radiation transfer to man from the system and though negligible in total biomass there is potential for significant dose transfer to individuals who are regular consumers of wild forest produce.

Number of References: 43

Descriptors: air-pollution; caesium-; dosimetry-; fission-reactor-accidents; forestry-; radioactive-pollution; radioisotopes-; soil-

Identifiers: Chernobyl-fallout; Swedish-spruce-forest-ecosystem; 137Cs-; soils-; bryophyte-layer; standing-tree-biomass; understorey-vegetation; fungi-; moose-; roe-deer; ruminant-populations; wild-produce; radiation-transfer; dose-transfer; Cs-

Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A8760M (Radiation-dosimetry-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A92; A28; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/2000/$20.00

SICI: 0265-931X(2000)48:1L.59:CFSS;1-S

Document Number: S0265-931X(99)00057-0

Sort Key: 0000265931X2000000480000100000000000059

Material Identity Number: I664-2000-001

Accession Number: 6517212

Update Code: 200009

Record 51 of 1145 in INSPEC 1999/11-2000/06

Title: Dose estimates made by dicentric analysis for some Belarussian children irradiated by the Chernobyl accident
Author: Mikhalevich-LS; Lloyd-DC; Edwards-AA; Perepetskaya-GA; Kartel-NA
Author Affiliation: Inst. of Genetics & Cytology, Acad. of Sci., Minsk, Byelorussia
Source: Radiation-Protection-Dosimetry. vol.87, no.2; 2000; p.109-14
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The results are presented of chromosomal aberration analyses in blood lymphocytes sampled soon after the Chernobyl accident from children resident in and near Bragin, evacuees from the 30 km exclusion zone and a control group in Minsk. Children from the contaminated areas showed significantly elevated levels of dicentric aberrations. Average estimates of whole-body doses have been made by reference to an in vitro gamma dose effect curve. They were 230 mGy for Bragin children, and 400 mGy for evacuees and both are substantially higher than those derived from physical reconstructions. The difference may be due to their early incorporation of short-lived radionuclides.
Number of References: 15
Descriptors: biological-effects-of-gamma-rays; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radioisotopes-
Identifiers: chromosomal-aberration-analyses; blood-lymphocytes; Chernobyl-accident; evacuees-; exclusion-zone; control-group; Minsk-; contaminated-areas; dicentric-aberrations; whole-body-doses; in-vitro-gamma-dose-effect-curve; Bragin-children; short-lived-radionuclides; early-incorporation; physical-reconstructions; dicentric-analysis; Belarussian-children; dose-estimates; 230-mGy; 400-mGy
Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A2880C (Dosimetry-in-nuclear-engineering); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 2.3 E01 Gy; radiation absorbed dose 4.0 E01 Gy
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(2000)87:2L.109:DEMD;1-Z

Sort Key: 000014484202000000870000200000000000109
Material Identity Number: B978-2000-001
Accession Number: 6515585

Update Code: 200009
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 52 of 1145 in INSPEC 1999/11-2000/06

Title: Relations concerning compensation for injuries caused by the Chernobyl accident
Author: Bychkova-KF
Source: Atomic-Energy. vol.87, no.1; July 1999; p.526-8
Translated from: Atomnaya-Energiya. vol.87, no.1; July 1999; p.68-71
Publication Year: 1999
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: This article is devoted to the legal relations between the State and citizens who were victims of the accident at the Chernobyl nuclear power plant. Their characteristic features consist in the fact that the government as the constitutional guarantor and owner of nuclear power plants is responsible for the harm done due to radiation. The method of compensating for radiation damage in the form of compensations and benefits for harm to property and health of the victims was not known to the acting legislature before April 26, 1986. Compensations and benefits are also given to categories of citizens who are healthy and capable of working but were subjected to irradiation for risk of possible radiation-induced injury appearing in the future.
Number of References: 5
Descriptors: disasters-; fission-reactor-accidents; legislation-; radioactive-pollution
Identifiers: compensation-; injuries-; Chernobyl-accident; legal-relations; radiation-damage; radiation-induced-injury
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A87; A28; A86; A8; A2
Treatment Codes: G (General-or-Review)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/99/8701-0526$22.00
SICI: 0004-7163(199907)87:1L.68;1-C
SICI of Translation: 1063-4258(199907)87:1L.526:RCCI;1-7

Sort Key: 00000047163199900087000010000000000000068
Material Identity Number: P995-2000-002
Accession Number: 6511452
Update Code: 200008
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 53 of 1145 in INSPEC 1999/11-2000/06

Title: Dynamics of thyroid cancer incidence in Russia following the Chernobyl accident
Author: Ivanov-VK; Gorsky-AI; Tsyb-AF; Maksyutov-MA; Rastopchin-EM
Author Affiliation: Med. Radiol. Res. Centre, Russian Acad. of Med. Sci., Obninsk, Russia
Source: Journal-of-Radiological-Protection. vol.19, no.4; Dec. 1999; p.305-18
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Presents an analysis of thyroid cancer incidence in the territories of Russia most contaminated after the Chernobyl accident. Data on incidence in the Bryansk, Kaluga, Orel and Tula regions (5298 000 persons) are used. Altogether, 2599 cases of thyroid cancer are considered from 1982 to 1995. Of them, 143 cases were among the population who were children and adolescents at the time of the accident in 1986. The work uses the approach based on comparison of distributions of thyroid cancer cases by age at diagnosis and age at exposure. It has been shown that since 1991 the age structure of the incidence has changed significantly with a growing proportion of cases among children and adolescents. The change in the structure occurred due to the radiation factor, specifically as a result of exposure of thyroid to incorporated /sup 131/I. It has been shown that the standardised incidence ratio (SIR) of thyroid cancer among children who were 0-4 years at exposure in 1991-6 was 6 to 10 times higher than among adults. On the average, SIR for children and adolescents at the time of exposure is about three times higher than in adults.
Number of References: 18
Descriptors: biological-effects-of-ionising-radiation; cancer-; fission-reactor-accidents; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: thyroid-cancer-incidence; territories-; Russia-; Chernobyl-accident; Tula-region; Orel-region; Kaluga-region; Bryansk-region; children-; adolescents-; population-; thyroid-cancer-cases; exposure-; age-structure; radiation-factor; incorporated-131I; standardised-incidence-ratio; 0-to-4-y; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 0.0 E00 to 4.0 E00 yr
Chemical Indexing: I-el
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/99/040305+14$30.00
SICI: 0952-4746(199912)19:4L.305:DTCI;1-E
Document Number: S0952-4746(99)07618-1

Sort Key: 00009524746199900019000040000000000000305
Material Identity Number: L887-1999-004
Accession Number: 6510182
Update Code: 200008
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 54 of 1145 in INSPEC 1999/11-2000/06

Title: Transfer of infrared thermography predictive maintenance technologies to Soviet-designed nuclear power plants: experience at Chernobyl
Author: Pugh-R; Huff-R
Author Affiliation: Pacific Northwest Lab., Richland, WA, USA
Source: Proceedings-of-the-SPIE --The-International-Society-for-Optical-Engineering. vol.3700; 1999; p.300-10
Publication Year: 1999
Record Type: Conference-Paper; Journal-article
Conference Details: Thermosense XXI. 6-8 April 1999; Orlando, FL, USA. Sponsored by: SPIE
Country of Publication: USA
Language: English
Abstract: The importance of infrared (IR) technology and analysis in today's world of predictive maintenance and reliability-centered maintenance cannot be understated. The use of infrared is especially important in facilities that are required to maintain a high degree of equipment reliability because of plant or public safety concerns. As with all maintenance tools, particularly those used in predictive maintenance approaches, training plays a key role in their effectiveness and the benefit gained from their use. This paper details an effort to transfer IR technology to Soviet-designed nuclear power plants in Russia, Ukraine, and Lithuania. Delivery of this technology and post-delivery training activities have been completed recently at the Chernobyl nuclear power plant in Ukraine. Many interesting challenges were encountered during this effort. Hardware procurement and delivery of IR technology to a sensitive country were complicated by United States regulations. Freight and shipping infrastructure and host-country customs policies complicated hardware transport. Training activities were complicated by special hardware, software and training material translation needs, limited communication opportunities, and site logistical concerns. These challenges and others encountered while supplying the Chernobyl plant with state-of-the-art IR technology are described in this paper.
Number of References: 2
Descriptors: fission-reactor-safety; infrared-imaging; maintenance-engineering; nuclear-power-stations; reliability-; training-
Identifiers: infrared-thermography; predictive-maintenance; nuclear-power-plants; Chernobyl-; reliability-; public-safety; Russia-; Ukraine-; Lithuania-; training-; shipping-; freight-; transport-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0762 (Detection-of-radiation-bolometers-photoelectric-cells-ir-and-submillimetre-waves-detection); B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); B7230G (Image-sensors); B7320R (Thermal-variables-measurement); B0120 (Education-and-training); A28; A07; B82; B01; B72; B73; A2; A0; B8; B0; B7
Treatment Codes: G (General-or-Review)
Coden: PSISDG
ISSN: 0277-786X
Copyright Clearance Center Code: 0277-786X/99/$10.00
SICI: 0277-786X(1999)3700L.300:TITP;1-A

Sort Key: 0000277786X19990370000000000000000000300
Material Identity Number: C574-1999-136
Accession Number: 6484432
Update Code: 200005

Record 55 of 1145 in INSPEC 1999/11-2000/06

Title: Biological dosimetry of Chernobyl cleanup workers: inclusion of data on age and smoking provides improved radiation dose estimates

Author: Moore-DH-III; Tucker-JD
Author Affiliation: Dept. of Epidemiology & Biostat., California Univ., San Francisco, CA, USA

Source: Radiation-Research. vol.152, no.6; Dec. 1999; p.655-64
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: We report the results of a study of chromosome translocations in 126 Russian subjects who participated in the cleanup activities at Chernobyl and another 53 subjects, from other places in Russia, who were not exposed at Chernobyl. In agreement with our earlier study, we find increased translocation frequencies among the exposed compared to Russian controls. We describe statistical methods for estimating the dose of ionizing radiation determined by scoring chromosome translocations found in circulating lymphocytes sampled several years after exposure. Two statistical models were fitted to the data. One model assumed that translocation frequencies followed an overdispersed Poisson distribution. The second model assumed that translocation frequencies followed a negative binomial distribution. In addition, the effects of radiation exposure were modeled as additive or as multiplicative to the effects of age and smoking history. We found that the negative binomial model fit the data better than the overdispersed Poisson model. We could not distinguish between the additive and the multiplicative model with our data. Individual dose estimates ranged from 0 (for 43 subjects) to 0.56 Gy (mean 0.14 Gy) under the multiplicative model and from 0 to 0.95 Gy (mean 0.15

Gy) under the additive model. Dose estimates were similar under the two models when the number of translocations was less than 4 per 100 cells. The additive model tended to estimate larger doses when the number of translocations was greater than 4 per 100 cells. We also describe a method for estimating upper 95% tolerance bounds for numbers of translocations in unexposed individuals. We found that inclusion of data on age and smoking history was important for dose estimation. Ignoring these factors could result in gross overestimation of exposures, particularly in older subjects who smoke.

Number of References: 27
Descriptors: binomial-distribution; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; personnel-; physiological-models; Poisson-distribution; statistical-analysis
Identifiers: chromosome-translocations; Russian-subjects; cleanup-activities; translocation-frequencies; Russian-controls; statistical-methods; biological-dosimetry; Chernobyl-cleanup-workers; age-; upper-tolerance-bounds; radiation-dose-estimates; circulating-lymphocytes; statistical-models; overdispersed-Poisson-distribution; negative-binomial-distribution; radiation-exposure; smoking-history; negative-binomial-model; dose-estimation; 0-to-0-95-Gy
Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry-in-medical-physics); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A8710 (General-theoretical-and-mathematical-biophysics); A28; A87; A2
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Numerical Data Indexing: radiation absorbed dose 0.0 E00 to 9.5 E01 Gy
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/99/$5.00
SICI: 0033-7587(199912)152:6L.655:BDCC;1-F

Sort Key: 0000033758719990015200006000000000000655
Material Identity Number: R066-2000-001
Accession Number: 6481712
Update Code: 200004
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 56 of 1145 in INSPEC 1999/11-2000/06

Title: Relationship between the /sup 137/Cs whole-body counting results and soil and food contamination in farms near Chernobyl

Author: Takatsuji-T; Sato-H; Takada-J; Endo-S; Hoshi-M; Sharifov-VF; Veselkina-II; Pilenko-IV; Kalimullin-WAF; Masyakin-VB; Kovalev-AI; Yoshikawa-I; Okajima-S
Author Affiliation: Fac. of Environ. Studies, Nagasaki Univ., Japan
Source: Health-Physics. vol.78, no.1; Jan. 2000; p.86-9

Publication Year: 2000
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: We measured the radioactivity in the soil and child food samples from farms near Mogilev (56-270 GBq km/sup -2/ /sup 137/Cs), Gomel (36-810 GBq km/sup -2/ /sup 137/Cs), and Klincy (59-270 GBq km/sup -2/ /sup 137/Cs), who had whole-body /sup 137/Cs counting results measured as part of a health examination in the Chernobyl Sasakawa Health and Medical Cooperation Project. Soil contamination on the family farm seems to be the main source of human contamination because most of the people in the area live on small farms and they and their domestic animals eat crops from the farms. A clear correlation was found between the children's whole-body /sup 137/Cs counting results and the radioactivity in their food (correlation coefficient: 0.76; confidence level of correlation: 3.2*10/sup -9/). There were also significant correlations between the whole-body /sup 137/Cs counting results and both the radioactivity of the soil samples (correlation coefficient: 0.22; confidence level of correlation: 0.0107) and the average contamination level of their current residence (correlation coefficient: 0.20; confidence level of correlation: 0.0174).
Number of References: 4
Descriptors: agriculture-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: radioactivity-; child-food-samples; correlation-coefficient; Mogilev-; Gomel-; Klincy-; confidence-level; health-examination; soil-contamination; family-farm; human-contamination; domestic-animals; crops-; children's-whole-body-137Cs-counting-results; soil-samples; average-contamination-level; current-residence; Chernobyl-; food-contamination; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(200001)78:1L.86:RB1W;1-B

Sort Key: 0000017907820000007800001000000000000086
Material Identity Number: P578-2000-001
Accession Number: 6481442
Update Code: 200004

Record 57 of 1145 in INSPEC 1999/11-2000/06

Title: Nuclear safety projects at Chernobyl nuclear power plant

Source: Nuclear-Europe-Worldscan. vol.19, no.7-8; July-Aug. 1999; p.112-13
Publication Year: 1999
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Of the four RBMK-1000 reactors originally constructed at Chernobyl, only unit 3 is still operating. Two further units, which were under construction at the time of the 1986 accident, were abandoned. To date, all the safety improvement equipment has been purchased within the overall budget after an open tender process. Generally, the choice of supplier has been made on the basis of establishing technical compliance and thereafter selecting the lowest evaluated tender price. For the safety improvement projects, the successful bidders were all from different countries. Those items which have been installed are all operating satisfactorily. The indications are that, upon full completion of the safety improvement projects, the PMU work will be generally seen to have been successful. Lessons learned in the early stages of the PMU together with developing relationships between the PMU, the power plant and the Ukrainian authorities augur well for successful completion of the remaining PMU responsibilities.
Number of References: 0
Descriptors: fission-reactor-safety; safety-systems
Identifiers: nuclear-safety-projects; Chernobyl-nuclear-power-plant; RBMK-1000-reactors; safety-improvement-equipment; technical-compliance; Ukrainian-authorities; PMU-responsibilities
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: G (General-or-Review)
Coden: NEWOEN
ISSN: 1016-5975
SICI: 1016-5975(199907/08)19:7/8L.112:NSPC;1-#

Sort Key: 000101659751999000190000700000000000112
Material Identity Number: N806-1999-004
Accession Number: 6457984
Update Code: 200001

Record 58 of 1145 in INSPEC 1999/11-2000/06

Title: On the influence of Chernobyl nuclear disaster on the coniferous forests state in the surrounding area using SIR-C/X SAR data
Author: Zakharov-AI
Author Affiliation: Inst. of Radio Eng. & Electron., Acad. of Sci., Fryazino, Russia
Editor: Stein-TI
Source: IEEE 1999 International Geoscience and Remote Sensing Symposium. IGARSS'99 (Cat. No.99CH36293). IEEE, Piscataway, NJ, USA; 1999; 5 vol. (xci+2770) pp. p.2128-30 vol.4

Publication Year: 1999
Record Type: Conference-Paper
Conference Details: IEEE 1999 International Geoscience and Remote Sensing Symposium. IGARSS'99. vol.4. 28 June-2 July 1999; Hamburg, Germany. Sponsored by: IEEE Geosci. & Remote Sensing Soc.; Hamburg Univ.; NASA; NOAA; ONR; ESA; DLR; URSI
Country of Publication: USA
Language: English
Abstract: Accident at the Chernobyl nuclear power plant (NPP) in April 1986 appeared to be one of most serious ecological catastrophes. It led to the nuclear pollution of vast surrounding territories and had severe global ecological consequences. In their report the authors investigate manifestation of footprints of the nuclear catastrophe on the SIR-C/X SAR images of the NPP area obtained 8 years since the accident. Coniferous forests in the area of nuclear power plant may be used as a descriptor of the level and spatial distribution of nuclear pollution using SAR data. L-band SAR data seem to be one of the most useful for the purpose of monitoring of the Chernobyl forests state.
Number of References: 7
Descriptors: disasters-; forestry-; geophysical-techniques; pollution-measurement; remote-sensing-by-radar; synthetic-aperture-radar; vegetation-mapping
Identifiers: radioactive-pollution; Ukraine-; AD-1986; forest-; degradation-; vegetation-mapping; Chernobyl-nuclear-disaster; coniferous-forest; surrounding-area; SIR-C; X-SAR; radar-remote-sensing; nuclear-power-plant; ecological-catastrophe; AD-1994; spatial-distribution; L-band; damage-; disaster-; terrain-mapping
Classification Codes: A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A9330G (Europe); A8670Z (Other-topics-in-environmental-science); A9190 (Other-topics-in-solid-Earth-physics); A9385 (Instrumentation-and-techniques-for-geophysical-hydrospheric-and-lower-atmosphere-research); B7720 (Pollution-detection-and-control); B7730 (Other-remote-sensing-applications-in-Earth-sciences); B7710 (Geophysical-techniques-and-equipment); B6320 (Radar-equipment-systems-and-applications); A86; A93; A91; B77; B63; A8; A9
Treatment Codes: P (Practical); X (Experimental)
ISBN: 0780352076

Sort Key: 10780352076199900000000000000000000002128
Material Identity Number: XX-1999-02336
Accession Number: 6451520
Update Code: 199950

Record 59 of 1145 in INSPEC 1999/11-2000/06

Title: Model validation for external doses due to environmental contaminations by the Chernobyl accident
Author: Golikov-V; Balonov-M; Erkin-V; Jacob-P

Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Source: Health-Physics. vol.77, no.6; Dec. 1999; p.654-61
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The objective is to validate the deterministic JSP5 model for external exposures to population groups living in the areas contaminated with radionuclides after the Chernobyl accident. For this purpose inhabitants of contaminated areas wore TL-dosimeters for about 1 mo in the spring/summer periods of the years 1989 to 1993. External doses due to the Chernobyl accident were determined from the dosimeter readings by subtracting the natural background. 2,342 results for rural inhabitants and 420 results for inhabitants of the town Novozybkov passed reliability checks. These data show that the average dose in inhabitants of a rural settlement predicted by the model is in the range 0.69-1.55 of the measured values with a confidence level of 95%. Differences are attributed to settlement specific location factors, which are supported by the very good agreement of model and measurements in Novozybkov. In this case location factors of the model were obtained from Novozybkov directly.
Number of References: 11
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; modelling-; personnel-; radioactive-pollution; radioisotopes-; thermoluminescent-dosimeters
Identifiers: deterministic-JSP5-model; external-exposures; population-groups; radionuclides-; Chernobyl-accident; inhabitants-; contaminated-areas; thermoluminescent-dosimeters; springsummer-periods; external-doses; environmental-contaminations; model-validation; dosimeter-readings; natural-background; rural-inhabitants; town-Novozybkov; reliability-checks; average-dose; rural-settlement; confidence-level; settlement-specific-location-factors
Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry-in-medical-physics); A28; A87; A2; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(199912)77:6L.654:MVED;1-Q

Sort Key: 00000179078199900077000060000000000000654
Material Identity Number: P578-1999-019
Accession Number: 6449110
Update Code: 199950
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: The transfer of /sup 137/Cs and /sup 90/Sr to dairy cattle fed fresh herbage collected 3.5 km from the Chernobyl nuclear power plant

Author: Beresford-NA; Gashchak-S; Lasarev-N; Arkhipov-A; Chyorny-Y; Astasheva-N; Arkhipov-N; Mayes-RW; Howard-BJ; Baglay-G; Loginova-L; Burov-N
Author Affiliation: Inst. of Terrestrial Ecology, Grange-over-Sands, UK

Source: Journal-of-Environmental-Radioactivity. vol.47, no.2; 2000; p.157-70
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2347%23157%232&_version=1&md5=d0cd373e72adf0cd463014caa426cafb
Publication Year: 2000
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: A study conducted during summer 1993 to determine the bioavailability and transfer of /sup 137/Cs and /sup 90/Sr to dairy cattle from herbage collected from a pasture contaminated by particulate fallout is described. The study pasture was located 3.5 km from the Chernobyl nuclear power plant. The true absorption coefficient (A/sub t/) determined for /sup 137/Cs (0.23) was considerably lower than previous estimates for radiocaesium incorporated into vegetation by root uptake. It is likely that the low dry matter digestibility of the diet and the potential presence of /sup 137/Cs associated with adherent soil-associated fuel particles contributed to this low bioavailability. The A/sub t/ value determined for /sup 90/Sr (0.27) did not indicate a reduced bioavailability. It is suggested that the current and previous calcium status of the animals was the controlling influence on the transfer of /sup 90/Sr from the diet to milk.

Number of References: 44
Descriptors: caesium-; health-hazards; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: 137Cs-; 90Sr-; dairy-cattle; herbage-; Chernobyl-; particulate-fallout; dry-matter-digestibility; bioavailability-; milk-; Ca-; Cs-; Sr-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9330D (Asia); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ca-el; Cs-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/2000/$20.00
SICI: 0265-931X(2000)47:2L.157:T19D;1-C
Document Number: S0265-931X(99)00037-5

Sort Key: 0000265931X2000000470000200000000000157
Material Identity Number: I664-1999-013
Accession Number: 6446140

Update Code: 199950

Record 61 of 1145 in INSPEC 1999/11-2000/06

Title: Experimental study of radioactive aerosols in the vicinity of the Chernobyl Nuclear Power Plant

Author: Boulyga-SF; Lomonosova-EM; Zhuk-IV; Yaroshevich-OI; Kudrjashov-VP; Mironov-VP

Author Affiliation: Radiat. Phys. & Chem. Problems Inst., Minsk, Byelorussia

Source: Radiation-Measurements. vol.30, no.6; Dec. 1999; p.703-7

Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=1350%2d4487%2330%23703%236&_version=1&md5=0db7e5b107a0048f4480d6bf14efb87f

Publication Year: 1999

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Study of radioactive aerosols in the relocation zone and in the populated areas have been carried out for a number of years. The experiments on modelling resuspension were performed while conducting agricultural work. Nuclear track radiography and alpha spectrometry with radiochemical extraction of plutonium were used as analytical methods for the determination of the transuranium elements contents. The distributions of radioactive particles were obtained as to activity and sizes. Specific activity of "hot particles" increases with decreasing diameter. In aerosols selected at a distance of more than 10 km from the Chernobyl NPP pure fuel particles with sizes of more than 5 mu m were not found. The activity of the finely dispersed fraction of aerosols, which is more dangerous when inhaled by the organism, is comparable with a total activity of large particles.

Number of References: 1

Descriptors: aerosols-; alpha-particle-spectroscopy; plutonium-; radioactive-pollution; soil-; solid-state-nuclear-track-detectors

Identifiers: radioactive-aerosols; Chernobyl-Nuclear-Power-Plant; relocation-zone; populated-areas; agricultural-work; nuclear-track-radiography; alpha-spectrometry; radiochemical-extraction; transuranium-elements-contents; radioactive-particles; hot-particles; pure-fuel-particles; finely-dispersed-fraction; anthropogenic-resuspension; Pu-

Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2940W (Solid-state-nuclear-track-detectors); A2930E (alpha-ray-spectroscopy); A9330G (Europe); A86; A87; A29; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Pu-el

Coden: RMEAEP

ISSN: 1350-4487

Copyright Clearance Center Code: 1350-4487/99/$20.00
SICI: 1350-4487(199912)30:6L.703:ESRA;1-K
Document Number: S1350-4487(99)00045-1

Sort Key: 0001350448719990003000006000000000000703
Material Identity Number: B357-1999-007
Accession Number: 6442621
Update Code: 199950
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 62 of 1145 in INSPEC 1999/11-2000/06

Title: STREAM and WPS-tools for improving worker safety at Chernobyl
Author: Vargo-GJ; Dasgupta-A; Lentz-RC; Neal-JK
Author Affiliation: Div. of Environ. Technol., Pacific Northwest Lab., Richland, WA, USA
Source: Health-Physics. vol.77, no.2, suppl.is; Aug. 1999; p.S24-31
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: On 26 April 1986, Chernobyl's Unit 4 reactor exploded during a test of the plant's turbine-generator system. The reactor core was destroyed. The explosion and subsequent fires dispersed large amount of radioactive material in the form of gases and dust particles. In an effort to localize radioactivity and temporarily preserve the Unit 4, "Shelter" was constructed over the remains of the reactor. However, the destroyed unit, which contains about 190 tons of irradiated nuclear fuel, is undergoing degradation due to exposure to the environment. This has resulted in the generation of radioactive dust. Ukraine, and the G-7 countries, the G-7 countries include United States, Great Britain, Canada, France, Germany, Japan and Italy, have agreed on a plan to stabilize the Shelter by building a new protective structure and by removing portions of the existing Shelter to ensure its long-term stability. The United States has committed to improve worker safety at the Shelter by reducing radiation doses to workers. As part of the continuing efforts to achieve dose reduction for site personnel at the Shelter, Delphinus Engineering, under contract from Pacific Northwest National Laboratory (PNNL) operated by Battelle, installed and implemented STREAM or System for Tracking Radiation, Engineering, Activities and Materials. STREAM is both a multimedia database system and a decision support system that was developed as a "tool" for management and staff to enhance and/or facilitate productivity, safety, improve communications and training. The STREAM database is utilized to store and manage information relevant for decontamination and decommissioning (D&D) activities. STREAM's decision support system, referred to as the Work Planning System (WPS), allows planning of manned entries into the facility.
Number of References: 1

Descriptors: air-pollution-control; disasters-; environmental-science-computing; fission-reactor-accidents; fission-reactor-decommissioning; nuclear-engineering-computing; personnel-; radiation-protection; radioactive-pollution
Identifiers: Chernobyl's-Unit-4-reactor; plant's-turbine-generator-system; reactor-core; explosion-; subsequent-fires; radioactive-material; gases-; dust-particles; radioactivity-; Unit-4-Shelter; worker-safety; WPS-tools; STREAM's-decision-support-system; destroyed-unit; irradiated-nuclear-fuel; degradation-; environment-; radioactive-dust; Ukraine-; G-7-countries; United-States; Great-Britain; Canada-; France-; Germany-; Italy-; Japan-; protective-structure; long-term-stability; radiation-doses; dose-reduction; site-personnel; System-for-Tracking-Radiation-Engineering-Activities-Materials; multimedia-database-system; decision-support-system; productivity-; safety-; communications-; training-; STREAM-database; decommissioning-activities; decontamination-activities; Work-Planning-System; manned-entries
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A9260T (Air-quality-and-air-pollution); A2841C (Computing-for-fission-reactor-theory-and-design); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A8760P (Radiation-protection-in-medical-physics); A2847 (Fission-reactor-decommissioning); B7530B (Radiation-protection-and-dosimetry); B8220B (Nuclear-reactors); C7470 (Nuclear-engineering-computing); C3310G (Pollution-control); C7320 (Physics-and-chemistry-computing); C7330 (Biology-and-medical-computing); C7340 (Geophysics-computing); A28; A87; A86; A92; B75; B82; C74; C33; C73; A2; A8
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(199908)77:2+isL.s24:STIW;1-Q

Sort Key: 00000179078199900077000020000000000000024
Material Identity Number: P578-1999-018
Accession Number: 6438309
Update Code: 199949
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 63 of 1145 in INSPEC 1999/11-2000/06

Title: Fuel-containing masses of Chernobyl Unit 4: multiplying properties and neutron characteristics
Author: Babenko-VA; Jenkovszky-LL; Romanov-VA; Pavlovych-VN; Vertsimakha-OY
Author Affiliation: Inst. for Theor. Phys., Kiev, Ukraine
Source: Nuclear-Science-and-Engineering. vol.133, no.3; Nov. 1999; p.301-13
Publication Year: 1999

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Results are presented of an investigation of the multiplying properties of lava-formed fuel-containing masses (LFCM); also, the possibility of developing ignition and dynamics of a self-sustaining chain reaction (SCR) in the LFCM of the destroyed Unit 4 of the Chernobyl nuclear power plant (the so-called Shelter) is discussed The SCALE 4.3 computer code was used to calculate the multiplication factor, the neutron energy spectrum, the spatial distribution of the neutron flux density, etc., as functions of the water content in the LFCM for different system models. These results can help to determine the optimum placement of detectors in rooms under the reactor. In addition, the dynamics of an SCR under the hypothetical condition that the filling of the LFCM by water leads to an excess multiplication factor over unity was considered. Such a treatment was performed for a simple model that takes into account the evaporation of water and an increase in temperature due to an energy release in the LFCM. The different modes of the LFCM behavior depending on the velocity of water filling are discussed.
Number of References: 14
Descriptors: fission-reactor-fuel; fuel-element-failure; neutron-spectra; nuclear-engineering-computing
Identifiers: Chernobyl-Unit-4; lava-formed-fuel-containing-masses; ignition-; self-sustaining-chain-reaction; multiplying-properties; SCALE-4-3; multiplication-factor; neutron-energy-spectrum; neutron-flux-density; water-content; evaporation-; temperature-; water-filling
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A2841C (Computing-for-fission-reactor-theory-and-design); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NSENAO
ISSN: 0029-5639
SICI: 0029-5639(199911)133:3L.301:FCMC;1-4

Sort Key: 0000029563919990013300003000000000000301
Material Identity Number: N010-1999-009
Accession Number: 6437246
Update Code: 199949

Record 64 of 1145 in INSPEC 1999/11-2000/06

Title: Health assessment of participants in the liquidation of the consequences of the Chernobyl accident
Author: Tukov-AR; Shafranskii-IL

Author Affiliation: Inst. of Biophys., Acad. of Sci., Russia
Source: Atomic-Energy. vol.86, no.3; March 1999; p.236-42
Translated from: Atomnaya-Energiya. vol.86, no.3; March 1999; p.232-8
Publication Year: 1999
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The results of an analysis of the health of the participants in the liquidation of the consequences of the Chernobyl accident on the basis of the mortality indicator for the participants are reported. The computational results obtained for the harm due to mortality using estimation of the loss of life due to premature death are presented. It is shown that the relative risk of these losses for certain classes of diseases and dose groups depends on the social position of the liquidators of the accident. Recommendations are made for improving measures for their medical and social rehabilitation.
Number of References: 20
Descriptors: biological-effects-of-ionising-radiation; contaminated-site-remediation; dosimetry-; fission-reactor-accidents; health-hazards; socio-economic-effects
Identifiers: participants-health-assessment; Chernobyl-accident-consequences-liquidation; mortality-indicator; premature-death; relative-risk; social-position; social-rehabilitation; medical-rehabilitation
Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A0175 (Science-and-society); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2880C (Dosimetry-in-nuclear-engineering); A2880 (Radiation-technology-in-nuclear-engineering-including-shielding); A87; A01; A28; A8; A0; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/99/8603-0236$22.00
SICI: 0004-7163(199903)86:3L.232;1-F
SICI of Translation: 1063-4258(199903)86:3L.236:HAPL;1-G

Sort Key: 00000047163199900086000030000000000000232
Material Identity Number: P995-1999-012
Accession Number: 6428765
Update Code: 199948
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 65 of 1145 in INSPEC 1999/11-2000/06

Title: Strategy for population protection and area rehabilitation in Russia in the remote period after the Chernobyl accident

Author: Balonov-MI; Anisimova-LI; Perminova-GS
Author Affiliation: Inst. of Radiation Hygiene, St. Petersburg, Russia
Source: Journal-of-Radiological-Protection. vol.19, no.3; Sept. 1999; p.261-9
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The report presents the history of the development of criteria for radiation and social protection of the Russian population residing in the areas contaminated with radionuclides after the Chernobyl accident, in the remote time periods after the accident. The tendencies for reduction of standards with time are shown, and their causes are analysed. It is noted that the optimization principle was not applied in the explicit form for population protection. The current radiation situation in the contaminated areas of Russia is described, and the future situation is forecast. Main pathways of external and internal population exposure are described. Modern possibilities for reduction of the population exposure dose are discussed. The authors propose promising criteria and methods for population protection and rehabilitation of contaminated areas in Russia.
Number of References: 16
Descriptors: contaminated-site-remediation; disasters-; fission-reactor-accidents; health-hazards; history-; optimisation-; radiation-protection; radioactive-pollution; radioisotopes-; standards-
Identifiers: history-; social-protection; Russian-population; radionuclides-; Chernobyl-accident; remote-time-periods; standards-; optimization-principle; population-protection; contaminated-areas; main-pathways; internal-population-exposure; external-population-exposure; area-rehabilitation
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A8760P (Radiation-protection-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/99/030261+09$30.00
SICI: 0952-4746(199909)19:3L.261:SPPA;1-6
Document Number: S0952-4746(99)04363-3

Sort Key: 0000952474619990001900003000000000000261
Material Identity Number: L887-1999-003
Accession Number: 6427359
Update Code: 199948
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 66 of 1145 in INSPEC 1999/11-2000/06

Title: Kinetics of the leaching of /sup 90/Sr from fuel particles in soil in the near zone of the Chernobyl nuclear power plant
Author: Konoplev-AV; Bulgakov-AA
Author Affiliation: Taifun Sci. Production Enterprise, Russia
Source: Atomic-Energy. vol.86, no.2; Feb. 1999; p.136-41
Translated from: Atomnaya-Energiya. vol.86, no.2; Feb. 1999; p.129-34
Publication Year: 1999
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: A method is presented for calculating the fraction of /sup 90/Sr included in fuel particles in soil. Data concerning the change in forms of the occurrence of /sup 90/Sr in different soils in the 30-km zone, at different distances from the Chernobyl nuclear power plant, were used to obtain the kinetic characteristics of its leaching: the first-order rate constant and the normalized rate of solution. Depending on the direction and distance from the nuclear power plant, the first-order leaching rate constant varies from 3*10/sup -5/ to 2*10/sup -3/ days/sup -1/ and the normalized rate of solution of the fuel matrix varies from 1*10/sup -5/ to 6.1*10/sup -4/. It was not found possible to clearly identify the influence of the distance from the nuclear power plant on the leaching rate in the northern and western sectors. In contrast, in the southerly and south-easterly directions a clear tendency was observed for the leaching rate to increase with increasing distance from the nuclear power plant.
Number of References: 14
Descriptors: dissolving-; fission-reactor-accidents; radioactive-pollution; soil-; strontium-
Identifiers: leaching-; 90Sr-; fuel-particles; soil-; Chernobyl-; first-order-rate-constant; normalized-rate-of-solution; first-order-leaching-rate-constant; 30-km; Sr-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A9330D (Asia); A86; A93; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: distance 3.0 E04 m
Chemical Indexing: Sr-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
SICI: 0004-7163(199902)86:2L.129;1-G
SICI of Translation: 1063-4258(199902)86:2L.136:KL9F;1-K

Sort Key: 00000047163199900086000020000000000000129
Material Identity Number: P995-1999-011
Accession Number: 6421214
Update Code: 199947
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 67 of 1145 in INSPEC 1999/11-2000/06

Title: Interferon gamma in survivors of the Chernobyl power plant accident: new therapeutic option for radiation-induced fibrosis

Author: Peter-RU; Gottlober-P; Nadeshina-N; Krahn-G; Braun-Falco-O; Plewig-G

Author Affiliation: Dept. of Dermatology, Ulm Univ., Germany

Source: International-Journal-of-Radiation-Oncology-Biology-Physics. vol.45, no.1; 1 Aug. 1999; p.147-52

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0360%2d3016%2345%23147%231&_version=1&md5=c9f0739d338ba3939c1edd248804188e

Publication Year: 1999

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: One of the remarkable clinical consequences of the Chernobyl accident was skin involvement, leading to extensive cutaneous fibrosis. Apart from surgery, no established treatment is available. A group of survivors, working in or present at the accident site on April 26, 1986, and a few days thereafter were examined, treated, and followed-up in 6-month intervals from September 1991 to November 1995. Eight individuals were identified as suffering from excessive cutaneous fibrosis. Skin thickness was measured with high-frequency (20 MHz) ultrasound in a clinically well-defined target skin lesion, in addition to histologic confirmation of radiation fibrosis. Interferon gamma was scheduled for all patients on a low-dose regimen (3*50 mu g/week s.c.). In 2 patients, interferon was discontinued after the first injection, due to withdrawal of consent. In 6 patients, interferon was continued for 30 months, with 1 injection weekly for a further 6 months. Treatment was discontinued in November 1994. Four patients in the treated group and 1 of the 2 patients treated only once ("untreated patients") were reexamined 1 year later. In all individuals treated for 36 months, a significant ($p<0.005$) reduction of radiation fibrosis could be determined, in contrast to a significant ($p<0.005$) increase in the 2 untreated patients. Follow-up 1 year after discontinuation of the interferon treatment demonstrated significant ($p<0.005$) recurrence of fibrosis. In conclusion, low-dose interferon appears to be a safe and effective treatment of cutaneous radiation fibrosis following accidental exposure to high doses of ionizing radiation. Long-term supportive therapy may be required.

Number of References: 30

Descriptors: biochemistry-; biological-effects-of-ionising-radiation; fission-reactor-accidents; patient-treatment; skin-

Identifiers: Chernobyl-power-plant-accident; interferon-gamma; radiation-induced-fibrosis; therapeutic-option; clinically-well-defined-target-skin-lesion; high-frequency-ultrasound; histologic-confirmation; low-dose-regimen; injection-; accidental-high-dose-exposure; long-term-supportive-therapy; nuclear-reactor-accident; 30-month; 20-MHz

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8770G (Patient-care-and-treatment); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 7.9 E07 s; frequency 2.0 E07 Hz
Coden: IOBPD3
ISSN: 0360-3016
Copyright Clearance Center Code: 0360-3016/99/$20.00
SICI: 0360-3016(19990801)45:1L.147:IGSC;1-N
Document Number: S0360-3016(99)00116-9

Sort Key: 0000360301619990004500001000000000000147
Material Identity Number: E364-1999-012
Accession Number: 6411339
Update Code: 199946

Record 68 of 1145 in INSPEC 1999/11-2000/06

Title: Virtual reality mapping system for Chernobyl accident site assessment
Author: Blackmon-TT; Ngyuen-L; Neveu-C; Rasmussen-D; Zbinden-E; Maimone-M; Matthies-L; Thayer-S; Teza-J; Broz-V; Osborn-J; Hebert-M; Steele-J; Thomas-G
Author Affiliation: Intelligent Mech. Group, NASA Ames Res. Center, Moffett Field, CA, USA
Source: Proceedings-of-the-SPIE --The-International-Society-for-Optical-Engineering. vol.3644; 1999; p.338-45
Publication Year: 1999
Record Type: Conference-Paper; Journal-article
Conference Details: Human Vision and Electronic Imaging IV. 25-28 Jan. 1999; San Jose, CA, USA. Sponsored by: SPIE; Soc. Imaging Sci. & Technol
Country of Publication: USA
Language: English
Abstract: Initiated by the Department of Energy's International Nuclear Safety Program, an effort in underway to deliver and employ a telerobotic diagnostic system for structural evaluation and monitoring within the Chernobyl Unit-4 shelter. A mobile robot, named Pioneer, will enter the damaged Chernobyl structure and employ devices to measure radiation, temperature and humidity; acquire core samples of concrete structures for subsequent engineering analysis; and make photo-realistic 3D maps of the building interior. This paper details the latter element, dubbed `C-Map', the Chernobyl Mapping System. C-Map consists of an automated 3D modeling system using stereo computer vision along with an interactive, virtual reality software program to acquire and analyze the photo-realistic 3D maps of the damaged building interior.
Number of References: 9
Descriptors: fission-reactor-monitoring; image-reconstruction; nuclear-engineering-computing; robot-vision; stereo-image-processing; telerobotics-; virtual-reality

Identifiers: Nuclear-Safety-Program; telerobotic-diagnostic-system; structural-evaluation; Chernobyl-Unit-4-shelter; mobile-robot; core-samples; concrete-structures; photo-realistic-3D-maps; automated-3D-modeling-system; stereo-computer-vision; virtual-reality
Classification Codes: A2843D (Core-control-and-guidance-in-fission-reactors); A2841C (Computing-for-fission-reactor-theory-and-design); C7470 (Nuclear-engineering-computing); C3390T (Telerobotics); C6130V (Virtual-reality); C5260B (Computer-vision-and-image-processing-techniques); A28; C74; C33; C61; C52; A2
Treatment Codes: P (Practical)
Coden: PSISDG
ISSN: 0277-786X
Copyright Clearance Center Code: 0277-786X/99/$10.00
SICI: 0277-786X(1999)3644L.338:VRMS;1-8

Sort Key: 0000277786X19990364400000000000000000338
Material Identity Number: C574-1999-190
Accession Number: 6410851
Update Code: 199946

Record 69 of 1145 in INSPEC 1999/11-2000/06

Title: Chernobyl-derived radiocesium in heather honey and its dependence on deposition patterns
Author: Fisk-S; Sanderson-DCW
Author Affiliation: Scottish Univs. Res. & Reactor Centre, Glasgow, UK
Source: Health-Physics. vol.77, no.4; Oct. 1999; p.431-5
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Gamma-ray spectra were measured from Scottish heather honey samples gathered from hive locations with associated airborne gamma-ray survey data. The honeys all contained radiocesium, with activity concentrations ranging from 43-680 Bq kg/sup -1 137/Cs, and /sup 134/C//sup 137/Cs ratios consistent with Chernobyl deposition. Activity concentrations in honey were highly correlated with ground deposition within 2.5 km of the hive location over two successive years. Both isotope ratios and the quantitative relationships between environmental and food levels suggest that weapons testing fallout is significantly less available than recent deposition. The implications for design of future monitoring programs and radiological consequences are discussed. The whole-body retention of /sup 137/Cs in honey ingested by a volunteer was consistent with the ICRP's metabolic model for cesium.
Number of References: 15

Descriptors: air-pollution; caesium-; disasters-; farming-; fission-reactor-accidents; food-processing-industry; gamma-ray-spectra; health-hazards; physiological-models; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: gamma-ray-spectra; Scottish-heather-honey-samples; hive-locations; associated-airborne-gamma-ray-survey-data; activity-concentrations; 134C-137Cs-ratios; Chernobyl-deposition; ground-deposition; isotope-ratios; food-levels; environmental-levels; weapons-testing-fallout; design-; future-monitoring-programs; radiological-consequences; whole-body-retention; volunteer-; ICRP's-metabolic-model; deposition-patterns; Chernobyl-derived-137Cs; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A8760P (Radiation-protection-in-medical-physics); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(199910)77:4L.431:CDRH;1-J

Sort Key: 00000179078199900077000040000000000000431
Material Identity Number: P578-1999-014
Accession Number: 6401110
Update Code: 199944
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 70 of 1145 in INSPEC 1999/11-2000/06

Title: Long-term follow-up of the /sup 137/Cs body burden of individuals after the Chernobyl accident a means for the determination of biological half-lives
Author: Ruhm-W; Konig-K; Bayer-A
Author Affiliation: Fed. Office for Radiat. Protection, Inst. for Radiat. Hygiene, Oberschleissheim, Germany
Source: Health-Physics. vol.77, no.4; Oct. 1999; p.373-82
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Since 1986, the year of the Chernobyl accident, /sup 137/Cs body burdens of members of a Bavarian reference group have been measured monthly. These time series were individually analyzed with respect to the long-term component T/sub l/ of the biological half-life of /sup 137/Cs, assuming a continuous /sup 137/Cs intake, which is based on reference data for the food consumption in the Federal Republic of Germany. In 13 individual cases, T/sub l/ was additionally deduced after single ingestion of /sup

137/Cs. The resulting T/sub l/ deduced from continuous and from single intake agreed within about 20%. Using the results of 64 cases, it is shown that there is a dependency of T/sub l/ with sex for adults. T/sub l/ for children and adults are also significantly different. When combining all data for children, adult females and adult males, significant correlations of T/sub l/ with age, /sup 40/K and body mass can be found. Since body mass, for example, is a parameter very simple to measure, the given correlations are useful for practical purposes.

Number of References: 45

Descriptors: biotransport-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: long-term-follow-up; 137Cs-body-burden; individuals-; Chernobyl-accident; biological-half-lives; Bavarian-reference-group; time-series; long-term-component; continuous-137Cs-intake; reference-data; food-consumption; single-ingestion; single-intake; sex-; children-; adult-females; adult-males; body-mass; age-; 40K-; Cs-; K-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8725D (Biological-transport-cellular-and-subcellular-transmembrane-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; K-el

Coden: HLTPAO

ISSN: 0017-9078

SICI: 0017-9078(199910)77:4L.373:LTF1;1-L

Sort Key: 0000017907819990007700004000000000000373

Material Identity Number: P578-1999-014

Accession Number: 6401103

Update Code: 199944

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 71 of 1145 in INSPEC 1999/11-2000/06

Title: Chernobyl post-accident management: the ETHOS project

Author: Heriard-Dubreuil-G; Lochard-J; Girard-P; Guyonnet-JF; Le-Cardinal-G; Lepicard-S; Livolsi-P; Monroy-M; Ollagnon-H; Pene-Vega-A; Pupin-V; Rigby-J; Rolevitch-I; Schneider-T

Author Affiliation: Mutadis, Paris, France

Source: Health-Physics. vol.77, no.4; Oct. 1999; p.361-72

Publication Year: 1999

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: ETHOS is a pilot research project supported by the radiation protection research program of the European Commission (DG XII). The project provides an alternative approach to the rehabilitation of living conditions in the contaminated territories of the CIS in the post-accident context of Chernobyl. Initiated at the beginning of 1996, this 3-y project is currently being implemented in the Republic of Belarus. The ETHOS project involves an interdisciplinary team of European researchers from the following institutions: the Centre d'etude sur l'Evaluation de la Protection dans le domaine Nucleaire CEPN (radiological protection, economics), the Institute National d'Agronomie de Paris-Grignon INAPG (agronomy, nature and life management), the Compiegne University of Technology (technological and industrial safety, social trust), and the Mutadis Research Group (sociology, social risk management), which is in charge of the scientific co-ordination of the project. The Belarussian partners in the ETHOS project include the Ministry of Emergencies of Belarus as well as the various local authorities involved with the implementation site. The ETHOS project relies on a strong involvement of the local population in the rehabilitation process. Its main goal is to create conditions for the inhabitants of the contaminated territories to reconstruct their overall quality of life. This reconstruction deals with all the day-to-day aspects that have been affected or threatened by the contamination. The project aims at creating a dynamic process whereby acceptable living conditions can be rebuilt. Radiological security is developed in the ETHOS project as part of a general improvement in the quality of life. The approach does not dissociate the social and the technical dimensions of post-accident management. This is so as to avoid radiological risk assessment and management being reduced purely to a problem for scientific experts, from which local people are excluded, and to take into consideration the problems of acceptability of decisions and the distrust of the population towards experts. These cannot be solved merely by a better communication strategy. This paper presents the main features of the methodological approach of the ETHOS project. It also explains how it is being implemented in the village of Olmany in the district of Stolyn (Brest region) in Belarus since March 1996, as well as its initial achievements.
Number of References: 13
Descriptors: disasters-; fission-reactor-accidents; health-hazards; public-administration; radiation-protection; radioactive-pollution; risk-management
Identifiers: Chernobyl-post-accident-management; ETHOS-project; pilot-research-project; radiation-protection-research-program; rehabilitation-; living-conditions; contaminated-territories; post-accident-context; interdisciplinary-team; European-researchers; radiological-protection; economics-; agronomy-; nature-; life-management; industrial-safety; social-trust; sociology-; social-risk-management; Belarussian-partners; local-authorities; implementation-site; rehabilitation-process; inhabitants-; overall-quality-of-life; acceptable-living-conditions; radiological-security; radiological-risk-assessment; Olmany-; Stolyn-; Brest-region; Belarus-; initial-achievements
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A28; A87; A86; A2

Treatment Codes: G (General-or-Review); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(199910)77:4L.361:CPAM;1-G

Sort Key: 00000179078199900077000040000000000000361
Material Identity Number: P578-1999-014
Accession Number: 6401102
Update Code: 199944
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 72 of 1145 in INSPEC 1999/01-1999/10

Title: Investigation of gamma - and X-radiation of "hot particles" from the zones of the Chernobyl accident and atomic explosions

Author: Bondarkov-MD; Donets-NP; Zheltonozhsky-VA; Muck-K; Sadovnikov-LV; Stukin-ED; Khomenkov-VP; Shevchenko-YuM
Author Affiliation: Inst. of Nucl. Res., Acad. of Sci., Kiev, Ukraine

Source: Instruments-and-Experimental-Techniques. vol.42, no.3; May-June 1999; p.409-12
Translated from: Pribory-i-Tekhnika-Eksperimenta. no.3; May-June 1999; p.132-5
Publication Year: 1999
Record Type: Journal-article
Country of Publication: Russia; Translation: Russia
Language: English

Abstract: A nondestructive technique for investigating "hot particles" produced as a result of atomic explosions and accidents at nuclear power plants is described. The technique is based on measurements of characteristic-radiation spectra of alpha -emitting nuclides. It was used to study the low-energy regions of gamma -spectra of "hot particles" from the 5-km zone of the Chernobyl Nuclear Power Plant and the Semipalatinsk Test Range, and its effectiveness was shown. For the first time, the characteristic radiation of Am was detected, and the L/sub x/-radiation yields for U, Nh, and Am in "hot particles" were determined.

Number of References: 4
Descriptors: alpha-decay; alpha-particle-spectroscopy; dosimetry-; fission-products; fission-reactor-accidents; gamma-ray-spectroscopy; nuclear-explosions; radioactive-pollution; radioactivity-measurement
Identifiers: Chernobyl-accident-zones; atomic-explosion-zones; hot-particles; X-radiation; gamma-radiation; nondestructive-technique; nuclear-power-plant-accidents; characteristic-radiation-spectra; alpha-emitting-nuclides; low-energy-regions; gamma-spectra; Semipalatinsk-Test-Range; L-x-radiation-yields; radioactive-contamination; radionuclide-composition; radiation-dose-estimation; alpha-decay; transuranium-nuclides; activation-products; fission-products

Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A2870 (Nuclear-explosions); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2930E (alpha-ray-spectroscopy); A2930K (X--and-gamma-ray-spectroscopy); A28; A87; A29; A2
Treatment Codes: X (Experimental)
Coden: PRTEAJ; Translation: INETAK
ISSN: 0032-8162; Translation: 0020-4412
Copyright Clearance Center Code: 0020-4412/99/4203-0409$22.00
SICI: 0032-8162(199905/06)3L.132;1-H
SICI of Translation: 0020-4412(199905/06)42:3L.409:IRTP;1-D
Copyright Statement: Copyright 1999, IEE
Sort Key: 00000328162199900000000030000000000000132
Material Identity Number: G271-1999-004
Accession Number: 6378723
Update Code: 199941
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08420.000
Bestand: 1956-1982

Title: Status of Chernobyl decommissioning efforts
Author: Jackson-PK; Morton-MR; Wood-TW
Author Affiliation: Bechtel Hanford Inc., Richland, WA, USA
Source: Proceedings of the Topical Meeting on Decommissioning, Decontamination and Reutilization of Commercial and Government Facilities. ANS, La Grange Park, IL, USA; 1997; xi+648 pp.
p.401-8
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Proceedings: Decommissioning, Decontamination, and Reutilization of Government and Commercial Facilities. 7-12 Sept. 1997; Knoxville, TN, USA.
Sponsored by: ANS
Country of Publication: USA
Language: English
Abstract: This paper presents the technical and social challenges of developing the decommissioning planning and regulatory strategies in a country that has neither the broad-based regulatory framework nor economic infrastructure to conduct a task of this size. The aspect of working under the international funding arrangements is also discussed. Specific topics covered in the paper include the following: RBMK Reactor Description (Section II), ChNPP Site Layout and Description (Section III), Overall Decommissioning Strategy for the Site (Section IV), -Damaged Unit 4 shelter work, -Deactivation of Units 1,2, and 3 and other site areas, Preliminary Decommissioning and Construction Schedules (Section V) Regulatory, Funding, and Social Challenges of ChNPP Decommissioning (Section VI).

Number of References: 0
Descriptors: fission-reactor-decommissioning; nuclear-power-stations
Identifiers: Chernobyl-decommissioning-efforts; decommissioning-planning; regulatory-strategies; international-funding-arrangements; damaged-Unit-4-shelter-work
Classification Codes: A2847 (Fission-reactor-decommissioning); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: P (Practical)
ISBN: 0894486284

Sort Key: 10894486284199700000000000000000000000401
Material Identity Number: XX-1997-00988
Accession Number: 6375306
Update Code: 199940

Record 74 of 1145 in INSPEC 1999/01-1999/10

Title: Food ingestion doses from artificial radionuclides in Cumbrian diets, ten years post-Chernobyl
Author: Sanchez-AL; Walters-CB; Singleton-DL; Wood-NH; Mondon-K
Author Affiliation: Merlewood Res. Station, Inst. of Terrestrial Ecology, Grange-over-Sands, UK
Source: Journal-of-Environmental-Radioactivity. vol.46, no.3; 1999; p.301-17
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2346%23301%233&_version=1&md5=66800f9173e5fb819399cd93dda94a74
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The ingestion of radioactively contaminated foodstuffs is a major pathway of radiation exposure in humans. A duplicate diet approach has been used to assess ingestion doses of the local population of west Cumbria in the United Kingdom. There has been historical interest in this population group, particularly those living close to the Sellafield nuclear installation, and the two major routes of ingestion exposure for them, namely the consumption of either local agricultural produce (the terrestrial pathway) or of locally derived sea foods (the marine pathway). We examine here the ingestion doses derived using radionuclide data from duplicate diet studies carried out during 1986, 1995 and 1996. The Chernobyl accident occurred during sample collection for the first survey; the latter surveys thus provide data to evaluate any changes in the ingestion dose up to 10 years after the accident.
Number of References: 33
Descriptors: dosimetry-; fission-reactor-accidents; radiation-monitoring; radioactive-pollution; soil-; water-pollution

Identifiers: food-ingestion-doses; artificial-radionuclides; Cumbrian-diets; Chernobyl-accident; radioactively-contaminated-foodstuffs; radiation-exposure; duplicate-diet-approach; west-Cumbria; United-Kingdom; Sellafield-nuclear-installation; local-agricultural-produce; terrestrial-pathway; locally-derived-sea-foods; marine-pathway; 10-y

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A8670E (Water-environmental-science); A9220N (Pollution-of-the-oceans); A8760M (Radiation-dosimetry-in-medical-physics); A8760P (Radiation-protection-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A92; A28; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: time 3.2 E08 s

Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)46:3L.301:FIDF;1-F
Document Number: S0265-931X(98)00149-0

Sort Key: 0000265931X19990004600003000000000000301
Material Identity Number: I664-1999-011
Accession Number: 6367240
Update Code: 199939

Record 75 of 1145 in INSPEC 1999/01-1999/10

Title: Monitoring of individual doses of populations residing in the territories contaminated after the Chernobyl accident

Author: Chumak-VV; Likhtarev-IA; Pavlenko-JV
Author Affiliation: Sci. Centre for Radiat. Med., Acad. of Med. Sci., Kiev, Ukraine

Source: Radiation-Protection-Dosimetry. vol.85, no.1-4; 1999; p.137-9
Publication Year: 1999
Record Type: Conference-Paper; Journal-article
Conference Details: Solid State Dosimetry. 12th International Conference. 5-10 July 1998; Burgos, Spain. Sponsored by: Bicron Technol.; Bubble Technol. Ind.; Caja de Burgos; et al
Country of Publication: UK
Language: English

Abstract: To provide instrumental validation of radioecological dosimetric models used for estimation of external doses to the Chernobyl population, about 1000 direct dose measurements were conducted in 1996-1997 in 54 settlements in contaminated territories of Ukraine. The areas covered by the measurements have /sup 137/Cs contamination density ranging from 55 to 491 kBq.m/sup -2/. Individual dose measurements were conducted using standard LiF dosemeters, type Harshaw 8814

(TLD-100), and automated TLD system Harshaw 8800. Relatively low contamination and, thus, an unfavourable `Chernobyl/natural background' dose ratio, called for sophisticated analysis of experimental results. Linear regression of dose relative to the /sup 137/Cs contamination density which was conducted in two different ways provided consistent results. The annual background dose, as derived from the results of individual dose measurements, is about 1.1 mSv per annum; the Chernobyl related component is expressed by the rate of 1.24-1.3 mu Sv per kBq.m/sup -2/ per annum. These results are in reasonable agreement with somewhat conservative modelling parameters which are assumed to be 1.91 mu Sv per kBq.m/sup -2/ per annum for the case of the rural population.

Number of References: 0
Descriptors: dosimetry-
Identifiers: individual-doses; populations-; Chernobyl-; radioecological-dosimetric-models; Ukraine-; 137Cs-contamination-density; LiF-dosemeters; Harshaw-8814; TLD-100; Harshaw-8800; Chernobylnatural-background; annual-background-dose; rural-population; 1-1-mSv; 1-24-to-1-3-muSv; Cs-
Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A9330D (Asia); B7530B (Radiation-protection-and-dosimetry); A87; A93; B75; A8; A9; B7
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.1 E03 Sv; radiation dose equivalent 1.24 E06 to 1.3 E06 Sv
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1999)85:1/4L.137:MIDP;1-#

Sort Key: 000014484201999000850000100000000000137
Material Identity Number: B978-1999-011
Accession Number: 6332026
Update Code: 199934
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 76 of 1145 in INSPEC 1999/01-1999/10

Title: Application of high precision EPR dosimetry with teeth for reconstruction of doses to Chernobyl populations
Author: Chumak-V; Sholom-S; Pasalskaya-L
Author Affiliation: Sci. Centre of Radiat. Med., Acad. of Med. Sci., Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.84, no.1-4; 1999; p.515-20
Publication Year: 1999
Record Type: Conference-Paper; Journal-article

Conference Details: Solid State Dosimetry. 12th International Conference. 5-10 July 1998; Burgos, Spain. Sponsored by: Bicron Technol.; Bubble Technol. Ind.; Caja de Burgos; et al
Country of Publication: UK
Language: English
Abstract: A systematic approach to EPR dosimetry of an exposed population includes efforts on acquisition of teeth from Chernobyl clean-up workers on a national scale. So far, samples from more than 700 individuals have been collected in Ukraine, and doses to more than 300 liquidators have been reconstructed. Application of this EPR dosimetric system allowed verification of Chernobyl dosimetry and provided on-going biomedical research with reliable retrospective dose estimates.
Number of References: 12
Descriptors: biomedical-MRI; dosimetry-; EPR-imaging; fission-reactor-accidents
Identifiers: Chernobyl-accident; high-precision-EPR-dosimetry; teeth-; dose-reconstruction; Chernobyl-populations; exposed-population; Chernobyl-cleanup-workers; biomedical-research; retrospective-dose-estimates
Classification Codes: A8760M (Radiation-dosimetry-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry-in-nuclear-engineering); A8760I (Medical-magnetic-resonance-imaging-and-spectroscopy); A8740 (Biomagnetism); A8770E (Patient-diagnostic-methods-and-instrumentation); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1999)84:1/4L.515:AHPD;1-9

Sort Key: 000014484201999000840000100000000000515
Material Identity Number: B978-1999-010
Accession Number: 6326576
Update Code: 199933
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 77 of 1145 in INSPEC 1999/01-1999/10

Title: The development of retrospective luminescence dosimetry for dose reconstruction in areas downwind of Chernobyl
Author: Bailiff-IK
Author Affiliation: Luminescence Dosimetry Lab., Durham Univ., UK
Source: Radiation-Protection-Dosimetry. vol.84, no.1-4; 1999; p.411-19
Publication Year: 1999
Record Type: Conference-Paper; Journal-article

Conference Details: Solid State Dosimetry. 12th International Conference. 5-10 July 1998; Burgos, Spain. Sponsored by: Bicron Technol.; Bubble Technol. Ind.; Caja de Burgos; et al
Country of Publication: UK
Language: English
Abstract: A role that is emerging for luminescence as a retrospective dosimetry method is in supporting dose reconstruction for contaminated settlements that have remained occupied and where monitoring was absent or sporadic following the accident. The level of cumulative external gamma dose (in ceramic) in these settlements is expected to approach levels below 50 mGy which corresponds to the dose due to natural sources of radiation (in ceramic) after ~20 years. Recent progress made in developing the method for use in contaminated settlements within Russia and Ukraine has shown that such levels of dose can be evaluated with ceramics. This has been achieved by improvements in luminescence measurement techniques and in several methodological developments including the characterisation of the external time-averaged gamma radiation field by means of depth-dose profiles in brick and the application of computational modelling techniques to provide dose in air estimates at reference locations that are suitable for use in dose reconstruction.
Number of References: 31
Descriptors: dosimetry-; fission-reactor-accidents; luminescence-
Identifiers: retrospective-luminescence-dosimetry; dose-reconstruction; Chernobyl-; contaminated-settlements; cumulative-external-gamma-dose; ceramic-; Russia-; Ukraine-; external-time-averaged-gamma-radiation-field; depth-dose-profile; brick-; 50-mGy
Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); B7530B (Radiation-protection-and-dosimetry); A28; A87; B75; A2; A8; B7
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 5.0 E02 Gy
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1999)84:1/4L.411:DRLD;1-H

Sort Key: 00001448420199900084000010000000000000411
Material Identity Number: B978-1999-010
Accession Number: 6326557
Update Code: 199933
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 78 of 1145 in INSPEC 1999/01-1999/10

Title: /sup 137/Cs, /sup 134/Cs and /sup 90/Sr in the coastal Syrian mountains after the Chernobyl accident

Author: Al-Rayyes-AH; Mamish-S
Author Affiliation: Dept. of Protection & Safety, Atomic Energy Comm. of Syria, Damascus, Syria
Source: Journal-of-Environmental-Radioactivity. vol.46, no.2; 1999; p.237-42
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2346%23237%232&_version=1&md5=3080e85fd70fd3a3953b6b47763923e0
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The activity concentrations of /sup 137/Cs, /sup 134/Cs and /sup 90/Sr were determined in surface soil samples from several sites in the coastal mountains in Syria. These radionuclides were also determined in some plant samples of Lycopodium cernuum L. growing on trees on these sites. The activity concentrations of the radionuclides in the soils at the top of the mountains were higher than those on the slopes. At one of the sites, the activity concentrations of /sup 137/Cs, /sup 134/Cs and /sup 90/Sr were 4933, 139 and 194 Bq/kg dry weight, respectively, the /sup 137/Cs concentration corresponding to about 400 times that on the slope. The difference in the activity concentrations between the tops and the slopes of the mountains could be attributed to the direct contact between the Chernobyl radioactive clouds and the tops of these mountains. The activity concentrations of these radionuclides in some Lycopodium cernnum L. plant samples were 4535, 114 and 133 Bq/kg dry weight, respectively.
Number of References: 9
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioactivity-measurement; soil-; strontium-
Identifiers: 137Cs-; 134Cs-; 90Sr-; coastal-mountains; Syria-; coastal-Syrian-mountains; Chernobyl-; activity-concentrations; surface-soil; Lycopodium-cernuum-L; 137Cs-concentration; 134Cs-concentration; 90Sr-concentration; slope-; mountain-top; Cs-; Sr-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A9330D (Asia); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)46:2L.237:119C;1-Z
Document Number: S0265-931X(98)00129-5

Sort Key: 0000265931X19990004600002000000000000237
Material Identity Number: I664-1999-010
Accession Number: 6316951

Update Code: 199931

Record 79 of 1145 in INSPEC 1999/01-1999/10

Title: Radiocaesium accumulation from Chernobyl fallout in nestlings of two pied flycatcher populations (aves) in central Norway; estimating ecological timelag responses and transfer mechanisms

Author: Lonvik-K; Thingstad-PG
Author Affiliation: Fac. of Phys., Norwegian Univ. of Sci. & Technol., Trondheim, Norway

Source: Journal-of-Environmental-Radioactivity. vol.46, no.2; 1999; p.153-69
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2346%23153%232&_version=1&md5=f994e43448000133cfdbbf1c4e1fa7fc
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The accumulation of caesium isotopes (/sup 134/Cs and /sup 137/Cs) from the Chernobyl fallout in nestlings of two breeding populations of pied flycatcher (Ficeduln hypoleuca) in central Norway was determined from 1986 to 1992. The birds at the Luru site showed a mean accumulation of 844, 535, 383, 607, 515, 348 and 327 Bq kg/sup -1/ during these years. At Lauvsjoen, the corresponding accumulation was 102, 111, 74, 89, 293, 175 and 193 Bq kg/sup -1/. In 1996, the levels had decreased to 118 Bq kg/sup -1/ at Luru and 32 Bq kg/sup -1/ at Lauvsjoen. The mean values of radiocaesium activity in the nestlings rose a few years (1989 and 1990) after the accident in 1986. The data show large variations within and between years in the initial period of this study, suggesting that these ecosystems were not at equilibrium during this period. However, equilibrium may have been approached during the last years. The measurements from 1992 and 1996 correspond to an ecological exchange rate of 0.22 year/sup -1/ at Luru and 0.34 year/sup -1/ at Lauvsjoen (on average 0.28), implying an approximate ecological half-life equivalent for caesium transfer in the monitor organisms, the young flycatchers, of 3.2 years at Luru and 2.0 years at Lauvsjoen (on average 2.6 years).

Number of References: 36
Descriptors: air-pollution; atmospheric-radioactivity; caesium-; ecology-; radioactive-pollution; radioisotopes-
Identifiers: radiocaesium-accumulation; Chernobyl-fallout; nestlings-; pied-flycatcher-populations; aves-; central-Norway; ecological-timelag-responses; transfer-mechanisms; 134Cs-; 137Cs-; breeding-populations; Ficeduln-hypoleuca; Luru-site; Lauvsjoen-; AD-1986-to-1996; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el

Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)46:2L.153:RAFC;1-H
Document Number: S0265-931X(98)00122-2

Sort Key: 0000265931X19990004600002000000000000153
Material Identity Number: I664-1999-010
Accession Number: 6316944
Update Code: 199931

Record 80 of 1145 in INSPEC 1999/01-1999/10

Title: Lessons of Chernobyl and beyond: creation of the safety culture in nuclear power plants
Author: Meshkati-N
Author Affiliation: Univ. of Southern California, Los Angeles, CA, USA
Source: Proceedings of the Human Factors and Ergonomics Society. 42nd Annual Meeting. Human Factors & Ergonomics Soc, Santa Monica, CA, USA; 1998; 2 vol. xxix+1696 pp.
p.745-9 vol.1
Publication Year: 1998
Record Type: Conference-Paper
Conference Details: Proceedings of 42nd Annual Meeting of the Human Factors and Ergonomics Society. vol.1. 5-9 Oct. 1998; Chicago, IL, USA
Country of Publication: USA
Language: English
Abstract: Global security and sustainability are hostages to nuclear safety. Without nuclear safety, in this era of proliferating nuclear weapons, global security will be a dream; and in a world with 58 still operating Soviet-designed nuclear power reactors, sustainability will only be a mirage. According to a Russian official, all the commercial nuclear reactors operating on Russian territory are nothing better than "bombs temporarily generating electricity". The share of energy generation of these reactors in their respective countries is rather significant; and in the short run, their closure and replacement are neither realistic nor economically feasible. Human and organizational factors play a vital role in the safety of complex, large-scale technological systems. Fortunately, these days, this fact has been almost universally recognized, although not necessarily fully incorporated into the operation, by the nuclear industry around the world. In order to improve the safety problems of nuclear power, we need to improve the safety culture of this industry and preactively address human and organizational-related factors. The paper addresses the critical role of human and organizational factors in the Chernobyl accident and looks beyond the accident to apply its lessons to international nuclear power safety.
Number of References: 30

Descriptors: accidents-; human-factors; nuclear-power-stations; power-plants; safety-
Identifiers: Chernobyl-; nuclear-power-plant-safety; security-; sustainability-; nuclear-weapons; nuclear-power-reactors; Russia-; energy-generation; human-factors; organizational-factors; accident-
Classification Codes: B8220 (Nuclear-power-stations-and-plants); B82; B8
Treatment Codes: P (Practical)
ISBN: 0945289111

Sort Key: 10945289111199800000000000000000000000745
Material Identity Number: XX-1998-03354
Accession Number: 6313558
Update Code: 199930

Record 81 of 1145 in INSPEC 1999/01-1999/10

Title: Ergonomic provisions of the shelter's safety at the Chernobyl Nuclear Power Plant
Author: Zhuravlyov-GE
Author Affiliation: Central Econ. & Math. Inst., Acad. of Sci., Moscow, Russia
Source: Proceedings of the Human Factors and Ergonomics Society. 42nd Annual Meeting. Human Factors & Ergonomics Soc, Santa Monica, CA, USA; 1998; 2 vol. xxix+1696 pp.
p.740-4 vol.1
Publication Year: 1998
Record Type: Conference-Paper
Conference Details: Proceedings of 42nd Annual Meeting of the Human Factors and Ergonomics Society. vol.1. 5-9 Oct. 1998; Chicago, IL, USA
Country of Publication: USA
Language: English
Abstract: This paper outlines the main Human Factors/Ergonomic tasks to be solved to enhance the safety of the Shelter (Sarcophagus) of the Chernobyl Nuclear Power Plants's destroyed Unit #4 during current maintenance and forthcoming reconstruction as were observed during our visit to this site. The convential Human Factors problems are connected to personnel activities such as: traffic organization, radiation cartography, communications, monitoring of the personnel activity inside the Shelter, protective clothes, instruments, illumination, and ventilation. Macroergonomic problems include: uncertainty, risk to health, and high technical level of instruments and equipment used. Shelter workers have to assimilate many different professions and the scope of their training needs to be very large. Both situational and spatial uncertainties of the Shelter set special training problems. Three dimensional models and virtual reality tools are needed to help in solve these problems. Psychological training should also be conducted. The investigation was performed within the framework of cooperation between Russian an American ergonomists (Parsons et al., 1992).
Number of References: 7
Descriptors: ergonomics-; fission-reactor-safety; human-factors

Identifiers: Sarcophagus-; Shelter-; Chernobyl-Nuclear-Power-Plant; Human-Factors; virtual-reality; psychological-training
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); C1270 (Man-machine-systems); C1290F (Systems-theory-applications-in-industry); A28; C12; A2; C1
Treatment Codes: P (Practical)
ISBN: 0945289111

Sort Key: 10945289111199800000000000000000000740
Material Identity Number: XX-1998-03354
Accession Number: 6313557
Update Code: 199930

Record 82 of 1145 in INSPEC 1999/01-1999/10

Title: The spatial variability of Chernobyl-derived /sup 137/Cs inventories in a small agricultural drainage basin in central Russia
Author: Golosov-VN; Walling-DE; Panin-AV; Stukin-ED; Kvasnikova-EV; Ivanova-NN
Author Affiliation: Dept. of Geogr., Moscow State Univ., Russia
Source: Applied-Radiation-and-Isotopes. vol.51, no.3; Sept. 1999; p.341-52
Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2351%23341%233&_version=1&md5=dc0df8c46417c06734c7a25354cf327e
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Little information currently exists regarding the small-scale spatial variability of Chernobyl radiocaesium fallout and associated inventories. This contribution reports the results of a study of the variability of /sup 137/Cs inventories within the 2.18-km/sup 2/ Lapki balka catchment located near Tula in central Russia. The local area was characterized by /sup 137/Cs inventories in excess of 200 kBq m/sup -2/ immediately after the Chernobyl accident and pre-existing bomb-derived inventories can be ignored in view of their very low magnitude. Field sampling and measurements included both collection of soil cores for subsequent laboratory analysis and in situ field measurements using a CORAD portable detector. The results obtained show evidence of a systematic south-north increase in the reference inventory across the basin, which must be taken into account when interpreting subsequent radiocaesium redistribution within the basin. Random spatial variability of /sup 137/Cs inventories of a similar magnitude to that reported for bomb-derived fallout was also documented. The extent of random spatial variability varied between different geomorphological units. Maximum variability, with coefficients of variation up to 20%, was associated with areas of sediment accumulation within the balka bottoms. Substantial variability (cv. typically

ca. 15%) was found within flat cultivated areas and undisturbed areas both on the interfluves and on the balka sides, all of which could serve as reference sites. Minimum variability (cv. typically ca. 12%) was associated with the cultivated slopes with no evidence of sediment accumulation.

Number of References: 28

Descriptors: agriculture-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; sediments-; soil-

Identifiers: Chernobyl-; 137Cs-inventories; agricultural-drainage-basin; central-Russia; Lapki-balka-catchment; Tula-; soil-cores; CORAD-; sediment-; cultivated-; Russia-; Cs-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9330D (Asia); A87; A86; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: ARISEF

ISSN: 0969-8043

SICI: 0969-8043(199909)51:3L.341:SVCD;1-7

Document Number: S0969-8043(99)00050-0

Sort Key: 0000969804319990005100003000000000000341

Material Identity Number: J793-1999-009

Accession Number: 6304084

Update Code: 199929

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002

Bestand: 44.1993=>

Record 83 of 1145 in INSPEC 1999/01-1999/10

Title: Transfer of radiocaesium via reindeer meat to man-effects of countermeasures applied in Swedes following the Chernobyl accident

Author: Ahman-B

Author Affiliation: Reindeer Husbandry Unit, Swedish Univ. of Agric. Sci., Uppsala, Sweden

Source: Journal-of-Environmental-Radioactivity. vol.46, no.1; 1999; p.113-20

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2346%23113%231&_version=1&md5=3ebcd420a90c71536ea248f4ee17ea18

Publication Year: 1999

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Since the Chernobyl nuclear accident, considerable efforts have been made in Sweden to reduce radiocaesium intake via food by the general population. Countermeasures have been concentrated especially on reindeer husbandry. In this investigation, radiocaesium intake via reindeer meat was estimated, and the corresponding collective radiation dose to humans was calculated for the first 10 years following the Chernobyl fallout. The transfer of radiocaesium and the collective human dose were compared with the potential transfer and corresponding dose that would have occurred in the absence of intervention limits and countermeasures. According to the estimates, the collective dose due to consumption of reindeer meat for the first year after the Chernobyl accident (May 1986-April 1987) was reduced from 193 manSv (potential dose) to below 3 manSv (actual dose). The cost of this was 117 million SEK (15 million USD). Thanks to the continuous reduction of radiocaesium in reindeer pasture, both the potential and actual dose decreased with time. For the reindeer slaughter period from July 1995 to June 1996, the potential dose was estimated at 18 manSv and the actual dose 7 manSv. The total expenditure on control and countermeasures for the 1995-1996 period amounted to 17 million SEK (2 million USD).
Number of References: 13
Descriptors: caesium-; dosimetry-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radiocaesium-; reindeer-meat; Chernobyl-accident; Sweden-; reindeer-husbandry; collective-radiation-dose; collective-human-dose; intervention-limits; countermeasures-; reindeer-pasture; reindeer-slaughter-period; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A8760M (Radiation-dosimetry-in-medical-physics); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)46:1L.113:TRRM;1-R
Document Number: S0265-931X(98)00107-6

Sort Key: 0000265931X19990004600001000000000000113
Material Identity Number: I664-1999-009
Accession Number: 6297836
Update Code: 199928

Record 84 of 1145 in INSPEC 1999/01-1999/10

Title: Migration of radiocaesium in Swedish soil profiles after the Chernobyl accident, 1987-1995
Author: Rosen-K; Oborn-I; Lonsjo-H
Author Affiliation: Dept. of Radioecology, Swedish Univ. of Agric. Sci., Uppsala, Sweden
Source: Journal-of-Environmental-Radioactivity. vol.46, no.1; 1999; p.45-66

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2346%2345%231&_version=1&md5=a6562239ddd3f6e38a245f50de203af5
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The study site comprises temporary and permanent grassland in areas in central and northern Sweden which were strongly affected by the Chernobyl fallout in 1986. The aim of the study was to investigate the vertical migration of radiocaesium from 1987 to 1995 in undisturbed soil profiles under field conditions, as related to soil type and texture. The sampled sites differ in soil types and textures, i.e. six cultivated or semi-natural mineral soils (Dystrochrept, Haploboroll, Udorthents, Cryorthent and Haplocryod) and two cultivated organic soils (Sulfihemists). The ground deposition of /sup 137/Cs ranged from 14 to 184 kBq m/sup -2/ (average 82). /sup 137/Cs-activities were measured in cm-sliced, 25-cm-deep soil cores and in soil horizons of the entire soil profiles down to 0.7-1.0 m depth. The soil cores were collected on two or three occasions between 1987 and 1995, and migration rates were calculated based on the median depths. Grass samples were taken from the same locations to measure the amount of /sup 137/Cs transferred from soil to grass. After eight years, most (50-92%) of the /sup 137/Cs fallout was still present in the upper 5 cm (median depth 2.3-5.1 cm), although considerable amounts had migrated to deeper soil layers. Downward migration was most pronounced in the organic soils and in the podzol where /sup 137/Cs was found to about 50 cm depth. Migration rates were in the range of 0.5-1.0 cm year/sup -1/ for the first year and thereafter 0.2-0.6 cm year/sup -1/. The transfer of /sup 137/Cs to grass was highest in two gravelly sandy loam soils in the mountain region, intermediate in two organic soils, and lowest in soils from the river and coastal areas.
Number of References: 37
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Swedish-soil-profiles; radiocaesium-migration; Chernobyl-accident; grassland-; Sweden-; vertical-migration; semi-natural-mineral-soils; cultivated-organic-soils; organic-soils; podzol-; gravelly-sandy-loam-soils; 137Cs-; AD-1987-to-1995; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)46:1L.45:MRSS;1-0
Document Number: S0265-931X(99)00040-5

Sort Key: 0000265931X19990004600001000000000000045
Material Identity Number: I664-1999-009
Accession Number: 6297832
Update Code: 199928

Record 85 of 1145 in INSPEC 1999/01-1999/10

Title: The application of radiotracers to a study of Black Sea circulation: validation of numerical simulations against observed weapons testing and Chernobyl /sup 137/Cs data
Author: Staneva-JV; Buesseler-KO; Stanev-EV; Livingston-HD
Author Affiliation: Dept. of Meteorol. & Geophys., Sofia Univ., Bulgaria
Source: Journal-of-Geophysical-Research. vol.104, no.C5; 15 May 1999; p.11099-114
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Uses the distribution of the artificial radionuclide /sup 137/Cs to investigate mixing and ventilation in the Black Sea. Time series data of vertical radionuclide distributions are combined with model simulations in order to follow the magnitude and depth of penetration of surface oxic water into intermediate depths, below the oxic/anoxic interface. Simulated data are produced by a three-dimensional circulation model that includes a new parameterization of the Bosphorus inflow/plume to simulate the effects of Mediterranean water on internal mixing. A radioactive tracer model for pre-Chernobyl /sup 137/Cs (weapons testing /sup 137/Cs) and Chernobyl /sup 137/Cs is coupled to the circulation model. The model results are compared to field data collected between 1986 and 1992. The main output from the simulations is the identification of the contribution of entrainment in the mixing of surface waters into subsurface layers. The trend of tracer penetration into the deeper layers following isopycnal surfaces is well demonstrated in the model and is consistent with the known circulation and physics of the Black Sea. The correlation between the activities of radionuclides and salinity, found in the field data, is supported by the simulations. These model results illustrate that the time-space abundance of the existing field data is sufficient for reconstructing the distribution of tracers in space and time, provided reliable estimates of Black Sea circulation exist.
Number of References: 42
Descriptors: caesium-; oceanographic-regions; radioactive-pollution; radioactive-tracers; radioisotopes-
Identifiers: radiotracers-; Black-Sea-circulation; numerical-simulations; Chernobyl-137Cs-data; weapons-testing-137Cs; artificial-radionuclide; ventilation-; time-series-data; vertical-radionuclide-distributions; model-simulations; surface-oxic-water; oxicanoxic-interface; 3D-circulation-model; Bosphorus-inflow; Mediterranean-water; internal-mixing; radioactive-tracer-model; AD-1986-to-1992; surface-waters; subsurface-layers; isopycnal-surfaces; salinity-; Cs-

Classification Codes: A9210M (Thermohaline-structure-and-circulation-of-the-oceans); A9330R (Regional-seas); A8670E (Water-environmental-science); A92; A93; A86; A9
Treatment Codes: A (Application); T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: JGREA2
ISSN: 0148-0227
Copyright Clearance Center Code: 0148-0227/99/1998JC900121$09.00
SICI: 0148-0227(19990515)104:C5L.11099:ARSB;1-5

Sort Key: 0000148022719990010400005000000000011099
Material Identity Number: J047-1999-038
Accession Number: 6285894
Update Code: 199926

Record 86 of 1145 in INSPEC 1999/01-1999/10

Title: Estimation of the total fallout of /sup 90/Sr and /sup 137/Cs over the territory of Bulgaria after the Chernobyl accident
Author: Vapirev-EI; Georgiev-G; Jordanov-T; Hristova-AV
Author Affiliation: Fac. of Phys., Sofia Univ., Bulgaria
Source: Bulgarian-Journal-of-Physics. vol.23, no.3-4; 1996; p.129-47
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Bulgaria
Language: English
Abstract: The total deposited activity of /sup 90/Sr has been estimated from the total activity of /sup 137/Cs and the Cs/Sr ratio measured for several sites in Bulgaria in the period 1-7 May 1986. The final result is (1.3+or-0.7)*10/sup 15/ Bq for /sup 137/Cs or 1/30 of the total released /sup 137/Cs activity from the Chernobyl reactor and (1.4+or-0.8)*10/sup 14/ Bq for /sup 90/Sr or 1/60 of the total released /sup 90/Sr activity. The averaged Cs/Sr ratio for North Bulgaria is 18.4+or-2, for South Bulgaria the ratio is 10.9+or-0.9, for the Balkan mountains the ratio is 7.1+or-0.5. The total mass of the

dispersed nuclear fuel (particulate activity) is estimated to approximately 1.5-3.5 kg or ~1/1000 of the fuel out of the 20 km zone. The total mass of the homogenous activity (volatile fraction) is estimated for /sup 131/I, /sup 103/Ru, /sup 106/Ru, /sup 140/Ba, /sup 137/Cs, /sup 134/Cs, and the result is approximately 320+or-120 g.

Number of References: 17

Descriptors: air-pollution; caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; strontium-

Identifiers: total-fallout; 90Sr-; 137Cs-; Bulgaria-; Chernobyl-accident; total-deposited-activity; dispersed-nuclear-fuel; particulate-activity; air-pollution; radioactive-pollution; 1-5-to-3-5-kg; Sr-; Cs-; I-; Ru-; Ba-

Classification Codes: A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A92; A28; A8; A9; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: mass 1.5 E00 to 3.5 E00 kg

Chemical Indexing: Sr-el; Cs-el; I-el; Ru-el; Ba-el

Coden: BJPHD5

ISSN: 0323-9217

SICI: 0323-9217(1996)23:3/4L.129:ETF9;1-1

Sort Key: 00003239217199600023000030000000000000129

Material Identity Number: B168-1999-001

Accession Number: 6276975

Update Code: 199925

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26089.000
Bestand: 1.1974-24.1997,2 L:1-3,7-9 N:4-6

Record 87 of 1145 in INSPEC 1999/01-1999/10

Title: Time trends of thyroid cancer incidence in Belarus after the Chernobyl accident

Author: Heidenreich-WE; Kenigsberg-J; Jacob-P; Buglova-E; Goulko-G; Paretzke-HG; Demidchik-EP; Golovneva-A

Author Affiliation: Inst. for Radiat. Protection, Nat. Res. Centre for Environ. & Health, Neuherberg, Germany

Source: Radiation-Research. vol.151, no.5; May 1999; p.617-25

Publication Year: 1999

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The rates of childhood thyroid cancer incidence observed in Belarus during the period 1986 to 1995 are described as a function of time after exposure, age at exposure, and sex. Conclusions are drawn for the excess absolute risk function. After a minimum latent period of about 3 years after exposure, this risk function has a linear increase with time for at least 6 years. After correction for the dependence of average doses on age,

the radiation-induced absolute thyroid risk in Gomel is about a factor of 3 higher for children up to age 10 at exposure compared to older ones; this may be due in part to different case-collection quality. In addition, in the group up to 10 years at exposure, the thyroid of girls is more sensitive to radiation by a factor of about 1.5 than the thyroid of boys on an absolute scale. Risk estimates from external exposure are consistent with risk estimates from Gomel assuming that the increase in excess cases reaches a plateau soon.

Number of References: 18

Descriptors: biological-effects-of-ionising-radiation; cancer-; disasters-; fission-reactor-accidents; health-hazards

Identifiers: childhood-thyroid-cancer-incidence; Belarus-; age-; sex-; excess-absolute-risk-function; minimum-latent-period; average-doses; radiation-induced-absolute-thyroid-risk; Gomel-; case-collection-quality; girls-; boys-; risk-estimates; external-exposure; Chernobyl-accident; time-trends

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8

Treatment Codes: X (Experimental)

Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/99/$5.00
SICI: 0033-7587(199905)151:5L.617:TTTC;1-5

Sort Key: 00000337587199900151000050000000000000617
Material Identity Number: R066-1999-007
Accession Number: 6274956
Update Code: 199924
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 88 of 1145 in INSPEC 1999/01-1999/10

Title: The fire safety of the Chernobyl Shelter

Author: Kupny-V; Korneev-A

Source: Nuclear-Engineering-International. vol.44, no.537; April 1999; p.12-15
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Within the Shelter covering the ruins of Chernobyl Unit 4 is a large array of combustible materials, whose distribution and activity levels are only approximately known. This makes fire a major risk to the continued safety and stability of the structure and to the local environment. A Programme of Work to improve fire protection has been drawn up and approved, although difficulties with financing have made it

impossible to implement the programme in full. Efforts are, therefore, focused on fire prevention.
Number of References: 0
Descriptors: fires-; fission-reactor-accidents; radiation-protection; safety-
Identifiers: fire-safety; Chernobyl-Shelter; Chernobyl-Unit-4; combustible-materials; major-risk; fire-protection; fire-prevention
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
SICI: 0029-5507(199904)44:537L.12:FSCS;1-M

Sort Key: 0000029550719990004400537000000000000012
Material Identity Number: N022-1999-004
Accession Number: 6256752
Update Code: 199921
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 89 of 1145 in INSPEC 1999/01-1999/10

Title: Chernobyl accident: reconstruction of thyroid dose for inhabitants of the Republic of Belarus
Author: Gavrilin-YI; Khrouch-VT; Shinkarev-SM; Krysenko-NA; Skryabin-AM; Bouville-A; Anspaugh-LR
Author Affiliation: Inst. of Biophys., Minist. of Public Health, Moscow, Russia
Source: Health-Physics. vol.76, no.2; Feb. 1999; p.105-19
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The Chernobyl accident in April 1986 resulted in widespread contamination of the environment with radioactive materials, including /sup 131/I and other radioiodines. This environmental contamination led to substantial radiation doses in the thyroids of many inhabitants of the Republic of Belarus. The reconstruction of thyroid doses received by Belarussians is based primarily on exposure rates measured against the neck of more than 200,000 people in the more contaminated territories; these measurements were carried out within a few weeks after the accident and before the decay of /sup 131/I to negligible levels. Preliminary estimates of thyroid dose have been divided into 3 classes: Class 1 ("measured" doses), Class 2 (doses "derived affinity"), and Class 3 ("empirically-derived" doses). Class 1 doses are estimated directly from the measured thyroidal /sup 131/I content of the person considered, plus information on lifestyle and

dietary habits. Such estimates are available for about 130,000 individuals from the contaminated areas of the Gomel and Mogilev Oblasts and from the city of Minsk. Maximum individual doses are estimated to range up to about 60 Gy. For every village with a sufficient number of residents with Class 1 doses, individual thyroid dose distributions are determined for several age groups and levels of milk consumption. These data are used to derive Class 2 thyroid dose estimates for unmeasured inhabitants of these villages. For any village where the number of residents with Class 1 thyroid doses is small or equal to zero, individual thyroid doses of Class 3 are derived from the relationship obtained between the mean adult thyroid dose and the deposition density of /sup 131/I or /sup 137/Cs in villages with Class 2 thyroid doses presenting characteristics similar to those of the village considered. In order to improve the reliability of the Class 3 thyroid doses, an extensive program of measurement of /sup 129/I in soils is envisaged.

Number of References: 34
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; widespread-contamination; environment-; radioactive-materials; radioiodines-; environmental-contamination; radiation-doses; inhabitants-; Republic-of-Belarus; Belarussians-; exposure-rates; contaminated-territories; empirically-derived-doses; derived-affinity-dose; measured-doses; thyroidal-131I-content; person-; lifestyle-; dietary-habits; individuals-; contaminated-areas; Mogilev-Oblasts; Gomel-; Minsk-; maximum-individual-doses; village-; residents-; individual-thyroid-dose-distributions; milk-consumption; age-groups; unmeasured-inhabitants; deposition-density; soils-; I-; Cs-
Classification Codes: A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A28; A87; A86; A93; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/99/$3.00+00
SICI: 0017-9078(199902)76:2L.105:CART;1-8

Sort Key: 00000179078199900076000020000000000000105
Material Identity Number: P578-1999-006
Accession Number: 6244147
Update Code: 199919
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: Radioactivity in milk consumed in Nigeria 10 years after Chernobyl reactor accident
Author: Osibote-OA; Olomo-JB; Tchokossa-P; Balogun-FA
Author Affiliation: Dept. of Phys., Obafemi Awolowo Univ., Ile-Ife, Nigeria
Source: Nuclear-Instruments-&-Methods-in-Physics-Research,-Section-A-(Accelerators,-Spectrometers,-Detectors-and-Associated-Equipment). vol.422, no.1-3; 11 Feb. 1999; p.778-83
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0168%2d9002%23422%23778&_version=1&md5=ef00a4da73a89050e3fa97673abc7a13
Publication Year: 1999
Record Type: Conference-Paper; Journal-article
Conference Details: Ninth Symposium on Radiation Measurements and Applications. 11-14 May 1998; Ann Arbor, MI, USA
Country of Publication: Netherlands
Language: English
Abstract: The average concentrations of the radioactivity in milk imported into and consumed in Nigeria, 10 years after Chernobyl-4 nuclear power plant accident, have been measured by means of a well-calibrated high-purity germanium detector. The photopeaks observed with reliable regularity belong to the naturally occurring series-decay radionuclides headed by /sup 238/U and /sup 232/Th, as well as the non-series decay type, /sup 40/K. Ten years after the nuclear accident, /sup 137/Cs was not detected in any of the milk samples in view of the possible transfer through the soil-grass-cow-milk route, the time interval being one third the /sup 137/Cs half-life (30.2 yr). The average total specific activity values of 23.07+or-7.75, 4.35+or-2.06 and 831.66+or-54.83 Bq kg/sup -1/ for /sup 226/Ra, /sup 228/Ra and /sup 40/K, respectively, were obtained.
Number of References: 17
Descriptors: gamma-ray-detection; germanium-radiation-detectors; radioactive-pollution; radioactivity-; radioactivity-measurement; radioisotopes-
Identifiers: milk-radioactivity; well-calibrated-high-purity-Ge-detector; 238U-pollutant; series-decay-radionuclides; 232Th-pollutant; nonseries-decay-radionuclides; 40K-pollutant; soil-grass-cow-milk-route; average-total-specific-activity; radioactive-pollution; Nigerian-milk-samples; U-; Th-; K-; Ra-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection-in-medical-physics); A0785 (X-ray-gamma-ray-instruments-and-techniques); A2940P (Semiconductor-detectors); A2930K (X--and-gamma-ray-spectroscopy); A2970 (Radiation-measurement-detection-and-counting); B7720 (Pollution-detection-and-control); B7420 (Particle-and-radiation-detection-and-measurement); B7450 (X-ray-and-gamma-ray-equipment); A87; A07; A29; B77; B74; A8
Treatment Codes: X (Experimental)
Chemical Indexing: U-el; Th-el; K-el; Ra-el

Coden: NIMAER
ISSN: 0168-9002
Copyright Clearance Center Code: 0168-9002/99/$20.00
SICI: 0168-9002(19990211)422:1/3L.778:RMCN;1-1
Document Number: S0168-9002(98)00996-6

Sort Key: 0000168900219990042200001000000000000778
Material Identity Number: G700-1999-010
Accession Number: 6242551
Update Code: 199919
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08574.010
Bestand: A219.1984=>

Record 91 of 1145 in INSPEC 1999/01-1999/10

Title: The Chernobyl Shelter-the work commences
Author: Novak-V; Heriot-ID
Author Affiliation: Nucl. Saftey Dept., Eur. Bank for Reconstruction & Dev., London, UK
Source: Nuclear-Engineering-International. vol.44, no.535; Feb. 1999; p.10-12
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The international remediation project to protect and strengthen the Chernobyl Sarcophagus-the Shelter Implementation Plan-is now fully mobilised. The project structure is in place, the Project Management Unit established, initial contracts given out and work on some critical items already started.
Number of References: 0
Descriptors: contaminated-site-remediation; fission-reactor-accidents; radiation-protection
Identifiers: Chernobyl-shelter; international-remediation-project; Chernobyl-sarcophagus; shelter-implementation-plan
Classification Codes: A2880 (Radiation-technology-in-nuclear-engineering-including-shielding); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A28; A2
Treatment Codes: G (General-or-Review)
Coden: NEINBF
ISSN: 0029-5507
SICI: 0029-5507(199902)44:535L.10:CSWC;1-1

Sort Key: 0000029550719990004400535000000000000010
Material Identity Number: N022-1999-002
Accession Number: 6224104
Update Code: 199916
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001

Bestand: 13.1968,150=>

Record 92 of 1145 in INSPEC 1999/01-1999/10

Title: Chernobyl-related thyroid cancer in children of Belarus: a case-control study
Author: Astakhova-LN; Anspaugh-LR; Beebe-GW; Bouville-A; Drozdovitch-VV; Garber-V; Gavrilin-YI; Khrouch-VT; Kuvshinnikov-AV; Kuzmenkov-YN; Minenko-VP; Moschik-KV; Nalivko-AS; Robbins-J; Shemiakina-EV; Shinkarev-S; Tochitskaya-SI; Waclawiw-MA
Author Affiliation: Res. Inst. of Radiat. Med., Minist. of Health, Minsk, Byelorussia
Source: Radiation-Research. vol.150, no.3; Sept. 1998; p.349-56
Publication Year: 1998
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The accident at the Chernobyl nuclear power plant on April 26, 1986, released approximately 2 EBq of /sup 131/I and other radioiodine isotopes that heavily contaminated southern Belarus. An increase in thyroid cancer reported in 1992 and attributed to the Chernobyl accident was challenged as possibly the result of intensive screening. We began a case-control study to test the hypothesis that the Chernobyl accident caused the increase in thyroid cancer. Records of childhood thyroid cancer in the national therapy centers in Minsk in 1992 yielded 107 individuals with confirmed pathology diagnoses and available for interview. Pathways to diagnosis were (1) routine endocrinological screening in 63, (2) presentation with enlarged or nodular thyroid in 25 and (3) an incidental finding in 19. Two sets of controls were chosen, one matched on pathway to diagnosis, the other representing the area of heavy fallout, both matched on age, sex and rural/urban residence in 1986. The /sup 131/I dose to the thyroid was estimated from ground deposition of /sup 137/Cs, ground deposition of /sup 131/I, a data bank of 1986 thyroid radiation measurements, questionnaires and interviews. Highly significant differences were observed between cases and controls (both sets) with respect to dose. The differences persisted within pathway to diagnosis, gender, age and year of diagnosis, and level of iodine in the soil, and were most marked in the southern portion of the Gomel region. The case-control comparisons indicate a strong relationship between thyroid cancer and estimated radiation dose from the Chernobyl accident.
Number of References: 33
Descriptors: biological-effects-of-ionising-radiation; cancer-; disasters-; fission-reactor-accidents; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: case-control-study; Chernobyl-nuclear-power-plant; radioiodine-isotopes; southern-Belarus; thyroid-cancer; Chernobyl-accident; childhood-thyroid-cancer; national-therapy-centers; confirmed-pathology-diagnoses; interview-; routine-endocrinological-screening; nodular-thyroid; enlarged-thyroid; heavy-fallout; age-; sex-; ruralurban-residence; 131I-dose; ground-deposition; data-bank; 1986-thyroid-radiation-measurements; questionnaires-; gender-; soil-; southern-portion; Gomel-

region; case-control-comparisons; estimated-radiation-dose; Chernobyl-related-thyroid-cancer; children-; 2-EBq; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 2.0 E18 Bq
Chemical Indexing: I-el
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/98/$5.00
SICI: 0033-7587(199809)150:3L.349:CRTC;1-L

Sort Key: 0000033758719980015000003000000000000349
Material Identity Number: R066-1999-005
Accession Number: 6214140
Update Code: 199914
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 93 of 1145 in INSPEC 1999/01-1999/10

Title: Kinetics of fuel particle weathering and /sup 90/Sr mobility in the Chernobyl 30-km exclusion zone
Author: Kashparov-VA; Oughton-DH; Zvarich-SI; Protsak-VP; Levchuk-SE
Author Affiliation: Inst. of Agric. Radiol., Kiev, Ukraine
Source: Health-Physics. vol.76, no.3; March 1999; p.251-9
Publication Year: 1999
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Weathering of fuel particles and the subsequent leaching of radionuclides causes /sup 90/Sr mobility in Chernobyl soils to increase with time after deposition. Studies of /sup 90/Sr speciation in soils collected in 1995 and 1996 from the Chernobyl 30-km exclusion zone have been used to calculate rates of fuel particles dissolution under natural environmental conditions. Results show that the velocity of fuel particle dissolution is primarily dependent on the physico-chemical characteristics of the particles and partially dependent on soil acidity. Compared to other areas, the fuel particle dissolution rate is significantly lower in the contaminated areas to the west of the Chernobyl reactor where deposited particles were presumably not oxidized prior to release. The data have been used to derive mathematical models that describe the rate of radionuclide leaching from fuel particles in the exclusion zone and changes in soil-to-plant transfer as a function of particle type and soil pH.

Number of References: 21
Descriptors: disasters-; dissolving-; environmental-degradation; fission-reactor-accidents; fission-reactor-fuel; health-hazards; pH-; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: fuel-particle-weathering; 90Sr-mobility; Chernobyl-thirty-kilometer-exclusion-zone; Chernobyl-soils; 90Sr-speciation; natural-environmental-conditions; physico-chemical-characteristics; soil-acidity; fuel-particle-dissolution-rate; contaminated-areas; Chernobyl-reactor; west-; deposited-particles; mathematical-models; radionuclide-leaching; soil-to-plant-transfer; particle-type; soil-pH; kinetics-; Sr-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A2842D (Fission-reactor-fuel-elements); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A93; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el
Coden: HLTPAO
ISSN: 0017-9078
SICI: 0017-9078(199903)76:3L.251:KFPW;1-J

Sort Key: 00000179078199900076000030000000000000251
Material Identity Number: P578-1999-005
Accession Number: 6207915
Update Code: 199913
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 94 of 1145 in INSPEC 1999/01-1999/10

Title: A compilation of empirical data and variations in data concerning radiocesium in water, sediments and fish in European lakes after Chernobyl
Author: Hakanson-L
Author Affiliation: Dept. of Earth Sci., Uppsala Univ., Sweden
Source: Journal-of-Environmental-Radioactivity. vol.44, no.1; 1999; p.21-42
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2344%2321%231&_version=1&md5=fae3b30f74185a7eb91bea89dad44631
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This work concerns the variability of radiocesium within lakes. The focus is on a broad set of data concerning radiocesium after the Chernobyl accident in lake water, sediments and different species of fish. Data are available to the author from three

European data bases. Basic questions are: Are there any general patterns to be found concerning the variability of /sup 137/Cs in lakes? Is it possible to give any recommendations concerning CV values (coefficient of variation; CV=SD/MV; SD=standard deviation, MV=mean value) for radiocesium in lake water, sediments and different species of fish?

Number of References: 36

Descriptors: caesium-; fission-reactor-accidents; lakes-; radioactive-pollution; radioisotopes-; sediments-; water-pollution

Identifiers: empirical-data; data-variations; radiocesium-; water-; sediments-; fish-; European-lakes; Chernobyl-accident; variation-coefficient; 137Cs-; Cs-

Classification Codes: A8670E (Water-environmental-science); A9240G (Erosion-and-sedimentation-hydrological); A9150J (Marine-sedimentation-and-sediments); A9240N (Lakes); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A92; A91; A28; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JERAEE

ISSN: 0265-931X

SICI: 0265-931X(1999)44:1L.21:CEDV;1-V

Document Number: S0265-931X(98)00072-1

Sort Key: 0000265931X19990004400001000000000000021

Material Identity Number: I664-1999-004

Accession Number: 6198742

Update Code: 199912

Record 95 of 1145 in INSPEC 1999/01-1999/10

Title: Impact of /sup 134/Cs and /sup 137/Cs from the Chernobyl reactor accident on the Spanish Mediterranean marine environment

Author: Molero-J; Sanchez-Cabeza-JA; Merino-J; Mitchell-PI; Vidal-Quadras-A

Author Affiliation: Dept. de Fisica, Univ. Autonoma de Barcelona, Spain

Source: Journal-of-Environmental-Radioactivity. vol.43, no.3; 1999; p.357-70

Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2343%23357%233&_version=1&md5=fd3a259117cad2a24af9a16fd8401a57

Publication Year: 1999

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: As part of a study aiming to establish the distribution and bioavailability of man-made radionuclides in the marine environment, radiocaesium levels were determined in

large volume sea water samples and in the sea-grass Posidonia oceanica collected along the Spanish Mediterranean coast. Results obtained from 1987 to 1991 showed the enhancement of radiocaesium levels in the Spanish Mediterranean marine environment after the Chernobyl accident. The well-known /sup 134/Cs//sup 137/Cs isotopic ratio in Chernobyl fresh deposition was used to identify the weapon tests fall-out and Chernobyl deposition components.

Number of References: 39

Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; water-pollution

Identifiers: 134Cs-; 137Cs-; Chernobyl-reactor-accident; Spanish-Mediterranean-marine-environment; bioavailability-; man-made-radionuclides; radiocaesium-levels; sea-water-samples; sea-grass-Posidonia-oceanica; isotopic-ratio; water-pollution; Cs-

Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/99/$20.00

SICI: 0265-931X(1999)43:3L.357:I11F;1-2

Document Number: S0265-931X(98)00067-8

Sort Key: 0000265931X19990004300003000000000000357

Material Identity Number: I664-1999-003

Accession Number: 6192238

Update Code: 199911

Record 96 of 1145 in INSPEC 1999/01-1999/10

Title: Distribution pattern of /sup 90/Sr and /sup 137/Cs in the Nile Delta and the adjacent regions after Chernobyl accident

Author: Shawky-S; El-Tahawy-M

Author Affiliation: Nat. Center for Nucl. Safety & Radiat. Control, Atomic Energy Authority of Egypt, Cairo, Egypt

Source: Applied-Radiation-and-Isotopes. vol.50, no.2; Feb. 1999; p.435-43

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2350%23435%232&_version=1&md5=3535bd88640f117661c5400d4e4b9a7a

Publication Year: 1999

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Strontium and cesium contents in surface soil samples across the Nile Delta and the north coast of Egypt after the Chernobyl accident have been investigated. The concentration of /sup 137/Cs and /sup 90/Sr was determined using a high resolution gamma spectrometer based on a hyperpure germanium detector and a liquid scintillation counter respectively. /sup 90/Sr was determined through its decay product /sup 90/Y using Cerenkov counting. The determination of /sup 90/Sr was based on tributylphosphate extraction of yttrium from nitric acid extract of ashed samples. The radioactivity of soils ranged between 18.5 and 2175 Bq/m/sup 2/ with a mean of 652 Bq/m/sup 2/ and 234 and 3129 Bq/m/sup 2/ with a mean of 760 Bq/m/sup 2/ for /sup 137/Cs and /sup 90/Sr respectively. An estimated absorbed dose equivalent due to the measured deposit of /sup 137/Cs was found to be 0.062 mu rem/h.
Number of References: 15
Descriptors: caesium-; isotope-relative-abundance; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: distribution-pattern; 90Sr-; 137Cs-; Nile-Delta; Chernobyl-accident; surface-soil-samples; Egypt-north-coast; gamma-spectrometry; decay-product-90Y; Cherenkov-counting; tributylphosphate-extraction; nitric-acid-extract; ashed-samples; soil-radioactivity; absorbed-dose-equivalent; Sr-; Cs-; Y-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A3510B (Atomic-masses-mass-spectra-abundances-and-isotopes); A9330B (Africa); A86; A87; A35; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el; Y-el
Coden: ARISEF
ISSN: 0969-8043
Copyright Clearance Center Code: 0969-8043/99/$20.00
SICI: 0969-8043(199902)50:2L.435:DP91;1-E
Document Number: S0969-8043(97)10128-2

Sort Key: 0000969804319990005000002000000000000435
Material Identity Number: J793-1999-002
Accession Number: 6179328
Update Code: 199909
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002
Bestand: 44.1993=>

Record 97 of 1145 in INSPEC 1999/01-1999/10

Title: A comparison of modelled and measured Chernobyl /sup 90/Sr distributions in the Black Sea
Author: Stanev-EV; Buesseler-KO; Staneva-JV; Livingston-HD
Author Affiliation: Dept. of Meteorol. & Geophys., Sofia Univ., Bulgaria
Source: Journal-of-Environmental-Radioactivity. vol.43, no.2; 1999; p.187-203

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2343%23187%232&_version=1&md5=0345c2941f68ca88cd8831942aa69b08
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Strontium-90 data are used to verify the mixing and ventilation patterns simulated in a circulation model of the Black Sea. The authors trace physical processes using /sup 90/Sr which was delivered after the Chernobyl accident, primarily via riverine discharges in the northwest shelf region. The results used for the verification of the model simulations were obtained from samples collected between 1986 and 1992. A three-dimensional circulation/transport model coupled with a tracer model simulates the transport of /sup 90/Sr and its penetration into the intermediate and deep layers. Though most of the /sup 90/Sr is introduced in the model at the sea surface by river runoff in the NW shelf area, the concentration patterns suggest that a large amount of this signal penetrates the halocline in the Bosphorus area and along the southern coast. This fundamental spatial characteristic of mixing in the Black Sea is associated with the entrainment of surface and intermediate waters in the vicinity of the Bosphorus strait, and with vertical exchanges along the southern coast resulting from the anticyclonic circulation patterns. Another important fraction of the river water penetrates intermediate layers at the shelf edge in the NW Black Sea. Higher model resolution and more elaborated forcing functions would be needed in order to more accurately define mesoscale features in this basin.
Number of References: 22
Descriptors: oceanographic-regions; radioactive-pollution; radioactive-tracers; radioisotopes-; strontium-; water-pollution
Identifiers: Chernobyl-90Sr-distributions; Black-Sea; mixing-patterns; ventilation-patterns; circulation-model; physical-processes; Chernobyl-accident; riverine-discharges; northwest-shelf-region; model-simulations; AD-1986-to-1992; 3D-circulation-transport-model; tracer-model; sea-surface; river-runoff; concentration-patterns; halocline-penetration; Bosphorus-area; southern-coast; Bosphorus-strait; vertical-exchange; anticyclonic-circulation-patterns; intermediate-layers; deep-layers; mesoscale-features; Sr-
Classification Codes: A8670E (Water-environmental-science); A9220N (Pollution-of-the-oceans); A9330R (Regional-seas); A9210L (Turbulence-diffusion-mixing-and-convection-in-the-oceans); A86; A92; A93; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)43:2L.187:CMMC;1-H

Document Number: S0265-931X(98)00091-5

Sort Key: 0000265931X19990004300002000000000000187
Material Identity Number: I664-1999-002
Accession Number: 6178624
Update Code: 199909

Record 98 of 1145 in INSPEC 1999/01-1999/10

Title: /sup 90/Sr and /sup 137/Cs in the Black Sea after the Chernobyl NPP accident: inventories, balance and tracer applications

Author: Egorov-VN; Povinec-PP; Polikarpov-GG; Stokozov-NA; Gulin-SB; Kulebakina-LG; Osvath-I
Author Affiliation: Inst. of Biol. of the Southern Seas, Acad. of Sci., Ukraine

Source: Journal-of-Environmental-Radioactivity. vol.43, no.2; 1999; p.137-55
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2343%23137%232&_version=1&md5=f8c06829b30c56c4c2ccb7548f969f32
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Summarizes studies of the distributions of /sup 90/Sr and /sup 137/Cs in the water and sediments of the Black Sea carried out during a 10-year period following the 1986 accident at the Chernobyl Nuclear Power Plant. Its goal is to assess the temporal evolution of radionuclide inventories and balances and to evaluate the mixing of water masses and the sedimentation processes using man-made radionuclides as tracers. Using mathematical models and field data, mixing time-scales of 5, 16 and 24 years have been estimated, respectively, for the water layers of depths 0-50, 0-100 and 0-200 m. For the Central Basin the ventilation time of the lower halocline is estimated at 15-25 years. /sup 137/Cs has been used to date shelf and deep-basin sediments, providing the history of chemical and radioactive pollution and of eutrophication during the past 50 years.

Number of References: 30
Descriptors: caesium-; isotope-relative-abundance; oceanographic-regions; radioactive-pollution; radioactive-tracers; radioisotopes-; strontium-; water-pollution
Identifiers: Black-Sea; Chernobyl-Nuclear-Power-Plant-accident; 90Sr-; 137Cs-; radionuclide-balance; tracer-applications; distributions-; AD-1986-to-1996; temporal-evolution; radionuclide-inventories; water-masses; sedimentation-processes; man-made-radionuclides; mathematical-models; field-data; mixing-time-scales; Central-Basin; lower-halocline-ventilation-time; shelf-sediments; deep-basin-sediments; chemical-pollution; radioactive-pollution; eutrophication-; 0-to-200-m; Sr-; Cs-
Classification Codes: A8670E (Water-environmental-science); A9220N (Pollution-of-the-oceans); A9330R (Regional-seas); A86; A92; A93; A8; A9

Treatment Codes: A (Application); X (Experimental)
Numerical Data Indexing: depth 0.0 E00 to 2.0 E02 m
Chemical Indexing: Sr-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)43:2L.137:91BA;1-D
Document Number: S0265-931X(98)00088-5

Sort Key: 0000265931X19990004300002000000000000137
Material Identity Number: I664-1999-002
Accession Number: 6178621
Update Code: 199909

Record 99 of 1145 in INSPEC 1999/01-1999/10

Title: The post-Chernobyl budget of /sup 137/Cs and /sup 90/Sr in the Black Sea
Author: Kanivets-VV; Voitsekhovitch-OV; Simov-VG; Golubeva-ZA
Author Affiliation: Ukrainian Hydrometerological Res. Inst., Kiev, Ukraine
Source: Journal-of-Environmental-Radioactivity. vol.43, no.2; 1999; p.121-35
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2343%23121%232&_version=1&md5=369e2b7f232335621885fee141324726
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Calculations of annual radionuclide budgets in the Black Sea for the period 1986-1995 have been carried out to estimate the contribution of radionuclides of Chernobyl origin to contamination of the Black Sea and to evaluate the various pathways by which /sup 137/Cs and /sup 90/Sr are introduced into the sea. The scale of radioactive contamination of the Black Sea as a result of the Chernobyl accident is close to that of weapons test contamination. In both cases, the main pathway of /sup 137/Cs and /sup 90/Sr input to the seawater was direct atmospheric fallout. River runoff brings relatively small amounts of /sup 137/Cs into the Black Sea. The river-derived share of /sup 90/Sr input reached 25% of its total input for the first 10 years after the accident and continues to grow. Decreases in the inventory of /sup 137/Cs and /sup 90/Sr in the seawater, caused by radioactive decay and their removal through the Bosporus Strait into the Marmara Sea, have been occurring since 1987. In 1994, the /sup 90/Sr inventory approached the pre-accident level. It is estimated that the /sup 137/Cs inventory will reach its pre-accident level by 2025-2030.
Number of References: 23

Descriptors: caesium-; oceanographic-regions; radioactive-pollution; radioisotopes-; strontium-; water-pollution
Identifiers: post-Chernobyl-budget; 137Cs-; 90Sr-; Black-Sea; annual-radionuclide-budgets; AD-1986-to-1995; radionuclides-; contamination-; pathways-; radioactive-contamination; Chernobyl-accident; direct-atmospheric-fallout; river-runoff; radioactive-decay; Bosporus-Strait; Marmara-Sea; Cs-; Sr-
Classification Codes: A8670E (Water-environmental-science); A9220N (Pollution-of-the-oceans); A9330R (Regional-seas); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A92; A93; A87; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$20.00
SICI: 0265-931X(1999)43:2L.121:PCB1;1-J
Document Number: S0265-931X(98)00087-3
Copyright Statement: Copyright 1999, IEE
Sort Key: 0000265931X19990004300002000000000000121
Material Identity Number: I664-1999-002
Accession Number: 6178620
Update Code: 199909

Record 100 of 1145 in INSPEC 1999/01-1999/10

Title: A photo-realistic 3-D mapping system for extreme nuclear environments: Chernobyl
Author: Maimone-M; Matthies-L; Osborn-J; Rollins-E; Teza-J; Thayer-S
Author Affiliation: Jet Propulsion Lab., California Inst. of Technol., Pasadena, CA, USA
Source: Proceedings. 1998 IEEE/RSJ International Conference on Intelligent Robots and Systems. Innovations in Theory, Practice and Applications (Cat. No.98CH36190). IEEE, New York, NY, USA; 1998; 3 vol. xliv+2010 pp.
p.1521-7 vol.3
Publication Year: 1998
Record Type: Conference-Paper
Conference Details: Proceedings. 1998 IEEE/RSJ International Conference on Intelligent Robots and Systems. Innovations in Theory, Practice and Applications. vol.3. 13-17 Oct. 1998; Victoria, BC, Canada. Sponsored by: IEEE Ind. Electron. Soc.; IEEE Robotics & Autom. Soc.; Robotics Soc. Japan; Soc. Instrum. & Control Eng.; New Technol. Found
Country of Publication: USA
Language: English
Abstract: We present a stereoscopic mapping system for use in post-nuclear accident operations by the Pioneer robot. First we discuss a radiation shielded sensor array designed to tolerate extended cumulative dose using 4* shielding. Next, we outline procedures to ensure timely, accurate range estimation using trinocular stereo. Finally,

we review the implementation of a system for the integration of range information into a 3-D, textured, metrically accurate surface mesh.

Number of References: 10

Descriptors: CCD-image-sensors; distance-measurement; fission-reactor-accidents; mobile-robots; robot-vision; stereo-image-processing

Identifiers: photo-realistic-3D-mapping-system; extreme-nuclear-environments; Chernobyl-; stereoscopic-mapping-system; post-nuclear-accident-operations; radiation-shielded-sensor-array; range-estimation; trinocular-stereo; 3D-textured-metrically-accurate-surface-mesh; Pioneer-robot

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220B (Nuclear-reactors); B7320C (Spatial-variables-measurement); B6135 (Optical-image-and-video-signal-processing); B7230G (Image-sensors); C3390C (Mobile-robots); C7420 (Control-engineering-computing); C5260B (Computer-vision-and-image-processing-techniques); A28; B82; B73; B61; B72; C33; C74; C52; A2; B8; B7; B6

Treatment Codes: A (Application); P (Practical)

ISBN: 0780344650

Sort Key: 10780344650199800000000000000000000001521

Material Identity Number: XX-1998-02947

Accession Number: 6175688

Update Code: 199908

Record 101 of 1145 in INSPEC 1999/01-1999/10

Title: Multifractal analysis of the /sup 137/Cs fallout pattern in Austria resulting from the Chernobyl accident

Author: Pausch-G; Bossew-P; Hofmann-W; Steger-F

Author Affiliation: Inst. of Phys. & Biophys., Univ. of Salzburg, Austria

Source: Health-Physics. vol.74, no.6; June 1998; p.673-9

Publication Year: 1998

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The cumulative deposition of the /sup 137/Cs fallout in Austria resulting from the passage of the Chernobyl cloud has been investigated by applying correlation dimension and hyperbolic frequency distribution methods. For the analysis, a total of 1,881 deposition values were used, which were collected by the Federal Environmental Agency of Austria and the Federal Ministry of Health, representing all available measurements of /sup 137/Cs in soil made in Austria after the Chernobyl accident. From these data a hyperbolic exponent for the frequency distribution of 4.0 and a set of fractal correlation dimensions, which decrease from 1.426+or-0.022 (for the whole

network) to 0.706+or-0.047 (for /sup 137/Cs values >or=100 kBq m/sup -2/), were derived, thus confirming that the fallout pattern can be described as a multifractal.
Number of References: 9
Descriptors: air-pollution; caesium-; fission-reactor-accidents; fractals-; radioactive-pollution; radioisotopes-; soil-
Identifiers: cumulative-deposition; 137Cs-fallout-pattern; Austria-; Chernobyl-accident; multifractal-analysis; Chernobyl-cloud; correlation-dimension-distribution-method; hyperbolic-frequency-distribution-method; soil-; hyperbolic-exponent; fractal-correlation-dimensions; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A8670G (Atmosphere-environmental-science); A9330G (Europe); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0555 (Fractals); A87; A86; A93; A28; A05; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/98/$3.00
SICI: 0017-9078(199806)74:6L.673:MA1F;1-6

Sort Key: 00000179078199800074000060000000000000673
Material Identity Number: P578-1999-003
Accession Number: 6173739
Update Code: 199908
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 102 of 1145 in INSPEC 1999/01-1999/10

Title: Estimating the amount of fuel in cellar building 305/2 at Chernobyl Unit 4
Author: Borovoi-AA; Lagunenko-AS; Pazukhin-EM
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Atomic-Energy. vol.84, no.4; April 1998; p.295-9
Translated from: Atomnaya-Energiya. vol.84, no.4; April 1998; p.356-62
Publication Year: 1998
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Estimating the amount of fuel in the damaged Unit 4 at Chernobyl is a basic task in determining the nuclear, radiation, and ecological hazards. Numerous discussions in 1986-1996 confirmed that there are at least three estimates of the amount of fuel that agree satisfactorily with each other and one that is much less. Recently, new evidence has confirmed those coincident estimates. That evidence is discussed.
Number of References: 12

Descriptors: fission-reactor-accidents; fission-reactor-fuel
Identifiers: fuel-amount; cellar-building-3052; Chernobyl-; Unit-4
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A28; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/98/8404-0295$20.00
SICI: 0004-7163(199804)84:4L.356;1-7
SICI of Translation: 1063-4258(199804)84:4L.295:EAFC;1-P
Copyright Statement: Copyright 1999, IEE
Sort Key: 00000047163199800084000040000000000000356
Material Identity Number: P995-1999-001
Accession Number: 6146227
Update Code: 199904
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 103 of 1145 in INSPEC 1999/01-1999/10

Title: Estimate of the /sup 242m/Am content in fuel of the fourth power unit of the Chernobyl nuclear power station
Author: Ageev-VA; Vyrichek-SL; Klyuchnikov-AA; Lashko-AP; Levshin-EB; Odintsov-AA; Lashko-TN
Author Affiliation: Chernobyl Nucl. Res. Inst., Kiev, Ukraine
Source: Atomic-Energy. vol.84, no.4; April 1998; p.278-82
Translated from: Atomnaya-Energiya. vol.84, no.4; April 1998; p.340-4
Publication Year: 1998
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The question of the content of transuranic elements in the fuel of the fourth power unit was most fully considered by Borovoi et al. (1989) and Begichev et al. (1990). These publications give calculated data on the buildup of almost all the fission products and transuranic elements up to the time of the accident, but there are no calculations of the amount of /sup 242m/Am produced. The methodical approach presented in the present paper is based on an analysis of the measured radionuclide content of the fallout and on a calculation of the content of radionuclides in the fuel in the reactor before the accident.
Number of References: 9
Descriptors: air-pollution; americium-; fission-reactor-accidents; fission-reactor-fuel; radioactive-pollution; radioisotopes-
Identifiers: 242mAm-content; fuel-; Chernobyl-; Unit-4; fallout-; radionuclides-; Am-

Classification Codes: A2842D (Fission-reactor-fuel-elements); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Am-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/98/8404-0278$20.00
SICI: 0004-7163(199804)84:4L.340;1-G
SICI of Translation: 1063-4258(199804)84:4L.278:E2CF;1-W

Sort Key: 00000047163199800084000040000000000000340
Material Identity Number: P995-1999-001
Accession Number: 6146224
Update Code: 199904
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 104 of 1145 in INSPEC 1999/01-1999/10

Title: Making the Chernobyl shelter safe for the future
Author: Blix-H; Novak-V
Source: Nuclear-Europe-Worldscan. vol.18, no.11-12; Nov.-Dec. 1998; p.54-5
Publication Year: 1998
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Fixing the sarcophagus at Chernobyl-is certainly one of the most challenging projects that the commercial nuclear industry has had in its history. On the one hand, the sheer technical and organizational complexity of the task, and on the other, the transcending importance of demonstrating the ability to deal effectively with the consequences of the worst-case scenario, hopefully never to repeat itself. The humanitarian, environmental and international dimensions make the task all the more important. The Shelter Implementation Plan and the main challenges that lie ahead are discussed.
Number of References: 0
Descriptors: disasters-; fission-reactor-accidents; radiation-protection; safety-
Identifiers: Chernobyl-; shelter-; sarcophagus-; Shelter-Implementation-Plan
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: NEWOEN
ISSN: 1016-5975
SICI: 1016-5975(199811/12)18:11/12L.54:MCSS;1-O

Sort Key: 000101659751998000180001100000000000000054
Material Identity Number: N806-1998-006
Accession Number: 6139905
Update Code: 199903

Record 105 of 1145 in INSPEC 1998/07-1998/12

Title: Assessment of the consequences of the radioactive contamination of aquatic media and biota for the Chernobyl NPP cooling pond: model testing using Chernobyl data

Author: Kryshev-II; Sazykina-TG; Hoffman-FO; Thiessen-KM; Blaylock-BG; Feng-Y; Galeriu-D; Heling-R; Kryshev-AI; Kononovich-AL; Watkins-B
Author Affiliation: Inst. of Exp. Mater, SPA Typhoon, Obntnsk, Russia

Source: Journal-of-Environmental-Radioactivity. vol.42, no.2-3; 1999; p.143-56
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2342%23143&_version=1&md5=31ef7bd78cd87a69d088b2474c14eadb
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The `cooling pond' scenario was designed to test models for radioactive contamination of aquatic ecosystems, based on data from the Chernobyl Nuclear Power Plant cooling pond, which was heavily contaminated in 1986 as a result of the reactor accident. The calculation tasks include: (a) reconstruction of the dynamics of radionuclide transfer and bioaccumulation in aquatic media and biota following the accident; (b) assessment of doses to aquatic biota; and (c) assessment of potential doses and radiation risks to humans from consumption of contaminated fish. Calculations for the Scenario were performed by 19 participants using 6 different models: LAKECO-B (Netherlands); LAKEPOND (Romania); POSOD (USA); WATER, GIDRO and ECOMOD-W (Russia). For all endpoints, model predictions were compared with the test data, which were derived from the results of direct measurements and independent dose estimates based on measurements. Most of the models gave satisfactory agreement for some portions of the test data, although very few participants obtained good agreement with all criteria for model testing. The greatest level of difficulty was with the prediction of nonequilibrium radio ecological processes in the first year after the accident (1986).

Number of References: 13
Descriptors: dosimetry-; fission-reactor-accidents; radiation-protection; radioactive-pollution; water-pollution
Identifiers: radioactive-contamination; aquatic-media; biota-; Chernobyl-NPP-cooling-pond; reactor-accident; radionuclide-transfer; bioaccumulation-; doses-; radiation-risks; LAKECO-B; LAKEPOND-; POSOD-; WATER-; GIDRO-; ECOMOD-W

Classification Codes: A8670E (Water-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection-in-medical-physics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A2880C (Dosimetry-in-nuclear-engineering); A8760M (Radiation-dosimetry-in-medical-physics); A86; A87; A28; A8
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical); X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$19.00
SICI: 0265-931X(1999)42:2/3L.143:ACRC;1-Z
Document Number: S0265-931X(98)00051-4

Sort Key: 0000265931X19990004200002000000000000143
Material Identity Number: I664-98011
Accession Number: 6108008
Update Code: 9849

Record 106 of 1145 in INSPEC 1998/07-1998/12

Title: Validation of models of radionuclide wash-off from contaminated watersheds using Chernobyl data
Author: Konoplev-AV; Bulgakov-AA; Hoffman-FO; Kanyar-B; Lyashenko-G; Nail-SK; Popov-A; Raskob-W; Thiessen-B; Matkins-B; Zheleznyak-M
Author Affiliation: Inst. of Exp. Meterol., SPA Typhoon, Obninsk, Russia
Source: Journal-of-Environmental-Radioactivity. vol.42, no.2-3; 1999; p.131-41
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2342%23131&_version=1&md5=82293169df4dc891e630d62027b9272f
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Based on data from the Chernobyl accident, the `wash-off' scenario was developed to provide an opportunity to test models intended to simulate the movement of trace contaminants from terrestrial sources to bodies of water. The specific objective of the rest was to take into account chemical speciation, its effect on the transfer of contamination from soil to water, and the geochemical and geophysical processes that affect such transfer. Modellers were provided with descriptions of two experimental plots near the Chernobyl Nuclear Power Plant (NPP), one using simulated heavy rain (HR) and one using snow-melt (SM).
Number of References: 8
Descriptors: fission-reactor-accidents; geochemistry-; radioactive-pollution; water-pollution

Identifiers: models-validation; radionuclide-washoff; contaminated-watersheds; Chernobyl-accident; trace-contaminants-movement; chemical-speciation; geochemical-processes; geophysical-processes; simulated-heavy-rain; snow-melt
Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9135L (Geochemistry); A86; A28; A91; A8; A2; A9
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical); X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$19.00
SICI: 0265-931X(1999)42:2/3L.131:VMRW;1-N
Document Number: S0265-931X(98)00050-2

Sort Key: 0000265931X19990004200002000000000000131
Material Identity Number: I664-98011
Accession Number: 6108007
Update Code: 9849

Record 107 of 1145 in INSPEC 1998/07-1998/12

Title: Technical note: effect of the Chernobyl accident on the gamma radiation level in the Belgrade region
Author: Ninkovic-MM; Raicevic-JJ; Pavlovic-S
Author Affiliation: Inst. of Nucl. Sci. Vinca, Belgrade, Yugoslavia
Source: Nuclear-Safety. vol.38, no.1; Jan.-March 1997; p.69-73
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: This article presents the results of measurements of the gamma radiation level during and after the Chernobyl accident at the reference point located near Belgrade, Yugoslavia. The measurements started a day before the arrival of the plume of contaminated air from Chernobyl, were carried out during the active phase of the accident, and continued afterward up to the present day. Those measurements enabled authorities to (1) register the arrival of the central part of the contaminated plume over Belgrade on May 1, 1986, at 10:30 a.m. local time, (2) monitor the passing of the plume; (3) record the beginning of substantial deposition of radioactive materials caused by heavy fallout in the afternoon of the same day; and finally, (4) record the moment the maximum deposition level (i.e., gamma radiation level) was reached the next day. The results of the measurements in postaccident conditions indicated the decrease of the gamma radiation level because of radioactive decay of deposited gamma emitters and the influence of various environmental factors. The measurements were carried out by a high-pressure argon ionization chamber. Presented data may be used for testing of atmospheric dispersion and deposition models and also for predicting the

behavior of deposited gamma emitters in the environment over a long time period after a nuclear accident.
Number of References: 11
Descriptors: air-pollution; disasters-; fission-reactor-accidents; gamma-ray-detection; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-; gamma-radiation-level; Belgrade-region; contaminated-plume; fallout-; maximum-deposition-level; atmospheric-dispersion; atmospheric-deposition
Classification Codes: A8670G (Atmosphere-environmental-science); A2880F (Radiation-monitoring-and-radiation-protection-in-nuclear-engineering); A9330G (Europe); A86; A28; A93; A8; A2; A9
Treatment Codes: X (Experimental)
Coden: NUSAAZ
ISSN: 0029-5604
SICI: 0029-5604(199701/03)38:1L.69:TNEC;1-M

Sort Key: 00000295604199700038000010000000000000069
Material Identity Number: A862-98002
Accession Number: 6104901
Update Code: 9849

Record 108 of 1145 in INSPEC 1998/07-1998/12

Title: Background radiation measurements in the lower atmosphere before and after Chernobyl
Author: Papastefanou-C; Manolopoulou-M; Stoulos-S; Ioannidou-A; Gerasopoulos-E
Author Affiliation: Dept. of Nucl. Phys., Aristotelian Univ. of Thessaloniki, Greece
Source: Journal-of-Environmental-Radioactivity. vol.42, no.1; 1999; p.87-92
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2342%2387%231&_version=1&md5=a92fe0aeeccfb1365469b57edc2d2eb8
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The background radiation measurements in the lower atmosphere at different altitudes above sea level up to 1100 m and over the land were made at a temperate latitude (40 degrees) in the Thessaloniki region, North Greece, before and after the Chernobyl accident (26 April 1986), using a portable gamma -ray scintillation detector and a Cutie-pie survey meter with an ionization chamber. The average value of the total background radiation at ground level was 87 nGy h/sup -1/ (10.0 mu R h/sup -1/, 25 cps), i.e. 60% from terrestrial radiation, 55 nGy h/sup -1/ (6.3 mu R h/sup -1/, 15 cps) and 40% from cosmic radiation, 32 nGy h/sup -1/ (3.7 mu R h/sup -1/, 10 cps), before the Chernobyl accident, while, after it, the total background radiation was doubled, due

to the long-lived radioactive fallout suspended in the atmosphere and or deposited onto the ground.
Number of References: 5
Descriptors: radioactive-pollution
Identifiers: lower-atmosphere; Chernobyl-; background-radiation-measurements; temperate-latitude; Thessaloniki-; North-Greece; portable-gamma-ray-scintillation-detector; Cutie-pie-survey-meter; ionization-chamber; total-background-radiation; terrestrial-radiation; cosmic-radiation; long-lived-radioactive-fallout; atmosphere-
Classification Codes: A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A87; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$19.00
SICI: 0265-931X(1999)42:1L.87:BRML;1-N
Document Number: S0265-931X(98)00036-8
Copyright Statement: Copyright 1998, IEE
Sort Key: 0000265931X19990004200001000000000000087
Material Identity Number: I664-98010
Accession Number: 6087496
Update Code: 9846

Record 109 of 1145 in INSPEC 1998/07-1998/12

Title: Forest and Chernobyl: forest ecosystems after the Chernobyl nuclear power plant accident: 1986-1994
Author: Ipatyev-V; Bulavik-I; Baginsky-V; Goncharenko-G; Dvornik-A
Author Affiliation: Forest Inst., Acad. of Sci., Gomel, Byelorussia
Source: Journal-of-Environmental-Radioactivity. vol.42, no.1; 1999; p.9-38
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2342%239%231&_version=1&md5=d47f5341c21faa6722996cb6d7c49722
Publication Year: 1999
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This paper reports basic features of radionuclide migration and the prediction of the radionuclide redistribution and accumulation by forest phytocoenoses after the Chernobyl nuclear power plant (CNPP) accident. The current ecological condition of forest ecosystems is evaluated and scientific aspects of forest management in the conditions of the large-scale radioactive contamination are discussed.
Number of References: 33

Descriptors: ecology-; fission-reactor-accidents; forestry-; radioactive-pollution; radioisotopes-
Identifiers: forest-ecosystems; Chernobyl-nuclear-power-plant-accident; radionuclide-migration; radionuclide-redistribution; radionuclide-accumulation; forest-phytocoenoses; ecological-condition; forest-management; large-scale-radioactive-contamination
Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/99/$19.00
SICI: 0265-931X(1999)42:1L.9:FCFE;1-7
Document Number: S0265-931X(98)00042-3
Copyright Statement: Copyright 1998, IEE
Sort Key: 0000265931X19990004200001000000000000009
Material Identity Number: I664-98010
Accession Number: 6087491
Update Code: 9846

Record 110 of 1145 in INSPEC 1998/07-1998/12

Title: Computer dynamic radiothermal mapping of the brain of the persons-victims of Chernobyl AS accident
Author: Kholodova-NB; Selsky-AG; Passachnik-VI; Kuznetzova-GD; Yanovich-AV; Ryzhov-BN; Zubovsky-GA; Trushin-VI
Author Affiliation: Inst. of Higher Nervous Activity & Neurophysiol., Acad. of Sci., Moscow, Russia
Editor: Lemke-HU; Inamura-K; Vannier-MW
Source: CAR'97. Computer Assisted Radiology and Surgery. Proceedings of the 11th International Symposium and Exhibition. Elsevier, Amsterdam, Netherlands; 1998; xxxv+1072 pp.
p.983
Publication Year: 1998
Record Type: Conference-Paper
Conference Details: Proceedings of Computer Assisted Radiology and Surgery. CAR 97. 25-28 June 1997; Berlin, Germany
Country of Publication: Netherlands
Language: English
Abstract: Summary form only given. For the diagnosis of pathological processes in the human brain, the method of computer dynamic radiothermal mapping is elaborated. It enables one to determine the thermal reactions of the brain through its own radiothermal radiation, which is measured by means of 12 contact electrodes located on the head. The radiation intensity is determined by the mean temperature in the head tissues. The

thermal reactions of the brain give information about metabolism and microcirculation connected with the activity of neurone ensembles. The method was used for cortex mapping of the volunteers, who were men who took part in the liquidation of the accident at the Chernobyl Atomic Station (AS) and who had pronounced neurological symptoms. The following pronounced distinctions were revealed in the temperature dynamics of the brain reactions after the mental physiological load (counting): intensification or rise of temperature oscillations over the period from 0.5 to several minutes; and a rise of opposite-phase local temperature oscillations in the neighbouring or distant cortex areas in the same or the opposite hemisphere. The most pronounced changes take place after the termination of the mental load. The correlation between the paradoxical temperature dynamics and pathological brain changes revealed by means of other instrumental methods is discussed.

Number of References: 0

Descriptors: biological-effects-of-ionising-radiation; biomedical-measurement; biothermics-; brain-; fission-reactor-accidents; medical-diagnostic-computing

Identifiers: computer-dynamic-radiothermal-mapping; pathological-brain-changes; Chernobyl-accident-victims; nuclear-power-station; pathological-process-diagnosis; thermal-reactions; radiothermal-radiation; contact-electrodes; radiation-intensity; head-tissue-mean-temperature; metabolism-; microcirculation-; neurone-ensembles; cortex-mapping; liquidation-; neurological-symptoms; mental-physiological-load; counting-; temperature-oscillations; temperature-dynamics

Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8716 (Biothermics); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8730 (Biophysics-of-neurophysiological-processes); A8760G (Microwaves-and-other-electromagnetic-waves-medical-uses); B7510B (Radiation-and-radioactivity-applications-in-biomedicine); C7330 (Biology-and-medical-computing); A87; A28; B75; C73; A8; A2

Treatment Codes: X (Experimental)

ISBN: 0444827560

Sort Key: 1044482756019980000000000000000000000983

Material Identity Number: XX97-01666

Accession Number: 6082763

Update Code: 9845

Record 111 of 1145 in INSPEC 1998/07-1998/12

Title: Radiation contamination after the Chernobyl nuclear accident and the effective dose received by the population of Croatia

Author: Lokobauer-N; Franic-Z; Bauman-A; Maracic-M; Cesar-D; Sencar-J

Author Affiliation: Dept. of Radiat. Protection, Inst. for Med. Res. & Occupational Health, Zagreb, Croatia

Source: Journal-of-Environmental-Radioactivity. vol.41, no.2; 1998; p.137-46

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2341%23137%232&_version=1&md5=a3c48aa1ab0f1c029de8c5f3e8acb800
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Because of the Chernobyl nuclear accident which led to enhanced deposition of all fission products, contamination of the human environment in the Republic of Croatia was much higher than in the previous two decades. The paper deals with the investigation of deposition and contamination by fission product radionuclides (/sup 137/Cs and /sup 90/Sr, in particular), especially within the human food chain. Its aim was to determine differences in contamination levels resulting from the Chernobyl accident and from large-scale atmospheric nuclear weapon tests. For the year following the Chernobyl accident, the radiation doses received from external and internal exposures were estimated for 1-year old infants, children at the age of 10-years and adults. The corresponding annual effective doses were 1.49, 0.93 and 0.83 mSv, respectively. The paper also gives data on the yearly intakes of /sup 137/Cs and /sup 90/Sr in foods and the corresponding effective doses received by the population of Croatia over many years from the global fallout following nuclear weapons testing and the Chernobyl accident.
Number of References: 14
Descriptors: atmospheric-radioactivity; radioactive-pollution
Identifiers: radiation-contamination; Chernobyl-nuclear-accident; effective-dose; Croatian-population; fission-products; human-environment; 137Cs-; 90Sr-; human-food-chain; contamination-levels; 1-year-old-infants; adults-; 10-year-old-children; yearly-intakes; global-fallout; Cs-; Sr-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/98/$19.00+0.00
SICI: 0265-931X(1998)41:2L.137:RCAC;1-S

Sort Key: 0000265931X19980004100002000000000000137
Material Identity Number: I664-98008
Accession Number: 6079618
Update Code: 9845

Record 112 of 1145 in INSPEC 1998/07-1998/12

Title: Possibility of monitoring internal radiation doses in the heavily contaminated zone at the late stage of the Chernobyl accident
Author: Repin-VS; Bondarenko-OA; Yu-N; Novak-NYu; Tsygankov-NI; Aryasov-BB
Author Affiliation: Radiat. Protection Inst., Kiev, Russia
Source: Radiation-Protection-Dosimetry. vol.79, no.1-4; 1998; p.183-6
Publication Year: 1998
Record Type: Conference-Paper; Journal-article
Conference Details: Intakes of Radionuclides. Occupational and Public Exposure. Workshop. 15-18 Sept. 1997; Avignon, France
Country of Publication: UK
Language: English
Abstract: The aim of the present research is to study the possibility of monitoring internal radiation doses to the population of the heavily contaminated zone at the late stage of the Chernobyl accident. Two methods of calculation of body content for a particular radionuclide are suggested. They are based on the data on amounts of specific radionuclides in fallout and their levels in daily urine samples of the inhabitants. The results obtained show that almost 25% of internal radiation dose to the inhabitants of the village of Otashev is contributed by intakes of /sup 90/Sr. The contribution of transuranium elements to the total dose is estimated to be about 1.5%. It is generally concluded that monitoring of the internal radiation dose of the inhabitants of the heavily contaminated zone at the late stage of the accident is not only possible, but is also of considerable scientific and practical interest.
Number of References: 5
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; radiation-monitoring; radioactive-pollution; radioisotopes-; strontium-
Identifiers: internal-radiation-doses; heavily-contaminated-zone; Chernobyl-accident; body-content; specific-radionuclides; fallout-; daily-urine-samples; inhabitants-; village-; Otashev-; 90Sr-; transuranium-elements; late-stage; Sr-
Classification Codes: A8760M (Radiation-dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)79:1/4L.183:PMIR;1-F

Sort Key: 0000144842019980007900001000000000000183
Material Identity Number: B978-98013
Accession Number: 6077447
Update Code: 9845

Record 113 of 1145 in INSPEC 1998/07-1998/12

Title: Thyroid dose reconstruction for the population of Russia after the Chernobyl accident
Author: Zvonova-IA; Balonov-MI; Bratilova-AA
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Source: Radiation-Protection-Dosimetry. vol.79, no.1-4; 1998; p.175-8
Publication Year: 1998
Record Type: Conference-Paper; Journal-article
Conference Details: Intakes of Radionuclides. Occupational and Public Exposure. Workshop. 15-18 Sept. 1997; Avignon, France
Country of Publication: UK
Language: English
Abstract: The main features of thyroid dose reconstruction after the Chernobyl accident are discussed. The method is also presented taking into account extra-thyroid radiation from other radionuclides distributed inside and on the surface of the human body, and recorded by the equipment simultaneously with /sup 131/I in the thyroid. The choice of the /sup 131/I intake function for thyroid dose estimation and influencing factors is discussed. Reconstruction of an average thyroid dose in settlements without direct measurements was based on the regression analysis of the connection between average `measured' thyroid dose in settlements and /sup 131/I concentration in milk, or /sup 137/Cs soil contamination, or /sup 134/Cs and /sup 137/Cs whole-body content in residents of the same settlement.
Number of References: 4
Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; radioisotopes-; statistical-analysis
Identifiers: thyroid-dose-reconstruction; Chernobyl-accident; extra-thyroid-radiation; radionuclides-; human-body; 131I-intake-function; thyroid-dose-estimation; average-thyroid-dose; settlements-; regression-analysis; 131I-concentration; milk-; 137Cs-soil-contamination; 137Cs-whole-body-content; residents-; 134Cs-whole-body-content; population-; Russia-; I-; Cs-
Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)79:1/4L.175:TDRP;1-J

Sort Key: 0000144842019980007900001000000000000175
Material Identity Number: B978-98013
Accession Number: 6077445
Update Code: 9845

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Bestand: 1.1981=>

Record 114 of 1145 in INSPEC 1998/07-1998/12

Title: Current learnings from severely damaged core events at TMI-2 and Chernobyl-4
Author: Alonso-A
Author Affiliation: Spanish Nucl. Regulatory Council, Spain
Source: Euratom Research Framework Programme 19994-1998 `Nuclear Fission Safety'/Innovative Approaches and Reactor Safety. FISA-97 Symposium on EU Research on Severe Accidents. Preprints. Eur. Comm, Luxembourg; 1997; ix+564 pp. p.37-47
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Proceedings of 2nd International Workshop on EU Research in Severe Accidents. 17-19 Nov. 1997; Luxembourg
Country of Publication: Luxembourg
Language: English
Abstract: The TMI-2 and Chernobyl-4, accidents are analyzed to determine some of the main knowledge gained to improve the deterministic and probabilistic approaches to nuclear safety. Perspectives are also given on the accident management activities taken to control and mitigate the accidents and on the value of the observed phenomena to validate analytical tools.
Number of References: 0
Descriptors: fuel-element-failure; probability-
Identifiers: severely-damaged-core-events; TMI-2; Chernobyl-4; probabilistic-approach; deterministic-approach; accident-management-activities; analytical-tools
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0250 (Probability-theory-stochastic-processes-and-statistics); A2850G (Light-water-reactors); A28; A02; A2; A0
Treatment Codes: P (Practical)
Copyright Statement: Copyright 1998, IEE
Sort Key: 1000000000019970000000000000000000000037
Material Identity Number: XX97-02876
Accession Number: 6060989
Update Code: 9842

Record 115 of 1145 in INSPEC 1998/07-1998/12

Title: Economic consequences of the Chernobyl accident in Norway in the decade 1986-1995
Author: Tveten-U; Brynildsen-LI; Amundsen-I; Bergan-TDS
Author Affiliation: Inst. for Energy Technol., Kjeller, Norway
Source: Journal-of-Environmental-Radioactivity. vol.41, no.3; 1998; p.233-55

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2341%23233%233&_version=1&md5=4d7817380442a4992ca2723014e1e8dd
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Although the distance from Chernobyl to Norway is about 2000 km, it is estimated that 3-5% of the radiocesium released from Chernobyl was deposited upon Norwegian territory. This was caused by an unfortunate (for Norway) and unusual combination of large initial thermal lift of the plume (which kept the materials airborne), wind direction (which brought the plume across Scandinavia), and precipitation (which led to strong deposition in parts of Norway and Sweden). The areas in which deposition took place in Norway to a large extent comprise natural environments (mountain plains and forest) which are important in an agricultural context. In 1986, large amounts of mutton, reindeer meat and goat's cheese exceeded the limits for radiocesium content set by the authorities. Some non-destructive countermeasures were implemented, but much of the meat was condemned. By the following year the authorities had implemented a large programme of of countermeasures, and thereby managed drastically to reduce the amount of discarded food. In the present report, the cost of these countermeasures, as well as the cost of discarded foodstuff, is summarized for each of the ten years since the accident. Although ten years have passed, all the countermeasures are still required, even though there has been some decline in the size of the areas and the number of animals involved.
Number of References: 20
Descriptors: fission-reactor-accidents; radioactive-pollution
Identifiers: Chernobyl-accident; Norway-; economic-consequences; radiocesium-release; initial-thermal-lift; plume-; wind-direction; precipitation-; agricultural-; mutton-; reindeer-meat; goat's-cheese; nondestructive-countermeasures
Classification Codes: A8670G (Atmosphere-environmental-science); A8670C (Soil-and-rock-environmental-science); B7720 (Pollution-detection-and-control); A86; B77; A8
Treatment Codes: E (Economic)
Coden: JERAEE
ISSN: 0265-931X
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SICI: 0265-931X(1998)41:3L.233:ECCA;1-Y
Document Number: S0265-931X(98)00015-0

Sort Key: 0000265931X19980004100003000000000000233
Material Identity Number: I664-98009
Accession Number: 6050601
Update Code: 9841

Record 116 of 1145 in INSPEC 1998/07-1998/12

Title: The Chernobyl accident: predicting cardio-vascular disease in the ex-workers
Author: Richards-B; Lugovkina-T
Author Affiliation: Dept. of Med. Inf., Univ. of Manchester Inst. of Sci. & Technol., UK
Editor: Pappas-C; Maglaveras-N; Scherrer-J-R
Source: Medical Informatics Europe '97. IOS Press, Amsterdam, Netherlands; 1997; 2 vol. xvi+929 pp.
p.201-5 vol.1
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Medical Informatics Europe '97. vol.1. 1997; Thessaloniki, Greece
Country of Publication: Netherlands
Language: English
Abstract: This paper describes a computer package that has been used to predict the likelihood of the onset of cardiovascular diseases in those patients who were former workers (liquidators) on the Chernobyl site in the Ukraine, Chernobyl being the place where the nuclear power station was destroyed when the atomic reactor went out of control and spread radiation over a very wide area, both on the ground and into the atmosphere. The program predicts the future morbidity for these patients with an accuracy of 90%.
Number of References: 6
Descriptors: medical-computing; nuclear-power-stations; patient-diagnosis; software-packages
Identifiers: Chernobyl-accident; cardio-vascular-disease; ex-workers; computer-package; liquidators-; Ukraine-; nuclear-power-station; atomic-reactor; morbidity-; KVAZAR-package
Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); C7330 (Biology-and-medical-computing); A87; C73; A8; C7
Treatment Codes: A (Application)
ISBN: 9051993439

Sort Key: 1905199343919970000000000000000000000201
Material Identity Number: XX98-02572
Accession Number: 6047677
Update Code: 9840

Record 117 of 1145 in INSPEC 1998/07-1998/12

Title: Leukaemia and thyroid tumour in an east-Slovakian district after Chernobyl
Author: Icso-J; Szollosova-M
Author Affiliation: Dept. of Internal Med., Sv. Barbora Hosp., Roznava, Slovakia
Source: Radiation-Protection-Dosimetry. vol.77, no.1-2; 1998; p.129-31
Publication Year: 1998

Record Type: Conference-Paper; Journal-article
Conference Details: Retrospective Dosimetry. Physical and Biological Aspects. International Workshop. 14-17 Oct. 1997; Tianjin, China
Country of Publication: UK
Language: English
Abstract: The incidence of leukaemia and thyroid gland tumour in the 10 year period after the Chernobyl accident has been investigated in Roznava-district with ~86,000 inhabitants (east Slovakia. 1600 km SW of Chernobyl), and compared with a control period before the accident. A 2.1 times higher cumulative incidence of acute lymphatic leukaemia (median age: 11 y) and 1.3 times higher of thyroid gland tumour (median age: 47 y) was found compared with the same period before the accident. There was no increase in acute myeloid leukaemia, nor in chronic cases. A statistical analysis using the chi /sup 2/-test. However, showed the results were not significant. Most of all the cases were in 1990-95 (45% of all cases), thyroid rumours were cumulating in 1992 and 1994(53%). Although an association with an exposure to radiation was not proved, the results could support a hypothesis of a positive correlation even in such a relatively distant area of east Slovakia.
Number of References: 12
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; statistical-analysis
Identifiers: Roznava-district; thyroid-gland-tumour; Chernobyl-accident; inhabitants-; east-Slovakia; control-period; cumulative-incidence; acute-lymphatic-leukaemia; median-age; chronic-cases; statistical-analysis; exposure-; positive-correlation; east-Slovakian-district; 1600-km
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A0250 (Probability-theory-stochastic-processes-and-statistics); A9330G (Europe); A87; A28; A02; A93; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 1.6 E06 m
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)77:1/2L.129:LTTE;1-T

Sort Key: 0000144842019980007700001000000000000129
Material Identity Number: B978-98008
Accession Number: 6041758
Update Code: 9840
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 118 of 1145 in INSPEC 1998/07-1998/12

Title: Thyroid and whole-body dose reconstruction in Russia following the Chernobyl accident: review of progress and results

Author: Stepanenko-V; Skvortsov-V; Tsyb-A; Ivannikov-A; Kondrashov-A; Tikunov-D; Iaskova-E; Shakhtarin-V; Petin-D; Parshkov-E; Chernichenko-L; Snykov-V; Orlov-M; Gavrihn-Yu; Khrousch-V; Shinkarev-S

Author Affiliation: MRRC, RAMS, Kaluga, Russia

Source: Radiation-Protection-Dosimetry. vol.77, no.1-2; 1998; p.101-6

Publication Year: 1998

Record Type: Conference-Paper; Journal-article

Conference Details: Retrospective Dosimetry. Physical and Biological Aspects. International Workshop. 14-17 Oct. 1997; Tian

èjinChina

Country of Publication: UK

Language: English

Abstract: The results of direct measurements of radioactive iodine content in the human thyroid gland (in Bryansk and Kaluga regions, Russia) and also available data on /sup 131/I and /sup 137/Cs contamination of the soil were used for investigation of correlations between the mean thyroid dose for adults in settlements and local levels of /sup 137/Cs and/or /sup 131/I soil contamination. On the basis of this analysis a model was developed showing how to evaluate retrospectively the thyroid absorbed doses. For individual dose reconstruction using an `age/milk' scale, special questioning of inhabitants was carried out. Mean dose values in the exposed population of each contaminated Russian settlement were evaluated using the model. The total collective dose due to internal exposure of the thyroid gland by iodine radionuclides equates to 106,500 person.Gy in the population of the most contaminated territories of four Russian regions. The maximum value was found in the Bryansk region (73,000 person.Gy). New data concerning the delay in pasturing in different regions as well as time dependencies of the fallout were taken into account. As a result the dose estimations differ from previous published data. Comparisons between the developed method and the other independent approaches indicate a concordance within a factor 3. For application of the EPR tooth enamel dosimetry on a wide scale, estimation of accumulated external doses are demonstrated and analysed. There were about 2500 tooth samples measured from the contaminated region as well as from the non-contaminated territories of Russia. The investigated factors are: (1) effect of solar light on front teeth; (2) correction for the energy dependence of the EPR response; (3) presence in the enamel of some intrinsic signals; (4) age dependent doses due to natural background radiation. The average values of EPR dose with special account taken of correction factors are presented. The tendency of average doses to grow with the level of /sup 137/Cs contamination of settlements was found (the linear regression with the slope equates to 2.4+or-0.5 mCy per Ci.km/sup -2/). This tendency is close to that of analytical calculations.

Number of References: 13

Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; paramagnetic-resonance; radioactive-pollution; radioisotopes-; soil-

Identifiers: thyroid-dose-reconstruction; whole-body-dose-reconstruction; Russia-; Chernobyl-accident; review-; 131I-content; 137Cs-soil-contamination; 131I-soil-contamination; human-thyroid-gland; Kaluga-region; Bryansk-region; thyroid-absorbed-doses; mean-thyroid-dose; adults-; individual-dose-reconstruction; agemilk-scale; special-questioning; inhabitants-; exposed-population; contaminated-Russian-settlement; total-collective-dose; internal-exposure; Russian-regions; time-dependencies; fallout-; electron-paramagnetic-resonance-tooth-enamel-dosimetry; accumulated-external-doses; tooth-samples; noncontaminated-territories; solar-light; front-teeth; energy-dependence; age-dependent-doses; natural-background-radiation; analytical-calculations; Cs-; I-
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; I-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)77:1/2L.101:TWBD;1-9

Sort Key: 0000144842019980007700001000000000000101
Material Identity Number: B978-98008
Accession Number: 6041754
Update Code: 9840
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 119 of 1145 in INSPEC 1998/07-1998/12

Title: Chernobyl experience in field of retrospective dosimetry: reconstruction of doses to the population and liquidators involved in the accident
Author: Chumak-V; Likhtarsv-I; Sholom-S; Meckbach-R; Krjuchkov-V
Author Affiliation: Sc. Centre of Radiat. Med., Acad. of Med. Sci., Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.77, no.1-2; 1998; p.91-5
Publication Year: 1998
Record Type: Conference-Paper; Journal-article
Conference Details: Retrospective Dosimetry. Physical and Biological Aspects. International Workshop. 14-17 Oct. 1997; Tianjin, China
Country of Publication: UK
Language: English
Abstract: Evacuees from the 30 km zone and liquidators are likely to have received the highest Chernobyl exposures. Doses to the majority of them remained unknown, calling for dose reconstruction. This need prompted development of new techniques of retrospective dosimetry. Application of state-of-art stochastic dosimetric models and determination of site-specific location factors allowed the determination of individual

doses and uncertainty ranges for a significant part of the evacuated population. A number of approaches were used to recover existing gaps in dosimetric information related to liquidators. EPR dosimetry with teeth is useful for high precision retrospective dosimetry of liquidators; now teeth from liquidators are being collected systematically in Ukraine. Analytical dose reconstruction was conducted for about 2000 Chernobyl workers. Reconstruction of doses to the rest of the liquidators requires application of a different methodology based on analysis of regularities of exposure and assignment of dose intervals according to attributes of the liquidators.

Number of References: 6

Descriptors: disasters-; dosimetry-; fission-reactor-accidents; paramagnetic-resonance; personnel-; physiological-models

Identifiers: liquidators-; Chernobyl-exposures; dose-reconstruction; retrospective-dosimetry; state-of-art-stochastic-dosimetric-models; site-specific-location-factors; individual-doses; uncertainty-ranges; evacuated-population; dosimetric-information; electron-paramagnetic-resonance-dosimetry; teeth-; high-precision-retrospective-dosimetry; Ukraine-; analytical-dose-reconstruction; Chernobyl-workers; dose-intervals; accident-; Chernobyl-experience

Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8710 (General-theoretical-and-mathematical-biophysics); A87; A28; A8; A2

Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)77:1/2L.91:CEFR;1-#

Sort Key: 00001448420199800077000010000000000000091
Material Identity Number: B978-98008
Accession Number: 6041752
Update Code: 9840
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 120 of 1145 in INSPEC 1998/07-1998/12

Title: The human factor at Chernobyl: the possible psychological motivations of behaviour and errors

Author: Reffo-R; Cenni-P; Barbieri-F
Author Affiliation: ENEA, Bologna, Italy

Editor: Reffo-G; Ventura-A; Grandi-C

Source: Conference Proceedings. International Conference on Nuclear Data for Science and Technology. Italian Phys. Soc, Bologna, Italy; 1997; 2 vol. (xliii+xvi+1846) pp.
p.1415-17 vol.2
Publication Year: 1997
Record Type: Conference-Paper

Conference Details: Conference Proceedings. International Conference on Nuclear Data for Science and Technology. vol.2. 19-24 May 1997; Trieste, Italy. Sponsored by: Eur. Commission; IUPAP; Soc. Italia di Fisica; TSI Res.; Comune di Lugo; et al
Country of Publication: Italy
Language: English
Abstract: The aim of this work is to consider the different kinds of errors both with reference to the cognitive stages, which determined them, and through the progression of the events which made such an accident inevitable. To sum up, these authors would like to emphasize the need of a reliable man-machine-environment interaction system based on objective elements of knowledge and not on subjective opinions.
Number of References: 7
Descriptors: disasters-; fission-reactor-accidents; human-factors
Identifiers: human-factor; Chernobyl-; psychological-motivations; cognitive-stages; man-machine-environment-interaction-system
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
ISBN: 8877941146

Sort Key: 188779411461997000000000000000000001415
Material Identity Number: XX98-02202
Accession Number: 6040641
Update Code: 9839

Record 121 of 1145 in INSPEC 1998/07-1998/12

Title: The accident at the Chernobyl nuclear power plant: a critical analysis of the consequences and protective measures
Author: Belyaev-ST; Demin-VF; Osmachkin-VS
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Atomic-Energy. vol.83, no.6; Dec. 1997; p.855-62
Translated from: Atomnaya-Energiya. vol.83, no.6; Dec. 1997; p.393-401
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: We discuss the role of the political and socioeconomic conditions, regulatory and scientific methodological documents, assessment of the public health consequences of an accident, the modern strategy for cleanup after the accident.
Number of References: 23
Descriptors: fission-reactor-accidents; radiation-decontamination
Identifiers: Chernobyl-; accident-; consequences-; protective-measures; public-health; cleanup-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880 (Radiation-technology-including-shielding); A28; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
SICI: 0004-7163(199712)83:6L.393;1-W
SICI of Translation: 1063-4258(199712)83:6L.855:ACNP;1-S

Sort Key: 00000047163199700083000060000000000000393
Material Identity Number: P995-98008
Accession Number: 6038666
Update Code: 9839
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Title: Nuclear safety of destroyed 4-th unit of Chernobyl NPP: multiplying properties and neutron characteristics of fuel-containing masses
Author: Babenko-V; Jenkovszky-L; Pavlovych-V; Romanov-V; Vertsimakha-O
Author Affiliation: Inst. for Theor. Phys., Kiev, Ukraine
Editor: Reffo-G; Ventura-A; Grandi-C
Source: Conference Proceedings. International Conference on Nuclear Data for Science and Technology. Italian Phys. Soc, Bologna, Italy; 1997; 2 vol. (xliii+xvi+1846) pp. p.1164-6 vol.2
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Conference Proceedings. International Conference on Nuclear Data for Science and Technology. vol.2. 19-24 May 1997; Trieste, Italy. Sponsored by: Eur. Commission; IUPAP; Soc. Italia di Fisica; TSI Res.; Comune di Lugo; et al
Country of Publication: Italy
Language: English
Abstract: In this paper, the results of an investigation of the fuel-containing mass (FCM) multiplying properties are presented, as well as the possibility of ignition and dynamics of development of self-sustaining chain reaction (SCR) in the FCM of the destroyed 4-th unit of Chernobyl NPP (so called "Shelter") is discussed. The multiplication factor, the neutron energy spectrum, the spatial distribution of the neutron flux density, etc. Were calculated as functions of the water content in the FCM for different system models with the help of the computer code SCALE 4.3. Besides, the dynamic of development of SCR under the hypothetical condition that the filling of the FCM by the water leads to excess of multiplication factor over unity was considered. Such a treatment was performed for a simple model that takes into account the evaporation of water and increasing in temperature due to energy release in FCM. The different regimes of the FCM behavior depending on the velocity of water filling are discussed. It

is necessary to note that no calculated model gives the multiplication factor exceeding unity.

Number of References: 6

Descriptors: neutron-flux; nuclear-criticality-safety

Identifiers: nuclear-safety; Chernobyl-Unit-4-RBMK-1000; multiplying-properties; neutron-characteristics; fuel-containing-mass; ignition-; self-sustaining-chain-reaction; multiplication-factor; neutron-energy-spectrum; water-content; neutron-flux-density; water-filling

Classification Codes: A2846E (Nuclear-criticality-safety); A2820 (Neutron-physics); A28; A2

Treatment Codes: T (Theoretical-or-Mathematical)

ISBN: 8877941146

Sort Key: 188779411461997000000000000000000001164

Material Identity Number: XX98-02202

Accession Number: 6034462

Update Code: 9838

Record 123 of 1145 in INSPEC 1998/07-1998/12

Title: Do recorded doses overestimate true doses received by Chernobyl cleanup workers? Results of cytogenetic analyses of Estonian workers by fluorescence in situ hybridization

Author: Littlefield-LG; McFee-AF; Salomaa-SI; Tucker-JD; Inskip-PD; Sayer-AM; Lindholm-C; Mukinen-S; Mustonen-R; Sorensen-K; Tekkel-M; Veidebaum-T; Auvinen-BA; Boice-JD-Jr

Author Affiliation: Oak Ridge Inst. for Sci. & Educ., TN, USA

Source: Radiation-Research. vol.150, no.2; Aug. 1998; p.237-49

Publication Year: 1998

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: Studies of workers who were sent to Chernobyl after the 1986 reactor accident are being conducted to provide a better understanding of the effects of chronic low-dose radiation exposures. A crucial component to these investigations is an accurate assessment of the radiation doses received during the cleanup activities. To provide information on biological measurements of dose, fluorescence in situ hybridization (FISH) with whole-chromosome painting probes has been applied to quantify stable chromosome aberrations (translocations and insertions) among a defined cohort of 4,833 cleanup workers from Estonia. Cytogenetic analysis of 48-h lymphocyte cultures from 118 Estonian cleanup workers (10.3 cGy mean recorded dose; 25 cGy maximum), 29 Estonian population controls and 21 American controls was conducted by three laboratories. More than 258,000 painted metaphases were evaluated. Overall, we observed lower translocation frequencies than has been reported in previous studies

using FISH among Chernobyl cleanup workers. In our data, a clear association with increased levels of translocations was seen with increasing age at blood drawing. There was no correlation, however, between aberration frequency and recorded measurements of physical dose or any category of potential high-dose and high-dose-rate exposure such as being sent to Chernobyl in 1986, working on the roof near the damaged nuclear reactor, working in special zones or having multiple tours. It is likely that recorded doses for these cleanup workers overestimate their average bone marrow doses.

Number of References: 43
Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; fluorescence-; genetics-; health-hazards; personnel-
Identifiers: recorded-doses; true-doses; Chernobyl-cleanup-workers; cytogenetic-analyses; fluorescence-in-situ-hybridization; reactor-accident; chronic-low-dose-radiation-exposures; radiation-doses; cleanup-activities; biological-measurements; whole-chromosome-painting-probes; stable-chromosome-aberrations; translocations-; insertions-; defined-cohort; lymphocyte-cultures; Estonian-cleanup-workers; Estonian-population-controls; American-controls; painted-metaphases; translocation-frequencies; age-; blood-drawing; aberration-frequency; physical-dose; high-dose-rate-exposure; roof-; damaged-nuclear-reactor; special-zones; average-bone-marrow-doses; 10-3-cGy; 25-cGy
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725F (Physics-of-subcellular-structures); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 1.03 E01 Gy; radiation absorbed dose 2.5 E01 Gy
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/98/$5.00
SICI: 0033-7587(199808)150:2L.237:RDOT;1-0

Sort Key: 00000337587199800150000020000000000000237
Material Identity Number: R066-98003
Accession Number: 6015447
Update Code: 9835
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 124 of 1145 in INSPEC 1998/07-1998/12

Title: Seasonal variation in radiocaesium concentration in willow ptarmigan and rock ptarmigan in central Norway after the Chernobyl fallout

Author: Pedersen-HC; Nybo-S; Varskog-P
Author Affiliation: Dept. of Terrestrial Ecology, Norwegian Inst. for Nature Res., Trondheim, Norway
Source: Journal-of-Environmental-Radioactivity. vol.41, no.1; 1998; p.65-81
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2341%2365%231&_version=1&md5=15f7caa84a727dbb53b5b030c6adc996
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radioactive caesium (20-60 kBq m/sup -2/) was deposited after the Chernobyl accident in the mountains of central Norway. Two sympatric ptarmigan species, willow ptarmigan Lagopus lagopus and rock ptarmigan L. mutus, inhabit this alpine ecosystem and are important game species. In 1987 and 1988, a study was carried out to try to identify factors affecting radioactive caesium concentration in these birds. Juvenile willow ptarmigan contained more radiocaesium than adults, but the two sexes did not differ in radiocaesium concentration. The radiocaesium concentration of food plants correlated with radiocaesium concentration of rock ptarmigan, and a seasonal variation in radiocaesium concentration of both rock ptarmigan species was seen. Rock ptarmigan contained more radiocaesium than willow ptarmigan during winter, but not in summer. This difference was related to differences in diet. The bioconcentration factor was 0.4-0.6. The aggregated transfer coefficient was 0.003-0.009 m/sup 2/ kg/sup -1/ for both species. In spite of the high deposition, the radiocaesium concentration in muscle rarely exceeded the limit recommended for human food consumption (600 Bq kg/sup -1/).
Number of References: 40
Descriptors: caesium-; radioactive-pollution; radioisotopes-
Identifiers: seasonal-variation; radiocaesium-concentration; willow-ptarmigan; rock-ptarmigan; central-Norway; Chernobyl-fallout; sympatric-ptarmigan-species; alpine-ecosystem; bioconcentration-factor; human-food-consumption; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/98/$19.00+0.00
SICI: 0265-931X(1998)41:1L.65:SVRC;1-B
Document Number: S0265-931X(97)00095-7

Sort Key: 0000265931X19980004100001000000000000065
Material Identity Number: I664-98007
Accession Number: 5995096

Update Code: 9832

Record 125 of 1145 in INSPEC 1998/07-1998/12

Title: The mathematical modelling of radionuclide transport by surface water flow from the vicinity of the Chernobyl Nuclear Power Plant
Author: Zheleznyak-MJ
Author Affiliation: Inst. of Math. Machines & Syst. Problems, Acad. of Sci., Kiev, Ukraine
Source: Condensed-Matter-Physics. no.12; 1997; p.37-50
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: The hierarchical set of models-box model, one-dimensional model, two-dimensional model and three-dimensional model are used to simulate local phenomena in the Prypiat river at the Chernobyl Nuclear Power Plant and radionuclide transport into the whole Dnieper river reservoirs system. Each model at its specific level of resolution simulates the flow dynamics, suspended sediment transport, radionuclide transport in dilute and on suspended sediments and radionuclides in bottom depositions. The modelling results were used to support the post-accident measures.
Number of References: 13
Descriptors: fission-reactor-accidents; radioactive-pollution; rivers-; sediments-; water-pollution
Identifiers: radionuclide-transport; surface-water-flow; Chernobyl-; box-model; 1D-model; 2D-model; 3D-model; Prypiat-river; Dnieper-river; reservoir-; flow-dynamics; suspended-sediment-transport; Ukraine-
Classification Codes: A8670E (Water-environmental-science); A9240F (Rivers-runoff-and-streamflow); A9240G (Erosion-and-sedimentation-hydrological); A9330G (Europe); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A92; A93; A87; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000037
Material Identity Number: G206-98002
Accession Number: 5987577
Update Code: 9831

Record 126 of 1145 in INSPEC 1998/07-1998/12

Title: Radiological situation and efficiency of countermeasures on fodder lands in the south-western districts of the Bryansk region of the Russian federation (area subjected to the accidental release from the Chernobyl NPP)
Author: Vlasov-OK; Alexakhin-RM; Belolipetzkaya-VI; Matyash-VA; Krouglov-OS
Author Affiliation: Russian Inst. of Agric. Radiol. & Agroecology, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.76, no.4; 1998; p.225-37
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A method for calculation is described and the results of estimation in 1989-1995 and prediction for 1996 of /sup 137/Cs contamination of plant products, structure of internal irradiation doses for population, as well as efficiency of countermeasures aimed at improving fodder lands in six contaminated districts of the Bryansk region after the Chernobyl Nuclear Power Plant accident in 1986.
Number of References: 13
Descriptors: agriculture-; caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radiation-protection; radioactive-pollution; radioisotopes-; soil-
Identifiers: 137Cs-contamination; plant-products; internal-irradiation-doses; population-; countermeasures-; efficiency-; fodder-lands; contaminated-districts; Bryansk-region; Chernobyl-Nuclear-Power-Plant-accident; radiological-situation; south-western-districts; Russian-federation; accidental-release; calculation-; prediction-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock-environmental-science); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A86; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)76:4L.225:RSEC;1-S

Sort Key: 0000144842019980007600004000000000000225
Material Identity Number: B978-98007
Accession Number: 5986506
Update Code: 9831
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 127 of 1145 in INSPEC 1998/07-1998/12

Title: Listing of radioactive wastes in the Alienation zone of the ChNPP [Chernobyl]

Author: Kumshayev-SB; Vasilyev-YuO; Mayboroda-SV; Kolodka-SV; Zhylinski-VV; Antropov-VM
Source: Condensed-Matter-Physics. no.12; 1997; p.189-205
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: The problem of taking into consideration radioactive waste in the Alienation zone of the ChNPP is discussed. It is an integral part of the whole procedure of radioactive waste management in the Ukraine and, in fact, is the main problem in eliminating the 1986 accident consequences. A modern approach is considered, based on the GIS technology. It has enabled us to elaborate the listing of radioactive waste located in the Alienation zone of the ChNPP. The description of certain problems, which arise in the creation of a topographic basis, and solved during the listing, is given. Some functional possibilities of the software are mentioned.
Number of References: 7
Descriptors: fission-reactor-accidents; geographic-information-systems
Identifiers: Chernobyl-; radioactive-wastes; Alienation-zone; GIS-technology; listing-; software-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000189
Material Identity Number: G206-98002
Accession Number: 5981363
Update Code: 9830

Record 128 of 1145 in INSPEC 1998/07-1998/12

Title: Radiation situation in the premises of the "Shelter" object [Chernobyl]
Author: Kumshayev-SB; Vasilyev-YuO; Kibkalo-NYu; Maximov-YuK; Spectorovski-AR; Checherov-KP
Source: Condensed-Matter-Physics. no.12; 1997; p.173-87
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English

Abstract: High radiative background is a basic problem restricting investigations on the "Shelter" object state and, thus, taking adequate measures to stabilize it and transform it into an ecologically safe system. A lot of parameters of the radiation situation have been measured since the accident by numerous research teams with the help of various methods and equipment. The paper is dedicated to the generalization of this information and the review of the elaborated analytical software providing for its handling and analysis.
Number of References: 36
Descriptors: fission-reactor-accidents; radiation-monitoring
Identifiers: Chernobyl-; Shelter-; radiation-; software-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: X (Experimental)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000173
Material Identity Number: G206-98002
Accession Number: 5981362
Update Code: 9830

Record 129 of 1145 in INSPEC 1998/07-1998/12

Title: Database on the state of the "Shelter" object [Chernobyl]
Author: Kumshayev-SB; Kibkalo-NYu; Kolodka-SV; Maximov-YuK; Mayboroda-SV; Rusanovich-VYu; Spektorovski-AR; Khaynatski-KO
Source: Condensed-Matter-Physics. no.12; 1997; p.161-72
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: A short description of the elaborated software for databases on the state of the "Shelter" object is given. The review of their functional possibilities is presented.
Number of References: 77
Descriptors: fission-reactor-accidents
Identifiers: Shelter-; Chernobyl-; software-; database-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000161
Material Identity Number: G206-98002

Accession Number: 5981361
Update Code: 9830

Record 130 of 1145 in INSPEC 1998/07-1998/12

Title: The inventory of high-altitude points of the "Shelter" object [Chernobyl]
Author: Kumshayev-SB; Spektorovski-AR; Checherov-KP
Source: Condensed-Matter-Physics. no.12; 1997; p.147-60
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: The paper is devoted to the problem of the inventory of the information on the "Shelter" state and considers developing a suitable database. The paper is illustrated with real information input into the elaborated database based on various investigations that were conducted at the "Shelter" object.
Number of References: 0
Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-; inventory-; Shelter-; database-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000147
Material Identity Number: G206-98002
Accession Number: 5981360
Update Code: 9830

Record 131 of 1145 in INSPEC 1998/07-1998/12

Title: Dynamical and physical (informational) model of the "Shelter" object [Chernobyl]
Author: Kumshayev-SB; Checherov-KP
Source: Condensed-Matter-Physics. no.12; 1997; p.133-45
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: The paper opens a number of publications dedicated to the inventory of information on scientific and practical activity aimed at the liquidation of the accident consequences

at the Chernobyl NPP and to the creation of analytical software. The problem of the creation of a computer system accumulating knowledge on the "Shelter" object is analysed. The system enables one to model any actions concerning the object current operation and the further transformation into an ecologically safe system. The strategy for the system's elaboration and its creation stages are considered. The necessary software and technical means for the elaboration of a similar system are discussed.
Number of References: 15
Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-; accident-; Shelter-; software-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: CMPHF5
Copyright Statement: Copyright 1998, IEE
Sort Key: 00000000000199700000000120000000000000133
Material Identity Number: G206-98002
Accession Number: 5981359
Update Code: 9830

Record 132 of 1145 in INSPEC 1998/07-1998/12

Title: The mathematical modelling of radionuclide transport in the subsurface environment around the Chernobyl Nuclear Power Plant
Author: Kivva-SL
Author Affiliation: Inst. of Math. Machines & Syst. Problems, Acad. of Sci., Kiev, Ukraine
Source: Condensed-Matter-Physics. no.12; 1997; p.121-31
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: The Shelter constructed above the destroyed Unit-4 of the Chernobyl Nuclear Power Plant contains 20MCi of nuclear fuel. More than 1000 m/sup 3/ of intermediate-level radioactive water is disposed in its basement. The purpose of this work is to,simulate migration of the radionuclides /sup 90/Sr and /sup 137/Cs from the Shelter into the subsurface environment to evaluate their migration rate and migration paths. A mathematical model accounting for the coupled transport of water and radionuclides in variably saturated media is used. The lack of suitable experimental and field studies excluded the possibility of complete validating the model. Results of the simulations will be useful for future studies of the environmental impact of the Shelter.
Number of References: 9
Descriptors: caesium-; fission-reactor-accidents; strontium-

Identifiers: radionuclide-transport; subsurface-environment; Chernobyl-; Shelter-; radioactive-water; 90Sr-; 137Cs-; migration-rate; migration-paths; Cs-; Sr-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000121
Material Identity Number: G206-98002
Accession Number: 5981358
Update Code: 9830

Record 133 of 1145 in INSPEC 1998/07-1998/12

Title: Main results of nuclear danger examination of the "Shelter" object [Chernobyl]
Author: Kupnyi-VI; Belousov-EL; Tovstogan-AS
Source: Condensed-Matter-Physics. no.12; 1997; p.111-20
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: This work discusses studies from 1986-1990, 1991-1996, chain reactions, Shelter water management and water treatment.
Number of References: 9
Descriptors: fission-reactor-accidents; nuclear-criticality-safety; water-treatment
Identifiers: Shelter-; chain-reactions; water-management; water-treatment; Chernobyl-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2846E (Nuclear-criticality-safety); A28; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000111
Material Identity Number: G206-98002
Accession Number: 5981357
Update Code: 9830

Record 134 of 1145 in INSPEC 1998/07-1998/12

Title: Rationale for the long-term strategy of the destroyed Chernobyl Unit IV conversion into ecologically safe system
Author: Kostenko-Yu; Rudya-K

Author Affiliation: Minist. for Environ. Protection & Nucl. Safety of Ukraine, Kiev, Ukraine
Source: Condensed-Matter-Physics. no.12; 1997; p.7-12
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop `Aqueous Solutions: The Problems of Radioactive Impurities'. 7-8 Dec. 1996; Lviv, Ukraine
Country of Publication: Ukraine
Language: English
Abstract: An overview of the factors affecting long-term strategy decisions on the conversion of the ruined Unit 4 of the Chernobyl nuclear power plant is given. The essence of the strategy is a complete and final removal of the hazards peculiar to the "Shelter". The total amount of fuel residuals in the "Shelter" comes to 200 tons of uranium dioxide. The fuel masses physical and chemical state is subject to increasing change with time, thus leading to the negative modification of their nuclear physical characteristics. Cooling, cracking and erosion of the vitrified fuel containing masses increase their water penetrability and lead to the gradual growth of the system reactivity. Instability of the damaged Unit 4 structures, as well as of the "Shelter" itself creates the hazard of local and major collapse. In these conditions the probability of criticality cannot be excluded. Moreover, real events that took place in 1990 and 1996 demonstrate a very uncertain situation with safety parameter monitoring and control. The listed factors provide a solid basis for the strategy of fuel removal, isolation and disposal in accordance with international and national regulatory requirements, a process-to be started as early as possible, after preliminary stabilization of the existent structures and parallel implementation of the local isolation and localization measures, preparation of the relevant waste management infrastructure, etc.
Number of References: 0
Descriptors: disasters-; fuel-element-failure; nuclear-criticality-safety
Identifiers: Chernobyl-; Unit-IV; ecologically-safe-system; Unit-4; Shelter-; fuel-mass; cooling-; cracking-; erosion-; vitrified-fuel; water-penetrability; criticality-; fuel-removal
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A2850G (Light-water-reactors); A2846E (Nuclear-criticality-safety); A28; A2
Treatment Codes: P (Practical)
Coden: CMPHF5

Sort Key: 00000000000199700000000120000000000000007
Material Identity Number: G206-98002
Accession Number: 5981353
Update Code: 9830

Title: Direct determination of /sup 90/Sr and /sup 147/Pm in Chernobyl hot particles collected in Kiev using beta absorption method

Author: Papp-Z; Bolyos-A; Dezso-Z; Daroczy-S
Author Affiliation: Isotope Lab., Kossuth Lajos Univ., Debrecen, Hungary

Source: Health-Physics. vol.73, no.6; Dec. 1997; p.944-52
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: 59 hot particles were collected in Kiev, Ukraine, in 1987. All but one were prepared from a moss carpet of 360 cm/sup 2/ area. Radionuclide composition of the hot particles was investigated by gamma-spectrometry and beta absorption method. Pure beta emitters /sup 90/Sr and /sup 147/Pm were determined in 25 hot particles measuring the beta absorption curves of the hot particles with an end-window Geiger-Muller counter and decomposing the curves in order to obtain the contributions of /sup 90/Sr and /sup 147/Pm to the total beta counting rate. All but one of the hot particles were found to be the debris of the fuel. The activity ratio /sup 90/Sr:/sup 144/Ce was 0.052 in good agreement with theoretical calculations on core inventories. This means that strontium behaved as a nonvolatile element in the process of the formation of the hot particles investigated. The activity ratio /sup 147/Pm:/sup 144/Ce was 0.078 which is half of the theoretical result. Although /sup 147/Pm is considered to be a refractory nuclide, it seems that significant part of /sup 147/Pm went to the homogeneous fraction of the general fallout. The surface density of hot particles (of higher than about 50 Bq activity) was about 1,600 m/sup -2/ and that of the activities of the nuclides /sup 90/Sr, /sup 106/Ru, /sup 134/Cs, /sup 137/Cs, /sup 144/Ce and /sup 147/Pm as components of hot particles was 12.2, 54.3, 5.9, 9.7, 234 and 18.3 kBq m/sup -2/ (activity values counted for 26 April 1986), respectively, in downtown Kiev city in 1987.

Number of References: 43
Descriptors: beta-ray-detection; disasters-; fission-reactor-accidents; health-hazards; promethium-; radioactive-pollution; radioisotopes-; strontium-
Identifiers: 90Sr-; 147Pm-; Chernobyl-hot-particles; beta-absorption-method; Ukraine-; moss-carpet; radionuclide-composition; gamma-spectrometry; pure-beta-emitters; end-window-Geiger-Muller-counter; total-beta-counting-rate; debris-; fuel-; activity-ratio; core-inventories; nonvolatile-element; general-fallout; surface-density; downtown-Kiev-city; 106Ru-; 144Ce-; 137Cs-; Sr-; Pm-; Ce-; Ru-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2940 (Radiation-detectors); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A29; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Pm-el; Ce-el; Ru-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00
SICI: 0017-9078(199712)73:6L.944:DD91;1-Q

Sort Key: 00000179078199700073000060000000000000944
Material Identity Number: P578-98004
Accession Number: 5977772
Update Code: 9829
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 136 of 1145 in INSPEC 1998/07-1998/12

Title: Criticality analysis of the multiplying material inside the Chernobyl sarcophagus
Author: Maucec-M; Ravnik-M; Glumac-B
Author Affiliation: Jozef Stefan Inst., Ljubljana Univ., Slovenia
Source: Nuclear-Technology. vol.122, no.3; June 1998; p.255-64
Publication Year: 1998
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A criticality safety study of various forms of multiplying medium based on RBMK-1000 fuel elements is presented. The calculations were performed with the Los Alamos National Laboratory Monte Carlo MCNP4B code. Continuous energy cross-section data have been taken from the ENDF/B-VI and ENDF/B-V libraries and S(alpha , beta) scattering functions from the ENDF/B-IV library. A detailed three-dimensional model of the RBMK fuel element has been developed. A set of parametric calculations was performed for some hypothetical fuel conditions with the infinite model of storage lattice. Multiplying properties of homogenized mixture of fuel and moderator were also analyzed. Certain combinations of moderator (graphite-water mixture) and fuel may yield a significantly increased multiplication factor with respect to normal reactor lattice conditions. MCNP calculations were performed for fresh fuel conditions. The reduction of the multiplication factor due to burnup up to 20 GWd/TU was estimated using the WIMS/D-5 code for lattice-cell conditions. It was observed that the multiplication factor (k/sub inf/ or k/sub inf/) does not exceed unity if the burnup is taken into account regardless of the assumptions on the fuel conditions.
Number of References: 15
Descriptors: disasters-; fission-reactor-accidents; Monte-Carlo-methods; nuclear-criticality-safety; nuclear-engineering-computing
Identifiers: criticality-safety; multiplying-material; Chernobyl-; sarcophagus-; multiplying-medium; RBMK-1000; MCNP4B-code; continuous-energy-cross-section; S-alpha-,-beta-scattering-functions; graphite-water-mixture; multiplication-factor; fresh-fuel; burnup-; WIMSD-5-code
Classification Codes: A2846E (Nuclear-criticality-safety); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NUTYBB

ISSN: 0029-5450
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SICI: 0029-5450(199806)122:3L.255:CAMM;1-P

Sort Key: 00000295450199800122000030000000000000255
Material Identity Number: N066-98006
Accession Number: 5977100
Update Code: 9829
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25653.002
Bestand: 10.1971=> L:57

Record 137 of 1145 in INSPEC 1998/07-1998/12

Title: Trial by fire: teleoperated robot targets Chernobyl
Author: Abouaf-J
Source: IEEE-Computer-Graphics-and-Applications. vol.18, no.4; July-Aug. 1998; p.10-14
Publication Year: 1998
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The blast that destroyed Unit 4 of the Chernobyl Nuclear Power Plant (CNPP) 12 years ago prompted a firestorm of scientific, technological, political, and economic proposals for managing the worst nuclear accident to date. Following a meeting of the G-7 nations-the United States, Canada, Britain, France, Italy, Germany, and Japan-and Ukrainian representatives, the US Department of Energy (DOE) and National Aeronautics and Space Administration (NASA) organized and funded a "dream team" of experts in robotics as well as computer hardware and software for the "Pioneer Project". Pioneer is a specialized, tethered, bulldozer-like robot equipped with stereo vision for real-time 3D mapping, a core-drilling and sampling apparatus, and an array of radiation and other sensor tools for remotely investigating Unit 4. The team has scheduled Pioneer's deployment at Chernobyl for November 1998.
Number of References: 0
Descriptors: mobile-robots; radiation-decontamination; telerobotics-
Identifiers: teleoperated-robot; Chernobyl-Nuclear-Power-Plant; nuclear-accident; specialized-tethered-bulldozer-like-robot; Pioneer-; stereo-vision; real-time-3D-mapping; core-drilling
Classification Codes: A2880 (Radiation-technology-including-shielding); C3390C (Mobile-robots); C3390T (Telerobotics); A28; C33; A2; C3
Treatment Codes: P (Practical)
Coden: ICGADZ
ISSN: 0272-1716
Copyright Clearance Center Code: 0272-1716/98/$10.00
SICI: 0272-1716(199807/08)18:4L.10:TFTR;1-M

Sort Key: 0000272171619980001800004000000000000010
Material Identity Number: A822-98004
Accession Number: 5973560
Update Code: 9829

Record 138 of 1145 in INSPEC 1998/07-1998/12

Title: Accident assessment for Chernobyl Unit 3 from potential collapse of adjacent structures
Author: Gore-BF; Simonov-IM; Kritsky-AB
Author Affiliation: Battelle Pacific Northwest Lab., Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.78; 1998; p.46-7
Publication Year: 1998
Record Type: Conference-Paper; Journal-article
Conference Details: 1998 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1998; Nashville, TN, USA
Country of Publication: USA
Language: English
Abstract: This study assessed the likelihood of a serious, explosive accident to be caused at Chernobyl nuclear power plant Unit 3 by a collapse that might occur in the nearby shelter (Ukrytie) constructed over the destroyed Unit 4 or in the intermediate building block V separating the two units. In order to determine quickly and economically the significance of the hazard to Unit 3, the analysis was based on existing information and expert judgment. No new structural analysis calculations were performed.
Number of References: 1
Descriptors: disasters-; fission-reactor-accidents
Identifiers: Chernobyl-; Unit-3; collapse-; adjacent-structures; accident-; shelter-; Ukrytie-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1998)78L.46:AACU;1-9

Sort Key: 0000003018X19980007800000000000000000046
Material Identity Number: T064-98002
Accession Number: 5971426
Update Code: 9828

Record 139 of 1145 in INSPEC 1998/07-1998/12

Title: International project to repair Chernobyl Units 3 and 4 ventilation stack supports

Author: Schmidt-JP; Neal-JK; Gore-BF; Osterloh-JV; Winkel-BV
Author Affiliation: Battelle Pacific Northwest Lab., Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.78; 1998; p.45-6
Publication Year: 1998
Record Type: Conference-Paper; Journal-article
Conference Details: 1998 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1998; Nashville, TN, USA
Country of Publication: USA
Language: English
Abstract: The U.S. Department of state and the U.S. Department of energy (DOE) are sponsoring bilateral efforts at Chernobyl. These efforts are an integral part of a broader international effort being undertaken by the G-7 nations, which resulted in development of the shelter implementation plan (SIP) to place the shelter in a manageable and environmentally safe condition. One of these projects involves financing repairs to the Units 3 and 4 ventilation stack external bracing and foundation supports. Canada has also elected to contribute to this project. This paper describes the trilateral cooperation involving a Western approach to work planning that resulted in G-7 concurrence for repairs to the stack and elimination of the safety threat imposed by this unstable structure.
Number of References: 1
Descriptors: disasters-; fission-reactor-accidents; nuclear-reactor-maintenance
Identifiers: Chernobyl-; repair-; Unit-3; Unit-4; ventilation-stack-supports; shelter-implementation-plan; external-bracing; foundation-supports
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1998)78L.45:IPRC;1-K

Sort Key: 0000003018X19980007800000000000000000045
Material Identity Number: T064-98002
Accession Number: 5971425
Update Code: 9828

Record 140 of 1145 in INSPEC 1998/07-1998/12

Title: Dust suppression and contamination control at Chernobyl nuclear power plant's Unit 4
Author: Johnson-W; Osterloh-J
Author Affiliation: Parsons Infrastruct. & Technol. Group, Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.78; 1998; p.45
Publication Year: 1998

Record Type: Conference-Paper; Journal-article
Conference Details: 1998 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1998; Nashville, TN, USA
Country of Publication: USA
Language: English
Abstract: International aid is being provided to the Chernobyl shelter organization in the form of upgraded industrial safety and radiological protection equipment and tools. The intent of this aid is to provide real, tangible improvements in worker safety. These expedited efforts are being identified and performed in conjunction with local Chernobyl NPP personnel. One such effort was the review and evaluation of available dust fixatives and mobile decontamination systems for use in contamination control within the shelter. All work performed was under bilateral agreements between the United States and the shelter organization. These efforts were designed to be consistent with and complement the planned actions outlined in the Chernobyl Unit 4 Shelter Implementation Plan.
Number of References: 0
Descriptors: disasters-; dust-; fission-reactor-accidents; radiation-decontamination; radiation-protection
Identifiers: Chernobyl-; dust-suppression; contamination-control; dust-fixatives; decontamination-; Chernobyl-Unit-4-Shelter-Implementation-Plan
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1998)78L.45:DSCC;1-3

Sort Key: 0000003018X19980007800000000000000000045
Material Identity Number: T064-98002
Accession Number: 5971424
Update Code: 9828

Record 141 of 1145 in INSPEC 1998/07-1998/12

Title: Chernobyl shelter implementation plan-project development and planning: Setting the stage for progress
Author: Johnson-W; Kreid-D; DeFranco-W
Author Affiliation: Parsons Infrastructure & Technol. Group, Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.78; 1998; p.43-4
Publication Year: 1998
Record Type: Conference-Paper; Journal-article

Conference Details: 1998 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1998; Nashville, TN, USA
Country of Publication: USA
Language: English
Abstract: On April 26, 1986, the Chernobyl nuclear power plant (NPP) experienced a devastating accident. This accident left much of the plant and its safety systems destroyed with widespread radioactive waste contamination from the damaged nuclear fuel. In the 6 months following the accident, heroic measures were taken to stabilize the situation and erect a temporary confinement shelter over the damaged unit 4. Since that time the shelter and the contained radioactive materials and debris have begun to deteriorate. Lack of funding and staff has allowed only minor improvements to occur on-site, resulting in an existing shelter that is unstable and deteriorating. International aid has been provided to develop a comprehensive plan for the safe and environmentally sound conversion of the damaged Chernobyl reactor. These efforts are being performed in conjunction with U.S. experts, European experts, and local Chernobyl NPP personnel.
Number of References: 0
Descriptors: disasters-; fission-reactor-accidents; radiation-protection
Identifiers: Chernobyl-; shelter-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1998)78L.43:CSIP;1-I

Sort Key: 0000003018X19980007800000000000000000043
Material Identity Number: T064-98002
Accession Number: 5971423
Update Code: 9828

Record 142 of 1145 in INSPEC 1998/07-1998/12

Title: A neutron monitoring system for evaluating nuclear safety in the Chernobyl Unit 4 fuel debris
Author: Scherpelz-RI; Tanner-JE; Sisk-DR
Author Affiliation: Battelle Pacific Northwest Lab., Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.78; 1998; p.43
Publication Year: 1998
Record Type: Conference-Paper; Journal-article
Conference Details: 1998 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1998; Nashville, TN, USA

Country of Publication: USA
Language: English
Abstract: The remains of the nuclear fuel that was severely damaged in the 1986 Chernobyl unit 4 accident lie in large masses in the premises under the reactor. The fuel debris exists in the form of dusts, chunks, and lavas, and the quantities are substantial-some rooms contain several tons of fuel. Since there is a possibility of water entering these rooms, there is an obvious concern over criticality safety. Incidents of increased neutron count rates have been noted in the vicinity of nuclear fuel debris. In one incident on June 1990, neutron count rates measured by existing instruments increased from an ambient level of 2.5 to 156 counts/s over the course of 2 days, then decreased back to ambient levels over the next 3 days. These incidents coincided with heavy rainfall and consequent leakage of water into the fuel-containing rooms. The count-rate increases may have been caused by increases in k/sub eff/, or they may be explained by changes in the counting characteristics of the detectors. An increase in water would thermalize the existing neutron spectrum and increase the efficiency of the detectors. There is no conclusive explanation of the incidents because of the ambiguous nature of the measurement data. Thus it must be assumed that the fuel is in a critically unsafe condition. Pacific Northwest National Laboratory (PNNL), under a program funded by the U.S. Department of Energy, responded to this safety concern by assembling a new monitoring system to characterize the radiation environment in the vicinity of major fuel deposits. The new monitoring system will measure the gamma and neutron radiation fields in several locations. The measurement data can be tracked over time to determine the characteristics of the radiation fields and better understand the nuclear safety conditions in the vicinity of the fuel. The monitoring system was designed to provide information that will allow a better interpretation of any future events.
Number of References: 0
Descriptors: disasters-; fission-reactor-accidents; fission-reactor-fuel; neutron-detection; nuclear-criticality-safety
Identifiers: neutron-monitoring-system; safety-; Chernobyl-; Unit-4; fuel-debris; criticality-safety; neutron-count-rates; k-eff; water-; radiation-fields; neutron-radiation-fields; gamma-radiation-fields
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A2846E (Nuclear-criticality-safety); A2970 (Radiation-measurement-detection-and-counting); A28; A29; A2
Treatment Codes: X (Experimental)
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1998)78L.43:NMSE;1-9

Sort Key: 0000003018X19980007800000000000000000043
Material Identity Number: T064-98002
Accession Number: 5971422
Update Code: 9828
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010

Bestand: 1.1958=> L:8

Record 143 of 1145 in INSPEC 1998/07-1998/12

Title: Robotics and virtual reality system to help stabilize the Chernobyl-4 reactor
Source: Radwaste-Magazine. vol.5, no.3; May 1998; p.39-40
Publication Year: 1998
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The concrete sarcophagus built over the Chernobyl-4 reactor in Ukraine, after the 1986 explosion at that nuclear power plant, is deteriorating. The U.S. Department of Energy (DOE), the National Aeronautics and Space Administration (NASA), and academic and private-sector scientists, along with Ukraine, are building a high-tech robotics and vision system to analyze and ultimately repair the decaying structure. The robot, named Pioneer, is scheduled to enter the Chernobyl-4 reactor for the first time in November.
Number of References: 0
Descriptors: mobile-robots; radiation-monitoring; robot-vision; virtual-reality
Identifiers: robotics-; virtual-reality-system; Chernobyl-4-reactor-stabilization; concrete-sarcophagus; vision-system; Pioneer-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); C3390C (Mobile-robots); C6130B (Graphics-techniques); C5260B (Computer-vision-and-image-processing-techniques); A28; C33; C61; C52; A2; C3; C6; C5
Treatment Codes: P (Practical)
Coden: RDMGEK
ISSN: 1070-9541
SICI: 1070-9541(199805)5:3L.39:RVRS;1-Y
Copyright Statement: Copyright 1998, IEE
Sort Key: 000107095411998000050000300000000000039
Material Identity Number: C270-98003
Accession Number: 5967525
Update Code: 9828

Record 144 of 1145 in INSPEC 1998/01-1998/06

Title: Surface activity and dose rate distribution inside 4th reactor hall of Chernobyl NPP
Author: Chesnokov-AV; Fedin-VI; Gulyaev-AA; Potapov-VN; Smirnov-SV; Shcherbak-SB; Urutskoev-LI; Volkovich-AG
Author Affiliation: Recom Ltd., Moscow, Russia
Source: IEEE-Transactions-on-Nuclear-Science. vol.45, no.3, pt.1; June 1998; p.986-91
Publication Year: 1998
Record Type: Conference-Paper; Journal-article

Conference Details: Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC). 9-15 Nov. 1997; Albuquerque, NM, USA
Country of Publication: USA
Language: English
Abstract: A gamma locator designed to conduct contamination surveys inside the reactor hall of the Chernobyl NNP 4th unit is developed. The device consists of detector head and remote control computer connected with a cable (>150 m). The detector head is a collimated scintillator-based gamma-ray detector. It is installed on a scanning unit and is placed inside the reactor hall. The gamma locator scans all hall surfaces with a certain angle step and measures quantum flux from these directions. These data are used to determine the effective surface activity of contaminated surfaces. A distance between the detector head and surveyed surface is measured by a laser distance device. There is a small CCD camera inside the collimator. It obtains a visible image of the measured surface. An exposed dose rate distribution within the investigated volume is reconstructed by using the measured /sup 137/Cs effective surface activity.
Number of References: 10
Descriptors: CCD-image-sensors; dosimetry-; gamma-ray-detection; nuclear-power-stations; radiation-monitoring; radiation-protection; solid-scintillation-detectors
Identifiers: dose-rate-distribution; 4th-reactor-hall; Chernobyl-NPP; gamma-locator; contamination-surveys; detector-head; remote-control-computer; collimated-scintillator-based-gamma-ray-detector; CCD-camera; exposed-dose-rate-distribution; 137Cs-effective-surface-activity; Cs-
Classification Codes: A2880C (Dosimetry); A0785 (X-ray-gamma-ray-instruments-and-techniques); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A2940M (Scintillation-detectors-scintillators-and-photomultipliers); A8760M (Radiation-dosimetry); A0762 (Detection-of-radiation-bolometers-photoelectric-cells-ir-and-submillimetre-waves-detection); B7530B (Radiation-protection-and-dosimetry); B7450 (X-ray-and-gamma-ray-equipment); B8220 (Nuclear-power-stations-and-plants); B7420 (Particle-and-radiation-detection-and-measurement); B7230G (Image-sensors); A28; A07; A87; A29; B75; B74; B82; B72; A2; A0
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el
Coden: IETNAE
ISSN: 0018-9499
Copyright Clearance Center Code: 0018-9499/98/$10.00
SICI: 0018-9499(199806)45:3:1L.986:SADR;1-V

Sort Key: 000001894991998000450000300000000100986
Material Identity Number: I047-98006
Accession Number: 5955804
Update Code: 9826
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04024.132
Bestand: 10.1963=> L:10,11 N:12

Record 145 of 1145 in INSPEC 1998/01-1998/06

Title: Structural changes in DNA under the action of ionizing radiation and metal ions [Chernobyl atomic power plant accident]

Author: Kornilova-SV; Kapinos-LE; Leontiev-VS; Grigoriev-DN; Blagoi-YuP
Author Affiliation: Inst. for Low Temp. Phys. & Eng., Acad. of Sci., Kharkov, Ukraine

Source: Physica-Medica. vol.13, suppl., no.1; Dec. 1997; p.280-1
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: 5th International Conference on Application of Physics in Medicine and Biology (Trieste Medical Physics '96). 2-6 Sept. 1996; Trieste, Italy. Sponsored by: Eur. Federation of Organ. Med. Phys
Country of Publication: Italy
Language: English

Abstract: Viscometry, thermal denaturation, IR spectroscopy and electrophoresis have been employed to study properties of DNA of animals exposed to prolonged irradiation under the conditions of the Chernobyl zone. The DNA preparations isolated from the liver and spleens were found to contain an abnormally large quantity of low molecular weight DNA fractions. The number of these fractions increases in the later generations of animals and also with the age of the animals. This effect rises at the combined action of irradiation and copper ions. It was also found that the DNA preparations were enriched with metal ion impurities (Fe, Cu, Zn, Se, Sr and Cd).

Number of References: 6
Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; DNA-; electrophoresis-; fission-reactor-accidents; infrared-spectra; liver-
Identifiers: DNA-structural-changes; metal-ions; Chernobyl-atomic-power-plant-accident; viscometry-; thermal-denaturation; prolonged-irradiation; animals-; Chernobyl-zone; DNA-preparations; spleen-; low-molecular-weight-DNA-fractions; molecular-radiobiology; Fe-; Cu-; Zn-; Se-; Sr-; Cd-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8715B (Biomolecular-structure-configuration-conformation-and-active-sites); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Fe-el; Cu-el; Zn-el; Se-el; Sr-el; Cd-el
Coden: PHYME2
ISSN: 1120-1797
SICI: 1120-1797(199712)13:1L.280:SCUA;1-R

Sort Key: 000112017971997000130000100000000100280
Material Identity Number: G240-98002
Accession Number: 5955285

Update Code: 9826

Record 146 of 1145 in INSPEC 1998/01-1998/06

Title: Dynamics of /sup 137/Cs content in agricultural food products produced in regions of Russia contaminated after the Chernobyl accident
Author: Bruk-GYa; Shutov-VN; Balonov-MI; Basalayeva-LN; Kislov-MV
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Source: Radiation-Protection-Dosimetry. vol.76, no.3; 1998; p.169-78
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The regularities are studied of the decontamination of agricultural ecosystem components from /sup 137/Cs deposited after the Chernobyl accident in a number of regions of Russia with different soils and climatic conditions. During the first 5-6 years after the deposition, it has been shown that the content of this radionuclide in vegetable and animal agricultural products decreased with the half-period 0.7 to 1.5 years. Beginning from 1990-1991, no significant variation of /sup 137/Cs content in food products was found, and the values of the transfer factors for this radionuclide in the main components of the food of rural inhabitants (milk, potatoes) were close to the corresponding parameters obtained in the pre-accident period (1980-1985) for /sup 137/Cs of global origin.
Number of References: 13
Descriptors: agriculture-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: 137Cs-content; agricultural-food-products; Russia-; Chernobyl-accident; decontamination-; agricultural-ecosystem-components; soils-; climatic-conditions; deposition-; animal-agricultural-products; vegetable-agricultural-products; half-period; transfer-factors; radionuclide-; rural-inhabitants; potatoes-; pre-accident-period; global-origin; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1998)76:3L.169:D1CA;1-J

Sort Key: 0000144842019980007600003000000000000169
Material Identity Number: B978-98006
Accession Number: 5947156
Update Code: 9825

Record 147 of 1145 in INSPEC 1998/01-1998/06

Title: Analysis of physical data from the Chernobyl unit 4 accident
Author: Purvis-EE-III; Tokarevsky-VV; Veryuzsky-YV
Author Affiliation: Centre for Int. Nucl. & Radiat. Safety, Damascus, MD, USA
Source: IECEC-97. Proceedings of the Thirty-Second Intersociety Energy Conversion Engineering Conference (Cat. No.97CH36203). IEEE, New York, NY, USA; 1997; 4 vol. (xx+xvi+xvi+vi+2358) pp.
p.1556-61 vol.3
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: IECEC-97 Proceedings of the Thirty-Second Intersociety Energy Conversion Engineering Conference (Cat. No.97CH6203). vol.3. 27 July-1 Aug. 1997; Honolulu, HI, USA
Country of Publication: USA
Language: English
Abstract: Physical data about the Chernobyl accident has been collected inside the Shelter, near the destroyed unit, and from fallout. This paper summarizes accident analyses conducted in 1986 (a short time after the April 26, 1986 accident), analyses conducted in 1995 and 1996 with the Ukrainian Academy of Sciences, analyses by Russia's MinAtom in 1996, and results of continuing analyses. "TECHOCENTRE" is evaluating ways to remove fuel and radioactive material. The Institute for Fast Mechanical Processes (IFMP) is analyzing the explosion. CINRS is analyzing data on the explosions results and analyzing the accident sequence. Forensic analyses are usually undertaken in the West after significant accidents, such as aircraft crashes and industrial accident. These receive considerable exposure and are necessary to understand the causes and provide a basis for taking appropriate corrective action. For a number of reasons such an analysis of the Chernobyl accident was not initiated until January 1994. Results have shown that the Chernobyl accident sequence is considerably different from that originally assumed. The major explosion did not occur in the reactor cavity, as originally assumed, but in the air more than 15 meters above the operating floor of the unit. The destruction of the building was caused by fuel vapor expansion created by a very rapid increase in reactivity in the fuel.
Number of References: 6
Descriptors: explosions-; fission-reactor-accidents; fission-reactor-fuel; reactivity-fission-reactors
Identifiers: physical-data-analysis; Chernobyl-unit-4-accident; fallout-; Ukrainian-Academy-of-Sciences; MinAtom-; TECHOCENTRE-; radioactive-material-removal; fuel-removal; Institute-for-Fast-Mechanical-Processes; explosion-analysis; accident-sequence-analysis; forensic-analyses; fuel-vapor-expansion; fuel-reactivity-increase

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2842D (Fission-reactor-fuel-elements); A28; A2
Treatment Codes: P (Practical)
ISBN: 0780345150

Sort Key: 10780345150199700000000000000000001556
Material Identity Number: XX98-00539
Accession Number: 5939100
Update Code: 9823

Record 148 of 1145 in INSPEC 1998/01-1998/06

Title: Vertical distributions in the Kapachi soil of the plutonium isotopes (/sup 238/Pu,/sup 239,240/Pu,/sup 241/Pu) of /sup 241/Am, and of /sup 243,244/Cm, eight years after the Chernobyl accident
Author: Mboulou-MO; Hurtgen-C; Hofkens-K; Vandecasteele-C
Author Affiliation: Lab. de Spectrometrie Nucl., Univ. des Sci. et Tech., Libreville, France
Source: Journal-of-Environmental-Radioactivity. vol.39, no.3; 1998; p.231-7
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2339%23231%233&_version=1&md5=260bce2fc17b310c34607ba49ee68e86
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This study has been realized on samples of an agricultural soil taken in the 30 km exclusion area of Chernobyl. The study is focused on the determination of the actinides Pu, Am and Cm, their vertical distributions in the soil as well as relative movements with regard to each other. Therefore, a sample campaign was realized in spring 1994 in the Kapachi village, located just a few kilometers away from the damaged reactor. Four samples in the form of 30 cm long cores with a diameter of 4.7 cm were taken on a 1 m/sup 2/ surface. The soil was then cut in successive sections of 1 cm thickness. These samples were dried in an oven, homogenized, weighted and analysed in order to determine their respective content of actinides. The results show the presence of actinides in quantities that can be measured until a maximum depth of 5 cm, beyond which the limits of detection were reached. /sup 241/Pu remains the preponderant isotope: its total activity is approximately 177 kBq m/sup -2/ in a soil section of 6 cm depth. /sup 243,244/Cm is also present, but in a lower ratio compared to the /sup 241/Pu. The total activity of all these actinides is present in the first 3 cm depth.
Number of References: 6
Descriptors: americium-; californium-; disasters-; fission-reactor-accidents; plutonium-; radioactive-pollution; soil-

Identifiers: 238Pu-; 239Pu-; 240Pu-; 241Pu-; 241Am-; 243Cm-; 244Cm-; Chernobyl-; agricultural-soil; actinides-; vertical-distributions; Kapachi-; soil-; activity-; 5-cm; Pu-; Am-; Cm-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A9330D (Asia); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: depth 5.0 E02 m
Chemical Indexing: Pu-el; Am-el; Cm-el
Coden: JERAEE
ISSN: 0265-931X

SICI: 0265-931X(1998)39:3L.231:VDKS;1-F

Sort Key: 0000265931X19980003900003000000000000231
Material Identity Number: I664-98003
Accession Number: 5922894
Update Code: 9821

Record 149 of 1145 in INSPEC 1998/01-1998/06

Title: Post-Chernobyl period at the Kursk Nuclear Power Plant: advances and prospects
Author: Gal'berg-VP
Source: Atomic-Energy. vol.83, no.2; Aug. 1997; p.555-67
Translated from: Atomnaya-Energiya. vol.83, no.2; Aug. 1997; p.79-94
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: Russian Nuclear Society Conference: Utilization of Nuclear Energy: Status, Consequences, and Prospects. 15-19 Sept. 1997; Ekaterinburg & Zarechnyl, Russia
Country of Publication: Russia; Translation: USA
Language: English
Abstract: A period longer than the last decade is examined in this article. Efforts related in one way or another to the modernization that followed the accident at the Chernobyl nuclear power plant started some time ago. The accident at the Chernobyl nuclear power plant reverberated throughout the world of nuclear power, mainly at nuclear power plants with RBMKs. We feel that this article in some measure will convince both specialists and nonspecialists to have a more objective few both of current safety levels and the prospects of future improvements.
Number of References: 0
Descriptors: fission-reactor-safety; nuclear-power-stations
Identifiers: Kursk-Nuclear-Power-Plant; post-Chernobyl-period; RBMK-; safety-levels
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: P (Practical)

Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/97/8302-0555$18.00
SICI: 0004-7163(199708)83:2L.79;1-E
SICI of Translation: 1063-4258(199708)83:2L.555:PCPK;1-F

Sort Key: 00000047163199700083000020000000000000079
Material Identity Number: P995-98004
Accession Number: 5918640
Update Code: 9820
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 150 of 1145 in INSPEC 1998/01-1998/06

Title: Stability of mineral matter in aqueous media of the Chernobyl Unit-4 shelter: thermodynamic evaluation

Author: Sinitsyn-VA; Kulik-DA; Khodorivski-MS; Kurepin-VA; Abramis-AY; Kolyabina-IL; Shurpach-NA
Author Affiliation: Inst. of Geochem., Miner. & Ore Formation, Acad. of Sci., Kyiv, Ukraine

Editor: Gray-WJ; Triay-IR
Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.
p.1327-34
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA
Country of Publication: USA
Language: English

Abstract: A special geochemical environment exists within the Shelter ("Sarcophagus") erected in 1986 over the destroyed Unit-4 of Chernobyl nuclear power plant (NPP). Based upon the available in situ and compositional data, thermodynamic models of solid-aqueous interactions were developed to clarify the leaching behaviour of various materials within the Shelter. The "Selektor-A" code, based on a convex programming approach to Gibbs free energy minimization, was used for the calculations. A built-in flexible hybrid thermodynamic database for the system Na-K-Ca-Mg-Cl-S-N-H-O-Si-P-Fe-Al-Sr-Cs was extended with the critically selected and matched parameters for aqueous species and solid phases in the U-Zr-Si-O-H subsystem, secondary U-minerals, mineral phases of fully hydrated Portland cements and U-bearing zircons. Modeling results show that the "Shelter waters" can selectively leach a significant quantity of U and Si from the fuel-containing masses, while Zr, Fe, Ca, Mg and some other components are rather insoluble. Serpentinite, assemblages of fully-hydrated phases of Portland cements, and oxidation products of steel structural elements are estimated to be

sufficiently stable in the aqueous environment of the Shelter. Our calculations also define some feasible pathways for secondary mineral formation from evaporation of Shelter water solutions and interactions between these waters with the mineral matter inside the Shelter.

Number of References: 25

Descriptors: corrosion-; disasters-; fission-reactor-accidents; free-energy; minerals-; thermodynamic-properties

Identifiers: aqueous-media; Chernobyl-; Unit-4; Sarcophagus-; thermodynamic-models; solid-aqueous-interactions; leaching-; Selektor-A-code; Gibbs-free-energy-minimization; aqueous-species; solid-phase; secondary-U-minerals; Portland-cement; U-bearing-zircon; Shelter-waters; serpentinite-; steel-structural-elements; secondary-mineral-formation; Na-K-Ca-Mg-Cl-S-N-H-O-Si-P-Fe-Al-Sr-Cs; Zr-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A6550 (Thermodynamic-properties-and-entropy); A8160 (Corrosion-oxidation-etching-and-other-surface-treatments); A28; A65; A81; A2; A6; A8

Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Chemical Indexing: NaKCaMgClSNHOSiPFeAlSrCs-ss Al-ss Ca-ss Cl-ss Cs-ss Fe-ss Mg-ss Na-ss Si-ss Sr-ss H-ss K-ss N-ss O-ss P-ss S-ss; Zr-el

ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001327

Material Identity Number: XX98-00608

Accession Number: 5906983

Update Code: 9818

Record 151 of 1145 in INSPEC 1998/01-1998/06

Title: General classification of "hot" particles from the nearest Chernobyl contaminated areas

Author: Shabalev-SI; Burakov-BE; Anderson-EB

Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia

Editor: Gray-WJ; Triay-IR

Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.

p.1343-50

Publication Year: 1997

Record Type: Conference-Paper

Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA

Country of Publication: USA

Language: English

Abstract: The morphology and composition both chemical and radionuclide of the main types of the solid-phase "hot" particles formed following the accident on the Chernobyl NPP have been studied by SEM, electron microprobe and gamma-spectrometry methods. Differences in many isotopes including: /sup 106/Ru, /sup 134/Cs, /sup 137/Cs

dependent upon the hot particle matrix chemical composition was observed. The classification of hot particles based upon the chemical composition of their matrices has been done. It includes three main types: (1) fuel particles with UO/sub x/ matrix; (2) fuel-constructional particles with Zr-U-O matrix, (3) hot particles with metallic inclusions of Fe-Cr-Ni. Moreover, there are more rare types of hot particles with silicate or metal matrices. It was shown that only metallic inclusions of Fe-Cr-Ni are concentrators of /sup 106/Ru, which caused this nuclides assimilation in the molten stainless steel during the initial stages of the accident. Soils contamination of non-radioactive lead oxide particles in the Chernobyl NPP region were noticed. It was supposed that part of metallic lead, dropped from helicopters into burning reactor during first days of accident, was evaporated and oxidized accompanying solid oxide particles formation.

Number of References: 5

Descriptors: electron-probe-analysis; fission-reactor-accidents; gamma-ray-spectroscopy; inclusions-; radioactive-pollution; radioisotopes-; scanning-electron-microscopy; soil-

Identifiers: hot-particles; Chernobyl-contaminated-areas; accident-; SEM-; electron-microprobe-analysis; gamma-spectrometry; 106Ru-; 134Cs-; 137Cs-; matrix-chemical-composition; fuel-constructional-particles; metallic-inclusions; molten-stainless-steel; solid-oxide-particles-formation; scanning-electron-microscopy; soils-contamination; Ru-; Cs-; Fe-Cr-Ni; Zr-U-O

Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2

Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Cs-el; FeCrNi-ss Cr-ss Fe-ss Ni-ss; ZrUO-ss Zr-ss O-ss U-ss

ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001343

Material Identity Number: XX98-00608

Accession Number: 5900577

Update Code: 9817

Record 152 of 1145 in INSPEC 1998/01-1998/06

Title: Modeling the migration of /sup 90/Sr and /sup 137/Cs in the subsurface from the Chernobyl NPP Unit-4 shelter

Author: Kivva-SL; Stelya-OB; Proskura-NI

Author Affiliation: EM Dept., Inst. of Math. Machines & Syst. Problems, Kiev, Ukraine

Editor: Gray-WJ; Triay-IR

Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.

p.1335-42

Publication Year: 1997

Record Type: Conference-Paper

Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA
Country of Publication: USA
Language: English
Abstract: The shelter constructed above the destroyed Unit-4 of the Chernobyl NPP contains 20 MCi of nuclear fuel. More than 1000 m/sup 3/ of intermediate-level radioactive water is disposed in its basement. The purpose of this work was to simulate migration of the radionuclides /sup 90/Sr and /sup 137/Cs from the shelter into the subsurface environment to evaluate their migration rate and migration paths. A mathematical model accounting for the coupled transport of water and radionuclides in variably saturated media was used. The lack of suitable experimental and field studies excluded the possibility of complete validating the model. Results of the simulations will be useful for future field studies.
Number of References: 7
Descriptors: caesium-; radioactive-pollution; radioactive-waste-disposal; radioactive-waste-storage; radioisotopes-; safety-; strontium-; water-pollution
Identifiers: migration-; 90Sr-; 137Cs-; subsurface-; Chernobyl-NPP-Unit-4-shelter; intermediate-level-radioactive-water; radionuclides-; mathematical-model; coupled-transport; water-; variably-saturated-media; ILW-; Sr-; Cs-
Classification Codes: A8670E (Water-environmental-science); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2842K (Radioactive-wastes-from-fission-reactors); A86; A28; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Sr-el; Cs-el
ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001335
Material Identity Number: XX98-00608
Accession Number: 5900576
Update Code: 9817

Record 153 of 1145 in INSPEC 1998/01-1998/06

Title: Properties and genesis of hot particles from the Chernobyl reactor accident
Author: Schubert-Bischoff-P; Lutze-W; Burakov-BE
Author Affiliation: Hahn-Meitner-Inst., Berlin, Germany
Editor: Gray-WJ; Triay-IR
Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.
p.1319-25
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA

Country of Publication: USA
Language: English
Abstract: On April 25, 1986, the nuclear reactor Unit 4 (RBMK) at Chernobyl, Ukraine, exploded. Besides molecular species, the fallout contained particles of relatively high specific activity (hot particles) with a wide range of chemical compositions. The composition of a hot particle bears information about its genesis. Particle sizes ranged from a few to 100s of micrometers. Data on a hot particle, found in Berlin, Germany, is presented and discussed in context with earlier measurements on other particles to understand their genesis. The chemical composition was determined by electron probe microanalysis. Our particles are either reactor fuel (one) or fission product alloys (nine). The alloys were formed during normal reactor operation. Strongly varying concentrations of Fe and Ni suggest that at least some of our particles reacted with molten structural material of the reactor. The particles were mobilized by fuel oxidation or fuel dust generation during the accident. The fission product composition can only be explained if we assume that the alloys remained in the solid state in the course of the accident. Some particles may have been elected during the explosion, others later while the reactor was burning. Activities (/sup 103/Ru and /sup 106/Ru, originally up to 160,000 Bq) of our ten year old particles were re-measured but were no longer detectable. No long-lived gamma -emitters were found. The /sup 99/Tc activity was calculated and found to only 1 Bq. The gamma -spectrum of the fuel particle still shows /sup 137/Cs (1 Bq) and /sup 60/Co (<1 Bq).
Number of References: 21
Descriptors: disasters-; fission-reactor-accidents; radioactivity-measurement; ruthenium-; technetium-
Identifiers: Chernobyl-; hot-particles; particle-size; chemical-composition; electron-probe-microanalysis; fuel-; fission-product-alloys; 103Ru-; 106Ru-; 99Tc-activity; gamma-spectrum; 160000-Bq; 1-Bq; Fe-; Ni-; Ru-; Co-; Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2970 (Radiation-measurement-detection-and-counting); A2880F (Radiation-monitoring-and-radiation-protection); A28; A29; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 1.6 E05 Bq; radioactivity 1.0 E00 Bq
Chemical Indexing: Fe-el; Ni-el; Ru-el; Co-el; Cs-el
ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001319
Material Identity Number: XX98-00608
Accession Number: 5900575
Update Code: 9817

Record 154 of 1145 in INSPEC 1998/01-1998/06

Title: Interaction of UO/sub 2/ and Zircaloy during the Chernobyl accident
Author: Ushakov-SV; Burakov-BE; Shabalev-SI; Anderson-EB

Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia
Editor: Gray-WJ; Triay-IR
Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.
p.1313-18
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA
Country of Publication: USA
Language: English
Abstract: A summary of the results collected during the studies of the products of a chemical interaction between uranium oxide fuel and Zircaloy cladding in the Chernobyl accident is presented in this paper. The reaction products are mainly Zr-U-containing phases with different U/Zr ratio and are described on the basis of electron microprobe and X-ray diffraction (XRD) analyses. The Zr-U-bearing phases were discovered among the inclusions in different types of Chernobyl fuel-containing masses ("lava") inside the destroyed 4th Unit and in hot particles collected up to 12 km from the 4th Unit along the West Plume. A correlation of data on the chemical composition and phase interrelations obtained in investigated samples with a phase diagram of Zr(O)-UO/sub 2/, shows, that a temperature >1900 degrees C was reached in a part of the core before the explosion. The detection of hot particles with segregated morphology points out that liquid immiscibility existed between U-rich and Zr-rich melts. This and other observations indicate that the core temperature locally was above 2400-2600 degrees C.
Number of References: 6
Descriptors: disasters-; electron-probe-analysis; fission-reactor-accidents; fuel-element-failure; uranium-compounds; X-ray-diffraction; zirconium-alloys
Identifiers: Chernobyl-; chemical-interaction; Zircaloy-cladding; Zr-U-containing-phases; UZr-ratio; X-ray-diffraction; electron-microprobe-analysis; lava-; West-Plume; chemical-composition; phase-diagram; liquid-immiscibility; hot-particle; core-temperature; 2400-to-2600-degC; UO-2
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8280 (Chemical-analysis-and-related-physical-methods-of-analysis); A2842D (Fission-reactor-fuel-elements); A28; A82; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: temperature 2.67 E03 to 2.87 E03 K
Chemical Indexing: Zr-ss; UO2-bin O2-bin O-bin U-bin
ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001313
Material Identity Number: XX98-00608
Accession Number: 5900574
Update Code: 9817

Record 155 of 1145 in INSPEC 1998/01-1998/06

Title: Secondary uranium minerals on the surface of Chernobyl "lava"
Author: Burakov-BE; Strykanova-EE; Anderson-EB
Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia
Editor: Gray-WJ; Triay-IR
Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.
p.1309-11
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA
Country of Publication: USA
Language: English
Abstract: The formation of uranium minerals is still continuing in Chernobyl Unit No. 4. Yellow products of alteration that stain the surface of Chernobyl "lava" have been examined by SEM and X-ray diffraction methods. Secondary minerals of uranium identified are: UO/sub 4/-4H/sub 2/O studtite; UO/sub 3/-2H/sub 2/O epiianthinite; UO/sub 2/.CO/sub 3/ rutherfordine; also, Na/sub 4/(UO/sub 2/)(CO/sub 3/)/sub 3/ was identified together with the sodium carbonate phases Na/sub 3/H(CO/sub 3/)/sub 2/-2H/sub 2/O and Na/sub 2/CO/sub 3/-H/sub 2/O. These minerals formed due to the interaction between fuel-containing masses or "lava", water and air. The matrices of the "lava" do not contain significant amounts of sodium. The source of sodium may be water that has penetrated into the "Sarcophagus". All identified secondary minerals of uranium are highly unstable, and their continued formation can seriously endanger the radiological situation of the 4/sup th/ Unit.
Number of References: 6
Descriptors: disasters-; fission-reactor-accidents; minerals-; radioactive-chemical-analysis; scanning-electron-microscopy; uranium-compounds; X-ray-diffraction
Identifiers: U-minerals; Chernobyl-; lava-; SEM-; X-ray-diffraction; secondary-minerals; studtite-; rutherfordine-; epiianthinite-; Sarcophagus-; UO-4-H-2O; UO-3-H-2O; Na-4UO-2CO-3-3; Na-3HCO-3-2-H-2O; Na-2CO-3-H-2O
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8280 (Chemical-analysis-and-related-physical-methods-of-analysis); A28; A82; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: UO4H2O-ss H2-ss O4-ss H-ss O-ss U-ss; UO3H2O-ss H2-ss O3-ss H-ss O-ss U-ss; Na4UO2CO3-ss CO3-ss Na4-ss Na-ss O2-ss O3-ss C-ss O-ss U-ss; Na3HCO3H2O-ss CO3-ss Na3-ss H2-ss Na-ss O3-ss C-ss H-ss O-ss; Na2CO3H2O-ss CO3-ss Na2-ss H2-ss Na-ss O3-ss C-ss H-ss O-ss
ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001309

Material Identity Number: XX98-00608
Accession Number: 5900573
Update Code: 9817

Record 156 of 1145 in INSPEC 1998/01-1998/06

Title: The behavior of nuclear fuel in first days of the Chernobyl accident
Author: Burakov-BE; Anderson-EB; Shabalevc-SI; Strykanova-EE; Ushakov-SV; Trotabas-M; Blanc-J-Y; Winter-P; Duco-J
Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia
Editor: Gray-WJ; Triay-IR
Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.
p.1297-308
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA
Country of Publication: USA
Language: English
Abstract: Various types of Chernobyl fuel containing masses named black "lava", brown "lava", porous "ceramic" and "hot" particles that formed during first days of the accident at the Chernobyl Nuclear Power Plant 4th Unit were studied by methods of optical and electron microscopy, microprobe and X-ray diffraction. Data about their chemical, phase and radionuclide composition are summarized. The products of interaction between fuel, zircaloy and concrete, produced under experiments in laboratory were examined for comparison with samples of Chernobyl "lava" and "hot" particles. The behavior of nuclear fuel in first days of the Chernobyl accident was a three-stage process. The first stage occurred before the moment of the Chernobyl explosion and was exceptionally short-lasting, perhaps, less than a few seconds. It was characterized by reaching a high temperature, >or=2600 degrees C, in the epicenter of accident and formation of a Zr-U-O melt in a local part of the core, which is estimated to be not more than 30% of whole core volume. The second stage lasted for about 6 days since the explosion, during which there was interaction between uranium products of the destroyed reactor: UOx, UOx with Zr, Zr-U-O, with the environment and silicate structural materials of the 4th Unit. The third stage, after 6 days involved the process of final formation of the radioactive silicate melt or Chernobyl "lava" at one of the sections of the destroyed 4th Unit. During this stage the melt's lamination occurred, followed by a break-through of the "lava" reservoir on the 11th day of the accident and penetration of the "lava" into space under the reactor.
Number of References: 32
Descriptors: disasters-; fission-reactor-accidents; fission-reactor-fuel; optical-microscopy; scanning-electron-microscopy; X-ray-diffraction

Identifiers: Chernobyl-; nuclear-fuel; black-lava; brown-lava; porous-ceramic; hot-particles; 4th-Unit; optical-microscopy; electron-microscopy; X-ray-diffraction; zircaloy-; concrete-; Zr-U-O-melt; silicate-melt; Zr-U-O
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A28; A2
Treatment Codes: X (Experimental)
Chemical Indexing: ZrUO-ss Zr-ss O-ss U-ss
ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001297
Material Identity Number: XX98-00608
Accession Number: 5900572
Update Code: 9817

Record 157 of 1145 in INSPEC 1998/01-1998/06

Title: The 4th unit of the Chernobyl NPP: its present state and problems related to its transformation into an ecologically safe system
Author: Anderson-EB; Borovoy-AA; Pazukhin-EM
Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia
Editor: Gray-WJ; Triay-IR
Source: Scientific Basis for Nuclear Waste Management XX Symposium. Mater. Res. Soc, Pittsburgh, PA, USA; 1997; xxv+1362 pp.
p.1289-95
Publication Year: 1997
Record Type: Conference-Paper
Conference Details: Scientific Basis for Nuclear Waste Management XX Symposium. 2-6 Dec. 1996; Boston, MA, USA
Country of Publication: USA
Language: English
Abstract: The following problems related to the destroyed 4/sup th/ Unit of the Chernobyl Nuclear Power Plant (NPP) are considered. Monitoring of the unit's current state, including: (1) Monitoring of the atmospheric release of radioactive elements in the form of aerosols. In this case the problem is the unquantified area of cracks and holes that have formed in the "Sarcophagus" (the "Shelter") since 1986. In addition, the method used to evaluate the release, in which an uncontrolled escape of radioactive contamination is possible, raises objections; (2) Monitoring of the aquatic medium both inside the "Shelter" and on the industrial site. At present, the quantity of water in the 4/sup th/ Unit is about 3000 m/sup 3/, which in fact is low- and intermediate-level radioactive waste. This quantity is not constant and essentially varies depending on the season, amount of atmospheric precipitation, the intensity of dust suppression, etc. In this case the problem is that the paths of water migration inside the unit are not known, so that an uncontrolled penetration of water into the ground, via the damaged foundation slab or the unit's walls, is quite possible; (3) Monitoring of the state of lava-

like fuel-containing masses (LFCM) and the fuel. The problem is that the exact location of the fuel in the 4/sup th/ Unit, the amount of fuel in major aggregates of LFCM, and the nuclear safety of these aggregates are all unknown to date. The arrangements for the stabilization of the 4/sup th/ Unit first of all include the reinforcement of the structural construction. The transformation of the "Shelter" into an ecologically safe system is subject to many questions still unresolved. In particular: whether to create a common "Shelter-2" for the 3/sup rd/ and 4/sup th/ Units or to merely encase the destroyed 4/sup th/ Unit in concrete (the project "Cube"); whether to place a plant for conditioning and reprocessing of radioactive waste under the roof of the "Shelter-2", or to build this plant separately; where to create a temporary repository for containers of radioactive waste from the ChNPP th 4/sup th/ Unit; how to solve the problem of radioactive waste permanent storage in the territory of the Ukraine with proper observation of all nuclear and radiation safety requirements.

Number of References: 6

Descriptors: disasters-; fission-reactor-accidents; fission-reactor-safety; radioactive-waste-disposal

Identifiers: Chernobyl-; 4th-unit; atmospheric-release; aerosols-; Sarcophagus-; Shelter-; radioactive-contamination; low-level-radioactive-waste; intermediate-level-radioactive-waste; lava-like-fuel-containing-masses; 4-th-Unit; Shelter-2; Cube-; permanent-storage

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A28; A2

Treatment Codes: P (Practical)

ISBN: 155899369X

Sort Key: 1155899369X19970000000000000000000001289

Material Identity Number: XX98-00608

Accession Number: 5900571

Update Code: 9817

Record 158 of 1145 in INSPEC 1998/01-1998/06

Title: Cancer incidence among liquidators of the Chernobyl accident: solid tumors, 1986-1995

Author: Ivanov-VK; Rastopchin-EM; Gorsky-AI; Ryvkin-VB

Author Affiliation: Med. Radiol. Res. Center, Acad. of Med. Sci., Obninsk, Russia

Source: Health-Physics. vol.74, no.3; March 1998; p.309-15

Publication Year: 1998

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The paper considers information about cancer incidence (solid tumors) among liquidators of the Chernobyl accident, which occurred in April 1986. The information was accumulated in the Russian National Medical and Dosimetric Registry (RNMDR) in the period from 1986 to early 1996. The RNRDR contains individual dosimetric and

annual check-up data on liquidators resident in Russia. This paper presents results for male liquidators who had no oncological diseases before arrival to the 30-km zone and for whom the following information was available: confirmed dose of external radiation, birth date, date of arrival to the 30-km zone, time spent in the 30-km zone, and results of medical check-ups. The number of liquidators under study is 114,504, i.e., about 68% of all those registered in the RNMDR. The average dose of the studied cohort is 108 mGy; the average age at first arrival to the 30-km zone is 34.3 y; the total number of person-y is 797, 781. The cohort of liquidators is briefly characterized. Cancer incidence in liquidators is compared to that of the population of Russia as a whole by calculating standardized incidence ratio (SIR). The values of SIR with 95% confidence intervals for all solid tumors and malignant neoplasms of the digestive system were 1.23 (1.15; 1.31) and 1.11 (1.01; 1.24), respectively. Assessment of radiation risks for the same classes of diseases has revealed a statistically significant increase in cancer incidence with external radiation dose. This study also shows that statistically significant excesses in the incidence of malignant neoplasms of the respiratory system have not been observed.

Number of References: 17
Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; radioactive-pollution
Identifiers: cancer-incidence; solid-tumors; Chernobyl-accident-liquidators; annual-check-up-data; individual-dosimetric-data; male-liquidators; confirmed-dose-of-external-radiation; average-dose; malignant-neoplasms; confidence-intervals; assessment-of-radiation-risks; statistically-significant-excesses; respiratory-system; health-effects; relative-risks; 30-km; 34-3-yr
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 3.0 E04 m; age 3.43 E01 yr
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/98/$3.00+0
SICI: 0017-9078(199803)74:3L.309:CIAL;1-5

Sort Key: 0000017907819980007400003000000000000309
Material Identity Number: P578-98002
Accession Number: 5898844
Update Code: 9817
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: Calculation of the dose load to the thyroid gland from consumption of milk after the Chernobyl accident
Author: Makhon'ko-KP; Kim-VM
Source: Atomic-Energy. vol.83, no.1; July 1997; p.534-7
Translated from: Atomnaya-Energiya. vol.83, no.1; July 1997; p.57-9
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: It is well known that immediately after the Chernobyl accident the main dose load to the population was due to irradiation of the thyroid gland by /sup 131/I from atmospheric fallout and the grass-cow-milk food chain. We examine in detail the formation of the internal irradiation dose from milk consumption for the example of /sup 131/I fallout in Obninsk in the Kaluga Region.
Number of References: 4
Descriptors: dosimetry-; health-hazards; radioactive-pollution
Identifiers: thyroid-gland; dose-; milk-; Chernobyl-; dose-load; 131I-; fallout-; grass-cow-milk-food-chain; Obninsk-; Kaluga-Region; I-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: I-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/97/8301-0534$18.00
SICI: 0004-7163(199707)83:1L.57;1-Q
SICI of Translation: 1063-4258(199707)83:1L.534:CDLT;1-S

Sort Key: 00000047163199700083000010000000000000057
Material Identity Number: P995-98003
Accession Number: 5882186
Update Code: 9814
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 160 of 1145 in INSPEC 1998/01-1998/06

Title: Individual dosimetric monitoring of the population subjected to irradiation as a result of the Chernobyl accident
Author: Videnskii-VG; Potetnya-VI
Author Affiliation: Med. Radiol. Sci. Center, Acad. of Med. Sci., Obninsk, Russia
Source: Atomic-Energy. vol.83, no.1; July 1997; p.516-19
Translated from: Atomnaya-Energiya. vol.83, no.1; July 1997; p.39-43
Publication Year: 1997

Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: In the ten years since the Chernobyl accident computational methods have been developed for reconstructing the group absorbed dose of external irradiation to the population living in the contaminated territories. This made it possible to obtain, making allowance for the modifying anthropogenic factors, both retrospective and predictive estimates of the dose for virtually any populated point in Russia. Such data are sufficient for optimizing predictions of long-term medical consequences of the accident and developing an efficient organization of measures for rehabilitation of the victims. It was also established that for different territories the distribution of the irradiation dose to the public is described satisfactorily by a log-normal function. The statistical characteristics do not make it possible to determine the irradiation dose to specific individuals; this requires individual dosimetric monitoring. However, for well-known technological, psychological, and economic reasons massive individual dosimetric monitoring with the aid of instrumental methods was not organized immediately after the accident, it does not currently exist, and it can hardly be realized in the future. For this reason, to determine individual irradiation doses it is necessary to use methods of biological dosimetry which are based on quantitative assessment of the response of body organs and systems to irradiation.
Number of References: 17
Descriptors: dosimetry-
Identifiers: individual-dosimetric-monitoring; Chernobyl-accident; group-absorbed-dose; external-irradiation; contaminated-territories; anthropogenic-factors; long-term-medical-consequences; log-normal-function
Classification Codes: A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/97/8301-0516$18.00
SICI: 0004-7163(199707)83:1L.39;1-U
SICI of Translation: 1063-4258(199707)83:1L.516:IDMP;1-7

Sort Key: 00000047163199700083000010000000000000039
Material Identity Number: P995-98003
Accession Number: 5882182
Update Code: 9814
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 161 of 1145 in INSPEC 1998/01-1998/06

Title: Monte Carlo simulation of dose loads in of the Chernobyl zone forests
Author: Savushkin-IA; Ravkova-EI; Gurko-OB; Komarovskaya-LV; Luk'yanov-AV

Author Affiliation: Inst. for Power Eng. Problems, Acad. of Sci., Minsk, Byelorussia
Source: Journal-of-Engineering-Physics-and-Thermophysics. vol.70, no.5; Sept.-Oct. 1997; p.825-8
Translated from: Inzhenerno-Fizicheskii-Zhurnal. vol.70, no.5; Sept.-Oct. 1997; p.824-7
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Byelorussia; Translation: USA
Language: English
Abstract: A computer program for Monte Carlo calculation of the dose power of the external gamma -radiation in three-dimensional geometry is developed. Results that can have practical applications are obtained with this program. The dose power in a radioactively contaminated forest for various sources of gamma -radiation is estimated, which makes it possible to develop the most safe, from the viewpoint of radioactive safety of the personnel, scenarios of activities on contaminated territories.
Number of References: 4
Descriptors: biological-effects-of-gamma-rays; caesium-; dosimetry-; gamma-rays; Monte-Carlo-methods; radioactive-pollution; soil-
Identifiers: dose-loads; Chernobyl-zone-forests; Monte-Carlo-simulation; computer-program; dose-power; external-gamma-radiation; three-dimensional-geometry; radioactively-contaminated-forest; gamma-radiation; radioactive-safety; contaminated-territories
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A86; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: INFZA9; Translation: JEPTER
ISSN: 0021-0285; Translation: 1062-0125
Copyright Clearance Center Code: 1062-0125/97/7005-0825$18.00
SICI: 0021-0285(199709/10)70:5L.824;1-H
SICI of Translation: 1062-0125(199709/10)70:5L.825:MCSD;1-L

Sort Key: 00000210285199700070000050000000000000824
Material Identity Number: P866-98001
Accession Number: 5868542
Update Code: 9812

Record 162 of 1145 in INSPEC 1998/01-1998/06

Title: Status of Chernobyl decommissioning efforts
Author: Wood-TW; Jackson-PK; Morton-MR
Author Affiliation: Pacific Northwest Lab., Richland, WA, USA
Source: Radwaste-Magazine. vol.5, no.1; Jan. 1998; p.19-27

Publication Year: 1998
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: This article presents the technical and social challenges of developing the decommissioning planning and regulatory strategies in a country that has neither the broad-based regulatory framework nor economic infrastructure to conduct a task of this size. The aspect of working under international funding arrangements is also discussed. Specific topics covered in this article include the following: RBMK reactor description; Chernobyl nuclear power plant (ChNPP) site layout and description; overall decommissioning strategy for the site (a) damaged unit 4 shelter work, (b) deactivation of units 1, 2, and 3 and other site areas; preliminary decommissioning and construction schedules; regulatory, funding, and social challenges of ChNPP decommissioning.
Number of References: 4
Descriptors: fission-reactor-decommissioning
Identifiers: Chernobyl-decommissioning-efforts; planning-; regulatory-strategies; economic-infrastructure; international-funding-arrangements; RBMK-reactor-description; Chernobyl-nuclear-power-plant; shelter-work; preliminary-decommissioning; construction-schedules
Classification Codes: A2847 (Fission-reactor-decommissioning); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: RDMGEK
ISSN: 1070-9541
SICI: 1070-9541(199801)5:1L.19:SCDE;1-F

Sort Key: 0001070954119980000500001000000000000019
Material Identity Number: C270-98001
Accession Number: 5864957
Update Code: 9812

Record 163 of 1145 in INSPEC 1998/01-1998/06

Title: Beta dosimetry of airborne hot particles from Chernobyl fallout
Author: Kushin-VV; Smirnov-VV
Author Affiliation: Phys. Eng. Inst., Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.74, no.1-2; 1997; p.27-37
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A technique for beta dosimetry of hot particles from Chernobyl fallout has been developed. It allows the dose distribution around a hot particle in biological tissue to be evaluated. The experimental technique is based on measurement of individual electron

tracks in a hot particle autoradiogram in a nuclear emulsion: as a result, the beta dose distribution in the emulsion is measured. It is shown that the dose distribution in emulsion and in biological tissue is generally the same with uncertainties not worse than 20%. This was proved by calculation of the beta electron transport in tissue and in emulsion. The nuclear fuel beta spectra at different times after the accident were used in calculation. Calculated results are in good agreement with autoradiography experimental data. It was found that the dose curve alteration with time, after the accident, depends mainly on nuclide disintegration rather than spectral shape deformation. Thus, simple evaluation of dose distribution in tissue is available using only either beta activity data or experimental optical density curves from the autoradiogram. Activities, specific activities and sizes of airborne particles, accumulated in lung tissue near the Chernobyl NPP were measured by autoradiography methods.

Number of References: 20

Descriptors: air-pollution; beta-ray-detection; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; lung-; radioactive-pollution; radioisotope-imaging

Identifiers: beta-dosimetry; Chernobyl-fallout; dose-distribution; biological-tissue; individual-electron-tracks; hot-particle-autoradiogram; nuclear-emulsion; beta-dose-distribution; beta-electron-transport; nuclear-fuel-beta-spectra; autoradiography-experimental-data; accident-; nuclide-disintegration; beta-activity-data; experimental-optical-density-curves; lung-tissue; Chernobyl-NPP; airborne-hot-particles

Classification Codes: A8760M (Radiation-dosimetry); A8670G (Atmosphere-environmental-science); A2880C (Dosimetry); A2940 (Radiation-detectors); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A86; A28; A29; A8

Treatment Codes: X (Experimental)

Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1997)74:1/2L.27:BDAP;1-J

Sort Key: 000014484201997000740000100000000000027
Material Identity Number: B978-98003
Accession Number: 5864769
Update Code: 9812
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 164 of 1145 in INSPEC 1998/01-1998/06

Title: Chromosomal dosimetry for some groups of evacuees from Prypiat and Ukrainian liquidators at Chernobyl

Author: Maznik-NA; Vinnikov-VA; Lloyd-DC; Edwards-AA
Author Affiliation: Res. Inst. of Med. Radiol., Kharkov, Ukraine

Source: Radiation-Protection-Dosimetry. vol.74, no.1-2; 1997; p.5-11

Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Lymphocytes from some evacuees from Prypiat and clean-up workers (liquidators) have been studied for chromosomal aberrations. When dicentric yields from subjects are pooled in various ways, by date of evacuation, date of working at Chernobyl or delay in blood sampling, the resultant mean dose estimates are higher than have been generally assumed from dose reconstructions for Prypiat citizens or personal dosemeters worn by liquidators. Some of this difference may be due to the selection of subjects for study. However, dicentrics in one cohort of randomly selected evacuees, sampled very promptly, indicated a mean dose of ~300 mGy which is significantly in excess of mean dose reconstructions of ~10-20 mSv.
Number of References: 14
Descriptors: biomolecular-effects-of-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; personnel-
Identifiers: lymphocytes-; Prypiat-; clean-up-workers; chromosomal-aberrations; dicentric-yields; date-of-evacuation; Chernobyl-; blood-sampling; resultant-mean-dose-estimates; dose-reconstructions; Prypiat-citizens; personal-dosemeters; randomly-selected-evacuees; mean-dose-reconstructions; Ukrainian-liquidators; chromosomal-dosimetry; 300-mGy; 10-to-20-mSv
Classification Codes: A8760M (Radiation-dosimetry); A8725F (Physics-of-subcellular-structures); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 3.0 E01 Gy; radiation dose equivalent 1.0 E02 to 2.0 E02 Sv
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1997)74:1/2L.5:CDSG;1-M

Sort Key: 000014484201997000740000100000000000000005
Material Identity Number: B978-98003
Accession Number: 5864766
Update Code: 9812
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 165 of 1145 in INSPEC 1998/01-1998/06

Title: Chernobyl experience of emergency data management
Author: Bolshov-L; Linge-I; Arutyunyan-R; Ilushkin-A; Kanevsky-M; Kiselev-V; Melikhova-E; Ossipiants-I; Pavlovsky-O
Author Affiliation: Inst. of Nucl. Safety, Acad. of Sci., Moscow, Russia
Source: Nuclear-Engineering-and-Design. vol.173, no.1-3; Oct. 1997; p.257-67

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0029%2d5493%23173%23257&_version=1&md5=82b778196a62a912b17b3745bab8c6e5
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: The use of the Chernobyl experience in emergency data management is presented. Information technologies for the generalization of practical experience in the protection of the population after the Chernobyl accident are described. The two main components of this work are the development of the administrative information system (AIS) and the creation of the central data bank. The current state of the AIS, the data bank and the bank of models is described. Data accumulated and models are used to estimate the consequences of radiation accidents and to provide different types of prognosis. Experience of accumulated analysis data allows special software to be developed for large-scale simulation of radiation consequences of major radiation accidents and to organize practical exercises. Some examples of such activity are presented.
Number of References: 7
Descriptors: fission-reactor-accidents; information-analysis; information-retrieval; nuclear-engineering-computing; risk-management
Identifiers: Chernobyl-experience; emergency-data-management; information-technologies; population-protection; administrative-information-system; data-bank; radiation-accidents; prognosis-; large-scale-simulation; mortality-; computer-codes; radiological-visualization; radiation-risk-assessment; regional-analysis
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841C (Computer-codes-for-fission-reactor-theory-and-design); B8220B (Nuclear-reactors); C7470 (Nuclear-engineering-computing); A28; B82; C74; A2
Treatment Codes: T (Theoretical-or-Mathematical); G (General-or-Review)
Coden: NEDEAU
ISSN: 0029-5493
Copyright Clearance Center Code: 0029-5493/97/$17.00
SICI: 0029-5493(199710)173:1/3L.257:CEED;1-P
Document Number: S0029-5493(97)00113-1

Sort Key: 0000029549319970017300001000000000000257
Material Identity Number: N042-98001
Accession Number: 5826848
Update Code: 9806
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08465.001
Bestand: 3.1966=>

Record 166 of 1145 in INSPEC 1998/01-1998/06

Title: The evaluation of the irradiation levels of the skin, eye lenses and gonads for Chernobyl liquidators
Author: Osanov-DP
Author Affiliation: Inst. of Biophys., State Res. Centre of Russia, Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.74, no.4; 1997; p.235-8
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The gamma as well as beta radiation doses received by liquidators who performed clean-up works at the Chernobyl power plant in summer 1986 were measured. The measurements were conducted for the whole body, skin and eye lenses by using multilayer thermoluminescence dosemeters. In summer-autumn 1986 the absorbed doses of beta radiation in the skin, eye lenses and gonads for liquidators working in the industrial area were more than the whole-body doses of gamma radiation by factors of approximately 30, 4.5 and 3.0 respectively. Such levels of skin and eye lens irradiation are large enough for the induction of deterministic or stochastic effects.
Number of References: 8
Descriptors: beta-ray-effects; biological-effects-of-gamma-rays; biological-effects-of-ionising-particles; disasters-; dosimetry-; eye-; fission-reactor-accidents; health-hazards; skin-
Identifiers: gonads-; Chernobyl-liquidators; beta-radiation-doses; gamma-radiation-doses; clean-up-works; Chernobyl-power-plant; multilayer-thermoluminescence-dosemeters; summer-autumn; absorbed-doses; industrial-area; whole-body-doses; eye-lens-irradiation; skin-irradiation; stochastic-effects; deterministic-effects
Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8732E (Physiology-of-the-eye-nerve-structure-and-function); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1997)74:4L.235:EILS;1-7

Sort Key: 000014484201997000740000400000000000235
Material Identity Number: B978-98002
Accession Number: 5817211
Update Code: 9805
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 167 of 1145 in INSPEC 1998/01-1998/06

Title: Determination of concentrations of fissionable elements in the Black Sea sediment samples before and after Chernobyl using neutron radiography method
Author: Guzel-T; Tretyakova-SP; Akyuz-T; Oganessian-YuTs; Bolcal-C; Saritepe-P; Cagatay-N; Kiratli-N
Author Affiliation: Dept. of Phys., Istanbul Univ., Turkey
Source: Radiation-Measurements. vol.28, no.1-6; 1997; p.405-8
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=1350%2d4487%2328%23405&_version=1&md5=01f1195a9294ac033e137ef781ba6db2
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: Nuclear Tracks in Solids. 18th International Conference. 1-5 Sept. 1996; Cairo, Egypt
Country of Publication: UK
Language: English
Abstract: The fissionable element content, particularly uranium, of Black Sea sediment samples obtained in 1978 and 1989 as surfacial sediments were determined by neutron radiography using solid state nuclear track detectors.
Number of References: 3
Descriptors: neutron-radiography; radioactive-pollution; sediments-; uranium-; water-pollution
Identifiers: Black-Sea; sediment-; Chernobyl-; neutron-radiography; fissionable-element-content; solid-state-nuclear-track-detectors; U-
Classification Codes: A8670E (Water-environmental-science); A9150J (Marine-sedimentation-and-sediments); A9330G (Europe); A9330R (Regional-seas); A86; A91; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: U-el
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/97/$17.00+0.00
SICI: 1350-4487(1997)28:1/6L.405:DCFE;1-A
Document Number: S1350-4487(97)00109-1

Sort Key: 000135044871997000280000100000000000405
Material Identity Number: B357-98001
Accession Number: 5817047
Update Code: 9805
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 168 of 1145 in INSPEC 1998/01-1998/06

Title: Determination of isotopic composition of plutonium in hot particles of the Chernobyl area

Author: Boulyga-SF; Erdmann-N; Funk-H; Kievets-MK; Lomonosova-EM; Mansel-A; Trautmann-N; Yaroshevich-OI; Zhuk-IV

Author Affiliation: Inst. of Radiat. Phys. & Chem. Problems, Minsk, Byelorussia

Source: Radiation-Measurements. vol.28, no.1-6; 1997; p.349-52

Full Text: ScienceDirect (tm) http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=1350%2d4487%2328%23349&_version=1&md5=dd523b798ec8c03d20738bc2e58fdcd6

Publication Year: 1997

Record Type: Conference-Paper; Journal-article

Conference Details: Nuclear Tracks in Solids. 18th International Conference. 1-5 Sept. 1996; Cairo, Egypt

Country of Publication: UK

Language: English

Abstract: The knowledge of the isotopic composition of man-made transuranium elements (TUE) in the environmental samples is of great interest because, on the basis of these data, statements about the origin of the TUE can be made. One of the most radiotoxic elements released during reactor accidents and nuclear weapons tests was plutonium with the alpha emitters /sup 238/Pu, /sup 239/Pu, /sup 240/Pu, /sup 242/Pu and the beta-emitter /sup 241/Pu which decays into /sup 241/Am. The determination of plutonium in "hot" particles from the Chernobyl reactor was accomplished by means of solid state nuclear track detectors registering the alpha particles and by alpha spectroscopy after chemical treatment. Furthermore, in order to perform a complete analysis of the isotopic composition one of the "hot" particles has been investigated by resonance ionization mass spectrometry which possesses an excellent sensitivity and a good isotopic resolution.

Number of References: 5

Descriptors: alpha-particle-detection; plutonium-; pollution-measurement; radioactive-pollution; soil-; solid-state-nuclear-track-detectors

Identifiers: isotopic-composition; Chernobyl-area; hot-particles; man-made-transuranium-elements; environmental-samples; radiotoxic-elements; 238Pu-; 239Pu-; 240Pu-; 242Pu-; 241Pu-; 241Am-; solid-state-nuclear-track-detectors; alpha-spectroscopy; resonance-ionization-mass-spectrometry; isotopic-resolution; Pu-

Classification Codes: A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A2940W (Solid-state-nuclear-track-detectors); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A86; A29; A87; A8; A2

Treatment Codes: P (Practical); X (Experimental)

Chemical Indexing: Pu-el

Coden: RMEAEP

ISSN: 1350-4487

Copyright Clearance Center Code: 1350-4487/97/$17.00+0.00

SICI: 1350-4487(1997)28:1/6L.349:DICP;1-Q
Document Number: S1350-4487(97)00098-X

Sort Key: 0001350448719970002800001000000000000349
Material Identity Number: B357-98001
Accession Number: 5817039
Update Code: 9805
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 169 of 1145 in INSPEC 1998/01-1998/06

Title: Thyroid cancer and the Chernobyl accident
Author: Williams-ED
Author Affiliation: Dept. of Pathology, Cambridge Univ., UK
Source: Nuclear-Energy. vol.36, no.6; Dec. 1997; p.443-5
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the Chernobyl accident of April 1986, there has been a continual increase in the numbers of reported cases of childhood thyroid carcinoma. An EC-supported consortium to study the pathology and molecular biology of the thyroid cancers is being coordinated from the University of Cambridge. This paper reports the findings of this study so far, together with its recommendations for further studies.
Number of References: 9
Descriptors: biological-effects-of-radiation
Identifiers: Chernobyl-accident; thyroid-cancer; childhood-thyroid-carcinoma; pathology-; molecular-biology
Classification Codes: A8750 (Biological-effects-of-radiations); B7530 (Health-Physics); A87; B75; A8; B7
Treatment Codes: X (Experimental)
Coden: NUEGAH
ISSN: 0140-4067
Copyright Clearance Center Code: 0140-4067/97/$4.00
SICI: 0140-4067(199712)36:6L.443:TCCA;1-M

Sort Key: 0000140406719970003600006000000000000443
Material Identity Number: N103-97006
Accession Number: 5806478
Update Code: 9803
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08528.002
Bestand: 17.1978=> L:23,24,33

Record 170 of 1145 in INSPEC 1998/01-1998/06

Title: Behaviour of /sup 110m/Ag and /sup 103,106/Ru in the environment after the Chernobyl accident
Author: Vukovic-Z
Author Affiliation: Inst. of Nucl. Sci., Belgrade, Serbia
Source: Journal-of-Environmental-Radioactivity. vol.38, no.3; 1998; p.283-91
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2338%23283%233&_version=1&md5=881d69b152959846efed9edb40de123d
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The contamination from radionuclides originated from the Chernobyl accident in the processes of copper and noble metal production from the ore of open cut mining was investigated. The presence of /sup 110m/Ag and /sup 103,106/Ru in copper roast and subsequent products was found to have a constant ratio /sup 110m/Ag//sup 106/Ru (4.0+or-1.2)*10/sup -2/. A model of the transport mechanism of radionuclides as well as the value of contamination were considered.
Number of References: 10
Descriptors: accidents-; mining-; radioactive-pollution; ruthenium-; silver-
Identifiers: 110mAg-; 103Ru-; 106Ru-; environment-; Chernobyl-accident; noble-metal-production; Cu-production; open-cut-mining; ore-; transport-mechanism; Cu-; Ag-; Ru-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cu-el; Ag-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/98/$19.00+0.00
SICI: 0265-931X(1998)38:3L.283:B11E;1-0
Document Number: S0265-931X(97)00039-8

Sort Key: 0000265931X19980003800003000000000000283
Material Identity Number: I664-97011
Accession Number: 5804852
Update Code: 9803

Record 171 of 1145 in INSPEC 1998/01-1998/06

Title: Radiobiological evaluation of immigrants from the vicinity of Chernobyl
Author: Livingston-GK; Jensen-RH; Silberstein-EB; Hinnefeld-JD; Pratt-G; Bigbee-WL; Langlois-RG; Grant-SG; Shukla-R

Author Affiliation: Occupational Med. Dept., DynCorp of Colorado Inc., Golden, CO, USA
Source: International-Journal-of-Radiation-Biology. vol.72, no.6; Dec. 1997; p.703-13
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()72:06L.703
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Eighty individuals (55 adults and 25 children) who were residents of four cities (Kiev, Mozyr, Gomel and Bobrujsk) located 100-200 km from Chernobyl at the time of the accident in 1986 were tested after immigrating to the US from 1989-1991. A whole-body counter was employed to quantitate radiocesium content. In addition, two biological measures of radiation effects, namely, chromosomal integrity using the micronucleus assay and somatic mutation analysis of erythrocytes at the glycophorin A (GPA) locus, were applied to this group. Radiocesium activity in the body ranged from 0 to 56.8 Bq/kg with a mean and standard deviation of 5.0+or-8.2 and a median value of 2.0 Bq/kg. Mean radiocesium content by groups was highest in adult males (9.0+or-1.17; range 0.21-56.8 Bq/kg) followed by adult females (3.3+or-4.5; range 0-21.3 Bq/kg), male children (3.0+or-5.7; range 0-20.2 Bq/kg) and lowest in female children (1.6+or-3.5; range 0-12.7 Bq/kg). Individuals with the highest radiocesium content in each group belonged to one family that lived in Mozyr (100 km from Chernobyl) until emigrating in 1989. The frequency of lymphocyte micronuclei and erythrocyte GPA allele-loss (OE/N) somatic mutations were both significantly correlated with radiocesium content (r=0.57, p=0.002; r=0.75, p=0.002, respectively). The micronucleus frequency also correlated with the estimated internal absorbed dose from radiocesium in a subset of 20 immigrants for whom this calculation was possible (r=0.71, p=0.0005). Altogether, the biomonitoring data indicate that some subjects had radiation doses sufficient to produce gene and chromosomal mutations in blood cells, although these effects cannot be attributed solely to radiocesium exposure.
Number of References: 43
Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; caesium-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; genetics-; radioactive-pollution; radioisotopes-
Identifiers: immigrants-; individuals-; residents-; cities-; Kiev-; Mozyr-; Gomel-; Bobrujsk-; whole-body-counter; chromosomal-integrity; micronucleus-assay; somatic-mutation-analysis; erythrocytes-; glycophorin-A-locus; mean-137Cs-content; adult-males; adult-females; male-children; female-children; lymphocyte-micronuclei; erythrocyte-GPA-allele-loss; estimated-internal-absorbed-dose; micronucleus-frequency; radiation-doses; blood-cells; 100-to-200-km; Cs-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8725F (Physics-of-subcellular-structures); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-

dosimetry); A2880C (Dosimetry); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 1.0 E05 to 2.0 E05 m
Chemical Indexing: Cs-el
Coden: IJRBA3
ISSN: 0955-3002
Copyright Clearance Center Code: 0955-3002/97/$12.00
SICI: 0955-3002(199712)72:6L.703:REIF;1-D
Copyright Statement: Copyright 1998, IEE
Sort Key: 0000955300219970007200006000000000000703
Material Identity Number: I200-97012
Accession Number: 5804739
Update Code: 9803

Record 172 of 1145 in INSPEC 1998/01-1998/06

Title: A study of the effects of exposure on cleanup workers at the Chernobyl nuclear reactor accident using multiple end points
Author: Moore-DH-II; Tucker-JD; Jones-IM; Langlois-RG; Pleshanov-P; Vorobtsova-I; Jensen-R
Author Affiliation: Res. Inst., California Pacific Med. Center, San Francisco, CA, USA
Source: Radiation-Research. vol.148, no.5; Nov. 1997; p.463-75
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Blood samples were collected from 192 exposed workers who participated in the cleanup after the April 26, 1986, nuclear reactor accident at Chernobyl, Ukraine. These samples, together with samples from 73 individuals living in Russia but not involved in Chernobyl cleanup activities, were collected during September 1991 to May 1996 and shipped to the US. For evaluation by three bioassays: cytogenetic analysis based on chromosome painting, HPRT mutation analysis and glycophorin A (GPA) variant analysis. Univariate statistical analyses of the results of each bioassay (including adjustments for age, smoking status and estimated precision of the bioassay) found greater frequencies of chromosome translocations and HPRT mutant T lymphocytes among the exposed individuals compared to the controls (P<or=0.01). GPA analyses showed no significant difference for exposed compared to controls for either hemizygous, N/OE, or homozygous, N/N, variant cell frequency. Multivariate analysis of variance of the subset of 44 exposed and 14 unexposed individuals with measurements from all three bioassays found elevated frequencies of chromosomal translocations and HPRT mutants, and reduced frequencies for both GPA end points among the exposed persons compared to the controls. However, none of these differences, considered singly or in combination, was statistically significant (although

statistical power is low due to small sample sizes). Mean estimated dose, based on cytogenetic response, for those exposed was 9 ccy (range 0 to 51 cGy) and was less than that estimated by physical dosimetry (25 cGy). Correlation between the end points of the bioassays and estimated physical dosimetry was low ($r<0.2$); the only significant correlation found was for physical dose estimate and dates worked at Chernobyl ($r=0.4$, $P<0.01$), with those working soon after the accident receiving greater estimated doses.

Number of References: 36

Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; genetics-; health-hazards; personnel-

Identifiers: cleanup-workers; Chernobyl-nuclear-reactor-accident; multiple-end-points; blood-samples; exposed-workers; Ukraine-; Chernobyl-cleanup-activities; bioassays-; cytogenetic-analysis; chromosome-painting; HPRT-mutation-analysis; glycophorin-A-variant-analysis; univariate-statistical-analyses; age-; smoking-status; exposed-individuals; controls-; hemizygous-NOE-variant-cell-frequency; homozygous-NN-variant-cell-frequency; chromosomal-translocations; mean-estimated-dose; cytogenetic-response; estimated-physical-dosimetry; 0-to-51-cGy

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725F (Physics-of-subcellular-structures); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation absorbed dose 0.0 E00 to 5.1 E01 Gy

Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/97/$5.00
SICI: 0033-7587(199711)148:5L.463:SEEC;1-6

Sort Key: 00000337587199700148000050000000000000463
Material Identity Number: R066-97010
Accession Number: 5792969
Update Code: 9801

Record 173 of 1145 in INSPEC 1998/01-1998/06

Title: Lichen (sp. Cladonia) as a deposition indicator for transuranium elements investigated with the Chernobyl fallout

Author: Paatero-J; Jaakkola-T; Kulmala-S
Author Affiliation: Lab. of Radiochem., Helsinki Univ., Finland

Source: Journal-of-Environmental-Radioactivity. vol.38, no.2; 1998; p.223-47

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2338%23223%232&_version=1&md5=de86d45ffa3afacf90acc46985ce0b92
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The feasibility of employing carpet-forming lichens (sp. Cladonia) as a measure for the deposition of transuranium elements was investigated with the Chernobyl fallout. In Finland, the deposition of these elements after the accident was very uneven. The highest deposition values for /sup 238/Pu, /sup 239,240/Pu, /sup 241/Am, /sup 242/Cm and /sup 243,244/Cm were 5.7, 3.0, 1.3, 98 and 0.025 Bq m/sup -2/, respectively. The amount of deposited /sup 239,240/Pu was, however, only some percent of the fallout of the nuclear test explosions of the 1950s and the 1960s. Instead, practically no /sup 242/Cm was released into the environment during the weapons' testing. The correlation between the refractory nuclides /sup 238/Pu, /sup 239, 240/Pu, /sup 241/Am, /sup 242/Cm, /sup 95/Zr and /sup 144/Ce in lichen was high (r=0.709-0.979), but the correlation between the transuranium elements and volatile /sup 137/Cs was much lower (r=0.227-0.276). The calculated biological half-lives of Pu and Am in lichen were 730 and 320 days, respectively. The /sup 238/Pu//sup 239,240/Pu activity ratio in the top parts of lichen samples 0.54+or-0.02 corresponding to a burn-up value of 12 MWd kg/sup -1/. The /sup 238/Pu//sup 239,240/Pu activity ratios of 0.43 and 0.69 measured from two isolated hot particles correspond to burn-up values of 10 and 14 MWd kg/sup -1/, respectively.
Number of References: 33
Descriptors: air-pollution; americium-; curium-; plutonium-; radioactive-pollution
Identifiers: carpet-forming-lichens; transuranium-elements; Chernobyl-fallout; Finland-; 238Pu-; 241Am-; 242Cm-; 243Cm-; 244Cm-; 239Pu-; 240Pu-; refractory-nuclides; 95Zr-; 144Ce-; biological-half-lives; isolated-hot-particles; Pu-; Am-; Cm-; Zr-; Ce-; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Am-el; Cm-el; Zr-el; Ce-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/98/$19.00+0.00
SICI: 0265-931X(1998)38:2L.223:LCDI;1-0
Document Number: S0265-931X(97)00024-6

Sort Key: 0000265931X19980003800002000000000000223
Material Identity Number: I664-97010
Accession Number: 5790615

Update Code: 9801

Record 174 of 1145 in INSPEC 7/97-12/97

Title: Redistribution of Chernobyl /sup 137/Cs in Ukraine wetlands by flooding and runoff
Author: Burrough-PA; Gillespie-M; Howard-B; Prister-B
Author Affiliation: Fac. of Geogr. Sci., Utrecht Univ., Netherlands
Editor: Kovar-K; Nachtnebel-HP
Source: Application of Geographics Information Systems in Hydrology and Water Resources Management. Int. Assoc. Hydrological Sci, Wallingford, UK; 1996; xii+711 pp.
p.269-77
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Proceedings of International Conference on the Application of GIS in Hydrology and Water Resources. 16-19 April 1996; Vienna, Austria
Country of Publication: UK
Language: English
Abstract: Large areas of the Ukraine, Byelorus and southern Russia were affected by the explosion at the Chernobyl nuclear plant in April 1986. In the Ukraine, at the Chapayev and Kolos collective farms in the Rovno region near the Byelorus border some 350 km west of Chernobyl, radiation levels measured in 1988, 1993 and 1994 have been found to be much higher than expected with strong evidence of radiocaesium from contaminated soils being adsorbed by plants and animals. Radiation levels are found to vary strongly both spatially and temporally from less than 50 kBq m/sup -2/ to more than 1200 kBq m/sup -2/, with 1993 levels at some locations being more than three times the measured 1988 levels. The paper uses geostatistical methods linked to GIS to demonstrate that the elevated levels of radiation are due to transport and concentration of /sup 137/Cs by river flood waters and to show the effects on the soils and land use of the area. The problem is serious because of the extent to which annual flooding occurs along the River Pripyat and its tributaries along a 400 km stretch of the Ukraine-Byelorus border.
Number of References: 9
Descriptors: caesium-; geographic-information-systems; hydrology-; radioactive-pollution; transport-processes
Identifiers: Chernobyl-137Cs; Ukraine-wetlands; flooding-; runoff-; Byelorus-; southern-Russia; Chernobyl-nuclear-plant; radiation-levels; radiocaesium-; contaminated-soils; geostatistical-methods; GIS-; river-flood-waters; land-use; annual-flooding; 50-to-1200-kBq
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9240F (Rivers-runoff-and-streamflow); A9330G (Europe); C7840 (Geography-and-cartography-computing); C6160S (Spatial-and-pictorial-databases); C7340 (Geophysics-computing); C7130 (Public-administration); A87; A92; A93; C78; C61; C73; C71; A8; A9
Treatment Codes: P (Practical)

Numerical Data Indexing: radioactivity 5.0 E04 to 1.2 E06 Bq
ISBN: 0947571841
Availability: IAHS Press, Institute of Hydrology, Wallingford, Oxon. OX10 8BB, UK

Sort Key: 109475718411996000000000000000000000269
Material Identity Number: XX96-01018
Accession Number: 5785965
Update Code: 9750

Record 175 of 1145 in INSPEC 7/97-12/97

Title: Chemical fractionation of /sup 90/Sr, /sup 106/Ru, /sup 137/Cs and /sup 144/Ce in Chernobyl-contaminated soils: an evolution in the course of time
Author: Krouglov-SV; Kurinov-AD; Alexakhin-RM
Author Affiliation: Russian Inst. of Agric. Radiol. & Agroecology, Kaluga, Russia
Source: Journal-of-Environmental-Radioactivity. vol.38, no.1; 1998; p.59-76
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2338%2359%231&_version=1&md5=56bd6c0e651714d8c51b450b383765f1
Publication Year: 1998
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The sequential extraction procedure was used for the evaluation of the chemical species of /sup 90/Sr, /sup 106/Ru, /sup 134/Cs, /sup 137/Cs and /sup 144/Ce nuclides in highly contaminated soils inside a 30-km restricted zone around the Chernobyl nuclear power plant. Chemical leaching and weathering of fuel particles have resulted in a rapid increase in the relative contents in soil exchangeable /sup 90/Sr and amount of /sup 144/Ce easily extracted by diluted hydrochloric acid, whereas the ageing effect has helped to make caesium gradually more strongly fixed. In all cases, the behaviour of /sup 134/Cs and /sup 137/Cs in soils was identical. The fact that only partial extraction of /sup 106/Ru by diluted and strong acid has occurred reflects the low solubility of ruthenium, probably included in fuel particles as an intermetallic impurity. The variations in radionuclides speciation with time have been used for estimating the rate of their release from fuel particles and fixation in soil. Average leaching rate constants for /sup 90/Sr, /sup 144/Ce and /sup 106/Ru are 1.1*10/sup -3/, 6.9*10/sup -4/ and 9.4*10/sup -5/ day/sup -/, respectively, and the rare constant for caesium fixation is about 7.3*10/sup -4/ day/sup -1/.
Number of References: 16
Descriptors: caesium-; cerium-; radioactive-pollution; radioisotopes-; ruthenium-; soil-; strontium-
Identifiers: chemical-fractionation; 90Sr-; 106Ru-; 137Cs-; 144Ce-; Chernobyl-contaminated-soils; sequential-extraction-procedure; chemical-species; chemical-

leaching; weathering-; fuel-particles; diluted-hydrochloric-acid; intermetallic-impurity; radionuclides-speciation; Sr-; Ru-; Cs-; Ce-

Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A87; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Sr-el; Ru-el; Cs-el; Ce-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/98/$19.00+0.00

SICI: 0265-931X(1998)38:1L.59:CF91;1-Z

Document Number: S0265-931X(97)00022-2

Sort Key: 0000265931X19980003800001000000000000059

Material Identity Number: I664-97009

Accession Number: 5777199

Update Code: 9749

Record 176 of 1145 in INSPEC 7/97-12/97

Title: /sup 137/Cs urinary excretion by northwestern Italians ten years after the Chernobyl accident

Author: Ropolo-R; Cesana-P

Author Affiliation: Servizio di Fisica Sanitaria, Molinette Hospital, Torino, Italy

Source: Health-Physics. vol.73, no.3; Sept. 1997; p.498-501

Publication Year: 1997

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: Measurements of /sup 137/Cs contamination in the urine of 37 individuals were performed in 1995 and 1996 in order to evaluate the /sup 137/Cs daily urinary excretion in the northwestern Italian people ten years from the Chernobyl accident. The difference between the average /sup 137/Cs daily urinary excretion assessed for 1995 and for 1996 was not statistically significant. Using the values of urine contamination, an estimate of 0.2 Bq/sup -1/ of mean ingested activity was obtained. A mean committed effective dose of about 1 pSv was determined as due to the /sup 137/Cs ingestion during 1 y at 10 y after the accident. Such a dose is lower by a factor of 10/sup 3/ than the corresponding value for the population of North Italy in the first year following the Chernobyl accident.

Number of References: 17

Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: northwestern-Italians; Chernobyl-accident; 137Cs-daily-urinary-excretion; northwestern-Italian-people; statistically-significant; urine-contamination; mean-

ingested-activity; mean-committed-effective-dose; 137Cs-ingestion; North-Italy; population-; 1-muSv; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.0 E06 Sv
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00+0
SICI: 0017-9078(199709)73:3L.498:1UEN;1-Q
Copyright Statement: Copyright 1997, IEE
Sort Key: 0000017907819970007300003000000000000498
Material Identity Number: P578-97010
Accession Number: 5759054
Update Code: 9746
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 177 of 1145 in INSPEC 7/97-12/97

Title: Airborne gamma ray measurements in the Chernobyl plume
Author: Grasty-RL; Hovgaard-J; Multala-J
Author Affiliation: Exploranium, Mississauga, Ont., Canada
Source: Radiation-Protection-Dosimetry. vol.73, no.1-4; 1997; p.225-30
Publication Year: 1997
Record Type: Journal-article
Conference Details: Decision Making Support for Off-Site Emergency Management. Fourth International Workshop
Country of Publication: UK
Language: English
Abstract: On 29 April 1986, the Geological Survey of Finland (GSF) survey aircraft with a gamma-ray spectrometer flew through a radioactive plume from the Chernobyl nuclear accident. As the aircraft flew through the plume, the aircraft became increasingly contaminated. Within one hour of encountering the plume, the gamma-ray counts due to the aircraft contamination were comparable to those due to the plume. Using a simple model that assumed the aircraft contamination was proportional to the activity of the plume, the aircraft contamination was subtracted from the measured spectrum. The concentration of /sup 131/I and /sup 140/La within the plume were then calculated as a function of time. By comparing the relative proportions of /sup 131/I and /sup 140/La that contaminated the aircraft, it was calculated that approximately 80% of /sup 131/I was in a gaseous form. The measurements demonstrate the problem of aircraft contamination associated with tracking a radioactive plume. However, in spite of this

contamination problem, valuable information as to the nature of the plume was extracted from the airborne measurements. Based on these measurements, it is concluded that a NaI gamma-ray spectrometer can provide valuable information in the early stages of a nuclear accident.

Number of References: 4

Descriptors: air-pollution-measurement; aircraft-; atmospheric-radioactivity; gamma-ray-spectra; gamma-ray-spectroscopy; radioactive-pollution; radioactivity-measurement; tracking-

Identifiers: airborne-gamma-ray-measurements; radioactive-plume-tracking; Chernobyl-nuclear-accident; aircraft-contamination; 131I-concentration; 140La-concentration; gaseous-form; NaI-gamma-ray-spectrometer; I-; La-; NaI-

Classification Codes: A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A2930K (X--and-gamma-ray-spectroscopy); A0785 (X-ray-gamma-ray-instruments-and-techniques); A2880F (Radiation-monitoring-and-radiation-protection); A86; A92; A29; A07; A28; A8

Treatment Codes: P (Practical); X (Experimental)

Chemical Indexing: I-el; La-el; NaI-bin Na-bin I-bin

Coden: RPDODE

ISSN: 0144-8420

SICI: 0144-8420(1997)73:1/4L.225:AGMC;1-1

Sort Key: 0000144842019970007300001000000000000225

Material Identity Number: B978-97012

Accession Number: 5754675

Update Code: 9746

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 178 of 1145 in INSPEC 7/97-12/97

Title: Simulation of countermeasures to diminish radionuclide fluxes from the Chernobyl zone via aquatic pathways

Author: Zheleznyak-M; Shepeleva-T; Sizonenko-V; Mezhueva-I

Author Affiliation: Inst. of Math. Machine & Syst. Problems, Acad. of Sci., Kiev, Ukraine

Source: Radiation-Protection-Dosimetry. vol.73, no.1-4; 1997; p.181-6

Publication Year: 1997

Record Type: Journal-article

Conference Details: Decision Making Support for Off-Site Emergency Management. Fourth International Workshop

Country of Publication: UK

Language: English

Abstract: The influence on hydraulic countermeasures in the Chernobyl zone on the radioactive contamination of the Pripyat River and Dnieper reservoirs is studied on the

basis of the set of mathematical models of radionuclide aquatic transport. The models are validated using post-accident monitoring data. The most efficient countermeasure for water protection after the Chernobyl accident was the dam construction on the left-bank Pripyat River floodplain at the Chernobyl nuclear power plant. The effectiveness of the continuation of this project by the right-bank dam construction is evaluated by means of simulating the /sup 90/Sr concentration in the Pripyat River and the Dnieper reservoirs.

Number of References: 8

Descriptors: dams-; fission-reactor-accidents; hydrological-techniques; radioactive-pollution; rivers-; simulation-; water-pollution

Identifiers: radionuclide-flux-reduction-simulation; Chernobyl-zone; aquatic-pathways; hydraulic-countermeasures; radioactive-contamination; Pripyat-River; Dnieper-reservoirs; radionuclide-aquatic-transport-models; post-accident-monitoring-data; water-protection; dam-construction; river-floodplain; Chernobyl-nuclear-power-plant; 90Sr-concentration; Sr-

Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9240F (Rivers-runoff-and-streamflow); A9330G (Europe); A9385 (Instrumentation-and-techniques-for-geophysical-hydrospheric-and-lower-atmosphere-research); A86; A28; A92; A93; A8; A2; A9

Treatment Codes: T (Theoretical-or-Mathematical)

Chemical Indexing: Sr-el

Coden: RPDODE

ISSN: 0144-8420

SICI: 0144-8420(1997)73:1/4L.181:SCDR;1-9

Sort Key: 0000144842019970007300001000000000000181

Material Identity Number: B978-97012

Accession Number: 5754666

Update Code: 9746

Record 179 of 1145 in INSPEC 7/97-12/97

Title: /sup 129/I, /sup 131/I and /sup 127/I in animal thyroids after the Chernobyl nuclear accident

Author: VanMiddlesworth-L; Handl-J

Author Affiliation: Dept. of Physiology & Biophys., Tennessee Univ., Memphis, TN, USA

Source: Health-Physics. vol.73, no.4; Oct. 1997; p.647-50

Publication Year: 1997

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: A small number of animal thyroids from Bad Hall, Austria; Ulm, Germany; and Steinkjer, Norway had /sup 131/I (half-life 8.06 d) measured between 21 and 72 d following the nuclear accident at Chernobyl on 26 April 1986. Nine years later /sup 129/I (half-life 1.57*10/sup 7/ y) fission product and natural /sup 127/I were measured in the same thyroids. The mass ratios, /sup 129/I//sup 131/I were calculated to the date of the Chernobyl accident and they ranged between 13 and 71. These ratios are compared to the expected ratios within an operating nuclear reactor during 2 y of operation, where the /sup 129/I//sup 131/I/sup -1/ ratio never exceeded 30. The observed ratio of /sup 129/I to natural /sup 127/I in thyroids ranged from 5 to 200 times the ratio before the accident, except that the Norwegian thyroids had /sup 129/I//sup 127/I ratios which were less than the ratios of pre-Chernobyl thyroids from Ulm. These studies show the /sup 129/I and /sup 131/I from the Chernobyl accident were accumulated with natural /sup 127/I in animal thyroids but the isotope ratios, calculated to the release date, had wide ranges. The /sup 131/I radioactive exposure might be estimated from a fission product mixture by measuring /sup 129/I in thyroids long after the exposure to /sup 131/I, but the results would probably show a wide range of possibilities. The determining variables should be evaluated. We know of no previous data regarding both /sup 131/I and /sup 129/I in thyroid glands during the first 3 mo after the Chernobyl accident.
Number of References: 16
Descriptors: fission-reactor-accidents; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-nuclear-accident; animal-thyroids; mass-ratios; operating-nuclear-reactor; Norwegian-thyroids; pre-Chernobyl-thyroids; Bad-Hall; Austria-; Ulm-; Germany-; Steinkjer-; Norway-; isotope-ratios; release-date; 131I-radioactive; 129I-; natural-127I; I-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00+0
SICI: 0017-9078(199710)73:4L.647:111A;1-N

Sort Key: 00000179078199700073000040000000000000647
Material Identity Number: P578-97011
Accession Number: 5750784
Update Code: 9745
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: Survey of the /sup 137/Cs contamination in Belgium by in-situ gamma spectrometry, a decade after the Chernobyl accident
Author: Uyttenhove-J; Pomme-S; Van-Waeyenberge-B; Hardeman-F; Buysse-J; Culot-J-P
Author Affiliation: Phys. Lab., Ghent Univ., Belgium
Source: Health-Physics. vol.73, no.4; Oct. 1997; p.644-6
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The residual radiocesium concentration, nearly 10 y after the Chernobyl accident, is measured at different sites on the Belgian territory by means of in-situ gamma-spectrometry, A possible link between the rainfall at the beginning of May 1986 and the actual cesium concentration is investigated. The radiological impact of this contamination, even in the most affected regions in the Ardennes, is very small (<6 mu Sv y/sup -1/).
Number of References: 6
Descriptors: caesium-; disasters-; fission-reactor-accidents; gamma-ray-detection; gamma-ray-spectra; health-hazards; radioactive-pollution; radioisotopes-; rain-; soil-
Identifiers: 137Cs-contamination; Ardennes-; in-situ-gamma-spectrometry; Chernobyl-accident; Belgian-territory; rainfall-; most-affected-regions; radiological-impact; residual-137Cs-concentration; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A93; A86; A28; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00+0
SICI: 0017-9078(199710)73:4L.644:S1CB;1-S

Sort Key: 0000017907819970007300004000000000000644
Material Identity Number: P578-97011
Accession Number: 5750783
Update Code: 9745

Record 181 of 1145 in INSPEC 7/97-12/97

Title: Shelter Implementation Plan: a way forward for Chernobyl 4

Author: Heriot-ID; Belousov-EL
Author Affiliation: Eur. Bank for Reconstruction & Dev., London, UK
Source: Nuclear-Engineering-International. vol.42, no.519; Oct. 1997; p.10-12
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Shelter Implementation Plan aims to make the site of the wrecked Chernobyl 4 environmentally safe. The Plan, which will take 8-9 years to put into effect and will cost around $750 million, is "a logical approach to finding an optimised route through the various technical scenarios previously studied". The SIP already has financial support from G7 and EC, while a pledging conference for other potential donors is scheduled for November.
Number of References: 2
Descriptors: fission-reactor-accidents; radiation-protection; shielding-
Identifiers: Shelter-Implementation-Plan; Chernobyl-4; Chernobyl-accident
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A28; A87; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
SICI: 0029-5507(199710)42:519L.10:SIPF;1-F

Sort Key: 0000029550719970004200519000000000000010
Material Identity Number: N022-97011
Accession Number: 5736021
Update Code: 9743

Record 182 of 1145 in INSPEC 7/97-12/97

Title: Thyroid cancer among "liquidators" of the Chernobyl accident
Author: Ivanov-VK; Tsyb-AF; Gorsky-AI; Maksyutov-MA; Rastopchin-EM; Konogorov-AP; Biryukov-AP; Matyash-VA; Mould-RF
Author Affiliation: Med. Radiological Res. Centre, Acad. of Scis., Obninsk, Russia
Source: British-Journal-of-Radiology. vol.70, no.837; Sept. 1997; p.937-41
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In 1986, immediately after the Chernobyl accident, the USSR Ministry of Health adopted a large scale programme of establishing an All-Union Distributed Registry of

persons affected by radiation due to the accident. The registry was based at the Medical Radiological Research Centre of the Russian Academy of Medical Sciences (MRRC RAMS). In 1992, when the USSR was dissolved, this registry database contained information on 659,000 persons, including 284,000 Chernobyl accident emergency workers ("liquidators"). Currently, the Russian National Medical Dosimetric Registry (RNMDR) contains data on 435,276 persons, including 167,862 liquidators. This paper reviews the data for 47 verified thyroid cancers in the liquidator subgroup of the RNMDR. Analyses show that there is an excess relative risk of thyroid cancer per Gy of 5.31 (95% confidence intervals 0.04 and 10.58) and an excess absolute risk of thyroid cancer per 10/sup 4/ person-years per Gy of 1.15 (95% confidence intervals 0.08 and 2.22).

Number of References: 26

Descriptors: biological-effects-of-ionising-radiation; fission-reactor-accidents; radioactive-pollution; reviews-

Identifiers: thyroid-cancer; Chernobyl-accident-emergency-workers; Chernobyl-accident-liquidators; Russian-National-Medical-Dosimetric-Registry; excess-absolute-risk; registry-database; USSR-Ministry-of-Health; radiation-effects

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0130R (Reviews-and-tutorial-papers-resource-letters); A87; A28; A01; A8

Treatment Codes: G (General-or-Review); X (Experimental)

Coden: BJRAAP

ISSN: 0007-1285

SICI: 0007-1285(199709)70:837L.937:TCAT;1-2

Sort Key: 00000071285199700070008370000000000000937

Material Identity Number: B010-97011

Accession Number: 5732267

Update Code: 9743

Record 183 of 1145 in INSPEC 7/97-12/97

Title: Case-control analysis of leukaemia among Chernobyl accident emergency workers residing in the Russian Federation, 1986-1993

Author: Ivanov-VK; Tsyb-AF; Konogorov-AP; Rastopchin-EM; Khait-SE

Author Affiliation: Res. Inst. of Med. Radiol., Acad. of Med. Sci., Obninsk, Russia

Source: Journal-of-Radiological-Protection. vol.17, no.3; Sept. 1997; p.137-57

Publication Year: 1997

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Presents an analysis of data of the Russian National Medical and Dosimetric Registry on the incidence of leukaemia among 155 680 male Chernobyl accident

emergency workers (EWs) who were resident in the Russian Federation (RF) for the period from 1986 to the end of 1993. The system of collection and verification of data on leukaemia is described. 48 cases of leukaemia among EWs were identified in 1986-1993. The principal analysis includes 34 leukaemia cases occurring more than two years after first exposure. The analysis was carried out for all leukaemia and leukaemia excluding chronic lymphocytic leukaemia (CLL), separately. Distributions of leukaemia cases by age, time of diagnosis since entry into the Chernobyl zone, radiation dose, date of entry into the Chernobyl zone, duration of stay in the region of Chernobyl were calculated. To evaluate leukaemia risks associated with various factors the case-control methodology was used. Radiation dose, date of entry into the zone, duration of stay in the zone were used as risk factors. No significant associations between leukaemia risks and the investigated factors were found. Calculation of the standardised registration ratios (SRR) revealed a significant increase in the registration of leukaemia among all EWs (SRR=205, 95% confidence interval (CI) 136-297) and the EWs arriving in the zone during 1986-1987 (SRR=200, 95% CI: 127-300) compared with the general male population of the RF in 1991-1993. However, raised SRRs may be accounted for by the differences in medical screening in the compared populations, particularly the efforts made to identify leukaemia cases among the EWs. The absence of a dose-related trend for leukaemia indicates that this explanation is likely to be correct.

Number of References: 17
Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; personnel-
Identifiers: case-control-analysis; time-of-diagnosis; leukaemia-cases; Russian-Federation; male-Chernobyl-accident-emergency-workers; radiation-dose; age-; leukaemia-risks; date-of-entry; risk-factors; standardised-registration-ratios; general-male-population; medical-screening; chronic-lymphocytic-leukaemia; dose-related-trend
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/97/030137+21$19.50
SICI: 0952-4746(199709)17:3L.137:CCAL;1-N

Sort Key: 0000952474619970001700003000000000000137
Material Identity Number: L887-97004
Accession Number: 5727890
Update Code: 9742
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Title: Some results of the airborne high energy resolution gamma-spectrometry application for the research of the USSR European territory radioactive contamination in 1986 caused by the Chernobyl accident

Author: Drovnikov-VV; Egorov-NY; Kovalenko-VV; Serboulov-YA; Zadorozhny-YA
Author Affiliation: Moscow Eng. Phys. Inst., Acad. of Sci., Moscow, Russia

Source: Journal-of-Environmental-Radioactivity. vol.37, no.2; 1997; p.223-34
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2337%23223%232&_version=1&md5=82b0c66bc8db7adc4b5bbf9d8ab423f9
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The main results of the investigation of the European part of the (former) USSR radiation contamination in summer 1986 after Chernobyl accident using the MEPhI airborne high energy, resolution gamma-spectrometry system are presented. The results of research are presented as the surface activity density distribution maps for /sup 131/I, /sup 132/Te, /sup 95/Zr+/sup 95/Nb, /sup 103/Ru, /sup 106/Ru, /sup 140/Ba+/sup 140/La, /sup 141/Ce, /sup 134/Cs, /sup 137/Cs for the significant part of the USSR European territory.

Number of References: 6
Descriptors: air-pollution; fission-reactor-accidents; gamma-ray-detection; gamma-ray-spectroscopy; radiation-monitoring; radioactive-pollution
Identifiers: airborne-high-energy-resolution-gamma-spectrometry; former-USSR-European-territory; radioactive-contamination; Chernobyl-accident; surface-activity-density-distribution; 131I-; 132Te-; 95Zr-; 95Nb-; 103Ru-; 106Ru-; 140Ba-; 140La-; 141Ce-; 134Cs-; 137Cs-; I-; Te-; Zr-; Nb-; Ru-; Ba-; La-; Ce-; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9260T (Air-quality-and-air-pollution); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection); A0785 (X-ray-gamma-ray-instruments-and-techniques); A86; A28; A92; A87; A07; A8; A2; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Te-el; Zr-el; Nb-el; Ru-el; Ba-el; La-el; Ce-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$17.00+0.00
SICI: 0265-931X(1997)37:2L.223:SRAH;1-F

Sort Key: 0000265931X19970003700002000000000000223
Material Identity Number: I664-97007
Accession Number: 5727103
Update Code: 9742

Record 185 of 1145 in INSPEC 7/97-12/97

Title: Commuter system at the Chernobyl atomic power plant
Author: Ivanov-EA; Kochetkov-OA; Tsov'yanov-AG; Nosovskii-AV; Chaban-NG
Author Affiliation: All-Russian Sci.-Res. Inst. of Atomic Power Stations, Russia
Source: Atomic-Energy. vol.82, no.2; Feb. 1997; p.140-4
Translated from: Atomnaya-Energiya. vol.82, no.2; Feb. 1997; p.140-6
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Continued operation of the Chernobyl atomic power plant after the 1986 accident calls for appropriate radiation-safety measures, including the organization of a system to transport the workforce from Slavutich to the power plant and back, with minimal risk of exposing the city's population to unsafe radiation levels. It has been established that the radioactive contamination of the ground and the workers' protective clothing is significantly different within the Chernobyl plant itself and in the surrounding exclusion area, especially within a 10-km radius of the plant. Radioactive contamination usually occur predominantly through contact and less often through the incidence of liquid or solid particles containing radioactive materials from the air. In the exclusion area, however, the role of incidence from the air is significantly increased. Analysis of the complex radiation conditions in the region of the Chernobyl power station after the accident indicated that, to ensure radiational safety of the workforce in commuting between the power station and Slavutich, a full-scale radiational checkpoint meeting all health and safety standards should be built at the border of the exclusion zone. In this case, the workers travelling from Slavutich to the Chernobyl plant would leave the clean electric train at the Peresadochnaya station and then change into an intermediate set of safety clothing and continue to the station on so-called dirty trains. At the plant, the workers must work in the intermediate set of protective clothing or in the basic protective clothing after changing at a second set of safety checkpoints.
Number of References: 0
Descriptors: radiation-protection; radioactive-pollution
Identifiers: Chernobyl-atomic-power-plant; radiation-safety-measures; radioactive-contamination; protective-clothing; exclusion-area; radiational-safety; Slavutich-; full-scale-radiational-checkpoint; Peresadochnaya-station
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A8760P (Radiation-protection); A28; A87; A86; A2; A8
Treatment Codes: P (Practical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/97/8202-0140$18.00
SICI: 0004-7163(199702)82:2L.140;1-X

SICI of Translation: 1063-4258(199702)82:2L.140:CSCA;1-N

Sort Key: 00000047163199700082000020000000000000140
Material Identity Number: P995-97012
Accession Number: 5714619
Update Code: 9740
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 186 of 1145 in INSPEC 7/97-12/97

Title: Sources and mechanisms of aerosol formation in the Chernobyl "sarcophagus"
Author: Kuz'mina-IE; Tokarevskii-VV
Source: Atomic-Energy. vol.82, no.2; Feb. 1997; p.129-35
Translated from: Atomnaya-Energiya. vol.82, no.2; Feb. 1997; p.130-5
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: We report the results of studies on the physicochemical characteristics of particles of the disperse phase of aerosols from the Chernobyl sarcophagus and consider the sources and mechanisms by which they form. Aerosol particles were taken at various height marks with the aid of a typical air blower from surfaces-masks on Petryanov filters. The morphology of the particles was studied on a scanning electron microscope, the elemental composition was determined by local electron-probe analysis, and the activity was measured by gamma- and alpha-spectrometric and radiochemical methods. The coefficient of radionuclide fractionation relative to /sup 144/Ce, which is regarded as a bench mark was calculated from a formula given for the particular case of /sup 137/Cs, determined experimentally and calculated for the nuclear fuel averaged over the reactor core. The fractionation coefficients of other radionuclides were determined in similar fashion.
Number of References: 10
Descriptors: aerosols-; air-pollution; alpha-particle-spectroscopy; americium-; antimony-; caesium-; cerium-; cobalt-; electron-probe-analysis; europium-; gamma-ray-spectroscopy; radioactive-chemical-analysis; radioactive-pollution; radioisotopes-; ruthenium-
Identifiers: aerosol-formation; Chernobyl-sarcophagus; physicochemical-characteristics; disperse-phase; Petryanov-filters; scanning-electron-microscope; elemental-composition; local-electron-probe-analysis; alpha-spectrometric-methods; gamma-spectrometric-methods; radiochemical-methods; radionuclide-fractionation; 144Ce-; 137Cs-; nuclear-fuel; 60Co-; 134Cs-; 125Sb-; 106Ru-; 241Am-; 154Eu-; 155Eu-; Ce-; Cs-; Co-; Ru-; Eu-; Sb-; Am-
Classification Codes: A8670G (Atmosphere-environmental-science); A8270R (Aerosols-and-foams); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects);

A8280H (Activation-analysis-and-other-radiochemical-analytical-methods); A86; A82; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ce-el; Cs-el; Co-el; Ru-el; Eu-el; Sb-el; Am-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/97/8202-0129$18.00
SICI: 0004-7163(199702)82:2L.130;1-#
SICI of Translation: 1063-4258(199702)82:2L.129:SMAF;1-V

Sort Key: 00000047163199700082000020000000000000130
Material Identity Number: P995-97012
Accession Number: 5714617
Update Code: 9740
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 187 of 1145 in INSPEC 7/97-12/97

Title: Radiocesium in the Northeastern part of Italy after the Chernobyl accident: vertical soil transport and soil-to-plant transfer
Author: Velasco-RH; Toso-JP; Belli-M; Sansone-U
Author Affiliation: Dept. de Fisica, Univ. Nacional de San Luis, Argentina
Source: Journal-of-Environmental-Radioactivity. vol.37, no.1; 1997; p.73-83
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2337%2373%231&_version=1&md5=6056cc7882e31b6797c74f28dbdcf251
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radiocesium deposited in soil following the Chernobyl accident (May 1986) has remained persistently available for plant uptake in some areas of Europe. In this paper, the RABES model was used to explain the vertical migration of /sup 137/Cs in soil, in three different areas in the Northeastern region of Italy. The soil-to-plant transfer factor has been calculated as a function of the elapsed time since the radionuclide deposition. The influence of the soil characteristics on the transfer process was studied.
Number of References: 8
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; soil-
Identifiers: Northeastern-Italy; Chernobyl-accident; vertical-soil-transport; soil-to-plant-transfer; plant-uptake; RABES-model; vertical-migration; radionuclide-deposition; 137Cs-; Cs-

Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$17.00+0.00
SICI: 0265-931X(1997)37:1L.73:RNPI;1-B
Document Number: S0265-931X(96)00078-1

Sort Key: 0000265931X19970003700001000000000000073
Material Identity Number: I664-97006
Accession Number: 5712854
Update Code: 9740

Record 188 of 1145 in INSPEC 7/97-12/97

Title: Mathematical model of the irradiation of professional workers at the Chernobyl nuclear power plant in 1986-1987
Author: Snisar-IB
Source: Atomic-Energy. vol.82, no.1; Jan. 1997; p.49-53
Translated from: Atomnaya-Energiya. vol.82, no.1; Jan. 1997; p.48-53
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Data on the irradiation of personnel at the Chernobyl nuclear plant in 1986-1987 are extended and formalized on the basis of a single mathematical model. This period of time was chosen because irradiation during it is associated with the full range of possible technological conditions (normal, accident, and transient) which occurred during operation of the Chernobyl nuclear power plant, and therefore the results obtained are of a general character. The possibility of solving the problem posed is largely determined by the results of the retrospective estimate, made at the present time, of the individual irradiation dose to participants in the liquidation of the consequences of the accident in 1986. The mathematical model presented gives a unified description of the irradiation of the personnel at the Chernobyl nuclear power plant in 1986-1987, including the accident in 1986. This model reflects some basic laws of the process of mass irradiation of people under the conditions of nuclear power production both under normal and accident conditions.
Number of References: 3
Descriptors: dosimetry-; fission-reactor-accidents; probability-
Identifiers: professional-worker-irradiation; Chernobyl-nuclear-power-plant; mathematical-model; irradiation-dose; mass-irradiation; nuclear-power-production; accident-conditions

Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A0250 (Probability-theory-stochastic-processes-and-statistics); A87; A28; A02; A8; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/97/8201-0049$18.00
SICI: 0004-7163(199701)82:1L.48;1-A
SICI of Translation: 1063-4258(199701)82:1L.49:MMIP;1-4

Sort Key: 00000047163199700082000010000000000000048
Material Identity Number: P995-97011
Accession Number: 5708081
Update Code: 9739
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Title: /sup 137/Cs migration in groundwater from red-forest burial at the Chernobyl Atomic Power Plant
Author: Kononovich-AL; Kulebakina-LG; Kulebakin-OYu; Arkhipov-NP; Arkhipov-AN
Author Affiliation: All-Russian Sci.-Res. Inst. of Atomic Power Plants, Russia
Source: Atomic-Energy. vol.81, no.6; Dec. 1996; p.880-3
Translated from: Atomnaya-Energiya. vol.81, no.6; Dec. 1996; p.455-8
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The migration rate of /sup 137/Cs in groundwater from red-forest burial in the region of the Chernobyl Atomic Power Plant is determined by filtrational modeling. The source of pollution is a sample of earth from the red-forest region with deep burial. The sorptional characteristics are studied by a dynamic method based on observation of the motion of the pollution front with the water flux that filters through a model simulating a section of the water-bearing layer. The model of the filtering section consists of a set of soil-filled cylindrical sections in series. The experimental conditions ensure uniformity of the flow. The filtration rate is actually constant over the whole cross section, Thus, the apparatus is a local one-dimensional model of the filtration section. The method is analogous to chromatography of a solution using the modeling soil or rock sample as the sorbent.
Number of References: 4
Descriptors: caesium-; fission-reactor-accidents; groundwater-; radioactive-pollution; radioactive-waste-disposal; water-pollution

Identifiers: red-forest-burial; Chernobyl-; 137Cs-migration; groundwater-; filtrational-modeling; sorption-; filtration-rate
Classification Codes: A8670E (Water-environmental-science); A9240K (Groundwater); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A86; A92; A28; A8; A9; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8106-0880$15.00
SICI: 0004-7163(199612)81:6L.455;1-B
SICI of Translation: 1063-4258(199612)81:6L.880:1MGF;1-J

Sort Key: 00000047163199600081000060000000000000455
Material Identity Number: P995-97010
Accession Number: 5702970
Update Code: 9738
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 190 of 1145 in INSPEC 7/97-12/97

Title: Formation and dynamics of propagation of radioactive contamination in rivers of Belarus after the Chernobyl nuclear accident
Author: Zhukova-OM; Matveenko-II; Myshkina-NK; Sharovarov-GA; Shiryaeva-NM
Author Affiliation: State Comm. for Hydrometeorol. of Belarus, Minsk, Byelorussia
Source: Journal-of-Engineering-Physics-and-Thermophysics. vol.70, no.1; Jan.-Feb. 1997; p.75-82
Translated from: Inzhenerno-Fizicheskii-Zhurnal. vol.70, no.1; Jan.-Feb. 1997; p.73-80
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Byelorussia; Translation: USA
Language: English
Abstract: The formation of radioactive contamination in rivers in Belarus caused by the Chernobyl nuclear accident is analyzed, the peculiarities of monitoring in the experimental Iput catchment are described, a conceptual model of radionuclide migration in the river system is suggested, calculations are carried out, and experimental data and calculation results on transfer of radioactive contamination of terrestrial surface water are analyzed.
Number of References: 8
Descriptors: fission-reactor-accidents; radioactive-pollution; rivers-; water-pollution
Identifiers: radioactive-contamination-propagation; rivers-; Belarus-; Chernobyl-nuclear-accident; radioactive-contamination-formation; Iput-catchment; radionuclide-migration; river-system; terrestrial-surface-water; radioactive-contamination-transfer; radioactive-

contamination-dynamics; Pripyat-river; Dnieper-river; Desna-river; Dnieper-Sozh-system; Sozh-river; Besed-river; Iput-river; river-basin; tributaries-
Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9240F (Rivers-runoff-and-streamflow); A9330G (Europe); A86; A28; A92; A93; A8; A2; A9
Treatment Codes: X (Experimental)
Coden: INFZA9; Translation: JEPTER
ISSN: 0021-0285; Translation: 1062-0125
Copyright Clearance Center Code: 1062-0125/97/7001-0075$18.00
SICI: 0021-0285(199701/02)70:1L.73;1-4
SICI of Translation: 1062-0125(199701/02)70:1L.75:FDPR;1-D

Sort Key: 00000210285199700070000010000000000000073
Material Identity Number: P866-97005
Accession Number: 5677213
Update Code: 9734

Record 191 of 1145 in INSPEC 7/97-12/97

Title: Modelling the Chernobyl accident with the HASCAL code
Author: Carbajo-JJ
Author Affiliation: Oak Ridge Nat. Lab., TN, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.76; 1997; p.273-5
Publication Year: 1997
Record Type: Conference-Paper; Journal-article
Conference Details: 1997 Annual Meeting of American Nuclear Society (papers in summary form only received). 1-5 June 1997; Orlando, FL, USA
Country of Publication: USA
Language: English
Abstract: Summary form only given. The accident that took place in unit 4 of the Chernobyl plant on April 26, 1986, has been modelled with the Hazard Assessment System and Consequence Analysis (HASCAL) code. Core inventories, source term releases, and doses have been calculated by HASCAL. This paper is part of a systematic evaluation of the HASCAL code. The HASCAL code is part of the capability represented by the Hazard Prediction and Assessment Capability (HPAC) being developed by the Defense Special Weapons Agency. The HASCAL code is based on the RASCAL (Radiological Assessment System for Consequence Analysis) code. These codes are intended to calculate doses after accidents at nuclear facilities and to aid in emergency response planning. The HASCAL code includes the advanced Second-order Closure Integrated PUFF (SCIPUFF) model for turbulent transport of effluents outside the plant. The HASCAL code can also analyse accident sequences at any commercial nuclear facility

and at many nonnuclear facilities (biological and chemical plants) anywhere around the world.
Number of References: 12
Descriptors: air-pollution; dosimetry-; environmental-science-computing; radioactive-pollution
Identifiers: Chernobyl-accident; HASCAL-code; Hazard-Assessment-System-and-Consequence-Analysis; core-inventories; source-term-releases; Hazard-Prediction-and-Assessment-Capability; nuclear-facilities; emergency-response-planning; advanced-Second-order-Closure-Integrated-PUFF-model; accident-sequences
Classification Codes: A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); C7340 (Geophysics-computing); A86; A87; C73; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1997)76L.273:MCAW;1-5

Sort Key: 0000003018X19970007600000000000000000273
Material Identity Number: T064-97001
Accession Number: 5670711
Update Code: 9733
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 192 of 1145 in INSPEC 7/97-12/97

Title: Towards a generalized model for the primary and secondary contamination of lakes by Chernobyl-derived radiocesium
Author: Smith-JT; Leonard-DRP; Hilton-J; Appleby-PG
Author Affiliation: Inst. of Freshwater Ecology, Wareham, Dorset, UK
Source: Health-Physics. vol.72, no.6; June 1997; p.880-92
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: As part of the UK Ministry of Agriculture Fisheries and Food Directorate of Fisheries Research (MAFF/DFR) post-Chernobyl monitoring program, a detailed study was carried out of the change over time in dissolved-phase /sup 137/Cs concentrations in a number of lakes in Cumbria, UK. These measurements have been combined with published data on /sup 137/Cs in Cumbrian and other European lakes in order to develop and test a "double exponential" model for changes in lakewater concentrations: A exp(-k/sub 1/t)+B exp(-k/sub 2/t) where the exponential terms correspond, respectively, to the initial fast flush of activity through the system followed by longer-term transfers (timescale, years) from the catchment. Parameter values have been

determined for this model by curve-fitting to the set of measurements of post-Chernobyl /sup 137/Cs activities in lakes. Values of fitted parameters are shown to be related, in a simple manner, to the physical characteristics of the system, in particular water residence time and mean lake depth. These parameters are generalized to give a simple empirical model for the full set of study lakes. The model is shown to give estimates of /sup 137/Cs activity to within a factor of 5 of field data for a period of several years after the fallout. Initial fractional losses of activity from catchment to lake were determined to be within the range 0.44-8.7% per year, declining exponentially with a mean rate constant 0.98*10/sup -3/ d/sup -1/.

Number of References: 33

Descriptors: caesium-; disasters-; fission-reactor-accidents; health-hazards; lakes-; modelling-; radioactive-pollution; radioactivity-; radioisotopes-; water-pollution

Identifiers: generalized-model; secondary-contamination; primary-contamination; post-Chernobyl-monitoring-program; dissolved-phase-137Cs-concentrations; Cumbrian-lakes; double-exponential-model; lakewater-concentrations; exponential-terms; initial-fast-flush; longer-term-transfers; curve-fitting; post-Chernobyl-137Cs-activities; water-residence-time; mean-lake-depth; simple-empirical-model; fallout-; initial-fractional-losses; catchment-; Cs-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670E (Water-environmental-science); A9330G (Europe); A9240N (Lakes); A87; A86; A93; A92; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: HLTPAO

ISSN: 0017-9078

Copyright Clearance Center Code: 0017-9078/97/$3.00

SICI: 0017-9078(199706)72:6L.880:TGMP;1-O

Sort Key: 00000179078199700072000060000000000000880

Material Identity Number: P578-97006

Accession Number: 5642441

Update Code: 9729

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 193 of 1145 in INSPEC 7/97-12/97

Title: Operation of the Chernobyl nuclear power plant in the post-accident period

Author: Nosovskii-AV

Author Affiliation: Ind. Assoc. Chernobyl Nucl. Plant, Ukraine

Source: Atomic-Energy. vol.81, no.5; Nov. 1996; p.760-3

Translated from: Atomnaya-Energiya. vol.81, no.5; Nov. 1996; p.329-33

Publication Year: 1996

Record Type: Journal-article

Country of Publication: Russia; Translation: USA
Language: English
Abstract: The work following the safe operation of the Chernobyl nuclear power plant during the post-accident period was complicated by two basic factors: radiation and psychological. The radiation environment during the post-accident period on the industrial site of the Chernobyl nuclear power plant was characterized by the presence of the object "Cover" and the radioactive contamination of working enclosures and territories. This imposed certain restrictions on the work performed by the personnel, such as, mandatory radiation monitoring, and passage through a complicated system of shielding barriers, which prevented spreading of the radioactive contamination. Also since April 26, 1986, both the personnel at the Chernobyl nuclear power plant and the population arriving in the radioactively contaminated territory have been affected to a greater extent by psychological factors rather than radiation factors.
Number of References: 0
Descriptors: fission-reactor-accidents; psychology-; radiation-monitoring; safety-
Identifiers: Chernobyl-; radiation-; psychological-; post-accident-period; radioactive-contamination; working-enclosures; personnel-; radiation-monitoring
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection); A87; A8
Treatment Codes: P (Practical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8105-0760$15.00
SICI: 0004-7163(199611)81:5L.329;1-L
SICI of Translation: 1063-4258(199611)81:5L.760:OCNP;1-C

Sort Key: 00000047163199600081000050000000000000329
Material Identity Number: P995-97009
Accession Number: 5635821
Update Code: 9728
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 194 of 1145 in INSPEC 7/97-12/97

Title: On the character of explosion of the Chernobyl RBMK-1000 nuclear power reactor
Author: Kruzhilin-GN
Author Affiliation: Inst. for Problems of Safety Dev. of Energetics, Acad. of Sci., Moscow, Russia
Source: Physics-Doklady. vol.42, no.5; May 1997; p.260-1
Translated from: Doklady-Akademii-Nauk. vol.354, no.1-3; May 1997; p.331-2
Publication Year: 1997
Record Type: Journal-article
Country of Publication: Russia; Translation: Russia

Language: English
Abstract: Because of the Chernobyl catastrophe, we are obliged to seek a complete understanding of the mechanisms behind its occurrence. In this connection, it is appropriate to reject the widespread opinion that the emergency explosion of the Chernobyl RBMK-1000 nuclear power reactor was caused by prompt fission neutrons. The accident with the RBMK-1000 nuclear reactor occurred as a result of electrotechnical tests corresponding to 200-MW output thermal power. The conclusion can be made that, in fact, the accident that occurred with the Chernobyl RMBK-1000 reactor was not accompanied by an explosion due to prompt neutrons, as is the case for a nuclear bomb. This conclusion seems to be extremely important from the viewpoint of practice, as otherwise, it would be rather difficult to create relevant protection against consequences of the explosion. In fact, there was a steam explosion of the reactor. This explosion was accompanied by the disruption of the reactor working channels, the penetration of steam from them into the reactor vessel with subsequent separation of the vessel cover and ejection of a portion of the reactor core materials.
Number of References: 4
Descriptors: explosions-; fission-reactor-accidents
Identifiers: Chernobyl-; RBMK-1000; steam-explosion; accident-; H-2O
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: H2O-bin H2-bin H-bin O-bin
Coden: DAKNEQ; Translation: PHDOE5
ISSN: 0869-5652; Translation: 1063-7753
Copyright Clearance Center Code: 1063-7753/97/4205-0260$10.00
SICI: 0869-5652(199705)354:1/3L.331;1-Y
SICI of Translation: 1063-7753(199705)42:5L.260:CECR;1-6

Sort Key: 0000869565219970035400001000000000000331
Material Identity Number: C483-97006
Accession Number: 5631658
Update Code: 9728
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08579.001
Bestand: 38.1993-42.1997

Record 195 of 1145 in INSPEC 7/97-12/97

Title: Predicting Chernobyl childhood thyroid cancers from incoming data
Author: Thomas-PJ
Author Affiliation: Dept. of Electr., Electron. & Inf. Eng., City Univ., London, UK
Source: Nuclear-Energy. vol.36, no.3; June 1997; p.209-21
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK

Language: English

Abstract: Data on childhood thyroid cancers contracted in Belarus, the Ukraine and Russia's Bryansk and Kaluga regions have been analysed under the working hypothesis that the excess cancers have been caused by iodine-131 from Chernobyl fallout. It is postulated that the variation in latency period between different individuals is most likely to conform to either a normal or a normal logarithmic distribution. Optimal values of the mean and geometric mean latency period, together with their associated standard deviations; have been found using Belarus data. Both resulting distributions predict significant incidence of childhood thyroid cancer much earlier than ten years after the accident, a length of time widely understood in the past to be the approximate minimum for the development of a radiation-induced, solid tumour The two distributions incorporating these optimal values have been tested against independent data from the Ukraine and Russia and each distribution has passed the statistical tests to date. Predictions are given for the annual incidence of childhood thyroid cancer in each country and for the total number of excess cases over all years. Tolerances are assigned to the latter figure.

Number of References: 0
Descriptors: air-pollution; biological-effects-of-ionising-radiation; radioactive-pollution
Identifiers: childhood-thyroid-cancers; Belarus-; Ukraine-; Russia-; Bryansk-region; Kaluga-region; Chernobyl-fallout; 131I-; latency-period; normal-logarithmic-distribution; radiation-induced-solid-tumour; annual-incidence; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A87; A86; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: I-el
Coden: NUEGAH
ISSN: 0140-4067
Copyright Clearance Center Code: 0140-4067/97/$4.00
SICI: 0140-4067(199706)36:3L.209:PCCT;1-#

Sort Key: 000014040671997000360000300000000000209
Material Identity Number: N103-97003
Accession Number: 5627161
Update Code: 9727
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08528.002
Bestand: 17.1978=> L:23,24,33

Record 196 of 1145 in INSPEC 1/97-6/97

Title: Some comments on the presence of Chernobyl derived /sup 137/Cs and /sup 99/Tc in the stratosphere

Author: Garcia-Leon-M; Manjon-G

Author Affiliation: Lab. of Radioecology, Nat. Inst. for Radiol. Sci., Ibaraki, Japan
Source: Applied-Radiation-and-Isotopes. vol.48, no.5; May 1997; p.653-6
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2348%23653%235&_version=1&md5=1115e513c6e065165d452ef8d5293291
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This paper discusses previous results obtained by the authors on the content of /sup 137/Cs and /sup 99/Tc in rainwater samples collected at Sevilla (South-west Spain) from 1984 to 1988. It is confirmed that some part of the radioactive releases from the Chernobyl accident reached the stratosphere. In fact, it is estimated that, in 1987, some 83% of the /sup 137/Cs total fallout in our area originated from the Chernobyl accident, while some 17% came from previous nuclear atmospheric tests. Calculations have shown the possibility that some /sup 99/Tc were released to the environment during such an accident and reached the stratosphere to some extent.
Number of References: 11
Descriptors: air-pollution-measurement; caesium-; fission-reactor-accidents; radioactive-pollution; rain-; stratosphere-; technetium-
Identifiers: Chernobyl-; 137Cs-; 99Tc-; stratosphere-; rain-water; Sevilla-; SW-Spain; fallout-; nuclear-atmospheric-tests; Cs-; Tc-
Classification Codes: A8670G (Atmosphere-environmental-science); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Tc-el
Coden: ARISEF
ISSN: 0969-8043
Copyright Clearance Center Code: 0969-8043/97/$17.00+0.00
SICI: 0969-8043(199705)48:5L.653:SCPC;1-L
Document Number: S0969-8043(97)00005-5

Sort Key: 0000969804319970004800005000000000000653
Material Identity Number: J793-97007
Accession Number: 5619174
Update Code: 9726

Title: The development of self aligning geodesic dome geometries and their application at Chernobyl
Author: Hoelzen-EC-III
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1755-9 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: Geodesic exoskeleton concrete structures and their applications for long term spent nuclear fuel and radioactive waste storage.
Number of References: 8
Descriptors: concrete-; radiation-protection; radioactive-waste-storage; structural-engineering
Identifiers: self-aligning-geodesic-dome-geometries; Chernobyl-; geodesic-exoskeleton-concrete-structures; long-term-spent-nuclear-fuel-storage; radioactive-waste-storage
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A28; A87; A2
Treatment Codes: P (Practical)
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000000001755
Material Identity Number: XX97-00782
Accession Number: 5615015
Update Code: 9725

Record 198 of 1145 in INSPEC 1/97-6/97

Title: Concept for a melting plant at the Chernobyl site
Author: Steinwarz-W
Author Affiliation: Siempelkamp Foundry, Krefeld, Germany
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1465-7 vol.2
Publication Year: 1995

Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: As part of the European TACIS program a feasibility study has been performed on the cleaning-up of the Chernobyl area from radioactively contaminated metallic material by melting process including recycling measures. The on-site evaluation showed an overall mass of metal scrap of min. 100,000 Mg with a maximum specific activity of 400 Bq/g (mainly Cs 137, Sr 90), based on 48 open depositories within the restricted area. The design work led to a throughput of the melting plant of approx. 10,000 Mg/a, which will be equipped with an induction furnace and an electric arc furnace. The recycling concept proposes the manufacturing of casks and containers for storage and disposal of radioactive waste as well as the production of shielding equipment. The study report showed the technical feasibility of a site-specific melting plant and its suitability for the overall concept to handle the Chernobyl waste.
Number of References: 2
Descriptors: radioactive-waste-processing
Identifiers: melting-plant; Chernobyl-site; European-TACIS-program; feasibility-study; cleaning-up; radioactively-contaminated-metallic-material; recycling-measures; on-site-evaluation; induction-furnace; electric-arc-furnace
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A28; A2
Treatment Codes: P (Practical)
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000000001465
Material Identity Number: XX97-00782
Accession Number: 5614953
Update Code: 9725

Record 199 of 1145 in INSPEC 1/97-6/97

Title: Determination of requirements to the level of radiation protection for the staff and equipment in realization of reforestation and wood processing technologies in the zones contaminated as a result of the accident at the Chernobyl NPP
Author: Savushkin-IA; Ravkova-EI; Shevchenko-PE
Author Affiliation: Inst. of Power Eng. Problems, Acad. of Sci., Minsk, Byelorussia
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.

p.1425-7 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: On the basis of the method of calculation of dose levels for the staff developed by the authors with Monte-Carlo method, which gives the connection between the level of radiation and the conditions of doing the job, preliminary requirements to the level of radiation protection have been developed. Estimations for possible ways for effective realization of protection have been conducted. The investigations conducted have shown that protection is reasonable as an element of the general system of forest reprocessing.
Number of References: 1
Descriptors: forestry-; Monte-Carlo-methods; radiation-protection; radioactive-pollution; soil-
Identifiers: radiation-protection; reforestation-; wood-processing-technologies; Chernobyl-; dose-levels; Monte-Carlo-method; forest-reprocessing
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670C (Soil-and-rock-environmental-science); A0250 (Probability-theory-stochastic-processes-and-statistics); A9330G (Europe); A87; A28; A86; A02; A93; A8; A2
Treatment Codes: P (Practical)
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000001425
Material Identity Number: XX97-00782
Accession Number: 5614944
Update Code: 9725

Record 200 of 1145 in INSPEC 1/97-6/97

Title: Operational conditions of storages for products of decontamination of the territories of Belarus after the accident at Chernobyl NPP and evaluation of their radioecological state
Author: Skurat-VV; Shiryaeva-NM; Gvozdev-AA; Serebryanyi-GZ; Myshkina-NK; Starobinets-SE; Kotovich-VV
Author Affiliation: Inst. of Radioecological Problems, Acad. of Sci., Minsk, Byelorussia
Editor: Slate-S; Feizollahi-F; Creer-J

Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1417-19 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: As a result of carrying out the measures on decontamination of the territory of Belarus after the Chernobyl accident, the storages for radioactive products of decontamination have been arranged in the Republic. Up to now, 69 storage sites for radioactive products of decontamination have been examined and registered. Six of them, the most typical, with the highest activity, are under constant control with the help of the network of the hydrogeological observation holes. The analysis of the field conditions of the storage sites at the territory of Belarus has shown that there is the violation of requirements for safe storage practically for all storages. The evaluation of protection of the ground water against radioactive contamination has shown, that in 10-100 years, the contamination of the ground water with caesium-137 is possible in concentrations lower than the Republican permissible levels and with strontium in concentrations significantly exceeding the specified values.
Number of References: 0
Descriptors: caesium-; radioactive-waste-storage; strontium-
Identifiers: decontamination-product-storage; Belarus-; Chernobyl-; radioecological-state; storage-sites; safe-storage; ground-water; Sr-; Cs-
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A28; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000000001417
Material Identity Number: XX97-00782
Accession Number: 5614942
Update Code: 9725

Record 201 of 1145 in INSPEC 1/97-6/97

Title: Problem of radioactive ash and sewage sludge management in the population areas of the Chernobyl zone
Author: Basharin-AV; Kavkhuta-GA; Rozdyalovskaya-LF; Ivansky-II

Author Affiliation: Inst. of Radioecological Problems, Acad. of Sci., Minsk, Byelorussia
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1413-16 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: The Chernobyl accident has brought about an unprecedented health risk to the population in the area of nuclear fall-out and has created unusual radioactive decontamination and waste management problems. One of them which has proven to be self-dependent is radioactively contaminated municipal domestic wastes, in particular sewage sludge arisen from waste water treatment and ash wastes produced by domestic heating facilities from the use of local contaminated fire-wood and peat. This paper's intention is to show the present situation and outline the actions being taken to carry out the recommendations in the field of management and regulation.
Number of References: 0
Descriptors: radioactive-waste-disposal
Identifiers: radioactive-ash; sewage-sludge-management; population-areas; Chernobyl-zone; Chernobyl-accident; health-risk; nuclear-fall-out; radioactive-decontamination; waste-management-problems; radioactively-contaminated-municipal-domestic-wastes; domestic-heating-facilities; local-contaminated-fire-wood; peat-
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A28; A87; A2; A8
Treatment Codes: P (Practical)
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000000001413
Material Identity Number: XX97-00782
Accession Number: 5614941
Update Code: 9725

Record 202 of 1145 in INSPEC 1/97-6/97

Title: The dynamics of Cs-137 and Sr-90 pollution of surface water systems of Belarus of "Chernobyl" origin

Author: Datskevich-PO; Dolgov-VM; Golikov-YuN; Zemskov-VN; Komissarov-FD; Khvaley-OD
Author Affiliation: Inst. of Radiobiol., Acad. of Sci., Byelorussia
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1263-71 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: The Belarus water ecosystems have been the object of investigation concerning currents and reservoirs affected by the Chernobyl APS catastrophe. The radiation monitoring of samples of water systems components was implemented with the use of modern methods of radiochemistry and ionizing radiation registration. Experimental results from water ecosystem site observation are presented and regularities, trends and anomalies are revealed in Cs-137 and Sr-90 distributions, transport and accumulation for water components.
Number of References: 11
Descriptors: caesium-; fission-reactor-accidents; radiation-monitoring; radioactive-pollution; radiochemistry-; strontium-; water-pollution
Identifiers: 137Cs-transport; 90Sr-transport; 90Sr-distribution; 137Cs-distribution; pollution-; surface-water-systems; Belarus-; Chernobyl-; water-ecosystems; reservoirs-; radiochemistry-
Classification Codes: A8670E (Water-environmental-science); A9330D (Asia); A8255 (Radiochemistry); A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A86; A93; A82; A8; A9
Treatment Codes: X (Experimental)
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000000001263
Material Identity Number: XX97-00782
Accession Number: 5614937
Update Code: 9725

Record 203 of 1145 in INSPEC 1/97-6/97

Title: The Estonian study of Chernobyl cleanup workers. II. Incidence of cancer and mortality

Author: Rahu-M; Tekkel-M; Veidebaum-T; Pukkala-E; Hakulinen-T; Auvinen-A; Rytomaa-T; Inskip-PD; Boice-JD-Jr
Author Affiliation: Dept. of Epidemiology & Biostat., Inst. of Exp. & Clinical Med., Tallinn, Estonia
Source: Radiation-Research. vol.147, no.5; May 1997; p.653-7
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: For pt.I see ibid., vol. 147, no. 5, p. 641-52 (1997). A cohort of 4742 men from Estonia who had participated in the cleanup activities in the Chernobyl area sometime between 1986 and 1991 and were followed through 1993 was analyzed with respect to the incidence of cancer and mortality. Incidence and mortality in the cleanup workers were assessed relative to national rates. No increases were found in all cancers (25 incident cases compared to 26.5 expected) or in leukemia (no cases observed, 1.0 expected). Incidence did not differ statistically significantly from expectation for any individual cancer site or type, though lung cancer and non-Hodgkin's lymphoma both occurred slightly more often than expected. A total of 144 deaths were observed [standardized mortality ratio (SMR)=0.98; 95% confidence interval (CI)=0.82-1.14] during an average of 6.5 years of follow-up. Twenty-eight deaths (19.4%) were suicides (SMR=1.52; 95% CI=1.01-2.19). Exposure to ionizing radiation while at Chernobyl has not caused a detectable increase in the incidence of cancer among cleanup workers from Estonia. At least for the short follow-up period, diseases directly attributable to radiation appear to be of relatively minor importance when compared with the substantial excess of deaths due to suicide.
Number of References: 28
Descriptors: biological-effects-of-ionising-radiation; fission-reactor-accidents; lung-; personnel-; radioactive-pollution
Identifiers: Chernobyl-cleanup-workers; diseases-; leukemia-; lung-cancer; nonHodgkin's-lymphoma; standardized-mortality-ratio; deaths-; suicides-; cleanup-workers; ionizing-radiation-exposure; 6-5-y
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 2.1 E08 s
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/97/$5.00
SICI: 0033-7587(199705)147:5L.653:ESCC;1-Z

Sort Key: 0000033758719970014700005000000000000653
Material Identity Number: R066-97005

Accession Number: 5613669
Update Code: 9725

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 204 of 1145 in INSPEC 1/97-6/97

Title: The self-cleaning intensity of typical landscapes from Chernobyl radionuclides
Author: Petryaev-EP; Sokolic-GA; Ivanova-TG; Leynova-SL; Kilchitskaya-SL; Morozova-TK
Author Affiliation: Byelorussian State Univ., Minsk, Byelorussia
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1409-12 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: The migration ability of Chernobyl radionuclides in Belarus soils in the neighbor (<30-40 km) and remote (200-250 km) CNPP zones was studied. We could determine: contamination degree of stationaries with Cs, Sr, Pu and Am; content of "hot" particles in the fallout and their properties (dispersity, radionuclide and elemental composition, geochemical stability); character of vertical migration and its rate parameters (diffusion coefficients, linear speed of transfer); forecast of self-cleaning processes in typical landscapes.
Number of References: 3
Descriptors: radiation-decontamination; radioactive-pollution; radioisotopes-; soil-
Identifiers: self-cleaning-intensity; typical-landscapes; Chernobyl-radionuclides; migration-ability; Belarus-soils; contamination-degree; hot-particles; fallout-; vertical-migration; diffusion-coefficients; self-cleaning-process; radionuclide-; dispersity-; 30-to-40-km; 200-to-250-km; Cs-; Sr-; Pu-; Am-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880 (Radiation-technology-including-shielding); A9160 (Physical-properties-of-rocks-minerals-and-soil); A86; A87; A28; A91; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 3.0 E04 to 4.0 E04 m; distance 2.0 E05 to 2.5 E05 m
Chemical Indexing: Cs-el; Sr-el; Pu-el; Am-el

ISBN: 0791812197

Sort Key: 10791812197199500000000000000000000001409
Material Identity Number: XX97-00782
Accession Number: 5609307
Update Code: 9724

Record 205 of 1145 in INSPEC 1/97-6/97

Title: Byelorussian-Bryansk caesium spot and its effect on radioactive contamination of the rivers of the Dnepr-Sozh basin after the accident at the Chernobyl NPP
Author: Zukova-OM; Shiryaeva-NM; Matveenko-II; Kotovich-VV
Author Affiliation: Inst. of Radioecological Problems, Acad. of Sci., Byelorussia
Editor: Slate-S; Feizollahi-F; Creer-J
Source: Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation. ICEM '95. ASME, New York, NY, USA; 1995; 2 vol. xix+1775 pp.
p.1259-61 vol.2
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings of ASME International Conference on Radioactive Waste Management and Environmental Remediation. vol.2. 3-7 Sept. 1995; Berlin, Germany. Sponsored by: ASME; U.S. DOE
Country of Publication: USA
Language: English
Abstract: The analysis of the formation of radioactive contamination of the rivers of Belarus, entering the Dnepr-Sozh basin, after the accident at the ChNPP is given. The peculiarities of carrying out monitoring at the experimental watershed of the Iput' river (the Dnepr-Sozh basin), flowing on the Byelorussian-Bryansk "caesium" spot, are described. The conceptual model of migration of radionuclides in the river network is suggested. Calculations have been conducted and the analysis of the experimental and calculated data on transport of radioactive contamination have been carried out.
Number of References: 7
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; rivers-; water-pollution
Identifiers: Byelorussian-Bryansk-caesium-spot; radioactive-contamination; rivers-; Dnepr-Sozh-basin; Chernobyl-; Belarus-; watershed-; Iput-river; radionuclide-migration; Cs-
Classification Codes: A8670E (Water-environmental-science); A9330G (Europe); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A93; A87; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
ISBN: 0791812197

Sort Key: 10791812197199500000000000000000001259
Material Identity Number: XX97-00782
Accession Number: 5609281
Update Code: 9724

Record 206 of 1145 in INSPEC 1/97-6/97

Title: The Estonian study of Chernobyl cleanup workers. I. Design and questionnaire data
Author: Tekkel-M; Rahu-M; Veidebaum-T; Hakulinen-T; Auvinen-A; Rytomaa-T; Inskip-PD; Boice-JD-Jr
Author Affiliation: Dept. of Epidemiol. & Biostat., Inst. of Exp. & Clinical Med., Tallinn, Estonia
Source: Radiation-Research. vol.147, no.5; May 1997; p.641-52
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Nearly 2% of the male population of Estonia aged 20-39 years were sent to Chernobyl to assist in the cleanup activities after the reactor accident. A cohort of 4,833 cleanup workers was assembled based on multiple and independent sources of information. Information obtained from 3,704 responses to a detailed questionnaire indicated that 63% of the workers were sent to Chernobyl in 1986; 54% were of Estonian and 35% of Russian ethnicity; 72% were married, and 1,164 of their 5,392 children were conceived after the Chernobyl disaster. The workers were less educated than their counterparts in the general population of Estonia, and only 8.5% had attended university. Based on doses entered in worker records, the mean dose was 11 cGy, with only 1.4% over 25 cGy. Nearly 85% of the workers were sent as part of military training activities, and more than half spent in excess of 3 months in the Chernobyl area. Thirty-six percent of the workers reported having worked within the immediate vicinity of the accident site; 11.5% worked on the roofs near the damaged reactor, clearing the highly radioactive debris. The most commonly performed task was the removal and burial of topsoil (55% of the workers). Potassium iodide was given to over 18% of the men. The study design also incorporates biological indicators of exposure based on the glycophorin A mutational assay of red blood cells and chromosome translocation analyses of lymphocytes; record linkage with national cancer registry and mortality registry files to determine cancer incidence and cause-specific mortality; thyroid screening examinations with ultrasound and fine-needle biopsy; and cryopreserved white blood cells and plasma for future molecular studies. Comprehensive studies of Chernobyl cleanup workers have potential to provide new information about cancer risks due to protracted exposures to ionizing radiation.
Number of References: 21

Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; dosimetry-; fission-reactor-accidents; genetics-; personnel-; radioactive-pollution
Identifiers: Chernobyl-cleanup-workers; Estonian-study; male-population; Russian-ethnicity; university-; worker-records; mean-dose; damaged-reactor; highly-radioactive-debris; red-blood-cells; glycophorin-A-mutational-assay; chromosome-translocation-analyses; lymphocytes-; fine-needle-biopsy; cancer-risks; topsoil-; protracted-ionizing-radiation-exposure; cellular-radiobiology; 20-to-39-y; 11-cGy; 25-cGy; 3-month
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760M (Radiation-dosimetry); A8725F (Physics-of-subcellular-structures); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 2.0 E01 to 3.9 E01 yr; radiation absorbed dose 1.1 E01 Gy; radiation absorbed dose 2.5 E01 Gy; time 7.9 E06 s
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/97/$5.00
SICI: 0033-7587(199705)147:5L.641:ESCC;1-5

Sort Key: 0000033758719970014700005000000000000641
Material Identity Number: R066-97005
Accession Number: 5608391
Update Code: 9724

Record 207 of 1145 in INSPEC 1/97-6/97

Title: Reconstruction of doses and deposition in the western trace from the Chernobyl accident
Author: Sikkeland-T; Skutenud-L; Goltsova-NI; Lindmo-T
Author Affiliation: Dept. of Phys., Trondheim Univ., Norway
Source: Health-Physics. vol.72, no.5; May 1997; p.750-8
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A model is presented for the explosive cloud of particulates that produced the western trace of high radioactive ground contamination in the Chernobyl accident on 26 April 1986. The model was developed to reproduce measured dose rates and nuclide contamination and to relate estimated doses to observed changes in: (1) infrared emission from the foliage and (2) morphological and histological structures of

individual pines. Dominant factors involved in ground contamination were initial cloud shape, particle size distribution, and rate of particle fallout. At time of formation, the cloud was assumed to be parabolical and to contain a homogeneous distribution of spherically shaped fuel particulates having a log-normal size distribution. The particulates were dispersed by steady winds and diffusion that produced a straight line deposition path. The analysis indicates that two clouds, denoted by Cloud I and Cloud II, were involved. Fallout from the former dominated the far field region and fallout from latter the region near the reactor. At formation they had a full width at half maximum of 1800 m and 500 m, respectively. For wind velocities of 5-10 m s/sup -1/ the particulates radial distribution at formation had a standard deviation and mode of 1.8 mu m and 0.5 pm, respectively. This distribution corresponds to a release of 390 GJ in the runaway explosion. The clouds' height and mass are not uniquely determined but are coupled together. For an initial height of 3,600 m, Cloud I contained about 400 kg fuel. For Cloud II the values were, respectively, 1,500 m and 850 kg. Loss of activities from the clouds is found to be small. Values are obtained for the rate of radionuclide migration from the deposit. Various types of biological damage to pines, as reported in the literature, are shown to be mainly due to ionizing radiation from the deposit by Cloud II. A formula is presented for the particulate size distribution in the trace area.
Number of References: 22
Descriptors: air-pollution; biological-effects-of-ionising-radiation; botany-; clouds-; diffusion-; disasters-; dosimetry-; fission-reactor-accidents; modelling-; particle-size; radioactive-pollution; wind-
Identifiers: western-trace; radioactive-ground-contamination; Chernobyl-accident; explosive-cloud-of-particulates; model-; measured-dose-rates; nuclide-contamination; infrared-emission; foliage-; histological-structures; individual-pines; initial-cloud-shape; particle-size-distribution; particle-fallout; spherically-shaped-fuel-particulates; log-normal-size-distribution; steady-winds; diffusion-; straight-line-deposition-path; far-field-region; runaway-explosion; radionuclide-migration; biological-damage; ionizing-radiation; 390-GJ
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere-environmental-science); A9260G (Winds-and-their-effects-in-the-lower-atmosphere); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A92; A86; A28; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: energy 3.9 E11 J
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00+0
SICI: 0017-9078(199705)72:5L.750:RDDW;1-Q

Sort Key: 00000179078199700072000050000000000000750
Material Identity Number: P578-97005

Accession Number: 5608198
Update Code: 9724

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 208 of 1145 in INSPEC 1/97-6/97

Title: Highly radioactive ruthenium particles released from the Chernobyl accident: particle characteristics and radiological hazard

Author: Pollanen-R
Author Affiliation: Finnish Centre for Radiat. & Nucl. Safety, Helsinki, Finland

Source: Radiation-Protection-Dosimetry. vol.71, no.1; 1997; p.23-32
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: After the Chernobyl accident highly radioactive Ru particles, more than 100 kBq in activity and more than 10 mu m in diameter, were found hundreds of kilometres away from the plant. Since particle sampling and analyses have not necessarily been adequate, an approach based on inventory calculations is used for estimating their radiological hazard. Elemental composition of the particles suggests that short-lived nuclides may essentially contribute to the risks, although usually only /sup 103/Ru and /sup 106/Ru were detected. Because large Ru particles are not of inhalable size, skin doses are calculated for various particle compositions, sizes and decay times. Calculations support the assumption that Ru particles are metallic precipitates. The composition may have a notable impact on skin doses which are not necessary the largest for particles originating from fuel of high burnup. Even an individual particle may be a severe radiological hazard. A dose of 50 mGy.cm/sup -2/ for the basal cell layer may be exceeded in one hour provided that an Ru particle larger than 8 mu m in diameter is deposited on the skin.

Number of References: 46
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; particle-size; radioactive-pollution; radioisotopes-; ruthenium-; skin-
Identifiers: highly-radioactive-Ru-particles; Chernobyl-accident; radiological-hazard; particle-sampling; activity-; inventory-calculations; elemental-composition; short-lived-nuclides; 103Ru-; 106Ru-; skin-doses; particle-decay-times; particle-sizes; particle-compositions; metallic-precipitates; basal-cell-layer; 10-mum; 100-kBq; Ru-
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: size 1.0 E05 m; radioactivity 1.0 E05 Bq
Chemical Indexing: Ru-el
Coden: RPDODE

ISSN: 0144-8420
SICI: 0144-8420(1997)71:1L.23:HRRP;1-#

Sort Key: 00001448420199700071000010000000000000023
Material Identity Number: B978-97005
Accession Number: 5585956
Update Code: 9721

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 209 of 1145 in INSPEC 1/97-6/97

Title: Anomalous incident on June 27-30, 1990 in the object "cover" at the Chernobyl nuclear power plant

Author: Frolov-VV
Author Affiliation: Main Sci. Center, Russian Federation, Russia

Source: Atomic-Energy. vol.80, no.3; March 1996; p.215-18
Translated from: Atomnaya-Energiya. vol.80, no.3; March 1996; p.216-18
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English

Abstract: Before the accident in April 1986, the reactor in the fourth power-generating unit of the Chernobyl nuclear power plant contained 1659 fuel assemblies with a total uranium mass of 190.2 tons and initial /sup 235/U enrichment of 2%. At the moment of the accident the average burnup was equal to 11.5 MW days/kg with a range of 9-13.5 MW days/kg. The melted fuel and its fragments and the constructional materials in the core formed masses which were localized in many locations inside the sarcophagus. Neutron detectors were placed in only five of them (Nos. 1-5), each detector consisting of a fission chamber with a 500 mg /sup 235/U interior layer surrounded by a 15 mm thick C/sub 2/H/sub 5/O/sub 8/ moderator. The largest fuel mass of approximately 75 tons was in the enclosure No. 305/2 under the reactor. This enclosure is inaccessible for placement of neutron detectors. It is adjoined by the enclosure No. 304/3, which contains approximately 2 tons of fuel in the form of a layer from 0.2 to 0.5 m thick. The No. 5 neutron detector was placed in the enclosure No. 304/3. In June 1990 its background was around 2.5 counts/sec and this background was due to the spontaneous fissioning of /sup 244/Cm. In the period from June 27-30, 1990, the intensity of the count in the detector No. 5 increased by a factor of 64 above the background, which together with the results of other observations, must be regarded as an anomalous incident. One hypothesis, explaining the nature of the incident, is that a chain reaction with a total number of 10/sup 8/ fissions occurred in the room No. 305/2. It is shown that the anomalous incident was critical.

Number of References: 0

Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-nuclear-power-plant; fourth-power-generating-unit; fuel-assemblies; total-uranium-mass; initial-235U-enrichment; average-burnup; melted-fuel; constructional-materials; core-; sarcophagus-; neutron-detectors; C-2H-5O-8-moderator; spontaneous-fission; 244Cm-; chain-reaction; fissions-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220B (Nuclear-reactors); A28; B82; A2; B8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8003-0214$15.00
SICI: 0004-7163(199603)80:3L.216;1-1
SICI of Translation: 1063-4258(199603)80:3L.215:AIJ2;1-C
Copyright Statement: Copyright 1997, IEE
Sort Key: 00000047163199600080000030000000000000216
Material Identity Number: P995-97005
Accession Number: 5582958
Update Code: 9720

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 210 of 1145 in INSPEC 1/97-6/97

Title: Preliminary modeling of the second stage of the Chernobyl accident
Author: Aksenov-RM; Afremov-DA; Solov'ev-NV
Author Affiliation: Moscow Eng. Phys. Inst., Russia
Source: Atomic-Energy. vol.80, no.3; March 1996; p.145-8
Translated from: Atomnaya-Energiya. vol.80, no.3; March 1996; p.147-50
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: An attempt is made to perform a systematic modeling of the 1986 Chernobyl accident up to the moment an increase in pressure in the reactor space was detected. The following sequence of events occurring during the accident was studied: 1) destruction of the reactor fuel elements under the action of the neutron pulse; 2) fragmentation of the fuel; 3) generation of pressure pulses in the system of pipes in the reactor as a result of the interaction of high-temperature fuel fragments with the coolant (steam bubble); 4) destruction of elements in the core. These processes occured during the second (dynamic), essentially uncontrollable, stage of the accident.
Number of References: 9
Descriptors: coolant-fuel-interactions; fission-reactor-accidents; fission-reactor-cooling; fission-reactor-physics; fuel-element-failure

Identifiers: second-stage; Chernobyl-accident; fuel-elements; fuel-fragmentation; pressure-pulses; pipes-; high-temperature-fuel-fragments; steam-bubble
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2843B (Cooling-and-heat-recovery-in-fission-reactors); A2842D (Fission-reactor-fuel-elements); A2842N (Fission-reactor-coolants); A2841 (Fission-reactor-theory-and-design); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8003-0145$15.00
SICI: 0004-7163(199603)80:3L.147;1-T
SICI of Translation: 1063-4258(199603)80:3L.145:PMSS;1-L

Sort Key: 00000047163199600080000030000000000000147
Material Identity Number: P995-97005
Accession Number: 5582944
Update Code: 9720

Title: Method of underground preservation of radiation-hazardous objects (for the example of the damaged fourth power-generating unit at the Chernobyl nuclear power plant)
Author: Burangulov-NI; Bavykin-AP; Volkov-AN; Plugin-AI
Author Affiliation: Center of Strategic Investigations, St. Petersburg, Russia
Source: Atomic-Energy. vol.81, no.1; July 1996; p.537-9
Translated from: Atomnaya-Energiya. vol.81, no.1; July 1996; p.70-1
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The technological scheme developed for preserving and decontaminating the unit includes the following sequence of basic operations: construction of a concrete well along the perimeter of the object; laying an inclined discharge gallery which terminates at the collector; systems for distributing steam and a cooling agent, constructed at a given depth and the corresponding pumping stations at the surface; construction of a protective sluice, covered on top by the underground volume and assembly of a lift-transport equipment (I-beam track and trolley hoist) for disassembling the structures in the unit; monitoring-measurement apparatus for observing and correcting the vertical displacement of the unit and its elements; and lowering of the block into the prepared underground volume, which functionally acts as an underground decontamination chamber.

Number of References: 5
Descriptors: fission-reactor-accidents; radioactive-waste-disposal
Identifiers: Chernobyl-; power-generating-unit; concrete-well; pumping-stations; sluice-; lift-transport-equipment; I-beam-track; trolley-hoist; decontamination-chamber
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2842K (Radioactive-wastes-from-fission-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8101-0537$15.00
SICI: 0004-7163(199607)81:1L.70;1-W
SICI of Translation: 1063-4258(199607)81:1L.537:MUPR;1-4

Sort Key: 00000047163199600081000010000000000000070
Material Identity Number: P995-97004
Accession Number: 5576339
Update Code: 9719

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 212 of 1145 in INSPEC 1/97-6/97

Title: Retrospective biodosimetry of Chernobyl clean-up workers using chromosome painting and conventional chromosome analysis
Author: Snigiryova-G; Braselmann-H; Salassidis-K; Shevchenko-V; Bauchinger-M
Author Affiliation: Dept. of Radiat. Med, Res. Inst. of Diagnostic & Surg., Moscow, Russia
Source: International-Journal-of-Radiation-Biology. vol.71, no.2; Feb. 1997; p.119-27
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()71:02L.119
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Blood samples of 52 Chernobyl clean-up workers were analysed by fluorescence in situ hybridization (FISH) using whole-chromosome painting probes for chromosomes 1, 4 and 12, simultaneously with a pancentromeric probe and by conventional chromosome analysis, for radiation-induced symmetrical translocations and dicentrics in T-lymphocytes. Based on FISH measurements of translocations, individual biodosimetry estimates between 0.32 and 1.0 Gy were obtained from 18 cases. Pooled data for the total group of 52 workers provided a collective biodosimetry estimate of 0.23 Gy. For a group of 34 workers with documented doses, the mean dose estimate of 0.25 Gy compared well with the mean documented dose of 0.26 Gy. However, no

correlation between individual translocation frequencies (F/sub G/) and documented doses could be found. A statistical analysis of the expected dose-response suggests exposures to higher doses than documented for a substantial fraction of workers with ascribed doses <0.2 Sv. For subjects working repeatedly at the reactor site between 1986 and 1995 the mean translocation frequency was significantly higher than for those working only in 1986. A comparison of dicentric frequencies obtained by conventional scoring and by FISH measurements showed no significant difference, although only two of 52 cases revealed significantly higher yields than the mean control level. Based on conventionally scored dicentric frequencies, a collective biodosimetry estimate of 0.23 Gy could be derived only of the group of persons working at Chernobyl exclusively in 1986 for which a documented average dose of 0.19 Gy was reported.

Number of References: 15
Descriptors: biomolecular-effects-of-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; fluorescence-; personnel-
Identifiers: retrospective-biodosimetry; Chernobyl-clean-up-workers; chromosome-painting; conventional-chromosome-analysis; blood-samples; fluorescence-in-situ-hybridization; whole-chromosome-painting-probes; pancentromeric-probe; radiation-induced-symmetrical-translocations; radiation-induced-dicentrics; T-lymphocytes; individual-biodosimetry-estimates; collective-biodosimetry-estimate; mean-documented-dose; individual-translocation-frequencies; statistical-analysis; expected-dose-response; reactor-site; conventionally-scored-dicentric-frequencies; documented-average-dose; 0-32-to-1-0-Gy; 0-25-Gy; 0-23-Gy
Classification Codes: A8760M (Radiation-dosimetry); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8725 (Cellular-biophysics); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 3.2 E01 to 1.0 E00 Gy; radiation absorbed dose 2.5 E01 Gy; radiation absorbed dose 2.3 E01 Gy
Coden: IJRBA3
ISSN: 0955-3002
Copyright Clearance Center Code: 0955-3002/97/$12.00
SICI: 0955-3002(199702)71:2L.119:RBCC;1-5

Sort Key: 0000955300219970007100002000000000000119
Material Identity Number: I200-97002
Accession Number: 5561983
Update Code: 9717

Title: The dynamics of the transfer of caesium-137 to animal fodder in areas of Russia affected by the Chernobyl accident and doses resulting from the consumption of milk and milk products
Author: Fesenko-SV; Colgan-PA; Sanzharova-NI; Lissianski-KB; Vazquez-C; Guardans-R
Author Affiliation: Inst. of Agric. Radiol. & Radioecology, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.69, no.4; 1997; p.289-98
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Data on the concentration of /sup 137/Cs in animal fodder from collective farms in Russia on which countermeasures were applied following the Chernobyl accident have been evaluated for the period 1987 to 1994. The aggregated transfer factor (Bq.kg/sup -1/ per Bq.m/sup -2/) was found to increase in the order fodder beet<maize<perennial grasses<natural grasses and decreased with increasing clay content in the soil. Effective half-lives for /sup 137/Cs of between 1 and 3 years have been calculated for the period up to 1989. From 1989 onwards the data are somewhat more variable and effective half-lives between 3 and 10 years are observed. Mean individual effective doses in 1987 from the consumption of milk and milk products produced from cattle fed on a typical diet of fodder crops produced on sandy soils are calculated as 3.1, 3.3 and 4.0 mu Sv per kBq.m/sup -1/ for Russia, Belarus and the Ukraine respectively, with 95% confidence intervals for the three Republics jointly of 2.2 to 6.0 mu Sv per kBq.m/sup -1/. The corresponding values are some three times higher for production on peat soils and about ten times lower in the case of clay soils.
Number of References: 46
Descriptors: caesium-; dairying-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: 137Cs-; animal-fodder; Russia-; Chernobyl-accident; milk-products; consumption-; collective-farms; countermeasures-; aggregated-transfer-factor; fodder-beet; maize-; perennial-grasses; natural-grasses; clay-content; effective-half-lives; mean-individual-effective-doses; cattle-; typical-diet; fodder-crops; sandy-soils; Belarus-; Ukraine-; confidence-intervals; Republics-; peat-soils; clay-soils; concentration-; Cs-
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A87; A28; A86; A93; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1997)69:4L.289:DTCA;1-P

Sort Key: 000014484201997000690000400000000000289
Material Identity Number: B978-97003

Accession Number: 5560593
Update Code: 9717

Record 214 of 1145 in INSPEC 1/97-6/97

Title: The Chernobyl accident ten years later
Author: Squires-DJ
Author Affiliation: PNNL Consultant, Richland, WA, USA
Source: Proceedings of the International Topical Meeting on Nuclear and Hazardous Waste Management. Spectrum '96. ANS, La Grange Park, IL, USA; 1996; 3 vol. xxii+2519 pp.
p.1480-6 vol.2
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Proceedings of 6th Spectrum International Conference on Nuclear and Hazardous Waste. vol.2. 18-23 Aug. 1996; Seattle, WA, USA. Sponsored by: ANS; U.S. Dept Energy; IAEA; Eur. Nucl. Soc.; Eur. Commission; Chinese Nucl Soc.; et al
Country of Publication: USA
Language: English
Abstract: On April 26, 1986 at 1:23 AM a fire and explosion occurred at the fourth unit of the Chernobyl Nuclear Power Plant Complex, located in the Ukraine, that resulted in the destruction of the reactor core and most of the building in which it was housed. Several environmental impacts resulting from the accident will be discussed in this paper, which will include the effects on plant and wildlife, radioactive waste generated and stored or disposed of, effects of evacuations relating to residents within the subsequently established 10 km and 30 km control zones, impacts of the emergency containment structure (sarcophagus), and potential effects on world opinion and future development of nuclear power. As an immediate result of the fire, 31 people died (2 from the fire and smoke, and 29 from excessive radiation); 237 cases of acute radiation sickness occurred; the total fatalities based upon induced chronic diseases as a result of the accident is unknown: more than 100,000 people were evacuated from within the subsequently established 30 km control zone; in excess of 50 million curies of radionuclides that included finely dispersed nuclear fuel, fragments of graphite, concrete and other building materials were released from the reactor into the environment; an estimated one million cubic meters of radioactive waste were generated (LLW, ILW, HLW); more than 5000 tons of materials (sand, boron, dolomite, cement, and lead) were used to put the fire out by helicopter; shutdown of the adjacent power plants were performed; other environmental impacts occurred. The Chernobyl Nuclear Power Plant Unit No 4 is an RBMK-1000. It initiated operations in 1983, it was a 1000 MWe with a power output of 3200 MW(th), the reactor core contained 190 MT of fuel, with 1659 assemblies (plus 211 control rods), the average burnup rate was 10.3

MWd/kg, and the reactor operated on a continuous basis with maintenance and fuel reload performed during operations.
Number of References: 7
Descriptors: health-hazards; radioactive-pollution; radioactive-waste; radioactive-waste-disposal; radioactive-waste-storage
Identifiers: Chernobyl-; environment-; plants-; wildlife-; radioactive-waste; evacuation-; residents-; sarcophagus-; emergency-containment-structure; world-opinion; radiation-sickness; LLW-; ILW-; HLW-; RBMK-1000
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2842K (Radioactive-wastes-from-fission-reactors); A8670 (Environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A28; A86; A87; A2
Treatment Codes: P (Practical)

Sort Key: 1000000000019960000000000000000000001480
Material Identity Number: XX97-00593
Accession Number: 5559258
Update Code: 9716

Record 215 of 1145 in INSPEC 1/97-6/97

Title: The validation of the strategy of lumbering and forest restoration works in the forests of Byelorussian Chernobyl zone
Author: Savushkin-IA; Ravkova-EI
Author Affiliation: Inst. of Power Eng. Problem, Minsk, Byelorussia
Source: Proceedings of the International Topical Meeting on Nuclear and Hazardous Waste Management. Spectrum '96. ANS, La Grange Park, IL, USA; 1996; 3 vol. xxii+2519 pp.
p.873-7 vol.2
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Proceedings of 6th Spectrum International Conference on Nuclear and Hazardous Waste. vol.2. 18-23 Aug. 1996; Seattle, WA, USA. Sponsored by: ANS; U.S. Dept Energy; IAEA; Eur. Nucl. Soc.; Eur. Commission; Chinese Nucl Soc.; et al
Country of Publication: USA
Language: English
Abstract: The analysis of constituent factors of contamination, influencing the long-term prediction of radiation situation and exposure dose in Belarus forests gives a base for validation of the strategy of lumbering works in the Chernobyl zone. In order to receive more accurate information about effective dose obtained by the forestry personnel involved in felling of forest or in decontamination activity the methodical model based on the Monte-Carlo method was developed and three-dimensional program "FOREST" was compiled which reflects the relations between rate of irradiation and conditions of

work, and allows to estimate effective dose of the forestry crews depending on type of equipment used, its productivity, method of forest clearing and contamination level. The analysis of conditions of lumbering and forest restoration works demonstrated that at their realization the ratio between productivity of the machines and the scenario of works influence essentially the exposure doses. The method of forest clearing at considered conditions slightly influence the dose received by personnel, and thus, it may not be taken into account.

Number of References: 2

Descriptors: dosimetry-; forestry-; Monte-Carlo-methods; radioactive-pollution

Identifiers: lumbering-; forest-restoration-works; Byelorussian-Chernobyl-zone; contamination-; exposure-dose; Belarus-forests; forestry-personnel; decontamination-activity; Monte-Carlo-method; effective-dose

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A8760M (Radiation-dosimetry); A9330G (Europe); A0250 (Probability-theory-stochastic-processes-and-statistics); A87; A86; A93; A02; A8

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000873

Material Identity Number: XX97-00593

Accession Number: 5559229

Update Code: 9716

Record 216 of 1145 in INSPEC 1/97-6/97

Title: Down syndrome clusters in Germany after the Chernobyl accident

Author: Burkart-W; Grosche-B; Schoetzau-A

Author Affiliation: Inst. for Rad. Hygiene, Fed. Office for Radiat. Protection, Oberschleissheim, Germany

Source: Radiation-Research. vol.147, no.3; March 1997; p.321-8

Publication Year: 1997

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: In two independent studies using different approaches and covering West Berlin and Bavaria, respectively, highly significant temporal clusters of Down syndrome were found. Both sharp increases occurred in areas receiving relatively low Chernobyl fallout and concomitant radiation exposures. Only for the Berlin cluster was fallout present at the time of the affected meioses, whereas the Nuremberg cluster preceded the radioactive contamination by 1 month. Hypotheses on possible causal relationships are compared. Radiation from the Chernobyl accident is an unlikely factor, because the associated cumulative dose was so low in comparison with natural background. Microdosimetric considerations would indicate that fewer than 1 in 200 oocyte nuclei

would have experienced an ionizing event from Chernobyl radioactivity. Given the lack of understanding of what causes Down syndrome, other than factors associated with increased maternal age, additional research into environmental and infectious risk factors is warranted.

Number of References: 23

Descriptors: biological-effects-of-ionising-radiation; cellular-effects-of-radiation; fission-reactor-accidents; genetics-; radioactive-pollution

Identifiers: Down-syndrome-clusters; Germany-; Chernobyl-accident; West-Berlin; Bavaria-; highly-significant-temporal-clusters; radiation-exposure; affected-meioses; Nuremberg-cluster; radioactive-contamination; causal-relationships; cumulative-dose; natural-background; microdosimetric-considerations; oocyte-nuclei; maternal-age; infectious-risk-factors; environmental-risk-factors; 1-month

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: time 2.6 E06 s

Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/97/$5.00
SICI: 0033-7587(199703)147:3L.321:DSCG;1-J

Sort Key: 00000337587199700147000030000000000000321
Material Identity Number: R066-97003
Accession Number: 5557485
Update Code: 9716

Record 217 of 1145 in INSPEC 1/97-6/97

Title: Sonographic determination of cutaneous and subcutaneous fibrosis after accidental exposure to ionising radiation in the course of the Chernobyl nuclear power plant accident

Author: Gottlober-P; Kerscher-MJ; Korting-HC; Peter-RU
Author Affiliation: Dept. of Dermatology, Ludwig-Maximilians-Univ., Munchen, Germany

Source: Ultrasound-in-Medicine-and-Biology. vol.23, no.1; 1997; p.9-13

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0301%2d5629%2323%239%231&_version=1&md5=a0699d031a9b73d0471eaceb2d012ff3

Publication Year: 1997

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Chronic cutaneous lesions in eight of 15 survivors of the Chernobyl nuclear energy plant accident presenting with clinical features of cutaneous radiation fibrosis were examined 6 years after exposure using high-frequency ultrasound. In all patients, lesional skin was examined using both the B- and A-modes. Similar phenomena were found in all patients. The corium was increased in thickness as well as density compared to normal skin. The increase in density was seen not only in the medium strata but also particularly at the border between corium and subcutaneous tissue. Within the subcutaneous tissue proper, isles of echo-rich spots were prominent. The number and width of echo signals in the subcutaneous tissue were increased, representing the sonographic correlate of subcutaneous fibrotic trabeculae. The thickness of epidermis plus corium was increased by more than 50% and was even doubled in some cases. According to the present findings obtained from patients with very severe exposure to ionising radiation, ultrasound analysis of cutaneous and subcutaneous radiation fibrosis shows a characteristic picture. Moreover, it was demonstrated that quantitative assessment of skin thickness is possible. As the method is simple and noninvasive, repeated examinations are possible. This provides the basis for monitoring possible treatment effects and efficient follow-up in these chronically progressive clinical conditions after exposure to ionising radiation.
Number of References: 23
Descriptors: biological-effects-of-ionising-radiation; biomedical-ultrasonics; fission-reactor-accidents; skin-
Identifiers: sonographic-determination; high-frequency-ultrasound; subcutaneous-fibrosis; accidental-exposure; ionising-radiation; Chernobyl-nuclear-power-plant-accident; chronic-cutaneous-lesions; clinical-features; cutaneous-radiation-fibrosis; patients-; lesional-skin; A-modes; B-modes; corium-; medium-strata; echo-rich-spots; subcutaneous-tissue; subcutaneous-fibrotic-trabeculae; epidermis-; skin-thickness; chronically-progressive-clinical-conditions
Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760B (Sonic-and-ultrasonic-radiation-medical-uses); B7510B (Radiation-and-radioactivity-applications-in-biomedicine); B7820 (Sonic-and-ultrasonic-applications); A87; A28; B75; B78; A8
Treatment Codes: X (Experimental)
Coden: USMBA3
ISSN: 0301-5629
Copyright Clearance Center Code: 0301-5629/97/$17.00+.00
SICI: 0301-5629(1997)23:1L.9:SDCS;1-I
Document Number: S0301-5629(96)00173-1

Sort Key: 0000301562919970002300001000000000000009

Material Identity Number: F148-97002
Accession Number: 5554639
Update Code: 9716

Record 218 of 1145 in INSPEC 1/97-6/97

Title: Activities on realization of a melting plant at the Chernobyl site
Author: Steinwarz-W
Author Affiliation: Siempelkamp Giesserei GmbH & Co., Krefeld, Germany
Source: Proceedings of the International Topical Meeting on Nuclear and Hazardous Waste Management. Spectrum '96. ANS, La Grange Park, IL, USA; 1996; 3 vol. xxii+2519 pp.
p.83-6 vol.1
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Proceedings of 6th Spectrum International Conference on Nuclear and Hazardous Waste. vol.1. 18-23 Aug. 1996; Seattle, WA, USA. Sponsored by: ANS; U.S. Dept Energy; IAEA; Eur. Nucl. Soc.; Eur. Commission; Chinese Nucl Soc.; et al
Country of Publication: USA
Language: English
Abstract: In the frame of the restoration activities for the Chernobyl area a melting plant for radioactively contaminated metallic materials is being planned to be erected on the NPP site. EU-sponsored studies on the technical concept as well as to define the specific licensing conditions have provided the basis for the official licensing application in 1995.
Number of References: 4
Descriptors: fission-reactor-decommissioning; radiation-decontamination
Identifiers: melting-plant; Chernobyl-site; radioactively-contaminated-metallic-materials; specific-licensing-conditions
Classification Codes: A2847 (Fission-reactor-decommissioning); A2880 (Radiation-technology-including-shielding); A28; A2
Treatment Codes: P (Practical)

Sort Key: 10000000000199600000000000000000000083
Material Identity Number: XX96-01986
Accession Number: 5545119
Update Code: 9714

Record 219 of 1145 in INSPEC 1/97-6/97

Title: Radioactive wood waste treatment in the Chernobyl zone
Author: Savushkin-IA; Grebenkov-AJ; Solovjov-CN; Luchkin-BG

Author Affiliation: Inst. of Power Eng. Problems, Minsk, Byelorussia
Source: Proceedings of the International Topical Meeting on Nuclear and Hazardous Waste Management. Spectrum '96. ANS, La Grange Park, IL, USA; 1996; 3 vol. xxii+2519 pp.
p.25-31 vol.1
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Proceedings of 6th Spectrum International Conference on Nuclear and Hazardous Waste. vol.1. 18-23 Aug. 1996; Seattle, WA, USA. Sponsored by: ANS; U.S. Dept Energy; IAEA; Eur. Nucl. Soc.; Eur. Commission; Chinese Nucl Soc.; et al
Country of Publication: USA
Language: English
Abstract: The large volume of radioactive wood waste generated on forested areas in Belarus after the Chernobyl accident requires a special strategy of forestry production and contaminated wood treatment. If this activity is supplied with wood vaporisation technologies, the probability of refunding a sufficient cost of decontamination and remediation of forest will be realised.
Number of References: 7
Descriptors: fission-reactor-accidents; forestry-; radiation-decontamination; radioactive-pollution; radioactive-waste-processing; vaporisation-; wood-
Identifiers: radioactive-wood-waste-treatment; Chernobyl-zone; forested-areas; Belarus-; Chernobyl-accident; forestry-production; vaporisation-; decontamination-; forest-remediation
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2842K (Radioactive-wastes-from-fission-reactors); A8670 (Environmental-science); A2880 (Radiation-technology-including-shielding); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A86; A2
Treatment Codes: P (Practical)

Sort Key: 1000000000019960000000000000000000000025
Material Identity Number: XX96-01986
Accession Number: 5545110
Update Code: 9714

Record 220 of 1145 in INSPEC 1/97-6/97

Title: Radio cesium contamination in a submediterranean semi-natural ecosystem following the Chernobyl accident: measurements and models
Author: Antonopoulos-Domis-M; Clouvas-A; Xanthos-S; Alifrangis-DA
Author Affiliation: Dept. of Electr. & Comput. Eng., Aristotelian Univ. of Thessaloniki, Greece
Source: Health-Physics. vol.72, no.2; Feb. 1997; p.243-55
Publication Year: 1997

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Radiocesium dynamics in a Quercus conferta Kit ecosystem in Northern Greece have been extensively studied over the years 1993-1995. Radiocesium distribution in the different parts of the ecosystem was measured. A total /sup 137/Cs inventory of 243+or-66 MBq ha/sup -1/ due to the Chernobyl accident was measured in all parts of the ecosystem. Almost 90% of this inventory is still in the upper layers of the soil and the forest floor. In particular 13.4% is in the forest floor, 52.6% in the Ah horizon, and 23.4% in the upper 5 cm of the soil. Only 2.2% of this inventory is in the above ground biomass. The mean total /sup 137/Cs deposited on the forest floor from the above ground biomass is 0.18 MBq ha/sup -1/ y/sup -1/. Cesium leaching from the forest floor is negligible. The radiocesium distribution in soil is fixed and in equilibrium, at least since 1993. Most of radiocesium is not available for migration. Cesium migration in soil was modeled by (a) an "equivalent diffusion" model with different initial conditions and (b) an "compartment" model derived from a diffusion-advection model. A compartment model for the contamination of living biomass is proposed. The total absorbed dose rate in air as well as the contribution due to /sup 137/Cs from the Chernobyl accident was determined inside the forest, by in-situ gamma spectrometry.
Number of References: 32
Descriptors: accidents-; caesium-; disasters-; dosimetry-; ecology-; gamma-ray-detection; health-hazards; modelling-; radioactive-pollution; radioisotopes-; soil-
Identifiers: submediterranean-semi-natural-ecosystem; Chernobyl-accident; Quercus-conferta-Kit-ecosystem; 137Cs-contamination; 137Cs-dynamics; 137Cs-distribution; Northern-Greece; soil-; forest-floor; Ah-horizon; above-ground-biomass; Cs-leaching; Cs-migration; initial-conditions; diffusion-advection-model; compartment-model; contamination-; living-biomass; total-absorbed-dose-rate; in-situ-gamma-spectrometry; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A8670C (Soil-and-rock-environmental-science); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A93; A86; A28; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00
SICI: 0017-9078(199702)72:2L.243:RCCS;1-G

Sort Key: 00000179078199700072000020000000000000243
Material Identity Number: P578-97002
Accession Number: 5544410
Update Code: 9714

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 221 of 1145 in INSPEC 1/97-6/97

Title: Proceedings of International Forum on One Decade After Chernobyl: Nuclear Safety Aspects
Source: IAEA, Vienna, Austria; 1996; 555 pp.
Publication Year: 1996
Record Type: Conference-Proceedings
Conference Details: Proceedings of International Forum on One Decade After Chernobyl: Nuclear Safety Aspects. 8-12 April 1996; Vienna, Austria. Sponsored by: Eur. Commission; IAEA; WHO; et al
Country of Publication: Austria
Language: English
Abstract: The following topics were dealt with: health effects; environmental impact assessment; dosimetry; nuclear safety.
Descriptors: biological-effects-of-radiation; dosimetry-; fission-reactor-accidents; fission-reactor-safety; health-hazards; radioactive-pollution
Identifiers: health-effects; environmental-impact-assessment; dosimetry-; nuclear-safety; Chernobyl-
Classification Codes: A0130C (Conference-proceedings); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750 (Biological-effects-of-radiations); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8670 (Environmental-science); A01; A28; A87; A86; A0; A2; A8

Sort Key: 1000000000019960000000000000000000000000
Material Identity Number: XX96-00481
Accession Number: 5539373
Update Code: 9713

Record 222 of 1145 in INSPEC 1/97-6/97

Title: Thyroid nodularity and cancer among Chernobyl cleanup workers from Estonia
Author: Inskip-PD; Hartshorne-MF; Tekkel-M; Rahu-M; Veidebaum-T; Auvinen-A; Crooks-LA; Littlefield-LG; McFee-AF; Salomaa-S; Makinen-S; Tucker-JD; Sorensen-KJ; Bigbee-WL; Boice-JD-Jr
Author Affiliation: Radiat. Epidemiol. Branch, Nat. Cancer Inst., Rockville, MD, USA
Source: Radiation-Research. vol.147, no.2; Feb. 1997; p.225-35
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: Thyroid examinations, including palpation, ultrasound and, selectively, fine-needle aspiration biopsy, were conducted on nearly 2,000 Chernobyl cleanup workers from Estonia to evaluate the occurrence of thyroid cancer and nodular thyroid disease among men with protracted exposure to ionizing radiation. The examinations were conducted in 4 cities in Estonia during March-April 1995, 9 years after the reactor accident. The study population was selected from a predefined cohort of 4,833 cleanup workers from Estonia under surveillance for cancer incidence. These men had been sent to Chernobyl between 1986 and 1991 to entomb the damaged reactor, remove radioactive debris and perform related cleanup activities. A total of 2,997 men were invited for thyroid screening and 1,984 (66%) were examined. Estimates of radiation dose from external sources were obtained from military or other institutional records, and details about service dates and types of work performed while at Chernobyl were obtained from a self-administered questionnaire. Blood samples were collected for assay of chromosomal translocations in circulating lymphocytes and loss of expression of the glycophorin A (GPA) gene in erythrocytes. The primary outcome measure was the presence or absence of thyroid nodules as determined by the ultrasound examination. Of the screened workers, 1,247 (63%) were sent to Chernobyl in 1986, including 603 (30%) sent in April or May, soon after the accident. Workers served at Chernobyl for an average of 3 months. The average age was 32 years at the time of arrival at Chernobyl and 40 years at the time of thyroid examination. The mean documented radiation dose from external sources was 10.8 cGy. Biological indicators of exposure showed low correlations with documented dose, but did not indicate that the mean dose for the population was higher than the average documented dose. Ultrasound examinations revealed thyroid nodules in 201 individuals (10.2%). The majority of fine-needle biopsies taken on 77 study participants indicated benign nodular disease. However, two cases of papillary carcinoma and three benign follicular neoplasms were identified and referred for treatment. Chernobyl cleanup workers from Estonia did not experience a markedly increased risk of nodular thyroid disease associated with exposure to external radiation.
Number of References: 47
Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; fission-reactor-accidents; genetics-; personnel-; radioactive-pollution
Identifiers: thyroid-nodularity; thyroid-screening; Chernobyl-cleanup-workers; Estonia-; thyroid-cancer; radiation-dose; blood-samples; chromosomal-translocations; circulating-lymphocytes; glycophorin-A-gene-expression-loss; fine-needle-biopsies; papillary-carcinoma; benign-follicular-neoplasms; external-radiation-exposure; cellular-radiobiology; 32-y; 40-y; 9-y; 10-8-cGy
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725F (Physics-of-subcellular-structures); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 3.2 E01 yr; age 4.0 E01 yr; time 2.8 E08 s; radiation absorbed dose 1.08 E01 Gy

Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/97/$5.00
SICI: 0033-7587(199702)147:2L.225:TNCA;1-C

Sort Key: 0000033758719970014700002000000000000225
Material Identity Number: R066-97002
Accession Number: 5539032
Update Code: 9713

Record 223 of 1145 in INSPEC 1/97-6/97

Title: Biodosimetry of Chernobyl cleanup workers from Estonia and Latvia using the glycophorin A in vivo somatic cell mutation assay

Author: Bigbee-WL; Jensen-RH; Veidebaum-T; Tekkel-M; Rahu-M; Stengrevics-A; Auvinen-A; Hakulinen-T; Servomaa-K; Rytomaa-T; Obrams-GI; Boice-JD-Jr
Author Affiliation: Center for Environ. & Occupational Health & Toxicol., Pittsburgh Univ., PA, USA

Source: Radiation-Research. vol.147, no.2; Feb. 1997; p.215-24
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: The reactor accident at Chernobyl in 1986 necessitated a massive environmental cleanup that involved over 600,000 workers from all 15 Republics of the former Soviet Union. To determine whether the whole-body radiation received by workers in the course of these decontamination activities resulted in a detectable biological response, over 1,500 blood samples were obtained from cleanup workers sent from two Baltic countries, Estonia and Latvia. Here the authors report the results of studies of bio-dosimetry using the glycophorin A (GPA) locus in vivo somatic cell mutation assay applied to 734 blood samples from these workers, to 51 control samples from unexposed Baltic populations and to 94 samples from historical U.S. controls. The data reveal inconsistent evidence that the protracted radiation exposures received by these workers resulted in a significant dose-associated increase in GPA locus mutations compared with the controls. Taken together, these data suggest that the average radiation exposure to these workers does not greatly exceed 10 cGy, the minimum levels at which radiation effects might be detectable by the assay. Although the protracted nature of the exposure may have reduced the efficiency of induction of GPA locus mutations, it is likely that the estimated physical doses for these cleanup worker populations (median reported dose 9.5 cGy) were too low to result in radiation damage to erythroid stem cells that can be detected reliably by this method.

Number of References: 25
Descriptors: blood-; dosimetry-; fission-reactor-accidents; genetics-; personnel-; radioactive-pollution
Identifiers: Chernobyl-cleanup-workers; biodosimetry-; Estonia-; Latvia-; glycophorin-A-in-vivo-somatic-cell-mutation-assay; former-Soviet-Union; whole-body-radiation; decontamination-activities; protracted-radiation-exposures; GPA-locus-mutations; environmental-cleanup; cellular-radiobiology; detectable-biological-response; Baltic-countries; 9-5-cGy; 10-cGy
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 9.5 E02 Gy; radiation absorbed dose 1.0 E01 Gy
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/97/$5.00
SICI: 0033-7587(199702)147:2L.215:BCCW;1-J

Sort Key: 0000033758719970014700002000000000000215
Material Identity Number: R066-97002
Accession Number: 5539031
Update Code: 9713

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 224 of 1145 in INSPEC 1/97-6/97

Title: The use of Chernobyl data to test model predictions for interindividual variability of /sup 137/Cs concentrations in humans
Author: Hoffman-FO; Thiessen-KM
Author Affiliation: Center for Risk Anal., SENES Oak Ridge Inc., Oak Ridge, TN, USA
Source: Reliability-Engineering-&-System-Safety. vol.54, no.2-3; Nov.-Dec. 1996; p.197-202
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0951%2d8320%2354%23197&_version=1&md5=6fd70ad527f9ca6d0fab0db7fcd98bd7
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Data sets assembled in the aftermath of the Chernobyl accident as a part of the International Atomic Energy Agency's model testing program (VAMP) have provided a rare opportunity for `blind-testing' predictions made with exposure assessment models. Measurements of Chernobyl-derived /sup 137/Cs in Central Bohemia (Czech Republic) and southern Finland were used to test model predictions for a number of endpoints, including the distribution of whole-body concentrations of /sup 137/Cs in adults in these regions at specified time points. This test endpoint required separation of uncertainty due to stochastic variability (aleatoric uncertainty) and uncertainty due to lack of knowledge about fixed but unknown values (epistemic uncertainty). Predictions of the distribution of whole-body /sup 137/Cs concentrations were, made by a minority of the participants in these model-testing exercises. Major reasons for misprediction included bias in the bioavailability of /sup 137/Cs in soil and misestimation of the total intake of /sup 137/CS in the diet. Overestimation of the amount of interindividual variability often resulted from confusion of uncertainty with variability. The spreads of the distributions for parameters describing interindividual variability were frequently increased to compensate for lack of knowledge about the uptake and metabolism of /sup 137/Cs in the population. Accurate results produced by participants are attributable both to a participant's access to additional site-specific data or choice of appropriate site-specific assumptions and to the effects of compensatory errors.
Number of References: 13
Descriptors: caesium-; dosimetry-; health-hazards; radioactive-pollution; radioisotopes-; stochastic-processes
Identifiers: Chernobyl-data; model-predictions-testing; interindividual-variability; 137Cs-concentrations; humans-; Chernobyl-accident; International-Atomic-Energy-Agency; blind-testing-predictions; Central-Bohemia; Czech-Republic; southern-Finland; whole-body-concentrations; adult-humans; stochastic-variability; aleatoric-uncertainty; epistemic-uncertainty; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A0250 (Probability-theory-stochastic-processes-and-statistics); A8760M (Radiation-dosimetry); A2880C (Dosimetry); B7530B (Radiation-protection-and-dosimetry); B0160 (Plant-engineering-maintenance-and-safety); B0240Z (Other-topics-in-statistics); A87; A02; A28; B75; B01; B02; A8; A0
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el
Coden: RESSEP
ISSN: 0951-8320
Copyright Clearance Center Code: 0951-8320/96/$15.00
SICI: 0951-8320(199611/12)54:2/3L.197:CDTM;1-D

Sort Key: 000095183201996000540000200000000000197
Material Identity Number: L951-97001
Accession Number: 5537843
Update Code: 9713

Record 225 of 1145 in INSPEC 1/97-6/97

Title: Incidence of neoplasms in ages 0-19 y in parts of Sweden with high /sup 137/Cs fallout after the Chernobyl accident

Author: Tondel-M; Carlsson-G; Hardell-L; Eriksson-M; Jakobsson-S; Flodin-U; Skoldestig-A; Axelson-O

Author Affiliation: Dept. of Occupational & Environ. Med., Univ. Hospital, Sweden

Source: Health-Physics. vol.71, no.6; Dec. 1996; p.947-50

Publication Year: 1996

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The incidence of neoplasms in childhood and adolescence in northern and central Sweden before and after the radioactive fallout from the Chernobyl accident was investigated in an ecologic study, 1978 to 1992. The study included all parishes in the six most contaminated counties classified after aerial mapping of ground radiation from /sup 137/Cs and investigated 746 cases of neoplasms in ages 0-19 y, diagnosed in the six counties. Incidence and relative risks of neoplasms were compared in areas with high, intermediate, and low contamination after versus before the Chernobyl accident in 1986. A continuous increase of brain tumor incidence in the ages 0-19 y during the period 1978-92 without clear relationship to the Chernobyl fallout was discovered. No clear relationship between the incidence of brain tumor and the exposure to varying levels of radiation from /sup 137/Cs was apparent. A somewhat decreased relative risk of acute lymphatic leukemia appeared in areas with increased exposure. Other neoplasms showed no changes in incidence over time or with regard to exposure. Until now, there is no indication that the Chernobyl accident has affected the incidence of childhood and adolescence neoplasms in Sweden, but it is still too early for any final conclusion about the effect of this event.

Number of References: 12

Descriptors: air-pollution; biological-effects-of-ionising-radiation; blood-; brain-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: high-137Cs-fallout; Chernobyl-accident; central-Sweden; northern-Sweden; radioactive-fallout; ecologic-study; parishes-; contaminated-counties; aerial-mapping; ground-radiation; ages-; brain-tumor-incidence; relative-risk; acute-lymphatic-leukemia; childhood-neoplasms; adolescence-neoplasms; 0-to-19-y; Cs-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A87; A28; A93; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: age 0.0 E00 to 1.9 E01 yr

Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00
SICI: 0017-9078(199612)71:6L.947:INA0;1-W

Sort Key: 00000179078199600071000060000000000000947
Material Identity Number: P578-96014
Accession Number: 5532480
Update Code: 9712

Title: Long term radiocesium contamination of fruit trees following the Chernobyl accident
Author: Antonopoulos-Domis-M; Clouvas-A; Gagianas-A
Author Affiliation: Dept. of Electr. & Comput. Eng., Aristotelian Univ. of Thessaloniki, Greece
Source: Health-Physics. vol.71, no.6; Dec. 1996; p.910-14
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Radiocesium contamination from the Chernobyl accident of fruits and leaves from various fruit trees was systematically studied from 1990 to 1995 on two agricultural experimentation farms in Northern Greece. The results are discussed in the framework of a previously published model describing the long-term radiocesium contamination mechanism of deciduous fruit trees after a nuclear accident. The results of the present work qualitatively verify the model predictions.
Number of References: 11
Descriptors: agriculture-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; long-term-137Cs-contamination-mechanism; leaves-; agricultural-experimentation-farms; Northern-Greece; model-; deciduous-fruit-trees; nuclear-accident; model-predictions; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078

Copyright Clearance Center Code: 0017-9078/96/$3.00
SICI: 0017-9078(199612)71:6L.910:LTRC;1-F

Sort Key: 0000017907819960007100006000000000000910
Material Identity Number: P578-96014
Accession Number: 5532475
Update Code: 9712

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 227 of 1145 in INSPEC 1/97-6/97

Title: Modeling the washoff of /sup 90/Sr and /sup 137/Cs from an experimental plot established in the vicinity of the Chernobyl reactor

Author: Nair-SK; Hoffman-FO; Thiessen-KM; Konoplev-AV
Author Affiliation: Center for Risk Anal., SENES Oak Ridge Inc., TN, USA

Source: Health-Physics. vol.71, no.6; Dec. 1996; p.896-909
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: After the Chernobyl event, a large area of land was contaminated following the deposition of radionuclides. This area became a continuing source of radionuclides to natural waters and aquatic ecosystems. In 1986, an experimental plot was constructed in a contaminated area near the Chernobyl Nuclear Power Plant to study the washoff of radionuclides by surface runoff. Concentrations of /sup 137/Cs and /sup 90/Sr were measured in the top 10 cm of the soil prior to the experiments. During two separate experiments, intense artificial rainfall was applied to the plot. A washoff scenario was then prepared with site-specific Information on initial soil contamination, duration and quantities of rainfall and runoff, physicochemical properties of the topsoil, and some climatological data. Modelers were asked to predict (a) the vertical distributions of the initial concentrations of /sup 137/Cs and /sup 90/Sr in various chemical forms in the topsail, (b) concentrations of these radionuclides in various chemical forms in the runoff water during each experiment, and (c) the total amounts of these radionuclides that were washed off during each experiment. Stochastically generated local rainfall data were used in a water budget model to generate annual average runoff and infiltration rates. A vertical, one-dimensional, multiphase, multispecies transport model was then developed to simulate the movement of contaminants in the topsoil during the 160-d period between the Chernobyl event and the experiments as well as the washouts of contaminants by runoff during the experiments and during the 24-h period thereafter.

Number of References: 19
Descriptors: caesium-; disasters-; fission-reactor-accidents; health-hazards; modelling-; radioactive-pollution; radioisotopes-; rain-; soil-; strontium-; water-pollution

Identifiers: Chernobyl-Nuclear-Power-Plant; vertical-distributions; 90Sr-; 137Cs-; experimental-plot-established; contaminated-area; radionuclides-; surface-runoff; intense-artificial-rainfall; washoff-scenario; initial-soil-contamination; climatological-data; modeling-; initial-concentrations; stochastically-generated-local-rainfall-data; water-budget-model; annual-average-runoff; infiltration-rates; vertical-one-dimensional-multiphase-multispecies-transport-model; Chernobyl-event; Sr-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A8670E (Water-environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00
SICI: 0017-9078(199612)71:6L.896:MW91;1-E

Sort Key: 00000179078199600071000060000000000000896
Material Identity Number: P578-96014
Accession Number: 5532474
Update Code: 9712

Title: Modeling the resuspension of radionuclides in Ukrainian regions impacted by Chernobyl fallout
Author: Nair-SK; Miller-CW; Thiessen-KM; Garger-EK; Hoffman-FO
Author Affiliation: SENES Oak Ridge Inc., TN, USA
Source: Health-Physics. vol.72, no.1; Jan. 1997; p.77-85
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Following the 1986 Chernobyl event, large amounts of radioactive materials were deposited in nearby areas. Concentrations of various radionuclides were measured in air and surface soil. To study the resuspension of radioactive particulate, three different exposure situations were developed on the basis of the collected data under the auspices of the international BIOMOVS II (BIOspheric MOdel Validation Study) project. Modelers were asked to predict seasonal air concentrations and resuspension factors at several locations at different distances from Chernobyl for six successive years following the accident. Measurements of radionuclide deposition on topsoil were provided for each site along with information on soil, vegetation, land use, surface

roughness, meteorology, and climate. In this paper, the three exposure situations are described, along with the initial data set provided to the modelers; two modeling approaches used to make the endpoint predictions are also presented. After the model predictions were submitted, the measured air concentrations and resuspension factors were released to the modelers. Generally, the predictions were well within an order of magnitude of the measured values. Time-dependent trends in predictions and measurements were in good agreement with one of the models, which (a) explicitly accounted for loss processes in soil and (b) used calibration to improve its predictive capabilities. Reasons for variations between predictions and measurements, suggestions for the improvement of models, and conclusions from the model validation study are presented.

Number of References: 12
Descriptors: air-pollution; atmospheric-radioactivity; calibration-; disasters-; fission-reactor-accidents; health-hazards; modelling-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Ukrainian-regions; Chernobyl-fallout; radioactive-materials; radioactive-particulate; exposure-situations; seasonal-air-concentrations; resuspension-factors; radionuclide-deposition; topsoil-; soil-; vegetation-; land-use; surface-roughness; meteorology-; climate-; modeling-approaches; endpoint-predictions; model-predictions; time-dependent-trends; calibration-; predictive-capabilities
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A0620H (Measurement-standards-and-calibration); A8670G (Atmosphere-environmental-science); A87; A86; A93; A06; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00+0
SICI: 0017-9078(199701)72:1L.77:MRRU;1-L

Sort Key: 00000179078199700072000010000000000000077
Material Identity Number: P578-97001
Accession Number: 5525415
Update Code: 9711

Record 229 of 1145 in INSPEC 1/97-6/97

Title: An analysis of time-dependence for Chernobyl fallout in Italy
Author: Salvadori-G; Ratti-SP; Belli-G
Author Affiliation: Dipartimento di Fisica Nucl. e Teorica, Univ. degli Studi di Pavia, Italy
Source: Health-Physics. vol.72, no.1; Jan. 1997; p.60-76
Publication Year: 1997

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: We present here an analysis of the airborne radioactivity measured in Italy after the Chernobyl accident. We provide some quality assurance, isolate suspicious data, and devise a mathematical model to aid in interpreting timedependent fallout data. The model consists of an interpolating function whose parameters can be related to (1) the arrival time of the radioactive cloud; (2) the time of the maximum radioactive concentration; and (3) the decay-rate of airborne radioactivity as the pollutant cloud passes. Multiple arrivals of the radioactive cloud in a given site can also be considered. The parametrization can be used to estimate concentrations of /sup 137/Cs using measurements of /sup 131/I, /sup 103/Ru, or /sup 132/Te. The interpolating function is fitted to the data collected in several Italian Provinces. We feel this model is an useful tool for interpreting time-dependent fallout data.
Number of References: 13
Descriptors: air-pollution; atmospheric-radioactivity; caesium-; disasters-; fission-reactor-accidents; iodine-; modelling-; quality-control; radioactive-pollution; radioisotopes-; ruthenium-; tellurium-
Identifiers: Chernobyl-fallout; Italy-; time-dependence; airborne-radioactivity; Chernobyl-accident; quality-assurance; mathematical-model; time-dependent-fallout-data; arrival-time; radioactive-cloud; maximum-radioactive-concentration; decay-rate; pollutant-cloud; 137Cs-; 131I-; 103Ru-; 132Te-; interpolating-function; Italian-Provinces; Cs-; I-; Ru-; Te-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el; I-el; Ru-el; Te-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/97/$3.00+0
SICI: 0017-9078(199701)72:1L.60:ATDC;1-Q

Sort Key: 00000179078199700072000010000000000000060
Material Identity Number: P578-97001
Accession Number: 5525414
Update Code: 9711

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 230 of 1145 in INSPEC 1/97-6/97

Title: Sensitivity study of the positive scram effect relevant to the Chernobyl accident simulation
Author: D'Angelo-A
Author Affiliation: ENEA, Italy
Source: Nuclear-Science-and-Engineering. vol.125, no.1; Jan. 1997; p.93-100
Publication Year: 1997
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The positive scram effect (PSE) during the first seconds of the Chernobyl accident folio wing the activation of the scram command has been investigated by using the French CRONOS three-dimensional code under different hypotheses on the axial shape of the initial power distribution. Assuming an initial power shape similar to the information recorded by the SKALA monitoring system and relevant to the core condition ~2 min before the reactivity accident, the results of the present work well confirm the first seconds of the simulation annexed to the INSAG-7 report. But, these results cannot explain the signals of too high power and too short period registered by all the lateral ionization chambers 3 s after the scram command activation. The present work shows that the PSE can reproduce those alarms under the hypothesis of a further power shape deformation in the lower part of the core.
Number of References: 24
Descriptors: fission-reactor-accidents; fission-reactor-core-control; nuclear-engineering-computing
Identifiers: positive-scram-effect; Chernobyl-; accident-simulation; CRONOS-; initial-power-distribution; initial-power-shape; lateral-ionization-chambers
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2841C (Computer-codes-for-fission-reactor-theory-and-design); A2843D (Core-control-and-guidance-in-fission-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NSENAO
ISSN: 0029-5639
Copyright Clearance Center Code: 0029-5639/97/$3.00
SICI: 0029-5639(199701)125:1L.93:SSPS;1-G

Sort Key: 00000295639199700125000010000000000000093
Material Identity Number: N010-97001
Accession Number: 5517643
Update Code: 9710

Title: Monitoring radiation conditions in the European part of the territory of the USSR during cleanup from the Chernobyl accident

Author: Drovnikov-VV; Egorov-NYu; Zadorozhnyi-YuA; Kovalenko-VV; Serbulov-YuA; Gorin-VV; Kaurov-GA

Author Affiliation: Eng. Phys. Inst., Acad. of Sci., Moscow, Russia

Source: Atomic-Energy. vol.80, no.6; June 1996; p.457-9

Translated from: Atomnaya-Energiya. vol.80, no.6; June 1996; p.480-2

Publication Year: 1996

Record Type: Journal-article

Country of Publication: Russia; Translation: USA

Language: English

Abstract: The goal of the research done from April 28 to September 28 1986 was to characterize the surface radionuclide contamination of the European part of the territory of the USSR which arose from atmospheric fallout from the accident. The following characteristics of the fallout fields were determined by remote gamma spectrometry (airborne gamma spectrometry) methods: radionuclide composition, activity, and the spatial distribution for the widest possible set of radionuclides. All radionuclides injected into the environment must be considered, in order to evaluate population dose loads and radioecological consequences of the accident correctly and also to plan preventive and protective measures effectively. Local fallout fields were not characterized in detail. In order to fulfil this task, an airborne gamma spectrometry unit, developed at the Moscow Engineering Physics Institute (MIFI), was installed on an An-24RR aeroplane of the USSR Defence Ministry. This system consisted of two programmable spectrometers which allowed gamma radiation sources to be measured and characterized.

Number of References: 0

Descriptors: air-pollution-measurement; gamma-ray-spectrometers; gamma-ray-spectroscopy; radioactive-pollution

Identifiers: radiation-conditions; USSR-; Chernobyl-accident; surface-radionuclide-contamination; atmospheric-fallout; remote-gamma-spectrometry; airborne-gamma-spectrometry; population-dose-loads; radioecological-consequences; An-24RR-aeroplane; AD-04-28-to-09-28-1986

Classification Codes: A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A9260T (Air-quality-and-air-pollution); A9385 (Instrumentation-and-techniques-for-geophysical-hydrospheric-and-lower-atmosphere-research); A0785 (X-ray-gamma-ray-instruments-and-techniques); A9330G (Europe); A86; A87; A92; A93; A07; A8

Treatment Codes: P (Practical)

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/96/8006-0457$15.00

SICI: 0004-7163(199606)80:6L.480;1-9

SICI of Translation: 1063-4258(199606)80:6L.457:MRCE;1-M

Sort Key: 00000047163199600080000060000000000000480
Material Identity Number: P995-97003
Accession Number: 5512273
Update Code: 9709

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 232 of 1145 in INSPEC 1/97-6/97

Title: Contamination of the soil of the European part of the territory of the USSR with /sup 131/I after the Chernobyl nuclear accident

Author: Orlov-MYu; Snykov-VP; Khvalenskii-YuA; Volokitin-AA
Author Affiliation: Inst. of Exp. Meteorol., Taifun Sci. & Ind. Assoc., Russia

Source: Atomic-Energy. vol.80, no.6; June 1996; p.439-44
Translated from: Atomnaya-Energiya. vol.80, no.6; June 1996; p.466-71
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English

Abstract: The time characteristics of the release of Cs and I from the reactor involved in the accident have been previously presented but the results obtained in these papers are different. On the basis of measurements and the data given, it was assumed that the major part of the I isotopes were ejected from the reactor during the first days or even hours after the accident, whereas it is assumed in another work that appreciable ejection of I also continued over a later period. We will consider this in more detail. To obtain detailed data on the contamination of the soil by /sup 131/I during the first period after the accident we analyzed data on the radionuclide composition of samples of soil, fallout and atmospheric aerosol. To construct the fields of contamination of the soil by /sup 131/I we attempted to relate the contamination to the density of the contamination of the soil by /sup 137/Cs.

Number of References: 8
Descriptors: fission-reactor-accidents; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: 131I-; Chernobyl-; soil-; USSR-; Europe-; fallout-; atmospheric-aerosol; 137Cs-; I-; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8006-0439$15.00
SICI: 0004-7163(199606)80:6L.466;1-9
SICI of Translation: 1063-4258(199606)80:6L.439:CSEP;1-U

Sort Key: 00000047163199600080000060000000000000466
Material Identity Number: P995-97003
Accession Number: 5512268
Update Code: 9709

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 233 of 1145 in INSPEC 1/97-6/97

Title: EPR-based dosimetry of large dimensional radiation fields (Chernobyl experience and new approaches)
Author: Usatyi-AF; Verein-NV
Author Affiliation: RRC Kurchatov Inst., Moscow, Russia
Source: Applied-Radiation-and-Isotopes. vol.47, no.11-12; Nov.-Dec. 1996; p.1351-6
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2347%231351&_version=1&md5=fa28a9d5e5496b81e8919f94bea46641
Publication Year: 1996
Record Type: Conference-Paper; Journal-article
Conference Details: ESR Dosimetry and Applications. 4th International Symposium. 15-19 May 1995; Munich, Germany
Country of Publication: UK
Language: English
Abstract: On the basis of EPR signal investigations using irradiated materials as gamma-radiation sensors, the method of dimensionally quasi-continual dosimetric long cords was developed and applied in the investigation of the destroyed Chernobyl Unit-4. The study of irradiated quartz with different initial and post-irradiation defect concentrations is discussed for dosimetric practical use as well as for fundamental understanding.
Number of References: 4
Descriptors: biomedical-imaging; dosimetry-; EPR-spectroscopy; fission-reactor-accidents; quartz-
Identifiers: EPR-based-dosimetry; large-dimensional-radiation-fields; Chernobyl-experience; irradiated-materials; gamma-radiation-sensors; dimensionally-quasicontinual-dosimetric-long-cords; Chernobyl-Unit-4; irradiated-quartz; SiO-2
Classification Codes: A8760M (Radiation-dosimetry); A0758 (Magnetic-resonance-spectrometers-auxiliary-instruments-and-techniques); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8770E (Patient-diagnostic-methods-and-instrumentation); A8760I (Medical-magnetic-resonance-imaging-and-spectroscopy); A87; A07; A28; A8; A0; A2
Treatment Codes: X (Experimental)
Chemical Indexing: SiO2-bin O2-bin Si-bin O-bin

Coden: ARISEF
ISSN: 0969-8043
Copyright Clearance Center Code: 0969-8043/96/$15.00+0.00
SICI: 0969-8043(199611/12)47:11/12L.1351:BDLD;1-V
Document Number: S0969-8043(96)00146-7

Sort Key: 0000969804319960004700011000000000001351
Material Identity Number: J793-97001
Accession Number: 5499239
Update Code: 9707

Record 234 of 1145 in INSPEC 1/97-6/97

Title: Unstable and stable chromosomal aberrations in lymphocytes of people exposed to Chernobyl fallout in Bryansk, Russia

Author: Salomaa-S; Sevankaev-AV; Zhloba-AA; Kumpusalo-E; Makinen-S; Lindholm-C; Kumpusalo-L; Kolmakow-S; Nissinen-A
Author Affiliation: Biol. Dosimetry Lab., Finnish Centre for Radiat. & Nucl. Safety, Helsinki, Finland

Source: International-Journal-of-Radiation-Biology. vol.71, no.1; Jan. 1997; p.51-9
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()71:01L.51
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Analyses of unstable and stable chromosomal aberrations in peripheral blood lymphocytes were used in the assessment of radiation exposure of residents of a village situated in the Chernobyl fallout-contamination zone of Bryansk, Russia. Blood samples were taken from subjects residing in villages with high (>1100k Bq/m/sup 2/ /sup 137/Cs; Mirnyi) and very low (<37 kBq/m/sup 2/ /sup 137/Cs; Krasnyi Rog) contamination, 7 years after the Chernobyl accident. The groups were matched by age, sex, smoking habits and previous medical radiological exposures. A total of 200 people (100 exposed, 100 controls) were analysed for the presence of unstable aberrations from Giemsa-stained slides. To study stable aberrations, chromosome painting analyses were performed on 100 subjects (50 exposed, 50 controls), using painting probes for chromosomes 1, 2 and 4 and a pancentromeric probe. People living in the contaminated area showed significantly higher rates of unstable chromosome-type aberrations but not chromatid-type aberrations in their lymphocytes, indicating radiation exposure as a causative factor for the observed difference. No significant differences were found in the aberration rates between the two areas by the chromosome painting method. The

levels of chromosome exchanges were low in both populations, but consistently higher in Mirnyi compared with the control area. The magnitude of radiation exposure resulting from Chernobyl fallout was estimated on the basis of excess stable chromosomal aberrations in the lymphocytes of the Mirnyi population compared with the controls.

Number of References: 40

Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; fission-reactor-accidents; radioactive-pollution

Identifiers: white-blood-cells; stable-chromosomal-aberrations; unstable-chromosomal-aberrations; lymphocytes-; Chernobyl-fallout-exposed-people; Bryansk-; Russia-; 137Cs-; smoking-habit; previous-medical-radiological-exposures; unstable-aberrations; Giemsa-stained-slides; stable-aberrations; chromosome-painting-analyses; pancentromeric-probe; contaminated-area; Mirnyi-; cellular-radiobiology; 7-y; Cs-

Classification Codes: A8725F (Physics-of-subcellular-structures); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: time 2.2 E08 s

Chemical Indexing: Cs-el

Coden: IJRBA3

ISSN: 0955-3002

SICI: 0955-3002(199701)71:1L.51:USCA;1-M

Sort Key: 00009553002199700071000010000000000000051

Material Identity Number: I200-97001

Accession Number: 5498613

Update Code: 9707

Record 235 of 1145 in INSPEC 1/97-6/97

Title: A highly radioactive Chernobyl deposit in a Scandinavian glacier

Author: Jaworowski-Z; Hoff-P; Hagen-JO; Maczek-W

Author Affiliation: Central Lab. for Radiol. Protection, Warsaw, Poland

Source: Journal-of-Environmental-Radioactivity. vol.35, no.1; 1997; p.91-108

Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2335%2391%231&_version=1&md5=02b9c8952cf0e24b99d13ad539be04f0

Publication Year: 1997

Record Type: Journal-article

Country of Publication: UK

Language: English
Abstract: A highly radioactive 0.5 cm thick `black line' of dust with Chernobyl debris has been observed in two parts and on ice core, in snow and ice strata deposited at a temperature glacier in central Norway. The maximum deposition density of /sup 137/Cs found at this glacier was 59 kBq m/sup -2/. Over a deposition area of 100 cm/sup 2/, concentration of /sup 137/Cs at the same depth (horizontally) were about one order of magnitude while the vertical concentration over a 6-cm-thick layer of ice was about three orders of magnitude. The maximum concentration of /sup 137/Cs found in ice containing the `black line' was 1156 Bq kg/sup -1/, which is about 2-6 orders of magnitude higher than maximum concentrations recorded in other glaciers. High activities of this magnitude may provide us with a unique opportunity for environmental studies.
Number of References: 45
Descriptors: caesium-; fission-reactor-accidents; glaciology-; radioactive-pollution
Identifiers: glacier-; dust-; Chernobyl-; Norway-; ice-core; snow-; ice-strata; 137Cs-concentration; black-line; Cs-
Classification Codes: A8670E (Water-environmental-science); A9240V (Glaciers-and-ice-sheets); A86; A92; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$17.00+0.00
SICI: 0265-931X(1997)35:1L.91:HRCD;1-H
Document Number: S0265-931X(96)00004-5

Sort Key: 0000265931X19970003500001000000000000091
Material Identity Number: I664-97001
Accession Number: 5493234
Update Code: 9706

Record 236 of 1145 in INSPEC 1/97-6/97

Title: Migration of /sup 137/Cs and /sup 90/Sr from Chernobyl fallout in Ukrainian, Belarussian and Russian soils
Author: Ivanov-YA; Lewyckyj-N; Levchuk-SE; Prister-BS; Firsakova-SK; Arkhipov-NP; Arkhipov-AN; Kruglov-SV; Alexakhin-RM; Sandalls-J; Askbrant-S
Author Affiliation: Inst. of Agric. Radiol., Kiev, Ukraine
Source: Journal-of-Environmental-Radioactivity. vol.35, no.1; 1997; p.1-21
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2335%231%231&_version=1&md5=2c26b67f33f3e5a8869ec17ad66d6af0

Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Studies carried out inside the 30-km restriction zone of the Chernobyl Nuclear Power Plant (ChNPP) and in other contaminated regions of Ukraine, Belarus and Russia have shown that much of the /sup 137/Cs and /sup 90/Sr deposited by the accident in 1986 has been retained in the superficial layers of the soil and is likely to remain there for a long time. However, in wet organic soils, there has been considerable downward movement. Between 1987 and 1993, laboratory and field experiments were carried out in order to determine the vertical distribution profiles of /sup 137/Cs and /sup 90/Sr in undisturbed soils at various locations and in various soil types. The data from these experiments were then used to calculate the vertical migration rates of the two radionuclides by two types of model. the experimental results showed that the type of soil and its water content had a significant influence on the radionuclide distribution pattern in the soil profile. In undisturbed well-drained sandy and sandy loamy soils, the radionuclides were retained in the upper soil layers. However, in peaty boggy soils and flooded meadows, there was a greater downward migration. In tilled soils, the radionuclides were distributed more or less homogeneously within the cultivated soil layer: the depth and homogeneity of the nuclide distribution depended on the soil texture and the way that the soil has been managed. The vertical migration rates of the /sup 90/Sr were always higher than that of /sup 137/Cs. In a comparison of migration rates between /sup 137/Cs and /sup 90/Sr in different types of soils, /sup 90/Sr appeared to migrate fastest in sandy loam and sandy soils, and /sup 137/Cs migrated fastest in peaty, boggy soils. The limitations in usage of the models are discussed, and predictions are made for the coming years.
Number of References: 13
Descriptors: caesium-; radioactive-pollution; soil-; strontium-; transport-processes
Identifiers: 137Cs-; 90Sr-; migration-; Chernobyl-fallout; Ukrainian-soils; Russian-soils; Belarussian-soils; contaminated-regions; superficial-layers; wet-organic-soils; downward-movement; vertical-distribution-profiles; undisturbed-well-drained-sandy-soils; sandy-loamy-soils; peaty-boggy-soils; flooded-meadows; tilled-soils; cultivated-soil-layer; nuclide-distribution; soil-texture; vertical-migration-rates
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$17.00+0.00
SICI: 0265-931X(1997)35:1L.1:M19F;1-7
Document Number: S0265-931X(96)00036-7

Sort Key: 0000265931X19970003500001000000000000001
Material Identity Number: I664-97001
Accession Number: 5493231

Update Code: 9706

Record 237 of 1145 in INSPEC 1/97-6/97

Title: Post-accident survey of the Unit 4 reactor of the Chernobyl nuclear power plant
Author: Kiselev-AN; Surin-AI; Checherov-KP
Author Affiliation: Sci. Center, I.V. Kurchatov Atomic Energy Inst., Russia
Source: Atomic-Energy. vol.80, no.4; April 1996; p.225-31
Translated from: Atomnaya-Energiya. vol.80, no.4; April 1996; p.240-7
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The state of the main elements of the reactor structure after the accident has been determined from the results of a survey of Unit 4. The most important conclusion is that there is no reactor core in the reactor well. The large volume of data collected provides a basis for formulating a model of how the accident developed, but thus far no one has posed this problem and it has not been presented to anyone. The location of most of the nuclear fuel in its various modifications has not yet been reliably established. The reliability of the estimates of the amount of fuel in its various modifications must be examined by experts and the probability of its location must be evaluated. As of 1992 there are two independent versions of the amount of nuclear fuel in the lava: from 47 to 93% and from 9 to 13%, respectively.
Number of References: 14
Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-; nuclear-power-plant; Unit-4; post-accident-survey; reactor-core; nuclear-fuel
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/96/8004-0225$15.00
SICI: 0004-7163(199604)80:4L.240;1-V
SICI of Translation: 1063-4258(199604)80:4L.225:PASU;1-Q

Sort Key: 00000047163199600080000040000000000000240
Material Identity Number: P995-97001
Accession Number: 5483176
Update Code: 9704

Record 238 of 1145 in INSPEC 1/97-6/97

Title: Chernobyl fallout in salt from Ciechocinek, Poland
Author: Oczkowski-HL; Przegietka-KR; Wybourne-BG; Kachnic-M; Krawiec-A
Author Affiliation: Inst. Fizyki, Umiwersytet Mikolaja Kpernika, Torun, Poland
Source: Radiation-Measurements. vol.26, no.5; Sept. 1996; p.743-5
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=1350%2d4487%2326%23743%235&_version=1&md5=506fa39d5843f5be791b10ad8410ec82
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The initial interest in the total inventory of the radionuclide fission products ejected from Chernobyl has been replaced with concern about the deposition and accumulation in the environment of those isotopes with longer half lives, mainly Cs-137 and Cs-134. We present here the slightly unusual case of collection of caesium isotopes in the salt of graduation towers used in salt production. In this case, the radiocaesium first settled down from the air to the wetted surface of the graduation tower in Ciechocinek and then, due to crystallisation of the brine, was deposited in the salt.
Number of References: 6
Descriptors: accidents-; air-pollution; caesium-; radioactive-pollution
Identifiers: salt-; Chernobyl-; fallout-; Ciechocinek-; Poland-; Cs-isotopes; 137Cs-; 134Cs-; graduation-towers; wetted-surface; crystallisation-; brine-; Cs-; NaCl-
Classification Codes: A8670G (Atmosphere-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; NaCl-bin Cl-bin Na-bin
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/96/$15.00+0.00
SICI: 1350-4487(199609)26:5L.743:CFSF;1-E
Document Number: S1350-4487(96)00079-0

Sort Key: 0001350448719960002600005000000000000743
Material Identity Number: B357-97001
Accession Number: 5473845
Update Code: 9703

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 239 of 1145 in INSPEC 1/97-6/97

Title: Chernobyl clean-up workers' perception of radiation threat
Author: Tarabrina-N; Lazebnaya-E; Zelenova-M; Lasko-N
Author Affiliation: Inst. of Psychol., Acad. of Sci., Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.68, no.3-4; 1996; p.251-5
Publication Year: 1996
Record Type: Conference-Paper; Journal-article
Conference Details: Radiation Risk, Risk Perception and Social Constructions. Workshop. 19-20 Oct. 1995; Oslo, Norway
Country of Publication: UK
Language: English
Abstract: The goals of this study were: (1) to compare the psychometric profiles of male Chernobyl liquidators who met DSM-III-R criteria for current PTSD with those who did not, and (2) to explore liquidators' perception and assessment of the "invisible" stressor of the radioactive hazard. Results of t-test comparisons between the PTSD and non-PTSD groups for the various psychometric measures are shown. Both diagnostic groups were similar in regard to their mean ages and education levels. The PTSD group scored significantly higher than the non-PTSD group on all the measures of PTSD and general psychiatric symptomatology, state and trait anxiety, depression. On the whole, results of this study demonstrate the determining role of individual perception and assessment of radioactive hazard in the development of post-traumatic stress and place this problem among the most important in studying the psychological consequences of experiencing radioactive threat. The real working conditions and the level of information also affected workers' estimate of the severity of the radiation hazard in Chernobyl.
Number of References: 27
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; human-factors; personnel-; psychology-; radioactive-pollution
Identifiers: Chernobyl-clean-up-workers'-perception; radiation-threat; psychometric-profiles; male-Chernobyl-liquidators; liquidators'-perception; invisible-stressor; radioactive-hazard; t-test-comparisons; diagnostic-groups; mean-ages; education-levels; general-psychiatric-symptomatology; trait-anxiety; depression-; individual-assessment; individual-perception; post-traumatic-stress; psychological-consequences; radioactive-threat; real-working-conditions; severity-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8790 (Other-topics-in-biophysics-medical-physics-and-biomedical-engineering); A87; A28; A8; A2
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1996)68:3/4L.251:CCWP;1-1

Sort Key: 000014484201996000680000300000000000251

Material Identity Number: B978-96019
Accession Number: 5466586
Update Code: 9702

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 240 of 1145 in INSPEC 1/97-6/97

Title: Chernobyl-system accident or human error?
Author: Stang-E
Author Affiliation: Centre for Technol. & Culture, Oslo Univ., Norway
Source: Radiation-Protection-Dosimetry. vol.68, no.3-4; 1996; p.197-201
Publication Year: 1996
Record Type: Conference-Paper; Journal-article
Conference Details: Radiation Risk, Risk Perception and Social Constructions. Workshop. 19-20 Oct. 1995; Oslo, Norway
Country of Publication: UK
Language: English
Abstract: Did human error cause the Chernobyl disaster? The standard point of view is that operator error was the root cause of the disaster. This was also the view of the Soviet Accident Commission. The paper analyses the operator errors at Chernobyl in a system context. The reactor operators committed errors that depended upon a lot of other failures that made up a complex accident scenario. The analysis is based on Charles Perrow's analysis of technological disasters. Failure possibility is an inherent property of high-risk industrial installations. The Chernobyl accident consisted of a chain of events that were both extremely improbable and difficult to predict. It is not reasonable to put the blame for the disaster on the operators.
Number of References: 2
Descriptors: disasters-; fission-reactor-accidents; human-factors
Identifiers: Chernobyl-disaster; human-error; operator-errors; system-context; reactor-operators; failures-; complex-accident-scenario; technological-disasters; failure-possibility; high-risk-industrial-installations; Chernobyl-accident; system-accident
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220B (Nuclear-reactors); B0160 (Plant-engineering-maintenance-and-safety); A28; B82; B01; A2; B8; B0
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1996)68:3/4L.197:CSAH;1-3

Sort Key: 0000144842019960006800003000000000000197
Material Identity Number: B978-96019
Accession Number: 5466579

Update Code: 9702

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 241 of 1145 in INSPEC 1/97-6/97

Title: Impact on agriculture in Norway from the Chernobyl accident, 1986 to 1995
Author: Tveten-U; Brynildsen-LI; Amundsen-I; Bergan-TDS
Author Affiliation: Inst. for Energy Technol., Kjeller, Norway
Source: Transactions-of-the-American-Nuclear-Society. vol.75; 1996; p.430-1
Publication Year: 1996
Record Type: Conference-Paper; Journal-article
Conference Details: American Nuclear Society and the European Nuclear Society 1996 International Conference on the Global Benefits of Nuclear Technology and the Embedded Topical Meetings. Low-Level Radiation Health Effects, DD&R: Worldwide Experience-DD&R, What Does it Mean, and International Nuclear Policy Issues (papers in summary form only received). 10-14 Nov. 1996; Washington, DC, USA
Country of Publication: USA
Language: English
Abstract: Summary form only given. In Norway considerable yearly economic consequences to Norwegian agriculture are incurred as a result of Chernobyl. This paper summarize these economic consequences year by year over the 10 yr. period and describes the various countermeasures adopted to reduce the consequences. The consequences are mainly connected to the production of mutton and reindeer meat.
Number of References: 0
Descriptors: agriculture-; disasters-; economics-; fission-reactor-accidents; soil-
Identifiers: agriculture-; Norway-; Chernobyl-; economic-consequences; mutton-; reindeer-meat; sheep-meat; soil-; 10-y
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: E (Economic); X (Experimental)
Numerical Data Indexing: time 3.2 E08 s
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1996)75L.430:IANF;1-8

Sort Key: 0000003018X19960007500000000000000000430
Material Identity Number: T064-96002
Accession Number: 5463200
Update Code: 9701

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 242 of 1145 in INSPEC 1/97-6/97

Title: Ten years after Chernobyl
Author: Becker-K
Author Affiliation: DIN, Berlin, Germany
Source: Transactions-of-the-American-Nuclear-Society. vol.75; 1996; p.428
Publication Year: 1996
Record Type: Conference-Paper; Journal-article
Conference Details: American Nuclear Society and the European Nuclear Society 1996 International Conference on the Global Benefits of Nuclear Technology and the Embedded Topical Meetings. Low-Level Radiation Health Effects, DD&R: Worldwide Experience-DD&R, What Does it Mean, and International Nuclear Policy Issues (papers in summary form only received). 10-14 Nov. 1996; Washington, DC, USA
Country of Publication: USA
Language: English
Abstract: Summary form only given. As was amply demonstrated during the EU/IAEA/WHO Summing-up-Conference in Vienna, Austria, April 8-12, 1996, the radiological consequences of the Chernobyl accident were, fortunately, not as serious as frequently presented in the media. The economical, social, and political consequences, however, both in the former Soviet Union and in Western Europe, have been very substantial. The main reasons for a very much distorted public response are also considered.
Number of References: 0
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; politics-; radioactive-pollution; socio-economic-effects
Identifiers: Chernobyl-; radiological-consequences; economic-; social-; political-; Soviet-Union; Western-Europe; public-response; health-; cancer-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A28; A87; A2; A8
Coden: TANSAO
ISSN: 0003-018X
SICI: 0003-018X(1996)75L.428:YAC;1-J

Sort Key: 0000003018X19960007500000000000000000428
Material Identity Number: T064-96002
Accession Number: 5463197
Update Code: 9701

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 243 of 1145 in INSPEC 1/97-6/97

Title: Effects in Switzerland of the Chernobyl reactor accident
Author: Huber-O; Jeschki-W; Pretre-S; Volkle-H
Author Affiliation: Hauptabteilung fur die Sicherheit der Kernanlagen, Villigen, Switzerland
Source: Kerntechnik. vol.61, no.5-6; Nov. 1996; p.271-7
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Germany
Language: English
Abstract: April 1996 saw the tenth anniversary of the Chernobyl reactor accident. The current article takes advantage of this occasion to present, from today's point of view, a summary appraisal of the radiological effects that this accident had in Switzerland and to show how the warning and monitoring organisation in existence at the time coped with the event.
Number of References: 3
Descriptors: air-pollution; disasters-; radioactive-pollution
Identifiers: Switzerland-; Chernobyl-reactor-accident; radiological-effects; monitoring-organisation; warning-
Classification Codes: A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: G (General-or-Review)
Coden: KERNEU
ISSN: 0932-3902
SICI: 0932-3902(199611)61:5/6L.271:ESCR;1-V

Sort Key: 00009323902199600061000050000000000000271
Material Identity Number: K977-96004
Accession Number: 5461241
Update Code: 9701

Record 244 of 1145 in INSPEC 1/97-6/97

Title: Fallout and exposure of the population in Austria after the Chernobyl accident
Author: Muck-K
Author Affiliation: Osterreichisches Forschunggszentrum Seibersdorf GmbH, Austria
Source: Kerntechnik. vol.61, no.5-6; Nov. 1996; p.260-70
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Germany
Language: English
Abstract: The fallout situation in Austria after the Chernobyl accident is described and compared to that in neighboring countries. The plume from the destroyed power plant caused an exposure of the population in the first year of 0.55 mSv on the average, of

which about 0.1 mSv were caused by external exposure, 0.03 mSv by inhalation, and 0.42 mSv by ingestion. Despite these low exposure values several measures were adopted in Austria, the effects of which are given in this paper. Only three measures (feeding restrictions for fresh grass, a ban on marketing fresh vegetables, and selection of low-activity milk in dairies) resulted in substantial dose reduction effects of about 30% of the total exposure to be expected. The time course in activity concentration in foodstuffs relevant to countermeasures is described. Also the differences in exposure of the population by ingestion as estimated from food-stuff and whole body measurements is discussed. The decrease in activity concentration in foodstuffs after the direct contamination phase, which is characterized by an effective half-life of about 2 years in the period up to now, is discussed. This decrease in Cs availability results at present in an exposure of approximately 0.5% of initial values, equivalent to about 5 mu Sv per annum or approximately 0.15% of the natural background radiation exposure in Austria.

Number of References: 37
Descriptors: air-pollution; health-hazards; radioactive-pollution
Identifiers: Austria-; Chernobyl-accident; fallout-situation; external-exposure; inhalation-; ingestion-; fresh-grass; fresh-vegetables; low-activity-milk; substantial-dose-reduction-effects; whole-body-measurements; natural-background-radiation-exposure
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: G (General-or-Review)
Coden: KERNEU
ISSN: 0932-3902
SICI: 0932-3902(199611)61:5/6L.260:FEPA;1-O

Sort Key: 0000932390219960006100005000000000000260
Material Identity Number: K977-96004
Accession Number: 5461240
Update Code: 9701

Record 245 of 1145 in INSPEC 1/97-6/97

Title: Ten years after Chernobyl-consequences for Germany
Author: Bayer-A
Author Affiliation: Inst. fur Strahlenhygiene, Bundesamt fur Strahlenschutz, Salzgitter, Germany
Source: Kerntechnik. vol.61, no.5-6; Nov. 1996; p.251-9
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Germany
Language: English

Abstract: The accident which occurred in the Chernobyl nuclear power plant in 1986 is described in summarized form along with the subsequent release of radionuclides into the atmosphere. The contamination resulting from dispersion and deposition in Germany and the resulting radiation exposure are presented. The recommendations issued after the event by the German Commission for Radiological Protection and the contamination limits issued by the European Union are described. Epidemiological studies performed in Germany during the past years investigating the effects of radiation on human health are discussed. Finally the implementation of the Precautionary Radiological Protection Act and the requirements which arose from this are discussed, viz., the establishment of the Integrated Measurement and Information System for the Surveillance of Environmental Radioactivity, dose and contamination limits, and precautionary measures.

Number of References: 23
Descriptors: air-pollution; dosimetry-; health-hazards; radioactive-pollution
Identifiers: Chernobyl-; Germany-; radionuclides-; dispersion-; deposition-; radiation-exposure; contamination-limits; epidemiological-studies; precautionary-measures
Classification Codes: A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Coden: KERNEU
ISSN: 0932-3902
SICI: 0932-3902(199611)61:5/6L.251:YACC;1-6

Sort Key: 0000932390219960006100005000000000000251
Material Identity Number: K977-96004
Accession Number: 5461239
Update Code: 9701

Record 246 of 1145 in INSPEC 1/97-6/97

Title: /sup 129/I and /sup 36/Cl concentrations in lichens collected in 1990 from three regions around Chernobyl

Author: Chant-LA; Andrews-HR; Cornett-RJ; Koslowsky-V; Milton-JCD; Van-den-Berg-GJ; Verburg-TG; Wolterbeek-HT
Author Affiliation: Environ. Res. Branch, Atomic Energy of Canada Ltd., Chalk River, Ont., Canada

Source: Applied-Radiation-and-Isotopes. vol.47, no.9-10; Sept.-Oct. 1996; p.933-7
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0969%2d8043%2347%23933&_version=1&md5=30e100850a8da9bd648f2046bd8948de
Publication Year: 1996

Record Type: Conference-Paper; Journal-article
Conference Details: International Committee for Radionuclide Metrology Conference on Low-Level Measurement Techniques. 2-6 Oct. 1995; Seville, Spain
Country of Publication: UK
Language: English
Abstract: /sup 129/I and /sup 36/Cl were measured by accelerator mass spectrometry in 11 lichen samples (Parmelia sulcata) collected in 1990 from three regions (Novozybkov, Bragin and Ovruc) near Chernobyl. Previously measured activities of /sup 137/Cs were highest in the samples from the Novozybkov region while the measured activities of /sup 36/Cl and /sup 129/I in this study were highest in the samples from the Bragin region. The regional distribution patterns of the /sup 36/Cl and /sup 129/I show a positive correlation suggesting that these volatile radionuclides were deposited in the same manner.
Number of References: 16
Descriptors: chlorine-; iodine-; radioactive-pollution; radioisotopes-
Identifiers: 129I-; 36Ci-; lichens-; Chernobyl-; accelerator-mass-spectrometry; Parmelia-sulcata; Novozybkov-; Bragin-; Ovruc-; volatile-radionuclides; Cl-; I-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cl-el; I-el
Coden: ARISEF
ISSN: 0969-8043

SICI: 0969-8043(199609/10)47:9/10L.933:13CL;1-K
Document Number: S0969-8043(96)00090-5

Sort Key: 0000969804319960004700009000000000000933
Material Identity Number: J793-96008
Accession Number: 5461126
Update Code: 9701

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.002
Bestand: 44.1993=>

Record 247 of 1145 in INSPEC 1/97-6/97

Title: Reconstruction of the doses of radioactive irradiation of alpha -quartz crystals from the Chernobyl zone
Author: Brik-AB; Degoda-VYa; Marazuev-YuA; Radchuk-VV
Author Affiliation: Kiev Univ., Ukraine
Source: Journal-of-Applied-Spectroscopy. vol.63, no.1; Jan.-Feb. 1996; p.128-30
Translated from: Zhurnal-Prikladnoi-Spektroskopii. vol.63, no.1; Jan.-Feb. 1996; p.158-60
Publication Year: 1996

Record Type: Journal-article
Country of Publication: Byelorussia; Translation: USA
Language: English
Abstract: We carried out measurements of equivalent doses D/sub 0/ of radioactive irradiation of alpha -quartz crystals isolated from bricks of buildings situated in the zone of the accident at the Chernobyl Atomic Power Station (APS). We carried out reconstruction of doses by three luminescent methods: the standard method of a preliminary dose with the use of the 100 degrees C peak of thermally stimulated luminescence (TSL), high-temperature thermoluminescence (HTTL) and the X-ray luminescence (XL) method suggested by Brik et al., (1994), and the EPR method (Matyash et al., 1987). In the predose method, original specimens were subjected to a thermal shock (holding for 3 min at 773 K) and were additionally irradiated from an X-ray tube by a test dose of 0.02-0.1 Gy, after which the area S under the curve of the 100 degrees C peak of TSL was measured in linear heating. In the same manner we measured S for the portions of the original sample that were additionally gamma -irradiated by doses D/sub N/ from a standard Co/sup 60/ source. The threshold values of the doses reconstructed by the predose method are equal to 0.2-0.4 Gy. For different specimens this method retains a linear signal-dose dependence within the range 0.5-10 Gy. When we used the HTTL method, we measured the intensity of TSL at the peak T/sub max/ ~480 K of the original and additionally gamma -irradiated specimens that were not subjected to thermal treatment in the process of irradiation or after it. The threshold doses for the HTTL method are equal to about 1 Gy; the method is linear in the region up to 1000 Gy.
Number of References: 7
Descriptors: dosimetry-; paramagnetic-resonance; photoluminescence-; pollution-measurement; quartz-; radioactive-pollution; thermoluminescence-
Identifiers: radioactive-irradiation-dose-reconstruction; alpha-quartz-crystals; Chernobyl-Atomic-Power-Station; Chernobyl-zone; equivalent-doses; radioactive-irradiation; luminescent-methods; thermally-stimulated-luminescence; high-temperature-thermoluminescence; X-ray-luminescence; EPR-method; predose-method; thermal-shock; X-ray-tube; Co-60-source; threshold-doses; linear-signal-dose-dependence; thermoluminescence-intensity; thermal-treatment
Classification Codes: A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A7860K (Thermoluminescence); A7855H (Photoluminescence-in-other-inorganic-materials); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A78; A87; A8; A7
Treatment Codes: P (Practical); X (Experimental)
Coden: ZPSBAX; Translation: JASYAP
ISSN: 0514-7506; Translation: 0021-9037
Copyright Clearance Center Code: 0021-9037/96/6301-0128$15.00
SICI: 0514-7506(199601/02)63:1L.158;1-J
SICI of Translation: 0021-9037(199601/02)63:1L.128:RDRI;1-Q

Sort Key: 000051475061996000630000100000000000158

Material Identity Number: J243-96007
Accession Number: 5460863
Update Code: 9701

Record 248 of 1145 in INSPEC 1996

Title: The feasibility of using /sup 129/I to reconstruct /sup 131/I deposition from the Chernobyl reactor accident

Author: Straume-T; Marchetti-AA; Anspaugh-LR; Khrouch-VT; Gavrilin-YuI; Shinkarev-SM; Drozdovitch-VV; Ulanovsky-AV; Korneev-SV; Brekeshev-MK; Leonov-ES; Voigt-G; Panchenko-SV; Minenko-VF
Author Affiliation: Lawrence Livermore Nat. Lab., California Univ., Livermore, CA, USA

Source: Health-Physics. vol.71, no.5; Nov. 1996; p.733-40
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: Radioiodine released to the atmosphere from the accident at the Chernobyl nuclear power station in the spring of 1986 resulted in large-scale thyroid-gland exposure of populations in Ukraine, Belarus, and Russia, Because of the short half life of /sup 131/I (8.04 d), adequate data on the intensities and patterns of iodine deposition were not collected, especially in the regions where the incidence of childhood-thyroid cancer is now increasing. Results are presented from a feasibility study that show that accelerator-mass-spectrometry measurements of /sup 129/I (half life 16*10/sup 6/ y) in soil can be used to reconstruct /sup 131/I-deposition density and thus help in the thyroid-dosimetry effort that is now urgently needed to support epidemiologic studies of childhood-thyroid cancer in the affected regions.

Number of References: 32
Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-reactor-accident; atmosphere-; Chernobyl-nuclear-power-station; large-scale-thyroid-gland-exposure; populations-; Ukraine-; Belarus-; Russia-; short-half-life; childhood-thyroid-cancer; accelerator-mass-spectrometry-measurements; 129I-; soil-; 131I-deposition-density; thyroid-dosimetry; epidemiologic-studies; affected-regions; I-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el

Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00
SICI: 0017-9078(199611)71:5L.733:FU1R;1-K

Sort Key: 00000179078199600071000050000000000000733
Material Identity Number: P578-96013
Accession Number: 5448750
Update Code: 9649
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 249 of 1145 in INSPEC 1996

Title: Chernobyl - a solution for the clean up of highly contaminated forests and woodlands
Author: Dubourg-M
Author Affiliation: Framatome, Paris, France
Source: Nuclear-Engineering-and-Design. vol.166, no.1; Oct. 1996; p.109-15
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0029%2d5493%23166%23109%231&_version=1&md5=0ac967b6348d1a0a8250d619a4c6a630
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: This study refers to a remedial action for woodlands and forests contaminated by the fall-out of radionuclides after the Chernobyl accident. This remedial action implies both the incineration of contaminated wood products and foliage, and the transformation of clean wood into paper pulp for industry. Based on existing industrial products, this remedial action can be justified by the sale of by-products, such as electricity and cardboard, that can pay for the necessary industrial investment. The pay-back return is estimated to be obtained in about five years.
Number of References: 3
Descriptors: forestry-; paper-industry; pollution-control; radiation-decontamination; radioactive-pollution; radioactive-waste-processing; wood-processing
Identifiers: Chernobyl-accident; highly-contaminated-forests; contaminated-woodlands; remedial-actions; fluidized-bed-incineration; paper-pulp-production; byproducts-; necessary-industrial-investment; electricity-generation; cardboard-production
Classification Codes: A8670C (Soil-and-rock); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2880 (Radiation-technology-including-shielding); A86; A28; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NEDEAU

ISSN: 0029-5493
Copyright Clearance Center Code: 0029-5493/96/$15.00
SICI: 0029-5493(199610)166:1L.109:CSCH;1-G

Sort Key: 0000029549319960016600001000000000000109
Material Identity Number: N042-96010
Accession Number: 5447874
Update Code: 9649
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08465.001
Bestand: 3.1966=>

Record 250 of 1145 in INSPEC 1996

Title: Chromosome translocations in thyroid tissues from Belarussian children exposed to radioiodine from the Chernobyl accident, measured by FISH-painting

Author: Lehmann-L; Zitzelsberger-H; Kellerer-M; Braselmann-H; Kulka-U; Georgiadou-Schumacher-V; Negele-T; Spelsberg-F; Demidchik-E; Lengfelder-E; Bauchinger-M
Author Affiliation: GSF-Nat. Res. Center for Environ. & Health, Oberschleissheim, Germany

Source: International-Journal-of-Radiation-Biology. vol.70, no.5; Nov. 1996; p.513-16
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()70:05L.513
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Chromosome painting of chromosomes 1, 4 and 12 was performed on metaphase preparations of cultured thyroid cells to analyse the frequency of radiation-induced stable chromosome translocations in papillary thyroid carcinomas from 40 Belarussian children exposed to radioiodine from the Chernobyl accident, and from 31 reference cases. As expected, the authors found the highest translocation frequencies in secondary thyroid tumours after radiotherapy, but there were also high frequencies in tumour tissues as well as in non-tumourous tissues from childhood papillary carcinoma samples from Belarus. Among the Belarussian tumours the cases from the Gomel region exhibited the highest frequency of translocations and 5 cases lie within the range of frequencies observed in secondary thyroid tumours after radiotherapy. The findings support the assumption that radiation was the principal cause of the tumours in Belarus, but they indicate also that only a minority of the Belarus cases, which have developed papillary carcinomas, were exposed to very high doses of radioiodine.

Number of References: 9
Descriptors: biological-effects-of-ionising-radiation; cellular-effects-of-radiation; fission-reactor-accidents; genetics-; iodine-; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; FISH-painting; Belarussian-children; thyroid-tissues; childhood-papillary-carcinoma-samples; Belarus-; Gomel-region; translocation-

frequencies; secondary-thyroid-tumours; cellular-radiobiology; radiotherapy-; tumour-tissues; radioiodine-exposure; radioisotope-effects; metaphase-preparations; cultured-thyroid-cells; radiation-induced-stable-chromosome-translocations-frequency; I-

Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A87; A28; A8

Treatment Codes: X (Experimental)

Chemical Indexing: I-el

Coden: IJRBA3

ISSN: 0955-3002

SICI: 0955-3002(199611)70:5L.513:CTTT;1-A

Sort Key: 0000955300219960007000005000000000000513

Material Identity Number: I200-96012

Accession Number: 5446270

Update Code: 9649

Record 251 of 1145 in INSPEC 1996

Title: Chernobyl radioactivity on the Black Sea coast of Turkey

Author: Goekmen-IG; Akgoez-M; Goekmen-A

Author Affiliation: Dept. of Chem., Middle East Tech. Univ., Ankara, Turkey

Source: Fresenius'-Journal-of-Analytical-Chemistry. vol.355, no.5-6; July 1996; p.736-8

Publication Year: 1996

Record Type: Conference-Paper; Journal-article

Conference Details: 29th Colloquium Spectroscopicum Interntionale. 27 Aug.-1 Sept. 1995; Leipzig, Germany. Sponsored by: IUPAC

Country of Publication: Germany

Language: English

Abstract: After the Chernobyl reactor accident, Eastern Black Sea coast was one of the heavily contaminated regions of Turkey. Clouds loaded with radioactive isotopes arrived the region on May 1986 and emptied their contents with the heavy rains that are frequently seen in the region. In order to asses the current level of contamination, several different samples, moss, lichen, litter, surface soil and soil cores were collected on August 1994. Samples were brought to the laboratory and their moisture, pH and organic matter contents were determined. Gamma-ray spectra of the samples were collected with a HpGe detector. /sup 137/Cs was the major isotope observed. Activity of most litter samples were below 1000 Bq/kg, while most of the moss samples had activities below 5000 Bq/kg, there were a few with higher /sup 137/Cs activities. Surface soil samples generally had activities less than 2000 Bq/kg and depth profiles of cesium activities in the soil cores showed regional variations.

Number of References: 13

Descriptors: caesium-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioactivity-measurement; radioisotopes-; soil-
Identifiers: Chernobyl-radioactivity; surface-soil-contamination; soil-cores; moss-contamination; lichen-contamination; litter-contamination; organic-matter-content; gamma-ray-spectra; 137Cs-pollutant; radioactivity-depth-profiles; regional-variations; Turkey-Black-Sea-coast; Eastern-Black-Sea-coast; Cs-
Classification Codes: A8670C (Soil-and-rock); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); A86; A28; A87; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: FJACES
ISSN: 0937-0633
SICI: 0937-0633(199607)355:5/6L.736:CRBC;1-#

Sort Key: 00009370633199600355000050000000000000736
Material Identity Number: D121-96011
Accession Number: 5445438
Update Code: 9649

Record 252 of 1145 in INSPEC 1996

Title: Infant leukaemia after in utero exposure to radiation from Chernobyl
Author: Petridou-E; Trichopoulos-D; Dessypris-N; Flytzani-V; Haidas-S; Kalmanti-M; Koliouskas-D; Kosmidis-H; Piperopoulou-F; Tzortzatou-F
Author Affiliation: Harvard Center for Cancer Prevention, Boston, MA, USA
Source: Nature. vol.382, no.6589; 25 July 1996; p.352-3
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: There has been no documented increase in childhood leukaemia following the Chernobyl accident. However, different forms of childhood leukaemia may not be equally susceptible to radiation carcinogenesis. Infant leukaemia is a distinct form associated with a specific genetic abnormality. Outside the former Soviet Union, contamination resulting from the Chernobyl accident has been highest in Greece and Austria and high also in the Scandinavian countries. All childhood leukaemia cases diagnosed throughout Greece since 1 January 1980 have been recorded. Here we report that infants exposed in utero to ionizing radiation from the Chernobyl accident had 2.6 times the incidence of leukaemia compared to unexposed children (95% confidence interval, 1.4 to 5.1; P approximately=0.003), and those born to mothers residing in regions with high radioactive fallout were at higher risk of developing infant leukaemia. No significant difference in leukaemia incidence was found among children aged 12 to 47 months. Preconceptional irradiation had no demonstrable effect on leukaemia risk at any of the studied age groups.

Number of References: 28
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution
Identifiers: childhood-leukaemia; Chernobyl-accident; radiation-carcinogenesis; infant-leukaemia; in-utero-exposure; specific-genetic-abnormality; former-Soviet-Union; contamination-; Greece-; Austria-; Scandinavian-countries; childhood-leukaemia-cases; ionizing-radiation; mothers-; high-radioactive-fallout; leukaemia-incidence; preconceptional-irradiation; leukaemia-risk; studied-age-groups; 1-to-4-y
Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 1.0 E00 to 4.0 E00 yr
Coden: NATUAS
ISSN: 0028-0836
Copyright Clearance Center Code: 0028-0836/96/$9.00+1.00
SICI: 0028-0836(19960725)382:6589L.352:ILAU;1-I

Sort Key: 0000028083619960038206589000000000000352
Material Identity Number: N003-96030
Accession Number: 5441188
Update Code: 9648
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 253 of 1145 in INSPEC 1996

Title: Dynamics of /sup 137/Cs bioavailability in a soil-plant system in areas of the Chernobyl nuclear power plant accident zone with a different physico-chemical composition of radioactive fallout
Author: Fesenko-SV; Spiridonov-SI; Sanzharova-NI; Alexakhin-RM
Author Affiliation: Russian Inst. of Agric. Radiol. & Agroecology, Obninsk, Russia
Source: Journal-of-Environmental-Radioactivity. vol.34, no.3; 1997; p.287-313
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2334%23287%233&_version=1&md5=c6bf248f6b5bd4ea363613c1eefdcc94
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A quantitative analysis of the dynamics of /sup 137/Cs bioavailability in soils contaminated following the Chernobyl NPP accident, based on a 6-year (1987-1992) observation period, and a dynamic model describing the behaviour of radiocaesium in

meadow ecosystems are presented. It has been shown that the type of deposition and soil characteristics are main factors that significantly affect (up to five times) the changes in bioavailability of this radionuclide in the soil-plant system. The presence of particles, distinguished by their resistance in the environment, can result in an irregular decrease of /sup 137/Cs uptake by plants. During the first period after fallout, /sup 137/Cs uptake by plants is considerably (up to eight times) influenced by radionuclide distribution between the soil and the mat. The rates of decrease of /sup 137/Cs uptake by plants can differ by factor of 3-5, being dependent on soil properties. The effect of these factors depends on the time lapsed after the deposition.

Number of References: 19
Descriptors: radioactive-pollution
Identifiers: 137Cs-bioavailability-dynamics; soil-plant-system; Chernobyl-nuclear-power-plant-accident-zone; physico-chemical-composition; radioactive-fallout; Chernobyl-NPP-accident; dynamic-model; radiocaesium-; meadow-ecosystems; deposition-; soil-characteristics; fallout-; radionuclide-distribution; AD-1987-to-AD-1992
Classification Codes: A8670C (Soil-and-rock); B7720 (Pollution-detection-and-control); A86; B77; A8; B7
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$15.00+0.00
SICI: 0265-931X(1997)34:3L.287:D1BS;1-J
Document Number: S0265-931X(96)00044-6
Copyright Statement: Copyright 1996, IEE
Sort Key: 0000265931X19970003400003000000000000287
Material Identity Number: I664-96014
Accession Number: 5427767
Update Code: 9646

Record 254 of 1145 in INSPEC 1996

Title: Long-term study on the transfer of /sup 137/Cs and /sup 90/Sr from Chernobyl-contaminated soils to grain crops
Author: Krouglov-SV; Filipas-AS; Alexakhin-RM; Arkhipov-P
Author Affiliation: Russian Inst. of Agric. Radiol. & Agroecology, Obninsk, Russia
Source: Journal-of-Environmental-Radioactivity. vol.34, no.3; 1997; p.267-86
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2334%23267%233&_version=1&md5=17afd9e7cf33bb4affb514b2475aa9a6
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The level of /sup 137/Cs and /sup 90/Sr transfer to four grain crops and the change in transfer with time have been studied on two soils contaminated with fragments of nuclear fuel released during the Chernobyl accident. Field experiments were carried out in 1987-1994 inside the heavily contaminated zone around Chernobyl Nuclear Power Plant. Shortly after the deposition, the rate of /sup 90/Sr accumulation by crops was comparable with, or even slower, than that of /sup 137/Cs, which is in disagreement with the usual findings. In the following years, /sup 137/Cs uptake by plants was reduced by a factor in excess of than 50, whereas the soil-to-plant concentration ratio of /sup 90/Sr increased within one order of magnitude, and has remained on approximately the same level since 1991. Changes of the /sup 90/Sr and /sup 137/Cs concentration ratios for grain crops with time have been used to evaluate the rate of radionuclide leaching from fuel particles and the ageing processes.
Number of References: 32
Descriptors: radioactive-pollution
Identifiers: 137Cs-transfer; 90Sr-transfer; Chernobyl-contaminated-soils; grain-crops; nuclear-fuel-release; Chernobyl-accident; heavily-contaminated-zone; deposition-; 90Sr-accumulation; soil-to-plant-concentration-ratio; fuel-particles; ageing-processes; AD-1987-to-AD-1994
Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); B7720 (Pollution-detection-and-control); A86; B77; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$15.00+0.00
SICI: 0265-931X(1997)34:3L.267:LTST;1-S
Document Number: S0265-931X(96)00043-4

Sort Key: 0000265931X19970003400003000000000000267
Material Identity Number: I664-96014
Accession Number: 5427766
Update Code: 9646

Record 255 of 1145 in INSPEC 1996

Title: Effective dose estimation for the population in Kragujevac due to the Chernobyl accident
Author: Kostic-D; Domanovic-R; Bek-Uzarov-D
Author Affiliation: Fac. of Sci., Kragujevac Univ., Serbia
Source: Journal-of-Environmental-Radioactivity. vol.34, no.3; 1997; p.253-66
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2334%23253%233&_version=1&md5=5b0b4b94b7dd1311cbb6338d9564c2a2
Publication Year: 1997

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The doses that inhabitants of Kragujevac received after the nuclear accident in Chernobyl are given in this paper. During April and May in 1986, the radionuclide content in rain water was determined by applying gamma spectroscopic analysis, and the exposure dose rate in air was measured. The results obtained are the basis for absorbed dose, effective dose and commitment dose calculations. The effective dose, that some individuals received for the first year after the accident, due to the external exposure was estimated to be 50 mu Sv. Thus, the collective effective dose commitment due to the external exposure for population in Kragujevac town amounts to 11.5 Sv man. The effective dose from internal radiation due to /sup 131/I and /sup 137/Cs was also estimated, and amounted to 195 mu Sv in the first year. The collective effective dose commitment, due to the internal exposure (for 50 years) will be 43 Sv man. The total effective dose commitment (50 years) will be 0.32 mSv, while the total collective effective dose commitment will be 54.5 Sv man.
Number of References: 7
Descriptors: dosimetry-; radioactive-pollution
Identifiers: Chernobyl-accident; effective-dose-estimation; Kragujevac-population; nuclear-accident; rain-water; radionuclide-content; gamma-spectroscopic-analysis; exposure-dose-rate; air-; absorbed-dose; effective-dose; commitment-dose-calculations; external-exposure; man-; internal-radiation; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670E (Water); A8760M (Radiation-dosimetry); B7720 (Pollution-detection-and-control); B7530B (Radiation-protection-and-dosimetry); A87; A86; B77; B75; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$15.00+0.00
SICI: 0265-931X(1997)34:3L.253:EDEP;1-D
Document Number: S0265-931X(96)00039-2

Sort Key: 0000265931X19970003400003000000000000253
Material Identity Number: I664-96014
Accession Number: 5427765
Update Code: 9646

Record 256 of 1145 in INSPEC 1996

Title: Study of caesium contamination in foodstuffs in Ghana after the Chernobyl nuclear accident
Author: Darko-EO; Schandorf-C; Yeboah-J
Author Affiliation: Radiat. Protection Board, Ghana Atomic Energy Comm., Legon, Ghana
Source: Radiation-Protection-Dosimetry. vol.67, no.3; 1996; p.211-14

Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Fallout radioactivity has been studied in foodstuffs in the Environmental Monitoring Laboratory after the Chernobyl nuclear catastrophe. The study covers the analysis of reference samples of imported foods, mainly meat and milk, for /sup 137/Cs and /sup 134/Cs contamination using a low level gamma spectrometer. The purpose of this study is to determine whether it is necessary to control food imports in order to reduce the risk from intake of radionuclides by the Ghanaian public resulting from transboundary contamination. Measurement of caesium levels in various foods over a period of seven years has shown contamination to be within the recommended action levels for international trade in foods. The committed effective dose for intakes in any single year is far below the 1 mSv annual dose recommended by the ICRP in Publication 60.
Number of References: 23
Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; international-trade; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: 134Cs-contamination; 137Cs-contamination; foodstuffs-; Ghana-; Chernobyl-nuclear-accident; fallout-radioactivity; Chernobyl-nuclear-catastrophe; reference-samples; imported-foods; meat-; milk-; low-level-gamma-spectrometer; radionuclides-; Ghanaian-public; transboundary-contamination; international-trade; committed-effective-dose; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1996)67:3L.211:SCCF;1-T

Sort Key: 0000144842019960006700003000000000000211
Material Identity Number: B978-96016
Accession Number: 5419904
Update Code: 9645
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 257 of 1145 in INSPEC 1996

Title: Long-term behavior of radiocesium in dairy herds in the years following the Chernobyl accident
Author: Voigt-G; Rauch-F; Paretzke-HG

Author Affiliation: GSF-Institut fur Strahlenschutz, Neuherberg, Germany
Source: Health-Physics. vol.71, no.3; Sept. 1996; p.370-3
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The longterm behavior of /sup 137/Cs in milk of a Bavarian farm (farm A) deposited as a consequence of the Chernobyl accident has been followed from April 1986 until August 1994, On the basis of activity measurements in milk and feed, transfer coefficients for the different seasons have been estimated in order to see any changes in transfer behavior (aging effect) of /sup 137/Cs with time. The influence of different grazing regimes has been tested by comparison of activity concentrations in milk and pasture grass in one farm (farm A with rotational grazing regime) with that of a nearby farm (farm B with continuous grazing regime) over a complete grazing season by frequent measurements in 1993. Though the farms are located only 4 km apart, have similar soils, and were contaminated to the same extent by the Chernobyl fallout, tenfold lower /sup 137/Cs activity concentrations in milk have been observed in farm B. This finding seems to be partly due to the influence of a different grazing intensity.
Number of References: 15
Descriptors: agriculture-; caesium-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: longterm-behavior; milk-; Bavarian-farm; Chernobyl-accident; activity-measurements; feed-; transfer-coefficients; seasons-; aging-effect; grazing-regimes; pasture-grass; rotational-grazing-regime; continuous-grazing-regime; complete-grazing-season; soils-; Chernobyl-fallout; 137Cs-activity-concentrations; grazing-intensity; dairy-herds; Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00+0
SICI: 0017-9078(199609)71:3L.370:LTBR;1-6

Sort Key: 00000179078199600071000030000000000000370
Material Identity Number: P578-96011
Accession Number: 5410524
Update Code: 9643
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: Analysis of body-burden measurements of /sup 137/Cs and /sup 40/K in a Japanese group over a period of 5 years following the Chernobyl accident
Author: Uchiyama-M; Nakamura-Y; Kobayashi-S
Author Affiliation: Nat. Inst. of Radiol. Sci., Chiba, Japan
Source: Health-Physics. vol.71, no.3; Sept. 1996; p.320-5
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A selected group of about 20 male researchers at the NIRS that reside in Chiba, Japan, was measured for total body content of radiocesium and /sup 40/K every 3 mo from February 1986 to May 1991. A whole-body counter at the NIRS was used to measure their radioactivity in a scanning mode of 5 cm min/sup -1/ in a shielded iron room with walls 20 cm in thickness. A maximum radiocesium level of 59 Bq was observed in May 1987. The annual change in the body burden decreased with an apparent half-time of 1.8 y after May 1987. The period of five years was sufficient to eliminate the effects of the accident in this group. Even in the most contaminated period, the dose from radiocesium was below 2 mu Sv y/sup -1/. The cumulative dose for 5 y was estimated to be 5.6 mu Sv, which is nearly equal to the total dose to the Japanese people caused by the artificial radionuclide fallout for the first year following the accident. It is much smaller than the committed dose of 82 mu Sv for internally deposited /sup 137/Cs resulting from nuclear explosions in 1961 and 1962 and the annual dose of 170 mu Sv from internal /sup 40/K. No detectable health risk was expected for the present group.
Number of References: 37
Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; potassium-; radioactive-pollution; radioisotopes-
Identifiers: body-burden-measurements; internally-deposited-137Cs; internal-40K; Japanese-group; Chernobyl-accident; male-researchers; total-body-content; whole-body-counter; radioactivity-; scanning-mode; shielded-Fe-room; walls-; thickness-; apparent-half-time; cumulative-dose; artificial-radionuclide-fallout; committed-dose; nuclear-explosions; detectable-health-risk; 59-Bq; 20-cm; 5-y; 5-6-muSv; 82-muSv; 170-muSv; Cs-; K-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 5.9 E01 Bq; size 2.0 E01 m; time 1.6 E08 s; radiation dose equivalent 5.6 E06 Sv; radiation dose equivalent 8.2 E05 Sv; radiation dose equivalent 1.7 E04 Sv
Chemical Indexing: Cs-el; K-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00+0

SICI: 0017-9078(199609)71:3L.320:ABBM;1-U
Copyright Statement: Copyright 1996, IEE
Sort Key: 00000179078199600071000030000000000000320
Material Identity Number: P578-96011
Accession Number: 5410517
Update Code: 9643
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 259 of 1145 in INSPEC 1996

Title: Estimate of radio-silver release from Chernobyl
Author: Vukovic-Z
Author Affiliation: Inst. of Nucl. Sci., Acad. of Sci., Belgrade, Yugoslavia
Source: Journal-of-Environmental-Radioactivity. vol.34, no.2; 1997; p.207-9
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2334%23207%232&_version=1&md5=8df554f345990336f761ef203af259da
Publication Year: 1997
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Discusses the /sup 110m/Ag content of the Chernobyl fallout. The author concludes that it is now obvious that the contamination caused by /sup 110m/Ag all over Europe was not negligible; a consequence of the large amount of silver used in the neutron flux field of the Chernobyl NPP.
Number of References: 9
Descriptors: fission-reactor-accidents; radioactive-pollution; radioisotopes-; silver-
Identifiers: radiosilver-release; Chernobyl-fallout; 110mAg-content; contamination-; Europe-; neutron-flux-field; Ag-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: G (General-or-Review)
Chemical Indexing: Ag-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/97/$15.00+0.00
SICI: 0265-931X(1997)34:2L.207:ERSR;1-N
Document Number: S0265-931X(96)00007-0
Copyright Statement: Copyright 1996, IEE
Sort Key: 0000265931X199700034000020000000000000207
Material Identity Number: I664-96013
Accession Number: 5402045

Update Code: 9642

Record 260 of 1145 in INSPEC 1996

Title: The Alliance Consortium: solving the problem of the Chernobyl-4 sarcophagus
Author: Gorge-X
Author Affiliation: SGN, Saint-Quentin-en-Yvelines, France
Source: Nuclear-Europe-Worldscan. vol.16, no.5-6; May-June 1996; p.49
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The European Alliance consortium was chosen to study the feasibility of stabilizing the existing sarcophagus encasing Chernobyl-4 and building a new containment for both the existing sarcophagus and the remains of the damaged reactor. The study which sought the views of experts both within the consortium and in Russia and Ukraine, came to the following conclusions: the existing sarcophagus is not technically suitable for the permanent storage of high-level radioactive waste. Construction of a new containment, which would allow for future dismantling operations, is a major task requiring the use of the most advanced civil nuclear engineering techniques. Major preparatory work will be needed before a new shelter is built, to retrieve, sort, treat and store the waste present on-site and to stabilize and monitor the sarcophagus structure so as to ensure acceptable working conditions. The consortium took a very detailed approach to devising the overall project, adhering to the precise framework set by the terms of reference and by the safety criteria as defined by the Ukrainian authorities.
Number of References: 0
Descriptors: fission-reactor-accidents; safety-; structural-engineering
Identifiers: Alliance-Consortium; European-Alliance-consortium; Chernobyl-4; sarcophagus-; containment-; high-level-radioactive-waste; safety-criteria; civil-nuclear-engineering
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: NEWOEN
ISSN: 1016-5975
SICI: 1016-5975(199605/06)16:5/6L.49:ACSP;1-P

Sort Key: 000101659751996000160000500000000000049
Material Identity Number: N806-96005
Accession Number: 5396743
Update Code: 9641

Record 261 of 1145 in INSPEC 1996

Title: Chernobyl-4 sarcophagus: past, present, future

Author: Kupny-V
Source: Nuclear-Europe-Worldscan. vol.16, no.1-2; Jan.-Feb. 1996; p.44-5
Publication Year: 1996
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The "sarcophagus" (known officially in the Ukraine as the "shelter object") entombs Chernobyl-4, wrecked in the accident of nearly ten years ago. The entombment covers the destroyed structures and the radioactive remains spewed from unit 4's RBMK-1000 reactor core. The sarcophagus is fitted with monitoring systems, dust suppressors, neutron-absorbers, fire-safety equipment, etc. to minimize the accident's effects. In particular, this includes radiation protection for the staff and the environment. Enclosed within the sarcophagus is about 20 MCi of radioactivity in fuel containing materials from the 1986 explosion. Major actions underway involving the sarcophagus are discussed.
Number of References: 0
Descriptors: dosimetry-; fission-reactor-accidents; radiation-protection; safety-
Identifiers: Chernobyl-4; sarcophagus-; RBMK-1000; radiation-protection; radiation-safety; engineering-; safety-; safety-equipment; dose-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A28; A87; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: NEWOEN
ISSN: 1016-5975
SICI: 1016-5975(199601/02)16:1/2L.44:CSPP;1-U

Sort Key: 000101659751996000160000100000000000044
Material Identity Number: N806-96003
Accession Number: 5396722
Update Code: 9641

Record 262 of 1145 in INSPEC 1996

Title: The role of mushrooms and berries in the formation of internal exposure doses to the population of Russia after the Chernobyl accident
Author: Shutov-VN; Bruk-GYa; Basalaeva-LN; Vasilevitskiy-VA; Ivanova-NP; Kaplun-IS
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Source: Radiation-Protection-Dosimetry. vol.67, no.1; 1996; p.55-64
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The present work is devoted to an analysis of the data on the dynamics of /sup 137/Cs transfer factors in the current most critical (for the population of Russia) links of food chain: `soil mushrooms' and `soil berries'. Data were obtained during 1986-1994 in the most contaminated region of Russia-the Bryansk region-and then were used for assessing the contribution of forest products consumed by the population of contaminated territories to internal exposure doses. It was shown in contrast to agricultural food products (where natural decontamination took place quickly) that radioactive decontamination of mushrooms and berries during the eight years after the Chernobyl accident was very slow. Use is made of aggregated radioecological data together with broad assumptions about the consumption of forest products to predict the doses that might arise from consumption of such foodstuffs. These predictions are then compared with values derived from whole-body measurements.

Number of References: 9
Descriptors: botany-; dosimetry-; fission-reactor-accidents; health-hazards; radioactive-pollution
Identifiers: mushrooms-; berries-; internal-exposure-doses-formation; Russian-population; Chernobyl-accident; 137Cs-transfer-factors-dynamics; food-chain-links; Bryansk-region; forest-products-consumption; agricultural-food-products; natural-decontamination; radioactive-decontamination; aggregated-radioecological-data; whole-body-measurements; foodstuffs-; 8-yr; Cs-
Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 2.5 E08 s
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1996)67:1L.55:RMBF;1-7

Sort Key: 000014484201996000670000100000000000055
Material Identity Number: B978-96015
Accession Number: 5393727
Update Code: 9641
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 263 of 1145 in INSPEC 1996

Title: Underestimation of /sup 131/I thyroid burden due to systematic bias in measurements conducted after the Chernobyl accident
Author: Ishikawa-T; Mizushita-S; Uchiyama-M
Author Affiliation: Nat. Inst. of Radiol. Sci., Chiba, Japan
Source: Radiation-Protection-Dosimetry. vol.67, no.1; 1996; p.47-54
Publication Year: 1996

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: To evaluate the calibration of the apparatuses that were used for measuring /sup 131/I thyroid burden after the Chernobyl accident, four anthropometric thyroid phantoms of different sizes were prepared. The apparatuses calibrated with these phantoms included SRP68 types, DP-5 types and NK350B types. The results of these calibrations were compared with the previously determined official reference values. The official counting efficiency was found to be larger than the counting efficiencies for the anthropometric phantoms. This indicates that in the measurements conducted with these apparatuses there was a systematic underestimation of thyroid burden due to calibration. The extent of underestimation was 46% at its maximum for the three SRP68 types tested. The SRP68 type was the most commonly used apparatus after the accident. The other types of apparatuses not evaluated in the present study that were used after the accident should also be calibrated against anthropometric phantoms.
Number of References: 12
Descriptors: fission-reactor-accidents; health-hazards; iodine-; measurement-errors; radioactive-pollution; radioisotopes-
Identifiers: 131I-thyroid-burden-underestimation; anthropometric-thyroid-phantoms; SRP68-types; DP-5-types; NK350B-types; official-counting-efficiency; official-reference-values; calibration-; systematic-underestimation; I-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: I-el
Coden: RPDODE
ISSN: 0144-8420
SICI: 0144-8420(1996)67:1L.47:U1TB;1-1

Sort Key: 0000144842019960006700001000000000000047
Material Identity Number: B978-96015
Accession Number: 5393726
Update Code: 9641
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 264 of 1145 in INSPEC 1996

Title: Summary of the BIOMOVS A4 scenario: testing models of the air-pasture-cow milk pathway using Chernobyl fallout data
Author: Peterson-S-R; Hoffman-FO; Kohler-H
Author Affiliation: Atomic Energy of Canada Ltd., Chalk River, Ont., Canada
Source: Health-Physics. vol.71, no.2; Aug. 1996; p.149-59
Publication Year: 1996

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A unique opportunity to test dose assessment models arose after the Chernobyl reactor accident, During the passage of the contaminated plume, concentrations of /sup 131/I and /sup 137/Cs in air, pasture, and cow's milk were collected at various sites in the northern hemisphere. Afterwards, contaminated pasture and milk samples were analyzed over time. Under the auspices of the Biospheric Model Validation Study (BIOMOVS), data from 13 sites for /sup 131/I and 10 sites for /sup 137/Cs were used to test model predictions for the air-pasture-cow milk pathway. Calculations were submitted for 23 models, 10 of which were quasi-steady state. The others were time-dependent. Daily predictions and predictions of time-integrated concentrations of /sup 131/I and /sup 137/Cs in pasture grass and milk for six months post-accident were calculated and compared with observed data. Testing against data from several locations over time for several steps in the air-to-milk pathway resulted in a better understanding of important processes and how they should be modeled. This model testing exercise showed both the strengths and weaknesses of the models and revealed the importance of testing all parts of dose assessment models whenever possible.
Number of References: 19
Descriptors: dosimetry-; fission-reactor-accidents; health-hazards; modelling-; radioactive-pollution
Identifiers: air-pasture-cow-milk-pathway-models; BIOMOVS-A4-scenario; dose-assessment-models; 131I-; 137Cs-; northern-hemisphere; pasture-grass; Chernobyl-fallout-data; contaminated-plume; 6-month; Cs-; I-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8710 (General-theoretical-and-mathematical-biophysics); A8670Z (Other-topics); A8760M (Radiation-dosimetry); A87; A28; A86; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Numerical Data Indexing: time 1.6 E07 s
Chemical Indexing: Cs-el; I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00+0
SICI: 0017-9078(199608)71:2L.149:SBST;1-A

Sort Key: 0000017907819960007100002000000000000149
Material Identity Number: P578-96010
Accession Number: 5390239
Update Code: 9640
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: Cancer risk estimation in Belarussian children due to thyroid irradiation as a consequence of the Chernobyl nuclear accident
Author: Buglova-EE; Kenigsberg-JE; Sergeeva-NV
Author Affiliation: Res. Inst. of Radiat. Med., Minsk, Byelorussia
Source: Health-Physics. vol.71, no.1; July 1996; p.45-9
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The thyroid doses received by the juvenile population of Belarus following the Chernobyl accident ranged up to about 10 Gy. The thyroid cancer risk estimate recommended in NCRP Report No. 80 was used to predict the number of thyroid cancer cases among children during 1990-1992 in selected Belarussian regions and cities. The results obtained using this risk estimate show an excess of thyroid cancer cases being registered versus the predicted cases. Thyroid cancer incidence rate among boys under investigation is higher than among girls in the postaccident period. The excess of the observed over the expected incidence in the general juvenile population is caused by the high thyroid cancer incidence rate among boys. These results, which can be considered part of the first stage of a thorough thyroid cancer risk estimation after the Chernobyl accident, demonstrate the critical need to complete these studies in depth.
Number of References: 6
Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; radioisotopes-
Identifiers: Belarussian-children; thyroid-irradiation; Chernobyl-nuclear-accident; thyroid-doses; thyroid-cancer-risk-estimation; Belarus-; thyroid-cancer-risk-estimate; thyroid-cancer-cases; selected-Belarussian-cities; selected-Belarussian-regions; predicted-cases; thyroid-cancer-incidence-rate; boys-; girls-; postaccident-period; general-juvenile-population; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00+0

Sort Key: 00000179078199600071000010000000000000045
Accession Number: 5361820
Update Code: 9635
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 266 of 1145 in INSPEC 1996

Title: The results of selective cytogenetic monitoring of Chernobyl accident victims in the Ukraine

Author: Pilinskaya-MA
Author Affiliation: Res. Center of Radiat. Med., Kiev, Ukraine

Source: Health-Physics. vol.71, no.1; July 1996; p.29-33
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: Selective cytogenetic monitoring of the highest priority groups of Chernobyl disaster victims has been carried out since 1987, In 1992-1993, 125 liquidators (irradiated mainly in 1986) and 42 persons recovering from acute radiation sickness of the second and third degrees of severity were examined, Cytogenetic effects (an elevated level of unstable as well as stable markers of radiation exposure) were found in all groups, which showed a positive correlation with the initial degree of irradiation severity even 6-7 y after the accident. Comparative scoring of conventional staining vs, G-banding in 10 liquidators showed the identical rate of unstable aberrations. At the same time, the yield of stable aberrations for G-banded slides exceeded the frequency for conventional staining. In order to study possible mutagenic activity of chronic low levels of irradiation, the cytogenetic monitoring of some critical groups of the population (especially children and occupational groups-tractor drivers and foresters) living in areas of the Ukraine contaminated by radionuclides was carried out. In all the examined groups, a significant increase in the frequency of aberrant metaphases, chromosome aberrations (both unstable and stable), and chromatid aberrations was observed. Data gathered from groups of children reflect the intensity of mutagenic impact on the studied populations and demonstrate a positive correlation with the duration of exposure. Results of cytogenetic examination of adults confirmed the importance of considering the contribution of occupational radiation exposure to genetic effects of Chernobyl accident factors on the population of contaminated areas. Results of our investigations demonstrated the possibility of evaluating the mutagenic impact of acute and long-term irradiation of different intensities on somatic cells of persons undergoing radiation exposure due to the Chernobyl accident and confirmed the need to introduce new informative genetic methods [especially fluorescence in situ hybridization (FISH)] for reliable retrospective cytogenetic dosimetry of radiation exposure in Chernobyl accident victims.

Number of References: 17
Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; genetics-; radioisotopes-
Identifiers: selective-cytogenetic-monitoring; Chernobyl-accident-victims; Ukraine-; highest-priority-groups; Chernobyl-disaster-victims; liquidators-; acute-radiation-sickness; unstable-markers; radiation-exposure; irradiation-severity; conventional-staining; G-

banding; unstable-aberrations; stable-aberrations; G-banded-slide; possible-mutagenic-activity; children-; occupational-groups; tractor-drivers; foresters-; radionuclides-; aberrant-metaphases; chromosome-aberrations; and-chromatid-aberrations; mutagenic-impact; adults-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8725 (Cellular-biophysics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725F (Physics-of-subcellular-structures); A87; A28; A8

Treatment Codes: X (Experimental)

Coden: HLTPAO
ISSN: 0017-9078

Sort Key: 00000179078199600071000010000000000000029
Accession Number: 5361818
Update Code: 9635

Record 267 of 1145 in INSPEC 1996

Title: Present concept on current water protection and remediation activities for the areas contaminated by the 1986 Chernobyl accident

Author: Voitsekhovitch-O; Prister-B; Nasvit-O; Los-I; Berkovski-V
Author Affiliation: Ukrainian Minist. of Chernobyl Affairs, Ukraine

Source: Health-Physics. vol.71, no.1; July 1996; p.19-28
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: The results of radiation monitoring data and migration pathway analysis of water bodies within areas affected by the 1986 Chernobyl accident provide a unique opportunity for decision-makers working in other extensively contaminated regions to optimize their approaches to surface and groundwater protection. Most engineering measures within the Chernobyl 30-km exclusion zone were focused on preventing secondary contamination of surface and groundwater from entering the Pripyat River and the Kiev Reservoir. However, implementation of these measures required huge financial and human resources. Therefore, lessons about post-accidental water protection activities can be learned from the Chernobyl example.

Number of References: 9
Descriptors: disasters-; fission-reactor-accidents; groundwater-; health-hazards; radiation-protection; radioactive-pollution; water-pollution

Identifiers: water-protection-activities; water-remediation-activities; Chernobyl-accident; radiation-monitoring-data; migration-pathway-analysis; water-bodies; decision-makers; extensively-contaminated-regions; groundwater-protection; surface-water-protection; engineering-measures; Chernobyl-exclusion-zone; secondary-contamination; Pripyat-River; Kiev-Reservoir; human-resources; financial-resources; post-accidental-water-protection-activities
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670E (Water-environmental-science); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A9240K (Groundwater); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A92; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078

Sort Key: 00000179078199600071000010000000000000019
Accession Number: 5361817
Update Code: 9635
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 268 of 1145 in INSPEC 1996

Title: Risks from radionuclide migration to groundwater in the Chernobyl 30-km zone
Author: Bugai-DA; Waters-RD; Dzhepo-SP; Skal'skij-AS
Author Affiliation: Inst. of Geol. Sci., Kiev, Ukraine
Source: Health-Physics. vol.71, no.1; July 1996; p.9-18
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Remediation of contaminated groundwater in the Chernobyl 30-km evacuation zone is frequently identified as a priority by technical experts and Chernobyl site officials in Ukraine. In order to evaluate the health risk basis for this groundwater remediation, we have estimated both on-site and off-site health risks caused by radionuclide migration to the groundwater and compared these risks with those from exposure to radioactive contamination on the ground surface. A simple and conservative analytical model was developed to assess radionuclide transport to the groundwater from the soil surface contaminated by radioactive fallout. /sup 90/Sr, the primary radioactive contaminant of concern for the groundwater-migration exposure pathway, was evaluated in the analysis. The estimated health risk to hypothetical, self-sufficient residents in the 30-km zone is dominated by external and internal irradiation (due primarily to ingestion of agricultural products) from /sup 137/Cs, which is present in soils of the 30-km zone in roughly equal proportion with /sup 90/Sr. The estimated risk

from contaminated groundwater is approximately an order of magnitude lower. Analysis of /sup 90/Sr migration via groundwater to surface water and down-river population centers shows that, despite generally unfavorable environmental conditions in the 30-km exclusion zone, radionuclide transport via the groundwater pathway has potential to contribute only marginally to the off-site radiological risk, which is governed by wash-out of radionuclides from the contaminated river flood plain and catchment areas by surface water during spring snowmelt and rains. Health risks due to off-site radionuclide migration via groundwater are below the level requiring application of counter-measures. This analysis implies that, relative to other exposure pathways, there is little current or future health risk basis for the proposed complex and costly groundwater remediation measures in the 30-km zone. Therefore, these activities should be abandoned in favor of more pressing health issues caused by the Chernobyl accident.

Number of References: 32

Descriptors: caesium-; disasters-; fission-reactor-accidents; groundwater-; health-hazards; radioactive-pollution; radioisotopes-; soil-; strontium-; water-pollution

Identifiers: radionuclide-migration; contaminated-groundwater; Chernobyl-evacuation-zone; health-risk-basis; groundwater-remediation; off-site-health-risks; on-site-health-risks; radioactive-contamination; ground-surface; conservative-analytical-model; radionuclide-transport; soil-surface; radioactive-fallout; down-river-population-centers; primary-radioactive-contaminant; groundwater-migration-exposure-pathway; hypothetical-self-sufficient-residents; internal-irradiation; external-irradiation; agricultural-products; 137Cs-; 90Sr-migration; 30-km; Sr-; Cs-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9240K (Groundwater); A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A87; A92; A86; A28; A93; A8; A9

Treatment Codes: X (Experimental)

Numerical Data Indexing: distance 3.0 E04 m

Chemical Indexing: Sr-el; Cs-el

Coden: HLTPAO

ISSN: 0017-9078

Sort Key: 00000179078199600071000010000000000000009

Accession Number: 5361816

Update Code: 9635

Record 269 of 1145 in INSPEC 1996

Title: The Chernobyl accident and the resultant long-term relocation of people

Author: Filyushkin-IV

Author Affiliation: Lab. of Theor. Radiobiol., Minist. of Health, Moscow, Russia
Source: Health-Physics. vol.71, no.1; July 1996; p.4-8
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Following the Chernobyl accident, large areas of the former USSR with populations in the millions were polluted, to varying extent, with long-lived radionuclides. Within the framework of the USSR state legislation still in force in the newly-formed independent states of Belorussia, Russia, and Ukraine, relocation of nearly one million people from these areas was prescribed to avoid exposure to low levels of irradiation; this measure was obviously groundless, both medically and socially. Additionally, four million people from the three affected states were needlessly included in post-Chernobyl legislation; their exposure did not exceed the natural background levels characteristic of many inhabited regions around the world. Finally, these millions of people were falsely identified as the major victims of the accident. This evoked worldwide concern and played an important role in limiting the development of nuclear power production in a number of countries. This article focuses on the social aspects of the Chernobyl aftermath that ordinarily escape scientific attention. In particular, it considers the public health-related realities of "pre-Chernobyl" and "post-Chernobyl" Soviet society, both political and psychological, that not only blocked implementation of proper radiation protection measures, but also put inappropriate measures into action.
Number of References: 4
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; legislation-; radiation-protection; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; long-term-relocation; former-USSR; people-; long-lived-radionuclides; USSR-state-legislation; newly-formed-independent-states; post-Chernobyl-legislation; natural-background-levels; major-victims; nuclear-power-production; social-aspects; Chernobyl-aftermath; public-health-related-realities; post-Chernobyl-Soviet-society; radiation-protection-measures; inappropriate-measures; populations-; Belorussia-; Russia-; Ukraine-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A8
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00+0

Sort Key: 00000179078199600071000010000000000000004
Accession Number: 5361815

Update Code: 9635
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 270 of 1145 in INSPEC 1996

Title: Re-enacting the Chernobyl accident
Source: Nuclear-Engineering-International. vol.41, no.505; Aug. 1996; p.33-4
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In the ten years since the Chernobyl accident many modelling exercises have been done to shed light on the course of the accident. But it is only in recent months that it has been possible to reproduce the event in real time on a full-scope RBMK-1000 simulator.
Number of References: 0
Descriptors: digital-simulation; fission-reactor-accidents; nuclear-engineering-computing; real-time-systems
Identifiers: Chernobyl-accident; real-time-simulation; RBMK-1000-simulation
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); C7470 (Nuclear-engineering-computing); A28; C74; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Copyright Statement: Copyright 1996, IEE
Sort Key: 00000295507199600041005050000000000000033
Accession Number: 5345319
Update Code: 9632
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 271 of 1145 in INSPEC 1996

Title: Modifications of the radiation natural background around NPP Cernavoda due to Chernobyl accident
Author: Popescu-II; Glodeanu-F; Horhoianu-V
Author Affiliation: Inst. for Nucl. Res., Pitesti, Romania
Source: SIEN '93. International Symposium on Nuclear Energy. Proceedings. Romanian Nucl. Energy Assoc, Bucharest, Romania; 1993; 2 vol. (352+85) pp.
p.246-53 vol.1 vol.1
Publication Year: 1993
Record Type: Conference-Paper

Conference Details: Proceedings of 1st International Symposium on Nuclear Energy. vol.1. 3-4 Dec. 1993; Bucharest, Romania. Sponsored by: Eur. Nucl. Soc
Country of Publication: Romania
Language: English
Abstract: Fish and milk radioactivity between 1984-1992 around the Cernavoda NPP (under construction) have been studied. Samples were collected every 3 months. Significant changes of gross beta activity were observed after the Chernobyl accident, in May 1986, simultaneously with artificial radionuclide appearance in fish and milk samples, particularly Cs-137. An exponential decrease of Cs-137 content in the first three years after the Chernobyl accident was observed.
Number of References: 0
Descriptors: fission-reactor-accidents; health-hazards; nuclear-power-stations; radioactive-pollution; water-pollution
Identifiers: Cernavoda-nuclear-plant; fish-; radioactivity-; Chernobyl-accident; milk-; beta-activity; 137Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670E (Water-environmental-science); A8670C (Soil-and-rock-environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el

Sort Key: 1000000000019930000000000000000000000246
Accession Number: 5334326
Update Code: 9630

Record 272 of 1145 in INSPEC 1996

Title: Health effects of the Chernobyl accident
Author: Bebashko-VG
Source: Uranium and Nuclear Energy: 1995. Proceedings of the Twentieth International Symposium. Uranium Inst, London, UK; 1995; viii+191 pp.
p.67-73
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Uranium and Nuclear Energy: 1995. Proceedings of the Twentieth International Symposium. 6-8 Sept. 1995; London, UK
Country of Publication: UK
Language: English
Abstract: In the nine years since the accident at the Chernobyl nuclear power plant, much work has been done on the elimination of its consequences. During this period, a wide range of studies has led to the revision of many established views and opinions, leading to the development of new interpretations and positions.
Number of References: 0

Descriptors: biological-effects-of-ionising-radiation; fission-reactor-accidents; radioactive-pollution
Identifiers: health-effects; Chernobyl-accident; consequences-elimination
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)

Sort Key: 1000000000019950000000000000000000000067
Accession Number: 5329888
Update Code: 9629

Record 273 of 1145 in INSPEC 1996

Title: Chernobyl nuclear power station: past, present, and future
Author: Nosovsky-A
Source: Uranium and Nuclear Energy: 1995. Proceedings of the Twentieth International Symposium. Uranium Inst, London, UK; 1995; viii+191 pp.
p.62-6
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Uranium and Nuclear Energy: 1995. Proceedings of the Twentieth International Symposium. 6-8 Sept. 1995; London, UK
Country of Publication: UK
Language: English
Abstract: The Chernobyl nuclear power station was designed in the 1960s; its construction began in 1970. Construction of six units with high-power channel-type uranium-graphite reactors (RBMKs), each rated at 1000 MWe, was planned. Two power units were constructed according to the first-generation reactor design (similar to units at the Leningrad NPS, which was the leading station in this series). The third and subsequent units were constructed according to the second-generation reactor design, with more developed safety systems. Unit 1 was put into operation in 1977, unit 2 in 1978, unit 3 in 1981, and unit 4 in 1983. The Chernobyl accident occurred on 26 April 1986 at 01:23 during a planned shutdown of unit 4 for repairs. By the international scale of assessment of events at nuclear stations it is classified as an accident of the seventh, or highest, level.
Number of References: 0
Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-nuclear-power-station; RBMK-; channel-type-U-graphite-reactors; Chernobyl-accident; planned-shutdown; repairs-; 1000-MW; U-C
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review)

Numerical Data Indexing: power 1.0 E09 W
Chemical Indexing: UC-bin C-bin U-bin

Sort Key: 10000000000199500000000000000000000000062
Accession Number: 5329887
Update Code: 9629

Record 274 of 1145 in INSPEC 1996

Title: Statistical characteristics of radiant loads on the participants in the liquidation of the consequences of the Chernobyl accident according to data from the Russian State Medical-Dosimetric Register
Author: Pitkevich-VA; Ivanov-VK; Tsyb-AS; Maksyutov-MA; Matyash-VA; Shchukina-NV
Author Affiliation: MRNTs Russian Acad. of Med. Sci., Russia
Source: Atomic-Energy. vol.79, no.5; Nov. 1995; p.798-809
Translated from: Atomnaya-Energiya. vol.79, no.5; Nov. 1995; p.394-407
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The Russian State Medical-Dosimetric Register (RSMDR) contains data on the state of health of 159,071 participants from the consequences of the Chernobyl accident. On the basis of information released in the zone where the work was performed, data on the external irradiation dose were recorded in the RSMDR for 125,771 individuals. Unfortunately, at the present time it is impossible to determine whether this is an absorbed or exposure dose. Analysis of the dosimetric information registered in RSMDR did not reveal large groups of obviously unreliable data. To verify the individual values, information must be collected on the individual routes of each participant as a result of the consequences of the accident in the zone and this information must be compared to the dose registered in the RSMDR with the radiation conditions on the route taking into account the character and duration of the work along the route. The RSMDR initiated this work in 1995.
Number of References: 4
Descriptors: dosimetry-; fission-reactor-accidents
Identifiers: Russian-State-Medical-Dosimetric-Register; Chernobyl-; absorbed-dose; exposure-dose; external-irradiation-dose
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/95/7905-0798$12.50

Sort Key: 00000047163199500079000050000000000000394

Record 275 of 1145 in INSPEC 1996

Title: The vertical distribution of Chernobyl-derived radionuclides in a Baltic Sea sediment
Author: Holby-O; Evans-S
Author Affiliation: Studsvik AB, Nykoping, Sweden
Source: Journal-of-Environmental-Radioactivity. vol.33, no.2; 1996; p.129-45
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2333%23129%232&_version=1&md5=0cdfb51e5a9c8c9b23cd94f1d49ffbf7
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The vertical distribution of radionuclides following the Chernobyl fall-out was investigated in the bottom sediment of Galve Bay, southern Bothnian Sea. Sediment cores collected 2 years after the initial fall-out contained the highest radionuclide concentrations found in the Baltic Sea area, a reflection of the heavy fall-out over this region. The nuclide concentrations were almost constant down to about 8-cm sediment depth. The calculated diffusivity through the porous sediment was compared with the measured radionuclide concentrations. The calculated values were much below those observed, and diffusion alone could not account for the distribution pattern in the sediment. A macrobenthic community was scarce so that vertical mixing of pore water could not be explained by bioturbation. A combination of bioturbation, diffusive transport and vertical displacement of pore water, caused by changes in density of the overlying water column, is a possible mechanism which could explain the rapid penetration of fall-out nuclides in the soft bottom sediment.
Number of References: 27
Descriptors: diffusion-; fission-reactor-accidents; radioactive-pollution; sediments-; water-pollution
Identifiers: Baltic-Sea; sediment-; vertical-distribution; radionuclides-; Chernobyl-; fallout-; Galve-Bay; southern-Bothnian-Sea; macrobenthic-community; bioturbation-; diffusive-transport; 8-cm; 2-y
Classification Codes: A8670E (Water-environmental-science); A9330R (Regional-seas); A9330G (Europe); A9220N (Pollution-of-the-oceans); A9150J (Marine-sedimentation-and-sediments); A86; A93; A92; A91; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Numerical Data Indexing: depth 8.0E-02 m; time 6.3 E07 s
Coden: JERAEE

ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/96/$15.00+0.00
Copyright Statement: Copyright 1996, IEE
Sort Key: 0000265931X19960003300002000000000000129
Accession Number: 5319813
Update Code: 9628

Record 276 of 1145 in INSPEC 1996

Title: Clean-up of urban areas in the CIS countries contaminated by Chernobyl fallout
Author: Roed-J; Andersson-KG
Author Affiliation: Riso Nat. Lab., Roskilde, Denmark
Source: Journal-of-Environmental-Radioactivity. vol.33, no.2; 1996; p.107-16
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2333%23107%232&_version=1&md5=f01653f158929ac28595409aad5dcd8f
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Earlier investigations in the CIS (the former Soviet Union) showed that the radiation from urban surfaces contaminated by Chernobyl fallout was almost entirely due to /sup 137/Cs. Following a series of small-scale tests, several decontamination methods were selected for field trials in Russia and Ukraine. The trials revealed that, even after 7 years, up to 75% of the /sup 137/Cs could be removed at relatively little cost and more could be removed if necessary.
Number of References: 9
Descriptors: fission-reactor-accidents; radiation-decontamination; radioactive-pollution; surface-cleaning
Identifiers: urban-areas; clean-up; CIS-countries; Chernobyl-; fallout-; 137Cs-; decontamination-methods; Russia-; Ukraine-; cost-; surfaces-; Cs-
Classification Codes: A8670 (Environmental-science); A86; A8
Treatment Codes: P (Practical)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/96/$15.00+0.00
Copyright Statement: Copyright 1996, IEE
Sort Key: 0000265931X19960003300002000000000000107
Accession Number: 5319811
Update Code: 9628

Record 277 of 1145 in INSPEC 1996

Title: Depth migration of Chernobyl originated /sup 137/Cs and /sup 90/Sr in soils of Belarus
Author: Kagan-LM; Kadatsky-VB
Author Affiliation: Inst. for Problems of Natural Resources Use & Ecology, Acad. of Sci., Minsk, Byelorussia
Source: Journal-of-Environmental-Radioactivity. vol.33, no.1; 1996; p.27-39
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2333%2327%231&_version=1&md5=aabc521a28b1416da0407a9e8e576c1b
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Depth migration of /sup 137/Cs and /sup 90/Sr was studied in soils of reference sites that have different environmental characteristics and are situated in all four radiogeochemical regions of Belarus. The parameters as used were: the fraction of the nuclide inventory below a depth of 2 cm; the fraction of the nuclide inventory below a depth of 5 cm; and the thickness of the top soil layer containing 90% of the nuclide inventory. Despite the apparent differences in the nuclide migration at various sites, some common tendencies were observed. During the first 3-5 years after the accident, the /sup 90/Sr depth migration at several watershed and terrace sites did not exceed that of /sup 137/Cs. About 5-15% of the nuclide inventories are below the depth of 5 cm, and 90% are contained in the top 3-7 cm soil layer. However, at the floodplain reference sites, a pronounced tendency for a higher migration rate of /sup 90/Sr was revealed. Less than 5% of the /sup 137/Cs inventory but about 5-30% of the /sup 90/Sr inventory are below 5 cm, and the top soil layer containing 90% of the nuclide inventory is 1-2 cm thicker for /sup 90/Sr.
Number of References: 13
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: depth-migration; Chernobyl-originated-90Sr; Chernobyl-originated-137Cs; Belarus-soils; reference-sites; environmental-characteristics; watershed-sites; terrace-sites; floodplain-; migration-rate; radioactive-pollution; 3-to-5-y; Cs-; Sr-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 9.5 E07 to 1.6 E08 s
Chemical Indexing: Cs-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19960003300001000000000000027

Accession Number: 5319805
Update Code: 9628

Record 278 of 1145 in INSPEC 1996

Title: Distribution of doses received in rural areas affected by the Chernobyl accident
Author: Skryabin-AM; Masyakin-VB; Osypenko-AN; Vlasova-NC; Savkin-MN; Grinev-M; Lebedev-A; Androsova-A; Konstantinov-YO; Erkin-VG; Korelina-NF; Moskalev-OS; Robinson-CA; Prosser-SL; Jones-KA; Morrey-M
Source: Nat. Radiol. Protection Board, Didcot, UK, Dec. 1995; 52 pp.
Publication Year: 1995
Record Type: Report
Country of Publication: UK
Language: English
Abstract: An investigation into the distribution of doses received by inhabitants in selected rural areas of Russia and Belarus has been carried out, as part of a European Commission (EC) work programme. This study formed part of Joint Study Project 2 (JSP2), established to determine intervention levels for use in nuclear accidents. An examination has been made of the influence of countermeasures on dose distributions following an accident and the applicability of dose distribution data when implementing these countermeasures. The study has demonstrated that a number of factors affect the doses received by individuals within a population including occupation, dwelling construction and individual habits. In addition the effectiveness of countermeasures has been shown to vary considerably between different subgroups within the same population. The investigation has also identified areas requiring further study.
Number of References: 7
Descriptors: dosimetry-; fission-reactor-accidents; radioactive-pollution
Identifiers: Chernobyl-accident; inhabitants-; rural-areas; Russia-; Belarus-; intervention-levels; nuclear-accidents; countermeasures-; dose-distributions; dwelling-construction
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A0130Q (Reports-dissertations-theses); A8760M (Radiation-dosimetry); A87; A01; A8; A0
Treatment Codes: P (Practical)
Report Numbers: NRPB-R277
Availability: HMSO, London, UK

Sort Key: 300NRPBR27719950000000000000000000000000
Accession Number: 5315589
Update Code: 9627

Record 279 of 1145 in INSPEC 1996

Title: High levels of genetic change in rodents of Chernobyl

Author: Baker-RJ; Van-Den-Bussche-RA; Wright-AJ; Wiggins-LE; Hamilton-MJ; Reat-EP; Smith-MH; Lomakin-MD; Chesser-RK
Author Affiliation: Dept. of Biol. Sci., Texas Tech. Univ., Lubbock, TX, USA
Source: Nature. vol.380, no.6576; 25 April 1996; p.707-8
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Base-pair substitution rates for the mitochondrial cytochrome b gene of free-living, native populations of voles collected next to reactor 4 at Chernobyl, Ukraine, were estimated by two independent methods to be in excess of 10/sup -4/ nucleotides per site per generation. These estimates are hundreds of times greater than those typically found in mitochondria of vertebrates, suggesting that the environment resulting from this nuclear power plant disaster is having a measurable genetic impact on the organisms of that region. Despite these DNA changes, vole populations thrive and reproduce in the radioactive regions around the Chernobyl reactor.
Number of References: 24
Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; disasters-; DNA-; fission-reactor-accidents; genetics-; radioactive-pollution
Identifiers: base-pair-substitution-rates; genetic-change; mitochondrial-cytochrome-b-gene; free-living-native-populations; voles-; reactor-4; vertebrates-; environment-; nuclear-power-plant-disaster; genetic-impact; DNA-changes; vole-populations; radioactive-regions; Chernobyl-reactor
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8725F (Physics-of-subcellular-structures); A87; A8
Treatment Codes: X (Experimental)
Coden: NATUAS
ISSN: 0028-0836
Copyright Clearance Center Code: 0028-0836/96/$9.00+1.00

Sort Key: 0000028083619960038006576000000000000707
Accession Number: 5314100
Update Code: 9627
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 280 of 1145 in INSPEC 1996

Title: Human minisatellite mutation rate after the Chernobyl accident
Author: Dubrova-YE; Nesterov-VN; Krouchinsky-NG; Ostapenko-VA; Neumann-R; Neil-DL; Jeffreys-AJ
Author Affiliation: N.I. Vavilov Inst. of Gen. Genetics, Acad. of Sci., Moscow, Russia

Source: Nature. vol.380, no.6576; 25 April 1996; p.683-6
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Germline mutation at human minisatellite loci has been studied among children born in heavily polluted areas of the Mogilev district of Belarus after the Chernobyl accident and in a control population. The frequency of mutation was found to be twice as high in the exposed families as in the control group. Mutation rate in the Mogilev families was correlated with the level of caesium-137 surface contamination, consistent with radiation induction of germline mutation.
Number of References: 31
Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; caesium-; disasters-; fission-reactor-accidents; genetics-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: human-minisatellite-mutation-rate; Chernobyl-accident; germline-mutation; human-minisatellite-loci; children-; heavily-polluted-areas; Mogilev-district; Belarus-; control-population; frequency-of-mutation; exposed-families; control-group; Mogilev-families; 137Cs-surface-contamination; radiation-induction; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere-environmental-science); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A9330G (Europe); A87; A28; A86; A93; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: NATUAS
ISSN: 0028-0836
Copyright Clearance Center Code: 0028-0836/96/$9.00+1.00

Sort Key: 0000028083619960038006576000000000000683
Accession Number: 5314095
Update Code: 9627

Record 281 of 1145 in INSPEC 1996

Title: Contamination of soil in the Bryanskaya and Ryazanskaya regions with long-lived radionuclides as a result of the Chernobyl accident
Author: Orlov-MY; Bobovnikova-TsI; Snykov-VP; Bochkov-LP; Lavlotskaya-FI
Author Affiliation: Sci. & Ind. Assoc., Acad. of Sci., Moscow, Russia
Source: Atomic-Energy. vol.79, no.3; Sept. 1995; p.640-3
Translated from: Atomnaya-Energiya. vol.79, no.3; Sept. 1995; p.233-5

Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: In the present paper we investigate the characteristics of the contamination of soil on the territory of Russia by /sup 90/Sr, /sup 238/Pu and /sup 239,240/Pu. The initial data consisted of information, present in the databank of the Scientific and Industrial Association `Taifun`, on measurements of the activity of /sup 137/Cs, /sup 90/Sr and /sup 239,240/Pu in soil samples.
Number of References: 9
Descriptors: caesium-; fission-reactor-accidents; plutonium-; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: soil-contamination; Bryanskaya-region; Ryazanskaya-region; long-lived-radionuclides; Chernobyl-accident; Russia-; 90Sr-; 238Pu-; 239Pu-; 240Pu-; 137Cs-; Sr-; Pu-; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Pu-el; Cs-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/95/7903-0640$12.50

Sort Key: 00000047163199500079000030000000000000233
Accession Number: 5302194
Update Code: 9625

Record 282 of 1145 in INSPEC 1996

Title: Prediction of the change in the average yearly concentration of radionuclides in the cooling pond at the Chernobyl nuclear power plant
Author: Kononovich-AL; Oskolkov-BY; Kulikov-LE; Nosovskii-AV; Korotkov-VT
Source: Atomic-Energy. vol.79, no.3; Sept. 1995; p.619-21
Translated from: Atomnaya-Energiya. vol.79, no.3; Sept. 1995; p.211-14
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: As a result of the Chernobyl accident in April 1986 a large quantity of radioactive substances entered the cooling pond. Since most of the radionuclides are now in the bottom deposits, the radioactive contamination in the pond is not a serious hazard either for the population outside the restricted zone or for the personnel who operate the

cooling pond. However, the insoluble particles deposited in the bottom deposits break down with time and this could become a source of additional contamination of the water. The objective of the present work is to predict the change in the average yearly radionuclide concentration in the pond water with time. The prediction is made by mathematical modeling. The construction of the mathematical model is based on the results of modeling of the state of the pond, performed by the radiation safety services.

Number of References: 2

Descriptors: fission-reactor-accidents

Identifiers: cooling-pond; Chernobyl-nuclear-plant; Chernobyl-accident; average-yearly-radionuclide-concentration; pond-water; mathematical-model; radioactive-contamination; 1-y

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2

Treatment Codes: T (Theoretical-or-Mathematical)

Numerical Data Indexing: time 3.2 E07 s

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/95/7903-0619$12.50

Sort Key: 00000047163199500079000030000000000000211

Accession Number: 5302190

Update Code: 9625

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 283 of 1145 in INSPEC 1996

Title: The Chernobyl accident revisited. III. Chernobyl source term release dynamics and reconstruction of events during the active phase

Author: Sich-AR

Author Affiliation: MIT, Cambridge, MA, USA

Source: Nuclear-Safety. vol.36, no.2; July-Dec. 1995; p.195-217

Publication Year: 1995

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: Chernobyl radioisotope release data presented by the Soviets at Vienna in August 1986 are reviewed and compared with newly available release data for the period of the active phase (t=0/sup +/ up to 10 days). An analysis of these data indicates that radioisotopes were released under roughly isothermal conditions. Moreover, the releases of 17 isotopes analyzed are surprisingly close in magnitude, both with respect to their normalized mass releases and with respect to their release efficacies relative to Zr-95. On the basis of the information presented in this and the previous two articles of this series, a sequence of events is postulated as to what may have occurred to the Unit

4 core during the active phase. This scenario strongly contradicts accounts based on information presented by the Soviets in Vienna in August 1986. The release of eight volatile radioisotopes is estimated to be 92 MCi. This is substantially more than the total release of 50 MCi (excluding noble gases) claimed by the Soviets and confirms western suspicions that more was released.

Number of References: 31

Descriptors: fission-reactor-accidents; radioactive-pollution

Identifiers: Chernobyl-accident; Chernobyl-source-term-release-dynamics; events-reconstruction; active-phase; Chernobyl-radioisotope-release; 95Zr-; isothermal-conditions; normalized-mass-releases; Unit-4-core; volatile-radioisotopes; total-release; 92000000-Ci; 50000000-Ci; Zr-

Classification Codes: A8670 (Environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radioactivity 3.4 E18 Bq; radioactivity 1.9 E18 Bq

Chemical Indexing: Zr-el

Coden: NUSAAZ

ISSN: 0029-5604

Sort Key: 00000295604199500036000020000000000000195

Accession Number: 5298212

Update Code: 9625

Record 284 of 1145 in INSPEC 1996

Title: Chernobyl and the marine environment: the radiological impact in context

Author: Povinec-P; Fowler-S; Baxter-M

Source: IAEA-Bulletin. vol.38, no.1; March 1996; p.18-22

Publication Year: 1996

Record Type: Journal-article

Country of Publication: Austria

Language: English

Abstract: The Chernobyl nuclear accident in April 1986 had a significant impact on both the terrestrial and marine environments. The total activity of the nuclear debris released was so high that the radioactive fallout distributed widely after the accident actually dominated anthropogenic environmental levels in various parts of the world. Concentrations of anthropogenic radionuclides generally vary from region to region, according to the location and magnitude of the different sources of contamination. The main global contribution to marine radioactivity, as in the terrestrial environment, is still from fallout from nuclear tests in the atmosphere, particularly during the 1950s and 1960s. However, in some regions, like the Irish and North Seas, the concentrations of anthropogenic radionuclides in the marine environment have been significantly influenced by discharges (e.g. from European reprocessing plants). On the other hand, the Baltic and Black Seas have been the seas most affected by the Chernobyl accident.

In all these latter regions the spatial and temporal trends in the concentrations of anthropogenic radionuclides have been quite dynamic. They are a result of changing source terms and marine processes, including horizontal and vertical transport in seawater, marine sedimentation, resuspension from sediment and biological uptake, and food-chain transfer.

Number of References: 0

Descriptors: accidents-; oceanographic-regions; radioactive-pollution; water-pollution

Identifiers: ocean-; water-pollution; marine-pollution; radioactivity-; nuclear-power-plant-accident; AD-1986; Ukraine-; radioactive-pollution; Chernobyl-; radiological-impact; nuclear-accident; fallout-; anthropogenic-radionuclide; Irish-Sea; North-Sea; Black-Sea; Baltic-Sea; biological-uptake; food-chain-transfer

Classification Codes: A9220N (Pollution-of-the-oceans); A9330G (Europe); A8670E (Water-environmental-science); A9330R (Regional-seas); A92; A93; A86; A9

Treatment Codes: X (Experimental)

Coden: IAEBAB

ISSN: 0020-6067

Sort Key: 00000206067199600038000010000000000000018

Accession Number: 5295269

Update Code: 9624

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08549.001
Bestand: 31.1989=>

Record 285 of 1145 in INSPEC 1996

Title: Nuclear power beyond Chernobyl: a changing international perspective

Author: Juhn-PE; Kupitz-J

Source: IAEA-Bulletin. vol.38, no.1; March 1996; p.2-9

Publication Year: 1996

Record Type: Journal-article

Country of Publication: Austria

Language: English

Abstract: Nuclear power`s development has slowed over the past 10 years but steady growth is projected well into the next century. This work discusses the effect of Chernobyl, advanced nuclear power plant designs, prospects for nuclear power, nuclear power projections beyond 2000, applications of nuclear energy, nuclear power in developing countries, challenges and prospects.

Number of References: 0

Descriptors: fission-reactor-design; nuclear-power

Identifiers: Chernobyl-; nuclear-power; advanced-nuclear-power-plant; design-; applications-; developing-countries

Classification Codes: A2841 (Fission-reactor-theory-and-design); A8610N (Nuclear-energy); A28; A86; A2; A8

Treatment Codes: P (Practical)

Coden: IAEBAB
ISSN: 0020-6067

Sort Key: 0000020606719960003800001000000000000002
Accession Number: 5295267
Update Code: 9624
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08549.001
Bestand: 31.1989=>

Record 286 of 1145 in INSPEC 1996

Title: Countermeasures for radiocesium in animal products in Norway after the Chernobyl accident-techniques, effectiveness, and costs
Author: Hotzl-H; Riedmann-W; Weinmuller-K; Winkler-R
Author Affiliation: GSF Forschungszentrum Neuherberg, Inst. fur Strahlenschutz, Oberschleissheim, Germany
Source: Health-Physics. vol.70, no.5; May 1996; p.665-72
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Nine years after the reactor accident in Chernobyl contamination by radiocesium is still a significant problem in sheep and reindeer production in Norway. To reduce the impact of the accident, effective countermeasures had to be developed and implemented. The levels of radiocesium in meat were reduced by a combination of countermeasures such as special feeding, use of cesium binders (bentonite and Prussian blue), and changing of slaughtering time. The countermeasures were labor intensive and expensive, Costs per averted dose per person-Sv were calculated to range from NOK 1,000 to 100,000 (7 NOK=$1 US), with the use of cesium binders being the least expensive and condemnation of meat the most costly. Dietary advice, which did not include any compensation costs, had a cost of NOK 40 per person-Sv. Apart from the rejection of meat in 1986, countermeasures were deemed to be justified on a cost-benefit basis (less than NOK 600,000 per person-Sv).
Number of References: 12
Descriptors: caesium-; cost-benefit-analysis; disasters-; fission-reactor-accidents; food-processing-industry; health-hazards; radiation-protection; radioactive-pollution; radioisotopes-
Identifiers: radiocesium-; animal-products; Norway-; Chernobyl-accident; reactor-accident; contamination-; reindeer-production; sheep-production; effective-countermeasures; meat-; special-feeding; Cs-binders; labor-intensive; bentonite-; condemnation-; dietary-advice; compensation-costs; 137Cs-; cost-benefit-basis; Prussian-blue; slaughtering-time; effectiveness-; Cs-
Classification Codes: A8760P (Radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8

Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00+0

Sort Key: 0000017907819960007000005000000000000665
Accession Number: 5290399
Update Code: 9623
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 287 of 1145 in INSPEC 1996

Title: Mobility of radionuclides in undisturbed and cultivated soils in Ukraine, Belarus and Russia six years after the Chernobyl fallout

Author: Askbrant-S; Melin-J; Sandalls-J; Rauret-G; Vallejo-R; Hinton-T; Cremers-A; Vandecastelle-C; Lewyckyj-N; Ivanov-YA; Firsakova-SK; Arkhipov-NP; Alexakhin-RM
Author Affiliation: Dept. of Radiochem. & Ecology, Swedish Radiat. Protection Inst., Stockholm, Sweden

Source: Journal-of-Environmental-Radioactivity. vol.31, no.3; 1996; p.287-312
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2331%23287%233&_version=1&md5=82fa8edb4bc179ddd5b4c6f969c59515
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Six years after the accident at the Chernobyl Nuclear Power Plant, the behaviour of radionuclides in soils in rural areas of Ukraine, Belarus and Russia has been studied. Measurements were made to determine the total radioactive contamination, the fuel particle contribution, and the distribution and extractability of the radionuclides /sup 137/Cs and /sup 90/Sr. Inside the 30 km restriction zone around the plant, particles of highly irradiated fuel accounted for most of the radioactive contamination. The radioactivity in the soil, in decreasing order, was due to /sup 137/Cs>/sup 90/Sr>/sup 144/Ce>or=/sup 134/Cs>/sup 241/Am>/sup 125/Sb>/sup 15 /4Eu>/sup 155/Eu. Outside the 30 km zone, condensed radionuclides were dominant and here the radionuclide content of the soil was /sup 137/Cs>/sup 134/Cs>/sup 125/Sb>/sup 90/Sr. The mobility of /sup 137/Cs in the soil increased with increasing distance from the reactor: this was in line with the fact that the /sup 137/Cs in condensed form, relative to that in fuel particles, also increased with increasing distance from the reactor. There was greater migration of the gamma -emitting radionuclides /sup 125/Sb, /sup 137/Cs and /sup

144/Ce in peaty soils than in soddy podsolic, sandy and loamy soils. In undisturbed soddy podsolic sandy soils, more than 95% of the /sup 137/Cs was found in the top 6 cm layer. Not surprisingly, in the cultivated soils, the radionuclides were found more or less homogeneously distributed in the 0-25 cm layer. In the undisturbed soils, the gamma -emitters had all migrated down to about the same depth, except for the /sup 125/Sb which had moved rather deeper. Considerable amounts of the /sup 137/Cs and /sup 90/Sr were found to be extractable into ammonium acetate solution and the /sup 90/Sr was easily the most extractable radionuclide. This probably explains its enhanced migration in the soddy podsolic, sandy and loamy soils.

Number of References: 21
Descriptors: pollution-; radioactive-pollution; soil-
Identifiers: radioactive-pollution; soil-pollution; radioactivity-; AD-1992; radionuclide-mobility; cultivated-soil; Ukraine-; Belarus-; Russia-; Chernobyl-fallout; contamination-; fuel-particle; 137Cs-; 90Sr-; 134Cs-; 241Am-; 125Sb-; 154Eu-; 155Eu-; Cs-; Sr-; Ce-; Am-; Sb-; Eu-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el; Ce-el; Am-el; Sb-el; Eu-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19960003100003000000000000287
Accession Number: 5277391
Update Code: 9621

Record 288 of 1145 in INSPEC 1996

Title: Formation of hot particles during the Chernobyl nuclear power plant accident
Author: Kashparov-VA; Ivanov-YA; Zvarisch-SI; Protsak-VP; Khomutinin-YV; Kurepin-AD; Pazukhin-EM
Author Affiliation: Ukrainian Inst. of Agric. Radiology, Kiev, Ukraine
Source: Nuclear-Technology. vol.114, no.2; May 1996; p.246-53
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The oxidation of irradiated Chernobyl nuclear fuel at 670 to 1170 K for 3 to 21 h resulted in its destruction into fine particles, the dispersal composition of which is well described by lognormal distribution regularity. The median radius of the formed particles does not depend on the annealing temperature and decreases with the increase of the annealing period from 10 to 3 mu m. Proceeding from the dispersal composition and matrix composition of the Chernobyl hot fuel particles, it can be concluded that the

oxidation of nuclear fuel was one of the basic mechanisms of hot fuel particle formation during the accident at the Chernobyl nuclear power plant. With oxidation in air and the dispersal of irradiated oxide nuclear fuel at as low as 670 K, ruthenium, located on the granular borders, is released. Ruthenium is oxidized to volatile RuO/sub 4/, sublimated, and condensed on materials of iron. Nickel and stainless steel can be efficiently used at high temperatures (tested to 1200 K) for radioruthenium adsorption in accidents and for some technological operations. As the temperature of hot fuel particles annealed in inert media increases from 1270 to 2270 K, the relative release of radionuclides increases in the following sequence: cesium isotopes; europium isotopes; cerium isotopes; americium isotopes; and ruthenium, plutonium, and curium isotopes.

Number of References: 18

Descriptors: adsorption-; annealing-; fission-reactor-accidents; fission-reactor-fuel; oxidation-; radioactive-pollution

Identifiers: hot-particles-formation; Chernobyl-nuclear-power-plant-accident; oxidation-; irradiated-Chernobyl-nuclear-fuel; fine-particles; dispersal-composition; lognormal-distribution-regularity; median-radius; annealing-temperature; matrix-composition; granular-borders; stainless-steel; adsorption-; inert-media; radionuclides-release; 3-to-21-h; 1200-K; 1270-to-2270-K; 670-to-1170-K; RuO-4; Ru-; Fe-; Ni-; Cs-; Eu-; Ce-; Am-; Cm-; Pu-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A8160B (Surface-treatment-and-degradation-of-metals-and-alloys); A8670 (Environmental-science); A8140G (Other-heat-and-thermomechanical-treatments); A28; A81; A86; A2

Treatment Codes: P (Practical); X (Experimental)

Numerical Data Indexing: time 1.1 E04 to 7.6 E04 s; temperature 1.2 E03 K; temperature 1.27 E03 to 2.27 E03 K; temperature 6.7 E02 to 1.17 E03 K

Chemical Indexing: RuO4-bin O4-bin Ru-bin O-bin; Ru-ads Ru-el; Fe-el; Ni-sur Ni-el; Cr-sur Fe-sur C-sur Cr-ss Fe-ss C-ss; Cs-el; Eu-el; Ce-el; Am-el; Cm-el; Pu-el

Coden: NUTYBB
ISSN: 0029-5450

Sort Key: 00000295450199600114000020000000000000246
Accession Number: 5272329
Update Code: 9620

Record 289 of 1145 in INSPEC 1996

Title: Information technologies for the generalisation of practical experience in the protection of the population after the Chernobyl accident

Author: Bolshov-L; Arutyunyan-R; Linge-I; Goloviznin-V; Kiselev-V; Kanevsky-M; Ossipiants-I; Ilushkin-A; Pavlovsky-O; Shickin-A; Serov-A; Kabalevsky-S

Author Affiliation: Inst. of Nucl. Safety, Acad. of Sci., Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.165-71
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A description is given of the various data banks developed following the Chernobyl accident. The systems for handling and analysing such data and the relationships between compilers, users and official bodies is outlined.
Number of References: 6
Descriptors: decision-support-systems; disasters-; fission-reactor-accidents; information-technology; medical-information-systems; radiation-protection; radioactive-pollution
Identifiers: information-technologies; practical-experience; Chernobyl-accident; data-banks; handling-; official-bodies; compilers-; users-; population-; protection-
Classification Codes: A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); C7140 (Medical-administration); C7102 (Decision-support-systems); C0230 (Economic-social-and-political-aspects-of-computing); A87; A28; C71; C02; A8; A2
Treatment Codes: G (General-or-Review); P (Practical)
Coden: RPDODE
ISSN: 0144-8420
Copyright Statement: Copyright 1996, IEE
Sort Key: 000014484201996000640000100000000000165
Accession Number: 5269518
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 290 of 1145 in INSPEC 1996

Title: Informatics support for analysing the radiological impact of areas affected by the Chernobyl accident
Author: Shershakov-VM; Baranov-AYu; Borodin-RV; Golubenkov-AV; Godko-AM; Kosykh-VS; Korenev-AI; Meleshkin-MA
Author Affiliation: Emergency Centre, Sci. Production Assoc. Typhoon, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.149-55
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The organisation and management of data banks generated using data from monitoring the radiological situation after the Chernobyl accident is of key importance to health care and rehabilitation in the contaminated areas. Measures following the accident were based on large scale studies involving analysis and prediction of

radioactive contamination. These studies included measurements of radioactivity in air, soil and water, modelling and prediction of radionuclides transport and transformation. This required the development of a computer system RECASS (RadioEcological Analysis Support System) which is currently being developed in SPA `Typhoon`. The main tasks of RECASS are to integrate data on existing characteristics of the environment, and data on air, soil, water and biota-contamination with numerical models that account for radionuclide behaviour in all environmental media, and with radiation dose formations that are based on geographic information system (GIS) principles. The data bank of the system includes the following data bases: a data base with measurement of radioactive contamination levels in environmental media (soil, air, water); a meteorological data base; and a data base with administrative and demographic data. A set of models for radionuclide transfer in various environments incorporated in the chain permits short or long-term predictions to be mode. The results of implementing RECASS to reconstruct the time and space picture of contamination in the first days after the Chernobyl accident are presented.

Number of References: 15
Descriptors: air-pollution; atmospheric-radioactivity; disasters-; dosimetry-; fission-reactor-accidents; geographic-information-systems; health-hazards; medical-information-systems; radioactive-pollution; soil-; water-pollution
Identifiers: informatics-support; radiological-impact; Chernobyl-accident; data-banks; health-care; rehabilitation-; contaminated-areas; meteorological-data-base; radioactivity-; air-; soil-; water-; modelling-; radionuclides-transport; radionuclides-transformation; prediction-; computer-system-RECASS; RadioEcological-Analysis-Support-System; biota-contamination; numerical-models; radiation-dose-formations; geographic-information-system-principles; radioactive-contamination-levels; administrative-data; demographic-data
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A8670E (Water-environmental-science); A8760M (Radiation-dosimetry); A2880C (Dosimetry); C7140 (Medical-administration); C6160S (Spatial-and-pictorial-databases); C7840 (Geography-and-cartography-computing); A87; A86; A28; C71; C61; C78; A8
Treatment Codes: G (General-or-Review); P (Practical)
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201996000640000100000000000149
Accession Number: 5269516
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Title: Radiation epidemiological analysis of the data of the National Chernobyl Registry of Russia: prognostication and facts nine years after the accident

Author: Ivanov-VK; Tsyb-AF; Maksyutov-MA; Pitkevich-VA; Gorsky-AI; Rastopchin-EM; Korelo-AM; Chekin-SYu; Konogorov-AP; Nilova-EV

Author Affiliation: Res. Inst. of Med. Radiol., Acad. of Med. Sci., Obninsk, Russia

Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.121-8

Publication Year: 1996

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: In 1986, immediately after the Chernobyl accident, the Ministry of Public Health of the USSR adopted a large-scale programme to establish in the country the All-Union Distribution Registry of persons affected by radiation. Towards 1992 (by the time of the disintegration of the USSR) the data base of the Registry included medical and dosimetric information for 659,292 men and that for 284,919 emergency workers (liquidators). All republics of the former Soviet Union as well as a wide range of scientific and practical institutions were involved in establishment of the registry. At present there is medical and dosimetric information for 370,120 men, including that for 159,027 liquidators of the accident, in the National Chernobyl Registry of Russia. Medical information (added annually) and dosimetric data allow radiation-epidemiological studies to be carried out on determination of possible dose dependence of morbidity, invalidism and mortality indices for persons affected by radiation and to compare actual data with prognostication estimates. In particular, epidemiological studies conducted in accordance with the case control technology of thyroid cancer diseases in children of the Bryansk region made it possible to determine a value of relative risk at the dose of 1 Gy which is equal to 7.15 (1.52; 33.8).

Number of References: 6

Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; personnel-; radioactive-pollution

Identifiers: National-Chernobyl-Registry; Russia-; radiation-epidemiological-analysis; Chernobyl-accident; data-base; medical-information; dosimetric-information; emergency-workers; liquidators-; men-; radiation-epidemiological-studies; dose-dependence; morbidity-indices; invalidism-indices; mortality-indices; prognostication-estimates; case-control-technology; thyroid-cancer-diseases; children-; Bryansk-region; relative-risk

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A8

Treatment Codes: G (General-or-Review); X (Experimental)

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201996000640000100000000000121

Accession Number: 5269513

Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 292 of 1145 in INSPEC 1996

Title: Demographic situation in territories of Russia affected by the Chernobyl accident
Author: Arutyunyan-R; Linge-I; Melikhova-E; Pavlovski-O
Author Affiliation: Nucl. Safety Inst., Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.113-19
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Population statistics in the most contaminated territories in Russia are compared with those of reference populations. Changes of size and age structure of populations as well as migration, dynamics of birth-rate and mortality are followed for the period 1982-1994. Deviations of the affected population statistics from a common trend are shown to be connected with social factors arising from countermeasures implemented in the zones but not with the radiation factor itself.
Number of References: 12
Descriptors: demography-; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution; socio-economic-effects
Identifiers: demographic-situation; most-contaminated-territories; Russia-; Chernobyl-accident; age-structure; size-; migration-; dynamics-; birth-rate; mortality-; affected-population-statistics; social-factors; countermeasures-; radiation-factor
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201996000640000100000000000113
Accession Number: 5269512
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 293 of 1145 in INSPEC 1996

Title: Estimation of health risk for Bryansk region population from the Chernobyl accident
Author: Demin-VF
Author Affiliation: Res. Centre, Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.109-12

Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Results of estimations of the health risk from the Chernobyl accident and, for comparison, from the spontaneous cancers for the Bryansk region population are presented in terms of the life-time risk and the annual excess mortality in their dependence on age at the time of the accident, time and countermeasures adopted. The estimations were made for the rural population living in the territories with relatively high radioactive contamination (>1MBq. m/sup -2/ (/sup 137/Cs)) with the data bank on risk analysis developed in the frame of the Belarus and Russia state research programmes (the Chernobyl and Altai case studies) and the international (EU-CIS) project JSP2.
Number of References: 6
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; radioactive-pollution
Identifiers: Bryansk-region-population; Chernobyl-accident; health-risk; spontaneous-cancers; life-time-risk; annual-excess-mortality; age-; time-; countermeasures-; rural-population; relatively-high-radioactive-contamination; data-bank; risk-analysis; Altai-case-studies; Chernobyl-case-studies; 137Cs-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201996000640000100000000000109
Accession Number: 5269511
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 294 of 1145 in INSPEC 1996

Title: Risk assessment from contamination of aquatic ecosystems in the areas of Chernobyl and Ural radioactive patterns
Author: Kryshev-II; Sazykina-TG; Isaeva-LN
Author Affiliation: Inst. of Exp. Meteorol., Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.103-7
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: A comparative analysis of the generalised data on radioactive contamination of aquatic ecosystems in the areas of Chernobyl and Ural radioactive patterns has been performed. The estimated contents of /sup 90/Sr and /sup 137/Cs in water, bottom sediments and fish are presented for river, lake and sea water bodies. The most highly contaminated water bodies have been revealed, namely, Chernobyl NPP cooling pond, the Techa River and several lakes in Chelyabinsk and Bryansk regions. The results of analysis of risks imposed by radioactive contamination of the aquatic ecosystems are given. It has been shown that the levels of radiation risk from the water use in the Techa River basin and lakes in Blyansk region can be comparable to or slightly in excess of the radiation background risk.
Number of References: 12
Descriptors: caesium-; disasters-; fission-reactor-accidents; health-hazards; lakes-; radioactive-pollution; radioisotopes-; rivers-; sediments-; strontium-; water-pollution
Identifiers: risk-assessment; radioactive-contamination; aquatic-ecosystems; Ural-radioactive-patterns; Chernobyl-radioactive-patterns; 90Sr-; 137Cs-; radiation-risk; bottom-sediments; fish-; Techa-River-basin; lake-; sea-water-bodies; most-highly-contaminated-water-bodies; Chernobyl-NPP-cooling-pond; Bryansk-region; Chelyabinsk-region; radiation-background-risk; Cs-; Sr-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670E (Water-environmental-science); A9330G (Europe); A9240N (Lakes); A9240F (Rivers-runoff-and-streamflow); A87; A86; A93; A92; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 0000144842019960006400001000000000000103
Accession Number: 5269510
Update Code: 9620

Record 295 of 1145 in INSPEC 1996

Title: Reconstruction of the composition of the Chernobyl radionuclide fallout and external radiation absorbed doses to the population in areas of Russia
Author: Pitkevich-VA; Duba-VV; Ivanov-VK; Chekin-CYu; Tsyb-AF; Vakulovshi-CM; Shershakov-VM; Makhon`ko-KP; Golubenkov-AV; Borodin-RV; Kosykh-VS
Author Affiliation: Res. Inst. of Med. Radiol., Acad. of Med. Sci., Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.69-92
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK

Language: English

Abstract: The results of reconstruction of the radionuclide composition of the Chernobyl fallout in the territories of Russia is presented. Reconstruction has been carried out by means of statistical analysis of the gamma spectrometry data on 2867 soil samples collected in the territories of Ukraine, Byelarus and Russia from 1986 to 1988. To verify the data, aggregated estimates of the fuel composition of the 4th block at the moment of the accident (available from the literature) have been used, as well as the estimates of activity released to the atmosphere. As a result, correlation and regression dependences have been obtained between the activities of the radionuclides most contributing to the dose (/sup 137/Cs, /sup 134/Cs, /sup 131/I, /sup 140/Ba, /sup 140/La, /sup 95/Zr, /sup 95/Nb, /sup 103/Ru, /sup 106/Ru, /sup 141/Ce, /sup 144/Ce, /sup 125/Sb). Statistically significant regression relations between different pairs of radionuclides (including analysis of the `noise` contribution to the data) depending on the distance between the point of sample collection and the power station are presented for the `north-east track`-the northern part of the 30 km zone and southern part of the Gomel district (Byelarus) and the Briansk, Kaluga, Tula and Orel districts (Russia). A methodology is also described for reconstructing space-time characteristics of the contamination of the territories by major dose-forming radionuclides released from the Chernobyl NPP 4th unit. This methodology is based on the results of modelling atmospheric dispersion of radionuclides released between the time of the accident and 20 May 1986, on data from gamma spectrometry of soil samples collected around the populated areas in 1986-1988, and on available data for exposure dose rates in the populated areas. Based on the developed model of `local effective precipitation` volumetric concentrations and deposition rates of major radionuclides (including short-lived ones) are reconstructed and these are then used to derive a time dependence of exposure rate. Account is taken of vertical migration of radionuclides and attenuation by snow cover. The data obtained are further used to assess external absorbed doses from depositions and passing radioactive plumes.

Number of References: 28

Descriptors: antimony-; barium-; caesium-; cerium-; dosimetry-; fission-reactor-accidents; iodine-; lanthanum-; niobium-; radioactive-pollution; ruthenium-; zirconium-

Identifiers: 137Cs-; 134Cs-; 131I-; 140Ba-; 140La-; 95Zr-; 95Nb-; 103Ru-; 106Ru-; 141Ce-; 144Ce-; 125Sb-; Chernobyl-fallout; radionuclide-composition; Russia-; Ukraine-; Byelarus-; nuclear-fuel-composition; gamma-spectrometry; soil-samples; local-effective-precipitation; volumetric-concentrations; major-radionuclides; snow-cover; external-absorbed-doses; passing-radioactive-plumes; nuclear-power-station; Gomel-district; Briansk-; Kaluga-; Tula-; Orel-; 30-km; Cs-; I-; Ba-; La-; Zr-; Nb-; Ru-; Ce-; Sb-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: size 3.0 E04 m

Chemical Indexing: Cs-el; I-el; Ba-el; La-el; Zr-el; Nb-el; Ru-el; Ce-el; Sb-el

Coden: RPDODE
ISSN: 0144-8420

Sort Key: 0000144842019960006400001000000000000069
Accession Number: 5269507
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 296 of 1145 in INSPEC 1996

Title: Some results of radiation monitoring after the Chernobyl accident
Author: Makhon`ko-KP
Author Affiliation: SPA Typhoon, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.61-8
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Some results are presented of radiation monitoring in Russia and the former USSR after the Chernobyl accident. The results are based on the monitoring network which was in place at the time of the accident. Studies of the patterns of /sup 137/Cs, /sup 131/I and other radionuclides in the environment have been compared with predictions using models of some of the mechanisms of release and transport. The results illustrate some of the possibilities of radiation monitoring.
Number of References: 7
Descriptors: caesium-; fission-reactor-accidents; iodine-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; radiation-monitoring-results; Russia-; former-USSR; 137Cs-; 131I-; monitoring-network; environment-; transport-mechanisms; release-mechanisms; I-; Cs-
Classification Codes: A8760P (Radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: I-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 0000144842019960006400001000000000000061
Accession Number: 5269506
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 297 of 1145 in INSPEC 1996

Title: A method for assessment of the radiological situation in the populated points contaminated after the Chernobyl accident using a comprehensive database of measurements

Author: Golubenkov-AV; Meleshkin-MA
Author Affiliation: SPA Typhoon, Russia

Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.57-60
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Since Chernobyl, a system for handling radiation monitoring data has been established by creating a distributed database of radiological and relevant (administrative-territorial, demographic, geographic and other) data. This system includes not only data, but a set of algorithms for processing this data. This paper describes a method to calculate average density of contamination (a basic parameter for assessing the radiation situation) using groups of measurements which have no coordinate references but relate to each other administratively (for example, by the name of populated point). The method consists in generating, using all the data of the base, a weight function which allows effects arising in rough mistakes and correlation of measurements to be corrected. This function has also been used to formulate a quantitative criterion for checking the uniformity of contamination. Using this criterion all the populated points for which information is available (7917) have been considered and those needing additional surveys (172) were identified.

Number of References: 6
Descriptors: distributed-databases; fission-reactor-accidents; medical-information-systems; radiation-monitoring; radioactive-pollution
Identifiers: radiological-situation-assessment-method; populated-points; Chernobyl-accident; comprehensive-measurements-database; radiation-monitoring-data; biomedical-distributed-database; contamination-average-density; geographic-data; demographic-data; administrative-territorial-data; radiological-data; coordinate-references; algorithms-set; measurements-correlation; contamination-uniformity; weight-function; quantitative-criterion
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); C7140 (Medical-administration); C6160B (Distributed-databases); A87; A28; C71; C61; A8; A2
Treatment Codes: P (Practical)
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199600064000010000000000000057
Accession Number: 5269505
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 298 of 1145 in INSPEC 1996

Title: RECASS source term estimation sub-system and its application for reconstruction of the source rate of the Chernobyl accident
Author: Goloubenkov-AV; Borodin-RV; Sohier-A
Author Affiliation: SPA Typhoon, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.49-55
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The work discusses the algorithm which is used in the RECASS for reconstruction of the dynamics of a multi-isotope source from outdoor measurements. The algorithm is based on applying projective geometry to minimise the objective. The contamination surface and/or space is divided into several domains of different area/volume and equal contamination. Squares of deviations of calculated and modelled contamination in these domains are minimised. The algorithm allows the use of some linear restrictions (non-negativity of source rate, assumption of dynamics of the source, known relative concentrations of isotopes, direct measurements in the source, etc). The algorithm also calculates the covariance matrix of the source rate. The way in which the software was applied to calculate the dynamics of the release of /sup 137/Cs, /sup 131/I, /sup 140/Ba, /sup 95/Zr, /sup 100/Ru, /sup 144/Ce for the early period of the Chernobyl accident, based on measurements of depositions, is discussed.
Number of References: 6
Descriptors: algorithm-theory; fission-reactor-accidents; modelling-; Monte-Carlo-methods; physics-computing; radioactive-pollution
Identifiers: RECASS-source-term-estimation-sub-system; RECASS-algorithm; contamination-surface; 137Cs-; 131I-; 140Ba-; 95Zr-; 100Ru-; 144Ce-; Chernobyl-NPP-accident; linear-restrictions; source-rate; covariance-matrix; Cs-; I-; Ba-; Zr-; Ru-; Ce-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); C7320 (Physics-and-chemistry-computing); C4240 (Programming-and-algorithm-theory); A28; A87; C73; C42; A2; A8; C7; C4
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el; I-el; Ba-el; Zr-el; Ru-el; Ce-el
Coden: RPDODE

ISSN: 0144-8420

Sort Key: 00001448420199600064000010000000000000049
Accession Number: 5269504
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 299 of 1145 in INSPEC 1996

Title: Prediction of radioactive contamination of water bodies after the Chernobyl accident
Author: Novitsky-MA; Nikitin-AI
Author Affiliation: Inst. of Exp. Meteorol., Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.29-32
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: To predict radioactive contamination of rivers, reservoirs and lakes after the Chernobyl accident, a number of mathematical models have been developed. These models described the processes of radionuclide washout from catchment areas and their migration in bodies of water. It turned out that the radionuclide exchange in the systems of water-bottom sediments and surface run-off catchment area soil contributed greatly to contamination of water. As was shown by the post-Chernobyl experience, it is rather difficult to specify the parameters needed. Starting in 1991, a comprehensive monitoring of water and sediment contamination with radionuclides, as well as their washout from the Iput river catchment area was organised in order to test the prognostic performance of the models. The data obtained proved to be most useful for studying a long-term contamination of rivers and testing mathematical models. A thorough account of the basic physical features of the radionuclide exchange in the systems of water-bottom sediments and surface run-off in the models enabled one to describe adequately the behaviour of radionuclide concentrations and provided a good agreement with observational data.
Number of References: 4
Descriptors: fission-reactor-accidents; lakes-; modelling-; radioactive-pollution; rivers-; water-pollution
Identifiers: radioactive-contamination-prediction; water-bodies-pollution; Chernobyl-accident; radioactive-contamination; reservoirs-; mathematical-models; radionuclide-washout-processes; Iput-river-catchment-area; model-prognostic-performance; water-bottom-sediments; surface-run-off; H-2O
Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A28; A87; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)

Chemical Indexing: H2O-bin H2-bin H-bin O-bin
Coden: RPDODE
ISSN: 0144-8420
Copyright Statement: Copyright 1996, IEE
Sort Key: 0000144842019960006400001000000000000029
Accession Number: 5269500
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 300 of 1145 in INSPEC 1996

Title: Desorption of long-lived radionuclides from land flooded after the Chernobyl accident
Author: Vozzhennikov-OI; Burkov-AI; Moroz`ko-EN
Author Affiliation: SPA Typhoon, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.64, no.1-2; 1996; p.19-22
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Flooding of a contaminated river flood plain may lead to a considerable removal of radionuclides to the river water. If the floodplain is flooded for a long time, the coefficient of desorption (wash-off) can be as great as 5-10% or more. Experiments were carried out on physical simulation modelling of floodplain flooding, using soil monoliths taken from the Pripyat River floodplain in 1986 and 1987. The desorption curves for the soil monoliths taken in July 1986 were found to differ markedly in their shape from those taken in 1987. Physical-mathematical models were developed of the processes. Desorption /sup 137/Cs and /sup 90/Sr from the monoliths taken in 1987 was adequately described by a diffusion model with a boundary condition of the first kind at the soil-water interface. The desorption curve for /sup 137/Cs in the monoliths taken in 1986 has a maximum, and in the initial period the concentration of /sup 137/Cs in the water increased linearly with time. To explain such behaviour of the /sup 137/Cs concentration in water, the following mechanisms are proposed: (1) In the early period after the Chernobyl accident /sup 137/Cs was present either as a part of fuel particles, or on aerosol particles at the soil surface, since there was no rainfall prior to the monolith sampling. (2) In this period the /sup 137/Cs concentration in soil was equal to zero, which follows from the above. (3) As the soil monolith was flooded, caesium began to be leached from the particles into the water, entered from the water into the soil and was sorbed by the soil particles. Based on these assumptions, a two-compartment mathematical model was developed.
Number of References: 3
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; strontium-; water-pollution

Identifiers: long-lived-radionuclides-desorption; flooded-land; Chernobyl-accident; contaminated-river-flood-plain-flooding; river-water; radionuclides-removal; physical-simulation-modelling; Pripyat-River-floodplain; soil-monoliths; 137Cs-; 90Sr-; diffusion-model; boundary-condition; Cs-; Sr-
Classification Codes: A8670E (Water-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A28; A87; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el; Sr-el
Coden: RPDODE
ISSN: 0144-8420
Copyright Statement: Copyright 1996, IEE
Sort Key: 000014484201996000640000100000000000019
Accession Number: 5269498
Update Code: 9620
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 301 of 1145 in INSPEC 1996

Title: Chernobyl-a decade passes
Author: Simm-KJ
Source: Nuclear-Engineer. vol.37, no.2; March-April 1996; p.58-62
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Nobody could be unaware of the fact that this year sees the tenth anniversary of the dreadful accident at Chernobyl (the actual date is April 26th). However, prior to the event in April 1986, few of us had heard of Chernobyl and not many more were acquainted with the RBMK reactor type. Things have changed since then as, gradually, information on the causes of the accident and its effects have percolated down. After assimilating the data and explanations of the impact of the disaster on people, the environment and the industry, we are seeing, a decade later, the results of an international effort to ameliorate the situation and prevent any such occurrence in the future. The author presents an overview of the current position, discussing health effects, RBMK safety and problems encountered by the aid programme.
Number of References: 0
Descriptors: fission-reactor-accidents; fission-reactor-safety; health-hazards; radioactive-pollution
Identifiers: Chernobyl-; RBMK-reactor; causes-; accident-; health-; safety-; aid-programme
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A87; A28; A8; A2

Treatment Codes: X (Experimental)
Coden: NUEND7
ISSN: 0262-5091
Copyright Clearance Center Code: 0262-5091/96/$00.00+01.00

Sort Key: 0000262509119960003700002000000000000058
Accession Number: 5260276
Update Code: 9618

Record 302 of 1145 in INSPEC 1996

Title: Micronuclei in lymphocytes of children from the vicinity of Chernobyl before and after /sup 131/I therapy for thyroid cancer
Author: Wuttke-K; Streffer-C; Muller-W-U; Reiners-C; Biko-J; Demidchik-E
Author Affiliation: Inst. fur Medizinische Strahlenbiologie, Essen Univ. Clinic, Germany
Source: International-Journal-of-Radiation-Biology. vol.69, no.2; Feb. 1996; p.259-68
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()69:02L.259
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The present study addresses the monitoring of children from the Belorussian and Ukrainian Republics exposed to the fall-out of the Chernobyl accident. Micronucleus analysis has been performed on 56 children from different areas. The micronucleus frequencies in individuals as well as in regional groups were comparable with controls, except for 3 donors. Such results had to be expected, taking into account that at least 7 years have passed since the accident. Most of the children whose micronucleus frequencies were determined are suffering from thyroid cancer and were treated by radioiodine (/sup 131/I) therapy. The authors studied the effect of in vitro exposure with /sup 131/I on micronucleus induction and on the proliferative ability of lymphocytes. The present investigation indicates that micronuclei can be usefully employed to detect individual exposures to the incorporated radionuclide within several days after the intake of the radionuclide in a dose range of around 65-390 mGy (effective dose).
Number of References: 42
Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; fission-reactor-accidents; iodine-; radiation-therapy; radioactive-pollution; radioisotopes-
Identifiers: children-; Chernobyl-vicinity; lymphocytes-micronuclei; radioiodine-therapy; white-blood-cells; therapeutic-nuclear-medicine; cell-proliferative-ability; Belorussian-Republic; Ukrainian-Republic; Chernobyl-accident-fall-out; regional-groups; radioactive-contamination; cellular-radiobiology; 65-to-390-mGy; 7-yr; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A2844

(Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760K (Nuclear-medicine-emission-tomography); A8770H (Radiation-therapy); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 6.5E-02 to 3.9E-01 Gy; time 2.2 E08 s
Chemical Indexing: I-el
Coden: IJRBA3
ISSN: 0955-3002
Copyright Clearance Center Code: 0955-3002/96/$12.00
Copyright Statement: Copyright 1996, IEE
Sort Key: 0000955300219960006900002000000000000259
Accession Number: 5259079
Update Code: 9618

Record 303 of 1145 in INSPEC 1996

Title: Radiological Consequences of the Chernobyl Accident
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
Publication Year: 1996
Record Type: Conference-Proceedings
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The following topics were dealt with: Chernobyl accident; radioactive contamination; remedial measures; environmental aspects; radionuclide behaviour; population exposures; health effects; patient treatments; epidemiology; thyroid cancer; dose reconstruction methods.
Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; patient-treatment; radiation-decontamination; radiation-protection; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; radioactive-contamination; remedial-measures; environmental-aspects; radionuclide-behaviour; population-exposures; health-effects; patient-treatments; epidemiology-; thyroid-cancer; dose-reconstruction-methods
Classification Codes: A0130C (Conference-proceedings); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8770G (Patient-care-and-treatment); A2880 (Radiation-technology-including-shielding); A8670 (Environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A01; A87; A28; A86; A0; A8; A2
Copyright Statement: Copyright 1996, IEE
Sort Key: 1000000000019960000000000000000000000000

Accession Number: 5256829
Update Code: 9617

Record 304 of 1145 in INSPEC 1996

Title: Biological dosimetric studies in the Chernobyl radiation accident, on populations living in the contaminated areas (Gomel regions) and in Estonian clean-up workers, using FISH technique
Author: Darroudi-F; Natarajan-AT
Author Affiliation: MGC, Leiden Univ., Netherlands
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.1067-72
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: In order to perform retrospective estimations of radiation doses 7 years after the nuclear accident in Chernobyl, the frequencies of chromosomal aberrations in the peripheral blood lymphocytes of individuals living in contaminated areas around Chernobyl and the Estonian clean-up workers were determined. The first study group was composed of 45 individuals living in 4 areas (i.e. Rechitsa, Komsomolski, Choiniki and Zaspa) in the vicinity (80-125 km) of Chernobyl and 20 individuals living in Minsk (control group-340 km from Chernobyl). The second study group (Estonian clean-up workers) was composed of 26 individuals involved in cleaning up the Chernobyl for a different period of time (up to 7 months) and a matched control group consisting of 9 probands. Unstable aberrations (dicentrics and rings) were scored in Giemsa stained preparations and stable aberrations (translocations) were analyzed using chromosome specific DNA libraries and fluorescence in situ hybridization (FISH) technique. For both study groups the estimated average dose is between 0.1-0.4 Gy. Among the people living in the contaminated areas in the vicinity of Chernobyl, a higher frequency of numerical aberrations (i.e. trisomy, hyperdiploidy) was evident.
Number of References: 12
Descriptors: blood-; cellular-effects-of-radiation; dosimetry-; fission-reactor-accidents; genetics-; radioactive-pollution
Identifiers: biological-dosimetric-studies; Chernobyl-radiation-accident; contaminated-areas; Gomel-regions; Estonian-clean-up-workers; FISH-technique; chromosomal-aberrations; peripheral-blood-lymphocytes; Rechitsa-; Komsomolski-; Choiniki-; Zaspa-; Minsk-; unstable-aberrations; dicentrics-; rings-; stable-aberrations; translocations-; Giemsa-stained-preparations; chromosome-specific-DNA-libraries; fluorescence-in-situ-

hybridization; cellular-radiobiology; trisomy-; hyperdiploidy-; 0-1-to-0-4-gray; 80-to-125-km; 340-km; 7-month; 7-yr

Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8725F (Physics-of-subcellular-structures); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation absorbed dose 1.0E-01 to 4.0E-01 Gy; distance 8.0 E04 to 1.25 E05 m; distance 3.4 E05 m; time 1.8 E07 s; time 2.2 E08 s

Sort Key: 1000000000019960000000000000000000001067

Accession Number: 5249905

Update Code: 9616

Record 305 of 1145 in INSPEC 1996

Title: Metabolism in tooth enamel and reliability of retrospective EPR dosimetry connected with Chernobyl accident

Author: Brik-A; Radchuk-V; Scherbina-O; Matyash-M; Gaver-O

Author Affiliation: Inst. of Geochem., Miner. & Oreformation, Acad. of Sci., Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.1055-8

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: It is shown that the results of retrospective dosimetry by tooth enamel EPR are essentially determined by the fact that tooth enamel is a mineral of biological origin. The structure of tooth enamel, properties of radiation defects and the role of metabolism in tooth enamel are discussed. It is shown that at deep metamorphic modifications tooth enamel does not save information about its radiation history. The reliability and accuracy of retrospective EPR dosimetry are discussed. Because the Chernobyl accident occurred 10 years ago the application of tooth enamel for reconstruction of doses which are connected with Chernobyl accident need care and additional investigations.

Number of References: 12

Descriptors: dosimetry-; EPR-spectroscopy; fission-reactor-accidents

Identifiers: tooth-enamel-metabolism; retrospective-EPR-dosimetry-reliability; Chernobyl-nuclear-power-plant-accident; biological-origin-mineral; radiation-history; deep-

metamorphic-modifications; retrospective-EPR-dosimetry; dosimetry-reliability; dosimetry-accuracy; 10-yr
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Numerical Data Indexing: time 3.2 E08 s

Sort Key: 10000000000199600000000000000000000001055
Accession Number: 5249902
Update Code: 9616

Record 306 of 1145 in INSPEC 1996

Title: ESR/tooth enamel dosimetry application to Chernobyl case: individual retrospective dosimetry of the liquidators and wild animals
Author: Bugai-A; Baryakchtar-VG; Baran-N; Bartchuk-V; Kolesnik-S; Maksimenko-V; Zakcharash-MP; Bereznoy-AB; Ostapenko-AN; Gaitchenko-V; Radchuk-V
Author Affiliation: Inst. of Semicond. Phys., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.1049-52
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The ESR/tooth enamel dosimetry technique was used for individual retrospective dosimetry of the servicemen who had worked in 1986-1987 at the liquidation of the consequences of the Chernobyl accident. For 18 investigated cases, the values varied from 0.10 (sensitivity limit) to 1.75 Gy. The same technique was used for individual dosimetry of wild animals (boars, red deers, elks) hunted in the contaminated 30-km area around the Chernobyl Power Plant. Measured values varied from 0.20 to 5.0 Gy/year and were compared with those calculated for external and internal irradiation.
Number of References: 4
Descriptors: dosimetry-; fission-reactor-accidents; radioactive-pollution
Identifiers: ESR-tooth-enamel-dosimetry; Chernobyl-nuclear-power-plant-accident; servicemen-; Chernobyl-liquidators; wild-animals; individual-retrospective-dosimetry; internal-irradiation; external-irradiation; red-deers; elks-; boars-; sensitivity-limit; 0-10-to-5-0-gray; 30-km

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 1.0E-01 to 5.0 E00 Gy; size 3.0 E04 m

Sort Key: 1000000000019960000000000000000000001049
Accession Number: 5249900
Update Code: 9616

Record 307 of 1145 in INSPEC 1996

Title: Monitoring of post-Chernobyl contamination in the Czech Republic
Author: Bucina-I; Drabova-D; Kunz-E; Malatova-I
Author Affiliation: Nat. Radiat. Protection Inst., Prague, Czech Republic
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.1045-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The results of monitoring of radiation situation in the period 1986-1994 are presented together with the estimation of doses to the Czech population due to Chernobyl accident.
Number of References: 9
Descriptors: air-pollution-measurement; dosimetry-; fission-reactor-accidents; radioactive-pollution; soil-
Identifiers: Czech-Republic; Chernobyl-; dose-; population-
Classification Codes: A8670G (Atmosphere-environmental-science); A2880C (Dosimetry); A8670C (Soil-and-rock-environmental-science); A8760M (Radiation-dosimetry); A86; A28; A87; A8; A2
Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000001045
Accession Number: 5249899
Update Code: 9616

Record 308 of 1145 in INSPEC 1996

Title: Estimation of thyroid doses received by the population of Belarus as a result of the Chernobyl accident

Author: Gavrilin-Yu; Khrouch-V; Shinkarev-S; Drozdovitch-V; Minenko-V; Shemyakina-E; Bouville-A; Anspaugh-L

Author Affiliation: Inst. of Biophys., State Res. Centre of Russia, Moscow, Russia

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.1011-20

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: Within weeks of the Chernobyl accident, about 300,000 measurements of human thyroidal /sup 131/I content were conducted in the more contaminated territories of the Republic of Belarus. Results of these and other measurements form the basis of thyroid-dose reconstruction for the residents of Belarus. Preliminary estimates of thyroid doses have been divided into 3 classes: Class 1 ("measured" doses). Individual doses are estimated directly from the measured thyroidal /sup 131/I content of the person considered, plus information on life style and dietary habits. Such estimates are available for about 130,000 individuals from the contaminated areas of Gomel and Mogilev Oblasts and Minsk city. Class 2 ("passport" doses). For every settlement with a sufficient number of residents with "measured" doses, individual thyroid-dose distributions are determined for several age groups and levels of milk consumption. This action has been called the "passportization" of the settlement. A population of about 2.7 million people resides in the "passportized" settlements. Class 3 ("inferred" doses). For any settlement where the number of residents with "measured" doses is small or equal to zero, individual thyroid doses are derived from the relationship obtained between the mean adult-thyroid dose and the deposition density of /sup 131/I or /sup 137/Cs in settlements with "passport" doses presenting characteristics similar to those of the settlement considered. This method can be applied to the remainder of the population (about 7.3 million people). An approximate estimate of the collective thyroid dose for the residents of Belarus is presented. Illustrative results of individual thyroid dose and associated uncertainty are discussed for rural settlements and urban areas.

Number of References: 11

Descriptors: dosimetry-; fission-reactor-accidents; radioactive-pollution

Identifiers: thyroid-doses-estimation; Belarus-population; human-thyroidal-131I-content; more-contaminated-territories; Republic-of-Belarus; Chernobyl-nuclear-power-plant-accident; life-style; dietary-habits; Gomel-; Mogilev-Oblasts; Minsk-city; individual-thyroid-dose-distributions; milk-consumption-level; collective-thyroid-dose; rural-settlements; urban-areas; dose-uncertainty; radioactive-contamination; I-; Cs-

Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el

Sort Key: 10000000000199600000000000000000001011
Accession Number: 5249895
Update Code: 9616

Record 309 of 1145 in INSPEC 1996

Title: The reconstruction of thyroid dose following Chernobyl
Author: Stepanenko-V; Gavrilin-Yu; Khrousch-V; Shinkarev-S; Zvonova-I; Minenko-V; Drozdovich-V; Ulanovsky-A; Heinemann-K; Pomplun-E; Hille-R; Bailiff-I; Kondrashov-A; Yaskova-E; Petin-D; Skvortsov-V; Parshkov-E; Makarenkova-I; Volkov-V; Korneev-S; Bratilova-A; Kaidanovsky-J
Author Affiliation: Med. Radiol. Res. Centre, Obninsk, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.937-48
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: Presents an overview of several approaches in working out methods of thyroid internal dose reconstruction following Chernobyl. One of these approaches was developed (IBPh, Moscow; MRRC, Obninsk; IRM, Minsk) using the correlations between the mean dose calculation based on I-131 thyroid content measurements and Cs-137 contamination of territories. The available data on I-131 soil contamination were taken into account. The lack of data on I-131 soil contamination was supposed to be compensated by I-129 measurements in soil samples from contaminated territories. A semiempirical model was developed for dose reconstruction. A comparison of the results obtained by the semiempirical model and empirical values is presented. The estimated values of average dose according the semiempirical model were used for individual dose reconstruction. The IRH (St. Petersburg) has developed the following method for individual dose reconstruction: correlation between the total I-131 radioiodine incorporation in the thyroid and the whole body Cs-137 content during the first months after the accident. Individual dose reconstruction was also performed using data on individual milk consumption during first weeks after the accident. For

evaluation of average doses it is suggested that one uses linear correlation: thyroid dose values based on radioiodine thyroid measurements vs Cs-137 contamination, air kerma rate, and mean I-131 concentration in the milk. The method for retrospective reconstruction of thyroid dose caused by short-lived iodine nuclides released after the Chernobyl accident has been developed by Research Centre, Juelich, Germany. It is based on the constant ratio that these nuclides have with the long-lived I-129. The contamination of soil samples by this nuclide can be used to assess thyroid doses. The first results of I-129 contamination values and derived thyroid doses are presented.

Number of References: 18

Descriptors: dosimetry-; fission-reactor-accidents; radioactive-pollution; reviews-

Identifiers: thyroid-dose-reconstruction; Chernobyl-nuclear-power-plant-accident; I-131-soil-contamination; Cs-137-contamination; semiempirical-model; empirical-values; individual-dose-reconstruction; whole-body-Cs-137-content; individual-milk-consumption; linear-correlation; contaminated-territories; St-Petersburg; I-131-radioiodine-incorporation; air-kerma-rate; mean-I-131-concentration; short-lived-iodine-nuclides; I-129-contamination; I-; Cs-

Classification Codes: A8760M (Radiation-dosimetry); A0130R (Reviews-and-tutorial-papers-resource-letters); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A01; A28; A8; A0

Treatment Codes: G (General-or-Review)

Chemical Indexing: I-el; Cs-el

Sort Key: 10000000000199600000000000000000000000937

Accession Number: 5249887

Update Code: 9616

Record 310 of 1145 in INSPEC 1996

Title: Health status and follow-up of the Chernobyl nuclear power plant accident liquidators in Latvia

Author: Curbakova-E; Dzerve-B; Eglite-M; Frickausa-I; Zvagule-T

Author Affiliation: Centre of Occupational & Radiol. Med., P. Stradings State Clinical Hospital, Riga, Latvia

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.929-34

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: The accident at the Nuclear Power Station in Chernobyl created a new problem for health professionals in Latvia due to the fact that 6475 inhabitants (mainly healthy and men of reproductive age) of Latvia took part in clean-up works in Chernobyl within the period 1986-1991. Chernobyl clean-up workers were exposed to external gamma - radiation and they also incorporated radionuclides. The doses documented for the clean-up workers are variable; they are estimated to be between 0.01-0.5 Gy although the specialists working on the precision of received doses think that they could be even 2 or 3 times higher. Many data show that these doses could be classified as small doses but they may cause somatic and genetic biological effects. Therefore all the above-mentioned factors require very serious attitude in the evaluation of the Chernobyl clean-up workers health status as well their further treatment and rehabilitation. There is a difference between Latvian Chernobyl accident liquidators and liquidators in other countries contaminated with radionuclides because Latvian Chernobyl clean-up workers have only had a low ionizing exposure during an exact period of time. The aim of the authors` work is to evaluate the health status of liquidators investigating them on a long-term basis: to create the correct system of health status evaluation of Chernobyl clean-up workers; to improve the register of Chernobyl clean-up workers and of their children; to analyze the data about the incidence of different diseases and mortality gained from follow-ups; to evaluate health status and clinical picture within the period of time; to work out and use adequate methods of treatment.

Number of References: 5

Descriptors: biological-effects-of-gamma-rays; biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; personnel-; radioactive-pollution; radioisotopes-; reviews-

Identifiers: health-status; Chernobyl-nuclear-power-plant-accident-liquidators; Latvia-; nuclear-power-station; health-professionals; Chernobyl-clean-up-workers; external-gamma-radiation; incorporated-radionuclides; received-doses; genetic-biological-effects; somatic-biological-effects; 0-01-to-0-5-gray

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A0130R (Reviews-and-tutorial-papers-resource-letters); A8760M (Radiation-dosimetry); A87; A28; A01; A8; A2

Treatment Codes: G (General-or-Review)

Numerical Data Indexing: radiation absorbed dose 1.0E-02 to 5.0E-01 Gy

Sort Key: 1000000000019960000000000000000000000929

Accession Number: 5249886

Update Code: 9616

Record 311 of 1145 in INSPEC 1996

Title: Epidemiology of cancer in population living in contaminated territories of Ukraine, Belarus, Russia after the Chernobyl accident

Author: Prisyazhniuk-A; Fedorenko-Z; Okeanov-A; Ivanov-V; Starinsky-V; Gristchenko-V; Remennik-L

Author Affiliation: Res. Centre for Radiat. Med., Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.909-21

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: Statistical data of the oncologic service of Ukraine, Belarus, and Russia on the number of new patients with cancer and leukemia in 1980-1994 in 12 regions adjacent to the Chernobyl NPP are generalized. Spatio-temporal models for the incidence of malignant diseases in the population are developed. The possible connections between the effective dose and incidence of cancer in the population living in the area contaminated by radionuclides is analysed. Spatio-temporal models for the incidence of cancer including leukemias and lymphomas are found to be the same in the pre- and postaccidental periods. Nine years after the Chernobyl accident there is no scientific evidence for the excess of incidence of malignant tumors, except thyroid cancer, attributed to the radiation factor, even in the most contaminated areas. Appearance of previously unregistered thyroid cancer cases in children living in the territory, where a considerable amount of radioactive iodine was deposited, can indicate stochastic radiation effects in the thyroid.

Number of References: 5

Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; radioactive-pollution; reviews-

Identifiers: cancer-epidemiology; contaminated-territories; Ukraine-; Belarus-; Russia-; Chernobyl-accident; effective-dose; cancer-incidence; children-; radioactive-iodine; stochastic-radiation-effects; malignant-tumors; leukemias-; lymphomas-; thyroid-cancer; malignant-diseases; 9-yr; I-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A0130R (Reviews-and-tutorial-papers-resource-letters); A87; A28; A01; A8

Treatment Codes: G (General-or-Review)

Numerical Data Indexing: time 2.8 E08 s

Chemical Indexing: I-el

Sort Key: 10000000000199600000000000000000000000909
Accession Number: 5249884
Update Code: 9616

Record 312 of 1145 in INSPEC 1996

Title: Problems and peculiarities of medical service of the liquidators of the Bryansk region, who were engaged in the clean-up after the Chernobyl accident in 1986-1987

Author: Dukov-MM; Samoilencko-VM; Dorokhov-VV; Proshin-AD; Romanova-GA; Rivkind-NB
Author Affiliation: Bryansk Dept. on Chernobyl Problems, MES of Russia, Bryansk, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.895-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English

Abstract: Investigation of the radiological effects of the Chernobyl accident`s consequences among the liquidators engaged in the clean-up in 1986-1987, represents, from the authors` point of view, special interest. It is associated with the fact of multiply received high radiation doses as well as by the following radiological consequences, related to particular radiocontamination over the Bryansk region. This paper contains data analyses of medical, dosimetric, demographic and other health status characteristics of this group of liquidators during recent years.

Number of References: 0
Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; radioactive-pollution; reviews-
Identifiers: medical-service-problems; Bryansk-region; nuclear-accident-liquidators; Chernobyl-accident-clean-up; high-radiation-doses; radiological-consequences; radiocontamination-; health-status-characteristics; demographic-characteristics; medical-characteristics; dosimetric-characteristics
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A0130R (Reviews-and-tutorial-papers-resource-letters); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A01; A28; A8
Treatment Codes: G (General-or-Review)
Copyright Statement: Copyright 1996, IEE

Sort Key: 10000000000199600000000000000000000000895
Accession Number: 5249882
Update Code: 9616

Record 313 of 1145 in INSPEC 1996

Title: Chernobyl NPP accident consequences cleaning up participants in Ukraine-health status epidemiologic study main results
Author: Buzunov-V; Omelyanetz-N; Strapko-N; Ledoschuck-B; Krasnikova-L; Kartushin-G
Author Affiliation: Radiat. Med. Sci. centre, Ukrainian Med. Sci. Acad., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.871-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The Epidemiologic Studies System for the Chernobyl NPP accident consequences cleaning up participants (CNPP ACCP) health status was worked out and then improved in Ukraine after the CNPP accident. The State Register of Ukraine both with several other Registers are the organizational, methodological and informational basis here. The ACCP health status worsening was registered in dynamics through the post-accidental period, i.e. the nervous system, digestive system, blood circulation system, respiratory system, bone-muscular system, endocrine and genitourinary systems chronic non-tumoral pathology both with mental disorders amount increase. In a cohort study, the differences of morbidity formation were fixed among emergency workers with different radiation exposure doses. The dependence of leukemia morbidity on presence in 30-km zone duration was noticed, it`s access manifestated 5 years after the participance in ACC. The ACCP invalidisation increase with main reason of general somatic diseases, and annual mortality growth are registered, but that doesn`t exceed the mortality rate among the population of working age in Ukraine.
Number of References: 0
Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; radiation-decontamination; radiation-protection; radioactive-pollution
Identifiers: Chernobyl-accident-consequences; participants-cleanup; Ukraine-; health-status-epidemiologic-study; Epidemiologic-Studies-System; postaccidental-period; nervous-system; digestive-system; blood-circulation-system; respiratory-system; bone-muscular-system; endocrine-system; genitourinary-system; chronic-nontumoral-pathology; mental-disorders; morbidity-formation; emergency-workers; radiation-exposure-doses; leukemia-morbidity; somatic-diseases; annual-mortality-growth; mortality-rate

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A8760M (Radiation-dosimetry); A8670 (Environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880 (Radiation-technology-including-shielding); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000871
Accession Number: 5249880
Update Code: 9616

Record 314 of 1145 in INSPEC 1996

Title: What is feasible and desirable in the epidemiologic follow-up of Chernobyl
Author: Cardis-E; Okeanov-AE
Author Affiliation: IARC, Lyon, France
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.835-50
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: This paper summarises the results of pilot studies carried out to evaluate the feasibility of long-term epidemiological studies of cancer risk among populations exposed to radiation from the Chernobyl accident. These studies demonstrated that it is feasible to carry out a study of radiation-induced risk of specific cancers among "Chernobyl liquidators" included in the State Chernobyl registries using a case-control approach in Belarus and Russia. Careful large-scale studies of liquidators will provide important information concerning the effects of exposure protraction and perhaps of radiation type in the relatively low dose (0-500 mSv) range. Protocols for case-control studies of leukaemia and thyroid cancer risk among liquidators are being prepared in Belarus and Russia. Non-specific studies of cancer risk among the general population exposed in the contaminated regions are unlikely to be informative for radiation risk estimation because of the generally lower doses received by the majority of these populations, the difficulties in estimating these doses and following populations. An exception is the study of thyroid cancer risk in children, the incidence of which has been observed to increase dramatically in the first years following the accident. A careful study appears to be feasible and may provide a unique opportunity to increase our

understanding of factors which modify the risk of radiation induced cancer and thus have important consequences for the radiation protection of patients and the general population.
Number of References: 13
Descriptors: biological-effects-of-ionising-radiation; fission-reactor-accidents; radiation-protection; radioactive-pollution
Identifiers: epidemiologic-follow-up; Chernobyl-accident; pilot-studies; cancer-risk; radiation-induced-risk; Chernobyl-liquidators; exposure-protraction; leukaemia-; thyroid-cancer; Belarus-; Russia-; contaminated-regions; radiation-risk-estimation; radiation-protection
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000000835
Accession Number: 5249877
Update Code: 9616

Record 315 of 1145 in INSPEC 1996

Title: What the educated public wants to know from Chernobyl
Author: Lapp-R; Shlyakhter-A; Wilson-R
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.829-32
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: Conferences of this sort tend to concentrate on what the experts in the field, especially those toiling in the vineyard, know and have recently discovered, often with jargon or esoteric detail. In this paper we will take a different approach and present some thoughts that we have encountered in our many interactions with the public. Most of what the public is told about the effects of radiation is based upon the excellent work of Radiation Effects Research Foundation (RERF). This has a couple of logical deficiencies. Firstly, the effect is of a large dose received in a short period of time, whereas public interest is mostly about the effects of small doses spread out over a long

period. Secondly, the way the dose at Hiroshima and Nagasaki are calculated retrospectively is still a matter of discussion-and the uncertainty is still perhaps as much as a factor of three. The total exposure of the people exposed at Chernobyl to more than 30 Rems measured in person-Rems-is considerably greater than the comparable exposure to the RERF cohorts. This leads to the possibility of addressing these issues. It is now 10 years since the accident, and it should now be possible to make a preliminary assessment without impeding the more careful work that will take 50 or more years to complete. The public needs preliminary indications now.

Number of References: 12

Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; public-information-systems

Identifiers: Chernobyl-; educated-public; radiation-; dose-; Hiroshima-; Nagasaki-; total-exposure; accident-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A8; A2

Treatment Codes: G (General-or-Review); X (Experimental)

Sort Key: 1000000000019960000000000000000000000829

Accession Number: 5249876

Update Code: 9616

Record 316 of 1145 in INSPEC 1996

Title: Malignant neoplasms on the territories of Russia damaged owing to the Chernobyl accident

Author: Remennik-LV; Starinsky-VV; Mokina-VD; Chissov-VI; Scheplyagina-LA; Petrova-GV; Rubtsova-MM

Author Affiliation: Moscow A. Herzen Cancer Res. Inst., Moscow, Russia

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.825-8

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: The work presents the results of descriptive analysis of development of oncoepidemiological situation in six of the most polluted regions owing to the Chernobyl accident in 1981-1994. The growth of malignancies incidence is marked in all territories as well as in the Russian Federation as a whole. The most adverse

tendencies have been revealed in the Bryansk, Orel, Ryazan regions. It is marked that the formation of a structure, levels and trends of the malignancies incidence has been occurring under influence of a complex of factors usual up to the accident. The analysis of the data from the specialized cancer-register evidences that the incidence of thyroid malignancies is actively growing in the population of the Bryansk region. The probability of connection of growth of the thyroid cancer incidence in children of the Bryansk region with the Chernobyl accident is reasonably high, but should be confirmed through the application of methods of analytical epidemiology.

Number of References: 0

Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; radioactive-pollution

Identifiers: Russia-; Chernobyl-accident; oncoepidemiological-situation; most-polluted-regions; Russian-Federation; Bryansk-region; Orel-region; Ryazan-region; malignant-neoplasms; specialized-cancer-register; thyroid-malignancies; population-; thyroid-cancer-incidence; children-; analytical-epidemiology

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000825

Accession Number: 5249875

Update Code: 9616

Record 317 of 1145 in INSPEC 1996

Title: Immunologic status of children with thyroid cancer living near Chernobyl (flow cytometric and electron microscopic study)

Author: Zak-KP; Gruzov-MA; Bolshova-EV; Afanasyeva-VV; Shlyakhovenko-VS; Vishnevskaya-OA; Tronko-ND

Author Affiliation: V.P. Komissarenko Inst. of Endocrinology & Metabolism, Acad. Med. Sci., Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.821-3

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: Light, electron microscopic and flow cytometric studies of blood leucocyte were carried out for children with malignant tumors (papillary carcinoma) of thyroid gland who were living at the moment of the accident near Chernobyl. The results obtained point out the presence of some disturbances of the immune status of these children.
Number of References: 0
Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; cellular-transport; electron-microscopy; patient-diagnosis
Identifiers: thyroid-cancer; Chernobyl-; electron-microscopic-study; flow-cytometric-study; electron-microscopic-studies; light-microscopic-studies; malignant-tumors; papillary-carcinoma; thyroid-gland; immune-status; children-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8770E (Patient-diagnostic-methods-and-instrumentation); A8725D (Biological-transport-cellular-and-subcellular-transmembrane-physics); A87; A8
Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000000821
Accession Number: 5249874
Update Code: 9616

Record 318 of 1145 in INSPEC 1996

Title: Iodine deficiency disorders (IDD) in regions of Russia affected by Chernobyl
Author: Gerasimov-G; Alexandrova-G; Arbuzova-M; Butrova-S; Kenzhibaeva-M; Kotova-G; Mishchenko-B; Nazarov-A; Platonova-N; Sviridenko-N; Chernova-T; Troshina-E; Dedov-I
Author Affiliation: Russian Endocrinology Res. Centre, Moscow, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.813-15
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The present article provides an update on IDD in the Western regions of Russia (Bryansk, Kaluga, Tula and Orel) which were contaminated by radioactive fallout after the Chernobyl accident in 1986. These surveyed areas meet the criteria of ICCIDD/UNICEF/WHO for mild and moderate IDD. Higher iodine excretion and smaller goiter prevalence (mild level of IDD) were more typical for urban sites, while lower iodine levels and higher goiter endemicity (moderate level of IDD) were found in

rural areas. IDD control programmes should be developed and implemented in Chernobyl areas and iodine excretion should be monitored continuously to minimize future thyroid abnormalities.
Number of References: 8
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; iodine-; radioactive-pollution
Identifiers: I-deficiency-disorders; Western-regions; Russia-; Bryansk-; Kaluga-; Tula-; Orel-; radioactive-fallout; Chernobyl-accident; I-excretion; goiter-prevalence; urban-sites; goiter-endemicity; rural-areas; Chernobyl-areas; thyroid-abnormalities; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el

Sort Key: 10000000000199600000000000000000000000813
Accession Number: 5249872
Update Code: 9616

Record 319 of 1145 in INSPEC 1996

Title: Comparative light- and electromicroscopic characteristics of thyroid carcinoma in children and adolescents in Ukraine following the Chernobyl accident
Author: Bogdanova-TI; Kozyritsky-VG; Tronko-ND; Petrova-GV; Avetesyan-IL
Author Affiliation: Inst. of Endocrinology & Metabolism, Acad. of Med. Sci., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.803-5
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: 190 thyroid carcinomas in children aged up to 15 (154 cases) and adolescents aged 15 to 18 (36 cases) operated at the Institute`s Clinic from 1986 to the 30th of June 1995, have been studied using light and electron microscopy. It has been found in 93.2% papillary, in 3.2%-medullary, in 1%-anaplastic carcinomas. A typical papillary carcinoma was revealed in 11.5%, follicular variant-in 39.0%, solid variant-in 28.1%, diffuse and sclerosing variant-in 3.8%. In cases of solid variant low-differentiated cells prevailed in the tumor, what manifested itself the most obviously by electron microscopic analysis. The thyroid carcinomas studied in children and adolescents of

Ukraine are characterized by high invasive properties, that is confirmed by a high percentage (66.5%) of regional metastases.

Number of References: 7

Descriptors: biological-effects-of-ionising-radiation; cellular-effects-of-radiation; electron-microscopy; patient-diagnosis

Identifiers: electromicroscopic-characteristics; thyroid-carcinoma; children-; adolescents-; Ukraine-; Chernobyl-accident; electron-microscopy; light-microscopy; anaplastic-carcinomas; papillary-carcinoma; follicular-variant; solid-variant; sclerosing-variant; diffuse-variant; electron-microscopic-analysis; high-invasive-properties; regional-metastases; differentiated-cells

Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725 (Cellular-biophysics); A87; A8

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000803

Accession Number: 5249870

Update Code: 9616

Record 320 of 1145 in INSPEC 1996

Title: Analysis of the results on the use of frozen sections and smears-imprints in express diagnosis of tumoral processes in children and adolescents in Ukraine after the Chernobyl accident

Author: Kozyritsky-VG; Bogdanova-TI; Voskoboinik-LG; Bragarnik-MN; Komissarenko-IV; Rybakov-SI; Kovelenko-AYe; Demchenko-NP; Tronko-ND

Author Affiliation: Inst. of Endocrinology & Metabolism, Acad. of Med. Sci., Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.799-801

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: A comparative analysis has been carried out of the conformity of the results of instant diagnosis made on frozen sections (152 biopsies), with the final conclusion on fixed preparations of thyroid tumors in children and adolescents of Ukraine. The benign nodular and multinodular hyperplastic processes on frozen slices are verified in 100% of observations (48 cases). In case of follicular adenoma the coincidence in diagnosis made 90.1% (55 cases), in case of papillary carcinoma it made 91.1% (45 cases). In

case of follicular (3 cases) and medullary (1 case) thyroid carcinomas, presence of carcinoma was suspected but the accurate diagnosis was made on fixed preparations. Thus, instant diagnosis on frozen sections of thyroid tumors enabled, in more than 90%, accurate diagnosis to be made of a tumoral process in the course of operation and adequate tactics of surgical treatment to be chosen.

Number of References: 3

Descriptors: biological-effects-of-ionising-radiation; patient-diagnosis

Identifiers: frozen-sections; smears-; express-diagnosis; tumoral-processes; children-; adolescents-; Ukraine-; Chernobyl-accident; instant-diagnosis; thyroid-tumors; fixed-preparations; multinodular-hyperplastic-processes; frozen-slices; follicular-adenoma; papillary-carcinoma; medullary-thyroid-carcinomas; follicular-thyroid-carcinomas; accurate-diagnosis; surgical-treatment

Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A8

Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000000799

Accession Number: 5249869

Update Code: 9616

Record 321 of 1145 in INSPEC 1996

Title: The pathology of childhood thyroid tumours in the Russian Federation after Chernobyl

Author: Abrosimov-AYu; Lushnikov-EF; Tsyb-AF; Harach-HR; Thomas-GA; Williams-ED

Author Affiliation: MRRC RAMC, Russian Federation, Obninsk, Russia

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.791-3

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: The histological verification of thyroid carcinoma that have occurred in children in the contaminated areas of the Russian Federation after Chernobyl has been performed by pathologists from Obninsk and Cambridge. Formalin fixed material and paraffin blocks of 10 cases of childhood thyroid cancer were received from different hospitals in Russia during 1993-1995. 4 of the cases were female, and 6 male. In one of these cases the material available in Cambridge unfortunately showed no tumour. Of the other 9 cases, all were papillary carcinomas. 5 showed the solid follicular pattern, predominant

in younger children in the UK and forming the great majority of the recent childhood cases in both Belarus and the Ukraine. 2 were predominantly oxyphil carcinomas which were classified with papillary carcinomas on both architectural and cytological grounds, and 2 showed the features of the classic type of papillary carcinoma, predominant among the older children in the UK. All children came from areas contaminated by fallout from the Chernobyl accident, with 6 from Bryansk 1 from Kaluga and 3 from Tula. All cases were confirmed by immunohistochemistry and in situ hybridisation for thyroid differentiation markers. The oncogenes ret, met and p53 were also studied by immunohistochemistry.

Number of References: 8

Descriptors: biological-effects-of-ionising-radiation; cellular-effects-of-radiation; fission-reactor-accidents; radioactive-pollution

Identifiers: childhood-thyroid-tumours; Russian-Federation; pathology-; histological-verification; formalin-fixed-material; paraffin-blocks; female-; male-; papillary-carcinomas; solid-follicular-pattern; oxyphil-carcinomas; fallout-; Chernobyl-accident; immunohistochemistry-; in-situ-hybridisation; thyroid-differentiation-markers; oncogenes-ret; met-; p53-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8725 (Cellular-biophysics); A87; A8

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000791

Accession Number: 5249867

Update Code: 9616

Record 322 of 1145 in INSPEC 1996

Title: The pathology of thyroid cancer in Ukraine post Chernobyl

Author: Bogdanova-T; Bragarnik-M; Tronko-ND; Harach-HR; Thomas-GA; Williams-ED

Author Affiliation: Inst. of Endocrinology, Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.785-9

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: We have analysed data on the sex and age distribution of 122 cases which have been operated at the Institute of Endocrinology and Metabolism in Kiev, Ukraine during

the period January 1990 to December 1994 and compared these to information on 154 cases recorded by the UK Childhood Cancer Registry in England and Wales over the period 1963-1992. The histology has also been reviewed in 114 cases from Ukraine and in 81 cases in England and Wales. In addition immunocytochemistry for calcitonin, thyroglobulin, ret, met, IGF1 receptor and p53 and in situ hybridisation for thyroglobulin, calcitonin, and IGF1 mRNAs has been performed on a sample of cases from each of the two series. Our results show that there are clear differences between the sex and age distributions of the two series. In England and Wales there is a smooth rise with increasing age, but in Ukraine there was a peak incidence at eight years of age. The sex distribution was closer to equivalence in Ukraine then in England and Wales. The majority of thyroid carcinomas were papillary in type in both series, but Ukraine showed a higher frequency (96% compared with 68%). In addition, there was a particularly high incidence of the solid/follicular subtype of papillary carcinoma in children from Ukraine. There is a clear change in the age threshold for development of thyroid carcinoma over time, consistent with a causative agent at the time of the Chernobyl accident, and suggesting that the causative agent does not persist in the environment. These findings provide strong evidence for exposure to radioisotopes of iodine as the cause of the considerable increase in the incidence of childhood thyroid cancer in the Ukraine.

Number of References: 7

Descriptors: biological-effects-of-ionising-radiation; iodine-; patient-diagnosis; radioactive-pollution; radioisotopes-

Identifiers: Ukraine-; post-Chernobyl; age-distribution; thyroid-carcinoma; immunocytochemistry-; calcitonin-; thyroglobulin-; ret-; met-; IGF1-receptor; p53-; in-situ-hybridisation; sex-distribution; solidfollicular-subtype; papillary-carcinoma; children-; age-threshold; causative-agent; Chernobyl-accident; I-radioisotopes; childhood-thyroid-cancer; I-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8770E (Patient-diagnostic-methods-and-instrumentation); A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: I-el

Sort Key: 10000000000199600000000000000000000000785

Accession Number: 5249866

Update Code: 9616

Record 323 of 1145 in INSPEC 1996

Title: Radiation risk assessment of the thyroid cancer in Ukrainian children exposed due to Chernobyl

Author: Sobolev-B; Likhtarev-I; Kairo-I; Tronko-N; Oleynik-V; Bogdanova-T

Author Affiliation: Res. Center of Radiat. Med., AMS of Ukraine, Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.741-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The children`s thyroid exposure to radioiodine is one of the most serious consequences of the Chernobyl accident. The collective dose to children aged 0-18 in the entire Ukraine was estimated to be 400,000 person-Gy. The dose estimates were calculated on the basis of measurements of thyroid content of /sup 131/I for about 108,000 people in Ukraine aged 0-18 years in May-June 1986. Up to the end of 1994, 542 thyroid cancers throughout the Ukraine have been reported in children and young adults who were aged 0-18 at the time of the accident. Rates of thyroid cancer have climbed, from about 0.7 per million children aged 0-14 in 1986 to more 7 per million in 1994. Rates increased most in regions closest to Prypiat`. Between 1990 and 1994, 9 of the 14,580 people who had been children at the time of the accident in Prypiat` developed thyroid cancer. This corresponds to an annual incidence of 123 cases per million persons. The estimated average thyroid dose in Ukrainian children varies by several orders of magnitude. There is a more than 30-fold gradient in thyroid cancer incidence rates corresponding to the gradient in thyroid doses from /sup 131/I. A preliminary investigation shows an excess in the annual incidence rate of thyroid cancer, throughout the northern territory of Ukraine, corresponding to the average doses to thyroid from /sup 131/I. Coefficients of regression of excess cancers versus thyroid dose have been calculated.
Number of References: 8
Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards
Identifiers: Ukrainian-children; radiation-risk-assessment; children`s-thyroid-exposure; radioiodine-; Chernobyl-accident; collective-dose; dose-estimates; thyroid-content; 131I-; Prypiat`-; annual-incidence; estimated-average-thyroid-dose; thyroid-cancer-incidence-rates; annual-incidence-rate; northern-territory; coefficients-of-regression; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el

Sort Key: 1000000000019960000000000000000000000741

Accession Number: 5249860
Update Code: 9616

Record 324 of 1145 in INSPEC 1996

Title: Thyroid cancer in children and adolescents in Ukraine after the Chernobyl accident (1986-1995)

Author: Tronko-N; Bogdanova-T; Komissarenko-I; Bolshova-E; Oleynik-V; Tereshchenko-V; Epshtein-Y; Chebotarev-V
Author Affiliation: Inst. of Endocrinology & Metabolism, Acad. of Med. Sci., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.683-90
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English

Abstract: The increase in the incidence of thyroid cancers in children and adolescents in Ukraine following the Chernobyl accident made it necessary to compile a clinical morphological register of respective cancers. In 1986-1994 there were 339 cases registered in children and adolescents, of them 211 children (who were operated at the age under 15 years) and 128 adolescents (who were operated at the age of 15-18 years). Before the Chernobyl accident (1981-1985) in Ukraine 59 cases of thyroid cancer in children and adolescents were reported: 25 cases in children and 34 cases in adolescents. This increase has been observed since 1990. In 1981-1985 the incidence rate (number of thyroid cancers per 100000 children population) ranged 0.04-0.06. In 1990 this estimate was 0.23 and in 1992-1993 0.36-0.43, thus a 7-10 fold increase exceeding the pre-Chernobyl level. In the 5 most contaminated northern regions of Ukraine (Kiev, Chernigov, Zhitomir, Cherkassy, Rovno oblasts) and the city of Kiev the incidence rate was much higher. For example, in 1984 it was 3.8 in Chernigov oblast, 1.6 in Zhitomir oblast. The total "contribution" of the above-mentioned regions to the incidence of thyroid cancer in children after the Chernobyl accident makes make than 60%, It has been noted that in 1990-1994 there was an increase in the number of children operated at the age under 10, it means that these children were under 6 years at the time of the accident and were most sensitive to radioiodine exposure. As for the sex ratio, there has been a shift to males: in 1981-1985 F:M=1.8:1, in 1990-1994 F:M=1.4:1. Morphologically, 93.4% of 196 carcinomas resected from children and adolescents at the Institute of Endocrinology from 1986 to August 1st, 1995 were papillary carcinomas. They manifested high invasive and infiltrative growth, signs of intraglandular spread. Regional lymph node metastases were found in 59% of cases,

distal lung metastases observed at various periods after surgery were noted in 23.7% of cases.
Number of References: 22
Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents
Identifiers: Ukraine-; Chernobyl-accident; thyroid-cancers; children-; adolescents-; clinical-morphological-register; respective-cancers; incidence-rate; pre-Chernobyl-level; contaminated-northern-regions; Kiev-oblast; Chernigov-oblast; Zhitomir-oblast; Cherkassy-oblast; Rovno-oblasts; papillary-carcinomas; radioiodine-exposure; sex-ratio; males-; infiltrative-growth; intraglandular-spread; regional-lymph-node-metastases; distal-lung-metastases
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000683
Accession Number: 5249854
Update Code: 9616

Record 325 of 1145 in INSPEC 1996

Title: Cardiovascular system and physical working capacity in patients who had acute radiation syndrome as the result of Chernobyl accident
Author: Belyi-D; Gergel-O; Kovalenxo-A
Author Affiliation: Sci. Center of Radiat. Med., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.663-6
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The functional state of cardiovascular system has been studied since 1986 in 168 patients who had acute radiation syndrome as the result of Chernobyl accident. There was revealed a progressive increase of cardiovascular system pathology. The number of patients with pathological signs at ECG increased from 4.8% in 1987 to 11.3% in 1994 and with myocardial hypertrophy from 1.2% to 22.6%. The number of patients with coronary heart disease increased on 17.2% and with essential hypertension on 15.5%. The physical working capacity reduced to 50-60% of a due level for healthy persons. Two patients suffered from acute myocardial infarction during this period of

observation. Thirteenth patients died from 1987 to 1995. Among them 4 patient died in a result of acute cardiac failure. The development of cardiovascular pathology has no any correlation with a dose of exposure. Three factors of cardiovascular pathology growth are supposed.

Number of References: 11

Descriptors: biological-effects-of-ionising-radiation; cardiology-; disasters-; electrocardiography-; fission-reactor-accidents; muscle-; patient-monitoring

Identifiers: physical-working-capacity; acute-radiation-syndrome; Chernobyl-accident; patients-; cardiovascular-system-pathology; pathological-signs; ECG-; myocardial-hypertrophy; coronary-heart-disease; essential-hypertension; healthy-persons; acute-myocardial-infarction; acute-cardiac-failure; cardiovascular-pathology-growth

Classification Codes: A8770F (Electrodiagnostics); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A8

Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000000663

Accession Number: 5249851

Update Code: 9616

Record 326 of 1145 in INSPEC 1996

Title: Hemoblastoses of the Chernobyl accident clean-up workers and the population in Belarus

Author: Tolochko-GV; Ivanov-EP; Okeanov-AE; Lavrenyuk-VG; Shuvaeva-LP

Author Affiliation: Res. Inst. of Hematology & Blood Transfusion, Minsk, Byelorussia

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.633-6

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: The frequency and structure of hemoblastoses among Chernobyl nuclear power plant disaster liquidators and the population of Belarus are studied. The nosology structure of morbidity are documented; the dependence of the latter on the location of a work place in the hazard zone and of the permanent place of inhabitancy are noticed. No excessive increase of liquidators morbidity levels as compared with the one of the whole population is discovered. However, a certain increase in the last years is determined.

Number of References: 3

Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; fission-reactor-accidents; personnel-
Identifiers: Chernobyl-accident-clean-up-workers; hemoblastoses-; Chernobyl-nuclear-power-plant-disaster-liquidators; population-; Belarus-; nosology-structure; morbidity-; work-place; hazard-zone; location-; inhabitancy-; liquidators-morbidity-levels; whole-population
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725 (Cellular-biophysics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000633
Accession Number: 5249846
Update Code: 9616

Record 327 of 1145 in INSPEC 1996

Title: Evaluation of mid- and long-term consequences, clinical and social performance in Chernobyl acute radiation syndrome patients in a multi-centre clinical follow-up study
Author: Weiss-M; Bebeshko-VG; Nadejina-NM; Galstian-IA; Belyi-DA; Kovalenko-AN; Fischer-B; Fliedner-TM
Author Affiliation: Dept. of Clinical Physiol., Ulm Univ., Germany
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.629-32
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: Since the Chernobyl accident in 1986 nearly all survivors (n=199) of 237 patients with suspected acute radiation syndrome (ARS) underwent regular follow-up investigations in the scientific centres in Kiev and in Moscow. In a close collaboration with these centres we investigate the health status of this population in a five step approach. An integral part of this approach to patient evaluation and analysis of the mid- and long-term consequences of the Chernobyl accident is a "questionnaire for clinical, laboratory and functional follow-up of radiation-exposed persons", developed with these centres. Beyond this project we report as an interim some results of analyses performed by the scientific centers in Kiev and in Moscow about disorders of the cardiovascular system and the digestive tract, formation of cataract, generalised and

local skin injuries and/or disorders as well as for a subpopulation (n=89) the Karnofsky performance score and working ability.

Number of References: 4

Descriptors: biological-effects-of-ionising-radiation; cardiology-; disasters-; eye-; fission-reactor-accidents; patient-diagnosis; patient-monitoring; physiology-; skin-; vision-defects

Identifiers: long-term-consequences; mid-term-consequences; social-performance; clinical-performance; Chernobyl-acute-radiation-syndrome-patients; multi-centre-clinical-follow-up-study; health-status; patient-evaluation; radiation-exposed-person; scientific-centres; Kiev-; Moscow-; cardiovascular-system; digestive-tract; cataract-; local-skin-injuries; skin-disorders; subpopulation-; Karnofsky-performance-score; working-ability

Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8732C (Anatomy-and-optics-of-the-eye); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000629

Accession Number: 5249845

Update Code: 9616

Record 328 of 1145 in INSPEC 1996

Title: A multi-centre clinical follow-up database as a systematic approach to the evaluation of mid- and long-term health consequences in Chernobyl acute radiation syndrome patients

Author: Fischer-B; Belyi-DA; Weiss-M; Nadejina-NM; Galstian-IA; Kovalenko-AN; Bebeshko-VG; Fliedner-TM

Author Affiliation: Dept. of Clinical Physiol. & Occupational Med., Ulm Univ., Germany

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.625-8

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: This paper describes scope, design and first results of a multi-centre follow-up database that has been established for the evaluation of mid- and long-term health consequences of acute radiation syndrome (ARS) survivors. After the Chernobyl accident on 26 April 1986, 237 cases with suspected acute radiation syndrome have

been reported. For 134 of these cases the diagnosis of ARS was confirmed in a consensus conference three years after the accident. Nearly all survivors underwent regular follow-up examinations in two specialised centres in Kiev and in Moscow. In collaboration with these centres we established a multi-centre clinical follow-up database that records the results of the follow-up examinations in a standardised schema. This database is an integral part of a five step approach to patient evaluation and aims at a comprehensive base for scientific analysis of the mid- and long-term consequences of accidental ionising radiation. It will allow for a dynamic view on the development of the health status of individuals and groups of patients as well as the identification of critical organ systems that need early support, and an improvement of acute and follow-up treatment protocols for radiation accident victims.

Number of References: 4

Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; medical-diagnostic-computing; medical-information-systems; patient-care; patient-diagnosis; patient-monitoring

Identifiers: multi-centre-clinical-follow-up-database; long-term-health-consequences; mid-term-health-consequences; Chernobyl-acute-radiation-syndrome-patients; acute-radiation-syndrome-survivors; regular-follow-up-examinations; diagnosis-; consensus-conference; standardised-schema; patient-evaluation; accidental-ionising-radiation; critical-organ-systems; radiation-accident-victims

Classification Codes: A8770E (Patient-diagnostic-methods-and-instrumentation); A8770G (Patient-care-and-treatment); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); C7140 (Medical-administration); C7330 (Biology-and-medical-computing); A87; C71; C73; A8

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000625

Accession Number: 5249844

Update Code: 9616

Record 329 of 1145 in INSPEC 1996

Title: Hot particle factor in radiation dose formation after the Chernobyl accident

Author: Bondarenko-O; Demchuk-V; Tepikin-V; Nagorsky-V

Author Affiliation: Inst. Radiat. Protection, Kiev, Ukraine

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.547-50

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium
Language: English
Abstract: The necessity to apply original data about the size and the activity distributions of hot particles has been arising at many post-Chernobyl research. Such researches include first of all (i) studying of migration processes at soil-water complex, (ii) retrospective inhalation dose reconstruction for the population, and (iii) validation different scenarios of the Chernobyl accident deployment. Results of this research show that the fuel matrix in soil can be considered as constant with accuracy 20-30% for transuranic nuclides and major of long-living fission products. Temporal stability of hot particles at the natural environment gives a unique possibility to use the hot particle size distribution data and the soil contamination data for retrospective restoring of doses even 10 years after the Chernobyl accident. In present research the value of the integral of hot particle activity deposited into the lung was calculated using a standard inhalation model which takes into account the hot particle size distribution. This value normalized the fallout density is equal to 0.6 Bq/Bqm/sup -1/ for areas nearby the Chernobyl NPP.
Number of References: 5
Descriptors: dosimetry-; fission-reactor-accidents; radioactive-pollution; soil-
Identifiers: hot-particle-factor; radiation-dose-formation; Chernobyl-accident; soil-water-complex; retrospective-inhalation-dose-reconstruction; fuel-matrix; transuranic-nuclides; long-living-fission-products; standard-inhalation-model
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A87; A86; A28; A8
Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000000547
Accession Number: 5249834
Update Code: 9616

Record 330 of 1145 in INSPEC 1996

Title: Information system "Chernobyl" of EMERCOM of Russia
Author: Bolshov-L; Linge-I; Arutyunyan-R; Ilushkin-A; Kanevsky-M; Kiselev-V; Melikhova-E; Ossipiants-I; Pavlovsky-O
Author Affiliation: Inst. of Nucl. Safety, Acad. of Sci., Moscow, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.535-8
Publication Year: 1996
Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The authors discuss the Chernobyl information system of EMERCOM, its databases and how it lists data on the effects of the accident.
Number of References: 3
Descriptors: environmental-science-computing; medical-information-systems; scientific-information-systems
Identifiers: Chernobyl-information-system; databases-; EMERCOM-; Russia-; medical-statistics
Classification Codes: C7330 (Biology-and-medical-computing); C73; C7
Treatment Codes: G (General-or-Review)

Sort Key: 10000000000199600000000000000000000000535
Accession Number: 5249831
Update Code: 9616

Record 331 of 1145 in INSPEC 1996

Title: Dynamics of social-psychological consequences 10 years after Chernobyl
Author: Rumyantseva-GM; Archangelskaya-HV; Zykova-IA; Levina-TM
Author Affiliation: State Sci. Center of Social & Forensic Psychiatry, Moscow, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.529-33
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The study has been carried out according to the long-term JSP2 in comparison with the results of data acquired by the authors in previous years in other programs in 1988-95 for more then 5 thousand people. In working out the strategy of post-catastrophe situation it is necessary to have a joint effort of the population and authority. The studies have showed that cooperation has not been achieved in this case. Hence, the effect of protective measures have been seriously decreased. Countermeasures taken after the catastrophe have had not only a positive, but in some cases a negative impact. The results of many previous studies as well as JSP2 program have shown serious social and psychological consequences of Chernobyl Accident. There is a constant year-to-year comprehension among population anxiety concerning their health. The main result

of the study is that social and psychological consequences of the Chernobyl Accident include nonradiological risks as seriously as the radiation risk.
Number of References: 0
Descriptors: psychology-; radioactive-pollution; socio-economic-effects
Identifiers: social-psychological-consequences; Chernobyl-; post-catastrophe-situation; protective-measures; population-anxiety; nonradiological-risks
Classification Codes: A0175 (Science-and-society); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A01; A87; A0; A8
Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000529
Accession Number: 5249830
Update Code: 9616

Record 332 of 1145 in INSPEC 1996

Title: Geochemistry of Chernobyl radionuclides
Author: Sobotovich-E; Bondarenko-G; Petriaev-E
Author Affiliation: Dept. of Environ. of Radiogeochem., Nat. Acad. of Sci., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.477-83
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The accident at the Chernobyl NPP caused contamination of the most of Ukrainian and Belorussian territory and of Briansk region (Russia). Over 80 radionuclides with half-life more then 5 hours and total activity amounted to almost 1.9 10/sup 18/Bq were released into the environment. Solid-phase are characteristic for the contaminated areas of Ukraine and condensational ones for those of Belorus. About 90% of solid-phase radioactive deposits are parts with radionuclide composition close to that of irradiated nuclear fuel. In the first post-accidental months the main mechanism of vertical dislocation of radionuclides of the Chernobyl fuel fallout was migration of radionuclides in a form of solid particles. In soil, radioactive deposits are subjected to the influence of soil solutions. The pace of transfer of /sup 90/Sr into the mobile form is measured by years another radionuclides release from particles with the same rate but relatively quickly transfer into immobile form. Owing to difference in immobilization rates in soils /sup 90/Sr is found at present on the whole in mobile form, 80-95% of activity of another radionuclides are found in immobile form. Grading of radionuclides

caused by forms of nuclides occurs the river system. Owing to that, /sup 90/Sr transfers into soluble state and depletion of bottom sediments. Regional evacuation of /sup 90/Sr from contaminated drainage system into the river system of Dnieper is 5 times higher than of /sup 137/Cs.

Number of References: 0

Descriptors: geochemistry-; radioactive-pollution; soil-

Identifiers: Chernobyl-radionuclides; geochemistry-; contamination-; Belorussia-; Ukraine-; Briansk-; solid-phase-radionuclides; irradiated-nuclear-fuel; soil-; radioactive-deposits; 90Sr-transfer; immobilization-rates; bottom-sediments

Classification Codes: A8670C (Soil-and-rock-environmental-science); A9135L (Geochemistry); A86; A91; A8; A9

Treatment Codes: P (Practical)

Sort Key: 10000000000199600000000000000000000000477

Accession Number: 5249819

Update Code: 9616

Record 333 of 1145 in INSPEC 1996

Title: Psychosocial consequences of the Chernobyl disaster

Author: Havenaar-JM; Savelkoul-TJF; van-den-Bout-J; Bootsma-PA

Author Affiliation: Univ. Hospital, Utrecht, Netherlands

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.435-42

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: The importance of psychological factors in the aftermath of industrial disasters is being recognized increasingly. Two field studies (total N=3084) were conducted in two regions of the former Soviet Union, to investigate the long-term psychosocial consequences of the Chernobyl nuclear power plant disaster in 1986. A subsample of the respondents (N=449) was studied using a standardized physical and psychiatric examination. The first study rook place in the Gomel region (Belarus) in the direct vicinity of the damaged nuclear plant. A control study was conducted in the Tver region (the Russian Federation), about 250 km north-west of Moscow. The results of the study indicate significantly higher levels of psychological distress, poorer subjective health and higher medical consumption in the exposed population. These findings were most prominent in risk groups such as evacuated people and mothers with children. No

significant differences in overall levels of psychiatric or physical morbidity were found. Radiation related diseases could not account for the poor health perception in the investigated sample. These results indicate that psychological factors following the Chernobyl disaster had a marked effect upon psychological well being, on perceived health and on subsequent illness behaviour. Fears about future health play a key role in determining this response. The provision of adequate information to the public as well as to the public health services may be important to counteract these fears.

Number of References: 24

Descriptors: biological-effects-of-ionising-radiation; fission-reactor-accidents; psychology-; radioactive-pollution; socio-economic-effects

Identifiers: psychosocial-consequences; Chernobyl-disaster; psychological-factors; field-studies; former-Soviet-Union; Gomel-region; Belarus-; Tver-region; Russian-Federation; subjective-health; medical-consumption; health-perception; radiation-related-diseases; illness-behaviour; public-health-services; Chernobyl-accident; radioactive-pollution

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A0175 (Science-and-society); A87; A28; A86; A01; A8; A2

Treatment Codes: X (Experimental)

Sort Key: 1000000000019960000000000000000000000435

Accession Number: 5249815

Update Code: 9616

Record 334 of 1145 in INSPEC 1996

Title: Local strategies for decontamination [Chernobyl accident]

Author: Hubert-P; Ramzaev-V; Antsypov-G; Sobotovich-E; Anisimova-L

Author Affiliation: IPSN, Fontenay-aux-Roses, France

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.411-24

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: The efficiencies of a great number of techniques for decontamination or dose reduction in contaminated areas have been investigated by several teams of EC and CIS

scientists (ECP4 project). Modelling, laboratory and field experiments, and return from experience allowed to assess radiological efficiencies (e.g. "decontamination factor") and requirements for the operation of numerous practical solutions. Then, those data were supplemented with data on cost and waste generation in order to elaborate all the information for the optimisation of decontamination strategies. Results will be presented for about 70 techniques. However, a technique cannot be compared to another from a generic point of view. Rather it is designed for a specific target and the best technology depends on the objectives. It has been decided to implement decision analyses on case studies, and the local conditions and objectives have been investigated. Individual doses ranged from 1 to 5 mSv, with contrasted contributions of internal and external doses. The desire to restore a normal activity in a partially depopulated settlement, and concerns about the recent increase in internal doses were typical incentives for action. The decision aiding analysis illustrated that actions can be usually recommended. Results are outlined here.

Number of References: 23

Descriptors: dosimetry-; fission-reactor-accidents; radiation-decontamination; radiation-protection; radioactive-pollution

Identifiers: local-strategies; radiation-decontamination; Chernobyl-accident; dose-reduction; contaminated-areas; ECP4-project; radiological-efficiencies; decision-analyses; individual-doses; internal-doses; external-doses; radioactive-pollution; 1-to-5-mSv

Classification Codes: A8670 (Environmental-science); A2880 (Radiation-technology-including-shielding); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A87; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation dose equivalent 1.0E-03 to 5.0E-03 Sv

Sort Key: 1000000000019960000000000000000000000411

Accession Number: 5249813

Update Code: 9616

Record 335 of 1145 in INSPEC 1996

Title: Impact of the Chernobyl accident on a rural population in Belarus

Author: Aslanoglou-X; Assimakopoulos-PA; Averin-V; Howard-BJ; Howard-DC; Karamanis-DT; Stamoulis-K

Author Affiliation: Lab. Nucl. Phys., Ioannina Univ., Greece

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.363-78

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: In a recent research endeavour under programme ECP9, three distinct sites in the Republics of Russia, Ukraine and Belarus were selected for detailed radioecological study. The objective of this investigation was to identify the sources of radiocaesium and radiostrontium intake to a specific segment of the population, i.e. subsistence farmers residing in areas where high contamination levels persist after the Chernobyl accident. In what follows, we present the results obtained from the district of Bragin in Belarus. Contamination levels in foodstuffs produced in the selected site were assessed by means of two approaches (1) using a geographical modelling approach of estimating contamination levels in food products through deposition information and transfer parameters, and (2) via direct measurements of activity levels in foodstuffs from private households. This information was combined with food consumption rates derived from dietary surveys on the population of the area in order to calculate radiocaesium and radiostrontium intake. The results were then compared to data from whole body activity measurements.
Number of References: 0
Descriptors: caesium-; dosimetry-; fission-reactor-accidents; radiation-monitoring; radiation-protection; radioactive-pollution; radioisotopes-; strontium-
Identifiers: Chernobyl-accident; rural-population; Belarus-; ECP9-programme; Russia-; Ukraine-; radioecological-study; 90Sr-intake; 137Cs-intake; subsistence-farmers; high-contamination-levels; Bragin-; contamination-levels; foodstuffs-; geographical-modelling-approach; deposition-information; transfer-parameters; activity-levels; private-households; food-consumption-rates; dietary-surveys; whole-body-activity-measurements; Sr-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Sr-el; Cs-el

Sort Key: 10000000000199600000000000000000000000363
Accession Number: 5249809
Update Code: 9616

Record 336 of 1145 in INSPEC 1996

Title: Information-analytic support of the programs of eliminating the consequences of the Chernobyl accident: gained experience and its future application
Author: Arutyunyan-RV; Bolshov-LA; Linge-II; Abalkina-IL; Simonov-AV; Pavlovsky-OA
Author Affiliation: Nucl. Safety Inst., Acad. of Sci., Moscow, Russia

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.345-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: On the initial stage of eliminating the consequences of the Chernobyl accident, the role of system-analytic and information support in the decision making process for protection of the population and rehabilitation of territories was, to a certain extent, underestimated. Starting from 1991, activity in system-analytic support was a part of the USSR (later on, Russian) state programs.
Number of References: 8
Descriptors: fission-reactor-accidents; radiation-decontamination; radiation-protection; radioactive-pollution
Identifiers: information-analytic-support; Chernobyl-accident-consequences-elimination; system-analytic-support; decision-making-process; population-protection; territories-rehabilitation
Classification Codes: A8670 (Environmental-science); A2880 (Radiation-technology-including-shielding); A8760P (Radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A87; A8; A2
Treatment Codes: P (Practical)

Sort Key: 10000000000199600000000000000000000000345
Accession Number: 5249807
Update Code: 9616

Record 337 of 1145 in INSPEC 1996

Title: Management problems of the restricted zone around Chernobyl
Author: Kholosha-V; Sobotovitch-E; Proscura-N; Kozakov-S; Korchagin-P
Author Affiliation: MinChernobyl of Ukraine, Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.339-43
Publication Year: 1996
Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: In this brief report, we will try to consider the main problems on minimization of the consequences of the accident and management of actions provided at present in the Chernobyl zone in the territory of Ukraine in retrospect over the past decade.
Number of References: 0
Descriptors: fission-reactor-accidents; radiation-decontamination; radiation-protection; radioactive-pollution
Identifiers: accident-management-problems; restricted-zone; Chernobyl-accident; accident-consequences-minimization; Ukraine-; radiation-protection; radioactive-pollution; radiation-decontamination
Classification Codes: A8670 (Environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880 (Radiation-technology-including-shielding); A86; A87; A28; A8
Treatment Codes: P (Practical)

Sort Key: 10000000000199600000000000000000000000339
Accession Number: 5249806
Update Code: 9616

Record 338 of 1145 in INSPEC 1996

Title: Estimation of the balance of radiocaesium in the private farms of Chernobyl zone and countermeasures with regard to the reduction of health risk for rural inhabitants
Author: Prister-BS; Sobolev-AS; Bogdanov-GA; Los-IP; Howard-BJ; Strand-P
Author Affiliation: Inst. of Agric. Radiol., Kiev, Ukraine
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.319-21
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The intake of Cs-137 to human organisms with various components of the diet was investigated. The highest amount of caesium is consumed with milk, but after the implementation of countermeasures, the content of Cs-137 in milk decreases, and in

some settlements of Polessye, relative intake of radiocaesium with mushrooms increases.

Number of References: 0

Descriptors: caesium-; fission-reactor-accidents; radiation-protection; radioactive-pollution; radioisotopes-

Identifiers: radiocaesium-balance; private-farms; Chernobyl-accident; countermeasures-; health-risk-reduction; rural-inhabitants; 137Cs-; human-organisms; milk-; Polessye-; mushrooms-; radiocaesium-relative-intake; Cs-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760P (Radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A87; A28; A86; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Sort Key: 10000000000199600000000000000000000000319

Accession Number: 5249804

Update Code: 9616

Record 339 of 1145 in INSPEC 1996

Title: Redistribution of Chernobyl /sup 137/Cs in Ukraine wetlands by flooding

Author: Burrough-PA; Gillespie-M; Howard-B; Prister-B

Author Affiliation: Dept. of Phys. Geogr., Utrecht Univ., Netherlands

Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG

Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.

p.315-18

Publication Year: 1996

Record Type: Conference-Paper

Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia

Country of Publication: Belgium

Language: English

Abstract: In northwest Ukraine, some soils in the Rovno region near the Byelorus border 300 km west of Chernobyl have unusually high radiocaesium levels with strong evidence of rapid uptake in the food chain. In a study area covering 76.5 km/sup 2/ near Dubrovitsa, radiocaesium levels vary strongly both spatially and temporally from less than 50 kBq/m/sup 2/ to more than 1200 kBq/m/sup 2/: at some sites near major streams, 1993 levels are more than three times those of 1988. Geostatistical methods linked to geographic information systems (GIS) demonstrate that the elevated 1993 levels result from transport and concentration by river flooding, a problem which probably affects all areas regularly inundated by the river Pripyat and its tributaries along a 400 km stretch of the Ukraine-Byelorus border.

Number of References: 6
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; soil-; water-pollution
Identifiers: Chernobyl-137Cs-redistribution; Ukraine-wetlands; radioactive-pollution; northwest-Ukraine; soils-; Rovno-region; Byelorus-border; radiocaesium-levels; rapid-uptake; food-chain; Dubrovitsa-; major-streams; geostatistical-methods; geographic-information-systems; river-flooding; Pripyat-river; Cs-
Classification Codes: A8670E (Water-environmental-science); A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el

Sort Key: 10000000000199600000000000000000000000315
Accession Number: 5249803
Update Code: 9616

Record 340 of 1145 in INSPEC 1996

Title: /sup 131/I content in milk in the St. Petersburg region after the Chernobyl accident
Author: Rosyanov-SP; Stepanov-AV
Source: Atomic-Energy. vol.79, no.1; July 1995; p.491-2
Translated from: Atomnaya-Energiya. vol.79, no.1; July 1995; p.78-9
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: After the Chernobyl accident in May-June 1986, milk was monitored in the region of St. Petersburg for radioactive contamination with /sup 131/I. Milk samples for analysis were obtained in stores in the city and in the Leningrad region. The radionuclide /sup 131/I was determined by the gamma -spectrometric method after chromatographic separation of iodine from the milk on AV-17 anionite in the chlorine form. The spectra of the samples were measured on a gamma -spectrometer with a 50 m/sup 3/ germanium-lithium detector with a NOKIA ZP-4900 pulse-height analyzer. The results are presented.
Number of References: 5
Descriptors: dosimetry-; fission-reactor-accidents; gamma-ray-spectroscopy; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: 131I-content; milk-; St-.-Petersbur-region; Chernobyl-; gamma-spectrometry; chromatographic-separation; AV-17-anionite; irradiation-dose; thyroid-gland; I-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: X (Experimental)

Chemical Indexing: I-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
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Sort Key: 00000047163199500079000010000000000000078
Accession Number: 5247339
Update Code: 9616
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Bestand: 1.1956-53.1982

Record 341 of 1145 in INSPEC 1996

Title: Pathways, levels and trends of population exposure after the Chernobyl accident
Author: Balonov-M; Jacob-P; Likhtarev-I; Minenko-V
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.235-49
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: In this paper, the main regularities of the long-term exposure of the population of the former USSR after the Chernobyl accident are described. Influence of some natural, human and social factors on the forming of external and internal dose in the rural and urban population was studied in the most contaminated regions of Belarus, Russia and Ukraine during 1986-1994. Radioecological processes of I, Cs and Sr nuclides migration in the biosphere, influencing the processes of population dose formation are considered. The model of their intake in the human body was developed and validated by large-scaled measurements of the human body content. The model of external exposure of different population groups was developed and confirmed by the series of individual external dose measurements with thermoluminescent dosemeters. General dosimetric characteristics of the population exposure are given along with some samples of accumulated external and internal effective doses in inhabitants of contaminated areas in 1985-1995. Forecast of the external and internal population effective dose is given for the period of 70 years after the accident.
Number of References: 23
Descriptors: dosimetry-; fission-reactor-accidents; human-factors; radiation-monitoring; radiation-protection; radioactive-pollution; socio-economic-effects

Identifiers: population-exposure; Chernobyl-accident; long-term-exposure; former-USSR; natural-factors; human-factors; social-factors; external-dose; internal-dose; Belarus-; Russia-; Ukraine-; radioecological-processes; biosphere-; human-body-content; thermoluminescent-dosemeters; radioactive-pollution; I-; Cs-; Sr-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A8760P (Radiation-protection); A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: I-el; Cs-el; Sr-el

Sort Key: 1000000000019960000000000000000000000235
Accession Number: 5242766
Update Code: 9615

Record 342 of 1145 in INSPEC 1996

Title: Radiation dose from Chernobyl forests: assessment using the FORESTPATH model
Author: Schell-R; Linkov-I; Belinkaia-E; Rimkevich-V; Zmushko-Yu; Lutsko-A; Fifield-FW; Flowers-AG; Wells-G
Author Affiliation: Pittsburgh Univ., PA, USA
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.217-20
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: Contaminated forests can contribute significantly to human radiation dose for a few decades after initial contamination. Exposure occurs through harvesting the trees, manufacture and use of forest products for construction materials and paper production, and the consumption of food harvested from forests. Certain groups of the population, such as wild animal hunters and harvesters of berries, herbs and mushrooms, can have particularly large intakes of radionuclides from natural food products. Forestry workers have been found to receive radiation doses several times higher than other groups in the same area. The generic radionuclide cycling model FORESTPATH is being applied to evaluate the human radiation dose and risks to population groups resulting from living and working near the contaminated forests. The model enables calculations to be made to predict the internal and external radiation doses at specific times following the accident. The model can be easily adjusted for dose calculations from other

contamination scenarios (such as radionuclide deposition at a low and constant rate as well as complex deposition patterns). Experimental data collected in the forests of Southern Belarus are presented. These data, together with the results of epidemiological studies, are used for model calibration and validation.
Number of References: 9
Descriptors: dosimetry-; fission-reactor-accidents
Identifiers: Chernobyl-; forest-; FORESTPATH-model; radiation-dose; wild-animal-hunters; berry-pickers; herb-pickers; mushroom-pickers; forestry-workers; Southern-Belarus; epidemiological-studies; external-radiation-dose; internal-radiation-dose
Classification Codes: A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Sort Key: 10000000000199600000000000000000000000217
Accession Number: 5242762
Update Code: 9615

Record 343 of 1145 in INSPEC 1996

Title: Contamination characteristics of podzols affected by the Chernobyl accident
Author: Besnus-F; Peres-JM; Guillou-P; Kashparov-V; Gordeev-S; Mironov-V; Espinoza-A; Aragon-A
Author Affiliation: Inst. de Protection et de Surete Nucl., France
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.205-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: In the framework of the ECP1 project, the soils from 6 experimental sites contaminated after the Chernobyl NPP accident have been studied in order to characterize source terms for resuspension effects in rural or agricultural areas. Except for one sand deposit located within a few km from the nuclear plant, the selected sites were podzols which had undergone important contamination during cloud transfer above districts of Ukraine, Belarus and Russia. The soils have been sampled during 5 field campaigns carried out in 1992 to 1994. Radionuclides of major importance for dose delivery, i.e. Cs-137, Sr-90, isotopes of Pu and Am-241 were measured by organisations involved. The specific activity distributions in the first 30 cm of top soil and the surface contamination densities representative of each site were determined for the radionuclides above. Complementary experiments and studies such as size specific

activity distribution in soil fractions, fuel hot particles numbering and selective extraction, were carried out in order to identify contamination mechanisms and try to predict their evolution. Finally, nuclide ratios were estimated for each site and compared to those representative of fuel composition at the time of accident. Interpretations of the results obtained are given in present paper. It appears that despite the fact that weak retention properties are expected from investigated podzols, the migration of studied nuclides has been rather slow during the past 9 years, allowing 70 to 99% of initially deposited activity to remain within the first 5 cm of soil in almost all cases. Nevertheless, there are some evidence of differences in the nature of deposited radionuclides (condensed forms or fuel particles), increasing with the remoteness of studied sites from accident location. Some attempts have also been made to simulate the evolution of the distribution trends. Results from these attempts are given in present paper.

Number of References: 8
Descriptors: fission-reactor-accidents; radioactive-pollution; soil-
Identifiers: podzols-; Chernobyl-; ECP1-project; soils-; source-terms; resuspension-; rural-areas; agricultural-areas; sand-deposit; Ukraine-; Belarus-; Russia-; 137Cs-; 90Sr-; 241Am-; specific-activity-distributions; top-soil; hot-particles; size-specific-activity-distribution; contamination-mechanisms; 30-cm; Cs-; Sr-; Pu-; Am-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: depth 3.0E-01 m
Chemical Indexing: Cs-el; Sr-el; Pu-el; Am-el

Sort Key: 1000000000019960000000000000000000000205
Accession Number: 5242759
Update Code: 9615

Record 344 of 1145 in INSPEC 1996

Title: Long-term study on the behaviour of Chernobyl fallout radionuclides in soil
Author: Krouglov-S; Alexakhin-R; Arkhipov-N
Author Affiliation: Russian Inst. of Agric. Radiol. & Agroecology, Obninsk, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.201-4
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English

Abstract: The evolution with time chemical species of /sup 90/Sr, /sup 106/Ru, /sup 134/Cs, /sup 137/Cs, /sup 144/Ce in soil, and the data on variation of /sup 90/Sr, /sup 134/Cs, /sup 137/Cs transfer to grain and straw of four cereal crops has been used to estimate the rate of radionuclide release from fuel particles and caesium rotation in the soil. Field experiments were carried out in the 30 km restricted zone around Chernobyl NPP.
Number of References: 5
Descriptors: caesium-; cerium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; ruthenium-; soil-; strontium-
Identifiers: long-term-study; Chernobyl-fallout-radionuclides; soil-; 90Sr-; 106Ru-; 134Cs-; 137Cs-; 144Ce-; grain-; straw-; cereal-crops; radionuclide-release-rate; fuel-particles; field-experiments; Chernobyl-accident; radionuclide-transfer; radioactive-pollution; Sr-; Ru-; Cs-; Ce-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Ru-el; Cs-el; Ce-el

Sort Key: 10000000000199600000000000000000000000201
Accession Number: 5242758
Update Code: 9615

Record 345 of 1145 in INSPEC 1996

Title: Resuspended hot particles in the atmosphere of the Chernobyl area
Author: Wagenpfeil-F; Tschiersch-J
Author Affiliation: Inst. fur Strahlenschutz, GSF Forschungszentrum fur Umwelt und Gesundheit GmbH, Oberschleissheim, Germany
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.157-60
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The results of collected resuspended hot particles in the Chernobyl area are presented and discussed. The measurements were carried out during resuspension experiments in the project ECP1 from 1992 until 1994. Aerosol samples were taken with newly designed rotating arm impacters to collect simultaneously during the same experiment three samples of giant particles with different particle size ranges. After gamma -spectroscopy and digital autoradiography the nuclide ratios and number

concentrations of airborne hot particles could be derived. For wind resuspension a maximal concentration of 2.6 particles per 1000 m/sup 3/, and during agricultural practice 36 particles per 1000 m/sup 3/ was measured.
Number of References: 6
Descriptors: air-pollution; fission-reactor-accidents; gamma-ray-spectroscopy; radioactive-pollution
Identifiers: resuspended-hot-particles; Chernobyl-area; ECP1-project; aerosol-; rotating-arm-impacters; large-particles; gamma-spectroscopy; digital-autoradiography; wind-resuspension; agriculture-
Classification Codes: A8670G (Atmosphere-environmental-science); A86; A8
Treatment Codes: X (Experimental)

Sort Key: 10000000000199600000000000000000000000157
Accession Number: 5242748
Update Code: 9615

Record 346 of 1145 in INSPEC 1996

Title: EC contribution to the evolution of the objectives of radioecological research in relation to the radioactive deposition and its impact on land use and environmental management after the nuclear accident at Chernobyl
Author: Desmet-G
Author Affiliation: EC-DGXII, Brussels, Belgium
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.31-8
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The uncontrolled release of radionuclides coming up after the Chernobyl accident has led to a large number of scientific and political activities to assessing the contamination of the environment and the consequences for the population. A large scale of measures were deployed attempting to mitigate the consequences and initiatives were launched to follow the fate of the radionuclides in and around the Chernobyl area. Some of these efforts are described in this paper. It summarizes which way radioecologists had chosen to evaluate the problem, to compare the scientific culture existing in East and West, to sharpen their views on the fundamentals of radioecology and to test their knowledge in the real field.
Number of References: 5

Descriptors: fission-reactor-accidents; radiation-decontamination; radioactive-pollution
Identifiers: EC-contribution; radioecological-research; radioactive-deposition; land-use; environmental-management; nuclear-accident; uncontrolled-radionuclide-release; Chernobyl-accident; environmental-contamination; accident-consequences-mitigation; radioactive-pollution; radiation-decontamination
Classification Codes: A8670 (Environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880 (Radiation-technology-including-shielding); A86; A28; A8; A2
Treatment Codes: P (Practical)

Sort Key: 1000000000019960000000000000000000000031
Accession Number: 5242737
Update Code: 9615

Record 347 of 1145 in INSPEC 1996

Title: International co-operation of Belarus on overcoming the Chernobyl catastrophe consequences
Author: Rolevich-IV; Semeshko-AV
Author Affiliation: Minist. for Emergencies & Population Protection, Minsk, Byelorussia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.15-18
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: Experiences of the last few years shows that the effective counteraction to the consequences of the Chernobyl catastrophe requires constructive international co-operation, attraction of intelligent and material resources of international organizations, different countries, research centers. Taking into account the complex economic situation in the country, the help of foreign countries in minimization of the Chernobyl catastrophe consequences in the framework of international and bilateral relations is important and urgent. This paper discusses the contribution of Belarus.
Number of References: 0
Descriptors: fission-reactor-accidents; radiation-decontamination; radioactive-pollution
Identifiers: international-cooperation; Belarus-; Chernobyl-catastrophe; bilateral-relations; Chernobyl-accident-mitigation; radioactive-pollution; radiation-decontamination

Classification Codes: A8670 (Environmental-science); A2880 (Radiation-technology-including-shielding); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: P (Practical)

Sort Key: 10000000000199600000000000000000000000015
Accession Number: 5242735
Update Code: 9615

Record 348 of 1145 in INSPEC 1996

Title: Outline of main bilateral collaborative agreements dealing with the mitigation of Chernobyl consequences in Ukraine
Author: Bariakhtar-YG; Ponomarenko-VM
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.11-14
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: An extensive network of joint work with connection of more than 200 laboratories and organisations of appropriate specialization in countries of the EC and CIS was created.
Number of References: 0
Descriptors: fission-reactor-accidents; radiation-decontamination; radioactive-pollution
Identifiers: ECCIS-bilateral-collaborative-agreements; Chernobyl-accident-consequences-mitigation; Ukraine-; radiation-decontamination; radioactive-pollution
Classification Codes: A8670 (Environmental-science); A2880 (Radiation-technology-including-shielding); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: G (General-or-Review); P (Practical)

Sort Key: 10000000000199600000000000000000000000011
Accession Number: 5242734
Update Code: 9615

Record 349 of 1145 in INSPEC 1996

Title: The atlas of caesium-137 contamination of Europe after the Chernobyl accident

Author: Izrael-YuA; De-Cort-M; Jones-AR; Nazarov-IM; Fridman-ShD; Kvasnikova-EV; Stukin-ED; Kelly-GN; Matveenko-II; Pokumeiko-YuM; Tabatchnyi-LYa; Tsaturov-Yu
Author Affiliation: Inst. of Global Climate & Ecology, Moscow, Russia
Editor: Karaoglou-A; Desmet-G; Kelly-GNMenzel-HG
Source: Radiological Consequences of the Chernobyl Accident. Proceedings of the First International Conference (EUR 16544 EN). Eur. Commission, Brussels, Belgium; 1996; xxi+1192 pp.
p.1-10
Publication Year: 1996
Record Type: Conference-Paper
Conference Details: Radiological Consequences of the Chernobyl Accident. 18-22 March 1996; Minsk, Byelorussia
Country of Publication: Belgium
Language: English
Abstract: The atlas, which was compiled under the Joint Study Project (JSP6) of the CEC/CIS Collaborative programme on the Consequences of the Chernobyl Accident, implemented into the European Commission`s Radiation Protection Research Action, summarizes the results of numerous investigations undertaken throughout Europe to assess the ground contamination by caesium-137 following the Chernobyl accident. The atlas incorporates about 100 color maps at a range of scales (1:200 k-1:10 M) which characterize the contamination in Europe as a whole, within state boundaries and for zones where the contamination levels are above 40 kBq/m/sup 2/ (approximately=2.0% of the European territory) and above 1480 kBq/m/sup 2/ (approximately= 0.03% of the European territory). Investigations have shown that around 6% of the European territory has been contaminated for more than 20 kBq/m/sup 2/ after the Chernobyl accident. The total amount of deposited caesium-137 in Europe is 8*10/sup 16/ Bq and distributed in the following manner: Belarus 33.5%, Russia 24%, Ukraine 20%, Sweden 4.44, Finland 4.3%, Bulgaria 2.8%, Austria 2.7%, Norway 2.3%, Romania 2.0%, Germany 1.1%.
Number of References: 5
Descriptors: caesium-; fission-reactor-accidents; radiation-protection; radioactive-pollution; radioisotopes-; soil-
Identifiers: 137Cs-contamination-atlas; Europe-; Chernobyl-accident; radiation-protection; ground-contamination; Belarus-; Russia-; Ukraine-; Sweden-; Finland-; Bulgaria-; Austria-; Norway-; Romania-; Germany-; radioactive-pollution; soil-; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760P (Radiation-protection); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el

Sort Key: 1000000000019960000000000000000000000001
Accession Number: 5242733
Update Code: 9615

Record 350 of 1145 in INSPEC 1996

Title: Internal exposure from the ingestion of foods contaminated by /sup 137/Cs after the Chernobyl accident. Report I. General model: ingestion doses and countermeasure effectiveness for the adults of Rovno Oblast of Ukraine

Author: Likhtarev-IA; Kovgan-LN; Vavilov-SE; Gluvchinsky-RR; Perevoznikov-ON; Litvinets-LN; Anspaugh-LR; Kercher-JR; Bouville-A

Author Affiliation: Radiation Protection Inst., Ukrainian Acad. of Technol. Sci., Kiev, Ukraine

Source: Health-Physics. vol.70, no.3; March 1996; p.297-317

Publication Year: 1996

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The Chernobyl accident, which occurred in April 1986, resulted in the atmospheric release of about 70-100 PBq of /sup 137/Cs. This paper examines the doses to the adult population of the northern part of Rovno Oblast, Ukraine, from ingestion of /sup 137/Cs. Fallout of /sup 137/Cs in these regions was lower than in other regions of Ukraine. However, the transfer of /sup 137/Cs from soil to milk in the region considered is high (up to 20 Bq L/sup -1/ per kBq m/sup -2/) and results in the predominance of internal doses compared to those from external exposure. Numerous measurements of /sup 137/Cs soil deposition, /sup 137/Cs milk contamination, and /sup 137/Cs body burden have been made in the area and form the basis of a general model of internal exposure from the ingestion of foods contaminated by /sup 137/Cs. This paper has two main purposes. The first is to develop the general phenomenological description of the process leading to internal exposure from the ingestion of /sup 137/Cs contaminated foods in the situation where different countermeasures are realized. The second is to apply the model for the adult population of the northern part of the Rovno Oblast (first report) for the limited time period of up to six years after the accident. The doses actually received by the adults are estimated to be four to eight times smaller than the doses calculated for the situation without countermeasures.

Number of References: 35

Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; modelling-; radiation-protection; radioactive-pollution; radioisotopes-; soil-

Identifiers: internal-exposure; Chernobyl-accident; ingestion-doses; countermeasure-effectiveness; Rovno-Oblast; Ukraine-; internal-doses; 137Cs-soil-deposition; 137Cs-milk-contamination; 137Cs-body-burden; general-phenomenological-description; 137Cs-contaminated-foods; adult-population; 70-to-100-PBq; Cs-

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880C (Dosimetry); A87; A28; A8

Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Numerical Data Indexing: radioactivity 7.0 E16 to 1.0 E17 Bq

Chemical Indexing: Cs-el

Coden: HLTPAO

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Accession Number: 5236398
Update Code: 9614
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 351 of 1145 in INSPEC 1996

Title: Health consequences [Chernobyl accident]
Author: Ramoutar-S
Author Affiliation: Uranium Inst., London, UK
Source: Nuclear-Engineering-International. vol.41, no.501; April 1996; p.31-2
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A World Health Organisation conference last November focused on one of the questions everyone wants answered-what was the true number of cancers and deaths resulting from the Chernobyl?
Number of References: 0
Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents
Identifiers: Chernobyl-accident; health-consequences; World-Health-Organisation; cancers-; deaths-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Coden: NEINBF
ISSN: 0029-5507
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Sort Key: 00000295507199600041005010000000000000031
Accession Number: 5235521
Update Code: 9614
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 352 of 1145 in INSPEC 1996

Title: The sarcophagus-What do we know? What should we do? [Chernobyl accident]
Author: Borovoi-A
Source: Nuclear-Engineering-International. vol.41, no.501; April 1996; p.28-30

Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Chernobyl "sarcophagus" will be one problem that the 20th Century bequeaths to the 21st. It has been nine and a half years since the Chernobyl sarcophagus was constructed, during which time intensive research has been undertaken (although this has slowed over the last two years). Nevertheless, our knowledge of its condition is not complete and this provides considerable room for speculation. That is why, before discussing future plans, I would like to review what is known, and point out where our knowledge is lacking or incomplete (updating a previous article in NEI, August 1993).
Number of References: 0
Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-accident; sarcophagus-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review); P (Practical)
Coden: NEINBF
ISSN: 0029-5507

Sort Key: 0000029550719960004100501000000000000028
Accession Number: 5235520
Update Code: 9614

Record 353 of 1145 in INSPEC 1996

Title: The Chernobyl active phase: why the "official view" is wrong
Author: Sich-A
Source: Nuclear-Engineering-International. vol.41, no.501; April 1996; p.22-5
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: What happened in the ten day period immediately following the destruction of Chernobyl, the so called "active phase"? A recently published study helps shed light on this murky period.
Number of References: 0
Descriptors: fission-reactor-accidents
Identifiers: Chernobyl-active-phase; official-view; Chernobyl-accident; 10-day
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review); P (Practical)

Numerical Data Indexing: time 8.6 E05 s
Coden: NEINBF
ISSN: 0029-5507

Sort Key: 00000295507199600041005010000000000000022
Accession Number: 5235519
Update Code: 9614
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 354 of 1145 in INSPEC 1996

Title: Vertical transfer of /sup 137/Cs in peat soils fallen out as a consequence of the Chernobyl accident
Author: Olekhnovich-NM; Makovetskii-GI; Galyas-AI; Pashkovskii-OI; Severin-GM; Turtsevich-GA; Yanushkevich-KI
Author Affiliation: Inst. of Solid State Phys., Acad. of Sci., Minsk, Byelorussia
Source: Journal-of-Engineering-Physics-and-Thermophysics. vol.68, no.1; Jan.-Feb. 1995; p.29-34
Translated from: Inzhenerno-Fizicheskii-Zhurnal. vol.68, no.1; Jan.-Feb. 1995; p.33-8
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Byelorussia; Translation: USA
Language: English
Abstract: On the basis of measurements of the specific radioactivity of soil specimens sampled with a small step along their deposition, depth profiles are plotted for the curves of the vertical change in /sup 137/Cs in peat soils not treated since the Chernobyl accident. A theoretical analysis is provided for the plotted profiles that shows that the vertical transfer of /sup 137/Cs in these soils is described adequately within the framework of a model that accounts for the processes of diffusion and convection of the radionuclide in the soil solution and its sorption by the solid phase of the soil. The parameters of the model are determined and a prediction is given for the migration character of /sup 137/Cs.
Number of References: 9
Descriptors: caesium-; fission-reactor-accidents; radioactive-pollution; radioactivity-measurement; radioisotopes-; soil-
Identifiers: 137Cs-; peat-soils; Chernobyl-accident; specific-radioactivity; soil-specimens; depth-profiles; vertical-transfer; diffusion-; convection-; radionuclide-; migration-; Cs-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880F (Radiation-monitoring-and-radiation-protection); A86; A87; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: INFZA9; Translation: JEPTER

ISSN: 0021-0285; Translation: 1062-0125
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Accession Number: 5224147
Update Code: 9612
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08441.000
Bestand: 1.1958-43.1982 N:30,31

Record 355 of 1145 in INSPEC 1996

Title: Mutations in the p53 tumour suppressor gene in thyroid tumours of children from areas contaminated by the Chernobyl accident
Author: Hillebrandt-S; Streffer-C; Reiners-C; Demidchik-E
Author Affiliation: Inst. fur Med. Strahlenbiol., Universitatsklinikum Essen, Germany
Source: International-Journal-of-Radiation-Biology. vol.69, no.1; Jan. 1996; p.39-45
Full Text: Catchword http://www.catchword.com/cgi-bin/cgi?body=linker&reqidx=0955-3002()69:01L.39
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The number of p53 mutations observed in thyroid carcinomas derived from children from areas contaminated by Chernobyl accident is higher compared with studies on patients who had no contact with radioactivity.
Number of References: 25
Descriptors: biological-effects-of-ionising-radiation; cellular-effects-of-radiation; fission-reactor-accidents; genetics-; radioactive-pollution
Identifiers: p53-tumour-suppressor-gene-mutations; radioactivity-effect; Chernobyl-accident; contaminated-areas; thyroid-carcinomas; cellular-radiobiology
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8725F (Physics-of-subcellular-structures); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: IJRBA3
ISSN: 0955-3002
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Copyright Statement: Copyright 1996, IEE
Sort Key: 0000955300219960006900001000000000000039
Accession Number: 5208582
Update Code: 9610

Record 356 of 1145 in INSPEC 1996

Title: /sup 134/Cs and /sup 137/Cs whole-body measurements and internal dosimetry of the population living in areas contaminated by radioactivity after the Chernobyl accident
Author: Zvonova-IA; Jesko-TV; Balonov-MI; Danilova-IO; Wallstrom-E; Alpsten-M; Thornberg-C; Mattsson-S
Author Affiliation: Inst. of Radiat. Hygiene, St. Petersburg, Russia
Source: Radiation-Protection-Dosimetry. vol.62, no.4; 1995; p.213-21
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Six western districts of the Bryansk region, Russia, were heavily contaminated with radioactive fallout after the Chernobyl NPP accident. Annually, between 1991 and 1994, inhabitants of four settlements were studied. Whole-body /sup 134+137/Cs contents were measured in about 500 inhabitants. No correlation between Cs whole-body content and Cs soil contamination was found; Cs accumulation in a body depends greatly on natural factors such as type of soil, on social factors such as food habits including consumption of forest products, and on countermeasures to reduce internal exposure. During 1991-1994 average whole-body content of /sup 134+137/Cs in adult inhabitants was about 3-60 kBq, corresponding to an effective dose of 0.1-2.4 mSv.y/sup -1/. Cs whole-body content increases equally for girls and boys up to adult age. Cs content in adults does not depend significantly on age and is usually 1.2-2 times higher in men than in women. The average annual internal effective dose varies with age significantly less than /sup 134+137/Cs whole-body content. In children (0-5 years) the mean absorbed dose is usually 1.2-1.5 times less than in adults.
Number of References: 16
Descriptors: air-pollution; caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-; socio-economic-effects; soil-
Identifiers: 134Cs-whole-body-measurements; 137Cs-whole-body-measurements; internal-dosimetry; radioactivity-; Chernobyl-accident; population-; western-districts; Bryansk-region; Russia-; radioactive-fallout; Chernobyl-NPP-accident; adult-inhabitants; settlements-; Cs-soil-contamination; Cs-accumulation; social-factors; food-habits; consumption-of-forest-products; internal-exposure; mean-absorbed-dose; effective-dose; girls-; boys-; adult-age; average-annual-internal-effective-dose; children-; 3-to-60-kBq; Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8670C (Soil-and-rock-environmental-science); A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 3.0 E03 to 6.0 E04 Bq
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199500062000040000000000000213
Accession Number: 5201240
Update Code: 9609
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 357 of 1145 in INSPEC 1996

Title: Finding the final solution to the Chernobyl problem
Source: International-Power-Generation. Oct. 1995; p.40-1
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Nine years after Reactor No. 4 at the Chernobyl nuclear power plant in Ukraine exploded, the problem still awaits a solution. The accident caused great public concern around the globe, with radioactive pollution reaching most of Europe as well as areas as distant as California. The sarcophagus erected under emergency conditions is in danger of collapse. A consortium of European companies, called Alliance, was awarded a contract to find a solution to the problem. The Alliance proposal is to build an arched structure to cover the existing sarcophagus and eventually enable dismantling and disposal of the reactor and shelter.
Number of References: 0
Descriptors: fission-reactor-accidents; nuclear-power-stations; radiation-protection
Identifiers: Chernobyl-nuclear-power-plant; Ukraine-; accident-; radioactive-pollution; sarcophagus-; Alliance-; European-companies; arched-structure; reactor-dismantling; reactor-disposal
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: P (Practical)
Coden: IPGED2
ISSN: 0141-1918

Sort Key: 00001411918199500000000000000000000000040
Accession Number: 5191991
Update Code: 9607

Record 358 of 1145 in INSPEC 1996

Title: People mortality in regions of Russia affected by the Chernobyl accident
Author: Linge-II; Melikhova-EM

Source: Applied-Energy:-Russian-Journal-of-Fuel,-Power-and-Heat-Systems. vol.33, no.3; 1995; p.50-62
Translated from: Energetika. vol.33, no.3; 1995; p.65-82
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: A general view of the mortality processes in Branskaya, Kaluzhskaya, Orlovskaya and Tulskaya oblasts, the areas of the Russian Federation most contaminated by the radiation from the Chernobyl nuclear power plant accident, in the period 1982-1993 is given. Different sources of information available are analyzed. It is concluded that disadvantageous trends of people`s mortality in affected regions cannot be regarded as a consequence of the Chernobyl accident.
Number of References: 20
Descriptors: biological-effects-of-radiation; fission-reactor-accidents; health-hazards; nuclear-power-stations; radioactive-pollution
Identifiers: Chernobyl-accident; Russian-Federation; Branskaya-; Kaluzhskaya-; Orlovskaya-; Tulskaya-; mortality-processes; nuclear-power-plant; AD-1982-1993; mortality-rates
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750 (Biological-effects-of-radiations); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); A28; A87; B82; B01; A2; A8
Treatment Codes: G (General-or-Review)
Coden: IRAEEL; Translation: APENEY
ISSN: 0002-3310; Translation: 1068-7181
Copyright Clearance Center Code: 1068-7181/95/$50.00

Sort Key: 00000023310199500033000030000000000000065
Accession Number: 5190563
Update Code: 9607

Record 359 of 1145 in INSPEC 1996

Title: Stochastic simulation of spatial variability of Chernobyl fallout
Author: Kanevsky-MF
Source: Applied-Energy:-Russian-Journal-of-Fuel,-Power-and-Heat-Systems. vol.33, no.3; 1995; p.37-42
Translated from: Energetika. vol.33, no.3; 1995; p.47-55
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The paper presents the modern approach to spatially distributed data analysis using stochastic simulation methods. Structural correlational analysis (variography) is given

of the fallout in the Chernobyl power plant zone. The stochastic simulation of the fallout is effected for the first time. The maps describing the spatial variability and data uncertainty are constructed.
Number of References: 10
Descriptors: air-pollution; correlation-methods; fission-reactor-accidents; radioactive-pollution; stochastic-processes
Identifiers: spatial-variability; Chernobyl-fallout; stochastic-simulation-methods; structural-correlational-analysis; variography-; data-uncertainty
Classification Codes: A8670G (Atmosphere-environmental-science); A0250 (Probability-theory-stochastic-processes-and-statistics); B7720 (Pollution-detection-and-control); B0240Z (Other-topics-in-statistics); A86; A02; B77; B02; A8; A0; B7; B0
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: IRAEEL; Translation: APENEY
ISSN: 0002-3310; Translation: 1068-7181
Copyright Clearance Center Code: 1068-7181/95/$50.00
Copyright Statement: Copyright 1996, IEE
Sort Key: 00000023310199500033000030000000000000047
Accession Number: 5190561
Update Code: 9607

Record 360 of 1145 in INSPEC 1996

Title: Geostatistic approach to Chernobyl fallout analysis
Author: Kanevsky-MF; Arutyunyan-RV; Bolshov-AA; Demyanov-VV; Savelyeva-EA; Haas-T
Source: Applied-Energy:-Russian-Journal-of-Fuel,-Power-and-Heat-Systems. vol.33, no.3; 1995; p.28-36
Translated from: Energetika. vol.33, no.3; 1995; p.34-46
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The article is devoted to the treatment of spatially distributed data. The consistent use of geostatistics allows analysis of the character of distribution, its spatial structure and construction of a prediction map along with the estimate variation map. Chernobyl fallout data were used as an example. The anisotropic character of the distribution is considered.
Number of References: 12
Descriptors: air-pollution; fission-reactor-accidents; radioactive-pollution; statistical-analysis
Identifiers: Chernobyl-fallout-analysis; geostatistics-; spatially-distributed-data; spatial-structure; prediction-map; estimate-variation-map; anisotropic-distribution
Classification Codes: A8670G (Atmosphere-environmental-science); A0250 (Probability-theory-stochastic-processes-and-statistics); B7720 (Pollution-detection-and-control); B0240Z (Other-topics-in-statistics); A86; A02; B77; B02; A8; A0; B7; B0

Treatment Codes: T (Theoretical-or-Mathematical)
Coden: IRAEEL; Translation: APENEY
ISSN: 0002-3310; Translation: 1068-7181
Copyright Clearance Center Code: 1068-7181/95/$50.00
Copyright Statement: Copyright 1996, IEE
Sort Key: 00000023310199500033000030000000000000034
Accession Number: 5190560
Update Code: 9607

Record 361 of 1145 in INSPEC 1996

Title: Characteristics of /sup 90/Sr, /sup 137/Cs and /sup 239,240/Pu migration in undisturbed soils of southern Belarus after the Chernobyl accident
Author: Knatko-VA; Skomorokhov-AG; Asimova-VD; Strakh-LI; Bogdanov-AP; Mironov-VP
Author Affiliation: Inst. of Radiobiol., Acad. of Sci., Minsk, Byelorussia
Source: Journal-of-Environmental-Radioactivity. vol.30, no.2; 1996; p.185-96
Full Text: ScienceDirect (tm)
http://www.sciencedirect.com/science?_ob=GatewayURL&_origin=SilverLinker&_urlversion=4&_method=citationSearch&_volkey=0265%2d931X%2330%23185%232&_version=1&md5=507dd9f109f744b5c307eb7becf55d98
Publication Year: 1996
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Soil samples were taken from three sites representing typical undisturbed soils in southern parts of Belarus contaminated with Chernobyl fallout. The activity of /sup 90/Sr, /sup 137/Cs and /sup 239,240/Pu in soil horizon 0-20 cm were measured. The data obtained were used to evaluate compartment model parameters of radionuclide migration in soil layers at different depths. According to the results, the parameters of migration obtained for various sites differ by more than a factor of two. The smallest site averaged values of parameters were obtained for /sup 239,240/Pu and the largest for /sup 90/Sr. The calculations show that in most cases, the migration rates of /sup 90/Sr and /sup 137/Cs tend to increase with increasing depth.
Number of References: 13
Descriptors: caesium-; plutonium-; radioactive-pollution; soil-; strontium-
Identifiers: Chernobyl-accident; southern-Belarus; undisturbed-soils; 239Pu-migration; 240Pu-migration; 137Cs-migration; 90Sr-migration; Chernobyl-fallout; soil-horizon; compartment-model-parameters; radionuclide-migration; soil-layers; migration-rates
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/96/$15.00+0.00

Sort Key: 0000265931X19960003000002000000000000185
Accession Number: 5186070
Update Code: 9606

Record 362 of 1145 in INSPEC 1996

Title: Information systems and modelling: data and organizational aspects of the Chernobyl State Registry
Author: Ivanov-VK; Maksiutov-MA; Tsyb-AF; Michalski-AI; Morgenstern-W
Author Affiliation: Med. Radiol. Res. Center, Acad. of Med. Sci., Obninsk, Russia
Editor: Halin-J; Karplus-W; Rimane-R
Source: CISS. First Joint Conference of International Simulation Societies Proceedings. SCS, San Diego, CA, USA; 1994; xvii+816 pp.
p.579-83
Publication Year: 1994
Record Type: Conference-Paper
Conference Details: Proceedings of CISS-First Joint Conference of International Simulation Societies. 22-25 Aug. 1994; Zurich, Switzerland
Country of Publication: USA
Language: English
Abstract: After the explosion of the nuclear reactor at Chernobyl nuclear power plant on 26 April 1986, the former USSR Ministry of Public Health adopted a large scale program on establishing the USSR National Chernobyl Registry. Two main aims have been considered by establishing the registry: investigations of the population, which is exposed to radiation; informational support for health care institutions responsible for the long-term radiological-epidemiological monitoring. The present paper deals with the development and operation of the Russian National Medical Dosimetric Registry (RNMDR) and with methodological aspects of medico-ecological registries.
Number of References: 2
Descriptors: dosimetry-; medical-information-systems
Identifiers: information-systems; Chernobyl-State-Registry; Chernobyl-nuclear-power-plant; informational-support; health-care-institutions; long-term-radiological-epidemiological-monitoring; Russian-National-Medical-Dosimetric-Registry; medico-ecological-registries
Classification Codes: A8760M (Radiation-dosimetry); C7140 (Medical-administration); A87; C71; A8; C7
Treatment Codes: P (Practical)

Sort Key: 1000000000019940000000000000000000000579
Accession Number: 5183268
Update Code: 9605

Record 363 of 1145 in INSPEC 1996

Title: Modelling of links between radiation and nonradiation risk factors and morbidity of people involved in rectification works at Chernobyl nuclear power station
Author: Michalski-AI; Morgenstern-W; Ivanov-VK; Chekin-SYu
Author Affiliation: Inst. of Control Sci., Acad. of Sci., Moscow, Russia
Editor: Halin-J; Karplus-W; Rimane-R
Source: CISS. First Joint Conference of International Simulation Societies Proceedings. SCS, San Diego, CA, USA; 1994; xvii+816 pp.
p.576-8
Publication Year: 1994
Record Type: Conference-Paper
Conference Details: Proceedings of CISS-First Joint Conference of International Simulation Societies. 22-25 Aug. 1994; Zurich, Switzerland
Country of Publication: USA
Language: English
Abstract: In the paper results of the collaborative research project "Effects of Radioactive Radiation on Health-Risk and Projection Models" are presented. The project is conducted by the Geometrical Research Unit of the Heidelberg Academy for the Humanities and Sciences (Heidelberg, Germany), the Institute of Control Sciences of the Russian Academy of Sciences (Moscow, Russia), the Medical Radiological Research Centre of the Russian Academy of Medical Sciences (Obninsk, Russia) and the Department of Clinical Social Medicine of the Heidelberg University Hospital (Heidelberg, Germany). Some methodological aspects in the investigation of radiation and nonradiation risk-factors are generally described and an example is given with regard to mental disorders.
Number of References: 3
Descriptors: dosimetry-; health-hazards; medicine-; nuclear-power-stations; statistical-analysis
Identifiers: radiation-risk-factors; nonradiation-risk-factors; morbidity-; rectification-works; Chernobyl-nuclear-power-station; methodological-aspects; mental-disorders
Classification Codes: A8760M (Radiation-dosimetry); A0250 (Probability-theory-stochastic-processes-and-statistics); A2880C (Dosimetry); B7530B (Radiation-protection-and-dosimetry); B8220 (Nuclear-power-stations-and-plants); B0240Z (Other-topics-in-statistics); C1290L (Systems-theory-applications-in-biology-and-medicine); C1140 (Probability-and-statistics); A87; A02; A28; B75; B82; B02; C12; C11; A8; A0; A2; B7; B8; B0; C1
Treatment Codes: X (Experimental)

Sort Key: 10000000000199400000000000000000000000576
Accession Number: 5183267
Update Code: 9605

Record 364 of 1145 in INSPEC 1996

Title: Effective doses due to external irradiation from the Chernobyl accident for different population groups of Ukraine

Author: Likhtariov-I; Kovgan-L; Novak-D; Vavilov-S; Jacob-P; Paretzke-HG

Author Affiliation: Dept. of Dosimetry & Radiat. Hygiene, Ukrainian Sci. Center for Radiat. Med., Kiev, Ukraine

Source: Health-Physics. vol.70, no.1; Jan. 1996; p.87-98

Publication Year: 1996

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: A model for the external exposure of the Ukrainian population after the Chernobyl accident was developed. It is based on extensive measurements of external gamma-exposure rates (EGER) in air and of external effective doses of members of five population groups. Questionnaires were used to determine the occupancy times of members of the population groups at three types of locations; inside houses, outdoors, and outside of the home settlement. Behavior factors are defined as the ratio of individual external doses to a reference dose for a phantom standing permanently over an open field with the same average /sup 137/Cs activity per unit area as in the settlement. The behavior factors were derived for five population groups (children younger than seven years, the age group from eight to seventeen years, employees, agricultural workers, and pensioners) by two methods: first from direct measurements of individual doses by thermoluminescent dosimetry and an experimental determination of the average /sup 137/Cs activity per unit area in the settlement of interest; and second from external gamma-exposure rates in air at various types of locations and from the questionnaire data. The methods were found to be consistent and the results were used to calculate external exposures of the five population groups in the years 1987 through 1991.

Number of References: 17

Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; physiological-models; radioactive-pollution

Identifiers: external-irradiation; Chernobyl-accident; population-groups; Ukrainian-population; external-exposure; model-; external-gamma-exposure-rates; air-; external-effective-doses; occupancy-times; inside-houses; outdoors-; home-settlement; individual-external-doses; phantom-; average-137Cs-activity; children-; age-group; employees-; agricultural-workers; pensioners-; thermoluminescent-dosimetry; questionnaire-data; Ukraine-; Cs-

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8

Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Chemical Indexing: Cs-el

Coden: HLTPAO

ISSN: 0017-9078

Copyright Clearance Center Code: 0017-9078/96/$3.00

Sort Key: 00000179078199600070000010000000000000087
Accession Number: 5181653
Update Code: 9605
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 365 of 1145 in INSPEC 1996

Title: Model testing using Chernobyl data: III. Atmospheric resuspension of radionuclides in Ukrainian regions impacted by Chernobyl fallout
Author: Garger-EK; Hoffman-FO; Miller-CW
Author Affiliation: Inst. of Radioecology, Kiev, Ukraine
Source: Health-Physics. vol.70, no.1; Jan. 1996; p.18-24
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The "resuspension" scenario is designed to test models for atmospheric resuspension of radionuclides from contaminated soils. Resuspension can be a secondary source of contamination after a release has stopped, as well as a source of contamination for people and areas not exposed to the original release. The test scenario describes three exposure situations: (1) locations within the highly contaminated 30-km zone at Chernobyl, where exposures to resuspended material are probably dominated by local processes; (2) an urban area (Kiev) outside the 30-km zone, where local processes include extensive vehicular traffic; and (3) a location 40 to 60 km west of the Chernobyl reactor, where upwind sources of contamination are important. Input data include characteristics of the /sup 137/Cs ground contamination around specific sites, climatological data for the sites, characteristics of the terrain and topography, and locations of the sampling sites. Predictions are requested for average air concentrations of /sup 137/Cs at specified locations due to resuspension of Chernobyl fallout and for specified resuspension factors and rates. Test data (field measurements) are available for all endpoints.
Number of References: 9
Descriptors: air-pollution; caesium-; disasters-; fission-reactor-accidents; modelling-; radioactive-pollution; radioisotopes-
Identifiers: model-testing; Chernobyl-data; atmospheric-resuspension; radionuclides-; Ukrainian-regions; Chernobyl-fallout; resuspension-scenario; contaminated-soils; secondary-source; resuspension-factors; sampling-sites; average-air-concentrations; exposure-situations; highly-contaminated-zone; urban-area; Kiev-; extensive-vehicular-traffic; Chernobyl-reactor; upwind-sources; 137Cs-ground-contamination; climatological-data; terrain-; topography-; 30-km; 40-to-60-km; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A9330G (Europe); A87; A86; A93; A8

Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Numerical Data Indexing: distance 3.0 E04 m; distance 4.0 E04 to 6.0 E04 m
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00

Sort Key: 00000179078199600070000010000000000000018
Accession Number: 5181644
Update Code: 9605
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 366 of 1145 in INSPEC 1996

Title: Model testing using Chernobyl data. II. Assessment of the consequences of the radioactive contamination of the Chernobyl nuclear power plant cooling pond
Author: Kryshev-II; Sazykina-TG; Ryabov-IN; Chumak-VK; Zarubin-OL
Author Affiliation: Inst. of Exp. Meteorol., SPA Typhoon, Obninsk, Russia
Source: Health-Physics. vol.70, no.1; Jan. 1996; p.13-17
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The "cooling pond" scenario is designed to test models for radioactive contamination of aquatic ecosystems, based on data for contamination of different aquatic media and biota due to fallout of radionuclides into the cooling pond of the Chernobyl Nuclear Power Plant. Input data include characteristics of the cooling pond ecosystem (hydrological, hydrochemical, and hydrobiological conditions) and estimates of the amounts of /sup 137/Cs in the cooling pond. Predictions are requested in two stages: (1) calculations for /sup 137/Cs concentrations for comparison against actual measurements, including activities of /sup 137/Cs in the cooling pond water, in sediment layers, and in fish; and (2) calculations for which actual measurements are not available, including dose and risk estimates for aquatic biota and for humans following hypothetical consumption of contaminated biota. The latter calculations are intended to provide an opportunity for intercomparison among modelers of their results for a simulated assessment problem.
Number of References: 11
Descriptors: caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; modelling-; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: Chernobyl-data; model-testing; radioactive-contamination; Chernobyl-nuclear-power-plant-cooling-pond; cooling-pond-scenario; aquatic-ecosystems; aquatic-media; fallout-; Chernobyl-Nuclear-Power-Plant; cooling-pond-ecosystem; hydrobiological-conditions; hydrological-conditions; hydrochemical-conditions; 137Cs-concentrations;

hypothetical-consumption; contaminated-biota; activities-; cooling-pond-water; sediment-layers; fish-; risk-estimates; dose-estimates; aquatic-biota; Cs-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670E (Water-environmental-science); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A86; A28; A8

Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Chemical Indexing: Cs-el

Coden: HLTPAO

ISSN: 0017-9078

Sort Key: 00000179078199600070000010000000000000013

Accession Number: 5181643

Update Code: 9605

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 367 of 1145 in INSPEC 1996

Title: Model testing using Chernobyl data. I. Wash-off of /sup 90/Sr and /sup 137/Cs from two experimental plots established in the vicinity of the Chernobyl reactor

Author: Konoplev-AV; Bulgakov-AA; Popov-VE; Popov-OF; Scherbak-AV; Shveikin-YV; Hoffman-FO

Author Affiliation: Inst. of Exp. Meteorol., SPA Typhoon, Obninsk, Russia

Source: Health-Physics. vol.70, no.1; Jan. 1996; p.8-12

Publication Year: 1996

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: The "wash-off" scenario is designed to test models concerned with the movement of trace contaminants from terrestrial sources to bodies of water, specifically the contamination of surface water by wash-off of radionuclides initially deposited onto soils. Particular emphasis is placed on chemical speciation and on the geochemical and geophysical processes affecting transfer of contaminants from soil to water. The scenario gives descriptions of two experimental plots near the Chernobyl power plant, one using heavy rain and one using snow melt, together with characteristics of the initial aerial deposition of the radionuclides and data on topography, soil type and characteristics, and time-varying precipitation. Predictions are requested for (1) the vertical distribution of concentrations of exchangeable and nonexchangeable forms of /sup 137/Cs and /sup 90/Sr in the soil of the experimental plots, (2) concentrations of /sup 137/Cs and /sup 90/Sr in runoff water from the experimental plots, and (3) total amounts of /sup 137/Cs and /sup 90/Sr removed by runoff from the experimental plots. Test data (field measurements) are available for all endpoints.

Number of References: 7

Descriptors: caesium-; fission-reactor-accidents; geochemistry-; health-hazards; modelling-; radioactive-pollution; radioisotopes-; soil-; strontium-; water-pollution
Identifiers: Chernobyl-data; Chernobyl-reactor; experimental-plots; wash-off-scenario; trace-contaminants; terrestrial-sources; surface-water; contamination-; radionuclides-; runoff-water; chemical-speciation; geophysical-processes; geochemical-processes; heavy-rain; snow-melt; initial-aerial-deposition; soil-type; time-varying-precipitation; vertical-distribution; nonexchangeable-forms; exchangeable-forms; 137Cs-; 90Sr-; model-testing; Sr-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9165 (Geophysical-aspects-of-geology-and-mineralogy); A8670E (Water-environmental-science); A9135L (Geochemistry); A87; A86; A91; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00

Sort Key: 00000179078199600070000010000000000000008
Accession Number: 5181642
Update Code: 9605
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 368 of 1145 in INSPEC 1996

Title: Opportunities for the testing of environmental transport models using data obtained following the Chernobyl accident
Author: Hoffman-FO; Thiessen-KM; Watkins-B
Author Affiliation: Center for Risk Anal., SENES Oak Ridge Inc., Oak Ridge, TN, USA
Source: Health-Physics. vol.70, no.1; Jan. 1996; p.5-7
Publication Year: 1996
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The aftermath of the Chernobyl accident has provided a unique opportunity to collect data sets specifically for the purpose of model testing, and with these data to create scenarios against which environmental transport models may be tested in a format constituting a blind test. This article serves as an introduction to three test scenarios designed for testing models at the process level: (1) surface water contamination with radionuclides initially deposited onto soils; (2) contamination of different aquatic media and biota due to fallout of radionuclides into a body of water; and (3) atmospheric resuspension of radionuclides from contaminated land surfaces. These scenarios are the first such tests to use data sets collected in the former Soviet

Union. Interested modelers are invited to participate in the test exercises by making calculations for any of these test scenarios. Information on participation is included.
Number of References: 9
Descriptors: air-pollution; disasters-; fission-reactor-accidents; modelling-; radioactive-pollution; radioisotopes-; soil-; water-pollution
Identifiers: environmental-transport-models; Chernobyl-accident; aftermath-; model-testing; blind-test; test-scenarios; surface-water-contamination; radionuclides-; soils-; aquatic-media; biota-; fallout-; atmospheric-resuspension; contaminated-land-surfaces; data-sets; former-Soviet-Union; test-exercises
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A8670E (Water-environmental-science); A87; A86; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/96/$3.00

Sort Key: 00000179078199600070000010000000000000005
Accession Number: 5181641
Update Code: 9605

Record 369 of 1145 in INSPEC 1996

Title: Countermeasures in Norway after the Chernobyl accident
Author: Strand-P
Author Affiliation: Norwegian Radiat. Protection Authority, Oesteraas, Norway
Source: Radiation-Protection-Dosimetry. vol.62, no.1-2; 1995; p.97-9
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Radiobiological Consequences of Nuclear Accidents: Contamination, Radioecology, Radiobiology and Health. Second International Conference-Radiobiological Consequences of Nuclear Accidents and the Satellite Russian-Norway Symposium- Nuclear Accidents: Radioecology and Health. 25-28 Oct. 1994; Moscow, Russia
Country of Publication: UK
Language: English
Abstract: Deposition of radioactivity from the Chernobyl accident prompted a need for countermeasures to be applied in Norway. No optimisation strategy could be carried out at such short notice. However, later evaluation has shown that the countermeasures applied in general were acceptable from an economic point of view. A survey of the countermeasures and cost benefit analysis is presented.
Number of References: 9

Descriptors: cost-benefit-analysis; disasters-; economics-; fission-reactor-accidents; health-hazards; radiation-protection; radioactive-pollution
Identifiers: Chernobyl-accident; radioactivity-; Norway-; optimisation-strategy; countermeasures-; economic-point-of-view; cost-benefit-analysis
Classification Codes: A8760P (Radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8; A2
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199500062000010000000000000097
Accession Number: 5178403
Update Code: 9605
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 370 of 1145 in INSPEC 1996

Title: Signs of autoimmune thyroiditis in children and juveniles affected by the Chernobyl accident
Author: Poverenny-AM; Shinkarkina-AP; Podgorodnichenko-VK; Matveenko-EG; Tsyb-AF
Author Affiliation: Med. Radiol. Res. Centre, Acad. of Med. Sci., Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.62, no.1-2; 1995; p.75-6
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Radiobiological Consequences of Nuclear Accidents: Contamination, Radioecology, Radiobiology and Health. Second International Conference- Radiobiological Consequences of Nuclear Accidents and the Satellite Russian-Norway Symposium- Nuclear Accidents: Radioecology and Health. 25-28 Oct. 1994; Moscow, Russia
Country of Publication: UK
Language: English
Abstract: The content of antibodies to human thyroid microsomal antigen was investigated to evaluate the possible appearance of autoimmune thyroiditis in children and juveniles living in the areas of Kaluga region affected by the Chernobyl accident. The percentage of positive sera varied from 4.8% to 1.2% over seven years. There is a significant difference in the frequency of antibody appearance between persons affected by radioactive iodine and those not affected. A greater quantity of the positive sera was recorded in the area with highest level of radioactive contamination. It is suggested that the elevated rate of autoimmune thyroiditis signs in children and juveniles is one of the consequences of the Chernobyl accident.
Number of References: 10

Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: children-; juveniles-; Chernobyl-accident; antibodies-; human-thyroid-microsomal-antigen; Kaluga-region; positive-sera; radioactive-I; radioactive-contamination; autoimmune-thyroiditis-signs; I-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199500062000010000000000000075
Accession Number: 5178398
Update Code: 9605

Record 371 of 1145 in INSPEC 1996

Title: Frequency changes of inherited anomalies in the Republic of Belarus after the Chernobyl accident
Author: Lazjuk-GI; Kirillova-IA; Nikolaev-DL; Novikova-IV; Fomina-ZN; Khmel-RD
Author Affiliation: Belarus Inst. for Hereditary Diseases, Minsk, Byelorussia
Source: Radiation-Protection-Dosimetry. vol.62, no.1-2; 1995; p.71-4
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Radiobiological Consequences of Nuclear Accidents: Contamination, Radioecology, Radiobiology and Health. Second International Conference- Radiobiological Consequences of Nuclear Accidents and the Satellite Russian-Norway Symposium- Nuclear Accidents: Radioecology and Health. 25-28 Oct. 1994; Moscow, Russia
Country of Publication: UK
Language: English
Abstract: Complex cytogenetic, embryologic and clinical studies of possible genetic consequences of the Chernobyl nuclear accident for the population of Belarus have been carried out. They showed that groups of the population (pregnant women, fetuses, school children) had received biologically significant doses of radiation, as assessed by the registration of ring and dicentric chromosomes in blood lymphocytes. The study of more than 22,000 embryos and fetuses, and of 4090 neonates with compulsory registered congenital malformations, showed a considerable increase of anomalies of intrauterine origin since 1987. They correlated with the level of /sup 137/Cs contamination in the areas, but did not correlate with the preconception dose to the

mother from the same radionuclide. Teratogenic effects of the Chernobyl pollution have not been conclusively identified. The increase of embryonal anomalies was mainly due to the group of multifactorial defects, and to the anomalies with a large contribution from dominant mutations. The Down`s syndrome incidence showed no increase.

Number of References: 14

Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; caesium-; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; genetics-; radioactive-pollution; radioisotopes-

Identifiers: inherited-anomalies; Republic-of-Belarus; Chernobyl-pollution; complex-cytogenetic-studies; complex-embryologic-studies; complex-clinical-studies; possible-genetic-consequences; Chernobyl-nuclear-accident; population-; pregnant-women; fetuses-; school-children; biologically-significant-doses; dicentric-chromosomes; ring-chromosomes; blood-lymphocytes; embryos-; neonates-; compulsory-registered-congenital-malformations; intrauterine-origin; 137Cs-contamination; preconception-dose; radionuclide-; teratogenic-effects; Cs-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8725F (Physics-of-subcellular-structures); A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201995000620000100000000000071

Accession Number: 5178397

Update Code: 9605

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 372 of 1145 in INSPEC 1996

Title: The state of health of Chernobyl NPP accident liquidators

Author: Oganesian-NM

Author Affiliation: Radiat. Med. Inst., Yerevan, Armenia

Source: Radiation-Protection-Dosimetry. vol.62, no.1-2; 1995; p.69-70

Publication Year: 1995

Record Type: Conference-Paper; Journal-article

Conference Details: Radiobiological Consequences of Nuclear Accidents: Contamination, Radioecology, Radiobiology and Health. Second International Conference- Radiobiological Consequences of Nuclear Accidents and the Satellite Russian-Norway Symposium- Nuclear Accidents: Radioecology and Health. 25-28 Oct. 1994; Moscow, Russia

Country of Publication: UK

Language: English

Abstract: After the Chernobyl NPP accident more than 3000 liquidators from Armenia suffered after effects. Since 1986 the Radiation Medicine Institute has conducted follow-up observations on more than 2000 of them. Pathologies of the nervous system are the most prominent. A marked number of patients presented with chronic non-specific lung disease and inflammatory conditions of the alimentary canal. Thyroid hormone analysis has shown that during the first year triiodothyronine, thyroxine and thyrotropine levels of the liquidators have increased significantly, and continued to do so. Later, the two former declined but the thyrotropine level remained significantly high. Decrease in peripheral blood neutrophiles phagocyte activity has revealed cellular type immunodeficiency including decrease in blood serum complement activity and lowered resistance to infection. Lymphocyte chromosomal analysis revealed considerably increased levels of aberrations and there were defects in spermatogenesis. In the liquidators a clastogenic factor in serum led to aberration levels 2-5 times higher than in controls. The new antioxidant Tanakan was tested on volunteer liquidators and proved useful. The gradual transition from functional to organ pathology, in parallel with clastogenic factors, chromosomal aberrations and spermatogenesis defects requires long-term monitoring and new preventative and medicinal remedies.

Number of References: 0

Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; genetics-; lung-; neurophysiology-; personnel-

Identifiers: Chernobyl-NPP-accident-liquidators; Armenia-; pathologies-; nervous-system; chronic-nonspecific-lung-disease; inflammatory-conditions; alimentary-canal; thyroid-hormone-analysis; triiodothyronine-levels; thyroxine-levels; thyrotropine-levels; peripheral-blood-neutrophiles-phagocyte-activity; cellular-type-immunodeficiency; blood-serum-complement-activity; lymphocyte-chromosomal-analysis; long-term-monitoring; clastogenic-factor; medicinal-remedies; aberration-levels; antioxidant-Tanakan; volunteer-liquidators; organ-pathology; chromosomal-aberrations; spermatogenesis-defects

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8730 (Biophysics-of-neurophysiological-processes); A87; A8

Treatment Codes: X (Experimental)

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201995000620000100000000000069

Accession Number: 5178396

Update Code: 9605

Record 373 of 1145 in INSPEC 1996

Title: Six-year observation of immune state of persons affected by the Chernobyl accident

Author: Oradovskaya-IV; Fadeeva-ID; Ulyanova-NV; Chernetsova-LF; Nikonova-MF; Litvina-MM

Author Affiliation: Inst. of Immunology, Minist. of Public Health & Med. Ind., Moscow, Russia

Source: Radiation-Protection-Dosimetry. vol.62, no.1-2; 1995; p.63-7

Publication Year: 1995

Record Type: Conference-Paper; Journal-article

Conference Details: Radiobiological Consequences of Nuclear Accidents: Contamination, Radioecology, Radiobiology and Health. Second International Conference- Radiobiological Consequences of Nuclear Accidents and the Satellite Russian-Norway Symposium- Nuclear Accidents: Radioecology and Health. 25-28 Oct. 1994; Moscow, Russia

Country of Publication: UK

Language: English

Abstract: The results of immunological monitoring, immuno-epidemiological investigations and analysis of medical documentation carried out in two Bryansk Region territories situated in the isoline of radioactive contamination (55.5*10/sup 10/ to 148*10/sup 10/ Bq.km/sup -2/) with tested populations of 3892 and 1074 persons respectively, are presented. An immunodeficiency risk group and the distribution of various chronic diseases in the tested territories were discovered to be considerably larger than in the regions of comparison and in cities of the Russian and Ukrainian non-background zone. The immune state of `dirty` Vyshkov settlement inhabitants as compared to one of the `clean` Pochep population was characterised by CD4+ and CD5+ activation, increase of CD4+/CD8+ value and phagocytosis rate in the presence of serum IgG and IgM deficit. Novozybkov city inhabitants were found to have increased T supressor/killer rate. The highest CD4+, CD5+, CD4+/CD8+ rate values were found to occur against the background of clinical symptoms which could be attributed to radiation impact: loss of hair and teeth, surplus weight, predisposition to bleeding, especially noticed among cattle breeders.

Number of References: 5

Descriptors: biological-effects-of-ionising-radiation; disasters-; fission-reactor-accidents; radioactive-pollution

Identifiers: immune-state; Chernobyl-accident; immunological-monitoring; immuno-epidemiological-investigations; medical-documentation; Bryansk-Region-territories; isoline-; radioactive-contamination; tested-populations; immunodeficiency-risk-group; chronic-diseases; Ukrainian-nonbackground-zone; Russian-nonbackground-zone; cities-; Vyshkov-settlement-inhabitants; clean-Pochep-population; phagocytosis-rate; serum-IgG-deficit; Novozybkov-city-inhabitants; T-supressorkiller-rate; clinical-symptoms; radiation-impact

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201995000620000100000000000063
Accession Number: 5178395
Update Code: 9605
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 374 of 1145 in INSPEC 1996

Title: Late effects of chronic irradiation in plants after the accident at the Chernobyl Nuclear Power Station
Author: Grodzinsky-DM
Author Affiliation: Inst. of Cell Biol. & Genetic Eng., Nat. Acad. of Sci., Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.62, no.1-2; 1995; p.41-3
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Radiobiological Consequences of Nuclear Accidents: Contamination, Radioecology, Radiobiology and Health. Second International Conference-Radiobiological Consequences of Nuclear Accidents and the Satellite Russian-Norway Symposium- Nuclear Accidents: Radioecology and Health. 25-28 Oct. 1994; Moscow, Russia
Country of Publication: UK
Language: English
Abstract: The nuclear power plant accident at Chernobyl led to a wide area being contaminated with a number of different radionuclides. Two basic types of radioactive particle were released from the damaged reactor: large particles of dispersed fuel, and various types of microparticles on which highly volatile components were condensed. As a result, /sup 90/Sr, Pu, /sup 134/Cs, /sup 137/Cs, /sup 106/Ru and some other radionuclides were dispersed throughout the European countries. There still remains considerable work to be done in the field of late effects of low dose irradiation in plants. However, it is clear that the analysis of mechanisms leading to the expression of late effects in plants faces problems, the magnitude of which varies a great deal according to the tissue or systems of organs under investigation. The mechanisms themselves seem to differ in complexity, ranging from damage to the chromatic structure, to distortion of functioning of the complicated regulating systems of organisms.
Number of References: 6

Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; genetics-; radioactive-pollution; radioisotopes-
Identifiers: chronic-irradiation; nuclear-power-plant-accident; Chernobyl-Nuclear-Power-Station; radionuclides-; radioactive-particle; damaged-reactor; dispersed-fuel; microparticles-; highly-volatile-components; 90Sr-; Pu-; 134Cs-; 137Cs-; 106Ru-; European-countries; chromatic-structure; complicated-regulating-systems; Sr-; Cs-; Ru-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8725F (Physics-of-subcellular-structures); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Pu-el; Cs-el; Ru-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 0000144842019950006200001000000000000041
Accession Number: 5178390
Update Code: 9605

Record 375 of 1145 in INSPEC 1996

Title: Estimation of the emission of radioactive substances during the 1986 accident in the fourth-power generating unit at the Chernobyl nuclear power plant (review of primary data)
Author: Sivintsev-YuV; Khrulev-AA
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Atomic-Energy. vol.78, no.6; June 1995; p.390-401
Translated from: Atomnaya-Energiya. vol.78, no.6; June 1995; p.403-17
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Immediately after the first information about the accident at the Chernobyl nuclear power plant was received, three groups of experts were formed at the I.V. Kurchatov Institute of Atomic Energy. The purpose of these groups was to analyze the accident. Later they were given official status by a special decree of the President of the Academy of Sciences of the USSR. The group of which the authors of the present report as well as O.Ya. Shakh were members was charged with estimating the activity, composition, and dynamics of the emission of radioactive substances from the damaged power generating unit on the basis of computational, experimental, and field data.
Number of References: 13

Descriptors: fission-reactor-accidents; nuclear-power-stations; radioactive-pollution
Identifiers: radioactive-substances-emission; fission-reactor-accident; fourth-power-generating-unit; Chernobyl-nuclear-power-plant; damaged-power-generating-unit
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A28; A86; A2; A8
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical); X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/95/7806-0390$12.50

Sort Key: 00000047163199500078000060000000000000403
Accession Number: 5175487
Update Code: 9604
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 376 of 1145 in INSPEC 1996

Title: Radiation-epidemiological analysis of data from the Russian State Medical-Dosimetric Register (RSMDR) on participants in the liquidation of the consequences of the Chernobyl accident
Author: Ivanov-VK; Tsyb-AF; Maksyutov-MA; Gorskii-AI; Pitkevich-VA; Rastopchin-EM; Chekin-SYu; Konogorov-AP
Author Affiliation: Med. Radiol. Center, Acad. of Med. Sci., Obninsk, Russia
Source: Atomic-Energy. vol.78, no.2; Feb. 1995; p.117-23
Translated from: Atomnaya-Energiya. vol.78, no.2; Feb. 1995; p.121-7
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The Russian State Medical-Dosimetric Register of individuals subjected to radiation as a result of the Chernobyl accident (RSMDR) was created in 1986. The head organization-the state level of RSMDR-is located in the Medical Radiological Scientific Center in Obninsk. The main objective of RSMDR is to maintain an automated long-time list of individuals subjected to radiation as a result of the Chernobyl accident, their children and subsequent generations, the irradiation doses, and assessment of the state of health and its changes for the purpose of making optimal decisions so as to minimize the medical consequences.
Number of References: 9
Descriptors: biological-effects-of-ionising-radiation; data-analysis; dosimetry-; fission-reactor-accidents; radiation-protection
Identifiers: radiation-epidemiological-analysis; data-analysis; Russian-State-Medical-Dosimetric-Register; RSMDR-; Chernobyl-accident-mitigation; radiation-exposure;

automated-long-time-list; irradiation-doses; optimal-decisions; medical-consequences; health-state
Classification Codes: A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258

Sort Key: 00000047163199500078000020000000000000121
Accession Number: 5168683
Update Code: 9603
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 377 of 1145 in INSPEC 1996

Title: Conversion of the "sarcophagus" of the Chernobyl nuclear plant into an underground radiation shield
Author: Kulai-VI
Source: Atomic-Energy. vol.78, no.4; April 1995; p.279
Translated from: Atomnaya-Energiya. vol.78, no.4; April 1995; p.283-4
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Sixth International Scientific and Technical Conference. International Cooperation in the Development of Nuclear Power. ICDNP-95. 3-7 July 1995; Kiev, Ukraine
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The sarcophagus, made as the primary construction for confining radionuclides during the post-accident period, is exhausting its protective capabilities, and this is cause for alarm. The competition conducted in Ukraine in 1983 did not yield a sufficiently effective technical solution to convert it into an ecologically safe system. The competition commission preferred the French design in which a second sarcophagus is built above the first one and all structures (more than 200,000 m/sup 3/) and destroyed fuel elements (more than 150 tonnes) are to be completely disassembled, decontaminated, and stored in special dumps. Such a technical solution is difficult to implement, it is expensive, and it is ecologically unreliable, i.e. Chernobyl affiliates are created (of course, not in France but in Ukraine). Another competitive technical solution which merits attention is the design of the Russian institution VNIPIEET, in which the inner cavity of the sarcophagus is filled with monolithic concrete, whose mass provides sufficient radiation protection by making the radioactive fuel-containing mass

monolithic. The temperature of the monolithic concrete foci of the fuel mass, taking into account its decrease based on observations, will reach not more than 220-250 degrees C. According to the technical-economic indicators and the ecological reliability, this technical solution is much better than the French variant. It should be used as the basis.

Number of References: 0

Descriptors: fission-reactor-accidents; nuclear-power-stations; radiation-decontamination; radiation-protection; safety-; shielding-

Identifiers: sarcophagus-conversion; Chernobyl-nuclear-plant; underground-radiation-shield; post-accident-period; radionuclides-confinement; protective-capabilities; Ukraine-; destroyed-fuel-elements; decontamination-; VNIPIEET-; monolithic-concrete; radiation-protection; technical-economic-indicators; ecological-reliability; 220-to-250-C; 150-tonne

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880 (Radiation-technology-including-shielding); B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); B7530B (Radiation-protection-and-dosimetry); A28; B82; B01; B75; A2

Treatment Codes: P (Practical)

Numerical Data Indexing: temperature 4.93 E02 to 5.23 E02 K; mass 1.5 E05 kg

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/95/7804-0279$12.50

Sort Key: 00000047163199500078000040000000000000283

Accession Number: 5152000

Update Code: 9601

Record 378 of 1145 in INSPEC 1996

Title: How much nuclear fuel is present in the lavalike fuel-containing mass in the fourth power-generating unit of the Chernobyl nuclear power plant?

Author: Kiselev-AN

Author Affiliation: Sci. Center, Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia

Source: Atomic-Energy. vol.78, no.4; April 1995; p.252-5

Translated from: Atomnaya-Energiya. vol.78, no.4; April 1995; p.256-9

Publication Year: 1995

Record Type: Conference-Paper; Journal-article

Conference Details: Sixth International Scientific and Technical Conference. International Cooperation in the Development of Nuclear Power. ICDNP-95. 3-7 July 1995; Kiev, Ukraine

Country of Publication: Russia; Translation: USA

Language: English
Abstract: 1. The amount in the fuel in the lavalike mass was calculated by different methods. In one case it was equal to 61.5+or-25.5% and in the other 11+or-2% of the total reactor load at the time of the accident. 2. Analysis of the thermometric method for determining the amount of nuclear fuel in the lavalike fuel-containing mass in the enclosures 305/2 and the steam-distribution corridor shows that the results obtained are groundless. 3. More accurate on the locations of the accumulation of the lavalike mass in the enclosures of the bubbler basin and the steam distribution corridors refute some computational results. 4. If it is assumed that 96% of the load at the time of the accident should be located in the enclosures of the fourth power-generating unit, and the main mass of nuclear fuel was not found in the reactor shaft and enclosures below it. The central gallery, buried in 1986 from helicopters with sand, lead, boron carbide and other materials, has still not been inspected.
Number of References: 5
Descriptors: fission-reactor-accidents
Identifiers: nuclear-fuel; lavalike-fuel-containing-mass; fourth-power-generating-unit; Chernobyl-nuclear-power-plant; lavalike-mass; thermometric-method; steam-distribution-corridor; bubbler-basin; steam-distribution-corridors; central-gallery
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258

Sort Key: 00000047163199500078000040000000000000256
Accession Number: 5151992
Update Code: 9601
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 379 of 1145 in INSPEC 1996

Title: Analysis of the accident in the second power-generating unit of the Chernobyl nuclear power plant caused by inadequate makeup of the reactor cooling loop
Author: Vasil`chenko-VN; Kramerov-AYa; Mikhailov-DA; Nikolaeva-AP
Source: Atomic-Energy. vol.78, no.4; April 1995; p.245-51
Translated from: Atomnaya-Energiya. vol.78, no.4; April 1995; p.249-55
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Sixth International Scientific and Technical Conference. International Cooperation in the Development of Nuclear Power. ICDNP-95. 3-7 July 1995; Kiev, Ukraine
Country of Publication: Russia; Translation: USA

Language: English

Abstract: The accident in the second power-generating unit of the Chernobyl nuclear power plant on October 11, 1991 was the result of unauthorized connection of the TG-4 turbogenerator, which was shut down for repairs, into the grid (in the off-design asynchronous engine mode), and this resulted in a serious fire in the machine room and subsequent failure of systems which are important for safety and which ensure the design mode of reactor cooling: These were primarily failures of the feed and emergency feed pumps and failure of the BRU-B control valve, which regulates steam release during cooling. In accordance with the INES international scale of nuclear events, this event was a level 2 incident, and according to the category of disruptions of operation (AS-PNAE G-12-005-91)-a "PO5 event" with insignificant radiation consequences. It was determined to be a malfunction in the electrical part of the unit, which resulted in a fire in the No. 4 electric generator followed by disruption of the conditions for safe operation. The emission of radioactive aerosols into the atmosphere was due to the combustion of elements of the roof with traces of contamination from the accident in the fourth power-generating unit of April 26, 1986 and constituted 3.6 10/sup -5/ Ci. The total emission during the event was equal to 1.4 10-3 Ci and did not exceed the admissible daily emission into the atmosphere. The personnel were not exposed to radiation above admissible control levels. The participants in putting out the fire, 63 individuals from the operating personnel, and firemen received doses from 0.02 up to 0.17 rem, which does not exceed the admissible two-weak dose. A statistically significant increase in the concentration of aerosols in a 30-km zone around the nuclear power plant was not recorded. During the fire the surfaces of the technological enclosures were contaminated with radioactive substances from 20100 up to 30400 beta -particles/cm/sup 2//min, which did not exceed the admissible level for normal operation 2000 beta -particles/cm/sup 2//min. No additional contamination of the territory inside or outside the plant confines was observed within the limits of sensitivity of the modern dosimetric and gamma -spectrometric apparatus employed.

Number of References: 5

Descriptors: fission-reactor-accidents; fission-reactor-cooling

Identifiers: second-power-generating-unit; Chernobyl-nuclear-power-plant; reactor-cooling-loop; TG-4-turbogenerator; off-design-asynchronous-engine-mode; BRU-B-control-valve; steam-release; radioactive-aerosols; radioactive-substances

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2843B (Cooling-and-heat-recovery-in-fission-reactors); A28; A2

Treatment Codes: P (Practical)

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Sort Key: 00000047163199500078000040000000000000249

Accession Number: 5151991

Update Code: 9601

Record 380 of 1145 in INSPEC 1996

Title: Association of Chernobyl-derived /sup 239+240/Pu, /sup 241/Am, /sup 90/Sr and /sup 137/Cs with organic matter in the soil solution

Author: Agapkina-GI; Tikhomirov-FA; Shcheglov-AI; Kracke-W; Bunzl-K
Author Affiliation: Fac. of Soil Sci., Moscow State Univ., Russia

Source: Journal-of-Environmental-Radioactivity. vol.29, no.3; 1995; p.257-69
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: To investigate the extent of association of fallout radionuclides with soil organic matter, gel filtration was applied to the soil solution obtained from the three top horizons AOf, AOh and AOh+A1/A2 of a forest soil within the 10 km zone of the nuclear reactor at Chernobyl/Ukraine. In the five fractions isolated (fraction 1: nominal molecular weight Mw<or=2000, fraction 2: Mw=1300-1000, fraction 3: Mw=800, fraction 4: Mw=400 daltons, fraction 5: inorganic compounds), /sup 239+240/Pu, /sup 238/Pu, /sup 241/Am, /sup 90/Sr and /sup 137/Cs were determined. For that purpose, an efficient method for the simultaneous determination of the actinides and /sup 90/Sr was developed. The data show that plutonium and americium are associated mainly with the high molecular fraction 1 and to a much smaller percentage also with the fraction 2. While the differences between plutonium and americium were rather small in the top two horizons, americium in the third soil layer is present to some extent also in the fractions 3, 4, and 5. Strontium-90 from the AOf horizon is associated almost exclusively with fraction 4. In the other two soil layers, however, this radionuclide is present essentially only in fraction 5 (inorganic compounds). Caesium-137 from the soil solution of the AOf horizon is associated essentially only with the fraction 3, but in the deeper layers progressively also with all other fractions. Thus, in the third layer, /sup 137/Cs is distributed almost uniformly between all five fractions. Because the mobility and biological availability of these radionuclides will depend on their association with soil organic matter, the present data suggest that the determination of only the total concentration of a radionuclide in the soil solution might not be sufficient to interpret or predict adequately the fate of radionuclides in the soil.

Number of References: 17
Descriptors: americium-; caesium-; fission-reactor-accidents; plutonium-; radioactive-pollution; soil-; strontium-
Identifiers: Chernobyl-accident; 239Pu-; 240Pu-; 241Am-; 90Sr-; 137Cs-; organic-matter; soil-solution; fallout-radionuclides; gel-filtration; forest-soil; actinides-; biological-availability; Pu-; Am-; Sr-; Cs-

Classification Codes: A8670C (Soil-and-rock-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A28; A87; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Am-el; Sr-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19950002900003000000000000257
Accession Number: 5148677
Update Code: 9601

Record 381 of 1145 in INSPEC 1995

Title: Method for liquidating the consequences of the Chernobyl accident
Author: Ermolov-NA
Author Affiliation: Inst. of Phys. & Power Eng., Main Sci. Center of the Russian Federation, Russia
Source: Atomic-Energy. vol.78, no.3; March 1995; p.214-17
Translated from: Atomnaya-Energiya. vol.78, no.3; March 1995; p.214-17
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The proposed method is a safe, technically feasible, and economically acceptable solution to the problem of liquidating the focus of the environmental contamination at the Chernobyl nuclear power plant. The radioactive substances, materials, and objects will be removed from 'Cover' and imperfect storage sites within the 100-km zone around the Chernobyl nuclear power plant and placed in storage sites which meet modern requirements. The storage of the wastes will be controllable and monitorable. The object 'Cover' will be liquidated.
Number of References: 3
Descriptors: fission-reactor-accidents; radiation-decontamination; radioactive-pollution; radioactive-waste-storage
Identifiers: Chernobyl-accident; environmental-contamination-liquidation; Chernobyl-nuclear-power-plant; radioactive-substances; imperfect-storage-sites; radioactive-waste-storage
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A2842K (Radioactive-wastes-from-fission-reactors); A2880 (Radiation-technology-including-shielding); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670 (Environmental-science); A28; A87; A86; A2
Treatment Codes: P (Practical)

Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/95/7803/02145$12.50

Sort Key: 00000047163199500078000030000000000000214
Accession Number: 5136736
Update Code: 9549
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 382 of 1145 in INSPEC 1995

Title: Estimate of the accident irradiation dose in 1986 to personnel at the Chernobyl nuclear power plant
Author: Ivanov-EA; Kham'yanov-LP; Il'ichev-SV; Nosovskii-AV; Snisar-IB
Author Affiliation: All Union Sci.-Res. Inst. of Nucl. Power Plants, Russia
Source: Atomic-Energy. vol.78, no.3; March 1995; p.194-7
Translated from: Atomnaya-Energiya. vol.78, no.3; March 1995; p.195-9
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: It is important to analyze the actual events at the Chernobyl nuclear power plant, specifically, the irradiation dose to personnel during the period of the accident itself as well as its consequences. Such an analysis gives a realistic picture of the distribution of the irradiation dose during a serious accident at a nuclear power plant and it makes it possible to find the parameters of this distribution and thereby to determine the actual radiation consequences for the indicated population category. Comparing the consequences and the associated specific actions taken by personnel will undoubtedly be helpful for developing practical measures for protecting personnel during serious accidents at nuclear power plants. On a scientific level, analysis of the distribution of the accidental irradiation dose to personnel at the Chernobyl nuclear power plant will yield some initial data for substantiating criteria for limiting the collective irradiation dose to plant personnel. The problem of estimating the accident irradiation dose to personnel at the Chernobyl nuclear power plant in 1986 can be formulated as follows: estimate the collective irradiation dose to personnel as a parameter of an unknown universe of data on the basis of a sample of the individual irradiation dose identified at a given time.
Number of References: 0
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; personnel-
Identifiers: Chernobyl-nuclear-power-plant; accident-irradiation-dose; 1986-; personnel-
Classification Codes: A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/95/7803-0194$12.50

Sort Key: 00000047163199500078000030000000000000195
Accession Number: 5136731
Update Code: 9549
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 383 of 1145 in INSPEC 1995

Title: Multifractal analysis of Chernobyl fall-out: self-organized criticality and hot spots
Author: Schertzer-D; Chigirinskaya-Y; Lovejoy-S; Ratti-S; Salvadori-G; Belli-G
Author Affiliation: Univ. Pierre et Marie Curie, Paris, France
Source: Proceedings of the International Conference, Mathematics and Computations, Reactor Physics, and Environmental Analyses. ANS, La Grange Park, IL, USA; 1995; 2 vol. xvi+1597 pp.
p.743-9 vol.1
Publication Year: 1995
Record Type: Conference-Paper
Conference Details: Proceedings International Conference on Mathematics and Computation, Reactor Physics, and Environmental Analyses. vol.1. 30 April-4 May 1995; Portland, OR, USA. Sponsored by: ANS; Eur. Nucl. Soc.; Atomic Energy Soc. Japan
Country of Publication: USA
Language: English
Abstract: We argue for a multifractal analysis of the Chernobyl fall-out, necessary to capture its high degree of inhomogeneity. We show that it may be the result of a (nonclassical) Self Organized Critical transport mechanism. We proceed to a preliminary empirical estimate of critical orders of moments corresponding to first order multifractal phase transitions.
Number of References: 21
Descriptors: fission-reactor-accidents; fractals-; radioactive-pollution; transport-processes
Identifiers: Chernobyl-fall-out; self-organized-criticality; hot-spots; multifractal-analysis; inhomogeneity-; Self-Organized-Critical-transport-mechanism; first-order-multifractal-phase-transitions
Classification Codes: A8670G (Atmosphere-environmental-science); A0560 (Transport-processes-theory); A0555 (Fractals); A86; A05; A8; A0
Treatment Codes: T (Theoretical-or-Mathematical)
ISBN: 0894481983

Sort Key: 10894481983199500000000000000000000000743
Accession Number: 5131413
Update Code: 9548

Record 384 of 1145 in INSPEC 1995

Title: Clastogenic factors in the plasma of Chernobyl accident recovery workers: anticlastogenic effect of Ginkgo biloba extract

Author: Emerit-I; Oganesian-N; Sarkisian-T; Arutyunyan-R; Pogosian-A; Asrian-K; Levy-A; Cernjavski-L

Author Affiliation: Inst. des Cordeliers, CNRS, Paris, France

Source: Radiation-Research. vol.144, no.2; Nov. 1995; p.198-205

Publication Year: 1995

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: Clastogenic factors are found in the plasma of persons irradiated accidentally or therapeutically. They persisted in the plasma of A-bomb survivors over 30 years. Clastogenic factors were found in 33 of 47 Chernobyl accident recovery workers (often referred to as liquidators) in a previous study (I. Emerit et al., J. Cancer Res. Clin. Oncol., vol. 120, p. 558-561, 1994). In the present study, the authors show that there is a positive correlation between clastogenic activity and dose and that these biomarkers of oxidative stress can be influenced successfully by appropriate antioxidant treatment. With the authorization of the Armenian Ministry of Health, 30 workers were treated with antioxidants from Ginkgo biloba leaves. The extract EGb 761 containing flavonoids and terpenoids was given at a daily dose of 3*40 mg (Tanakan, IPSEN, France) during 2 months. The clastogenic activity of the plasma was reduced to control levels on the first day after the end of the treatment. A 1-year follow-up showed that the benefit of the treatment persisted for at least 7 months. One-third of the workers again had clastogenic factors after 1 year, demonstrating that the process which produced clastogenic factors continued. However, the observation that antioxidants do not have to be given continuously is encouraging for intervention trials on a large-scale basis. These appear justified, since clastogenic factors are thought to be risk factors for the development of late effects of irradiation.

Number of References: 43

Descriptors: biological-effects-of-ionising-radiation; blood-; disasters-; fission-reactor-accidents; personnel-

Identifiers: clastogenic-factors; Chernobyl-accident-recovery-workers; blood-plasma; Ginkgo-biloba-extract; anticlastogenic-effect; A-bomb-survivors; liquidators-; dose-; biomarkers-; oxidative-stress; antioxidant-treatment; Armenian-Ministry-of-Health; Ginkgo-biloba-leaves; extract-EGb-761; flavonoids-; terpenoids-; irradiation-late-effects; radiobiology-; 2-month-to-1-y; 30-y

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: time 5.3 E06 to 3.2 E07 s; age 3.0 E01 yr

Coden: RAREAE

ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/95/$5.00

Sort Key: 0000033758719950014400002000000000000198
Accession Number: 5130361
Update Code: 9548
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 385 of 1145 in INSPEC 1995

Title: Plutonium from Chernobyl in Poland
Author: Mietelski-JW; Was-B
Author Affiliation: Henryk Niewodniczanski Inst. of Nucl. Phys., Krakow, Poland
Source: Applied-Radiation-and-Isotopes. vol.46, no.11; Nov. 1995; p.1203-11
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Plutonium in the Environment. 6-8 July 1994; Ottawa, Ont., Canada
Country of Publication: UK
Language: English
Abstract: Samples of coniferous forest litter collected in Poland, of known gamma -emitting activity, have been analysed for alpha emitting plutonium isotopes. Specific as well as surface activities of the samples have been determined. Chernobyl and global fallout components have been distinguished for each sample. The observed maximum surface activity for Chernobyl fallout is above 25 Bq m/sup -2/ (for all alpha -emitting Pu isotopes), and up to 30% of expected global fallout values are also present in some samples. The Chernobyl component is well correlated with the previously determined /sup 144/Ce activity, which supports the model of small fuel-like hot particle precipitation. The radiochemical procedure and the method of analysis of spectra are described. The dosimetric interpretation of the results is presented.
Number of References: 24
Descriptors: air-pollution; disasters-; fission-reactor-accidents; plutonium-; radioactive-pollution; radioactivity-measurement
Identifiers: Chernobyl-; Poland-; coniferous-forest-litter; specific-activity; surface-activity; fallout-; Pu-isotopes; 144Ce-; hot-particle-precipitation; radiochemical-method; Pu-; Ce-
Classification Codes: A8670G (Atmosphere-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Ce-el
Coden: ARISEF
ISSN: 0883-2889
Copyright Clearance Center Code: 0883-2889/95/$9.50+0.00

Sort Key: 0000883288919950004600011000000000001203

Accession Number: 5128838
Update Code: 9548
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001
Bestand: 37.1986-43.1992

Record 386 of 1145 in INSPEC 1995

Title: Three Mile Island and Chernobyl: what happened? What did not?
Author: Rasmussen-NC
Author Affiliation: Dept. of Nucl. Eng., MIT, Cambridge, MA, USA
Source: Three Mile Island Reactor Pressure Vessel Investigation Project. Achievements and Significant Results. Proceedings. OECD, Paris, France; 1994; 402 pp.
p.33-8
Publication Year: 1994
Record Type: Conference-Paper
Conference Details: Proceedings of Conference on Three Mile Island Vessel Investigation Project. 20-22 Oct. 1993; Boston, MA, USA. Sponsored by: OECD Nucl. Energy Agency; US Nucl. Regul. Comm
Country of Publication: France
Language: English
Abstract: Three Mile Island (TMI) melted 20 tons of fuel and Chernobyl melted 190 tons of fuel. Contrary to some prior predictions the fuel at TMI collected in the bottom head but did not melt through the vessel. At Chernobyl about 130 tons of fuel remained in the reactor cavity after the explosion. It took nine days for this fuel to melt through 6 m of serpentine gravel after which it quickly spread on the floor below the reactor and solidified. It caused no damage to piping or building structures. Again this was much less damage than expected. Information from these two events should be used to see if more realistic models of core melt can be developed.
Number of References: 0
Descriptors: fission-reactor-accidents
Identifiers: TMI-2; Three-Mile-Island; Chernobyl-; molten-fuel; bottom-head; serpentine-gravel; core-melt-accidents; 20-ton; 190-ton
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Numerical Data Indexing: mass 2.0 E04 kg; mass 1.9 E05 kg

Sort Key: 1000000000019940000000000000000000000033
Accession Number: 5124240
Update Code: 9547

Record 387 of 1145 in INSPEC 1995

Title: Reasons for the RBMK reactor accident at the Chernobyl NPP

Author: Novikov-II; Kruzhilin-GN; Anan'ev-EP
Source: Nuclear-Engineer. vol.36, no.5; Sept.-Oct. 1995; p.142-6
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The paper confirms the conclusion of the State Commission, that the RBMK accident originated from flagrant mistakes made by Chernobyl operators due to low professional background. Therefore, the most significant thing that must be inferred from the Chernobyl accident is the necessity to provide NPP with competent operators and managers of reactors. Personnel must be recruited from specialists with university education or physical-engineering education, who acquired knowledge in nuclear processes, radiation physics and human and environmental safety. These very measures can ensure competence and responsibility of the staff. The staff in aviation, medicine, armed forces, and navy is formed by this principle. It is evident, that we meet here organizational problems, rather than scientific ones.
Number of References: 5
Descriptors: fission-reactor-accidents
Identifiers: RBMK-reactor-accident; Chernobyl-NPP; low-professional-background; personnel-; nuclear-processes; radiation-physics; environmental-safety; human-safety; aviation-; medicine-; armed-forces; navy-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NUEND7
ISSN: 0262-5091
Copyright Clearance Center Code: 0262-5091/95/$00.00+01.00

Sort Key: 00002625091199500036000050000000000000142
Accession Number: 5116894
Update Code: 9546

Record 388 of 1145 in INSPEC 1995

Title: Chromosome painting in highly irradiated Chernobyl victims: a follow-up study to evaluate the stability of symmetrical translocations and the influence of clonal aberrations for retrospective dose estimation
Author: Salassidis-K; Georgiadou-Schumacher-V; Braselmann-H; Muller-P; Peter-RU; Bauchinger-M
Author Affiliation: Inst. fur Strahlenbiol., GSF-Forschungszentrum fur Umwelt und Gesundheit Neuherberg, Oberschleissheim, Germany
Source: International-Journal-of-Radiation-Biology. vol.68, no.3; Sept. 1995; p.257-62
Publication Year: 1995
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: Follow-up fluorescence in situ hybridization (FISH) measurements of symmetrical translocations were performed in peripheral blood lymphocytes from 12 highly irradiated victims of the Chernobyl nuclear power plant accident biannually, between September 1991 and July 1994, to investigate the persistence of these aberration types with time post-exposure. Translocations were determined using biotin-labelled painted DNA probes for human chromosomes 1, 4 and 12 and a digoxigenin-labelled alpha - satellite pancentromeric DNA probe. In 11 of 12 cases the translocation frequencies remained fairly constant during the observation period, which allows one to generate comparable dose estimates for the various sampling times. In one case (no. 9) the existence of a cell clone containing the consistent chromosome rearrangement t(1;13)(q25;q14) was identified using FISH in rehybridized slides with a digoxygenin-labelled painting DNA probe for chromosome 13 and a separate G-banding analysis. To obtain reliable dose estimates, total translocation frequency has to be corrected for the high contribution (16.5-23.5%) of this clonal translocation.
Number of References: 11
Descriptors: blood-; cellular-effects-of-radiation; disasters-; DNA-; dosimetry-; fission-reactor-accidents; radioactive-pollution
Identifiers: chromosome-painting; highly-irradiated-Chernobyl-victims; follow-up-study; symmetrical-translocations-stability; retrospective-dose-estimation; fluorescence-in-situ-hybridization-measurements; biotin-labelled-painting-DNA-probes; human-chromosomes; digoxigenin-labelled-alpha-satellite-pancentromeric-DNA-probe; cellular-radiobiology; sampling-time; consistent-chromosome-rearrangement
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760M (Radiation-dosimetry); A8725F (Physics-of-subcellular-structures); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8
Treatment Codes: X (Experimental)
Coden: IJRBA3
ISSN: 0020-7616
Copyright Clearance Center Code: 0020-7616/95/$10.00

Sort Key: 00000207616199500068000030000000000000257
Accession Number: 5115556
Update Code: 9546
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 389 of 1145 in INSPEC 1995

Title: Radioactivity clean-up and exposures at Chernobyl nuclear power plant
Author: Nosovsky-AV

Source: Nuclear-Europe-Worldscan. vol.15, no.7-8; July-Aug. 1995; p.100
Publication Year: 1995
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The 1986 explosion of the Chernobyl-4 RBMK reactor released huge amounts of radioactivity into the environment causing mass contamination on-site and far away. The first response was to seal the wrecked reactor in a huge concrete structure, which has become known worldwide as the 'sarcophagus'. Thereafter, unprecedented clean-up made it possible first to stabilize, and then significantly to improve, the radiation situation at Chernobyl so that it was acceptable to continue operating the station. Decontamination covered 24 million m/sup 2/ of cleaned premises and rooms inside the station and more than 6 million m/sup 2/ outside. Most of the rooms have been brought down below the radiation limits set by the regulatory code. Above the limits are only 2% of the premises of the operating reactors and 25% of the site area (excluding the sarcophagus).
Number of References: 0
Descriptors: dosimetry-; fission-reactor-accidents; nuclear-power-stations; radiation-decontamination; radiation-monitoring; radiation-protection
Identifiers: radioactivity-cleanup; radioactivity-exposures; Chernobyl-nuclear-power-plant; explosion-; Chernobyl-4-RBMK-reactor; mass-contamination; sarcophagus-; concrete-structure; decontamination-; radiation-limits; regulatory-code; fission-reactor-accident
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8760P (Radiation-protection); A2880C (Dosimetry); A2880 (Radiation-technology-including-shielding); A8760M (Radiation-dosimetry); B7530B (Radiation-protection-and-dosimetry); B8220B (Nuclear-reactors); B0160 (Plant-engineering-maintenance-and-safety); A28; A87; B75; B82; B01; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: NEWOEN

Sort Key: 00000000001995000150000700000000000100
Accession Number: 5110581
Update Code: 9545

Record 390 of 1145 in INSPEC 1995

Title: Chernobyl health effects: radiation or stress?
Author: Greenhalgh-G
Source: Nuclear-Engineering-International. vol.40, no.496; Nov. 1995; p.38-9
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: While very high numbers of deaths and other illnesses have been attributed to the Chernobyl accident, sometimes deliberately to raise fears about nuclear energy, there is growing medical evidence that fear itself plays a part in causing the health problems.
Number of References: 0
Descriptors: biological-effects-of-radiation; fission-reactor-accidents; health-hazards
Identifiers: Chernobyl-health-effects; radiation-; stress-; Chernobyl-accident; nuclear-energy; medical-evidence
Classification Codes: A8750 (Biological-effects-of-radiations); A8790 (Other-topics-in-biophysics-medical-physics-and-biomedical-engineering); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: G (General-or-Review)
Coden: NEINBF
ISSN: 0029-5507

Sort Key: 0000029550719950004000496000000000000038
Accession Number: 5110353
Update Code: 9545
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 391 of 1145 in INSPEC 1995

Title: The new sarcophagus: a plan without funds (Chernobyl accident)
Author: Perera-J
Source: Nuclear-Engineering-International. vol.40, no.496; Nov. 1995; p.33-5
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: While the recommendations of the Alliance consortium's engineering feasibility study for a second sarcophagus at Chernobyl did not meet with universal approval in Ukraine, there was general agreement on both sides that compromise would eventually be possible on technical and other matters. But these differences are rapidly becoming academic in the face of the failure to find funding.
Number of References: 0
Descriptors: fission-reactor-accidents
Identifiers: sarcophagus-; Chernobyl-accident; engineering-feasibility-study; Ukraine-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review); P (Practical)
Coden: NEINBF
ISSN: 0029-5507

Sort Key: 0000029550719950004000496000000000000033

Accession Number: 5110351
Update Code: 9545
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 392 of 1145 in INSPEC 1995

Title: Chernobyl theories: treat with caution
Author: Sich-AR
Source: Nuclear-Engineering-International. vol.40, no.496; Nov. 1995; p.30, 32
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: We are still a long way from fully understanding the accident sequence at Chernobyl, in particular the mechanisms immediately following the rapid rise in reactivity. A recent theory includes the suggestion that the entire core rose 14 m and exploded in mid-air. But aspects of this scenario are questionable.
Number of References: 0
Descriptors: fission-reactor-accidents; reactivity-fission-reactors
Identifiers: Chernobyl-accident; rapid-reactivity-rise; core-rise; core-explosion
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2843D (Core-control-and-guidance-in-fission-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NEINBF
ISSN: 0029-5507
Copyright Statement: Copyright 1995, IEE
Sort Key: 00000295507199500040004960000000000000030
Accession Number: 5110350
Update Code: 9545
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 393 of 1145 in INSPEC 1995

Title: The Chernobyl accident
Author: Bouville-A
Author Affiliation: Radiat. Effects Branch, Nat. Cancer Inst., Bethesda, MD, USA
Source: Radiation-Protection-Dosimetry. vol.60, no.4; 1995; p.287-93
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: Radiobiology and Dosimetry of Inhaled Radionuclides. 9-10 Nov. 1993; Richland, WA, USA
Country of Publication: UK

Language: English

Abstract: The accident at Unit 4 of the Chernobyl nuclear power plant, which is located in Ukraine, about 30 km south of the border with Belarus, was the most severe in the nuclear industry. The accident, which occurred in April 1986, caused the rapid death of 31 power plant employees and Bremen, mainly from acute radiation exposures and burns, and brought about the evacuation of 116,000 people within a few weeks. In addition, about half a million workers and four million members of the public have been exposed, to some extent, to radiation doses resulting from the Chernobyl accident. A large number of radiation measurements have been made since the accident in order to reconstruct the doses received by the most exposed populations. On the basis of currently available information, it appears that: (1) average doses received by clean-up workers from external irradiation decreased with time, being about 300 mGy for the persons who worked in the first three months after the accident, about 170 mGy for the remainder of 1986, 130 mGy in 1987, 30 mGy in 1988, and 15 mGy in 1989; (2) the evacuees received, before evacuation, effective doses averaging 11 mSv for the population of Pripyat, and 18 mSv for the remainder of the population of the 30 km zone, with maximum effective doses ranging up to 380 mSv; and (3) among the populations living in contaminated areas, the highest doses were those delivered to the thyroids of children. Thyroid doses derived from thyroid measurements among Belarussian and Ukrainian children indicate median thyroid doses of about 300 mGy, and more than 1% of the children with thyroid doses in excess of 5000 mGy. A description is provided of the epidemiological studies that the National Cancer Institute has, since 1990, at the request of the Department of Energy endeavoured to undertake, in cooperation with Belarus and Ukraine, on two possible health effects resulting from the Chemobyl accident: (1) thyroid cancer in children living in contaminated areas during the first few weeks following the accident, and (2) leukaemia among workers involved in clean-up operations at the reactor site in 1986 and 1987.

Number of References: 14

Descriptors: biological-effects-of-ionising-radiation; dosimetry-; fission-reactor-accidents; health-hazards; personnel-; radioactive-pollution

Identifiers: Chernobyl-nuclear-power-plant; Chernobyl-accident; median-thyroid-doses; epidemiological-studies; thyroid-cancer; leukaemia-; rapid-death; power-plant-employees; acute-radiation-exposures; burns-; evacuation-; workers-; reactor-site; health-effects; exposed-populations; clean-up-workers; external-irradiation; Pripyat-; maximum-effective-doses; thyroid-measurements; Belarussian-children; Ukrainian-children; 300-mGy; 5000-mGy; 170-mGy; 11-mSv; 18-mSv; 130-mGy; 30-mGy; 15-mGy; 380-mGy

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A8670 (Environmental-science); A87; A28; A86; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation absorbed dose 3.0E-01 Gy; radiation absorbed dose 5.0 E00 Gy; radiation absorbed dose 1.7E-01 Gy; radiation dose equivalent 1.1E-02 Sv; radiation dose equivalent 1.8E-02 Sv; radiation absorbed dose 1.3E-01 Gy; radiation absorbed dose 3.0E-02 Gy; radiation absorbed dose 1.5E-02 Gy; radiation absorbed dose 3.8E-01 Gy
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201995000600000400000000000287
Accession Number: 5107786
Update Code: 9545
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 394 of 1145 in INSPEC 1995

Title: The use of ceramics for retrospective dosimetry in the Chernobyl exclusion zone
Author: Bailiff-IK
Author Affiliation: Environ. Res. Centre, Durham Univ., UK
Source: Radiation-Measurements. vol.24, no.4; Oct. 1995; p.507-18
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: LUMDETR '94. International Symposium on Luminescent Detectors and Transformers of Ionizing Radiation. 25-29 Sept. 1994; Tallinn, Estonia. Sponsored by: Int. Sci. Found
Country of Publication: UK
Language: English
Abstract: The use of luminescence techniques with ceramic materials is playing an increasingly important role in retrospective dosimetry. Thermoluminescence measurements with ceramics at Hiroshima and Nagasaki and in areas downwind of the Nevada Test Site have shown that dose estimates may be obtained which are of value in comparisons with the results of modelling calculations. The Chernobyl accident has provided a recent example where retrospective dosimetry is urgently required in order to advance epidemiological studies of the population. This paper examines some of the approaches which are being used with luminescence techniques to provide dose estimates for samples from Pripyat and how they can be used to contribute to the wider problem of dose reconstruction in the 30 km Exclusion Zone.
Number of References: 11
Descriptors: ceramics-; dosimetry-; thermoluminescent-dosimeters
Identifiers: Chernobyl-exclusion-zone; retrospective-dosimetry; ceramics-; luminescence-; thermoluminescence-; Hiroshima-; Nagasaki-; Nevada-Test-Site; Pripyat-; 30-km
Classification Codes: A2880C (Dosimetry); A8760M (Radiation-dosimetry); B7530B (Radiation-protection-and-dosimetry); A28; A87; B75; A2; A8; B7
Treatment Codes: X (Experimental)

Numerical Data Indexing: size 3.0 E04 m
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/95/$9.50+.00
Copyright Statement: Copyright 1995, IEE
Sort Key: 0001350448719950002400004000000000000507
Accession Number: 5107593
Update Code: 9545
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 395 of 1145 in INSPEC 1995

Title: Dark after Chernobyl? Closing former Soviet power reactors
Author: Scott-MJ; Dagle-JE; Gaustad-KL; Placet-M; Roop-JM; Schienbein-LA; Ulibarri-CA
Author Affiliation: Pacific Northwest Lab., Richland, WA, USA
Source: Energy-Policy. vol.23, no.8; Aug. 1995; p.703-17
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: International pressure to close some of the old nuclear reactors built by the former Soviet Union (PSU) has accelerated in the period since that country's dissolution. This pressure has been countered, however, by the argument that resulting electricity shortfalls would hasten ongoing social and economic dislocations. Under feasible economic scenarios, this paper identifies which regions would likely experience electricity supply shortfalls, outlines what adjustments in electricity transfers between regions could offset the shortfalls, and estimates the implied costs and schedules of related power plant and transmission construction projects. Costs of closure range from less than US$1 billion to as much as US$16 billion.
Number of References: 4
Descriptors: costing-; economics-; electricity-supply-industry; fission-reactor-decommissioning; nuclear-power-stations; power-system-interconnection; power-transmission; project-engineering
Identifiers: nuclear-reactors; former-Soviet-Union; nuclear-power-plants; electricity-shortfalls; economic-scenarios; electricity-transfers; costs-; schedules-; power-plant-construction-projects; power-transmission-construction-projects; closure-costs
Classification Codes: A2847 (Fission-reactor-decommissioning); B8220B (Nuclear-reactors); B8110B (Power-system-management-operation-and-economics); A28; B82; B81; A2; B8
Treatment Codes: E (Economic); G (General-or-Review)
Coden: ENPYAC
ISSN: 0301-4215
Copyright Clearance Center Code: 0301-4215/95/$10.00+0.00

Sort Key: 00003014215199500023000080000000000000703
Accession Number: 5102524
Update Code: 9544

Record 396 of 1145 in INSPEC 1995

Title: Environmental study of radioactive caesium in Greek lake fish after the Chernobyl accident

Author: Kritidis-P; Florou-H
Author Affiliation: Inst. of Nucl. Technol.-Radiat. Protectio, NCSR Demokritos, Athens, Greece

Source: Journal-of-Environmental-Radioactivity. vol.28, no.3; 1995; p.285-93
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The radiological status of radiocaesium in the Greek environment until 1986 has been characterized by the impact of world-wide fallout. During 1986, the Chernobyl nuclear accident resulted in an average deposition of total caesium (/sup 134/Cs+/sup 137/Cs) of approximately=9 kBq m/sup -2/ in Greece, while regional averages ranged within 3-45 kBq m/sup -2/. The radioactive contamination of the lake ecosystems is potentially a radiologically important consequence of the accident. The effects of /sup 137/Cs and /sup 134/Cs introduced into a number of major Greek lake ecosystems has been evaluated in the present work by determination of their concentrations in various lake fish species during the years 1986, 1988 and 1989. Although the representative and predominant species typically differ from lake to lake, while the local deposition of caesium varies significantly, the bioaccumulation of caesium by the examined species seems to depend rather on the fish species than on the local environmental parameters. The time-dependence of the fish contamination has been used to evaluate the contribution of lake fish consumption to the total ingestion dose of the population.

Number of References: 9
Descriptors: caesium-; lakes-; radioactive-pollution
Identifiers: Greek-lake-fish; Chernobyl-; radiocaesium-; radiological-status; radioactive-Cs; regional-averages; radioactive-contamination; lake-ecosystems; bioaccumulation-; local-environmental-parameters; fish-contamination; total-ingestion-dose
Classification Codes: A8670E (Water-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9240N (Lakes); B7720 (Pollution-detection-and-control); A86; A87; A92; B77; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/95/$9.50+0.00

Sort Key: 0000265931X19950002800003000000000000285
Accession Number: 5076524
Update Code: 9540

Record 397 of 1145 in INSPEC 1995

Title: Assessment of the radioactive state of groundwaters near the Chernobyl nuclear power plant
Author: Kononovich-AL; Oskolkov-BYa; Kudryavtseva-NA; Rostovtsev-AL; Korotkov-VT; Nosovskii-AV; Vasil'chenko-VN; Chaban-NG
Source: Atomic-Energy. vol.77, no.5; Nov. 1994; p.872-7
Translated from: Atomnaya-Energiya. vol.77, no.5; Nov. 1994; p.386-91
Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: We give a brief description of the distribution of radioactive contamination as well define a concept of assessment of a situation at the level of radiation safety of personnel and population, as developed in application to the Chernobyl nuclear power plant. As a result of the Chernobyl accident, the groundwaters in the region of the plant are subjected to radioactive contamination. The sources of the contamination are mainly waste storage locations and burial sites. Less likely sources are sections of highly contaminated soil.
Number of References: 1
Descriptors: fission-reactor-accidents; radioactive-pollution; water-pollution
Identifiers: groundwater-; Chernobyl-nuclear-power-plant; radioactive-contamination; waste-storage; contaminated-soil; waste-burial-site
Classification Codes: A8670E (Water-environmental-science); A9240K (Groundwater); A9330D (Asia); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7705-0872$12.50

Sort Key: 0000004716319940007700005000000000000386
Accession Number: 5056105
Update Code: 9537
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 398 of 1145 in INSPEC 1995

Title: Estimates of thyroid equivalent dose in Lithuania following the Chernobyl accident
Author: Nedveckaite-T; Filistowicz-W

Author Affiliation: Lab. of Radiat. Safety, Inst. of Phys., Vilnius, Lithuania
Source: Health-Physics. vol.69, no.2; Aug. 1995; p.265-8
Publication Year: 1995
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The volatile radioiodine was detected in Lithuania in the very first days after the Chernobyl accident. The proportion of gaseous /sup 131/I species of airborne iodine identified during that period exceeded from 2 to 4 times the aerosol fraction. The radioiodine activity of milk consumed by inhabitants of Lithuania varied over a broad range. /sup 131/I activity in milk reached a peak on the fourth day after deposition and then decreased with an effective half-time ranging from 4.2+or-0.6 d to 5.2+or-0.9 d. Thyroid examinations by dosimetric teams were not available in Lithuania for reasons beyond the control of experimenters. Because of this, thyroid equivalent doses were estimated using the modified ICRP three-compartment cyclic model. These calculations applied Monte Carlo methods and consideration of regional iodine deficiency to generate frequency distributions of equivalent doses to the infant and adult thyroid gland in three areas of Lithuania with different contamination levels.
Number of References: 11
Descriptors: air-pollution; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; iodine-; Monte-Carlo-methods; radioactive-pollution; radioisotopes-
Identifiers: thyroid-equivalent-dose; Lithuania-; Chernobyl-accident; volatile-radioiodine; gaseous-131I-species; airborne-I; aerosol-fraction; 131I-activity; milk-; effective-half-time-ranging; thyroid-examinations; dosimetric-teams; modified-ICRP-three-compartment-cyclic-model; Monte-Carlo-methods; regional-I-deficiency; frequency-distributions; adult-thyroid-gland; infant-thyroid-gland; contamination-levels; I-
Classification Codes: A8760M (Radiation-dosimetry); A8670G (Atmosphere-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A87; A86; A28; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/95/$3.00

Sort Key: 00000179078199500069000020000000000000265
Accession Number: 5055979
Update Code: 9537
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Title: Why INSAG has still got it wrong (Chernobyl accident)
Author: Dyatlov-A
Source: Nuclear-Engineering-International. vol.40, no.494; Sept. 1995; p.17-21
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The INSAG-7 report of the IAEA's International Nuclear Safety Advisory Group has become widely accepted as the closest thing we have to a definitive assessment of the causes of the Chernobyl accident. But INSAG-7 gives an inaccurate picture of what happened, says the plant's former deputy chief engineer.
Number of References: 0
Descriptors: fission-reactor-accidents; fission-reactor-safety
Identifiers: Chernobyl-accident; INSAG-7-report; IAEA-International-Nuclear-Safety-Advisory-Group
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507

Sort Key: 00000295507199500040004940000000000000017
Accession Number: 5055154
Update Code: 9537

Record 400 of 1145 in INSPEC 1995

Title: The Chernobyl accident revisited. II. The state of the nuclear fuel located within the Chernobyl sarcophagus
Author: Borovoi-AA; Sich-AR
Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia
Source: Nuclear-Safety. vol.36, no.1; Jan.-June 1995; p.1-32
Publication Year: 1995
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: For pt.I see Sich, ibid. (1994) Approximately 135 tonnes of the 190.3-tonne initial core fuel load (approximately=71%) at Chernobyl Unit 4 melted and flowed into the lower regions of the reactor building to form various kinds of the now-solidified lava-like fuel-containing materials (LFCMs) or corium. The results of radiochemical analyses reveal that only 5% of the LFCM inventory of Ru-106 remains, whereas, surprisingly, 35% of the LFCM inventory of Cs-137 remains. Moreover the results of

these analyses support the fact that little if any of the 5020 tonnes of various materials (dropped from helicopters during the active phase of the accident in an attempt to smother the burning graphite) ever made it into the core shaft, where the bulk of the core was located. The results appear to support earlier Western source-term estimates that significantly more volatile radionuclides may have been released as a result of the accident.

Number of References: 37
Descriptors: disasters-; fission-reactor-accidents; fission-reactor-fuel
Identifiers: Chernobyl-accident; sarcophagus-; nuclear-fuel; corium-; lava-like-fuel-containing-materials; 106Ru-; 137Cs-; Ru-; Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fission-reactor-fuel-elements); A28; A2
Treatment Codes: P (Practical)
Chemical Indexing: Ru-el; Cs-el
Coden: NUSAAZ
ISSN: 0029-5604

Sort Key: 00000295604199500036000010000000000000001
Accession Number: 5052405
Update Code: 9537

Record 401 of 1145 in INSPEC 1995

Title: Dynamics of /sup 137/Cs concentration in agricultural products in areas of Russia contaminated as a result of the accident at the Chernobyl nuclear power plant
Author: Fesenko-SV; Alexakhin-RM; Spiridonov-SI; Sanzharova-NI
Author Affiliation: Russian Inst. of Agric. Radiol. & Agroecology, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.60, no.2; 1995; p.155-66
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The dynamics of /sup 137/Cs concentration in the main types of agricultural products obtained in regions of Russia contaminated as a result of the Chernobyl nuclear power plant (NPP) accident, in 1986, have been analysed. The rate of decline of /sup 137/Cs contamination in agricultural products during the period under study (1987-1992) was not uniform. Reductions of the /sup 137/Cs content of produce was most rapid during the early years after the accident, as a consequence of the intensive application of countermeasures at that time. Half-life periods for /sup 137/Cs content in milk (the basic dose-forming product) and the decrease in products for areas in Russia subjected to the most intensive contamination amounted to 1.6 to 4.8 years, depending on the scale of countermeasures carried out. Half-life periods of decrease of /sup 137/Cs content in other types of agricultural products (grain, potato) were within the range of 2 to 7 years. Based on the comparison of the dynamics of /sup 137/Cs levels in

agricultural products of the regions where the countermeasures scales differed, the contribution of countermeasures and of natural biogeochemical processes to the decrease of /sup 137/Cs contamination levels of the main types of agricultural products that determine the dose from internal irradiation of local population has been estimated.
Number of References: 18
Descriptors: agriculture-; caesium-; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: 137Cs-concentration; agricultural-products; Russia-; Chernobyl-nuclear-power-plant-accident; 137Cs-contamination; half-life-periods; milk-; basic-dose-forming-product; countermeasures-; grain-; potato-; natural-biogeochemical-processes; internal-irradiation; local-population; dose-; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8760M (Radiation-dosimetry); A8670C (Soil-and-rock-environmental-science); A2880C (Dosimetry); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201995000600000200000000000155
Accession Number: 5045768
Update Code: 9536

Record 402 of 1145 in INSPEC 1995

Title: Radiocesium body burdens in immigrants to Israel from areas of the Ukraine, Belarus and Russia near Chernobyl
Author: Quastel-MR; Kramer-GH; Goldsmith-JR; Polyak-S; Kordysh-E; Noel-L; Cohen-R; Gorodisher-R
Author Affiliation: Inst. of Nucl. Med., Ben-Gurion Univ. of the Negev, Beer-Sheva, Israel
Source: Health-Physics. vol.69, no.1; July 1995; p.102-10
Publication Year: 1995
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Of the 500,000 immigrants from the former Soviet Union who came to Israel during 1990-1993, about 100,000 are estimated to have come from radiocontaminated areas near Chernobyl. These people were subject to chronic uptake of environmental radiocesium over protracted periods. During October-November 1991, a joint Israeli-Canadian investigation measured radiocesium body burdens in immigrants to Israel from the Ukraine, Belarus, and the southern Russian republic in order to provide factual information on radiocesium levels to concerned immigrants and to relate the body

burdens to the geographic area of residence before coming to Israel. Assessments were made of /sup 137/Cs body burdens in 1,228 volunteer men, women, and children. These measurements were accompanied by medical assessments based on clinical histories and examinations. Radiocesium levels were strongly dependent on the duration of residence in Israel, with the highest levels being found in the most recent immigrants. The maximum level, extrapolated back to the time of leaving the former Soviet Union, was estimated to be about 0.83 kBq (10.3 Bq kg/sup -1/). Of the most recent immigrants from the Kiev region (<101 days in Israel), only 15% had back extrapolated body burdens >50 Bq, whereas 53% of those coming from Gomel and other towns in the contaminated zones (>3.7*10/sup 10/ Bq km/sup -2/ of radiocesium) had detectable levels >50 Bq. People coming from the latter region had significantly higher body burdens as compared to those from the former, in accordance with the higher degree of ground radiocesium contamination reported for the latter region. Women and children showed considerably lower total radiocesium content in comparison to men. All radiocesium body burdens at the time of measurement were too low to be of health concern.

Number of References: 19
Descriptors: caesium-; disasters-; fission-reactor-accidents; health-hazards; radioisotopes-
Identifiers: 137Cs-body-burdens; immigrants-; Israel-; former-Soviet-Union; Ukraine-; Chernobyl-; Russia-; Belarus-; radiocontaminated-areas; chronic-uptake; environmental-radiocesium; joint-Israeli-Canadian-investigation; geographic-area-of-residence; volunteer-men; women-; children-; medical-assessments; clinical-histories; clinical-examinations; recent-immigrants; Kiev-region; back-extrapolated-body-burdens; Cs-
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/95/$3.00

Sort Key: 00000179078199500069000010000000000000102
Accession Number: 5037704
Update Code: 9534

Record 403 of 1145 in INSPEC 1995

Title: Assessment of radiation doses to aquatic organisms in the Chernobyl contaminated area
Author: Kryshev-II; Sazykina-TG
Author Affiliation: Inst. of Exp. Meteorol., Obninsk, Russia

Source: Journal-of-Environmental-Radioactivity. vol.28, no.1; 1995; p.91-103
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Internal and external radiation exposures of aquatic organisms (algae, molluscs, fish) are estimated over the affected Chernobyl area. The estimates are made based on experimental data about radionuclide content in components of aquatic ecosystems of the Chernobyl Nuclear Power Plant (NPP) cooling pond, the Dnieper watershed rivers and the Dnieper reservoirs. To reconstruct and predict the radiation doses a mathematical model of an aquatic ecosystem was proposed, which was verified with monitoring data. The model describes dynamic processes of radionuclide migration and accumulation with allowance for ecological factors which are explicitly included in the model equations. The highest irradiation was shown to occur in benthic organisms of the nearest zone around the Chernobyl NPP. For most water reservoirs outside the Chernobyl NPP area, irradiation levels of aquatic organisms do not go beyond the limits of 'small doses'.
Number of References: 9
Descriptors: fission-reactor-accidents; radiation-monitoring
Identifiers: radiation-doses; aquatic-organisms; Chernobyl-contaminated-area; external-radiation-exposures; internal-radiation-exposures; algae-; molluscs-; fish-; radionuclide-content; aquatic-ecosystems; Chernobyl-Nuclear-Power-Plant-cooling-pond; Dnieper-watershed-rivers; Dnieper-reservoirs; aquatic-ecosystem; radionuclide-migration; radionuclide-accumulation; irradiation-; benthic-organisms
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/95/$9.50+0.00

Sort Key: 0000265931X19950002800001000000000000091
Accession Number: 5024413
Update Code: 9532

Record 404 of 1145 in INSPEC 1995

Title: High exposures to radiation received by workers inside the Chernobyl sarcophagus
Author: Sevan'kaev-AV; Lloyd-DC; Edwards-AA; Moiseenko-VV
Author Affiliation: Med. Radiological Res. Centre, Obninsk, Russia
Source: Radiation-Protection-Dosimetry. vol.59, no.2; 1995; p.85-91
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Data are presented from quartz fibre electrometer measurements and chromosomal aberration analyses for six men sampled from a group of about 15 subjects who, for several years, have undertaken a variety of tasks inside the sarcophagus that covers the ruined reactor at Chernobyl. Personal doses estimated by both methods are subject to a number of uncertainties and approximations which are discussed. Broad agreement between the physical and biological dosimetry methods was found indicating that very high, albeit fractionated and protracted, exposures had been received with approximate total doses ranging from 1-15 Gy.
Number of References: 11
Descriptors: accidents-; disasters-; dosimetry-; fission-reactor-safety; health-hazards; personnel-
Identifiers: personal-doses; physical-dosimetry-methods; fractionated-protracted-exposures; radiation-; workers-; Chernobyl-sarcophagus; quartz-fibre-electrometer-measurements; chromosomal-aberration-analyses; men-; ruined-reactor; biological-dosimetry-methods; approximate-total-doses; 1-to-15-Gy
Classification Codes: A2880C (Dosimetry); A2847 (Fission-reactor-decommissioning); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A28; A87; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 1.0 E00 to 1.5 E01 Gy
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201995000590000200000000000085
Accession Number: 5017288
Update Code: 9531
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 405 of 1145 in INSPEC 1995

Title: Increased frequency of sister chromatid exchanges in lymphocytes of Chernobyl clean-up workers
Author: Lazutka-JR; Dedonyte-V
Author Affiliation: Dept. of Botany & Genetics, Vilnius Univ., Lithuania
Source: International-Journal-of-Radiation-Biology. vol.67, no.6; June 1995; p.671-6
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Sister chromatid exchanges (SCEs) were analysed in lymphocytes from 12 control persons and 33 Chernobyl clean-up workers. The group of Chernobyl clean-up workers consisted of civilians who were forced to go to Chernobyl to clean up environmental

contamination caused by Chernobyl disaster. On average, they received 0.13 (range 0.04-0.249) Gy of external irradiation before returning to home. Cytogenetic analyses were performed 6-8 years after the irradiation. Standard cytogenetic techniques were used. Mean SCE frequency was 7.45+or-0.69 SCE/cell in controls and 10.30+or-0.31 SCE/cell in clean-up workers ($p<0.05$). Analysis of variance showed that exposure to radiation explained 19.6%, occupational exposure to various chemical substances, 11.9%, coffee consumption, 8.3%, smoking, 4.2%, interaction between smoking and coffee consumption, 3.6%, and alcohol abuse, 3.4% of total variation in SCE frequency. Effects of all above confounding factors were significant ($P<0.05$). In addition, increased frequencies of chromosome aberrations due to exposure at Chernobyl and alcohol consumption were observed. However, there was no correlation between external dose of irradiation and the frequency of chromosome aberrations. Thus, even 6-8 years after the irradiation, cytogenetic effects in lymphocytes of Chernobyl clean-up workers are still significant.

Number of References: 23

Descriptors: accidents-; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; health-hazards; personnel-; radioactive-pollution

Identifiers: sister-chromatid-exchanges; lymphocytes-; Chernobyl-clean-up-workers; control-persons; civilians-; environmental-contamination; Chernobyl-disaster; external-irradiation; cytogenetic-analyses; standard-cytogenetic-techniques; occupational-exposure; chemical-substances; coffee-consumption; smoking-; alcohol-abuse; confounding-factors; frequency-; alcohol-consumption; chromosome-aberrations; 0-04-to-0-249-Gy

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725 (Cellular-biophysics); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation absorbed dose 4.0E-02 to 2.49E-01 Gy

Coden: IJRBA3
ISSN: 0020-7616

Sort Key: 00000207616199500067000060000000000000671

Accession Number: 5013132
Update Code: 9530

Record 406 of 1145 in INSPEC 1995

Title: Radioactive contamination of aquatic ecosystems following the Chernobyl accident

Author: Kyshev-II
Author Affiliation: Inst. of Exp. Meterol., Obninsk, Russia

Source: Journal-of-Environmental-Radioactivity. vol.27, no.3; 1995; p.207-19

Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The dynamics of radioactive contamination of aquatic ecosystems (1986-1990) is considered on the basis of observational data in the near and distant zones of the Chernobyl fallout. The author studies the Chernobyl Nuclear Power Plant, its cooling pond, the Pripyat River, the Dnieper reservoirs, and the Kopor inlet of the Gulf of Finland. Radionuclide accumulation in aquatic biota is analyzed. The results obtained indicate that the radioecological conditions in the water bodies under investigation were in a state of non-equilibrium over a long period of time following the Chernobyl accident. Reduction in the /sup 137/Cs concentration proceeded slowly in most of the aquatic ecosystems. The effect of trophic levels which consisted of increased accumulation of radiocaesium by predatory fish was observed in various parts of the contaminated area.
Number of References: 9
Descriptors: accidents-; lakes-; nuclear-power-stations; oceanographic-regions; radioactive-pollution; rivers-; water-pollution
Identifiers: radioactive-pollution; water-pollution; AD-1986-to-1990; Russia-; Ukraine-; nuclear-reactor-accident; radioactive-contamination; aquatic-ecosystem; Chernobyl-; fallout-; Nuclear-Power-Plant; cooling-pond,; Pripyat-River; Dnieper-reservoir; Kopor-inlet-fish-animal-Estonia; Gulf-of-Finland; Baltic-Sea; ocean-; marine-pollution; aquatic-biota; marine-biology; 137Cs-; Cs-
Classification Codes: A8670E (Water-environmental-science); A9330G (Europe); A9330R (Regional-seas); A9220N (Pollution-of-the-oceans); A9240Q (Water-quality-and-water-resources); A9240F (Rivers-runoff-and-streamflow); A9240N (Lakes); A9210S (Coastal-and-estuarine-oceanography); A9220J (Biological-aspects-of-oceanography); A86; A93; A92; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19950002700003000000000000207
Accession Number: 5007190
Update Code: 9529

Record 407 of 1145 in INSPEC 1995

Title: Fire alarm: examining the Chernobyl sarcophagus
Author: Azarov-S; Tokarevsky-V
Author Affiliation: Nat. Acad. of Sci., Kiev, Ukraine
Source: Nuclear-Engineering-International. vol.40, no.491; June 1995; p.38-9

Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Many aspects of the sarcophagus at Chernobyl have still to be investigated. Detecting and preventing fire is an example.
Number of References: 0
Descriptors: fires-; radiation-protection
Identifiers: Chernobyl-sarcophagus; fire-alarm; fire-prevention; fire-detection
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8240P (Flames-combustion-and-explosions); B7530B (Radiation-protection-and-dosimetry); B0160 (Plant-engineering-maintenance-and-safety); A28; A87; A82; B75; B01; A2; A8
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Copyright Statement: Copyright 1995, IEE
Sort Key: 0000029550719950004000491000000000000038
Accession Number: 5002484
Update Code: 9528
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 408 of 1145 in INSPEC 1995

Title: Radiological effects after inhalation of highly radioactive fuel particles produced by the Chernobyl accident
Author: Likhtariov-IA; Repin-VS; Bondarenko-OA; Nechaev-SJu
Author Affiliation: Res. Centre for Radiol. Med, Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.59, no.4; 1995; p.247-54
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A short review is presented of the results of long-standing research into the hot particles released into the environment after the Chernobyl accident, and their radiobiological significance. Due to the lack of direct measurements of hot particles in the lung, a conceptual method has been developed to estimate integral lung intake from measurements of soil contamination. The significance of the beta component of the radiation from hot particles has been reconsidered because this component may give rise to preconditions for oncogenic effects. A modification factor F has been introduced, which is defined as the ratio of average risks for different conditions of irradiation. It is shown that linear dose-effect models give the same results for uniform and point irradiation. Over the dose range 0.1 to 2 Gy if was found that a hot particle gives a

higher risk of oncogenic detriment than the corresponding uniform dose distribution (F>1). The corresponding modification factor shows a maximum value of 5 at approximately 0.6 Gy.

Number of References: 23

Descriptors: biological-effects-of-ionising-radiation; disasters-; dosimetry-; fission-reactor-accidents; health-hazards; lung-; radioactive-pollution

Identifiers: highly-radioactive-fuel-particles; Chernobyl-accident; radiological-effects; inhalation-; hot-particles; environment-; radiobiological-significance; conceptual-method; integral-lung-intake; soil-contamination; beta-component; oncogenic-effects; modification-factor; average-risk; linear-dose-effect-models; irradiation-; dose-range; oncogenic-detriment; uniform-dose-distribution; 0-1-to-2-Gy

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation absorbed dose 1.0E-01 to 2.0 E00 Gy

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 0000144842019950005900004000000000000247

Accession Number: 4993865

Update Code: 9527

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 409 of 1145 in INSPEC 1995

Title: Application of solid state nuclear track detector method for determination of sizes and alpha-activity of "hot" particles of Chernobyl fuel release

Author: Zhuk-IV; Lomonosova-EM; Yaroshevich-OI; Kievetz-Mk; Boulyga-SF; Tzekhanovich-IA; Mironov-VP; Kudryashov-VP; Drugachonok-MA

Author Affiliation: Inst. of Power Eng. Problems, Acad. of Sci., Minsk, Byelorussia

Source: Radiation-Measurements. vol.25, no.1-4; 1995; p.419-20

Publication Year: 1995

Record Type: Conference-Paper; Journal-article

Conference Details: 17th International Conference on Nuclear Tracks in Solids. 24-28 Aug. 1994; Dubna, Russia. Sponsored by: INTAS; Atomic Energy Organ.; Russian Found. Fundamental Res.; et al

Country of Publication: UK

Language: English

Abstract: The method of determination of the sizes and alpha-activity of aerosol "hot" particles with of neutron-fragment and alpha-radiography has been developed. About 300 aerosol "hot" particles, selected in resettlement as well as living districts were

investigated. Distributions of "hot" particles over the size and activity were obtained. The results of determination of activity of the most active "hot" particles with radiochemical, neutron-fragment and alpha-radiographic methods are presented.
Number of References: 1
Descriptors: radiation-monitoring; solid-state-nuclear-track-detectors
Identifiers: solid-state-nuclear-track-detector; alpha-activity; hot-particle-size; Chernobyl-fuel-release; aerosol-hot-particles; neutron-fragment; alpha-radiography; radiochemical-methods; neutron-fragment-methods
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2940W (Solid-state-nuclear-track-detectors); A8760P (Radiation-protection); B7530B (Radiation-protection-and-dosimetry); B7420C (Particle-track-visualisation); A28; A29; A87; B75; B74; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/95/$9.50+.00

Sort Key: 00013504487199500025000010000000000000419
Accession Number: 4993653
Update Code: 9527
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 410 of 1145 in INSPEC 1995

Title: Efficiency assessment of relocation as a countermeasure to diminish irradiation doses of the "Chernobyl" population for Ukraine
Author: Pavlenko-TA; Los-LP; Aksenov-NV
Author Affiliation: Res. Center for Radiat. Med., Acad. of Med. Sci., Kiev, Russia
Source: Radiation-Measurements. vol.25, no.1-4; 1995; p.415-16
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: 17th International Conference on Nuclear Tracks in Solids. 24-28 Aug. 1994; Dubna, Russia. Sponsored by: INTAS; Atomic Energy Organ.; Russian Found. Fundamental Res.; et al
Country of Publication: UK
Language: English
Abstract: On results of direct measurements analysis has been conducted for all the dose-forming factors. Prognosis from irradiation doses have been determined for population suffered from of the Chernobyl NPP catastrophe for two cases: for condition of relocation and continuing residence at contaminated areas.
Number of References: 1
Descriptors: radiation-monitoring; radiation-protection

Identifiers: Chernobyl-population; Ukraine-; irradiation-doses; dose-forming-factors; prognosis-; Chernobyl-NPP-catastrophe; contaminated-areas; relocation-
Classification Codes: A8760P (Radiation-protection); B7530B (Radiation-protection-and-dosimetry); A87; B75; A8; B7
Treatment Codes: X (Experimental)
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/95/$9.50+.00

Sort Key: 000135044871995000250000100000000000000415
Accession Number: 4993651
Update Code: 9527

Record 411 of 1145 in INSPEC 1995

Title: "Hot" particles in soil from Chernobyl AES region
Author: Kashkarov-LL; Kalinina-GV; Ivliev-AI; Cherkisyan-VO
Author Affiliation: V.I. Vernadsky Inst. of Geochem. & Appl. Chem., Moscow, Russia
Source: Radiation-Measurements. vol.25, no.1-4; 1995; p.413-14
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: 17th International Conference on Nuclear Tracks in Solids. 24-28 Aug. 1994; Dubna, Russia. Sponsored by: INTAS; Atomic Energy Organ.; Russian Found. Fundamental Res.; et al
Country of Publication: UK
Language: English
Abstract: Measurement of the alpha -activity and sizes of "hot" particles from the Chernobyl AES region by means of a CZ-type solid state nuclear track detector has been performed.
Number of References: 3
Descriptors: alpha-particle-detection; fission-reactor-accidents; radioactive-pollution; soil-
Identifiers: Chernobyl-; AES-region; hot-particles; CZ-solid-state-nuclear-track-detector; CZ-SSNTD; alpha-activity; size-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/95/$9.50+.00

Sort Key: 000135044871995000250000100000000000000413
Accession Number: 4993650
Update Code: 9527

Record 412 of 1145 in INSPEC 1995

Title: Aerial beta-emitting hot particles from lung tissues in the vicinity of the Chernobyl NPP
Author: Kushin-VV; Smirnow-VV
Author Affiliation: Moscow Phys. Eng. Inst., Russia
Source: Radiation-Measurements. vol.25, no.1-4; 1995; p.399-400
Publication Year: 1995
Record Type: Conference-Paper; Journal-article
Conference Details: 17th International Conference on Nuclear Tracks in Solids. 24-28 Aug. 1994; Dubna, Russia. Sponsored by: INTAS; Atomic Energy Organ.; Russian Found. Fundamental Res.; et al
Country of Publication: UK
Language: English
Abstract: The results of studying beta -emitting aerial hot particles (HP) deposited in lung tissues in the vicinity of Chernobyl Nuclear Power Plant are presented. High-sensitivity thick-layer nuclear emulsions were used to obtain autoradiograms formed by beta -tracks. The algorithms and codes for processing autoradiographic pictures and calculating dose distribution in emulsion and tissue have been designed. The HP sizes, activities, and dose distributions are discussed.
Number of References: 2
Descriptors: accidents-; beta-ray-detection; biological-effects-of-ionising-particles; disasters-; dosimetry-; health-hazards; lung-; nuclear-track-emulsions; radioactive-pollution; radiography-
Identifiers: aerial-beta-emitting-hot-particles; lung-tissues; Chernobyl-Nuclear-Power-Plant; high-sensitivity-thick-layer-nuclear-emulsions; beta-emitting-aerial-hot-particles; autoradiographic-pictures; beta-tracks; algorithms-; codes-; dose-distribution; hot-particle-sizes; hot-particle-activities
Classification Codes: A8760M (Radiation-dosimetry); A2940R (Nuclear-emulsions); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2880C (Dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); B7530B (Radiation-protection-and-dosimetry); B7420C (Particle-track-visualisation); A87; A29; A28; A86; B75; B74; A8; A2
Treatment Codes: X (Experimental)
Coden: RMEAEP
ISSN: 1350-4487
Copyright Clearance Center Code: 1350-4487/95/$9.50+.00

Sort Key: 000135044871995000250000100000000000399
Accession Number: 4993646

Update Code: 9527
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.005
Bestand: 23.1994=>

Record 413 of 1145 in INSPEC 1995

Title: Prevalence of lens changes in Ukrainian children residing around Chernobyl
Author: Day-R; Gorin-SMB; Ellers-AW
Author Affiliation: Dept. of Biostatistics, Pittsburgh Univ., PA, USA
Source: Health-Physics. vol.68, no.5; May 1995; p.632-42
Publication Year: 1995
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The objective of this study is to determine the prevalence and characteristics of lens changes in the eyes of a pediatric population, 5-17 y old, living in the permanent control zone around the Chernobyl nuclear reactor and to compare these findings with those from an unexposed control population. A total of 1787 children are reported on (996 exposed and 791 unexposed). Over three-quarters of the subjects examined in this study show a form of minor change, termed focal lens defect, in the cortical and/or nuclear portions of the lens of the eye. The exposed group shows a small (3.6%), but statistically significant excess (p=0.0005) of subclinical posterior subcapsular lens changes similar in form to changes identified in atomic bomb survivors. These posterior subcapsular changes tend to occur in boys 12-17 y old and in exposed children who report consuming locally grown mushrooms on a regular basis.
Number of References: 35
Descriptors: biological-effects-of-ionising-radiation; disasters-; eye-; fission-reactor-accidents; health-hazards; lenses-; radioactive-pollution; vision-defects
Identifiers: Ukrainian-children; eyes-; pediatric-population; permanent-control-zone; Chernobyl-nuclear-reactor; unexposed-control-population; minor-change; focal-lens-defect; nuclear-portions; cortical-portions; subclinical-posterior-subcapsular-lens-changes; atomic-bomb-survivors; boys-; exposed-children; locally-grown-mushrooms
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8732 (Physiological-optics-vision); A87; A28; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/95/$3.00+0

Sort Key: 000001790781995000680000500000000000632
Accession Number: 4971733
Update Code: 9523

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 414 of 1145 in INSPEC 1995

Title: Transformation of the gamma -field on the territory of Belarus and estimate of the external irradiation dose from the Chernobyl accident
Author: Kagan-LM; Kadatskii-VB
Source: Atomic-Energy. vol.77, no.3; Sept. 1994; p.699-702
Translated from: Atomnaya-Energiya. vol.77, no.3; Sept. 1994; p.211-14
Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: We present the results of an experimental study of the decrease of the dose rate on reference sections in the territory of Belarus, whose network was established for landscape-geochemical investigations of the region contaminated as a result of the Chernobyl accident.
Number of References: 13
Descriptors: radioactive-pollution
Identifiers: gamma-field-transformation; Belarus-; external-irradiation-dose; Chernobyl-accident; landscape-geochemical-investigations; contamination-
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); B7720 (Pollution-detection-and-control); A86; A87; B77; A8
Treatment Codes: G (General-or-Review)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7703-0699$12.50

Sort Key: 0000004716319940007700003000000000000211
Accession Number: 4965798
Update Code: 9522
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 415 of 1145 in INSPEC 1995

Title: Amount of /sup 137/Cs and /sup 134/Cs radionuclides in the Black Sea produced by the Chernobyl accident
Author: Eremeev-VN; Ivanov-LM; Kirwan-AD-Jr; Margolina-TM
Author Affiliation: Marine Hydrophys. Inst., Acad. of Sci., Sevastopol, Ukraine
Source: Journal-of-Environmental-Radioactivity. vol.27, no.1; 1995; p.49-63
Publication Year: 1995

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Revised estimates of the amount of the nuclides /sup 137/Cs and /sup 134/Cs in the Black Sea resulting from the Chernobyl accident are reported. These results are at some variance with those reported by Chudinovskikh and Eremeev (Practical Ecology of Black Sea Areas, Naukova dumka, Kiev, 1990, pp. 46-56) and Nikitin et al. (Atomic Energy, 65 (1988) 134-7). The analysis employs a spectral method whereas other studies utilized less accurate methods. The study illustrates that the choice of numerical techniques for assimilating in-situ data into a model is important.
Number of References: 15
Descriptors: caesium-; disasters-; fission-reactor-accidents; oceanographic-regions; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: Black-Sea; 137Cs-; 134Cs-; Chernobyl-; spectral-method; numerical-techniques; water-pollution; ocean-; radioactive-pollution; USSR-; radionuclide-; nuclear-reactor-accident; Cs-
Classification Codes: A9220N (Pollution-of-the-oceans); A8670E (Water-environmental-science); A9330R (Regional-seas); A9330G (Europe); A92; A86; A93; A9; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/95/$9.50
Copyright Statement: Copyright 1995, IEE
Sort Key: 0000265931X19950002700001000000000000049
Accession Number: 4959386
Update Code: 9521

Record 416 of 1145 in INSPEC 1995

Title: Radioactive contamination of the environment with /sup 241/Am as a result of the Chernobyl accident
Author: Ivanov-A; Ramzina-TV; Kham'yanov-LP; Vasil'chenko; Korotkov-VT; Nosovskii-AV; Oskolkov-BYa
Author Affiliation: All Union Sci. of Nucl. Power Plant, Ukraine
Source: Atomic-Energy. vol.77, no.2; Aug. 1994; p.629-34
Translated from: Atomnaya-Energiya. vol.77, no.2; Aug. 1994; p.140-5
Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The Chernobyl accident resulted in the contamination of the environment with long-lived radionuclides, including transuranium elements. The results for the production of the basic long-lived radionuclides in the reactor core are presented. The

/sup 241/Pu contribution to the total activity of transuranium elements accumulated in the reactor core is about 84%. Since the same amounts escaped into the atmosphere during the accident (3%), this remark is also valid with respect to the radioactive contamination of the environment. The contamination of the environment by /sup 241/Am is due both to its direct emission from the reactor core and the subsequent accumulation as a result of beta -decay of /sup 241/Pu gives the statistical characteristics of the ratio of the content of different radionuclides to the total /sup 239+240/Pu content in the soil. We also give data on the activity of some radionuclides in terms of the total /sup 239+240/Pu activity in the core of the damaged reactor, taking into account the radioactive decay chain. The ratios of the radionuclide content in the samples of natural objects agree satisfactorily with the analogous ratios in the reactor core (taking into account radioactive decay). The maximum possible radiation consequences of /sup 241/Am accumulation can be observed on territories subjected mainly to contamination as a result of precipitation of finely dispersed particles of the fuel composition. This radionuclide contributes to the internal irradiation dose resulting from inhalation and migration along the food chain.

Number of References: 7
Descriptors: americium-; disasters-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-; radioactive-contamination; 241Am-; transuranium-elements; 241Pu-; environment-; 239Pu-; 240Pu-; soil-; internal-irradiation-dose; food-chain; Am-; Pu-
Classification Codes: A8670 (Environmental-science); A8670C (Soil-and-rock-environmental-science); A86; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Am-el; Pu-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7702-0629$12.50

Sort Key: 00000047163199400077000020000000000000140
Accession Number: 4945225
Update Code: 9518
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 417 of 1145 in INSPEC 1995

Title: Computational modeling of the accident in the fourth power-generating unit of the Chernobyl nuclear power plant
Author: Podlazov-LN; Trekhov-VE; Cherkashov-YuM; Loizzo-P; Galati-A; Norelli-F
Author Affiliation: Sci. Res. & Design Inst. of Electrotechnical Machinery, ENEA, Rome, Italy
Source: Atomic-Energy. vol.77, no.2; Aug. 1994; p.580-7
Translated from: Atomnaya-Energiya. vol.77, no.2; Aug. 1994; p.93-100

Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: In the present work we calculated a quasistatic estimate of the positive reactivity as a function of all safety and control rods inserted into the core in steps of 40 cm. For this, a static calculation of the perturbed state was performed at each step. In the process, all feedbacks were switched off, the behavior of the delayed neutrons and the kinematics of the motion of the absorber and the displacer were neglected; this made it possible to estimate the upper limit of the effect.
Number of References: 18
Descriptors: fission-reactor-accidents; fission-reactor-core-control; fission-reactor-design; fission-reactor-safety; nuclear-engineering-computing; nuclear-power-stations; perturbation-theory; reactivity-fission-reactors
Identifiers: computational-modeling; accident-; Chernobyl-nuclear-power-plant; quasistatic-estimate; positive-reactivity; safety-rods; control-rods; core-; static-calculation; perturbed-state; upper-limit
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2843D (Core-control-and-guidance-in-fission-reactors); A2841C (Computer-codes-for-fission-reactor-theory-and-design); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7702-0580$12.50

Sort Key: 00000047163199400077000020000000000000093
Accession Number: 4945217
Update Code: 9518
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 418 of 1145 in INSPEC 1995

Title: Analysis of the Chernobyl accident taking core destruction into account
Author: Afanas'eva-AA; Fedosov-AM; Donderer-R; Ehrrenstein-D; Liermann-R; Schumacher-O; Ziggel-H
Author Affiliation: Sci. Center, Kurchatovskii Inst., Russia
Source: Atomic-Energy. vol.77, no.2; Aug. 1994; p.573-9
Translated from: Atomnaya-Energiya. vol.77, no.2; Aug. 1994; p.87-93
Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English

Abstract: The second phase of the Chernobyl accident, associated with the destruction of the fuel elements, has been studied very little. Computational analysis of the accident at the fuel destruction stage requires a complicated model which includes a three-dimensional description of the neutron-physical, thermohydraulic, thermomechanical, and chemical processes in the core taking into account their couplings. At the present time there is no such comprehensive model of the RBMK core, so that simplifications are employed. If the energy from chemical reactions is neglected, then the problem reduces to a combined description of the change in the reactor power and destruction and motion of the destroyed fuel. We used a three-dimensional neutron-thermohydraulic program to analyze the behavior of the reactor. Information about the change in fuel geometry and density at the destruction stage is fed, in a parameterized form, into the program. In the present work the neutron block (COMAR) and the thermohydraulic block (COBRA2) were combined. The SIMMER II program was used to model the destruction for a single channel.

Number of References: 23
Descriptors: fuel-element-failure; nuclear-engineering-computing
Identifiers: Chernobyl-; core-destruction; fuel-element-destruction; thermohydraulic-; RBMK-; COMAR-; COBRA2-; SIMMER-II-program
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7702-0573$12.50

Sort Key: 00000047163199400077000020000000000000087
Accession Number: 4945216
Update Code: 9518
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 419 of 1145 in INSPEC 1995

Title: Post-Chernobyl radiomonitoring of Ukrainian forest ecosystems
Author: Poiarkov-VA; Nazarov-AN; Kaletnik-N-N
Author Affiliation: Ukrainian Radiat. Training Centre, Kiev, Ukraine
Source: Journal-of-Environmental-Radioactivity. vol.26, no.3; 1995; p.259-71
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: More than 20 experimental sites in different directions out from the Chernobyl nuclear power plant in the Ukrainian territory were established as a network to study the migration of radionuclides in forest ecosystems. The depth distributions of /sup 137/Cs

and /sup 90/Sr in the surface layer of forest litter and soil for characteristic types of Ukrainian coniferous and deciduous forests have been studied in detail. The bulk of the activity occurs in the top 15 cm of the soil profile. Sequential extraction experiments have identified that the major part of radiocaesium is in a fixed, unexchangeable form. Soil profiles indicate no substantial differences for 1991 and 1992 suggesting that /sup 137/Cs has a limited mobility.

Number of References: 8

Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-; strontium-

Identifiers: Ukrainian-forest-ecosystems; post-Chernobyl-radiomonitoring; Chernobyl-nuclear-power-plant; radionuclides-; depth-distributions; 137Cs-; 90Sr-; surface-layer; forest-litter; Ukrainian-deciduous-forests; Ukrainian-coniferous-forests; sequential-extraction; Sr-; Cs-

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A9330G (Europe); A87; A86; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Sr-el; Cs-el

Coden: JERAEE

ISSN: 0265-931X

Sort Key: 0000265931X19950002600003000000000000259

Accession Number: 4942749

Update Code: 9518

Record 420 of 1145 in INSPEC 1995

Title: A survey of chromosomal aberrations in lymphocytes of Chernobyl liquidators

Author: Sevan'kaev-AV; Lloyd-DC; Braselmann-H; Edwards-AA; Moiseenko-VV; Zhloba-AA

Author Affiliation: Med. Radiol. Res. Centre, Kaluga, Russia

Source: Radiation-Protection-Dosimetry. vol.58, no.2; 1995; p.85-91

Publication Year: 1995

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Chromosomal aberrations in lymphocytes of 875 Chernobyl liquidators have been scored and by comparison with control subjects the dicentric plus ring and excess acentric fragment frequencies are higher for persons who worked in the exclusion zone in 1986-1988 but not in 1989. Aberration yields are too low for individual biological dosimetry but, after taking account of the time interval between irradiation and blood sampling, the dicentric plus ring frequencies indicate average doses for 1986, 1987 and 1989 in good agreement with the annual averages in the Obninsk Registry. For 1988 the cytogenetic data indicate a significant higher average dose than the Registry.

Liquidators who were not issued with a personal film badge tend to have higher aberration yields than those for whom badge data are recorded. This is particularly evident for those persons who worked in the first three months after the accident where physical dosimetry data are less complete or reliable. These persons probably experienced the highest exposures of all liquidators and the chromosomal data suggest an average value of about 300 mGy.

Number of References: 25

Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; cellular-effects-of-radiation; disasters-; dosimetry-; fission-reactor-accidents; genetics-; health-hazards; personnel-

Identifiers: chromosomal-aberrations; lymphocytes-; Chernobyl-liquidators; control-subjects; personal-film-badge; excess-acentric-fragment-frequencies; exclusion-zone; aberration-yields; individual-biological-dosimetry; time-interval; irradiation-; blood-sampling; dicentric-plus-ring-frequencies; average-doses; annual-averages; Obninsk-Registry; cytogenetic-data; physical-dosimetry-data

Classification Codes: A8725F (Physics-of-subcellular-structures); A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A28; A8

Treatment Codes: X (Experimental)

Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199500058000020000000000000085

Accession Number: 4918718

Update Code: 9514

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 421 of 1145 in INSPEC 1995

Title: Chernobyl fallout radionuclides in Lake Sniardwy, Poland

Author: Robbins-JA; Jasinski-AW
Author Affiliation: Great Lakes Environ. Res. Lab., NOAA, Ann Arbor, MI, USA

Source: Journal-of-Environmental-Radioactivity. vol.26, no.2; 1995; p.157-84
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Following the introduction of Chernobyl radionuclides, in May 1986, to Lake Sniardwy, the largest lake in Poland, sediment cores and fish were periodically collected through 1989 and analysed for /sup 144/Ce, /sup 134/Cs and /sup 137/Cs.

Within four months of the fallout, /sup 134/Cs had penetrated down to about 10 cm in one sediment core and, in cores collected from three sites, a year later, had penetrated from 14 to 24 cm. Laboratory measurement of the partitioning of a carrier-free spike of /sup 137/Cs between sediment and pore water yielded a K/sub d/ of 4.3*10/sup 3/ ml g/sup -1/ ruling out molecular diffusion (D/sub eff/=0.06 cm/sup 2/ year/sup -1/) as a significant transport mechanism. Rapid vertical transport is ascribed to mixing through strong coupling of wind-driven currents to sediments in this shallow, polymictic lake (5.8 m mean depth) and to biological activity. Profiles of /sup 134/Cs at several sites and changes in profiles over three years at one site were described by eddy diffusive mixing (3-20 cm/sup 2/ year/sup -1/) of a layer of activity initially deposited on the sediment surface. The generally discontinuous nature of profiles of /sup 144/Ce is ascribed to its association with discreet 'hot' (nuclear fuel) particles. The average activity of /sup 137/Cs in the flesh of bream (Abramis brama) increased up to 120 times that of pre-Chernobyl levels (measured in 1985) 1 year after the fallout event. The delayed maximum and subsequent decrease in /sup 137/Cs activity are described by a first order kinetic model with an uptake rate constant proportional to the time-dependent concentration of the isotope in surface sediments. Model calculations are substantially improved if the uptake rate constant includes a term, measuring the 'availability' of /sup 137/Cs to fish, calculated in terms of radial diffusion of radiocaesium into sediment particles. The inferred residence time of /sup 137/Cs in bream was about 1 year.

Number of References: 26
Descriptors: fission-reactor-accidents; radioactive-pollution; radioisotopes-; transport-processes
Identifiers: Chernobyl-fallout-radionuclides; Lake-Sniardwy; Poland-; sediment-cores; fish-; 144Ce-; 134Cs-; 137Cs-; carrier-free-spike; pore-water; transport-mechanism; rapid-vertical-transport; wind-driven-currents; polymictic-lake; biological-activity; eddy-diffusive-mixing; discreet-hot-nuclear-fuel-particles; bream-; first-order-kinetic-model; uptake-rate-constant; surface-sediments; residence-time; Ce-; Cs-
Classification Codes: A8670E (Water-environmental-science); A0560 (Transport-processes-theory); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A05; A87; A8; A0
Treatment Codes: X (Experimental)
Chemical Indexing: Ce-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19950002600002000000000000157
Accession Number: 4913795
Update Code: 9513

Record 422 of 1145 in INSPEC 1995

Title: External gamma -dose rates delivered from the Chernobyl fallout in Belarus

Author: Kadatsky-VB; Kagan-LM
Author Affiliation: Inst. for Problems in the Use of Natural Resourses & Ecology, Acad. of Sci., Minsk, Byelorussia
Source: Journal-of-Environmental-Radioactivity. vol.26, no.2; 1995; p.135-46
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The gamma -dose rates in air were measured in time at various reference sites which had different environmental characteristics. It appears that the dose rate had fallen off from its peak value and more or less stabilized by the end of 1990. The model presented describes this behaviour and fits the experimental data well. All the study sites are subdivided into four groups according to the dose-decrease time constants which range between 2.9 and 7.1 years. Causes of such different temporal decreases at various sites are discussed. Dose commitment conversion factors were computed which allow estimation of external dose commitments at every site for various time periods. The findings may be applicable to other sites in Belarus with similar climate and landscape characteristics.
Number of References: 12
Descriptors: dosimetry-; fission-reactor-accidents; radioactive-pollution
Identifiers: Chernobyl-fallout; Belarus-; external-gamma-dose-rates; reference-sites; environmental-characteristics; dose-decrease-time-constants; temporal-decreases; dose-commitment-conversion-factors; landscape-characteristics; climate-characteristics
Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670G (Atmosphere-environmental-science); A8760M (Radiation-dosimetry); B7720 (Pollution-detection-and-control); B7530B (Radiation-protection-and-dosimetry); A87; A86; B77; B75; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/95/$9.50

Sort Key: 0000265931X19950002600002000000000000135
Accession Number: 4913793
Update Code: 9513

Record 423 of 1145 in INSPEC 1995

Title: Population doses in Russia from plutonium fallout following the Chernobyl accident
Author: Ivanova-NP; Shvydko-NS; Ershov-EB; Balonov-MI
Author Affiliation: Inst. of Radiat. Hygien, St. Petersburg, Russia
Source: Radiation-Protection-Dosimetry. vol.58, no.4; 1995; p.255-60
Publication Year: 1995
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: Estimates are presented of the radiation doses due to plutonium received by people living in the areas of Russia contaminated as a result of the accident at the Chernobyl nuclear power station. This is based on model representations of the migration of the nuclides in the 'soil-man' system. The effective dose (E) has been examined for the whole population and for the critical group of inhabitants (agricultural machine operators) in relation to the inhalation of resuspended radionuclides. The calculated irradiation doses were supplemented by values obtained from the determination of the concentration of plutonium isotopes in the main organs and tissues of people living in contaminated areas of the Bryansk region. An analysis of autopsy data gives an unambiguous indication of the existence of 'Chernobyl additions' to the plutonium concentration burden of the inhabitants. It was established that the effective dose values vary within fairly wide limits in different population groups.
Number of References: 20
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; plutonium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Russia-; inhabitants-; population-doses; Pu-fallout; Chernobyl-accident; Chernobyl-nuclear-power-station; model-representations; migration-; Pu-concentration-burden; soil-man-system; effective-dose; agricultural-machine-operators; inhalation-; resuspended-radionuclides; calculated-irradiation-doses; Pu-isotopes; main-organs; tissues-; people-; contaminated-areas; Bryansk-region; autopsy-data; Chernobyl-additions; Pu-
Classification Codes: A8760M (Radiation-dosimetry); A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A9330G (Europe); A87; A86; A28; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199500058000040000000000000255
Accession Number: 4912876
Update Code: 9513
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 424 of 1145 in INSPEC 1995

Title: Chromosomal aberrations in lymphocytes of residents of areas contaminated by radioactive discharges from the Chernobyl accident
Author: Sevan'kaev-AV; Lloyd-DC; Potetnya-OI; Zhloba-AA; Moiseenko-VV; Edwards-AA
Author Affiliation: Med. Radiol. Res. Centre, Obninsk, Russia

Source: Radiation-Protection-Dosimetry. vol.58, no.4; 1995; p.247-54
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Approximately 5 years after the Chernobyl accident blood samples were collected and analysed for unstable chromosomal aberrations in lymphocytes from persons who have lived continuously in contaminated areas of Belarus and Russia. Including controls, 1855 persons were studied. The majority of subjects comprised 10 cohorts of children including one control group and one group who were initially exposed at a high dose rate prior to their evacuation to a lightly contaminated area. One control and two exposed cohorts of adults were also examined. The mean yields of chromosomal aberrations in the exposed subjects were generally above those of the controls, although statistical significance was observed in only the evacuee children and in children and adults permanently resident in one community where the average environmental contamination with /sup 137/Cs was approximately 1000 kBq.m/sup -2/. The average dose in excess of background to subjects in this community, received over 5 years, was tentatively estimated from the chromosomal damage and the radionuclide contamination to be approximately 100 mGy. One cohort of children was especially selected to include a number of subjects who have received in utero exposure. There was no significant difference found in the level of induced aberrations in these children's lymphocytes compared with those exposed only post-natally.
Number of References: 23
Descriptors: accidents-; biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; blood-; caesium-; cellular-effects-of-radiation; disasters-; genetics-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; average-dose; children's-lymphocytes; residents-; in-utero-exposure; radioactive-discharges; blood-samples; unstable-chromosomal-aberrations; chromosomal-damage; Belarus-; Russia-; persons-; radionuclide-contamination; control-group; dose-rate; lightly-contaminated-area; exposed-cohorts; adults-; statistical-significance; evacuee-children; permanently-resident; average-environmental-contamination; 137Cs-; 100-mGy; Cs-
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8725 (Cellular-biophysics); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 1.0E-01 Gy
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 000014484201995000580000400000000000247
Accession Number: 4912875

Update Code: 9513
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 425 of 1145 in INSPEC 1995

Title: The channel-type reactor line in nuclear engineering after the Chernobyl accident
Author: Adamov-EO
Author Affiliation: Res. & Dev. Inst. for Power Eng., Russia
Source: Thermal Reactor Safety Assessment. Proceedings of the Conference. British Nucl. Energy Soc, London, UK; 1994; 264 pp.
p.206-11
Publication Year: 1994
Record Type: Conference-Paper
Conference Details: Proceedings of International Conference on Thermal Reactor Safety Assessment. 23-26 May 1994; Manchester, UK. Sponsored by: ANS; Atomic Energy Soc. Japan; British Nucl. Forum; Eur. Nucl. Soc.; et al
Country of Publication: UK
Language: English
Abstract: The status and prospects of the channel-type reactor line are discussed with regard to the disaster at Chernobyl nuclear power plant and in view of the conceptual advantages of channel-type reactors as they are seen today. Information is presented on the development of a new generation channel-type uranium-graphite reactor-MKER-800.
Number of References: 0
Descriptors: fission-reactor-design
Identifiers: channel-type-reactor-line; nuclear-engineering; Chernobyl-accident; Chernobyl-nuclear-power-plant; conceptual-advantages; U-graphite-reactor; MKER-800; U-C
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Chemical Indexing: UC-bin C-bin U-bin
ISBN: 0727719939

Sort Key: 10727719939199400000000000000000000000206
Accession Number: 4910847
Update Code: 9512

Record 426 of 1145 in INSPEC 1995

Title: Calculations and measurements of /sup 154/Eu and /sup 155/Eu in 'fuel-like' hot particles from Chernobyl fallout
Author: Jaracz-P; Mirowski-S; Trzcinska-A; Isajenko-K; Jagielak-J; Kempisty-T; Jozefowicz-ET

Author Affiliation: Inst. of Exp. Phys., Warsaw Univ., Poland
Source: Journal-of-Environmental-Radioactivity. vol.26, no.1; 1995; p.83-97
Publication Year: 1995
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Calculations of /sup 154/Eu and /sup 155/Eu activities in the Chernobyl Unit IV reactor are given, together with a discussion of the uncertainties involved and comparison with results of other authors. The measurements of activities of the Chernobyl-origin 'fuel-like' hot particles (fuel fragments) and analysis of the radionuclide fractionation reveal a common behaviour of /sup 154/Eu, /sup 155/Eu and /sup 144/Ce radioisotopes as regards non-volatility, similar to /sup 95/Zr and /sup 95/Nb in hot particles.
Number of References: 24
Descriptors: europium-; fission-reactor-accidents; radioactive-pollution
Identifiers: Chernobyl-fallout; fuel-like-hot-particles; uncertainties-; 155Eu-activities; 154Eu-activities; fuel-fragments; radionuclide-fractionation; 144Ce-radioisotopes; nonvolatility-
Classification Codes: A8670G (Atmosphere-environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); B7720 (Pollution-detection-and-control); A86; A28; B77; A8; A2; B7
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/95/$09.50

Sort Key: 0000265931X19950002600001000000000000083
Accession Number: 4887762
Update Code: 9509

Record 427 of 1145 in INSPEC 1995

Title: Elevated frequency of glycophorin A mutations in erythrocytes from Chernobyl accident victims
Author: Jensen-RH; Langlois-RG; Bigbee-WL; Grant-SG; Moore-D-II; Pilinskaya-M; Vorobtsova-I; Pleshanov-P
Author Affiliation: Dept. of Lab. Med., California Univ., San Francisco, CA, USA
Source: Radiation-Research. vol.141, no.2; Feb. 1995; p.129-35
Publication Year: 1995
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: In 1986, when an explosion accident occurred at the Chernobyl, Ukraine nuclear power plant, a large number of people were exposed to significant amounts of ionizing

radiation. During the time between 1986 and 1992, peripheral blood samples were obtained from 102 people who either were on site during the emergency or were brought to Chernobyl shortly thereafter to assist in the cleanup of radioactive contaminants and isolate the damaged reactor from the environment. These blood samples plus samples from 13 unexposed Soviet individuals were analyzed by flow cytometry using the allele-loss somatic mutation assay for glycophorin A. Results of these assays show that the frequency of N/OE variant red cells increased in proportion to the estimated radiation exposure of each individual. The radiation dose-response function derived from this population closely resembles that determined previously for atomic bomb survivors whose blood samples were obtained and analyzed 40 years after their exposure. This suggests comparable mutation induction per unit dose for these two populations and long-term persistence of the mutational damage. In addition, measurements on multiple blood samples from each of 10 donors taken over a 7-year period showed no significant changes in N/OE variant cell frequencies, confirming the persistence of radiation-induced somatic mutations in long-lived bone marrow stem cells.

Number of References: 19
Descriptors: biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; fission-reactor-accidents; radioactive-pollution
Identifiers: glycophorin-A-mutations; erythrocytes-; Chernobyl-accident-victims; Ukraine-nuclear-power-plant; ionizing-radiation-exposed-people; peripheral-blood-samples; radioactive-contaminants-cleanup; damaged-reactor-isolation; flow-cytometry; unexposed-Soviet-individuals; NOE-variant-red-cells-frequency; atomic-bomb-survivors; mutation-induction; damage-long-term-persistence; radiation-induced-somatic-mutations; long-lived-bone-marrow-stem-cells; cellular-radiobiology; 40-y; 7-y
Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 1.3 E09 s; time 2.2 E08 s
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 0033-7587/95/$5.00

Sort Key: 00000337587199500141000020000000000000129
Accession Number: 4879297
Update Code: 9507

Record 428 of 1145 in INSPEC 1995

Title: Fast method for monitoring the radioactivity of aerosols during restorative work at the Chernobyl nuclear power plant

Author: Poluektov-PP; Kolomeitsev-GYu; Timonin-VV
Source: Atomic-Energy. vol.76, no.5; May 1994; p.397-402
Translated from: Atomnaya-Energiya. vol.76, no.5; May 1994; p.435-41
Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Restoration work during cleanup of accidents at nuclear power plants requires fast monitoring of radioactivity of aerosols in air. An example of such work is the post-accident cleanup of the machine room of the fourth power-generating unit of the Chernobyl power plant; this work was performed in 1988 and was accompanied by intense generation of dust. The aerosol content in the air could change sharply and rapidly. It was necessary to monitor the fractional concentration of the aerosols, since the aerosol penetration through the protective media (for example, respirators) and aerosol deposition in the lungs depend strongly on the particle size. To solve the problem of fast monitoring of the fractional composition of aerosol together with parallel measurements of the radioactivity of separate fractions, a system using a laser aerosol spectrometer was developed for determining quickly the size distribution of the aerosols and a system was developed for separating aerosols by fractions for subsequent measurements of the radioactivity and the isotopic composition of the separate fractions. In the present paper, we discuss the results of the application of this system.
Number of References: 0
Descriptors: aerosols-; air-pollution-measurement; fission-reactor-accidents; nuclear-power-stations; radiation-monitoring; radiation-protection; radioactive-pollution
Identifiers: fast-method; radioactivity-monitoring; aerosols-; restorative-work; Chernobyl-nuclear-power-plant; accident-cleanup; air-pollution; machine-room; dust-; fractional-concentration; protective-media; respirators-; aerosol-deposition; lungs-; fast-monitoring; parallel-measurements; laser-aerosol-spectrometer; size-distribution; isotopic-composition
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670L (Measurement-techniques-and-instrumentation-in-environmental-science); A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A87; A86; A2; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7605-0397$12.50

Sort Key: 00000047163199400076000050000000000000435
Accession Number: 4857147
Update Code: 9503

Record 429 of 1145 in INSPEC 1995

Title: Structural and physicochemical characteristics of DNA of animal tissues exposed to prolonged chronic irradiation in the Chernobyl zone

Author: Blagoi-YuP; Kornilova-SV; Leont'ev-VS; Sorokin-VA; Gladchenko-GO; Valayev-VA; Grigor'ev-DN; Kapinos-LYe; Bondarenko-VN; Kolod-VYa

Author Affiliation: Verkin Low Temp. Phys. Tech. Inst., Acad. of Sci., Kharkov, Ukraine

Source: Biophysics. vol.39, no.4; 1994; p.641-9

Translated from: Biofizika. vol.39, no.4; 1994; p.637-45

Publication Year: 1994

Record Type: Journal-article

Country of Publication: Russia; Translation: UK

Language: English

Abstract: Viscometry, thermal denaturing, i.r. spectroscopy and electrophoresis have been employed to study the properties of DNA of animals exposed to prolonged irradiation in the conditions of the Chernobyl zone. The DNA preparations isolated from the liver and spleen were found to contain an abnormally large quantity of low molecular weight DNA fractions. The number of these fractions increases in the later generations of animals and also with the age of the animals. This effect is particularly strongly marked for DNA isolated from the liver. It is shown that low molecular weight DNA is enriched with G-C-pairs and consists of four fractions: (1) approximately 500 nucleotide pairs; (2) approximately 1500-2000 nucleotide pairs; (3) approximately 4000-5000 nucleotide pairs and (4) admixtures with approximately 20000 nucleotide pairs. It was also found that the DNA preparations obtained from tissues of the test animals contain tens of times more iron, zinc, selenium and other elements that in the control preparations.

Number of References: 21

Descriptors: biological-effects-of-ionising-radiation; biomolecular-effects-of-radiation; DNA-; electrophoresis-; infrared-spectra; liver-; molecular-weight

Identifiers: physicochemical-characteristics; liver-; animal-tissues; prolonged-chronic-irradiation; Chernobyl-zone; thermal-denaturing; infrared-spectroscopy; electrophoresis-; viscometry-; DNA-preparations; spleen-; low-molecular-weight-DNA-fractions; nucleotide-pairs; age-; test-animals; structural-characteristics; Fe-; Zn-; Se-

Classification Codes: A8750G (Biological-effects-of-ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8715M (Interactions-with-radiations-at-the-biomolecular-level); A8715B (Biomolecular-structure-configuration-conformation-and-active-sites); A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Fe-el; Zn-el; Se-el

Coden: BIOFAI; Translation: BIOPAE

ISSN: 0006-3029; Translation: 0006-3509

Sort Key: 00000063029199400039000040000000000000637

Accession Number: 4853163
Update Code: 9503
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08604.000
Bestand: 2.1957=> N:7

Record 430 of 1145 in INSPEC 1995

Title: Resuspension of fall-out material following the Chernobyl accident
Author: Garland-JA; Pomeroy-IR
Author Affiliation: Culham Lab., AEA Technol., Abingdon, UK
Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.793-806
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Air concentration and surface contamination data have been collected from a cross-section of sites across Europe where measurements have been made for 2 or 3 years after the Chernobyl accident. Data for over 20 European sites are considered; for U.K. sites data up to 1992 have been analysed. The results have shown that /sup 137/Cs derived from Chernobyl could be measured in air up to 6 years after deposition. Values of the resuspension factor (K) have been calculated and show a reduction with time at all sites. The decrease in K could be described by an exponential function (time constant=0.02 to 0.12 month/sup -1/) or a power law (with an exponent about -0.5 to -1.0), with similar degrees of correlation. A systematic decrease in K at sites with increasing deposition was also observed. In the first year after the accident, the time integral of the deposition flux was a large fraction of the initial deposition. Depending upon the site, between 0.01 and 1.0 times the initial deposit was accumulated in deposition collectors. This represents a significant contamination risk well after the original deposition event. Evidence suggests, however, that the length scale for transport of most of the resuspended material is very limited.
Number of References: 46
Descriptors: air-pollution; fission-reactor-accidents; radioactive-pollution; surface-contamination; suspensions-
Identifiers: fall-out; Chernobyl-; 137Cs-; air-concentration; surface-contamination; Europe-; resuspension-factor; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JALSB7
ISSN: 0021-8502
Copyright Clearance Center Code: 0021-8502/94/$7.00+0.00

Sort Key: 00000218502199400025000050000000000000793
Accession Number: 4843537

Update Code: 9501
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25937.000
Bestand: 1.1970=>

Record 431 of 1145 in INSPEC 1995

Title: Resuspension factors of Chernobyl accident
Author: Hollander-W
Author Affiliation: Fraunhofer Inst. of Toxicol. & Aerosol Res., Hannover, Germany
Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.789-92
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Shortly after the Chernobyl accident, resuspension factors for /sup 137/Cs were determined in Hannover, Germany. In the first few weeks after deposition, a clear dependence of airborne /sup 137/Cs concentration (which ranged between 0.5 and 10 mBq m/sup -3/) on wind speed was observed. Best fit to the data was obtained for a power exponent close to unity. After a few months, even during strong wind periods with appreciable dust resuspension, radioactivity concentrations were below the detection limit.
Number of References: 5
Descriptors: air-pollution; caesium-; fission-reactor-accidents; radioactive-pollution; radioisotopes-; wind-
Identifiers: resuspension-factors; Hannover-; Chernobyl-; airborne-137Cs-concentration; wind-speed; dust-resuspension; Germany-; Cs-
Classification Codes: A8670G (Atmosphere-environmental-science); A9260G (Winds-and-their-effects-in-the-lower-atmosphere); A86; A92; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JALSB7
ISSN: 0021-8502
Copyright Clearance Center Code: 0021-8502/94/$7.00+0.00

Sort Key: 0000021850219940002500005000000000000789
Accession Number: 4843536
Update Code: 9501
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25937.000
Bestand: 1.1970=>

Record 432 of 1145 in INSPEC 1995

Title: An experimental study of the radioactivity associated with soil and dust particles in the vicinity of the Chernobyl nuclear power plant

Author: Ter-Saakov-AA; Glebov-MV; Gordeev-SK; Ermakov-AI; Luchkin-YuL; Khilov-AA
Author Affiliation: RSPEAC, Moscow, Russia
Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.779-87
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Within the 30 km exclusion zone around the Chernobyl nuclear power plant, soil composition, the distribution of activity in different soil fractions and resuspended dust particles resulting from technogenic (i.e. mechanical) activity have been investigated. In addition, experiments have been carried out on the size distribution of fuel particles within soils. Some work was also undertaken to enable the estimation of resuspension factors and deposition velocities of particulate materials in this area.
Number of References: 7
Descriptors: radioactive-pollution; soil-
Identifiers: radioactivity-; soil-; dust-particles; Chernobyl-nuclear-power-plant; technogenic-activity; mechanical-activity; resuspension-factors; particulate-materials
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Coden: JALSB7
ISSN: 0021-8502
Copyright Clearance Center Code: 0021-8502/94/$7.00+0.00

Sort Key: 0000021850219940002500005000000000000779
Accession Number: 4843535
Update Code: 9501

Record 433 of 1145 in INSPEC 1995

Title: Statistical characteristics of the activity concentration in the surface layer of the atmosphere in the 30 km zone of Chernobyl
Author: Garger-EK; Kashpur-VA; Gurgula-BI; Paretzke-HG; Tschiersch-J
Author Affiliation: Inst. of Radioecology, Ukrainian Acad. of Agric. Sci., Kiev, Ukraine
Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.767-77
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Series of measurements of the daily average activity concentrations of /sup 137/Cs and /sup 144/Ce in the atmospheric surface boundary layer in the 30 km zone around

the Chernobyl Nuclear Power Plant are discussed with regard to their statistical characteristics. A high level of fluctuation in the specific activity concentration was found with maxima exceeding the annual average by a factor of 10-20 and lasting up to 14 days. During the years 1987-1991 the absolute values of the fluctuations decreased with time. The decrease of the activity concentrations was found to be higher than that due to radioactive decay alone.

Number of References: 4

Descriptors: air-pollution; caesium-; cerium-; radioactive-pollution

Identifiers: activity-concentration; atmospheric-surface-layer; daily-average-activity-concentrations; 137Cs-; 144Ce-; atmospheric-surface-boundary-layer; Chernobyl-Nuclear-Power-Plant; statistical-characteristics; specific-activity-concentration; activity-concentrations; Ce-; Cs-

Classification Codes: A8670G (Atmosphere-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A9330G (Europe); A86; A87; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Ce-el; Cs-el

Coden: JALSB7

ISSN: 0021-8502

Sort Key: 00000218502199400025000050000000000000767

Accession Number: 4843534

Update Code: 9501

Record 434 of 1145 in INSPEC 1995

Title: Inhalation of radionuclides during agricultural work in areas contaminated as a result of the Chernobyl reactor accident

Author: Kashparov-VA; Protsak-VP; Yoschenko-VI; Watterson-JD

Author Affiliation: Dept. of Phys. & Chem., Ukrainian Inst. of Agric. Radiol., Kiev, Ukraine

Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.761-6

Publication Year: 1994

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Radionuclide concentrations have been determined inside and outside the cabs of tractors operated on soils that are typical of the 30 km exclusion zone around the Chernobyl nuclear power plant. It was found that when the total plutonium deposit exceeded 3.7 kBq m/sup -2/ and the /sup 137/Cs deposit exceeded 7.4 MBq m/sup -2/, the levels of these radionuclides in the operator's cabin could exceed the maximum permissible air concentrations. However, due to the seasonal nature of work, the

quantities of these radionuclides inhaled would not exceed the annual limit on intake. Dose to the lungs caused by the inhalation of hot particles has been addressed by either including or neglecting spatial dose distribution. The levels of risk of carcinogenic changes in cells of lung tissue calculated according to each of the two approaches have been shown to be of the same order of magnitude.

Number of References: 7

Descriptors: air-pollution; caesium-; dosimetry-; plutonium-; radioactive-pollution; radioisotopes-; soil-

Identifiers: agricultural-work; Chernobyl-reactor-accident; radionuclide-inhalation; tractors-; exclusion-zone; Chernobyl-nuclear-power-plant; maximum-permissible-air-concentrations; spatial-dose-distribution; carcinogenic-changes; lung-tissue

Classification Codes: A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A8670C (Soil-and-rock-environmental-science); A8670G (Atmosphere-environmental-science); A8760M (Radiation-dosimetry); A87; A86; A8

Treatment Codes: X (Experimental)

Coden: JALSB7
ISSN: 0021-8502
Copyright Clearance Center Code: 0021-8502/94/$7.00+0.00

Sort Key: 00000218502199400025000050000000000000761

Accession Number: 4843533

Update Code: 9501

Record 435 of 1145 in INSPEC 1995

Title: Resuspension of radionuclides and the contamination of village areas around Chernobyl

Author: Kashparov-VA; Protsak-VP; Ivanov-YA; Nicholson-KW
Author Affiliation: Dept. of Phys. & Chem., Ukrainian Inst. of Agric. Radiol., Kiev, Ukraine

Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.755-9
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: A series of deposition measurements have been undertaken in 1988 around a decontaminated village close to the Chernobyl nuclear power plant. The results indicate that the spread of contamination into decontaminated areas via resuspension processes is likely to be slow. Deposition rates within the village were higher than those a short distance away and might reflect the importance of traffic-generated resuspension. Agricultural operations in the area were found to have a measurable effect on the spread of contamination up to a few hundred metres, but were unlikely to result in a major regional spread of contamination.

Number of References: 14
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: radionuclide-resuspension; village-area-contamination; Chernobyl-; Chernobyl-nuclear-power-plant; traffic-generated-resuspension; agricultural-operations
Classification Codes: A8670C (Soil-and-rock-environmental-science); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A86; A87; A8
Treatment Codes: X (Experimental)
Coden: JALSB7
ISSN: 0021-8502
Copyright Clearance Center Code: 0021-8502/94/$7.00+0.00

Sort Key: 00000218502199400025000050000000000000755
Accession Number: 4843532
Update Code: 9501
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25937.000
Bestand: 1.1970=>

Record 436 of 1145 in INSPEC 1995

Title: Air concentrations of radionuclides in the vicinity of Chernobyl and the effects of resuspension
Author: Garger-EK
Author Affiliation: Inst. of Radioecology, Ukrainian Agric. Acad. of Sci., Kiev, Ukraine
Source: Journal-of-Aerosol-Science. vol.25, no.5; July 1994; p.745-53
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Subsequent to the Chernobyl reactor accident in April 1986, there has been a large number of environmental measurements taken in the vicinity of the plant. An assessment of atmospheric and soil concentrations enables the importance of resuspension to be assessed, with particular regard to the spread of contamination. In the current study, measurements taken during August and September 1986 are considered for /sup 134/Cs, /sup 137/Cs, /sup 141/Ce, /sup 103/Ru, /sup 106/Ru, /sup 95/Nb and /sup 95/Zr and the results used to assess resuspension factors and resuspension rates. The possible effects of technogenic (i.e. mechanical) resuspension are also addressed with regard to decontamination activities.
Number of References: 18
Descriptors: air-pollution; caesium-; cerium-; niobium-; radioactive-pollution; radioisotopes-; ruthenium-; zirconium-
Identifiers: radionuclides-; Chernobyl-; resuspension-; environmental-measurements; soil-concentrations; 134Cs-; 137Cs-; 141Ce-; 103Ru-; 106Ru-; 95Nb-; 95Zr-; decontamination-activities; air-concentrations; Cs-; Ce-; Ru-; Nb-; Zr-

Classification Codes: A9260T (Air-quality-and-air-pollution); A8760R (Radioactive-pollution-and-natural-radioactivity-health-aspects); A92; A87; A9; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Ce-el; Ru-el; Nb-el; Zr-el
Coden: JALSB7
ISSN: 0021-8502

Sort Key: 00000218502199400025000050000000000000745
Accession Number: 4843531
Update Code: 9501

Record 437 of 1145 in INSPEC 1993-1994

Title: Chernobyl accident management actions
Author: Sich-AR
Author Affiliation: MIT, Cambridge, MA, USA
Source: Nuclear-Safety. vol.35, no.1; Jan.-June 1994; p.1-24
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Accident Management Actions taken during the first days after the Chernobyl accident either proved ineffective or were not fulfilled as reported by the Soviets at the International Atomic Energy Agency Meeting of Experts in Vienna in August 1986. Most significant to source-term analyses and estimates is that it is now believed that approximately 71% of the initial 190.3-tonne UO/sub 2/ fuel load was exposed to a high-temperature oxidizing environment because the core was neither covered with various materials thrown from helicopters to smother the fire nor was the core purged with (liquid) nitrogen. Both these actions were originally believed (on the basis of Soviet reports) to have effectively brought the crises to an end. These results seem to support earlier western far-field source-term estimates that significantly more volatile radionuclides may have been released as a result of the accident than reported by the Soviets in August 1986.
Number of References: 46
Descriptors: fission-reactor-accidents; radiation-protection
Identifiers: Chernobyl-accident-management-actions; source-term-analyses; high-temperature-oxidizing-environment; far-field-source-term-estimates; volatile-radionuclides; RBMK-1000
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2

Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604199400035000010000000000000001
Accession Number: 4835690
Update Code: 9450

Record 438 of 1145 in INSPEC 1993-1994

Title: Analysis of two effectiveness of emergency countermeasures in the 30-km zone during the early phase of the Chernobyl accident
Author: Likhtarev-IA; Chumack-VV; Repin-VS
Author Affiliation: Ukrainian Sci. Centre of Radiat. Med., Acad. of Med. Sci., Kiev, Ukraine
Source: Health-Physics. vol.67, no.5; Nov. 1994; p.541-4
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Some radiation-emergency countermeasures, including evacuation, were implemented in the settlements of the 30-km zone during the early phase of the accident at the Chernobyl Nuclear Power Plant. These countermeasures are described and compared with the international recommendations. An analysis of the effectiveness of the emergency countermeasures was conducted based upon the results of a wide-scale public survey. Quantitative assessments of the effectiveness (dose reduction) of the countermeasures were derived.
Number of References: 9
Descriptors: disasters-; dosimetry-; fission-reactor-accidents; health-hazards; radiation-protection
Identifiers: Chernobyl-accident; radiation-emergency-countermeasures; evacuation-; settlements-; 30-km-zone; early-phase; Chernobyl-Nuclear-Power-Plant; international-recommendations; effectiveness-; wide-scale-public-survey; dose-reduction
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A2880C (Dosimetry); A8760M (Radiation-dosimetry); B7530B (Radiation-protection-and-dosimetry); B8220 (Nuclear-power-stations-and-plants); A28; A87; B75; B82; A2
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00+0
Sort Key: 00000179078199400067000050000000000000541
Accession Number: 4833380
Update Code: 9449
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 439 of 1145 in INSPEC 1993-1994

Title: Radionuclide contamination of soil in populated points in Russia as a result of the Chernobyl accident
Author: Orlov-NYu; Snykov-VP; Bochkov-LP
Author Affiliation: Taifun Sci. Ind. Assoc., Russia
Source: Atomic-Energy. vol.76, no.3; March 1994; p.208-10
Translated from: Atomnaya-Energiya. vol.76, no.3; March 1994; p.209-12
Publication Year: 1994
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: It follows from the data that the greatest attention was devoted to contamination with /sup 137/Cs, since it was established that on the territory of Russia the criteria for contamination with /sup 90/Sr or /sup 239,240/Pu were not exceeded at any populated point. Indeed, on the territory of Russia A/sub 90/ > 3 Ci/km/sup 2/ was not observed at any populated point. Not one case of A/sub 39/ exceeding 0.1 Ci/km/sup 2/ was observed. In the Kaluga and Tula regions A/sub 90/ never exceeds 0.3-0.4 Ci/km/sup 2/. The maximum value of A/sub 90/ was observed in Barsuki in Bryanskaya oblast' - it equalled approximately 1.3 Ci/km/sup 2/. Moreover, in all cases significant activity of this radionuclide was observed at points where A/sub 37/ is large, and there are no other points that had to be referred, for example, to the populated zone only due to contamination of /sup 90/Sr. Among the investigated points in Bryanskaya oblast', the highest values of A/sub 39/ were observed in Klintsy and Vlikaya Topal. Even there, however, A/sub 39/ does not exceed 0.008 Ci/km/sup 2/. In the Koluga and Tula regions separate points are encountered where an appreciable contamination with plutonium isotopes (up to 0.013 Ci/km/sup 2/) is also observed.
Number of References: 7
Descriptors: accidents-; caesium-; plutonium-; radiation-monitoring; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: radionuclide-contamination; soil-; populated-points; Russia-; Chernobyl-accident; 137Cs-; 90Sr-; 239Pu-; 240Pu-; Kaluga-region; Tula-region; Barsuki-region; Bryanskaya-oblast; Klintsy-region; Vlikaya-Topal-region; Cs-; Sr-; Pu-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A8760P (Radiation-protection); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el; Pu-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/94/7603-0208$12.50
Sort Key: 00000047163199400076000030000000000000209
Accession Number: 4822885

Update Code: 9411
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 440 of 1145 in INSPEC 1993-1994

Title: Reconstruction of transuranium radionuclide radiation dose to the population in regions far from the Chernobyl accident
Author: Makhon'ko-KP
Author Affiliation: Inst. of Exp. Meteorol., Taifun Sci. Ind. Assoc., Russia
Source: Atomic-Energy. vol.75, no.6; Dec. 1993; p.950-6
Translated from: Atomnaya-Energiya. vol.75, no.6; Dec. 1993; p.457-65
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: For the case of the Chernobyl accident it is difficult to make an unequivocal choice between inhalation classes N and D for plutonium. The radioactive dust spreading in the atmosphere after the accident was a consequence of both emission from the collapse of the reactor and wind uplift of dust settling on the soil. It is possible that in April-May 1986, there was still not enough time for the chemical processes occurring in the soil to be completed. Estimates of the limits of the fluctuations in the dose for classes N and D show that inhalation of aerosols containing plutonium compounds of inhalation class N results in a 1.46-2.75 times higher, depending on the specific radionuclide, irradiation dose than for class D.
Number of References: 6
Descriptors: dosimetry-; plutonium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: transuranium-radionuclide-radiation-dose; Chernobyl-accident; inhalation-classes; radioactive-dust; wind-uplift; chemical-processes; inhalation-class; irradiation-dose
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/93/7506-0950$12.50
Sort Key: 00000047163199300075000060000000000000457
Accession Number: 4799469
Update Code: 9411
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 441 of 1145 in INSPEC 1993-1994

Title: Spatial distribution of radioactive contamination from the Chernobyl accident
Author: Arutyunyan-RV; Bol'shov-LA; Vasil'ev-SK; Gedeonov-AD; Evdokimov-IV; Petrov-BF; Pleskachevskii-LA
Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia
Source: Atomic-Energy. vol.75, no.6; Dec. 1993; p.946-9
Translated from: Atomnaya-Energiya. vol.75, no.6; Dec. 1993; p.453-7
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: We develop a model that would enable us to estimate the degree of territorial contamination by /sup 90/Sr (plutonium) on the basis of data on the contamination of the same territories by gamma -emitting radionuclides. The investigations were performed in two stages. First, specific experimental measurements were performed. These measurements enabled a comprehensive (gamma -spectrometric and radiochemical) analysis of soil samples taken from inhabited areas with different contamination and located at different distances from the Chernobyl nuclear power plant. The procedures used to determine the /sup 137/Cs, /sup 90/Sr and plutonium soil content in the present investigations underwent metrological certification and intercalibration within the international project. Second, a correlation analysis of the data was performed using our experimental measurements as the reference results. Since the data from Goskomgidromet contain information about 300 inhabited areas in the Bryanskaya oblast, for which contamination by both /sup 137/Cs and /sup 90/Sr was determined, special attention was devoted to studying the correlations in the soils of these territories.
Number of References: 10
Descriptors: caesium-; plutonium-; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: radioactive-contamination; Chernobyl-accident; 90Sr-; plutonium-; gamma-emitting-radionuclides; soil-samples; 137Cs-; metrological-certification; intercalibration-; Goskomgidromet-; Bryanskaya-oblast; Sr-; Cs-; Pu-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el; Pu-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/93/7506-0946$12.50
Sort Key: 00000047163199300075000060000000000000453
Accession Number: 4799468
Update Code: 9411
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Title: Statistical characteristics of the spatial distribution of territorial contamination by radionuclides from the Chernobyl accident

Author: Arutyunyan-RV; Bol'shov-LA; Vasil'ev-SK; Evdokimov-IV; Petrov-BF; Pleskachevskii-LA

Author Affiliation: Khlopin (V.G.) Radium Inst., St. Petersburg, Russia

Source: Atomic-Energy. vol.75, no.6; Dec. 1993; p.940-5

Translated from: Atomnaya-Energiya. vol.75, no.6; Dec. 1993; p.448-53

Publication Year: 1993

Record Type: Journal-article

Country of Publication: Russia; Translation: USA

Language: English

Abstract: Random (statistical) processes played a significant role in the formation of the spatial distribution of radioactive contaminations owing to the Chernobyl accident, both at the stage of fallout and subsequent migration of radionuclides. In particular, a detailed study of the distribution of the surface density of soil contamination, for example, performed by mass gamma -ray spectrometric analysis of soil samples obtained on the territory of a specific inhabited area, should reveal fluctuations resulting from the nonuniformity of the precipitation produced in the fallout by medium scale-hundreds of meters atmospheric turbulence. For brevity, we shall term statistical phenomena with this scale intermediate statistics. When the territory is subdivided to dimensions of up to 10 m or smaller, local fluctuations of the contamination density, which are associated with the heterogeneity of radionuclide migration (primarily owing to the local microrelief) and which we term local statistics, should be expected. In the radiochemical determination of the content of /sup 90/Sr and plutonium isotopes a small portion (several percent) of the sample is, as a rule, analysed, and this results in the appearance of an additional random component. Our objective is to clarify the following interrelated questions: the character of the statistical distributions determined by local and intermediate statistics; the number of samples which must be analysed in order to determine with prescribed accuracy the surface density (activity excess) of radioactive contamination over some arbitrary area as a function of the dimensions of the area; and, the degree to which all existing information on soil contamination in the inhabited areas of Bryanskaya oblast (chosen because the maximum possible amount of information is available for this region) satisfy statistical laws and to determine the parameters and structure of these laws.

Number of References: 3

Descriptors: accidents-; fluctuations-; radioactive-pollution; radioisotopes-; soil-; statistical-analysis

Identifiers: territorial-contamination; radionuclides-; Chernobyl-accident; fallout-; surface-density; soil-contamination; mass-gamma-ray-spectrometric-analysis; fluctuations-; atmospheric-turbulence; statistical-phenomena; intermediate-statistics; radionuclide-migration; local-statistics; radiochemical-determination; Bryanskaya-oblast

Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A0250 (Probability-theory-stochastic-processes-and-statistics); A9330G (Europe); A86; A87; A02; A93; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/93/7506-0940$12.50
Sort Key: 00000047163199300075000060000000000000448
Accession Number: 4799467
Update Code: 9411
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 443 of 1145 in INSPEC 1993-1994

Title: Nuclear spectroscopy and electron microprobe study of a Ba hot particle originating from the Chernobyl accident
Author: Vapirev-EI; Tsacheva-Ts; Bourin-KI; Hristova-AV; Kamenova-Ts; Gourev-V
Author Affiliation: Fac. of Phys., Sofia Univ., Bulgaria
Source: Radiation-Protection-Dosimetry. vol.55, no.2; 1994; p.143-7
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A Ba-Sr hot particle released during the Chernobyl accident has been studied by electron microprobe analysis and alpha, beta and gamma spectroscopy. The Ba-Sr hot particle proved in terms of mass to be a Zr hot particle. It has been concluded that the Zr has a nuclear origin through the chain Br-Kr-Rb-Sr-Y-Zr. The estimated specific activity is approximately 1.8+or-0.5 Bq. mu m/sup -3/ which is comparable to the estimated activity of equivalent to 1 Bq. mu m/sup -3/ of the UO/sub 2/ hot particles. The conclusion with reference to the risk when such a particle is inhaled is that the risk of a Ba-Sr-Zr hot particle is not greater than the risk due to standard UO/sub 2/ hot particles.
Number of References: 14
Descriptors: accidents-; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-accident; Ba-hot-particle; electron-microprobe; nuclear-spectroscopy; Ba-Sr-hot-particle; gamma-spectroscopy; beta-spectroscopy; alpha-spectroscopy; Zr-hot-particle; Br-Kr-Rb-Sr-Y-Zr-chain; estimated-specific-activity; UO-2-hot-particles; Ba-Sr-Zr-hot-particle
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420199400055000020000000000000143
Accession Number: 4786191
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 444 of 1145 in INSPEC 1993-1994

Title: Time dependence of the /sup 137/Cs resuspension factor on the Romanian territory after the Chernobyl accident
Author: Mihaila-B; Cuculeanu-V
Author Affiliation: Inst. of Environ. Res. & Eng., Bucharest, Romania
Source: Health-Physics. vol.67, no.2; Aug. 1994; p.170-5
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: On the basis of the radioactivity levels in aerosol and atmospherical deposition samples due to the Chernobyl accident, the resuspension factor of /sup 137/Cs as a four-parameter function has been inferred. The standard procedure to derive the dependence of resuspension on time assumes that the initial deposit is instantaneous. A simple method assuming a constant deposition rate over a fixed period has been proposed. Also, based on existing experimental data, an attempt was made to consider a realistic time dependence of the deposition rate to cope with the particular case of the Chernobyl accident. The differences between the two models are outlined. The Chernobyl direct deposit has been assumed to be the deposit measured between 30 April and 30 June 1986. The calculated values of the resuspension factor are consistent with the IAEA's recommended model and depend on the rainfall that occurred in June 1986 and the site-specific disturbance conditions during the first 100 d following 1 July 1986 and only on artificial disturbance by humans and vehicles after that.
Number of References: 16
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; caesium-; disasters-; health-hazards; modelling-; radioactive-pollution; radioisotopes-; rain-
Identifiers: 137Cs-resuspension-factor; Romanian-territory; Chernobyl-accident; radioactivity-levels; aerosol-samples; atmospherical-deposition-samples; time-dependence; four-parameter-function; initial-deposit; constant-deposition-rate; deposition-rate; Chernobyl-direct-deposit; IAEA's-recommended-model; rainfall-; site-specific-disturbance-conditions; artificial-disturbance; humans-; vehicles-; AD-1986-04-to-06; 100-d; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Numerical Data Indexing: time 8.6 E06 s
Chemical Indexing: Cs-el

Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00+0
Sort Key: 00000179078199400067000020000000000000170
Accession Number: 4783507
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 445 of 1145 in INSPEC 1993-1994

Title: Radiocesium in diet and humans in northeastern Poland after the Chernobyl accident
Author: Pietrzak-Flis-Z; Krajewski-P
Author Affiliation: Dept. of Radiat. Hygiene, Central Lab. for Radiol. Protection, Warsaw, Poland
Source: Health-Physics. vol.67, no.2; Aug. 1994; p.115-21
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: /sup 137/Cs and /sup 134/Cs concentrations were determined in the daily diet and foodstuffs in northeastern Poland in the fourth through sixth years after the Chernobyl accident. Intakes, body burdens, and dose equivalents were evaluated in the consecutive years. The data from this and previous work were used for the calculation of the effective half-time of radiocesium in humans. The effective half-time for /sup 137/Cs (1.94 y) was similar to that observed after nuclear weapons tests. The effective half-time for /sup 134/Cs was 0.98 y. Taking these half-times into account, the whole-body committed dose equivalent for the adult population was estimated to be 256 mu Sv; it was about 50% higher than that after the nuclear weapons tests.
Number of References: 14
Descriptors: accidents-; caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radiocesium-in-diet; humans-; northeastern-Poland; Chernobyl-accident; 137Cs-; 134Cs-concentration; body-burdens; radioactive-contamination; effective-half-time; whole-body-committed-dose-equivalent; adult-population; 4-to-6-y; 256-muSv; 1-94-y; 0-98-y; Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 1.3 E08 to 1.9 E08 s; radiation dose equivalent 2.56E-04 Sv; time 6.12 E07 s; time 3.1 E07 s
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00+0
Sort Key: 00000179078199400067000020000000000000115

Accession Number: 4783500
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 446 of 1145 in INSPEC 1993-1994

Title: Radiation safety during construction of the encapsulation for Unit 4 of the Chernobyl nuclear power plant
Author: Belovodskiy-LF
Author Affiliation: Inst. of Experimental Phys., Nizhny-Novgorod, Russia
Source: Transactions-of-the-American-Nuclear-Society. vol.70, suppl., no.1; 1994; p.655
Publication Year: 1994
Record Type: Conference-Paper; Journal-article
Conference Details: 9th Pacific Basin Nuclear Conference. 1-6 May 1994; Sydney, NSW, Australia. Sponsored by: Instn. Eng. Australia; Pacific Nucl. Council
Country of Publication: USA
Language: English
Abstract: A review is given of the main radiation safety problems which were solved during design and construction of the encapsulation for Unit 4 of Chernobyl nuclear power plant which was destroyed in the accident of 26 April 1986. The paper discusses the technical, organisational and health measures which were used to ensure that radiation safety regulations and standards were observed during construction.
Number of References: 0
Descriptors: accidents-; dosimetry-; health-hazards; radiation-protection; safety-
Identifiers: construction-; radiation-safety; encapsulation-; Chernobyl-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2880C (Dosimetry); A28; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19940007000001000000000100655
Accession Number: 4777439
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 447 of 1145 in INSPEC 1993-1994

Title: /sup 137/Cs concentration among children in areas contaminated with radioactive fallout from the Chernobyl accident: Mogilev and Gomel oblasts, Belarus
Author: Hoshi-M; Shibata-Y; Okajima-S; Takatsuji-T; Yamashita-S; Namba-H; Yokoyama-N; Izumi-M; Nagataki-S; Fujimura-K; Kuramoto-A; Krupnik-TA; Dolbeshkin-NK; Danilchik-SA; Derzhitsky-VE; Wafa-KA; Kiikuni-K; Shigematsu-I

Author Affiliation: Res. Inst. for Nucl. Med. & Biol., Hiroshima Univ., Japan
Source: Health-Physics. vol.67, no.3; Sept. 1994; p.272-5
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The level of radiation exposure in children in Belarus caused by the Chernobyl accident was investigated on the basis of whole body /sup 137/Cs count. The subjects were 10,062 children (4,762 boys and 5,300 girls) in Mogilev and Gomel, Belarus, who received Chernobyl Sasakawa Health and Medical Cooperation Project health examinations from May 1991 to December 1992 and who were 5-16 y old at the time of examination. The median whole body /sup 137/Cs count per body weight varied from 21-48 Bq kg/sup -1/ and from 28-126 Bq kg/sup -1/ in Mogilev oblast and Gomel oblast, respectively. (The "oblast" is the largest administrative district constituting the country. Belarus consists of 6 oblasts.) Corresponding annual effective dose equivalents were all less than the public dose limit of 1 mSv y/sup -1/, but the observed levels in the children were considerably higher than the average level of 2.3 Bq kg/sup -1/ reported in the past for the former Soviet Union.
Number of References: 6
Descriptors: air-pollution; atmospheric-radioactivity; biological-effects-of-ionising-radiation; health-hazards; radioactive-pollution; radioactivity-measurement
Identifiers: 137Cs-concentration; children-study-pool; radioactive-fallout-contaminated-areas; Chernobyl-accident; Mogilev-; Gomel-oblasts; Belarus-; radiation-exposure; whole-body-137Cs-count; Chernobyl-Sasakawa-Health-and-Medical-Cooperation-Project-health-examinations; 5-to-16-y
Classification Codes: A8760R (Radioactive-pollution); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: age 5.0 E00 to 1.6 E01 yr
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00
Sort Key: 0000017907819940006700003000000000000272
Accession Number: 4777169
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 448 of 1145 in INSPEC 1993-1994

Title: Transport of iodine and cesium via the grass-cow-milk pathway after the Chernobyl accident
Author: Kirchner-G
Author Affiliation: Dept. of Phys., Bremen Univ., Germany

Source: Health-Physics. vol.66, no.6; June 1994; p.653-65
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: More than 150 data sets giving time-dependent concentrations of /sup 131/I and /sup 137/Cs in feed and milk of cows after the Chernobyl accident are evaluated using a minimal compartmental modeling approach. Transfer of cesium via the grass-cow-milk pathway is adequately described by a three-compartmental model. No unique model results for /sup 131/I, as a compartment with slow secretion of /sup 131/I into milk, are identified for some datasets only. Frequency distributions of weathering half-lives on grass and of equilibrium feed-to-milk transfer coefficients are approximately lognormal. Mean values of weathering half-lives on plants are 9.1+or-0.6 d for iodine and 11.1+or-0.8 d for cesium, in good agreement with means established from experiments performed before 1986. Mean values of equilibrium feed-to-milk transfer coefficients are 3.4+or-0.4 10/sup -3/ d L/sup -1/ for /sup 131/I and 5.4+or-0.5 10/sup -3/ d L/sup -1/ for /sup 137/Cs. Both are lower than means calculated from the pre-Chernobyl data base. Plausible explanations of the differences include (1) reduced availability of fallout compared to soluble tracer; (2) underestimation of post-Chernobyl transfer coefficients by some experiments concluded too early to record slow transport processes; and (3) reduced transfer of /sup 131/I compared to long-lived iodine isotopes due to decay during fixation in the thyroid. Feed-to-milk transfer of /sup 131/I is related to milk yield, but no influence of milk yield and type of feed on transfer is apparent for cesium.
Number of References: 73
Descriptors: accidents-; caesium-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: 131I-; 137Cs-; grass-cow-milk-pathway; Chernobyl-accident; 3-compartmental-model; radioisotope-transport; weathering-half-lives; plants-; fallout-; soluble-tracer; transfer-coefficients; minimal-compartmental-modeling; thyroid-fixation; milk-yield; feed-type; 9-1-d; 11-1-d; Cs-; I-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670Z (Other-topics); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 7.9 E05 s; time 9.59 E05 s
Chemical Indexing: Cs-el; I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00+0
Sort Key: 0000017907819940006600006000000000000653
Accession Number: 4758086
Update Code: 9400

Record 449 of 1145 in INSPEC 1993-1994

Title: Retrospective reconstruction of individual and collective external gamma doses of population evacuated after the Chernobyl accident
Author: Likhtarev-IA; Chumack-VV; Repin-VS
Author Affiliation: Ukrainian Sci. Centre of Radiat. Med., Acad. of Sci., Kiev, Ukraine
Source: Health-Physics. vol.66, no.6; June 1994; p.643-52
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: About 90,000 citizens of Ukraine, who were residents of the near zone of the Chernobyl nuclear power plant were evacuated during the first weeks after the accident due to the heavy contamination of the environment. Doses of this cohort were unknown. Retrospective reconstruction of external gamma exposure doses, based on the results of direct dose rate measurements performed during the accident and individual behavior/migration histories of the evacuees, was performed. Individual doses were reconstructed for 30,586 evacuees from the city of Prip'at and the settlements of the 30-km zone. The average effective dose H/sub E/ due to external irradiation for this cohort was estimated to be 15 mSv, although individual values vary in an extremely wide range from 0.1 to 383 mSv. The collective dose of the whole evacuated population was found to be 1,300 person-Sv.
Number of References: 10
Descriptors: accidents-; dosimetry-; health-hazards; radioactive-pollution
Identifiers: collective-external-gamma-dose; individual-external-gamma-dose; retrospective-dose-reconstruction; Chernobyl-accident; evacuated-population; migration-history; behavior-history; dose-rate-measurements; Prip'at-; nuclear-power-plant-accident; Ukraine-; 30-km; 0-1-to-383-mSv
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: size 3.0 E04 m; radiation dose equivalent 1.0E-04 to 3.83E-01 Sv
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00+0
Sort Key: 0000017907819940006600006000000000000643
Accession Number: 4758085
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 450 of 1145 in INSPEC 1993-1994

Title: Nondestructive control of Chernobyl hot particles behavior and migration of radionuclides in soil-plant system
Author: Victorova-NN; Demchuk-VV; Ganga-EV; Tretyakova-SP; Golovchenko-AN
Author Affiliation: Hydrometeorological Inst., Kiev, Ukraine
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.22, no.1-4; 1993; p.885-8
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: 16th International Conference on Nuclear Tracks in Solids. 7-11 Sept. 1992; Beijing, China. Sponsored by: Int. Center Theoretical Phys.; Third World Acad. Sci.; et al
Country of Publication: UK
Language: English
Abstract: The Chernobyl hot particles dimensions, their composition, the behavior and the migration of the radionuclides in soil-plant system were investigated by the nondestructive beta-, alpha-, and fission fragment radiography by the dielectric track detectors and special X-plates.
Number of References: 3
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-hot-particles; composition-; radionuclides-; soil-plant-system; radiography-; dielectric-track-detectors; X-plates
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: NTRMDS
ISSN: 0735-245X
Copyright Clearance Center Code: 0735-245X/94/$6.00+.00
Sort Key: 0000735245X19930002200001000000000000885
Accession Number: 4755857
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.003
Bestand: 11.1986-20.1992
ZB f. Physik Wien, Signatur: 25127.004
Bestand: 21.1993-22.1993

Record 451 of 1145 in INSPEC 1993-1994

Title: Alpha activity measurements of biological samples from areas around the site of the Chernobyl nuclear disaster using the SSNTD technique
Author: Badr-I; Durrani-SA
Author Affiliation: School of Phys. & Space Res., Birmingham Univ., UK
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.22, no.1-4; 1993; p.849-50
Publication Year: 1993
Record Type: Conference-Paper; Journal-article

Conference Details: 16th International Conference on Nuclear Tracks in Solids. 7-11 Sept. 1992; Beijing, China. Sponsored by: Int. Center Theoretical Phys.; Third World Acad. Sci.; et al
Country of Publication: UK
Language: English
Abstract: A set of five human hair and lung samples from supposedly contaminated and non-contaminated regions around the site of the Chernobyl nuclear accident of April 1986 have been analysed using the SSNTD technique. Only one of the samples displayed an alpha activity significantly greater than what might be expected in a normal healthy specimen. The results, thus, support the conclusions of the IAEA International Chernobyl Project meeting, held at Vienna in May 1991, indicating that many of the ill effects found in the area are primarily due to factors other than high environmental radiation levels.
Number of References: 6
Descriptors: alpha-particle-detection-and-measurement; radioactive-pollution; solid-state-nuclear-track-detectors
Identifiers: human-hair; lung-samples; Chernobyl-nuclear-accident; SSNTD-technique; alpha-activity; ill-effects
Classification Codes: A8760R (Radioactive-pollution); A2940W (Solid-state-nuclear-track-detectors); A87; A29; A8; A2
Treatment Codes: X (Experimental)
Coden: NTRMDS
ISSN: 0735-245X
Copyright Clearance Center Code: 0735-245X/94/$6.00+.00
Sort Key: 0000735245X19930002200001000000000000849
Accession Number: 4755849
Update Code: 9400

Record 452 of 1145 in INSPEC 1993-1994

Title: Skin doses from large uranium fuel particles: application to the Chernobyl accident
Author: Pollanen-R; Toivonen-H
Author Affiliation: Centre for Radiat. & Nucl. Safety, Helsinki, Finland
Source: Radiation-Protection-Dosimetry. vol.54, no.2; 1994; p.127-32
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radiation dose to the skin caused by large nuclear fuel particles is calculated as a function of the particle size. The size range considered is 6-40 mu m (aerodynamic

diameter 20-140 mu m). Air-tissue surface effects and self-absorption of the particles are taken into account in the dose estimation. The nuclide composition of the particles is estimated from the inventory of the Chernobyl reactor. When deposited on the skin the uranium fuel particle of size 40 mu m can cause a dose of 1.6 Gy.cm/sup -2/ to the basal cell layer in one day. The transport range calculations show that these particles may remain airborne tens of kilometres away from the power plant.

Number of References: 19

Descriptors: accidents-; dosimetry-; fission-reactor-fuel; radioactive-pollution; radioisotopes-; skin-; uranium-

Identifiers: skin-doses; large-uranium-fuel-particles; Chernobyl-accident; aerodynamic-diameter; air-tissue-surface-effects; particles-self-absorption; basal-cell-layer; transport-range-calculations; nuclear-power-plant; airborne-particles; radioactive-particles; 6-to-140-mum; 1-d; U-

Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A87; A28; A8; A2

Treatment Codes: T (Theoretical-or-Mathematical)

Numerical Data Indexing: size 6.0E-06 to 1.4E-04 m; time 8.6 E04 s

Chemical Indexing: U-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 0000144842019940005400002000000000000127

Accession Number: 4755398

Update Code: 9400

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 453 of 1145 in INSPEC 1993-1994

Title: X-ray photoelectron study of samples containing reactor fuel from "lava" and products growing on it which formed at Chernobyl NPP due to the accident

Author: Teterin-YuA; Baev-AS; Bogatov-SA

Author Affiliation: Kurchatov (I.V.) Inst. of Atomic Energy, Moscow, Russia

Source: Journal-of-Electron-Spectroscopy-and-Related-Phenomena. vol.68, spec. issue.; 6 May 1994; p.685-94

Publication Year: 1994

Record Type: Conference-Paper; Journal-article

Conference Details: Fifth International Conference on Electron Spectroscopy, ICES 5. 25 July-1 Aug. 1993; Kiev, Ukraine

Country of Publication: Netherlands

Language: English

Abstract: X-ray photoelectron studies have been carried out for the samples of fuel-containing mass (FCM) from "lava" and unidentified crystalline substance-the "new product" grown on it that were formed due to the accident at the 4th Unit of Chernobyl

nuclear power plant (CNPP). The stoichiometric composition of FCM and "new product" samples is determined. It has been discovered that FCM samples contain U/sup n+/ ions of various oxidation degrees (0<or=n<or=6), Zr/sup n+/ and Si/sup n+/ ions in these samples have oxidation degrees n<or=4. These FCM samples include ions of lower oxidation degrees (ZrO, SiO, U/sub 2/O/sub 3/, UC/sub n/, etc.) in relation to more stable oxides (ZrO/sub 2/, SiO/sub 2/, UO/sub 2/, etc.). It is found that the "new product" is double salt of uranium Na/sub 4/UO/sub 2/(CO/sub 3/)/sub 3/ with impurities of Na/sub 2/CO/sub 3/, Na/sub 2/SO/sub 4/, NaOH and H/sub 2/O where atoms of Na are partially replaced by atoms of K. Using the characteristics of the fine structure of the XPS spectra the uranium-ligand interatomic distance in the double salt has been estimated. It has been found that interatomic distance in the uranyl group R/sub U-L/=0.174 nm and in axial plane of uranyl group R/sub U-L/=0.239-0.260 nm. It has been shown that in the "new product" samples there is significantly more uranium (19 mass%) than in FCM samples (4 mass%).

Number of References: 6
Descriptors: fission-reactor-fuel; oxidation-; X-ray-photoelectron-spectra
Identifiers: X-ray-photoelectron; reactor-fuel; Chernobyl-; fuel-containing-mass; stoichiometric-composition; uranium-ligand-interatomic-distance; double-salt
Classification Codes: A7960 (Photoemission-and-photoelectron-spectra); A2842D (Fuel-elements); A79; A28; A7; A2
Treatment Codes: X (Experimental)
Chemical Indexing: U-ss
Coden: JESRAW
ISSN: 0368-2048
Copyright Clearance Center Code: 0368-2048/94/$07.00
Sort Key: 0000368204819940006800000000000000000685
Accession Number: 4738270
Update Code: 9400

Record 454 of 1145 in INSPEC 1993-1994

Title: Role of separate factors in the development of the Chernobyl accident
Author: Adamov-EO; Domoradov-AE; Mironov-YuV; Nikitin-YuM; Cherkashov-YuR
Source: Atomic-Energy. vol.75, no.5; Nov. 1993; p.839-43
Translated from: Atomnaya-Energiya. vol.75, no.5; Nov. 1993; p.336-41
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: In the present paper we present the first results of an analysis performed using the RELAP 5/mod 2 program, the standard version of which is the most widely used tool abroad for investigating reactor safety. In this code the quite well-developed system for describing the thermohydraulic processes in the steam-water flows is combined with a six-group point model of reactor kinetics. Taking into account the limitations associated

with the point character of the kinetics model, it can nonetheless be expected that under the conditions of global changes in the parameters of the coolant in the reactor, such an approach is capable of giving reliable estimates of threshold quantities. In this paper we examine two problems: First, we examine for the preaccident state of the reactor the effect of actuating the AZ-5 safety system and of short-time positive reactivity during the motion of the safety rods on the system and, second, we study the consequences of disconnecting the turbogenerator and operating two of the four operating main circulation pumps (MCPs) of each loop during spindown.

Number of References: 5

Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-core-control-and-monitoring; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-engineering-computing; turbogenerators-

Identifiers: Chernobyl-accident; RELAP-5mod-2-program; reactor-safety; thermohydraulic-processes; steam-water-flows; six-group-point-model; reactor-kinetics; global-changes; coolant-; threshold-quantities; preaccident-state; AZ-5-safety-system; short-time-positive-reactivity; safety-rods; turbogenerator-disconnection; operating-main-circulation-pumps; spindown-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841C (Computer-codes); A2843B (Cooling-and-heat-recovery); A2843D (Core-control-and-guidance); A2850G (Light-water-reactors); A28; A2

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/93/7505-0839$12.50

Sort Key: 00000047163199300075000050000000000000336

Accession Number: 4729890

Update Code: 9400

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 455 of 1145 in INSPEC 1993-1994

Title: On the post-Chernobyl radionuclide distribution in Transylvanian soils

Author: Mocsy-I; Oncescu-M

Author Affiliation: Public Health & Med. Res. Inst., Cluj, Romania

Source: Romanian-Journal-of-Physics. vol.38, no.6; 1993; p.559-63

Publication Year: 1993

Record Type: Journal-article

Country of Publication: Romania

Language: English

Abstract: Transylvanian soils were sampled during the period 1986-1992 and their radioactive concentration measured using a NaI(Tl) crystal gamma-ray detector. An equation for the dependence of radioactive concentration on time and depth into the soil

is proposed; the determination of the parameters in this equation permits the modelling of human body external irradiation.
Number of References: 9
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-radionuclide-distribution; Transylvanian-soils; gamma-ray-measurements; radioactive-concentration; time-dependence; depth-dependence; human-body-external-irradiation; modelling-; fallout-; radioactive-pollution; Romania-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: RJPHEC
ISSN: 1221-146X
Sort Key: 0001221146X19930003800006000000000000559
Accession Number: 4716289
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08815.002
Bestand: 37.1992,7=>

Record 456 of 1145 in INSPEC 1993-1994

Title: Radiocesium in Swedish reindeer after the Chernobyl fallout: seasonal variations and long-term decline
Author: Ahman-B; Ahman-G
Author Affiliation: Dept. of Clinical Nutrition, Swedish Univ. of Agricultural Sci., Uppsala, Sweden
Source: Health-Physics. vol.66, no.5; May 1994; p.503-12
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Data about /sup 137/Cs activity concentrations in reindeer muscle were collected from different parts of Sweden during 1986-1992. The data were used to evaluate seasonal and geographical variations and long-term decline of /sup 137/Cs in reindeer. The seasonal variation is shown in an example from one of the most contaminated areas, the Saami community Vilhelmina Norra, where /sup 137/Cs activity concentrations in reindeer during winter exceed those found during summer by about 20 times. Activity concentrations of /sup 137/Cs in reindeer were fairly well correlated to ground deposition. The ratio between /sup 137/Cs in reindeer (kBq kg/sup -1/ wet weight) and ground deposition (kBq m/sup -2/) was calculated to be 0.76 m/sup 2/ kg/sup -1/ for the winter period, January-April, in 1987. Activity concentrations of /sup 137/Cs in reindeer decreased significantly during the years 1986-1992. The decline was generally more rapid during September, November, and December (corresponding to an effective ecological half-life (T/sub Eff/) of 3.2 y) than during January-April when

T/sub Eff/ was calculated to 4.2 y. There was a general trend toward a slower decrease during the last of the observed years.

Number of References: 42

Descriptors: caesium-; disasters-; health-hazards; muscle-; radioactive-pollution; radioisotopes-

Identifiers: AD-1986-to-1992; Swedish-reindeer; Chernobyl-fallout; seasonal-variations; reindeer-muscle; geographical-variations; long-term-decline; contaminated-areas; Saami-community; Vilhelmina-Norra; winter-; summer-; ground-deposition; effective-ecological-half-life; 137Cs-activity-concentrations

Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A9330G (Europe); A87; A86; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: HLTPAO

ISSN: 0017-9078

Sort Key: 00000179078199400066000050000000000000503

Accession Number: 4705287

Update Code: 9400

Record 457 of 1145 in INSPEC 1993-1994

Title: Lysimetrical study of radionuclides in the forests around the Chernobyl nuclear power plant

Author: Kliashtorin-AL; Tikhomirov-FA; Shcheglov-AI

Author Affiliation: Soil Sci. Faculty, Moscow State Univ., Russia

Source: Journal-of-Environmental-Radioactivity. vol.24, no.1; 1994; p.81-90

Publication Year: 1994

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Vertical intrasoil water within the 30 km zone of ChNPP was studied by lysimetrical method during 1989-1991. Explorations were carried out in different ecosystems where the sum of total accumulation deposition of the radionuclides (Ce-144; Cs-134, 137; Ru-106; Sr-90) ranged from 90 MBq/m/sup 2/ to 0.5 MBq/m/sup 2/. lt was shown that 0.01-0.6% of the total amount of radionuclides was lost from the 20-30 cm layer of soil every year depending on the type of radionuclide, type of ecosystem and the location of study plot. Main absorption of the radionuclides from the intrasoil flow generally took place in the 5-10 cm layer. Radionuclides were not absorbed by the soil in proportion to their ratio in lysimetrical water leached through the forest litter. The mobility of radionuclides in the intrasoil flow can be represented by the following

series: Sr-90>Ru-106>Cs-134, 137>Ce-144. Sr-90 and Cs-137 are absorbed by soil move intensively than their chemical macroanalogs-Ca and K.

Number of References: 13

Descriptors: accidents-; caesium-; cerium-; radioactive-pollution; radioisotopes-; ruthenium-; soil-; strontium-

Identifiers: radionuclides-; forest-; Chernobyl-nuclear-power-plant; vertical-intrasoil-water; accumulation-deposition; 144Ce-; 134Cs-; 106Ru-; 90Sr-; lysimetrical-water; intrasoil-flow; 137Cs-; AD-1989-to-1991; Ce-; Cs-; Ru-; Sr-

Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A86; A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Ce-el; Cs-el; Ru-el; Sr-el

Coden: JERAEE

ISSN: 0265-931X

Sort Key: 0000265931X19940002400001000000000000081

Accession Number: 4703204

Update Code: 9400

Record 458 of 1145 in INSPEC 1993-1994

Title: External doses from Chernobyl fall-out: individual dose measurements in the Brjansk region of Russia

Author: Erkin-V; Wallstrom-E; Wohni-T

Author Affiliation: St Petersburg Inst. of Radiation Hygiene, Russia

Source: Radiation-Protection-Dosimetry. vol.51, no.4; 1994; p.265-73

Publication Year: 1994

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Individual dose measurements in highly contaminated areas in the Brjansk region of Russia are presented. The measurement programme comprised 285 persons living in six different villages, with contamination levels ranging from 0.8 to 2.3 Mbq.m/sup -2/ of /sup 137/Cs. The measurements were performed in the month of September in the years 1990, 1991 and 1992, with three participating dosimetry laboratories. Mean monthly dose values between 148 and 287 mu Sv were recorded, including a natural background contribution of 60 mu Sv. Not unexpectedly, people with outdoor occupations living in wooden houses received the highest doses. The most heavily contaminated villages were also most effectively decontaminated. The effect of this is clearly reflected in the dose data. The observed dose values are lower than theoretical estimates of external doses, based on published values for external dose levels relative to the level of contamination.

Number of References: 21

Descriptors: accidents-; air-pollution; disasters-; dosimetry-; health-hazards; radioactive-pollution
Identifiers: AD-1990; AD-1991; AD-1992; Chernobyl-fall-out; individual-dose-measurements; Brjansk-region; Russia-; highly-contaminated-areas; measurement-programme; persons-; contamination-levels; participating-dosimetry-laboratories; monthly-dose; natural-background-contribution; outdoor-occupations; wooden-houses; heavily-contaminated-villages; theoretical-estimates; external-doses; 148-to-287-muSv; 137Cs-
Classification Codes: A8760M (Radiation-dosimetry); A9330G (Europe); A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A93; A86; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.48E-04 to 2.87E-04 Sv
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 00001448420199400051000040000000000000265
Accession Number: 4697003
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 459 of 1145 in INSPEC 1993-1994

Title: A study of high-uranium technogenous zircon (Zr,U)SiO/sub 4/ from Chernobyl 'lavas' in connection with the problem of creating a crystalline matrix for high-level waste disposal
Author: Burakov-BE
Author Affiliation: Radium Inst., St. Petersburg, Russia
Source: Proceedings of the International Conference SAFEWASTE '93. Safe Management and Disposal of Nuclear Waste. Soc. Francaise d'Energie Nucl, Paris, France; 1993; 3 vol. (445+516+464) pp.
p.19-28 vol.2
Publication Year: 1993
Record Type: Conference-Paper
Conference Details: Proceedings of International Conference on Safe Management and Disposal of Nuclear Waste (Safewaste 93). 13-18 June 1993; Avignon, France. Sponsored by: ENS; ANS; SFANS; IAEA; NEA; CEC
Country of Publication: France
Language: English
Abstract: To prove the isomorphous incorporation of uranium into the structure of technogenous zircon a complex of investigations was carried out, including electron microscopy, X-ray structural analysis, refractive index measurement, monocrystal X-ray analysis. Results are presented.
Number of References: 7

Descriptors: electron-microscope-examination-of-materials; refractive-index; uranium-compounds; waste-disposal; X-ray-diffraction-examination-of-materials; zirconium-compounds
Identifiers: HLW-disposal; technogenous-zircon; Chernobyl-; X-ray-structural-analysis; refractive-index; monocrystal-X-ray-analysis; ZrUSiO-4
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A7820D (Optical-constants-and-parameters); A28; A78; A2; A7
Treatment Codes: X (Experimental)
Chemical Indexing: ZrUSiO4-ss SiO4-ss O4-ss Si-ss Zr-ss O-ss U-ss
Sort Key: 1000000000019930000000000000000000000019
Accession Number: 4687421
Update Code: 9400

Record 460 of 1145 in INSPEC 1993-1994

Title: Statistical analysis of radioactive contamination levels in settlements of the Chernobyl middle zone
Author: Tarasov-VI; Vikharev-VD
Author Affiliation: Nucl. Safety Inst., Acad. of Sci., Moscow, Russia
Source: Health-Physics. vol.66, no.4; April 1994; p.444-9
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A statistical analysis of the measurements of /sup 137/Cs activity density carried out in 1990-1991 in 30 settlements of the mesozone (and partially in the nearest zone) of the Chernobyl nuclear power plant is presented. It is shown that the mean activity density of radionuclides is close to 14 Bq cm/sup -2/ for the inspected settlements of Byelorussia which is significantly less than that for the inspected settlements of the nearest zone (48 Bq cm/sup -2/). The analysis shows that there is a near linear correlation between RMS deviation of activity density and its mean value. It is also shown that the correlation radius of the data is comparable with the spatial step of the measurements and that the activity density distribution is reasonably described in terms of a normal distribution.
Number of References: 6
Descriptors: accidents-; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-; statistical-analysis
Identifiers: root-mean-square-deviation; radioactive-contamination-levels; Chernobyl-middle-zone; statistical-analysis; mesozone-; Chernobyl-nuclear-power-plant; mean-activity-density; radionuclides-; inspected-settlements; Byelorussia-; near-linear-correlation; correlation-radius; spatial-step; activity-density-distribution; normal-distribution; 137Cs-activity-density
Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A8670C (Soil-and-rock); A87; A93; A86; A8; A9

Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00
Sort Key: 0000017907819940006600004000000000000444
Accession Number: 4681016
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 461 of 1145 in INSPEC 1993-1994

Title: Transfer kinetics and coefficients of /sup 90/Sr, /sup 134/Cs, and /sup 137/Cs from forage contaminated by Chernobyl fallout to milk of cows
Author: Fabbri-S; Piva-G; Sogni-R; Fusconi-G; Lusardi-E; Borasi-G
Author Affiliation: Unita Sanitaria Locale n.2, Piacenza, Italy
Source: Health-Physics. vol.66, no.4; April 1994; p.375-9
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A experiment was conducted to study kinetics, transfer coefficients, and biological half-lives of /sup 90/Sr, /sup 134/Cs, and /sup 137/Cs from feed to milk. A cow was fed a diet containing alfalfa hay contaminated by Chernobyl fallout for 14.5 wk. The time-dependent activity in milk was approximated by a two-compartment model with fast biological half-lives of 2, 0.9, and 1 d and slow biological half-lives of 36.9, 8.7, and 12.4 d for /sup 90/Sr, /sup 134/Cs, and /sup 137/Cs, respectively. The transfer coefficients determined in the experiment were 0.0008 d L/sup -1/ for /sup 90/Sr, 0.0029 d L/sup -1/ for /sup 134/Cs, and 0.0031 d L/sup -1/ for /sup 137/Cs. The biological elimination phases of /sup 134/Cs and /sup 137/Cs were described by a two-compartment model while a one-compartment model was proposed for /sup 90/Sr.
Number of References: 18
Descriptors: accidents-; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-; strontium-
Identifiers: transfer-kinetics; forage-; Chernobyl-fallout; milk-; cows-; transfer-coefficients; biological-half-lives; diet-; alfalfa-hay; time-dependent-activity; two-compartment-model; biological-elimination-phases; 90Sr-; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00

Sort Key: 00000179078199400066000040000000000000375
Accession Number: 4681006
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 462 of 1145 in INSPEC 1993-1994

Title: Protecting Chernobyl
Author: Ahmad-T; Holliday-M
Author Affiliation: Oxford Sch. of Archit., Oxford Brookes Univ., UK
Source: Nuclear-Engineering-International. vol.39, no.476; March 1994; p.20-22
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The PPROTECTOR project, one of the entries in Ukraine's Chernobyl sarcophagus competition, proposes a massive pyramid structure which literally 'builds itself'. At the heart of the proposal is the use of robotic and remote-controlled technologies.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; mobile-robots; telecontrol-
Identifiers: remote-control; robot-; PPROTECTOR-; Chernobyl-; sarcophagus-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); C3390 (Robotics); C3370L (Remote-signalling-dispatching-and-safety-devices); C3340F (Nuclear-systems); A28; C33; A2; C3
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199400039004760000000000000020
Accession Number: 4680452
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 463 of 1145 in INSPEC 1993-1994

Title: Assessing the risk from external irradiation after the Chernobyl accident
Author: Kovalev-EE; Maslennikova-AA; Orlov-MYu; Snykov-VP
Author Affiliation: Sci. Res. Test. Center for Radiat. Safety of Space Obj., Russia
Source: Atomic-Energy. vol.75, no.3; Sept. 1993; p.729-35
Translated from: Atomnaya-Energiya. vol.75, no.3; Sept. 1993; p.223-30
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Russia; Translation: USA

Language: English
Abstract: The object of the research was to establish a relationship between the density of soil contamination by /sup 137/Cs in populated localities as a result of the accident at the Chernobyl nuclear power plant and to predict the risk of malignant tumours for the population. The problem was solved in two stages. First a relationship was established between the /sup 137/Cs contamination density in the soil and the irradiation of various age groups of the population. Here the distribution of the time representatives of various age groups spent in territories of a given locality with given gamma irradiation doses was considered. We also related the average /sup 137/Cs contamination density in the soil in the locality to the dose rate for various components of a locality: streets, gardens, indoors, etc. Then a relationship was established between the irradiation of various age groups and the calculated (estimated) risk of unfavourable consequences to all population groups. A feature of this effort was a sex/age analysis of the radiation exposure of the population. Various types of behavior of representatives of various age groups were considered. In particular, this approach allowed consideration of differences in the radiation sensitivity of the age groups.
Number of References: 6
Descriptors: caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; external-irradiation; soil-contamination; malignant-tumours; 137Cs-; radiation-exposure; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/93/7503-0729$12.50
Sort Key: 00000047163199300075000030000000000000223
Accession Number: 4676605
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 464 of 1145 in INSPEC 1993-1994

Title: Cesium-137 and strontium-90 contamination of water bodies in the areas affected by releases from the Chernobyl nuclear power plant accident: an overview
Author: Vakulovsky-SM; Nikitin-AI; Chumichev-VB; Katrich-IYu; Voitsekhovich-OA; Medinets-VI; Pisarev-VV; Bovkum-LA; Khersonsky-ES
Author Affiliation: TYPHOON, Sci. Production Assoc., Kaluga, Russia
Source: Journal-of-Environmental-Radioactivity. vol.23, no.2; 1994; p.103-22
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Results of observations the contamination of the Ukrainian, Byelorussian and Russian Federation rivers, the Dnieper reservoir chain, the Dnieper estuary and the Black, Baltic and Azov Seas by cesium-137 and strontium-90 after the Chernobyl accident, carried out in 1986-1991 by the Institutions of the USSR State Committee for Hydrometeorology, are presented and discussed. The dynamics of contamination levels and radionuclide removal into the Kiev reservoir are studied. It is shown that the primary sources (over 90%) of cesium-137 and strontium-90 fluxes into the Kiev reservoir are the Pripyat and Dnieper Rivers. The impact on the area closest to the Chernobyl plant on the Pripyat River with regard to pollution by strontium-90 is assessed via qualitative estimates. The dynamics of pollution of the Dnieper reservoir chain are considered. It is shown that the greatest part of the cesium-137 is absorbed by the reservoir bottom (about 95%), whereas strontium-90 passes right through the chain. Sea-water pollution dynamics are also studied and the inputs of cesium-137 and strontium-90 into the Black, Baltic and Azov Seas as a result of the Chernobyl accident are estimated.
Number of References: 4
Descriptors: accidents-; caesium-; radioactive-pollution; strontium-
Identifiers: Chernobyl-nuclear-power-plant-accident; water-bodies; 90Sr-contamination; 137Cs-contamination; Ukrainian-rivers; Byelorussian-rivers; Russian-Federation-rivers; Dnieper-reservoir-chain; Dnieper-estuary; Azov-Sea; Baltic-Sea; Black-Sea; hydrometeorology-; contamination-level-dynamics; Kiev-reservoir; sea-water-pollution-dynamics
Classification Codes: A8670E (Water); A86; A8
Treatment Codes: G (General-or-Review)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/94/$07.00
Sort Key: 0000265931X19940002300002000000000000103
Accession Number: 4667193
Update Code: 9400

Record 465 of 1145 in INSPEC 1993-1994

Title: Thyroid doses resulting from the Ukraine Chernobyl accident. I. Dose estimates for the population of Kiev
Author: Likhtarev-IA; Gulko-GM; Kairo-IA; Los-IP; Henrichs-K; Paretzke-HG
Author Affiliation: Ukrainian Sci. Center of Radiat. Med., Kiev, Ukraine
Source: Health-Physics. vol.66, no.2; Feb. 1994; p.137-45
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: In the context of the radiation exposure of the Ukrainian population resulting from the Chernobyl accident, the quantification of the thyroid doses due to iodine incorporation is of special interest. This first part of a series of planned publications deals with the dose and risk estimation for Kiev citizens. Although these doses are expected to be considerably lower than those for some other regions of Ukraine, the investigations started with this population because of the availability of rather reliable measurements and because of the size of this population. The methods developed allowed the estimation of individual thyroid doses. The average values of individual thyroid doses for five age groups (birth years 1983-1986, 1979-1982, 1975-1978, 1971-1974, and <1971) are 104, 62, 19, 18, and 41 mGy, respectively. The collective thyroid doses were estimated as 83*10/sup 3/ person-Gy for those born before 1971 and as 38*10/sup 3/ person-Gy for younger inhabitants. The numbers of expected thyroid cancers in the whole Kiev population are 66 and 130, respectively.
Number of References: 14
Descriptors: accidents-; disasters-; dosimetry-; health-hazards; radioactive-pollution
Identifiers: Europe-; Ukraine-Chernobyl-accident; radiation-exposure; Ukrainian-population; risk-estimation; Kiev-citizens; individual-thyroid-doses; average-values; collective-thyroid-doses; younger-inhabitants; expected-thyroid-cancers; whole-Kiev-population; 131I-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670 (Environmental-science); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/94/$3.00+0
Sort Key: 00000179078199400066000020000000000000137
Accession Number: 4657493
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 466 of 1145 in INSPEC 1993-1994

Title: Experimental approach to Chernobyl hot particles
Author: Tcherkezian-V; Shkinev-V; Khitrov-L; Kolesov-G
Author Affiliation: Vernadsky Inst. of Geochem. & Anal. Chem., Acad. of Sci., Moscow, Russia
Source: Journal-of-Environmental-Radioactivity. vol.22, no.2; 1994; p.127-39
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: An experimental approach to the investigation of Chernobyl hot particles and some results are presented in this study. Hot particles (HP) were picked out from soil samples collected during the 1986-1990 radiogeochemical expeditions in the contaminated zone (within 30 km of the nuclear power plant). A number of hot particles were studied to estimate their contribution to the total activity, investigate their surface morphology and determine the size distribution. Hot particle contribution to the total activity in the 30 km zone was found to be not less than 65%. Investigation of HP element composition (by neutron activation analysis and EPMA) and radionuclide composition (direct alpha- and gamma-spectrometry, including determination of Pu and Am in HP) revealed certain peculiarities of HP, collected in the vicinity of the damaged nuclear power plant. Some particles were shown to contain uranium and fission products in proportion to one another, correlating with those in the partially burnt nuclear fuel, which proves their 'fuel' origin. Another part of the HP samples has revealed element fractionation as well as the presence of some terrestrial components. The data obtained could be used for subsequent modelling of HP behaviour in the environment.
Number of References: 29
Descriptors: accidents-; americium-; fission-products; plutonium-; radioactive-pollution; radioactivity-measurement; soil-; surface-structure; uranium-
Identifiers: Chernobyl-; hot-particles; soil-; activity-; surface-morphology; size-distribution; radionuclide-composition; fission-products; 30-km; Pu-; Am-
Classification Codes: A8670C (Soil-and-rock); A6820 (Solid-surface-structure); A86; A68; A8; A6
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 3.0 E04 m
Chemical Indexing: Pu-el; Am-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/94/$06.00
Sort Key: 0000265931X19940002200002000000000000127
Accession Number: 4650937
Update Code: 9400

Record 467 of 1145 in INSPEC 1993-1994

Title: External doses from Chernobyl fallout in Norway: individual dose measurements in the municipality of Oystre Slidre
Author: Wohni-T; Selnaes-T; Strand-P
Author Affiliation: Norwegian Radiat. Protection Authority, Osteraas, Norway
Source: Radiation-Protection-Dosimetry. vol.51, no.2; 1994; p.125-30
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Oystre Slidre was the Norwegian municipality most heavily affected by the Chernobyl accident. In the summer of 1992, individual external dose measurements in this municipality were performed with the aid of TL dosemeters carried on a string around the neck. The results indicate monthly effective dose equivalents due to Chernobyl fallout in the range 7-36 mu Sv for the various monitored groups, corresponding to a 15-60% increase relative to the natural background level. The uncertainty in the group mean values is estimated to 5 mu Sv. The greatest source of uncertainty and dosemetric challenge in the project relates to the appropriate correction for natural background radiation and internal contamination. The measured values correlate well with published conversion factors between ground activity levels and effective dose equivalent values.

Number of References: 21
Descriptors: air-pollution; atmospheric-radioactivity; disasters-; dosimetry-; health-hazards; radioactive-pollution; thermoluminescent-dosimeters
Identifiers: thermoluminescent-dosemeters; Europe-; Chernobyl-fallout; Norway-; Oystre-Slidre; Norwegian-municipality; individual-external-dose-measurements; monthly-effective-dose-equivalents; monitored-groups; natural-background-level; group-mean-values; dosemetric-challenge; internal-contamination; published-conversion-factors; ground-activity-levels
Classification Codes: A8760M (Radiation-dosimetry); A9330G (Europe); A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A93; A86; A8; A9
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201994000510000200000000000125
Accession Number: 4649753
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 468 of 1145 in INSPEC 1993-1994

Title: Application of SSNTDs to radiometry and dosimetry of Chernobyl-produced alpha emitters

Author: Matveev-V; Pechenkin-S
Author Affiliation: Batkivshchina Ecological Res. & Production Co., Kiev, Ukraine

Source: Nuclear-Tracks-and-Radiation-Measurements. vol.21, no.3; July 1993; p.411-16
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop on Solid State Nuclear Track Detectors and Their Applications. 5-11 Sept. 1991; Odessa, Ukraine
Country of Publication: UK
Language: English

Abstract: This work presents the scientific research results obtained at the Batkivshchina Ecological Research and Production Company by studying the properties of alpha emitters produced as a result of the Chernobyl nuclear plant disaster. It is shown that the dose loads from the Chernobyl alpha emitters have to be estimated by measuring the contents and activity of potentially harmful particles of sizes smaller than 3 mu m under conditions which reflect various aspects of the state of the national economy. The methods involving application of the CR39-type SSNTDs appear to be most acceptable with a view to designing means of mass alpha particle control.
Number of References: 3
Descriptors: accidents-; dosimetry-; radioactivity-measurement; radiometry-
Identifiers: CR39-; radiometry-; dosimetry-; alpha-emitters; Chernobyl-; SSNTDs-; 3-micron
Classification Codes: A2880C (Dosimetry); A28; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: size 3.0E-06 m
Coden: NTRMDS
ISSN: 0735-245X
Copyright Clearance Center Code: 0735-245X/93/4$6.00+.00
Sort Key: 0000735245X19930002100003000000000000411
Accession Number: 4644095
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.003
Bestand: 11.1986-20.1992
ZB f. Physik Wien, Signatur: 25127.004
Bestand: 21.1993-22.1993

Record 469 of 1145 in INSPEC 1993-1994

Title: Application of solid state track detectors for measurements of the characteristics of hot particles from the vicinity of the Chernobyl NPP
Author: Kushin-VV; Lyscov-VN; Sagitova-LI; Samoukov-AV
Author Affiliation: Moscow Phys. Eng. Inst., Moscow, Russia
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.21, no.3; July 1993; p.405-9
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop on Solid State Nuclear Track Detectors and Their Applications. 5-11 Sept. 1991; Odessa, Ukraine
Country of Publication: UK
Language: English
Abstract: The results of the studies of hot particles produced as a consequence of fuel release in the Chernobyl accident are given. Some biological tissues and samples of soil obtained from the soil surface at a distance of 600 m from the fourth block of the Chernobyl NPP in the summer of 1990 have been studied. Alpha and beta autoradiographic measurements using solid state track detectors were made without any special selection of hot particles. The surface activity of soil and the alpha and beta

activity of hot particles, as well as their surface activity, were measured. Also the dimensions of hot particles were estimated.
Number of References: 6
Descriptors: accidents-; alpha-particle-detection-and-measurement; beta-ray-detection-and-measurement; radioactive-pollution; radioactivity-measurement; soil-
Identifiers: alpha-activity; solid-state-track-detectors; hot-particles; Chernobyl-accident; biological-tissues; soil-; surface-activity; beta-activity; 600-m
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 6.0 E02 m
Coden: NTRMDS
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Sort Key: 0000735245X19930002100003000000000000405
Accession Number: 4644094
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LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.003
Bestand: 11.1986-20.1992
ZB f. Physik Wien, Signatur: 25127.004
Bestand: 21.1993-22.1993

Record 470 of 1145 in INSPEC 1993-1994

Title: Assessment of neutron spectral characteristics of the Chernobyl NPP failed reactor
Author: Gromov-AV; Kozunov-AV; Krivokhatskiy-AS; Nikolaev-VA; Yurevich-VI; Prokopenko-VS
Author Affiliation: RPA V.G. Khlopin Radium Inst., St. Petersburg, Russia
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.21, no.3; July 1993; p.383-6
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop on Solid State Nuclear Track Detectors and Their Applications. 5-11 Sept. 1991; Odessa, Ukraine
Country of Publication: UK
Language: English
Abstract: Sets of threshold detectors DNESTR were applied to measure neutron field spectral characteristics in two boreholes of the failed Unit 4 of the Chernobyl NPP. The experimental data were used to calculate the differential neutron spectra. The results obtained show that the shape of the neutron energy spectra is similar to that of the reactor. Neutron flux densities depend on the measurement point but do not exceed 10/sup 2/ cm/sup -2/s/sup -1/.
Number of References: 8
Descriptors: accidents-; fission-reactor-safety; neutron-flux; neutron-spectra; radiation-monitoring

Identifiers: neutron-flux-densities; threshold-detectors; DNESTR-; boreholes-; Unit-4; Chernobyl-; differential-neutron-spectra
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2850G (Light-water-reactors); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: X (Experimental)
Coden: NTRMDS
ISSN: 0735-245X
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Sort Key: 0000735245X19930002100003000000000000383
Accession Number: 4644090
Update Code: 9400

Title: Application of track detectors for alpha-activity measurement of soil, water and the surfaces of objects in the 30-km zone of the Chernobyl NPP
Author: Gromov-AV; Kopchenov-VE; Krivokhatskiy-AS; Nikolaev-VA; Stolyarov-SV; Tokarevskiy-VV; Pautov-VP
Author Affiliation: RPA, V.G. Khlopin Radium Inst., St. Petersburg, Russia
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.21, no.3; July 1993; p.377-82
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop on Solid State Nuclear Track Detectors and Their Applications. 5-11 Sept. 1991; Odessa, Ukraine
Country of Publication: UK
Language: English
Abstract: Cellulose nitrate detectors and spark-counters for nuclear track counting were used to measure the alpha-activity of soil, water and the surfaces of objects in the 30-km region of the Chernobyl Nuclear Power Plant (NPP) in 1986 and 1990. The equipment, method and calibration experiments are described. The data obtained are compared with the results of radiometric measurements and radiochemical analysis. It is shown that the method used is a convenient and reliable means for large-scale measurements of alpha-nuclide contamination.
Number of References: 6
Descriptors: accidents-; alpha-particle-detection-and-measurement; calibration-; radioactivity-measurement; soil-; solid-state-nuclear-track-detectors; spark-counters; water-pollution
Identifiers: cellulose-nitrate-detectors; Chernobyl-; spark-counters; nuclear-track-counting; alpha-activity; soil-; water-; surfaces-; calibration-; 30-km

Classification Codes: A8670C (Soil-and-rock); A8670L (Measurement-techniques-and-instrumentation); A8670E (Water); A0620H (Measurement-standards-and-calibration); A2940W (Solid-state-nuclear-track-detectors); A86; A06; A29; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 3.0 E04 m
Coden: NTRMDS
ISSN: 0735-245X
Copyright Clearance Center Code: 0735-245X/93/4$6.00+.00
Sort Key: 0000735245X19930002100003000000000000377
Accession Number: 4644089
Update Code: 9400

Record 472 of 1145 in INSPEC 1993-1994

Title: Development of an autoradiographic method of investigation of hot particles from the Chernobyl nuclear power plant
Author: Akopova-AB; Viktorova-NV; Krishchian-VM; Magradze-NV; Ovnanian-KM; Tumanian-KI; Chalabian-TS
Author Affiliation: Yerevan Phys. Inst., Yerevan, Armenia
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.21, no.3; July 1993; p.323-8
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: International Workshop on Solid State Nuclear Track Detectors and Their Applications. 5-11 Sept. 1991; Odessa, Ukraine
Country of Publication: UK
Language: English
Abstract: A method of autoradiographic investigation of hot particles that have risen into the atmosphere and precipitated on the soil and leaves after the Chernobyl accident of April 1986 has been developed. Particular objects of investigation are the alpha -active radionuclides with their dimensions and activity varying from 0.2 to 200 mu m and from 10/sup -6/ to 10/sup -1/ Bq, respectively. BYa-2 nuclear emulsions were used as detectors. The activity distribution function of particles of different dimension, A=f(d), and the leaf contamination density distribution in the vertical profile are obtained.
Number of References: 3
Descriptors: accidents-; radioactive-pollution; radioactivity-measurement; soil-
Identifiers: autoradiographic-method; hot-particles; Chernobyl-nuclear-power-plant; soil-; leaves-; BYa-2-nuclear-emulsions; activity-distribution-function; leaf-contamination-density-distribution
Classification Codes: A8670L (Measurement-techniques-and-instrumentation); A8670C (Soil-and-rock); A86; A8

Treatment Codes: X (Experimental)
Coden: NTRMDS
ISSN: 0735-245X
Copyright Clearance Center Code: 0735-245X/93/4$6.00+.00
Sort Key: 0000735245X199300021000030000000000000323
Accession Number: 4644078
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25127.003
Bestand: 11.1986-20.1992
ZB f. Physik Wien, Signatur: 25127.004
Bestand: 21.1993-22.1993

Record 473 of 1145 in INSPEC 1993-1994

Title: Measurements of post Chernobyl contamination in Mogilev region, Byelorussia
Author: Drabova-D; Cespirova-I; Trunecek-R
Author Affiliation: Centre of Radiat. Hygiene, Nat. Inst. of Public Health, Prague, Czech Republic
Source: Radiation-Protection-Dosimetry. vol.51, no.3; 1994; p.217-23
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Results of a field test of several methods suitable for the rapid determination of doses from radionuclide deposition (which is the main task of mobile monitoring groups in a nuclear emergency) are presented. The test measurements were carried out in Byelorussia on areas heavily contaminated by the Chernobyl fallout.
Number of References: 9
Descriptors: accidents-; disasters-; dosimetry-; health-hazards; radioactive-pollution
Identifiers: post-Chernobyl-contamination-measurements; Mogilev-region; Byelorussia-; field-test; rapid-dose-determination-method; mobile-monitoring-groups; nuclear-emergency; heavily-contaminated-areas; radionuclide-deposition; radiation-exposure-hazard; nuclear-power-plant-accident
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8670 (Environmental-science); A87; A28; A86; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201994000510000300000000000217
Accession Number: 4643643
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 474 of 1145 in INSPEC 1993-1994

Title: Data verification methodology and new data for Chernobyl source term
Author: Dobrynin-YuL; Khramtsov-PB
Author Affiliation: Russian Sci. Centre, Kurchatov Inst., Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.50, no.2-4; 1993; p.307-10
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: Decision Making Support for Off-Site Emergency Management. 25-30 Oct. 1992; Schloss Elmau, Germany
Country of Publication: UK
Language: English
Abstract: Following 6 years experience with a variety of controlled and measured data, analysis of errors and typical uncertainties of measurements and data preparation, a procedure of verification (VP) and initial data estimation was worked out with the information system PROBA (Kurchatov Institute). VP gives the criteria of source data reliability for requirements of early monitoring, source term assessment and prediction models in the real-time decision support system now being developed in Russia.
Number of References: 11
Descriptors: accidents-; disasters-; fission-reactor-safety; health-hazards; pollution-detection-and-control; radioactive-pollution
Identifiers: data-verification-methodology; radionuclide-core-inventory-calculation; Chernobyl-source-term; measured-data; errors-; uncertainties-; data-preparation; initial-data-estimation; information-system-PROBA; monitoring-; source-term-assessment; prediction-models; real-time-decision-support-system; Russia-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A8670 (Environmental-science); A8670L (Measurement-techniques-and-instrumentation); A28; A87; A86; A2; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 00001448420199300050000020000000000000307
Accession Number: 4643627
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 475 of 1145 in INSPEC 1993-1994

Title: Use of post-Chernobyl data from Norway to validate the long-term exposure pathway models in the accident consequence code MACCS
Author: Tveten-U
Author Affiliation: Inst. for Energiteknikk, Kjeller, Norway
Source: Nuclear-Technology. vol.105, no.3; March 1994; p.322-33

Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: This paper describes a task performed for the US Nuclear Regulatory Commission (NRC), consisting of using post-Chernobyl data from Norway to verify or find areas for possible improvement in the chronic exposure pathway models utilized in the NRC's program for probabilistic risk analysis, level 3, of the MELCOR accident consequence code system (MACCS), developed at Sandia National Laboratories, Albuquerque, New Mexico. Because of unfortunate combinations of weather conditions, the levels of Chernobyl fallout in parts of Norway were quite high, with large areas contaminated to more than 100 kBq/m/sup 2/ of radioactive cesium. Approximately 6% of the total amount of radioactive cesium released from Chernobyl is deposited on Norwegian territory, according to a countrywide survey performed by the Norwegian National Institute for Radiation Hygiene. Accordingly, a very large monitoring effort was carried out in Norway, and some of the results of this effort have provided important new insights into the ways in which radioactive cesium behaves in the environment. In addition to collection and evaluation of post-Chernobyl monitoring results, some experiments were also performed as part of the task. Some experiments performed pre-Chernobyl were also relevant, and some conclusions could be drawn from these.
Number of References: 14
Descriptors: accidents-; air-pollution; air-pollution-detection-and-control; environmental-science-computing; fission-reactor-safety; nuclear-engineering-computing; radiation-monitoring; radioactive-pollution
Identifiers: post-Chernobyl-data; Norway-; long-term-exposure-pathway; accident-consequence-code; MACCS-; chronic-exposure-pathway; probabilistic-risk-analysis; MELCOR-accident-consequence-code-system; weather-conditions; Chernobyl-fallout; radioactive-Cs; monitoring-effort; Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A28; A87; A86; A92; A2
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el
Coden: NUTYBB
ISSN: 0029-5450
Copyright Clearance Center Code: 0029-5450/94/$3.00
Sort Key: 0000029545019940010500003000000000000322
Accession Number: 4640061
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25653.002
Bestand: 10.1971=> L:57

Record 476 of 1145 in INSPEC 1993-1994

Title: Chernobyl: GIS model aids nuclear disaster relief
Author: Battista-CJ
Author Affiliation: GIS World Inc., Fort Collins, CO, USA
Source: GIS-World. vol.7, no.3; March 1994; p.32-5
Publication Year: 1994
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: In the midst of Soviet political upheaval in 1991, a joint University of Oregon Institute for a Sustainable Development and Moscow State University research team began a project to assess the health and environmental risks resulting from the Chernobyl accident. Their main tool, a GIS developed by two members of the Oregon faction, is used to help people living on contaminated ground within the project's boundaries lower radiation in their diets. The 400-square-kilometer study area lies approximately 150 kilometers northeast of the nuclear plant in the Bryansk region of southwestern Russia.
Number of References: 0
Descriptors: accidents-; disasters-; environmental-science-computing; fission-reactors; geographic-information-systems; health-hazards; nuclear-power-stations; radiation-monitoring; radioactive-pollution
Identifiers: nuclear-power-plant; health-risks; GIS-model; nuclear-disaster-relief; environmental-risks; Chernobyl-accident; contaminated-ground; radiation-; diets-; Bryansk-region; Russia-
Classification Codes: A8670 (Environmental-science); A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A2870 (Nuclear-explosions); C7390 (Other-natural-sciences); C7840 (Geography-and-cartography); A86; A87; A28; C73; C78; A8
Treatment Codes: A (Application)
Coden: GIWOE8
ISSN: 0897-5507
Sort Key: 0000897550719940000700003000000000000032
Accession Number: 4637187
Update Code: 9400

Record 477 of 1145 in INSPEC 1993-1994

Title: Removal of Chernobyl radionuclides from river catchments
Author: Vetrov-VA; Alekseenko-VA
Source: Soviet-Meteorology-and-Hydrology. no.7; 1992; p.53-61
Translated from: Meteorologiya-i-Gidrologiya. no.7; 1992; p.65-74
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA

Language: English
Abstract: Considered are the parameters of runoff and removal of /sup 137/Cs and other radionuclides from 20 natural catchments located both in regions with high contamination levels (the Dnieper and Pripyat basins in the Chernobyl NPP zone) and in the background regions (the Selenga R. basin) in 1987-1991 (temporary and constant watercourses). The annual removal of /sup 137/Cs from catchments is shown to decrease from year to year by a factor of about 3. The modulus of removal of global /sup 137/Cs (the 'age' of fallout is 20-30 years) is estimated not to exceed 0.3.10/sup -3/ m/sup -1/.
Number of References: 9
Descriptors: air-pollution; radioactive-pollution; water-pollution
Identifiers: Ukraine-; air-pollution; water-pollution; radioactive-pollution; USSR-; Russia-; AD-1987-to-1991; Chernobyl-; runoff-; removal-; 137Cs-; radionuclides-; Dnieper-; Pripyat-; Selenga-; Cs-
Classification Codes: A8670E (Water); A8670G (Atmosphere); A9240Q (Water-quality-and-water-resources); A9330G (Europe); A86; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/92/$40.00
Sort Key: 00001302906199200000000070000000000000065
Accession Number: 4635071
Update Code: 9400

Record 478 of 1145 in INSPEC 1993-1994

Title: A pyramid solution at Chernobyl
Source: Nuclear-Engineering-International. vol.39, no.474; Jan. 1994; p.19
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In the Kiev 1992 competition to find a solution to the problem of containing the stricken Chernobyl unit 4, the PROTECTOR proposal, put forward by a British-led international consortium, ranked fifth after the first round of judging (see letter in this issue and report in NEI, August 1993). It made extensive use of advanced CAD techniques.
Number of References: 0
Descriptors: architectural-CAD; nuclear-engineering-computing
Identifiers: pyramid-solution; Chernobyl-; PROTECTOR-proposal; advanced-CAD-techniques
Classification Codes: A2841C (Computer-codes); C7470 (Nuclear-engineering); C7440 (Civil-and-mechanical-engineering); A28; C74; A2; C7

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199400039004740000000000000019
Accession Number: 4628632
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 479 of 1145 in INSPEC 1993-1994

Title: Soil-milk transfer of /sup 137/Cs in an area of Byelorussia after the Chernobyl accident
Author: Knatko-VA; Gurkov-VV; Asimova-VD; Shpakovskaya-EB; Shimanovich-EA
Author Affiliation: Inst. of Radiobiol., Acad. of Sci., Minsk, Byelorussia
Source: Journal-of-Environmental-Radioactivity. vol.22, no.3; 1994; p.269-78
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radiocaesium activity concentrations in soil and cows' milk were measured in an area of Byelorussia contaminated after the Chernobyl accident. Measurement data were used to calculate the soil-milk transfer factor (TF) for /sup 137/Cs. An analysis of the relationship between the TF and soil contamination shows a decreasing trend in the TF values with increasing soil contamination levels. The function derived to describe the dependence of the TF on soil contamination predicts the largest decrease in transfer factor at low contamination levels and approximately constant behaviour at higher levels.
Number of References: 7
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: 137Cs-; Byelorussia-; Chernobyl-accident; soil-milk-transfer-factor; soil-contamination; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/94/$07.00
Sort Key: 0000265931X19940002200003000000000000269
Accession Number: 4621462
Update Code: 9400

Record 480 of 1145 in INSPEC 1993-1994

Title: The behaviour of Chernobyl /sup 137/Cs, /sup 134/Cs and /sup 106/Ru in undisturbed soil: implications for external radiation
Author: Andersson-KG; Roed-J
Author Affiliation: Riso Nat. Lab., Roskilde, Denmark
Source: Journal-of-Environmental-Radioactivity. vol.22, no.3; 1994; p.183-96
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the Chernobyl accident, deposits of /sup 137/Cs, /sup 134/Cs and /sup 106/Ru on exposed surfaces in urban areas were found to be the major contributors to the external radiation dose. The fixation of these radionuclides in soils was investigated by the determination of their vertical distribution in and through sequential extractions. Four years after the Chernobyl accident it was found that most of the caesium remained firmly fixed in the topmost 2 cm. In the deeper layers of the soil it was less strongly bound. The ruthenium was found to be less strongly bound than the caesium and had penetrated a little deeper. The study indicates the need for countermeasures if the long-term radiation dose to the local populace is to be reduced significantly.
Number of References: 21
Descriptors: caesium-; radioactive-pollution; radioisotopes-; ruthenium-; soil-
Identifiers: 137Cs-; 134Cs-; 106Ru-; undisturbed-soil; external-radiation; Chernobyl-accident; long-term-radiation-dose; Cs-; Ru-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/94/$07.00
Sort Key: 0000265931X199400022000030000000000000183
Accession Number: 4621456
Update Code: 9400

Record 481 of 1145 in INSPEC 1993-1994

Title: Fluctuations in the surface activity and dose rate in localities in the near zone of the Chernobyl nuclear power plant
Author: Artyunyan-RV; Bol'shov-LA; Gorshkov-VE; Lifshits-EP; Tarasov-VI; Tkalya-EV; Chironov-VV
Source: Atomic-Energy. vol.74, no.5; May 1993; p.375-9
Translated from: Atomnaya-Energiya. vol.74, no.5; May 1993; p.411-16
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Russia; Translation: USA

Language: English
Abstract: The authors have investigated the distribution statistics of activities and exposed dose rates in the localities of the Chernobyl plant. They also examined how the soil penetration of radionuclides affected various measurements of the exposed dose rate and calculations thereof based on the radionuclide composition of the soil. For this they used the 1986 data base for the 100-km zone of the Chernobyl nuclear power plant located at the Information Analysis Center at the Fast Power Reactor Institute of the Russian Academy of Sciences.
Number of References: 7
Descriptors: accidents-; dosimetry-; radiation-monitoring; radioactivity-measurement
Identifiers: surface-activity; dose-rate; near-zone; Chernobyl-nuclear-power-plant; distribution-statistics
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/93/7405-0375$12.50
Sort Key: 0000004716319930007400005000000000000411
Accession Number: 4611900
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 482 of 1145 in INSPEC 1993-1994

Title: Costs and benefits in the Chernobyl clean-up
Source: Nuclear-Engineering-International. vol.39, no.475; Feb. 1994; p.22-3
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: 12% of Ukraine's income is spent on mitigating the effects of the Chernobyl accident-mostly on resettlement, compensation and income support. A new study has found an overriding need for cost-benefit modelling to ensure the best use of resources.
Number of References: 0
Descriptors: accidents-; economics-; environmental-engineering; radiation-decontamination; radioactive-pollution; soil-
Identifiers: Chernobyl-clean-up; Ukraine-; Chernobyl-accident; resettlement-; compensation-; income-support; cost-benefit-modelling; resources-use; soil-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A2880 (Radiation-technology-including-shielding); A86; A87; A28; A8
Treatment Codes: E (Economic); P (Practical); T (Theoretical-or-Mathematical)
Coden: NEINBF

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Accession Number: 4605655
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 483 of 1145 in INSPEC 1993-1994

Title: Plutonium in daily diet in Poland after the Chernobyl accident
Author: Pietrzak-Flis-Z; Orzechowska-G
Author Affiliation: Dept. of Rad. Hygiene, Central Lab. for Radiological Protection, Warsaw, Poland
Source: Health-Physics. vol.65, no.5; Nov. 1993; p.481-8
Publication Year: 1993
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The content of /sup 239,240/Pu was determined in the daily diet collected in northeastern Poland (Bialystok) from March 1987 to May 1992. The estimated annual intake of plutonium decreased from 774 mBq y/sup -1/ in the first year after the Chernobyl accident down to approximately 90 mBq y/sup -1/ in the sixth year. Large fluctuations of daily intake in the first 2 y suggested that a large fraction of plutonium in the daily diet originated from the external contamination. Assuming the fractional absorption factor of 10/sup -5/ for externally contaminated foodstuffs and 10/sup -3/ for root uptake, the assimilated /sup 239,240/Pu would be in the range from approximately 0.02 mBq up to approximately 2 mBq for the period studied.
Number of References: 19
Descriptors: air-pollution; disasters-; health-hazards; plutonium-; radioactive-pollution; radioisotopes-
Identifiers: daily-diet; Chernobyl-accident; northeastern-Poland; Bialystok-; daily-intake; external-contamination; fractional-absorption-factor; externally-contaminated-foodstuffs; root-uptake; 239Pu-; 240Pu-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Pu-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+0
Sort Key: 00000179078199300065000050000000000000481
Accession Number: 4594846
Update Code: 9400
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 484 of 1145 in INSPEC 1993-1994

Title: The atmospheric long range transport model LORAN and its application to Chernobyl release
Author: Galmarini-S; Graziani-G; Tassone-C
Author Affiliation: Inst. fur the Environ., Joint Res. Centre of Ispra, Varese, Italy
Source: Environmental-Software. vol.7, no.3; 1992; p.143-54
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The computer model LORAN (LOng Range Atmospheric advection of Nuclides) which includes a recently developed description of the mixing layer growth is described. The model is assessed against measurements of radioactivity in air and soil after the Chernobyl accident. The ATMES data set, together with recently acquired measurements in Italy (Cs-137 air concentration), Russia, Rumania and Norway (cumulative deposition of Cs-137) are used for the comparison. In both cases, there is a reasonable agreement between the simulation results and the actual field measurements, when the analysed windfields from circulation models are used. This gives an indication of the representativeness of measurements considered in the comparison.
Number of References: 11
Descriptors: air-pollution; atmospheric-movements; environmental-science-computing; radiation-monitoring; radioactive-pollution
Identifiers: atmospheric-release; atmospheric-long-range-transport-model; LORAN-; Chernobyl-release; mixing-layer-growth; radioactivity-; air-; soil-; ATMES-data-set; Italy-; Russia-; Rumania-; Norway-; simulation-results; actual-field-measurements; analysed-windfields; circulation-models
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9260G (Winds-and-their-effects); A9330G (Europe); C7340 (Geophysics); A86; A92; A93; C73; A8; A9
Treatment Codes: A (Application); T (Theoretical-or-Mathematical)
Coden: ENSOEZ
ISSN: 0266-9838
Copyright Clearance Center Code: 0266-9838/93/$06.00
Sort Key: 0000266983819920000700003000000000000143
Accession Number: 4582046
Update Code: 9400

Record 485 of 1145 in INSPEC 1993-1994

Title: Materials testing aspects of the problem of the Chernobyl NPP 4th unit's high-level radioactive products burial
Author: Anderson-EB; Burakov-BE; Pasukhin-EM

Author Affiliation: V.G. Khlopin Radium Inst., St. Petersburg, Russia
Source: High Level Radioactive Waste Management. Proceedings of the Third International Conference. American Soc. Civil Eng, New York, NY, USA; 1992; 2 vol. (2424) pp. p.2395-8 vol.2
Publication Year: 1992
Record Type: Conference-Paper
Conference Details: 12-16 April 1992; Las Vegas, NV, USA. Sponsored by: ANS; American Soc. Civil Eng
Country of Publication: USA
Language: English
Abstract: The problems of isolating the high-level radioactive products, formed during the Chernobyl accident, are considered. It is shown, that the great bulk of the damaged unit nuclear fuel is represented now by solidified silicate melts-the so called Chernobyl 'lavas' containing radionuclides as impurities in the glass matrix and uranium-zirconium minerals. Theoretical substantiations are given of the possibility of processing the Chernobyl 'lavas' by the synthesis on their basis of a strong crystal matrix composed of zirconium minerals.
Number of References: 4
Descriptors: accidents-; radioactive-waste; waste-disposal
Identifiers: Chernobyl-lavas; materials-testing; U-Zr-minerals; HLW-; high-level-radioactive-products; Chernobyl-accident; solidified-silicate-melts; radionuclides-; glass-matrix; crystal-matrix
Classification Codes: A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A28; A2
Treatment Codes: P (Practical)
ISBN: 0872628914
Sort Key: 10872628914199200000000000000000002395
Accession Number: 4576083
Update Code: 9400

Record 486 of 1145 in INSPEC 1993-1994

Title: Seasonal variations of /sup 137/Cs activities in the Dora Baltea river (Northwest Italy) after the Chernobyl accident
Author: Spezzano-P; Bortoluzzi-S; Giacomelli-R; Massironi-L
Author Affiliation: CRE Salluggia, ENEA, Vercilli, Italy
Source: Journal-of-Environmental-Radioactivity. vol.22, no.1; 1994; p.77-88
Publication Year: 1994
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Concentrations of /sup 137/Cs in water were monitored from 1987 to 1991 in the Dora Baltea river (northwest Italy), a river characterized by a catchment area located in a mountainous area which is largely covered with snow and ice in winter. A strong

seasonal variation of water contamination was observed. Increased water concentrations in summer were attributed to caesium deposition and accumulation on snow-covered surfaces in winter and a delayed release in summer during ice and snow melting. An attempt of relating the observed cyclical variations with estimated transfer rates from the catchment has also been performed.

Number of References: 20

Descriptors: accidents-; caesium-; radioactive-pollution; rivers-; snow-; water-pollution

Identifiers: seasonal-variations; 137Cs-activities; Dora-Baltea-river; Northwest-Italy; Chernobyl-accident; mountainous-area; water-contamination; snow-covered-surfaces; cyclical-variations; transfer-rates; Cs-

Classification Codes: A8760R (Radioactive-pollution); A9240F (Rivers-runoff-and-streamflow); A9240R (Snow); A8670E (Water); A9240Q (Water-quality-and-water-resources); A87; A92; A86; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/94/$06.00

Sort Key: 0000265931X19940002200001000000000000077

Accession Number: 4569666

Update Code: 9400

Record 487 of 1145 in INSPEC 1993-1994

Title: WHO bring order to Chernobyl efforts

Source: Nuclear-Engineering-International. vol.38, no.471; Oct. 1993; p.46-8

Publication Year: 1993

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The International Programme on the Health Effects of the Chernobyl Accident (IPHECA), which has five pilot projects now running, agreed in May 1993 to prepare an inventory of all health-related Chernobyl activities to help co-ordinate present and future activities.

Number of References: 0

Descriptors: accidents-; biological-effects-of-ionising-radiation; dosimetry-; radiation-monitoring

Identifiers: reactor-accident; radiation-effects; dosimetry-; World-Health-Organisation; WHO-; Chernobyl-; pilot-projects; health-related-Chernobyl-activities

Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760P (Radiation-protection); A8760M (Radiation-dosimetry); A87; A8

Treatment Codes: G (General-or-Review)

Coden: NEINBF

ISSN: 0029-5507

Sort Key: 00000295507199300038004710000000000000046
Accession Number: 4551150
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 488 of 1145 in INSPEC 1993-1994

Title: Preparing for the next Chernobyl
Author: Coughlan-S
Source: IEE-Review. vol.39, no.5; 16 Sept. 1993; p.207-10
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: It is now accepted that some 56 NPPs (nuclear power plants) in eastern Europe and the former Soviet Union are in a dangerous condition, and a huge programme of refurbishment or decommissioning is planned. This is a long-term task, which may never be completed. Meanwhile, the new republics, and thus Europe, must rely on alarm systems within NPPs and the current national monitoring networks for early warning of nuclear incidents, on the assumption that notifications will be passed to the west in full and without delay. The author discusses the gamma curtain. This is the start of the ideal situation, which requires the CIS network to link south and westwards across Poland, Bulgaria, Romania and the Czech and Slovak republics to the sensor networks of western Europe. The author discusses the systems already in operation and outlines the difficulties experienced due to inadequate communications and economic problems.
Number of References: 0
Descriptors: radiation-monitoring
Identifiers: nuclear-power-plants; eastern-Europe; former-Soviet-Union; alarm-systems; monitoring-networks; early-warning; nuclear-incidents; gamma-curtain; CIS-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical)
Coden: IEREEF
ISSN: 0013-5127
Copyright Clearance Center Code: 0013-5127/93/$7.50+.00
Sort Key: 00000135127199300039000050000000000000207
Accession Number: 4537778
Update Code: 9300

Record 489 of 1145 in INSPEC 1993-1994

Title: Characteristics of hot particles of soil in the neighborhood of the Chernobyl NPP
Author: Kushin-VV; Lystsov-VN; Sagitova-LI; Samoukov-AV

Author Affiliation: Moscow Inst. of Phys. Inv., Russia
Source: Atomic-Energy. vol.74, no.1; Jan. 1993; p.88-90
Translated from: Atomnaya-Energiya. vol.74, no.1; Jan. 1993; p.86-8
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: This work presents data concerning hot particles in specimens of soil drawn from the surface of the land located at a distance of 600 m from the damaged power block of the Chernobyl NPP. Measurements were carried out during February-August 1991, i.e., after a lapse of 5 years from the instance of the accident.
Number of References: 5
Descriptors: accidents-; radioactive-pollution; soil-
Identifiers: hot-particles; soil-; Chernobyl-; 600-m
Classification Codes: A8670C (Soil-and-rock); A86; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 6.0 E02 m
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/93/7401-0088$12.50
Sort Key: 00000047163199300074000010000000000000086
Accession Number: 4533499
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 490 of 1145 in INSPEC 1993-1994

Title: /sup 137/Cs transfer after Chernobyl from fodder into chicken meat and eggs
Author: Voigt-G; Muller-H; Paretzke-HG; Bauer-T; Rohrmoser-G
Author Affiliation: GSF-Inst. fur Strahlenschutz, Neuherberg, Germany
Source: Health-Physics. vol.65, no.2; Aug. 1993; p.141-6
Publication Year: 1993
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The distribution and the biological half-lives of /sup 137/Cs in poultry after continuous intake of foodstuffs contaminated by the Chernobyl fallout were studied in order to determine transfer coefficients to yolk, albumen, and shell of eggs as well as transfer coefficients to chicken meat. Mean values for laying hens were found to be 0.2 d kg/sup -1/ (whole consumable egg), 1.2 d kg/sup -1/ (leg meat), and 1.6 d kg/sup -1/ (breast meat) when radiocesium was fed in contaminated grass pellets, and about twice as large (i.e. 0.4 d kg/sup -1/ (whole consumable egg), 2.8 d kg/sup -1/ (leg meat), and 3.0 d kg/sup -1/ (breast meat)) when radiocesium was fed in contaminated wheat.

Reducing effects of the feed additive ammonium-ferric-cyano-ferrate in concentrations of 0.66 g kg/sup -1/ of feed mixture on the contamination of hen products were quantified to be a factor of 3 to 4 (whole consumable egg and meat after grass pellet feeding) and 8 to 14 (whole consumable egg and meat after wheat feeding).

Number of References: 20

Descriptors: accidents-; air-pollution; atmospheric-radioactivity; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: chicken-eggs; whole-consumable-egg; chicken-meat; distribution-; biological-half-lives; poultry-; continuous-intake; foodstuffs-; Chernobyl-fallout; transfer-coefficients; yolk-; albumen-; shell-; laying-hens; leg-meat; breast-meat; contaminated-grass-pellets; contaminated-wheat; feed-additive; hen-products; 137Cs-transfer

Classification Codes: A8760R (Radioactive-pollution); A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: HLTPAO

ISSN: 0017-9078

Sort Key: 00000179078199300065000020000000000000141

Accession Number: 4528611

Update Code: 9300

Record 491 of 1145 in INSPEC 1993-1994

Title: Environmental behaviour of radionuclides deposited after the reactor accident of Chernobyl and related exposures

Author: Jacob-P; Muller-H; Prohl-G; Voigt-G; Berg-D; Paretzke-HG

Author Affiliation: Inst. fur Strahlenschutz, GSF-Forschungszentrum fur Umwelt und Gesundheit, Obserschleissheim, Germany

Source: Radiation-and-Environmental-Biophysics. vol.32, no.3; 1993; p.193-207

Publication Year: 1993

Record Type: Journal-article

Country of Publication: Germany

Language: English

Abstract: Several radioecological experiences with isotopes of ruthenium, iodine, caesium and barium, obtained after the reactor accident of Chernobyl, are reported. It was found that for a wet deposition barium was the element with the highest retention on grass. The retention of caesium was lower by a factor of 1.6, retention of iodine by a factor of 2.4 and retention of ruthenium by a factor of 3.5. Former data on the caesium transport in cereals from leaves to grain were confirmed. Depending on the conditions the iodine transfer factor for milk varied between 0.002 and 0.007 d.kg/sup -1/. The caesium transfer factor for milk was (0.003+or-0.0006) d.kg/sup -1/ and was found to be relatively constant in the years 1986-1988. In 1991, the values were higher by a factor

of 2-5. Radioecological model results of whole-body burdens in Southern Bavaria showed a reduction of the caesium ingestion doses due to countermeasures and spontaneous changes of consumption habits in the first 2 months by a factor of 5 and till the end of 1987 by a factor of 1.5. The model results agree well with the range of measured whole-body burdens.

Number of References: 31

Descriptors: accidents-; disasters-; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: Chernobyl-reactor-accident; radioactivity-countermeasures; radioecological-experiences; wet-deposition; grass-; cereals-; leaves-; grain-; milk-; whole-body-burdens; Southern-Bavaria; consumption-habits; Ru-; Ba-; Cs-; I-

Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A87; A86; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Ba-el; Cs-el; I-el

Coden: REBPAT

ISSN: 0301-634X

Sort Key: 0000301634X1993000320000300000000000193

Accession Number: 4517832

Update Code: 9300

Record 492 of 1145 in INSPEC 1993-1994

Title: Use of mosses and lichens for regional mapping of /sup 137/Cs fallout from the Chernobyl accident

Author: Steinnes-E; Njastad-O

Author Affiliation: Dept. of Chem., Trondheim Univ., Dragvoll, Norway

Source: Journal-of-Environmental-Radioactivity. vol.21, no.1; 1993; p.65-73

Publication Year: 1993

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The lichens Hypogymnia physodes and Cladonia stellaris and the moss Hylocomium splendens were studied for potential use as biomonitors of the regional distribution of /sup 137/Cs fallout in Norway from the Chernobyl accident. While Hyl. splendens and C. stellaris showed reasonable mutual agreement, the activities recorded in the epiphytic species Hyp. physodes were not consistent with those of the other species, and depended strongly on whether sampling was carried out on conifers or birch. The geographical distribution of /sup 137/Cs in the two former species was in satisfactory agreement with deposition figures obtained from analysis of surface soil, considering the heterogeneous deposition pattern of Chernobyl radioactivity. Both Hyl. splendens and C. stellaris appear well suited for regional mapping of /sup 137/Cs fallout from nuclear accidents. Regional heavy metal deposition surveys employing Hyl. splendens might be extended to include radionuclides if desirable.

Number of References: 21

Descriptors: accidents-; caesium-; living-systems; radioactive-pollution; radioisotopes-; soil-
Identifiers: mosses-; lichens-; regional-mapping; Hypogymnia-physodes; Cladonia-stellaris; Hylocomium-splendens; Norway-; Chernobyl-; surface-soil; heavy-metal-deposition; 137Cs-fallout
Classification Codes: A8670C (Soil-and-rock); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19930002100001000000000000065
Accession Number: 4515785
Update Code: 9300

Record 493 of 1145 in INSPEC 1993-1994

Title: Inhibition of intestinal radiocaesium absorption from Chernobyl contaminated whey by hexacyanoferrates(II) in pigs
Author: Dresow-B; Asmus-J; Fischer-R; Nielsen-P; Heinrich-HC; Pfau-AA
Author Affiliation: Inst. fur Physiologische Chemie, Hamburg, Germany
Source: Journal-of-Environmental-Radioactivity. vol.21, no.1; 1993; p.47-54
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The inhibition of radiocaesium transfer from Chernobyl contaminated whey powder to the pork and liver of fattening pigs using various dosages of different hexacyanoferrate(II) compounds (HCF) was studied under normal feeding conditions. Increasing amounts of all three hexacyanoferrates tested resulted in a dose-dependent reduction in the /sup 134+137/Cs activity concentration in all of the tissues sampled. KFe(Fe(CN)/sub 6/) and NH/sub 4/Fe(Fe(CN)/sub 6/) were effective to the same extent while Fe/sub 4/(Fe(CN)/sub 6/)/sub 3/ was less effective at dosages of 1-3 g d/sup -1/ HCF. Administration of 10 g d/sup -1/ HCF resulted in an almost complete inhibition (>99%) of intestinal radiocaesium absorption for all three compounds.
Number of References: 14
Descriptors: accidents-; caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: 134Cs-; intestinal-radiocaesium-absorption; Chernobyl-contaminated-whey; hexacyanoferratesII-; pigs-; inhibition-; pork-; liver-; KFeFeCN-6; NH-4FeFeCN-6; Fe-4FeCN-6-3; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; KFeFeCN-ss CN-ss Fe-ss C-ss K-ss N-ss; NH4FeFeCN-ss CN-ss Fe-ss H4-ss C-ss H-ss N-ss; Fe4FeCN-ss Fe4-ss CN-ss Fe-ss C-ss N-ss
Coden: JERAEE

ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/93/$06.00
Sort Key: 0000265931X19930002100001000000000000047
Accession Number: 4515783
Update Code: 9300

Record 494 of 1145 in INSPEC 1993-1994

Title: Accident dosimetry using environmental materials collected from regions downwind of Chernobyl: a preliminary evaluation
Author: Hutt-G; Brodski-L; Bailiff-IK; Goksu-Y; Haskell-E; Jungner-H; Stoneham-D
Author Affiliation: Inst. of Geol., Acad. of Sci., Tallinn, Estonia
Source: Radiation-Protection-Dosimetry. vol.47, no.1-4; 1993; p.307-11
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: 10th International Conference on Solid State Dosimetry. 13-17 July 1992; Washington, DC, USA. Sponsored by: Nat. Inst. Health; US Dept. Energy; Int. Sensor Technol. Inc.; et al
Country of Publication: UK
Language: English
Abstract: Environmental materials including bricks, tiles, porcelain fixtures and a variety of other ceramic objects were collected in July, 1990, and August, 1991, from indoor and outdoor locations in the town of Pripyat, situated 3 km NW of the Chernobyl nuclear power plant. The samples were distributed to a number of laboratories to investigate their suitability for thermoluminescence dosimetry and for measurement of gamma ray doses with samples deemed suitable, using pre-dose, fine-grain and quartz inclusion thermoluminescence techniques. In the most heavily exposed region of Pripyat, values ranged from near background (approximately=0.1 Gy) in the most shielded interior locations of apartment buildings to a maximum of 0.6 Gy directly behind closed windows, while exterior values ranged from 1.7 to 2.3 Gy for samples located at least 1 m above ground level.
Number of References: 12
Descriptors: accidents-; ceramics-; disasters-; dosimetry-; radioactive-pollution; thermoluminescence-
Identifiers: indoor-locations; accident-dosimetry; pollution-; AD-1990-07; Ukraine-; AD-1991-08; environmental-materials; regions-downwind; bricks-; tiles-; porcelain-fixtures; ceramic-objects; outdoor-locations; town-; Pripyat-; Chernobyl-nuclear-power-plant; thermoluminescence-dosimetry; gamma-ray-doses; quartz-inclusion-thermoluminescence-techniques; most-shielded-interior-locations; apartment-buildings; closed-windows; exterior-values; ground-level; 0-1-to-2-3-Gy
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8670 (Environmental-science); A87; A28; A86; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 1.0E-01 to 2.3 E00 Gy

Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201993000470000100000000000307
Accession Number: 4499644
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 495 of 1145 in INSPEC 1993-1994

Title: The use of quartz inclusion thermoluminescence for the retrospective dosimetry of the Chernobyl area
Author: Vischnevekii-IN; Drozd-IP; Koval-GN; Fominych-VI; Baran-NP; Bartchuk-VI; Bugal-AA; Maksimenko-VM; Baryachtar-VG
Author Affiliation: Inst. of Nucl. Res., Acad. of Sci., Kiev, Ukraine
Source: Radiation-Protection-Dosimetry. vol.47, no.1-4; 1993; p.305-6
Publication Year: 1993
Record Type: Conference-Paper; Journal-article
Conference Details: 10th International Conference on Solid State Dosimetry. 13-17 July 1992; Washington, DC, USA. Sponsored by: Nat. Inst. Health; US Dept. Energy; Int. Sensor Technol. Inc.; et al
Country of Publication: UK
Language: English
Abstract: One of the main problems with the Chernobyl accident studies is the net gamma - dose evaluation since 1986. The paper reports the measurement of the thermoluminescence of quartz inclusions in ceramic materials. Samples of bricks and roof tiles from points near the Chernobyl area were analysed and total gamma -doses were estimated.
Number of References: 4
Descriptors: accidents-; disasters-; dosimetry-; inclusions-; quartz-; thermoluminescence-
Identifiers: quartz-inclusion-thermoluminescence; retrospective-dosimetry; Chernobyl-area; net-gamma-dose-evaluation; ceramic-materials; bricks-; roof-tiles
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201993000470000100000000000305
Accession Number: 4499643
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 496 of 1145 in INSPEC 1993-1994

Title: Ukraine takes on the burden (Chernobyl cleanup)
Author: Wood-J
Source: Nuclear-Engineering-International. vol.38, no.469; Aug. 1993; p.24-5
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: With Ukraine's independence came responsibility for the consequences of the Chernobyl accident. It has taken two years to set up the organisations and programmes required, but now systematic decontamination has begun.
Number of References: 0
Descriptors: accidents-; radiation-decontamination; radioactive-pollution
Identifiers: radioactive-pollution; nuclear-accident; Ukraine-; Chernobyl-accident; decontamination-
Classification Codes: A2880 (Radiation-technology-including-shielding); A8760R (Radioactive-pollution); A8670 (Environmental-science); A28; A87; A86; A2; A8
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 0000029550719930003800469000000000000024
Accession Number: 4496991
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 497 of 1145 in INSPEC 1993-1994

Title: The Chernobyl sarcophagus yesterday and today
Author: Borovoy-A; Gagarinski-A
Author Affiliation: Kurchatov Inst., Moscow, Russia
Source: Nuclear-Engineering-International. vol.38, no.469; Aug. 1993; p.21-3
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The 'Shelter 2' competition has suggested some futures for Chernobyl. Meanwhile the Kurchatov Institute and the Ukrytie ('Shelter') Research Centre of the Ukrainian Academy of Sciences are continuing to reinforce parts of the sarcophagus, to monitor its contents and to locate and fix the remaining fuel.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radiation-monitoring; radiation-protection
Identifiers: roof-reinforcement; radiation-monitoring; fuel-location; Chernobyl-sarcophagus

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199300038004690000000000000021
Accession Number: 4496990
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 498 of 1145 in INSPEC 1993-1994

Title: Plutonium fallout in southern Finland after the Chernobyl accident
Author: Reponen-A; Jantunen-M; Paatero-J; Jaakkola-T
Author Affiliation: Dept. of Environ. Hygiene & Toxicology, Nat. Public Health Inst., Kuopio, Finland
Source: Journal-of-Environmental-Radioactivity. vol.21, no.2; 1993; p.119-30
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The plutonium concentrations of fuel peat samples from southern and central Finland were analyzed. The same samples had previously gone through gamma-spectrometric analysis, in which the detected nuclides could be divided into two groups by calculating correlations between activities: the volatile Cs-I group and the non-volatile Ce-Zr group. The plutonium of Chernobyl origin correlates rather well with the non-volatile group and not at all with the volatile group. The volatile group comprises the nuclides /sup 137/Cs, /sup 134/Cs, /sup 131/I and /sup 132/Te, and the non-volatile group /sup 95/Zr, /sup 141/Ce and Chernobyl-Pu.
Number of References: 18
Descriptors: accidents-; plutonium-; radioactive-pollution; soil-
Identifiers: southern-Finland; Chernobyl-; fuel-peat-samples; central-Finland; Cs-I-group; Ce-Zr-group; 134Cs-; 137Cs-; 131I-; 132Te-; 95Zr-; 141Ce-; Pu-fallout
Classification Codes: A8670C (Soil-and-rock); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Cs-el; I-el; Te-el; Zr-el; Ce-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/93/$06.00
Sort Key: 0000265931X19930002100002000000000000119
Accession Number: 4495948
Update Code: 9300

Record 499 of 1145 in INSPEC 1993-1994

Title: Plutonium in lungs and livers of persons from Chernobyl fallout affected areas in Byelorussia
Author: Bunzl-K; Kracke-W; Petrayev-EP; Ruchlja-A
Author Affiliation: GSF-Forschungszentrum fur Umwelt und Gesundheit, Inst. fur Strahlenschutz, Neuherberg, Germany
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.176, no.1; 1 July 1993; p.11-20
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: /sup 239+240/Pu and-when possible-also the ratio /sup 238/Pu//sup 239+240/Pu was determined in the lungs and livers of 15 residents from Chernobyl-fallout contaminated areas in Byelorussia. In several cases various sections of the lungs were analyzed separately. With the exception of one person the activity concentrations of /sup 239+240/Pu were always within the range expected from the global fallout of weapon tests in the sixties and did not indicate any contribution of Chernobyl-derived plutonium.
Number of References: 12
Descriptors: accidents-; disasters-; liver-; lung-; plutonium-; radioactive-pollution; radioisotopes-
Identifiers: Byelorussia-; lungs-; livers-; Chernobyl-fallout-contaminated-areas; global-fallout; weapon-tests
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 00002365731199300176000010000000000000011
Accession Number: 4480036
Update Code: 9300

Record 500 of 1145 in INSPEC 1993-1994

Title: /sup 239(240),238/Pu, /sup 90/Sr, /sup 103/Ru and /sup 137/Cs concentrations in surface air in Austria due to dispersion of Chernobyl releases over Europe
Author: Irlweck-K; Khademi-B; Heinrich-E; Kronraff-R
Author Affiliation: Inst. of Inorg. Chem., Vienna Univ., Austria
Source: Journal-of-Environmental-Radioactivity. vol.20, no.2; 1993; p.133-48
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: After the reactor accident at Chernobyl on 26 April 1986, Austria, situated in the central part of Europe, was one of the most stricken countries. Radionuclide concentrations in surface air have been measured at five different sampling stations, viz. in Vienna, Linz, Salzburg, Bregenz and Klagenfurt, during the period 28 April-9 May 1986. In addition to the results of the gamma -spectroscopic measurements of /sup 103/Ru and /sup 137/Cs, data for /sup 239(240),238/Pu and /sup 90/Sr determined by radiochemical analyses of the same air filters are presented. These results show that in Austria generally most of the /sup 137/Cs and /sup 103/Ru contamination occurred before 2 May, whilst most of the /sup 90/Sr and /sup 239(240)/Pu contamination took place between 2-5 May. Initially /sup 103/Ru//sup 137/Cs ratios of approximately 2 could be observed, which later decreased to 0.3-0.6 and increased again after 2 May, up to as high as 5. The ratios of /sup 90/Sr//sup 137/Cs remained between 0.004 and 0.017, those of /sup 239(240)/Pu//sup 137/Cs between 1.3*10/sup -6/ and 2*10/sup -5/.
Number of References: 17
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: radionuclide-concentrations; 90Sr-137Cs-ratio; 239Pu-137Cs-ratio; 240Pu-137Cs-ratio; surface-air; Austria-; Chernobyl-; Vienna-; Linz-; Salzburg-; Bregenz-; Klagenfurt-; gamma-spectroscopic-measurements; 103Ru-137Cs-ratios; 137Cs-concentrations; 103Ru-concentration; 90Sr-concentration; 238Pu-concentration; 239Pu-concentration; 240Pu-concentration
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Sr-el; Sr-el; Pu-el; Pu-el; Pu-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/93/$06.00
Sort Key: 0000265931X19930002000002000000000000133
Accession Number: 4472580
Update Code: 9300

Record 501 of 1145 in INSPEC 1993-1994

Title: Quantitative track autoradiography of hot particles produced by the Chernobyl accident
Author: Kushin-VV; Lyscov-VN
Author Affiliation: Moscow Phys. Eng. Inst., Russia
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.21, no.2; April 1993; p.277-82
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: An autoradiographic method was used for the measurement of dose distribution from beta-active hot particles in biological tissues. All measurements were made with thick layer high sensitivity nuclear emulsion, which was suitable for detection of single charged particles of minimal ionization capacity. Quantitative analysis of

autoradiograms took into account individual parameters of beta-particle tracks in the nuclear emulsion. The final result of the analysis was radial distribution of absorbed dose, which could be produced by the hot particles under study when penetrating biological tissue (for example into lung). It is significant that for determination of this dose distribution one does not need to have a priori information about the isotropic content of hot particles, their size, spectra of radiation and activity; the autoradiographic data are sufficient.

Number of References: 7

Descriptors: accidents-; beta-ray-detection-and-measurement; dosimetry-; nuclear-track-emulsions; radiography-

Identifiers: quantitative-track-autoradiography; hot-particles; Chernobyl-accident; dose-distribution; beta-active-hot-particles; biological-tissues; thick-layer-high-sensitivity-nuclear-emulsion; single-charged-particles; minimal-ionization; autoradiograms-

Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2940R (Nuclear-emulsions); A87; A28; A29; A8; A2

Treatment Codes: X (Experimental)

Coden: NTRMDS
ISSN: 0735-245X
Copyright Clearance Center Code: 0735-245X/93/$6.00+.00
Sort Key: 0000735245X19930002100002000000000000277
Accession Number: 4472004
Update Code: 9300

Record 502 of 1145 in INSPEC 1993-1994

Title: Assessments of the risk for the Bulgarian population due to standard UO/sub 2/ hot particles released during the Chernobyl accident

Author: Vapirev-EI; Grozev-PA
Author Affiliation: Fac. of Phys., Sofia Univ., Bulgaria

Source: Radiation-Protection-Dosimetry. vol.46, no.4; 1993; p.273-9
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The risk to the Bulgarian population due to hot particles released during the Chernobyl accident is estimated. The investigation includes data on distribution of hot particles in air, nuclide content in standard UO/sub 2/ hot particles, specific activity, dimensions and specific density. The risk model employed includes linear and quadratic effects and also stimulated cell division. Where uncertainties exist, the calculations were performed in the direction of overestimation of the risk.

Number of References: 29
Descriptors: accidents-; air-pollution; disasters-; health-hazards; radioactive-pollution; radioisotopes-; uranium-compounds
Identifiers: linear-effects; air-pollution; Chernobyl-accident; Bulgarian-population; air-; nuclide-content; specific-activity; dimensions-; specific-density; risk-model; quadratic-effects; stimulated-cell-division; standard-UO-2-hot-particles
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: UO2-bin O2-bin O-bin U-bin
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201993000460000400000000000273
Accession Number: 4468727
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 503 of 1145 in INSPEC 1993-1994

Title: Quantitative track autoradiographs of beta -active hot fuel particles ejected during the accident at Chernobyl
Author: Kushin-VV; Listsov-VN
Source: Atomic-Energy. vol.73, no.5; Nov. 1992; p.890-6
Translated from: Atomnaya-Energiya. vol.73, no.5; Nov. 1992; p.380-6
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The term 'hot particle' pertains to microscopic particles containing radionuclides of high activity and having characteristic dimensions of 1-100 mu m. This might either be particles that are the fission products from nuclear fuel or particles on which were adsorbed a large quantity of radioactive atoms. The reasons for their occurrence are nuclear weapons tests and nuclear power generation activities, especially accidents at power plants such as occurred at Chernobyl'. As a consequence of the effect of such particles inside an organism the risk of the occurrence of cancer depends in a complex manner on the three-dimensional distribution of the adsorbed energy. According to several authors, negligible risk of illness is caused by beta -active hot particles. Only these beta -active hot particles are covered in this work.
Number of References: 10
Descriptors: biological-effects-of-ionising-particles; dosimetry-
Identifiers: track-autoradiographs; beta-active-hot-fuel-particles; microscopic-particles; fission-products; radioactive-atoms; adsorbed-energy

Classification Codes: A8760M (Radiation-dosimetry); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/92/7305-0890$12.50
Sort Key: 00000047163199200073000050000000000000380
Accession Number: 4467148
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 504 of 1145 in INSPEC 1993-1994

Title: Radionuclide contamination and dose rates in Russia and Belarus after Chernobyl accident
Author: Orlov-MYu; Silant'ev-AN; Snykov-VP
Author Affiliation: Inst. of Exp. Meterol. Sci. Ind. Organ. 'Typhoon', Russia
Source: Atomic-Energy. vol.73, no.3; Sept. 1992; p.751-5
Translated from: Atomnaya-Energiya. vol.73, no.3; Sept. 1992; p.234-8
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The statistical characteristics of the contamination fields and the measured dose rates of gamma radiation in the air for the territories contaminated by the Chernobyl accident are of interest from the point of view of assessment of the absorbed dose for the population. The time dependence of the dose rate and the composition and characteristics of the contamination for individual territories of Belarus and Russia were considered earlier. Examined here are the statistical characteristics of the contamination fields and dose rates in the Bryanskaya Oblast of Russia and the adjacent Gomel'skaya and Mogilevskaya Oblasts of Belarus. Data on soil-sample /sup 137/Cs concentrations in the 'Store' data base of the 'Typhoon' Scientific-Industrial Organization.
Number of References: 2
Descriptors: radioactive-pollution; soil-
Identifiers: Gomel'skaya-Oblast; Mogilevskaya-Oblast; contamination-fields; dose-rates; gamma-radiation; Chernobyl-accident; Belarus-; Russia-; Bryanskaya-Oblast; 137Cs-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/92/7303-0751$12.50

Sort Key: 00000047163199200073000030000000000000234
Accession Number: 4467133
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 505 of 1145 in INSPEC 1993-1994

Title: Radiation doses in southern Byelorussia from the inhalation of specific radionuclides following the Chernobyl accident
Author: Knatko-VA; Mayall-A; Drugachenok-MA; Matveenko-II; Mironov-VP
Author Affiliation: Inst. of Radiobiol., Byelorussian Acad. of Sci., Minsk, Byelorussia
Source: Radiation-Protection-Dosimetry. vol.48, no.2; 1993; p.179-83
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The mean activity concentrations in air of /sup 137/Cs and various actinides were measured at the town of Bragin, southern Byelorussia, during the period 28 April to 15 May 1986. Over 99% of this measured activity was due to /sup 137/Cs. An assessment of the resulting radiation doses from inhalation is presented based on using an appropriate AMAD of 2 mu m for the inhaled particles. In order to present a more complete picture of inhalation doses the additional contributions from six other important radionuclides were estimated from release ratios. The likely effect of including the exposures over the first two days of the release was also investigated. The committed effective dose equivalent to adults is estimated to be 12-16 mSv. However, this estimate is somewhat speculative and for a more reliable estimate of the doses received in southern Byelorussia more measurement data would have been desirable.
Number of References: 10
Descriptors: accidents-; air-pollution; caesium-; disasters-; dosimetry-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: southern-Byelorussia; radionuclides-; Chernobyl-accident; mean-activity-concentrations; air-; town-; Bragin-; radiation-doses; inhaled-particles; inhalation-doses; release-ratios; committed-effective-dose-equivalent; adults-; 137Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 00001448420199300048000020000000000000179
Accession Number: 4464328
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 506 of 1145 in INSPEC 1993-1994

Title: Ukrainian thyroid doses after the Chernobyl accident
Author: Likhtarev-IA; Shandala-NK; Gulko-GM; Kairo-IA; Chepurny-NI
Author Affiliation: Ukrainian Sci. Center of Radiat. Med., Kiev, Ukraine
Source: Health-Physics. vol.64, no.6; June 1993; p.594-9
Publication Year: 1993
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: To estimate thyroid radioactivity in the Ukrainian population from May-June 1986, more than 150000 individual examinations were carried out by special dosimetric teams. The results of these measurements were approved to be a basis for assessing individual absorbed doses of infant and adult thyroid irradiation associated with the /sup 131/I exposure. The dosimetric radioiodine data bank of thyroid irradiation of the Ukrainian population was created to analyze these measurements. The analysis was performed using the data for eight Ukrainian districts and the town of Pripjat, which were all heavily contaminated due to radioiodine exposure. Results of the dose assessments are given using two models. The predictions of late effects have shown that a collective thyro-oncogenic dose is equal to 64000 person-Gy, stimulating the possibility of the emergence of 300 cases (30 incurable) of thyrocancers.
Number of References: 9
Descriptors: accidents-; biological-effects-of-ionising-radiation; disasters-; dosimetry-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: infant-thyroid-irradiation; Ukrainian-thyroid-doses; Chernobyl-accident; thyroid-radioactivity; Ukrainian-population; dosimetric-teams; individual-absorbed-doses; adult-thyroid-irradiation; dosimetric-radioiodine-data-bank; Ukrainian-districts; town-; Pripjat-; models-; collective-thyro-oncogenic-dose; thyrocancers-; 131I-exposure
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+0
Sort Key: 00000179078199300064000060000000000000594
Accession Number: 4458424
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 507 of 1145 in INSPEC 1993-1994

Title: The variability of Chernobyl Cs retention in the water column of lakes in the English Lake District, two years and four years after deposition
Author: Spezzano-P; Hilton-J; Lishman-JP; Carrick-TR
Author Affiliation: ENEA, AMB-MON-MASAL, Vercelli, Italy
Source: Journal-of-Environmental-Radioactivity. vol.19, no.3; 1993; p.213-32
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radiocaesium activity was measured in 26 lakes in the English Lake District (North-West England) in 1988 and in 1990. Several lakes showed measurable Cs activity, even though calculations suggested that, by these times, levels of Chernobyl fallout should have been undetectable in almost all lakes. Several factors, including negative correlations between Cs activity levels in the water column and illitic clay mineral content in the sediment, point to remobilisation from fibrous peat soils (peat bogs) within the catchment as the source of residual Cs activity in the water column. Loss rates of up to 2.2% of the catchment inventory per annum were observed. Extrapolation of these arguments suggests that all lakes in catchments containing soils poor in clay minerals are likely to receive significant radiocaesium contributions from the catchment, considerably increasing the recovery time after an accidental input.
Number of References: 34
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-; water-pollution
Identifiers: AD-1988-to-1990; English-Lake-District; North-West-England; Chernobyl-fallout; illitic-clay-mineral-content; remobilisation-; fibrous-peat-soils; peat-bogs
Classification Codes: A8670E (Water); A8670C (Soil-and-rock); A9330G (Europe); A86; A93; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/93/$06.00
Sort Key: 0000265931X19930001900003000000000000213
Accession Number: 4452507
Update Code: 9300

Record 508 of 1145 in INSPEC 1993-1994

Title: Differences in the sensitivity of barley varieties to direct cesium contamination from the Chernobyl accident
Author: Ohlenschlaeger-M; Gissel-Nielsen-G; Nielsen-SP
Author Affiliation: Environ. Sci. & Technol. Dept., Riso Nat. Lab., Roskilde, Denmark
Source: Health-Physics. vol.64, no.5; May 1993; p.535-7
Publication Year: 1993

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A number of winter and spring barley (Hordeum vulgare L) varieties were tested for sensitivity to direct cesium contamination in Denmark arising from the Chernobyl accident. Significant differences among varieties were revealed which were independent of crop growing conditions. Results indicate that different sensitivities among varieties result from genetic or morphological differences.
Number of References: 5
Descriptors: accidents-; air-pollution; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: winter-barley; genetic-differences; barley-varieties; Chernobyl-accident; spring-barley; Hordeum-vulgare; Denmark-; crop-growing-conditions; morphological-differences; 137Cs-contamination
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+0
Sort Key: 00000179078199300064000050000000000000535
Accession Number: 4445302
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 509 of 1145 in INSPEC 1993-1994

Title: Chromosome aberrations in human lymphocytes apparently induced by Chernobyl fallout
Author: Scheid-W; Weber-J; Petrenko-S; Traut-H
Author Affiliation: Inst. of Radiat. Biol., Munster Univ., Germany
Source: Health-Physics. vol.64, no.5; May 1993; p.531-4
Publication Year: 1993
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Sixteen people (15 from Byelorussia, one from Kiev) possibly exposed to radioactivity released by the Chernobyl accident were investigated for chromosome aberrations induced in lymphocytes. Statistically significant increases of the yield of dicentric chromosomes were observed in five people.
Number of References: 14

Descriptors: accidents-; air-pollution; atmospheric-radioactivity; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; health-hazards; radioactive-pollution
Identifiers: human-lymphocytes; Chernobyl-fallout; Byelorussia-; Kiev-; radioactivity-; Chernobyl-accident; chromosome-aberrations; dicentric-chromosomes; people-
Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+0
Sort Key: 00000179078199300064000050000000000000531
Accession Number: 4445301
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 510 of 1145 in INSPEC 1993-1994

Title: Profiles and downward migration of /sup 134/Cs and /sup 106/Ru deposited on Italian soils after the Chernobyl accident
Author: Bonazzola-GC; Ropolo-R; Facchinelli-A
Author Affiliation: Dipartimento di Fisica Sperimentale, Torino, Italy
Source: Health-Physics. vol.64, no.5; May 1993; p.479-84
Publication Year: 1993
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: After the Chernobyl accident, several radionuclides were deposited on the soil of the Piemonte Region in Italy. Contamination values were monitored and the initial vertical soil profiles of /sup 134/Cs and /sup 106/Ru were determined. For both radionuclides, more than 60% of the total activity remained in the upper 1-cm layer of soil during the first 7 mo after the accident. The time history of the soil profiles was studied over a period of 3 y in two Piedmontese localities. A compartmental model was also developed to describe downward migration of /sup 134/Cs and /sup 106/Ru. The results indicated a low mobility for both radionuclides. The change in their vertical profiles may be described using a box model with a transfer constant of 0.2 y/sup -1/ for /sup 134/Cs and 0.3 y/sup -1/ for /sup 106/Ru between 1-cm-thick layers. A strong association between the soil fine fraction and the mobility of both radionuclides was also found.
Number of References: 23
Descriptors: accidents-; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-; ruthenium-; soil-

Identifiers: downward-migration; Italian-soils; Chernobyl-accident; radionuclides-; Piemonte-Region; Italy-; initial-vertical-soil-profiles; time-history; Piedmontese-localities; compartmental-model; box-model; transfer-constant; mobility-; 134Cs-; 106Ru-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Ru-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+0
Sort Key: 00000179078199300064000050000000000000479
Accession Number: 4445294
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 511 of 1145 in INSPEC 1993-1994

Title: Dose assessment for recent inhabitants living adjacent to zones heavily contaminated from the Chernobyl fallout
Author: Henrich-E; Steinhausler-F
Author Affiliation: Federal Minist. of Health, Sports & Consumer Protection, Vienna, Austria
Source: Health-Physics. vol.64, no.5; May 1993; p.473-8
Publication Year: 1993
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Within the framework of the 'International Chernobyl Project', selected areas in the Republics of Ukraine, Belarus, and Russia of the former USSR, contaminated by radioactive fallout from the Chernobyl accident in 1986, were investigated by international teams. In addition, environmental studies were carried out in areas officially declared as 'uncontaminated regions' in order to corroborate this classification and to provide reference baseline data for the simultaneously performed medical investigations on health effects in the contaminated areas. Altogether, 141 measurements of the gamma dose rate, both outdoors and indoors, were carried out. Also, the radionuclide concentration in 58 soil and food samples was determined. In addition, results from 1620 individual film dosimeter readings were analyzed.
Number of References: 8
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; disasters-; dosimetry-; gamma-ray-detection-and-measurement; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: dose-assessment; uncontaminated-regions; recent-inhabitants; Chernobyl-fallout; Republics-; Ukraine-; Belarus-; Russia-; former-USSR; radioactive-fallout; environmental-studies; classification-; reference-baseline-data; medical-investigations; health-effects; contaminated-areas; gamma-dose-rate; outdoors-; indoors-; radionuclide-concentration; soil-; food-samples; individual-film-dosimeter-readings
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+0
Sort Key: 0000017907819930006400005000000000000473
Accession Number: 4445293
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 512 of 1145 in INSPEC 1993-1994

Title: INSAG reconsiders the causes of Chernobyl
Author: Crickshank-A
Source: Atom. no.427; March-April 1993; p.44-6
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: It is, it seems, in the nature of human beings to seek scapegoats. In the aftermath of a major catastrophe there is an instinctive search for an individual, or individuals, to blame. In the case of Chernobyl, it was the operators. In their report-INSAG-1-issued in September 1986, and largely on the basis of Soviet evidence, the IAEA's International Nuclear Safety Advisory Group (INSAG) ascribed much of the responsibility for the Chernobyl accident to those in control of the plant at the time. INSAG-7, released in 1992, highlights the RBMK design deficiencies, which caused the accident to be as severe as it was.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: Chernobyl-; International-Nuclear-Safety-Advisory-Group; RBMK-design-deficiencies; accident-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: ATMMAR
ISSN: 0004-7015
Sort Key: 0000004701519930000000427000000000000044

Accession Number: 4442032
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08662.000
Bestand: 1958,17-1995,437 N:41,300

Record 513 of 1145 in INSPEC 1993-1994

Title: Who was to blame for Chernobyl?-INSAG's second thoughts
Author: Varley-J
Source: Nuclear-Engineering-International. vol.38, no.466; May 1993; p.51-2
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Seven years on, the IAEA's International Nuclear Safety Advisory Group has finally issued an update to its initial assessment of the Chernobyl accident. The power plant operators have clearly taken an unfair share of the blame.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety
Identifiers: INSAG-report; International-Nuclear-Safety-Advisory-Group; Chernobyl-accident; power-plant-operators
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199300038004660000000000000051
Accession Number: 4440376
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 514 of 1145 in INSPEC 1993-1994

Title: Reducing caesium contamination of food products in the Chernobyl area
Source: IAEA-Bulletin. vol.35, no.1; 1993; p.18-23
Publication Year: 1993
Record Type: Journal-article
Country of Publication: Austria
Language: English
Abstract: Under a collaborative project involving the IAEA, FAO, and other bodies, Prussian Blue compounds are being used in Belarus, Russia, and Ukraine to reduce caesium levels in milk and meat products.
Number of References: 0

Descriptors: caesium-; health-hazards; radiation-decontamination; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-area; Prussian-Blue-compounds; Belarus-; Russia-; Ukraine-; milk-; meat-; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A2880 (Radiation-technology-including-shielding); A87; A28; A8
Treatment Codes: P (Practical)
Chemical Indexing: Cs-el
Coden: IAEBAB
ISSN: 0020-6067
Sort Key: 00000206067199300035000010000000000000018
Accession Number: 4435900
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08549.001
Bestand: 31.1989=>

Record 515 of 1145 in INSPEC 1993-1994

Title: Transfer of /sup 131/I to sheep milk from vegetation contaminated by Chernobyl fallout
Author: Howard-BJ; Beresford-NA
Author Affiliation: Inst. of Terrestrial Ecology, Grange-over-Sands, UK
Source: Journal-of-Environmental-Radioactivity. vol.19, no.2; 1993; p.155-61
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The transfer of /sup 131/I to sheep milk was measured in a controlled feeding experiment using herbage recently contaminated by fallout from the Chernobyl accident. The transfer coefficient (F/sub m/) of /sup 131/I from the Chernobyl-contaminated herbage was 0.29+or-0.017 day litre/sup -1/. The daily proportion of /sup 131/I intake which was secreted in milk was 56+or-0.035%. This is an order of magnitude higher than for cattle and agrees with the higher transfer of stable iodine from plasma to milk which occurs in sheep and goats. At the same time the biological half-life of /sup 131/I was measured in ewes which had been grazing outside during deposition of the Chernobyl fallout and were then housed and fed an /sup 131/I-free diet. The loss of /sup 131/I in sheep milk was described using a double exponential relationship. The calculated biological half-life for the first component in the milk was one day, accounting for 97.4% of the reduction in the concentration of /sup 131/I activity in the milk. The /sup 131/I-free diet had a comparatively high stable iodine content since it was saltmarsh vegetation, however, the calculated half-life was similar to previously estimated values for goats. The transfer parameters presented here, which

have been estimated using measured dietary intakes and milk outputs, appear to be the first such dates reported for sheep for an environmentally contaminated source.
Number of References: 18
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: Chernobyl-fallout; 131I-; sheep-milk; controlled-feeding; transfer-coefficient; Chernobyl-contaminated-herbage; cattle-; biological-half-life; double-exponential-relationship; saltmarsh-vegetation; goats-
Classification Codes: A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A86; A28; A87; A8; A2
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/93/$06.00
Sort Key: 0000265931X199300019000020000000000000155
Accession Number: 4429274
Update Code: 9300

Record 516 of 1145 in INSPEC 1993-1994

Title: The transport of Chernobyl-derived radiocaesium through two freshwater lakes in Cumbria, UK
Author: Davison-W; Jilton-J; Hamilton-Taylor-J; Kelly-M; Livens-F; Rigg-E; Carrick-TR; Singleton-DL
Author Affiliation: Inst. of Freshwater Ecology, Ambleside, UK
Source: Journal-of-Environmental-Radioactivity. vol.19, no.2; 1993; p.125-53
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The specific activities of /sup 137/Cs and /sup 134/Cs in the waters and sediments of Windermere North Basin (WNB) and Esthwaite Water (EW) in the English Lake District were determined over an 18-month period, immediately following the catastrophic accident at the Chernobyl nuclear reactor. Input of Chernobyl-derived Cs to the lake surfaces (approximately 2000 Bq of /sup 137/Cs m/sup -2/) occurred predominantly through direct atmospheric deposition over the period 3-20 May, 1986. The initial and highest specific activities (C/sub 0/) of /sup 137/Cs were approximately 80 Bq m/sup -3/ and approximately 390 Bq m/sup -3/ in WNB and EW respectively, reflecting the greater mean depth of WNB (25.1 m) compared with EW(6.4 m). Of the initial input, an estimated 37-41% and 32% was hydraulically flush from WNB and EW, respectively, the remainder accumulating in the sediments. Retention half-life within the lake waters was 70 days in WNB and 15 days in EW. The temporal decline in caesium in surface waters could be modelled by assuming that either direct adsorption to the sediments or association with settling particles occurred in conjunction with hydraulic flushing. Model fits resulted in values of 0.10+or-0.05 cm for the

boundary layer thickness, and 10/sup 5/ litre kg/sup -1/ for the partition coefficients, K/sub d/, in both lakes, indicating that transport by particles may be the dominant process. A small fraction (0.25%) of the caesium accumulating in the sediment appeared to be remobilized into the overlying waters when they became anoxic. This was the major source of radiocaesium in EW after April 1987 (ca. 1 year after the initial input).

Number of References: 42

Descriptors: accidents-; radioactive-pollution; transport-processes

Identifiers: freshwater-lakes; Cumbria-; UK-; specific-activities; 137Cs-; 134Cs-; catastrophic-accident; Chernobyl-nuclear-reactor; direct-atmospheric-deposition; lake-waters; hydraulic-flushing; boundary-layer-thickness; partition-coefficients; anoxic-

Classification Codes: A8670E (Water); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0560 (Transport-processes-theory); A86; A28; A05; A8; A2; A0

Treatment Codes: T (Theoretical-or-Mathematical)

Coden: JERAEE

ISSN: 0265-931X

Sort Key: 0000265931X19930001900002000000000000125

Accession Number: 4429273

Update Code: 9300

Record 517 of 1145 in INSPEC 1993-1994

Title: /sup 90/Sr and /sup 137/Cs distribution in the bottom sediments-water reservoir system in the Chernobyl close-in zone

Author: Konoplev-AV; Kopylova-LP; Bobovnikova-TI; Bulgakov-AA; Siverina-AA

Author Affiliation: Taifun Sci. Ind. Assoc., Russia

Source: Soviet-Meteorology-and-Hydrology. no.1; 1992; p.27-33

Translated from: Meteorologiya-i-Gidrologiya. no.1; 1992; p.35-42

Publication Year: 1992

Record Type: Journal-article

Country of Publication: Russia; Translation: USA

Language: English

Abstract: The behaviour of long-lived radionuclides in the bottom-water reservoir system in the Chernobyl close-in zone is considered. Ion exchange is the main mechanism of /sup 90/Sr and /sup 137/Cs exchange in the system. A method is proposed to predict the coefficient of radionuclide distribution in the water reservoir based on data on the exchange capacity of sediments, cation water composition, and the relationship between exchange and nonexchange forms of radionuclides.

Number of References: 5

Descriptors: caesium-; radioactive-pollution; radioisotopes-; sediments-; strontium-; water-pollution

Identifiers: Ukraine-; pollution-; ion-exchange; bottom-sediments; water-reservoir-system; Chernobyl-close-in-zone; long-lived-radionuclides; Ion-exchange; radionuclide-distribution; composition-; 90Sr-; 137Cs-
Classification Codes: A8670E (Water); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/92/$20.00
Sort Key: 00001302906199200000000010000000000000035
Accession Number: 4421713
Update Code: 9300

Record 518 of 1145 in INSPEC 1993-1994

Title: Particle-associated Chernobyl fall-out in the local and intermediate zones
Author: Kuriny-VD; Ivanov-YuA; Kashparov-VA; Loshchilov-NA; Protsak-VP; Yudin-EB; Zhurba-MA; Parshakov-AE
Author Affiliation: Ukrainian Inst. of Agric. Radiol., Kiev, Ukraine
Source: Annals-of-Nuclear-Energy. vol.20, no.6; June 1993; p.415-20
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Fuel and condensed particle components of Chernobyl fall-out are differentiated and the constitution of the fuel component is displayed on a map of the area to a distance of 60 km from the reactor. The nuclear physics related properties of the 'hot particles' are discussed. The possibility of a long-term increase in the bioavailability of Sr and Pu in soils due to dissolution of these hot particles is commented upon.
Number of References: 27
Descriptors: accidents-; disasters-; fission-reactor-fuel; health-hazards; plutonium-; radioactive-pollution; radioisotopes-; soil-; strontium-
Identifiers: fuel-; local-zone; fall-out; intermediate-zones; condensed-particle-components; Chernobyl-; hot-particles; bioavailability-; soils-; dissolution-; 60-km; Sr-; Pu-
Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A2842D (Fuel-elements); A86; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 6.0 E04 m
Chemical Indexing: Sr-el; Pu-el
Coden: ANENDJ
ISSN: 0306-4549
Copyright Clearance Center Code: 0306-4549/93/$6.00+0.00
Sort Key: 00003064549199300020000060000000000000415
Accession Number: 4418525

Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25946.001
Bestand: 2.1975=>

Record 519 of 1145 in INSPEC 1993-1994

Title: On the radiological consequences near and far away from the catastrophically damaged Chernobyl nuclear power plant
Author: Susnik-J
Author Affiliation: Reactor Eng. Div., Inst. Josef Stefan, Ljubljana, Slovenia
Source: First Meeting of the Nuclear Society of Slovenia. Proceedings. Institute 'Jozef Stefan', Ljubljana, Slovenia; 1992; xii+335 pp.
p.178-85
Publication Year: 1992
Record Type: Conference-Paper
Conference Details: 11-12 June 1992; Bovec, Slovenia
Country of Publication: Slovenia
Language: English
Abstract: The influence of the Chernobyl radioactive cloud on potentially expected postaccidental doses, using the WASH-1400 PWR-1A scenario and the CRAC 2 model, was studied. UNSCEAR 1988 was used to estimate the activity of the cloud that contaminated Slovenia and neighbouring areas. The contamination levels at the J. Stefan Institute were used for comparison (the match was surprisingly good). Some of the expected doses due to early irradiation from the cloud, ground, inhalation and ingestion are also shown. Dose reduction possibilities were estimated.
Number of References: 12
Descriptors: accidents-; air-pollution; disasters-; dosimetry-; radioactive-pollution; radioactivity-measurement
Identifiers: ground-dose; inhalation-dose; dose-reduction; ingestion-dose; radiological-consequences; Chernobyl-; postaccidental-doses; WASH-1400-PWR-1A; UNSCEAR-1988; activity-; Slovenia-; early-irradiation
Classification Codes: A8670G (Atmosphere); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2850G (Light-water-reactors); A86; A28; A87; A8; A2
Treatment Codes: X (Experimental)
Sort Key: 10000000000199200000000000000000000178
Accession Number: 4418022
Update Code: 9300

Record 520 of 1145 in INSPEC 1993-1994

Title: Late T cell deficiency in victims of the Chernobyl radiation accident: possible mechanisms of induction

Author: Yarilin-AA; Belyakov-IM; Kusmenok-OI; Arshinov-VY; Simonova-AV; Nadezhina-NM; Gnezditskaya-EV
Author Affiliation: Inst. of Immunology, Min. of Public Health of Russia, Moscow, Russia
Source: International-Journal-of-Radiation-Biology. vol.63, no.4; April 1993; p.519-28
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: T cell number, serum concentrations of thymic hormones and anti-epithelial autoantibodies were studied in people affected at Chernobyl NPP. Group 1 took part in the clearing-up operation and had no clinical manifestations of acute radiation sickness. Group 2 worked at the NPP during the accident; they survived acute radiation sickness (degree-I-II, subgroup 2a; degree III-IV, subgroup 2b). The total doses of external radiation were 0.1-0.5 Gy in group 1, up to 4 Gy in subgroup 2a and up to 9 Gy in subgroup 2b. Total T cell number serum thymic activity and alpha /sub 1/-thymosin concentration were decreased in all groups of affected persons. CD8/sup +/ cell number decreased only in group 1; CD4/sup +/ cell number in subgroup 2b. A decrease in thymic hormone level was most prominent in subgroup 2b. The titres of anti-epithelial antibodies were increased in all groups of affected persons independently of radiation dose. The titres were higher in patients with subnormal levels of alpha /sub 1/-thymosin. It has been proposed that radiation alters the function of thymic epithelial cells by direct action and/or through indirect mechanisms including participation of autoantibodies. The observed complex of alterations is similar to that in the normal process of immunological ageing.
Number of References: 32
Descriptors: accidents-; blood-; cellular-effects-of-radiation; disasters-
Identifiers: cellular-radiobiology; late-T-cell-deficiency; antiepithelial-autoantibodies-T-cell-number; serum-concentrations; thymic-hormones; acute-radiation-sickness; CD8-+-cell-number; CD4-+-cell-number; alpha-1-thymosin; immunological-ageing; 0-1-to-9-Gy
Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725 (Cellular-biophysics); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 1.0E-01 to 9.0 E00 Gy
Coden: IJRBA3
ISSN: 0020-7616
Copyright Clearance Center Code: 0020-7616/93/$10.00
Sort Key: 0000020761619930006300004000000000000519
Accession Number: 4409636
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Title: Plutonium content in soils of the European part of the country after the accident at Chernobyl nuclear generating station
Author: Lebedev-IA; Myasoedov-BF; Pavlotskaya-FI; Frankel-VYa
Author Affiliation: V.I. Vernadskii Inst. of Geochem. & Anal. Chem., Russian Acad. of Sci., Russia
Source: Atomic-Energy. vol.72, no.6; June 1992; p.515-20
Translated from: Atomnaya-Energiya. vol.72, no.6; June 1992; p.593-9
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: In 1986-7, at the V.I. Vernadskii Institute of Geochemistry and Analytical Chemistry ('GEOKhI'), there were analyzed some hundreds of samples of soil, aerosols and fallout collected after 26 April 1986 from a vast territory of the European part of the USSR having an area of about 1 million km/sup 2/. The results obtained make it possible to describe how plutonium and some fission products, falling out after the Chernobyl accident, were distributed over the earth's surface, and to establish some principles.
Number of References: 10
Descriptors: plutonium-; radioactive-pollution; soil-
Identifiers: USSR-; AD-1986-to-1987; soil-; aerosols-; fallout-; Chernobyl-accident; Pu-
Classification Codes: A8670C (Soil-and-rock); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/92/7206-0515$12.50
Sort Key: 0000004716319920007200006000000000000593
Accession Number: 4398571
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 522 of 1145 in INSPEC 1993-1994

Title: Secondary contamination of 30-km zone of the Chernobyl atomic electric plant and adjacent territory due to radionuclides carried by ascending wind
Author: Garger-EK; Gavrilov-VP
Author Affiliation: Inst. of Exp. Meteorol. & Sci.-Ind. Assoc. 'Taifun', Russia
Source: Atomic-Energy. vol.72, no.6; June 1992; p.510-14
Translated from: Atomnaya-Energiya. vol.72, no.6; June 1992; p.588-93
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA

Language: English
Abstract: The territory contaminated with radionuclides as a result of the accident at the Chernobyl atomic electric plant is a surface source of radioactive aerosols carried into the atmosphere by ascending winds. In order to calculate the transfer of radionuclides from a surface source, it is necessary to know its dust intensity, which is the vertical turbulent flux of the radionuclides in the atmosphere layer near the ground Q (Ci.m/sup -2/ sec/sup -1/). A quantity frequently used in practice is Q referred to the contamination density of the surface layer c (Ci/m/sup 2/) and called the wind ascent intensity alpha =Q/c(sec/sup -1/). The wind ascent intensity was determined by gradient measurements of the mean radionuclide concentration, the wind velocity and air temperature; the conditions during the measurements were assumed to correspond to case of a plane homogeneous, stationary source of a nondepositing admixture.
Number of References: 3
Descriptors: air-pollution; radioactive-pollution; wind-
Identifiers: pollution-; Ukraine-; radionuclides-; Chernobyl-atomic-electric-plant; radioactive-aerosols; ascending-winds; dust-intensity; vertical-turbulent-flux; atmosphere-layer; contamination-density; wind-ascent-intensity; air-temperature
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A9260G (Winds-and-their-effects); A9260T (Air-quality-and-air-pollution); A86; A93; A92; A8; A9
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: AENYEZ
ISSN: 0004-7163; Translation: 1063-4258
Copyright Clearance Center Code: 1063-4258/92/7206-0510$12.50
Sort Key: 00000047163199200072000060000000000000588
Accession Number: 4398570
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 523 of 1145 in INSPEC 1993-1994

Title: 'Rogue' cells observed in children exposed to radiation from the Chernobyl accident
Author: Sevan'Kaev-AV; Tsyb-AF; Lloyd-DC; Zhloba-AA; Moiseenko-VV; Skrjabin-AM; Climov-VM
Author Affiliation: Med. Radiol. Res. Centre, Russian Acad. of Med. Sci., Kaluga, Russia
Source: International-Journal-of-Radiation-Biology. vol.63, no.3; March 1993; p.361-7
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Eight 'rogue' lymphocyte metaphases containing a large number of aberrant chromosomes were noted during a survey of chromosomal damage in 328 twenty-eight Belarussian children. The study population comprised children of families living in territory contaminated by radiation from the Chernobyl accident. The majority of the

sample had been evacuated within one week from very heavily polluted territory to areas that had received much less fallout. Two hundred cells were scored per subject and one rogue cell was found in a child exposed in utero; one in a child conceived after the accident and six in the postnatally exposed group. The possibility that the damage was due to exposure to radio-iodine concentrated in the thyroid gland, or to radiation from incorporated 'hot particles' of an alpha or beta/gamma emitter is discussed. It is concluded that the damage to these cells is unlikely to have been caused by radiation.

Number of References: 19

Descriptors: accidents-; biological-effects-of-ionising-radiation; blood-; cellular-effects-of-radiation; disasters-; radioactive-pollution

Identifiers: rogue-lymphocyte-metaphases; radioiodine-; radioactive-contamination; white-blood-cells; radiation-exposed-children; cellular-radiobiology; alpha-emitter; beta-emitter; gamma-emitter; Chernobyl-accident; aberrant-chromosomes; chromosomal-damage; Belarussian-children; very-heavily-polluted-territory; fallout-; thyroid-gland; 1-wk; I-

Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725F (Physics-of-subcellular-structures); A8760R (Radioactive-pollution); A87; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: time 6.0 E05 s

Chemical Indexing: I-el

Coden: IJRBA3

ISSN: 0020-7616

Sort Key: 00000207616199300063000030000000000000361

Accession Number: 4396835

Update Code: 9300

Record 524 of 1145 in INSPEC 1993-1994

Title: Chernobyl-derived radiocesium in mosses in the Black Sea area

Author: Topcuoglu-S; Guven-KC; Bulut-AM; Sauer-E

Author Affiliation: Cekmece Nucl. Res. & Training Centre, Istanbul, Turkey

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.175, no.1; 11 Jan. 1993; p.9-15

Publication Year: 1993

Record Type: Journal-article

Country of Publication: Switzerland

Language: English

Abstract: Radiocesium (/sup 134/Cs and /sup 137/Cs) activity levels in mosses from the Black Sea area, northern Turkey, are reported following the Chernobyl accident during the period of 1989-91. The cesium radionuclides were detected and measured in all the

samples, but other long-lived radionuclides such as /sup 144/Ce and /sup 106/Ru were measured in only one sample. The present data support the fact that radioactivity monitoring in mosses can be useful to determine the lasting effect of radioactive contamination.

Number of References: 13

Descriptors: accidents-; caesium-; radioactive-pollution; radioisotopes-; soil-

Identifiers: Chernobyl-derived-radiocesium; mosses-; Black-Sea-area; 134Cs-; 137Cs-; activity-levels; Turkey-; Chernobyl-accident; long-lived-radionuclides; radioactive-contamination; 144Ce-; 106Ru-; Cs-radioisotopes

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Ce-el; Ru-el

Coden: JRNCDM

ISSN: 0236-5731

Sort Key: 00002365731199300175000010000000000000009

Accession Number: 4383948

Update Code: 9300

Record 525 of 1145 in INSPEC 1993-1994

Title: Determination of /sup 241/Pu by low level beta -proportional counting. Application to Chernobyl fallout samples and comparison with the /sup 241/Am build-up method

Author: Rosner-G; Hotzl-H; Winkler-R

Author Affiliation: GSF-Forshungszentrum fur Umwelt und Gesundheit, Inst. fur Strahlenschutz, Neuherberg, Germany

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.163, no.2; Dec. 1992; p.225-33

Publication Year: 1992

Record Type: Journal-article

Country of Publication: Switzerland

Language: English

Abstract: A chemical separation procedure is described which allows the direct determination of low /sup 241/Pu activities in environmental samples with a windowless gas-flow proportional counter. While current separation schemes based on anion exchange yield counting sources of sufficient purity for subsequent alpha -spectrometry, for beta -counting of /sup 241/Pu additional purification steps are required. A combination of anion exchange from 9 mol/l HCl, LaF/sub 3/ precipitation and TTA extraction was found to be suitable even for the analysis of long-range Chernobyl fallout samples which contained interfering radionuclides with beta -activities at least three to four orders of magnitude higher than usually encountered. No difference is detectable between the results of the present, direct procedure and the results of the conventional indirect method based on the build-up of /sup 241/Am. Average /sup 241/Pu//sup

239+240/Pu ratios in air and deposition samples taken at Neuherberg near Munich were 70+or-6 with the present procedure and 66+or-9 from /sup 241/Am build-up.
Number of References: 29
Descriptors: accidents-; beta-ray-detection-and-measurement; health-hazards; plutonium-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: low-level-beta-proportional-counting; Chernobyl-fallout-samples; 241Am-build-up-method; chemical-separation-procedure; environmental-samples; windowless-gas-flow-proportional-counter; anion-exchange; TTA-extraction; air-; deposition-samples; 241Pu-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A8670C (Soil-and-rock); A2970 (Radiation-measurement-detection-and-counting); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A87; A86; A29; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119920016300002000000000000225
Accession Number: 4369904
Update Code: 9300

Record 526 of 1145 in INSPEC 1993-1994

Title: Effective equivalent external gamma -ray dose as a result of the Chernobyl nuclear power plant accident
Author: Erkin-VG; Lebedev-OV; Balonov-MI; Parkhomenko-VI
Author Affiliation: Leningrad Sci. Res. Inst. of Radiat. Hygiene, Russia
Source: Atomic-Energy. vol.72, no.4; April 1992; p.344-7
Translated from: Atomnaya-Energiya. vol.72, no.4; April 1992; p.383-6
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: External gamma -radiation from radioactive fallouts on a locality as a result of the Chernobyl Nuclear Power Plant accident at present is the main dose-forming factor for a considerable part of the population of the western regions of Bryansk Province. The personal dose from external gamma -ray sources in this area have been measured since December, 1986. The authors report the generalized data for 1987 to 1990, which make it possible to estimate both the actual levels of irradiation of various groups of the population in this Province as well as the tendency of the dosimetric indicators to change. The dose was measured with thermoluminescent personal dosimeters with lithium fluoride detectors and a Harshaw 2000 D instrument. The lower limit of gamma -ray dose detection was 80 mu Gy and the dosimeters were sensitive to photon radiation with an energy of 20-30 keV. The personal dose was given in terms of the effective

equivalent dose. The readings of the personal dosimeter, worn on the chest of an adult, were converted to the effective equivalent dose by using the factor 1 Sv/Gy. The individual dose was measured by sampling, primarily in a rural locality, where the dose burdens are the highest.

Number of References: 3

Descriptors: dosimetry-; radioactive-pollution

Identifiers: Chernobyl-accident; external-gamma-ray-dose; population-; Bryansk-Province; personal-dose; thermoluminescent-personal-dosimeters; effective-equivalent-dose; 20-to-30-keV

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2880C (Dosimetry); A87; A28; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: electron volt energy 2.0 E04 to 3.0 E04 eV

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/92/7204-0344$12.50

Sort Key: 00000047163199200072000040000000000000383

Accession Number: 4366917

Update Code: 9300

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 527 of 1145 in INSPEC 1993-1994

Title: Local contamination with /sup 131/I after the Chernobyl nuclear power plant accident and estimates of the dose burdens from its radiation

Author: Makhon'ko-KP; Kozlova-EG; Silant'ev-AN; Bochkov-LP; Shkuratova-IG; Valetova-NK; Volokitin-AA; Rabotnova-FA

Author Affiliation: Inst. of Exp. Meteorol., Russia

Source: Atomic-Energy. vol.72, no.4; April 1992; p.339-44

Translated from: Atomnaya-Energiya. vol.72, no.4; April 1992; p.377-82

Publication Year: 1992

Record Type: Journal-article

Country of Publication: Russia; Translation: USA

Language: English

Abstract: The isotope /sup 131/I posed the greatest danger to the public immediately after the radiation-releasing accident at the Chernobyl Nuclear Power Plant. The integrated data from daily meteorological station observations of fallout from the plant in May 1986 were used to draw the first provisional map of soil contamination, which made it possible to estimate its level and scales. The map was not refined subsequently since /sup 131/I decays rapidly and it was thus not possible to cover the large contaminated territory by detailed gamma-ray spectrometric photography. Nevertheless, a large body of data on measurements of the /sup 131/I and /sup 137/Cs content in the same soil samples taken from Kiev to Tula had already been obtained in May 1986, thus making

it possible to determine the corresponding correlation between them. The calculations made allowance for the average overall preaccident background /sup 137/Cs/sub b/ for this region (0.056 Ci/km/sup 2/). The continuity of the series of daily fallout of these radionuclides was confirmed by the correlations with the total fallout of beta -active products in limited intervals of time. The fallout samples were taken from the entire European territory of the CIS. The results of the measurements fit a straight line well on the log-log scale and the correlation coefficient of these quantities is r=0.91.

Number of References: 8

Descriptors: air-pollution; dosimetry-; iodine-; radioactive-pollution; radioisotopes-; soil-

Identifiers: dose-burdens; radiation-releasing-accident; Chernobyl-; daily-meteorological-station-observations; fallout-; soil-contamination; gamma-ray-spectrometric-photography; Kiev-; Tula-; preaccident-background; beta-active-products; correlation-coefficient; 131I-

Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9330G (Europe); A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A86; A93; A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: I-el

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/92/7204-0339$12.50

Sort Key: 00000047163199200072000040000000000000377

Accession Number: 4366916

Update Code: 9300

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 528 of 1145 in INSPEC 1993-1994

Title: Radioactive contamination of the territory of Belorussia and Russia after the Chernobyl nuclear power plant disaster

Author: Orlov-MYu; Snykov-VP; Khvalevskii-YuA; Teslenko-VP; Korenev-AI

Author Affiliation: Inst. of Exp. Meteorol., Russia

Source: Atomic-Energy. vol.72, no.4; April 1992; p.334-9

Translated from: Atomnaya-Energiya. vol.72, no.4; April 1992; p.371-6

Publication Year: 1992

Record Type: Journal-article

Country of Publication: Russia; Translation: USA

Language: English

Abstract: Work done at the Chernobyl plant made it possible, on the basis of an analysis of the data on the discharge and the meteorological conditions, to determine the process of radionuclide contamination of the territory. Physicomathematical simulation of the regional transport, taking into account the data on the precipitation and the source, was used to calculate the time in which individual parts of the zone are contaminated. On the basis of an analysis of the radionuclide composition of the soil contamination, the

meteorological data, and the dynamics of the gamma -ray dose rate the authors make some additional conclusions about the time of formation and the origin of the so-called Bryansk-Belorussian-Kaluga-Tula trail, i.e., an extensive region of contamination stretching in eastern Belorussia and western Russia.

Number of References: 6

Descriptors: air-pollution; radioactive-pollution; soil-

Identifiers: Chernobyl-; discharge-; meteorological-conditions; radionuclide-contamination; regional-transport; precipitation-; radionuclide-composition; soil-contamination; gamma-ray-dose-rate; Bryansk-Belorussian-Kaluga-Tula-trail; eastern-Belorussia; western-Russia

Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9330G (Europe); A86; A93; A8

Treatment Codes: X (Experimental)

Coden: AENGAB; Translation: AENYEZ

ISSN: 0004-7163; Translation: 1063-4258

Copyright Clearance Center Code: 1063-4258/92/7204-0334$12.50

Sort Key: 00000047163199200072000040000000000000371

Accession Number: 4366915

Update Code: 9300

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 529 of 1145 in INSPEC 1993-1994

Title: /sup 137/Cs concentrations in lichens before and after the Chernobyl accident

Author: Hofmann-W; Attarpour-N; Lettner-H; Turk-R

Author Affiliation: Salzburg Univ., Austria

Source: Health-Physics. vol.64, no.1; Jan. 1993; p.70-3

Publication Year: 1993

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: /sup 137/Cs activities were measured in a variety of epigeic and epiphytic lichens in Austria before and after contamination by the Chernobyl fallout. For comparison, the activity of the naturally occurring /sup 40/K was also determined in each lichen sample. The high /sup 137/Cs activities found after Chernobyl suggest that lichens are suitable and inexpensive biological detectors of the fallout pattern.

Number of References: 22

Descriptors: accidents-; air-pollution; air-pollution-detection-and-control; atmospheric-radioactivity; caesium-; disasters-; radioactive-pollution; radioisotopes-

Identifiers: epigeic-lichens; USSR-; atmosphere-; air-pollution; measurement-; technique-; radioactive-pollution; nuclear-power-station-accident; AD-1986; Chernobyl-accident; 137Cs-activities; epiphytic-lichens; Austria-; Chernobyl-fallout; biological-detectors; fallout-pattern; 137Cs-concentrations; naturally-occurring-40K

Classification Codes: A8670L (Measurement-techniques-and-instrumentation); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el; K-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/93/$3.00+.00
Sort Key: 0000017907819930006400001000000000000070
Accession Number: 4357718
Update Code: 9300
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 530 of 1145 in INSPEC 1993-1994

Title: Industrial-scale decontamination using the DECOHA process at Chernobyl
Author: Rollor-MA; Fiala-Goldiger-J; Hanulik-J
Author Affiliation: Alaron Corp., Bethesda, MD, USA
Editor: Post-RG
Source: Waste Management '92: Working Towards a Cleaner Environment. Waste Processing, Transportation, Storage and Disposal, Technical Programs and Public Education. Proceedings of the Symposium on Waste Management. Univ. Arizona, Tucson, AZ, USA; 1992; 2 vol. xv+1891 pp.
p.569-73 vol.1
Publication Year: 1992
Record Type: Conference-Paper
Conference Details: 1-5 March 1992; Tucson, AZ, USA. Sponsored by: ANS; ASME; Radwaste Syst. Committee; DOE; Univ. Arizona
Country of Publication: USA
Language: English
Abstract: A decontamination facility with a throughput of 5000 kg of stainless steel per day using the patented DECOHA technology is to be installed within the 30 km zone of Chernobyl. The chemical, physical, and operational characteristics of the facility are described.
Number of References: 5
Descriptors: radiation-decontamination; radiation-protection
Identifiers: industrial-scale-decontamination; DECOHA-process; Chernobyl-; decontamination-facility; stainless-steel; operational-characteristics
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical)
Sort Key: 1000000000019920000000000000000000000569
Accession Number: 4325257
Update Code: 9300

Record 531 of 1145 in INSPEC 1993-1994

Title: Hot particles from Chernobyl: a review
Author: Sandalls-FJ; Segal-MG; Victorova-N
Author Affiliation: Harwell Lab., AEA Technol., Didcot, UK
Source: Journal-of-Environmental-Radioactivity. vol.18, no.1; 1993; p.5-22
Publication Year: 1993
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Reported studies relating to the characterisation of small radioactive solid particles found on the ground in the former USSR and in many parts of Europe shortly after the Chernobyl accident have been reviewed. The current behaviour and ultimate fate of these particles with respect to migration in soils and availability for plant uptake are of much concern in the former USSR. The release of hot particles in a severe nuclear accident is shown to be an important factor to be taken into account in nuclear accident contingency planning. Their long-term behaviour in soils, especially with regard to migration and soil-to-plant transfer, may be dominant factors in the feasibility of land reclamation.
Number of References: 37
Descriptors: accidents-; radioactive-pollution; reviews-; soil-
Identifiers: Russian-; CIS-; radioactive-solid-particles; Europe-; Chernobyl-; migration-; soils-; hot-particles; soil-to-plant-transfer
Classification Codes: A8670C (Soil-and-rock); A0130R (Reviews-and-tutorial-papers-resource-letters); A86; A01; A8; A0
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/93/$05.00
Sort Key: 0000265931X199300018000010000000000000005
Accession Number: 4320935
Update Code: 9300

Record 532 of 1145 in INSPEC 1993-1994

Title: The International Chernobyl Project: multinational teams of experts assess the Chernobyl accident's radiological consequences in three Soviet Republics
Source: Indian-Journal-of-Power-and-River-Valley-Development. vol.42, no.1; Jan. 1992; p.18-27
Publication Year: 1992
Record Type: Journal-article
Country of Publication: India
Language: English

Abstract: Beginning in the spring of 1990 and lasting into 1991, multinational teams of specialists in radiation protection, medicine, agriculture and other fields critically studied the radiological and health situation in selected areas of Byelorussia, Russia and the Ukraine. The teams were part of the International Chernobyl Project, which was initiated in late 1989 at the request of the Soviet Government. In May 1991, the result of this scientific effort were reported by the project's 21-member International Advisory Committee at an international conference at the IAEA in Vienna. This article selectively highlights the committee's official report entitled The International Chernobyl Project: An Overview, which has been published by the IAEA.
Number of References: 0
Descriptors: accidents-; health-hazards; nuclear-power-stations; project-engineering; safety-
Identifiers: nuclear-power-stations; safety-; health-hazards; International-Chernobyl-Project; radiation-protection; medicine-; agriculture-; Byelorussia-; Russia-; Ukraine-; IAEA-
Classification Codes: B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); B0170C (Project-and-design-engineering); B82; B01; B8; B0
Treatment Codes: G (General-or-Review)
Coden: IJPRA7
ISSN: 0019-5537
Sort Key: 0000019553719920004200001000000000000018
Accession Number: 4320773
Update Code: 9300

Record 533 of 1145 in INSPEC 1993-1994

Title: Radioactive /sup 125/Sb and /sup 60/Co in 'ruthenium' hot particles from Chernobyl fallout
Author: Broda-R; Mietelski-JW; Sieniawski-J
Author Affiliation: Henryk Niewodniczanski Inst. of Nucl. Phys., Krakow, Poland
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.166, no.3; 12 Oct. 1992; p.173-80
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The previously analyzed 'ruthenium' particles from the Chernobyl fallout in Poland have been reexamined in a search for long-lived radioactive components. The established presence of /sup 125/Sb and /sup 60/Co reopens the question of particle formation mechanism. It is concluded that 'ruthenium' particles have been formed at the time of accident and most likely outside the fuel rods. A summary of results supporting this conclusion is given.
Number of References: 11
Descriptors: air-pollution; antimony-; cobalt-; radioactive-pollution; ruthenium-
Identifiers: Chernobyl-fallout; Poland-; long-lived-radioactive-components; particle-formation-mechanism; fuel-rods; Ru:-125Sb,-60Co

Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Ru:Sb,Co-ss Co-ss Ru-ss Sb-ss Co-el Ru-el Sb-el Co-dop Sb-dop
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119920016600003000000000000173
Accession Number: 4320559
Update Code: 9300

Record 534 of 1145 in INSPEC 1993-1994

Title: Liquidation and minimization of the Chernobyl accident consequences in Byelorussia
Author: Burjak-VN; Efremenkov-VM
Author Affiliation: Chernobyl State Comm., Minsk, Byelorussia
Editor: Post-RG
Source: Waste Management '92: Working Towards a Cleaner Environment. Waste Processing, Transportation, Storage and Disposal, Technical Programs and Public Education. Proceedings of the Symposium on Waste Management. Univ. Arizona, Tucson, AZ, USA; 1992; 2 vol. xv+1891 pp.
p.117-20 vol.1
Publication Year: 1992
Record Type: Conference-Paper
Conference Details: 1-5 March 1992; Tucson, AZ, USA. Sponsored by: ANS; ASME; Radwaste Syst. Committee; DOE; Univ. Arizona
Country of Publication: USA
Language: English
Abstract: The main part of the European territory of the former USSR contaminated after the Chernobyl accident belongs to Byelorussia. Twenty-three percent of its territory has been contaminated above 87.0 kBq/sq.m. Measurements undertaken have shown that the density of radioactive contamination is very different, the compositions of radionuclides and isotopes also differ in various contaminated regions. The protective measures taken in the republic were not sufficient, adequate and done in time due to several reasons. The paper describes some effects of the Chernobyl accident on economic, health and social situation in the republic. The experience in protective actions got in the five years after the accident in agricultural, industrial and social activities allow to formulate some results and conclusions on the post-accident situation in the republic.
Number of References: 4
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution; radioactive-waste
Identifiers: radioactive-waste; Chernobyl-accident-consequences; Byelorussia-; radioactive-contamination; radionuclides-; isotopes-; post-accident-situation
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2

Treatment Codes: G (General-or-Review)
Sort Key: 10000000000199200000000000000000000000117
Accession Number: 4319035
Update Code: 9300

Record 535 of 1145 in INSPEC 1990-1992

Title: /sup 137/Cs uptake with cafeteria food after the Chernobyl accident
Author: Voigt-G; Paretzke-HG
Author Affiliation: GSF-Inst. fur Strahlenschutz, Neuherberg, Germany
Source: Health-Physics. vol.63, no.5; Nov. 1992; p.574-5
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: After the Chernobyl accident, the activity concentrations of radiocesium were measured in both the meals served at the cafeteria of a research center and in the employees eating there. The time-dependent means of monthly /sup 137/Cs activities in meals and people show a similar distribution pattern with highest values between March and July 1987, i.e., only 1 y after the accident. In meals, the highest activities were found when the menu consisted of pork, milk, or milk products. The 50-y cumulative effective dose calculated from the whole-body measurements is 0.21 mSv for male and 0.15 mSv for female employees. Cafeteria food contributed only a small share to this exposure.
Number of References: 6
Descriptors: accidents-; caesium-; disasters-; health-hazards; radioisotopes-
Identifiers: Germany-; 1987-; cafeteria-food; Chernobyl-accident; activity-concentrations; meals-; research-center; employees-; people-; distribution-pattern; pork-; milk-products; cumulative-effective-dose; whole-body-measurements; 137Cs-uptake
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/92/$3.00+0
Sort Key: 00000179078199200063000050000000000000574
Accession Number: 4314279
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 536 of 1145 in INSPEC 1990-1992

Title: Consequences of the Chernobyl Accident (OEFZS-4560)

Source: Osterreichisches Forschungszentrum Seibersdorf, Seibersdorf, Austria; 1990; iii+75 pp.
Publication Year: 1990
Record Type: Conference-Proceedings
Conference Details: 28 Oct.-2 Nov. 1990; Byelorussia, Russia, Ukraine
Country of Publication: Austria
Language: English
Abstract: The following topics were dealt with: research in Austria; sort contamination and uptake by crops and animal fodder; reduction of caesium levels in diet through food management.
Descriptors: accidents-; radioactive-pollution; soil-
Identifiers: Chernobyl-accident-consequences; Austrian-research; radioactive-pollution; sort-contamination; uptake-by-crops; animal-fodder; food-management; 137Cs-levels-in-diet
Classification Codes: A0130C (Conference-proceedings); A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A01; A87; A86; A28; A0; A8
Chemical Indexing: Cs-el
Sort Key: 1000000000019900000000000000000000000000
Accession Number: 4310857
Update Code: 9200

Record 537 of 1145 in INSPEC 1990-1992

Title: Dynamics of contamination of water bodies with cesium-137 and strontium-90 on the territory affected by emissions from the emergency block of the Chernobyl nuclear power plant
Author: Vakulovskii-SM; Nikitin-AI; Chumichev-VB; Katrich-IYu; Voitsekhovitch-OV; Medinets-VI; Pisarev-VV; Bovkun-LA; Khersonskii-ES
Author Affiliation: State Oceanogr. Inst., Russia
Source: Soviet-Meteorology-and-Hydrology. no.7; 1991; p.52-60
Translated from: Meteorologiya-i-Gidrologiya. no.7; 1991; p.64-73
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Observations of /sup 137/Cs and /sup 90/Sr contamination of rivers in the Ukraine, Belorussian and Russian Federations, and contamination of the Dnieper Cascade, the Dnieper estuary, and the Black and Baltic seas after the Chernobyl accident are presented and discussed. The observations were carried out in 1986-9. The dynamics of contamination levels and radionuclides removal into Kiev Reservoir are studied. It is shown that the primary sources of cesium-137 and strontium-90 entering the Kiev Reservoir, are the Pripyat and Dnieper. The impact of the area closest to the Chernobyl Plant on the pollution of the Pripyat with strontium-90 is studied and qualitatively

estimated. The dynamics of the Dnieper Cascade pollution is considered. It is shown that most cesium-137 is absorbed by the reservoir bottom whereas strontium-90 passes right through the Cascade. Sea-water pollution dynamics is studied and the amount of cesium-137 and strontium-90 accessing the Black and Baltic seas after the Chernobyl accident is estimated.

Number of References: 4

Descriptors: accidents-; air-pollution; caesium-; disasters-; lakes-; oceanographic-regions; radioactive-pollution; rivers-; strontium-; water-pollution

Identifiers: Black-Sea; Baltic-Sea; radioisotope-; pollution-; Byelorussia-; Russia-; AD-1986-to-1989; disaster-; Chernobyl-nuclear-power-plant; Ukraine-; Dnieper-Cascade; Dnieper-estuary; contamination-; radionuclides-; Kiev-Reservoir; Pripyat-; accident-; 137Cs-; 90Sr-

Classification Codes: A8670E (Water); A8670G (Atmosphere); A9330G (Europe); A9330R (Regional-seas); A9240F (Rivers-runoff-and-streamflow); A9240Q (Water-quality-and-water-resources); A9240N (Limnology); A86; A93; A92; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Sr-el

Coden: MEGIAC; Translation: SMHYDK

ISSN: 0130-2906; Translation: 0146-4108

Copyright Clearance Center Code: 0146-4108/91/$20.00

Sort Key: 00001302906199100000000070000000000000064

Accession Number: 4302820

Update Code: 9200

Record 538 of 1145 in INSPEC 1990-1992

Title: Analysis of radionuclide ratios in aerosol sampled during the Chernobyl accident

Author: Sonoc-S

Author Affiliation: Environ. Radioactivity Res. Lab., Inst. of Meteorol. & Hydrology, Bucharest, Romania

Source: Revue-Roumaine-de-Physique. vol.37, no.1; 1992; p.83-91

Publication Year: 1992

Record Type: Journal-article

Country of Publication: Romania

Language: English

Abstract: During the time interval extending from April 29, 1986 to May 12, 1986 the National Environmental Radioactivity Surveillance Network has monitored atmospheric aerosol radioactivity by performing six 3 hour samplings a day. The resulting filters were measured beta globally at the stations, then analysed for gamma emitters at the Environmental Radioactivity Research Laboratory. The author's aim is to analyse the possibilities of identifying the pollutant sources starting from the air concentrations and taking into consideration the influence of the transport upon the contents of contaminated air masses, by the evaluation of the author's data and data in reports published in other European countries.

Number of References: 19
Descriptors: aerosols-; air-pollution; atmospheric-composition; atmospheric-radioactivity; radioactive-pollution; radioisotopes-
Identifiers: AD-1986-04-29-to-05-12; Romania-; SE-Europe; air-masses-transport; radionuclide-ratios; Chernobyl-accident; atmospheric-aerosol-radioactivity; filters-; gamma-emitters; pollutant-sources; air-concentrations; contaminated-air-masses
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9260H (Chemical-composition-and-chemical-interactions); A9330G (Europe); A9260M (Particles-and-aerosols); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: RRPQAN
ISSN: 0035-4090
Sort Key: 0000035409019920003700001000000000000083
Accession Number: 4302449
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08815.001
Bestand: 9.1964-37.1992,6 L:18

Record 539 of 1145 in INSPEC 1990-1992

Title: Radioecological and radiological papers on the Chernobyl accident (1986-91): publications in the former USSR
Author: Polikarpov-GG
Author Affiliation: Inst. of Biol. of the Southern Seas, Sevastopol, Ukraine
Source: Journal-of-Environmental-Radioactivity. vol.17, no.2-3; 1992; p.223-46
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The concept of preparing a bibliography of the papers published in USSR on the radioecological and radiological aspects of the Chernobyl accident appeared to the author to be potentially useful to western scientists who wish to become acquainted with the scope of such publications in the Russian, Ukrainian and Byelorussian languages. The source journals and their availability generally differ quite significantly from those of western or World literature. Although he is aware that this bibliography does not include every one of the rapidly increasing number of publications on this subject, it may provide some additional information for western specialists, and indeed those from the east also. If this bibliography proves useful, he might with some reasonable support be able to prepare updated versions in the future. If necessary, he will also be able to assist readers to access any papers of interest. Indeed, his laboratory has facilities to produce English translations of any manuscripts of interest.
Number of References: 284
Descriptors: accidents-; radioactive-pollution
Identifiers: radioecological-; radiological-; Chernobyl-accident

Classification Codes: A0130T (Bibliographies); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A01; A28; A86; A0; A2; A8
Treatment Codes: B (Bibliography)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X19920001700002000000000000223
Accession Number: 4299643
Update Code: 9200

Record 540 of 1145 in INSPEC 1990-1992

Title: Uncertainties associated with corroboration of official USSR environmental data in areas contaminated by Chernobyl fallout
Author: Steinhausler-F
Author Affiliation: Inst. of Phys. & Biophys., Salzburg Univ., Austria
Source: Journal-of-Environmental-Radioactivity. vol.17, no.2-3; 1992; p.211-22
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Within the framework of the 'International Chernobyl Project', independent scientists investigated the analytical capability and field methods of the major Soviet laboratories engaged in the assessment of environmental radioactivity and food control. International teams undertook independent environmental studies of the current radiological situation regarding soil, water, air, food and biota in selected areas in the Ukraine, Byelorussia and Russia. The findings were compared with the official USSR data on environmental radioactivity in the fallout-affected areas and in noncontaminated areas. The results show that the uncertainty associated with official data on /sup 137/Cs is relatively low. Official /sup 239+240/Pu- and /sup 90/Sr-data may be potentially overestimating the actual situation. The official presentation of the fallout situation in the form of maps describes the situation adequately for the radionuclide levels on the ground on a scale 1:1000000.
Number of References: 5
Descriptors: accidents-; dosimetry-; radiation-monitoring; radioactive-pollution
Identifiers: 239Pu-; 240Pu-; 90Sr-; International-Chernobyl-Project; environmental-radioactivity; food-control; soil-; water-; air-; biota-; Ukraine-; Byelorussia-; Russia-; fallout-affected-areas; 137Cs-; radionuclide-levels
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670E (Water); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A2880C (Dosimetry); A28; A86; A2; A8
Treatment Codes: G (General-or-Review)
Coden: JERAEE
ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X19920001700002000000000000211
Accession Number: 4299642
Update Code: 9200

Record 541 of 1145 in INSPEC 1990-1992

Title: Radiochemical methods used by the IAEA's laboratories at Seibersdorf for the determination of /sup 90/Sr, /sup 144/Ce and Pu radionuclides in environmental samples collected for the International Chernobyl Project
Author: LaRosa-JJ; Cooper-EL; Ghods-Esphahani-A; Jansta-V; Makarewicz-M; Shawky-S; Vajda-N
Author Affiliation: IAEA, Seibersdorf, Austria
Source: Journal-of-Environmental-Radioactivity. vol.17, no.2-3; 1992; p.183-209
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: During the IAEA's International Chernobyl Project to assess the radiological consequences of the nuclear reactor accident, the Agency's Laboratories at Seibersdorf participated in the collection and analyses of environmental samples from the Soviet Union. Under Task 2 of this effort, the determination of the activity concentrations of /sup 90/Sr and the alpha-emitting Pu radionuclides was important for the corroboration of the official USSR environmental contamination maps. The present paper describes in detail the sampling methods and radiochemical procedures used for the /sup 90/Sr, /sup 144/Ce, /sup 238/Pu and /sup 239,240/Pu analyses in these samples with emphasis on the grass and soil treatments.
Number of References: 17
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: 239Pu-; 240Pu-; 90Sr-; 144Ce-; Pu-radionuclides; environmental-samples; International-Chernobyl-Project; radiological-consequences; nuclear-reactor-accident; alpha-emitting-Pu-radionuclides; USSR-environmental-contamination-maps; radiochemical-procedures; 238Pu-; grass-; soil-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A28; A86; A2
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X19920001700002000000000000183
Accession Number: 4299641
Update Code: 9200

Record 542 of 1145 in INSPEC 1990-1992

Title: Radionuclide concentrations in environmental samples collected around Chernobyl during the International Chernobyl Project-analyses conducted by Battelle, Pacific Northwest Laboratory
Author: Robertson-DE; Perkins-RW; Lepel-EL; Thomas-CW
Author Affiliation: Battelle, Pacific Northwest Lab., Richland, WA, USA
Source: Journal-of-Environmental-Radioactivity. vol.17, no.2-3; 1992; p.159-82
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Long-lived radionuclides have been measured by Pacific Northwest Laboratory (PNL) in environmental samples collected in the vicinity of Chernobyl. The concentrations and distributions of radionuclides in the environs of Chernobyl measured in this study, were generally in the same range as reported earlier in the official Soviet data releases. The highest radionuclide concentrations observed during this study were in moss samples scraped from the surfaces of roofs, trees, and tombstones, and these moss species appear to be efficient collectors of the Chernobyl fallout in this region. Analyses of undisturbed soil cores indicated that the Chernobyl fallout was still concentrated in the upper several centimeters of soil as of August, 1990. Cesium-137 is the least mobile of all of the radionuclides measured. Radionuclide concentrations in other environmental media are presented and evaluated. The first reported concentrations of /sup 129/I in a soil core and moss samples from this region are presented.
Number of References: 3
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: 137Cs-; long-lived-radionuclides; environmental-samples; Chernobyl-; radionuclide-concentrations; roofs-; trees-; tombstones-; fallout-; undisturbed-soil-cores; 129I-; moss-samples
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A28; A86; A2
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X1992000170000200000000000159
Accession Number: 4299640
Update Code: 9200

Record 543 of 1145 in INSPEC 1990-1992

Title: Intercalibration study of laboratories involved in assessing the environmental consequences of the Chernobyl accident
Author: Cooper-EL; Valkovic-V; Strachnov-V; Dekner-R; Danesi-PR
Author Affiliation: Chalk River Labs., AECL Res., Ont., Canada
Source: Journal-of-Environmental-Radioactivity. vol.17, no.2-3; 1992; p.129-45
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Within the framework of the International Chernobyl Project, the IAEA's Seibersdorf Laboratories organized a number of intercalibration exercises among some of the laboratories which were involved in assessing the environmental contamination in the USSR due to the accident. The objective was to assess the reliability of the radioanalytical data for food and environmental samples. Five different materials, including two milk powders, soil, air filters and clover, all having measured concentrations of radionuclides, were distributed to designated laboratories in the USSR. The results were analysed to see if the individual and overall means deviated significantly from the reference values. Most of the laboratories did reasonably well in analysis of gamma-emitters, although there were some outlying results. Some of the overall means were found to be significantly different from the reference values, but the biases were small (<12%). The spread in the results obtained by radiochemical analysis tended to be large, indicating some significant problems. In an independent exercise, samples of clover were distributed to the international network of laboratories which participated in the International Chernobyl Project. The analysis of their results showed that performance was satisfactory for both gamma-spectrometry and radiochemical analysis.
Number of References: 7
Descriptors: accidents-; radiation-monitoring; radioactive-pollution
Identifiers: environmental-consequences; Chernobyl-accident; intercalibration-; environmental-contamination; USSR-; radioanalytical-data; food-; milk-powders; soil-; air-filters; clover-; radionuclides-; gamma-emitters; radiochemical-analysis; gamma-spectrometry
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A28; A86; A2
Treatment Codes: G (General-or-Review)
Coden: JERAEE
ISSN: 0265-931X
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Sort Key: 0000265931X1992000170000200000000000129
Accession Number: 4299638
Update Code: 9200

Title: Radiocesium and lead in the lichen species Parmelia sulcata sampled in three regions around Chernobyl: assessment of concentrations in 1990

Author: van-den-Berg-GJ; Tyssen-TPM; Ammerlaan-MJJ; Volkers-KJ; Woroniecka-UD; de-Bruin-M; Wolterbeek-HT

Author Affiliation: Delft Univ. of Technol., Netherlands

Source: Journal-of-Environmental-Radioactivity. vol.17, no.2-3; 1992; p.115-27

Publication Year: 1992

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: In summer 1990, four years after the Chernobyl accident, an IAEA coordinated survey was carried out in order to assess the radiological consequences and to study the possible effects of releases of (heavy) metals into the environment. Within the framework of this survey, lichens (Parmelia sulcata) were sampled in the Novozybkov, Bragin and Ovruc regions around Chernobyl and /sup 137/Cs and Pb levels were determined by gamma -ray spectroscopy and Graphite Furnace-Atomic Absorption Spectrometry (GF-AAS), respectively. The geographical distributions of /sup 137/Cs and Pb are markedly different. The Pb levels in lichens are relatively low and do not suggest cause for concern. The lichen /sup 137/Cs levels are one to two orders of magnitude higher than levels determined in 1986 in Poland, Greece or The Netherlands. Corrections for physical decay and biological half-life (assumed 2 years) resulted in initial 1986 'hot spot' /sup 137/Cs levels in Parmelia sulcata measured up to 1630 kBq kg/sup -1/. Lichen /sup 137/Cs levels reflect /sup 137/Cs soil deposition data, except for soil deposition classes >15 kBq m/sup -2/, where use of lichen data may lead to underestimates of actual deposition.

Number of References: 26

Descriptors: accidents-; caesium-; lead-; radiation-monitoring; radioactive-pollution

Identifiers: hot-spot-137Cs-levels; lichen-species-Parmelia-sulcata; Chernobyl-; radiological-consequences; 137Cs-; Pb-; gamma-ray-spectroscopy; Graphite-Furnace-Atomic-Absorption-Spectrometry; Poland-; Greece-; Netherlands-; physical-decay; biological-half-life; 137Cs-soil-deposition-data

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A28; A86; A2

Treatment Codes: X (Experimental)

Coden: JERAEE

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Sort Key: 0000265931X199200017000020000000000000115

Accession Number: 4299637

Update Code: 9200

Title: Chernobyl fallout: internal doses to the Norwegian population and the effect of dietary advice
Author: Strand-P; Selnaes-TD; Boe-E; Harbitz-O; Andersson-Sorlie-A
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Health-Physics. vol.63, no.4; Oct. 1992; p.385-92
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Dietary studies and whole-body measurements were used to estimate the intake of radiocesium and the radiation dose received by different groups of people in Norway after the Chernobyl accident. Freshwater fish, milk, and reindeer meat were the major sources for radiocesium intake. Dietary advice, together with agricultural decontamination measures, resulted in a considerable reduction in the exposure level of the population. A majority (40-80%) of the specially selected groups (farmers-hunters and Sami reindeer herdsmen) changed its diet significantly after the accident. Without dietary changes, specifically a reduction in the consumption of freshwater fish and reindeer meat, the Sami group would have had a 400-700% higher radiocesium intake, and the farmers-hunters' intake would have been up to 50% higher than what they actually had experienced.
Number of References: 9
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; caesium-; disasters-; dosimetry-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-fallout; internal-doses; Norwegian-population; dietary-advice; whole-body-measurements; radiation-dose; Chernobyl-accident; milk-; reindeer-meat; agricultural-decontamination-measures; farmers-hunters; Sami-reindeer-herdsmen; consumption-; freshwater-fish; 137Cs-; 134Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/92/$3.00+.00
Sort Key: 0000017907819920006300004000000000000385
Accession Number: 4290317
Update Code: 9200

Record 546 of 1145 in INSPEC 1990-1992

Title: The radiological consequences in the USSR of the Chernobyl accident

Author: Rosen-M
Author Affiliation: Div. of Nucl. Safety, IAEA, Vienna, Austria
Source: Proceedings of the International Topical Meeting on Safety of Thermal Reactors. ANS, La Grange Park, IL, USA; 1991; xii+817 pp.
p.399-404
Publication Year: 1991
Record Type: Conference-Paper
Conference Details: 21-25 July 1991; Portland, OR, USA. Sponsored by: ANS
Country of Publication: USA
Language: English
Abstract: Early in 1990, the IAEA responding to a request made by the USSR Government in October 1989, initiated an international project aimed at evaluating the radiological consequences in the USSR of the Chernobyl accident for human health and the environment and determining the requirements for safe living in the contaminated areas of the USSR. The author reviews that project's findings.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: fission-reactor-safety; Chernobyl-accident; radiological-consequences; USSR-; human-health; environment-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A28; A86; A2; A8
Treatment Codes: T (Theoretical-or-Mathematical)
ISBN: 0894481592
Sort Key: 10894481592199100000000000000000000000399
Accession Number: 4286117
Update Code: 9200

Record 547 of 1145 in INSPEC 1990-1992

Title: Leaching as a method determining the composition of migration forms of /sup 137/Cs and /sup 90/Sr in bottom sediments (Chernobyl sites)
Author: Sobotovich-EV; Ol'khovik-YuA; Golovko-NV; Koromyslichenko-TI
Author Affiliation: Inst. of Geochem. & Phys. of Miner., Acad. of Sci., Ukraine
Source: Soviet-Atomic-Energy. vol.72, no.1; Jan. 1992; p.64-6
Translated from: Atomnaya-Energiya. vol.72, no.1; Jan. 1992; p.69-72
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: In this work, the aim is to study the laws of the kinetics of /sup 137/Cs and /sup 90/Sr leaching from bottom sediments. As the object of the study the authors chose bottom sediments of the Pripyat' River floodplain, silt of the northern part of the artificial cooling pond of the Chernobyl Atomic Power Plant, as well as silted sand taken from the southern part of the same pond. The radioactive silt adjacent to the

industrial site is contaminated mainly by disperse reactor fuel, as evidenced unequivocally by data from mass spectral analysis. The isotopic composition of the uranium extracted from the samples was different from that of natural uranium. The samples were treated for 28 h with water having a natural hydrochemical composition. The content of the leached organic substances and radionuclides was checked every 3 h. The radionuclide composition of the samples was determined with a germanium-lithium semiconductor detector after filtering of the solution on a membrane filter with pores of diameter 0.2 mu m and evaporation with subsequent radiochemical determination of the /sup 90/Sr. The IR spectra of the dried aqueous infusions were obtained. A 0.1 N solution of ammonium acetate solution and a 0.1 N sodium hydroxide solution were used to extract the ion-exchange forms of the radionuclides and the organic component. Leaching of /sup 90/Sr under kinetic conditions most adequately reflects the processes at the matrix-sediment phase boundary since /sup 90/Sr ions are least absorbed by the components of the silt. The results were interpreted by using the concept of two processes occurring simultaneously, entry of /sup 90/Sr into solution from positions accessible to water by the mechanism of ion-exchange desorption, and emergence from the matrix by the mechanism of diffusion and simultaneous dissolution of the 'hot' particle.

Number of References: 1

Descriptors: caesium-; dissolving-; radioactive-chemical-analysis; radioactive-pollution; radioisotopes-; sediments-; strontium-

Identifiers: leaching-; composition-; migration-forms; bottom-sediments; Pripyat'-River-floodplain; cooling-pond; Chernobyl-; silted-sand; radioactive-silt; IR-spectra; 137Cs-; 90Sr-

Classification Codes: A8670L (Measurement-techniques-and-instrumentation); A8280 (Chemical-analysis-and-related-physical-methods-of-analysis); A86; A82; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Sr-el

Coden: AENGAB; Translation: SATEAZ

ISSN: 0004-7163; Translation: 0038-531X

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Sort Key: 00000047163199200072000010000000000000069

Accession Number: 4274228

Update Code: 9200

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 548 of 1145 in INSPEC 1990-1992

Title: /sup 137/Cs-activity concentration in milk two years after Chernobyl accident compared to deposition rates

Author: Muck-K; Gerzabek-MH; Steger-F

Source: Osterreichisches Forschungszentrum Seibersdorf GmbH, Vienna, Austria, Nov. 1990; 10 pp.

Publication Year: 1990
Record Type: Report
Country of Publication: Austria
Language: English
Abstract: Milk was chosen as a sensitive indicator of activity concentrations in food and fodder as milk averages over a great number of animals and fodder area. /sup 137/Cs-activity concentrations measured in large collective samples are compared to ground deposition of /sup 137/Cs in that area. Ratios between milk activity concentration and deposition levels vary by more than a factor 10 with the highest ratios observed in extensively cultivated areas. These may be grouped into three categories with high, medium and very low fixation of Cs caused by soil type, but predominantly by organic content and depth of the soil profile. The reduction factor in /sup 137/Cs-availability as indicated by the activity concentration in milk from first to third year amounted to 0.003-0.04 in most areas while in Alpine pastures only a minor reduction of less than 60% was observed.
Number of References: 12
Descriptors: accidents-; caesium-; radioactive-pollution; soil-
Identifiers: Austria-; Chernobyl-accidents; food-; fodder-; large-collective-samples; ground-deposition; milk-activity-concentration; soil-type; organic-content; Alpine-pastures; 137Cs-activity-concentration
Classification Codes: A8760R (Radioactive-pollution); A0130Q (Reports-dissertations-theses); A8670C (Soil-and-rock); A87; A01; A86; A8; A0
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Report Numbers: OEFZS-4562
Sort Key: 30OEFZS4562199000000000000000000000000000
Accession Number: 4269242
Update Code: 9200

Record 549 of 1145 in INSPEC 1990-1992

Title: Gamma radiation dose to the Iraqi population due to the Chernobyl accident
Author: Marouf-BA; Mohamad-AS; Taha-JS; Hanna-HI; Hasson-WA; Hasson-MA
Author Affiliation: Iraqi Atomic Energy Comm., Nucl. Res. Center, Baghdad, Iraq
Source: Radiation-Protection-Dosimetry. vol.42, no.1; 1992; p.55-6
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The average dose equivalent rate for Iraqi individuals prior to the Chernobyl accident was 0.05 mu Sv.h/sup -1/. However, this value increased to 0.29, 0.38, 0.23, 0.22, 0.20 and 0.10 mu Sv.h/sup -1/ for Dhook, Naynava, Arbil, Al-Sulaimaniya, Al-Tamim and Salah Al-Deen governorates, respectively, due to the Chernobyl accident. The average effective dose equivalents resulting from the exposure to Chernobyl fallout

debris deposited on the ground in the above mentioned governorates during 1986 were 172, 145, 158, 120, 53 and 9 mu Sv, respectively.
Number of References: 6
Descriptors: accidents-; disasters-; dosimetry-; health-hazards
Identifiers: gamma-radiation-doses; Iraqi-population; Chernobyl-accident; average-dose-equivalent-rate; Iraqi-individuals; Dhook-; Naynava-; Arbil-; Al-Sulaimaniya; Al-Tamim; Salah-Al-Deen-governorates; Chernobyl-fallout-debris; ground-; 9-to-172-muSv
Classification Codes: A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 9.0E-06 to 1.72E-04 Sv
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201992000420000100000000000055
Accession Number: 4265792
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 550 of 1145 in INSPEC 1990-1992

Title: Whole-body /sup 137/Cs and /sup 134/Cs levels in the Greek population following the 1986 Chernobyl accident
Author: Kalef-Ezra-J; Hatzikonstantinou-I; Leontiou-I; Glaros-D
Author Affiliation: Med. Phys. Lab., Med. Sch., Ioannina Univ., Greece
Source: Radiation-Protection-Dosimetry. vol.42, no.1; 1992; p.51-4
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: One of the consequences of the reactor accident at Chernobyl was the contamination of foodstuffs with /sup 134/Cs and /sup 137/Cs. Whole-body measurements were carried out over a four year period to determine the committed effective dose to the Greek population from internal contamination with /sup 134/Cs and /sup 137/Cs. The mean 50 year committed effective dose in residents of Ioannina was found to be 495 mu Sv for men, 330 mu Sv for women and 300 mu Sv for children. Measurements on subjects living in other parts of Greece showed that the average level of internal contamination over the country was about 10% higher than Ioannina, resulting in a 4.5 kSv collective effective dose fob Greek population.
Number of References: 11
Descriptors: accidents-; caesium-; disasters-; dosimetry-; radioisotopes-
Identifiers: whole-body-measurements; Greek-population; Chernobyl-accident; reactor-accident; foodstuffs-; committed-effective-dose; internal-contamination; residents-; Ioannina-; collective-effective-dose; 137Cs-; 134Cs-levels

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201992000420000100000000000051
Accession Number: 4265791
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 551 of 1145 in INSPEC 1990-1992

Title: /sup 134/Cs and /sup 137/Cs body contamination of human adults in the Bucharest area in the aftermath of the Chernobyl nuclear accident
Author: Dumitru-C; Lungu-C; Iosif-S
Author Affiliation: Inst. of Atomic Phys., Inst. for Phys. & Nucl. Eng., Bucharest, Romania
Source: Radiation-Protection-Dosimetry. vol.42, no.1; 1992; p.45-9
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Post Chernobyl /sup 134/Cs and /sup 137/Cs body contamination was measured in 2883 adults (1656 males and 1227 females) in the Bucharest area from July 1986 to December 1989 using a whole-body counter with single detector tilting chair technique. The equipment, calibration procedure and experimental results are described. One Romanian subject internally contaminated with /sup 134/Cs and /sup 137/Cs was measured between 9 and 24 October 1987 at three laboratories: Leeds University, UK, Singleton Hospital, Swansea, Wales, UK, and the Institute for Physics and Nuclear Engineering, Bucharest, Romania.
Number of References: 12
Descriptors: accidents-; caesium-; disasters-; health-hazards; radioisotopes-
Identifiers: human-adults; Bucharest-area; Chernobyl-nuclear-accident; whole-body-counter; single-detector-tilting-chair-technique; calibration-procedure; Romanian-subject; 134Cs-; 137Cs-body-contamination
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
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Accession Number: 4265790
Update Code: 9200

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 552 of 1145 in INSPEC 1990-1992

Title: Radiation dosimetry for residents of the Chernobyl region: a comparison of cytogenetic and electron spin resonance methods
Author: Serezhenkov-VA; Domracheva-EV; Klevezal-GA; Kulikov-SM; Kuznetsov-SA; Mordvintcev-PI; Sukhovskaya-LI; Schklovsky-Kord-NE; Vanin-AF; Voevodskaya-NV; Vorobiev-AI
Author Affiliation: Inst. of Chem. Phys., Acad. of Sci., Moscow, Russia
Source: Radiation-Protection-Dosimetry. vol.42, no.1; 1992; p.33-6
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Persons from the Gomel region of Byelorussia who were irradiated by the Chernobyl reactor accident have been studied. Estimations of their radiation doses using electron spin resonance spectrometry of dental enamel showed good agreement with dosimetry by chromosomal analysis of blood lymphocytes.
Number of References: 15
Descriptors: accidents-; disasters-; dosimetry-; paramagnetic-resonance
Identifiers: radiation-dosimetry; cytogenic-methods; residents-; Gomel-region; Byelorussia-; Chernobyl-reactor-accident; radiation-doses; electron-spin-resonance-spectrometry; dental-enamel; chromosomal-analysis; blood-lymphocytes
Classification Codes: A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019920004200001000000000000033
Accession Number: 4265787
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 553 of 1145 in INSPEC 1990-1992

Title: Mathematical model of /sup 137/Cs migration in soil: analysis of observations following the Chernobyl accident
Author: Konshin-OV
Author Affiliation: Dept. of Nucl. Phys., Byelorussian State Univ., Minsk, Byelorussia
Source: Health-Physics. vol.63, no.3; Sept. 1992; p.301-6
Publication Year: 1992
Record Type: Journal-article

Country of Publication: USA
Language: English
Abstract: The applicability of traditional mathematical models is studied on the basis of 3 y of observation of the vertical migration of /sup 137/Cs fallout after the Chernobyl accident. The most accurate description of the dependence of the radionuclide concentration on the depth of the soil layer is given by a lognormal distribution. The parameters of this distribution are determined and shown to be a solution to the Fokker-Planck equation, a special case of which is the diffusion-convection transport equation.
Number of References: 8
Descriptors: accidents-; caesium-; disasters-; health-hazards; hydrology-; radioactive-pollution; radioisotopes-; soil-
Identifiers: soil-; Chernobyl-accident; mathematical-models; vertical-migration; 137Cs-fallout; radionuclide-concentration; depth-; soil-layer; lognormal-distribution; Fokker-Planck-equation; diffusion-convection-transport-equation; 137Cs-migration
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9240L (Soil-moisture); A9240C (General-theory); A87; A86; A92; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
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Sort Key: 00000179078199200063000030000000000000301
Accession Number: 4263496
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LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 554 of 1145 in INSPEC 1990-1992

Title: Response to 'Comment on "Comment on 'Time-independent neutronic analysis of the Chernobyl accident'"'
Author: Wasastjerna-F
Author Affiliation: Nucl. Eng. Lab., Tech. Res. Centre of Finland, Espoo, Finland
Source: Nuclear-Science-and-Engineering. vol.112, no.1; Sept. 1992; p.100
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: In factual content, Fischer's analysis is not very different from the points Rajamaki and the author tried to make in a couple of sentences in their paper (see ibid., vol.101, p.41 (1989)). However, by expressing the matter in different terms and at somewhat greater length, Fischer helps clarify the physical phenomena involved.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; neutron-flux

Identifiers: Time-independent-neutronic-analysis; Chernobyl-accident; physical-phenomena
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2820 (Neutron-physics); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NSENAO
ISSN: 0029-5639
Sort Key: 00000295639199200112000010000000000000100
Accession Number: 4257886
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.000
Bestand: 1.1956=> L:81

Record 555 of 1145 in INSPEC 1990-1992

Title: Comment on 'Comment on "Time-independent neutronic analysis of the Chernobyl accident"'
Author: Fisher-EA
Author Affiliation: Kernforschungszentrum Karlsruhe/INR, Germany
Source: Nuclear-Science-and-Engineering. vol.112, no.1; Sept. 1992; p.100
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The letter by Wasastjerna (see ibid., vol.110, p.207 (1992)) points out a reference (see ibid., vol.101, p.41 (1989)) that had previously escaped the author's attention. The authors of the reference discuss reactivity effects in the RBMK cell due to fuel fragmentation, cooling of the fragmented fuel, and also due to density changes. A very interesting result concerns the influence of density changes on k/sub infinity /. The authors find that a decrease in the total density of the homogenized fuel-water mixture in the RBMK cell leads initially to an increase in k/sub infinity /. Only when the density is low enough does k/sub infinity / decrease again.
Number of References: 2
Descriptors: accidents-; fission-reactor-fuel; fission-reactor-safety; neutron-flux
Identifiers: Time-independent-neutronic-analysis; Chernobyl-accident; RBMK-cell; fuel-fragmentation; density-changes; total-density; homogenized-fuel-water-mixture
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2820 (Neutron-physics); A2842D (Fuel-elements); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NSENAO
ISSN: 0029-5639
Sort Key: 00000295639199200112000010000000000000100
Accession Number: 4257885
Update Code: 9200

Record 556 of 1145 in INSPEC 1990-1992

Title: Chernobyl. Insight from the inside
Author: Chernousenko-VM
Source: Springer-Verlag, Berlin, Germany; 1991; xxiii+367 pp.
Publication Year: 1991
Record Type: Book
Country of Publication: Germany
Language: English
Abstract: The author gives an absorbing account of the events of April 26, 1986, as well as a review of the rectification measures taken. He disects the causes of the disaster and confronts us with startling details about critical design faults in the RBMK-reactors-of which another 15 are still in operation. Then he draws attention to the far-reaching, long-term effects this global disaster will have on man and environment; they will be with us for the next few centuries. A wealth of new, previously unpublished data is included along with proposals for future actions.
Number of References: 34
Descriptors: accidents-; biological-effects-of-ionising-radiation; disasters-; fission-reactor-safety; fission-reactor-theory-and-design; radioactive-pollution
Identifiers: Chernobyl-; AD-1986-04-26; radioactive-pollution; rectification-measures; design-faults; RBMK-reactors; long-term-effects; global-disaster
Classification Codes: A0130L (Collections-of-physical-data-tables); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A2850G (Light-water-reactors); A8670 (Environmental-science); A8760R (Radioactive-pollution); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A01; A28; A86; A87; A0; A2
Treatment Codes: G (General-or-Review)
ISBN: 3540536981
Sort Key: 2354053698119910000000000000000000000000
Accession Number: 4248595
Update Code: 9200

Record 557 of 1145 in INSPEC 1990-1992

Title: Percolation of contaminated water of the cooling pond of the Chernobyl atomic power plant in the Pripyat' river
Author: Kononovich-AL; Kham'yanov-LP; Uryaev-AP; Smirnov-NV; Kazakov-SB; Komarov-VI
Source: Soviet-Atomic-Energy. vol.71, no.6; Dec. 1991; p.1000-3
Translated from: Atomnaya-Energiya. vol.71, no.6; Dec. 1991; p.538-41
Publication Year: 1991

Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: Some radioactive substances entered the cooling pond of the Chernobyl atomic power plant as a result of a discharge during the accident of April 1986. Since the pond is located on a restricted site, the contamination of its water can endanger the population only if it enters the Pripyat' river and is then carried beyond the limits of the restricted area. The pond does not drain directly into the river but its water enters the Pripyat' by percolation through the bottom and through the banks. The question of the possible effect of the cooling pond on the radiation conditions of the river reduces to a study of the percolation of subterranean water.
Number of References: 0
Descriptors: accidents-; disasters-; flow-through-porous-media; health-hazards; hydrology-; radioactive-pollution; rivers-; water-pollution
Identifiers: contaminated-water; cooling-pond; Chernobyl-; Pripyat'-river; percolation-; subterranean-water
Classification Codes: A8670E (Water); A9240L (Soil-moisture); A86; A92; A8; A9
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7106-1000$12.50
Sort Key: 00000047163199100071000060000000000000538
Accession Number: 4248435
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 558 of 1145 in INSPEC 1990-1992

Title: Measurement of the gamma field created by the 'sarcophagus' with the aid of a collimating spectrometer (Chernobyl)
Author: Volkov-VG; Volkovich-AG; Liksonov-VI; Smirnov-SV; Stepanov-VE; Tyurin-AS; Urutskoev-LI; Chesnokov-AV
Author Affiliation: I.V. Kurchatov Inst. of Atomic Energy, Moscow, Russia
Source: Soviet-Atomic-Energy. vol.71, no.6; Dec. 1991; p.996-9
Translated from: Atomnaya-Energiya. vol.71, no.6; Dec. 1991; p.534-8
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The authors present flux angular distributions and spectral characteristics of the gamma radiation from various positions due to the Chernobyl sarcophagus. The first measurements were made at eleven points inside the plant boundaries. The second main

measurements were made from the south wall of the sarcophagus. An evaluation is presented.
Number of References: 2
Descriptors: accidents-; gamma-rays; radiation-monitoring
Identifiers: gamma-field; sarcophagus-; Chernobyl-; flux-angular-distributions; spectral-characteristics; gamma-radiation
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7106-0996$12.50
Sort Key: 00000047163199100071000060000000000000534
Accession Number: 4248434
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 559 of 1145 in INSPEC 1990-1992

Title: Cleaning up in Belarus: help needed (Chernobyl accident)
Author: Efremenkov-VM; Matvienko-II
Author Affiliation: State Chernobyl Comm., Minsk, Byelorussia
Source: Nuclear-Engineering-International. vol.37, no.457; Aug. 1992; p.15-16
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Belarus took the brunt of the environmental damage from the Chernobyl accident in 1986, and is still trying to cope with the aftermath of the disaster. Without the backing of a united Soviet economy, the republic faces severe difficulties.
Number of References: 0
Descriptors: accidents-; health-hazards; radiation-decontamination; radiation-protection; radioactive-pollution; safety-
Identifiers: decontamination-; cleanup-programme; Belarus-; environmental-damage; Chernobyl-accident
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: G (General-or-Review)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199200037004570000000000000015
Accession Number: 4247592
Update Code: 9200

Record 560 of 1145 in INSPEC 1990-1992

Title: Physical-chemical forms of radionuclides in atmospheric fallout, and their transformations in soil, after the accident at the Chernobyl Atomic Energy Plant
Author: Bobovnikova-TsI; Makhon'ko-KP; Siverina-AA; Rabotnova-FA; Gutareva-VP; Volokitin-AA
Author Affiliation: Inst. of Exp. Meteorol., Russia
Source: Soviet-Atomic-Energy. vol.71, no.5; Nov. 1991; p.932-6
Translated from: Atomnaya-Energiya. vol.71, no.5; Nov. 1991; p.449-54
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Russia; Translation: USA
Language: English
Abstract: The form of the radionuclides from the Chernobyl accident was determined from the fallout, which was collected on a gauze-covered sample box at the meteorological station in Chernobyl, located 18 km from the Atomic Power Plant. The gauze was removed with the box after a daily exposure and was divided into two equal parts: one part was incinerated in a muffle furnace, the second was retained in its original condition. The forms of the radionuclides of the nonincinerated part of the gauze box were examined in the following way. The gauze was successively treated in distilled water, ammonium acetate, and the residues were burned at 450 degrees C and dissolved in 6 N HCl. Any undissolved residue after the acid reduction was separated with a mixture of fluoric and nitric acids. On each half, a /sup 106/Ru, /sup 134/Cs, /sup 137/Cs, /sup 144/Ce gamma -spectroscopic analysis was conducted, as well as analysis by /sup 90/Sr radiochemical methods. The chemical forms of the individual isotopes in the radioactive fallout at Chernobyl during the first 8 days, when the reactor was not yet covered, are given in comparison with tests of the samples from the second half of June. The chemical forms are divided into two groups: the easily-accessible and the difficult-to-access, with respect to their permeation into solution.
Number of References: 6
Descriptors: accidents-; air-pollution-detection-and-control; atmospheric-radioactivity; gamma-ray-spectra-of-liquids-and-solids; radioactive-chemical-analysis; radioactive-pollution; soil-
Identifiers: physical-chemical-forms; radionuclides-; atmospheric-fallout; soil-; Chernobyl-; 137Cs-; 106Ru-; 134Cs-; 144Ce-
Classification Codes: A8670G (Atmosphere); A8280D (Electromagnetic-radiation-spectrometry); A8670L (Measurement-techniques-and-instrumentation); A8670C (Soil-and-rock); A86; A82; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Cs-el; Ce-el
Coden: AENGAB; Translation: SATEAZ

ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7105-0932$12.50
Sort Key: 00000047163199100071000050000000000000449
Accession Number: 4238838
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 561 of 1145 in INSPEC 1990-1992

Title: Modelling of radiocesium foodchain transport after the Chernobyl accident
Author: Kliment-V
Author Affiliation: Nat. Inst. of Public Health, Centre of Radiat. Hygiene, Prague, Czechoslovakia
Source: Jaderna-Energie. vol.38, no.5; May 1992; p.177-83
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Czechoslovakia
Language: English
Abstract: The validity of a transport model for /sup 137/Cs in the environment following the Chernobyl accident was tested by field measurements in the Central-Bohemian region and the City of Prague. The calculation is based on the measurements of Cs surface activity monitored in June 1986. An assessment of deposition on plant cover as well as a description of transfer through the foodchain pathway to human consumers were derived. The calculated values are presented: as the monthly intakes of /sup 137/Cs compared to analogous values available from the measurements of foodstuff contamination in the test area and in Czechoslovakia: as the time course of the content in the human organism on the background of whole-body measurements carried out in the population.
Number of References: 21
Descriptors: accidents-; radioactive-pollution
Identifiers: radiocesium-foodchain-transport; transport-model; 137Cs-; Central-Bohemian-region; Prague-; Cs-surface-activity; plant-cover; human-consumers; foodstuff-contamination; Czechoslovakia-; whole-body-measurements
Classification Codes: A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A86; A28; A87; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: JADEAQ
ISSN: 0448-116X
Sort Key: 0000448116X199200038000050000000000000177
Accession Number: 4232220
Update Code: 9200

Record 562 of 1145 in INSPEC 1990-1992

Title: Satellite change detection of forest damage near the Chernobyl accident
Author: McClellan-GE; Anno-GH
Author Affiliation: Pacific-Sierra Res. Corp., Arlington, VA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.65; 1992; p.33
Publication Year: 1992
Record Type: Conference-Paper; Journal-article
Conference Details: 1992 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-12 June 1992; Boston, MA, USA. Sponsored by: ANS
Country of Publication: USA
Language: English
Abstract: A substantial amount of forest within a few kilometres of the Chernobyl nuclear reactor station was badly contaminated with radionuclides by the April, 26, 1986, explosion and ensuing fire at reactor No. 4. Radiation doses to conifers in some area were sufficient to cause discoloration of needles within a few weeks. Other areas, receiving smaller doses, showed foliage changes beginning 6 months to a year later. For many biological responses to radiation exposure, there is a dose-dependent delay between exposure and onset of the response. Such is the case for foliage damage in pine trees. The authors use the series of Landsat images to estimate a time to response for areas of conifer forest affected by the accident. The biological end point for these observations is change of spectral reflectivity of the foliage. The end points most commonly reported in the literature are 100% lethality and 50% reduction in growth rate. They make estimates of dose to the foliage based on observed changes.
Number of References: 1
Descriptors: accidents-; air-pollution; biological-effects-of-ionising-radiation; forestry-; radioactive-pollution
Identifiers: radioactive-pollution; air-pollution; USSR-; Ukraine-; Ad-1988; AD-1986; Ad-1987; Chernobyl-nuclear-reactor-station; radionuclides-; conifers-; needles-; foliage-changes; biological-responses; radiation-exposure; dose-dependent-delay; foliage-damage; pine-trees; Landsat-images; spectral-reflectivity
Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A8670Z (Other-topics); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8670G (Atmosphere); A8690 (Other-topics-in-energy-research-and-environmental-science); A87; A93; A86; A8; A9
Treatment Codes: X (Experimental)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X1992000650000000000000000033
Accession Number: 4229504
Update Code: 9200

Title: Chernobyl cesium in the sediments of Lake Hoysjoen, central Norway
Author: Blakar-IA; Hongve-D; Njastad-O
Author Affiliation: Dept. of Soil Sci., Agric. Univ. of Norway, As-NLH, Norway
Source: Journal-of-Environmental-Radioactivity. vol.17, no.1; 1992; p.49-58
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The distribution of radiocesium in the sediments of Lake Hoysjoen was analysed 18 months after the Chernobyl fallout event. The concentration in the sediment was similar to concentrations in surrounding terrestrial soils. Local accumulation in a riverine plume is explained by surface runoff from frozen wetland when the snow in the drainage area melted. Most of the radiocesium in the lake was bound in the upper centimetre of sediment.
Number of References: 18
Descriptors: caesium-; lakes-; radioactive-pollution; radioisotopes-; rivers-; sediments-; water-pollution
Identifiers: central-Norway; radiocesium-; sediments-; Lake-Hoysjoen; Chernobyl-fallout; riverine-plume; surface-runoff; frozen-wetland; snow-; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A9240N (Limnology); A9240G (Erosion-and-sedimentation); A9240F (Rivers-runoff-and-streamflow); A9330G (Europe); A87; A86; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X1992000170000100000000000049
Accession Number: 4226694
Update Code: 9200

Record 564 of 1145 in INSPEC 1990-1992

Title: Radiocesium in aquatic invertebrates from Dovrefjell, Norway, 1986 to 1989, after the Chernobyl fall-out
Author: Solem-JO; Gaare-E
Author Affiliation: Trondheim Univ., Norway
Source: Journal-of-Environmental-Radioactivity. vol.17, no.1; 1992; p.1-11
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Following the fall-out in 1986 from Chernobyl, the activity of /sup 137/Cs was measured in invertebrates sampled in streams and temporary pools at 930 m above sea level at Dovrefjell, Norway (62 degrees 17'N, 09 degrees 59'E). Species with different feeding habits were selected, predators (e.g. Trichoptera, gen. Rhyacophila), shredders (e.g. Trichoptera, gen. Halesus), collectors/filterers (e.g. Trichoptera, gen. Polycentropus) and plankton feeders (e.g. Cladocera, gen. Daphnia and Anostraca, gen. Branchinecta). Samples were preserved in 96% ethanol and were weighed to be between 0.05 and 2 g (mostly approximately 0.7 g). A sample thus consisted of many individuals. The 1986 radiocesium values vary considerably between and within species, and may reflect a patchy fall-out. The 1987, 1988 and 1989 data are much more consistent and are significantly lower than the 1986 values. The invertebrate predators have low radiocesium values and these showed a rapid decrease, whereas species eating dead or living plant material have measurable amounts of radiocesium in all the years. The data from 1987 and 1988 are fairly similar, but the 1989 data deviate from the previous two years. This difference may be caused by changes in deposition or transport of radiocesium in plants and soil.
Number of References: 11
Descriptors: accidents-; caesium-; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: aquatic-invertebrates; Dovrefjell-; Norway-; Chernobyl-fall-out; streams-; temporary-pools; radiocesium-values; plants-; soil-; 930-m; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A87; A86; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: altitude 9.3 E02 m
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X1992000170000100000000000000001
Accession Number: 4226691
Update Code: 9200

Record 565 of 1145 in INSPEC 1990-1992

Title: Spectrometry and visualisation of 'standard' hot particles from the Chernobyl accident
Author: Mandjoukov-IG; Burin-K; Mandjoukova-B; Vapirev-EI; Tsacheva-T
Author Affiliation: Sofia Univ., Fac. of Phys., Bulgaria
Source: Radiation-Protection-Dosimetry. vol.40, no.4; 1992; p.235-44
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The nuclide composition of five fuel hot particles is reported. A comparison with the content of 'standard' type hot particles and reactor fuel is performed. The activities of the hot particles under investigation were determined by gamma and alpha

spectrometry. An investigation by scintillation beta spectrometry was carried out for one of the hot particles, and the content of 'pure' beta emitters determined. Methods and techniques for visualisation of these hot particles using scanning electron microscopy are described. On the basis of the micrographs obtained an evaluation of their volume and specific volume activity is made. Elemental analysis by electron microprobe, including dot mapping, is made to determine their elemental composition and their close environment. Conclusions about some circumstances of their formation are discussed. They are either monolithic or porous with mean size of 8.5 mu m, volume specific activities close to 1.1 or 0.4 Bq. mu m/sup -3/. Particles containing Zr and Pb were observed as well as U particles.

Number of References: 18

Descriptors: alpha-particle-spectra; beta-ray-spectra; dosimetry-; electron-probe-analysis; gamma-ray-spectroscopy; radioisotopes-; scanning-electron-microscope-examination-of-materials; standards-

Identifiers: standard-hot-particles; Chernobyl-accident; nuclide-composition; fuel-hot-particles; alpha-spectrometry; scintillation-beta-spectrometry; beta-emitters; visualisation-; scanning-electron-microscopy; specific-volume-activity; electron-microprobe; dot-mapping; elemental-composition; 8-5-micron; Zr-; Pb-; U-

Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2930K (X--and-gamma-ray-spectroscopy); A2930E (alpha-ray-spectroscopy); A2930F (Beta-ray-and-electron-spectroscopy); A8280 (Chemical-analysis-and-related-physical-methods-of-analysis); A87; A28; A29; A82; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: size 8.5E-06 m

Chemical Indexing: Zr-el; Pb-el; U-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 0000144842019920004000004000000000000235

Accession Number: 4209950

Update Code: 9200

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 566 of 1145 in INSPEC 1990-1992

Title: Computational analysis of the initial stage of the accident at the Chernobyl' atomic power plant

Author: Abagyan-AA; Arshavskii-IM; Dmitriev-VM; Kroshilin-AE; Krayushkin-AV; Khalimonchuk-VA

Author Affiliation: Inst. of Nucl. Phys., Acad. of Sci., Ukraine

Source: Soviet-Atomic-Energy. vol.71, no.4; Oct. 1991; p.785-95

Translated from: Atomnaya-Energiya. vol.71, no.4; Oct. 1991; p.275-87

Publication Year: 1991

Record Type: Journal-article

Country of Publication: Russia; Translation: USA
Language: English
Abstract: Analysis of the development of the accident process at the fourth power-generating unit of the Chernobyl' Nuclear Power Plant, which led to the disruption of the core, has made possible the following conclusions: The accident process was uncontrolled and the time over which the diagnostic variables changed was approximately 20 sec; The start of the intensive change in diagnostic variables coincided with the start of insertion of absorption rods into the core (rod insertion into the core was a result of the AZ-5 signal for emergency shutdown of the reactor); Before the start of the intensive change in diagnostic variables (before the AZ-5 signal was generated), the instrumentation did not register any dangerous deviations in the parameters of the power-generating unit from prescribed values; Just before the accident process began to development (before the AZ-5 signal was generated), the reactor was characterized by a significantly understated operational reactivity reserve and significant nonuniformity of energy release with respect to height and radius. A decrease in the operational reactivity reserve and significant nonuniformity of energy release with respect to height and radius. A decrease in the operational reactivity reserve of a reactor is a violation of its operating regulations.
Number of References: 6
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-; accident-; diagnostic-variables; absorption-rods; emergency-shutdown; power-generating-unit; operational-reactivity-reserve; energy-release
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7104-0785$12.50
Sort Key: 00000047163199100071000040000000000000275
Accession Number: 4208136
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 567 of 1145 in INSPEC 1990-1992

Title: Deposition of long-lived radionuclides after the Chernobyl accident in the forestal massif of Boreon
Author: Barci-Funel-G; Dalmasso-J; Ardisson-G
Author Affiliation: Lab. de Radiochimie, Nice Univ., France
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.164, no.3; 21 Feb. 1992; p.157-69
Publication Year: 1992
Record Type: Journal-article

Country of Publication: Switzerland
Language: English
Abstract: After the reactor accident at Chernobyl, samples of soil, moss, lichen and fern were collected in the forest around the Vesubie valley in the south east of France and analyzed by low energy photon and gamma spectrometry. Activity concentrations as high as 42.8, 9.4 and 3.8 kBg.m/sup -2/ were measured for /sup 137/Cs, /sup 134/Cs and /sup 106/Ru, respectively, in soil, in October 1988. /sup 125/Sb and /sup 110m/Ag were also detected. The contamination was found to be most important between 1400 and 1700 m altitude.
Number of References: 9
Descriptors: accidents-; radioactive-pollution; radioisotopes-; soil-
Identifiers: activity-concentrations; long-lived-radionuclides; forestal-massif; Boreon-; reactor-accident; Chernobyl-; soil-; moss-; lichen-; fern-; Vesubie-valley; France-; gamma-spectrometry; 137Cs-; 134Cs-; 106Ru-; 125Sb-; 110mAg-; 1400-to-1700-m; Cs-; Ru-; Sb-; Ag-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: altitude 1.4 E03 to 1.7 E03 m
Chemical Indexing: Cs-el; Ru-el; Sb-el; Ag-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119920016400003000000000000157
Accession Number: 4205195
Update Code: 9200

Record 568 of 1145 in INSPEC 1990-1992

Title: Area and time distribution of external and internal doses from Chernobyl fallout: the lack of correlation in Norway
Author: Strand-P; Selnaes-TD; Reitan-JB
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osterias, Norway
Source: Health-Physics. vol.62, no.6; June 1992; p.512-18
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Population doses from external radiation and internal food-based radioactivity were calculated each month for each municipality for 3 y immediately following the Chernobyl contamination in Norway. The main polluted regions are sparsely populated but comprise important food production areas. The external dose database was calculated based on fallout deposition and measurements in dwellings, whereas the totally independent internal dose database was calculated on a large number of food measurements and knowledge of both the food distribution system and the

countermeasures taken. The internal dose in the densely populated municipalities was comparably higher than expected from local deposition, despite the fact that countermeasures had some effect. Thus, the correlation between internal and external dose for individual municipalities is rather weak.

Number of References: 16

Descriptors: accidents-; air-pollution; atmospheric-radioactivity; disasters-; dosimetry-; radioactive-pollution

Identifiers: population-doses; Europe-; area-distribution; radioactive-pollution; USSR-; air-pollution; time-distribution; Chernobyl-fallout; correlation-; Norway-; external-radiation; internal-food-based-radioactivity; main-polluted-regions; food-production-areas; external-dose-database; fallout-deposition; dwellings-; totally-independent-internal-dose-database; food-measurements; food-distribution-system; countermeasures-; densely-populated-municipalities

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330G (Europe); A9260T (Air-quality-and-air-pollution); A87; A86; A93; A92; A8

Treatment Codes: X (Experimental)

Coden: HLTPAO
ISSN: 0017-9078

Sort Key: 0000017907819920006200006000000000000512
Accession Number: 4202810
Update Code: 9200

Record 569 of 1145 in INSPEC 1990-1992

Title: Risk estimation of radioactive contamination after the Chernobyl accident using bioindicators

Author: Marovic-G; Lokobauer-N; Bauman-A
Author Affiliation: Dept. of Radiat. Protection, Inst. for Med. & Occupational Health, Zagreb Univ., Croatia

Source: Health-Physics. vol.62, no.4; April 1992; p.332-7
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: After the Chernobyl nuclear accident, game meat and, in particular, sheep meat in the Republic of Croatia showed a high degree of radioactive contamination compared to large livestock. the activity concentrations of /sup 131/I, /sup 134/Cs, and /sup 137/Cs were measured in meat and internal organs (i.e. lung, liver, kidney, and heart) of game (e.g. venison, hare, and wild boar) and sheep that were used as biological indicators of radioactive contamination. In order to estimate the importance of game and sheep as a

dietary source of radioactivity, the effective dose equivalent for the average and critical population (hunters and livestock raising families) were calculated. The data indicated that sheep meat represents greater risk for the human population, in case of a nuclear accident, than game meat. The share of meat from sheep (4.4%) prevailed over the share of meat from game (0.5%) when comparing the average intake of meat per inhabitant in Croatia.

Number of References: 16
Descriptors: accidents-; disasters-; health-hazards; radioactive-pollution
Identifiers: risk-estimation; radioactive-contamination; Chernobyl-nuclear-accident; game-meat; sheep-meat; Republic-of-Croatia; activity-concentrations; internal-organs; lung-; liver-; kidney-; heart-; venison-; hare-; wild-boar; biological-indicators; dietary-source; effective-dose-equivalent; critical-population; hunters-; livestock-raising-families; human-population; average-intake; 131I-; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A87; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/92/$3.00+.00
Sort Key: 0000017907819920006200004000000000000332
Accession Number: 4202802
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 570 of 1145 in INSPEC 1990-1992

Title: Lichens as biomonitors for radiocaesium following the Chernobyl accident
Author: Sloof-JE; Wolterbeek-BT
Author Affiliation: Interfac. Reactor Inst., Delft Univ. of Technol., Netherlands
Source: Journal-of-Environmental-Radioactivity. vol.16, no.3; 1992; p.229-42
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Caesium-137 resulting from the Chernobyl accident was monitored in lichens in The Netherlands. Caesium-137 activity in Parmelia sulcata ranged from 550 to 6100 (average 2500) Bq kg/sup -1/ dry weight. The similarity between the lichen data (geographical /sup 137/Cs activity gradients and radioactivity values) and data of wet and dry deposition, indicate the validity of lichen monitoring of atmospheric /sup 137/Cs. The ratio between the /sup 137/Cs activity per unit lichen dry weight (kg) of Parmelia sulcata and the /sup 137/Cs activity deposited per unit surface area (m/sup 2/) was approximately one. Measurements of /sup 137/Cs accumulation in Xanthoria

parietina show that the activity concentration could be expressed both on a dry weight and on a contour surface area basis. The determination of the biological half-life of /sup 137/Cs in lichens was shown to be subject to sources of error such as growth and non-atmospheric/indirect /sup 137/Cs influxes.
Number of References: 24
Descriptors: accidents-; air-pollution-detection-and-control; caesium-; living-systems; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: biomonitors-; Chernobyl-; lichens-; Netherlands-; Parmelia-sulcata; activity-; Xanthoria-parietina; biological-half-life; atmospheric-137Cs
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X19920001600003000000000000229
Accession Number: 4185437
Update Code: 9200

Record 571 of 1145 in INSPEC 1990-1992

Title: On the main causes and circumstances of the Chernobyl accident
Author: Shteinberg-N
Source: Jaderna-Energie. vol.38, no.1; Jan. 1992; p.13-20
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Czechoslovakia
Language: English
Abstract: The paper describes main causes of the Chernobyl accident the discussion of which seems to be finished. In the first part it is shown that important real characteristics of the reactor differed negatively from the design ones and the author criticizes that this information had not been taken into account in operational instructions and therefore it could not be known to the operators. In the second part the author points out general causes of the Chernobyl accident. These are primarily still non-existing fundamental laying down of law and, consequently, no determination of responsibilities (above all, setting out the indivisible responsibility of the plant operator for nuclear safety will be necessary). At present all participants in nuclear power engineering share responsibility. Another cause of the Chernobyl accident can be seen in insufficient quality assurance, resulting from the fact that the Soviet regulatory body has not all necessary competences and independence. Overemphasis of the role of the human factor, as well as not including operational experience in design modifications, etc., are closely connected with this fact. In general, insufficient safety culture as defined by INSAG can be stated.
Number of References: 4

Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-accident; design-; causes-; nuclear-safety; quality-assurance; human-factor
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review)
Coden: JADEAQ
ISSN: 0448-116X
Sort Key: 0000448116X1992000380000100000000000013
Accession Number: 4180890
Update Code: 9200

Record 572 of 1145 in INSPEC 1990-1992

Title: Survey of radioactive caesium in British soils. Comparison of accumulations pre- and post-Chernobyl
Author: Cawse-PA; Baker-SJ
Source: UKAEA, Harwell, UK, Aug. 1990; iii+37 pp.
Publication Year: 1990
Record Type: Report
Country of Publication: UK
Language: English
Abstract: The accumulation of radioactive caesium-137 in soils under permanent grassland was measured by Harwell Laboratory in 1977. The objective was to provide at selected locations in Great Britain a reference of background radioactivity in soil resulting from deposition of nuclear weapons fallout over some thirty years. Following the Chernobyl reactor accident in April 1986, the Department of the Environment requested further measurements at the reference sites in 1987 to record changes and regional differences in the amounts present in soil caused by radioactive fallout. The 1977 survey used a grid of 29 permanent grassland and two peatland sites in Britain, in co-operation with private Landowners and Farmers, the Nature Conservancy Council, Trusts for Promotion of Nature Conservation and the National Trust. A grassland site was identified on a major soil type in each of the 29 grid squares of 100 km side that form the Ordnance Survey National Grid. The post-Chernobyl measurements were also extended to a further ten grassland locations in addition to the original network of sites.
Number of References: 15
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; caesium-; pollution-; radioactive-pollution; radioisotopes-; soil-
Identifiers: pollution-; AD-1977; AD-1987; soils-; grassland-; Great-Britain; radioactivity-; Chernobyl-reactor-accident; fallout-; peatland-sites
Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A0130Q (Reports-dissertations-theses); A9330G (Europe); A9330K (Islands); A86; A01; A93; A8
Treatment Codes: X (Experimental)
Report Numbers: AEA-EE-0046

Description of Unconventional Medium: Microfiche
Sort Key: 30AEAEE00461990000000000000000000000000
Accession Number: 4178141
Update Code: 9200

Record 573 of 1145 in INSPEC 1990-1992

Title: Global fallout after the Chernobyl accident
Author: Muck-K
Source: Osterreichisches Forschungszentrum Seibersdorf GmbH, Vienna, Austria, Sept. 1991; 19 pp.
Publication Year: 1991
Record Type: Report
Country of Publication: Austria
Language: English
Abstract: The radionuclides released from the destroyed reactor No.4 at Chernobyl and the worldwide distribution, as well as the regionally varying deposition, are described. The deposition in various countries is contrasted and compared to the average population dose in these countries as evaluated by the UNSCEAR-Report of 1988. As expected, much higher dose values per unit deposition result for more southerly countries that for northerly ones. The fallout from the Chernobyl accident is compared to the fallout from nuclear weapons testing, both with regard to the global fallout, and the fallout in some selected countries. The radiation exposure in the first year is contrasted to the natural background level, and the trend of the radiation exposure in the following years is described.
Number of References: 10
Descriptors: accidents-; air-pollution; dosimetry-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radionuclides-; worldwide-distribution; regionally-varying-deposition; average-population-dose; fallout-; Chernobyl-accident; radiation-exposure
Classification Codes: A8760M (Radiation-dosimetry); A0130Q (Reports-dissertations-theses); A8760R (Radioactive-pollution); A2880C (Dosimetry); A8670G (Atmosphere); A87; A01; A28; A86; A8; A0
Treatment Codes: X (Experimental)
Report Numbers: OEFZS-4595
Sort Key: 30OEFZS45951991000000000000000000000000
Accession Number: 4178137
Update Code: 9200

Record 574 of 1145 in INSPEC 1990-1992

Title: Study on the environmental behavior of Chernobyl-derived radionuclides in Kyushu Island, Japan
Author: Matsuoka-N; Okamura-M; Hirai-E; Takashima-Y

Author Affiliation: Kyushu Environ. Evaluation Assoc., Fukuoka, Japan
Source: Applied-Radiation-and-Isotopes. vol.43, no.5; May 1992; p.651-7
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The environmental behavior of Chernobyl-derived radionuclides in Kyushu Island was investigated for one month after the accident. The radioactivity level in airborne dusts was two orders of magnitude lower than that observed in Western Europe. The distribution of /sup 131/I in airborne dusts shifted to a larger particle size compared with other radionuclides. The radionuclide concentration in seaweeds varied depending on the geographical situation where the sampling was done. The biological half-lives in red algae were calculated to be 17.4 d and 32.9 d for /sup 131/I and /sup 103/Ru, respectively. The concentration factors in red algae were estimated to be 3*10/sup 3/ and 5*10/sup 3/ for /sup 131/I and /sup 103/Ru, respectively. The cooking effect of /sup 131/I in seaweeds and the committed effective dose equivalent through ingestion of seaweed were also evaluated.
Number of References: 21
Descriptors: accidents-; air-pollution; dosimetry-; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: Japan-; environmental-behavior; Chernobyl-derived-radionuclides; Kyushu-Island; radioactivity-level; airborne-dusts; seaweeds-; red-algae; effective-dose-equivalent; 131I-; 103Ru-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330K (Islands); A9330D (Asia); A8760M (Radiation-dosimetry); A8670E (Water); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Ru-el
Coden: ARISEF
ISSN: 0883-2889

Sort Key: 00008832889199200043000050000000000000651
Accession Number: 4176507
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001
Bestand: 37.1986-43.1992

Record 575 of 1145 in INSPEC 1990-1992

Title: Fire at Chernobyl 2
Author: Shteinberg-N; Joosten-J; Routchkine-S
Author Affiliation: Ukraine State Committee for the Supervision of Nucl. Power Safety, Kiev, Ukraine
Source: Nuclear-Engineering-International. vol.37, no.453; April 1992; p.20, 22-4, 26

Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: An investigation into the causes of the fire in the turbine hall at Chernobyl 2 in 1991, found that the failure of the generator air-operated isolation breaker was caused by a short circuit in its control wiring, which had apparently been damaged during construction in 1977. Also contributing to the accident was the lack of a redundant on-site isolation breaker on the generator output. More recent RBMK designs, such as Chernobyl 3, includes such a feature.
Number of References: 0
Descriptors: accidents-; fires-; fission-reactor-safety; nuclear-power-stations
Identifiers: Chernobyl-2; fire-; turbine-hall; generator-air-operated-isolation-breaker; control-wiring; accident-; RBMK-designs
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199200037004530000000000000020
Accession Number: 4172534
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 576 of 1145 in INSPEC 1990-1992

Title: Magnetic extraction of radioactive contaminations from Chernobyl NPP regions
Author: Pereverzev-VV; Piskunov-AN; Fedorov-VK; Kheruvimov-AN; Cheremnykh-PA
Author Affiliation: I.V. Kurchatov Inst. of Atomic Energy, Moscow, USSR
Source: IEEE-Transactions-on-Magnetics. vol.28, no.1; Jan. 1992; p.678-81
Publication Year: 1992
Record Type: Conference-Paper; Journal-article
Conference Details: 1991 12th International Conference on Magnet Technology. 23-28 June 1991; Leningrad, USSR. Sponsored by: IEEE; I.V. Kurchatov Inst. Atomic Energy; All-Union Res. Dev. Inst. Cable Ind.; A.A.Bochvar All-Union Sci. Res. Inst. Inorg. Mater
Country of Publication: USA
Language: English
Abstract: Preliminary experimental data on decontamination of the soil of a 30-km-zone around the Chernobyl nuclear power plant from radioactive contaminants by dry magnetic separation are presented. The facility used for performing the experiments is briefly described. The first run of experiments confirmed the feasibility of partial

decontamination of various types of soils. The second run of experiments helped to clarify the effect of preheating (up to 500 degrees C) and repeated decontamination of the soil samples on the degree of soil decontamination. As expected, the samples of initial activity of 100 Bq/g were decontaminated basically to permissible concentrations. An enhanced degree of /sup 144/Ce and /sup 106/Ru decontamination seems to be associated with the fact that readily extractable fuel elements possess higher susceptibility than cesium.

Number of References: 1

Descriptors: accidents-; magnetic-separation; radioactive-pollution; soil-

Identifiers: magnetic-extraction; radioactive-contaminations; decontamination-; soil-; Chernobyl-nuclear-power-plant; dry-magnetic-separation; effect-of-preheating; repeated-decontamination; 106Ru-decontamination; 144Ce-decontamination

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0755 (Magnetic-instruments-and-techniques); B7720 (Pollution-detection-and-control); B5180W (Other-device-applications); A87; A86; A28; A07; B77; B51; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Ce-el; Ru-el

Coden: IEMGAQ

ISSN: 0018-9464

Copyright Clearance Center Code: 0018-9464/92/$03.00

Sort Key: 00000189464199200028000010000000000000678

Accession Number: 4166110

Update Code: 9200

Record 577 of 1145 in INSPEC 1990-1992

Title: Tritium precipitation in European cities and in Osaka, Japan owing to the Chernobyl nuclear accident

Author: Koga-T; Morishima-H; Niwa-T; Kawai-H

Author Affiliation: Atomic Energy Res. Inst., Kinki Univ., Osaka, Japan

Source: Journal-of-Radiation-Research. vol.32, no.3; Sept. 1991; p.267-76

Publication Year: 1991

Record Type: Journal-article

Country of Publication: Japan

Language: English

Abstract: Tritium precipitations in European cities and in Osaka, Japan were analyzed before and after the Chernobyl nuclear plant accident by the time series analysis code Census IIX11 developed by US Department of Commerce Bureau of the Census. Results of this analysis showed no significant tritium precipitation was produced by the accident although marked amounts of other radioactive nuclides were detected in Europe and Japan immediately after the accident.

Number of References: 11

Descriptors: accidents-; disasters-; health-hazards; radioactive-pollution; radioisotopes-; tritium-
Identifiers: European-cities; Osaka-; Japan-; Chernobyl-nuclear-accident; time-series-analysis-code-Census-IIX11; radioactive-nuclides
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: JRARAX
ISSN: 0449-3060
Sort Key: 000044930601991000320000300000000000267
Accession Number: 4162571
Update Code: 9200

Record 578 of 1145 in INSPEC 1990-1992

Title: Transfer factor of /sup 131/I from the fallout to human thyroid dose equivalent after the Chernobyl accident
Author: Beno-M; Mikulecky-M; Hrabina-J
Author Affiliation: Res. Inst. of Preventive & Clinical Med., Bratislava, Czechoslovakia
Source: Radiation-and-Environmental-Biophysics. vol.31, no.2; 1992; p.133-9
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Germany
Language: English
Abstract: A similar pattern of variation with time in observed maxima of daily dose equivalent rates in human thyroids (TD- mu Sv.d/sup -1/) and of daily fallout radioactivities (FR-kBq.m/sup -2/) has been found after the Chernobyl accident. An estimate of the time-lag between the maxima in TD lines and the preceding FR peaks was made of about seven days for adults and nine days for juveniles. Applying this time-lag it was possible to estimate transfer factors from the fallout to thyroid dose equivalent: the highest estimated values were 221 mu ,Sv/kBq.m/sup -2/ for adult and 641 mu Sv/kBq.m/sup -2/ for juvenile thyroids. These values differ from those published by UNSCEAR (United Nations 1988), which have been calculated for various regions of Czechoslovakia, from ingestion and inhalation intake estimates. A broad variation of transfer factor values could be expected to result from such transfer calculations using ingestion and inhalation estimates. The findings also support the concept of a need for prolonged iodine prophylaxy after emissions of radioiodine into the environment.
Number of References: 17
Descriptors: accidents-; dosimetry-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: radioactive-fallout; adults-; radioiodine-emissions; human-thyroid-dose-equivalent; Chernobyl-accident; juveniles-; transfer-factors; Czechoslovakia-; ingestion-; inhalation-; prophylaxy-; environment-; 7-d; 9-d; 131I-

Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 6.0 E05 s; time 7.8 E05 s
Chemical Indexing: I-el
Coden: REBPAT
ISSN: 0301-634X
Sort Key: 0000301634X19920003100002000000000000133
Accession Number: 4159732
Update Code: 9200

Record 579 of 1145 in INSPEC 1990-1992

Title: The uptake by vegetation of Chernobyl and aged radiocaesium in upland west Cumbria
Author: Beresford-NA; Howard-BJ; Barnett-CL; Crout-NMJ
Author Affiliation: Inst. of Terrestrial Ecology, Grange-over-Sands, UK
Source: Journal-of-Environmental-Radioactivity. vol.16, no.2; 1992; p.181-95
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The uptake into vegetation of radiocaesium originating from the Chernobyl accident and from previous sources was compared at two upland sites in west Cumbria during November/December 1989. Both sites were in an area where restrictions are in place on the movement and slaughter of sheep due to high radiocaesium activities, and were known to have received comparatively high levels of deposition from both the 1957 Windscale accident and weapons fallout. The proportion of Chernobyl derived radiocaesium in the total radiocaesium inventory at each site was estimated using a /sup 134/Cs: /sup 137/Cs ratio of 0.53 in Chernobyl fallout. Aged radiocaesium, mostly present for over 20 years, accounted for 59+or-2.3 and 44+or-2.8% (mean+or-SE) of the /sup 137/Cs deposit at the two sites. Initially, after the Chernobyl accident, the transfer of the recently deposited radiocaesium was reported to be greater than that of aged deposits. However, four years after the accident, the extent of transfer of Chernobyl radiocaesium from the top 4 cm of soil to vegetation is now similar.
Number of References: 27
Descriptors: caesium-; isotope-relative-abundance; radioactive-pollution; radioisotopes-; soil-
Identifiers: United-Kingdom; Great-Britain; upland-west-Cumbria; radiocaesium-; Chernobyl-accident; upland-sites; sheep-; Windscale-accident; weapons-fallout; 137Cs-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/92/$05.00
Sort Key: 0000265931X19920001600002000000000000181
Accession Number: 4157528
Update Code: 9200

Record 580 of 1145 in INSPEC 1990-1992

Title: Accident at the Chernobyl APS: contamination of grasses. Practical aspects
Author: Eliashevich-NV
Source: Vestsi-Akademii-Navuk-BSSR,-Serya-Fizika-Energetychnykh-Navuk. no.1; 1992; p.5-10
Publication Year: 1992
Record Type: Journal-article
Country of Publication: Byelorussia
Language: English
Abstract: The accumulation of /sup 137/Cs (in 188 species) and /sup 90/Sr (in 85 species) in different plants under condition existing in Bielorussian Polessie are presented. The possibility of clean phytomass production is shown according to the ecotypes and levels of the contamination.
Number of References: 3
Descriptors: radioactive-pollution; soil-
Identifiers: Byelorussia-; Chernobyl-; Bielorussian-Polessie; phytomass-production; ecotypes-; contamination-; 137Cs-; 90Sr-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el
Coden: VABFAF
ISSN: 0374-4760
Sort Key: 0000374476019920000000001000000000000005
Accession Number: 4143080
Update Code: 9200

Record 581 of 1145 in INSPEC 1990-1992

Title: Decision conferencing and the International Chernobyl Project
Author: French-S; Kelly-N; Morrey-M
Author Affiliation: Sch. of Comput. Studies, Leeds Univ., UK
Source: Journal-of-Radiological-Protection. vol.12, no.1; March 1992; p.17-28
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: As part of the International Chernobyl Project, five decision conferences were held with the Soviet Authorities to identify the major factors driving decision making in relation to relocation and other protective measures which are being applied in the affected regions of Byelorussia, Ukraine and the Russian Federation. The authors describe the running of those conferences and the conclusions reached from them.
Number of References: 12
Descriptors: radiation-protection
Identifiers: International-Chernobyl-Project; decision-conferences; Soviet-Authorities; relocation-; protective-measures; Byelorussia-; Ukraine-; Russian-Federation
Classification Codes: A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: JRPREA
ISSN: 0952-4746

Sort Key: 00009524746199200012000010000000000000017
Accession Number: 4140961
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 582 of 1145 in INSPEC 1990-1992

Title: Behavior of Chernobyl fallout radionuclides in peat combustion
Author: Jantunen-MJ; Reponen-A; Mustonen-R; Itkonen-A; Kauranen-P
Author Affiliation: Dept. of Environ., Nat. Public Health Inst., Hygiene & Toxicology, Kuopio, Finland
Source: Health-Physics. vol.62, no.3; March 1992; p.245-9
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The fallout from the explosion and fire at the Chernobyl nuclear power plant concentrated levels of up to 10 kBq /sup 137/Cs kg/sup -1/ dry weight in the fuel peat harvested during the summer of 1986 in Finland. The authors investigated the behavior of fallout radionuclides /sup 137/Cs, /sup 134/Cs, /sup 106/Ru, /sup 144/Ce, /sup 125/Sb, /sup 95/Zr, and /sup 110m/Ag together with naturally occurring /sup 210/Pb and /sup 226/Ra in the combustion of this contaminated peat in four different power plants. The elements antimony, ruthenium, lead, and cesium were enriched on the smallest particles, indicating that they were in a volatile chemical form, while cerium, zirconium, and radium were nonvolatile at the combustion temperatures. This result confirms the previous finding that ruthenium is volatile in combustion. Although metallic ruthenium requires 2310 degrees C to melt, some of its oxides melt and evaporate at much lower temperatures.

Number of References: 13
Descriptors: air-pollution; atmospheric-radioactivity; combustion-; disasters-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: AD-1986; Europe-; Chernobyl-fallout-radionuclides; peat-combustion; explosion-; fire-; Chernobyl-nuclear-power-plant; dry-weight; fuel-peat; Finland-; volatile-chemical-form; combustion-temperatures; 137Cs-; 134Cs-; 106Ru-; 144Ce-; 125Sb-; 95Zr-; 110mAg-; naturally-occurring-210Pb; 226Ra-
Classification Codes: A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A8670Z (Other-topics); A9330G (Europe); A87; A92; A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Ru-el; Ce-el; Sb-el; Zr-el; Ag-el; Pb-el; Ra-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/92/$3.00+.00
Sort Key: 0000017907819920006200003000000000000245
Accession Number: 4135947
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 583 of 1145 in INSPEC 1990-1992

Title: Transport mechanisms and rates for long lived Chernobyl deposits in mid-Wales
Author: Bonnett-PJP
Source: UKAEA, Harwell, UK, Jan. 1991; vii+155 pp.
Publication Year: 1991
Record Type: Report
Country of Publication: UK
Language: English
Abstract: The deposition and transport of /sup 134/Cs and /sup 137/Cs derived from Chernobyl within 5 upland catchments in mid-Wales (Upper Severn, Wye and Rheidol) has been examined between 1987-1989. 7.85 GBq of /sup 137/Cs and 4.6 GBq of /sup 134/Cs soils of the Wye and Severn catchments representing an increase in the pre-existing inventory of /sup 137/Cs of approximately 15%.
Number of References: 220
Descriptors: caesium-; radioactive-pollution; soil-
Identifiers: mid-Wales; Upper-Severn; Wye-; Rheidol-; 134Cs-; 137Cs-
Classification Codes: A8670C (Soil-and-rock); A0130Q (Reports-dissertations-theses); A9330G (Europe); A86; A01; A93; A8; A0; A9
Treatment Codes: B (Bibliography); X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Report Numbers: AEA-EE-0093
Description of Unconventional Medium: Microfiche

Sort Key: 30AEAEE009319910000000000000000000000000
Accession Number: 4127075
Update Code: 9200

Record 584 of 1145 in INSPEC 1990-1992

Title: Preliminary environmental monitoring following Chernobyl accident
Author: Abdel-Fattah-AT; Essa-MWA
Author Affiliation: Nucl. Res. Centre, AEA, Cairo, Egypt
Source: Isotope-and-Radiation-Research. vol.23, no.1; Jan. 1991; p.1-8
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Egypt
Language: English
Abstract: The accident at Chernobyl on 26 April 1986 highlighted the urgent need for establishing a fast monitoring system for the estimation of certain radionuclides in the environment (water, soil, air, rain, . . . etc.) and in the food-chain. These procedures were carried out on samples collected from different sites. This system includes procedures for sample collection, preparation, gross beta and gamma counting, gamma spectrometry and counter calibration.
Number of References: 7
Descriptors: accidents-; air-pollution; health-hazards; radiation-monitoring; soil-; water-pollution
Identifiers: environmental-monitoring; Chernobyl-; monitoring-system; water-; soil-; air-; rain-; food-chain; sample-collection; beta-; gamma-; gamma-spectrometry; counter-calibration
Classification Codes: A8670E (Water); A8670C (Soil-and-rock); A8670G (Atmosphere); A86; A8
Treatment Codes: X (Experimental)
Coden: ISRRAC
ISSN: 0021-1907
Sort Key: 00000211907199100023000010000000000000001
Accession Number: 4119542
Update Code: 9200

Record 585 of 1145 in INSPEC 1990-1992

Title: Public dose burdens and health effects due to the Chernobyl accident
Author: Ilyin-LA
Author Affiliation: Inst. of Biophys., Moscow, USSR
Source: Revue-Generale-Nucleaire,-International-Edition. vol.B; Nov. 1991; p.19-28
Publication Year: 1991
Record Type: Journal-article
Country of Publication: France

Language: English
Abstract: The author discusses the effects of the Chernobyl accident on public health in the USSR. He deals with public irradiation regulations; dose levels and the resultant health problems.
Number of References: 34
Descriptors: accidents-; biological-effects-of-ionising-radiation; dosimetry-; health-hazards; radiation-protection
Identifiers: reactor-accident; dose-burdens; Chernobyl-accident; public-health; USSR-; public-irradiation-regulations; dose-levels; health-problems
Classification Codes: A8760M (Radiation-dosimetry); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760P (Radiation-protection); A87; A8
Treatment Codes: G (General-or-Review)
Coden: RGNEE6
ISSN: 0298-7783
Sort Key: 0000298778319910000000000000000000000019
Accession Number: 4115119
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26979.000
Bestand: 1.1985=> L:1986,1994 N:1990

Record 586 of 1145 in INSPEC 1990-1992

Title: Radiological and public health aspects (Chernobyl)
Author: Bertin-M; Kryschev-J-J; Bouville-A; Nenot-J-C; Belayer-ST; Demin-V-F; Gonzales-AJ; Parmentier-C; Coulon-R; Tubiana-M
Author Affiliation: Electr. de France, Paris, France
Source: Revue-Generale-Nucleaire,-International-Edition. vol.B; Nov. 1991; p.10-16
Publication Year: 1991
Record Type: Journal-article
Country of Publication: France
Language: English
Abstract: Discusses a number of aspects of the radiological consequences of the Chernobyl accident in 1986. These include: activity released; irradiation victims; radioactive contamination; radioecological consequences; worldwide doses; countermeasure effectiveness; health effects; and carcinogenic effects.
Number of References: 0
Descriptors: accidents-; biological-effects-of-ionising-radiation; dosimetry-; health-hazards; radiation-protection; radioactive-pollution
Identifiers: nuclear-releases; reactor-accident; public-health; radiological-consequences; Chernobyl-accident; activity-released; irradiation-victims; radioactive-contamination; radioecological-consequences; worldwide-doses; countermeasure-; health-effects; carcinogenic-effects

Classification Codes: A8760M (Radiation-dosimetry); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: G (General-or-Review)
Coden: RGNEE6
ISSN: 0298-7783
Sort Key: 0000298778319910000000000000000000000010
Accession Number: 4115118
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26979.000
Bestand: 1.1985=> L:1986,1994 N:1990

Record 587 of 1145 in INSPEC 1990-1992

Title: Shielding capability of soils in regions exposed to radiochemical fallout from the Chernobyl' accident
Author: Sobotovich-EV; Ol'khovik-YuA; Ol'shtynskii-SP; Nefedov-OV
Source: Soviet-Atomic-Energy. vol.70, no.6; June 1991; p.500-2
Translated from: Atomnaya-Energiya. vol.70, no.6; June 1991; p.401-2
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Information on the shielding role of an aeration zone with regard to ground water was provided in publications describing the findings of American researchers in the 1950s and 1960s. By 1986, when the Chernobyl' nuclear plant accident occurred, the concept had already become established that the rocks of an aeration zone perform the function of a unique buffer system which largely retards the transport of radionuclides and protects ground water from being contaminated by them. Great importance was ascribed to the adsorption of radionuclides in this hydrogeological zone.
Number of References: 10
Descriptors: groundwater-; radioactive-pollution; soil-; water-pollution
Identifiers: Chernobyl-; radiochemical-fallout; shielding-; aeration-zone; ground-water; nuclear-plant-accident; buffer-system; radionuclides-; hydrogeological-zone
Classification Codes: A8670C (Soil-and-rock); A8670E (Water); A9240Q (Water-quality-and-water-resources); A9240K (Groundwater); A86; A92; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7006-0500$12.50
Sort Key: 0000004716319910007000006000000000000401
Accession Number: 4111270
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 588 of 1145 in INSPEC 1990-1992

Title: Comment on 'Time-independent neutronic analysis of the Chernobyl accident' (and reply)
Author: Wasastjerna-F; Landeyro-PA
Author Affiliation: Tech. Res. Centre of Finland, Nucl. Eng. Lab., Espoo, Finland
Source: Nuclear-Science-and-Engineering. vol.110, no.2; Feb. 1992; p.207-8
Publication Year: 1992
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The authors discuss the Chernobyl accident and the role of /sup 135/Xe on the neutron spectrum.
Number of References: 5
Descriptors: accidents-; fission-reactor-safety; xenon-
Identifiers: RBMK-; neutronic-analysis; Chernobyl-accident; neutron-spectrum; 135Xe-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Xe-el
Coden: NSENAO
ISSN: 0029-5639
Sort Key: 0000029563919920011000002000000000000207
Accession Number: 4110349
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.000
Bestand: 1.1956=> L:81

Record 589 of 1145 in INSPEC 1990-1992

Title: Radioactive contamination of soil in some resort areas of the European USSR caused by the Chernobyl accident
Author: Malakhov-SG; Silantiev-AN; Shkuratova-IG; Khvalensky-YuA
Author Affiliation: Natural Environ. & Climate Monitoring Lab., USSR
Source: Soviet-Meteorology-and-Hydrology. no.1; 1991; p.50-3
Translated from: Meteorologiya-i-Gidrologiya. no.1; 1991; p.61-4
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Presents data on the contamination of soils at the Black Sea coast of the Crimea and the Caucasus, as well as at the Baltic Sea coast with C isotopes after the accident at the

Chernobyl nuclear power plant. The content of /sup 137/Cs in the Caucasus amounted to 1 Ci/km/sup 2/. At the Baltic Sea coast it was lower: 0.1 Ci/km/sup 2/. For comparison, data are given on the soils near the city of Boguslav (southern Kiev region) and fallout in Batumi. The sites of the highest contamination coincide with the areas where the passage of the radioactive cloud was accompanied by heavy rainfall. The southern fallout trace reveals an upward trend in the ratio of activity of /sup 131/I, /sup 137/Cs, and /sup 103/Ru to the activity of /sup 95/Zr as a function of distance.

Number of References: 13

Descriptors: air-pollution; atmospheric-radioactivity; radioactive-pollution; soil-

Identifiers: Europe-; Russia-; Ukraine-; Kiev-; radioactive-pollution; radioactivity-; air-pollution; AD-1986; contamination-; soil-; resort-areas; USSR-; Chernobyl-accident; Black-Sea-coast; Crimea-; Caucasus-; Baltic-Sea; nuclear-power-plant; 137Cs-; Boguslav-; Kiev-; fallout-; Batumi-; 131I-; 103Ru-; 95Zr-; Ru-; Cs-; I-; Zr-

Classification Codes: A8670C (Soil-and-rock); A9330G (Europe); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A86; A93; A92; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Cs-el; I-el; Zr-el

Coden: MEGIAC; Translation: SMHYDK

ISSN: 0130-2906; Translation: 0146-4108

Copyright Clearance Center Code: 0146-4108/91/$20.00

Sort Key: 00001302906199100000000010000000000000061

Accession Number: 4105942

Update Code: 9200

Record 590 of 1145 in INSPEC 1990-1992

Title: The safety of UK graphite moderated reactors following Chernobyl

Author: Hall-RS; Evans-AD; McKeown-J; Tyror-JG

Source: Nuclear-Energy. vol.30, no.6; Dec. 1991; p.407-14

Publication Year: 1991

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Extensive assessment of the Chernobyl accident stimulated a review of the applicability of the contributing factors to UK graphite moderated reactors. The results of a systematic study of beyond-design basis and degraded core faults show that the response of the graphite moderated gas-cooled system is generally slow and predictable. The Chernobyl accident also refocused attention on the importance of the human factor in plant operation. Early studies in the UK concentrated on the role of the operator and his potential for error. Programmes have been put in hand to reinforce the underlying safety culture. Long term safety reviews have been carried out for the older Magnox-type stations. These reviews did not identify any fundamental weaknesses in the original designs, but identified a number of areas where the plant did not meet modern criteria. Some of the generic improvements identified for Magnox stations are equally

applicable to the older AGR stations. Finally, the status of emergency planning has been reviewed.
Number of References: 1
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: safety-; UK-graphite-moderated-reactors; Chernobyl-accident; beyond-design-basis; degraded-core-faults; gas-cooled-system; human-factor; plant-operation; Magnox-type-stations; generic-improvements; AGR-stations; emergency-planning
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850I (Gas-cooled-reactors); A2841 (Fission-reactor-theory-and-design); A2843B (Cooling-and-heat-recovery); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NUEGAH
ISSN: 0140-4067
Copyright Clearance Center Code: 0140-4067/91/$4.00
Sort Key: 0000140406719910003000006000000000000407
Accession Number: 4100212
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08528.002
Bestand: 17.1978=> L:23,24,33

Record 591 of 1145 in INSPEC 1990-1992

Title: A review of long-term studies of radioactivity in the environment from the Chernobyl accident by AEA Technology
Author: Pattenden-NJ
Author Affiliation: AEA Environ. & Energy, Harwell, UK
Source: Nuclear-Energy. vol.30, no.6; Dec. 1991; p.341-59
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The review is intended to bring together and summarize the various research and surveillance projects which have been undertaken by AEA Technology concerning the radioactivity in the environment which resulted from the Chernobyl accident in April 1986. The review consists primarily of an updating and extension, up to 1989. It includes details of the radioactivity released to the atmosphere during the accident. The work reported includes: measurements of concentrations of radionuclides in airborne particulate and deposited materials, their interpretation in terms of atmospheric residence times of Chernobyl material and resuspension; measurements of the accumulated deposits of Chernobyl radionuclides in soils and their uptake by plants, including studies in upland areas particularly affected by high deposits and studies in lowland areas supporting a variety of crops and pastures; a review of radionuclides in European food imports, and the periodic measurements in a group of human volunteers;

measurements of the dietary intake of radiocaesium in the same group of volunteers; measurements of the movement of radiocaesium from Chernobyl through the catchments of lakes and rivers in Cumbria and Wales; and measurements of the deposition of Chernobyl radiocaesium on to urban surfaces such as bricks and roof tiles in the United Kingdom and in Sweden, and its subsequent retention by those surfaces.

Number of References: 82

Descriptors: accidents-; air-pollution-detection-and-control; radiation-monitoring; radioactive-pollution; reviews-; soil-

Identifiers: review-; long-term-studies; radioactivity-; environment-; Chernobyl-accident; AEA-Technology; surveillance-projects; atmosphere-; radionuclides-; deposited-materials; atmospheric-residence-times; resuspension-; accumulated-deposits; soils-; upland-areas; lowland-areas; crops-; pastures-; European-food-imports; periodic-measurements; human-volunteers; dietary-intake; lakes-; rivers-; Cumbria-; Wales-; urban-surfaces; bricks-; roof-tiles; United-Kingdom; Sweden-; Cs-

Classification Codes: A8670G (Atmosphere); A8670C (Soil-and-rock); A8670L (Measurement-techniques-and-instrumentation); A0130R (Reviews-and-tutorial-papers-resource-letters); A8760R (Radioactive-pollution); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A86; A01; A87; A28; A8

Treatment Codes: B (Bibliography); G (General-or-Review); P (Practical); X (Experimental)

Chemical Indexing: Cs-el

Coden: NUEGAH

ISSN: 0140-4067

Sort Key: 0000140406719910003000006000000000000341

Accession Number: 4100208

Update Code: 9200

Record 592 of 1145 in INSPEC 1990-1992

Title: Radioactivity in Fucus vesiculosus L. from the Baltic Sea following the Chernobyl accident

Author: Carlson-L; Holm-E

Author Affiliation: Lund Univ., Sweden

Source: Journal-of-Environmental-Radioactivity. vol.15, no.3; 1992; p.231-48

Publication Year: 1992

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The brown alga Fucus vesiculosus L. has been used as a bioindicator for the investigation of the impact of the Chernobyl accident on the spatial and temporal distribution of radionuclides in the Baltic Sea. The investigations were performed in July 1986, about two months after the accident, and in August-September 1987. In July

1986 the gamma-emitting radionuclides /sup 134/Cs, /sup 137/Cs, /sup 103/Ru, /sup 106/Ru and /sup 110m/Ag were detected in F. vesiculosus along the Swedish east, south and southwest coasts. The activity concentrations of /sup 137/Cs varied from 600 Bq/kg (dry wt) at the northernmost locality (Simpnas) to 20 to 25 Bq/kg (dry wt) at the southeast coast. In August-September 1987 the activity concentrations of radiocaesium had increased by a factor of 2 to 3 at most localities off the Swedish east coast, compared with the results from 1986. The authors did not observe any increase of transuranic radionuclides or /sup 99/Tc in the algae. The subsequent extent of the radionuclide contamination in the Baltic Sea, primarily caesium, from Chernobyl was studied at one locality on the Swedish south coast from April 1987 to November 1988. A pronounced increase in the activity concentrations was observed during 1988, indicating an outflow of water, containing relatively higher levels of Chernobyl derived radionuclides from the Baltic Sea.

Number of References: 23
Descriptors: accidents-; disasters-; radioactive-pollution; seawater-; water-pollution
Identifiers: AD-1986-07; Simpnas-; AD-1987-08; AD-1987-09; Fucus-vesiculosus-L-; Baltic-Sea; Chernobyl-accident; brown-alga; radionuclides-; 137Cs-; 106Ru-; 110mAg-; transuranic-radionuclides; activity-concentrations; 134Cs-; 103Ru-; 99Tc-; 110Ag-
Classification Codes: A8670E (Water); A9220N (Pollution); A9330R (Regional-seas); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el; Cs-el; Ru-el; Tc-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/92/$03.50
Sort Key: 0000265931X1992000150000300000000000231
Accession Number: 4099129
Update Code: 9200

Record 593 of 1145 in INSPEC 1990-1992

Title: Mixing between oxic and anoxic waters of the Black Sea as traced by Chernobyl cesium isotopes
Author: Buesseler-KO; Livingston-HD; Casso-SA
Author Affiliation: Woods Hole Oceanogr. Inst., MA, USA
Source: Deep-Sea-Research,-Part-A-(Oceanographic-Research-Papers). vol.38, suppl., no.2A; 1991; p.S725-45
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Chernobyl nuclear power station accident in 1986 released readily measurable quantities of fallout /sup 134/Cs and /sup 137/Cs to Black Sea surface waters. This pulse-like input of tracers can be used to follow the physical mixing of the surface oxic

waters, now labeled with the Chernobyl tracers, and the deeper anoxic waters, which were initially Chernobyl free. By 1988, there is clear evidence of Chernobyl Cs penetration below the oxic/anoxic interface at deep water stations in the western and eastern basins of the Black Sea. This rapid penetration of surface waters across the pycnocline cannot be explained by vertical mixing processes alone. Data from profiles at the mouth of the Bosporus suggest that significant ventilation of intermediate depths can occur as the outflowing Black Sea waters are entrained with the inflowing Mediterranean waters, forming a sub-surface water mass which is recognized by its surface water characteristics, i.e. initially a relatively high oxygen content and Chernobyl Cs signal. The lateral propagation of this signal along isopycnals into the basin interior would provide a rapid and effective mechanism for ventilating intermediate depths of the Black Sea.

Number of References: 56

Descriptors: oceanographic-regions; radioactive-pollution; water-pollution

Identifiers: marine-pollution; water-pollution; ocean-; mixing-; AD-1987; AD-1988; radioactivity-; circulation-; anoxic-basin; AD-1986; surface-water; oxic-water; tracer-; anoxic-waters; Black-Sea; Chernobyl-; 134Cs-; 137Cs-; sub-surface-water-mass; Cs-; O-2

Classification Codes: A9210L (Turbulence-diffusion-mixing-and-convection); A9210M (Thermohaline-structure-and-circulation); A9330R (Regional-seas); A9220N (Pollution); A9220C (Chemistry); A8670E (Water); A92; A93; A86; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; O2-el O-el

Coden: DESRAY

ISSN: 0198-0149

Copyright Clearance Center Code: 0198-0149/91/$3.00+0.00

Sort Key: 000019801491991000380000200000000200725

Accession Number: 4098396

Update Code: 9200

Record 594 of 1145 in INSPEC 1990-1992

Title: Results of the intercalibration study of laboratories involved in assessing the environmental consequences of the Chernobyl accident

Author: Cooper-EL; Valkovic-V; Strachnov-V; Dekner-R; Danesi-PR

Author Affiliation: Agency's Lab., IAEA, Seibersdorf, Austria

Source: Applied-Radiation-and-Isotopes. vol.43, no.1-2; Jan.-Feb. 1992; p.149-60

Publication Year: 1992

Record Type: Conference-Paper; Journal-article

Conference Details: ICRM Symposium on Low-Level-Radioactivity Measuring Techniques and Alpha-Particle Spectrometry. 4-7 June 1991; Monaco

Country of Publication: UK

Language: English

Abstract: Within the framework of the International Chernobyl Project, the IAEA's Seibersdorf Laboratories organized an intercalibration exercise among some of the laboratories which were involved in assessing the environmental contamination in the USSR due to the accident. The objective was to assess the reliability of the radioanalytical data for food and environmental samples, which were used to assess the doses. In the initial study reference materials from the stocks of the IAEA's Analytical Quality Control Services (AQCS) were re-labelled and submitted to 71 laboratories as blind samples. These natural matrix materials included samples of milk (containing two different levels of radioactivity), soil, air filters and clover. The concentrations of radionuclides in these samples were known from previous intercalibration exercises.

Number of References: 7
Descriptors: air-pollution; calibration-; pollution-detection-and-control; radioactive-pollution; soil-
Identifiers: Chernobyl-accident; intercalibration-exercise; environmental-contamination; food-; natural-matrix-materials; milk-; soil-; air-filters; clover-
Classification Codes: A8670L (Measurement-techniques-and-instrumentation); A8670G (Atmosphere); A8670C (Soil-and-rock); A9330G (Europe); A8760R (Radioactive-pollution); A0620H (Measurement-standards-and-calibration); A86; A93; A87; A06; A8
Treatment Codes: P (Practical)
Coden: ARISEF
ISSN: 0883-2889
Copyright Clearance Center Code: 0883-2889/92/$5.00+0.00
Sort Key: 0000883288919920004300001000000000000149
Accession Number: 4094338
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001
Bestand: 37.1986-43.1992

Record 595 of 1145 in INSPEC 1990-1992

Title: Chemical fractionation of radioactive caesium in airborne particles containing bomb fallout, Chernobyl fallout and atmospheric material from the Sellafield site

Author: Hilton-J; Cambray-RS; Green-N
Author Affiliation: The Windermere Lab., Inst. of Freshwater Ecology, Ambleside, UK

Source: Journal-of-Environmental-Radioactivity. vol.15, no.2; 1992; p.103-11
Publication Year: 1992
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Airborne particulate material was collected at Didcot (UK) in June 1959, a period of elevated atmospheric /sup 137/Cs concentrations due to atmospheric weapons testing; in May 1986, during the peak of Chernobyl deposition; and in 1987, from a location close to the Sellafield reprocessing plant. The samples were selectively

extracted chemically in an attempt to identify the different forms of radiocaesium. Approximately 70% of the Chernobyl material was found to be water-soluble, compared to only 8% of the weapons fallout and 50% of the Sellafield material. The results corroborate evidence from elsewhere that Chernobyl radiocaesium was more mobile than weapons fallout. However, the data are not completely conclusive as chemical changes during storage on filters of the weapons fallout material would have had some effect. The initial mobility of the Chernobyl radiocaesium was rapidly reduced as it became locked in certain lake sediments.

Number of References: 18

Descriptors: atmospheric-radioactivity; caesium-; distillation-; radioactive-chemical-analysis; radioactive-pollution; radioisotopes-

Identifiers: chemical-fractionation; Cs-; airborne-particles; bomb-fallout; Chernobyl-fallout; atmospheric-material; Sellafield-; Didcot-; weapons-fallout; lake-sediments; 137Cs-concentrations

Classification Codes: A8670G (Atmosphere); A8280 (Chemical-analysis-and-related-physical-methods-of-analysis); A86; A82; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JERAEE

ISSN: 0265-931X

Sort Key: 0000265931X199200015000020000000000000103

Accession Number: 4093385

Update Code: 9200

Record 596 of 1145 in INSPEC 1990-1992

Title: Seasonal variations of /sup 137/Cs content of milk after the Chernobyl accident

Author: Papastefanou-C; Manolopoulou-M; Stoulos-S; Ioannidou-A

Author Affiliation: Dept. of Nucl. Phys., Aristotle Univ. of Thessaloniki, Greece

Source: Health-Physics. vol.61, no.6; Dec. 1991; p.889-91

Publication Year: 1991

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Results are presented on monthly measurements of /sup 137/Cs content in cows' milk over a 3-y period after the Chernobyl reactor accident. It was observed that, in an annual cycle of measurements, the /sup 137/Cs concentration of milk increased between December and August, peaking in April each year, due to the dependency of the /sup 137/Cs content of cattle feed on the fallout activity of /sup 137/Cs. There was a consistent correlation between the /sup 137/Cs concentration of milk and surface air.

Number of References: 5

Descriptors: air-pollution; atmospheric-radioactivity; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: seasonal-variations; N-Greece; monthly-measurements; cows'-milk; Chernobyl-reactor-accident; annual-cycle; 137Cs-concentration; December-; August-; April-; cattle-feed; fallout-activity; surface-air; 137Cs-content
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 00000179078199100061000060000000000000889
Accession Number: 4088123
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 597 of 1145 in INSPEC 1990-1992

Title: Radiocesium dynamics in fruit trees following the Chernobyl accident
Author: Antonopoulos-Domis-M; Clouvas-A; Gagianas-A
Author Affiliation: Dept. of Electr. Eng., Thessaloniki Univ., Greece
Source: Health-Physics. vol.61, no.6; Dec. 1991; p.837-42
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Contamination of fruits and leaves from various trees with /sup 137/Cs from the Chernobyl accident was systematically studied from 1987 to 1990 on two farms in Northern Greece. Measured biological half-lives for /sup 137/Cs are in good agreement with a recently presented model. Contamination of leaves and fruits of trees planted before the accident decays exponentially with time. Contamination of trees planted after the Chernobyl accident was also studied.
Number of References: 10
Descriptors: air-pollution; atmospheric-radioactivity; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: contamination-; AD-1987-to-1990; fruit-trees; Chernobyl-accident; leaves-; farms-; Northern-Greece; biological-half-lives; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 00000179078199100061000060000000000000837
Accession Number: 4088115

Record 598 of 1145 in INSPEC 1990-1992

Title: Radiation conditions in Moscow and the district of Moscow due to /sup 90/Sr fallout after the accident in the Chernobyl atomic power station
Author: Zykova-AS; Telushkina-EL; Voronina-TF
Author Affiliation: Inst. of Biophys., USSR
Source: Soviet-Atomic-Energy. vol.70, no.4; April 1991; p.320-2
Translated from: Atomnaya-Energiya. vol.70, no.4; April 1991; p.254-5
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The radiation conditions in Moscow and the District of Moscow have been observed for many years, both before and after the accident in the Chernobyl atomic power station. The studies were concerned with the density of the fallout of beta and gamma emitting radionuclides, including /sup 90/Sr, and its concentrations in atmospheric air and in some vegetable and animal food products from the regions of Podol'sk, Shchelkov, and Krasnogorsk. Generally accepted techniques of gamma spectrometry, radiochemistry, and radiometry were used. It should be noted that in the time of intensive nuclear weapons testing (1962-1963), the density of radioactive fallout was as high as 1 Ci/km/sup 2/ (2.5 times more than in 1986).
Number of References: 7
Descriptors: air-pollution-detection-and-control; beta-ray-detection-and-measurement; gamma-ray-detection-and-measurement; radiation-monitoring; radioactive-pollution; strontium-
Identifiers: beta-emitting-radionuclides; Moscow-; fallout-; accident-; Chernobyl-atomic-power-station; radiation-conditions; gamma-emitting-radionuclides; atmospheric-air; vegetable-; animal-food-products; Podol'sk-; Shchelkov-; Krasnogorsk-; radiochemistry-; radiometry-; intensive-nuclear-weapons-testing; 90Sr-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A8760P (Radiation-protection); A8670L (Measurement-techniques-and-instrumentation); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7004-0320$12.50
Sort Key: 0000004716319910007000004000000000000254
Accession Number: 4081193
Update Code: 9200

Record 599 of 1145 in INSPEC 1990-1992

Title: Assessment of the state of the damaged reactor of the 4th power block of the Chernobyl atomic power station from the activities of ejected radionuclides
Author: Vakulovskii-SM; Orlov-MYu; Snykov-VP
Author Affiliation: Inst. of Exp. Meteorol. of Sci. Planning Dept. Taifun, USSR
Source: Soviet-Atomic-Energy. vol.70, no.4; April 1991; p.287-92
Translated from: Atomnaya-Energiya. vol.70, no.4; April 1991; p.230-4
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Information on the activity of the various radionuclides ejected from the damaged reactor of the fourth power block of the Chernobyl atomic power station began to be received by us May 1, 1986, i.e. only four days after the accident. Since there were no reliable data on the activity and the isotope composition of the fission products accumulated in the reactor by the time of the accident, measurements of the isotope composition of samples were used for the first assessments. It was assumed that the production of fission fragments and the radiative capture of neutrons proceed in the same fashion in the cores of reactors such as the RBMK-1000, VVER-365, -440 and VK-50 reactors. This assumption later on proved to be correct.
Number of References: 12
Descriptors: radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-atomic-power-station; fission-products; accident-; isotope-composition; radiative-capture
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A28; A86; A2; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7004-0287$12.50
Sort Key: 00000047163199100070000040000000000000230
Accession Number: 4081186
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 600 of 1145 in INSPEC 1990-1992

Title: Chernobyl fallout in three areas of upland pasture in west Cumbria
Author: Horrill-AD; Howard-DM

Author Affiliation: Inst. of Terrestrial Ecology, Merlewood Res. Station, Grange-over-Sands, UK
Source: Journal-of-Radiological-Protection. vol.11, no.4; Dec. 1991; p.249-57
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The concentrations of /sup 134/Cs and /sup 137/Cs originating from the Chernobyl fallout have been measured in the standing vegetation of three upland pastures over a three-year period. An exponential decay curve has been used in the past to describe the concentrations on agricultural crops over a short time span (about 200 days). However, a better fit to the later stages of the present three-year span can be obtained by a power curve or a double exponential. Examples of the curves fitted by different methods are given and a range of predicted values calculated for the time to return to pre-Chernobyl levels. Total inventories for the three pastures were established with sites at Corney Fell, Ennerdale and Wastwater containing 16000, 12200 and 14100 Bq m/sup -2/ /sup 137/Cs, respectively. On these sites the pre-Chernobyl contribution of /sup 137/Cs is calculated as 17%, 38% and 34%.
Number of References: 13
Descriptors: accidents-; atmospheric-radioactivity; caesium-; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: UK-; Chernobyl-fallout; upland-pasture; west-Cumbria; 134Cs-; 137Cs-; agricultural-crops; Corney-Fell; Ennerdale-; Wastwater-; Cs-concentrations
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/91/040249+09$03.50
Sort Key: 0000952474619910001100004000000000000249
Accession Number: 4079872
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 601 of 1145 in INSPEC 1990-1992

Title: Chernobyl Atomic Communities
Author: Matsko-VP; Goncharova-NV; Bonder-YuI; Bogdanov-AP
Source: Vestsi-Akademii-Navuk-BSSR,-Serya-Fizika-Energetychnykh-Navuk. no.4; 1991; p.64-9
Publication Year: 1991
Record Type: Journal-article

Country of Publication: Byelorussian SSR, USSR
Language: English
Abstract: It may be inferred that long-time chronic action of radionuclides on plant organisms in the fall-out zone will depend on specific features of their accumulation by some plant species the age-related radiosensitivity and some other factors, associated with their growing conditions such as soil types, forms of radionuclide fall-out, chemical and physical effects.
Number of References: 5
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-; plant-organisms; fall-out-zone; age-related-radiosensitivity; soil-types; radionuclide-fall-out
Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A87; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: VABFAF
ISSN: 0374-4760
Sort Key: 000037447601991000000000400000000000064
Accession Number: 4076228
Update Code: 9200

Record 602 of 1145 in INSPEC 1990-1992

Title: Radiation levels from several beta- and gamma-emitters in Moscow in 1986 as a result of the Chernobyl accident
Author: Zykova-AS; Telushkina-EL; Voronina-TF
Author Affiliation: Biophys. Inst., Minist. of Public Health, USSR
Source: Soviet-Atomic-Energy. vol.70, no.3; March 1991; p.249-53
Translated from: Atomnaya-Energiya. vol.70, no.3; March 1991; p.191-4
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: After the accident at the Chernobyl nuclear plant on April 26, 1986, a large quantity of radionuclides was detected in the atmosphere of Moscow. Information on the principle dose-producing radionuclides-iodine and cesium-has been provided previously. The data presented characterize the radiation level in Moscow resulting from /sup 95/Zr, /sup 95/Nb, /sup 99/Mo, /sup 103/Ru, /sup 106/Ru, /sup 132/Te, /sup 140/La, /sup 140/Ba, /sup 141/Ce, /sup 144/Ce, and /sup 228/Th. Their concentration in the atmosphere during the two months immediately after the accident is given. From the point of view of radiation safety, /sup 103/Ru, /sup 106/Ru, and /sup 140/La may present the greatest concern. It can be seen from the data that the maximum concentration is hundreds or thousands of times lower than that allowable, in addition to decreasing over time.
Number of References: 6

Descriptors: accidents-; air-pollution-detection-and-control; beta-ray-detection-and-measurement; gamma-ray-detection-and-measurement; radiation-monitoring; radioactive-pollution
Identifiers: beta-emitters; gamma-emitters; Moscow-; Chernobyl-accident; Chernobyl-nuclear-plant; atmosphere-; dose-producing-radionuclides; radiation-safety; maximum-concentration; 95Zr-; 95Nb-; 99Mo-; 103Ru-; 106Ru-; 132Te-; 140La-; 140Ba-; 141Ce-; 144Ce-; 228Th-
Classification Codes: A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670L (Measurement-techniques-and-instrumentation); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Zr-el; Nb-el; Mo-el; Ru-el; Ru-el; Te-el; La-el; Ba-el; Ce-el; Ce-el; Th-el
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7003-0249$12.50
Sort Key: 00000047163199100070000030000000000000191
Accession Number: 4071531
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 603 of 1145 in INSPEC 1990-1992

Title: Autoradiographic investigation of radionuclide alpha-activity in soil and plant samples from Chernobyl zone
Author: Akopova-AB; Magradze-NV; Moiseenko-AA; Chalabian-TS; Viktorova-NV; Garger-EK
Author Affiliation: Yerevan Phys. Inst., Armenian SSR, USSR
Source: Nuclear-Tracks-and-Radiation-Measurements. vol.19, no.1-4; 1991; p.733-8
Publication Year: 1991
Record Type: Conference-Paper; Journal-article
Conference Details: Particle Tracks in Solids. 15th International Conference. 3-7 Sept. 1990; Marburg, West Germany. Sponsored by: Int. Center Theor. Phys.; Council of Eur.; Philipps-Univ.; et al
Country of Publication: UK
Language: English
Abstract: Alpha-active 'hot particles' in soil and plant samples collected in the Chernobyl zone have been investigated by the radiographic method. The size and activity of the 'hot particles' were measured, in order to calculate their contribution to the radiation dose. Correlations between the measured particle parameters were established. The method of measuring the particle sizes with the help of a low-sensitivity BYa-2 type photoemulsion is described. The measured mean diameter of the hot particles ranges from 10 to 200 mu m and their activity is 10/sup -1/-10/sup -5/ Bq. The most active

particles (10/sup -1/-10/sup -2/ Bq) were found only in soil. The leaf samples, after the same exposure, contained particles with activity not higher than 10/sup -3/ Bq.

Number of References: 5

Descriptors: accidents-; alpha-particle-detection-and-measurement; radioactive-pollution; radioactivity-measurement; radioisotopes-; soil-

Identifiers: radioactive-pollution; Ukraine-; Armenia-; Soviet-Union; alpha-emitting-radioisotopes; USSR-; alpha-active-hot-particles; hot-particles-activity; radionuclide-alpha-activity; soil-; plant-samples; Chernobyl-zone; radiation-dose; measured-particle-parameters; particle-sizes; low-sensitivity-BYa-2-type-photoemulsion; mean-diameter; hot-particles; most-active-particles; leaf-samples; 10-to-200-micron; 10-muBq-to-100-mBq

Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A2880F (Radiation-monitoring-and-radiation-protection); A86; A87; A93; A28; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: size 1.0E-05 to 2.0E-04 m; radioactivity 1.0E-05 to 1.0E-01 Bq

Coden: NTRMDS

ISSN: 0735-245X

Copyright Clearance Center Code: 0735-245X/91/$3.00+.00

Sort Key: 0000735245X19910001900001000000000000733

Accession Number: 4062365

Update Code: 9200

Record 604 of 1145 in INSPEC 1990-1992

Title: Dynamics of the radionuclide content in precipitation, grazing vegetation, and milk, in the St. Petersburg region after the accident at the Chernobyl atomic energy plant

Author: Nedbaevskaya-NA; Sanzharova-NI; Blinova-LD; Kryshev-II; Aleksakhin-RM

Author Affiliation: V.G. Khlopin Radium Inst., USSR

Source: Soviet-Atomic-Energy. vol.70, no.1; Jan. 1991; p.87-9

Translated from: Atomnaya-Energiya. vol.70, no.1; Jan. 1991; p.63-4

Publication Year: 1991

Record Type: Journal-article

Country of Publication: USSR; Translation: USA

Language: English

Abstract: In the St. Petersburg region, milk and vegetation specimens were gathered weekly, and soil samples once a month. The preliminary analysis was conducted by generally accepted methods, and the radionuclide composition of the samples were evaluated by semiconductor detectors and an AI-1024 multichannel analyzer, where the uncertainty of the measurements comprised +or-7%.

Number of References: 6
Descriptors: accidents-; air-pollution; disasters-; health-hazards; radioactive-pollution; soil-; water-pollution
Identifiers: Leningrad-; Saint-Petersburg; radionuclide-content; precipitation-; grazing-vegetation; milk-; St-.-Petersbur-region; Chernobyl-
Classification Codes: A8670C (Soil-and-rock); A8670E (Water); A8670G (Atmosphere); A86; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/91/7001-0087$12.50
Sort Key: 00000047163199100070000010000000000000063
Accession Number: 4059642
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 605 of 1145 in INSPEC 1990-1992

Title: /sup 239,240/Pu concentration in contaminated European foods imported to Japan following the Chernobyl accident
Author: Sugiyama-H; Iwashima-I
Author Affiliation: Inst. of Public Health, Tokyo, Japan
Source: Radioisotopes. vol.40, no.9; Sept. 1991; p.361-4
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: In order to consider food contamination with artificial nuclides, /sup 239,240/Pu, released from the Chernobyl accident, radioactivities of plutonium in imported European foods which exceed the interim intervention level for screening (/sup 134/Cs+/sup 137/Cs; 370 Bq/kg) in Japan were determined by alpha-ray spectrometry. Among three spices, one laurel leaf, one savory leaf and one thyme, in 13 food samples, /sup 239,240/Pu were found to be in the range of 52 to 85 mBq/kg. The results shows that /sup 239,240/Pu//sup 137/Cs and /sup 239,240/Pu//sup 90/Sr radioactivity ratios in those spices are respectively the levels of 10/sup -4/-10/sup -5/ and 10/sup -3/ which are almost equal to the radioactivity ratios in the releases from the Chernobyl reactor. Effective dose equivalent received by the general public was calculated to be 8.9*10/sup -4/ mSv.
Number of References: 12
Descriptors: accidents-; radioactive-pollution
Identifiers: Japan-imports; radioactive-contamination; effective-dose-equivalent; contaminated-European-foods; Chernobyl-accident; artificial-nuclides; alpha-ray-

spectrometry; spices-; laurel-leaf; savory-leaf; thyme-; 8-9*10-4-mSv; 239Pu-; 137Cs-; 90Sr-; 240Pu-
Classification Codes: A8760R (Radioactive-pollution); A8670Z (Other-topics); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 8.9E-07 Sv
Chemical Indexing: Pu-el; Cs-el; Sr-el; Pu-el
Coden: RAISAB
ISSN: 0033-8303
Sort Key: 0000033830319910004000009000000000000361
Accession Number: 4054072
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04172.000
Bestand: 7.1958=> L:10,12

Record 606 of 1145 in INSPEC 1990-1992

Title: The Chernobyl emergency and elimination of its consequences
Author: Ignatenko-EI
Source: Advances-in-Soviet-Power-Systems,-Part-1-(Thermal-and-Mechanical). no.5; 1990; p.1-4
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The author discusses the combination of factors leading to the Chernobyl disaster. To eliminate the possibility of a similar occurrence at other RBMK reactors several remedial measures have been carried out. The author discusses the main remedial work carried out. The safety procedures for operations of RBMK reactors are discussed. The author then describes the work carried out at Chernobyl, and in the surrounding area, to make the power station safe and to remove radioactive contamination.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radiation-decontamination; radioactive-pollution
Identifiers: nuclear-reactor-accident; USSR-; AD-1986; radioactive-pollution; Chernobyl-emergency; RBMK-reactors; safety-procedures; radioactive-contamination
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A9330G (Europe); A8670Z (Other-topics); A28; A93; A86; A2
Treatment Codes: P (Practical)
Coden: APMDEA
ISSN: 0888-4536
Copyright Clearance Center Code: 0888-4536/90/$20.00
Sort Key: 0000888453619900000000005000000000000001

Accession Number: 4048657
Update Code: 9200

Record 607 of 1145 in INSPEC 1990-1992

Title: Radioactivity in Slovakia after the Chernobyl accident
Author: Povinec-P; Chudy-M; Sykora-I; Szarka-J; Holy-K; Beseova-G
Author Affiliation: Dept. of Nucl. Phys., Comenius Univ., Bratislava, Czechoslovakia
Source: Acta-Physica-Universitatis-Comenianae. vol.30; 1990; p.45-63
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Czechoslovakia
Language: English
Abstract: The paper describes the radiation situation in Slovakia after the Chernobyl accident and discusses the measurement of gamma activity of aerosols, dry and wet deposition and various food stuffs.
Number of References: 11
Descriptors: accidents-; aerosols-; air-pollution; disasters-; health-hazards; radioactive-pollution
Identifiers: radioactive-pollution; gamma-ray-activity; dry-deposition; Czechoslovakia-; Slovakia-; Chernobyl-accident; aerosols-; wet-deposition; food-stuffs
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A8760R (Radioactive-pollution); A86; A93; A87; A8; A9
Treatment Codes: X (Experimental)
Coden: APUCED
ISSN: 0231-889X
Sort Key: 0000231889X19900003000000000000000000045
Accession Number: 4047526
Update Code: 9200

Record 608 of 1145 in INSPEC 1990-1992

Title: Marine dispersion of caesium 137 released from Sellafield and Chernobyl
Author: Prandle-D; Beechey-J
Author Affiliation: Proudman Oceanog. Lab., Birkenhead, UK
Source: Geophysical-Research-Letters. vol.18, no.9; Sept. 1991; p.1723-6
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: This modelling study examines the dispersion within the shelf seas surrounding the UK, of /sup 137/Cs discharged from Sellafield between 1969 and 1988 together with the atmospheric deposition following Chernobyl (April 1986). The close agreement obtained between computed and observed distributions lends confidence to estimates of

flushing times-fundamental parameters in determining pollutant concentrations. Moreover, this study confirms, to first-order, the estimates of Chernobyl fall-out provided by atmospheric dispersion models.
Number of References: 11
Descriptors: air-pollution; caesium-; oceanographic-regions; water-pollution
Identifiers: AD-1968-to-1988; North-Sea; Sellafield-; Chernobyl-; atmospheric-deposition; flushing-times; pollutant-concentrations; fall-out; dispersion-; 137Cs-
Classification Codes: A8670E (Water); A8670G (Atmosphere); A9330R (Regional-seas); A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: GPRLAJ
ISSN: 0094-8276
Copyright Clearance Center Code: 0094-8276/91/91GL-01336$03.00
Sort Key: 0000094827619910001800009000000000001723
Accession Number: 4047369
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25572.000
Bestand: 1.1974=>

Record 609 of 1145 in INSPEC 1990-1992

Title: Air concentrations of Chernobyl fallout radionuclides in the area Debrecen (Hungary)
Author: Daroczy-S; Dezso-Z; Pazsit-A; Buczko-CM; Somogyi-A; Papp-Z; Bolyos-A; Nagy-J; Raics-P
Author Affiliation: Isotope Lab., Kossuth Lajos Univ., Debrecen, Hungary
Source: Acta-Physica-Hungarica. vol.69, no.3-4; 1991; p.309-19
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Hungary
Language: English
Abstract: Measurements of aerosol activity from the Chernobyl reactor accident are reported. The concentrations of 14 radionuclides were obtained by gamma spectrometry for the period 30 April-9 May, 1986. Gross beta measurements were also done through 11 August 1986 of which /sup 137/Cs activity concentrations were derived. /sup 90/Sr activity concentrations were also determined for selected aerosol samples using nondestructive procedure. The time course of contamination observed in Debrecen (Hungary) is discussed in terms of trajectory analysis. Isotopic ratios are used to trace down routes of contaminated air. In addition, such ratios are used to characterize the status of the damaged reactor at different times.
Number of References: 15
Descriptors: air-pollution; radioactive-pollution; radioisotopes-

Identifiers: AD-1986-04-30-to-05-09; Hungary-; aerosol-activity; Chernobyl-reactor-accident; gamma-spectrometry; beta-measurements; Debrecen-; contaminated-air; 90Sr-; 137Cs-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: APHUE2
ISSN: 0231-4428
Sort Key: 0000231442819910006900003000000000000309
Accession Number: 4047208
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04190.001
Bestand: 54.1983-75.1994
ZB f. Physik Wien, Signatur: 04190.002
Bestand: 1.1995-3.1996

Record 610 of 1145 in INSPEC 1990-1992

Title: IAEA technical assistance in support of contamination monitoring following the Chernobyl accident
Author: Ridwan-M; Strohal-P; Zyszkowski-W
Source: IAEA-Bulletin. vol.33, no.2; 1991; p.15-19
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Austria
Language: English
Abstract: The radiological impact of the Chernobyl nuclear plant accident in April 1986 was not limited to the Soviet Union, but was felt widely in the northern hemisphere. As a result, national authorities in many countries took steps to safeguard public health. A number of them asked the IAEA to support their efforts, and over the past 5 years various national and regional technical assistance projects have been established. The authors present an overview of the type of assistance that was requested, and take a closer look at the situation in selected IAEA Member States. Case histories of Turkey and Iceland are presented in some detail since they reflect two typical, yet different situations.
Number of References: 0
Descriptors: accidents-; radiation-monitoring; radiation-protection
Identifiers: IAEA-technical-assistance; contamination-monitoring; Chernobyl-accident; radiological-impact; nuclear-plant-accident; Soviet-Union; northern-hemisphere; national-authorities; public-health; Turkey-; Iceland-
Classification Codes: A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8; A2
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: IAEBAB

ISSN: 0020-6067
Sort Key: 00000206067199100033000020000000000000015
Accession Number: 4043376
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08549.001
Bestand: 31.1989=>

Record 611 of 1145 in INSPEC 1990-1992

Title: The International Chernobyl Project
Source: IAEA-Bulletin. vol.33, no.2; 1991; p.4-13
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Austria
Language: English
Abstract: Beginning in the spring of 1990 and lasting into 1991, multinational teams of specialists in radiation protection, medicine, agriculture, and other fields critically studied the radiological and health situation in selected areas of Byelorussia, Russia, and the Ukraine. Approximately 825000 people live in 2225 settlements there that were heavily affected by the Chernobyl accident in 1986-about 25000 km/sup 2/ of land are contaminated with excess levels of radioactive caesium-137, a long-lived radionuclide released by the accident.
Number of References: 0
Descriptors: accidents-; radiation-monitoring; radiation-protection; radioactive-pollution
Identifiers: International-Chernobyl-Project; multinational-teams; radiation-protection; medicine-; agriculture-; health-situation; Byelorussia-; Russia-; Ukraine-; Chernobyl-accident; excess-levels; long-lived-radionuclide; 137Cs-
Classification Codes: A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670 (Environmental-science); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: IAEBAB
ISSN: 0020-6067
Sort Key: 00000206067199100033000020000000000000004
Accession Number: 4043375
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08549.001
Bestand: 31.1989=>

Record 612 of 1145 in INSPEC 1990-1992

Title: Development of regionally extended/worldwide version of the system for prediction of environmental emergency dose information: WSPEED. II. Long-range transport model and its application to dispersion of cesium-137 from Chernobyl
Author: Ishikawa-H; Chino-M
Author Affiliation: Dept. of Environ. Safety Res., JAERI, Ibaraki, Japan
Source: Journal-of-Nuclear-Science-and-Technology. vol.28, no.7; July 1991; p.642-55
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: For pt.I see ibid., vol.25(10), p.805 (1988). As part of a study to expand the computational region of SPEEDI (System for Prediction of Environmental Emergency Dose Information), a long-range atmospheric transport model of radioactivity was developed. This model computes air concentration, deposition, external gamma -dose and internal dose due to inhalation. The model is applied to the simulation of dispersion of /sup 137/Cs from Chernobyl over Europe and the calculated values of surface air concentrations and deposition were compared with measurements. In comparison of surface air concentration, about half of the calculated value agreed with measured ones within an order. The degree of quantitative agreement was comparable to that of the model application for the dispersion in a local complex terrain. This suggests that the proposed model has the capability to assess the long-range transport and the consequences of radioactivity released into the atmosphere.
Number of References: 31
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; radioactive-pollution
Identifiers: atmospheric-radioactivity; surface-deposition; pollution-; WSPEED-; Chernobyl-; long-range-atmospheric-transport-model; Europe-; surface-air-concentrations; 137Cs-dispersion
Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9260G (Winds-and-their-effects); A92; A86; A9; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el
Coden: JNSTAX
ISSN: 0022-3131
Sort Key: 00000223131199100028000070000000000000642
Accession Number: 4041619
Update Code: 9200

Record 613 of 1145 in INSPEC 1990-1992

Title: How it was: an operator's perspective (Chernobyl)
Author: Dyatlov-A
Source: Nuclear-Engineering-International. vol.36, no.448; Nov. 1991; p.43-4, 46, 48-50
Publication Year: 1991

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The former deputy engineer for operations at Chernobyl, and the senior officer in charge of the plant on the night of the accident, gives his side of the story. He thinks the reactor operators have been unfairly singled out for blame (having himself served four years in prison) and believes the accident was attributable entirely to design faults. In particular, the control rods, far from shutting down the plant, had the effect of massively increasing reactivity.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: deputy-engineer; Chernobyl-; senior-officer; accident-; reactor-operators; design-faults; control-rods
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 0000029550719910003600448000000000000043
Accession Number: 4036212
Update Code: 9200
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 614 of 1145 in INSPEC 1990-1992

Title: Committed effective dose equivalent in Slovakia due to dietary intake of /sup 134,137/Cs after the Chernobyl nuclear power plant accident
Author: Vladar-M; Tatara-M; Fojtik-M; Nikodemova-D; Cabanekova-H
Author Affiliation: Res. Inst. of Preventive Med., Bratislava, Czechoslovakia
Source: Jaderna-Energie. vol.37, no.2; Feb. 1991; p.54-63
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Czechoslovakia
Language: English
Abstract: The data on estimation of the /sup 134,137/Cs intake due to consumption of selected food during 1986-9 were summarized. The intake of radionuclide was utilized for the assessment of both individual committed effective dose equivalent and collective dose. The intake of /sup 137/Cs was estimated from the continuous foodstuffs monitoring results as a value of 7.9 kBq for children (1-15 years) and as a value of 10.3 kBq for adults. The intake of /sup 134/Cs was calculated as 3.3 kBq for children and as 4.3 kBq for adults. Over 70 per cent of this amount was incorporated in the year 1986. The committed effective dose equivalent due to internal contamination by /sup 134,137/Cs ranged from 54 to 263 mu Sv (median SD) with a mean value of 149 mu Sv

for children and from 54 to 263 mu Sv with a mean value of 197 mu Sv for adults. The collective committed effective dose equivalent for the Slovak population from this source was calculated as 952 manSv.

Number of References: 11

Descriptors: caesium-; dosimetry-; radioisotopes-

Identifiers: Slovakia-; Chernobyl-nuclear-power-plant-accident; radionuclide-; individual-committed-effective-dose-equivalent; collective-dose; internal-contamination

Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2

Treatment Codes: T (Theoretical-or-Mathematical)

Coden: JADEAQ

ISSN: 0448-116X

Sort Key: 0000448116X199100037000020000000000000054

Accession Number: 4027299

Update Code: 9200

Record 615 of 1145 in INSPEC 1990-1992

Title: Analysis of radiocontamination data, collected in Italy following the Chernobyl accident, for the evaluation of transfer parameters of radionuclides in the deposition-vegetation-cow-milk pathway

Author: Monte-L

Author Affiliation: Dipartimento Analisi e Monitoraggio dell'Ambiente, ENEA, Rome, Italy

Source: Journal-of-Environmental-Radioactivity. vol.14, no.4; 1991; p.317-29

Publication Year: 1991

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Some transfer parameters used in models for predicting the migration of radionuclides in the environment are evaluated here by application of simple calculus, as described previously to contamination data collected at various Italian sites following the Chernobyl accident. The estimated values are compared with those used in some conservative models or obtained by studies carried out in other countries after the accident.

Number of References: 22

Descriptors: accidents-; health-hazards; radiation-monitoring; radioactive-pollution; radioisotopes-; safety-

Identifiers: radioisotope-migration; radiocontamination-data; Italy-; Chernobyl-accident; transfer-parameters; radionuclides-; deposition-vegetation-cow-milk-pathway; environment-

Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8

Treatment Codes: X (Experimental)

Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X199100014000040000000000000317
Accession Number: 4026775
Update Code: 9200

Record 616 of 1145 in INSPEC 1990-1992

Title: International effort needed on sarcophagus (Chernobyl)
Author: Thomson-B
Source: Nuclear-Engineering-International. vol.36, no.446; Sept. 1991; p.17-19
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The hastily-constructed sarcophagus at Chernobyl will have to be replaced-that is certain. A special seminar held over two days at the Mat-Tech 91 symposium in Helsinki considered the problems and sought solutions.
Number of References: 0
Descriptors: fission-reactor-decommissioning; radiation-protection; radioactive-pollution; safety-
Identifiers: radiation-safety; fuel-lava; sarcophagus-; Chernobyl-
Classification Codes: A2847 (Fission-reactor-decommissioning); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 000002955071991000360044600000000000017
Accession Number: 4019855
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 617 of 1145 in INSPEC 1990-1992

Title: Migration properties of Chernobyl ejection radionuclides in ecological agricultural aspect
Author: Petryaev-EP; Sokolik-GA; Ivanova-TG; Morozova-TK; Ovsyannikova-SV; Pishchalov-VN
Source: Vestsi-Akademii-Navuk-BSSR,-Serya-Fizika-Energetychnykh-Navuk. no.3; 1991; p.26-32
Publication Year: 1991
Record Type: Journal-article

Country of Publication: Byelorussian SSR, USSR
Language: English
Abstract: The radioactive contamination and the migration of the Chernobyl ejection radionuclides in the top-soil cover of tested grounds in southern Byelorussia have been studied. The degree of involvement of radionuclides into agricultural chains has been estimated.
Number of References: 7
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: radioactive-contamination; migration-; Chernobyl-ejection-radionuclides; top-soil-cover; southern-Byelorussia; agricultural-chains
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Coden: VABFAF
ISSN: 0374-4760
Sort Key: 000037447601991000000000300000000000026
Accession Number: 4010623
Update Code: 9100

Record 618 of 1145 in INSPEC 1990-1992

Title: Statistical features of irradiation following the Chernobyl accident
Author: Linge-II; Barchudarov-RM; Labuzov-SG; Nigiyan-AA; Savkin-MN
Author Affiliation: Inst. of Biophys., Minist. of Public Health, Moscow, USSR
Source: Radiation-Protection-Dosimetry. vol.36, no.2-4; 1991; p.191-4
Publication Year: 1991
Record Type: Conference-Paper; Journal-article
Conference Details: Statistics of Human Exposure to Ionising Radiation Workshop. 2-4 April 1990; Oxford, UK
Country of Publication: UK
Language: English
Abstract: The actual levels and projected radiation doses to people living in the most contaminated areas following the Chernobyl accident have been studied. All results are based upon the application of the information system SDACHA which includes integrated data on each of 6000 populated centres with deposition levels of /sup 137/Cs of 50 kBq.m/sup -2/ or above. The actual external and internal doses and projected doses for the strictly controlled areas (population 270000) were specified on the basis of the data for 1989. The paper concerns the actual data and collective dose commitments in the most contaminated areas of Gomel, Mogilev, Kiev, Zhitomir and Bryansk regions. Probable variations of the collective dose commitment were estimated in relation to the scale of population relocation and demographic circumstances. The distributions and values of the lifetime collective dose commitment to the critical group of children born in 1980-89 have also been determined.
Number of References: 5

Descriptors: accidents-; air-pollution; disasters-; dosimetry-; health-hazards; radioactive-pollution; statistical-analysis
Identifiers: USSR-; Chernobyl-accident; actual-levels; projected-radiation-doses; people-; most-contaminated-areas; information-system-SDACHA; integrated-data; populated-centres; deposition-levels; internal-doses; strictly-controlled-areas; Gomel-; Mogilev-; Kiev-; Zhitomir-; Bryansk-regions; population-relocation; demographic-circumstances; lifetime-collective-dose-commitment; critical-group; children-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8760G (Laser-beams-microwaves-and-other-electromagnetic-waves); A9330G (Europe); A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201991000360000200000000000191
Accession Number: 4002118
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 619 of 1145 in INSPEC 1990-1992

Title: Measurement of the distribution of the surface activity density in the reactor shaft of the fourth power unit of the Chernobyl atomic power plant
Author: Volkovich-AG; Liksonov-VI; Lobanovskii-DA; Lukashevich-IE; Smirnov-SV; Stepanov-VE; Tyurin-AS; Urutskoev-LI; Chesnokov-AV
Source: Soviet-Atomic-Energy. vol.69, no.3; Sept. 1990; p.749-53
Translated from: Atomnaya-Energiya. vol.69, no.3; Sept. 1990; p.164-7
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Boreholes drilled to study the damaged reactor core permitted visual periscopic inspection of the cavity of the shaft of the destroyed reactor. It turned out that the reactor space contained no fuel clusters. The reactor core was destroyed during the explosion and fire and part of it dropped into the space beneath the reactor. The bottom of the cavity consisted of the reactor core remnants with a complex relief. A metal cylinder, part of the radiation shielding, constituted the walls. On top the cavity was bounded by broken structural components and 'E'-scheme structures. The authors' goal was to ascertain the distribution of the radiation sources and to determine their total activity in the cavity of the shaft. They did so by using the method described. In addition they calculated the dose rate distribution throughout the empty space.
Number of References: 2
Descriptors: fission-reactor-decommissioning

Identifiers: Chernobyl-; damaged-reactor-core; visual-periscopic-inspection; destroyed-reactor; fuel-clusters; reactor-core-remnants; metal-cylinder; radiation-shielding; radiation-sources; dose-rate-distribution
Classification Codes: A2847 (Fission-reactor-decommissioning); A2850G (Light-water-reactors); A28; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/90/6903-0749$12.50
Sort Key: 00000047163199000069000030000000000000164
Accession Number: 3998174
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 620 of 1145 in INSPEC 1990-1992

Title: Behaviour of radioactivity from Chernobyl-weathering from buildings
Author: Nichoison-KW; Hedgecock-JB
Author Affiliation: AEA Environ. & Energy, Harwell Lab., UK
Source: Journal-of-Environmental-Radioactivity. vol.14, no.3; 1991; p.225-31
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Levels of /sup 134/Cs and /sup 137/Cs have been measured on roof tiles 36 months after the Chernobyl reactor accident. The samples were collected in a region of the UK that experienced only dry deposition during the passage of the main plume. The results indicated that levels were still measurable after the weathering period and a comparison with the results of two previous studies indicated very slow weathering rates.
Number of References: 8
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: USSR-; Ukraine-; AD-1988; AD-1989; Great-Britain; air-pollution; atmosphere-; England-; Harwell-; AD-1986; radioactivity-; weathering-; buildings-; 134Cs-; 137Cs-; roof-tiles; Chernobyl-reactor-accident; UK-; dry-deposition; main-plume; weathering-; Cs-
Classification Codes: A8670G (Atmosphere); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9330G (Europe); A9330K (Islands); A8670Z (Other-topics); A8690 (Other-topics-in-energy-research-and-environmental-science); A86; A28; A93; A8; A2; A9
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X19910001400003000000000000225
Accession Number: 3991831
Update Code: 9100

Record 621 of 1145 in INSPEC 1990-1992

Title: Radiocesium in brown trout (Salmo trutta) from a subalpine lake ecosystem after the Chernobyl reactor accident
Author: Brittain-JE; Storruste-A; Larsen-E
Author Affiliation: Freshwater Ecology & Inland Fisheries Lab., Oslo Univ., Norway
Source: Journal-of-Environmental-Radioactivity. vol.14, no.3; 1991; p.181-91
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: After Chernobyl in April 1986, radioactive cesium has been measured in Ovre Heimdalsvatn, a Norwegian subalpine lake, situated in an area of high fallout. The lake is an important reference site and has been the subject of extensive ecosystem studies since the 1950s. Emphases has been given to measuring long-term trends in the activity content of radioactive cesium in the brown trout (Salmo trutta) population. After ice-break in June 1986, the average total cesium activity content rose to 7000 Bq/kg wet weight. The activity content fell during 1987 and at ice-break in 1988 was 4000 Bq/kg. However, there was no further reduction during the summers of 1988 and 1989, possibly due to increased inputs from the catchment. There is considerable variation in the radiocesium activity content measured in individual fish. On the basis of the changes in cesium activity content in trout since 1986, an observed half-life for /sup 137/Cs and /sup 134/Cs in trout of 3.0 and 1.3 years, respectively, has been estimated.
Number of References: 21
Descriptors: accidents-; radioactive-pollution; water-pollution
Identifiers: radioactive-Cs; subalpine-lake-ecosystem; Chernobyl-reactor-accident; Ovre-Heimdalsvatn; high-fallout; brown-trout; Salmo-trutta; observed-half-life; 137Cs-; 134Cs-
Classification Codes: A8670E (Water); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A28; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X19910001400003000000000000181
Accession Number: 3991828
Update Code: 9100

Record 622 of 1145 in INSPEC 1990-1992

Title: Multi-fractal nature of radioactivity deposition on soil after the Chernobyl accident
Author: Raes-F; De-Cort-M; Graziani-G
Author Affiliation: Commission of the European Communities, Environment Inst., Ispra, Italy
Source: Health-Physics. vol.61, no.2; Aug. 1991; p.271-4
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Fractal analysis is introduced in the field of environmental health physics. In particular, it is applied to the complex and inhomogeneous deposition pattern of radioactivity after the Chernobyl accident. The patchiness of /sup 137/Cs hot spots is quantified by a fractal dimension as low as 1. The problem of finding hot spots that might be of health concern is discussed.
Number of References: 5
Descriptors: accidents-; disasters-; fractals-; health-hazards; radioactive-pollution; soil-
Identifiers: multifractal-nature; radioactivity-deposition; Chernobyl-accident; environmental-health-physics; inhomogeneous-deposition-pattern; fractal-dimension; health-concern; 137Cs-hot-spots
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8710 (General-theoretical-and-mathematical-biophysics); A87; A86; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 0000017907819910006100002000000000000271
Accession Number: 3991042
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 623 of 1145 in INSPEC 1990-1992

Title: Calculation of ascent of radioactive pollution from damaged block of the Chernobyl nuclear power plant
Author: Talerko-NN
Author Affiliation: Taifun Sci. Ind. Assoc., USSR
Source: Soviet-Meteorology-and-Hydrology. no.10; 1990; p.29-35
Translated from: Meteorologiya-i-Gidrologiya. no.10; 1990; p.39-46
Publication Year: 1990
Record Type: Journal-article

Country of Publication: USSR; Translation: USA
Language: English
Abstract: A model is constructed for calculating the trajectory of a turbulent high-temperature stream into the thermally stratified atmosphere in the presence of wind drift. It is used to calculate the trajectory of the active area of the stream which formed as a result of the accident at the Chernobyl NPP during the period from 26 April through 9 May 1986. It is established that the height of ascent of the stream in that period varied substantially in time. It is shown that the main factor determining the ascent height is the temperature stratification at levels above 500 m. The influence of other characteristics of the atmosphere on the height of the ascent of the stream is discussed.
Number of References: 9
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; atmospheric-temperature; atmospheric-turbulence; nuclear-power-stations; radioactive-pollution; transport-processes; troposphere-
Identifiers: radioactive-plume-height; plume-ascent-dynamics; AD-1986-04-26-to-05-09; plume-temperature; Ukraine-; plume-active-region-trajectories; Soviet-Union; USSR-; radioactive-pollution; Chernobyl-nuclear-power-plant; turbulent-high-temperature-stream; thermally-stratified-atmosphere; wind-drift; 9-May-1986; ascent-height; temperature-stratification; 1000-to-2900-m; 500-m
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9260E (Convection-turbulence-and-diffusion); A8760R (Radioactive-pollution); A9330G (Europe); A86; A92; A87; A93; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: altitude 1.0 E03 to 2.9 E03 m; altitude 5.0 E02 m
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/90/$20.00
Sort Key: 000013029061990000000001000000000000039
Accession Number: 3984986
Update Code: 9100

Record 624 of 1145 in INSPEC 1990-1992

Title: Procedures and findings of examination of air contamination by alpha-active plutonium aerosols: primary and secondary products of Chernobyl accident
Author: Gaziev-YaI; Petrenko-GI; Chumichyev-VB; Valetova-NK; Shkuro-VN; Polukhina-AM
Author Affiliation: Inst. of Exp. Meteorol. Sci. & Ind. Res. Enterprise Typhoon, State Comm. on Hydrometeorol., Obninsk, USSR
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.150, no.1; July 1991; p.201-6
Publication Year: 1991
Record Type: Journal-article

Country of Publication: Switzerland
Language: English
Abstract: Atmospheric contamination pattern of Pu-radionuclides over a 30 km zone around the Chernobyl nuclear power plant in 1987-8 has been examined. Aerosol samples were analyzed for isotopic composition by using gamma- and alpha-spectrometric, and radio-chemical methods. Preliminary analysis of isotopic and fractional composition of aerosols carried out earlier indicated that over the first few months after the Chernobyl accident the relative contribution of /sup 238,239,240/Pu to air contamination was lowered as compared with beta-active products. Alpha-active plutonium isotopes became the dominant radioactive contaminants of the atmosphere and the concentrations of /sup 238,239,240/Pu inhaled fractions turned out to be lower than the limiting permissible values based on the USSR radiation safety standards for radioactive contamination of the atmosphere for the limited part of population exposed to radionuclides. Nevertheless, it is necessary to know even moderate levels of atmospheric contamination by Pu-radio-nuclides, since their long impacts on the personnel operating in the 30 km zone of the Chernobyl NPP and population residing in the adjacent regions have not been studied properly. So, the risks for population health of such impacts cannot be generally excluded from consideration.
Number of References: 4
Descriptors: aerosols-; air-pollution; air-pollution-detection-and-control; disasters-; isotope-relative-abundance; plutonium-; radioactive-pollution
Identifiers: atmospheric-contamination-pattern; primary-products; gamma-spectrometry; alpha-spectrometry; 238Pu-; 239Pu-; 240Pu-; pollution-; AD-1987-to-1988; air-contamination; alpha-active-plutonium-aerosols; secondary-products; Chernobyl-accident; nuclear-power-plant; isotopic-composition; radio-chemical-methods; fractional-composition; inhaled-fractions; USSR-radiation-safety-standards; radioactive-contamination; atmosphere-; personnel-; population-; health-; Pu-
Classification Codes: A8670G (Atmosphere); A8270R (Aerosols-and-foams); A3510B (Atomic-masses-mass-spectra-abundances-and-isotopes); A9330G (Europe); A8670L (Measurement-techniques-and-instrumentation); A86; A82; A35; A93; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Pu-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119910015000001000000000000201
Accession Number: 3980279
Update Code: 9100

Record 625 of 1145 in INSPEC 1990-1992

Title: Radiocesium contamination in soil due to the Chernobyl accident
Author: Birattari-C; Bonardi-M; Cantone-MC; Ciappellano-S; Cortesi-P; Testolin-G
Author Affiliation: Dipartimento di Fisica, Milan Univ., Italy

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.150, no.1; July 1991; p.129-42
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Three different cereal cultivated fields (rice, maize/wheat, wheat/barley) were selected and soil samples were collected in order to study the behaviour of the radiocesium deposited over the crops after the Chernobyl accident fall-out (April 1986) together with its distribution at different ground depths. For each field, soil samples were removed during the sowing (Oct.-Nov. 1986), in Spring (Apr. 1987) and during the harvest time (June-Sept. 1987). The /sup 40 /K concentration and stable potassium content in soil was also evaluated by nuclear spectrometry and by atomic absorption spectrometry. Beside soil sample measurements, the cultivated cereals produced in the 1986 harvest (rice, maize, wheat) were analyzed to evaluate the deposited contamination, and in order to evaluate the contamination during the growth and maturation the authors also analyzed whole plants (roots, stalks, grains) of the cultivated cereals (rice, wheat, barley) in 1987. Results are presented and discussed.
Number of References: 9
Descriptors: accidents-; atomic-absorption-spectroscopy; caesium-; disasters-; radioactive-chemical-analysis; radioactive-pollution; soil-
Identifiers: rice-; maize-; wheat-; barley-; AD-1986-04; AD-1987-04; AD-1986-10-11; AD-1987-06-09; USSR-; contamination-; soil-; Chernobyl-accident; cereal-cultivated-fields; radiocesium-; fall-out; distribution-; ground-depths; sowing-; harvest-time; concentration-; nuclear-spectrometry; atomic-absorption-spectrometry; maturation-; roots-; stalks-; grains-; 40-K; 137Cs-
Classification Codes: A8670C (Soil-and-rock); A8280 (Chemical-analysis-and-related-physical-methods-of-analysis); A9330G (Europe); A86; A82; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; K-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119910015000001000000000000129
Accession Number: 3980275
Update Code: 9100

Record 626 of 1145 in INSPEC 1990-1992

Title: Radioactive caesium contamination in human milk in Italy after the Chernobyl accident
Author: Campos-Venuti-G; Risica-S; Rogani-A
Author Affiliation: Lab. di Fisica, Istituto Superiore di Sanita, Rome, Italy
Source: Radiation-Protection-Dosimetry. vol.37, no.1; 1991; p.43-9
Publication Year: 1991
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: A systematic study of human milk contamination due to the Chernobyl fall-out was conducted from May 1986 to December 1988 in the Rome area. A comparison was made with the contamination in the same period in other infant food, that is, cows' and powdered milk. The thyroid and effective dose equivalent for breast fed infants born in different periods were evaluated. Using average main food contamination data in the same area, an assessment of the transfer coefficient between the mothers' diet and their milk was performed. The /sup 40/K content of this milk was also measured and is discussed. An extension of the sampling to some other areas was made in 1987 and 1988.
Number of References: 30
Descriptors: accidents-; caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radioactive-fallout; thyroid-dose; human-milk; Italy-; Chernobyl-accident; Rome-area; infant-food; effective-dose-equivalent; breast-fed-infants; 40K-; radioactive-137Cs-contamination
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; K-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201991000370000100000000000000043
Accession Number: 3978900
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 627 of 1145 in INSPEC 1990-1992

Title: Radioactive products over the damaged block-4 of Chernobyl nuclear power plant before the completion of Sarcofag
Author: Ogorodnikov-BI
Author Affiliation: Karpov Inst. of Phys., Chem., Moscow, USSR
Editor: Rogers-JT
Source: Fission Product Transport Processes in Reactor Accidents. Hemishere, New York, NY, USA; 1990; xii+870 pp.
p.799-806
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 22-26 May 1989; Dubrovnik, Yugoslavia. Sponsored by: UNESCO; Carleton Univ.; Boris Kidric Inst. Nucl. Sci
Country of Publication: USA
Language: English

Abstract: From the end of August-to the middle of September, 1986 radioactive samples were taken from a distance of 10-30 m from damaged block-4. Zr-95, Nb-95, Ru-103, Ru-106, Cs-134, Cs-137, Ce-141, Ce-144, Cm-242 and Pu-(238-242) were identified in all samples. In one sample from August 29 the concentration of the gaseous form of I-131 was 0.6 Bq/m/sup 3/. the amount of ruthenium in gaseous form reached only 2-5% of the amount of ruthenium in aerosols.
Number of References: 8
Descriptors: radiation-monitoring; radioactive-pollution
Identifiers: damaged-block-4; Chernobyl-nuclear-power-plant; Sarcofag-; radioactive-samples; gaseous-form; 95Zr-; 95Nb-; 103Ru-; 106Ru-; 242Cm-; 134Cs-; 137Cs-; 141Ce-; 144Ce-; 242Pu-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Zr-el; Nb-el; Ru-el; Ru-el; Cm-el; Cs-el; Cs-el; Ce-el; Ce-el; Pu-el
ISBN: 0891168761
Sort Key: 1089116876119900000000000000000000000799
Accession Number: 3975995
Update Code: 9100

Record 628 of 1145 in INSPEC 1990-1992

Title: Method and results of aerosol particle size definitions in 30-km zone of Chernobyl nuclear power plant in 1986-7
Author: Skitovich-VI; Budyka-AK; Ogorodnikov-BI; Petryanov-IV
Author Affiliation: Karpov Inst. of Phys. Chem., Moscow, USSR
Editor: Rogers-JT
Source: Fission Product Transport Processes in Reactor Accidents. Hemishere, New York, NY, USA; 1990; xii+870 pp.
p.779-87
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 22-26 May 1989; Dubrovnik, Yugoslavia. Sponsored by: UNESCO; Carleton Univ.; Boris Kidric Inst. Nucl. Sci
Country of Publication: USA
Language: English
Abstract: During the period from May 1986 to November 1987 aerosol samples were collected around the Chernobyl nuclear power plant to define radioactive aerosol particle sizes by the filter pack technique. The parameters of lognormal distribution (activity median aerodynamic diameter, AMAD and geometric standard deviation) were defined for various radionuclides in aerosol form. The submicron aerosol particles were only shown to be produced by the damaged block-4 during the initial period after the accident. AMAD was increased up to 4-6 mu m at the following stages when the

secondary updraft of aerosol particles from contaminated surfaces became the dominant source of radioactive aerosols.

Number of References: 4

Descriptors: accidents-; aerosols-; air-pollution-detection-and-control; radiation-monitoring; radioactive-pollution

Identifiers: aerosol-particle-size; 30-km-zone; Chernobyl-nuclear-power-plant; filter-pack-technique; lognormal-distribution; activity-median-aerodynamic-diameter; geometric-standard-deviation; radionuclides-; accident-; secondary-updraft; contaminated-surfaces

Classification Codes: A8670G (Atmosphere); A8670L (Measurement-techniques-and-instrumentation); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A86; A87; A28; A8

Treatment Codes: X (Experimental)

ISBN: 0891168761

Sort Key: 10891168761199000000000000000000000779

Accession Number: 3975993

Update Code: 9100

Record 629 of 1145 in INSPEC 1990-1992

Title: Radioactive releases due to the Chernobyl accident

Author: Begichev-SN; Borovoj-AA; Burlakov-EV; Gagarinsky-AJ; Demin-VF; Khrulev-AA; Khodakovsky-IL

Author Affiliation: I.V. Kurchatov Inst. of Atomic Energy, Moscow, USSR

Editor: Rogers-JT

Source: Fission Product Transport Processes in Reactor Accidents. Hemishere, New York, NY, USA; 1990; xii+870 pp.

p.717-34

Publication Year: 1990

Record Type: Conference-Paper

Conference Details: 22-26 May 1989; Dubrovnik, Yugoslavia. Sponsored by: UNESCO; Carleton Univ.; Boris Kidric Inst. Nucl. Sci

Country of Publication: USA

Language: English

Abstract: General data on radioactive releases of the damaged Chernobyl NPP unit (ChNPP-4) which were presented by the Soviet delegation to the post accident IAWA meeting in August 1986 are given. The method of its obtaining is described. These data are analysed and revised on the basis of investigation results obtained in the USSR and abroad after August 1986 on the issues of the accident course and consequences. Fission and neutron activation products inventory data in the ChNPP-4 core before the accident are presented including isotopes of U and transuranic elements. Dynamics, physical and chemical processes of the radioactive releases formation are considered including urgent mitigation measures. Major scientific on-side and off-side investigations planned and performed are described.

Number of References: 19
Descriptors: accidents-; radioactive-pollution
Identifiers: Chernobyl-accident; radioactive-releases; damaged-Chernobyl-NPP-unit; ChNPP-4; post-accident-IAWA-meeting; USSR-; neutron-activation; transuranic-elements; mitigation-measures; U-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: U-el
ISBN: 0891168761
Sort Key: 108911687611990000000000000000000000717
Accession Number: 3975990
Update Code: 9100

Record 630 of 1145 in INSPEC 1990-1992

Title: Who are the liquidators? (Chernobyl emergency workers)
Author: Varley-J
Source: Nuclear-Engineering-International. vol.36, no.445; Aug. 1991; p.45
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: One of the criticisms that has been levelled at the IAEA's International Chernobyl Project (ICP) on the health consequences of the accident is that it did not look at the emergency workers, who received high doses dealing with the aftermath. The criticism is unfair since the ICP was never intended to consider this group, being only concerned with assessing the health effects in members of the public currently living in contaminated regions-as it was requested to do by the Soviet government. But the health of the emergency workers or 'liquidators' is clearly an issue of major importance and not surprisingly was a topic that came up frequently in the course of the meeting on the ICP findings held in May at the IAEA's Vienna headquarters.
Number of References: 0
Descriptors: biological-effects-of-ionising-radiation; dosimetry-
Identifiers: liquidators-; Chernobyl-; health-consequences; emergency-workers; high-doses
Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: G (General-or-Review)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 000002955071991000360044500000000000045
Accession Number: 3973772
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001

Bestand: 13.1968,150=>

Record 631 of 1145 in INSPEC 1990-1992

Title: Fifth anniversary: perspective from the USSR (Chernobyl)
Author: Medvedev-ZA
Author Affiliation: Nat. Inst. for Med. Res., London, UK
Source: Nuclear-Engineering-International. vol.36, no.445; Aug. 1991; p.42-5
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: At the fifth anniversary Chernobyl conferences in the Soviet Union, dismay and disbelief greeted the results of the IAEA's International Chernobyl Project's assessment of the health consequences. Concerns were also voiced about the fuel still inside the stricken reactor.
Number of References: 0
Descriptors: radioactive-pollution
Identifiers: Chernobyl-; health-consequences; fuel-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: G (General-or-Review)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 0000029550719910003600445000000000000042
Accession Number: 3973771
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 632 of 1145 in INSPEC 1990-1992

Title: Radioactivity in the highly contaminated area near the Chernobyl site
Author: Imanaka-T; Seo-T; Koide-H
Author Affiliation: Res. Reactor Inst., Kyoto Univ., Osaka, Japan
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.154, no.2; 16 May 1991; p.111-19
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Field measurements of radioactivity were performed in highly contaminated areas around Chernobyl in the summer of 1990. Six radionuclides including the most dominant /sup 137/Cs have been identified in soil samples through gamma -ray

spectrometry. The relation between the gamma -ray dose rate above the ground and the radioactivity density in soils has been investigated. The external dose from deposited radiocesium for the period of 70 years after the deposition has been evaluated to be about 5 mSv per 1 and 0.5 Ci km/sup -2/ of /sup 137/Cs and /sup 134/Cs deposition, respectively.

Number of References: 7

Descriptors: accidents-; dosimetry-; health-hazards; radioactive-pollution; radioactivity-measurement; safety-

Identifiers: highly-contaminated-area; Chernobyl-site; radionuclides-; soil-samples; gamma-ray-spectrometry; gamma-ray-dose-rate; radioactivity-density; external-dose; 137Cs-; 134Cs-; radioactive-Cs

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A28; A87; A86; A2

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JRNCDM

ISSN: 0236-5731

Sort Key: 0000236573119910015400002000000000000111

Accession Number: 3960271

Update Code: 9100

Record 633 of 1145 in INSPEC 1990-1992

Title: Tritium in natural water after the Chernobyl accident

Author: Katrich-IYu

Author Affiliation: Taifun Sci. Ind. Assoc., USSR

Source: Soviet-Meteorology-and-Hydrology. no.5; 1990; p.80-4

Translated from: Meteorologiya-i-Gidrologiya. no.5; 1990; p.92-7

Publication Year: 1990

Record Type: Journal-article

Country of Publication: USSR; Translation: USA

Language: English

Abstract: Presents data on tritium concentrations in atmospheric precipitation in the territory of the USSR after the accident at the Chernobyl Atomic Power Plant (CAPP). Results are presented on the results of investigations of tritium pollution of river systems affected by the accident at the CAPP, reservoirs of the Dnieper Cascade, the Dnieper estuary, and the Black Sea. It is established that the tritium concentrations in water systems were less than one-third the PC/sub B/ and did not represent a radioecological threat. It is established that the main tritium release into the environment (atmosphere) occurred at the moment of the accident.

Number of References: 4

Descriptors: air-pollution; atmospheric-precipitation; radioactive-pollution; rivers-; tritium-; water-pollution

Identifiers: Chernobyl-accident; concentrations-; atmospheric-precipitation; USSR-; pollution-; river-; Dnieper-Cascade; Dnieper-estuary; Black-Sea; radioecological-threat; T-
Classification Codes: A8670G (Atmosphere); A8670E (Water); A9260T (Air-quality-and-air-pollution); A9240Q (Water-quality-and-water-resources); A9330G (Europe); A9240F (Rivers-runoff-and-streamflow); A86; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: T-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/90/$20.00
Sort Key: 00001302906199000000000050000000000000092
Accession Number: 3955548
Update Code: 9100

Record 634 of 1145 in INSPEC 1990-1992

Title: No easy answers to Chernobyl questions
Author: Varley-J
Source: Nuclear-Engineering-International. vol.36, no.443; June 1991; p.34-7
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Reviews the sequence of the Chernobyl reactor accident in 1986 and discusses how it has affected the Soviet nuclear power programme. The condition of the Chernobyl sarcophagus, and possible solutions of the problems with it are described.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations; radiation-protection; radioactive-pollution
Identifiers: RBMK-safety; radiation-protection; Chernobyl-reactor-accident; Soviet-nuclear-power-programme; Chernobyl-sarcophagus
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); B8220 (Nuclear-power-stations-and-plants); A28; A87; B82; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199100036004430000000000000034
Accession Number: 3953351
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 635 of 1145 in INSPEC 1990-1992

Title: Monitoring Chernobyl fallout at University Park, Pennsylvania from April 29 through May 22, 1986
Author: Jester-WA
Author Affiliation: Pennsylvania State Univ., University Park, PA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.63; 1991; p.57-8
Publication Year: 1991
Record Type: Conference-Paper; Journal-article
Conference Details: 1991 Annual Meeting of the American Nuclear Society (papers in summary form only received). 2-6 July 1991; Orlando, FL, USA
Country of Publication: USA
Language: English
Abstract: Starting shortly after the report of the Chernobyl accident, the author began to monitor for atmospheric fallout on the campus of the Pennsylvania State University located at University Park, Pennsylvania. The monitoring period extended from April 29 through May 22, 1986, and consisted primarily of the use of a high-volume air filter system. Other types of samples were also collected.
Number of References: 2
Descriptors: air-pollution-detection-and-control; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-fallout; University-Park; Pennsylvania-; Chernobyl-accident; atmospheric-fallout; monitoring-period; high-volume-air-filter-system
Classification Codes: A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670L (Measurement-techniques-and-instrumentation); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19910006300000000000000000057
Accession Number: 3943714
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 636 of 1145 in INSPEC 1990-1992

Title: Time-independent neutronic analysis of the Chernobyl accident
Author: Landeyro-PA; Buccafurni-A
Author Affiliation: ENEA, CRE Casaccia, Rome, Italy
Source: Nuclear-Science-and-Engineering. vol.108, no.2; June 1991; p.126-49
Publication Year: 1991
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: Estimates are made of the positive reactivity introduced through the growth of the coolant void fraction in the Chernobyl reactor at both the average burnup value given by the Soviets and the maximum value. Using Monte Carlo models, various possible axial burnup distributions, displacer models, conditions in the control channels, and control rod positions are considered in calculating the insertion of positive reactivity by the manual and emergency control rods, that is, the positive scram. Two possible scenarios are examined for a second reactivity peak: (a) creation of a mixture of fuel, water, and cladding in a number of central fuel channels, resulting in the explosion of these channels, and (b) uniform vaporization throughout the entire reactor, resulting in reactor depressurization. From the data presented, it can be concluded that vaporization of the cooling water in the fuel channel gave the highest reactivity contribution to the Chernobyl accident. The positive reactivity due to insertion of the manual and emergency control rods played only a minor role in the reactivity balance of the accident.
Number of References: 25
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-core-control-and-monitoring; fission-reactor-safety; fission-reactor-theory-and-design; Monte-Carlo-methods; neutron-flux
Identifiers: neutronic-analysis; Chernobyl-accident; positive-reactivity; coolant-void-fraction; average-burnup-value; maximum-value; Monte-Carlo-models; axial-burnup-distributions; displacer-models; control-channels; control-rod-positions; emergency-control-rods; positive-scram; water-; cladding-; central-fuel-channels; explosion-; uniform-vaporization; reactor-depressurization
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2820 (Neutron-physics); A2843D (Core-control-and-guidance); A2843B (Cooling-and-heat-recovery); A2841 (Fission-reactor-theory-and-design); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NSENAO
ISSN: 0029-5639
Sort Key: 0000029563919910010800002000000000000126
Accession Number: 3941894
Update Code: 9100

Record 637 of 1145 in INSPEC 1990-1992

Title: The Chernobyl accident reviewed
Author: Grimston-M
Source: Atom. no.413; May 1991; p.12-20
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: On 26 April 1986, at about 1.23 am Moscow time, an explosion occurred in the no. 4 unit of the Chernobyl nuclear power station in the eastern part of the Byelorusso-Ukrainian woodland, 18 kilometres from the town of Chernobyl, and 4 kilometres from the 'company town' of Pripyat. It was to prove the most serious accident in the history of nuclear power. The author, Energy Issues Adviser of AEA Technology, takes one back to that time and describes what has occurred since then and what has been learned.
Number of References: 20
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-accident; explosion-; no-.-4-unit; Chernobyl-nuclear-power-station; eastern-part; Byelorusso-Ukrainian-woodland; Pripyat-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review)
Coden: ATMMAR
ISSN: 0004-7015
Sort Key: 00000047015199100000004130000000000000012
Accession Number: 3937640
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08662.000
Bestand: 1958,17-1995,437 N:41,300

Record 638 of 1145 in INSPEC 1990-1992

Title: Radiocesium bioavailability: transfer of Chernobyl and tracer radiocesium to goat milk
Author: Hansen-HS; Hove-K
Author Affiliation: Dept. of Animal Sci., Agric. Univ. of Norway, As-NLH, Norway
Source: Health-Physics. vol.60, no.5; May 1991; p.665-73
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The bioavailability of Chernobyl-derived radiocesium in hay, fungal fruit bodies, willow bark, and soil was compared to tracer radiocesium (/sup 134/CsCl) by measuring transfer coefficients (F/sub m/) to goat milk. The average F/sub m/ value from /sup 134/CsCl of 11.9*10/sup -2/ d L/sup -1/ was taken to represent the maximal transfer to milk on the provided diet. In 1986, the F/sub m/ value from hay was 35% of that from /sup 134/CsCl, thus demonstrating the low bioavailability of recently deposited radiocesium. Values in 1987 were also lower, with a mean of 76% of that from tracer Cs. During 1988 and 1989, maximal F/sub m/ values were observed, suggesting increased bioavailability from the year of fallout to the following years. Transfer of radiocesium from two fungal species harvested in 1988 and 1989 were 78% and 87%, respectively, of that from tracer Cs, while bark was lower (62%).
Number of References: 40

Descriptors: caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: bioavailability-; Chernobyl-derived-radiocesium; hay-; fungal-fruit-bodies; willow-bark; soil-; tracer-radiocesium; transfer-coefficients; goat-milk; diet-; year-; fallout-; 134CsCl-; tracer-Cs
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: CsCl-bin Cl-bin Cs-bin; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 0000017907819910006000005000000000000665
Accession Number: 3930935
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 639 of 1145 in INSPEC 1990-1992

Title: Post-Chernobyl nuclear power: tendencies, development trends, problems
Author: Slesarev-I
Author Affiliation: I.V. Kurchatov Inst. of Atomic Energy, Moscow, USSR
Source: Energy - Environment - Quality of Life. Proceedings of the 13th Annual International Scientific Forum on Energy (ISFE). Inderscience Enterprises, Geneva, Switzerland; 1991; viii+410 pp.
p.291-7
Publication Year: 1991
Record Type: Conference-Paper
Conference Details: 4-7 Dec. 1989; Paris, France. Sponsored by: Univ. Miami; Global Found. USA; UNESCO; et al
Country of Publication: Switzerland
Language: English
Abstract: The large accidents at Three Mile Island and Chernobyl have meant that safety and social acceptance of nuclear power are of absolute priority among other problems. The author looks at new concepts of nuclear reactors; social and economic-ecological criteria of safety; and ways to meet safety demands.
Number of References: 3
Descriptors: fission-reactor-safety
Identifiers: nuclear-power-social-acceptance; accidents-; Three-Mile-Island; Chernobyl-; safety-; nuclear-reactors; economic-ecological-criteria
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Sort Key: 1000000000019910000000000000000000000291
Accession Number: 3928456

Update Code: 9100

Record 640 of 1145 in INSPEC 1990-1992

Title: Radiocaesium transfer to ewes fed contaminated hay after the Chernobyl accident: effect of vermiculite and AFCF (ammonium ferricyanoferrate) as countermeasures
Author: Daburon-F; Archimbaud-Y; Cousi-J; Fayart-G; Hoffschir-D; Chevallereau-I; Le-Creff-H; Gueguen-L
Author Affiliation: Lab. de Radiobiol. Appliquee, CEA-DSV-DPTE, Gif-sur-Yvette, France
Source: Journal-of-Environmental-Radioactivity. vol.14, no.1; 1991; p.73-84
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Contaminated hay harvested in the south-east of France in June 1986 was fed to lactating and non-lactating ewes for 50-60 days. The mean transfer coefficients observed were 0.075 days litre/sup -1/ (SD=0.004) to milk (n=3) and 0.11 days kg/sup -1/ (SD=0.01) to meat (n=5). Adding vermiculite to feed pellets decreased the transfer coefficients by a factor of 2.5 to both milk and meat if given at 30 g day/sup -1/; a factor of 8 difference was reached using 60 g day/sup -1/ added vermiculite or 2 g day/sup -1/ ammonium ferricyanoferrate (AFCF). No adverse effects on intake rates, animal weight or milk production were observed during the administration period (9-100 days, 50-60 days during the oral contamination and 40 days during the depletion period), whatever the treatment. Three lactating goats were fed the same contaminated hay, but chopped and mixed with powdered maize, for 15 days. The mean milk transfer coefficient was lower than that for ewes at 0.032 days litre/sup -1/ (SD=0.05).
Number of References: 27
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: ewes-; contaminated-hay; Chernobyl-; vermiculite-; ammonium-ferricyanoferrate; France-; mean-transfer-coefficients; milk-; meat-; animal-weight; goats-; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X199100014000010000000000000073
Accession Number: 3920576
Update Code: 9100

Record 641 of 1145 in INSPEC 1990-1992

Title: A one-dimensional dispersion model for radionuclides in the marine environment applied to the Chernobyl fallout over the northern Baltic Sea
Author: Ribbe-J; Muller-Navarra-SH; Nies-H
Author Affiliation: Dept. of Geol. & Geophys., Sydney Univ., NSW, Australia
Source: Journal-of-Environmental-Radioactivity. vol.14, no.1; 1991; p.55-72
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Baltic Sea was the marine ecosystem most affected by Chernobyl fallout. The occurrence of 'hot spots' at the water surface was characteristic of the contamination. A one-dimensional vertical dispersion model has been used to explain the distribution of the radionuclides, cesium-137 and cesium-134, in the water column of the central Bothnian Sea for the first six months after the contamination event. In addition to physical dispersion processes, specific chemical characteristics of the radionuclides were taken into account. The simulation shows that, in the six-month period, 5% of the cesium-137 and cesium-134 was trapped in the sediment, while 50% of the plutonium-239/240 activity was deposited. The activity concentration of plutonium in the water column was, however, close to the limit of detection.
Number of References: 28
Descriptors: accidents-; radioactive-pollution; seawater-; water-pollution
Identifiers: 134Cs-; 240Pu-; one-dimensional-dispersion-model; radionuclides-; marine-environment; Chernobyl-fallout; northern-Baltic-Sea; hot-spots; central-Bothnian-Sea; 25-wk; 137Cs-; 239Pu-
Classification Codes: A9220N (Pollution); A9330G (Europe); A8670E (Water); A9330R (Regional-seas); A92; A93; A86; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 1.5 E07 s
Chemical Indexing: Cs-el; Pu-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X19910001400001000000000000055
Accession Number: 3920575
Update Code: 9100

Record 642 of 1145 in INSPEC 1990-1992

Title: Foliary contamination in the area of Bratislava (Czechoslovakia) after the Chernobyl accident
Author: Koprda-V
Author Affiliation: Slovak Acad. of Sci., Bratislava, Czechoslovakia
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.153, no.1; 22 Jan. 1991; p.15-27

Publication Year: 1991
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The contamination of leaves of some ornamental and fruit-tree plants (18 species), herbs (6) and early leafy vegetables (2) were assessed in the region of Bratislava and its vicinity through the first months after the Chernobyl accident. The levels of contamination showed local and temporal dependence. In October compared to its levels five months earlier, foliar contamination showed a relative 12- to 200-fold decrease of radioactivity. The effective half-life of the mixture of fission products in cumulative fallout on leaves of vegetation changed depending on time after the accident from 4 days (on day 10) to 150 days (after 2 months). The soluble fraction of radioactive contaminants on plant foliage ranged from 0.12 to 0.64.
Number of References: 7
Descriptors: accidents-; air-pollution; radioactive-pollution; radioactivity-measurement
Identifiers: Czechoslovakia-; Bratislava-; Chernobyl-accident; contamination-; leaves-; fruit-tree-plants; herbs-; leafy-vegetables; foliar-contamination; radioactivity-; half-life; fission-products; cumulative-fallout; radioactive-contaminants
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119910015300001000000000000015
Accession Number: 3919831
Update Code: 9100

Record 643 of 1145 in INSPEC 1990-1992

Title: Form and parameters of the particles of the fuel ejection in the Chernobyl reactor accident
Author: Bogatov-SA; Borovoi-AA; Dubasov-YuV; Lomonosov-VV
Source: Soviet-Atomic-Energy. vol.69, no.1; July 1990; p.595-601
Translated from: Atomnaya-Energiya. vol.69, no.1; July 1990; p.36-40
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: A comprehensive investigation of the forms of the ejected fuel is important for many reasons. Firstly, the fuel matrix is the carrier of many long-lived radionuclides which represent a considerable radiation hazard. Secondly, research on the fuel particles can provide unique information on the processes in the damaged reactor. The authors present some results of research on the fuel particles; the results were obtained by the

Joint Expedition of the Kurchatov Institute of Atomic Energy during the fall of 1987 in Chernobyl.
Number of References: 9
Descriptors: accidents-; air-pollution; fission-reactor-fuel; fission-reactor-safety; radioactive-pollution
Identifiers: fuel-ejection; Chernobyl-reactor-accident; fuel-matrix; long-lived-radionuclides; radiation-hazard; damaged-reactor
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fuel-elements); A87; A86; A28; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/90/6901-0595$12.50
Sort Key: 00000047163199000069000010000000000000036
Accession Number: 3915663
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 644 of 1145 in INSPEC 1990-1992

Title: Chernobyl five years after
Author: Belayev-S; Borovoi-A; Volkov-V; Gagarinski-A
Author Affiliation: I.V. Kurchatov Inst., Moscow, USSR
Source: Nuclear-Europe-Worldscan. vol.11, no.3-4; March-April 1991; p.22-4
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: A large-scale, long-term program of scientific investigation was begun to study the accident's consequences, their mitigation and elimination. This included: monitoring of environmental radioactive contamination to study the effects on the biosphere; ascertaining the need for further decontamination and, if necessary, carrying it out; investigations and preventive maintenance inside the unit 4 confinement system, normally called the sarcophagus, including detection of the position and state of the fuel in the destroyed reactor unit; study of radiation-medical problems, checks on the health of the population exposed to radiation, carrying out measures to ensure radiation protection of the population; development of safety enhancement measures at NPPs with reactors of all types.
Number of References: 3
Descriptors: radiation-protection; radioactive-pollution; shielding-

Identifiers: environmental-radioactive-contamination; biosphere-; decontamination-; unit-4-confinement-system; sarcophagus-; destroyed-reactor-unit; radiation-medical-problems; radiation-protection; safety-enhancement-measures
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: G (General-or-Review)
Coden: NEWOEN
Sort Key: 00000000000199100011000030000000000000022
Accession Number: 3914483
Update Code: 9100

Record 645 of 1145 in INSPEC 1990-1992

Title: Removal rates of Chernobyl fallout radioactivity on urban surfaces
Author: Reponen-A; Jantunen-M
Author Affiliation: Nat. Public Health Inst., Dept. of Environ. Hygiene & Toxicology, Kuopio, Finland
Source: Health-Physics. vol.60, no.4; April 1991; p.569-73
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Contrary to weapons test fallout, which began in the 1950s and still continues, the majority of Chernobyl fallout on Finland settled within 14 d. Therefore, studying its behavior has provided a unique opportunity to follow a nearly instantaneous deposition in various urban environments.
Number of References: 11
Descriptors: air-pollution; atmospheric-radioactivity; health-hazards; radioactive-pollution; soil-
Identifiers: removal-rates; AD-1986; Kuopio-; AD-1987-to-1989; atmosphere-; air-pollution; radioactive-pollution; Chernobyl-fallout-radioactivity; urban-surfaces; Finland-; nearly-instantaneous-deposition; urban-environments; 137Cs-; 134Cs-; 103Ru-; 95Zr-; 95Nb-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330G (Europe); A9260T (Air-quality-and-air-pollution); A8670C (Soil-and-rock); A87; A86; A93; A92; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Ru-el; Zr-el; Nb-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 00000179078199100060000040000000000000569
Accession Number: 3901566
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 646 of 1145 in INSPEC 1990-1992

Title: Radioiodine retention in ovine thyroids in Northwestern Greece following the reactor accident at Chernobyl
Author: Ioannides-KG; Pakou-AA; Papadopoulou-CV
Author Affiliation: Nucl. Phys. Lab., Ioannina Univ., Greece
Source: Health-Physics. vol.60, no.4; April 1991; p.517-21
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Iodine-131 concentrations were measured throughout the summer of 1986 in thyroids of lambs slaughtered at Ioannina (Northwestern Greece) following the accident at the Chernobyl nuclear reactor. During the survey, 40 thyroids were collected. The highest level of /sup 131/I detected was 2471+or-339 Bq per thyroid. The thyroids of 20 lambs did not contain detectable /sup 131/I concentrations, while the contamination content of the others was greatly variable. The transport of /sup 131/I from pasture to thyroids of lambs has been described through a simple model for the retention of /sup 131/I in the glands. The transfer coefficient f/sub T/, expressing the steady-state equilibrium, was estimated to be 564 +or-270 kg/sup -1/ d. This result reflects the sensitivity of animal thyroids as biological radioiodine monitors.
Number of References: 10
Descriptors: health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: AD-1986; ovine-thyroids; Northwestern-Greece; reactor-accident; lambs-; Ioannina-; Chernobyl-nuclear-reactor; pasture-; retention-; glands-; transfer-coefficient; steady-state-equilibrium; animal-thyroids; biological-radioiodine-monitors; 131I-concentrations
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 0000017907819910006000004000000000000517
Accession Number: 3901560
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 647 of 1145 in INSPEC 1990-1992

Title: Estimating parameters of wind lift of radionuclides in the zone of the Chernobyl nuclear power plant
Author: Garger-EK; Zhukov-GP; Sedunov-YuS
Author Affiliation: Inst. of Exp. Meteorol., State Comm. on Hydrometeorol., USSR
Source: Soviet-Meteorology-and-Hydrology. no.1; 1990; p.1-5
Translated from: Meteorologiya-i-Gidrologiya. no.1; 1990; p.5-10
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The results of measurements of the intensity of wind lift alpha (sec/sup -1/) and coefficients of wind lift R (m/sup -1/) for three radionuclides are presented. The measurements were made in the zone of the Chernobyl nuclear power plant from August 1986 through 1987. The intensity of wind lift over a field for the isotopes /sup 144/Ce, /sup 137/Cs, and /sup 95/Nb+/sup 95/Zr is given. For a young pine forest with an average tree height of 5-6 m the wind lift intensity for these isotopes was 2-9 times greater than for the field. During this observation period a substantial decrease in the values of alpha and R was not noted.
Number of References: 6
Descriptors: accidents-; air-pollution; atmospheric-boundary-layer; atmospheric-radioactivity; disasters-; radioactive-pollution; wind-
Identifiers: AD-1986-to-1987; USSR-; pollution-; atmosphere-; wind-lift-of-radionuclides; Chernobyl-; young-pine-forest; tree-height; isotopes-; 144Ce-; 137Cs-; 95Nb-; 95Zr-
Classification Codes: A9260T (Air-quality-and-air-pollution); A9260F (Boundary-layer-structure-and-processes); A9260G (Winds-and-their-effects); A8670G (Atmosphere); A9330G (Europe); A92; A86; A93; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Ce-el; Cs-el; Nb-el; Zr-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/90/$20.00
Sort Key: 0000130290619900000000001000000000000005
Accession Number: 3896803
Update Code: 9100

Record 648 of 1145 in INSPEC 1990-1992

Title: Diagnostic investigation of the damaged reactor at Chernobyl
Author: Abalin-SS; Belyaev-ST; Borovoi-AA; Vasil'ev-AA; Volkov-VG; Gagarinskii-AYu; Kambulov-IN; Morozov-VI; Kukharkin-NE; Ogorodnik-SS; Ponomarev-Stepnoi-NN; Popov-VD; Pryanichnikov-VA; Kheruvimov-AN
Source: Soviet-Atomic-Energy. vol.68, no.5; May 1990; p.416-21
Translated from: Atomnaya-Energiya. vol.68, no.5; May 1990; p.355-9
Publication Year: 1990

Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The 'Cover' over the destroyed unit number four was completed in November 1986. Thus, and important step was completed in the efforts to prevent the spread of radioactive materials and to protect the surrounding territory from direct exposure to ionizing radiation. The behaviour of the nuclear fuel concentrated in the 'Cover' (estimated to contain about 96% of the reactor core) did not lead to any immediate misgivings. Nevertheless, the security of the permanent safe containment of the destroyed reactor and the drawing up of task plans for the final burial of the fuel required the best information. Therefore, as with both the construction of the 'Cover' and its subsequent completion under the technical direction of the experts from the I.V. Kurchatov Institute for Atomic Energy (IAE), an extensive set of diagnostic investigations were to be conducted with the following goals: more exact definition of the amount and disposition of fuel within the unit; determination of the mechanical and physicochemical condition of the main fuel mass; assessment of the nuclear, radiation, and thermal safety; control of the safety of the 'Cover' structures; drafting of recommendations for the safe burial of the fuel.
Number of References: 0
Descriptors: fission-reactor-decommissioning; radiation-protection; safety-
Identifiers: radioactive-materials; ionizing-radiation; nuclear-fuel; safe-containment; destroyed-reactor; thermal-safety; safe-burial
Classification Codes: A2847 (Fission-reactor-decommissioning); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/90/6805-0416$12.50
Sort Key: 00000047163199000068000050000000000000355
Accession Number: 3896681
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 649 of 1145 in INSPEC 1990-1992

Title: DECOHA at Chernobyl
Author: Beaujean-HW; Fiala-Goldiger-J; Hanulik-J
Author Affiliation: Anlagen Bau Contor, Stutensee, Germany
Source: Nuclear-Engineering-International. vol.36, no.441; April 1991; p.30
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The DECOHA decontamination process is to be used on stainless steel at the Chernobyl site. This process uses HBF/sub 4/ which attacks almost every metal or oxide surface.
Number of References: 0
Descriptors: accidents-; radiation-decontamination; safety-; stainless-steel
Identifiers: DECOHA-decontamination-process; stainless-steel; Chernobyl-site; metal-; oxide-surface; HBF-4
Classification Codes: A2880 (Radiation-technology-including-shielding); A28; A2
Treatment Codes: P (Practical)
Chemical Indexing: Cr-sur Fe-sur Cr-ss Fe-ss; HBF4-ss F4-ss B-ss F-ss H-ss
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 0000029550719910003600441000000000000030
Accession Number: 3894668
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 650 of 1145 in INSPEC 1990-1992

Title: Chernobyl revisited-five years on
Author: Medvedev-Z
Author Affiliation: Nat. Inst. for Med. Res., London, UK
Source: Nuclear-Engineering-International. vol.36, no.441; April 1991; p.25-8
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Summer 1990 saw the first International Conference on the Biological Effects of the Chernobyl Accident, held at the 'world capital of radiation'. At the conference it was revealed that the Soviets do not expect the Chernobyl sarcophagus to last more than 20-30 years. But clearing the site to 'green field' status would be too expensive, and the technology does not yet exist to remove the current structure. Building a second sarcophagus may be the only solution.
Number of References: 6
Descriptors: accidents-; fission-reactor-safety; radiation-protection; safety-
Identifiers: reactor-accident; safety-; radiation-protection; Chernobyl-sarcophagus
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 0000029550719910003600441000000000000025
Accession Number: 3894667

Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 651 of 1145 in INSPEC 1990-1992

Title: Tentative dose estimation in house at Pripyat-city on Chernobyl accident with sugar
Author: Nakajima-T; Otsuki-T; Likhtariov-I
Author Affiliation: Div. of Phys., Nat. Inst. of Radiol. Sci., Chiba, Japan
Source: Journal-of-Nuclear-Science-and-Technology. vol.28, no.1; Jan. 1991; p.71-3
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: Two samples of sugar, left from before the Chernobyl accident until the present time, have been found and collected at Pripyat-city. A tentative dose at the place where these sugars were found has been estimated using the ESR method, and these results are reported.
Number of References: 6
Descriptors: accidents-; dosimetry-; organic-compounds; paramagnetic-resonance; radioactive-pollution
Identifiers: dose-estimation; house-; Pripyat-; Chernobyl-; sugar-; ESR-method
Classification Codes: A2880C (Dosimetry); A8670 (Environmental-science); A28; A86; A2; A8
Treatment Codes: X (Experimental)
Coden: JNSTAX
ISSN: 0022-3131
Sort Key: 0000022313119910002800001000000000000071
Accession Number: 3892133
Update Code: 9100

Record 652 of 1145 in INSPEC 1990-1992

Title: Cs-134/137 contamination and root uptake of different forest trees before and after the Chernobyl accident
Author: Ertel-J; Ziegler-H
Author Affiliation: GSF-Inst. fur Strahlenschutz, Neuherberg, West Germany
Source: Radiation-and-Environmental-Biophysics. vol.30, no.2; 1991; p.147-57
Publication Year: 1991
Record Type: Journal-article
Country of Publication: Germany
Language: English
Abstract: The Cs-134/137 activities were measured from different tree organs of spruce, larch and sycamore maple. Two locations in South Bavaria were monitored during a period of

2.5 years following the Chernobyl accident. Samples taken in 1985 allow to determine the Cs-137 contamination before the accident. Increasing Cs-137 activities from older to younger needle years of Picea abies caused by root-uptake of the global weapons' fallout are due to the high phloem mobility of this element and the remaining of the needles at the tree for about 6-7 years. In contrast, the Cs-137 activity was much smaller in leaves of larch and sycamore maple. After the Chernobyl accident, the higher contamination of spruce>larch>sycamore maple is dependent on the roughness of bark, absolute bark surface and the existence of leaves during the deposition of Chernobyl-derived radioactivity. The Cs-134/137 activity (Bq/kg d.w.) was about 25-times higher in bark compared to wood of Picea abies and 1.5-4.7 times higher in directly contaminated twig-axes than in leaves. Till the end of the investigation the major contamination of the shoots was due to direct deposition of cesium on the trees.

Number of References: 23

Descriptors: accidents-; caesium-; disasters-; radioactive-pollution; radioisotopes-

Identifiers: radioactive-contamination; nuclear-reactor-accident; root-uptake; forest-trees; Chernobyl-accident; spruce-; larch-; sycamore-maple; South-Bavaria; Picea-abies; global-weapons'-fallout; phloem-mobility; bark-; leaves-; wood-; 2-5-yr; 6-to-7-yr

Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: time 7.9 E07 s; time 1.9 E08 to 2.2 E08 s

Coden: REBPAT

ISSN: 0301-634X

Sort Key: 0000301634X19910003000002000000000000147

Accession Number: 3884757

Update Code: 9100

Record 653 of 1145 in INSPEC 1990-1992

Title: MEDIA-an Eulerian model of atmospheric dispersion: first validation on the Chernobyl release

Author: Piedelievre-JP; Musson-Genon-L; Bompay-F

Author Affiliation: Direction de la Meteorol. Nat., SCEM/D/ES, Paris, France

Source: Journal-of-Applied-Meteorology. vol.29, no.12; Dec. 1990; p.1205-20

Publication Year: 1990

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: At the time of the Chernobyl accident, only a trajectory model was available at the French Weather Service to operationally forecast the movements of such a radioactive cloud. Thus, it was decided to develop a tridimensional model of the atmospheric dispersion of pollutants. This paper presents the model that was applied using the data collected during and after the Chernobyl release. The transport-diffusion of a pollutant concentration field is computed using the wind, temperature, and precipitation fields

already predicted by an operational weather forecasting model, which makes the computing time of this model very low.

Number of References: 16

Descriptors: air-pollution; atmospheric-movements; radioactive-pollution

Identifiers: USSR-; nuclear-power-station-accident; radioactive-pollution; MEDIA-; atmosphere-; dispersal-; air-pollution; Eulerian-model; dispersion-; validation-; Chernobyl-release; tridimensional-model; transport-diffusion; pollutant-concentration-field

Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9260E (Convection-turbulence-and-diffusion); A9330G (Europe); A92; A86; A93; A9; A8

Treatment Codes: T (Theoretical-or-Mathematical)

Coden: JAMOAX

ISSN: 0894-8763

Sort Key: 00008948763199000029000120000000000001205

Accession Number: 3881744

Update Code: 9100

Record 654 of 1145 in INSPEC 1990-1992

Title: Chernobyl fallout in Southern and Central Finland

Author: Jantunen-M; Reponen-A; Kauranen-P; Vartiainen-M

Author Affiliation: Dept. of Environ., Nat. Public Health Inst., Hygiene & Toxicology, Kuopio, Finland

Source: Health-Physics. vol.60, no.3; March 1991; p.427-34

Publication Year: 1991

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: To study the levels and distributions of radionuclides released in the Chernobyl accident, the authors sampled surface peat from 62 sites in Southern and Central Finland and measured /sup 131/I, /sup 134/Cs, /sup 137/Cs, /sup 132/Te, /sup 140/Ba, /sup 103/Ru, /sup 90/Sr, /sup 141/Ce, and /sup 95/Zr. The distribution of fallout activities was highly uneven, depending on movement of the contaminated air mass and rainfall distribution during the critical days. The highest values observed were 420 kBq m/sup -2/ of /sup 131/I and 70 kBq m/sup -2/ Cs. The nuclide ratios showed wide and partly unexpected variations. The high-boiling-point, or nonvolatile, elements Ce and Zr were spread mostly on a 200-km-wide zone extending across Finland from southwest to northeast. The more volatile elements, I, Ce, and Te, showed quite a different, more widespread, fallout distribution, while an intermediate behavior was observed for Ba, Ru, and possible Sr. These results can be explained by assuming that pulverized nuclear fuel material released in the reactor explosion on 26 April reached Finland via Poland and the Baltic Sea and traversed the country along the above-mentioned narrow zone,

while volatile material, evaporated in the reactor fire from 26 April to 5 May, arrived in several waves and was consequently more widely and evenly spread.
Number of References: 29
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; disasters-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: Europe-; atmosphere-; radioactive-pollution; air-pollution; USSR-nuclear-reactor-accident; AD-1986; Chernobyl-fallout; Finland-; radionuclides-; Chernobyl-accident; surface-peat; contaminated-air-mass; rainfall-distribution; critical-days; nuclide-ratios; nonvolatile,-elements; volatile-elements; fallout-distribution; pulverized-nuclear-fuel-material; reactor-explosion; Poland-; Baltic-Sea; reactor-fire; 131I-; 134Cs-; 137Cs-; 132Te-; 140Ba-; 103Ru-; 90Sr-; 141Ce-; 95Zr-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A9260T (Air-quality-and-air-pollution); A86; A87; A93; A92; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Cs-el; Te-el; Ba-el; Ru-el; Sr-el; Ce-el; Zr-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 0000017907819910006000003000000000000427
Accession Number: 3879804
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 655 of 1145 in INSPEC 1990-1992

Title: Evidence of Chernobyl fallout on a temperate Himalayan glacier
Author: Nijampurkar-VN; Rao-DK
Author Affiliation: Phys. Res. Lab., Ahmedabad, India
Source: Current-Science. vol.59, no.23; 10 Dec. 1990; p.1239-41
Publication Year: 1990
Record Type: Journal-article
Country of Publication: India
Language: English
Abstract: Several snow/ice samples collected from Chhota Shigri glacier in August 1987 were analysed for total beta and gamma activities to see if any fallout from Chernobyl was deposited in the Himalayan region. The activities in snow samples are higher, by a factor of about 15, than those observed in old ice samples. These activities are mainly in the hump region of the glacier located in the altitude band 4150 to 4650 m. These results are the first evidence of deposition of Chernobyl fallout on Chhota Shigri glacier, Indian Himalayas.
Number of References: 9
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; glaciology-; ice-; radioactive-pollution; snow-

Identifiers: Chernobyl-nuclear-accident; radioactive-fallout; beta-radiation; gamma-radiation; AD-1987-08; N-India; 7731E+3219-; Himachal-Pradesh; S-Asia; glacier-hump-region; ablation-zone; Chernobyl-fallout; temperate-Himalayan-glacier; Chhota-Shigri-glacier; August-1987; Himalayan-region; snow-samples; old-ice-samples; Indian-Himalayas; 4100-to-4900-m; 4150-to-4650-m; 137Cs-activity; 134Cs-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9330D (Asia); A9240R (Snow); A9240S (Ice); A9240V (Glaciers-and-ice-sheets); A86; A87; A28; A93; A92; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: altitude 4.1 E03 to 4.9 E03 m; altitude 4.15 E03 to 4.65 E03 m
Chemical Indexing: Cs-el; Cs-el
Coden: CUSCAM
ISSN: 0011-3891
Sort Key: 00000113891199000059000230000000000001239
Accession Number: 3878349
Update Code: 9100

Record 656 of 1145 in INSPEC 1990-1992

Title: Estimate of dose reduction effects due to countermeasures after the Chernobyl accident
Author: Muck-K
Author Affiliation: Austrian Res. Centre, Seibersdorf, Austria
Source: Radiation-Protection-Dosimetry. vol.35, no.2; 1991; p.99-114
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Various countermeasures introduced in Austria after the Chernobyl accident are compared and their effective dose reduction effects evaluated. As expected, the greatest reductions were obtained with countermeasures with regard to milk and directly contaminated food. Three of them (prohibition of sale of fresh vegetables, prohibition of feeding cows on fresh grass and selection of low activity milk in the dairies) accounted for more than 70% of the total reduction of exposure by all countermeasures. Other countermeasures contributed little to the reduction of exposure. By all countermeasures combined, the exposure to be theoretically expected was reduced by 30% for the adult and 50% for the one year old infant. The dose reduction of the one year old infant (0.58 mSv) was approximately double that of the adult (0.33 mSv) resulting basically from higher reductions of the /sup 131/I intake by the infant.
Number of References: 29
Descriptors: accidents-; disasters-; dosimetry-; radioactive-pollution
Identifiers: radioactivity-countermeasures; dose-reduction-effects; Chernobyl-accident; Austria-; directly-contaminated-food; fresh-vegetables; cows-; fresh-grass; low-activity-milk; infant-; adult-; 0-58-mSv; 0-33-mSv

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 5.8E-04 Sv; radiation dose equivalent 3.3E-04 Sv
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019910003500002000000000000099
Accession Number: 3878311
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 657 of 1145 in INSPEC 1990-1992

Title: Empirical scavenging coefficients of radioactive substances released from Chernobyl
Author: Jylha-K
Author Affiliation: Dept. of Meteorol., Helsinki Univ., Finland
Source: Atmospheric-Environment,-Part-A-(General-Topics). vol.25A, no.2; 1991; p.263-70
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: After the accident at the Chernobyl power plant on 26 April 1986, most parts of Europe were affected by the associated radiation pollution. The dependence of the precipitation scavenging coefficient Lambda (s/sup -1/) on the rainfall rate R (mm h/sup -1/) is studied on the basis of radioactivity and radar rainfall measurements in Southern Finland after the accident. The average scavenging coefficient weighted by the high-altitude concentrations of radionuclides involved was found to be Lambda =10/sup -4/ s/sup -1/ R/sup 0.64/, in good agreement with earlier investigations. The results also suggest that weather radar may form an important and effective part of a real-time radiation monitoring and warning system.
Number of References: 39
Descriptors: air-pollution; air-pollution-detection-and-control; radioactive-pollution; rain-; remote-sensing-by-radar
Identifiers: Chernobyl-accident; remote-sensing; AD-1986-04-29; scavenging-coefficients; Europe-; radiation-pollution; precipitation-; rainfall-rate; radioactivity-; Southern-Finland; high-altitude-concentrations; radionuclides-; weather-radar; real-time-radiation-monitoring-and-warning-system
Classification Codes: A8670G (Atmosphere); A8670L (Measurement-techniques-and-instrumentation); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9260T (Air-quality-and-air-pollution); A9330G (Europe); B7720 (Pollution-detection-and-control); B6320 (Radar-equipment-systems-and-applications); A86; A92; A93; B77; B63; A8

Treatment Codes: P (Practical); X (Experimental)
Coden: ATENBP
ISSN: 0004-6981
Copyright Clearance Center Code: 0004-6981/91/$3.00+0.00
Sort Key: 00000046981199100025000020000000000000263
Accession Number: 3872343
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 658 of 1145 in INSPEC 1990-1992

Title: Differences in the availabilities of cesium-134, 137 and ruthenium-106 from a Chernobyl-contaminated soil to a water plant, duckweed, and to the terrestrial plants, bean and lettuce

Author: Polar-E; Bayulgen-N
Author Affiliation: Cekmece Nucl. Res. & Training Centre P.K.1, Istanbul, Turkey

Source: Journal-of-Environmental-Radioactivity. vol.13, no.3; 1991; p.251-9
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The aqueous solubilities of some radionuclides present in a Chernobyl-contaminated soil and their subsequent availabilities to an aquatic plant, duckweed (Lemnaceae), were compared to those obtained for bean (Phaseolus vulgaris) and lettuce (Lactuca sativa). During this investigation carried out in laboratory conditions, it was observed that, although around 0.06% of /sup 134/Cs or /sup 137/Cs present in the soil was detected in the aqueous phase, duckweed concentrated 1000-5500 times this amount, depending on plant species. By contrast, /sup 106/Ru in the soil was leached more effectively into solution than was cesium but its accumulation into duckweed was less. The effects on the availabilities of ruthenium and cesium of depletion of soil organic matter and of amendment of the aqueous phase with nutrients were also investigated. The transfer factors of /sup 134,137/Cs into bean and lettuce cultivated in the same soil were much smaller-0.02 and 0.06, respectively-while that for /sup 106/Ru was around 0.2. The difference between aquatic and terrestrial plants in cycling radionuclides is briefly discussed.

Number of References: 16
Descriptors: accidents-; caesium-; radioactive-pollution; radioisotopes-; ruthenium-; soil-; solubility-
Identifiers: radionuclide-cycling; water-plant; terrestrial-plants; aqueous-solubilities; radionuclides-; Chernobyl-contaminated-soil; availabilities-; aquatic-plant; duckweed-; bean-; lettuce-; 134Cs-; 137Cs-; soil-organic-matter; 106Ru-; Cs-radioisotope
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8

Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X19910001300003000000000000251
Accession Number: 3868933
Update Code: 9100

Record 659 of 1145 in INSPEC 1990-1992

Title: Transport of /sup 131/I and /sup 137/Cs from air to cows' milk produced in north-western Italian farms following the Chernobyl accident
Author: Spezzano-P; Giacomelli-R
Author Affiliation: Health Phys. & Environ. Lab., ENEA, Vercelli, Italy
Source: Journal-of-Environmental-Radioactivity. vol.13, no.3; 1991; p.235-50
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: After the Chernobyl accident, the levels of /sup 131/I and /sup 137/Cs were measured in surface air, pasture grass and milk produced by cows fed exclusively on fresh grass. The observed values of the vegetation-to-air, milk-to-vegetation and milk-to-air concentration ratios were compared with the values predicted by an internationally recognized assessment model for the transfer of radionuclides through terrestrial food chains. Predicted values were higher than the observed results by factors of 2.6, 2.1 and 5.6 for /sup 131/I and 4.3, 3.7 and 16 for /sup 137/Cs, for the vegetation-to-air, milk-to-vegetation and milk-to-air ratios, respectively. A better agreement between prediction and observation was achieved by using experimental values of the following parameters; the mass interception factor (R/Y), the effective decay constants on vegetation (lambda /sub v/) and the milk transfer coefficients (F/sub m/), these being lower than the model default values. Milk produced by dairy cows fed on a mixed diet showed a different behaviour with regard to excretion of /sup 137/Cs.
Number of References: 28
Descriptors: accidents-; air-pollution; caesium-; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: radionuclide-transfer; NW-Italy; Chernobyl-accident; surface-air; pasture-grass; milk-; concentration-ratios; terrestrial-food-chains; mass-interception-factor; effective-decay-constants; milk-transfer-coefficients; dairy-cows; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: JERAEE

ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/91/$03.50
Sort Key: 0000265931X199100013000030000000000000235
Accession Number: 3868932
Update Code: 9100

Record 660 of 1145 in INSPEC 1990-1992

Title: Human postmortem thyroid /sup 131/I content and risk estimates in Bratislava, Czechoslovakia following the Chernobyl accident
Author: Beno-M; Hrabovcova-A; Piknova-D; Mikulecky-M; Kubacek-L; Valachova-A
Author Affiliation: Res. Inst. of Preventive Med., Bratislava, Czechoslovakia
Source: Health-Physics. vol.60, no.2; Feb. 1991; p.203-8
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: From 3 May to 4 August 1986, thyroids of 416 postmortem subjects in Bratislava (population: approximately 400000) were measured for /sup 131/I. Subsequently, dose rates in this organ for the day of exitus were calculated. Mean dose commitments were estimated by integrating linear or quadratic-periodic regression lines drawn through scatterplots of logarithmically transformed daily dose rates. The mean dose-commitment estimates in thyroids of adults were 0.74 and 0.58 mGy for linear and quadratic-periodic regression, respectively. The same for thyroids obtained from donors of fetal to 18 y of age were 1.67 and 1.77 mGy for linear and quadratic-periodic regression, respectively. A comparison of the actual thyroid radiation burden with its theoretical values calculated in the first days of contamination of the environment showed that the models used were safe enough to protect the population.
Number of References: 21
Descriptors: air-pollution; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: risk-estimates; Bratislava-; Czechoslovakia-; Chernobyl-accident; quadratic-periodic-regression-lines; logarithmically-transformed-daily-dose-rates; mean-dose-commitment-estimates; adults-; theoretical-values; models-; 0-58-to-1-77-mGy; human-postmortem-thyroid-131I-content
Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A8670G (Atmosphere); A87; A93; A86; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 5.8E-04 to 1.77E-03 Gy
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 0000017907819910006000002000000000000203
Accession Number: 3868186

Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 661 of 1145 in INSPEC 1990-1992

Title: Assessment of radiocesium incorporation in Austrians after the Chernobyl accident
Author: Havlik-E; Bergmann-H
Author Affiliation: Dept. of Internal Med., Vienna Univ. Med. Sch., Austria
Source: Health-Physics. vol.60, no.2; Feb. 1991; p.199-202
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Residents of Vienna, Austria were whole-body counted for radiocesium content due to fallout deposited after the Chernobyl accident. Data for a 2-y period were compared with prior estimates of radiocesium body burden based on food consumption. The results suggest that the prior estimates be revised and the rejection limit be increased by a factor of 2 for contaminated food.
Number of References: 14
Descriptors: atmospheric-radioactivity; caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radioactive-fallout; whole-body-radioactivity; Chernobyl-accident; Vienna-; Austria-; radiocesium-body-burden; food-consumption; rejection-limit; contaminated-food; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A8670G (Atmosphere); A87; A93; A86; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/91/$3.00+.00
Sort Key: 0000017907819910006000002000000000000199
Accession Number: 3868185
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 662 of 1145 in INSPEC 1990-1992

Title: ESR dosimetry of teeth of residents close to Chernobyl reactor accident
Author: Ishii-H; Ikeya-M; Okano-M
Author Affiliation: Dept. of Phys., Fac. of Sci., Osaka Univ., Japan
Source: Journal-of-Nuclear-Science-and-Technology. vol.27, no.12; Dec. 1990; p.1153-5

Publication Year: 1990
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: The authors have received 14 pieces of extracted human tooth from dentists in Braginskij, Gomeliskaja, 50 km away from Chernobyl and investigated the absorbed radiation dose with ESR. In this preliminary note, the apparent radiation dose including the dental X-rays and natural radiation of the tooth enamels of residents at Braginskij is reported.
Number of References: 9
Descriptors: accidents-; dosimetry-; paramagnetic-resonance
Identifiers: ESR-dosimetry; Chernobyl-reactor-accident; human-tooth; absorbed-radiation-dose; apparent-radiation-dose; tooth-enamels; Braginskij-
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: JNSTAX
ISSN: 0022-3131
Sort Key: 0000022313119900002700012000000000001153
Accession Number: 3858313
Update Code: 9100

Record 663 of 1145 in INSPEC 1990-1992

Title: Aerosol, milk and wheat flour radioactivity in Albania caused by the Chernobyl accident
Author: Kedhi-M
Author Affiliation: Inst. of Nucl. Phys., Tirana, Albania
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.146, no.2; 28 Sept. 1990; p.115-24
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Contamination of aerosols, milk and wheat flour with gamma -nuclides, caused by the Chernobyl accident is discussed. Aerosol samples were taken in Tirana area of Albania. Milk samples were taken from all the 26 regions of the country. The variations of Cs-137, Cs-134, Ru-106 and Sb-125 radioactivity in the aerosol from May 2 to May 19, 1986 and of I-131, Te-132, Cs-134, Cs-136 and Cs-137 in cow, sheep and goat milks are presented. The activity of Cs-137 in wheat flour, taken in 8 regions, of the different contaminated parts of the territory, is discussed, too.
Number of References: 2
Descriptors: accidents-; air-pollution; radioactive-pollution; radioactivity-measurement; radioisotopes-; soil-

Identifiers: contamination-; radioactivity-; Albania-; Chernobyl-accident; aerosols-; milk-; wheat-flour; gamma-nuclides; Tirana-; Cs-radioisotopes; 132Te-; 125Sb-; 106Ru-; 131I-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8670C (Soil-and-rock); A87; A28; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Te-el; Sb-el; Ru-el; I-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 000023657311990001460000200000000000115
Accession Number: 3857439
Update Code: 9100

Record 664 of 1145 in INSPEC 1990-1992

Title: Calculation of individual dose equivalents on the territory of Eastern Slovakia after the Chernobyl accident
Author: Hanusik-V; Wirdzek-S
Author Affiliation: Inst. of Radioecology & Appl. Nucl. Tech., Kosice, Czechoslovakia
Source: Radiation-Protection-Dosimetry. vol.35, no.1; 1991; p.41-5
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The accident in the nuclear power plant at Chernobyl in the USSR resulted in the release of substantial quantities of radioactive material and remarkable increases in radioactivity in the environment in many European countries. For an estimation of the accident consequences to population both the individual and the collective dose equivalents, must be calculated. The authors deal with the calculation of individual dose equivalents to persons living in the territory of Eastern Slovakia. The calculation is based on real activity concentration measurements of environmental samples. For children the value of the total committed effective dose equivalent was calculated as 1.20 mSv, for adults it was 0.31 mSv.
Number of References: 9
Descriptors: accidents-; disasters-; dosimetry-; radioactive-pollution
Identifiers: radioactive-material-release; individual-dose-equivalents; Eastern-Slovakia; Chernobyl-accident; nuclear-power-plant; environmental-samples; children-; total-committed-effective-dose-equivalent; 1-2-mSv; 0-31-mSv
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: radiation dose equivalent 1.2E-03 Sv; radiation dose equivalent 3.1E-04 Sv

Coden: RPDODE
ISSN: 0144-8420
Sort Key: 00001448420199100035000010000000000000041
Accession Number: 3855739
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 665 of 1145 in INSPEC 1990-1992

Title: Radioactive iodine concentrations in elements of the environment and evaluation of exposure doses to the thyroid among inhabitants of Kiev after the Chernobyl accident
Author: Likhtarev-IA; Shandala-NK; Romanenko-AE; Gul'ko-GM; Kajro-IA; Repin-VS
Author Affiliation: All-Union Sci. Centre for Radiat. Med., Kiev, Ukrainian SSR, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.351-3 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: To evaluate the radiation situation in Kiev brought about by accidental releases of radioactive iodine, the authors investigated the dynamics of iodine concentrations in the atmosphere and in fallout, as well as in soils, plants and foodstuffs. Gamma spectrometry was used to determine the specific activity of radioactive iodine in these various elements of the environment. In all, more than 1000 samples were tested. In addition, individual measurements of radioactive iodine in the thyroid glands of Kiev inhabitants were carried out in May and June of 1986 (more than 3000 measurements in all).
Number of References: 0
Descriptors: air-pollution; dosimetry-; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Kiev-; atmosphere-; fallout-; soils-; plants-; foodstuffs-; thyroid-glands; I-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Sort Key: 10000000000199000000000000000000000000351
Accession Number: 3843916
Update Code: 9100

Record 666 of 1145 in INSPEC 1990-1992

Title: Dietary changes and doses from food in some Norwegian population groups after the Chernobyl accident
Author: Strand-P; Boe-E; Harbitz-O
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.319-26 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Doses of radioactivity to some groups of the Norwegian population resulting from the intake of radiocaesium in food were estimated from dietary surveys and whole body counting conducted for the first three years after the Chernobyl accident. Freshwater fish, reindeer meat and milk accounted for almost 90% of the intake of radiocaesium. A majority of the specially selected groups (hunters and others as well as Lapps) changed their dietary habits significantly after the accident. The reduction in intake was most pronounced for reindeer meat and freshwater fish. It is estimated that had they not made these dietary changes, the Lapps would probably have received doses 7 to 10 times higher, and hunters 50% higher, than those they actually received.
Number of References: 6
Descriptors: dosimetry-; radioactive-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; Norway-; radioactive-contamination; radioactive-pollution; Norwegian-population; radiocaesium-; food-; dietary-surveys; whole-body-counting; reindeer-meat; milk-; hunters-; Lapps-; dietary-habits; freshwater-fish; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8670 (Environmental-science); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 1000000000019900000000000000000000000319
Accession Number: 3843913
Update Code: 9100

Record 667 of 1145 in INSPEC 1990-1992

Title: Long term prediction of population exposure in the areas contaminated after the Chernobyl accident
Author: Barkhudarov-RM; Gordeev-KI; Savkin-MN
Author Affiliation: Inst. of Biophys., Minist. of Public Health, Moscow, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.311-18 vol.2

Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In order to proceed to the recovery phase after an accident, it is necessary to guarantee the resumption of normal living conditions for the population in the contaminated area. As a criterion for determining such conditions, the USSR National Committee for Radiation Protection recommends a lifetime effective dose equivalent of 0.35 Sv. This dose, which also includes exposure during the acute and intermediate periods, is the product of the average life span (70 years) and the dose limit for category B persons (5 mSv/a). Category B persons are individuals associated with habitats located near power plants or other sources of radiation. The evaluation of the lifetime dose includes two components: the dose for the first four years after the accident, determined from actual data, and the dose for the remaining period calculated from models. The model used to calculate the external and internal dose commitments is based on mathematical representations of radionuclide migration processes via the biological and food chains, on the accumulation in the human organism and on the results of on-site studies of the laws governing the development of the radiation situation prior to the accident during the period of global fallout of products from nuclear explosions and in the post-accident period.
Number of References: 0
Descriptors: dosimetry-; radioactive-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; lifetime-effective-dose-equivalent; category-B-persons; internal-dose-commitments; radionuclide-migration-processes; human-organism; global-fallout; nuclear-explosions
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Sort Key: 1000000000019900000000000000000000000311
Accession Number: 3843912
Update Code: 9100

Record 668 of 1145 in INSPEC 1990-1992

Title: Response of the European communities to environmental contamination following the Chernobyl accident
Author: Luykx-F
Author Affiliation: Comm. of the European Commun., Luxembourg
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.269-87 vol.2
Publication Year: 1990

Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Soon after the Chernobyl accident the Council of Ministers and the Commission of the European Communities had to act urgently to set foodstuff intervention levels to avoid major trade conflicts between Member States. By 12 May 1986, imports into the European Community (EC) of a range of agricultural products originating in certain east European countries had been suspended until the end of that month. Subsequently maximum permitted total caesium levels applicable to food imported into the EC were adopted: 370 Bq/kg for milk and infant food and 600 Bq/kg for other foodstuffs. These values are still valid. Moreover, to cope with future nuclear accidents the EC has adopted maximum permitted levels for four categories of radionuclides in baby food, dairy produce, liquid foodstuffs and other major foodstuffs.
Number of References: 17
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; foodstuff-intervention-levels; agricultural-products; east-European-countries; milk-; infant-food; nuclear-accidents; radionuclides-; dairy-produce; liquid-foodstuffs
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000269
Accession Number: 3843909
Update Code: 9100

Record 669 of 1145 in INSPEC 1990-1992

Title: Worldwide radiation exposure from the Chernobyl accident
Author: Bennett-BG
Author Affiliation: UN Sci. Comm. on the Effects of Atomic Radiat., Vienna, Austria
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.251-60 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Exposure of the entire world population to radiation resulting from the Chernobyl nuclear reactor accident has been evaluated by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). The evaluation accounted for measurement results reported from 34 countries to establish the pattern of transfer during the first year after the accident; the report used fallout measurement experience

to make a projection of doses to be received from continued exposure, primarily to /sup 137/Cs. On the basis of transfer factors derived from this information and of /sup 137/Cs deposition measured or estimated in all regions of the Northern Hemisphere, the collective effective dose equivalent commitment has been estimated. The result is 600000 man.Sv, with 53% of this to be received in Europe and 36% in the USSR. (The two areas were measured separately.).

Number of References: 2

Descriptors: air-pollution; dosimetry-; radioactive-pollution

Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; fallout-measurement; doses-; transfer-factors; Northern-Hemisphere; collective-effective-dose-equivalent

Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A87; A86; A8

Treatment Codes: X (Experimental)

Sort Key: 1000000000019900000000000000000000000251

Accession Number: 3843907

Update Code: 9100

Record 670 of 1145 in INSPEC 1990-1992

Title: Some aspects of the measurement and sampling programme and the costs of countermeasures in Austria after the Chernobyl accident

Author: Schonhofer-F

Author Affiliation: Federal Inst. for Food Control & Res., Vienna, Austria

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp. p.231-3 vol.2

Publication Year: 1990

Record Type: Conference-Paper

Conference Details: 16-20 Oct. 1989; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: An extensive monitoring programme was carried out in Austria after the Chernobyl accident. In order to obtain information about the extremely non-uniform distribution of contamination and to limit the dose received by the population, environmental samples and especially food had to be monitored extensively. Monitoring of food was also necessary to ensure that limits were not exceeded both for marketing in Austria and for imported and exported goods. The impression cannot be avoided that the abundance of modern equipment in laboratories situated in and near Vienna tempted authorities and the public to ask for more and more measurements. A large proportion of the samples investigated were not necessary for the above mentioned purposes, but reflected rather curiosity and anxiety.

Number of References: 1

Descriptors: dosimetry-; radiation-protection; radioactive-pollution; soil-

Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; costs-; countermeasures-; Austria-; dose-; environmental-samples; food-; marketing-; Vienna-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A86; A28; A8
Treatment Codes: G (General-or-Review); X (Experimental)
Sort Key: 1000000000019900000000000000000000000231
Accession Number: 3843899
Update Code: 9100

Record 671 of 1145 in INSPEC 1990-1992

Title: Measures introduced in Norway after the Chernobyl accident: a cost-benefit analysis
Author: Strand-P; Brynildsen-LI; Harbitz-O; Tveten-U
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.191-202 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The measures introduced in Norway to alleviate the adverse effects of the Chernobyl accident, and their economic consequences, are discussed. During the three years after the accident almost 20-30% of the sheep and 30-40% of the reindeer each year had activity levels above the action limits. Activity levels above the action limits were also found in goats, cattle and wild freshwater fish. Three main approaches were used in Norway in order to reduce the potential health risk after the Chernobyl accident: decreasing uptake from soil to vegetation and from fodder to animals, lowering unacceptable activity levels in animals by special feeding programmes, and reducing human intake by food condemnation and dietary advice.
Number of References: 13
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Norway-; economic-consequences; sheep-; reindeer-; goats-; cattle-; wild-freshwater-fish; soil-; vegetation-; fodder-; unacceptable-activity-levels; special-feeding-programmes; human-intake; food-condemnation; dietary-advice
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000191
Accession Number: 3843895
Update Code: 9100

Record 672 of 1145 in INSPEC 1990-1992

Title: Relation between physicochemical states of /sup 103/Ru, /sup 131/I, /sup 134/Cs and /sup 137/Cs in Chernobyl fallout and their behaviour during and after deposition on plants and soils
Author: Jansta-V; Wirdzek-S
Author Affiliation: Inst. of Radioecology & Appl. Nucl. Tech., Kosice, Czechoslovakia
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.173-4
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: An attempt to generalize selected results gained in the short and long term after the Chernobyl accident is presented. Interpretation of radionuclide deposition rates, removal from the foliar surfaces of four plant species, and migration into two soil profiles is confronted with the physicochemical state of the radionuclides in the wet and dry fallout from April to May of 1986. The accident fallout was analysed for the contents of undissolved forms (more than 0.4 mu m) as well as for the so-called dissolved forms (cationic, anionic, colloidal and neutral).
Number of References: 3
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; radionuclide-deposition-rates; foliar-surfaces; plant-species; soil-profiles; accident-fallout; undissolved-forms; dissolved-forms; 103Ru-; 131I-; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; I-el; Cs-el; Cs-el
Sort Key: 10000000000199000000000000000000000173
Accession Number: 3843894
Update Code: 9100

Record 673 of 1145 in INSPEC 1990-1992

Title: Determination of physicochemical forms of radionuclides deposited after the Chernobyl accident
Author: Salbu-B; Bjornstad-HE; Krekling-T; Lien-H; Riise-G; Ostby-G
Author Affiliation: Isotope & Electron Microscopy Lab., Agric. Univ. of Norway, As, Norway

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.171-2 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Scanning electron microscopy has been used for identifying hot particles. Large (several micrometers) particles deposited in central Norway during the first episode (28-30 April 1986) and in southern Norway during the second episode (5 May and after) have been identified. Leaching experiments have demonstrated that the hot particles and colloids in the rain water are relatively inert.
Number of References: 2
Descriptors: air-pollution; atmospheric-radioactivity; radioactive-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; hot-particles; central-Norway; southern-Norway; colloids-; rain-water
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260E (Convection-turbulence-and-diffusion); A9260T (Air-quality-and-air-pollution); A87; A86; A92; A8
Treatment Codes: X (Experimental)
Sort Key: 1000000000019900000000000000000000000171
Accession Number: 3843893
Update Code: 9100

Record 674 of 1145 in INSPEC 1990-1992

Title: Short and long term effects of Chernobyl radioactivity on deposition and air concentrations in Japan
Author: Hirose-K; Aoyama-M; Sugimura-Y
Author Affiliation: Geochem. Lab., Meteorol. Res. Inst., Ibaraki, Japan
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.141-9 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Deposition and surface air concentrations of long lived radionuclides were measured continuously at the Meteorological Research Institute in Tsukuba, Ibaraki, Japan. After the Chernobyl accident, Chernobyl released /sup 90/Sr and plutonium isotopes were detected in deposition and filter samples at Tsukuba, but these levels were much lower than those of volatile radionuclides, i.e. /sup 137/Cs and /sup 131/I, in

contrast to the radioactivity composition in the fallout from atmospheric nuclear weapons tests. A typical feature of the Chernobyl activity observed in Japan is that the particle size distributions of /sup 90/Sr and plutonium isotopes differed from the particle size distributions of the volatile radionuclides. The results of these measurements suggest that one of the important factors for controlling air concentrations of radionuclides is the particle size of radionuclide bearing particles. The Chernobyl fallout of long lived radionuclides, however, continued for more than two years. The results of the Japanese research indicate strongly that a part of the Chernobyl activity was injected into the stratosphere.

Number of References: 12

Descriptors: air-pollution; atmospheric-radioactivity; radioactive-pollution

Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Japan-; Tsukuba-; radioactivity-composition; fallout-; radionuclide-bearing-particles; long-lived-radionuclides; stratosphere-; 137Cs-; 90Sr-; Pu-; 131I-

Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260E (Convection-turbulence-and-diffusion); A9260T (Air-quality-and-air-pollution); A87; A86; A92; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Sr-el; Pu-el; I-el

Sort Key: 10000000000199000000000000000000000141

Accession Number: 3843889

Update Code: 9100

Record 675 of 1145 in INSPEC 1990-1992

Title: Modelling of the transport and fallout of radionuclides from the accident at the Chernobyl nuclear power plant

Author: Izraehl-YuA; Petrov-VN; Severov-DA

Author Affiliation: USSR State Comm. for Hydrometeorology, Moscow, USSR

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp. p.85-98 vol.1

Publication Year: 1990

Record Type: Conference-Paper

Conference Details: 16-20 Oct. 1989; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: The authors model the transport and deposition of radionuclides from the atmosphere on an intermediate scale and on a regional scale beyond the zone closest to the Chernobyl nuclear power plant accident zone. One type of Lagrangian model is examined-the trajectory model for transport and deposition of contaminants from a continuous source dispersed in different directions by a variable wind taking into account vertical and horizontal diffusion. The model consists of three parts: calculation of the trajectories of airborne particles from the area of the source, calculation of the

vertical flux of polydisperse contaminants onto the underlying surface, and calculation of the integral fallout at the nodes of a rectangular grid on the stereographic projection of the Earth's surface.
Number of References: 5
Descriptors: air-pollution; atmospheric-radioactivity; radioactive-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; radionuclides-; Lagrangian-model; variable-wind; horizontal-diffusion; airborne-particles; polydisperse-contaminants; integral-fallout; stereographic-projection
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260E (Convection-turbulence-and-diffusion); A9260T (Air-quality-and-air-pollution); A87; A86; A92; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Sort Key: 1000000000019900000000000000000000000085
Accession Number: 3843886
Update Code: 9100

Record 676 of 1145 in INSPEC 1990-1992

Title: Caesium radionuclide body contents and radiation doses to residents in the RSFSR territory affected by radioactive contamination following the Chernobyl accident
Author: Konstantinov-YuO; Bruk-GYa; Zhesko-TV; Korelina-NF; Moskalev-OS; Parkhomenko-VI; Ramzaev-PV; Solov'ev-MS
Author Affiliation: Res. Inst. of Radiat. Hygiene, RSFSR Minist. of Public Health, Leningrad, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.81-2 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In planning and implementing the radiation protection measures taken after the Chernobyl nuclear plant accident, the areas with a /sup 137/Cs contamination level of >or=0.56 MBq/m/sup 2/ (15 Ci/km/sup 2/) were specified as strict control zones (SCZs). Within the boundaries of the Russian Soviet Federated Socialist Republic (RSFSR) a part of the Bryansk Province of 2000 km/sup 2/ populated by 112000 residents happened to be in an SCZ. The contamination level was w=0.56-3.0 MBq/m/sup 2/ (15-80 Ci/km/sup 2/). The most informative index of an actual internal dose from /sup 137/Cs and /sup 134/Cs is the body content of the radionuclides in residents. This index reflects the influence of natural and social factors (including protective measures) on the internal dose formation in the inhabitants of an area with a fixed level of initial contamination.
Number of References: 4

Descriptors: caesium-; dosimetry-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; strict-control-zones; Russian-Soviet-Federated-Socialist-Republic; Bryansk-Province; contamination-level; internal-dose; 137Cs-; 134Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Sort Key: 1000000000019900000000000000000000000081
Accession Number: 3843885
Update Code: 9100

Record 677 of 1145 in INSPEC 1990-1992

Title: Study of airborne and fallout radioactivity in Hungary following the Chernobyl accident
Author: Zombori-P; Feher-I; Lorinc-M; German-E; Kemenes-L
Author Affiliation: Central Res. Inst. for Phys., Hungarian Acad. of Sci., Budapest, Hungary
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.78-80 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: After the Chernobyl accident the composition and concentration of the airborne radioactivity as well as of the fallout were regularly measured in two different places in Hungary. Air samplers of the same type (pumps sucking air through a plastic fibre filter with an average flow rate of 60 m/sup 3//h) operated simultaneously on the territory of the Central Research Institute for Physics (Budapest) and at eight measuring stations around the Paks Nuclear Power Plant. Daily (later weekly) fallout samples were collected on a 0.2 m/sup 2/ area at all nine sites. Both aerosol and fallout samples were measured directly by high resolution gamma spectrometry and the integrated fallout radioactivity was studied by means of in situ gamma spectrometric measurements.
Number of References: 4
Descriptors: air-pollution; radioactive-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; airborne-radioactivity; Hungary-; Paks-Nuclear-Power-Plant; aerosol-; high-resolution-gamma-spectrometry; in-situ-gamma-spectrometric-measurements
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Sort Key: 1000000000019900000000000000000000000078

Accession Number: 3843884
Update Code: 9100

Record 678 of 1145 in INSPEC 1990-1992

Title: Implications of large scale environmental contamination in Austria after the Chernobyl accident
Author: Tschurlovits-M; Bock-H; Buchtela-K; Grass-F; Tschirf-E; Unfried-E
Author Affiliation: Atominst., Osterreichischen Univ., Vienna, Austria
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.69-71 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The authors deal with a discussion of practical issues raised in Austria after the Chernobyl accident as seen by the staff of a university institute not involved in the official hierarchy of those responsible for emergency planning and for establishing countermeasures. The first response to vague information was the creation of an extended air monitoring programme. Complete air monitoring was carried out from the Atominstitut der Osterreichischen Universitaten, indicating that such an institution might have a faster response than other bodies. In addition, the first prediction of dose was also issued by the institute soon after the event. The results of these measurements and estimates are shown.
Number of References: 0
Descriptors: air-pollution; dosimetry-; radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Austria-; extended-air-monitoring-programme; dose-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)
Sort Key: 1000000000019900000000000000000000000069
Accession Number: 3843882
Update Code: 9100

Record 679 of 1145 in INSPEC 1990-1992

Title: Freshwater and alpine ecosystem response to Chernobyl fallout in Norway
Author: Gunnerod-TB; Blakan-I; Ugedal-O; Skogland-T
Author Affiliation: Norwegian Inst. for Nature Res., Trondheim, Norway
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.

p.59-67 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Environmental and agricultural research programmes were initiated in Norway in June 1986 following the Chernobyl accident. The main fallout in Norway occurred on 28 and 29 April and had an extremely patchy distribution between 60 and 66 degrees N. In Lake Hoysjoen in the county of North Trondelag, high radioactivity was found in the sediment and in all levels of the food chains from vegetation to fish, including phytoplankton, zooplankton, bottom animals, brown trout and Arctic char. Food chains for both wild and domestic animals are studied in the Alpine areas of central Norway. High seasonal variation has been found in the radiocaesium load of reindeer. Such a variation is a result of the high radioactivity (up to more than 100 kBq/kg dry weight) in lichens, the only winter food for reindeer.
Number of References: 11
Descriptors: radioactive-pollution; soil-; water-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Norway-; fallout-; North-Trondelag; food-chains; vegetation-; fish-; phytoplankton-; zooplankton-; bottom-animals; brown-trout; Arctic-char; reindeer-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670E (Water); A87; A86; A8
Treatment Codes: X (Experimental)
Sort Key: 10000000000199000000000000000000000059
Accession Number: 3843881
Update Code: 9100

Record 680 of 1145 in INSPEC 1990-1992

Title: Studies of /sup 131/I, /sup 137/Cs and /sup 134/Cs in air, milk and water in Ankara following the Chernobyl accident
Author: Aycik-GA; Golge-T
Author Affiliation: Ankara Nucl. Res. & Training Center, Besevler, Ankara, Turkey
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.41-50 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In Ankara, after the Chernobyl nuclear reactor accident, a large number of Chernobyl radionuclides were detected in samples of air, milk, tap water and rain water.

But the most radioecologically important radionuclides, i.e. /sup 131/I, /sup 137/Cs and /sup 134/Cs, are discussed. Identification and evaluation of radionuclides were carried out by photopeak area without any chemical separation by using a gamma spectrometer. Air samples were collected by an air pump which was placed on the roof of the laboratory building.

Number of References: 2

Descriptors: air-pollution; radioactive-pollution; soil-

Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; radionuclides-; air-; milk-; tap-water; rain-water; 131I-; 137Cs-; 134Cs-

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A87; A86; A8

Treatment Codes: X (Experimental)

Chemical Indexing: I-el; Cs-el; Cs-el

Sort Key: 10000000000199000000000000000000000041

Accession Number: 3843879

Update Code: 9100

Record 681 of 1145 in INSPEC 1990-1992

Title: Environmental radioactivity in Finland after the Chernobyl accident

Author: Saxen-R; Rantavaara-A; Arvela-H; Aaltonen-H

Author Affiliation: Finnish Centre for Radiat. & Nucl. Safety, Helsinki, Finland

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.

p.23-39 vol.1

Publication Year: 1990

Record Type: Conference-Paper

Conference Details: 16-20 Oct. 1989; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: Results of the environmental monitoring programmes carried out in 1986-1988 by the Finnish Centre for Radiation and Nuclear Safety (STUK) are reviewed. Airborne radioactivity, radionuclides in deposits, in situ measurements of external gamma radiation, and radionuclides in foodstuffs and water are discussed. Of the over thirty nuclides initially identified from air samples, only /sup 137/Cs and /sup 134/Cs can presently be detected.

Number of References: 15

Descriptors: radioactive-pollution; soil-

Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Finland-; in-situ-measurements; external-gamma-radiation; foodstuffs-; water-

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8

Treatment Codes: X (Experimental)

Sort Key: 10000000000199000000000000000000000023
Accession Number: 3843878
Update Code: 9100

Record 682 of 1145 in INSPEC 1990-1992

Title: Study of radioactive contamination of the environment caused by the Chernobyl nuclear power plant accident: main results
Author: Izraehl-YuA
Author Affiliation: USSR State Comm. for Hydrometeorol., Moscow, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.3-22 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The author presents the main results of research on environmental contamination during the three years following the Chernobyl accident. The author describes the work and names the organizations which took part in it. The information obtained made it possible to solve many urgent scientific problems and provided the basis for extremely important decisions concerning the evacuation of the population, the elaboration of a regime under which contaminated land could be inhabited and used for agriculture, appropriate protective measures and decontamination requirements. The author includes maps of radioisotopic contamination produced by airborne gamma surveys and isotopic analysis of soil samples. Total gamma activity as well as /sup 137/Cs and /sup 134/Cs concentrations in areas bordering on the accident zone are given. Calculated doses for internal and external exposure in so-called caesium 'spots' are presented, and the measures taken to prevent human exposure are described. The author describes mathematical modelling of the transport of radioactive materials released, contamination of water bodies and migration of radionuclides in the soil, and indicates the steps which have been taken to prevent any further spread of radionuclide contamination in the environment. The author ends with a statement of basic conclusions and proposals.
Number of References: 7
Descriptors: air-pollution; dosimetry-; radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-25; radioactive-contamination; radioactive-pollution; environmental-contamination; contaminated-land; protective-measures; decontamination-requirements; radioisotopic-contamination; airborne-gamma-surveys; soil-samples; doses-; human-exposure
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)

Sort Key: 10000000000199000000000000000000000003
Accession Number: 3843877
Update Code: 9100

Record 683 of 1145 in INSPEC 1990-1992

Title: Radiation exposure near Chernobyl based on analysis of conifer injury near Thematic Mapper satellite images
Author: Goldman-M; Ustin-SL; Warman-EA; Sadowski-FG
Author Affiliation: Lab. of Energy-Related Health Res., California Univ., Davis, CA, USA
Editor: Olast-M; Sinnaeve-J
Source: Joint CEC/OECD(NEA) Workshop on Recent Advances in Reactor Accident Consequence Assessment. Proceedings of the Second Part of the Workshop (EUR 11408 EN). Comm. Eur. Communities, Luxembourg; 1988; x+464 pp.
p.289-98
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 25-29 Jan. 1988; Rome, Italy
Country of Publication: Luxembourg
Language: English
Abstract: Radiation-induced damage in conifers adjacent to the damaged Chernobyl nuclear power plant has been evaluated using LANDSAT Thematic Mapper satellite images. Eight images acquired between 22 April 1986 and 15 May 1987 were used to assess the extent and magnitude of radiation effects on pine trees within 10 km of the reactor site. The timing and spatial extent of vegetation damaged was used to estimate the radiation doses in the near field around the Chernobyl nuclear power station and to indirectly derive the dose rates as a function of time during and after the accident.
Number of References: 0
Descriptors: accidents-; dosimetry-; radioactive-pollution
Identifiers: radiation-induced-damage; Chernobyl-; conifer-injury; Thematic-Mapper-satellite-images; radiation-effects; pine-trees; radiation-doses; dose-rates; 10-km
Classification Codes: A2880C (Dosimetry); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A86; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: distance 1.0 E04 m
Sort Key: 10000000000198800000000000000000000289
Accession Number: 3842226
Update Code: 9100

Record 684 of 1145 in INSPEC 1990-1992

Title: The distribution on trees of dry deposited material from the Chernobyl accident
Author: Roed-J
Author Affiliation: Riso Nat. Lab., Roskilde, Denmark

Editor: Olast-M; Sinnaeve-J
Source: Joint CEC/OECD(NEA) Workshop on Recent Advances in Reactor Accident Consequence Assessment. Proceedings of the Second Part of the Workshop (EUR 11408 EN). Comm. Eur. Communities, Luxembourg; 1988; x+464 pp.
p.165-78
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 25-29 Jan. 1988; Rome, Italy
Country of Publication: Luxembourg
Language: English
Abstract: The distribution of material from the Chernobyl accident that has been dry deposited on forest trees near Roskilde (Denmark) and on trees in a suburban area of Roskilde are investigated. The dry deposition velocities on the plan-projected area covered by the trees are found and compared with those on paved surfaces.
Number of References: 4
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: dry-deposited-material; Chernobyl-accident; forest-trees; Roskilde-; Denmark-; dry-deposition-velocities; paved-surfaces
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670C (Soil-and-rock); A9330G (Europe); A28; A86; A93; A2; A8; A9
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019880000000000000000000000165
Accession Number: 3842220
Update Code: 9100

Record 685 of 1145 in INSPEC 1990-1992

Title: Long range transport and soil deposition: models and experimental observations in northern Italian regions as following the Chernobyl nuclear accident
Author: Facchini-U; Ravasini-G; Capra-D; Bacci-P; Bonelli-P
Author Affiliation: Istituto di Fisica Gen. Applicata, Milano Univ., Italy
Editor: Olast-M; Sinnaeve-J
Source: Joint CEC/OECD(NEA) Workshop on Recent Advances in Reactor Accident Consequence Assessment. Proceedings of the Second Part of the Workshop (EUR 11408 EN). Comm. Eur. Communities, Luxembourg; 1988; x+464 pp.
p.151-64
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 25-29 Jan. 1988; Rome, Italy
Country of Publication: Luxembourg
Language: English
Abstract: The meteorological factors that characterized the transport and deposition on the ground of the radionuclides from the Chernobyl nuclear power station over northern Italy in May 1986 are examined. The computation procedures of a comprehensive study

of long-range pollution transport problem are developed and the particle trajectories are reconstructed, taking into account the configuration up down-wind of the Alps.
Number of References: 8
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: northern-Italian-regions; meteorological-factors; radionuclides-; Chernobyl-nuclear-power-station; computation-; long-range-pollution-transport; particle-trajectories
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A8670C (Soil-and-rock); A9330G (Europe); A28; A86; A93; A2; A8
Treatment Codes: G (General-or-Review)
Sort Key: 10000000000198800000000000000000000151
Accession Number: 3842219
Update Code: 9100

Record 686 of 1145 in INSPEC 1990-1992

Title: Chernobyl radionuclides in the Mediterranean seagrass Posidonia oceanica, 1986-7
Author: Calmet-D; Charmasson-S; Gontier-G; Meinesz-A; Boudouresque-CF
Author Affiliation: Commissariat a l'Energie Atomique, Inst. de Protection et de Surete Nucl., La Seyne Sur Mer, France
Source: Journal-of-Environmental-Radioactivity. vol.13, no.2; 1991; p.157-73
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Between 26 April and 1 June 1986, the nuclear reactor accident of unit 4 at Chernobyl led to the release of a large quantity of radioactive material, part of which reached the Mediterranean environment. Radionuclides such as /sup 103/Ru, /sup 106/Ru, /sup 110m/Ag, /sup 134/Cs, /sup 137/Cs, /sup 141/Ce and /sup 144/Ce were immediately detected in the Mediterranean seagrass Posidonia oceanica (L.) Delile. A survey of this species showed a selective distribution amongst its tissues and a preferential contamination of the adult leaves. The rhizomes, which are perennial parts, recorded early contamination by /sup 110m/Ag, located by sectioning the annual segments (lepidochronology).
Number of References: 45
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: nuclear-reactor-accident; Chernobyl-; radioactive-material; Mediterranean-environment; 103Ru-; 106Ru-; 110mAg-; 134Cs-; 137Cs-; 141Ce-; 144Ce-; Mediterranean-seagrass; leaves-; rhizomes-; contamination-; Ru-; Ag-; Cs-; Ce-
Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8

Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Ag-el; Cs-el; Ce-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19910001300002000000000000157
Accession Number: 3837713
Update Code: 9100

Record 687 of 1145 in INSPEC 1990-1992

Title: Calculation of the individual effective dose equivalent in Italy following the Chernobyl accident
Author: Lotfi-M; Mancioppi-S; Piermattei-S; Tommasino-L; Azimi-Garakani-D
Author Affiliation: ENEA-DISP, Rome, Italy
Source: Journal-of-Environmental-Radioactivity. vol.13, no.2; 1991; p.141-56
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Estimates are presented here for the individual effective dose equivalents from dietary intake of radiocaesium-contaminated food by the average Italian consumer in different age groups. Food items of consumption rate greater than 50 kg/y were included in the food basket studies. In view of the pattern of food consumption in Italy, the radiocaesium concentrations of foodstuffs such as milk, milk products, bread, pasta, meat, fruit, vegetables and babyfoods were measured between January 1987 and December 1988 inclusive. These measurements were carried out mainly by the environmental radioactivity laboratories in three administrative districts of Italy.
Number of References: 21
Descriptors: accidents-; caesium-; dosimetry-; health-hazards; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; individual-effective-dose-equivalents; dietary-intake; food-consumption; Italy-; foodstuffs-; milk-; milk-products; bread-; pasta-; meat-; fruit-; vegetables-; babyfoods-; Cs-radioisotopes
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19910001300002000000000000141
Accession Number: 3837712

Update Code: 9100

Record 688 of 1145 in INSPEC 1990-1992

Title: Transfer of Chernobyl radiocaesium (/sup 134/Cs and /sup 137/Cs) from grass silage to milk in dairy cows
Author: Voors-PI; van-Weers-AW
Author Affiliation: Dept. of Phys., Netherlands Energy Res. Found., Petten, Netherlands
Source: Journal-of-Environmental-Radioactivity. vol.13, no.2; 1991; p.125-40
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The transfer of Chernobyl radiocaesium through the silage-cow-milk pathway has been investigated under normal farming conditions. A period in which grass silage with a relatively high level of radiocaesium was fed was preceded and followed by periods of low-level contaminated feeds. An average transfer coefficient from feed to milk, F/sub m/, of 0.25% d liter/sup -1/ has been derived for radiocaesium. A simple two-compartmental model has been applied to predict the radiocaesium concentration milk from the intake with feed. An estimate of three model parameters, F (fractional digestibility of radiocaesium in feed and the fraction secreted in both urine and milk), m and u (transfer rates from the body fluids to milk and urine) was made on the basis of a sampling and measurement programme on the urine, faeces and milk of two cows during a 48 h period.
Number of References: 13
Descriptors: accidents-; caesium-; health-hazards; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: 134Cs-; 137Cs-; grass-silage; dairy-cows; Chernobyl-radiocaesium; silage-cow-milk-pathway; average-transfer-coefficient; two-compartmental-model; measurement-programme; urine-; faeces-; Cs-radioisotopes
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X199100013000020000000000000125
Accession Number: 3837711
Update Code: 9100

Record 689 of 1145 in INSPEC 1990-1992

Title: The temporal variation of stratospheric fallout derived from the Chernobyl accident
Author: Aoyama-M; Hirose-K; Sugimura-Y
Author Affiliation: Meteorol. Res. Inst., Ibaraki, Japan
Source: Journal-of-Environmental-Radioactivity. vol.13, no.2; 1991; p.103-15
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The monthly depositions of /sup 90/Sr and caesium isotopes at Tsukuba through December 1988 are reported and the temporal variation of Chernobyl fallout is discussed. The measurements indicate that the radioactive fallout derived from the stratospheric Chernobyl radioactivity continued until the end of 1988. The annual /sup 137/Cs deposits were 135, 0.95 and 0.57 Bq m/sup -2/ in 1986, 1987 and 1988, respectively. The annual /sup 90/Sr deposits were 1.8 and 0.15 Bq m/sup -2/ in 1986 and 1987, respectively. In 1987, about 80% of the /sup 137/Cs deposition and about 40% of the /sup 90/Sr deposition were from Chernobyl radioactivity transported into the stratosphere.
Number of References: 17
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; caesium-; radiation-monitoring; radioactive-pollution; radioisotopes-; strontium-
Identifiers: temporal-variation; stratospheric-fallout; Chernobyl-accident; monthly-depositions; Tsukuba-; Chernobyl-fallout; radioactive-fallout; 90Sr-; annual-137Cs-deposits
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X199100013000020000000000000103
Accession Number: 3837709
Update Code: 9100

Record 690 of 1145 in INSPEC 1990-1992

Title: Environmental impact of the Chernobyl accident: mutagenesis in bank voles from Sweden
Author: Cristaldi-M; Ieradi-LA; Mascanzoni-D; Mattei-T
Author Affiliation: Dept. of Ecology, Calabria Univ., Italy
Source: International-Journal-of-Radiation-Biology. vol.59, no.1; Jan. 1991; p.31-40
Publication Year: 1991
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: An investigation was carried out in Sweden aimed at studying the possible genetic effects of the Chernobyl fallout on wild small mammals. The bank voles (Clethrionomys glareolus Schreb) were obtained from three differently contaminated areas in Sweden and, for control, in an area with negligible contamination by fallout. Radionuclide determinations to assess the content of /sup 137/Cs and mutagenicity tests (bone marrow micronucleus test and sperm abnormality assay) were performed. The results obtained showed a positive correlation between the increase of micronucleated polychromatic erythrocytes (MPCE/1000 PCE) and both /sup 137/Cs content in muscle and in soil contamination. The estimated doses absorbed by the animals were far lower than those required for the same effect in laboratory experiments. An explanation of this discrepancy between dose and measured biological effect is not available, yet similar results have been repeatedly reported after the Chernobyl accident and should be a matter for further discussion. An increased frequency of micronucleated cells might occur at minimal dose gradients, and the micronucleus test appears to be a valid tool to show such effects.
Number of References: 47
Descriptors: accidents-; biological-effects-of-gamma-rays; cellular-effects-of-radiation; disasters-; radioactive-pollution
Identifiers: cellular-radiobiology; dose-gradient; Chernobyl-accident; mutagenesis-; bank-voles; Sweden-; wild-small-mammals; Clethrionomys-glareolus-Schreb; bone-marrow-micronucleus-test; sperm-abnormality-assay; micronucleated-polychromatic-erythrocytes; muscle-; soil-contamination; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8725 (Cellular-biophysics); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: IJRBA3
ISSN: 0020-7616
Copyright Clearance Center Code: 0020-7616/91/$3.00
Sort Key: 0000020761619910005900001000000000000031
Accession Number: 3837461
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 691 of 1145 in INSPEC 1990-1992

Title: The Chernobyl source term: a critical review
Author: Khan-SA
Source: Nuclear-Safety. vol.31, no.3; July-Sept. 1990; p.353-74
Publication Year: 1990
Record Type: Journal-article

Country of Publication: USA
Language: English
Abstract: Work on the Chernobyl 4 reactor accident source term has been reviewed. The review covers the work performed on some important aspects of the source term in the Union of Soviet Socialist Republics, the United States, the United Kingdom, the Federal Republic of Germany, Canada, and some other countries. The review deals with the analysis of the results, methodologies, uncertainties, inconsistencies, and various gaps in the data and the results, as reported by various investigators. An effort has been made to compare and put the results in some perspective and to assess the discrepancies and errors in the reported work. As concluded from the review, essentially all the noble gases, 40 to 68% of halogens, 10 to 43% of alkali metals, 7 to 15% of tellurium, 0.4 to 6.0% of alkaline earths, 0.5 to 6.5% of noble metals, 0.02 to 3.0% of rare earths, and 0.02 to 4.0%, of refractory elements were released in the Chernobyl accident. The review indicates that the release estimates of noble gases, halogens, tellurium, and alkali metals are comparatively less uncertain. The review reveals that, although much data have been gathered on the Chernobyl accident source term, there is limited scope for validation of the results by different investigators. Moreover, the Chernobyl source term has many intrinsic uncertainties involved which need to be refined in the light of new data now available. New tools and state-of-the-art techniques can be used to narrow down the ranges of release estimates of different radionuclides.
Number of References: 82
Descriptors: accidents-; fission-reactor-safety; reviews-
Identifiers: Chernobyl-4-reactor-accident-source-term; noble-gases; halogens-; alkali-metals; alkaline-earths; noble-metals; refractory-elements; radionuclides-; Te-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0130R (Reviews-and-tutorial-papers-resource-letters); A28; A01; A2; A0
Treatment Codes: B (Bibliography)
Chemical Indexing: Te-el
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419900003100003000000000000353
Accession Number: 3834787
Update Code: 9100

Record 692 of 1145 in INSPEC 1990-1992

Title: Some projections on radioactivity concentrations and doses arising from ingestion of food containing Chernobyl contamination
Author: de-la-Paz-LR; Palattao-MV; Estacio-JF
Author Affiliation: Philippine Nucl. Res. Inst., Diliman, Quezon City, Philippines
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.403-5
Publication Year: 1990

Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Using published deposition data in some countries affected by the Chernobyl accident, the expected /sup 137/Cs and /sup 134/Cs concentrations in food grown in various European countries one month and one year after the accident were projected using the model proposed by Boone et al. (1981).
Number of References: 3
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: contaminated-food; radioactivity-concentrations; doses-; Chernobyl-contamination; 137Cs-; 134Cs-; European-countries
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000403
Accession Number: 3833706
Update Code: 9100

Record 693 of 1145 in INSPEC 1990-1992

Title: Study of /sup 137/Cs contamination in various foodstuffs entering Nepal after the Chernobyl accident
Author: Subba-L; Bahadur-Bam-B
Author Affiliation: R. Nepal Acad. of Sci. & Technol., Kathmandu, Nepal
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.401-3
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: A total of 762 different food samples were tested for /sup 137/Cs contamination for 25 months after the Chernobyl accident. Of these, 246 samples of imported milk and milk products in the form of powdered milk, evaporated milk, skimmed milk, condensed milk, chocolate, cheese, butter oil, etc. were measured. The other food samples consisted of wide varieties of foodstuffs, such as cereals, tinned foods, soybean oil, biscuits, nuts, beverage concentrates, etc. These samples were collected either from markets or from different customs offices through which these foodstuffs enter Nepal.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution

Identifiers: 137Cs-contamination; foodstuffs-; Nepal-; Chernobyl-accident; imported-milk; powdered-milk; evaporated-milk; skimmed-milk; condensed-milk; chocolate-; cheese-; butter-oil; cereals-; tinned-foods; soybean-oil; biscuits-; nuts-; beverage-concentrates
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000401
Accession Number: 3833705
Update Code: 9100

Record 694 of 1145 in INSPEC 1990-1992

Title: Role of the United States Food Safety and Inspection Service after the Chernobyl accident
Author: Engel-RE; Randecker-V; Johnson-W
Author Affiliation: Food Safety & Inspection Service, US Dept. of Agric., Washington, DC, USA
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.371-8
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The Food Safety and Inspection Service (FSIS) of the United States Department of Agriculture inspects domestic and imported meat and poultry food products to assure the public that these foods are safe, wholesome, properly labelled and not adulterated. After the Chernobyl accident, The FSIS implemented a monitoring programme to assess the accident's impact on imported meat and poultry. By using the information on the nature of the accident as it became available, the FSIS decided to monitor only five nuclides: /sup 134/Cs, /sup 137/Cs, /sup 89/Sr, /sup 90/Sr and /sup 131/I. On 16 May 1986, the FSIS established intervention levels of 2775 Bq/kg for total caesium (/sup 134/Cs plus /sup 137/Cs) and 56 Bq/kg for /sup 131/I. By October of 1986, 815 samples from 14 European countries had been analysed, with approximately 45 per cent of the caesium results exceeding background levels. Meat samples from five countries had levels of total caesium greater than 37 Bq/kg. When the monitoring programme ended in October 1988, 3702 samples out of 6195 exceeded the background. Nine countries had meat samples with levels above 37 Bq/kg. Iodine and strontium results were practically not distinguishable from background radiation levels. The initial intervention level of 2775 Bq/kg for total caesium was reduced to 370 Bq/kg for total caesium to agree with the US regulatory response levels for all food items. After the Chernobyl accident, the FSIS took the following actions: (1) set a realistic standard using US proposed protective action guidelines; (2) calculated the intervention levels by using

both the maximum intake of radionuclide activity allowed and food consumption data; (3) monitored, sampled and tested imported meat and poultry products for five nuclides; (4) periodically assessed and revised the intervention levels based on good public health practices; (5) continued to evaluate and assess the ongoing regulatory activities.
Number of References: 7
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: United-States-Food-Safety-and-Inspection-Service; Chernobyl-accident; poultry-food-products; 134Cs-; 137Cs-; 89Sr-; 90Sr-; 131I-; meat-samples; radionuclide-activity; food-consumption
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000371
Accession Number: 3833701
Update Code: 9100

Record 695 of 1145 in INSPEC 1990-1992

Title: Chernobyl postscript. Risk management in the global village
Author: Gill-RW
Author Affiliation: Bur. of Foods, Washington, DC, USA
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.367-70
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: A description of the growing environmental concerns of today is presented and considered in relation to the risk associated with an accidental release of radioactivity as experienced in Chernobyl. The need for international agreements on emergency response planning protocols and continued work on development of international agreements in the area of radiation monitoring and sampling, as well as exemption levels for contamination of food, air and water are also presented. A discussion of the need for integrated policy formulation for energy, agriculture and other major economic sectors to take into account the ecological implications of such policies is also included.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: food-contamination; air-contamination; water-contamination; global-village; environmental-concerns; accidental-release-of-radioactivity; Chernobyl-; emergency-response-planning-protocols; radiation-monitoring; sampling-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2

Treatment Codes: G (General-or-Review)
Sort Key: 10000000000199000000000000000000000000367
Accession Number: 3833700
Update Code: 9100

Record 696 of 1145 in INSPEC 1990-1992

Title: Whole body radiocaesium content in Hungarian individuals after the Chernobyl accident. Modelling and measurements
Author: Kerekes-A; Andrasi-G; Fulop-N; Kanyar-B; Kelemen-E; Kovacs-L; Sztanyik-LB
Author Affiliation: Frederic Joliot-Curie Nat. Res. Inst. for Radiobiology & Radiohygiene, Budapest, Hungary
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.359-61
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The time dependent whole body content of /sup 137/Cs after the Chernobyl accident was both assessed by the use of a compartment model from various intakes of contaminated food and measured by a whole body counter.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: time-dependent-whole-body-content; 137Cs-; Chernobyl-accident; compartment-model; contaminated-food; whole-body-counter
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670L (Measurement-techniques-and-instrumentation); A87; A28; A86; A8; A2
Treatment Codes: G (General-or-Review)
Sort Key: 10000000000199000000000000000000000000359
Accession Number: 3833698
Update Code: 9100

Record 697 of 1145 in INSPEC 1990-1992

Title: Chernobyl radiocaesium in the Scottish population and its relationship to predicted values
Author: East-BW; Robertson-I
Author Affiliation: Scottish Univ. Res. & Reactor Centre, East Kilbride, Glasgow, UK
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.357-8

Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The reactor accident at Chernobyl in April 1986 gave rise to fallout over the United Kingdom, including areas of Scotland, and resulted in radioactive materials entering the food chain. The activation product /sup 134/Cs and the fission product /sup 137/Cs were measured in vivo in a high sensitivity whole body monitoring survey of members of the Scottish population between May 1986 and February 1988. Some 250 men, women and children were examined, in many cases sequentially, thereby enabling a picture of the magnitude of uptake, progressive increase, equilibrium and decrease of body radiocaesium levels to be generated. A maximum mean value of approximately 800 Bq (/sup 137/Cs plus /sup 134/Cs) was observed eight months following the accident; thereafter body radiocaesium levels declined, with /sup 137/Cs exhibiting a half-life in vivo of approximately 267 days.
Number of References: 1
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: Chernobyl-radiocaesium; Scottish-population; reactor-accident; fallout-; Scotland-; radioactive-materials; food-chain; activation-product-134Cs; fission-product-137Cs; high-sensitivity-whole-body-monitoring; uptake-; progressive-increase; equilibrium-; body-radiocaesium-levels; half-life
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000357
Accession Number: 3833697
Update Code: 9100

Record 698 of 1145 in INSPEC 1990-1992

Title: Human radiocaesium levels in the Strathclyde region of Scotland following the Chernobyl accident
Author: Watson-WS
Author Affiliation: Dept. of Clinical Phys. & Bio-Eng., Southern Gen. Hospital, Glasgow, UK
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.354-6
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English

Abstract: Following the nuclear accident at Chernobyl in April 1986, whole body counting techniques were used from 55 to 910 d after the accident to provide serial measurements of whole body /sup 134/Cs and /sup 137/Cs in 18 healthy adults (13 male, 5 female) living in the Strathclyde region of Scotland. In addition, the variation of human radiocaesium levels with time has been predicted using the time variation of reported radiocaesium activities in food products.
Number of References: 4
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: Strathclyde-region; Scotland-; Chernobyl-accident; nuclear-accident; whole-body-counting-techniques; 134Cs-; 137Cs-; human-radiocaesium-levels; time-variation; food-products
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000354
Accession Number: 3833696
Update Code: 9100

Record 699 of 1145 in INSPEC 1990-1992

Title: Transfer of /sup 137/Cs from Chernobyl fallout to meat and milk in Hungary
Author: Keszthelyi-Z; Johnson-JE; Kanyar-B; Kerekes-A; Kralovanszky-UP; Ward-GM
Author Affiliation: PROTEINVEST, Budapest, Hungary
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.173-80 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Air, soil, forage, milk and meat samples were analysed for /sup 137/Cs and /sup 134/Cs following the Chernobyl accident. Deposition of fallout varied widely, the heaviest being in northwestern Hungary. Controlled experiments were conducted on State farms at four locations to determine the transfer coefficients from forage to the milk (Fm) of cows, sheep and goats and to the meat (Ff) of cows and sheep, goats and roe deer. Forage contaminated by Chernobyl fallout in late May of 1986 produced lower Fm and Ff values than worldwide fallout in the 1960s because the form of /sup 137/Cs deposited on forage was less available to cattle and sheep. The lower transfer has important implications for assessing the dose commitment of the human population.
Number of References: 10
Descriptors: caesium-; dosimetry-; radioactive-pollution; radioisotopes-; soil-

Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; forage-; milk-; meat-; fallout-; northwestern-Hungary; cows-; sheep-; goats-; roe-deer; dose-commitment; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 10000000000199000000000000000000000173
Accession Number: 3833694
Update Code: 9100

Record 700 of 1145 in INSPEC 1990-1992

Title: Influence of fertilization, utilization and plant species on /sup 137/Cs content of grassland growth since the Chernobyl accident
Author: Schechtner-G; Henrich-E
Author Affiliation: Federal Res. Inst. for Agric., Gumpenstein, Austria
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.141-50 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: About a hundred forage samples from long term trials at Gumpenstein and at substations were taken between July and October 1986 to study the relationships between grassland management measures and radioactive contamination of forage as a consequence of the nuclear accident at Chernobyl. Evaluation was focused on /sup 137/Cs because this radionuclide has caused the greatest problems in Austria since the accident. Investigations were made not on the first, directly contaminated growth but on the regrowth after the harvest of the first cut.
Number of References: 10
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-pollution; grassland-growth; forage-samples; Gumpenstein-; radioactive-contamination; Austria-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 10000000000199000000000000000000000141
Accession Number: 3833691
Update Code: 9100

Record 701 of 1145 in INSPEC 1990-1992

Title: Transport of /sup 131/I and /sup 137/Cs from air to cow milk produced on a northwestern Italian farm following the Chernobyl accident
Author: Spezzano-P; Giacomelli-R
Author Affiliation: Centro Ricerche Energia Saluggia, ENEA, Italy
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.99-100 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The air-pasture-cow-milk pathway is of particular concern for the transport of /sup 131/I and /sup 137/Cs from the environment to man. Following the Chernobyl accident, air concentrations, fallout deposition and total precipitation were measured at the Centro Ricerche Energia Saluggia, situated about 35 km northeast of Turin. The transfer of /sup 131/I and /sup 137/Cs from pasture grass to milk was evaluated on a small farm situated about 16 km southeast of the Nuclear Centre of Saluggia, where the concentrations of gamma emitting nuclides were measured in the ingested grass and in the milk produced by some cows fed exclusively with fresh grass starting from 1 May 1986. It was assumed that concentrations in air and mean weather conditions were the same as those measured at Saluggia.
Number of References: 2
Descriptors: caesium-; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; air-pasture-cow-milk-pathway; fallout-deposition; Centro-Ricerche-Energia-Saluggia; gamma-emitting-nuclides; ingested-grass; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Sort Key: 1000000000019900000000000000000000000099
Accession Number: 3833687
Update Code: 9100

Record 702 of 1145 in INSPEC 1990-1992

Title: Monitoring of fallout radionuclides in milk in Czechoslovakia after the Chernobyl accident
Author: Drabova-D; Rulik-P; Malatova-I; Bucina-I; Holgye-Z
Author Affiliation: Centre of Radiat. Hygiene, Inst. of Hygiene & Epidemiology, Prague, Czechoslovakia

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.93-6 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: After the Chernobyl accident, nationwide monitoring and research on radioactive substances in various components of the environment were undertaken regularly in Czechoslovakia by a monitoring network comprising laboratories of many institutions. The results have been collected and evaluated in the Centre of Radiation Hygiene of the Institute of Hygiene and Epidemiology, which is the national authority responsible for the monitoring of environmental radioactivity. An extensive monitoring programme was undertaken in Czechoslovakia to determine the radioactive contamination of milk because milk and milk products were from the very beginning important contributors to dietary intake of the most significant radionuclides-/sup 131/I, /sup 134/Cs and /sup 137/Cs.
Number of References: 5
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; Czechoslovakia-; environmental-radioactivity; milk-; 131I-; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Cs-el
Sort Key: 10000000000199000000000000000000000093
Accession Number: 3833685
Update Code: 9100

Record 703 of 1145 in INSPEC 1990-1992

Title: Long term study of food contamination in northeastern Poland after the Chernobyl accident
Author: Pietrzak-Flis-Z; Lada-W
Author Affiliation: Central Lab. for Radiol. Protection, Warsaw, Poland
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.83-92 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English

Abstract: From March 1987 to April 1989 /sup 137/Cs, /sup 134/Cs and /sup 90/Sr were determined in the daily diet and foodstuffs in northeastern Poland. The annual intake evaluated from the activity concentration of radionuclides in foodstuffs and their consumption was higher than that evaluated from the daily diet, the difference being especially large in the first year after the Chernobyl accident. In the first year the annual intake of /sup 137/Cs from the daily diet was 4782 Bq and that from foodstuffs was 7978 Bq; in the third year the respective values were 1079 Bq and 1224 Bq. The /sup 137/Cs body burden estimated from the daily diet for three consecutive years was 1140 Bq, 761 Bq and 658 Bq, whereas that from foodstuffs was 1902 Bq, 1227 Bq and 947 Bq. Dose equivalents from radiocaesium for the first three years, as evaluated from the daily diet and from foodstuffs, were 128 mu Sv and 204 mu Sv respectively.
Number of References: 12
Descriptors: dosimetry-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; AD-1987-to-AD-1989; radioactive-contamination; radioactive-pollution; foodstuffs-; northeastern-Poland; radiocaesium-; 137Cs-; 134Cs-; 90Sr-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8760M (Radiation-dosimetry); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Sr-el
Sort Key: 10000000000199000000000000000000000083
Accession Number: 3833684
Update Code: 9100

Record 704 of 1145 in INSPEC 1990-1992

Title: Accumulation of Chernobyl radionuclides in agricultural plants during 1986-8 in relation to contamination conditions and soil characteristics
Author: Vetrov-VA; Andrianova-GA; Olejnik-RN
Author Affiliation: Lab. for Environ. & Climatic Monitoring, USSR State Comm. for Hydrometeorol., Moscow, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.17-27 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Since August of 1986, the uptake of Chernobyl radionuclides in the soil to plant system has been under observation (monitoring) at a network of agroecological testing sites and sampling grounds in the contaminated provinces in the Ukrainian and Byelorussian Soviet Socialist Republics. The main aim of this monitoring is to determine transfer factors (K)/sub t/) for plant produce in relation to environmental

conditions (soil type, agrochemical and climatic characteristics, contamination conditions, etc.) and time. The main conclusion is that in order to predict radioactive contamination on a specific individual farm or in a particular agroindustrial region, one must carry out special research into the uptake of Chernobyl radionuclides by agricultural plants under the real conditions prevailing in that farm or region.
Number of References: 1
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; AD-1986-to-AD-1988; radioactive-contamination; radioactive-pollution; Chernobyl-radionuclides; agroecological-testing-sites; Byelorussian-Soviet-Socialist-Republics; transfer-factors; plant-produce; soil-type
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Sort Key: 10000000000199000000000000000000000017
Accession Number: 3833677
Update Code: 9100

Record 705 of 1145 in INSPEC 1990-1992

Title: Radioactive contamination and decontamination in the 30 km zone surrounding the Chernobyl nuclear power plant
Author: Komarov-VI
Author Affiliation: World Assoc. of Nucl. Operators, Moscow, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.3-16 vol.2
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The author analyses the mechanism by which the radioactive release occurred, the isotopic composition of the release and the forms and behaviour of radioactive isotopes in soils and water bodies having different physicochemical characteristics. These characteristics are the main element in forecasting the distribution of radionuclides in soils as well as their rate of migration and their concentration in water bodies. The actual quantities of radioactive waste located in the 30 km zone surrounding the Chernobyl plant are indicated. Finally, the author proposes a comprehensive programme for further work in that zone.
Number of References: 4
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution; soil-; water-pollution
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radioactive-pollution; radioactive-release; isotopic-composition; soils-; water-bodies; physicochemical-characteristics; radioactive-waste

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670E (Water); A87; A86; A28; A8
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000003
Accession Number: 3833676
Update Code: 9100

Record 706 of 1145 in INSPEC 1990-1992

Title: Determination of /sup 90/Sr and /sup 91/Y in vegetation samples contaminated by fallout debris from the Chernobyl accident
Author: Ghods-Esphahani-A; Veselsky-JC; Zhu-S; Mirna-A; Schelenz-R
Author Affiliation: IAEA, Seibersdorf, Austria
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.477-8 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: An improved method for the determination of /sup 90/Sr and /sup 91/Y in grass ash and other materials was developed, based on tributylphosphate (TBP) extraction of radioyttrium from a nitric acid sample extract solution. An important advantage of this method over the commonly used /sup 90/Sr separation is that it is unnecessary to wait for the growing in of the /sup 90/Y prior to its separation from the mother substance. Yttrium extraction has already been used for /sup 90/Sr analysis, but the fission product /sup 91/Y accompanying /sup 90/Y in every chemical separation process was almost always considered negligible. This was not possible with relatively fresh Chernobyl fission products and consequently methods had to be found to distinguish the radiations of the two nuclides. Graphic analysis of the decay curve of the yttrium fraction isolated from the TBP extract was compared with the energy separation of the Cerenkov radiations of /sup 90/Y and /sup 91/Y, respectively. The latter method worked much faster and has therefore been adopted for routine analyses.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution; strontium-; yttrium-
Identifiers: Yt-fraction; tributylphosphate-extraction; vegetation-samples; fallout-debris; Chernobyl-accident; 91Y-; grass-ash; radioyttrium-; nitric-acid-sample-extract-solution; 90Sr-separation; 90Y-; mother-substance; fission-product; chemical-separation-process; decay-curve; Cerenkov-radiations; Sr-; Y-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: G (General-or-Review)

Chemical Indexing: Sr-el; Y-el
Sort Key: 10000000000199000000000000000000000477
Accession Number: 3833669
Update Code: 9100

Record 707 of 1145 in INSPEC 1990-1992

Title: In situ methods for gamma spectrometry of Chernobyl fallout on urban and rural rough surfaces
Author: Karlberg-O
Author Affiliation: Nat. Inst. of Radiat. Protection, Stockholm, Sweden
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.469-72 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In situ gamma spectrometry and ionization chamber measurements were started about twenty days after the Chernobyl accident in the high fallout area of Gavle in middle Sweden. The purpose of the measurements was to study the retention of radionuclides and to estimate the environmental half-lives on different types of urban surfaces.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: in-situ-gamma-spectrometry; Chernobyl-fallout; rural-rough-surfaces; ionization-chamber; Chernobyl-accident; Gavle-; middle-Sweden; radionuclides-; environmental-half-lives; urban-surfaces
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670L (Measurement-techniques-and-instrumentation); A86; A87; A28; A8
Treatment Codes: G (General-or-Review)
Sort Key: 10000000000199000000000000000000000469
Accession Number: 3833665
Update Code: 9100

Record 708 of 1145 in INSPEC 1990-1992

Title: Physical, technical and methodical problems of exposure rate measurements in the territories contaminated as a result of the Chernobyl nuclear power plant accident
Author: Repin-VS; Los'-IP; Zelensky-AV; Bondarenko-OA; Businny-MG; Novak-D
Author Affiliation: All-Union Sci. Centre for Radiat. Med., Kiev, USSR

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.467-9 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Instruments for measurement of exposure are the main instruments employed in a system of environmental monitoring in the case of a large radiation accident. Different types of detectors, however, give different results at the same point of measurement. A comparative analysis of different types of instruments based on the results of measurements in the territories contaminated after the Chernobyl accident is summarized.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: exposure-rate-measurements; Chernobyl-nuclear-power-plant-accident; environmental-monitoring; radiation-accident; detectors-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019900000000000000000000000467
Accession Number: 3833664
Update Code: 9100

Record 709 of 1145 in INSPEC 1990-1992

Title: Organization of radiation monitoring of the environment in the Chernobyl nuclear power plant accident zone
Author: Ignatenko-EI; Komarov-VI; Proskuryakov-AG
Author Affiliation: Minist. of Atomic Energy, Moscow, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.309-18 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The radiation monitoring problems which presented themselves in acute form immediately after the Chernobyl accident are still of vital importance today. A comprehensive radiation monitoring system was set up at the time which is still operating and undergoing further refinement. It has a number of subsystems: ground based operational monitoring, integral monitoring aided by airborne sampling

techniques, spectral analysis and data analysis using a unified mathematical modelling system. ASKRO, an automated system for monitoring of the radiation situation, has a special role to play in this complex of activities. The following tasks were set for the development of ASKRO: development, approval and optimization of regulations governing the monitoring of the radiation situation in natural media during the post-accident period; elaboration of strategies for deploying a widespread monitoring network under conditions in which the main transport arteries and lines of communication are disrupted, there is a total loss of power supply to the 30 km zone, and so on; development of equipment and high speed techniques for the mass analysis of environmental samples; development of automated radiation monitoring systems; generalization of the results obtained by the different organization concerned with a view to establishing a databank on the environmental situation; development and use in the 30 km zone of the ASKRO model; and practical implementation of mobile radiospectrometry facilities.

Number of References: 0

Descriptors: accidents-; radiation-monitoring; radioactive-pollution

Identifiers: radiation-monitoring-problems; Chernobyl-accident; ground-based-operational-monitoring; integral-monitoring; airborne-sampling-techniques; spectral-analysis; data-analysis; ASKRO-; automated-system; natural-media; post-accident-period; monitoring-network; automated-radiation-monitoring-systems; mobile-radiospectrometry-facilities

Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670 (Environmental-science); A87; A28; A86; A8; A2

Treatment Codes: P (Practical)

Sort Key: 1000000000019900000000000000000000000309

Accession Number: 3833644

Update Code: 9100

Record 710 of 1145 in INSPEC 1990-1992

Title: Environmental monitoring in Italy following the Chernobyl accident

Author: Lotfi-M; Mancioppi-S; Piermattei-S; Tommasino-L; Azimi-Garakani-D

Author Affiliation: Nat. Comm. for Nucl. & Alternative Energy Sources, Rome, Italy

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp. p.302-4 vol.1

Publication Year: 1990

Record Type: Conference-Paper

Conference Details: 16-20 Oct. 1989; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: The surveillance of environmental radioactivity in Italy is carried out by several laboratories under the co-ordination of the Directorate of Nuclear Safety and Radiation

Protection of the National Commission for Nuclear and Alternative Energy Sources (ENEA-DISP). The major goal of the monitoring programme is to assess dose equivalents to the general population from a number of sources distributed on a regional scale. The programme, which has existed since the mid-1950s, has been strengthened as the result of the Chernobyl accident.

Number of References: 4

Descriptors: dosimetry-; radiation-monitoring; radioactive-pollution

Identifiers: environmental-radioactivity; Italy-; monitoring-programme; dose-equivalents; Chernobyl-accident

Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670 (Environmental-science); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A86; A8; A2

Treatment Codes: P (Practical)

Sort Key: 10000000000199000000000000000000000302

Accession Number: 3833642

Update Code: 9100

Record 711 of 1145 in INSPEC 1990-1992

Title: Monitoring for radioactivity in Scotland after the Chernobyl accident

Author: Hall-IR; McGill-PR

Author Affiliation: Scottish Dev. Dept., Edinburgh, UK

Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.

p.297-301 vol.1

Publication Year: 1990

Record Type: Conference-Paper

Conference Details: 16-20 Oct. 1989; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: Monitoring has been carried out in Scotland by or on behalf of the Scottish Office, and by other bodies following the Chernobyl accident. Exposure to radiation from the accident via the following routes was considered possible. (1) Externally from gamma radiation as the cloud crossed the country. (2) Internally from the inhalation of air. (3) Externally from deposited activity. (4) Internally from directly contaminated drinking water. (5) Internally from directly contaminated foodstuffs. (6) Internally from indirectly contaminated foodstuffs. A summary of the assessed doses is presented.

Number of References: 1

Descriptors: accidents-; air-pollution; dosimetry-; radiation-monitoring; radioactive-pollution; water-pollution

Identifiers: air-inhalation; radioactivity-monitoring; Scotland-; Chernobyl-accident; gamma-radiation; deposited-activity; directly-contaminated-drinking-water; directly-contaminated-foodstuffs; indirectly-contaminated-foodstuffs; doses-

Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670E (Water); A8670G (Atmosphere); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A9330G (Europe); A87; A28; A86; A93; A8; A2
Treatment Codes: P (Practical)
Sort Key: 1000000000019900000000000000000000000297
Accession Number: 3833641
Update Code: 9100

Record 712 of 1145 in INSPEC 1990-1992

Title: Variability of radiocaesium concentrations in freshwater fish caught in the United Kingdom following the Chernobyl accident: an assessment of potential doses to critical group consumers
Author: Leonard-DRP; Camplin-WC; Tipple-JR
Author Affiliation: Minist. of Agric., Fisheries & Food, Lowestoft, UK
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.247-56 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Radiocaesium deposited from the Chernobyl reactor accident contaminated the aquatic environment in several parts of the United Kingdom. The Directorate of Fisheries Research of the Ministry of Agriculture, Fisheries and Food studies have shown freshwater fish, particularly indigenous brown trout, to be the most important pathway, radiologically. The paper highlights the temporal and spatial distribution of radiocaesium in brown trout between 1986 and 1989. The difference in concentrations for other species is discussed. By comparing theoretical doses assessed on the basis of pessimistically high consumption rates with information provided from specific fisheries, it is concluded that effective dose equivalents are likely to have been less than 1 mSv/a.
Number of References: 14
Descriptors: accidents-; caesium-; dosimetry-; radiation-monitoring; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: radiocaesium-concentrations; freshwater-fish; United-Kingdom; Chernobyl-accident; potential-doses; critical-group-consumers; aquatic-environment; brown-trout; effective-dose-equivalents; Cs-radioisotopes
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670E (Water); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A86; A8; A2
Treatment Codes: P (Practical)

Chemical Indexing: Cs-el
Sort Key: 10000000000199000000000000000000000247
Accession Number: 3833635
Update Code: 9100

Record 713 of 1145 in INSPEC 1990-1992

Title: Radioactive contamination of water systems in the area affected by releases from the Chernobyl nuclear power plant accident
Author: Vakulovskij-SM; Vojtsekhovich-OV; Katrich-IYu; Medinets-VI; Nikitin-AI; Chumichev-VB
Author Affiliation: Typhoon Sci. & Ind. Assoc., USSR State Comm. for Hydrometeorol., Obninsk, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.231-46 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The radioactive substances discharged into the atmosphere by the Chernobyl nuclear power plant accident caused contamination of water systems as a result of both aerosol fallout onto the water surface and washing down of contamination by rain and melted snow. During the first month after the accident, the main isotopes causing radioactive contamination of water systems were /sup 131/I, /sup 140/Ba, /sup 95/Zr, /sup 95/Nb, /sup 103/Ru and /sup 141/Ce. Later, the most important ones were /sup 90/Sr and /sup 137/Cs. The paper gives information on the distribution of the isotopes in the water-suspension-bottom deposit system in the cascade of the Dnepr reservoirs, and in the Sea of Azov and the Black Sea; it also gives information on the integrated flux values for /sup 90/Sr and /sup 137/Cs from the Rivers Pripyat and Dnepr into the Kiev Reservoir and from the Dnepr into the Black Sea.
Number of References: 4
Descriptors: accidents-; lakes-; radiation-monitoring; radioactive-pollution; radioisotopes-; rivers-; water-pollution
Identifiers: radioactive-substances; Chernobyl-nuclear-power-plant-accident; water-systems; aerosol-fallout; washing-down; rain-; melted-snow; radioactive-contamination; water-suspension-bottom-deposit-system; Dnepr-reservoirs; Sea-of-Azov; Black-Sea; Pripyat-; Dnepr-; Kiev-Reservoir; 131I-; 140Ba-; 95Zr-; 95Nb-; 103Ru-; 141Ce-; 90Sr-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670E (Water); A9240Q (Water-quality-and-water-resources); A9330G (Europe); A87; A28; A86; A92; A93; A8; A2
Treatment Codes: P (Practical)

Chemical Indexing: I-el; Ba-el; Zr-el; Nb-el; Ru-el; Ce-el; Sr-el; Cs-el
Sort Key: 10000000000199000000000000000000000231
Accession Number: 3833634
Update Code: 9100

Record 714 of 1145 in INSPEC 1990-1992

Title: The pattern of ground contamination in the German Democratic Republic after the Chernobyl accident
Author: Ettenhuber-E; Marschner-P; Siebert-H-U
Author Affiliation: Nat. Board for Atomic Safety & Radiat. Protection, Berlin, Germany
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.227-8 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In the German Democratic Republic, the inflow if unevenly contaminated air masses and different weather conditions, in particular locally limited precipitation, gave rise to different degrees of surface contamination as a consequence of the Chernobyl accident. For the evaluation of the resulting radiation dose to man, especially of the external dose caused by surface contamination, it was necessary to have as thorough a knowledge as possible of the deposition of /sup 134/Cs and /sup 137/Cs. the /sup 134/Cs and /sup 137/Cs deposition was calculated on the basis of the gamma spectrometric determination of /sup 134/Cs concentration in soil samples. The /sup 137/Cs deposition due to the Chernobyl accident was calculated from the values obtained, using the determined /sup 134/Cs//sup 137/Cs ratio of 1:2.
Number of References: 1
Descriptors: accidents-; caesium-; dosimetry-; radiation-monitoring; radioactive-pollution; radioisotopes-; soil-
Identifiers: German-Democratic-Republic; contaminated-air-masses; weather-conditions; locally-limited-precipitation; surface-contamination; Chernobyl-accident; radiation-dose; external-dose; 134Cs-; 137Cs-; gamma-spectrometric-determination; soil-samples; Cs-radioisotopes
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670C (Soil-and-rock); A2880C (Dosimetry); A9330G (Europe); A8760M (Radiation-dosimetry); A87; A28; A86; A93; A8; A2
Treatment Codes: P (Practical)
Chemical Indexing: Cs-el
Sort Key: 10000000000199000000000000000000000227
Accession Number: 3833633

Update Code: 9100

Record 715 of 1145 in INSPEC 1990-1992

Title: Radiological protection considerations in the use of ash from Chernobyl contaminated peat fuel
Author: Jarvinen-P
Author Affiliation: Imatran Voima Oy, Helsinki, Finland
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.225-6 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In late April and early May 1986, southern and central parts of Finland received a considerable amount of radioactive fallout originating from the Chernobyl NPP. The deposition of /sup 137/Cs ranged from 2 kBq/m/sup 2/ to 60 kBq/m/sup 2/. In Finland peat is used as fuel in a number of power plants, mainly for co-production of electricity and heat for district heating. The summer of that year was very favourable for peat production, so much so that in some power plants peat produced in 1986 was used up to early 1989. Some peat production areas received quite a large amount of the Chernobyl fallout, resulting in the need for radiological protection considerations in the handling and utilization of peat ash. The aim has been to utilize ash to the largest possible degree as an element in concrete, in landfills, etc. After Chernobyl it was no longer possible to use the ash for concrete, as the /sup 137/Cs concentration rose to as high as 60 kBq/kg. Dose rates for ash-related activities are estimated.
Number of References: 0
Descriptors: accidents-; dosimetry-; radiation-monitoring; radiation-protection; radioactive-pollution
Identifiers: Chernobyl-contaminated-peat-fuel; Finland-; radioactive-fallout; power-plants; peat-production; Chernobyl-fallout; radiological-protection-considerations; peat-ash; concrete-; landfills-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670 (Environmental-science); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A87; A28; A86; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 1000000000019900000000000000000000000225
Accession Number: 3833632
Update Code: 9100

Record 716 of 1145 in INSPEC 1990-1992

Title: Predictions for the duration of the Chernobyl radiocaesium problem in non-cultivated areas based on a reassessment of the behaviour of fallout from nuclear weapons tests
Author: Hove-K; Strand-P
Author Affiliation: Dept. of Animal Sci., Agric. Univ., As, Norway
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.215-23 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The presence of two radiocaesium isotopes in fallout from the Chernobyl accident allowed estimation of pre-Chernobyl radiocaesium contamination of animals and animal products in areas where the fallout Chernobyl was small. Average concentrations of /sup 137/Cs of weapons tests origin in lambs slaughtered in the month of September in the years 1986-8 were 70-100 Bq/kg. Values during 1966-72 ranged from 40 to 280 Bq/kg. The effective half-life for the 1965-88 period was about 20 years. The level observed in lamb meat per kBq/m/sup 2/ of weapons tests /sup 137/Cs in both the 1966-72 and the 1986-8 periods was 13-100 Bq/kg, indicating that the bioavailability was high after more than 20 years. A similar ratio between Chernobyl radiocaesium in lamb meat and in soil was observed in 1986-8 in areas with Chernobyl fallout in the 20-200 kBq/m/sup 2/ range. Whey cheese from goat milk in the county of Toms contained 5-800 Bq/Kq /sup 137/Cs in the period 1963-6 and 170-300 Bq/kg of pre-Chernobyl radiocaesium in 1988, giving an effective half-life of between 15 and 25 years.
Number of References: 11
Descriptors: accidents-; atmospheric-radioactivity; caesium-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: nuclear-weapons-tests; radiocaesium-isotopes; fallout-; Chernobyl-accident; contamination-; animals-; animal-products; lambs-; effective-half-life; bioavailability-; soil-; goat-milk; Toms-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670 (Environmental-science); A87; A28; A86; A8; A2
Treatment Codes: P (Practical)
Chemical Indexing: Cs-el
Sort Key: 10000000000199000000000000000000000215
Accession Number: 3833631
Update Code: 9100

Record 717 of 1145 in INSPEC 1990-1992

Title: Post-Chernobyl distribution of /sup 137/Cs concentration in soil and environmental samples in mountainous and plain areas of the Province of Salzburg, Austria
Author: Lettner-H
Author Affiliation: Div. of Biophys., Salzburg Univ., Austria
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp.
p.193-203 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The Province of Salzburg is one of the regions with the highest contamination due to the Chernobyl fallout in western Europe. The average value of the accumulated /sup 137/Cs deposition has been determined to be 70 kBq/m/sup 2/ in flat land and on valley floors and 105 kBq/m/sup 2/ on Alpine pastures. The results of measurements continuing since the reactor accident have shown that the soil to vegetation transfer factors vary by at least one order of magnitude. The region with the highest transfer factors and consequently highest contamination in milk and dairy products is mainly restricted to pasture land of the mountain region along the southern border of the Province of Salzburg north of the highest elevations in the Alps. Taking into considerations geological and geographical conditions appears to lead to a better general estimation of the expected /sup 137/Cs levels of locally produced food in contaminated areas.
Number of References: 9
Descriptors: caesium-; radiation-monitoring; radioactive-pollution; radioisotopes-; soil-
Identifiers: soil-; environmental-samples; Austria-; Salzburg-; contamination-; Chernobyl-fallout; accumulated-137Cs-deposition; valley-floors; Alpine-pastures; reactor-accident; soil-to-vegetation-transfer-factors; milk-; dairy-products; food-; 137Cs-concentration
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670C (Soil-and-rock); A9330G (Europe); A87; A28; A86; A93; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 1000000000019900000000000000000000000193
Accession Number: 3833629
Update Code: 9100

Record 718 of 1145 in INSPEC 1990-1992

Title: Radiation and migration characteristics of the Chernobyl radionuclides causing environmental contamination in various provinces in the European sector of the USSR
Author: Vetrov-VA; Andrianova-GA; Kasimovskij-AA; Poslovin-AL; Tolokonnikov-AV; Yamshchikov-SI

Author Affiliation: Lab. for Environ. & Climatic Monitoring, Acad. of Sci., Moscow, USSR
Source: Environmental Contamination Following a Major Nuclear Accident. Proceedings of an International Symposium. IAEA, Vienna, Austria; 1990; 2 vol. 497+451 pp. p.179-92 vol.1
Publication Year: 1990
Record Type: Conference-Paper
Conference Details: 16-20 Oct. 1989; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The radionuclide composition of the Chernobyl fallout has been studied over practically the whole European sector of the Union of Soviet Socialist Republics using soil sampling methods, the upper turf layer of the soil being treated as a natural planchet. Regular observation of the migration of radionuclides in the soil-plant system has been in progress since July 1986 at a stationary network of landscape-geochemical testing sites and sampling grounds; two types of natural ecosystem have been looked at-meadowland and forest. It has been found that the radionuclide composition varies greatly, principally in relation to two spatial factors: distance and direction from the source. The behaviour of individual radionuclides is evaluated using the coefficient of fractionation in relation to /sup 95/Zr or /sup 144/Ce. The migration characteristics of individual radionuclides were revealed to depend both on soil conditions and on the type of radionuclide composition. The main features of the vertical profile of radionuclide concentrations in soils were clear 2-3 months after the contamination occurred. During subsequent years the migrational profiles changed depending on the individual characteristics of the radionuclides and soil conditions.
Number of References: 4
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioisotopes-; soil-
Identifiers: migration-characteristics; environmental-contamination; USSR-; radionuclide-composition; Chernobyl-fallout; European-sector; soil-sampling; turf-layer; soil-plant-system; landscape-geochemical-testing-sites; meadowland-; forest-; vertical-profile; 95Zr-; 144Ce-
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8670C (Soil-and-rock); A9330G (Europe); A87; A28; A86; A93; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Zr-el; Ce-el
Sort Key: 10000000000199000000000000000000000179
Accession Number: 3833628
Update Code: 9100

Record 719 of 1145 in INSPEC 1990-1992

Title: Meteorological conditions for long-range transport of radioactive products of the Chernobyl accident
Author: Borzilov-VA; Klepikova-NV; Kostrikov-AA; Khvalenskii-YuA; Troyanova-NI

Author Affiliation: Inst. of Exp. Meteorol., USSR
Source: Soviet-Meteorology-and-Hydrology. no.11; 1989; p.1-5
Translated from: Meteorologiya-i-Gidrologiya. no.11; 1989; p.5-11
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: A model of regional transport, atmospheric dispersion, and fallout of radioactive pollutants is used to examine the influence of meteorological conditions (space-time structure of fields of wind speed and mixing characteristics) on the formation of the fields of pollution at distances up to 2000 km from the failed block of the Chernobyl NPP.
Number of References: 4
Descriptors: air-pollution; radioactive-pollution
Identifiers: meteorology-; atmosphere-; air-pollution; radioactive-pollution; USSR-; nuclear-power-station-accident; AD-1986-05; Europe-; Hungary-; Poland-; long-range-transport; radioactive-products; Chernobyl-accident; model-; regional-transport; dispersion-; fallout-
Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9330G (Europe); A92; A86; A93; A9; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/89/$20.00
Sort Key: 00001302906198900000000110000000000000005
Accession Number: 3831395
Update Code: 9100

Record 720 of 1145 in INSPEC 1990-1992

Title: Physicomathematical modeling of regional transport of radioactive pollutants in the atmosphere from the Chernobyl accident
Author: Sedunov-YuS; Borzilov-VA; Klepikova-NV; Chernokozhin-EV; Troyanova-NI
Author Affiliation: State Comm. on Hydrometeorol., Taifun Sci. Ind. Assoc., USSR
Source: Soviet-Meteorology-and-Hydrology. no.9; 1989; p.1-5
Translated from: Meteorologiya-i-Gidrologiya. no.9; 1989; p.5-10
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The authors briefly describe regional and transboundary models of the transport, dispersion, and fallout of radioactive pollutants for a distance of 2000-4000 km. The parameters of the source are reconstructed by solving the inverse problem with existing experimental data on the density of radionuclide pollution of an area. The strength of

the source is estimated, and the fields of fallout of /sup 131/I are modeled. The transport of /sup 131/I across the boundary of the USSR is estimated.

Number of References: 5

Descriptors: accidents-; air-pollution; atmospheric-composition; atmospheric-movements; atmospheric-radioactivity; iodine-; radioactive-pollution; radioisotopes-; transport-processes

Identifiers: pollutants-dispersal; radioactive-fallout; Soviet-Union; pollutants-transport-distance; AD-1986-04-26-to-05-06; radionuclide-pollution-density; Finland-; Sweden-; Poland-; synoptic-scale-atmospheric-circulation; Hungary-; Czechoslovakia-; Romania-; Bulgaria-; regional-transport; radioactive-pollutants; Chernobyl-accident; transboundary-models; USSR-; 2-to-4-Mm; 131I-transport

Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A9260E (Convection-turbulence-and-diffusion); A9260B (General-circulation); A9330G (Europe); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A92; A93; A28; A8

Treatment Codes: T (Theoretical-or-Mathematical)

Numerical Data Indexing: distance 2.0 E06 to 4.0 E06 m

Chemical Indexing: I-el

Coden: MEGIAC; Translation: SMHYDK

ISSN: 0130-2906; Translation: 0146-4108

Copyright Clearance Center Code: 0146-4108/89/$20.00

Sort Key: 00001302906198900000000090000000000000005

Accession Number: 3831378

Update Code: 9100

Record 721 of 1145 in INSPEC 1990-1992

Title: /sup 137/Cs and /sup 134/Cs human internal contamination in Italy following the 1986 Chernobyl event

Author: Tarroni-G; Melandri-C; Battisti-P; Castellani-CM; Formignani-M; Rampa-E

Author Affiliation: ENEA-PAS-FIBI, Bologna, Italy

Source: Radiation-Protection-Dosimetry. vol.32, no.4; 1990; p.259-71

Publication Year: 1990

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: A synthesis of the data concerning the distribution and behaviour over time until September 1989 of /sup 134/Cs and /sup 137/Cs human contamination deriving from the accident to Unit 4 of the Chernobyl Nuclear Power Station on 26 April 1986, is presented. The controls have been performed by means of two intercalibrated whole-body counters on healthy adult male and female volunteers living in different Italian regions. The main topics investigated are: the behaviour over time of the contamination in Bologna and Rome; geographic distribution in Italy in September 1987; the statistical distribution of data; the variability of the individual activity in relation to the mean

activity of homogeneous groups; the intersex differences; and the effect of the element's biokinetic uncertainties on the committed effective dose equivalent evaluation.
Number of References: 12
Descriptors: caesium-; dosimetry-; health-hazards; radioisotopes-
Identifiers: Chernobyl-event; accident-; Chernobyl-Nuclear-Power-Station; intercalibrated-whole-body-counters; healthy-adult-male; female-volunteers; Italian-regions; Bologna-; Rome-; geographic-distribution; Italy-; statistical-distribution; homogeneous-groups; intersex-differences; biokinetic-uncertainties; committed-effective-dose-equivalent-evaluation; 137Cs-; 134Cs-human-internal-contamination
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201990000320000400000000000259
Accession Number: 3822799
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 722 of 1145 in INSPEC 1990-1992

Title: The 'PROBA' information system: monitoring radioactive contamination of territory after the Chernobyl nuclear plant accident
Author: Belyaev-ST; Borovoi-AA; Dobrynin-YuL
Source: Soviet-Atomic-Energy. vol.68, no.3; March 1990; p.228-32
Translated from: Atomnaya-Energiya. vol.68, no.3; March 1990; p.197-201
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: After the Chernobyl accident many scientific organizations were involved in collecting data on the nature and levels of radioactive contamination of the soils, water, and air in the monitored zones, particularly in 1986. Thousands of samples were collected. The lack of a single set of benchmarks for observations and radiation monitoring, the nonuniformity in the approaches and methods used to take, process, and describe samples, and the lack of an operating information system to store and evaluate the data did not allow all the information to be used immediately and effectively or the level of its reliability to be correctly evaluated. In this situation, there were errors and incorrect conclusions and decisions. Precisely at this time, on the instructions of the Governmental Commission on eliminating the consequences of the accident, the Kurchatov Nuclear Power Institute laid the foundation for the automatic information

system 'PROBA' (post-accident radiation level indicators) for storing and evaluating information on soil surface contamination by radioactive fallout.
Number of References: 5
Descriptors: accidents-; database-management-systems; information-retrieval-systems; radioactive-pollution; soil-
Identifiers: pollution-; PROBA-information-system; radioactive-contamination; Chernobyl-; soil-surface-contamination
Classification Codes: A8670C (Soil-and-rock); A8670Z (Other-topics); C7250 (Information-storage-and-retrieval); C7190 (Other-fields); A86; C72; C71; A8
Treatment Codes: P (Practical)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/90/6803-0228$12.50
Sort Key: 00000047163199000068000030000000000000197
Accession Number: 3818780
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 723 of 1145 in INSPEC 1990-1992

Title: Ag-110m in fungi in central Italy after the Chernobyl accident
Author: Gentili-A; Gremigni-G; Sabbatini-V
Author Affiliation: CRESAM, Pisa, Italy
Source: Journal-of-Environmental-Radioactivity. vol.13, no.1; 1991; p.75-8
Publication Year: 1991
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: After the Chernobyl accident CRESAM carried out many measurements of a range of radionuclides in environmental matrices. In particular, the authors investigated radioactivity in fungi, a general subject area in which they have maintained a long-term interest (De Franceschi et al., 1981; Gremigni, 1986; Gremigni, 1987). The /sup 110m/Ag content in Lycoperdon and Agaricus has been investigated, these two genera having shown a remarkable capability to concentrate this radionuclide (Byrne et al., 1979; Byrne, 1988). Contrary to expectations, however, the /sup 110m/Ag activity in the fungi collected in autumn 1986 was undetectable. Surprisingly thereafter, the samples collected in 1988 and 1989 showed a remarkable abundance of /sup 110m/Ag, its activity being high and indeed comparable to that of /sup 137/Cs. This is a very surprising observation in view of the short half-life of /sup 110m/Ag (253 d).
Number of References: 6
Descriptors: radiation-monitoring; radioactive-pollution; radioisotopes-; silver-; soil-
Identifiers: central-Italy; Chernobyl-accident; radionuclides-; environmental-matrices; radioactivity-; fungi-; Lycoperdon-; Agaricus-; 110mAg-

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X199100013000010000000000000075
Accession Number: 3814648
Update Code: 9100

Record 724 of 1145 in INSPEC 1990-1992

Title: Consequences of the Chernobyl accident
Author: Nixon-W; Egan-MJ
Author Affiliation: UKAEA, Warrington, UK
Editor: Ballard-GM
Source: Nuclear Safety after Three Mile Island and Chernobyl. Elsevier Applied Science, London, UK; 1988; x+480 pp.
p.390-419
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 8-10 June 1988; Blackpool, UK
Country of Publication: UK
Language: English
Abstract: The time dependent spread of radioactive material across the European continent from the Chernobyl accident is considered, followed by a preliminary assessment of the dosimetric impact (in terms of collective and mean individual doses) on the various countries of Eastern and Western Europe. The consequences of the accident in the USSR are also discussed. Finally, the likely implications of the Chernobyl event on research in the field of environmental consequence assessment are outlined.
Number of References: 14
Descriptors: accidents-; dosimetry-; radioactive-pollution
Identifiers: radioactive-pollution; Europe-; Chernobyl-; radioactive-material; doses-; USSR-; environmental-consequence-assessment
Classification Codes: A8670 (Environmental-science); A8760M (Radiation-dosimetry); A86; A87; A8
Treatment Codes: G (General-or-Review)
ISBN: 1851662359
Sort Key: 118516623591988000000000000000000000390
Accession Number: 3809237
Update Code: 9100

Record 725 of 1145 in INSPEC 1990-1992

Title: Source terms and the Chernobyl accident
Author: Clough-PN
Author Affiliation: UKAEA, Warrington, UK
Editor: Ballard-GM
Source: Nuclear Safety after Three Mile Island and Chernobyl. Elsevier Applied Science, London, UK; 1988; x+480 pp.
p.306-53
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 8-10 June 1988; Blackpool, UK
Country of Publication: UK
Language: English
Abstract: One element required in performing a probabilistic safety assessment for a plant is a measure of the consequences which will ensue in the unlikely event that a severe accident develops. The consequence assessment involves two steps. First, the magnitude and nature of the release of hazardous radionuclides to the environment must be established, that is the source term. Then this information is used in modelling the atmospheric dispersion of the radioactivity, and its consequent impact in terms of health and other effects on the population. The first of these steps is the subject of this study. Source term analysis is concerned with determining the amounts and chemical and physical forms of the harmful radionuclides released from the plant in an accident, and other information required in the consequence calculation such as the timing of release, and the energy associated with the radioactive plume. A study of source terms relevant to the Chernobyl accident is given.
Number of References: 35
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: radionuclide-release; Chernobyl-; probabilistic-safety-assessment; severe-accident; source-term
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A28; A86; A2; A8
Treatment Codes: T (Theoretical-or-Mathematical)
ISBN: 1851662359
Sort Key: 1185166235919880000000000000000000000306
Accession Number: 3809235
Update Code: 9100

Record 726 of 1145 in INSPEC 1990-1992

Title: Nuclear Safety after Three Mile Island and Chernobyl
Editor: Ballard-GM
Source: Elsevier Applied Science, London, UK; 1988; x+480 pp.
Publication Year: 1988

Record Type: Conference-Proceedings
Conference Details: 8-10 June 1988; Blackpool, UK
Country of Publication: UK
Language: English
Abstract: The following topics were dealt with: designing for safety; man-machine interaction; accident phenomenology; source terms and consequences; accident response.
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design; human-factors; radioactive-pollution
Identifiers: design-; fission-reactors; safety-; man-machine-interaction; accident-; source-terms; accident-response
Classification Codes: A0130C (Conference-proceedings); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A8670 (Environmental-science); B0100 (General-electrical-engineering-topics); B8220B (Nuclear-reactors); B0160 (Plant-engineering-maintenance-and-safety); A01; A28; A86; B01; B82; A0; A2
ISBN: 1851662359
Sort Key: 1185166235919880000000000000000000000000
Accession Number: 3809219
Update Code: 9100

Record 727 of 1145 in INSPEC 1990-1992

Title: Contamination on clothing for staff dealing with the accident at Chernobyl
Author: Klochkov-VN; Gol'dshtein-DS; Bas'kin-AG; Molokanov-AA; Kharlamov-YuA; Moiseeva-MA
Source: Soviet-Atomic-Energy. vol.68, no.2; Feb. 1990; p.122-5
Translated from: Atomnaya-Energiya. vol.68, no.2; Feb. 1990; p.105-7
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: During the first days after the Chernobyl accident, there were difficulties in decontaminating staff clothing; the initial suggestion that the dust contamination characteristic of these conditions would be readily removed was not confirmed: results obtained in the laundry in May-July 1986 showed that even severe decontamination, which provides a decontamination factor of more than 50 with normal power station operation, gave on average factors of 8-20 with bleached cloths or 2.1-6.3 with dyed ones. This made it necessary to examine the contamination on cotton and mixed materials by beta radiometry, gamma spectrometry and autoradiography. Results were processed by computer for comparison with existing data.
Number of References: 5
Descriptors: accidents-; radiation-decontamination; radiation-monitoring

Identifiers: accident-; Chernobyl-; staff-clothing; dust-contamination-characteristic; severe-decontamination; decontamination-factor; bleached-cloths; cotton-; mixed-materials; beta-radiometry; gamma-spectrometry; autoradiography-; computer-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/90/6802-0122$12.50
Sort Key: 00000047163199000068000020000000000000105
Accession Number: 3798210
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 728 of 1145 in INSPEC 1990-1992

Title: Thyroid gland irradiation doses for Moscow inhabitants following the reactor accident at Chernobyl
Author: Telushkina-EL; Zykova-AS; Voronina-TF
Source: Soviet-Atomic-Energy. vol.68, no.1; Jan. 1990; p.65-8
Translated from: Atomnaya-Energiya. vol.68, no.1; Jan. 1990; p.49-51
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Over the course of many years, measurements have been made in Moscow and its environs (up to 35 km from Moscow) on the content of global radionuclides in the atmosphere, vegetation, and local food products. As a result of the accident at the Chernobyl nuclear power plant, there was a change in the character and an increase in the number of studies conducted, because the type of fallout significantly changed, and the density and concentration of radioactive materials in the atmosphere, and other objects in the environment, increased.
Number of References: 5
Descriptors: air-pollution; dosimetry-; radioactive-pollution; soil-
Identifiers: Moscow-; global-radionuclides; vegetation-; local-food-products; Chernobyl-; radioactive-materials
Classification Codes: A8760M (Radiation-dosimetry); A9330G (Europe); A8670C (Soil-and-rock); A8670G (Atmosphere); A2880C (Dosimetry); A8760R (Radioactive-pollution); A87; A93; A86; A28; A8; A9
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/90/6801-0065$12.50
Sort Key: 00000047163199000068000010000000000000049

Accession Number: 3798197
Update Code: 9100
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 729 of 1145 in INSPEC 1990-1992

Title: Meteorological factors influencing the radioactive deposition in Finland after the Chernobyl accident
Author: Puhakka-T; Jylha-K; Saarikivi-P; Koistinen-J; Koivukoski-J
Author Affiliation: Dept. of Meteorol., Helsinki Univ., Finland
Source: Journal-of-Applied-Meteorology. vol.29, no.9; Sept. 1990; p.813-29
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: After the accident at the Chernobyl nuclear plant on 26 April 1986, much of Europe was affected by radioactive pollution. The first releases were transported toward Scandinavia, where most of the fallout was attributable to wet deposition. This study analyzes the synoptic scale and mesoscale meteorological conditions influencing the transport, and the meteorological factors related to the observed fallout in southern Finland. The study focuses on the role of rainfall in the final deposition onto the ground, studied using weather radar data. The results demonstrate that, although the large scale transport from Chernobyl could be roughly estimated by simple methods using routine synoptic data, some essential smaller-scale features could not be understood before an isentropic trajectory analysis, together with the conceptual model of a cyclone and its related conveyor belts, was applied.
Number of References: 46
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: air-pollution; atmosphere-; long-range; AD-1986-04-26; rain-; nuclear-power-station; USSR-; radioactive-deposition; Finland-; Chernobyl-accident; nuclear-plant; Europe-; radioactive-pollution; transported-; Scandinavia-; fallout-; wet-deposition; synoptic-scale; mesoscale-meteorological-conditions; transport-; meteorological-factors; rainfall-; large-scale
Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9330G (Europe); A92; A86; A93; A9; A8
Treatment Codes: X (Experimental)
Coden: JAMOAX
ISSN: 0894-8763
Sort Key: 0000894876319900002900009000000000000813
Accession Number: 3794083
Update Code: 9100

Record 730 of 1145 in INSPEC 1990-1992

Title: Measurements of radiocesium transfer to milk and calculation of resulting dose in Brescia, Italy, following the Chernobyl accident
Author: Albini-E; Mascaro-L; Belletti-S
Author Affiliation: Dept. of Med. Phys., Spedali Civili, Brescia, Italy
Source: Health-Physics. vol.59, no.4; Oct. 1990; p.455-60
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Results are presented of several measurements on components of the cow's milk chain performed at the Medical Physics Service after the Chernobyl accident. Values were obtained for Cs isotope transfer coefficients namely, for cows' diet-milk and diet-feces transfers. Other measured parameters were the effective half-life of Cs in milk and the /sup 134/Cs:/sup 137/Cs ratio. In addition, an evaluation of Cs contribution to the adsorbed dose to population from milk is performed.
Number of References: 24
Descriptors: caesium-; dosimetry-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: Brescia-; Italy-; Chernobyl-accident; cow's-milk-chain; diet-feces-transfers; effective-half-life; adsorbed-dose; population-; Cs-isotope-transfer-coefficients; 134Cs-; 137Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
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Sort Key: 0000017907819900005900004000000000000455
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Bestand: 1.1958=> L:3

Record 731 of 1145 in INSPEC 1990-1992

Title: Mobile survey of environmental gamma radiation and fall-out levels in Finland after the Chernobyl accident
Author: Arvela-H; Markkanen-M; Lemmela-H
Author Affiliation: Finnish Centre for Radiat. & Nucl. Safety, Helsinki, Finland
Source: Radiation-Protection-Dosimetry. vol.32, no.3; 1990; p.177-83
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK

Language: English

Abstract: Results from a survey of environmental gamma radiation levels in Finland after the Chernobyl accident in 1986 are presented. The measurements were made in 1986-87 by means of sensitive Geiger counters and a gamma spectrometer placed in cars. The results show the level of external radiation caused by the caesium fall-out on the first of October 1987. The fall-out patterns of /sup 137/Cs, as well as of /sup 95/Zr and /sup 103/Ru, are also presented. In the centre of Southern Finland there are wide areas with exposure levels exceeding 0.03 mu Sv.h/sup -1/, areas exceeding 0.10 mu Sv.h/sup -1/ being very rare. The surface area weighted mean dose rate for the 461 municipalities in Finland was 0.027 mu Sv.h/sup -1/ (range 0-0.19 mu Sv.h/sup -1/). The population weighted mean dose rate was 0.037 mu Sv.h/sup -1/. The corresponding estimated surface activity of /sup 137/Cs was 10.7 kBq.m/sup -2/. The passage of the Chernobyl plume over Finland in 1986 led to various fall-out patterns for different radionuclides.

Number of References: 20

Descriptors: accidents-; air-pollution; atmospheric-radioactivity; caesium-; dosimetry-; gamma-ray-detection-and-measurement; health-hazards; radiation-monitoring; radioactive-pollution; radioisotopes-; ruthenium-; zirconium-

Identifiers: mobile-survey; nuclear-reactor-accident; atmosphere-; air-pollution; USSR-; radioactivity-; fallout-; AD-1986; AD-1987; environmental-gamma-radiation; fall-out-levels; Chernobyl-accident; external-radiation; fall-out-patterns; Southern-Finland; surface-area-weighted-mean-dose-rate; municipalities-; population-weighted-mean-dose-rate; estimated-surface-activity; Chernobyl-plume; radionuclides-; 137Cs-; 95Zr-; 103Ru-

Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8670G (Atmosphere); A2880C (Dosimetry); A9330G (Europe); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Zr-el; Ru-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201990000320000300000000000177

Accession Number: 3791096

Update Code: 9100

Record 732 of 1145 in INSPEC 1990-1992

Title: Sedimentation method of determining transuranium-element fallout near Chernobyl power station

Author: Vinogradov-VA; Ermilov-AP; Petrov-SV; Prokhorenko-OD; Tikhomirov-DD; Yaryna-VP

Source: Measurement-Techniques. vol.32, no.11; Nov. 1989; p.1115-17

Translated from: Izmeritel'naya-Tekhnika. vol.32, no.11; Nov. 1989; p.57-8

Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: It is suggested that the classical sedimentation method can be used effectively in combination with simple radiometric equipment to obtain a standardized and representative data set for the accidental LLTUE A-emitter fallout. The best system for accident monitoring should be based on reasonable combination of the representative, mobile, fast, and cheap relative methods for routine measurement with less rapid and more expensive absolute ones, with the absolute method used to calibrate the relative methods and check their representativeness, the relative methods being gamma spectrometry and LLTUE-/sup 144/Ce correlation, as well as sedimentation, which is based on alpha radiometry on standardized sampling surfaces.
Number of References: 0
Descriptors: alpha-particle-detection-and-measurement; atmospheric-radioactivity; radioactive-pollution; radioactivity-measurement
Identifiers: long-lived-transuranium-elements; radioactive-pollution; radioactivity-measurement; transuranium-element-fallout; Chernobyl-power-station; sedimentation-method; accidental-LLTUE-A-emitter-fallout; accident-monitoring; gamma-spectrometry; alpha-radiometry; standardized-sampling-surfaces; 144Ce-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2970 (Radiation-measurement-detection-and-counting); A2940 (Radiation-detectors); A8760R (Radioactive-pollution); A8670L (Measurement-techniques-and-instrumentation); B7420 (Particle-and-radiation-detection-and-measurement); B7720 (Pollution-detection-and-control); A28; A29; A87; A86; B74; B77; A2
Treatment Codes: P (Practical)
Chemical Indexing: Ce-el
Coden: IZTEAW; Translation: MSTCAL
ISSN: 0021-3349; Translation: 0543-1972
Copyright Clearance Center Code: 0543-1972/89/3211-1115$12.50
Sort Key: 00000213349198900032000110000000000000057
Accession Number: 3783450
Update Code: 9100

Record 733 of 1145 in INSPEC 1990-1992

Title: Analysis of gamma-radioactivity of 'hot particles' released after the Chernobyl accident. II. An interpretation
Author: Jaracz-P; Piasecki-E; Mirowski-S; Wilhelmi-Z
Author Affiliation: Inst. of Exp. Phys., Warsaw Univ., Poland
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.141, no.2; Aug. 1990; p.243-59
Publication Year: 1990
Record Type: Journal-article

Country of Publication: Switzerland
Language: English
Abstract: For pt.I see ibid., vol.141, no.2, p.221-42 (1990). The radionuclide fractionation process in 'fuel-like' hot particles from the fallout after the Chernobyl accident is analyzed. Some processes which can be responsible for different kinds of fractionation of fission products in hot particles and nuclear fuel are suggested. These comprise: evaporation (Cs and Ru), thermal diffusion within fuel rods (visible mostly in Ce) and 'half-life effects', influencing the spatial dependence of relative content of isotopes of the same element (Ce and Ru). The analysis proves the local origin of hot particles, i.e. the absence of considerable mixing between fission products from different parts of the reactor in the process of hot particle formation.
Number of References: 21
Descriptors: atmospheric-radioactivity; radioactive-pollution; radioisotopes-; soil-
Identifiers: radionuclide-fractionation-process; hot-particles; Chernobyl-accident; fission-products; nuclear-fuel; evaporation-; thermal-diffusion; Cs-; Ru-; Ce-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el; Ru-el; Ce-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119900014100002000000000000243
Accession Number: 3780735
Update Code: 9100

Record 734 of 1145 in INSPEC 1990-1992

Title: Analysis of gamma-radioactivity of 'hot particles' released after the Chernobyl accident. I. Calculations of fission products in hot particles (a detective approach)
Author: Piasecki-E; Jaracz-P; Mirowski-S
Author Affiliation: Inst. of Exp. Phys., Warsaw Univ., Poland
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.141, no.2; Aug. 1990; p.221-42
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: A particulate form ('hot particle') of the radioactive fallout in Poland after the accident at the Chernobyl Nuclear Plant has been studied. Parameters of the 'effective reactor campaign' are obtained from the characteristics of gamma -activity of the hot particles. The numerical INV program written to calculate time evolution of eight isotopes in the reactor is described. On the basis of these calculations the measured hot particles are classified into two groups: those originating from the first load and those

from younger fuel rods. A procedure for dating younger hot particles is proposed. The results of the analyses constitute a basis for other investigations of hot particles.
Number of References: 22
Descriptors: atmospheric-radioactivity; radioactive-pollution; radioisotopes-; soil-
Identifiers: radioactive-fallout; Poland-; Chernobyl-; gamma-activity; hot-particles; fuel-rods
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119900014100002000000000000221
Accession Number: 3780734
Update Code: 9100

Record 735 of 1145 in INSPEC 1990-1992

Title: Regional model of transport and fallout of radionuclides from the Chernobyl accident
Author: Izrael-YuA; Petrov-VN; Severov-DA
Author Affiliation: State Comm. on Hydrometerol., Inst. of Appl. Geophys., USSR
Source: Soviet-Meteorology-and-Hydrology. no.6; 1989; p.1-8
Translated from: Meteorologiya-i-Gidrologiya. no.6; 1989; p.5-14
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Presents for the first time in the USSR a regional model of the transport and fallout of radionuclides from the Chernobyl accident compared to actual data.
Number of References: 12
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; fallout-; radioactive-pollution
Identifiers: radioisotopes-atmospheric-transport; radioisotopes-fallout; Soviet-Union; Ukraine-; Europe-; radioactivity-emission-rate; AD-1986-04-26-to-05-05; AD-1980-06-01-to-10; radionuclides-; Chernobyl-accident; USSR-; regional-model; 137Cs-; 131I-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A9260E (Convection-turbulence-and-diffusion); A9330G (Europe); A86; A87; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; I-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/89/$20.00
Sort Key: 0000130290619890000000006000000000000005
Accession Number: 3763115
Update Code: 9000

Record 736 of 1145 in INSPEC 1990-1992

Title: Assessing /sup 137/134/Cs contamination from Chernobyl across Europe using available data
Author: ApSimon-HM; Mahadeva-N; Wilson-JJN
Source: UKAEA, Harwell, UK, 18 May 1990; 135 pp.
Publication Year: 1990
Record Type: Report
Country of Publication: UK
Language: English
Abstract: A study was carried out by the Air Pollution Group in the Department of Mechanical Engineering, Imperial College, London, for the Environmental Modelling and Assessment Group at Harwell Laboratory. The distribution of radiocaesium deposition across the whole of Europe arising from the Chernobyl accident is assessed using modelling studies, rainfall data and the results of published radiological assessment from several countries.
Number of References: 13
Descriptors: accidents-; air-pollution; air-pollution-detection-and-control; caesium-; radiation-monitoring; radioactive-pollution; rain-; water-pollution; water-pollution-detection-and-control
Identifiers: water-pollution; radioactive-pollution; air-pollution; radiocaesium-deposition; Europe-; Chernobyl-accident; modelling-studies; rainfall-data; radiological-assessment; 134Cs-; 137Cs-
Classification Codes: A8670G (Atmosphere); A0130Q (Reports-dissertations-theses); A8670L (Measurement-techniques-and-instrumentation); A8760R (Radioactive-pollution); A8670E (Water); A8760P (Radiation-protection); A86; A01; A87; A8; A0
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Report Numbers: AERE R 13445
Description of Unconventional Medium: Microfiche
Availability: HMSO, London, UK
Sort Key: 3AERER13445199000000000000000000000000
Accession Number: 3741494
Update Code: 9000

Record 737 of 1145 in INSPEC 1990-1992

Title: Radiocaesium contents of meat in Italy after the Chernobyl accident and their changes during the cooking process
Author: Lotfi-M; Notaro-M; Piermattei-S; Tommasino-L; Azimi-Garakani-D
Author Affiliation: Directorate of Nucl. Safety & Radioprotection, Rome, Italy
Source: Journal-of-Environmental-Radioactivity. vol.12, no.2; 1990; p.179-83
Publication Year: 1990

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Levels of radioactive contamination in meat have been studied, along with ways of decreasing them. Specifically, radiocaesium concentrations in a range of samples of different types of meat collected throughout Italy since April 1986 are presented here. The samples are of beef, lamb, pork, chicken, turkey and rabbit. It was found that the radiocaesium content of lamb is higher than that in any of the other meat types considered here. Studies of the decrease in the radiocaesium content of meat during cooking showed that, when the meat is cooked in salt water (1%), the activity decreases by as much as 80% relative to uncooked samples.
Number of References: 16
Descriptors: caesium-; health-hazards; radioactive-pollution; radioactivity-measurement; radioisotopes-; safety-
Identifiers: Chernobyl-accident; cooking-process; radioactive-contamination; meat-; radiocaesium-concentrations; Italy-; beef-; lamb-; pork-; chicken-; turkey-; rabbit-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001200002000000000000179
Accession Number: 3735477
Update Code: 9000

Record 738 of 1145 in INSPEC 1990-1992

Title: Contamination of food in Czechoslovakia by caesium radioisotopes from the Chernobyl Accident
Author: Kliment-V; Bucina-I
Author Affiliation: Inst. of Hygiene & Epidemiology, Centre of Radiat. Hygiene, Prague, Czechoslovakia
Source: Journal-of-Environmental-Radioactivity. vol.12, no.2; 1990; p.167-78
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radionuclide concentrations in foodstuffs were measured in the laboratories of the Czechoslovak Monitoring Network, with special emphasis on the caesium radioisotopes, /sup 137/Cs and /sup 134/Cs, as the main long-term contaminants. Based on the temporal record of the observed data and on a knowledge of food consumption patterns, the committed effective dose equivalents were evaluated for three age groups (adults, children from 1 to 8 years and children of up to 1 year) for the first 3 years after

the accident. For adults, the trend in monthly dose delivery was also determined. Seasonal changes in the committed dose equivalent rates are described and the contributions by the main foodstuffs, namely meat and milk, are assessed.
Number of References: 10
Descriptors: caesium-; dosimetry-; health-hazards; radioactive-pollution; radioactivity-measurement; radioisotopes-; safety-
Identifiers: radionuclide-concentrations; Czechoslovakia-; Chernobyl-Accident; foodstuffs-; 137Cs-; 134Cs-; long-term-contaminants; food-consumption-patterns; committed-effective-dose; monthly-dose-delivery; committed-dose-equivalent-rates; meat-; milk-; Cs-radioisotopes
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001200002000000000000167
Accession Number: 3735476
Update Code: 9000

Record 739 of 1145 in INSPEC 1990-1992

Title: Environmental transfer parameters and radiological impact of the Chernobyl fallout in and around Bonn (FRG)
Author: Clooth-G; Aumann-DC
Author Affiliation: Inst. fur Phys. Chem., Bonn Univ., West Germany
Source: Journal-of-Environmental-Radioactivity. vol.12, no.2; 1990; p.97-119
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Concentrations of /sup 103/Ru, /sup 131/I, /sup 134/Cs and /sup 137/Cs deposited in the fallout from the Chernobyl reactor accident in the environs of Bonn (FRG) and of the natural radionuclide /sup 40/K were measured in soils, food crops, milk and pasture vegetation between May 1986 and September 1987. Soil-to-plant concentration factors and transfer coefficients from feed to milk were determined.
Number of References: 29
Descriptors: air-pollution; fallout-; health-hazards; radioactive-pollution; radioactivity-measurement; radioisotopes-; safety-; soil-
Identifiers: radionuclide-concentrations; radiological-impact; Chernobyl-fallout; Bonn-; Chernobyl-reactor-accident; soils-; food-crops; milk-; pasture-vegetation; concentration-factors; transfer-coefficients; 103Ru-; 131I-; 134Cs-; 137Cs-; 40K-

Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670C (Soil-and-rock); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; I-el; Cs-el; Cs-el; K-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001200002000000000000097
Accession Number: 3735473
Update Code: 9000

Record 740 of 1145 in INSPEC 1990-1992

Title: Radionuclide concentrations in air and their deposition at Saluggia (northwest Italy) following the Chernobyl nuclear accident
Author: Spezzano-P; Giacomelli-R
Author Affiliation: Fuel Cycle Dept., Health Phys. & Environ. Lab., ENEA, CRE Saluggia, Vercelli, Italy
Source: Journal-of-Environmental-Radioactivity. vol.12, no.1; 1990; p.79-91
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: After the Chernobyl accident, samples of airborne material, fallout and soil were collected at Saluggia, Vercelli, northwest Italy. No significant differences were found in the arrival times of the main radionuclides in air. Radioactivity in air was removed primarily by wet deposition rather than as dry fallout. For the long-lived radionuclides /sup 90/Sr and /sup 137/Cs, the activities deposited at Saluggia during May 1986 were 0.19 kBq m/sup -2/ and 11.0 kBq m/sup -2/ respectively, as measured in fallout samples. Reasonably good agreement was found between (a) ground deposition estimated from soil and fallout measurements and (b) measured values and those calculated from a deposition model. The greatest uncertainty lies in defining the distribution of iodine in air amongst the particulate, elemental and organic phases and this affects the prediction of the dry and wet contributions to the total iodine deposition.
Number of References: 21
Descriptors: accidents-; air-pollution; fallout-; radioactive-pollution; soil-
Identifiers: radionuclide-concentrations; AD-1986-05; air-; deposition-; Saluggia-; northwest-Italy; Chernobyl-; fallout-; soil-; Vercelli-; ground-deposition; 90Sr-; 137Cs-; 131I-concentration
Classification Codes: A8670C (Soil-and-rock); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Sr-el; Cs-el
Coden: JERAEE

ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001200001000000000000079
Accession Number: 3735472
Update Code: 9000

Record 741 of 1145 in INSPEC 1990-1992

Title: Evaluation of the environmental transfer parameters for /sup 131/I and /sup 137/Cs using the contamination produced by the Chernobyl accident at a site in central Italy
Author: Monte-L
Author Affiliation: Lab. Misure Ambientali, ENEA, Rome, Italy
Source: Journal-of-Environmental-Radioactivity. vol.12, no.1; 1990; p.13-22
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Describes some simple methods for evaluating the transfer parameters for /sup 137/Cs and /sup 131/I within the deposition-vegetation-milk pathway (dry-deposition velocity, washout-proportionality constant, weathering-decay constant, vegetation-interception factor, transfer factor from vegetation to cow's and sheep's milk). These methods were applied to the contamination data collected at a site in central Italy (Anguillara Sabazia-ENEA CRE Casaccia Institute) following the Chernobyl accident. The values calculated are approximately equal to those generally used in conservative models (e.g. IAEA Safety Series No. 57). The only estimated parameter which differs significantly from the accepted conservative value is the dry-deposition velocity of /sup 137/Cs. This discrepancy is not surprising; indeed, the dry-deposition velocity is influenced by a variety of factors, such as the nature of the depositing particles, the properties of the surface on which deposition occurs and the micrometeorological conditions. This parameter shows a high degree of variability according to the particular circumstances of deposition.
Number of References: 11
Descriptors: accidents-; caesium-; iodine-; radioactive-pollution; radioisotopes-; soil-
Identifiers: cow-milk; sheep-milk; environmental-transfer-parameters; Chernobyl-; central-Italy; deposition-vegetation-milk-pathway; dry-deposition-velocity; washout-proportionality-constant; weathering-decay-constant; vegetation-interception-factor; transfer-factor; vegetation-; Anguillara-Sabazia; 131I-; 137Cs-
Classification Codes: A8670C (Soil-and-rock); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001200001000000000000013

Accession Number: 3735469
Update Code: 9000

Record 742 of 1145 in INSPEC 1990-1992

Title: Activities evolution of Chernobyl /sup 103/Ru, /sup 134/Cs and /sup 137/Cs in Cluj fallout
Author: Chereji-I; Daraban-L
Author Affiliation: Inst. of Isotope & Molecular Technol., Cluj, Romania
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.145, no.4; 9 July 1990; p.293-6
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The evolution of Chernobyl /sup 103/Ru, /sup 134/Cs and /sup 137/Cs in accumulated fallout is rigorously followed. The /sup 103/Ru activity of about 12 kbq.m/sup -2/ in the middle of May 1986 became insignificant at the end of 1986, while the levels of /sup 134/Cs and /sup 137/Cs have changed during three years from 2.5 kBq.m/sup -2/, respectively, 5 kBq.m/sup -2/ to about 0.9 kBq.m/sup -2/, respectively 4.7 kBq.m/sup -2/ according to their proper half-lives.
Number of References: 3
Descriptors: air-pollution; caesium-; fallout-; radioactive-pollution; radioisotopes-; ruthenium-
Identifiers: Chernobyl-fallout; Cluj-; 103Ru-; 134Cs-; 137Cs-; accumulated-fallout; activity-; half-lives; Ru-; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119900014500004000000000000293
Accession Number: 3734542
Update Code: 9000

Record 743 of 1145 in INSPEC 1990-1992

Title: The use of post-Chernobyl human data for caesium: model validation and intake estimation
Author: Chevalier-C; Bataller-G; Jeanmaire-L
Author Affiliation: EDF-GDF/SGMT/LAM, Saint Denis, France
Source: Radiation-Protection-Dosimetry. vol.32, no.2; 1990; p.113-18
Publication Year: 1990

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The data from routine monitoring of persons working in French nuclear power stations was used to study the retention and urinary excretion of /sup 137/Cs in various regions of France over the three year period following the Chernobyl accident. In order to minimise interference from less than detectable values, true means of the monthly measurements were preferred to arithmetic means. The authors were thus able to deduce an equivalent biological half-time very close to that recommended by the ICRP and confirm that uptake and intake of cesium were very similar, bring out the persistence of differences between regions, and even within regions, in terms of measured activity, over a period of two years following the accident, show that intake during the second year represents one third of total intake and confirm that the resulting internal exposure of the French population has been extremely low.
Number of References: 7
Descriptors: accidents-; caesium-; dosimetry-; fallout-; physiological-models; radiation-monitoring; radioactive-pollution
Identifiers: metabolic-models; post-Chernobyl-human-data; model-validation; routine-monitoring; French-nuclear-power-stations; urinary-excretion; equivalent-biological-half-time; internal-exposure; French-population; 137Cs-retention
Classification Codes: A8760P (Radiation-protection); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019900003200002000000000000113
Accession Number: 3732780
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 744 of 1145 in INSPEC 1990-1992

Title: Radioactivity levels in imported food to Saudi Arabia after Chernobyl accident
Author: Abul-Faraj-W; Abdul-Majid-S; Abdul-Fattah-AA; Mamoon-A
Author Affiliation: Dept. of Nucl. Eng., King Abdul-Aziz Univ., Jeddah, Saudi Arabia
Source: Isotope-and-Radiation-Research. vol.21, no.2; July 1989; p.165-72
Publication Year: 1989
Record Type: Journal-article
Country of Publication: Egypt
Language: English

Abstract: After the Chernobyl reactor accident, foodstuffs imported to Saudi Arabia were monitored for radioactive contamination. The results of a large number of samples monitored and analyzed are reported for foodstuffs coming to the western province of Saudi Arabia including the port of Jeddah, the largest in the country. /sup 137/Cs and /sup 134/Cs were mainly found in the foodstuffs analyzed. The type of contaminated food, radioactivity concentration levels and the variation of radioactivity contamination with time are reported. The acceptable radiation levels in imported food was taken as 600 Bq/kg and 370 Bq/kg of total Cs activities for adults and dairy and children food, respectively. Presently, Saudi Arabia has adopted new levels. These are 75 Bq/kg and 30 Bq/kg for adult and infant food, respectively.
Number of References: 0
Descriptors: accidents-; health-hazards; radiation-monitoring
Identifiers: radioactivity-levels; adult-food; dairy-food; imported-food; Saudi-Arabia; Chernobyl-; radioactive-contamination; Jeddah-; 134Cs-; radioactivity-concentration-levels; children-food; infant-food; 137Cs-
Classification Codes: A8760P (Radiation-protection); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: ISRRAC
Sort Key: 00000000000198900021000020000000000000165
Accession Number: 3714797
Update Code: 9000

Record 745 of 1145 in INSPEC 1990-1992

Title: Radiocesium concentration in milk after the Chernobyl accident in Japan
Author: Imanaka-T; Koide-H
Author Affiliation: Res. Reactor Inst., Kyoto Univ., Osaka, Japan
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.145, pt.2; 17 May 1990; p.151-7
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Radiocesium concentrations in cow's milk from two districts in Japan were measured monthly for three years following the Chernobyl accident. The Chernobyl contribution in /sup 137/Cs concentration was evaluated from the /sup 134/Cs concentration and the /sup 137/Cs//sup 134/Cs ratio. The highest /sup 137/Cs concentration of 0.6 Bq 1/sup -1/ was observed in May 1986 and the Chernobyl contribution has decreased during three years to levels corresponding to the contribution from past nuclear weapons fallout. Annual values of child internal dose through milk consumption were estimated at 0.6, 0.3 and 0.1 mu Sv for the first, the second and the third year following the accident, respectively.
Number of References: 5

Descriptors: accidents-; caesium-; fallout-; radioactive-pollution; radioisotopes-
Identifiers: milk-; Chernobyl-accident; Japan-; May-1986; past-nuclear-weapons-fallout; child-internal-dose; 137Cs-; 134Cs-; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119900014500000000000000200151
Accession Number: 3710540
Update Code: 9000

Record 746 of 1145 in INSPEC 1990-1992

Title: Chernobyl radioactivity in Turkish tea
Author: Molzahn-D; Tufail-M; Patzelt-P
Author Affiliation: Kernchemie im Fachbereich Physikalische Chemie, Philips-Univ. Marburg, West Germany
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.145, pt.2; 17 May 1990; p.135-41
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Radioactivity in Turkish tea of the 1986 crops was measured. Doses were calculated for persons drinking customarily tea.
Number of References: 6
Descriptors: accidents-; fallout-; radioactive-pollution
Identifiers: Chernobyl-radioactivity; Turkish-tea; 1986-crops
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119900014500000000000000200135
Accession Number: 3710538
Update Code: 9000

Record 747 of 1145 in INSPEC 1990-1992

Title: An analysis of the physical causes of the Chernobyl accident
Author: Martinez-Val-JM; Aragones-JM; Minguez-E; Perlado-JM; Velarde-G
Author Affiliation: Madrid Polytech. Univ., Inst. of Nucl. Fusion, Spain

Source: Nuclear-Technology. vol.90, no.3; June 1990; p.371-88
Publication Year: 1990
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The initiating events and propagating mechanisms of the Chernobyl accident are the subject of this analysis. The neutronics and thermohydraulics of RBMK reactors under different regimes are studied. It is found that the reactor response to a loss of pumping power was a reactivity trip that could not be fully overcome by the Doppler effect because of the neutronic importance of hydrogen captures under the conditions before the accident. This very high importance was induced by an incorrect hydraulic regime being established before the accident in order to conduct an electromechanical experiment. This experiment was responsible for the loss of pumping power that triggered the accident.
Number of References: 46
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety
Identifiers: AD-1986-04-26; Chernobyl-accident; neutronics-; thermohydraulics-; RBMK-reactors; pumping-power; reactivity-trip; Doppler-effect; electromechanical-experiment
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2843B (Cooling-and-heat-recovery); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NUTYBB
ISSN: 0029-5450
Copyright Clearance Center Code: 0029-5450/90/$3.00
Sort Key: 0000029545019900009000003000000000000371
Accession Number: 3692746
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25653.002
Bestand: 10.1971=> L:57

Record 748 of 1145 in INSPEC 1990-1992

Title: Scavenging and particle deposition in the southwestern Black Sea-evidence from Chernobyl radiotracers
Author: Buesseler-KO; Livingston-HD; Honjo-S; Hay-BJ; Konuk-T; Kempe-S
Author Affiliation: Dept. of Chem., Woods Hole Oceanogr. Instn., MA, USA
Source: Deep-Sea-Research,-Part-A-(Oceanographic-Research-Papers). vol.37, no.3A; March 1990; p.413-30
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The pulse of fallout tracers from the Chernobyl accident in April 1986 is used to examine scavenging and particle deposition in the southwestern Black Sea. Data on the

distribution of /sup 137/Cs, /sup 134/Cs, /sup 106/Ru and /sup 144/Ce between the dissolved, suspended and sinking phases are presented. As expected by their different chemistries, the more particle-reactive /sup 106/Ru and /sup 144/Ce tracers are preferentially removed from surface waters relative to Chernobyl Cs, a predominantly conservative tracer. By comparing the tracer isotopic ratios in suspended fine particulates and rapidly sinking large particulates caught in sediment traps, an indication of the sediment source can be obtained.

Number of References: 55

Descriptors: oceanographic-regions; radioactive-tracers; sedimentation-

Identifiers: particle-deposition; Black-Sea; Chernobyl-radiotracers; fallout-tracers; scavenging-; sinking-phases; surface-waters; tracer-isotopic-ratios; suspended-fine-particulates; rapidly-sinking-large-particulates; sediment-; 137Cs-; 134Cs-; 106Ru-; 144Ce-

Classification Codes: A9150J (Sedimentation-and-sediments); A9330R (Regional-seas); A9210 (Physics-of-the-oceans); A91; A93; A92; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Cs-el; Ru-el; Ce-el

Coden: DESRAY

ISSN: 0198-0149

Sort Key: 0000198014919900003700003000000000000413

Accession Number: 3688372

Update Code: 9000

Record 749 of 1145 in INSPEC 1990-1992

Title: Ingestion of Chernobyl /sup 137/Cs in Akita City, Japan

Author: Hisamatsu-S; Takizawa-Y

Author Affiliation: Dept. of Public Health, Akita Univ., Sch. of Med., Japan

Source: Journal-of-Environmental-Radioactivity. vol.11, no.3; 1990; p.267-78

Publication Year: 1990

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The ingestion of /sup 137/Cs during 1985-1988 in Akita City, Japan, has been studied. Samples of 13 separate food categories were collected and analyzed for Cs radioisotopes. The ingestion rate of /sup 137/Cs originating from the Chernobyl accident decreased exponentially with a practical half-life of 1.6 years. The total ingestion of Chernobyl /sup 137/Cs per capita is estimated to be 62 Bq. The relative contributions of various food categories to /sup 137/Cs ingestion after the accident were dissimilar to those from nuclear weapons testing. Thus, the contamination pattern for Chernobyl /sup 137/Cs was characterized by a higher contribution (42%) by dairy products to total /sup 137/Cs ingestion.

Number of References: 27

Descriptors: caesium-; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-; Akita-City; Japan-; ingestion-; food-categories; radioisotopes-; accident-; half-life; nuclear-weapons-testing; contamination-; dairy-products; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001100003000000000000267
Accession Number: 3681124
Update Code: 9000

Record 750 of 1145 in INSPEC 1990-1992

Title: A Soviet response to a US analysis of the Chernobyl accident localization system
Author: Adamov-EO; Nikitin-YuM; Cherkashov-YuM
Source: Nuclear-Safety. vol.30, no.4; Oct.-Dec. 1989; p.479-81
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The authors give a Soviet response to an analysis of the Chernobyl accident localization system given by Donahue et al., (ibid., vol.28, p.297, (1987)). The conditions inside the reactor vessel are discussed.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-4; Chernobyl-accident-localization-system; reactor-vessel
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419890003000004000000000000479
Accession Number: 3678992
Update Code: 9000

Record 751 of 1145 in INSPEC 1990-1992

Title: Radioactivity measurements in air over Europe after the Chernobyl accident
Author: Raes-F; Graziani-G; Stanners-D; Girardi-F
Author Affiliation: Commission of the European Commun., Joint Res. Centre, Ispra, Italy
Source: Atmospheric-Environment,-Part-A-(General-Topics). vol.24A, no.4; 1990; p.909-16

Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A comprehensive European data set of radioactivity in air caused by the accident at the Chernobyl nuclear power plant is presented. For the first 2 weeks after the beginning of the release, levels of particulate I-131, Cs-134 and Cs-137 (85 locations) and of total I-131 (10 locations) are given. All data are stored in a computerized data base. For the first time the passage of the Chernobyl cloud over Europe is mapped after re-averaging the time histories in each location to produce coherent daily concentrations. Cs-134/Cs-137 ratios were analyzed: the 'European' average ratio calculated from 1239 samples is 0.55, with a standard deviation of 0.25.
Number of References: 6
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; disasters-; radioactive-pollution
Identifiers: 137Cs-; measurements-; Europe-; Chernobyl-accident; European-data-set; radioactivity-; air-; Chernobyl-cloud; daily-concentrations; 131I-; 134Cs-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
ISSN: 0004-6981
Copyright Clearance Center Code: 0004-6981/90/$3.00+0.00
Sort Key: 00000046981199000024000040000000000000909
Accession Number: 3674817
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 752 of 1145 in INSPEC 1990-1992

Title: The impact of the Chernobyl accident on Syria
Author: Othman-I
Author Affiliation: Dept. of Protection & Safety, AEC, Damascus, Syria
Source: Journal-of-Radiological-Protection. vol.10, no.2; June 1990; p.103-8
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The radioactive releases from the Chernobyl accident reached Syria on 7 May 1986. Levels of radioactive contamination in milk, soil, grass, etc, were measured using gamma spectrometry. Population dose by a number of routes was calculated. Projected doses were below the emergency action levels.
Number of References: 3
Descriptors: radioactive-pollution; soil-

Identifiers: AD-1986-05-07; radioactive-releases; Chernobyl-accident; Syria-; radioactive-contamination; milk-; soil-; grass-; gamma-spectrometry; emergency-action-levels
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/90/020103+06$03.50
Sort Key: 00009524746199000010000020000000000000103
Accession Number: 3673849
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 753 of 1145 in INSPEC 1990-1992

Title: Contamination of Bavarian lakes after the Chernobyl reactor accident: a two-compartment model analysis
Author: Sanger-W; Hubel-K
Author Affiliation: Bayerische Landesanstalt fur Wasserforschung Kaulbachstr, Munchen, West Germany
Source: Health-Physics. vol.58, no.5; May 1990; p.649-53
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: After the reactor accident in Chernobyl on 26 April 1986, the short-lived radionuclides /sup 103/Ru, /sup 131/I, and /sup 132/Te as well as the longer-lived radionuclides /sup 134/Cs and /sup 137/Cs were washed out by rainfalls on 30 April 1986 into South Bavarian lakes. Shortly after the washout the Bavarian Agency for Water Research started rapid measurements of gamma radiation on the following lakes: Starnberger See, Chiemsee, Ammersee, Walchensee, Konigssee, Tegernsee, Kochelsee, Schliersee, Fohnsee and Feldmochinger See. A complete gamma -ray spectrum was obtained for each sample using coaxial Ge (Li) detectors.
Number of References: 3
Descriptors: accidents-; caesium-; fallout-; health-hazards; iodine-; lakes-; modelling-; radioactive-pollution; radioisotopes-; ruthenium-; tellurium-; water-pollution
Identifiers: Federal-Republic-of-Germany; Europe-; AD-1986; Chernobyl-reactor-accident; two-compartment-model-analysis; short-lived-radionuclides; longer-lived-radionuclides; rainfalls-; South-Bavarian-lakes; washout-; gamma-radiation; Starnberger-See; Chiemsee-; Ammersee-; Walchensee-; Konigssee-; Tegernsee-; Kochelsee-; Schliersee-; Fohnsee-; Feldmochinger-See; complete-gamma-ray-spectrum; coaxial-Ge-Li-detectors; 103Ru-; 131I-; 132Te-; 134Cs-; 137Cs-

Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A9240N (Limnology); A9330G (Europe); A87; A86; A92; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Ru-el; I-el; Te-el; Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/90/$3.00+.00
Sort Key: 0000017907819900005800005000000000000649
Accession Number: 3671520
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 754 of 1145 in INSPEC 1990-1992

Title: Long term radioactive uptake by two pasture plants in a field contaminated by the Chernobyl fallout
Author: Xenoulis-AC; Douka-CE
Author Affiliation: Nat. Center for Sci. Res. 'Demokritos', Aghia Paraskevi, Greece
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.144, no.4; 2 March 1990; p.277-86
Publication Year: 1990
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The radioactive content of alfalfa and rye grass was measured in five consecutive harvests covering a period of one and a half years after the contamination of a field caused by the Chernobyl fallout. The measured long-lived isotopes were /sup 106/Ru, /sup 134/Cs and /sup 137/Cs. In the first four harvests alfalfa contained significantly less radioactivity than rye grass, while in the last harvest both plants contained comparable levels of radioactivity. The results from the first harvest, demonstrating the radioactivity obtained in the direct fallout, indicate that the fraction of total initial deposition retained on rye grass is by 55% and 70% greater than alfalfa for Cs and Ru isotopes, respectively. The second, third and fourth harvests demonstrate values of plant to soil concentration ratios (CR) considerably larger than those observed in the fifth harvest. Only the CR values obtained in the last harvest overlap with commensurate values previously reported in the literature.
Number of References: 7
Descriptors: air-pollution; fallout-; radioactive-pollution; soil-
Identifiers: long-term-radioactive-uptake; pasture-plants; radioactive-content; alfalfa-; rye-grass; contamination-; Chernobyl-fallout; direct-fallout; plant-to-soil-concentration-ratios; 106Ru-; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670C (Soil-and-rock); A87; A86; A8

Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119900014400004000000000000277
Accession Number: 3671426
Update Code: 9000

Record 755 of 1145 in INSPEC 1990-1992

Title: Delayed and late impact of the Chernobyl accident on the Greek environment
Author: Kritidis-P; Florou-H; Papanicolaou-E
Author Affiliation: Nat. Centre for Sci. Res. Democritos, Athens, Greece
Source: Radiation-Protection-Dosimetry. vol.30, no.3; 1990; p.187-90
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The impact of the Chernobyl nuclear accident on the Greek environment during and after the winter 1986-7 and the estimated long-term doses to the population are discussed. This includes the delayed peak of caesium concentrations observed in animal products, the contamination of pastry and bread, the additional external exposure in areas of peak caesium deposition, the soil-to-plant transfer of caesium, the contamination of marine and lake fish and the residual contamination in air, and deposition and surface waters.
Number of References: 11
Descriptors: accidents-; disasters-; health-hazards; radioactive-pollution
Identifiers: long-term-population-doses; air-contamination; surface-water; deposition-water; Greek-environment; Chernobyl-nuclear-accident; animal-products; pastry-; bread-; soil-to-plant-transfer; lake-fish; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019900003000003000000000000187
Accession Number: 3669930
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 756 of 1145 in INSPEC 1990-1992

Title: Simulation of the Chernobyl radioactive cloud over Europe using the EURAD model
Author: Hass-H; Memmesheimer-M; Geib-H; Jakobs-HJ; Laube-M; Ebel-A
Author Affiliation: Inst. fur Geophys. und Meteorologie, Koln Univ., West Germany
Source: Atmospheric-Environment,-Part-A-(General-Topics). vol.24A, no.3; 1990; p.673-92
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The European Acid Deposition model (EURAD) is used to investigate the long-range transport (LRT) and deposition of radioactive material in Europe during the first week after the Chernobyl accident. Emphasis is laid on using the model system in a forecast mode as would possibly be done shortly after such an event. Thus, meteorological fields are predicted with the PSU/NCAR mesoscale model MM4. The multilayer Eulerian model CTM (chemistry transport mode) is applied to compute transport and deposition of Cs-137 and I-131 using the predicted meteorological fields. However, the accident scenario was estimated using published data. The model results and performance are discussed by comparison with observations. It is demonstrated that the model can reproduce certain observed characteristics of the radioactive cloud, i.e. trends in surface air concentrations, arrival times and wet deposition patterns. The EURAD-system has a relatively high predictive capability considering the fact that several simple approaches were used.
Number of References: 36
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; caesium-; iodine-; meteorology-; radioactive-pollution; radioisotopes-; transport-processes
Identifiers: radioactive-fallout; radioactive-material-deposition; AD-1986-04-26-to-05-03; 850-mbar-level-geopotential-height; rainfall-fields; predicted-wind-fields; dry-deposition; model-performance; Chernobyl-radioactive-cloud; Europe-; EURAD-model; European-Acid-Deposition-model; long-range-transport; Chernobyl-accident; forecast-mode; meteorological-fields; PSUNCAR-mesoscale-model-MM4; multilayer-Eulerian-model; chemistry-transport-mode; predicted-meteorological-fields; accident-scenario; surface-air-concentrations; arrival-times; wet-deposition-patterns; predictive-capability; 7-d; 85-kPa; 137Cs-deposition; 131I-deposition
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A9260T (Air-quality-and-air-pollution); A9260X (Weather-analysis-and-prediction); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A93; A92; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: time 6.0 E05 s; pressure 8.5 E04 Pa
Chemical Indexing: Cs-el; I-el
ISSN: 0004-6981
Copyright Clearance Center Code: 0004-6981/90/$3.00+0.00
Sort Key: 0000004698119900002400003000000000000673
Accession Number: 3665481

Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 757 of 1145 in INSPEC 1990-1992

Title: Radionuclide concentrations in the northern part of the Netherlands after the Chernobyl reactor accident
Author: de-Meijer-RJ; Aldenkamp-FJ; Brummelhuis-MJAM; Jansen-JFW; Put-LW
Author Affiliation: Kernfysisch Versneller Inst., Groningen, Netherlands
Source: Health-Physics. vol.58, no.4; April 1990; p.441-52
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Concentrations of radionuclides originating from the Chernobyl reactor accident were measured as a function of time in air, rainwater, grass, cow's milk, vegetables and dust by means of high-resolution gamma -ray spectroscopy. Special attention was paid to grass and milk originating from the same meadows. Also, milk of cows temporarily kept inside after the accident was monitored until a few days after their release from the stables. Activity ratios in various types of samples and the implication of the sheltering measures for cows are discussed.
Number of References: 22
Descriptors: accidents-; air-pollution; fallout-; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: radionuclide-concentrations; northern-part; Netherlands-; Chernobyl-reactor-accident; air-; rainwater-; grass-; cow's-milk; vegetables-; dust-; high-resolution-gamma-ray-spectroscopy; meadows-; stables-; sheltering-measures
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670G (Atmosphere); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/90/$3.00+.00
Sort Key: 00000179078199000058000040000000000000441
Accession Number: 3662825
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 758 of 1145 in INSPEC 1990-1992

Title: Chernobyl accident one year later: genetic damage and /sup 137/Cs accumulation in wild rodents in Rome, Italy

Author: Cristaldi-M; D'Arcangelo-E; Ieradi-LA; Mascanzoni-D; Mattei-T; Van-Axel-Castelli-I
Author Affiliation: Rome Univ., Italy
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.274-82
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: During the last decades, biological monitoring methods aimed at studying the consequences of industrial settlements and their environmental impact have been developed. Mutagenetic methods have been employed with success on wild populations to evaluate the effects of ionizing radiations. Wild rodents have demonstrated to be particularly suitable to determine the extent of the biological damage and to evaluate the risk for the environment. Moreover, these animals are known to concentrate the pollutants present in the ecosystem, as also radionuclides. Such research was done on samples from Rome.
Number of References: 34
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; genetic-damage; wild-rodents; Rome-; Italy-; biological-monitoring-methods; ionizing-radiations; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 1000000000019880000000000000000000000274
Accession Number: 3660805
Update Code: 9000

Record 759 of 1145 in INSPEC 1990-1992

Title: Radiosilver /sup 110m/Ag from Chernobyl and its transfer from plant to ruminants
Author: Pfau-AA; Fischer-R; Heinrich-HC; Handl-J
Author Affiliation: Arbeitsgruppe Radiobiol., Inst. fur Tierzucht und Tierverhalten, Bundesforschungsanstalt fur Landwirtschaft, Neustadt, West Germany
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.257-73

Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Radiosilver /sup 110m/Ag from Chernobyl fallout was measured by gamma - spectroscopy with a HP-Ge detector in 1st cut hay from 1986 with a /sup 110m/Ag//sup 137/Cs ratio of 0.02 and with increasing ratios in livers of moose, sheep and cattle varying from 0.04 to 1.7. No detectable radiosilver was found in livers of roe deers and humans. Besides /sup 110m/Ag and naturally occurring /sup 40/K typical radionuclides like /sup 90/Sr, /sup 131/I, /sup 134/Cs and /sup 137/Cs and less common /sup 129m/Te were observed in mammalian tissues only. In an indoor experiment the hay to liver transfer coefficient for /sup 110m/Ag was determined as 1.5 d/kg in three sheep. This transfer experiment was analyzed by means of a one-compartment model. The speculations about the origin of the silver in the Chernobyl fallout were discussed on the basis of experimental findings.
Number of References: 39
Descriptors: radioactive-pollution; radioisotopes-; silver-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; hay-; livers-; moose-; sheep-; cattle-; roe-deers; humans-; mammalian-tissues; one-compartment-model; 110Ag-m
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el
Sort Key: 10000000000198800000000000000000000257
Accession Number: 3660804
Update Code: 9000

Record 760 of 1145 in INSPEC 1990-1992

Title: Use of Chernobyl field data in modelling cesium transfer to grassland crops
Author: Eriksson-A
Author Affiliation: Dept. of Radioecology, Swedish Univ. of Agric. Sci., Uppsala, Sweden
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.182-95
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English

Abstract: The fallout of radioactivity released from Chernobyl in April 1986 contaminated vast areas of Sweden. Beside control surveys also studies on the transfer rate of cesium to the grassland hay crops were carried out on a number of farms. A large variation was found in the transfer of cesium. The reason for this variation often seemed obscure. However, the reasons may be many, differences in interception capacities of the resting plant covers during the fallout, in different growth rates and dilution by growth and also in the extent potassium is plant available for dilution of cesium at the root uptake in the upper soil layer.
Number of References: 1
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; fallout-; radioactivity-; Sweden-; grassland-hay-crops; plant-covers; root-uptake; upper-soil-layer; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 10000000000198800000000000000000000182
Accession Number: 3660797
Update Code: 9000

Record 761 of 1145 in INSPEC 1990-1992

Title: Depth distribution of radiocaesium in agricultural soils in Chernobyl fallout areas of Sweden in 1987-8
Author: Lonsjo-H
Author Affiliation: Dept. of Radioecology, Swedish Univ. of Agric. Sci., Uppsala, Sweden
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.134-42
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Data is presented on the depth distribution of radiocaesium in agricultural soils in the most contaminated areas of Sweden after the Chernobyl accident in April 1986. Most of the sampling was performed in the autumn of 1987, i.e. about 18 months after the deposition.
Number of References: 5
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1987-to-1988; AD-1986-04-26; depth-distribution; agricultural-soils; Sweden-; 134Cs-; 137Cs-

Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Sort Key: 1000000000019880000000000000000000000134
Accession Number: 3660794
Update Code: 9000

Record 762 of 1145 in INSPEC 1990-1992

Title: Studies on the migration of /sup 137/Cs from the reactor accident of Chernobyl in soils in the region of Hamburg
Author: Becker-Heidmann-P; Bauske-B; Scharpenseel-HW
Author Affiliation: Inst. fur Bodenkunde, Hamburg Univ., West Germany
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.87-97
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: In the region of Hamburg 30 soil profiles have been sampled layerwise and measured by gamma spectrometry. The sites comprise forest as well as agricultural soils, different soil orders and texture. From the results for /sup 137/Cs and /sup 134/Cs the deposition by the Chernobyl fallout and by the atom bomb tests of the fifties are calculated. the recent deposition of /sup 137/Cs is between 1300 and 6300 Bq m/sup -2/. The maximum of initial penetration of the isotopes into the soil was 15 cm. Few results of a later sampling indicate translocation processes. The possible reasons for the large variations of the results are discussed. For comparability of results between different laboratories a uniform sampling is recommended. the advantages of layerwise sampling are discussed. Dose calculations amount to a maximum of 15 mSv accumulated over the next 50 years due to external irradiation of /sup 137/Cs and /sup 134/Cs from the soil surface only. A more realistic estimation gives 0.3 to 0.7 mSv for adults and 0.7 to 1 mSv for pre-school children.
Number of References: 9
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; Hamburg-; soil-profiles; forest-; agricultural-soils; Chernobyl-fallout; atom-bomb-tests; isotopes-; translocation-processes; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8

Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Sort Key: 10000000000198800000000000000000000000087
Accession Number: 3660790
Update Code: 9000

Record 763 of 1145 in INSPEC 1990-1992

Title: Contamination of game in Austria after the Chernobyl accident
Author: Schonhofer-F; Tataruch-F
Author Affiliation: Federal Inst. for Food Control & Res., Wien, Austria
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.53-86
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Game is known to be a very sensitive bioindicator for contamination with I-131 and especially Cs-137. So after the Chernobyl accident and the extensive contamination of Austrian territory almost immediately a surveillance programme on game was started. By these investigations several aims were achieved simultaneously: the geographical distribution of contamination was confirmed and even some unknown critical regions were found additionally. The contamination of game was checked and its dependency on region and time could be used for prognoses and decisions on prohibition of shooting and regarding consumption of game. As a byproduct many parameters could be investigated influencing the contamination of game-e.g. species of animal, dependency on time, age habitat as well as on feeding habits. The special case of large forests where extremely high values were found in game, even rising in Autumn 1987, is discussed.
Number of References: 0
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; bioindicator-; Austrian-territory; game-; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el
Sort Key: 10000000000198800000000000000000000000053
Accession Number: 3660789
Update Code: 9000

Record 764 of 1145 in INSPEC 1990-1992

Title: Contamination of food in the first and second year after the Chernobyl accident and its derived dose to the Austrian population
Author: Muck-K
Author Affiliation: Austrian Res. Centre Seibersdorf, Austria
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.34-52
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The variation with time of the activity concentration in various food items in Austria after the Chernobyl accident is given. In particular, first and second year activity concentrations of /sup 137/Cs are compared. With an average level in the first year of 45 Bq/kg in milk, 73 Bq/kg in meat and 15 Bq/kg in cereals the activity concentrations in the second year decreased in milk and meat to 20%, in cereals to 4% and in fruit to 18% of the first year levels. Compared to the concentrations just after the accident a decrease to levels of less than 9% was observed in these food items. Measurement of the /sup 90/Sr-activity concentrations showed no increase comparable to that of /sup 137/Cs. On the contrary, it is shown that the intake of /sup 90/Sr and the resulting dose are dominated by radiostrontium from the atomic weapons testing even after the Chernobyl accident. From these activity concentrations and the average food consumption the ingested activity of /sup 131/I, /sup 134/Cs, /sup 137/Cs and /sup 90/Sr is estimated.
Number of References: 9
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-Accident; AD-1986-04-26; activity-concentration; food-items; Austria-; milk-; meat-; cereals-; atomic-weapons-testing; 137Cs-; 90Sr-; 131I-; 134Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el; I-el; Cs-el
Sort Key: 1000000000019880000000000000000000000034
Accession Number: 3660788
Update Code: 9000

Record 765 of 1145 in INSPEC 1990-1992

Title: Wheat radioactive contamination in the Italian territory with particular reference to the province of Piacenza as a consequence of the Chernobyl accident
Author: Carini-F; Botteschi-G; Silva-S
Author Affiliation: Agric. Fac., Chem. Inst., Piacenza, Italy
Editor: Gerzabek-MH
Source: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89). Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
p.1-14
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: From radiocaesium analyses on several samples of wheat from all over Italy, it can be stated that this species was one of the most widely affected by the radioactive fall-out with an average value, referred to Cs-137 and Cs-134, of 196 Bq/kg FV. The radioactivity distribution on the basis of the altimetric factor shows a greater radiocaesium absorption at lower altitudes as compared with the medium and above all the higher ones. These results are to be attributed to the different vegetation stage of the wheat at the moment of contamination, as a consequence of a climate difference due to altimetry. The radioactivity differences observed in the various cultivars are imputable to climate factors again, rather than to genetic ones. No correlation was observed between absorbed radiocaesium and contents of assimilable potassium of the soil.
Number of References: 8
Descriptors: caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; Piacenza-; Italy-; fall-out; radioactivity-; altimetric-factor; radiocaesium-absorption; vegetation-stage; soil-; 137Cs-; 134Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Sort Key: 1000000000019880000000000000000000000001
Accession Number: 3660785
Update Code: 9000

Record 766 of 1145 in INSPEC 1990-1992

Title: Proceedings of the XIXth ESNA - Conference. Paper Presented on After Effects of Chernobyl (OEFZS-4489 LA-210/89)
Editor: Gerzabek-MH
Source: Osterreichisches Forschungszentrum Seibersdorf Ges, Seibersdorf, Austria; 1988; iii+282 pp.
Publication Year: 1988

Record Type: Conference-Proceedings
Conference Details: 29 Aug.-2 Sept. 1988; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The aftereffects of Chernobyl are discussed with reference to radioactive contamination, radionuclide behavior in soil; radionuclide uptake by plants and pathways to animals and man; and the genetic response to Chernobyl.
Descriptors: radioactive-pollution; soil-
Identifiers: Chernobyl-accident; AD-1986-04-26; radioactive-contamination; radionuclide-behavior; soil-; radionuclide-uptake; plants-; animals-; man-; genetic-response
Classification Codes: A0130C (Conference-proceedings); A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A01; A86; A87; A0; A8
Sort Key: 1000000000019880000000000000000000000000
Accession Number: 3660784
Update Code: 9000

Record 767 of 1145 in INSPEC 1990-1992

Title: The dependence of skin lesions on the depth-dose distribution from beta -irradiation of people in the Chernobyl nuclear power plant accident
Author: Barabanova-A; Osanov-DP
Author Affiliation: Div. of Nucl. Safety, IAEA, Vienna, Austria
Source: International-Journal-of-Radiation-Biology. vol.57, no.4; April 1990; p.775-82
Publication Year: 1990
Record Type: Conference-Paper; Journal-article
Conference Details: 22nd Annual Meeting of the European Society for Radiation Biology. 12-16 Sept. 1989; Brussels, Belgium
Country of Publication: UK
Language: English
Abstract: A detailed study was made of the conditions of exposure of 56 victims of the Chernobyl accident who suffered radiation lesions in the skin. The most typical conditions were experimentally reconstructed in order to investigate the specific characteristics of the distribution of doses to the skin according to depth for different exposure conditions. The absorbed doses at depths of 7 mg cm/sup -2/ and 150 mg cm/sup -2/ were calculated on the basis of measurements with multilayer skin dosemeters. The patients were classified into four groups. Dosimetric characteristics for each group were compared with the clinical pictures to establish the critical factors in the occurrence of lesions. It was demonstrated that the depth-dose distribution of beta -radiation to the skin is of great influence not only for the early effects of radiation but also for the later effects. Radiation lesions in the skin led to death if the area of the lesions exceeded about 50% of the total body surface, and if the doses to the skin were about 200-300 Gy at 7 mg cm/sup -2/ and more than about 30 Gy at 150 mg cm/sup -2/.
Number of References: 9

Descriptors: accidents-; beta-ray-effects; biological-effects-of-ionising-particles; disasters-; skin-
Identifiers: skin-lesions; depth-dose-distribution; beta-irradiation; people-; Chernobyl-nuclear-power-plant-accident; radiation-lesions; multilayer-skin-dosemeters; patients-; critical-factors; death-; 200-to-300-Gy
Classification Codes: A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760M (Radiation-dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 2.0 E02 to 3.0 E02 Gy
Coden: IJRBA3
ISSN: 0020-7616
Copyright Clearance Center Code: 0020-7616/90/$3.00
Sort Key: 0000020761619900005700004000000000000775
Accession Number: 3653312
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 768 of 1145 in INSPEC 1990-1992

Title: Prediction of secondary radioactive pollution of rivers in the 30 km zone around the Chernobyl Nuclear Power Plant
Author: Borzilov-VA; Sedunov-YuS; Novitskii-MA; Vozzhennikov-OI; Gerasimenko-AK
Author Affiliation: Inst. of Exp. Meteorol., State Comm. on Hydrometeorol., USSR
Source: Soviet-Meteorology-and-Hydrology. no.2; 1989; p.1-7
Translated from: Meteorologiya-i-Gidrologiya. no.2; 1989; p.5-13
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: A mathematical model of the secondary radioactive pollution of rivers in the 30 km zone around the Chernobyl Nuclear Power Plant is formulated. The parameters of the model are determined by special field and laboratory experiments set up to study the physicochemical characteristics of radionuclides. The model was used to predict the radiation conditions in rivers of the polluted zone.
Number of References: 7
Descriptors: accidents-; nuclear-power-stations; radioactive-pollution; water-pollution
Identifiers: USSR-; river-; water-pollution; nuclear-power-station-accident; secondary-radioactive-pollution; Chernobyl-Nuclear-Power-Plant; mathematical-model; radiation-conditions
Classification Codes: A8670E (Water); A9240F (Rivers-runoff-and-streamflow); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical)

Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/89/$20.00
Sort Key: 00001302906198900000000020000000000000005
Accession Number: 3646872
Update Code: 9000

Record 769 of 1145 in INSPEC 1990-1992

Title: Learning fire-fighting lessons after Chernobyl
Source: Nuclear-Engineering-International. vol.35, no.429; April 1990; p.34-8
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Fire protection measures have been under close scrutiny in the Soviet Union since the Chernobyl accident.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety
Identifiers: fire-protection; fire-fighting; Soviet-Union; Chernobyl-accident
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507199000035004290000000000000034
Accession Number: 3644779
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 770 of 1145 in INSPEC 1990-1992

Title: Concentrations of radiocaesium in Italian durum wheat and its products after the Chernobyl accident
Author: Lotfi-M; Notaro-M; Azimi-Garakani-D; Cubadda-R; Santaroni-GP; Tommasino-L
Author Affiliation: Lab. di Misure, ENEA-DISP, Rome, Italy
Source: Journal-of-Environmental-Radioactivity. vol.11, no.2; 1990; p.177-82
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The radiocaesium concentrations of over 400 samples of durum wheat (Triticum durum) collected throughout Italy after the Chernobyl accident have been measured

here to study the implications of contamination of this specific type of wheat used primarily in making alimentary pasta. The transfer of radiocaesium from the wheat sample of highest activity into the human food chain was studied systematically by measuring radiocaesium levels in the outer layers of the grain and in semolina, pasta and bread produced from this wheat. The effect of cooking on the nuclide content of pasta was also studied, the results showing that most of the radiocaesium is removed into the water in which the pasta is boiled.

Number of References: 10

Descriptors: caesium-; radioactive-pollution; soil-

Identifiers: durum-wheat; Italy-; Chernobyl-accident; alimentary-pasta; radiocaesium-; semolina-; pasta-; bread-; Cs-

Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A8670C (Soil-and-rock); A87; A93; A86; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/90/$03.50

Sort Key: 0000265931X19900001100002000000000000177

Accession Number: 3629941

Update Code: 9000

Record 771 of 1145 in INSPEC 1990-1992

Title: Time dependent transport of Chernobyl radioactivity between atmospheric and lichen phases in eastern Canada

Author: Smith-JN; Ellis-KM

Author Affiliation: Dept. of Fisheries & Oceans, Bedford Inst. of Oceanogr., Dartmouth, NS, Canada

Source: Journal-of-Environmental-Radioactivity. vol.11, no.2; 1990; p.151-68

Publication Year: 1990

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The Chernobyl radioactivity plume arrived in eastern Canada by a combined Arctic and trans-Atlantic route on 7-9 May 1986, 11 days after the initial releases in the USSR. The composition of the plume over Canada underwent significant modifications on 16 May and 25 May before the concentrations of Chernobyl-labelled aerosols declined to levels below the detection level by the second week in June. Measurements of Chernobyl radionuclides in lichen samples were introduced into a lichen transport model to estimate uptake rates for each radionuclide. A deposition velocity of 1.1 cm/sec provided good agreement between the model and experimental results. The deposition velocities estimated from the lichen model were combined with the

atmospheric residence time data to calculate a plume height of 10000 m for the Chernobyl cloud as it passed over eastern Canada.
Number of References: 31
Descriptors: air-pollution; radioactive-pollution
Identifiers: AD-1986-05-7-to-9; AD-1986-05-16-to-25; Chernobyl-radioactivity-plume; eastern-Canada; trans-Atlantic-route; USSR-; Chernobyl-labelled-aerosols; detection-level; lichen-samples; lichen-transport-model
Classification Codes: A8760R (Radioactive-pollution); A9330H (North-America); A8670G (Atmosphere); A87; A93; A86; A8; A9
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/90/$03.50
Sort Key: 0000265931X19900001100002000000000000151
Accession Number: 3629939
Update Code: 9000

Record 772 of 1145 in INSPEC 1990-1992

Title: Radiocontamination patterns and possible health consequences of the accident at the Chernobyl nuclear power station
Author: Ilyin-LA; Balonov-MI; Buldakov-LA; Bur'yak-VN; Gordeev-KI; Dement'ev-SI; Zhakov-IG; Zubovsky-GA; Kondrusev-AI; Konstantinov-YO; Linge-II; Likhtarev-IA; Lyaginskaya-AM; Matyuhin-VA; Pavlovsky-OA; Potapov-AI; Prysyazhnyuk-AE; Ramsaev-PV; Romanenko-AE; Savkin-MN; Starkova-NT; Tron'ko-ND; Tsyb-AF
Author Affiliation: Acad. of Med. Sci., Moscow, USSR
Source: Journal-of-Radiological-Protection. vol.10, no.1; March 1990; p.3-29
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The main hazard in the early phase after the accident was due to radioiodine. Doses to the thyroid were estimated separately for (i) zones of strict control, (ii) the most contaminated provinces and (iii) the whole central European region of the USSR. Distinction was made between the children under the age of 7 years at the time of the accident and the rest of the population. In the later phase the main concern is whole-body exposure to radiocaesium. Doses were calculated for the same areas and age groups as in the case of radioiodine. The following consequences were considered: thyroid malignancies, leukaemia, other types of cancer, genetic defects and teratogenic anomalies. A statistically significant excess over the spontaneous level is unlikely to be detectable for these effects. A possible exception may be thyroid disorders. The risk of health effects was greatly reduced by preventive measures taken, in particular the lifetime doses have been restricted by the establishment of a limit of 0.35 Sv.
Number of References: 27

Descriptors: accidents-; biological-effects-of-gamma-rays; dosimetry-; health-hazards; radiation-protection; radioactive-pollution
Identifiers: radioactive-pollution; health-consequences; accident-; Chernobyl-nuclear-power-station; strict-control; USSR-; whole-body-exposure; thyroid-malignancies; leukaemia-; cancer-; genetic-defects; teratogenic-anomalies; preventive-measures; lifetime-doses; I-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2880C (Dosimetry); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: I-el
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/90/010003+27$03.50
Sort Key: 0000952474619900001000001000000000000003
Accession Number: 3621101
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 773 of 1145 in INSPEC 1990-1992

Title: Health hazards from radiocaesium following the Chernobyl nuclear accident: report on a WHO working group
Source: Journal-of-Environmental-Radioactivity. vol.10, no.3; 1989; p.257-95
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The WHO Regional Office for Europe organized a working group in Schloss Reisensburg, Federal Republic of Germany, on 9-12 June 1987, to discuss one important result of the Chernobyl nuclear accident in April 1986, namely the wide distribution of radiocaesium. Its possible health hazards, being a beta-emitter, are long-term because of the long half-lives (about two years for /sup 137/Cs and about 30 years for /sup 137/Cs). Radiocaesium has been shown to concentrate in plants (e.g. spinach and tea) and in animals and animal products (e.g. reindeer and sheep, and their respective milk products). Therefore, it was considered important to examine the rate of deposition in Europe, environmental pathways through soil, flora and fauna to man, the related metabolism and accumulation in man and radiotoxicity and, consequently, the possible health effects.
Number of References: 42
Descriptors: accidents-; caesium-; health-hazards; radiation-protection; radioactive-pollution; radioisotopes-; safety-

Identifiers: radiocaesium-; Chernobyl-nuclear-accident; WHO-working-group; health-hazards; beta-emitter; 137Cs-; 137Cs-; rate-of-deposition; environmental-pathways; radiotoxicity-; health-effects; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8
Treatment Codes: G (General-or-Review)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X1989000100000300000000000257
Accession Number: 3594682
Update Code: 9000

Record 774 of 1145 in INSPEC 1990-1992

Title: The Chernobyl accident: a challenge on PSA as a tool for the prediction of event scenarios beyond the design basis and for safety improvements
Author: Kafka-P
Author Affiliation: Gesellschaft fur Reaktorsicherheit mbH, Garching, West Germany
Source: Res-Mechanica. vol.29, no.2; 1990; p.167-76
Publication Year: 1990
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Probabilistic safety assessments (PSAs) are an unwaivable tool for analysis and valuation of system behavior in various technologies today. The state-of-the-art and the key elements of this tool are summarized. The main course and the operator violations at the Chernobyl accident are described briefly and from that conclusions for PSAs are drawn. Thus, one can say that Chernobyl did not show new system behavior which could not have been evaluated in PSA. Therefore, the prediction of such scenarios could have been expected from a plant-specific PSA.
Number of References: 10
Descriptors: accidents-; fission-reactor-safety
Identifiers: plant-specific-probabilistic-safety-assessments; prediction-; event-scenarios; design-basis; safety-improvements; operator-violations; Chernobyl-accident
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: RESMD6
ISSN: 0143-0084
Copyright Clearance Center Code: 0143-0084/90/$03.50
Sort Key: 0000143008419900002900002000000000000167
Accession Number: 3591332

Update Code: 9000

Record 775 of 1145 in INSPEC 1990-1992

Title: Physicomathematical modeling of washout of long-lived radionuclides from drainage basins in the 30-km zone around the Chernobyl Nuclear Power Station
Author: Borzilov-VA; Sedunov-YuS; Novitskii-MA; Vozzhennikov-OI; Konoplev-AV; Dragolyubova-IV
Author Affiliation: Inst. of Exp. Meteorol., State Comm. on Hydrometeorol., USSR
Source: Soviet-Meteorology-and-Hydrology. no.1; 1989; p.1-8
Translated from: Meteorologiya-i-Gidrologiya. no.1; 1989; p.5-13
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Proposes a mathematical model of the process of washout of long-lived radionuclides (strontium-90 and cesium-137) from washout of the 30-km zone around the Chernobyl NPS. The parameters of the model are determined based on standard field observations and laboratory measurements of physicochemical properties of the radionuclides. The model is verified under field conditions.
Number of References: 7
Descriptors: atmospheric-precipitation; hydrology-; radioactive-pollution; rivers-; water-pollution
Identifiers: radionuclides-washout,-river-drainage-basins; USSR-; Kiev-Reservoir; Dnepr-Reservoir-Cascade; Ukraine-; E-Europe; Soviet-Union; water-pollution; radioactive-pollution; Dnepr-River; Pripyat-River; Chernobyl-accident; soil-pollution; long-lived-radionuclides; drainage-basins; Chernobyl-Nuclear-Power-Station; Chernobyl-NPS; field-observations; laboratory-measurements; physicochemical-properties; 30-km; 90Sr-washout; 137Cs-
Classification Codes: A8670E (Water); A9240Q (Water-quality-and-water-resources); A9240C (General-theory); A9240E (Precipitation); A9240F (Rivers-runoff-and-streamflow); A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A86; A92; A87; A93; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: distance 3.0 E04 m
Chemical Indexing: Sr-el; Cs-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/89/$20.00
Sort Key: 0000130290619890000000001000000000000005
Accession Number: 3588431
Update Code: 9000

Record 776 of 1145 in INSPEC 1990-1992

Title: Vertical soil migration of radionuclide fallout from the Chernobyl accident
Author: Silant'ev-AN; Shkuratova-IG; Bobovnikova-TsI
Source: Soviet-Atomic-Energy. vol.66, no.3; March 1989; p.221-5
Translated from: Atomnaya-Energiya. vol.66, no.3; March 1989; p.194-7
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: In studying radionuclide migration in soil, especially in the first years after fallout, it is essential to know the initial distribution of this contamination along the soil profile. Until recently, it was considered that a film contamination layer forms on the surface as a result of radioactive fallout. However, the first studies of the vertical distribution of the contamination formed as a result of the Chernobyl accident showed that this is not the case. Although the main amount of radionuclides did remain on the surface, a significant portion penetrated even into the soil depths; moreover, the penetration did not necessarily occur as an immediate result of the fallout. It could also occur through washing out radionuclide deposits resulting from earlier dry fallout which had remained unfixated on the surface of vegetation.
Number of References: 4
Descriptors: radioactive-pollution; radioisotopes-; soil-
Identifiers: radionuclide-migration; soil-; film-contamination-layer; radioactive-fallout; Chernobyl-accident
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/89/6603-0221$12.50
Sort Key: 00000047163198900066000030000000000000194
Accession Number: 3588273
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 777 of 1145 in INSPEC 1990-1992

Title: Estimate of the dose due to /sup 90/Sr to the Austrian population after the Chernobyl accident
Author: Muck-K; Streit-S; Steger-F; Mayr-K; Karg-V
Author Affiliation: Austrian Res. Centre Seibersdorf, Austria
Source: Health-Physics. vol.58, no.1; Jan. 1990; p.47-58
Publication Year: 1990
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: In order to estimate the contribution of /sup 90/Sr to the exposure of the Austrian population, the ratio of /sup 90/Sr to /sup 137/Cs in 126 food samples and nine drinking water samples was determined. From this and the average activity concentration of /sup 137/Cs in each type of food as obtained by the measurement of some 100,000 food samples after the Chernobyl accident, a good estimate of the average activity concentration of /sup 90/Sr in these food items could be obtained. Assuming average food consumption, the intake of /sup 90/Sr for an adult person amounted to 168 Bq in the first year and 115 Bq in the second year after the accident, resulting in an effective dose equivalent of 5.9 mu Sv and 4.0 mu Sv, respectively. This is a minor fraction of the dose due to the ingestion of Cs isotopes, which amounted to 360 mu Sv in the first year and 97 mu Sv in the second year.
Number of References: 16
Descriptors: accidents-; disasters-; dosimetry-; radioactive-pollution; radioisotopes-; strontium-
Identifiers: radiation-dose; radioisotope-; Austrian-population; Chernobyl-accident; food-samples; adult-person; effective-dose-equivalent; 168-Bq; 115-Bq; 4-to-360-muSv; 90Sr-; 137Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 1.68 E02 Bq; radioactivity 1.15 E02 Bq; radiation dose equivalent 4.0E-06 to 3.6E-04 Sv
Chemical Indexing: Sr-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/90/$3.00+.00
Sort Key: 0000017907819900005800001000000000000047
Accession Number: 3581794
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 778 of 1145 in INSPEC 1990-1992

Title: Chernobyl radioactivity in a Turkish tea drinker
Author: Hayball-MP; Dendy-PP; Palmer-KE; Szaz-KF; Webster-MJ; Whittaker-MV
Author Affiliation: Dept. of Nucl. Med., Addenbrooke's Hospital, Cambridge, UK
Source: Health-Physics. vol.57, no.6; Dec. 1989; p.1017-19
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Levels of radiocesium in Turkish tea are significantly higher than those in locally available breakfast tea for both the 1987 and 1988 crops but are much lower than the maximum figure of 44000 Bq kg/sup -1/ measured by A. Gedikoglu and B.L. Sipahi (1989) for the 1986 crop. The change in the measured body level of /sup 137/Cs was in very good agreement with calculations based on estimated intake and published data on biological half-life. Agreement for /sup 134/Cs was less good, probably due to difficulties over in vivo measurements.
Number of References: 5
Descriptors: accidents-; caesium-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-radioactivity; Turkish-tea-drinker; body-level; 137Cs-; 134Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670Z (Other-topics); A8760P (Radiation-protection); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005700006000000000001017
Accession Number: 3581786
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 779 of 1145 in INSPEC 1990-1992

Title: Isolation and characterization of hot particles from Chernobyl fallout in southwestern Finland
Author: Saari-H; Luokkanen-S; Kulmala-M; Lehtinen-S; Raunemaa-T
Author Affiliation: Dept. of Phys., Helsinki Univ., Finland
Source: Health-Physics. vol.57, no.6; Dec. 1989; p.975-84
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Three types of activity composition have been found in airborne hot particles that were transported long distances from the Chernobyl accident. Their characterization is based on the analysis of single particles isolated from Pinus Sylvestris needles. The average activity of the particles was 130 Bq at the time of the accident. The most common type of particle contains the radioactive species /sup 141/Ce, /sup 144/Ce, /sup 95/Zr and /sup 95/Nb; the second type includes /sup 103/Ru and /sup 106/Ru along with the previous isotopes; and the third contains /sup 103/Ru and /sup 106/Ru only. Cesium-134 and -137 were present only in very small amounts. The activity composition of the Chernobyl reactor core fuel was similar to the composition of the first and second type particle; apparently the core fuel was only partially volatilized.

The main bulk composition of the particles is shown to be U. The average aerodynamic size of the identified hot particles is 10 mu m. The particles are rectangular or pentagonal in shape.

Number of References: 18

Descriptors: accidents-; fallout-; health-hazards; radioactive-pollution

Identifiers: health-hazard; radioactive-pollution; hot-particles; Chernobyl-fallout; southwestern-Finland; Chernobyl-accident; Pinus-Sylvestris-needles; core-fuel; aerodynamic-size; 130-Bq; 141Ce-; 95Zr-; 95Nb-; 103Ru-; U-; 137Cs-

Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Numerical Data Indexing: radioactivity 1.3 E02 Bq

Chemical Indexing: Cs-el; Ce-el; Zr-el; Nb-el; Ru-el; U-el

Coden: HLTPAO

ISSN: 0017-9078

Sort Key: 00000179078198900057000060000000000000975

Accession Number: 3581778

Update Code: 9000

Record 780 of 1145 in INSPEC 1990-1992

Title: Experimental determination of transfer coefficients of /sup 137/Cs and /sup 131/I from fodder into milk of cows and sheep after the Chernobyl accident

Author: Voigt-G; Muller-H; Prohl-G; Paretzke-HG; Propstmeier-G; Rohrmoser-G; Hofmann-P

Author Affiliation: GSF-Inst. fur Strahlenschutz, Neuherberg, West Germany

Source: Health-Physics. vol.57, no.6; Dec. 1989; p.967-73

Publication Year: 1989

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Following the Chernobyl accident in April 1986, the transfer of /sup 131/I and /sup 137/Cs from feed to milk was studied under experimental and common agricultural conditions. From measurements in different dairy farms in Southern Bavaria, equilibrium transfer coefficients for cow's milk were calculated to be 0.003 d L/sup -1/ (range 0.0015 to 0.005) for /sup 131/I and 0.003 d L/sup -1/ (range 0.0025 to 0.004) for /sup 137/Cs. In feeding experiments with cows and sheep under more controlled conditions, milk transfer coefficients of 0.007 d L/sup -1/ (range 0.0055 to 0.0081) for /sup 131/I and 0.003 d L/sup -1/ (range 0.0023 to 0.0053) for /sup 137/Cs were obtained for cows, while for sheep the /sup 137/Cs transfer coefficient was higher: 0.06 d L/sup -1/. The kinetics of the Cs transfer from fodder to cow's milk can be described by two

exponential terms assuming biological half-lives in milk of 1-2 d and 10-20 d. The use of a fast component with 1.5 d and a fraction of 0.8, and a slow component with 15 d, gives a good approximation to the kinetics for all cows in this experiment.
Number of References: 25
Descriptors: accidents-; caesium-; iodine-; radioactive-pollution; radioisotopes-
Identifiers: fodder-; milk-; cows-; sheep-; Chernobyl-accident; dairy-farms; Southern-Bavaria; exponential-terms; biological-half-lives; 1-to-20-d
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 8.6 E04 to 1.7 E06 s
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005700006000000000000967
Accession Number: 3581777
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 781 of 1145 in INSPEC 1990-1992

Title: A comparison of observed and predicted near-in doses following the Chernobyl Nuclear Power Plant accident
Author: Miller-CW
Author Affiliation: Illinois Dept. of Nucl. Safety, Springfield, IL, USA
Source: Proceedings of the ANS Topical Meeting on Emergency Response - Planning, Technologies, and Implementation (CONF-880913). ANS, La Grange Park, IL, USA; 1988; xiv+540 pp.
p.4-7/1-8
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 26-28 Sept. 1988; Charleston, SC, USA. Sponsored by: ANS; DOE; U.S. Nucl. Regulatory Comm. et al
Country of Publication: USA
Language: English
Abstract: The author briefly reviews efforts that were made early in the Chernobyl accident to estimate doses to persons living near the Chernobyl plant and to compare these estimates with the doses reported by the authorities of the Soviet Union for persons living in the town of Pripyat.
Number of References: 14
Descriptors: accidents-; dosimetry-; fission-reactor-safety; radiation-protection
Identifiers: near-in-doses; Chernobyl-Nuclear-Power-Plant-accident; Soviet-Union; Pripyat-

Classification Codes: A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Sort Key: 10000000000198800000000000000000000004
Accession Number: 3568431
Update Code: 9000

Record 782 of 1145 in INSPEC 1990-1992

Title: Robotic and teleoperation activities at the Chernobyl atomic power station: performance successes and limitations
Author: Meieran-HB
Editor: Mason-CA
Source: Teleoperation and control 1988. Proceedings of the International Symposium. IFS Publications, Bedford, UK; 1988; viii+397 pp.
p.25-31
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 12-15 July 1988; Bristol, UK
Country of Publication: UK
Language: English
Abstract: Describes the roles and actual operations conducted by mobile robots and teleoperator controlled devices that were deployed to respond to the hazardous situations created by the accident at the Chernobyl-4 (USSR) nuclear power plant. The missions conducted by these devices included the following functions: manipulation of material, surveillance/inspection of the general area, removing contaminated surface material, dismantling contaminated structures, decontamination, construction of shielded facilities, and removal of contaminated materials. The relative degrees of success and problems experienced by these devices are identified. Additional missions that the devices could have assumed at the site of this accident had the time and the opportunity been available are also discussed.
Number of References: 7
Descriptors: fission-reactor-decommissioning; materials-handling; mobile-robots; nuclear-power-stations; radiation-protection; telecontrol-
Identifiers: radioactive-materials-handling; Chernobyl-; atomic-power-station; mobile-robots; teleoperator-; nuclear-power-plant; surveillance-; inspection-; decontamination-
Classification Codes: A2847 (Fission-reactor-decommissioning); A2880F (Radiation-monitoring-and-radiation-protection); B8220 (Nuclear-power-stations-and-plants); C3340F (Nuclear-systems); C3250 (Telecontrol-and-telemetering-components); C3390 (Robotics); C3320 (Materials-handling); A28; B82; C33; C32; A2
Treatment Codes: P (Practical)
ISBN: 1854230093
Sort Key: 11854230093198800000000000000000000025

Accession Number: 3568360
Update Code: 9000

Record 783 of 1145 in INSPEC 1990-1992

Title: Chernobyl three years on
Author: Peters-W
Source: Modern-Power-Systems. vol.9, no.9; Sept. 1989; p.19, 21
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The author briefly discusses the state of affairs at Chernobyl nuclear power station 3 years after the accident. The measures taken to improve the safety of similar reactors are described. The medical treatment of those contaminated during the accident is discussed as is building decontamination and waste treatment. Experiments on plants at the radiological laboratory and precautions being taken in the area surrounding Chernobyl are discussed.
Number of References: 0
Descriptors: fission-reactor-safety; nuclear-power-stations; radiation-decontamination; radiation-protection; radioactive-waste
Identifiers: Chernobyl-nuclear-power-station; safety-; medical-treatment; building-decontamination; waste-treatment; radiological-laboratory
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A2875 (Radioactive-waste-transportation-disposal-storage-treatment); A28; A2
Treatment Codes: P (Practical)
Coden: MPSYDU
ISSN: 0260-7840
Sort Key: 00002607840198900009000090000000000000019
Accession Number: 3564479
Update Code: 9000

Record 784 of 1145 in INSPEC 1990-1992

Title: Committed effective dose equivalents from internal contamination of the Czechoslovak population after the Chernobyl accident
Author: Malatova-I; Bucina-I; Cespriova-I; Drabova-D; Thomas-J
Author Affiliation: Centre of Radiat. Hygiene, Inst. of Hygiene & Epidemiology, Prague, Czechoslovakia
Source: Radiation-Protection-Dosimetry. vol.28, no.4; 1989; p.291-301
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Whole-body measurements with HPGe detectors have been performed to determine the dose due to internal contamination of the Czechoslovak population by artificial radionuclides which reached Czechoslovak territory with contaminated air masses after the reactor accident at Chernobyl NPP in April 1986. Th committed effective dose equivalent H/sub E.50/ from the intake of /sup 131/I was estimated to be about 160 mu Sv, from /sup 132/Te with /sup 132/I 16 mu Sv and from /sup 103/Ru 2 mu Sv. H/sub E,50/ from the intake in the three years after the accident is 58 mu Sv for /sup 137/Cf and 31 mu Sv for /sup 134/Cs. The increase of internal contamination by /sup 137/Cs due only to ingestion was measured to distinguish between the ingestion and inhalation components of the intake. H/sub E,50/ was also estimated for some persons who had returned from the Ukraine and Byelorussia, the highest value being 6 mSv.
Number of References: 14
Descriptors: accidents-; dosimetry-; health-hazards; radioactive-pollution
Identifiers: whole-body-measurements; internal-contamination; Czechoslovak-population; Chernobyl-accident; artificial-radionuclides; contaminated-air-masses; reactor-accident; Ukraine-; Byelorussia-; 2-muSv-to-6-mSv; 131I-; 103Ru-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 2.0E-06 to 6.0E-03 Sv
Chemical Indexing: I-el; Ru-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201989000280000400000000000291
Accession Number: 3559623
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 785 of 1145 in INSPEC 1990-1992

Title: Types of postaccident fuel release at Chernobyl Unit 4
Author: Borovoy-AA; Bogatov-SA; Herubimov-AN
Author Affiliation: Kurchatov Inst. of Atomic Energy, Moscow, USSR
Source: Transactions-of-the-American-Nuclear-Society. vol.60; 1989; p.754
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: 1989 Winter Meeting of the American Nuclear Society. 26-30 Nov. 1989; San Francisco, CA, USA
Country of Publication: USA
Language: English
Abstract: Studies supporting activities for alleviating the consequences of the Chernobyl accident have revealed three types of fuel-containing masses (FCM): elements of

damaged fuel rods that contain some amount of 'pure' nuclear fuel, finely dispersed fuel in contaminants found in rooms within Unit 4, in the air (in an aerosol form), and in the soil of the surroundings, fuel-containing substances encountered in the rooms below the reactor, specifically, solidified glasslike masses similar to lava.
Number of References: 0
Descriptors: accidents-; fission-reactor-fuel; fission-reactor-safety
Identifiers: Chernobyl-Unit-4; fuel-containing-masses; damaged-fuel-rods; nuclear-fuel; finely-dispersed-fuel
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2842D (Fuel-elements); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X1989000600000000000000000754
Accession Number: 3555685
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 786 of 1145 in INSPEC 1990-1992

Title: Long-term behaviour of Chernobyl fallout in air and precipitation
Author: Hotzl-H; Rosner-G; Winkler-R
Author Affiliation: GSF-Inst. fur Strahlenschutz, Neuherberg, West Germany
Source: Journal-of-Environmental-Radioactivity. vol.10, no.2; 1989; p.157-71
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The long-term behaviour of Chernobyl fallout at Munich-Neuherberg has been studied and compared with those at other locations in the Federal Republic of Germany. Between August 1986 and the end of 1988, air concentrations and ground depositions (wet and dry) of /sup 134/Cs and /sup 137/Cs at the Neuherberg site decreased exponentially, with a half-time of about 250 days; airborne activity of /sup 106/Ru decreased with a half-time of about 150 days. A similar decrease in airborne /sup 137/Cs was observed at other locations in the FRG. The deposition rates of /sup 137/Cs at five sites in the FRG are significantly associated with the total Chernobyl /sup 137/Cs deposits at each location.
Number of References: 20
Descriptors: air-pollution; caesium-; fallout-; radioactive-pollution; radioisotopes-; rain-; ruthenium-
Identifiers: precipitation-; long-term-behaviour; Chernobyl-fallout; Munich-Neuherberg; Germany-; air-concentrations; ground-depositions; airborne-activity; 134Cs-; 137Cs-; 106Ru-

Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X19890001000002000000000000157
Accession Number: 3550912
Update Code: 9000

Record 787 of 1145 in INSPEC 1990-1992

Title: Transport processes associated with the initial elevated concentrations of Chernobyl radioactivity in surface air in the United States
Author: Larsen-RJ; Haagenson-PL; Reiss-NM
Author Affiliation: Environ. Meas. Lab., US Dept. of Energy, New York, NY, USA
Source: Journal-of-Environmental-Radioactivity. vol.10, no.1; 1989; p.1-18
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Elevated concentrations of radioactivity from the Chernobyl accident were encountered in the surface air over the United States along the east coast and in the north-west on 9 and 10 May 1986. The nearly simultaneous arrival of radioactive debris at widely separated locations resulted from different paths being taken by the debris released at different times during the course of the accident. Debris released during the explosion at the Chernobyl reactor was transported across the Arctic, within the lower troposphere, and zonally across Asia and the North Pacific Ocean, within the mid-troposphere. This debris descended into the planetary boundary layer along the east coast of the US. The descent was associated with a quasi-stationary cyclone located over the western North Atlantic Ocean. Debris that had a different composition of radioactivity was released from the damaged reactor during the week immediately following the initial explosion. This debris was then transported zonally across Asia and the North Pacific Ocean within the planetary boundary layer and lower troposphere and was swept into the north-western US.
Number of References: 34
Descriptors: air-pollution; atmospheric-movements; fallout-; radioactive-pollution; troposphere-
Identifiers: atmosphere-; transport-processes; USA-; AD-1986-05-09; AD-1986-05-10; initial-elevated-concentrations; Chernobyl-radioactivity; surface-air; United-States; east-coast; north-west; Arctic-; lower-troposphere; Asia-; North-Pacific-Ocean; mid-troposphere; quasi-stationary-cyclone; planetary-boundary-layer

Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9330H (North-America); A9260G (Winds-and-their-effects); A92; A86; A93; A9; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X19890001000001000000000000001
Accession Number: 3550907
Update Code: 9000

Record 788 of 1145 in INSPEC 1990-1992

Title: Transfer of /sup 137/Cs to milk and meat in Hungary from Chernobyl fallout with comparisons of worldwide fallout in the 1960s
Author: Ward-GM; Keszthelyi-Z; Kanyar-B; Kralovanszky-UP; Johnson-JE
Author Affiliation: Dept. of Animal Sci., Colorado State Univ., Fort Collins, CO, USA
Source: Health-Physics. vol.57, no.4; Oct. 1989; p.587-92
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Transfer coefficients for /sup 137/Cs from the Chernobyl accident were determined for milk (F/sub m/) and meat (F/sub f/) of cows and sheep in Hungary. F/sub m/ and F/sub f/ for both cows and sheep fed forage harvested within 1 month of the accident were lower than results reported for worldwide fallout from weapons tests. Forage harvested 60 d or later after the accident produced an F/sub m/ similar to results from feeding soluble /sup 134/Cs. The results are interpreted to indicate three distinct categories of F/sub m/ about 2.0*10/sup -3/, 4.0*10/sup -3/ and 1.4*10/sup -2/d L/sup -1/, respectively, for Chernobyl fallout, worldwide fallout and soluble Cs isotopes or /sup 137/Cs contained in plants from soil uptake.
Number of References: 24
Descriptors: caesium-; fallout-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radioactive-pollution; milk-; meat-; Hungary-; Chernobyl-fallout; worldwide-fallout; cows-; sheep-; weapons-tests; plants-; soil-uptake; 0-083-yr; 60-d; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 2.6 E06 s; time 5.2 E06 s
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+0.00
Sort Key: 0000017907819890005700004000000000000587
Accession Number: 3550143
Update Code: 9000

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 789 of 1145 in INSPEC 1990-1992

Title: Radioactivity of cattle fodder and milk after the Chernobyl accident
Author: Juznic-K; Korun-M
Author Affiliation: Jozef Stefan Inst., Slovenia, Yugoslavia
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.137, no.3; 2 Oct. 1989; p.235-42
Publication Year: 1989
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The radioactivities of /sup 90/Sr, /sup 137/Cs and /sup 134/Cs have been measured in soil, fodder and milk from the south-western region of Slovenia Yugoslavia after the Chernobyl accident. Maximal concentrations of Sr-isotopes in samples and the rate of their decrease in a period up to two years after the accident are given. The transfer of radionuclides from soil to grass and from fodder to milk is discussed.
Number of References: 7
Descriptors: accidents-; caesium-; radioactive-pollution; radioactivity-measurement; strontium-
Identifiers: radioactivity-; cattle-fodder; milk-; Chernobyl-accident; soil-; Slovenia-; Yugoslavia-; radionuclides-; grass-; 90Sr-; 137Cs-; 134Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A2880F (Radiation-monitoring-and-radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119890013700003000000000000235
Accession Number: 3550066
Update Code: 9000

Record 790 of 1145 in INSPEC 1990-1992

Title: Modeling the Chernobyl accident with RELAP5
Author: Fletcher-CD
Author Affiliation: Idaho Nat. Eng. Lab., EG&G Idaho Inc., Idaho Falls, ID, USA
Source: Proceedings of the First International RELAP5 User Seminar (CONF-890173). Idaho Nat. Eng. Lab, Idaho Falls, ID, USA; 1989; v+338 pp.
p.2/36-42
Publication Year: 1989
Record Type: Conference-Paper

Conference Details: 31 Jan.-1 Feb. 1989; College Station, TX, USA
Country of Publication: USA
Language: English
Abstract: An analysis was performed to understand the events that occurred at Chernobyl and the possible implications for US reactors. To support this analysis, a RELAP5 model of the Chernobyl plant was assembled from information available in the open literature and a simulation of the accident sequence was performed. This paper highlights the modeling techniques used in this unique analysis.
Number of References: 3
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety; nuclear-engineering-computing; nuclear-power-stations
Identifiers: Chernobyl-accident; RELAP5-; accident-sequence; modeling-techniques
Classification Codes: A2841C (Computer-codes); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2843B (Cooling-and-heat-recovery); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Sort Key: 10000000000198900000000000000000000002
Accession Number: 3544965
Update Code: 9000

Record 791 of 1145 in INSPEC 1990-1992

Title: Time-dependent study of Chernobyl fallout near Savannah River site
Author: Winn-WG; Kantelo-MV
Author Affiliation: Westinghouse Savannah River Co., Aiken, SC, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.60; 1989; p.75-7
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: 1989 Winter Meeting of the American Nuclear Society. 26-30 Nov. 1989; San Francisco, CA, USA
Country of Publication: USA
Language: English
Abstract: During 1986, atmospheric fallout from the Chernobyl reactor accident in April was detected from early May until late August near the Savannah River site (SRS) in Aiken, South Carolina. A total of 17 man-made nuclides were identified in the fallout, of which /sup 103/Ru, /sup 131/I, /sup 134/Cs, and /sup 137/Cs were predominant. The SRS capabilities for routine atmospheric monitoring were easily extended to study the Chernobyl fallout.
Number of References: 3
Descriptors: accidents-; air-pollution; disasters-; fallout-; fission-reactor-safety; radioactive-pollution; radioisotopes-
Identifiers: atmospheric-fallout; Chernobyl-reactor-accident; Savannah-River-site; South-Carolina; man-made-nuclides; atmospheric-monitoring; 103Ru-; 131I-; 134Cs-; 137Cs-

Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; I-el; Cs-el; Cs-el
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X1989000600000000000000000075
Accession Number: 3543684
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 792 of 1145 in INSPEC 1990-1992

Title: Monitoring Chernobyl fallout in population centers near the Savannah River site
Author: Sigg-RA
Author Affiliation: Westinghouse Savannah River Co., Aiken, SC, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.60; 1989; p.73-5
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: 1989 Winter Meeting of the American Nuclear Society. 26-30 Nov. 1989; San Francisco, CA, USA
Country of Publication: USA
Language: English
Abstract: The Tracking Radioactive Atmospheric contaminants (TRAC) Mobile Laboratory detected fallout from the Chernobyl accident in population centers near the Savannah River site (SRS). The laboratory began sample collections before the radioactivity arrived and continued sampling while the debris passed through the region. The laboratory conducted monitoring for gamma-ray-emitting aerosols and volatile radioiodine in Augusta, Barnwell, Columbia, Greenville, Madison, Savannah, and along roads leading to these cities. Onboard gamma-ray spectrometers measured activity on the samples in near real time. The TRAC was the first facility in the southeastern United States to detect Chernobyl debris. Data are reported for the most significant 14 of the many fission product radionuclides detected.
Number of References: 2
Descriptors: accidents-; air-pollution; disasters-; fallout-; fission-reactor-safety; radioactive-pollution; radioisotopes-
Identifiers: AD-1986-04-26; fallout-; Chernobyl-accident; Savannah-River-site; gamma-ray-emitting-aerosols; volatile-radioiodine; gamma-ray-spectrometers; fission-product-radionuclides
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Coden: TANSAO

ISSN: 0003-018X
Sort Key: 0000003018X19890006000000000000000000073
Accession Number: 3543683
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 793 of 1145 in INSPEC 1990-1992

Title: Simulation of the atmospheric dispersion of radioactivity from the Chernobyl accident
Author: Lange-R; Sullivan-TJ; Gudiksen-PH
Author Affiliation: Lawrence Livermore Nat. Lab., CA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.60; 1989; p.72-3
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: 1989 Winter Meeting of the American Nuclear Society. 26-30 Nov. 1989; San Francisco, CA, USA
Country of Publication: USA
Language: English
Abstract: Measurements of airborne radioactivity over Europe, Japan, and the United States indicated that the release from the Chernobyl reactor accident in the Soviet Union on April 26, 1986, contained a wide spectrum of fission products up to heights of 7 km or more within a few days after the initial explosion. This high-altitude presence of radioactivity would in part be attributable to atmospheric dynamics factors other than the thermal energy released in the initial explosion. Indications were that two types of releases had taken place-an initial powerful explosion followed by days of a less energetic reactor fire. A dispersion model was used to simulate the accident.
Number of References: 4
Descriptors: accidents-; air-pollution; air-pollution-detection-and-control; atmospheric-movements; disasters-; fission-reactor-safety; radioactive-pollution
Identifiers: AD-1986-04-26; airborne-radioactivity; Chernobyl-reactor-accident; fission-products; radioactivity-; atmospheric-dynamics-factors; explosion-; reactor-fire; dispersion-model
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260E (Convection-turbulence-and-diffusion); A28; A87; A86; A92; A2; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19890006000000000000000000072
Accession Number: 3543682
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 794 of 1145 in INSPEC 1990-1992

Title: Radiation doses in Sweden after the Chernobyl accident
Author: Haegg-NC
Source: Transactions-of-the-American-Nuclear-Society. vol.60; 1989; p.71-2
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: 1989 Winter Meeting of the American Nuclear Society. 26-30 Nov. 1989; San Francisco, CA, USA
Country of Publication: USA
Language: English
Abstract: The reactor accident at Chernobyl led to releases of large amounts of radioactive matter that was spread over the world and particularly over Europe. The radioactive material released gave rise to radiation doses originating from inhalation, external radiation from both the passing cloud and radioactive material deposited on the ground, and internal irradiation from consumption of food stuffs. The author summarizes the consequences in Sweden after the Chernobyl accident. The emphasis is mainly on radiation doses received by the public and the long-term effects in Sweden.
Number of References: 0
Descriptors: dosimetry-
Identifiers: reactor-accident; Chernobyl-; radioactive-matter; Europe-; radioactive-material; radiation-doses; inhalation-; external-radiation; food-stuffs; Sweden-
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19890006000000000000000000071
Accession Number: 3543681
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 795 of 1145 in INSPEC 1990-1992

Title: A review of population dose estimates following the Chernobyl accident
Author: Hull-AP
Author Affiliation: Brookhaven Nat. Lab., Upton, NY, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.60; 1989; p.70-1
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: 1989 Winter Meeting of the American Nuclear Society. 26-30 Nov. 1989; San Francisco, CA, USA

Country of Publication: USA
Language: English
Abstract: When estimates of the first year's population doses for the individual western European countries are examined, it appears that the largest contributors to the greater DOE estimates are countries with sizable populations and/or which experienced relatively large depositions over at least some portions of their total areas. Included are France, the Federal Republic of Germany (FRG), Italy, the Netherlands, Sweden, and the United Kingdom. A similar result is found in a comparison of the UNSCEAR and DOE estimates for the eastern European countries, which were even more impacted by large and variable deposition of Chernobyl nuclides.
Number of References: 6
Descriptors: dosimetry-; reviews-
Identifiers: population-doses; western-European-countries; eastern-European-countries; Chernobyl-nuclides
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A0130R (Reviews-and-tutorial-papers-resource-letters); A87; A28; A01; A8; A2; A0
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X1989000600000000000000000070
Accession Number: 3543680
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 796 of 1145 in INSPEC 1990-1992

Title: Distribution of radionuclides in the soil-water system due to fallout after the Chernobyl disaster
Author: Konoplev-AV; Borzilov-VA; Bobovnikova-TsI; Virchenko-EP; Popov-VE; Kutnyakov-IV; Chumichev-VB
Author Affiliation: Taifun Sci. Ind. Assoc., USSR
Source: Soviet-Meteorology-and-Hydrology. no.12; 1988; p.42-9
Translated from: Meteorologiya-i-Gidrologiya. no.12; 1988; p.63-74
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Presented are results of experimental investigations of the forms of /sup 90/Sr and /sup 137/ Cs bound in the main types of soils of a 30 km zone around the Chernobyl Nuclear Power Station. A significant content of immobile forms of /sup 90/Sr and /sup 137/Cs is detected in the soils and does not participate in the pollution of the water by radionuclides. The influence of the physicochemical characteristics of soils on the relative content of mobile forms of /sup 90/Sr is studied. The coefficients obtained for

/sup 90/Sr and /sup 137/Cs distribution in the soils studied revealed their dependence on the soil:solution ratio. It is also shown that a change in temperature did not greatly affect the radionuclides desorption from the soil into the water. Data are presented on the washout of /sup 90/Sr from monolithic soil columns by the annual precipitation norm.

Number of References: 6

Descriptors: accidents-; pollution-; radioactive-pollution; soil-; water-pollution

Identifiers: nuclear-reactor-accident; USSR-; radioactivity-; radionuclide-distribution; water-pollution; nuclear-power-station; soil-water-system; fallout-; Chernobyl-disaster; 90Sr-; 137-Cs; washout-; Sr-; Cs-

Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A8670E (Water); A86; A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Sr-el; Cs-el

Coden: MEGIAC; Translation: SMHYDK

ISSN: 0130-2906; Translation: 0146-4108

Sort Key: 00001302906198800000000120000000000000063

Accession Number: 3543547

Update Code: 9000

Record 797 of 1145 in INSPEC 1990-1992

Title: Experimental investigation of washout of radionuclides deposited on soil as a result of the Chernobyl Nuclear Power Station accident

Author: Borzilov-VA; Konoplev-AV; Revina-SK; Bobovnikova-TsI; Lyutik-PM; Shveiken-YuV; Shcherbak-AV

Author Affiliation: Taifun Sci. Ind. Assoc., USSR

Source: Soviet-Meteorology-and-Hydrology. no.11; 1988; p.27-33

Translated from: Meteorologiya-i-Gidrologiya. no.11; 1988; p.43-53

Publication Year: 1988

Record Type: Journal-article

Country of Publication: USSR; Translation: USA

Language: English

Abstract: The results of experimental investigations of the washout of /sup 90/Sr and /sup 137/Cs from the territory of a 30 km zone at the Chernobyl Nuclear Power Station by surface runoff are presented. Experiments were conducted by artificial sprinkling of runoff plots with an area of several hundred square m. The applicability of sprinkling 1 m plots to obtain the characteristics of radionuclide washout is examined. Data are given on the coefficients of /sup 90/Sr and /sup 137/Cs washout in autumn and spring flood periods. The washout coefficients are parameterized by the major hydrological characteristics of the runoff to use the obtained experimental data for forecasting radioactive pollution of bodies of water in the Dnieper basin in the flood period.

Number of References: 5

Descriptors: accidents-; caesium-; fallout-; hydrology-; radioactive-pollution; radioisotopes-; rivers-; soil-; strontium-; water-pollution
Identifiers: radionuclides-washout; radionuclides-runoff; Ukraine-; water-bodies-pollution; SW-Soviet-Union; USSR-; Dnieper-River-basin-pollution-soil-pollution; soil-deposited-radionuclides; autumn-flood-period; Chernobyl-Nuclear-Power-Station-accident; surface-runoff; artificial-sprinkling; runoff-plots; radionuclide-washout; spring-flood-periods; washout-coefficients; hydrological-characteristics; radioactive-pollution; 90Sr-; 137Cs-
Classification Codes: A8670E (Water); A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9240L (Soil-moisture); A9240F (Rivers-runoff-and-streamflow); A9330G (Europe); A86; A87; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/88/$20.00
Sort Key: 0000130290619880000000011000000000000043
Accession Number: 3543531
Update Code: 9000

Record 798 of 1145 in INSPEC 1990-1992

Title: Field observations of /sup 110m/Ag, originating from the Chernobyl accident, in west Cumbrian vegetation and soil samples
Author: Beresford-NA
Author Affiliation: Inst. of Terrestrial Ecology, Merlewood Res. Station, Grange-Over-Sands, UK
Source: Journal-of-Radiological-Protection. vol.9, no.4; Dec. 1989; p.281-3
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: During the analyses of sheep and cattle tissues following the Chernobyl accident, the only nuclide routinely detected in the short count times being used, apart from the caesium isotopes and /sup 131/I, was /sup 11om/Ag in the liver. The author compares the activity concentration of /sup 110m/Ag and /sup 131/Cs in the liver of sheep slaughtered during the first four months after deposition from various sites in Cumbria. The ratio of /sup 110m/Ag to /sup 134/Cs ranges from 0.09 to 1.67 with a coefficient of variation of 102%. A review of the available literature has shown that the behaviour of silver in the terrestrial environment is relatively poorly understood. A research programme to study the behaviour of /sup 110m/Ag resulting from Chernobyl was therefore put into progress. The most important aspect of this work is the transfer of /sup 110m/Ag to the liver of ruminants. Results for field observations of the transfer of /sup 110m/Ag to vegetation are discussed by the author.

Number of References: 13
Descriptors: accidents-; radioactive-pollution; radioisotopes-; silver-; soil-
Identifiers: W-.-Cumbria; sheep-liver; Chernobyl-; vegetation-; soil-; 110Ag-m; 131Cs-
Classification Codes: A8670C (Soil-and-rock); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el; Cs-el
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/89/040281+03$02.50
Sort Key: 0000952474619890000900004000000000000281
Accession Number: 3540129
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 799 of 1145 in INSPEC 1990-1992

Title: Isotopic composition of high-activity particles released in the Chernobyl accident
Author: Osuch-S; Dabrowska-M; Jaracz-P; Kaczanowski-J; Le-Van-Khoi; Mirowski-S; Piasecki-E; Szeflinska-G; Szeflinski-Z; Tropilo-J; Wilhelmi-Z; Jastrzebski-J; Pienkowski-L
Author Affiliation: Inst. of Exp. Phys., Warsaw Univ., Poland
Source: Health-Physics. vol.57, no.5; Nov. 1989; p.707-16
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Gamma spectra were measured and activities of the detected isotopes were analyzed for 206 high-activity particles (hot particles, HPs) found in northeastern Poland after the Chernobyl accident. The isotopic composition of HPs observed in gamma -activity is compared with that of the general fallout and core inventory calculations. Particle formation and a process of depletion in Ru and Cs isotopes are discussed. On the basis of a search performed a year later, some comments on the behavior of HPs in the soil are made.
Number of References: 19
Descriptors: accidents-; air-pollution; caesium-; fallout-; health-hazards; radioactive-pollution; radioisotopes-; ruthenium-; soil-
Identifiers: gamma-spectra; high-activity-particles; Chernobyl-accident; hot-particles; northeastern-Poland; isotopic-composition; gamma-activity; general-fallout; core-inventory-calculations; soil-; Ru-; Cs-isotopes
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A8670G (Atmosphere); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Cs-el

Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 00000179078198900057000050000000000000707
Accession Number: 3536977
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 800 of 1145 in INSPEC 1990-1992

Title: Chernobyl source term, atmospheric dispersion, and dose estimation
Author: Gudiksen-PH; Harvey-TF; Lange-R
Author Affiliation: Lawrence Livermore Nat. Lab., CA, USA
Source: Health-Physics. vol.57, no.5; Nov. 1989; p.697-706
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Chernobyl source term available for long-range transport was estimated by integration of radiological measurements with atmospheric dispersion modeling and by reactor core radionuclide inventory estimation in conjunction with WASH-1400 release fractions associated with specific chemical groups. These analyses indicated that essentially all of the noble gases, 60% of the radioiodines, 40% of the radiocesium, 10% of the tellurium, and about 1% or less of the more refractory elements were released. Atmospheric dispersion modeling of the radioactive cloud over the Northern Hemisphere revealed that the cloud became segmented during the first day, with the lower section heading toward Scandinavia and the upper part heading in a southeasterly direction with subsequent transport across Asia to Japan, the North Pacific, and the west coast of North America. The inhalation doses due to direct cloud exposure were estimated to exceed 10 mGy near the Chernobyl area, to range between 0.1 and 0.001 mGy within most of Europe, and to be generally less than 0.00001 mGy within the United States. The Chernobyl source term was several orders of magnitude greater than those associated with the Windscale and TMI reactor accidents. However, the /sup 137/Cs from the Chernobyl event is about 6% of that released by the US and USSR atmospheric nuclear weapon tests, while the /sup 131/I and /sup 90/Sr released by the Chernobyl accident was only about 0.1% of that released by the weapon tests.
Number of References: 28
Descriptors: air-pollution; atmospheric-movements; atmospheric-radioactivity; dosimetry-; fallout-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: radioactive-pollutants-dispersion; atmospheric-dispersion; dose-estimation; Chernobyl-source-term; long-range-transport; atmospheric-dispersion-modeling; reactor-core-radionuclide-inventory-estimation; WASH-1400-release-fractions; specific-chemical-groups; noble-gases; radioiodines-; radiocesium-; refractory-

elements; dispersion-modeling; radioactive-cloud; Northern-Hemisphere; lower-section; Scandinavia-; upper-part; southeasterly-direction; Asia-; Japan-; North-Pacific; west-coast; North-America; inhalation-doses; direct-cloud-exposure; Chernobyl-area; Europe-; United-States; 10-mGy; 1-to-100-muGy; 10-nGy; 131I-; 137Cs-; 133Xe-; 132Te-

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260B (General-circulation); A9330D (Asia); A9330G (Europe); A9330H (North-America); A9260T (Air-quality-and-air-pollution); A87; A86; A92; A93; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation absorbed dose 1.0E-02 Gy; radiation absorbed dose 1.0E-06 to 1.0E-04 Gy; radiation absorbed dose 1.0E-08 Gy

Chemical Indexing: I-el; Cs-el; Xe-el; Te-el

Coden: HLTPAO
ISSN: 0017-9078

Sort Key: 0000017907819890005700005000000000000697
Accession Number: 3536976
Update Code: 9000

Record 801 of 1145 in INSPEC 1990-1992

Title: The Chernobyl reference horizon (?) in the Greenland ice sheet

Author: Dibb-J
Author Affiliation: Glacier Res. Group, New Hampshire Univ., Durham, NH, USA

Source: Geophysical-Research-Letters. vol.16, no.9; Sept. 1989; p.987-90
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA
Language: English

Abstract: Published reports of the presence of radioactive debris from the Chernobyl reactor accident in snow on the Greenland ice sheet raised the strong prospect that such debris might constitute a valuable time stratigraphic marker all over the ice sheet. Large volume snow samples to test this possibility were collected from 7 snowpits as part of a wide ranging regional snow chemistry survey conducted during 1987 and 1988. Snow 'labeled' with Chernobyl derived radioactivity was detected in all of the pits. However, the total amount of radioactive debris found at the different locations varied over a 20 fold range. The variability in total fallout showed no clear large scale spatial pattern that could be related to the presumed progress of the radioactive plume over Greenland, suggesting that small scale differences in precipitation pattern and reworking of the snow by wind were predominantly responsible for the patchy preservation of the Chernobyl 'layer' on the Greenland ice sheet.

Number of References: 14
Descriptors: air-pollution; fallout-; radioactive-pollution; snow-
Identifiers: pollution-; Chernobyl-reference-horizon; Greenland-ice-sheet; radioactive-debris; time-stratigraphic-marker; snow-; fallout-; precipitation-pattern; wind-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330K (Islands); A9240R (Snow); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: GPRLAJ
ISSN: 0094-8276
Copyright Clearance Center Code: 0094-8276/89/89GL-01622$03.00
Sort Key: 00000948276198900016000090000000000000987
Accession Number: 3527008
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25572.000
Bestand: 1.1974=>

Record 802 of 1145 in INSPEC 1990-1992

Title: Nuclear Safety after Three Mile Island and Chernobyl
Editor: Ballard-GM
Source: Elsevier Applied Science Publishers, Barking, UK; 1988; ix+480 pp.
Publication Year: 1988
Record Type: Conference-Proceedings
Conference Details: 8-10 June 1989; Blackpool, UK. Sponsored by: Nat. Centre of Syst. Reliability
Country of Publication: UK
Language: English
Abstract: The following topics were dealt with: nuclear power; safety goals for NPPs; PSA studies; safety principles; RBMK analysis; Sizewell B design; human factors; man-machine interactions; UO/sub 2/ fission gas releases; explosions; fire PSAs; Chernobyl accident; emergency planning.
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-power; nuclear-power-stations; radioactive-pollution
Identifiers: nuclear-power-plants; nuclear-power; safety-goals; PSA-studies; safety-principles; RBMK-analysis; Sizewell-B-design; human-factors; man-machine-interactions; explosions-; fire-PSAs; Chernobyl-accident; emergency-planning; UO-2-fission-gas-releases
Classification Codes: A0130C (Conference-proceedings); A2850G (Light-water-reactors); A8610N (Nuclear-energy); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A2841 (Fission-reactor-theory-and-design); B0100 (General-electrical-engineering-topics); B8220 (Nuclear-power-stations-and-plants); A01; A28; A86; A87; B01; B82; A0; A2; A8
Chemical Indexing: UO2-bin O2-bin O-bin U-bin

ISBN: 1851662359
Sort Key: 11851662359198800000000000000000000000000
Accession Number: 3524188
Update Code: 9000

Record 803 of 1145 in INSPEC 1990-1992

Title: Source terms and emergency response-a post-Chernobyl perspective
Author: Warman-EA
Author Affiliation: Stone & Webster Eng. Corp., Boston, MA, USA
Source: Proceedings of the ANS Topical Meeting on Emergency Response - Planning, Technologies, and Implementation (CONF-880913). ANS, La Grange Park, IL, USA; 1988; xiv+540 pp.
p.12-1/1-9
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 26-28 Sept. 1988; Charleston, SC, USA. Sponsored by: ANS; DOE; U.S. Nucl. Regulatory Comm. et al
Country of Publication: USA
Language: English
Abstract: The author briefly addresses three topics, emergency planning and the response to the Chernobyl accident in Europe; some of the radiological aspects of the Chernobyl accident-particularly in the near-field; and a commentary on severe accident source terms and the Chernobyl experience.
Number of References: 6
Descriptors: accidents-; radioactive-pollution
Identifiers: emergency-planning; Chernobyl-accident; Europe-; radiological-aspects; severe-accident-source-terms
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A28; A86; A2; A8
Treatment Codes: P (Practical)
Sort Key: 10000000000198800000000000000000000000012
Accession Number: 3523770
Update Code: 9000

Record 804 of 1145 in INSPEC 1990-1992

Title: Chernobyl reactor accident: strong and weak points of the radiological environmental monitoring
Author: Gavrilas-M
Author Affiliation: Baltimore Gas & Electr. Co., Baltimore, MD, USA
Source: Proceedings of the ANS Topical Meeting on Emergency Response - Planning, Technologies, and Implementation (CONF-880913). ANS, La Grange Park, IL, USA; 1988; xiv+540 pp.

p.10-5/1-8
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 26-28 Sept. 1988; Charleston, SC, USA. Sponsored by: ANS; DOE; U.S. Nucl. Regulatory Comm. et al
Country of Publication: USA
Language: English
Abstract: Gives a unified interpretation of the I-131 and Cs-137 radioactivity levels measured around the world in air, on the ground, and in milk. The distributions of the environmental radioactivity, as a function of time after the state of accident and of the distance from the reactor site, are used to illustrate some features of the transport mechanisms, and to evaluate I-131 and Cs-137 source terms. Several aspects of radiological environmental monitoring, that could be conducted better, to allow an exhaustive characterization of an inadvertent release of radioactive material, are mentioned.
Number of References: 3
Descriptors: accidents-; air-pollution; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-reactor-accident; radiological-environmental-monitoring; radioactivity-levels; air-; ground-; milk-; environmental-radioactivity; transport-mechanisms; source-terms; release-; radioactive-material; 131I-; 137Cs-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670C (Soil-and-rock); A28; A87; A86; A2; A8
Treatment Codes: P (Practical)
Chemical Indexing: I-el; Cs-el
Sort Key: 10000000000198800000000000000000000010
Accession Number: 3523766
Update Code: 9000

Record 805 of 1145 in INSPEC 1990-1992

Title: The use of Chernobyl data for model validation
Author: Hoffman-FO; Deming-EJ
Author Affiliation: Environ. Sci. Div., Oak Ridge Nat. Lab., TN, USA
Source: Proceedings of the ANS Topical Meeting on Emergency Response - Planning, Technologies, and Implementation (CONF-880913). ANS, La Grange Park, IL, USA; 1988; xiv+540 pp.
p.9-1/1-7
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 26-28 Sept. 1988; Charleston, SC, USA. Sponsored by: ANS; DOE; U.S. Nucl. Regulatory Comm. et al
Country of Publication: USA
Language: English

Abstract: Data have been collected on concentrations of I-131 and Cs-137 in air, vegetation and milk from numerous locations receiving Chernobyl fallout. Time integrated concentrations derived from these data are compared with predictions produced from a variety of international models used for environmental radiological assessments. The models tended to overpredict the I-131 concentrations in vegetation and milk and the Cs-137 transfer from forage to milk.
Number of References: 4
Descriptors: air-pollution; radiation-protection; radioactive-pollution
Identifiers: model-validation; air-; vegetation-; milk-; Chernobyl-fallout; concentrations-; international-models; environmental-radiological-assessments; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Chemical Indexing: I-el; Cs-el
Sort Key: 10000000000198800000000000000000000009
Accession Number: 3523759
Update Code: 9000

Record 806 of 1145 in INSPEC 1990-1992

Title: Biological retention of fission products from the Chernobyl plume
Author: Mirell-SG; Blahd-WH
Author Affiliation: Veterans Adm. Med. Center, West Los Angeles, CA, USA
Source: Health-Physics. vol.57, no.4; Oct. 1989; p.649-52
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A long-term fission product retention study has been carried out on members of an American tour group who were exposed in Kiev to the initial Chernobyl reactor accident plume. Radioisotopes of several elements were identified in the bodies of subjects by the method of serial measurements in a whole-body counter. The measured biological retention values for these elements were found to be divergent from well-documented retention values given in the literature for the respective elements. Data of J. van der Veen et al. (1986), demonstrating the presence of fission products in fused particulate form suspended in the Chernobyl plume, provide a cogent and compelling argument that the unusual retention values of these subjects (and presumably of others exposed to the plume) are directly related to the particulate composition. Specifically, fission products 'encapsulated' in fused particulate form would be chemically inert and would not be metabolized along biological pathways characteristic of the constituent elements within the particulates.
Number of References: 5
Descriptors: accidents-; fallout-; fission-reactor-safety; health-hazards; radioactive-pollution

Identifiers: biological-retention; exposure-in-Kiev; Chernobyl-plume; long-term-fission-product-retention; reactor-accident; fused-particulate-form; particulate-composition
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+0.00
Sort Key: 0000017907819890005700004000000000000649
Accession Number: 3517433
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 807 of 1145 in INSPEC 1990-1992

Title: Cesium-137 urinary excretion by northeastern (Pordenone) Italian people following the Chernobyl nuclear accident
Author: Capra-E; Drigo-A; Menin-A
Author Affiliation: Servizio Fisica Sanitaria, USL, Pordenone, Italy
Source: Health-Physics. vol.57, no.1; July 1989; p.99-106
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: To estimate the radiological consequences in humans due to the Chernobyl nuclear accident (5 May 1986), the authors have determined both the /sup 137/Cs concentration in food and the /sup 137/Cs daily urinary excretion on 198 residents of the Pordenone area. The resulting experimental data have been compared with those estimated from the International Commission on Radiological Protection Publication 10A model (ICRP 1971) using a suitable dietary intake, and they were found to be in reasonable agreement.
Number of References: 10
Descriptors: accidents-; caesium-; dosimetry-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: radiocaesium-; NE-Italy; urinary-excretion; Italian-people; Chernobyl-nuclear-accident; radiological-consequences; food-; Pordenone-area; ICRP-1971; dietary-intake; 137Cs-concentration
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO

ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005700001000000000000099
Accession Number: 3517413
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 808 of 1145 in INSPEC 1990-1992

Title: A re-interpretation of Landsat TM data on Chernobyl
Author: Rothery-DA
Author Affiliation: Dept. of Earth Sci., Open Univ., Milton Keynes, UK
Source: International-Journal-of-Remote-Sensing. vol.10, no.8; Aug. 1989; p.1423-7
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Temperatures estimated from 29 April 1986 Landsat Thematic Mapper (TM) data for the fire at the Chernobyl nuclear power plant are reassessed and a new range of distribution and temperatures of the hottest visible material is suggested. The detected shortwavelength infrared thermal radiance is interpreted to come from sources at around 1130-1430 K occupying about 0.05 per cent of each of four ground resolution cells.
Number of References: 8
Descriptors: accidents-; air-pollution; disasters-; fires-; fission-reactor-safety; nuclear-power-stations; radioactive-pollution; remote-sensing
Identifiers: remote-sensing; air-pollution; USSR-; nuclear-power-station; radioactive-pollution-plume; fire-temperature; accident-; fission-reactor; AD-1986-04; disaster-; Landsat-TM-data; Chernobyl-; fire-; nuclear-power-plant; infrared-thermal-radiance
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A8670Z (Other-topics); A8690 (Other-topics-in-energy-research-and-environmental-science); A9330G (Europe); A28; A86; A93; A2; A8
Treatment Codes: X (Experimental)
Coden: IJSEDK
ISSN: 0143-1161
Copyright Clearance Center Code: 0143-1161/89/$3.00
Sort Key: 0000143116119890001000008000000000001423
Accession Number: 3515145
Update Code: 9000

Record 809 of 1145 in INSPEC 1990-1992

Title: Consequences of the Chernobyl accident
Author: Nixon-W; Egan-MJ

Author Affiliation: UKAEA, Culcheth, UK
Editor: Ballard-GM
Source: Nuclear Safety after Three Mile Island and Chernobyl. Elsevier Applied Science Publishers, Barking, UK; 1988; ix+480 pp.
p.390-419
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 8-10 June 1989; Blackpool, UK. Sponsored by: Nat. Centre of Syst. Reliability
Country of Publication: UK
Language: English
Abstract: Some off-site consequence modelling techniques are applied to the Chernobyl accident. Firstly, the time dependent spread of radioactive material across the European continent is considered, followed by a preliminary assessment of the dosimetric impact (in terms of collective and mean individual doses) on the various countries of Eastern and Western Europe. The consequence of the accident in the USSR are also discussed. Finally, the likely implications of the Chernobyl event on research in the field of environmental consequence assessment are outlined.
Number of References: 14
Descriptors: accidents-; air-pollution; dosimetry-; fission-reactor-safety; health-hazards; radioactive-pollution
Identifiers: collective-doses; off-site-consequence-modelling-techniques; Chernobyl-accident; time-dependent-spread; radioactive-material; dosimetric-impact; mean-individual-doses; Europe-; USSR-; environmental-consequence-assessment
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2880C (Dosimetry); A8670G (Atmosphere); A28; A87; A86; A2; A8
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
ISBN: 1851662359
Sort Key: 11851662359198800000000000000000000390
Accession Number: 3513704
Update Code: 9000

Record 810 of 1145 in INSPEC 1990-1992

Title: Source terms and the Chernobyl accident
Author: Clough-PN
Author Affiliation: UKAEA, Culcheth, UK
Editor: Ballard-GM
Source: Nuclear Safety after Three Mile Island and Chernobyl. Elsevier Applied Science Publishers, Barking, UK; 1988; ix+480 pp.
p.306-53
Publication Year: 1988
Record Type: Conference-Paper

Conference Details: 8-10 June 1989; Blackpool, UK. Sponsored by: Nat. Centre of Syst. Reliability
Country of Publication: UK
Language: English
Abstract: The author describes an analysis of the Chernobyl accident source terms. The methodology is presented, and the effects of barriers, radionuclides and fuel releases described.
Number of References: 35
Descriptors: accidents-; air-pollution; fission-reactor-safety; health-hazards; radioactive-pollution
Identifiers: Chernobyl-accident; source-terms; methodology-; barriers-; radionuclides-; fuel-releases
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A8670G (Atmosphere); A28; A87; A86; A2; A8
Treatment Codes: P (Practical)
ISBN: 1851662359
Sort Key: 1185166235919880000000000000000000000306
Accession Number: 3513702
Update Code: 9000

Record 811 of 1145 in INSPEC 1990-1992

Title: Chernobyl: recovery operations and the entombment of reactor 4
Author: Dalziel-SPC
Author Affiliation: BBC, London, UK
Source: International Seminar on the Decommissioning of Nuclear Facilities. IBC Tech. Services, London, UK; 1988; 274 pp.
8 pp.
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 6-7 July 1988; London, UK
Country of Publication: UK
Language: English
Abstract: The author describes the measures taken by the Soviet authorities following the Chernobyl accident from putting out the fire to the final entombment.
Number of References: 0
Descriptors: accidents-; disasters-; fission-reactor-decommissioning; fission-reactor-safety
Identifiers: Chernobyl-accident; entombment-
Classification Codes: A2847 (Fission-reactor-decommissioning); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019880000000000000000000000008
Accession Number: 3513171
Update Code: 9000

Record 812 of 1145 in INSPEC 1990-1992

Title: Analysis of the dispersal and deposition of radionuclides from Chernobyl across Europe
Author: Apsimon-HM; Wilson-JJN; Simms-KL
Author Affiliation: Air Pollution Group, Imperial Coll. of Sci. & Technol., London, UK
Source: Proceedings-of-the-Royal-Society-of-London,-Series-A-(Mathematical-and-Physical-Sciences). vol.425, no.1869; 9 Oct. 1989; p.365-405
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the accident at the Chernobyl 4 nuclear power reactor in the Ukraine, USSR, on 25 April 1986, computer models were used to analyse dispersal of the radioactive material across Europe according to the meteorological situation, and interpret the available radiological measurements. Subsequently, after Soviet scientists presented their accounts of the accident and its causes in Vienna in August 1986, and as further measurements became available from other countries, more detailed assessments were undertaken of the release pattern over the 10-day period after the initial explosions, and the resulting contamination outside the USSR.
Number of References: 35
Descriptors: accidents-; air-pollution; atmospheric-movements; radioactive-pollution; radioisotopes-
Identifiers: radioactive-pollution; AD-1986-04-25; air-pollution; dispersal-; deposition-; radionuclides-; Europe-; accident-; Chernobyl-4-nuclear-power-reactor; computer-models; meteorological-situation; radiological-measurements; contamination-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9260G (Winds-and-their-effects); A9330G (Europe); A87; A86; A92; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: PRLAAZ
ISSN: 0080-4630
Sort Key: 00000804630198900425018690000000000000365
Accession Number: 3511366
Update Code: 9000
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 01052.010
Bestand: 76.1905=>

Record 813 of 1145 in INSPEC 1990-1992

Title: Inspection of foodstuffs imported to Saudi Arabia following the reactor accident at Chernobyl
Author: Abdul-Fattah-AF; Mamoon-A; Abulfaraj-WH; Abdul-Majid-S

Author Affiliation: King Abdulaziz Univ., Jeddah, Saudi Arabia
Source: Nuclear-Safety. vol.30, no.2; April-June 1989; p.239-43
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The scientific team entrusted with the inspection of foodstuffs imported to Saudi Arabian western and southern ports after the reactor accident at Chernobyl encountered several problems at various levels of the inspection process. There were technical, administrative, economic, and social problems. In addition, a great deal of misinformation existed on the part of the public regarding the potential hazards of ionizing radiation. The different problems encountered by the team are discussed, and the appropriate mitigating actions are outlined. Some of the problems were specific to Saudi Arabian circumstances, but most were of such a general nature that other developing countries could benefit from the experience when handling similar circumstances.
Number of References: 17
Descriptors: accidents-; radiation-protection; radioactive-pollution; safety-
Identifiers: Saudi-Arabia; reactor-accident; Chernobyl-; inspection-; foodstuffs-; potential-hazards; ionizing-radiation; mitigating-actions
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419890003000002000000000000239
Accession Number: 3506944
Update Code: 9000

Record 814 of 1145 in INSPEC 1985-1989

Title: Chernobyl-derived /sup 137/Cs and /sup 134/Cs in heather plants in northwest England
Author: Jackson-D
Author Affiliation: British Nucl. Fuels plc, Sellafield, UK
Source: Health-Physics. vol.57, no.3; Sept. 1989; p.485-9
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the nuclear reactor accident at Chernobyl, USSR, in April 1986, an extensive monitoring program was initiated by British Nuclear Fuels plc near its Sellafield Works, Cumbria (Fulker 1987; Jackson et al. 1987). The main sampling emphasis was devoted to major food consumption pathways such as milk and meat (Fulker 1987), but intermediate pathway steps (e.g. forage for livestock) and minor

consumption pathways (e.g. wild berry crops) were considered also. Bunzl and Kracke (1984, 1986) documented comparatively high concentrations of preChernobyl fallout /sup 137/Cs in several species of heather (Ericaceae) in Bavaria. These species form both direct and intermediary pathways to man via bilberries or honey and can be very abundant on high ground and moors in the UK, particularly ling, Calluna vulgaris, bilberry Vaccinium myrtillus, bell heather Erica cinerea and cross-leaved heath E. tetralix. Results for /sup 137/Cs and /sup 134/Cs in these species are summarized here, together with the heath-like crowberry Empetrum nigrum and associated underlying soils.

Number of References: 14

Descriptors: accidents-; caesium-; health-hazards; radioactive-pollution; radioisotopes-

Identifiers: fission-reactor-accident; health-hazard; radioactive-fallout; heather-plants; northwest-England; Chernobyl-; USSR-; British-Nuclear-Fuels-plc; Sellafield-; food-consumption-pathways; Ericaceae-; honey-; ling-; Calluna-vulgaris; bilberry-; Vaccinium-myrtillus; bell-heather; Erica-cinerea; cross-leaved-heath; E-tetralix; heath-like-crowberry; Empetrum-nigrum

Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2

Treatment Codes: X (Experimental)

Coden: HLTPAO

ISSN: 0017-9078

Copyright Clearance Center Code: 0017-9078/89/$3.00+.00

Sort Key: 0000017907819890005700003000000000000485

Accession Number: 3499695

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 815 of 1145 in INSPEC 1985-1989

Title: Simulation of the Chernobyl dispersion with a 3-D hemispheric tracer model

Author: Pudykiewicz-J

Author Affiliation: Environ. Canada, Atmos. Environ. Service, Dorval, Que., Canada

Source: Tellus,-Series-B-(Chemical-and-Physical-Meteorology). vol.41B, no.4; Sept. 1989; p.391-412

Publication Year: 1989

Record Type: Journal-article

Country of Publication: Sweden

Language: English

Abstract: A 3-dimensional (3-D) hemispheric tracer model is employed for the long-term simulation of the dispersion of the nuclear debris from the Chernobyl accident. The most important features of the model are a fully three-dimensional advection-diffusion equation and a simple diagnostic parameterization of the boundary-layer mixing, dry deposition and wet scavenging. The tracer model is driven by a series of meteorological

fields derived from the hemispheric objective analysis scheme of the Canadian Meteorological Center (CMC). The accident scenario employed in the simulation was derived from the data presented at the post-accident meeting of the International Atomic Energy Agency (IAEA) in Vienna in August 1986. Verification of the model indicates good accuracy and substantial improvement compared to the preliminary experiments with a very simple 2-dimensional (2-D) hemispheric tracer model.

Number of References: 22

Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; fallout-; fission-reactor-safety; health-hazards; radioactive-pollution; transport-processes

Identifiers: Chernobyl-radioactive-debris-dispersion; air-pollution; tropospheric-transport; Northern-Hemisphere; atmospheric-movements; AD-1986-04-25-to-05-23; 3-D-hemispheric-tracer-model; long-term-simulation; nuclear-debris; Chernobyl-accident; fully-three-dimensional-advection-diffusion-equation; simple-diagnostic-parameterization; boundary-layer-mixing; dry-deposition; wet-scavenging; meteorological-fields; hemispheric-objective-analysis-scheme; Canadian-Meteorological-Center; 28-d; 131I-activity-field

Classification Codes: A9260E (Convection-turbulence-and-diffusion); A9260B (General-circulation); A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A92; A86; A87; A28; A9

Treatment Codes: T (Theoretical-or-Mathematical)

Numerical Data Indexing: time 2.4 E06 s

Chemical Indexing: I-el

Coden: TSBMD7

ISSN: 0280-6509

Sort Key: 0000280650919890004100004000000000000391

Accession Number: 3498783

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04096.020
Bestand: 35.1983=>

Record 816 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident. Transport of radionuclides to man living in northern Sweden

Author: Olofsson-L; Svensson-H
Author Affiliation: Dept. of Radiat. Phys., Umea Univ., Sweden

Source: Acta-Oncologica. vol.27, no.6B; 1988; p.841-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Sweden
Language: English

Abstract: The pathways of /sup 131/I, /sup 134/Cs and /sup 137/Cs from the Chernobyl fallout to man were followed in the county of Vasterbotten, Sweden. Reported airplane measurements had shown that the ground deposition of /sup 137/Cs was 3-40 kBq/m/sup 2/ with hot spots with more than 80 kBq/m/sup 2/. Multiplying with a factor of 0.6 gave the /sup 134/Cs deposition and an approximate factor of 20 the /sup 131/I ground deposition. The effective dose equivalent from /sup 131/I became low, <0.1 mSv, as the cows were stabled. The /sup 137/Cs activity concentration in different types of food was measured in approximately 8000 samples. The most important sources of Cs intake in man were lake fish, elk (European moose) and reindeer. Variations with time was studied in detail for four types of lake fish. Whole-body measurements on more than 250 persons showed that no group of people on average received more than 1 mSv from food during the first year after the Chernobyl accident. However, single persons eating large amounts of reindeer meat received up to 2.5 mSv. People buying all their food in ordinary provision-shops got less than 0.1 mSv from the food during the first year. The present level of /sup 90/Sr activity concentration in man will only give an effective dose equivalent of 0.004 mSv/year, most of it being a result of the atmospheric nuclear bomb tests.

Number of References: 33
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: radionuclides-transport; whole-body-measurements; Chernobyl-accident; northern-Sweden; Vasterbotten-; airplane-measurements; effective-dose-equivalent; lake-fish; elk-; reindeer-; atmospheric-nuclear-bomb-tests; 1-mSv; 0-1-mSv; 2-5-mSv; 131I-; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.0E-03 Sv; radiation dose equivalent 1.0E-04 Sv; radiation dose equivalent 2.5E-03 Sv
Chemical Indexing: I-el; Cs-el; Cs-el
Coden: ACTOEL
ISSN: 0349-652X
Sort Key: 0000349652X1988000270000600000000000841
Accession Number: 3491577
Update Code: 8900

Record 817 of 1145 in INSPEC 1985-1989

Title: The impact of Chernobyl on the marine environment in northern Scotland
Author: Martin-CJ; Heaton-B
Author Affiliation: Dept. of Bio-Medical Phys. & Bio-Eng., Aberdeen Univ., UK
Source: Journal-of-Environmental-Radioactivity. vol.9, no.3; 1989; p.209-21
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Accumulations of the radionuclides /sup 137/Cs, /sup 134/Cs, /sup 106/Ru, /sup 103/Ru and /sup 110m/Ag in seaweed and molluscs have been studied in the months following Chernobyl. The data set provides information on the performance of marine organisms as bioindicators for monitoring radioactive contamination. Concentrations of Cs, Ru and Ag radionuclides in Fucus vesiculosus declined with biological half-lives of 57, 80 and 210 days respectively. The biological half-lives of Cs and Ru radioisotopes in Patella were about 40 and 180 days but the decline in levels of /sup 110m/Ag was less than would have been expected from radioactive decay. Concentrations of /sup 140m/Ag in marine organisms on the north and east coasts have been much higher than those on the west possibly due to differences in enhancement by runoff from nearby land. Radionuclide levels in sea spume were several thousand times greater than in seawater in June 1986.
Number of References: 21
Descriptors: accidents-; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: AD-1986-04-26; seaweed-; molluscs-; Chernobyl-; marine-organisms; bioindicators-; radioactive-contamination; Fucus-vesiculosus; biological-half-lives; Patella-; radioactive-decay; sea-spume; seawater-; 137Cs-; 134Cs-; 106Ru-; 103Ru-; 110mAg-
Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A9330G (Europe); A9330R (Regional-seas); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Ru-el; Ru-el; Ag-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X1989000090000300000000000209
Accession Number: 3489474
Update Code: 8900

Record 818 of 1145 in INSPEC 1985-1989

Title: Lichens and mosses: biological monitors of radioactive fallout from the Chernobyl reactor accident
Author: Papastefanou-C; Manolopoulou-M; Sawidis-T
Author Affiliation: Aristotle Univ. of Thessaloniki, Greece
Source: Journal-of-Environmental-Radioactivity. vol.9, no.3; 1989; p.199-207
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In the aftermath of the Chernobyl reactor accident, the radioactivity in lichens and mosses has been studied. /sup 137/Cs concentrations ranged from about 1070 to 14560 Bq kg/sup -1/ in lichens and from 270 to 4750 Bq kg/sup -1/ in mosses. Besides the

cesium isotopes, some other relatively long-lived fission nuclides, such as /sup 106/Ru, /sup 144/Ce, /sup 125/Sb, and the /sup 110m/Ag produced by neutron activation were detected and measured. The present data set supports the view that these nonvascular plants can be useful biological monitors of radioactive fallout from not only nuclear weapon tests but also accidents at any nuclear facilities.

Number of References: 24

Descriptors: accidents-; air-pollution; radiation-monitoring; radioactive-pollution; radioisotopes-

Identifiers: AD-1986-04-26; Chernobyl-reactor-accident; radioactivity-; lichens-; mosses-; relatively-long-lived-fission-nuclides; neutron-activation; nonvascular-plants; biological-monitors; radioactive-fallout; nuclear-weapon-tests; 106Ru-; 144Ce-; 125Sb-; 110mAg-; 137Cs-

Classification Codes: A8760R (Radioactive-pollution); A9330G (Europe); A8670G (Atmosphere); A87; A93; A86; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Ce-el; Sb-el; Ag-el; Cs-el

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/89/$03.50

Sort Key: 0000265931X1989000090000300000000000199

Accession Number: 3489473

Update Code: 8900

Record 819 of 1145 in INSPEC 1985-1989

Title: Determination of /sup 137/Cs and /sup 134/Cs in air samples collected near Belgrade (Yugoslavia) following the Chernobyl accident

Author: Smiljanic-R; Novkovic-D; Paligoric-D; Milosevic-Z; Zaric-M

Author Affiliation: Boris Kidric Inst. of Nucl. Sci., Belgrade, Yugoslavia

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.136, no.6; 7 Aug. 1989; p.437-42

Publication Year: 1989

Record Type: Journal-article

Country of Publication: Switzerland

Language: English

Abstract: Presents the results of measurements of /sup 137/Cs and /sup 134/Cs content in air sampled during May 1986. Maximum concentrations: /sup 137/Cs 2.94 Bq m/sup -3/ and /sup 134/Cs 1.38 Bq m/sup -3/ were registered on May 3. Several other long lived radionuclides having gamma -energies in the region 33 keV to 1365 keV were registered in the same samples two years later. The results of measurements of the total beta -activity in air for the same period are also presented.

Number of References: 2

Descriptors: air-pollution; caesium-; radioactive-pollution

Identifiers: USSR-; nuclear-power-station-accident; air-pollution; Belgrade-; Yugoslavia-; 137Cs-; 134Cs-; AD-1986-05; Chernobyl-accident; radionuclides-; Cs-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119890013600006000000000000437
Accession Number: 3488601
Update Code: 8900

Record 820 of 1145 in INSPEC 1985-1989

Title: The Chernobyl reactor accident. III. A current bibliography
Author: Bujdoso-E
Author Affiliation: Hungarian Nat. Atomic Energy Comm., Budapest, Hungary
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.130, no.1; March 1989; p.231-41
Publication Year: 1989
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: For pt.I see ibid., vol.116, p.223, (1987). Presents a bibliographic list of measurements and research concerning the Chernobyl accident.
Number of References: 152
Descriptors: accidents-; air-pollution; fission-reactor-safety; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-reactor-accident; bibliographic-list; measurements-; research-
Classification Codes: A0130T (Bibliographies); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8760R (Radioactive-pollution); A8670G (Atmosphere); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A01; A28; A87; A86; A0; A2
Treatment Codes: B (Bibliography); G (General-or-Review)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119890013000001000000000000231
Accession Number: 3476352
Update Code: 8900

Record 821 of 1145 in INSPEC 1985-1989

Title: Whole-body counting and dietary surveys in Norway during the first years after the Chernobyl accident
Author: Strand-P; Boe-E; Berteig-L; Berthelsen-T; Strand-T; Trygg-K; Harbitz-O

Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Radiation-Protection-Dosimetry. vol.27, no.3; 1989; p.163-71
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Doses to the Norwegian population from radiocaesium in food are estimated from whole-body counting and dietary surveys. The average effective dose equivalent during the first year after the Chernobyl accident is estimated to be between 0.12-0.25 mSv. One quarter of the dose is due to the consumption of milk. For those of the population specially vulnerable (Lapps excluded) the dose is estimated to be about 1 mSv in the first year. Almost 90% of the dose is due to consumption of reindeer meat, freshwater fish and milk. The corresponding effective dose equivalent for Lapps was estimated to be between 1-3 mSv in the first year. More than 90% of the dose is due to consumption of reindeer meat. Without dietary changes the Lapps would probably have received doses 7-10 times higher.
Number of References: 11
Descriptors: accidents-; dosimetry-; radioactive-pollution; radioisotopes-
Identifiers: dietary-surveys; Norway-; Chernobyl-accident; Norwegian-population; radiocaesium-; food-; whole-body-counting; average-effective-dose-equivalent; milk-; reindeer-meat; freshwater-fish; Lapps-; 1-mSv; 137Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2880C (Dosimetry); A87; A28; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.0E-03 Sv
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201989000270000300000000000163
Accession Number: 3474261
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 822 of 1145 in INSPEC 1985-1989

Title: Radionuclide levels at two sites in a water extraction area in the Netherlands after Chernobyl
Author: Veen-AWL; De-Meijer-RJ
Author Affiliation: Dept. of Phys. Geogr. & Soil Sci., Groningen Univ., Netherlands
Source: Water,-Air-and-Soil-Pollution. vol.44, no.1-2; March 1989; p.83-92
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA

Language: English
Abstract: The coastal dune aquifer, providing drinking water for a large part of the population of the western Netherlands is recharged by rainfall and artificial infiltration of Rhine water. Chernobyl fall-out has been detected in both water sources. At the Castricum lysimeter station the rainfall-derived water, draining from 2.25 m of unsaturated sandy soil, shows levels of Cs-137 around the detection limit of 20 to 40 mBq kg/sup -1/. At this site, the soil itself retained some Chernobyl-derived Cs-137 in the top 10 cm, where a similar quantity of old Cs-137 has also been retained. Penetration of old Cs-137 is deeper (up to 70 cm) under oak vegetation than in the bare soils. In the infiltration channels, fed by Rhine water, the bottom mud contains only Chernobyl-derived Cs nuclides. Radioactivity from Cs-137 is about one tenth of that from natural radioactivity due to K-40. Cesium levels are apparently unrelated to adsorptive properties.
Number of References: 10
Descriptors: accidents-; caesium-; fallout-; groundwater-; radioactive-pollution; radioisotopes-; rain-; rivers-; soil-; water-pollution; water-supply
Identifiers: radionuclides-concentrations; radioactive-pollution; NW-Europe; water-supply; water-extraction-area; coastal-dune-aquifer; drinking-water; western-Netherlands; rainfall-; artificial-infiltration; Rhine-water; Chernobyl-fall-out; Castricum-lysimeter-station; unsaturated-sandy-soil; Chernobyl-derived-Cs-137; old-Cs-137; oak-vegetation; bare-soils; infiltration-channels; bottom-mud; Chernobyl-derived-Cs-nuclides; natural-radioactivity; 134Cs-; 137Cs-; 40K-
Classification Codes: A8670E (Water); A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9240K (Groundwater); A9240Q (Water-quality-and-water-resources); A9330G (Europe); A9240E (Precipitation); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9240F (Rivers-runoff-and-streamflow); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A92; A93; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; K-el
Coden: WAPLAC
ISSN: 0049-6979

Sort Key: 0000049697919890004400001000000000000083
Accession Number: 3470669
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26042.000
Bestand: 1.1971/72=>

Record 823 of 1145 in INSPEC 1985-1989

Title: Soil sampling and /sup 137/Cs analysis of the Chernobyl fallout in Greece
Author: Simopoulos-SE
Author Affiliation: Nucl. Eng. Sect., Nat. Tech. Univ., Athens, Greece
Source: Applied-Radiation-and-Isotopes. vol.40, no.7; 1989; p.607-13

Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A total of 1242 samples of soil, collected over Greece, during the period May-November 1986, were counted and analysed for /sup 137/Cs from Chernobyl fallout. The counting was performed using a NaI detector on-line to a microcomputer, moreover, 252 of the samples were also analysed using Ge detectors, for inter-comparison and also for the assessment of other long-lived isotopes in the fallout. The results show that /sup 137/Cs fallout from Chernobyl presents a remarkable geographical variability. The evaluated ground activity due to /sup 137/Cs deposition ranges between 0.01 and 137 kBq/m/sup 2/.
Number of References: 13
Descriptors: accidents-; caesium-; fallout-; radioactive-pollution; radioactivity-measurement; soil-
Identifiers: Chernobyl-fallout; soil-; Greece-; 137Cs-fallout; ground-activity; 137Cs-
Classification Codes: A8670C (Soil-and-rock); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: ARISEF
ISSN: 0883-2889
Copyright Clearance Center Code: 0883-2889/89/$3.00+0.00
Sort Key: 0000883288919890004000007000000000000607
Accession Number: 3458865
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001
Bestand: 37.1986-43.1992

Record 824 of 1145 in INSPEC 1985-1989

Title: Assessment from autopsy sources of the internal dose due to /sup 137/Cs and /sup 134/Cs from the Chernobyl accident
Author: Gallelli-G; Orlando-P; Perdelli-F; De-Flora-S; Malcontenti-R; Bianchini-L
Author Affiliation: Inst. of Hygiene & Preventive Med., Genoa Univ., Italy
Source: Journal-of-Environmental-Radioactivity. vol.9, no.2; 1989; p.131-43
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The effective dose equivalents from /sup 137/Cs and /sup 134/Cs were inferred both directly, i.e. from the concentrations of these radionuclides in the muscular systems of subjects deceased through accidental causes, and indirectly, i.e. from milk contamination in the Genoa area following the Chernobyl accident. The direct measurements provided a reliable index for use in the assessment of environmental

radioactive contamination in man. The calculated annual doses (from June 1986 to June 1987) due to /sup 137/Cs and /sup 134/Cs, i.e. 45 and 31 mu Sv respectively, were consistent with a negligible impact of the Chernobyl accident in this area.
Number of References: 23
Descriptors: caesium-; dosimetry-; radioactive-pollution; radioisotopes-
Identifiers: AD-1986-04-26; autopsy-sources; effective-dose-equivalents; muscular-systems; milk-contamination; Genoa-; Chernobyl-accident; environmental-radioactive-contamination; annual-doses; 137Cs-; 134Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8670 (Environmental-science); A9330G (Europe); A8760R (Radioactive-pollution); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X1989000090000200000000000131
Accession Number: 3457105
Update Code: 8900

Record 825 of 1145 in INSPEC 1985-1989

Title: Analysis of radioactivity levels in soils and crops from the Campania region (South Italy) after the Chernobyl accident
Author: Roca-V; Napolitano-M; Speranza-PR; Gialanella-G
Author Affiliation: Dipartimento di Sci. Fisiche, Napoli Univ., Italy
Source: Journal-of-Environmental-Radioactivity. vol.9, no.2; 1989; p.117-29
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Soil from the Campania region of southern Italy was sampled for gamma-radioactivity content during May and October 1986 and the radioactive fallout distribution from the Chernobyl accident was then mapped. Samples of vegetables and fruit were collected in June and October 1986. Those already ripe by May showed high concentrations of radionuclides (up to 1500 Bq/kg for /sup 137/Cs) whereas, in those harvested in September, contamination was lower by a factor of about 10 (200 Bq/kg). The mean transfer factor of caesium from soil to crops was 0.0086. Hazelnut samples showed much enhanced /sup 137/Cs levels relative to the mean, even in 1987 after a second maturation cycle. This anomalous behaviour can be attributed to the predominance of nuclide absorption by the leaves of the tree.
Number of References: 10
Descriptors: accidents-; caesium-; disasters-; health-hazards; radioactive-pollution; radioisotopes-; ruthenium-

Identifiers: AD-1986-04-26; AD-1986-05-to-10; Campania-region; southern-Italy; gamma-radioactivity-content; radioactive-fallout-distribution; Chernobyl-accident; vegetables-; fruit-; radionuclides-; transfer-factor; soil-; maturation-cycle; nuclide-absorption; leaves-; tree-; 137Cs-; 103Ru-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X1989000090000200000000000117
Accession Number: 3457104
Update Code: 8900

Record 826 of 1145 in INSPEC 1985-1989

Title: Chernobyl accident and its implications for the United Kingdom (Watt Committee Report No.19)
Editor: Worley-N; Lewins-J
Source: Elsevier Applied Science Publishers, Barking, UK; 1988; xi+147 pp.
Publication Year: 1988
Record Type: Book
Country of Publication: UK
Language: English
Abstract: The Chernobyl accident is described. The release of radioactivity to the environment is covered with the description of Soviet and European post-accident measures. The possibility of a similar accident in the UK is discussed and discounted.
Descriptors: accidents-; air-pollution; disasters-; fission-reactor-safety; fission-reactor-theory-and-design; radioactive-pollution
Identifiers: AD-1986-04-26; Chernobyl-accident; radioactivity-; environment-; post-accident-measures
Classification Codes: A0130N (Textbooks); A2841 (Fission-reactor-theory-and-design); A8760R (Radioactive-pollution); A8670G (Atmosphere); A2850G (Light-water-reactors); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A01; A28; A87; A86; A0; A2; A8
Treatment Codes: G (General-or-Review)
ISBN: 1851662197
Sort Key: 2185166219719880000000000000000000000000
Accession Number: 3450192
Update Code: 8900

Record 827 of 1145 in INSPEC 1985-1989

Title: Thyroid uptake of iodine-131 and iodine-133 from Chernobyl in the population of southern Sweden
Author: Strand-S-E; Erlandsson-K; Lowenhielm-P
Author Affiliation: Dept. of Radiat. Phys., Lund Univ., Sweden
Source: Journal-of-Nuclear-Medicine. vol.29, no.10; Oct. 1988; p.1719-23
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The accident at the nuclear power plant of Chernobyl on 26 April 1986 led to radioactive contamination of many countries including Sweden. The population was exposed to released radionuclides, both by inhalation and from contaminated food. The authors have studied the content of gamma-emitting radioisotopes in the thyroid glands of a normal population from southern Sweden using measurements of samples taken at autopsy. The first samples are from a person who died on 27 April 1986. This report contains results for /sup 131/I and /sup 133/I. The time-activity curve for /sup 131/I shows an immediate uptake with a maximum 18-26 days after the accident. No measurable levels were observed after 93 days. It has been found that the increase in dose equivalent to the thyroid for the population of southern Sweden due to the released /sup 131/I and /sup 133/I will be <0.1 mSv. This may lead to an increase in the incidence of thyroid cancer of 0.1% during a period of 25 yr.
Number of References: 12
Descriptors: accidents-; fallout-; iodine-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-accident; thyroid-uptake; population-of-southern-Sweden; gamma-emitting-radioisotopes; thyroid-glands; time-activity-curve; dose-equivalent; 131I-; 133I-
Classification Codes: A8760R (Radioactive-pollution); A8670 (Environmental-science); A2870 (Nuclear-explosions); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; I-el
Coden: JNMEAQ
ISSN: 0161-5505
Sort Key: 000016155051988000290001000000000001719
Accession Number: 3445598
Update Code: 8900

Record 828 of 1145 in INSPEC 1985-1989

Title: Nuclear power in the Netherlands. The post-Chernobyl situation
Author: Geijzers-HFG
Author Affiliation: Min. of Econ. Affairs, The Hague, Netherlands

Source: 28th Annual Conference of the Canadian Nuclear Association Proceedings. Canadian Nucl. Assoc, Toronto, Ont., Canada; 1988; 413 pp.
p.64-9
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 12-15 June 1988; Winnipeg, Man., Canada
Country of Publication: Canada
Language: English
Abstract: The authors discusses the following: (i) Chernobyl; the international developments and reactions; (ii) safety of nuclear power plants, both the existing two and possible new ones; (iii) external effects of severe accidents; (iv) accident management of severe accidents; (v) economic effects of severe accidents. Some views on future developments are also presented.
Number of References: 0
Descriptors: accidents-; economic-and-sociologic-effects; fission-reactor-safety; nuclear-power
Identifiers: nuclear-power; Netherlands-; Chernobyl-; nuclear-power-plants; external-effects; severe-accidents; accident-management; economic-effects
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8610N (Nuclear-energy); A28; A86; A2
Treatment Codes: P (Practical)
Sort Key: 1000000000019880000000000000000000000064
Accession Number: 3440756
Update Code: 8900

Record 829 of 1145 in INSPEC 1985-1989

Title: Phoswich detector utilisation for in vivo lung measurement of plutonium and americium after the Chernobyl accident
Author: Daburon-ML; Bullier-D; Pitiot-C
Author Affiliation: CEA, Inst. de Protection & de Surete Nucleaire, Fontenay aux Roses, France
Source: Radiation-Protection-Dosimetry. vol.26, no.1-4; 1989; p.211-15
Publication Year: 1989
Record Type: Conference-Paper; Journal-article
Conference Details: Workshop on Biological Assessment of Occupational Exposure to Actinides. 30 May-2 June 1988; Versailles, France
Country of Publication: UK
Language: English
Abstract: Since the Chernobyl accident, human body burdens have been modified by the general availability of /sup 137/Cs and /sup 134/Cs. The scattered spectra of these gamma emitters increases the background; this had to be taken into account for in vivo measurements of transuranic elements by X spectrometry with a phoswich crystal. The practical utilisation of the energy range above 80 keV (beyond Am) to assess the

individual background in the lower Pu and Am energy ranges has been published previously. Phantom calibrations seemed to imply that the same approach could be used when measuring transuranic elements in the presence of gamma emitters of higher energy. The Chernobyl accident gave the opportunity to verify this assumption in vivo on caesium. Pulmonary X-ray spectra were carried out on a group of persons having no contact with the nuclear industry, and a follow-up of their body burdens was undertaken. The interference due to caesium is determined without measuring the body burden of this element, thereby excluding the additional uncertainty this could involve. The method has been applied to cases of contamination by transuranic elements.

Number of References: 6

Descriptors: americium-; health-hazards; lung-; plutonium-; radiation-monitoring; radioisotopes-

Identifiers: phantom-calibrations; pulmonary-X-ray-spectra; in-vivo-lung-measurement; Chernobyl-accident; human-body-burdens; gamma-emitters; background-; transuranic-elements; X-spectrometry; phoswich-crystal; energy-ranges; 137Cs-; 134Cs-; Pu-; Am-

Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Pu-el; Am-el; Cs-el; Cs-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201989000260000100000000000211

Accession Number: 3430415

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 830 of 1145 in INSPEC 1985-1989

Title: The radiological consequences of the Chernobyl accident

Author: Konstantinov-LV; Gonzalez-AJ

Author Affiliation: Int. Atomic Energy Agency, Vienna, Austria

Source: Nuclear-Safety. vol.30, no.1; Jan.-March 1989; p.53-69

Publication Year: 1989

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: Release and dispersion of radioactive material from the Chernobyl accident and the radiological consequences are described. Protective measures taken are outlined. International assessments of this accident are summarized and placed in perspective with radiation exposure from other sources, in particular, natural background radiation, weapons testing, medical uses of ionizing radiation, and nuclear power production.

Number of References: 61

Descriptors: accidents-; air-pollution; air-pollution-detection-and-control; health-hazards; radiation-monitoring; radioactive-pollution
Identifiers: release-; radiological-consequences; Chernobyl-accident; dispersion-; radioactive-material; natural-background-radiation; weapons-testing; nuclear-power
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A87; A28; A86; A8; A2
Treatment Codes: B (Bibliography); P (Practical); X (Experimental)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604198900030000010000000000000053
Accession Number: 3430079
Update Code: 8900

Record 831 of 1145 in INSPEC 1985-1989

Title: Chernobyl today: state of research
Author: Gagarinskii-AYu
Source: Nuclear-Safety. vol.30, no.1; Jan.-March 1989; p.18-22
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The author presents a brief overview of current activity on the Chernobyl site including protective measures being carried out.
Number of References: 4
Descriptors: accidents-; radiation-decontamination; radiation-protection; safety-
Identifiers: status-; Chernobyl-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: G (General-or-Review)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604198900030000010000000000000018
Accession Number: 3430076
Update Code: 8900

Record 832 of 1145 in INSPEC 1985-1989

Title: Post-Chernobyl survey of radionuclides in Wales, August - October 1986
Author: Cawse-PA; Baker-SJ; Jenkins-D
Source: UKAEA, Harwell, UK, March 1988; 27 pp.
Publication Year: 1988
Record Type: Report
Country of Publication: UK

Language: English
Abstract: Measurements have been made of increases in Cs-134 and Cs-137 in soils from a grid network of 27 permanent grassland reference sites throughout Wales. This sampling grid was established in 1984 to provide baseline measurements of the accumulated deposition of radionuclides. In addition, at 9 selected locations in the survey grid, sampling of arable soils, hay, barley, wheat and potatoes has been repeated to assess the increases in caesium. In a limited number of soil and/or grass samples, Sr-90 and plutonium have been analysed, and radioactive caesium has been measured in sewage. Analysis of hay, barley, wheat and potato crops shows regional differences in Cs-137 content that are related to the levels of Chernobyl fallout established by the grassland grid survey. The concentrations in crops are below 3% of the generalised derived limits except for hay where 23% of the GDL is found in north-west Wales.
Number of References: 7
Descriptors: accidents-; air-pollution; disasters-; fission-reactor-safety; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: AD-1986-8-to-10; 134Cs-; 137Cs-; UK-; radioactive-pollution; Great-Britain; 90Sr-; air-pollution; soils-; grassland-reference-sites; Wales-; accumulated-deposition; radionuclides-; barley-; wheat-; potatoes-; sewage-; hay-; Chernobyl-fallout; Cs-; Sr-; Pu-
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A0130Q (Reports-dissertations-theses); A9330G (Europe); A8670G (Atmosphere); A9330K (Islands); A87; A28; A86; A01; A93; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Sr-el; Pu-el
Report Numbers: AERE R-12828
Description of Unconventional Medium: microfiche
Availability: HMSO, London, UK
Sort Key: 3AERER12828198800000000000000000000000
Accession Number: 3426935
Update Code: 8900

Record 833 of 1145 in INSPEC 1985-1989

Title: Survey of background levels of environmental radioactivity in Wales, 1984-1986 (pre-Chernobyl)
Author: Cawse-PA; Cambray-RS; Baker-SJ; Burton-PJ
Source: UKAEA, Harwell, UK, March 1988; 45 pp.
Publication Year: 1988
Record Type: Report
Country of Publication: UK
Language: English

Abstract: Measurements have been made of the accumulation to 30 cm depth of Sr-90, Cs-137 and plutonium in soils from permanent grassland in Wales. The sampling sites were chosen in each of 27 grid squares of 30*30 km, and their selection was made with consideration of their soil type and future permanence, to establish a network at which radionuclide concentrations may be measured over the long term or after accidental releases. In addition, radionuclides have been analysed in rainwater at six coastal and inland locations to ascertain the transfer of actinides from sea to land, and analysis has also been made of sheep faeces, sewage, seawater and suspended sediment.
Number of References: 12
Descriptors: radiation-monitoring; radioactive-pollution; radioisotopes-; soil-; water-pollution
Identifiers: AD-1984-to-1986; England-; Wales-; UK-; soils-; permanent-grassland; Wales-; radionuclide-concentrations; radionuclides-; rainwater-; actinides-; sheep-faeces; sewage-; seawater-; suspended-sediment
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A8670E (Water); A2880F (Radiation-monitoring-and-radiation-protection); A0130Q (Reports-dissertations-theses); A9330K (Islands); A9330G (Europe); A87; A86; A28; A01; A93; A8
Treatment Codes: X (Experimental)
Report Numbers: AERE R 12535
Description of Unconventional Medium: Microfiche
Availability: HMSO, London, UK
Sort Key: 3AERER12535198800000000000000000000000000
Accession Number: 3426931
Update Code: 8900

Record 834 of 1145 in INSPEC 1985-1989

Title: The deposition, resuspension and weathering of Chernobyl derived material in the UK
Author: Nicholson-KW
Author Affiliation: Environ. & Med. Sci. Div., Harwell Lab., UK
Source: Journal-of-Radiological-Protection. vol.9, no.2; June 1989; p.113-19
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Some measurements of the radionuclides originating from the Chernobyl reactor accident have enabled the evaluation of parameters that can be incorporated into predictive models. Evaluations of dry and wet deposition, resuspension and weathering rates have been summarised. Caesium has been used mostly, as a tracer of particulate material in the 0.1-1.0 mu m size range, and special attention has been drawn to dry deposition on to buildings. Particulate dry deposition velocities for roofs have been found to be similar to horizontal surfaces (approximately 5*10/sup -2/ cm s/sup -1/) but deposition to vertical walls has been found to be more than an order of magnitude less.

The weathering of deposited caesium on building materials has been found to be slow. There is evidence that suggests that resuspension might be important for a period of years after a deposition episode and the possible importance of large particles has been suggested for the transport of deposited material.

Number of References: 18

Descriptors: aerosols-; air-pollution; atmospheric-radioactivity; fallout-; radioactive-pollution

Identifiers: AD-1986-04-26; radioactive-aerosols; radionuclides-; Chernobyl-reactor-accident; predictive-models; wet-deposition; resuspension-; weathering-rates; particulate-material; dry-deposition; deposition-velocities; roofs-; horizontal-surfaces; vertical-walls; building-materials; transport-; 100-to-1000-nm; Cs-

Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A9330G (Europe); A9330K (Islands); A9260M (Particles-and-aerosols); A87; A86; A93; A92; A8

Treatment Codes: T (Theoretical-or-Mathematical)

Numerical Data Indexing: size 1.0E-07 to 1.0E-06 m

Chemical Indexing: Cs-el

Coden: JRPREA

ISSN: 0952-4746

Sort Key: 0000952474619890000900002000000000000113

Accession Number: 3423947

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001

Bestand: 8.1988=>

Record 835 of 1145 in INSPEC 1985-1989

Title: Experience of the Hungarian Public Health Authority in management of the consequences of the Chernobyl accident

Author: Sztanyik-BL; Kanyar-B; Koteles-G; Nikl-I; Stur-D

Author Affiliation: Frederic Joliot-Curie Nat. Res. Inst. for Radiobiol. & Radiohygiene, Budapest, Hungary

Source: Radiation Protection in Nuclear Energy: Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 2 vol. (494+522) pp.

p.391-9 vol.2

Publication Year: 1988

Record Type: Conference-Paper

Conference Details: 18-22 April 1988; Sydney, NSW, Australia

Country of Publication: Austria

Language: English

Abstract: Among the national authorities that bear the responsibility for various aspects of radiation protection in Hungary, the Public Health Authority plays a crucial role, both under normal operational conditions and accidental circumstances. Under normal conditions, the control of radioactive contamination of the environment carried out by several national authorities is co-ordinated by the Public Health Authority.

Representatives of this authority are key members of the governmental committee and its advisory board established for handling major radiation or nuclear accidents. The Radiological Monitoring and Data Acquisition Network, operated by the Ministry of Health and advised by the institute, was one of the main contributors to monitoring of the environmental contamination after the Chernobyl accident. Assessment of the situation and evaluation of its development served as a basis for preparing recommendations to the government and providing advice to the general public on the measures to be taken to reduce the projected levels of exposure. The lessons learned during management of the consequences of the Chernobyl accident are of great value for improving the preparedness of the Public Health Authority for any major nuclear accident that might occur either inside or outside the country.

Number of References: 9

Descriptors: radiation-protection

Identifiers: Chernobyl-accident; radiation-protection; Hungary-; Public-Health-Authority; operational-conditions; accidental-circumstances; radioactive-contamination; environment-; nuclear-accidents

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A28; A87; A2; A8

Treatment Codes: P (Practical)

Sort Key: 1000000000019880000000000000000000000391

Accession Number: 3415977

Update Code: 8900

Record 836 of 1145 in INSPEC 1985-1989

Title: Comparison between the predicted and measured values of /sup 137/Cs intake in man after the Chernobyl accident

Author: Havlik-E; Hobart-J; Bergmann-H

Author Affiliation: Second Dept. of Internal Med., Vienna Univ. Hospital, Austria

Source: Radiation Protection in Nuclear Energy: Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 2 vol. (494+522) pp.

p.383-90 vol.2

Publication Year: 1988

Record Type: Conference-Paper

Conference Details: 18-22 April 1988; Sydney, NSW, Australia

Country of Publication: Austria

Language: English

Abstract: A shadow shield whole body counter with automated gamma spectrum analysis was used to assess the radionuclide content in the bodies of healthy Austrian volunteers after the Chernobyl accident. To follow the time course of the /sup 137/Cs body radioactivity, two selected groups (35 adults and seven children) have been measured monthly since June 1986. From the time-activity curves of the /sup 137/Cs content the mean daily intake of radiocaesium was calculated using a metabolic model. The data were compared with the /sup 137/Cs intake values calculated from the results of food

measurements. The values derived from whole body measurements were, on average, lower by a factor of about 1.7 throughout the first year after the radioactive fallout. Early predictions of intake based on food measurements overestimated the caesium intake and consequently the dose equivalent. One year after the accident estimations were in better agreement for adults and even seem to underestimate the intake for children.

Number of References: 11

Descriptors: caesium-; dosimetry-; radiation-monitoring; radioisotopes-

Identifiers: Chernobyl-accident; shadow-shield-whole-body-counter; automated-gamma-spectrum-analysis; radionuclide-content; time-activity-curves; mean-daily-intake; radiocaesium-; metabolic-model; food-measurements; dose-equivalent; accident-estimations; 137Cs-body-radioactivity

Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8; A2

Treatment Codes: P (Practical)

Chemical Indexing: Cs-el

Sort Key: 10000000000198800000000000000000000000383

Accession Number: 3415976

Update Code: 8900

Record 837 of 1145 in INSPEC 1985-1989

Title: Doses of /sup 131/I inhaled and ingested by the population in Hungary after the Chernobyl accident

Author: Andrasi-A; Beleznay-E; Feher-I

Author Affiliation: Central Res. Inst. for Phys., Budapest, Hungary

Source: Radiation Protection in Nuclear Energy: Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 2 vol. (494+522) pp.

p.375-81 vol.2

Publication Year: 1988

Record Type: Conference-Paper

Conference Details: 18-22 April 1988; Sydney, NSW, Australia

Country of Publication: Austria

Language: English

Abstract: Within the framework of the extended internal contamination monitoring programme, measurement of /sup 131/I activity in the thyroid was carried out in Budapest using a whole body counter and in the country using collimated thyroid monitors. The /sup 131/I activity was followed for about 50 days after the accident. The frequency distribution of activity in the thyroid was found to be log normal. Model calculations were made to describe the time variation of the measured values, assuming successive daily intakes through inhalation and ingestion. Good agreement was obtained between the measured and calculated values using realistic parameters and assumptions. The median values of the calculated committed effective dose equivalent

were found to be 14 to 30 mu Sv for adults and about 41 mu Sv for children in the regions investigated.
Number of References: 5
Descriptors: accidents-; dosimetry-; iodine-; radiation-monitoring; radioisotopes-
Identifiers: radioiodine-; Hungary-; Chernobyl-accident; internal-contamination-monitoring-programme; thyroid-; Budapest-; whole-body-counter; frequency-distribution; time-variation; inhalation-; ingestion-; effective-dose-equivalent; 14-to-30-muSv; 41-muSv; 131I-activity
Classification Codes: A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A87; A28; A8; A2
Treatment Codes: P (Practical)
Numerical Data Indexing: radiation dose equivalent 1.4E-05 to 3.0E-05 Sv; radiation dose equivalent 4.1E-05 Sv
Chemical Indexing: I-el
Sort Key: 10000000000198800000000000000000000375
Accession Number: 3415975
Update Code: 8900

Record 838 of 1145 in INSPEC 1985-1989

Title: The Chernobyl experience in the context of current radiation protection problems
Author: Il'in-LA
Author Affiliation: Inst. of Biophys., Minist. of Public Health, Moscow, USSR
Source: Radiation Protection in Nuclear Energy: Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 2 vol. (494+522) pp.
p.363-74 vol.2
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 18-22 April 1988; Sydney, NSW, Australia
Country of Publication: Austria
Language: English
Abstract: Recommendations for the further improvement of radiation protection in connection with large scale radiation accidents are made on the basis of the experience gained in dealing with the consequences of the accident at Unit 4 of the Chernobyl nuclear power plant, particularly in its early stages. Many large scale measures to localize and deal with the consequences of the accident were successfully planned and efficiently implemented thanks to arrangements which had earlier been developed in the USSR for radiation protection of the population in the event of an accident at an atomic reactor-including radiological criteria for the adoption of measures to protect the population and a number of regulatory documents and guides. The problems which arose during large scale monitoring of the population and the environment are examined as well as the methods used to solve them (the use for monitoring purposes of all available radiation monitoring instruments; stringent standardization of their use, taking

into account possible areas of application, and calibration allowing for the characteristics of the radiation recorded; improvement of methods for retrospective evaluation of internal and external exposure doses; use of methods based on 'dosimetry without dosimeters'; development of temporary regulations for quality inspection of food products, contaminated beyond permissible levels; radiation monitoring of roads, buildings, transport and everyday articles).

Number of References: 10

Descriptors: accidents-; dosimetry-; radiation-monitoring; radiation-protection

Identifiers: Chernobyl-experience; radiation-protection-problems; large-scale-radiation-accidents; Unit-4; nuclear-power-plant; USSR-; radiological-criteria; monitoring-; standardization-; calibration-; dosimetry-; quality-inspection; food-products; roads-; buildings-; transport-

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A8760P (Radiation-protection); A28; A87; A2; A8

Treatment Codes: P (Practical)

Sort Key: 1000000000019880000000000000000000000363

Accession Number: 3415974

Update Code: 8900

Record 839 of 1145 in INSPEC 1985-1989

Title: Radioactive contamination of the Black Sea as of October 1986 resulting from the accident at the Chernobyl atomic power station

Author: Nikitin-AI; Medinets-VI; Chumichev-VB; Katrich-IYu; Vakulovskii-SM; Kozlov-AI; Lepeshkin-VI

Source: Soviet-Atomic-Energy. vol.65, no.2; Aug. 1988; p.684-7

Translated from: Atomnaya-Energiya. vol.65, no.2; Aug. 1988; p.134-7

Publication Year: 1988

Record Type: Journal-article

Country of Publication: USSR; Translation: USA

Language: English

Abstract: The authors present results of investigations carried out in June-July and October 1986 of radioactive contamination of the Black Sea. Their goal was, above all, to ascertain the contamination of the sea water by radionuclides discharged from the accident and the degree of risk they pose to human health. These efforts also initiate a cycle of long-term investigations of the self-purification processes of the sea, using the radionuclides as tracers.

Number of References: 5

Descriptors: accidents-; disasters-; fission-reactor-safety; health-hazards; oceanographic-regions; radioactive-pollution; water-pollution

Identifiers: AD-1986-10; AD-1986-04-26; accident-; Chernobyl-atomic-power-station; radioactive-contamination; Black-Sea; sea-water; radionuclides-; human-health; self-purification-processes

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A8670E (Water); A8750B (Interactions-of-biosystems-with-radiations); A9330R (Regional-seas); A28; A87; A86; A93; A2; A8
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6502-0684$12.50
Sort Key: 00000047163198800065000020000000000000134
Accession Number: 3415256
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 840 of 1145 in INSPEC 1985-1989

Title: Agroindustrial production sphere-radiological consequences of the Chernobyl accident and the chief protective measures
Author: Korneev-NA; Povalyaev-AP; Aleksakhin-RM; Panteleev-LI; Ratnikov-AN; Kruglov-SV; Sanzharova-NI; Isamov-NN; Sirotkin-AN
Source: Soviet-Atomic-Energy. vol.65, no.2; Aug. 1988; p.677-83
Translated from: Atomnaya-Energiya. vol.65, no.2; Aug. 1988; p.129-34
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: As a result of the Chernobyl accident, fallout of radionuclides has occurred on farm lands, and the contaminated production of the agroindustrial complex has become a source of additional irradiation of the population. The contribution of the irradiation associated with the consumption of locally produced food products was quite significant, and led to the implementation of protective measures in the agroindustrial production sphere. It should be noted that irradiation of people owing to the consumption of contaminated agricultural products is more easily regulated than external irradiation. For this reason, the decrease in the total dose load is largely determined by the possibilities of restricting the internal irradiation dose to the population from the consumption of food products.
Number of References: 8
Descriptors: accidents-; agriculture-; air-pollution; disasters-; dosimetry-; fallout-; fission-reactor-safety; health-hazards; radioactive-pollution
Identifiers: AD-1986-04-26; Chernobyl-accident; fallout-; radionuclides-; farm-lands; agroindustrial-complex; irradiation-; population-; locally-produced-food-products; protective-measures; contaminated-agricultural-products; dose-load
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670C (Soil-and-rock);

A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8750B (Interactions-of-biosystems-with-radiations); A28; A87; A86; A2; A8
Treatment Codes: G (General-or-Review)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6502-0677$12.50
Sort Key: 00000047163198800065000020000000000000129
Accession Number: 3415255
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 841 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl accident and the measures implemented to mitigate them
Author: Il'in-LA; Pavlovskii-OA
Source: Soviet-Atomic-Energy. vol.65, no.2; Aug. 1988; p.667-77
Translated from: Atomnaya-Energiya. vol.65, no.2; Aug. 1988; p.119-29
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The authors discuss the radioactive releases from the Chernobyl accident, their movement in the atmosphere and the effects on the local population and cleanup workers. Methods of treatment for contaminated people are discussed.
Number of References: 12
Descriptors: accidents-; air-pollution; disasters-; dosimetry-; fission-reactor-safety; health-hazards; radioactive-pollution
Identifiers: Pripyat'-; dosimetry-; AD-1986-04-26; Chernobyl-accident; radioactive-releases; atmosphere-; local-population; cleanup-workers; treatment-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A8670G (Atmosphere); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8750B (Interactions-of-biosystems-with-radiations); A28; A87; A86; A2; A8
Treatment Codes: G (General-or-Review)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6502-0667$12.50
Sort Key: 00000047163198800065000020000000000000119
Accession Number: 3415254
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 842 of 1145 in INSPEC 1985-1989

Title: Caesium-137 and caesium-134 levels in soil in a tea plantation in Turkey after the Chernobyl accident
Author: Yesin-T; Cakir-N
Author Affiliation: Dept. of Mech. Eng., Middle East Tech. Univ., Ankara, Turkey
Source: Applied-Radiation-and-Isotopes. vol.40, no.3; 1989; p.209-11
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Gamma-ray scintillation spectrometry has been used to measure the /sup 137/Cs and /sup 134/Cs levels and depth distributions in soil of a tea plantation in the Eastern Black Sea region in Turkey. Soil samples were collected in November 1987. The depth distribution was found to be exponential with alpha =0.16 cm/sup -1/ and the exposure rate arising there from is calculated as 17.46 mu R/h over the ground surface.
Number of References: 3
Descriptors: accidents-; caesium-; radioactive-pollution; radioisotopes-; soil-
Identifiers: gamma-ray-scintillation-spectrometry; Chernobyl-accident; soil-; tea-plantation; Eastern-Black-Sea-region; Turkey-; 137Cs-; 134Cs-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: ARISEF
ISSN: 0883-2889
Copyright Clearance Center Code: 0883-2889/89/$3.00+0.00
Sort Key: 0000883288919890004000003000000000000209
Accession Number: 3412417
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001
Bestand: 37.1986-43.1992

Record 843 of 1145 in INSPEC 1985-1989

Title: Debris from the Chernobyl nuclear disaster: how it came to the UK, and its consequences to agriculture
Author: Smith-FB
Author Affiliation: Meteorol. Office, Bracknell, UK
Source: Journal-of-the-Institute-of-Energy. vol.62, no.450; March 1989; p.3-13
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: After the Chernobyl accident, airborne radioactive contamination spread over most of Europe. Part of the debris crossed Britain a week after it had been emitted. Heavy thunderstorms and a northward-moving cold front washed out much of the radioactive iodine and caesium. Some of these lessons learnt are being incorporated into a new transport and deposition model being developed by the Meteorological Office, for use in the event of another serious nuclear or chemical accident in Europe. In lowland areas rich in clay minerals, the deposition of Chernobyl debris was of only transient importance to agriculture: in the two weeks following the passage of debris over the country the levels of iodine-131 in milk were readily detected, but fell to insignificance thereafter. In upland sheep-rearing areas, the caesium has remained mobile in the acidic soils; in many places the levels in sheep have exceeded Government limits, and have been falling only slowly.
Number of References: 13
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: Chernobyl-nuclear-disaster; UK-; agriculture-; airborne-radioactive-contamination; lowland-areas; clay-minerals; upland-sheep-rearing-areas; acidic-soils; I-; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: P (Practical)
Chemical Indexing: I-el; Cs-el
Coden: JINEDX
ISSN: 0144-2600
Sort Key: 000014426001989000620045000000000000003
Accession Number: 3412238
Update Code: 8900

Record 844 of 1145 in INSPEC 1985-1989

Title: Nuclear energy, ecology, and Chernobyl
Author: Boiteux-M
Source: Public-Utilities-Fortnightly. vol.123, no.6; 16 March 1989; p.28-32
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Nuclear energy as a source of electricity (a subject which has been controversial for some time now in the United States) is looked at from a distinctly European perspective. The author has been chairman of the major electric utility in France, which has a long and successful history of nuclear energy use. In the article, he discusses the merits and demerits of commercial nuclear power.
Number of References: 0
Descriptors: electricity-supply-industry; nuclear-power

Identifiers: Europe-; electricity-; nuclear-power
Classification Codes: B8220 (Nuclear-power-stations-and-plants); B8110B (Power-system-management-operation-and-economics); B82; B81; B8
Treatment Codes: G (General-or-Review)
Coden: PUFNAV
ISSN: 0033-3808
Sort Key: 0000033380819890012300006000000000000028
Accession Number: 3409074
Update Code: 8900

Record 845 of 1145 in INSPEC 1985-1989

Title: Radiocesium levels measured in breast milk one year after the reactor accident at Chernobyl
Author: Assimakopoulos-PA; Ioannides-KG; Pakou-AA; Lolis-D; Zikopoulos-K; dusias-B
Author Affiliation: Nucl. Phys. Lab., Ioannina Univ., Greece
Source: Health-Physics. vol.56, no.1; Jan. 1989; p.103-6
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: One hundred-two samples of colostral milk, collected during spring of 1987, approximately one year after the reactor accident at Chernobyl, were measured for radiocesium contamination. The data showed a normal-type distribution with a mean contamination concentration of 16.4 Bq L/sup -1/. A weak correlation of the Data to the mothers' diet was established by taking into account four of the main staples in the area. The corresponding transfer coefficient was deduced with a value of f/sub m/=0.06+or-0.03 d L/sup -1/. The resultant effective dose received by breast-feeding infants was estimated, on the average, as 0.012 mrem d/sup -1/.
Number of References: 11
Descriptors: caesium-; fallout-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: fallout-; NW-Greece; breast-milk; reactor-accident; Chernobyl-; colostral-milk; spring-; radiocesium-contamination; mean-contamination-concentration; mothers'-diet; transfer-coefficient; resultant-effective-dose; breast-feeding-infants; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005600001000000000000103
Accession Number: 3343417
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000

Bestand: 1.1958=> L:3

Record 846 of 1145 in INSPEC 1985-1989

Title: Chernobyl radioactivity in Turkish tea
Author: Gedikoglu-A; Sipahi-BL
Author Affiliation: Dept. of Phys., Black Sea Tech. Univ., Trabzon, Turkey
Source: Health-Physics. vol.56, no.1; Jan. 1989; p.97-101
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In Turkey in 1986, the tea plants were particularly affected by radioactivity. This has two main reasons. Firstly, when there was a radioactive cloud over the tea growing areas, rainfall also took place. In fact, this area experiences the highest amount of rainfall in Turkey. Secondly, tea plants are sensitive to K containing fertilizers. Cesium is in the same chemical group as K and has similar chemical and physiological characteristics. The amount of radioactivity in this ready-for-consumption tea in Turkey and the amount of this activity that transfers into brewed tea has been investigated. The average dose to people who consume this tea was calculated. The results obtained by the simple calculation method used in this study have been compared to those obtained by using other methods given in the literature.
Number of References: 15
Descriptors: air-pollution; dosimetry-; fallout-; health-hazards; radioactive-pollution
Identifiers: Chernobyl-radioactivity; Turkish-tea; Turkey-; tea-plants; radioactive-cloud; tea-growing-areas; rainfall-; physiological-characteristics; ready-for-consumption-tea; brewed-tea; average-dose; K-containing-fertilizers; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A9330G (Europe); A8760M (Radiation-dosimetry); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; K-ss
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005600001000000000000097
Accession Number: 3343416
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 847 of 1145 in INSPEC 1985-1989

Title: Chernobyl fallout on Alpine glaciers
Author: Ambach-W; Rehwald-W; Blumthaler-M; Eisner-H; Brunner-P

Author Affiliation: Inst. for Med. Phys., Innsbruck Univ., Austria
Source: Health-Physics. vol.56, no.1; Jan. 1989; p.27-31
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Measurements of the gross beta activity of snow samples from four Alpine glaciers contaminated by radioactive fallout from the Chernobyl nuclear accident and a gamma - spectrum analysis of selected samples are reported. The results are discussed with respect to possible risks to the population from using meltwater from these glaciers as drinking water.
Number of References: 7
Descriptors: fallout-; health-hazards; radioactive-pollution; water-pollution
Identifiers: Europe-; Chernobyl-fallout; Alpine-glaciers; gross-beta-activity; snow-samples; radioactive-fallout; Chernobyl-nuclear-accident; gamma-spectrum-analysis; risks-; population-; meltwater-; drinking-water
Classification Codes: A8760R (Radioactive-pollution); A8670E (Water); A9330G (Europe); A8670G (Atmosphere); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005600001000000000000027
Accession Number: 3343409
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 848 of 1145 in INSPEC 1985-1989

Title: On the transport and trajectories of the Chernobyl debris across Canada and the Arctic
Author: Joshi-SR; Roy-J-C
Author Affiliation: Nat. Water Res. Inst., Canada Centre for Inland Waters, Environ. Canada, Burlington, Ont., Canada
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.128, no.5; 15 Nov. 1988; p.337-49
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: A scenario is presented for the transport of the Chernobyl radioactive debris across Canada and the Arctic. It is based on the analysis of the /sup 103/Ru//sup 137/Cs ratios in terms of the Chernobyl release pattern. The ratios which ranges from 0.2 to more than 4.0 were associated with four different phases of the Chernobyl emissions which

lasted 10 days, from April 26 to May 6, 1986. Debris from the initial phase (ratios of 0.2 to 0.5) and the last phase (ratios above 2.5) would have entered Canada on a very broad front extending from northern Quebec to the North West Territories by way of Greenland and the Arctic; debris from the second phase (ratios of 0.5 to 2.0) and the third phase (ratios of 2.0 to 2.5) would have entered Canada from the west after travelling by way of northern Siberia and the Bering Sea.

Number of References: 15

Descriptors: air-pollution; atmospheric-movements; radioactive-pollution

Identifiers: AD-1986-04-26-to-05-06; air-pollution; transport-; Canada-; Arctic-; Chernobyl-radioactive-debris; 103Ru-137Cs-ratios; Quebec-; North-West-Territories; Greenland-; Siberia-; Bering-Sea; 103Ru-; 137Cs-

Classification Codes: A8670G (Atmosphere); A9330H (North-America); A86; A93; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Cs-el

Coden: JRNCDM

ISSN: 0236-5731

Sort Key: 0000236573119880012800005000000000000337

Accession Number: 3343289

Update Code: 8900

Record 849 of 1145 in INSPEC 1985-1989

Title: Nuclear power after Chernobyl: current problems and performance prospects of nuclear power plants

Author: Lukonin-NF

Author Affiliation: State Comm. on the Utilization of Atomic Energy, Moscow, USSR

Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.

p.177-83 vol.1

Publication Year: 1988

Record Type: Conference-Paper

Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: The author considers the social and economic prerequisites for the development of nuclear power in the USSR and points out that despite the accident at the Chernobyl nuclear power plant the USSR's strategic policy on nuclear power has not changed. It presents technical and economic performance data for electricity production at nuclear power plants in the USSR during the period 1981-5 and provides information on the country's regional plans for future plant construction. It reports on the USSR's technical policy with respect to the choice of reactor type for condensing nuclear power plants, the design of generating units and the associated layout and systems engineering solutions adopted to meet required safety levels.

Number of References: 0

Descriptors: economic-and-sociologic-effects; nuclear-power; nuclear-power-stations; safety-
Identifiers: Chernobyl-; nuclear-power-plants; economic-prerequisites; USSR-; accident-; electricity-production; regional-plans; plant-construction; reactor-type; generating-units; systems-engineering-solutions; safety-levels
Classification Codes: A8610N (Nuclear-energy); A0175 (Science-and-society); B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); A86; A01; B82; B01; A8; A0; B8; B0
Treatment Codes: G (General-or-Review); P (Practical)
ISBN: 9200500889
Sort Key: 19200500889198800000000000000000000177
Accession Number: 3338753
Update Code: 8900

Record 850 of 1145 in INSPEC 1985-1989

Title: Cesium-137 in soils from Chernobyl fallout
Author: Papastefanou-C; Manolopoulou-M; Charalambous-S
Author Affiliation: Dept. of Nucl. Phys., Aristotle Univ., Thessaloniki, Greece
Source: Health-Physics. vol.55, no.6; Dec. 1988; p.985-7
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The Chernobyl fallout in Northern Greece was determined by measuring /sup 137/Cs concentrations in soil and plant samples.
Number of References: 5
Descriptors: caesium-; fallout-; health-hazards; radioactive-pollution; radioisotopes-; soil-
Identifiers: SE-Europe; pollution-; soils-; Chernobyl-fallout; Northern-Greece; plant-samples; 137Cs-concentrations
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/88/$3.00+.00
Sort Key: 00000179078198800055000060000000000000985
Accession Number: 3331759
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 851 of 1145 in INSPEC 1985-1989

Title: Radiocesium concentration in migratory birds wintering in Spain after the Chernobyl accident
Author: Baeza-A; del-Rio-M; Miro-C; Paniagua-JM; Moreno-A; Navarro-E
Author Affiliation: Dept. de Fisica, Univ. de Extremadura, Caceres, Spain
Source: Health-Physics. vol.55, no.6; Dec. 1988; p.863-7
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Levels of /sup 137/Cs and /sup 134/Cs resulting from the Chernobyl nuclear accident were studied in 195 birds that winter in two regions of Spain. Only five of the 12 species examined were contaminated. The average values from /sup 137/Cs vary between 1.6 and 41 Bq kg/sup -1/ fresh. In particular, the contamination for song-thrushes (Turdus philomelos) are compared between the regions of Extremadura and Valencia, 350 km east of Extremadura at the same latitude. The results show that the contamination of birds wintering in Spain decreases from east to west. The whole-body dose commitment for humans consuming these contaminated birds was calculated. The values are well below the established ICRP guideline.
Number of References: 16
Descriptors: caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: migratory-birds; Spain-; Chernobyl-nuclear-accident; song-thrushes; Turdus-philomelos; Extremadura-; Valencia-; wintering-; whole-body-dose-commitment; humans-; 137Cs-; 134Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/88/$3.00+.00
Sort Key: 0000017907819880005500006000000000000863
Accession Number: 3331748
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 852 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident: modelling of dispersion over Europe of the radioactive plume and comparison with air activity measurements
Author: Albergel-A; Martin-D; Strauss-B; Gros-J-M
Author Affiliation: Electricite de France, Dept. Environ. Atmos. et Aquatique, Chatou, France
Source: Atmospheric-Environment. vol.22, no.11; 1988; p.2431-44
Publication Year: 1988

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the release of radionuclides from the Chernobyl power plant accident, a long-range transport and deposition model is used to describe the plume dispersion over Europe. The aim of this study is the validation of a fast Lagrangian model and a better understanding of the relative impact of some mechanisms, such as the initial plume rise. Comparisons between results and /sup 137/Cs measurement activity are discussed according to spatial and temporal variations. It is shown that many measurements can be explained only if the initial plume rise taken at 925, 850 and 700 mb is considered.
Number of References: 16
Descriptors: air-pollution; radioactive-pollution
Identifiers: USSR-; nuclear-power-station; air-pollution; atmosphere-; radioactivity-; Chernobyl-accident; dispersion-; Europe-; radioactive-plume; long-range-transport; deposition-model; plume-dispersion; fast-Lagrangian-model; initial-plume-rise; 137Cs-
Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9260E (Convection-turbulence-and-diffusion); A9330G (Europe); A8760R (Radioactive-pollution); A92; A86; A93; A87; A9; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el
Coden: ATENBP
ISSN: 0004-6981
Copyright Clearance Center Code: 0004-6981/88/$3.00+0.00
Sort Key: 00000046981198800022000110000000000002431
Accession Number: 3329705
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 853 of 1145 in INSPEC 1985-1989

Title: The views of the Commission of the European Communities on Nuclear plant safety after Chernobyl and its research activities
Author: De-Bacci-M; Fasoli-Stella-P; Finzi-S; Holtbecker-H
Author Affiliation: Comm. of the Eur. Communities, Brussels, Belgium
Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.
p.167-82 vol.3
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria
Country of Publication: Austria
Language: English

Abstract: The paper describes the actions of the Commissions of the European Communities (CEG) in the field of safety of nuclear reactors, under two aspects: the harmonization of criteria and codes for design and operation and the execution of research activities. Although the Chernobyl accident has not provided specific teaching of relevance to the designs and the regulatory framework for nuclear plants in the Community, it has tended to undermine confidence in nuclear energy vis-a-vis the public and decision makers worldwide, and has prompted a reassessment of the actions performed up to now to ensure that an equivalent and satisfactory degree of protection of the population and of the environment against the risk of radiation resulting from nuclear activities is achieved and maintained throughout the Community. The institutional framework of the CEC in this connection is briefly described. An account is given of the work at CEC level to implement harmonization of criteria, guidelines, codes and standards for light water reactors and liquid metal fast breeder reactors, together with the consensus reached in the general safety approaches. The research in support of nuclear reactor safety conducted by the CEC within its own laboratories or by extra-mural activities is briefly described. Finally the orientations for future work both in the field of harmonization and of research are outlined.
Number of References: 0
Descriptors: fission-reactor-safety
Identifiers: Nuclear-plant-safety; Chernobyl-; CEG-; accident-; light-water-reactors; liquid-metal-fast-breeder-reactors
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2850F (Fast-reactors); A28; A2
ISBN: 9200500889
Sort Key: 19200500889198800000000000000000000000167
Accession Number: 3327521
Update Code: 8900

Record 854 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl accident in the Soviet Union and measures taken to mitigate their impact
Author: Il'In-LA; Pavlovskij-OA
Author Affiliation: Inst. of Biophys., USSR Minst. of Public Health, Moscow, USSR
Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.
p.149-66 vol.3
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: On the basis of factual material on the levels of radioactive contamination of the environment in various regions of the Soviet Union, a forecast is given of the

radiological consequences of the Chernobyl accident for the Soviet population. The theoretical variation with time of the principal radiation factors is compared with their actual variation in the year following the accident. The analysis of a large amount of data on actual external and internal radiation doses to the public confirms the effectiveness and timeliness of the large scale measures taken in evacuating the population from a 20 km zone, in monitoring the radioactivity of agricultural produce and in providing the population with uncontaminated foodstuffs. A review is made of organizational aspects of a national epidemiological research programme to assess the possible late health effects on the Soviet population of the radioactivity released from the Chernobyl accident.

Number of References: 12

Descriptors: accidents-; dosimetry-; fission-reactor-safety; radiation-monitoring

Identifiers: Chernobyl-accident; Soviet-Union; radioactive-contamination; radiological-consequences; internal-radiation-doses; national-epidemiological-research-programme

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2

Treatment Codes: P (Practical)

ISBN: 9200500889

Sort Key: 19200500889198800000000000000000000000149

Accession Number: 3327520

Update Code: 8900

Record 855 of 1145 in INSPEC 1985-1989

Title: The accident at the Chernobyl nuclear power plant: one year after

Author: Asmolov-VG; Borojov-AA; Demin-VF; Kalugin-AK; Kuz'min-II; Kulakov-VM; Legasov-VA; Lunin-GL; Ponomarev-Stepnoj-NN; Protsenko-AN; Sukhoruchkin-YK; Khrulev-AA; Shakh-OYa; Adamov-EO; Podlazov-LN; Cherkashov-YuM; Abagyan-AA; Dmitriev-VM; Shkurpelov-AA; Il'In-LA; Pavlovskij-OA; Ryabov-IN; Sokolov-VE; Povalyaev-AP; Avdyushin-SI; Izrael'-YuA; Petrov-VN; Pisarev-VV

Author Affiliation: I.V. Kurchatov Inst. of Atomic Energy, Moscow, USSR

Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.

p.103-47 vol.3

Publication Year: 1988

Record Type: Conference-Paper

Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria

Country of Publication: Austria

Language: English

Abstract: The accident at Unit 4 of the Chernobyl nuclear power plant necessitated the mobilization of significance manpower and resources to limit or eliminate the consequences. By the end of 1986 the encasing structure was completed, and Units 1 and 2 of the Chernobyl plant were started up. Work during this period also included

measures needed to provide normal living conditions for the evacuated population, medical, sanitary and agricultural measures, decontamination work on the power plant site and in the 30 km zone, and planning and implementation of radiation monitoring. The Chernobyl accident also necessitated critical analysis of the state of nuclear power safety with a view to achieving a higher level of such safety. Subjects of this analysis included the causes of the accident, its cource and consequences, and the emergency action taken and its effectiveness.

Number of References: 6

Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations; radiation-decontamination; radiation-monitoring

Identifiers: accident-; Chernobyl-nuclear-power-plant; Unit-4; decontamination-; radiation-monitoring; nuclear-power-safety; emergency-action

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2

Treatment Codes: P (Practical)

ISBN: 9200500889

Sort Key: 19200500889198800000000000000000000000103

Accession Number: 3327519

Update Code: 8900

Record 856 of 1145 in INSPEC 1985-1989

Title: Fallout distribution in Padua and northeast Italy after the Chernobyl nuclear reactor accident

Author: Battiston-GA; Degetto-S; Gerbasi-R; Sbrignadello-G; Tositti-L

Author Affiliation: Istituto di Chimica e Tecnologia dei Radioelementi, CNR, Padova, Italy

Source: Journal-of-Environmental-Radioactivity. vol.8, no.2; 1988; p.183-91

Publication Year: 1988

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The radioactive cloud from the Chernobyl nuclear reactor accident arrived in northeast Italy on 30 April 1986. Ground-level air activities detected in Padua reached maximum values of 28.6, 19.2, 3.3, 1.7 and 7.5 Bq m/sup -3/ for /sup 131/I, /sup 132/Te (/sup 132/I), /sup 137/Cs and /sup 103/Ru, respectively, on 1 May; about 10 days later, the activities had fallen to less than 1% of peak values. Considerations of cloud homogeneity are reported. The distribution of fallout radionuclides in Padua was evaluated on the basis of radioactivity detected on natural surfaces. The average committed dose equivalent to the thyroid for adult people in Padua through /sup 131/I inhalation was estimated at 0.37 mSv. Soil activity was monitored daily in samples collected in Padua during the first weeks of May 1986. Fallout deposition over northeast Italy was measured on 75 surface soil samples collected during June 1986 and long-lived radionuclide distribution maps were derived.

Number of References: 15
Descriptors: air-pollution; caesium-; iodine-; radioactive-pollution; ruthenium-; soil-; tellurium-
Identifiers: USSR-; atmosphere-; air-pollution; radioactive-pollution; health-effect; soil-; AD-1986; radiological-impact; Padua-; Italy-; Chernobyl-nuclear-reactor-accident; 132Te-; 137Cs-; 103Ru-; cloud-homogeneity; radionuclides-; dose-equivalent; thyroid-; adult-people; 131I-; 0-37-mSv; I-; Te-; Cs-; Ru-
Classification Codes: A8670Z (Other-topics); A8670G (Atmosphere); A8670C (Soil-and-rock); A9330G (Europe); A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A86; A93; A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 3.7E-04 Sv
Chemical Indexing: I-el; Te-el; Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000800002000000000000183
Accession Number: 3323023
Update Code: 8900

Record 857 of 1145 in INSPEC 1985-1989

Title: Consequences of the Chernobyl reactor accident on the /sup 137/Cs internal dose to the Japanese population
Author: Uchiyama-M; Kobayashi-S
Author Affiliation: Risk Analysis Unit, Nat. Inst. of Radiol. Sci. Chiba, Japan
Source: Journal-of-Environmental-Radioactivity. vol.8, no.2; 1988; p.119-27
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The consequences of the Chernobyl reactor accident on the Japanese population are assessed, for the one-year period from May 1986, in terms of the internal dose due to /sup 137/Cs. The calculations are made via an approach which combines whole body counting with analysis of food intake data. First, the dose from /sup 137/Cs is assessed, for a group of healthy adult males, on the basis of their observed body burdens of /sup 137/Cs determined by whole body counting. The annual individual dose estimate thus obtained is 1.5 mu Sv, which is 6-15% and 3.7% respectively of the doses determined by whole body counting in UK and the Federal Republic of Germany. The temporal change in the average body burden is successfully explained by a single-compartment model. Secondly, this latter model is used, along with the daily /sup 137/Cs intake data for each district in Japan, to calculate the dose for the whole of Japan.
Number of References: 14
Descriptors: caesium-; dosimetry-; radioactive-pollution; radioisotopes-

Identifiers: USSR-; Japan-; nuclear-reactor; radioactive-pollution; radiocaesium-; AD-1986; AD-1987; health-effect; Chernobyl-reactor-accident; 137Cs-; internal-dose; Japanese-population; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8670G (Atmosphere); A9330D (Asia); A9330K (Islands); A8670Z (Other-topics); A87; A86; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000800002000000000000119
Accession Number: 3323019
Update Code: 8900

Record 858 of 1145 in INSPEC 1985-1989

Title: Radioactive pollution of Turkish biotas one year after the Chernobyl accident
Author: Akcay-H; Ardisson-G
Author Affiliation: Dokuz Eylul Univ., Izmir, Turkey
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.128, no.4; 1 Nov. 1988; p.273-81
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Long-lived fission radionuclides spread out after the Chernobyl accident have been measured in samples collected from the Black Sea and at the Aegean coasts of Turkey between June 15 and September 15, 1987. Nondestructive analysis was performed using high resolution gamma -spectroscopy. The activity remaining 16 months after the event was found to be enhanced in coniferous needles as well as in lichens, while foodstuff did not show any appreciable contamination. The relatively high /sup 106/Ru//sup 134/Cs and /sup 144/Ce//sup 134/Cs ratios compared to those found in analogous samples from Southern Europe, might result from a fractionation between refractory and volatile elements.
Number of References: 12
Descriptors: air-pollution; radioactive-pollution; radioisotopes-
Identifiers: AD-1987-06-15-to-09-15; pollution-; refractory-elements; biotas-; Chernobyl-; radionuclides-; Black-Sea; Aegean-; Turkey-; high-resolution-gamma-spectroscopy; coniferous-needles; lichens-; 106Ru-134Cs; 144Ce-134Cs; fractionation-; volatile-elements; 106Ru-; 134Cs-; 144Ce-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Cs-el; Ce-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012800004000000000000273
Accession Number: 3322150
Update Code: 8900

Record 859 of 1145 in INSPEC 1985-1989

Title: /sup 90/Sr and /sup 137/Cs in fallout from Chernobyl in the Bucharest-Magurele area during 1986-7
Author: Paunescu-N; Margineanu-R; Iorgulescu-A
Author Affiliation: Central Inst. of Phys., Bucharest, Romania
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.128, no.4; 1 Nov. 1988; p.263-71
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The paper shows the variation of /sup 90/Sr and /sup 137/Cs in atmospheric fallout in the Bucharest-Magurele area during 1986-7. The amount of /sup 90/Sr in the fallout was estimated to be about 900 Bq.m/sup -2/ in 1986 and about 9.2 Bq.m/sup -2/ in 1987. The amount of /sup 137/Cs was estimated to be 13300 and 615 Bq.m/sup -2/ in 1986 and 1987, respectively.
Number of References: 10
Descriptors: air-pollution; caesium-; fallout-; radioactive-pollution; radioisotopes-; strontium-
Identifiers: pollution-; atmosphere-; AD-1986-to-1987; fallout-; Chernobyl-; Bucharest-Magurele-area; 90Sr-; 137Cs-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012800004000000000000263
Accession Number: 3322149
Update Code: 8900

Record 860 of 1145 in INSPEC 1985-1989

Title: Observation of /sup 111/Ag and /sup 110m/Ag in the Chernobyl fallout
Author: Whitehead-NE; Holm-E; Ballestra-S
Author Affiliation: Int. Lab. of Marine Radioactivity, IAEA, Monaco

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.128, no.3; 10 Oct. 1988; p.189-94
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Evidence for the presence of /sup 111/Ag in Chernobyl fallout at Monaco is given. This fission radionuclide has not been previously reported in Chernobyl fallout. Peak values were as high as 1.9 Bq m/sup -3/. Arguments are presented that the observed /sup 110m/Ag content in the fallout originated from volatilisation of silver neutron flux monitors in the reactor rather than production by other nuclear reactions.
Number of References: 10
Descriptors: air-pollution; fallout-; radioactive-pollution; silver-
Identifiers: pollution-; 110mAg-; Chernobyl-fallout; Monaco-; fission-radionuclide; volatilisation-; neutron-flux-monitors; 111Ag-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 000023657311988001280000300000000000189
Accession Number: 3322147
Update Code: 8900

Record 861 of 1145 in INSPEC 1985-1989

Title: Projected global health impacts from severe nuclear accidents: conversion of projected doses to risks on a global scale. Experience from Chernobyl releases
Author: Catlin-RJ; Goldman-M; Anspaugh-LR
Author Affiliation: EPRI, Palo Alto, CA, USA
Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.
p.413-24 vol.4
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: An evaluation by the authors and their colleagues of possible health effects arising from Chernobyl releases has been published by the US Department of Energy. New models were used to evaluate external exposure and other environmental dose pathways. Estimates of projected collective dose and average individual dose commitments from these releases were made for various regions. These results were combined with those of the Soviet scientists to provide collective dose commitments for

the Northern Hemisphere. Consideration was given to the possible effectiveness of protective actions taken by various countries to reduce projected doses to their populations. Although some preliminary data indicate possible mean reductions of about 25% in total collective doses over the first year, and of about 55% in collective dose to the thyroid no corrections were made to these dose estimates because of the variable nature of the data. A new combined set of dose-effect models recently published by the United States Nuclear Regulatory Commission was then applied to estimate the ranges of possible future additional health effects due to the Chernobyl accident.

Number of References: 13
Descriptors: accidents-; dosimetry-; fission-reactor-safety; health-hazards
Identifiers: global-health-impacts; severe-nuclear-accidents; projected-doses; Chernobyl-releases; environmental-dose-pathways; dose-commitments; thyroid-; dose-effect-models
Classification Codes: A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A28; A87; A2
Treatment Codes: P (Practical)
ISBN: 9200500889
Sort Key: 19200500889198800000000000000000000000413
Accession Number: 3317828
Update Code: 8900

Record 862 of 1145 in INSPEC 1985-1989

Title: Environmental consequences of Chernobyl in western Europe
Author: Webb-GAM; Morrey-ME
Author Affiliation: Nat. Radiological Protection Board, Chilton, Didcot, UK
Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.
p.399-412 vol.4
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: The accident at Chernobyl in April 1986 spread radioactive contamination throughout Europe. Using measurements of activity concentrations in the air, on the ground and in a range of foods, estimates of the doses received by the populations of western Europe have been made. For the European Community (EC) countries, the average individual effective doses accruing from the first year following the accident are estimated to range from less than a microsievert in Portugal to a few hundred microsieverts in the Federal Republic of Germany, Italy and Greece. Elsewhere in western Europe, similar average individual effective doses have been estimated up to a value of about 700 mu Sv for Austria. These values can be compared with the average

effective dose of about 2000 mu Sv which the populations of western Europe receive each year from natural radiation. The restrictions placed on consumption of some foods are estimated to have been effective in reducing doses to the most exposed individuals by a factor of two in some countries. Throughout the EC, however, countermeasures are estimated to have reduced the collective effective dose by about 5%. The health impact on western Europe from the accident at Chernobyl can be assessed from the collective effective doses and the collective thyroid doses estimated together with the appropriate risk factors. For the EC the collective effective dose estimate is about 80000 man Sv; considering western Europe as a whole the collective dose would be a few tens of percent higher. Using the risk factor recommended by United Nations Scientific Committee on the Effects of Atomic Radiation, the theoretical number of extra cancers predicted in western Europe due to the Chernobyl accident is of the order of 1000. This can be compared with the number of fatalities which would be expected over the next fifty years in western Europe as a result of radiation from natural sources, which is over half a million.

Number of References: 4
Descriptors: accidents-; fission-reactor-safety; radioactive-pollution
Identifiers: Chernobyl-; western-Europe; accident-; radioactive-contamination; activity-concentrations; air-; ground-; foods-; average-individual-effective-doses; thyroid-doses; risk-factor; cancers-; 700-muSv; 2000-muSv
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A9330G (Europe); A8670 (Environmental-science); A28; A93; A86; A2; A9; A8
Treatment Codes: P (Practical)
Numerical Data Indexing: radiation dose equivalent 7.0E-04 Sv; radiation dose equivalent 2.0E-03 Sv
ISBN: 9200500889
Sort Key: 19200500889198800000000000000000000399
Accession Number: 3317827
Update Code: 8900

Record 863 of 1145 in INSPEC 1985-1989

Title: Atmospheric releases from severe nuclear accidents: environmental transport and pathways to man. Modelling of radiation doses to man from Chernobyl releases
Author: Anspaugh-LR; Goldman-M; Catlin-RJ
Author Affiliation: Lawrence Livermore Nat. Lab., CA, USA
Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.
p.377-82 vol.4
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria
Country of Publication: Austria
Language: English

Abstract: The Chernobyl accident released a large amount of highly fractionated radioactive debris including approximately 89 PBq of /sup 137/Cs. The resulting collective dose commitment to the Northern Hemisphere via the pathways of external exposure and ingestion of radionuclides with food was calculated. In order to do this, a rural/urban model of external dose was developed using the PATHWAY model for ingestion. The results are a collective dose commitment of 630000 person-Gy over the first year and 1,200,000 person-Gy over 50 years.
Number of References: 13
Descriptors: accidents-; dosimetry-; fission-reactor-safety; radiation-monitoring
Identifiers: atmospheric-releases; severe-nuclear-accidents; environmental-transport; radiation-doses; Chernobyl-releases; highly-fractionated-radioactive-debris; collective-dose; Northern-Hemisphere; external-exposure; ingestion-; radionuclides-; PATHWAY-model; 89-PBq; 137Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Numerical Data Indexing: radioactivity 8.9 E16 Bq
Chemical Indexing: Cs-el
ISBN: 9200500889
Sort Key: 19200500889198800000000000000000000000377
Accession Number: 3317825
Update Code: 8900

Record 864 of 1145 in INSPEC 1985-1989

Title: Methods for evaluating the radiological consequences of accidental releases: trends in model development including the impact of Chernobyl
Author: Nixon-W; Cooper-PJ; Meggitt-GC; Nair-S
Author Affiliation: UKAEA, Culcheth, Warrington, UK
Source: Nuclear Power Performance and Safety. Proceedings of an International Conference. IAEA, Vienna, Austria; 1988; 6 vol. (275+473+281+651+679+85) pp.
p.361-75 vol.4
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 28 Sept.-2 Oct. 1987; Vienna, Austria
Country of Publication: Austria
Language: English
Abstract: Broadly speaking, environmental consequence calculations may be classed as having applications in two areas: risk assessment (including probabilistic safety assessment, PSA) and emergency response. For each of these, the models used and research requirements differ somewhat; this is reflected in ongoing work programmes. In the PSA area, a wide variety of research topics are being pursued, ranging from atmospheric dispersion/deposition modelling, through various aspects of dosimetry to

health effects calculatings. Methods for evaluation the uncertainty associated with risk estimates are also being studied. In addition, a significant volume of work is devoted to the development of new, flexible consequence modelling codes, which are capable of easy modification and which are, thereby, able to capitalise on the ongoing research efforts. In the case of emergency response codes, a subdivision into short- (a few tens of km) and long-range may be made. Short-range models may benefit from the development of simple methods (possibly extensions of the Gaussian model) to take account of features such as coastal and topographical effects. Long-range models are likely to benefit from validation studies using the Chernobyl data as a benchmark. However, it is felt that very careful consideration should be given to the proposed application of any emergency response system, bearing in mind likely uncertainty levels, before deciding on the complexity of model required; in many cases, relatively simple approaches may suffice.

Number of References: 33

Descriptors: accidents-; dosimetry-; fission-reactor-safety; radiation-monitoring

Identifiers: short-range-models; long-range-models; radiological-consequences; accidental-releases; model-development; Chernobyl-; environmental-consequence-calculations; risk-assessment; probabilistic-safety-assessment; emergency-response; atmospheric-dispersion; deposition-modelling; dosimetry-; health-effects; Gaussian-model

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

ISBN: 9200500889

Sort Key: 19200500889198800000000000000000000000361

Accession Number: 3317824

Update Code: 8900

Record 865 of 1145 in INSPEC 1985-1989

Title: Reactivity calculations of the Chernobyl accident

Author: Martinez-Val-JM; Aragones-JM

Author Affiliation: Univ. Politecnica de Madrid, Spain

Source: Transactions-of-the-American-Nuclear-Society. vol.57; 1988; p.177-8

Publication Year: 1988

Record Type: Conference-Paper; Journal-article

Conference Details: 1988 International Conference on Nuclear Fission: Fifty Years of Progress in Energy Security, and the Topical Meeting TMI-2 Accident: Materials Behaviour and Plant Recovery Technology (papers in summary form only received). 30 Oct.-4 Nov. 1988; Washington, DC, USA

Country of Publication: USA

Language: English

Abstract: The authors analyze the physical causes of the Chernobyl accident, in particular, the role of reactivity effects along its evolution. The best source of information about

the accident is the official report presented by the Soviet authorities at the International Atomic Energy Agency meeting in August 1986, but it had to be completed with earlier papers on the physics of RBMK reactors, including some articles on reactivity effects. A numerical simulation of the accident was not possible because of the lack of information on some independent variables. This is the case for the pressure at the reactor inlet, which is not reported in the official documentation and possibly was not recorded, although it was of decisive importance in triggering the water boiling process that induced a reactivity insertion through the positive void coefficient.

Number of References: 3

Descriptors: accidents-; fission-reactor-core-control-and-monitoring; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-engineering-computing

Identifiers: Chernobyl-accident; reactivity-effects; RBMK-reactors; numerical-simulation; pressure-; reactor-inlet; water-boiling-process; positive-void-coefficient

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2843D (Core-control-and-guidance); A2841C (Computer-codes); A2850G (Light-water-reactors); A28; A2

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

Coden: TANSAO

ISSN: 0003-018X

Sort Key: 0000003018X19880005700000000000000000177

Accession Number: 3315916

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010

Bestand: 1.1958=> L:8

Record 866 of 1145 in INSPEC 1985-1989

Title: Implications of the Chernobyl accident for US reactors

Author: Miller-CW; Wight-RR; Blackburn-JB; Plaskon-LA

Author Affiliation: Illinois Dept. of Nucl. Safety, Springfield, IL, USA

Source: Transactions-of-the-American-Nuclear-Society. vol.57; 1988; p.166-7

Publication Year: 1988

Record Type: Conference-Paper; Journal-article

Conference Details: 1988 International Conference on Nuclear Fission: Fifty Years of Progress in Energy Security, and the Topical Meeting TMI-2 Accident: Materials Behaviour and Plant Recovery Technology (papers in summary form only received). 30 Oct.-4 Nov. 1988; Washington, DC, USA

Country of Publication: USA

Language: English

Abstract: While significant differences in design do exist between these reactors, this fact does not automatically mean that there are no significant lessons to be learned from the Chernobyl accident for US reactors. The authors present some of the major lessons that the Illinois Department of Nuclear Safety (IDNS) believes can be learned from the Chernobyl accident. The IDNS has identified five major areas where implications can

be drawn from Chernobyl for US reactors: (a) administrative controls, (b) reactor design, (c) containment, (d) emergency planning, and (e) severe accident phenomena.
Number of References: 6
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: reactor-safety; Chernobyl-accident; US-reactors; administrative-controls; reactor-design; containment-; emergency-planning; severe-accident-phenomena
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005700000000000000000166
Accession Number: 3315908
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 867 of 1145 in INSPEC 1985-1989

Title: Update and comparisons of dose estimates following the Chernobyl accident
Author: Hull-AP
Author Affiliation: Brookhaven Nat. Lab., Upton, NY, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.57; 1988; p.165-6
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 International Conference on Nuclear Fission: Fifty Years of Progress in Energy Security, and the Topical Meeting TMI-2 Accident: Materials Behaviour and Plant Recovery Technology (papers in summary form only received). 30 Oct.-4 Nov. 1988; Washington, DC, USA
Country of Publication: USA
Language: English
Abstract: The author considers the updating of DOE dose estimates, as necessitated principally by reductions in the Soviet dose estimates. In addition, he compares the several estimates by the UK Atomic Energy Authority (UKAEA), CEC, OECD, and UNSCEAR for the dose to the European population, along with a consideration of reasons for their differences. In its first unpublished draft reports, the original DOE estimate was 1.7*10/sup 6/ person-Gy (1.7*10/sup 8/ person-rad). Its published 'preferred' estimate was 1.2*10/sup 6/ person-Gy (1.2*10/sup 8/ person-rad). Currently, the DOE estimate is 9.3*10/sup 5/ person-Gy (9.3*10/sup 7/ person-rad).
Number of References: 8
Descriptors: accidents-; dosimetry-; radioactive-pollution
Identifiers: radioactive-pollution; dose-estimates; Chernobyl-accident; European-population
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A2880C (Dosimetry); A87; A28; A8

Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005700000000000000000165
Accession Number: 3315907
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 868 of 1145 in INSPEC 1985-1989

Title: Validation of environment models for the air-to-milk pathway for /sup 131/I and the air-to-milk/beef/grain pathways for /sup 137/Cs based on observations following the Chernobyl accident
Author: Koehler-H
Author Affiliation: IAEA, Vienna, Austria
Source: Transactions-of-the-American-Nuclear-Society. vol.57; 1988; p.164-5
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 International Conference on Nuclear Fission: Fifty Years of Progress in Energy Security, and the Topical Meeting TMI-2 Accident: Materials Behaviour and Plant Recovery Technology (papers in summary form only received). 30 Oct.-4 Nov. 1988; Washington, DC, USA
Country of Publication: USA
Language: English
Abstract: The BIOMOVS study deals with the validation of environmental assessment models for the biosphere. Within the framework of the study, prediction of the contamination of milk by /sup 131/I and of milk, beef, and grain by /sup 137/Cs were compared with independent observations from the Chernobyl accident. For that purpose, site-specific information has been collected from 13 locations in the Northern Hemisphere. The necessary source terms and background information were offered to participants, and observed results were not distributed until after predictions had been made in order to keep it a 'blind' test. Calculations have been performed by 18 separate groups of scientists using 23 different models. Analysis of the very large amount of data generated in the exercise is still going on and finalization is planned for 1989-90.
Number of References: 3
Descriptors: accidents-; caesium-; iodine-; radioactive-pollution
Identifiers: air-to-milk-beef-grain-pathways; radioactive-pollution; environment-models; air-to-milk-pathway; Chernobyl-accident; BIOMOVS-study; biosphere-; contamination-; Northern-Hemisphere; source-terms; background-information; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: I-el; Cs-el

Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005700000000000000000164
Accession Number: 3315906
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 869 of 1145 in INSPEC 1985-1989

Title: Economic consequences of the Chernobyl accident in Norway in 1986 and 1987
Author: Tveten-U
Author Affiliation: Inst. for Energy Technol., Kjeller, Norway
Source: Transactions-of-the-American-Nuclear-Society. vol.57; 1988; p.163-4
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 International Conference on Nuclear Fission: Fifty Years of Progress in Energy Security, and the Topical Meeting TMI-2 Accident: Materials Behaviour and Plant Recovery Technology (papers in summary form only received). 30 Oct.-4 Nov. 1988; Washington, DC, USA
Country of Publication: USA
Language: English
Abstract: There are areas in Norway where the Chernobyl fallout is >100 KBq/m/sup 2/, and the total amount of radiocesium deposited over Norway is estimated by the National Institute for Radiation Hygiene to be 6% of the radiocesium released from the reactor. The areas where ground concentrations are highest are mostly in sparsely populated mountain areas. These areas are, however, important in connection with several nutritional pathways, notably, sheep, goats, reindeer, and freshwater fish. The author summarizes information on mitigating actions and economic consequences of the deposited radioactive materials to Norwegian agriculture in the 1986-87 and 1987-88 slaughtering periods.
Number of References: 0
Descriptors: accidents-; caesium-; economics-; radiation-monitoring; radioactive-pollution
Identifiers: radiation-monitoring; radioactive-pollution; Chernobyl-accident; Norway-; radiocesium-; ground-concentrations; nutritional-pathways; mitigating-actions; economic-consequences; radioactive-materials; Cs-
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A87; A28; A86; A8
Treatment Codes: E (Economic)
Chemical Indexing: Cs-el
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005700000000000000000163

Accession Number: 3315905
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 870 of 1145 in INSPEC 1985-1989

Title: The radiological impact of the Chernobyl accident
Author: Konstantinov-LV; Gonzalez-AJ
Author Affiliation: IAEA, Vienna, Austria
Source: Transactions-of-the-American-Nuclear-Society. vol.57; 1988; p.163
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 International Conference on Nuclear Fission: Fifty Years of Progress in Energy Security, and the Topical Meeting TMI-2 Accident: Materials Behaviour and Plant Recovery Technology (papers in summary form only received). 30 Oct.-4 Nov. 1988; Washington, DC, USA
Country of Publication: USA
Language: English
Abstract: The authors summarize the international assessments of the radiological impact of the Chernobyl accident.
Number of References: 0
Descriptors: accidents-; dosimetry-; radiation-monitoring; radioactive-pollution
Identifiers: dosimetry-; radioactive-pollution; radiation-monitoring; radiological-impact; Chernobyl-accident
Classification Codes: A8760R (Radioactive-pollution); A8760P (Radiation-protection); A8760M (Radiation-dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A2880C (Dosimetry); A87; A28; A8
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005700000000000000000163
Accession Number: 3315904
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 871 of 1145 in INSPEC 1985-1989

Title: The global impact of the Chernobyl reactor accident
Author: Anspaugh-LR; Catlin-RJ; Goldman-M
Author Affiliation: Lawrence Livermore Nat. Lab., CA, USA
Source: Science. vol.242, no.4885; 16 Dec. 1988; p.1513-19
Publication Year: 1988

Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Radioactive material was deposited throughout the Northern Hemisphere as a result of the accident at the Chernobyl Nuclear Power Station on 26 April 1986. On the basis of a large amount of environmental data and new integrated dose assessment and risk models, the collective dose commitment to the approximately 3 billion inhabitants is calculated to be 930000 person-gray, with 97% in the western Soviet Union and Europe. The best estimates for the lifetime expectation of fatal radiogenic cancer would increase the risk from 0 to 0.02% in Europe and 0 to 0.0003% in the Northern Hemisphere. By means of an integration of the environmental data, it is estimated that approximately 100 petabecquerels of cesium-137 (1 PBq=10/sup 15/ Bq) were released during and subsequent to the accident.
Number of References: 39
Descriptors: accidents-; biological-effects-of-ionising-radiation; caesium-; health-hazards; nuclei-with-mass-number-90-to-149; radioactive-pollution
Identifiers: integrated-dose-assessment-models; AD-1986-04-26; USSR-; radioactive-material-deposition; health-hazards; biological-effects; Ukraine-; global-impact; Chernobyl-reactor-accident; Northern-Hemisphere; Chernobyl-Nuclear-Power-Station; 26-April-1986; environmental-data; risk-models; collective-dose-commitment; western-Soviet-Union; Europe-; lifetime-expectation; fatal-radiogenic-cancer; 930-kGy; 100-PBq; 137Cs-release
Classification Codes: A8760R (Radioactive-pollution); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A9330G (Europe); A8670 (Environmental-science); A2760 (90-<or=-A-<or=-149); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A93; A86; A27; A28; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Numerical Data Indexing: radiation absorbed dose 9.3 E05 Gy; radioactivity 1.0 E17 Bq
Chemical Indexing: Cs-el
Coden: SCIEAS
ISSN: 0036-8075
Sort Key: 00000368075198800242048850000000000001513
Accession Number: 3315190
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02810.000
Bestand: 65.1927, 70.1929=> L:65,70,76,77,94,103,106,107,116,117,139

Record 872 of 1145 in INSPEC 1985-1989

Title: The environmental behaviour of /sup 131/I in northwestern Greece following the nuclear reactor accident at Chernobyl
Author: Assimakopoulos-PA; Ioannides-KG; Pakou-AA
Author Affiliation: Nucl. Phys. Lab., Ioannina Univ., Greece
Source: Health-Physics. vol.55, no.5; Nov. 1988; p.783-91

Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A three compartment (air-grass-milk) milk contamination model for /sup 13I/ has been applied to atmospheric, grass and milk data, following the April 1986 nuclear accident at Chernobyl. Samples of ovine and bovine milk collected daily by a large dairy company in Ioannina (northwestern Greece), throughout the month of May 1986 have been employed. The contamination impulse in the area, which provides the input to the model, has been approximated by a first order gamma -variate curve. Transfer rates and decay constants have been extracted by fitting predictions of the model independently to each set of data (air, grass and milk). All model parameters obtained from more than one set of data show remarkable consistency. These parameters are used to calculate the transfer coefficients f/sub m/ for the transport of radioiodine at equilibrium for sheep and cows. The results are also employed for the extraction of radiation dose estimates sustained through ingestion and inhalation by the population in the area.
Number of References: 28
Descriptors: accidents-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-nuclear-reactor-accident; transfer-rate; decay-constant; transfer-coefficient; environmental-behaviour; northwestern-Greece; ovine-; bovine-; contamination-impulse; first-order-gamma-variate-curve; air-; grass-; milk-; sheep-; cows-; 131I-
Classification Codes: A8760R (Radioactive-pollution); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670Z (Other-topics); A87; A28; A86; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078

Sort Key: 00000179078198800055000050000000000000783
Accession Number: 3309820
Update Code: 8900

Record 873 of 1145 in INSPEC 1985-1989

Title: Monitoring of /sup 131/I in milk and rain water in Japan following the reactor accident at Chernobyl and estimates of human thyroidal dose equivalents
Author: Nishizawa-K; Takata-K; Hamada-N; Ogata-Y; Kojima-S; Takeshima-K
Author Affiliation: Radioisotope Center Med. Div., Nagoya Univ., Japan
Source: Health-Physics. vol.55, no.5; Nov. 1988; p.773-7
Publication Year: 1988

Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Iodine-131 in milk and in rain water in Nagoya, Japan, (a location 8000 km from Chernobyl) was monitored between May and July 1986. The /sup 131/I concentration in rain water ranged from 43.1 Bq L/sup -1/ on 4 May to 15 mBq L/sup -1/ on 12 July, and that in milk ranged from 21.8 Bq L/sup -1/ on 19 May to 11 mBq L/sup -1/ on 14 July. Iodine-131 concentrators in milk were estimated to be 4 to 6 times greater than those in rain water during the first few weeks after the accident. Both concentrations decreased with approximately the same effective half-life of 5.9+or-0.3 d for rain water and 5.0+or-0.2 d for milk. The /sup 131/I concentration in milk sold in markets varied from dairy to dairy and ranged from 0.07 to 0.2 times that in fresh milk. The maximum thyroidal dose equivalents estimated for an adult man and for a baby were far lower than the population annual dose equivalent to the thyroid from natural radiation.
Number of References: 16
Descriptors: accidents-; iodine-; radiation-monitoring; radioactive-pollution; radioisotopes-; water-pollution
Identifiers: Chernobyl-reactor-accident; human-thyroidal-dose-equivalent; radioactive-half-life; milk-; rain-water; Nagoya-; Japan-; markets-; dairy-; adult-man; baby-; population-annual-dose-equivalent; 131I-monitoring
Classification Codes: A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670E (Water); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A87; A86; A28; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/88/$3.00+.00
Sort Key: 0000017907819880005500005000000000000773
Accession Number: 3309818
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 874 of 1145 in INSPEC 1985-1989

Title: /sup 131/I and /sup 137/Cs in the environment following the Chernobyl reactor accident
Author: Gavrilas-M
Author Affiliation: Environ. Programs, Baltimore Gas & Electr. Co., MD, USA
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.123, no.1; July 1988; p.39-60
Publication Year: 1988
Record Type: Journal-article

Country of Publication: Switzerland
Language: English
Abstract: The measured /sup 131/I and /sup 137/Cs radioactivity in air, on the ground, and in milk at different places throughout the world were compared. It was found that the measured radioactivity can be explained assuming that the radioactive material released during the Chernobyl accident was transported primarily in two segments. The first part was transported at low altitudes, contaminated areas around Chernobyl and extended up to 2000-3000 km. The second part was injected into the troposphere. The radionuclides carried at high altitudes by the west-to-east winds traveled over continental Asia, Japan, Pacific Ocean, and North America. The time integrated radioactivity concentrations in near-ground air particulates, the integral ground deposition densities and milk concentrations can be described by an exponential decrease as a function of the distance from Chernobyl. The intercept (values near the damaged reactor) and the slopes (describing dispersion conditions) were calculated. The deposition velocities for /sup 131/I and /sup 137/Cs transported with the two altitude air masses are given.
Number of References: 35
Descriptors: accidents-; air-pollution; caesium-; iodine-; radioactive-pollution; radioisotopes-
Identifiers: environment-; Chernobyl-reactor-accident; air-; ground-; milk-; radioactivity-; troposphere-; radionuclides-; time-integrated-radioactivity-concentrations; near-ground-air-particulates; integral-ground-deposition-densities; deposition-velocities; 2000-to-3000-km; 131I-; 137Cs-
Classification Codes: A8670G (Atmosphere); A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330H (North-America); A86; A87; A93; A8
Treatment Codes: P (Practical); X (Experimental)
Numerical Data Indexing: distance 2.0 E06 to 3.0 E06 m
Chemical Indexing: I-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012300001000000000000039
Accession Number: 3309677
Update Code: 8900

Record 875 of 1145 in INSPEC 1985-1989

Title: Radioactive fallout from the Chernobyl nuclear reactor accident
Author: Beiriger-JM; Failor-RA; Marsh-KV; Shaw-GE
Author Affiliation: Lawrence Livermore Nat. Lab., Livermore, CA, USA
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.123, no.1; July 1988; p.21-37
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English

Abstract: Following the accident at the nuclear reactor at Chernobyl, in the Soviet Union on April 26, 1986, the authors performed a variety of measurements to determine the level of the radioactive fallout on the western United States. They used gamma-spectroscopy to analyze air filters from the areas around Lawrence Livermore National Laboratory (LLNL), California, and Barrow and Fairbanks, Alaska. Milk from California and imported vegetables were also analyzed. The levels of the various fission products detected were far below the maximum permissable concentration levels.
Number of References: 11
Descriptors: accidents-; air-pollution; fallout-; radioactive-pollution; safety-
Identifiers: milk-; Chernobyl-nuclear-reactor-accident; radioactive-fallout; western-United-States; gamma-spectroscopy; air-filters; vegetables-; fission-products
Classification Codes: A8670G (Atmosphere); A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330H (North-America); A86; A87; A93; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012300001000000000000021
Accession Number: 3309676
Update Code: 8900

Record 876 of 1145 in INSPEC 1985-1989

Title: Airborne radioactivity measurements from the Chernobyl plume
Author: Lepel-EA; Hensley-WK; Boatman-JF; Busness-KM; Davis-WE; Robertson-DE; Slinn-WGN
Author Affiliation: Pacific Northwest Lab., Richland, WA, USA
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.123, no.1; July 1988; p.7-19
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Airborne gamma-ray measurements were made aboard the Pacific Northwest Laboratory (PNL) DC-3 and the National Oceanic and Atmospheric Administration (NOAA) King Air research aircraft before and during the first passage of the Chernobyl radioactive cloud over the west coast of the North American continent. Measurements were made from Anchorage, Alaska, south to Reno, Nevada. Calculated trajectories were used to estimate the location of the Chernobyl plume. The in-situ gamma-ray analysis systems first detected the cloud on May 8, 1986. Subsequent analysis of concurrently collected air filters indicated that the leading edge of the plume was just reaching the west coast of the United States on May 6, 1986. The ratios of the observed volatile radionuclides (/sup 131/I and /sup 134/Cs normalized to /sup 137/Cs) agreed with the reported discharge ratio.
Number of References: 6

Descriptors: accidents-; air-pollution; gamma-ray-detection-and-measurement; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: airborne-radioactivity-measurements; gamma-ray-measurements; Chernobyl-radioactive-cloud; west-coast; North-American-continent; Anchorage-; Alaska-; Reno-; Nevada-; trajectories-; Chernobyl-plume; volatile-radionuclides; 131I-; 134Cs-; 137Cs-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A9330H (North-America); A86; A87; A28; A93; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: I-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012300001000000000000007
Accession Number: 3309675
Update Code: 8900

Record 877 of 1145 in INSPEC 1985-1989

Title: Performance of the standard calculation tools in the analysis of the Chernobyl accident
Author: Buccafurni-A; Landeyro-PA
Author Affiliation: ENEA, Rome, Italy
Source: Severe Accidents in Nuclear Power Plants: Proceedings of an International Symposium. IAEA, Vienna, Austria; 1988; 2 vol. (503+772) pp.
p.371-9 vol.1
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 21-25 March 1988; Sorrento, Italy. Sponsored by: IAEA; Nucl. Energy Agency of the OECD
Country of Publication: Austria
Language: English
Abstract: Standard calculation methods employed in the analysis of nuclear criticality safety have been applied in the present work. The analysis was divided in two steps. The first used a single channel model for the steady state calculations. The second consisted of a reactor model analysis at the start of the accident. The target of the first step was the validation of the void reactivity coefficient calculation. A full reactor model was developed to simulate several scenarios: different void fractions in different reactor zones, e.g. vaporization of different amounts of central channels, different control rod positions and xenon distributions. Four single channel calculation models were prepared. The first was the classical KENO IV mixed box geometry configuration taking into account each fuel pin. The second was a KENO IV CG configuration using a combinatorial geometry in a fuel-coolant zone description. The third was similar to the first but employing the XSDRNPM flux weighted cross-sections in the fuel-coolant zone. The fourth was a discrete ordinate model in cylindrical geometry involving the flux weighted cross-section in the fuel-coolant zone with full reflection on the external

surface. The three Monte Carlo configurations assumed the channel reflected on the four external sides.

Number of References: 13

Descriptors: accidents-; fission-reactor-safety; Monte-Carlo-methods; nuclear-engineering-computing

Identifiers: standard-calculation-tools; Chernobyl-accident; nuclear-criticality-safety; single-channel-model; steady-state-calculations; reactor-model-analysis; void-reactivity-coefficient-calculation; KENO-IV-mixed-box-geometry-configuration; XSDRNPM-flux-weighted-cross-sections; fuel-coolant-zone; discrete-ordinate-model; cylindrical-geometry; flux-weighted-cross-section; Monte-Carlo-configurations

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841C (Computer-codes); A2850G (Light-water-reactors); A0250 (Probability-theory-stochastic-processes-and-statistics); A28; A02; A2

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

Sort Key: 1000000000019880000000000000000000000371

Accession Number: 3405700

Update Code: 8900

Record 878 of 1145 in INSPEC 1985-1989

Title: Comprehensive analysis of the Chernobyl accident

Author: Loizzo-P; Azzoni-P; Borgia-MG; Cepraga-D; Galati-A; Landeyro-PA; Lopez-S; Mazzei-D; Metelli-D; Norelli-F

Author Affiliation: ENEA, Rome, Italy

Source: Severe Accidents in Nuclear Power Plants: Proceedings of an International Symposium. IAEA, Vienna, Austria; 1988; 2 vol. (503+772) pp.

p.199-205 vol.1

Publication Year: 1988

Record Type: Conference-Paper

Conference Details: 21-25 March 1988; Sorrento, Italy. Sponsored by: IAEA; Nucl. Energy Agency of the OECD

Country of Publication: Austria

Language: English

Abstract: Standard computational methods have been used to make a preliminary analysis of the neutronics and thermal-hydraulics of the first two phases of the Chernobyl accident (initial positive reactivity generation and first Doppler transient). The most important results are discussed. These include the fact that it is impossible to define only one value of the reactor void coefficient. In the central channels (20% of the reactor volume) the effective coefficient is three times higher than the average, while the value is practically zero in the peripheral channels (40% of the reactor volume). The difference is due not only to the statically larger neutron worth of the central zone, but also to the dynamic instability of the radial flux distribution. The void increase in the central regions induces an increase of power and of the void in these regions, thus increasing the reactivity in an unexpected way. A design error in the scram rods (too short a

graphite follower) can generate an undesired positive reactivity insertion while the first 1.25 m of the rods is being inserted. This effect can introduce from 0.5 to 1.2 $ reactivity. The Doppler effect is the only one introducing negative feedback during a transient. The current model for the calculation of the effective fuel temperature must be reconsidered.

Number of References: 4

Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-core-control-and-monitoring; fission-reactor-safety; fission-reactor-theory-and-design

Identifiers: computational-methods; neutronics-; thermal-hydraulics; Chernobyl-accident; positive-reactivity-generation; Doppler-transient; reactor-void-coefficient; neutron-worth; design-error; scram-rods; positive-reactivity-insertion; effective-fuel-temperature

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2843B (Cooling-and-heat-recovery); A2843D (Core-control-and-guidance); A2841 (Fission-reactor-theory-and-design); A28; A2

Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

Sort Key: 10000000000198800000000000000000000199

Accession Number: 3405693

Update Code: 8900

Record 879 of 1145 in INSPEC 1985-1989

Title: One-dimensional considerations on the initial phase of the Chernobyl accident

Author: Vanttola-TA; Rajamaki-MK

Author Affiliation: Tech. Res. Centre of Finland, Nuc. Eng. Lab., Helsinki, Finland

Source: Nuclear-Technology. vol.85, no.1; April 1989; p.33-47

Publication Year: 1989

Record Type: Journal-article

Country of Publication: USA

Language: English

Abstract: Some of the most frequently presented scenarios for the initial power excursion of the Chernobyl accident are evaluated based on computer simulations. The applied transient model uses one-dimensional descriptions of the reactor core and the main flow circuit. According to the simulations, a slow flow decrease caused by gradual slowing down of the four main circulation pumps could have initiated the accident only if the void reactivity coefficient had been considerably larger than the original Soviet figure. On the other hand, a faster flow reduction, such as pump cavitation or deliberate stopping of even some of the pumps, would have produced enough void for prompt criticality. However, this scenario is sensitive to the size of the void coefficient and to the amount of flow reduction.

Number of References: 14

Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-core-control-and-monitoring; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-engineering-computing

Identifiers: initial-phase; Chernobyl-accident; power-excursion; computer-simulations; transient-model; one-dimensional-descriptions; reactor-core; main-flow-circuit; slow-flow-decrease; circulation-pumps; void-reactivity-coefficient; pump-cavitation; criticality-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2843B (Cooling-and-heat-recovery); A2850G (Light-water-reactors); A2841C (Computer-codes); A2843D (Core-control-and-guidance); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NUTYBB
ISSN: 0029-5450
Copyright Clearance Center Code: 0029-5450/89/$3.00
Sort Key: 0000029545019890008500001000000000000033
Accession Number: 3403904
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25653.002
Bestand: 10.1971=> L:57

Record 880 of 1145 in INSPEC 1985-1989

Title: On the reactivity effects of nuclear fuel fragmentation with reference to the Chernobyl accident
Author: Rajamaki-M; Wasastjerna-F
Author Affiliation: Nucl. Eng. Lab., Tech. Res. Centre of Finland, Helsinki, Finland
Source: Nuclear-Science-and-Engineering. vol.101, no.1; Jan. 1989; p.41-7
Publication Year: 1989
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The reactivity effects caused by fragmentation of nuclear fuel and by simultaneous cooling of the fragments are described. A series of light water reactor (LWR) cases and three speculative scenarios for the Chernobyl accident are considered. Calculations were carried out with the LWR cell burnup code CASMO-HEX. Fragmentation is described by increasing the number of fuel pieces while decreasing their diameter. Cooling is considered to occur as quasi-stationary. Relative movement of the fragments and the coolant is taken into account by varying the water/fuel ratio. Under certain circumstances, substantial reactivity increases are found to occur in both reactor types. These may have contributed significantly to the severity of the Chernobyl accident.
Number of References: 8
Descriptors: accidents-; fission-reactor-safety; nuclear-engineering-computing
Identifiers: nuclear-fuel-fragmentation; Chernobyl-accident; reactivity-effects; simultaneous-cooling; light-water-reactor; LWR-cell-burnup-code; CASMO-HEX; waterfuel-ratio
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2841C (Computer-codes); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)

Coden: NSENAO
ISSN: 0029-5639
Sort Key: 00000295639198900101000010000000000000041
Accession Number: 3403821
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.000
Bestand: 1.1956=> L:81

Record 881 of 1145 in INSPEC 1985-1989

Title: Environmental radioactivity and dose evaluation in Taiwan after the Chernobyl accident
Author: Chien-Chung
Author Affiliation: Inst. of Nucl. Sci., Nat. Tsing Hua Univ., Hsinchu, Taiwan
Source: Health-Physics. vol.56, no.4; April 1989; p.465-71
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A substantial increase in fission product activity was observed in various environmental samples taken in Taiwan after the Chernobyl accident. The concentrations of long-lived fission products in air above ground, precipitation, grass, vegetation and milk were monitored in the next 7 wk. The individual effective dose equivalent committed by the first year of exposure and intake following the accident were evaluated. Average individual doses for the population in Taiwan are estimated at 0.9 mu Sv due to global fallout from the Chernobyl accident. This value is lower than that reported in neighboring countries in the Far East and poses no increased health impact to the public in Taiwan.
Number of References: 19
Descriptors: accidents-; dosimetry-; fallout-; health-hazards; radioactive-pollution; radioactivity-
Identifiers: environmental-radioactivity; pollution-; Chernobyl-accident; fission-product-activity; environmental-samples; Taiwan-; long-lived-fission-products; air-; precipitation-; grass-; vegetation-; milk-; individual-effective-dose-equivalent; population-; global-fallout; health-impact
Classification Codes: A8760R (Radioactive-pollution); A8670Z (Other-topics); A8760M (Radiation-dosimetry); A8670C (Soil-and-rock); A8670G (Atmosphere); A9330D (Asia); A9330K (Islands); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 00000179078198900056000040000000000000465
Accession Number: 3401534

Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 882 of 1145 in INSPEC 1985-1989

Title: Cesium-137, /sup 134/Cs and /sup 110m/Ag in lambs grazing pasture in NE Scotland contaminated by Chernobyl fallout
Author: Martin-CJ; Heaton-B; Thompson-J
Author Affiliation: Dept. of Bio-Med. Phys. & Bio-Eng., Aberdeen Univ., UK
Source: Health-Physics. vol.56, no.4; April 1989; p.459-64
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The decline in cs radioisotope levels has been studied in tissues from lambs grazing lowland pasture. The lambs were slaughtered 18 and 115 d after contamination with Chernobyl fallout. During this time the Cs activity decreased to 13% of the initial amount in animals that had continued to graze contaminated pasture and to 3.5% in animals consuming uncontaminated feed. The /sup 137/Cs concentration in grass from the field grazed by the lambs decreased with a half-time of 22 d over the period 11-100 d after contamination. The amounts of Cs radio-nuclides removed from the pasture by the grazing animals amounted to only 0.01% of the total, the rest remaining in the soil, with over 40% in the upper 10 mm. Small amounts of /sup 110m/Ag, found in grass, declined with a half-time of 8.9 d, and the radionuclide was found to accumulate in liver tissue.
Number of References: 11
Descriptors: caesium-; fallout-; health-hazards; radioactive-pollution; radioisotopes-; silver-
Identifiers: pollution-; lambs-; NE-Scotland; Chernobyl-fallout; cs-radioisotope-levels; lowland-pasture; contaminated-pasture; uncontaminated-feed; grass-; grazing-animals; liver-tissue; 134Cs-; 137Cs-concentration; 110Ag-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A9330K (Islands); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el; Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005600004000000000000459
Accession Number: 3401533
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 883 of 1145 in INSPEC 1985-1989

Title: Artificial radioactivity in fuel peat and peat ash in Finland after the Chernobyl accident
Author: Mustonen-RA; Reponen-AR; Jantunen-MJ
Author Affiliation: Finnish Centre for Radiat. & Nucl. Safety, Helsinki, Finland
Source: Health-Physics. vol.56, no.4; April 1989; p.451-8
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The accident at the Chernobyl nuclear power plant in April 1986 caused very uneven deposition of radionuclides in Finland. The deposited radionuclides were found in relatively high concentrations in fuel peat and especially in peat ash because a thin surface layer of peat-production bogs was extracted as fuel peat soon after the fallout occurred. Concentrations of artificial radionuclides in fuel peat and peat ash were measured at six peat-fired power plants in Finland throughout the heating season 1986-87. Concentrations of /sup 137/Cs in composite peat samples varied between 30 and 3600 Bq kg/sup -1/ dry weight and in ash samples between 600 and 68000 Bq kg/sup -1/. High concentrations in peat ash caused some restrictions to the utilization of peat ash for various purposes.
Number of References: 21
Descriptors: accidents-; fallout-; health-hazards; radioactive-pollution; radioactivity-; radioisotopes-
Identifiers: pollution-; Northern-Europe; fuel-peat; peat-ash; Finland-; Chernobyl-accident; Chernobyl-nuclear-power-plant; thin-surface-layer; peat-production-bogs; artificial-radionuclides; peat-fired-power-plants; heating-season
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A9330G (Europe); A87; A86; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005600004000000000000451
Accession Number: 3401532
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 884 of 1145 in INSPEC 1985-1989

Title: RBMKs and Chernobyl-4
Author: Haslam-RJ
Source: UKAEA, Risley, UK, June 1988; 38 pp.
Publication Year: 1988

Record Type: Report
Country of Publication: UK
Language: English
Abstract: The author gives readers some outline information on RBMK power plants-the USSR's RBMK programme, the design of Chernobyl-4, the accident at Chernobyl-4 and measures taken to improve RBMK safety. The RBMKs are graphite-moderated reactors with pressure-tube channels for the fuel. The reactor coolant is high-pressure water which boils as it passes through the fuel channels. The steam produced in the reactor is separated and dried in steam drums and then passed directly to drive the turbine generators; it is then condensed, purified and heated, and returned to the steam drums as feed-water. UK authorities have studied the RBMK design, the USSR report of the accident and other analyses, and have expressed their firm belief that no such accident could happen with any of the UK reactors.
Number of References: 16
Descriptors: accidents-; disasters-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: RBMK-power-plants; Chernobyl-4; accident-; graphite-moderated-reactors; pressure-tube-channels; reactor-coolant; high-pressure-water; fuel-channels; steam-drums; turbine-generators; feed-water
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A28; A2
Treatment Codes: G (General-or-Review); T (Theoretical-or-Mathematical)
Report Numbers: RTS-R-003
Availability: HMSO, London, UK
Sort Key: 3000RTSR00319880000000000000000000000000
Accession Number: 3398367
Update Code: 8900

Record 885 of 1145 in INSPEC 1985-1989

Title: Cesium-137 levels in breast milk and placentae after fallout from the reactor accident at Chernobyl
Author: Gattavecchia-E; Ghini-S; Tonelli-D; Gori-G; Cama-G; Guerresi-E
Author Affiliation: Inst. of Chem. Sci., Bologna Univ., Italy
Source: Health-Physics. vol.56, no.2; Feb. 1989; p.245-8
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Towards the end of May 1986, the authors samples of human milk and placentae to determine their levels of radioactivity. Because /sup 131/I (half-life 8 d) was by this time of less concern, they directed their attention toward /sup 134/Cs and /sup 137/Cs, with physical half-lives of 2 and 30 y, respectively, and with a biological clearance half-time corresponding to 70-110 d. The note reports results obtained during the 17-mo study period from May 1986 to October 1987.

Number of References: 12
Descriptors: caesium-; fallout-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: breast-milk; reactor-accident; Chernobyl-; human-milk; placentae-; radioactivity-; physical-half-lives; biological-clearance-half-time; 134Cs-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 0000017907819890005600002000000000000245
Accession Number: 3393446
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 886 of 1145 in INSPEC 1985-1989

Title: Transfer to milk of /sup 131/I and /sup 137/Cs released during the Chernobyl reactor accident
Author: Tracy-BL; Walker-WB; McGregor-RG
Author Affiliation: Dept. of Nat. Health & Welfare, Ottawa, Ont., Canada
Source: Health-Physics. vol.56, no.2; Feb. 1989; p.239-43
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: For the transfer of radionuclides from air to pasture grass and subsequently to milk observed in the study, it appears that dry deposition was more significant for I and wet deposition for Cs. Concentrations of /sup 131/I in milk measured in Bq L/sup -1/ were 1000 to 2000 times the concentrations of particulate /sup 131/I in air measured in Bq m/sup -3/. The transfer of I from grass to milk was consistent with the predictions of conventional models. About 10% of deposited Cs was intercepted by the edible portion of the grass. Transfer of Cs from grass to milk was an order of magnitude lower than predicted by conventional models.
Number of References: 16
Descriptors: air-pollution; caesium-; fallout-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: Chernobyl-reactor-accident; radionuclides-; air-; pasture-grass; milk-; dry-deposition; wet-deposition; concentrations-; conventional-models; edible-portion; 131I-; 137Cs-
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: X (Experimental)

Chemical Indexing: I-el; Cs-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/89/$3.00+.00
Sort Key: 00000179078198900056000020000000000000239
Accession Number: 3393445
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 887 of 1145 in INSPEC 1985-1989

Title: Computer visualization of radionuclides from the Chernobyl accident
Author: Pudykiewicz-J; Samayoa-W
Author Affiliation: Atmos. Environ. Service of Canada, Dorval, Que., Canada
Source: Cray-Channels. vol.10, no.3; Fall 1988; p.6-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The numerical simulation of environmental processes is a tool used increasingly for practical environmental problem solving. A well-known example is the use of numerical models to track atmospheric chemical tracers for studies of acid rain and stratospheric ozone depletion. The authors used such a tracer model to simulate the dispersion of nuclear debris from the Chernobyl nuclear reactor accident. The research was conducted using the CRAY X-MP/28 computer system with SSD solid-state storage device at the Canadian Meteorological Center. A hemispheric model was used because it was believed that the effects of the accident might extend around the globe.
Number of References: 7
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; computer-graphics; digital-simulation; disasters-; geophysics-computing; mainframes-; nuclear-power-stations; radioactive-pollution
Identifiers: radionuclide-visualization; numerical-simulation; environmental-processes; practical-environmental-problem-solving; numerical-models; atmospheric-chemical-tracers; tracer-model; nuclear-debris; Chernobyl-nuclear-reactor-accident; CRAY-X-MP28-computer-system; SSD-solid-state-storage-device; hemispheric-model
Classification Codes: A8670G (Atmosphere); A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220B (Nuclear-reactors); C7340 (Geophysics); C6130B (Graphics-techniques); C5420 (Mainframes-and-minicomputers); A86; A28; B82; C73; C61; C54; A8; A2; B8; C7; C6; C5
Treatment Codes: P (Practical)
Sort Key: 00000000000198800010000030000000000000006
Accession Number: 3386485
Update Code: 8900

Record 888 of 1145 in INSPEC 1985-1989

Title: Radioactivity in mushrooms in northeast Italy following the Chernobyl accident
Author: Battiston-GA; Degetto-S; Gerbasi-R; Sbrignadello-G
Author Affiliation: Inst. di Chimica e Technol. dei Radioelementi, CNR, Padova, Italy
Source: Journal-of-Environmental-Radioactivity. vol.9, no.1; 1989; p.53-60
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radionuclide activities in common edible mushrooms, collected in northeast Italy following the Chernobyl accident, are reported. The highest levels were found in Clitocybe infundibuliformis, Cantharellus lutescens and Boletus cavipes. In addition, a large number of soil samples were collected in the same area. From the /sup 137/Cs//sup 134/Cs ratios it was possible to differentiate the radiocesium contribution from pre-Chernobyl fallout in both fungi and soil. The contour maps for /sup 137/Cs and /sup 134/Cs distributions are reported. The radioactivity detected in the mushrooms is not related in a simple manner to the contamination level of the corresponding soil. Some species tend to concentrate cesium and silver nuclides, whilst others show little affinity for these and other nuclides. Explanations for the different behavioral characteristics of the species are suggested.
Number of References: 16
Descriptors: accidents-; caesium-; health-hazards; radioactive-pollution; radioactive-waste; radioactivity-measurement; radioisotopes-; soil-
Identifiers: NE-Italy; mushrooms-; northeast-Italy; Chernobyl-accident; edible-mushrooms; Clitocybe-infundibuliformis; Cantharellus-lutescens; Boletus-cavipes; 137Cs-134Cs-ratios; 134Cs-; soil-; 137Cs-; Ag-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/89/$03.50
Sort Key: 0000265931X1989000090000100000000000053
Accession Number: 3384040
Update Code: 8900

Record 889 of 1145 in INSPEC 1985-1989

Title: Estimation of /sup 137/Cs and /sup 134/Cs body burden in Warsaw after the Chernobyl accident
Author: Pietrzak-Flis-Z; Rostek-J; Lada-W

Author Affiliation: Central Lab. for Radiol. Protection, Warsaw, Poland
Source: Radiation-Protection-Dosimetry. vol.25, no.2; 1988; p.101-5
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: /sup 137.134/Cs was determined in pooled urine samples gathered from men and women separately in an out-patient clinic in the period from May 1986 till April 1988. The caesium isotopes were measured directly by gamma ray spectrometry. From the caesium concentrations in urine the average body burden was calculated. It was in the range from 0.70 to 2.51 kBq for men and from 0.61 to 1.83 kBq for women. During the first year after the Chernobyl accident the average dose equivalent in Warsaw from both radionuclides was about 94 mu Sv for men and about 66 mu Sv for women. For the second year the dose equivalent was about 84 mu Sv for men and 58 mu Sv for women. The contribution of /sup 134/Cs to the total dose was about 39%.
Number of References: 28
Descriptors: accidents-; dosimetry-; radiation-monitoring
Identifiers: Chernobyl-accident; urine-; gamma-ray-spectrometry; body-burden; dose-equivalent; 0-70-to-2-51-kBq; 84-muSv; 0-61-to-1-83-kBq; 94-muSv; 66-muSv; 58-muSv; 137Cs-; 134Cs-
Classification Codes: A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 7.0 E02 to 2.51 E03 Bq; radiation dose equivalent 8.4E-05 Sv; radioactivity 6.1 E02 to 1.83 E03 Bq; radiation dose equivalent 9.4E-05 Sv; radiation dose equivalent 6.6E-05 Sv; radiation dose equivalent 5.8E-05 Sv
Chemical Indexing: Cs-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019880002500002000000000000101
Accession Number: 3381993
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 890 of 1145 in INSPEC 1985-1989

Title: Radiocaesium fallout in Ireland from the Chernobyl accident
Author: McAulay-IR; Moran-D
Author Affiliation: Dept. of Phys., Trinity Coll., Dublin, Ireland
Source: Journal-of-Radiological-Protection. vol.9, no.1; March 1989; p.29-32
Publication Year: 1989
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Presents a radiocaesium deposition pattern over Ireland resulting from the Chernobyl accident. Contaminated grassland soils from over 110 sites were analysed using gamma ray spectrometry. /sup 134/Cs, /sup 137/Cs and /sup 40/K were measured in all samples. The Chernobyl /sup 137/Cs was identified using an initial Chernobyl fallout /sup 137/Cs to /sup 134/Cs ratio of 1.90. The results show a mean deposition level of 3.2 kBq m/sup -2/ of /sup 137/Cs due to Chernobyl. The range of deposition was from 0.3 to 14.2 kBq m/sup -2/. The distribution pattern is presented both on a National Grid sub-zone basis and a higher resolution shaded map. A similarly shaded map shows the rainfall levels responsible for most of the washout. It is pointed out that some areas on both east and west coasts with maximum rainfall did not have maximum caesium deposition. In other areas a better correlation between rainfall and caesium deposition exists. A mean figure for the pre-Chernobyl /sup 137/Cs in surface soil is provided.
Number of References: 5
Descriptors: caesium-; fallout-; radioactive-pollution; radioisotopes-
Identifiers: radiocaesium-deposition-pattern; Ireland-; Chernobyl-accident; grassland-soils; gamma-ray-spectrometry; rainfall-levels; washout-; surface-soil; 134Cs-; 137Cs-; 40K-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; K-el
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/89/0100029+04$02.50
Sort Key: 0000952474619890000900001000000000000029
Accession Number: 3378213
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 891 of 1145 in INSPEC 1985-1989

Title: Estimating the effectiveness of mechanical decontamination technologies used at Chernobyl
Author: Yurchenko-YuF
Source: Soviet-Atomic-Energy. vol.64, no.4; April 1988; p.306-9
Translated from: Atomnaya-Energiya. vol.64, no.4; April 1988; p.255-8
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: An important criterion in choosing the type of technology for decontamination activities at Chernobyl was the exposure dose intensity level at the decontamination

site. Depending on this, robotized, remotely controlled, bio-shielded or ordinary techniques were used. In every case, the possibility of unforeseen circumstances which could complicate operator activities-gas or dust accumulation and the possibilities of cave-in, submersion, and equipment failure or jamming-was taken into account. These criteria are fundamental for a realistic estimate of the suitability of methods and technological means for performing mechanical decontamination work on the territory and building structures around the damaged unit.

Number of References: 0

Descriptors: accidents-; radiation-decontamination; robots-; telecontrol-

Identifiers: robots-; remote-control; bioshielded-machinery; effectiveness-; mechanical-decontamination-technologies; Chernobyl-; decontamination-activities

Classification Codes: A2880 (Radiation-technology-including-shielding); A2844 (Fission-reactor-protection-systems-safety-and-accidents); C3390 (Robotics); A28; C33; A2

Treatment Codes: P (Practical)

Coden: AENGAB; Translation: SATEAZ

ISSN: 0004-7163; Translation: 0038-531X

Copyright Clearance Center Code: 0038-531X/88/6404-0306$12.50

Sort Key: 00000047163198800064000040000000000000255

Accession Number: 3370359

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000

Bestand: 1.1956-53.1982

Record 892 of 1145 in INSPEC 1985-1989

Title: Entombment of Chernobyl Unit 4

Author: Kurnosov-VA; Bagryanskii-VM; Moiseev-IK

Source: Soviet-Atomic-Energy. vol.64, no.4; April 1988; p.299-306

Translated from: Atomnaya-Energiya. vol.64, no.4; April 1988; p.248-54

Publication Year: 1988

Record Type: Journal-article

Country of Publication: USSR; Translation: USA

Language: English

Abstract: The authors discuss (a) data required to build the shelter structure around Chernobyl Unit 4 (b) design problems (c) construction decisions (d) organizational and technical measures taken.

Number of References: 0

Descriptors: accidents-; shielding-

Identifiers: shelter-structure; entombment-; Chernobyl-Unit-4; design-problems; construction-decisions

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A28; A2

Treatment Codes: P (Practical)

Coden: AENGAB; Translation: SATEAZ

ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6404-0299$12.50
Sort Key: 00000047163198800064000040000000000000248
Accession Number: 3370358
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 893 of 1145 in INSPEC 1985-1989

Title: An analysis of the Chernobyl accident using RETRAN-02/MOD3
Author: Chao-J; Chexal-VK; Layman-WH; Vine-G; Jensen-PJ; Dastur-AR
Author Affiliation: Electric Power Res. Inst., Palo Alto, CA, USA
Source: Nuclear-Technology. vol.83, no.3; Dec. 1988; p.289-301
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The two power peaks during the Chernobyl accident were analyzed using the system thermal-hydraulic code RETRAN-02. The time and magnitude of the first power peak predicted by the RETRAN model compared well with the data presented by the Soviets. The analysis also revealed that one of the contributing factors to the second power peak was the depressurization of the system. Depressurization occurred upon rupture of the pressure boundary, which was caused by the first power peak. The depressurization of the system generated more voids, resulting in additional reactivity insertion, which produced a second peak. A parametric study showed that the positive reactivity introduced by the scram rods and the reactivity caused by the positive void coefficient were both important in contributing to the accident.
Number of References: 5
Descriptors: accidents-; fission-reactor-safety; nuclear-engineering-computing; software-packages
Identifiers: power-peaks; Chernobyl-accident; system-thermal-hydraulic-code-RETRAN-02; depressurization-; reactivity-insertion; scram-rods
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841C (Computer-codes); A2850G (Light-water-reactors); C7470 (Nuclear-engineering); A28; C74; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: NUTYBB
ISSN: 0029-5450
Copyright Clearance Center Code: 0029-5450/88/$3.00
Sort Key: 00000295450198800083000030000000000000289
Accession Number: 3369372
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25653.002

Bestand: 10.1971=> L:57

Record 894 of 1145 in INSPEC 1985-1989

Title: Errors and evaluations: the lessons of Chernobyl
Author: Reason-J
Author Affiliation: Dept. of Psychol., Manchester Univ., UK
Editor: Hagen-EW
Source: Conference Record for 1988 IEEE Fourth Conference on Human Factors and Power Plants (IEEE Cat. No.88CH2576-7). IEEE, New York, NY, USA; 1988; xii+596 pp.
p.537-40
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 5-9 June 1988; Monterey, CA, USA. Sponsored by: IEEE; ANS, ISA
Country of Publication: USA
Language: English
Abstract: The author summarizes the human failures responsible for the Chernobyl disaster and argues that, in considering the human contribution to power plant emergencies, it is necessary to distinguish between: (a) errors and violations; and (b) active and latent failures. He then presents empirical evidence, drawn from driver behavior, which suggests that errors and violations have different psychological origin. Finally, he outlines a 'resident pathogen' view of accident causation, and seeks to identify the various system pathways along which errors and violations may be propagated.
Number of References: 8
Descriptors: accidents-; failure-analysis; fission-reactor-safety
Identifiers: nuclear-power-station-emergencies; human-failures; Chernobyl-disaster; errors-; violations-; accident-causation
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review)
Sort Key: 10000000000198800000000000000000000537
Accession Number: 3362110
Update Code: 8900

Record 895 of 1145 in INSPEC 1985-1989

Title: The relevance of the Chernobyl accident to the safety of power reactors in OECD countries: report by a NEA group of experts
Author: Hogberg-L
Source: Probabilistic Safety Assessment and Risk Management: PSA '87. Verlag TU Rheinland, Koln, West Germany; 1987; 3 vol. lxii+1137 pp.
p.1131-5 vol.3
Publication Year: 1987
Record Type: Conference-Paper

Conference Details: 31 Aug.-4 Sept. 1987; Zurich, Switzerland. Sponsored by: Swiss Nucl. Soc.; Eur. Nucl. Soc.; ANS
Country of Publication: West Germany
Language: English
Abstract: An evaluation of the Chernobyl accident made by a group of experts from OECD/NEA countries has concluded that the accident has not brought to light any new phenomena or safety issues that are not already covered by current reactor safety programmes for commercial power reactors in OECD countries. No immediate modifications or regulatory actions ar considered necessary with respect to such plants as a consequence of the accident. Nevertheless, given the seriousness of the Chernobyl accident, an appraisal of current safety programmes is a prudent course, for example, to determine whether some further verification studies are advisable or if some shift in emphasis between various technical areas should be considered. Such appraisals are well under way in OECD countries on a national basis.
Number of References: 10
Descriptors: accidents-; disasters-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: Chernobyl-accident; safety-issues; reactor-safety-programmes; commercial-power-reactors; verification-studies
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A2850G (Light-water-reactors); A28; A2
Treatment Codes: G (General-or-Review)
ISBN: 3885854171
Sort Key: 13885854171198700000000000000000001131
Accession Number: 3361332
Update Code: 8900

Record 896 of 1145 in INSPEC 1985-1989

Title: Chernobyl-4 accident analyses
Author: Purvis-EE-III; Spencer-B
Author Affiliation: US DOE Washington, DC, USA
Source: Probabilistic Safety Assessment and Risk Management: PSA '87. Verlag TU Rheinland, Koln, West Germany; 1987; 3 vol. lxii+1137 pp.
p.1124-30 vol.3
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 31 Aug.-4 Sept. 1987; Zurich, Switzerland. Sponsored by: Swiss Nucl. Soc.; Eur. Nucl. Soc.; ANS
Country of Publication: West Germany
Language: English
Abstract: The authors report on the US Department of Energy investigation of the Chernobyl accident.
Number of References: 4
Descriptors: accidents-; disasters-; fission-reactor-safety

Identifiers: reactor-safety; Chernobyl-accident
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: G (General-or-Review)
ISBN: 3885854171
Sort Key: 13885854171198700000000000000000000001124
Accession Number: 3361331
Update Code: 8900

Record 897 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident: multidimensional simulations to identify the role of design and operational features of the RBMK-1000
Author: Chan-PSW; Dastur-AR; Grant-SD; Hopwood-JM
Author Affiliation: AECL, Mississauga, Ont., Canada
Source: Probabilistic Safety Assessment and Risk Management: PSA '87. Verlag TU Rheinland, Koln, West Germany; 1987; 3 vol. lxii+1137 pp.
p.1116-23 vol.3
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 31 Aug.-4 Sept. 1987; Zurich, Switzerland. Sponsored by: Swiss Nucl. Soc.; Eur. Nucl. Soc.; ANS
Country of Publication: West Germany
Language: English
Abstract: A multidimensional analysis of the Chernobyl accident was carried out to identify the role of the design and operational features of the RBMK-1000 and thereby identify implications on other reactor concepts. The results show that assumptions regarding the pre-accident fuel burnup and flux distributions are major determinants of the size and shape of the power pulse, especially due to their influence on effective system void reactivity and on the amount, if any, of positive scram reactivity.
Number of References: 3
Descriptors: accidents-; disasters-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: multidimensional-analysis; Chernobyl-accident; RBMK-1000; reactor-concepts; pre-accident-fuel-burnup; flux-distributions; power-pulse; positive-scram-reactivity
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A2850G (Light-water-reactors); A28; A2
Treatment Codes: G (General-or-Review)
ISBN: 3885854171
Sort Key: 13885854171198700000000000000000000001116
Accession Number: 3361330
Update Code: 8900

Record 898 of 1145 in INSPEC 1985-1989

Title: The Chernobyl nuclear accident: its consequences and lessons
Author: Gittus-JH
Author Affiliation: UKAEA, Warrington, UK
Source: Probabilistic Safety Assessment and Risk Management: PSA '87. Verlag TU Rheinland, Koln, West Germany; 1987; 3 vol. lxii+1137 pp.
p.1112-15 vol.3
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 31 Aug.-4 Sept. 1987; Zurich, Switzerland. Sponsored by: Swiss Nucl. Soc.; Eur. Nucl. Soc.; ANS
Country of Publication: West Germany
Language: English
Abstract: The degraded core accident that occurred to a Soviet boiling water, pressure tube, graphite-moderated reactor at Chernobyl on 26 April 1986 resulted in the release of large quantities of radionuclides, which were swept by the wind to distant countries causing widespread contamination. The development of the accident is outlined and the consequences and possible lessons for the nuclear community are discussed.
Number of References: 4
Descriptors: accidents-; air-pollution; disasters-; fission-reactor-safety; radioactive-pollution
Identifiers: pollution-; degraded-core-accident; graphite-moderated-reactor; Chernobyl-; radionuclides-; contamination-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8760R (Radioactive-pollution); A8670G (Atmosphere); A28; A87; A86; A2
Treatment Codes: G (General-or-Review)
ISBN: 3885854171
Sort Key: 13885854171198700000000000000000001112
Accession Number: 3361329
Update Code: 8900

Record 899 of 1145 in INSPEC 1985-1989

Title: Dose estimates from the Chernobyl accident
Author: Lange-R; Dickerson-MH; Gudiksen-PH
Author Affiliation: Lawrence Livermore Nat. Lab., Livermore, CA, USA
Source: Nuclear-Technology. vol.82, no.3; Sept. 1988; p.311-23
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The Lawrence Livermore National Laboratory Atmospheric Release Advisory Capability (ARAC) responded to the Chernobyl nuclear reactor accident in the Soviet Union by utilizing long-range atmospheric dispersion modeling to estimate the amount of radioactivity released (source term) and the radiation dose distribution due to

exposure to the radioactive cloud over Europe and the northern hemisphere. In later assessments, after the release of data on the accident by the Soviet Union, the ARAC team used their mesoscale-to-regional-scale model to focus in on the radiation dose distribution within the Soviet Union and the vicinity of the Chernobyl plant.

Number of References: 21

Descriptors: accidents-; air-pollution; atmospheric-movements; disasters-; dosimetry-; radioactive-pollution

Identifiers: Chernobyl-accident; long-range-atmospheric-dispersion-modeling; source-term; dose-distribution; mesoscale-to-regional-scale-model; radiation-dose-distribution; Soviet-Union; Chernobyl-plant

Classification Codes: A2880C (Dosimetry); A9260T (Air-quality-and-air-pollution); A9260G (Winds-and-their-effects); A8670G (Atmosphere); A28; A92; A86; A2; A9

Treatment Codes: X (Experimental)

Coden: NUTYBB
ISSN: 0029-5450
Copyright Clearance Center Code: 0029-5450/88/$3.00
Sort Key: 0000029545019880008200003000000000000311
Accession Number: 3358177
Update Code: 8900

Record 900 of 1145 in INSPEC 1985-1989

Title: Numerical simulation of the transport of the radioactive cloud from the Chernobyl nuclear accident

Author: Pudykiewicz-J
Author Affiliation: MEP Co., Markham, Ont., Canada

Source: Tellus,-Series-B-(Chemical-and-Physical-Meteorology). vol.40B, no.4; Sept. 1988; p.241-59
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Sweden
Language: English

Abstract: The author presents a first application of a hemispheric transport model to quantitatively evaluate the spreading of radioactive debris following the Chernobyl nuclear accident. The model employed in the simulation is essentially a simplified version of the Eulerian Long Range Transport of Air Pollutants model designed for continental scale applications. Meteorological data driving the model were obtained from the standard Canadian Meteorological Centre analysis. Simulations were performed for iodine-131, cesium-137 and xenon-133. The accident scenario was estimated using data presented at the International Atomic Energy Agency experts meeting in Vienna, in August 1986. Results of the model simulation for iodine-131 and

cesium-137 were verified against measurements for Stockholm, Resolute, Halifax and Vancouver.
Number of References: 22
Descriptors: air-pollution; atmospheric-movements; fallout-; radioactive-pollution
Identifiers: pollution-; atmosphere-; USSR-; fallout-; radioactive-cloud; Chernobyl-nuclear-accident; hemispheric-transport-model; Eulerian-Long-Range-Transport-of-Air-Pollutants; Stockholm-; Resolute-; Halifax-; Vancouver-; 131I-; 137Cs-; 133Xe-
Classification Codes: A9260T (Air-quality-and-air-pollution); A8670G (Atmosphere); A9260G (Winds-and-their-effects); A9330G (Europe); A92; A86; A93; A9; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Xe-el
Coden: TSBMD7
ISSN: 0280-6509
Copyright Clearance Center Code: 0280-6509/88/$02.50+0.00
Sort Key: 0000280650919880004000004000000000000241
Accession Number: 3308588
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04096.020
Bestand: 35.1983=>

Record 901 of 1145 in INSPEC 1985-1989

Title: The use of weather radar in assessing deposition of radioactivity from Chernobyl across England and Wales
Author: ApSimon-HM; Simms-KL; Collier-CG
Author Affiliation: Dept of Mech. Eng., Imperial Coll., London, UK
Source: Atmospheric-Environment. vol.22, no.9; 1988; p.1895-900
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Deposition of radionuclides from the Chernobyl accident depended critically on patterns of precipitation intercepting the material. This paper describes the use of the RAINPATCH model to calculate wet deposition of /sup 137/Cs over England and Wales. This puff-based model makes direct use of precipitation data measured by weather radar to determine the scavenging of airborne material. The detailed spatial and temporal resolution of when and where material was scavenged provides good agreement with measurements. Since all the data used could potentially have been available at the time, such methods could usefully be applied in real time in the event of any future accident releasing such radionuclides.
Number of References: 8
Descriptors: accidents-; air-pollution-detection-and-control; disasters-; fallout-; radar-applications; radioisotopes-

Identifiers: weather-radar; radioactivity-; England-; Wales-; radionuclides-; Chernobyl-accident; precipitation-; RAINPATCH-model; wet-deposition; puff-based-model; scavenging-; airborne-material; 137Cs-
Classification Codes: A8670L (Measurement-techniques-and-instrumentation); A8670G (Atmosphere); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9260T (Air-quality-and-air-pollution); A9330G (Europe); B7720 (Pollution-detection-and-control); B7710B (Atmosphere-ionosphere-and-magnetosphere); B6320 (Radar-equipment-systems-and-applications); A86; A92; A93; B77; B63; A8
Treatment Codes: A (Application); P (Practical); X (Experimental)
Chemical Indexing: Cs-el
Coden: ATENBP
ISSN: 0004-6981

Sort Key: 00000046981198800022000090000000000001895
Accession Number: 3307483
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 902 of 1145 in INSPEC 1985-1989

Title: The ecological consequences of the radioactive contamination of the natural environment in the region of the Chernobyl atomic power station accident
Author: Izrael'-YuA; Sokolovskii-VG; Sokolov-VE; Vetrov-VA; Dibobes-IK; Trusov-AG; Ryabov-IN; Aleksakhin-RM; Povalyaev-AP; Buldakov-LA; Borzilov-VA
Source: Soviet-Atomic-Energy. vol.64, no.1; Jan. 1988; p.33-47
Translated from: Atomnaya-Energiya. vol.64, no.1; Jan. 1988; p.28-40
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: During the first weeks and months after the accident at Chernobyl, the protection of the population from external irradiation and the intake of radionuclides with consumable local food products was one of the main problems. For solving this problem, in the first days after the accident the population and large domestic animals were evacuated from a zone with a radius of 30 km around the atomic power station. In the ensuing time, estimates and forecasts of the radioactive contamination of the agricultural production in regions adjacent to atomic power stations and, in more general terms, estimates and forecasts of the radioecological consequences of the contamination of the natural environment of both the natural and the agricultural ecosystems were made one of the tasks of prime importance.
Number of References: 5
Descriptors: accidents-; disasters-; fission-reactor-safety; radioactive-pollution

Identifiers: Ukrainian-SSR; USSR-; Chernobyl-atomic-power-station-accident; protection-; population-; external-irradiation; radionuclides-; consumable-local-food-products; large-domestic-animals; radioactive-contamination; radioecological-consequences; contamination-; natural-environment; agricultural-ecosystems
Classification Codes: A8670C (Soil-and-rock); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A9330G (Europe); A86; A28; A93; A8; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6401-0033$12.50
Sort Key: 00000047163198800064000010000000000000028
Accession Number: 3304066
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 903 of 1145 in INSPEC 1985-1989

Title: Analysis of the first phase of the development of the accident in the fourth block of the Chernobyl atomic power station
Author: Adamov-EO; Vasilevskii-VP; Ionov-AI; Nikitin-YuM; Panin-VM; Podlazov-LN; Stenbok-IA; Rogova-VD; Cherkashov-YuM
Source: Soviet-Atomic-Energy. vol.64, no.1; Jan. 1988; p.27-33
Translated from: Atomnaya-Energiya. vol.64, no.1; Jan. 1988; p.24-8
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The present article presents results of an analysis of the possible development of the first phase of the accident from the moment at which the AZ-5 knob was depressed; the analysis was made with the three-dimensional dynamic TRIADA program. The data of the time before depressing the AZ-5 knob and the results of calculations of the nonmeasurable parameters, were used as the initial and boundary conditions in the calculations.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; nuclear-engineering-computing
Identifiers: fourth-block; Chernobyl-atomic-power-station; first-phase; accident-; AZ-5-knob; three-dimensional-dynamic-TRIADA-program; nonmeasurable-parameters; boundary-conditions
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841C (Computer-codes); A2850G (Light-water-reactors); C7470 (Nuclear-engineering); A28; C74; A2
Treatment Codes: T (Theoretical-or-Mathematical)

Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6401-0027$12.50
Sort Key: 0000004716319880006400001000000000000024
Accession Number: 3304065
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 904 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident: one year later
Author: Asmolov-VG; Borovoi-AA; Demin-VF; Kalugin-AK; Kuz'min-II; Kulakov-VM; Legasov-VA; Lunin-GL; Ponomarev-Stepnoi-NN; Protsenko-AN; Sukhoruchkin-VK; Khrulev-AA; Shakh-OYa; Adamov-EO; Podlazov-LN; Cherkashov-YuM; Abagyan-AA; Dmitriev-VM; Shkurpelov-AA; Il'in-LA; Pavloskii-OA; Ryabov-IN; Sokolov-VE; Povalyaev-AP; Avdyushin-SI; Izrael'-YuA; Petrov-VN; Pisarev-VV
Source: Soviet-Atomic-Energy. vol.64, no.1; Jan. 1988; p.1-27
Translated from: Atomnaya-Energiya. vol.64, no.1; Jan. 1988; p.3-23
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: The authors review the Chernobyl accident and what has been done since. Work has been done on reliable environmental shielding for the destroyed reactor, decontamination of the plant and nearby locality and monitoring schemes for the local population and area. New measures for reactor safety have been developed.
Number of References: 6
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design; radiation-decontamination; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-accident; environmental-shielding; destroyed-reactor; decontamination-; plant-; monitoring-schemes; reactor-safety
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2841 (Fission-reactor-theory-and-design); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A8670 (Environmental-science); A2880F (Radiation-monitoring-and-radiation-protection); A2850G (Light-water-reactors); A28; A87; A86; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/88/6401-0001$12.50
Sort Key: 0000004716319880006400001000000000000003
Accession Number: 3304064
Update Code: 8900

Record 905 of 1145 in INSPEC 1985-1989

Title: Estimates of radiation dose and health risks to the United States population following the Chernobyl nuclear plant accident
Author: Broadway-JA; Smith-JM; Norwood-DL; Porter-CR
Author Affiliation: US Environ. Protection Agency, Office of Radiat. Programs, Eastern Environ. Radiat. Facility, Montgomery, AL, USA
Source: Health-Physics. vol.55, no.3; Sept. 1988; p.533-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Estimates of both individual and collective doses received by the United States population following the Chernobyl accident have been made by using the data obtained from the US Environmental Protection Agency's Environmental Radiation Ambient Monitoring System. Radionuclides associated with the debris first were measured in precipitation and surface air particulates at Portland, OR and Olympia, WA on 5 May 1986. Iodine-131 was the most consistently measured nuclide in all media, although several Cs and Ru isotopes also were observed. Strontium and any actinides notably were absent from the samples at the lower level of detection. The highest calculated individual-organ dose due to intake during May and June 1986 was 0.52 mSv to the infant thyroid in the state of Washington. This was predominantly (98%) from the ingestion of milk. The maximum US collective dose equivalent to any organ was calculated to be 3300 person-Sv to the thyroid.
Number of References: 18
Descriptors: air-pollution; dosimetry-; fallout-; health-hazards; radioactive-pollution
Identifiers: USA-; Oregon-; excess-lung-cancer-deaths; radiation-dose; health-risks; United-States-population; Chernobyl-nuclear-plant-accident; precipitation-; surface-air-particulates; Portland-; Olympia-; individual-organ-dose; infant-thyroid; Washington-; ingestion-; collective-dose-equivalent
Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670G (Atmosphere); A2880C (Dosimetry); A9330H (North-America); A87; A86; A28; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/88/$3.00+.00
Sort Key: 0000017907819880005500003000000000000533
Accession Number: 3299824
Update Code: 8900

Bestand: 1.1958=> L:3

Record 906 of 1145 in INSPEC 1985-1989

Title: Fuzzy human reliability analysis on the Chernobyl accident
Author: Onisawa-T; Nishiwaki-Y
Author Affiliation: Dept. of Basic Eng., Kumamoto Univ., Japan
Source: Fuzzy-Sets-and-Systems. vol.28, no.2; Nov. 1988; p.115-27
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: Compares the result of fuzzy reliability analysis using error possibility with that of probabilistic analysis on the accident at the Chernobyl nuclear power plant. The case study shows that fuzzy reliability analysis gives information from more points of view than probabilistic analysis.
Number of References: 5
Descriptors: fuzzy-set-theory; human-factors; nuclear-power-stations; reliability-
Identifiers: human-factors; fuzzy-set-theory; nuclear-power-stations; Chernobyl-accident; fuzzy-reliability-analysis; error-possibility; probabilistic-analysis; Chernobyl-nuclear-power-plant
Classification Codes: C1270 (Man-machine-systems); C1160 (Combinatorial-mathematics); C12; C11; C1
Treatment Codes: P (Practical)
Coden: FSSYD8
ISSN: 0165-0114
Copyright Clearance Center Code: 0165-0114/88/$3.50
Sort Key: 00001650114198800028000020000000000000115
Accession Number: 3299497
Update Code: 8900

Record 907 of 1145 in INSPEC 1985-1989

Title: Dose assessment of the Chernobyl accident in Taiwan
Author: Lin-YM; Huang-CC
Author Affiliation: Taiwan Radiat. Monitoring Center, Kaohsiung, Taiwan
Source: Nuclear-Science-Journal. vol.25, no.4; Aug. 1988; p.294-300
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Taiwan
Language: English
Abstract: Studies the components of the original and continued released fission products due to the Chernobyl accident which reached Taiwan from early to mid-May, 1986. Air sampling, gummed films, water trays rainwater, vegetables, drinking water, milk,

pasture and food samples were collected and analyzed starting on May 1 in an attempt to assess the extent of the accident and its consequences. The reported arrival of the radioactive plume based on the observation of detectable amounts of radioactivity and the resultant concentrations of /sup 131/I and /sup 137/Cs in rainwater was on May 7 in the northern part of Taiwan. Maximum concentration of fission products with /sup 131/I as the principal radionuclide occurred on May 16 as a result of movement of a south-bound cold front. However, the radioactivity decreased rather rapidly after May 20. The external exposure monitored with a continuous monitoring system was 2.94*10/sup -8/ C kg/sup -1/ (114 mu R) during May 5-25 which is equivalent to 1/4 of the natural terrestrial radiation in Taiwan for the same period. The internal exposure due to inhalation and ingestion mainly from /sup 131/I was 1 mu Sv (0.1 mrem) in effective dose equivalent which is equivalent to 1/1340 of the annual dose equivalent incurred by the naturally occurring radionuclides. The effects of the remaining radionuclides in the fission products due to this accident are negligible.

Number of References: 4

Descriptors: accidents-; air-pollution-detection-and-control; dosimetry-; fission-products; radioactive-pollution; water-pollution-detection-and-control

Identifiers: dose-; Chernobyl-; Taiwan-; fission-products; rainwater-; vegetables-; drinking-water; milk-; pasture-; food-; exposure-; internal-exposure; inhalation-; ingestion-; effective-dose-equivalent; 131I-; 137Cs-

Classification Codes: A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A8670E (Water); A8670G (Atmosphere); A87; A86; A8

Treatment Codes: X (Experimental)

Chemical Indexing: I-el; Cs-el

Coden: HTKHAB

ISSN: 0029-5647

Sort Key: 0000029564719880002500004000000000000294

Accession Number: 3290704

Update Code: 8900

Record 908 of 1145 in INSPEC 1985-1989

Title: Measurements of /sup 134/Cs and /sup 137/Cs by gamma spectrometry in some Italian soils following the nuclear reactor accident of Chernobyl

Author: Conte-E; Pieralice-M

Author Affiliation: Lab. de Radioattivita e Metodologie Radioisotopiche, Settore Protezione Civile, Bari, Italy

Source: Nuovo-Cimento-C. vol.11C, ser.1, no.3; May-June 1988; p.249-55

Publication Year: 1988

Record Type: Journal-article

Country of Publication: Italy

Language: English

Abstract: The concentration as well as the vertical distribution of /sup 134/Cs and /sup 137/CS were determined in several soil samples subsequently to the Chernobyl

accident. The soil samples were selected in some representative geomorphological situation in the Apulia region of Italy. Both undisturbed and cultivated soils were considered. The total deposition of /sup 137/Cs as due to the Chernobyl accident was estimated and the results obtained were controlled by measurements of the radioactive fall-out in rain and snow during 1986 and 1987. Also the deposition of /sup 239,240/Pu during 1986 and 1987 was measured.

Number of References: 5

Descriptors: accidents-; air-pollution; caesium-; fallout-; plutonium-; radioactive-pollution; soil-

Identifiers: radioactive-pollution; soil-; Italy-; USSR-; 239Pu-; 240Pu-; AD-1986; AD-1987; 134Cs-; 137Cs-; nuclear-reactor-accident; Chernobyl-; concentration-; vertical-distribution; accident-; Apulia-; deposition-; Cs-; Pu-

Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A8760R (Radioactive-pollution); A86; A92; A93; A87; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Pu-el

Coden: NIFCAS

ISSN: 0390-5551

Sort Key: 00003905551198800011000030000000000000249

Accession Number: 3284728

Update Code: 8900

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02607.030

Bestand: 1.Ser.1.1978=>

Record 909 of 1145 in INSPEC 1985-1989

Title: Environmental and human body radionuclide contamination. After Chernobyl accident: faults, experiences and lessons learned

Author: Bek-Uzarov-D

Source: Nuklearna-Tehnologija. vol.8, no.1; 1988; p.18-24

Publication Year: 1988

Record Type: Journal-article

Country of Publication: Yugoslavia

Language: English

Abstract: The paper presents the concise chronology of events starting with the Chernobyl accident on 26 April 1986, followed by the contamination of Yugoslav territory, particularly Beograd's environment. Some mechanisms of human body contamination by food and water are presented. The results of radionuclide radiation hygiene are given and some conclusions about precautionary measures in cases of nuclear accidents in general are made. Whole body measurements of internal contamination activities and equivalent dose rates in humans from domestic populations as well as from some Yugoslav citizens in the USSR are presented. The recommended activities, which

should be carried out to reduce the radiation consequences risks to the population are given.

Number of References: 12
Descriptors: accidents-; dosimetry-; radioactive-pollution; water-pollution
Identifiers: whole-body-measurement; Chernobyl-accident; Yugoslav-; Beograd's-; human-body-contamination; food-; water-; radionuclide-radiation-hygiene; internal-contamination-activities; equivalent-dose-rates; USSR-
Classification Codes: A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A8670E (Water); A87; A86; A8
Treatment Codes: G (General-or-Review)
Coden: NUKEA7
ISSN: 0351-689X
Sort Key: 0000351689X19880000800001000000000000018
Accession Number: 3282133
Update Code: 8900

Record 910 of 1145 in INSPEC 1985-1989

Title: The impact of the Chernobyl accident on radiation protection
Author: Paretzke-HG
Author Affiliation: Inst. for Radiat. Protection, Neuherberg, West Germany
Source: Health-Physics. vol.55, no.2; Aug. 1988; p.139-43
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 25th Hanford Life Sciences Symposium: Radiation Protection - A Look to the Future. 21-23 Oct. 1986; Richland, WA, USA
Country of Publication: UK
Language: English
Abstract: Scientific progress in radiation protection has not been as dramatic as progress in other scientific endeavours, because many users of ionizing radiation have perceived that the major technical and institutional problems have already been solved. This misperception is not based on solid fact and is not shared by radiation protection professionals. Experience gained as a consequence of the Chernobyl accident has highlighted new problems and demonstrated the urgency of finding better answers to some old questions. This paper addressed the future impact of the recent Chernobyl accident on the science of radiation protection. In summary, the accident demonstrated that particular emphasis should be directed toward: improvement of dosimetric and health-effect models for predicting the consequences of exposure of the public to low doses of ionizing radiation; development of optimized, realistic countermeasures and improvement in emergency preparedness; education of the public, including students, scientists and politicians with regard to radiation protection issues; development of advanced computer programs and radiation instruments for evaluating reactor accidents and their consequences; transfer of learned concepts, methods and approaches to other scientific fields, such as environmental sciences, toxicology, pharmacology, etc.

Number of References: 4
Descriptors: accidents-; dosimetry-; fission-reactor-safety; health-hazards; radiation-protection; radioactive-pollution
Identifiers: dosimetric-models; optimised-realistic-countermeasures; education-; radioactive-pollution; Chernobyl-accident; radiation-protection; health-effect-models; exposure-; low-doses; ionizing-radiation; emergency-preparedness; the-public; students-; scientists-; politicians-; advanced-computer-programs; radiation-instruments; reactor-accidents; learned-concepts; environmental-sciences; toxicology-; pharmacology-
Classification Codes: A8760P (Radiation-protection); A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A87; A28; A8; A2
Treatment Codes: G (General-or-Review)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/88/$3.00+.00
Sort Key: 0000017907819880005500002000000000000139
Accession Number: 3281617
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 911 of 1145 in INSPEC 1985-1989

Title: Chernobyl: one year later
Author: Lutz-RJ-Jr; Hochreiter-LE; Mcadoo-JD; Liparulo-NJ
Author Affiliation: Westinghouse Electr. Corp., Pittsburgh, PA, USA
Source: Proceedings of the American Power Conference. Illinois Inst. Technol, Chicago, IL, USA; 1987; xxxi+1088 pp.
p.597-601
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 27-29 April 1987; Chicago, IL, USA. Sponsored by: Illinois Inst. Technol.; Iowa State Univ.; IEEE; et al
Country of Publication: USA
Language: English
Abstract: The accident at the fourth unit of the Chernobyl Atomic Energy Station on April 26, 1986 was a very sobering event to the world. According to Soviet accounts, the accident was a result of a combination of design vulnerabilities and errors on the part of the reactor operating staff. The exact circumstances that resulted in the Chernobyl accident were termed to be 'incredible' by Soviet engineers. The authors show that the root causes of the Chernobyl accident were a combination of improper design goals for electrical power production, and complacency in the design and operation of the Chernobyl Unit 4 Station.

Number of References: 17
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: nuclear-power-stations; USSR-; FRS-; Chernobyl-; accident-; design-; operating-staff; electrical-power-production
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); A28; B82; B01; A2
Treatment Codes: P (Practical)
Sort Key: 10000000000198700000000000000000000000597
Accession Number: 3277506
Update Code: 8900

Record 912 of 1145 in INSPEC 1985-1989

Title: Nuclear energy in Europe after Chernobyl
Author: Carle-R
Author Affiliation: Electricite de France, Paris, France
Source: Proceedings of the American Power Conference. Illinois Inst. Technol, Chicago, IL, USA; 1987; xxxi+1088 pp.
p.595-6
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 27-29 April 1987; Chicago, IL, USA. Sponsored by: Illinois Inst. Technol.; Iowa State Univ.; IEEE; et al
Country of Publication: USA
Language: English
Abstract: The author describes and discusses the impact of the Chernobyl nuclear accident on European nuclear energy programmes. Despite Chernobyl, nuclear power remains reliable, clean and safe energy, vital for the future. It is clear that France and Japan do not want to remain the only nations in the world going ahead with nuclear energy. The United States remains today the first nuclear nation, with more than 100 units in operation, and the United States cannot avoid the fact that they are an example for most other nations. The author argues that it is necessary in the near future, for all developed countries to recognize the importance of launching new nuclear programmes.
Number of References: 0
Descriptors: electricity-supply-industry; nuclear-power-stations; safety-
Identifiers: electricity-supply-industry; safety-; USA-; Europe-; Chernobyl-nuclear-accident; nuclear-energy-programmes; France-; Japan-
Classification Codes: B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); B82; B01; B8; B0
Treatment Codes: G (General-or-Review)
Sort Key: 10000000000198700000000000000000000000595
Accession Number: 3277505
Update Code: 8900

Record 913 of 1145 in INSPEC 1985-1989

Title: Chernobyl one year later
Author: Lee-B-Jr
Author Affiliation: Commonwealth Edison Co., Chicago, IL, USA
Source: Proceedings of the American Power Conference. Illinois Inst. Technol, Chicago, IL, USA; 1987; xxxi+1088 pp.
p.591-4
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 27-29 April 1987; Chicago, IL, USA. Sponsored by: Illinois Inst. Technol.; Iowa State Univ.; IEEE; et al
Country of Publication: USA
Language: English
Abstract: The author presents his views on the impact of the Chernobyl nuclear accident on the US utility industry. He also examines the findings of a nuclear utility study group, whose objectives were: (1) to learn as much as possible of the causes of the accident as well as the post-accident response and recovery experience; (2) to identify whatever lessons there may be for US reactor design, construction and operation; and (3) to give direction to the response to the legitimate questions raised by this event.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: FRS-; USA-; Chernobyl-nuclear-accident; utility-industry; post-accident-response; recovery-; reactor-design; construction-; operation-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220 (Nuclear-power-stations-and-plants); B0160 (Plant-engineering-maintenance-and-safety); A28; B82; B01; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019870000000000000000000000591
Accession Number: 3277504
Update Code: 8900

Record 914 of 1145 in INSPEC 1985-1989

Title: Chernobyl-a reminder
Author: Kerr-W
Author Affiliation: Michigan Univ., Ann Arbor, MI, USA
Source: Proceedings of the American Power Conference. Illinois Inst. Technol, Chicago, IL, USA; 1987; xxxi+1088 pp.
p.586-90
Publication Year: 1987
Record Type: Conference-Paper

Conference Details: 27-29 April 1987; Chicago, IL, USA. Sponsored by: Illinois Inst. Technol.; Iowa State Univ.; IEEE; et al
Country of Publication: USA
Language: English
Abstract: Slightly more than one year ago, the most serious power reactor accident that has yet occurred, began in one RBMK 1000 reactor unit of the Chernobyl nuclear power station, north of Kiev, in the Soviet Union. Generally, it has been concluded that, because of the differences in the design and the operating characteristics of the RBMK 1000, and of the reactor power plants in current operation in the USA, an accident of the kind that happened at the Chernobyl power plant cannot occur in the USA. The author shows that there are, nevertheless, lessons to be learned from this accident, and explains that it is important to carefully study accidents that do occur in an effort to make them even less likely.
Number of References: 7
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: nuclear-accidents; FRS-; power-reactor-accident; Chernobyl-; nuclear-power-station; design-; operating-characteristics; RBMK-1000
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019870000000000000000000000586
Accession Number: 3277503
Update Code: 8900

Record 915 of 1145 in INSPEC 1985-1989

Title: Lessons from the dispersion and deposition of debris from Chernobyl
Author: Smith-FB
Author Affiliation: Meteorol. Office, Bracknell, UK
Source: Meteorological-Magazine. vol.117, no.1395; Oct. 1988; p.310-17
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radioactivity escaped from the wrecked reactor at Chernobyl for 10 days and spread over most of Europe. Part of the debris crossed Britain a week after it was emitted. Heavy thunderstorms and northward-moving cold front washed out much of the radioactive iodine and caesium, especially on to the upland areas of North Wales, northern England, south-west Scotland, and Ulster. Several lessons have been learnt, including information on the dry and wet removal rates. These lessons are discussed in this paper.
Number of References: 3

Descriptors: accidents-; aerosols-; air-pollution; atmospheric-movements; atmospheric-precipitation; meteorology-; radioactive-pollution; rain-; reviews-
Identifiers: radioactive-debris-dispersion; radionuclides-deposition; wet-deposition; dry-deposition; aerosol-particles-sedimentation; AD-1986-04-26-to-05-04; United-Kingdom; UK-; dry-removal-rates; rain-washout; agricultural-effects; sheep-farming; vegetation-retention; meteorology-; Chernobyl-; wrecked-reactor; Europe-; Britain-; thunderstorms-; northward-moving-cold-front; upland-areas; North-Wales; northern-England; south-west-Scotland; Ulster-; wet-removal-rates; 131I-deposition; 134Cs-; 137Cs-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A9260B (General-circulation); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9330K (Islands); A9330G (Europe); A9260M (Particles-and-aerosols); A9260X (Weather-analysis-and-prediction); A0130R (Reviews-and-tutorial-papers-resource-letters); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A86; A87; A92; A93; A01; A28; A8
Treatment Codes: G (General-or-Review)
Chemical Indexing: I-el; Cs-el; Cs-el
Coden: MTMGA5
ISSN: 0026-1149
Sort Key: 0000026114919880011701395000000000000310
Accession Number: 3273467
Update Code: 8900

Record 916 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl nuclear accident for Hungary
Author: Viragh-E
Author Affiliation: Nucl. Training Reactor, Tech. Univ. Budapest, Hungary
Source: Kernenergie. vol.31, no.6; June 1988; p.258-62
Publication Year: 1988
Record Type: Journal-article
Country of Publication: East Germany
Language: English
Abstract: As a consequence of the Chernobyl accident a monitoring and control center has been built in Hungary. It has organized both an efficient nuclear environmental surveillance in the country and co-ordination of decision making on the basis of the results of measurements. After listing the organizations that took part in environmental surveillance, the author presents some characteristic results of the measurements, describes the most important measures taken, and gives estimates concerning additional exposure of the Hungarian population due too the Chernobyl accident.
Number of References: 5
Descriptors: accidents-; dosimetry-; fission-reactor-safety; radiation-monitoring; radioactive-pollution

Identifiers: radiation-monitoring; radiation-doses; radioactive-pollution; Chernobyl-nuclear-accident; Hungary-; environmental-surveillance
Classification Codes: A8760P (Radiation-protection); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); A8760M (Radiation-dosimetry); A2880C (Dosimetry); A87; A28; A8; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: KERNAQ
ISSN: 0023-0642
Sort Key: 0000023064219880003100006000000000000258
Accession Number: 3271409
Update Code: 8900

Record 917 of 1145 in INSPEC 1985-1989

Title: The comparison of generic model predictions with Chernobyl fallout data on the transfer of radioiodine over the air-pasture-cow-milk pathway
Author: Hoffman-FO; Amaral-E; Mohrbacher-DA; Deming-EJ
Author Affiliation: Div. of Environ. Sci., Oak Ridge Nat. Lab., TN, USA
Source: Journal-of-Environmental-Radioactivity. vol.8, no.1; 1988; p.53-71
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Data have been collected on concentrations of /sup 131/I in air, vegetation and milk from numerous locations receiving Chernobyl fallout. Time-integrated concentrations derived from these data are used to compare predictions from generic models used for routine environmental radiological assessments. In general, the models markedly overestimated the transfer of /sup 131/I over the air-grass-cow-milk pathway. The reasons for this overestimate appear to be related to a combination of different factors, among which overestimation of the dry deposition velocity assumed for elemental /sup 131/I, overestimation of the interception and retention of wet-deposited /sup 131/I by pasture vegetation and overestimation of the cow's diet-to-milk transfer coefficient appear to be most important. The low transfer of Chernobyl /sup 131/I from air to milk indicates that the direct inhalation of contaminated air by humans may be more important in determining the /sup 131/I exposure to large populations than the consumption of contaminated cow's milk. Radiological assessments conducted prior to the Chernobyl accident have typically assumed that /sup 131/I exposure would be dominated by the consumption of milk. The consumption of milk, however, is still of dominant importance for the exposure of critical population subgroups composed of infants and small children.
Number of References: 44
Descriptors: fallout-; health-hazards; iodine-; radioactive-pollution; radioisotopes-

Identifiers: generic-model-predictions; Chernobyl-fallout; air-pasture-cow-milk-pathway; air-; vegetation-; milk-; dry-deposition-velocity; pasture-vegetation; diet-to-milk-transfer-coefficient; infants-; small-children; 131I-
Classification Codes: A8760R (Radioactive-pollution); A8670C (Soil-and-rock); A87; A86; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: I-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000800001000000000000053
Accession Number: 3271361
Update Code: 8900

Record 918 of 1145 in INSPEC 1985-1989

Title: Examination of hot particles collected in Budapest following the Chernobyl accident
Author: Balashazy-I; Feher-I; Szabadyne-Szende-G; Lorinc-M; Zombori-P; Pogany-L
Author Affiliation: Central Res. Inst. for Phys., Budapest, Hungary
Source: Radiation-Protection-Dosimetry. vol.22, no.4; 1988; p.263-7
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The results of Ge(Li) gamma spectrometric examination of hot particles prepared from dust in air samples collected in Budapest after the Chernobyl accident are presented. Fifteen particles with gamma activities in the range 25-600 Bq were separated from dust collected by an air conditioner filter between 29 April and 8 May 1986. The concentration of hot particles in air was estimated to be 5*10/sup -5/ particles per m/sup 3/. On the basis of isotopic composition two different types of particles were found with geometric diameters in the range 3-10 mu m. An order of magnitude estimate of the risk of lung cancer due to inhaled hot particles was estimated to be less than 10/sup -10/ for individuals resident in Budapest.
Number of References: 12
Descriptors: accidents-; air-pollution; gamma-ray-spectroscopy; radioactive-pollution
Identifiers: radioactive-dust; Budapest-; Chernobyl-accident; hot-particles; air-samples; air-conditioner-filter; isotopic-composition; lung-cancer; 25-to-600-Bq; Ge:Li-spectrometer
Classification Codes: A8760R (Radioactive-pollution); A8670G (Atmosphere); A87; A86; A8
Treatment Codes: P (Practical); X (Experimental)
Numerical Data Indexing: radioactivity 2.5 E01 to 6.0 E02 Bq
Chemical Indexing: Ge:Li-bin Ge-bin Li-bin Ge-el Li-el Li-dop
Coden: RPDODE
ISSN: 0144-8420

Sort Key: 00001448420198800022000040000000000000263
Accession Number: 3268415
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 919 of 1145 in INSPEC 1985-1989

Title: Variations in activity concentration and radionuclide ratio in air after the Chernobyl accident and its relevance to inhalation dose estimates
Author: Mueck-K
Author Affiliation: Austrian Res. Centre Seibersdorf, Austria
Source: Radiation-Protection-Dosimetry. vol.22, no.4; 1988; p.219-29
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The activity concentration in air in Eastern Austria after the accident at the Chernobyl power plant was measured by noble gas monitoring, aerosol activity sampling and measurement of volatiles. In addition to the activity concentration of various radionuclides, the ratio of the aerosol component to the volatile component of /sup 131/I is given for the whole accident sequence. It shows significant variations from 0.1 to 1.2 with high values of the ratio appearing at high total activity concentrations. The ratio in the predominant inhalation phase amounted to 0.5 to 0.6. The ratios for various radionuclides with regard to each other also show significant patterns with time ranging over almost one order of magnitude. Possible explanations are wash-out effects as well as changing source terms at the destroyed power plant rather than 'hot particles' deposited on the filter sample. From the data of activity concentration in air and on ground values for the dry deposition velocity, the wash-out rate and the resuspension rate were determined.
Number of References: 14
Descriptors: accidents-; dosimetry-; radioactive-pollution
Identifiers: air-activity-concentration; radionuclide-ratio; Chernobyl-accident; inhalation-dose-estimates; noble-gas-monitoring; aerosol-activity-sampling; wash-out-effects; dry-deposition-velocity; 131I-
Classification Codes: A8760R (Radioactive-pollution); A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A87; A28; A8; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 00001448420198800022000040000000000000219
Accession Number: 3268410
Update Code: 8900

Record 920 of 1145 in INSPEC 1985-1989

Title: Measures taken to improve the safety of nuclear power plants in the USSR after the Chernobyl accident

Author: Ponomarev-Stepnoi-NN
Author Affiliation: I.V. Kurchatov Inst. of Atomic Energy, Moscow, USSR

Source: Proceedings of the U.S. Nuclear Regulatory Commission Fifteenth Water Reactor Safety Information Meeting (NUREG/CP-0091). US Nucl. Regul. Comm, Washington, DC, USA; Feb. 1988; 6 vol. (xvii+477+xvii+457+xvii+413+xvii+607+xvi+464+xvi+250) pp.
p.31-54 vol.1
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 26-29 Oct. 1987; Gaithersburg, MD, USA
Country of Publication: USA
Language: English

Abstract: The author discusses continuing operations to eliminate the accident's consequences including: (i) completing the design and construction of a protective cover (sarcophagus) to reliably protect the environment from radioactivity and the introduction of radioactive matter from the destroyed unit; (ii) further decontamination of the Chernobyl Nuclear Power Plant site and inhabited areas within the affected zone; (iii) carrying out required sanitary and medical measures to ensure the safety of the population and to protect their health; (iv) development and implementation of longitudinal studies of the long-term consequences of the accident; (v) development and introduction of measures to increase the safety of working nuclear power stations; and (vi) examination of plans for the future development of the nuclear power industry and prospects for increasing its safety level, including: (a) the conceptual development of a new generation of nuclear reactors; and (b) the expansion of scientific investigation into all aspects of safety assessment and safety assurance in the nuclear power industry. The author examines the progress of studies along these lines and the conclusions which have been drawn.

Number of References: 0
Descriptors: accidents-; fission-reactor-safety; health-hazards; nuclear-power-stations; radiation-decontamination; safety-
Identifiers: nuclear-power-plants; USSR-; Chernobyl-accident; sarcophagus-; decontamination-; medical-measures; long-term-consequences; nuclear-power-industry; safety-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760P (Radiation-protection); A28; A87; A2; A8
Treatment Codes: P (Practical)
Availability: US Gov. Printing Office, Washington, DC, USA

Sort Key: 10000000000198800000000000000000000000031
Accession Number: 3266512
Update Code: 8900

Record 921 of 1145 in INSPEC 1985-1989

Title: Environmental radioactivity measurements at Berkeley Nuclear Laboratories during the year following the Chernobyl accident
Author: Hancock-R; Woollam-PB
Author Affiliation: Nucl. Labs., CEGB, Berkeley, UK
Source: Journal-of-Radiological-Protection. vol.8, no.3; Sept. 1988; p.139-48
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The accident which destroyed Unit 4 of the Chernobyl Nuclear Power Station on 26 April 1986 provided the world's scientists with an opportunity, unique in recent years, to study many of the processes which follow the release of large quantities of radioactivity into the atmosphere. BNL undertook a wide ranging programme of environmental measurements after the accident, the immediate aim being to supply HM Government with data to help assess the radiological consequences to the UK population. As it became clear that the UK dose commitment was relatively low, the thrust of the measurements began to be concentrated on airborne radioactivity and the movement of nuclides in the grass-soil system. The aim of these studies was to assess dispersion and diffusion of radioactivity in these particular compartments of the environment. The measurements have continued over the 12 month period since the Chernobyl accident. The authors disseminate the year's data and offer some initial interpretation of the trends.
Number of References: 9
Descriptors: accidents-; air-pollution; pollution-; radioactive-pollution; radioactivity-measurement; soil-
Identifiers: environmental-radioactivity-measurement; Chernobyl-; environmental-measurements; airborne-radioactivity; grass-soil-system; dispersion-; diffusion-
Classification Codes: A8670G (Atmosphere); A8670C (Soil-and-rock); A86; A8
Treatment Codes: X (Experimental)
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/88/030139+10$02.50
Sort Key: 00009524746198800008000030000000000000139
Accession Number: 3263827
Update Code: 8900
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 922 of 1145 in INSPEC 1985-1989

Title: Long lived isotopes in the Chernobyl radioactive cloud at Cracow
Author: Mietelski-JW; Broda-R; Sieniawski-J
Author Affiliation: Inst. of Nucl. Phys., Cracow, Poland
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.127, no.5; 15 July 1988; p.367-78
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The analysis of the residual gamma -radioactivity in air filters exposed during the passage of the Chernobyl radioactive cloud over Cracow area gave data on the variation in time of the relative contribution of long lived radioisotopes. Conclusions on the transport properties of some elements are deduced from the obtained results.
Number of References: 10
Descriptors: accidents-; air-pollution-detection-and-control; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: Poland-; radionuclides-; Chernobyl-radioactive-cloud; Cracow-; residual-gamma-radioactivity; air-filters; long-lived-radioisotopes; transport-properties
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012700005000000000000367
Accession Number: 3261909
Update Code: 8900

Record 923 of 1145 in INSPEC 1985-1989

Title: The social and political impact of Chernobyl in the Federal Republic of Germany
Author: Roser-T
Source: Uranium and Nuclear Energy: 1987. Proceedings of the Twelfth International Symposium. Uranium Inst, London, UK; 1988; xvii+454 pp.
p.313-20
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 2-4 Sept. 1987; London, UK
Country of Publication: UK
Language: English
Descriptors: accidents-; economic-and-sociologic-effects; politics-
Identifiers: FRG-; political-impact; Chernobyl-; Federal-Republic-of-Germany
Classification Codes: A0175 (Science-and-society); A01; A0
Treatment Codes: G (General-or-Review)

ISBN: 094677711X
Sort Key: 1094677711X19880000000000000000000000313
Accession Number: 3259596
Update Code: 8800

Record 924 of 1145 in INSPEC 1985-1989

Title: Public responses to Chernobyl: lessons for risk management and communication
Author: Renn-O
Author Affiliation: Clark Univ., Worcester, MA, USA
Source: Uranium and Nuclear Energy: 1987. Proceedings of the Twelfth International Symposium. Uranium Inst, London, UK; 1988; xvii+454 pp.
p.53-66
Publication Year: 1988
Record Type: Conference-Paper
Conference Details: 2-4 Sept. 1987; London, UK
Country of Publication: UK
Language: English
Abstract: This paper addresses the question of how the public in many European countries and the US perceived the danger of the radiation fallout from Chernobyl and how they reacted to the management of risk in each country. In addition, the lessons learned about communicating risk are discussed on the basis of studies of public attitudes and the effects of media coverage.
Number of References: 19
Descriptors: accidents-; economic-and-sociologic-effects
Identifiers: public-response; Chernobyl-; risk-management; communication-; European-countries; US-; radiation-fallout; public-attitudes; media-coverage
Classification Codes: A0175 (Science-and-society); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A01; A28; A0; A2
Treatment Codes: G (General-or-Review)
ISBN: 094677711X
Sort Key: 1094677711X19880000000000000000000000053
Accession Number: 3259584
Update Code: 8800

Record 925 of 1145 in INSPEC 1985-1989

Title: US nuclear energy after Three Mile Island and Chernobyl
Author: Phelps-RF
Author Affiliation: Dept. of Electr. Eng., US Air Force Acad., Colorado Springs, CO, USA
Source: IEEE Region 5 Conference 1988: Spanning the Peaks of Electrotechnology (Cat. No.88CH2567-6). IEEE, New York, NY, USA; 1988; xii+248 pp.
p.55-9
Publication Year: 1988

Record Type: Conference-Paper
Conference Details: 21-23 March 1988; Colorado Springs, CO, USA. Sponsored by: IEEE
Country of Publication: USA
Language: English
Abstract: The current state of nuclear power in the US is explored with particular emphasis on the effects of the nuclear accidents at the Three Mile Island (TMI) nuclear plant in 1979, and most recently at Chernobyl in 1986. The status of the US nuclear power industry is examined, and the current turmoil is discussed. The future of nuclear power in the US is assessed with respect to perceived national security needs and loss of public confidence.
Number of References: 10
Descriptors: fission-reactor-safety; nuclear-power
Identifiers: US-nuclear-energy; Three-Mile-Island; Chernobyl-; nuclear-power; nuclear-accidents; national-security-needs; public-confidence
Classification Codes: A8610N (Nuclear-energy); A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220 (Nuclear-power-stations-and-plants); A86; A28; B82; A8; A2; B8
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019880000000000000000000000055
Accession Number: 3259418
Update Code: 8800

Record 926 of 1145 in INSPEC 1985-1989

Title: Chernobyl accident observed on Ryukyu Islands
Author: Taira-H; Uema-H
Author Affiliation: Dept. of Chem., Ryukyus Univ., Okinawa, Japan
Source: Bulletin-of-the-College-of-Science,-University-of-the-Ryukyus. no.44; Oct. 1987; p.87-100
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: The Chernobyl accident occurred on April 26th 1986 contaminating the atmosphere with large amounts of fission products. The radionuclides from the accident were observed on Okinawa Island on May 5th, two days after the first observations on mainland Japan. The nuclides detected included /sup 99/Mo, /sup 132/Te, /sup 131/I, /sup 132/I, /sup 134/Cs, /sup 137/Cs and /sup 103/Ru.
Number of References: 9
Descriptors: accidents-; air-pollution; fission-products; radioactive-pollution; radioisotopes-
Identifiers: air-pollution; Ryukyu-Islands; Chernobyl-accident; atmosphere-; fission-products; radionuclides-; Okinawa-Island; 99Mo-; 132Te-; 131I-; 132I-; 134Cs-; 137Cs-; 103Ru-

Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Mo-el; Te-el; I-el; I-el; Cs-el; Cs-el; Ru-el
Coden: BCSRDZ
ISSN: 0286-9640
Sort Key: 0000286964019870000000044000000000000087
Accession Number: 3249643
Update Code: 8800

Record 927 of 1145 in INSPEC 1985-1989

Title: Radioactive contamination of the atmosphere of Doha-Qatar from the Chernobyl accident
Author: Al-Houty-L; El-Kameesy-S; Abou-Leila-H
Author Affiliation: Dept. of Phys., Qatar Univ., Doha, Qatar
Source: Nuclear-Science-Journal. vol.25, no.1; Feb. 1988; p.21-30
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Taiwan
Language: English
Abstract: Gamma spectroscopy techniques were used to detect any radioactive contamination of the Doha atmosphere from the Chernobyl accident. Analysis of the spectra obtained by using a hyper pure Ge-detector showed that there are some traces of /sup 103/Ru, /sup 131,134/I, /sup 134,137/Cs, /sup 140/Ba-/sup 140/La and /sup 141,144/Ce. Estimates and a study of the concentration of these radioactive nuclides was carried out over a period of five months after the Chernobyl accident. Information on wind speed and direction over that period is also presented.
Number of References: 5
Descriptors: accidents-; air-pollution; gamma-ray-spectra; gamma-ray-spectroscopy; radioactive-pollution
Identifiers: gamma-spectroscopy; wind-direction; atmosphere-; Doha-Qatar; Chernobyl-accident; radioactive-contamination; wind-speed; 103Ru-; 131I-; 134I-; 134Cs-; 137Cs-; 140Ba-; 140La-; 141Ce-; 144Ce-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330D (Asia); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; I-el; Cs-el; Cs-el; Ba-el; La-el; Ce-el; Ce-el; Ru-el
Coden: HTKHAB
ISSN: 0029-5647
Sort Key: 0000029564719880002500001000000000000021
Accession Number: 3242211
Update Code: 8800

Record 928 of 1145 in INSPEC 1985-1989

Title: The radiological significance of beta emitting hot particles released from the Chernobyl nuclear power plant
Author: Hofmann-W; Crawford-Brown-DJ; Martonen-TB
Author Affiliation: Center for Extrapolation Modeling, Duke Univ. Med. Center, Durham, NC, USA
Source: Radiation-Protection-Dosimetry. vol.22, no.3; 1988; p.149-57
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In order to assess radiological hazards associated with inhalation of beta emitting hot particles detected in fall-out from the Chernobyl incident, radiation doses and lung cancer risk are calculated for a hot particle composed entirely of /sup 103/Ru. Lung cancer risk estimates are based upon an initiation-promotion model of carcinogenesis. In the immediate vicinity of a hot particle, calculations indicate that doses may be extremely high, so that all cells are killed and no tumour will arise. At intermediate distances, however, the probability for lung cancer induction exhibits a distinct maximum. Risk enhancement factors, computed relative to a uniform radionuclide distribution of equal activity, are highest for intermediate activities and hot particles moving in the lung. While the risk from inhalation of /sup 103/Ru hot particles might, indeed, exceed that from all other exposure pathways of the Chernobyl fall-out, it still lies within normal fluctuations of radon progeny induced lung cancer risk.
Number of References: 38
Descriptors: accidents-; air-pollution; dosimetry-; health-hazards; radioactive-pollution; ruthenium-
Identifiers: beta-emitting-hot-particles; Chernobyl-nuclear-power-plant; radiological-hazards; fall-out; radiation-doses; lung-cancer-risk; initiation-promotion-model; carcinogenesis-; 103Ru-
Classification Codes: A2880C (Dosimetry); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Ru-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019880002200003000000000000149
Accession Number: 3241142
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 929 of 1145 in INSPEC 1985-1989

Title: Air radionuclide patterns observed at Monaco from the Chernobyl accident
Author: Whitehead-NE; Ballestra-S; Holm-E; Walton-A
Author Affiliation: Int. Lab. of Marine Radioactivity, Musee Oceanogr., Monaco
Source: Journal-of-Environmental-Radioactivity. vol.7, no.3; 1988; p.249-64
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radionuclide concentrations in air filters taken in Monaco for several weeks after the Chernobyl accident on April: 26, 1986 have been carefully examined. Unusual radionuclides such as /sup 105/Ru, /sup 111/Ag, /sup 125/Sn and /sup 126/Sb were identified as being present in small amounts. Nuclides of the more volatile elements I, Te, and Ag peaked 6-24 hours earlier than the average, whereas the refractory elements exhibited a different distribution. Radionuclide concentrations seen in air at Chernobyl compared with those observed at Monaco show that /sup 134,137/Cs was least removed by environmental processes between the two sites and rare earths the most. The second (4-5 May) peak of activity released from the Chernobyl reactor was characterised by a relatively higher content of refractory elements, also observed at Monaco. The different phases of such an accident can thus be observed even at distances approaching 2000 km.
Number of References: 15
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: radionuclide-concentrations; pollution-; Monaco-; Chernobyl-accident; air-filters; refractory-elements; 105Ru-; 111Ag-; 125Sn-; 126Sb-; I-; Te-
Classification Codes: A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Ag-el; Sn-el; Sb-el; I-el; Te-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700003000000000000249
Accession Number: 3233466
Update Code: 8800

Record 930 of 1145 in INSPEC 1985-1989

Title: Transport of /sup 131/I through the grass-cow-milk pathway at a northeast US dairy following the Chernobyl accident
Author: Dreicer-M; Klusek-CS
Author Affiliation: Lawrence Livermore Nat. Lab., Livermore, CA, USA
Source: Journal-of-Environmental-Radioactivity. vol.7, no.3; 1988; p.201-7
Publication Year: 1988
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: Following the Chernobyl accident, samples of pasture grass and fresh farm milk were collected in northern New Jersey. The time-integrated activities of /sup 131/I were used to calculate a milk transfer coefficient of 0.001 d liter/sup -1/. This value is at the lower range of those previously reported. No significant difference in the value of the transfer coefficient was seen when calculated based on the integrated /sup 131/I in the total grass as compared to only the upper portion of the grass. Therefore, for this event, the height of the vegetation grazed by the cows would not have influenced the concentration of /sup 131/I in fresh milk.
Number of References: 12
Descriptors: accidents-; iodine-; radioactive-pollution; radioisotopes-
Identifiers: United-States; grass-cow-milk-pathway; Chernobyl-accident; time-integrated-activities; milk-transfer-coefficient; 131I-
Classification Codes: A8670Z (Other-topics); A8760R (Radioactive-pollution); A9330H (North-America); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700003000000000000201
Accession Number: 3233462
Update Code: 8800

Record 931 of 1145 in INSPEC 1985-1989

Title: Rapid appearance of Chernobyl radiocesium in the deep Norwegian Sea sediments
Author: Erlenkeuser-H; Balzer-W
Author Affiliation: Inst. fur Reine und Angewandte Kernphysik, Kiel Univ., West Germany
Source: Oceanologica-Acta. vol.11, no.1; Jan. 1988; p.101-6
Publication Year: 1988
Record Type: Journal-article
Country of Publication: France
Language: English
Abstract: Two deep-sea box cores, collected two months after the Chernobyl accident from the slope off mid Norway at 967 m water depth and from the Voring Plateau (1426 m), were analysed for /sup 134/Cs and /sup 137/Cs and revealed a total of Chernobyl radiocesium of 220 and 330 Bq/m/sup 2/, respectively. The reactor cesium was essentially confined to the uppermost centimetre of the cores. The depth distribution of the nuclides, which is interpreted in terms of bioturbation, gives a minimum value for the biological mixing coefficient of 1100 and 300 cm/sup 2//ka (or 3.5*10/sup -8/ and 9.5*10/sup -9/ cm/sup 2//s), respectively, for the two stations studied.
Number of References: 24

Descriptors: caesium-; oceanography-; radioactive-pollution; sediments-; water-pollution
Identifiers: USSR-; deep-sea; ocean-; marine-sediment; water-pollution; radioactive-pollution; nuclear-power-station-accident; AD-1986; continental-slope; Chernobyl-radiocesium; Norwegian-Sea; Norway-; Voring-Plateau; 134Cs-; 137Cs-; bioturbation-; biological-mixing; Cs-
Classification Codes: A8670E (Water); A9150J (Sedimentation-and-sediments); A9210S (Coastal-and-estuarine-oceanography); A9220J (Biological-aspects); A9220N (Pollution); A9330R (Regional-seas); A86; A91; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: OCACD9
ISSN: 0399-1784

Sort Key: 00003991784198800011000010000000000000101
Accession Number: 3225477
Update Code: 8800

Record 932 of 1145 in INSPEC 1985-1989

Title: Chernobyl fallout in the Chesapeake bay region
Author: Dibb-JE; Rice-DL
Author Affiliation: Center for Environ. & Estuarine Studies, Chesapeake Biol. Lab., Solomons, MD, USA
Source: Journal-of-Environmental-Radioactivity. vol.7, no.2; 1988; p.193-6
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The atmospheric deposition (combined wet and dry) of relatively long-lived fission products (/sup 103/Ru, /sup 134/Cs and /sup 137/Cs) from the 26 April 1986 accident at Chernobyl was monitored at the Chesapeake Biological Laboratory in Solomons, Maryland. Total deposition, collected in a 2.7 m/sup 2/ surface area bucket collector, was sampled at least weekly from 8 May through 20 June. Chernobyl nuclides were first detected definitively (uncertainty <20%) in the 16 May sample. This sample also represents the peak activity of the Cs isotopes. Peak /sup 103/Ru activity, 22 kBq m/sup -2/ (deposited in a two-day interval), did not occur until 22 May (26 days after the accident). Activities of all three nuclides dropped to very low levels by 12 June. The results of the measurements carried out at Chesapeake are discussed.
Number of References: 7
Descriptors: accidents-; air-pollution; fallout-; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-fallout; Chesapeake-bay-region; long-lived-fission-products; 137Cs-; 103Ru-; 134Cs-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A86; A92; A8; A9

Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700002000000000000193
Accession Number: 3222929
Update Code: 8800

Record 933 of 1145 in INSPEC 1985-1989

Title: Fallout in the New York metropolitan area following the Chernobyl accident
Author: Feely-HW; Helfer-IK; Juzdan-ZR; Klusek-CS; Larsen-RJ; Leifer-R; Sanderson-CG; Dreicer-M
Author Affiliation: Environ. Meas. Lab., USDOE, New York, NY, USA
Source: Journal-of-Environmental-Radioactivity. vol.7, no.2; 1988; p.177-91
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: In the metropolitan New York area, maximum concentrations in air of radioactive aerosol and gaseous debris from the Chernobyl accident of April 1986 were much lower than those measured in Europe. The observed maxima were: for gaseous /sup 131/I, 23 mBq m/sup -3/; for aerosol samples, 20 mBq m/sup -3/3 of /sup 131/I and 9.5 mBq m/sup -3/ of /sup 137/Cs. The data suggest that little gas-to-particle transformation of iodine occurred during transport of the radioactive cloud from the Ukraine to New York. The ratios of /sup 103/Ru and other refractories to /sup 137/Cs were low in the first debris sampled, debris which probably was emitted from Chernobyl in late April during the early stages of the accident. In subsequent samples these ratios were higher, presumably because debris from the later, hotter stages of the fire had reached sampling sites. A significant fraction (25-40%) of the deposition of /sup 131/I and /sup 137/Cs into the authors' samplers and on grass was by dry deposition. The total deposition of Chernobyl /sup 137/Cs in the area was <1% of that already present in the soil from fallout from past nuclear weapon tests. The highest concentration of /sup 131/I measured in fresh milk was about 1.5 Bq liter/sup -1/, <0.1% of the US action level. The dose to the thyroid of a six-month-old infant who had fresh milk as a sole food source would be about 70 mu Gy (7 mrad).
Number of References: 21
Descriptors: accidents-; air-pollution; fallout-; radioactive-pollution
Identifiers: fallout-; New-York-metropolitan-area; Chernobyl-accident; radioactive-aerosol; gaseous-debris; dry-deposition; dose-; thyroid-; 70-muGy; gaseous-131I; 137Cs-; 103Ru-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A86; A92; A8; A9

Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation absorbed dose 7.0E-05 Gy
Chemical Indexing: I-el; Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700002000000000000177
Accession Number: 3222928
Update Code: 8800

Record 934 of 1145 in INSPEC 1985-1989

Title: Chernobyl radionuclides in shellfish
Author: Whitehead-NE; Ballestra-S; Holm-E; Huynh-Ngoc-L
Author Affiliation: Int. Lab. of Marine Radioactivity, Musee Oceanographique, Monaco
Source: Journal-of-Environmental-Radioactivity. vol.7, no.2; 1988; p.107-21
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radionuclides from the Chernobyl accident arrived at Monaco on 30 April, 1986. A sample of Mytilus galloprovincialis collected six days later showed near-maximum levels of most radionuclides. Monitoring continued for seven months thereafter, peak concentrations being transiently as high as 480 Bq kg/sup -1/ (all soft parts, wet weight) for /sup 103/Ru. Other radionuclides detected included /sup 132/Te, /sup 129m/Te, /sup 131/I, /sup 106/Ru, /sup 134/Cs, /sup 137/Cs, /sup 110m/Ag, /sup 140/Ba, /sup 125/Sb, /sup 95/Nb and /sup 141/Ce. Biological half-lives for elimination in this environment were generally around 10 days or longer and most elimination curves contained a number of components. Radionuclide contents of the mussels were predicted quite accurately from concentrations observed on air filters collected simultaneously, but were not satisfactorily explained relative to total radionuclide concentrations in the seawater even three days after peak air filter activities. The use of concentration factors from the literature did not improve the latter predictions. This suggests that the radionuclides were absorbed very rapidly from the fallout particles, rather than from radionuclides first solubilised from particles. Patella lusitanica specimens contained activities about 20-50 times higher than those in the mussels.
Number of References: 29
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioisotopes-; seawater-; water-pollution
Identifiers: biological-half-lives; AD-1986-04-30; shellfish-; Chernobyl-; Monaco-; Mytilus-galloprovincialis; soft-parts; 129mTe-; 106Ru-; 134Cs-; mussels-; radionuclide-concentrations; seawater-; Patella-lusitanica; 10-days; 103Ru-; 132Te-; 131I-; 137Cs-; 110mAg-; 140Ba-; 125Sb-; 95Nb-; 141Ce-

Classification Codes: A8670E (Water); A9220N (Pollution); A9330G (Europe); A9330R (Regional-seas); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 8.6 E05 s
Chemical Indexing: Ru-el; Te-el; I-el; Cs-el; Ag-el; Ba-el; Sb-el; Nb-el; Ce-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700002000000000000107
Accession Number: 3222924
Update Code: 8800

Record 935 of 1145 in INSPEC 1985-1989

Title: Chernobyl derived activity in sheep: variation within a single flock and with time
Author: Walters-B
Author Affiliation: Atomic Energy Unit, Minist. of Agric., Fisheries & Food, London, UK
Source: Journal-of-Environmental-Radioactivity. vol.7, no.2; 1988; p.99-106
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The continuous monitoring of the caesium contents of sheep grazing a high fell in Cumbria, UK, is described. The technique of in-vivo monitoring, using portable NaI crystal detectors, is shown to be robust and capable of producing accurate quantitative data. Results are presented from the monitoring of 100 sheep at fortnightly intervals over a period of 13 weeks. The peak average activity (1300 Bq kg/sup -1/) was reached five weeks after introduction of the sheep to grazing land with up to 2000 Bq kg/sup -1/ in herbage. Activity had fallen, on average, to 68% of the peak value after eight weeks. The variation in activity between individual sheep is large and usually symmetrically distributed. The temporal trend of activity in the whole flock is a combination of the many disparate individual trends. The technique has allowed the variation between animals and individual time trends to be followed.
Number of References: 2
Descriptors: accidents-; caesium-; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: United-Kingdom; 134Cs-; Chernobyl-; activity-; sheep-; single-flock; Cumbria-; in-vivo-monitoring; 5-wks; 13-wks; 8-wks; 137Cs-
Classification Codes: A8670 (Environmental-science); A86; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 3.0 E06 s; time 7.9 E06 s; time 4.8 E06 s
Chemical Indexing: Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50

Sort Key: 0000265931X19880000700002000000000000099
Accession Number: 3222923
Update Code: 8800

Record 936 of 1145 in INSPEC 1985-1989

Title: /sup 131/I dose to the human fetal thyroid in the Zagreb district, Yugoslavia, from the Chernobyl accident
Author: Basic-M; Kasal-B; Simonovic-I; Jukic-S
Author Affiliation: Clinical Hospital Centre-Rebro, Zagreb, Yugoslavia
Source: International-Journal-of-Radiation-Biology. vol.54, no.2; Aug. 1988; p.167-77
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The /sup 131/I activity was measured in 30 human fetal thyroids in Zagreb district after the Chernobyl accident. A model of radioiodine metabolism in the mother and human fetus which takes into account the age dependence of the uptake and retention of radioiodine in the fetal thyroid was developed. Having assessed that the total intake by the average mother was about 1330 Bq, a good correlation between calculated and measured fetal thyroid activities was found ($r=0.77$, $P<0.001$). The fetal thyroid dose reached the maximum of 0.43 mu Gy/Bq intake at about the fifth month of gestation. It was concluded that the risk of having a child with a harmful trait due to /sup 131/I absorbed by the mother was negligible.
Number of References: 15
Descriptors: accidents-; dosimetry-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: radioiodine-metabolism-model; 131I-dose; human-fetal-thyroid; Zagreb-district; Yugoslavia-; Chernobyl-accident; mother-; harmful-trait; 1330-Bq
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 1.33 E03 Bq
Coden: IJRBA3
ISSN: 0020-7616
Copyright Clearance Center Code: 0020-7616/88/$3.00
Sort Key: 0000020761619880005400002000000000000167
Accession Number: 3222692
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 937 of 1145 in INSPEC 1985-1989

Title: Radiation doses in Sweden resulting from the Chernobyl fallout: a review
Author: Holmberg-M; Edvarson-K; Finck-R
Author Affiliation: Nat. Inst. of Radiat. Protection, Stockholm, Sweden
Source: International-Journal-of-Radiation-Biology. vol.54, no.2; Aug. 1988; p.151-66
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The risk associated with the Chernobyl fallout is the product of radiation dose and risk factor per dose unit. The radiation doses originate from inhalation of radioactive particles, ground irradiation from deposited nuclides and internal irradiation caused by contaminated food. In Sweden the largest dose contribution is due to external radiation. The deposition has been mapped by aeriel measurements and in situ high-resolution gamma measurements at ground level over the whole country. On the basis of these measurements, population-weighted doses for external radiation have been estimated. Whole-body measurements on randomly selected individuals have been performed in order to estimate the average dose from internal irradiation. The collective dose, i.e. the sum of all individual doses, has been estimated to be about 1500 man-Sievert for the first year after Chernobyl and 5000-7000 man-Sievert for a 50-year period. Using a risk factor of 0.02 fatal cancers per man-Sievert the Chernobyl fallout over Sweden might cause 100-200 fatal cancers.
Number of References: 25
Descriptors: accidents-; dosimetry-; fallout-; health-hazards
Identifiers: radiation-doses; Sweden-; Chernobyl-fallout; risk-factor; radioactive-particles; ground-irradiation; deposited-nuclides; internal-irradiation; contaminated-food; high-resolution-gamma-measurements; population-weighted-doses; collective-dose; man-Sievert; fatal-cancers
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: IJRBA3
ISSN: 0020-7616
Copyright Clearance Center Code: 0020-7616/88/$3.00
Sort Key: 00000207616198800054000020000000000000151
Accession Number: 3222691
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 938 of 1145 in INSPEC 1985-1989

Title: Swiss operating experience: availability and post-Chernobyl upgrading
Author: Wenger-H
Author Affiliation: KKW Beznau, Dottingen, Switzerland

Source: Nuclear-Europe. vol.8, no.6-7; June-July 1988; p.39-40
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Switzerland's first commercial nuclear power unit started operation in 1969. Nuclear power now accounts for nearly 40% of Swiss total electricity generation, with a combined total of 62 reactor years experience. Switzerland has topped the world list of LWR performance for many years. Some of the most important factors regarding the high availability of Swiss nuclear plants are discussed.
Number of References: 0
Descriptors: fission-reactor-operation
Identifiers: operating-experience; PWR-; BWR-; availability-; post-Chernobyl-upgrading; commercial-nuclear-power-unit; Switzerland-; LWR-
Classification Codes: A2843 (Fission-reactor-operation); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: NUEUDS
ISSN: 0254-8348
Sort Key: 0000254834819880000800006000000000000039
Accession Number: 3222185
Update Code: 8800

Record 939 of 1145 in INSPEC 1985-1989

Title: Aerosol radioactivity monitoring in Bratislava following the Chernobyl accident
Author: Povinec-P; Chudy-M; Sykora-I; Szarka-J; Pikna-M; Holy-K
Author Affiliation: Fac. of Math. & Phys., Comenius Univ., Bratislava, Czechoslovakia
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.126, no.6; 11 April 1988; p.467-78
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The radiation situation in Bratislava following the Chernobyl accident is discussed. Measurement results of gamma - and alpha -radioactivity of aerosols are presented. The evolution of the activity ratios in air for some radionuclides is discussed. Their distribution indicates different transport and deposition properties for the volatile and nonvolatile fission products. The results are compared with long-term measurements of anthropogenic radionuclides released to the atmosphere by nuclear bomb tests.
Number of References: 7
Descriptors: air-pollution; radioactive-pollution
Identifiers: radioactive-pollution; aerosol-; atmosphere-; 210Po-; 242Cm-; air-pollution; Czechoslovakia-; nuclear-power-station; AD-1986; AD-1987; 238U-; 235U-;

radioactivity-monitoring; Bratislava-; Chernobyl-accident; distribution-; transport-; deposition-properties; fission-products; U-; Pu-; Po-; Cm-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: U-el; Pu-el; Po-el; Cm-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012600006000000000000467
Accession Number: 3222167
Update Code: 8800

Record 940 of 1145 in INSPEC 1985-1989

Title: Atmospheric dispersal and deposition of radioactive material from Chernobyl
Author: Wheeler-DA
Author Affiliation: Dept. of Geogr., Sunderland Polytech., UK
Source: Atmospheric-Environment. vol.22, no.5; 1988; p.853-63
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This paper reports on the results of studies undertaken in the wake of the fire at the Chernobyl nuclear power station. Published upper air charts and the findings of scientists engaged in monitoring the fallout are used to reconstruct the clouds' trajectories. The results reveal the role of the various features of weather systems in determining the dispersal, transportation and ultimate fallout of radioactive matter. Most importantly, the situation over Europe at the time of the fire was such as to disperse the radioactive clouds northwards to Scandinavia and later westwards to Britain; directions counter to the dominant westerlies of these latitudes. However, eastwards global dispersal took place rapidly in the weeks following the fire. The paper also emphasizes the importance of rainfall in explaining the geographical variation in the deposition of radioactive material.
Number of References: 17
Descriptors: air-pollution; fallout-; radioactive-pollution
Identifiers: England-; atmosphere-; air-pollution; fallout-; AD-1986; Wales-; radioactivity-; nuclear-power-station-accident; British-Isles; USSR-; meteorology-; Scotland-; dispersal-; deposition-; radioactive-material; Chernobyl-; Europe-; rainfall-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A9330K (Islands); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: ATENBP
ISSN: 0004-6981
Copyright Clearance Center Code: 0004-6981/88/$3.00+0.00

Sort Key: 00000046981198800022000050000000000000853
Accession Number: 3220477
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 941 of 1145 in INSPEC 1985-1989

Title: Using deposition from the Chernobyl debris to guide decontamination planning
Author: Roed-J
Author Affiliation: Risoe Nat. Lab., Roskilde, Denmark
Source: Transactions-of-the-American-Nuclear-Society. vol.56; 1988; p.351-2
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 Annual Meeting of the American Nuclear Society (papers in summary form only received). 12-16 June 1988; San Diego, CA, USA
Country of Publication: USA
Language: English
Abstract: During and since the Chernobyl accident, a major effort has been made to find the relative distribution of dry- and wet-deposited radioactive material originating from it. In this context the material deposited on road surfaces, house walls and roofs, lawn and trees, and inside building structures has been measured. The run-off from and weathering effect of roofs and roads have also been investigated.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radiation-decontamination; radioactive-pollution
Identifiers: radioactive-material-deposition; decontamination-planning; Chernobyl-accident; relative-distribution; house-walls; lawn-; trees-; run-off; weathering-effect; roofs-; roads-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880 (Radiation-technology-including-shielding); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005600000000000000000351
Accession Number: 3217891
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 942 of 1145 in INSPEC 1985-1989

Title: Characteristics of the Chernobyl release and fallout related to the OECD/NEA/GRECA parameter study
Author: Devell-L
Author Affiliation: Studsvik Energiteknik AB, Nykoping, Sweden
Source: Transactions-of-the-American-Nuclear-Society. vol.56; 1988; p.347
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 Annual Meeting of the American Nuclear Society (papers in summary form only received). 12-16 June 1988; San Diego, CA, USA
Country of Publication: USA
Language: English
Abstract: The Organization for Economic Cooperation and Development/Nuclear Energy Agency's (OECD/NEA's) Group of Experts on Reactor Accident Consequence Assessment (GRECA) is devoting a study to the assessment of various parameters obtained from the Chernobyl fallout to be of potential use in future consequence modeling. The following areas are covered in the study:- (1) characteristics of the release and fallout: (2) long-range transport; (3) behavior in urban areas; (4) behavior in rural areas; (5) transfer to foodstuffs via plants; (6) transfer to foodstuffs via animals; and (7) uptake in the human body.
Number of References: 1
Descriptors: accidents-; fallout-; fission-reactor-safety; radiation-protection; radioactive-pollution
Identifiers: reactor-accident; Chernobyl-release; fallout-; OECDNEAGRECA-parameter-study; long-range-transport; urban-areas; rural-areas; foodstuffs-; human-body
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005600000000000000000347
Accession Number: 3217888
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 943 of 1145 in INSPEC 1985-1989

Title: Time evolution of the airborne radioactivity in Rez related to the activity release rate in Chernobyl
Author: Horyna-J; Wilhelmova-L
Author Affiliation: Nucl. Res. Inst., Rez, Czechoslovakia
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.126, no.4; 1 March 1988; p.307-14

Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The airborne radioactivity in Rez near Prague has been investigated after the Chernobyl accident. The nuclide composition was determined. The evolution of the activity ratio of selected radionuclides to caesium in air was obtained. It has been supposed that this evolution may be related to differences in the release rate of various radionuclides during the accident as well as to the meteorological situation at the Chernobyl site.
Number of References: 11
Descriptors: air-pollution; radioactive-pollution
Identifiers: time-evolution; Czechoslovakia-; Rez-; airborne-radioactivity; Prague-; Chernobyl-accident; nuclide-composition; activity-ratio; meteorological-situation
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012600004000000000000307
Accession Number: 3211887
Update Code: 8800

Record 944 of 1145 in INSPEC 1985-1989

Title: Radiation dose assessment for /sup 137/Cs from fish in the Aegean Sea before and after the Chernobyl accident
Author: Danali-Cotsaki-S; Liritzis-Y
Author Affiliation: Greek Atomic Energy Comm., Athens, Greece
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.126, no.3; 15 Feb. 1988; p.257-66
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The effective doses from fish in the Aegean Sea have been calculated for the nuclide /sup 137/Cs covering the period 1975-1982. The effective dose varies between 3*10/sup -5/ and 10*10/sup -5/ mSv y/sup -1/ for adults and 14*10/sup -5/ to 56*10/sup -5/ mSv y/sup -1/ for children, while the cumulative effective dose for the period 1975-1982 equals to 40.86*10/sup -5/ and 229.57*10/sup -5/ for both adults and children of 10 y old, respectively. When compared to doses derived from the Chernobyl accident (May 1986) it was found that the additional dose incurred by Greek individuals in May 1986 was approximately equal to the cumulative dose of 8 y contribution period (1975-1982) for adults and to a year's contribution for children of 10 y old.
Number of References: 9

Descriptors: caesium-; dosimetry-; radiation-monitoring; radioactive-pollution; water-pollution
Identifiers: radiation-dose; Aegean-Sea; Chernobyl-accident; effective-doses; fish-; adults-; children-
Classification Codes: A8670E (Water); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A9330R (Regional-seas); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012600003000000000000257
Accession Number: 3211883
Update Code: 8800

Record 945 of 1145 in INSPEC 1985-1989

Title: /sup 89,90/Sr fallout from Chernobyl in the Bucharest-Magurele area
Author: Paunescu-N; Vata-I
Author Affiliation: Central Inst. of Phys., Romania
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.126, no.2; 25 Jan. 1988; p.97-102
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: /sup 89/Sr and /sup 90/Sr were determined in the fallout of May 1986. The maximum values of 335 Bq/(m/sup 2/.6 h) and 110 Bq/(m/sup 2/.6 h) were observed on May 2 and 5. Throughout May 1986 a quantity of 860 Bq/m/sup 2/ of /sup 90/Sr, deposited from the fallout in the Bucharest-Magurele area, was estimated.
Number of References: 4
Descriptors: air-pollution; fallout-; radioactive-pollution; strontium-
Identifiers: AD-1986-05; pollution-; fallout-; Chernobyl-; Bucharest-Magurele-area; 89Sr-; 90Sr-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119880012600002000000000000097
Accession Number: 3211875
Update Code: 8800

Record 946 of 1145 in INSPEC 1985-1989

Title: Transuranium elements in the hot particles emitted during the Chernobyl accident

Author: Lancsarics-G; Feher-I; Sagi-L; Palfalvi-J
Author Affiliation: Central Res. Inst. for Phys., Budapest, Hungary
Source: Radiation-Protection-Dosimetry. vol.22, no.2; 1988; p.111-13
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Alpha spectrometric results from further examinations of hot particles found in Hungary after the Chernobyl accident are presented. The transuranium element composition of these particles is discussed and compared with the isotopic content of the fuel inventory. Their chemical processing and the spectrometric examinations by two different methods are described here.
Number of References: 5
Descriptors: accidents-; actinides-; alpha-particle-spectra; radioactive-pollution; radioactivity-measurement
Identifiers: alpha-spectrometric-results; hot-particles; Chernobyl-accident; Hungary-; transuranium-element; isotopic-content; fuel-inventory; chemical-processing; spectrometric-examinations
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A2930E (alpha-ray-spectroscopy); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A29; A87; A2
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201988000220000200000000000111
Accession Number: 3209686
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 947 of 1145 in INSPEC 1985-1989

Title: Simulation of air ingress into a Chernobyl-like graphite channel
Author: Richards-MB
Author Affiliation: General Atomics, San Diego, CA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.56; 1988; p.405-6
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 Annual Meeting of the American Nuclear Society (papers in summary form only received). 12-16 June 1988; San Diego, CA, USA
Country of Publication: USA
Language: English
Abstract: The steam explosion at Chernobyl left the damaged core open at both the bottom and top, and a buoyancy-driven air flow was established. Initial reports on the accident

drew the conclusion that air ingress into the graphite moderator started a graphite fire that significantly worsened the accident consequences. The red glow emanating from the core likely led initial observers to conclude that the moderator graphite was burning. However, graphite begins to glow red at a temperature in the 600 to 700 degrees C range, which is in the normal operating regime for Chernobyl moderator graphite. Also, the estimated release of volatile fission products (10 to 20% of core inventory) was considerably less than that expected if a large-scale graphite fire has occurred. The author simulates graphite oxidation under Chernobyl-like conditions in order to help resolve some of the inconsistencies.

Number of References: 9

Descriptors: accidents-; digital-simulation; fission-reactor-safety; fission-reactor-theory-and-design; graphite-; nuclear-engineering-computing

Identifiers: postaccident-geometry; flow-channels; GRAPHOX-; air-ingress; Chernobyl-like-graphite-channel; steam-explosion; buoyancy-driven-air-flow; accident-; graphite-moderator; operating-regime; volatile-fission-products; graphite-oxidation; C-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); C7470 (Nuclear-engineering); A28; C74; A2

Treatment Codes: T (Theoretical-or-Mathematical)

Chemical Indexing: C-el

Coden: TANSAO

ISSN: 0003-018X

Sort Key: 0000003018X19880005600000000000000000405

Accession Number: 3207066

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010

Bestand: 1.1958=> L:8

Record 948 of 1145 in INSPEC 1985-1989

Title: The xenon poisoning problem prior to the Chernobyl accident

Author: Carbajo-JJ

Author Affiliation: IT Corp, Oak Ridge, TN, USA

Source: Transactions-of-the-American-Nuclear-Society. vol.56; 1988; p.404-5

Publication Year: 1988

Record Type: Conference-Paper; Journal-article

Conference Details: 1988 Annual Meeting of the American Nuclear Society (papers in summary form only received). 12-16 June 1988; San Diego, CA, USA

Country of Publication: USA

Language: English

Abstract: Considerable attention has been given to the power reduction halt for >10 h at half the nominal power during the sequence of events that preceded the Chernobyl accident. This delay in the power reduction has been linked to xenon poisoning by some sources, while others stated that this extended operation at half nominal power reduced the xenon buildup. High xenon concentrations prevent a power increase after a power

reduction. To clarify this subject, a calculation of the xenon concentration previous to the Chernobyl accident has been performed. Other calculations assuming different power reduction schemes have also been performed and they are compared to the actual Chernobyl power reduction calculation.

Number of References: 6
Descriptors: accidents-; fission-reactor-safety; xenon-
Identifiers: Chernobyl-accident; power-reduction-halt; Xe-poisoning
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Xe-el
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005600000000000000000404
Accession Number: 3207065
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 949 of 1145 in INSPEC 1985-1989

Title: Nuclear criticality safety tools in the Chernobyl-4 accident analysis
Author: Landeyro-PA
Author Affiliation: ENEA, Rome, Italy
Source: Transactions-of-the-American-Nuclear-Society. vol.56; 1988; p.315-16
Publication Year: 1988
Record Type: Conference-Paper; Journal-article
Conference Details: 1988 Annual Meeting of the American Nuclear Society (papers in summary form only received). 12-16 June 1988; San Diego, CA, USA
Country of Publication: USA
Language: English
Abstract: The collaboration with the Italian Safety Authority (DISP), started in July 1986, has the aim of studying, from a neutronic point of view, the possible initiator event and the accident dynamics in unit four of the Chernobyl nuclear power plant. This report was produced within the framework of that collaboration. A main condition of the present work was making use of standard calculational methods employed in the nuclear criticality safety analysis. This means that the neutron multiplication factor calculation should be made with the modules and the cross-section libraries of the SCALE system or in any case with some KENO IV version and the burnup calculation with the ORIGEN code.
Number of References: 11
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design

Identifiers: Chernobyl-4-accident-analysis; initiator-event; accident-dynamics; nuclear-criticality-safety-analysis; neutron-multiplication-factor-calculation; SCALE-system; KENO-IV; burnup-calculation; ORIGEN-code
Classification Codes: A2841C (Computer-codes); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19880005600000000000000000315
Accession Number: 3207030
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 950 of 1145 in INSPEC 1985-1989

Title: Chernobyl /sup 134/Cs, /sup 137/Cs, and /sup 210/Pb in high mountain lake sediment: measurements and modeling of mixing process
Author: Melieres-MA; Pourchet-M; Pinglot-JF; Bouchez-R; Piboule-M
Author Affiliation: Lab. de Spectrometrie Phys., Saint-Martin d'Heres, France
Source: Journal-of-Geophysical-Research. vol.93, no.D6; 20 June 1988; p.7055-61
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The /sup 134/Cs, /sup 137/Cs, and /sup 210/Pb vertical distributions have been measured in a lake sediment core. A value of 0.042 Bq cm/sup -2/ has been estimated for the atmospheric /sup 137/Cs fallout originating in Chernobyl release on the Alpine area: it represents 15% of the residual /sup 137/Cs activity due to nuclear tests. Mixing process and sedimentation rate have been deduced from /sup 134/Cs and /sup 210/Pb distributions. Distributions of /sup 137/Cs have been simulated for slow and rapid mixing processes and for various mixing thicknesses. Comparison with experimental distributions indicate values of mixing thickness and sedimentation rate in agreement with the previously measured ones.
Number of References: 10
Descriptors: air-pollution; caesium-; fallout-; lakes-; lead-; radioactive-pollution; sediments-; water-pollution
Identifiers: Lake-Lerie; France-; USSR-nuclear-power-station-accident; AD-1970-to-1987; Oisans-region; air-pollution; atmosphere-; water-pollution; Chernobyl-; 134Cs-; 137Cs-; 210Pb-; high-mountain-lake-sediment; mixing-process; vertical-distributions; Alpine-area; sedimentation-rate; rapid-mixing; Cs-; Pb-
Classification Codes: A8670E (Water); A8670G (Atmosphere); A9240N (Limnology); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)

Chemical Indexing: Cs-el; Pb-el
Coden: JGREA2
ISSN: 0148-0227
Copyright Clearance Center Code: 0148-0227/88/008D-0152$05.00
Sort Key: 0000148022719880009300006000000000007055
Accession Number: 3202928
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02602.010
Bestand: 83.1978=>
ZB f. Physik Wien, Signatur: 02602.020
Bestand: 83.1978=>
ZB f. Physik Wien, Signatur: 02602.031
Bestand: 89.1984=>
ZB f. Physik Wien, Signatur: 02602.030
Bestand: 83.1978-88.1983
ZB f. Physik Wien, Signatur: 02602.040
Bestand: 89.1984=>
ZB f. Physik Wien, Signatur: 02602.050
Bestand: 96.1991=>

Record 951 of 1145 in INSPEC 1985-1989

Title: Radiocaesium on urban surfaces in west Cumbria five months after Chernobyl
Author: Sandalls-FJ; Gauden-SL
Author Affiliation: Harwell Lab., UKAEA, UK
Source: Journal-of-Environmental-Radioactivity. vol.7, no.1; 1988; p.87-91
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the accident at the Chernobyl nuclear power plant on April 26 1986, heavy rainfall in early May led to the deposition of radiocaesium on urban and ground surfaces in parts of west Cumbria, UK. Measurements in the following September showed that most common urban constructional materials had intercepted and retained significant fractions of the radiocaesium incident on surfaces.
Number of References: 1
Descriptors: accidents-; air-pollution; caesium-; fallout-; radioactive-pollution; radioisotopes-
Identifiers: urban-surfaces; accident-; Chernobyl-nuclear-power-plant; rainfall-; radiocaesium-; west-Cumbria; urban-constructional-materials; Cs-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JERAEE

ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700001000000000000087
Accession Number: 3202384
Update Code: 8800

Record 952 of 1145 in INSPEC 1985-1989

Title: Physicochemical speciation of airborne /sup 131/I in Japan from Chernobyl
Author: Noguchi-H; Murata-M
Author Affiliation: Dept. of Health Phys., Tokai Res. Establ., JAERI, Ibaraki, Japan
Source: Journal-of-Environmental-Radioactivity. vol.7, no.1; 1988; p.65-74
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The physicochemical form of airborne /sup 131/I, released during the Chernobyl accident, was investigated in Japan during the period 6 to 19 May 1986. The proportions of /sup 131/I species identified during that period were: 19% particulate iodine, 5% I/sub 2/, 6% HOI and 70% organic iodides. These results are similar to those obtained in previous studies of airborne stable iodine in inland regions. A fraction of /sup 131/I/sub 2/ which was adsorbed on particulate matter desorbed from it during the sampling process.
Number of References: 11
Descriptors: accidents-; air-pollution; fallout-; iodine-; radioactive-pollution; radioisotopes-; safety-
Identifiers: physicochemical-form; Chernobyl-accident; Japan-; organic-iodides; particulate-matter; airborne-131I; HOI-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; HOI-ss H-ss I-ss O-ss
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000700001000000000000065
Accession Number: 3202382
Update Code: 8800

Record 953 of 1145 in INSPEC 1985-1989

Title: Radiation measurements and radioecological aspects of fallout from the Chernobyl reactor accident
Author: Papastefanou-C; Manolopoulou-M; Charalambous-S

Author Affiliation: Dept. of Nucl. Phys., Aristotle Univ., Thessaloniki, Greece
Source: Journal-of-Environmental-Radioactivity. vol.7, no.1; 1988; p.49-64
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Fallout from the Chernobyl reactor accident has been monitored for about one year in Thessaloniki in Northern Greece. Fifteen different short-lived, three relatively long- and one long-lived fission products were identified in air, precipitation, soil, grass and milk samples. The iodine-131 and cesium-137 concentrations in air reached 6.5 and 3 Bq m/sup -3/ respectively, on 6 May, 1986. The external exposure dose rate rose to five times the normal background level. It was estimated that the accumulated dose equivalent to the adult thyroid from inhaled iodine-131 averaged 96 mu Sv, while the body burden from inhaled radiocesium nuclides averaged 2 mu Sv, 1000 times lower than that corresponding to the estimated dose equivalent from ingestion of foodstuff, which averaged 2 mSv for the first year after the accident.
Number of References: 20
Descriptors: accidents-; dosimetry-; fallout-; radiation-monitoring; radioactive-pollution; radioactivity-measurement
Identifiers: radiation-measurements; radioecological-aspects; Chernobyl-reactor-accident; Thessaloniki-; Northern-Greece; fission-products; air-; precipitation-; soil-; grass-; milk-; external-exposure-dose-rate; accumulated-dose-equivalent; 2-muSv; 96-muSv; 2-mSv; 131I-; 137Cs-
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: P (Practical); X (Experimental)
Numerical Data Indexing: radiation dose equivalent 2.0E-06 Sv; radiation dose equivalent 9.6E-05 Sv; radiation dose equivalent 2.0E-03 Sv
Chemical Indexing: I-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19880000700001000000000000049
Accession Number: 3202381
Update Code: 8800

Record 954 of 1145 in INSPEC 1985-1989

Title: Environmental radioactivity around Tokai Works after the reactor accident at Chernobyl
Author: Ishida-J; Miyagawa-N; Watanabe-H; Asano-T; Kitahara-Y
Author Affiliation: Tokai-Works, Power Reactor & Nucl. Fuel Dev. Corp., Ibaraki, Japan
Source: Journal-of-Environmental-Radioactivity. vol.7, no.1; 1988; p.17-27

Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Following the reactor accident at Chernobyl, environmental samples of air, rain water and agricultural and marine products were collected and analyzed by gamma- and alpha-spectrometry. The highest concentrations of /sup 131/I in the environmental samples were as follows: 1.0*10/sup -1/ Bq m/sup -3/ (aerosol-associated in air); 3.0*10/sup -1/ Bq m/sup -3/ (gaseous in air); 2.1*10/sup 2/ Bq kg/sup -1/ (plants); 1.4*10/sup 1/ Bq litre/sup -1/ (milk). Other nuclides such as /sup 95/Zr, /sup 95/Nb, /sup 103/Ru, /sup 106/Ru, /sup 125/Sb, /sup 129m/Te, /sup 132/I//sup 132/Te, /sup 134/Cs, /sup 137/Cs, /sup 140/Ba//sup 140/La, /sup 141/Ce and /sup 144/Ce were also observed in various environmental samples. /sup 110m/Ag was only detected in marine products such as cephalopoda and shellfish. /sup 239,240/Pu and /sup 241/Am originating from the accident were not identified. Based on the monitoring results at one dairy farm, the authors have derived an equation to model the transport of /sup 131/I from pasture grass to milk. This equation was then applied to the data from two other farms around Tokai Works and the calculated /sup 131/I activities in milk were compared with those measured.
Number of References: 7
Descriptors: accidents-; air-pollution; fallout-; radioactive-pollution; radioisotopes-; safety-
Identifiers: environmental-radioactivity; Tokai-Works; reactor-accident; Chernobyl-; environmental-samples; air-; rain-water; 131I-; 95Zr-; 95Nb-; 103Ru-; 106Ru-; 125Sb-; 129mTe-; 134Cs-; 137Cs-; 141Ce-; 144Ce-; 110mAg-; 241Am-; 132I-; 132Te-; 140Ba-; 140La-; 239Pu-; 240Pu-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Te-el; Ba-el; La-el; Pu-el; Pu-el; I-el; Zr-el; Nb-el; Ru-el; Ru-el; Sb-el; Te-el; Cs-el; Cs-el; Ce-el; Ce-el; Ag-el; Am-el
Coden: JERAEE
ISSN: 0265-931X

Sort Key: 0000265931X19880000700001000000000000017
Accession Number: 3202380
Update Code: 8800

Record 955 of 1145 in INSPEC 1985-1989

Title: Increased body burden of radiocesium in four Japanese cases after the Chernobyl reactor accident
Author: Uchiyama-M; Kobayashi-S
Author Affiliation: Nat. Inst. of Radiol. Sci., Chiba, Japan
Source: Journal-of-Nuclear-Science-and-Technology. vol.25, no.4; April 1988; p.413-16

Publication Year: 1988
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: News of abnormal level of radioactivity in air in Northern Europe due to the Chernobyl reactor accident was first reported in Japan on April 28, 1986. On April 30, a study was started to measure internal radionuclide burden on two male adults residing in Chiba by wholebody counting in order to estimate the consequences of the Chernobyl reactor accident upon the Japanese. Subject 1, 31 years old and 2, 48 years old were followed from April 30 onwards.
Number of References: 9
Descriptors: accidents-; caesium-; dosimetry-; radiation-monitoring; radioactive-pollution
Identifiers: radioactive-pollution; AD-1986-04-30-to-07-30; body-burden; Chernobyl-reactor-accident; Japan-; Chiba-; 137Cs-
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JNSTAX
ISSN: 0022-3131
Sort Key: 00000223131198800025000040000000000000413
Accession Number: 3191891
Update Code: 8800

Record 956 of 1145 in INSPEC 1985-1989

Title: Nuclear power safety goals in light of the Chernobyl accident
Author: Whipple-C; Starr-C
Author Affiliation: EPRI, Palo Alto, CA, USA
Source: Nuclear-Safety. vol.29, no.1; Jan.-March 1988; p.20-8
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The recently adopted Nuclear Regulatory Commission safety goals include a proposed plant performance guideline limiting the frequency of large releases of radioactive materials. Analysis indicates that the proposed plant guideline is potentially far more restrictive than the health objectives, goes well beyond previously established health objectives, and is not supported on cost-benefit grounds. The Chernobyl accident, which caused no offsite prompt fatalities, has cast doubt on the operational significance of the safety goal health objectives. The proposed guideline is responsive to concerns that the health objectives do not limit the frequency of accidents sufficiently.
Number of References: 12

Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: Chernobyl-accident; proposed-plant-performance-guideline; cost-benefit-grounds; health-objectives
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2; B8
Treatment Codes: G (General-or-Review)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419880002900001000000000000020
Accession Number: 3187893
Update Code: 8800

Record 957 of 1145 in INSPEC 1985-1989

Title: Monitoring data related to the Chernobyl accident as measured in Israel during May-July 1986 and the assessment of the radiation doses to the population
Author: Schlesinger-T; Izak-Biran-T; Even-O; Dukhan-R; Shamai-Y; Koch-J; Tal-A; Israeli-M
Source: Israel Atomic Energy Comm., Yavne, Israel, July 1987; 23 pp.
Publication Year: 1987
Record Type: Report
Country of Publication: Israel
Language: English
Abstract: Environmental monitoring was undertaken on April 30, 1986 to follow the effects of the Chernobyl accident on the quality of the environment in Israel. Measurements of air radioactive contamination were continuously taken to the end of July when air radioactivity declined to values below 0.01 Bq/m/sup 3/. Along with air measurements, radioactive contamination of ground, rain and drinking water, grass, vegetation and food items such as vegetables, fruits, milk, meat etc. were taken as well. Assessment of the accumulated radiation doses due to the Chernobyl accident was conducted. The effective dose equivalent is estimated to be 46 mu Sv (4.6 mrem).
Number of References: 9
Descriptors: accidents-; air-pollution; dosimetry-; radiation-monitoring; radioactive-pollution; radioactivity-measurement; water-pollution
Identifiers: environmental-monitoring; Chernobyl-accident; Israel-; air-radioactive-contamination; ground-; rain-; drinking-water; grass-; vegetation-; food-items; accumulated-radiation-doses; effective-dose-equivalent; 46-muSv
Classification Codes: A0130Q (Reports-dissertations-theses); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A8670E (Water); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A01; A28; A86; A87; A0; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 4.6E-05 Sv
Report Numbers: IA-1430

Sort Key: 30000IA143019870000000000000000000000000
Accession Number: 3185812
Update Code: 8800

Record 958 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl accident in the Soviet Union and measures taken to mitigate their impact
Author: Ilyin-LA; Pavlovskij-OA
Author Affiliation: Inst. of Biophys., Minist. of Public Health, Moscow, USSR
Source: International-Atomic-Energy-Agency-Bulletin. vol.29, no.4; 1987; p.17-24
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Austria
Language: English
Abstract: As a result of the accident that occurred at 1:23 am on 26 April 1986 at Unit 4 of the Chernobyl nuclear power plant, a significant quantity of the radioactive materials accumulated in the reactor during its operation escaped from the plant. Because of the meteorological air mass transfer conditions prevailing, the cloud formed at the time of the accident left a radioactive trail over the area to the west and north of the plant. In the following 10 days, an intense release of radioactive gases and aerosols continued, resulting in the contamination of terrain in different directions and at considerable distances from the plant. The total release of radioactive substances (excluding radioactive noble gases) was calculated on 6 May 1986 to be about 1.9 EBq (exabecquerel, or 10/sup 18/ Bq), or 3.5% of the total inventory of radionuclides in the reactor at the time of the accident. Releases of the biomedically most significant nuclides such as strontium-90, iodine-131, and caesium-137 amounted to 8.1, 270, and 37 PBq (peta-becquerel, or 10/sup 15/ Bq), respectively.
Number of References: 0
Descriptors: accidents-; aerosols-; air-pollution; dosimetry-; radiation-monitoring; radioactive-pollution
Identifiers: radiological-consequences; Ukraine-; Soviet-Union; radionuclides-inventory; USSR-; Chernobyl-accident; Soviet-Union; 26-April-1986; Chernobyl-nuclear-power-plant; radioactive-materials; meteorological-air-mass-transfer-conditions; radioactive-gases; aerosols-; contamination-; 1-9-EBq; 8-1-PBq; 270-PBq; 37-PBq; 137Cs-; 131I-; 90Sr-
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A28; A86; A87; A93; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 1.9 E18 Bq; radioactivity 8.1 E15 Bq; radioactivity 2.7 E17 Bq; radioactivity 3.7 E16 Bq
Chemical Indexing: Cs-el; I-el; Sr-el

Coden: IAEBAB
ISSN: 0020-6067
Sort Key: 00000206067198700029000040000000000000017
Accession Number: 3182483
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08549.001
Bestand: 31.1989=>

Record 959 of 1145 in INSPEC 1985-1989

Title: Vertical distribution of /sup 131/I and radiocesium in the atmosphere over Poland after Chernobyl accident
Author: Kownacka-L; Jaworowski-Z
Author Affiliation: Central Lab. for Radiol. Protection, Warsaw, Poland
Source: Acta-Geophysica-Polonica. vol.35, no.1; 1987; p.101-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Poland
Language: English
Abstract: Between 29 April and 13 May 1986 samples of aerosols were collected at seven altitudes in the atmosphere between ground level and 15 km, with the samplers suspended under the wings or fuselage of LIM type jet airplanes. /sup 131/I and /sup 134,136,137/Cs were determined in the samples by gamma spectrometry and radiochemistry. On 29 April the elevated activity concentrations of these radionuclides were detected at ground level with three orders of magnitude lower values in the upper tropospheric layers. During the following days increased radioactivity was observed also at various levels in the troposphere and also in stratospheric air at 12 and 15 km. The vertical profiles of the concentrations indicate that there existed non-violent upward transport of radioactivity through the tropopause. The ratio of /sup 131/I to /sup 134,136,137/Cs in the samples indicate that the early phase of emission was characterized by the preferential release of less volatile caesium, whereas several days later the opposite effect was observed.
Number of References: 14
Descriptors: air-pollution; atmospheric-radioactivity; radioactive-pollution; stratosphere-
Identifiers: nuclear-power-station-accident; troposphere-; stratosphere-; vertical-distribution; air-pollution; USSR-; 134Cs-; 136Cs-; 137Cs-; radioactive-pollution; AD-1986-04; AD-1986-05; 131I-; radiocesium-; atmosphere-; Poland-; Chernobyl-accident; radionuclides-; 0-to-15-km; I-; Cs-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A87; A92; A93; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: altitude 0.0 E00 to 1.5 E04 m
Chemical Indexing: I-el; Cs-el
Coden: AGPOAP

ISSN: 0001-5725
Sort Key: 00000015725198700035000010000000000000101
Accession Number: 3180073
Update Code: 8800

Record 960 of 1145 in INSPEC 1985-1989

Title: Preliminary dose assessment of the Chernobyl accident
Author: Huil-AP
Author Affiliation: Safety & Environ. Protection Div., Upton, NY, USA
Editor: First-MW
Source: Proceedings of the 19th DOE/NRC Nuclear Air Cleaning Conference (NUREG/CP-0086-VI)(Conf-860820). US Dept. Commerce Nat. Tech. Inf. Service, Springfield, VA, USA; May 1987; 2 vol. xxv+1220 pp.
p.1056-94
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 18-21 Aug. 1986; Seattle, WA, USA. Sponsored by: DOE; US Nucl. Regul. Comm.; Harvard Air Cleaning Lab
Country of Publication: USA
Language: English
Abstract: Early on April 26, 1986, a major accident occurred at Unit 4 of the Chernobyl nuclear power station in the USSR. The plume of airborne radioactive fission products from the accident was initially carried northwesterly toward Poland, thence northerly toward Scandinavia on April 26-29 and into Central Europe on April 29-30. It continued to spread and reached Japan and Korea on May 3 and the US on May 7. Reports of the levels of radioactivity in a variety of media and of external radiation levels were collected in the Department of Energy's Emergency Operations Center and compiled into a data bank. Portions of these and other data, which were obtained directly from official reports, have been utilized to make a preliminary assessment of the extent and magnitude of the external dose to individuals downwind from Chernobyl.
Number of References: 30
Descriptors: accidents-; dosimetry-; fission-reactor-safety
Identifiers: dose-assessment; Chernobyl-accident; airborne-radioactive-fission-products; radioactivity-; external-radiation-levels
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A28; A87; A2
Treatment Codes: X (Experimental)
Description of Unconventional Medium: Microfiche
Sort Key: 10000000000198700000000000000000001056
Accession Number: 3178088
Update Code: 8800

Record 961 of 1145 in INSPEC 1985-1989

Title: What Chernobyl has taught us about emergency planning
Author: Orchard-HC
Author Affiliation: CEGB, London, UK
Source: Journal-of-Radiological-Protection. vol.8, no.1; March 1988; p.51-4
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The author discusses the handling of the Chernobyl accident and its implications for emergency planning in general. His comments are divided between three areas: information, co-ordination and procedures.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-accident; emergency-planning; information-; co-ordination; procedures-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: G (General-or-Review)
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/88/010051+$02.50
Sort Key: 000095247461988000080000100000000000000051
Accession Number: 3174804
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 962 of 1145 in INSPEC 1985-1989

Title: The radiological consequences and reactions in western Europe caused by the Chernobyl reactor accident as evidence to advocate reconsidering the present-day control of exposures to low-level ionising radiation
Author: Hamstra-J
Author Affiliation: Avora BV, Bergen, Netherlands
Source: Journal-of-Radiological-Protection. vol.8, no.1; March 1988; p.47-50
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A preliminary assessment of the impact of the Chernobyl reactor accident on the population of the European Community has been made by the British National Radiological Protection Board. The limited radiological consequences and the limited effects of the rather expensive counter-measures are considered to be evidence to

support a reconsideration of the present-day control of exposures to low-level ionising radiation.
Number of References: 10
Descriptors: radiation-monitoring; radiation-protection
Identifiers: radiological-consequences; western-Europe; Chernobyl-reactor-accident; low-level-ionising-radiation; European-Community
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A28; A87; A2; A8
Treatment Codes: P (Practical)
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/88/010047+$02.50
Sort Key: 0000952474619880000800001000000000000047
Accession Number: 3174803
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 963 of 1145 in INSPEC 1985-1989

Title: Measurement of internal contamination with radioactive caesium released from the Chernobyl accident and enhanced elimination by prussian blue
Author: Tang-Ming-hua; Gong-Yi-fen; Shen-Cheng-yao; Ye-Chang-qing; Wu-De-chang
Author Affiliation: Inst. of Radiat. Med., Beijing, China
Source: Journal-of-Radiological-Protection. vol.8, no.1; March 1988; p.25-8
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Measurements were made on 15 Chinese subjects internally contaminated with radionuclides released from the Chernobyl accident, while staying at Sofia and Profdef in Bulgaria. Estimation of the initial intake was 170-900 Bq of /sup 134/Cs and 95-1200 Bq of /sup 137/Cs. The biological half-life of radiocaesium (/sup 134/Cs and /sup 137/Cs) in three cases was in the range of 42-71 days. Ferric ferrocyanide (prussian blue) was given successfully to enhance the elimination of radiocaesium from the body during the period of 114-141 days after contamination.
Number of References: 6
Descriptors: caesium-; dosimetry-; radioisotopes-
Identifiers: 134Cs-; 137Cs-; radiocaesium-; internal-contamination; Chernobyl-accident; enhanced-elimination; prussian-blue; Sofia-; Profdef-; Bulgaria-; biological-half-life; 170-to-900-Bq; 95-to-1200-Bq; radioactive-Cs
Classification Codes: A2880C (Dosimetry); A8760M (Radiation-dosimetry); A28; A87; A2; A8
Treatment Codes: X (Experimental)

Numerical Data Indexing: radioactivity 1.7 E02 to 9.0 E02 Bq; radioactivity 9.5 E01 to 1.2 E03 Bq
Chemical Indexing: Cs-el
Coden: JRPREA
ISSN: 0952-4746
Copyright Clearance Center Code: 0952-4746/88/010025+$02.50
Sort Key: 00009524746198800008000010000000000000025
Accession Number: 3174801
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.001
Bestand: 8.1988=>

Record 964 of 1145 in INSPEC 1985-1989

Title: The future of nuclear power after Chernobyl
Author: Char-NL
Author Affiliation: Div. of Nucl. Power, IAEA, Vienna, Austria
Source: Indian-Journal-of-Power-and-River-Valley-Development. vol.37, no.10; Oct. 1987; p.232-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: India
Language: English
Abstract: The Chernobyl accident in April 1986 can be characterized as the worst possible accident that could occur in nuclear power stations. Nearly a year and a half after its occurrence, a clearer picture is emerging on the effects of this major accident. Estimates made by experts based on later and more accurate measurements of the radiation doses indicate considerably less serious health effects of the radioactive fallout than originally feared. A detailed review of the accident made at IAEA in August 1986 has made it clear that the accident was due to an extraordinary combination of an unusual set of circumstances. The Chernobyl accident has emphasized the need for an international regime in nuclear safety and co-operation. Despite this major setback for nuclear energy, nuclear power is likely to continue to play a useful role in providing the necessary alternative to dwindling energy resources, for the foreseeable future.
Number of References: 9
Descriptors: nuclear-power; nuclear-power-stations
Identifiers: nuclear-power; Chernobyl-accident; nuclear-power-stations; health-effects; radioactive-fallout; safety-
Classification Codes: B8220 (Nuclear-power-stations-and-plants); B82; B8
Treatment Codes: P (Practical)
Coden: IJPRA7
ISSN: 0019-5537
Sort Key: 00000195537198700037000100000000000000232
Accession Number: 3171917

Update Code: 8800

Record 965 of 1145 in INSPEC 1985-1989

Title: Deposition of gamma-emitting nuclides in Japan after the reactor-IV accident at Chernobyl'
Author: Aoyama-M; Hirose-K; Sugimura-Y
Author Affiliation: Geochemical Lab., Meteorolog. Res. Inst., Ibaraki, Japan
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Articles. vol.116, no.2; Dec. 1987; p.291-306
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The wet and dry deposition of gamma-emitting nuclides are presented for Tsukuba and eleven stations in Japan following the nuclear reactor accident at Chernobyl'. In Japan fallout from the reactor at Chernobyl' was first detected on May 3, 1986, a week after the accident. Abruptly high radioactive deposition, which mainly consists of /sup 131/I, /sup 132/I, /sup 103/Ru, /sup 137/Cs and /sup 134/Cs, was observed in early May. The cumulative amount of /sup 131/I, /sup 103/Ru and /sup 137/Cs in May at Tsukuba were 5854+or-838 Bq.m/sup -2/, 364+or-54 Bq.m/sup -2/ and 130+or-26 Bq.m/sup -2/ (decay was corrected to April 26), respectively. The monthly /sup 137/Cs deposition in May corresponds to 2.5% of the cumulative /sup 137/Cs deposition during the period from 1960 through 1982. Most of the Chernobyl' radioactivities, especially /sup 131/I, are scavenged from the atmosphere by the wet removal process.
Number of References: 8
Descriptors: accidents-; air-pollution; radiation-monitoring; radioactive-pollution; radioisotopes-
Identifiers: wet-deposition; AD-1986-05-03; AD-1960-to-1982; gamma-emitting-nuclides; Japan-; reactor-IV-accident; Chernobyl-; dry-deposition; Tsukuba-; fallout-; radioactive-deposition; decay-; radioactivities-; wet-removal-process; 131I-; 132I-; 103Ru-; 137Cs-; 134Cs-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8670L (Measurement-techniques-and-instrumentation); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; I-el; Ru-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011600002000000000000291
Accession Number: 3171411
Update Code: 8800

Record 966 of 1145 in INSPEC 1985-1989

Title: Evidence of stratospheric fallout of caesium isotopes from the Chernobyl accident
Author: Aoyama-M
Author Affiliation: Div. of Geochem. Res., Meteorol. Res. Inst., Ibaraki, Japan
Source: Geophysical-Research-Letters. vol.15, no.4; April 1988; p.327-30
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The Cs-137 and the Cs-134 monthly deposition at Tsukuba through August 1987 are reported and the origins of caesium isotopes in spring 1987 are discussed. The monthly Cs-137 deposition increased to 131 Bq m/sup -2/ in May 1986 just after the reactor accident at Chernobyl, and thereafter it reached a minimum at the end of 1986. Cs-134, which is difficult to identify in the fallout from atmospheric nuclear weapon tests, has been detected in all fallout samples since May 1986, and it shows a trend similar to the Cs-137 deposition. The caesium isotopes fallout shows a maximum in spring 1987 due to the stratospheric fallout. In 1987, about 80 percent of the Cs-137 fallout came from Chernobyl radioactivity. transported into the stratosphere, and 20 percent came from previous atmospheric nuclear tests. It is estimated that several times 10/sup -3/ of the caesium isotopes released from the Chernobyl reactor have been transported into the stratosphere.
Number of References: 16
Descriptors: accidents-; air-pollution; atmospheric-composition; atmospheric-movements; atmospheric-radioactivity; caesium-; fallout-; radioactive-pollution; radioisotopes-; stratosphere-
Identifiers: nuclear-reactor-accident; radioisotopes-transport; Japan-; AD-1986-05-to-1987-08; atmospheric-movements; radioactive-air-pollution; soil-particles-resuspension; E-Asia; stratospheric-fallout; Chernobyl-accident; Cs-134-monthly-deposition; Tsukuba-; spring-1987; monthly-Cs-137-deposition; May-1986; atmospheric-nuclear-weapon-tests; Chernobyl-radioactivity; 0-to-1-4-yr; Cs-isotopes-fallout; 134Cs-; 137Cs-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260E (Convection-turbulence-and-diffusion); A9260H (Chemical-composition-and-chemical-interactions); A9260T (Air-quality-and-air-pollution); A9330D (Asia); A9330K (Islands); A86; A87; A92; A93; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: time 0.0 E00 to 4.4 E07 s
Chemical Indexing: Cs-el; Cs-el; Cs-el
Coden: GPRLAJ
ISSN: 0094-8276
Copyright Clearance Center Code: 0094-8276/88/007L-6723$03.00
Sort Key: 000009482761988000150000400000000000327
Accession Number: 3171184
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25572.000

Bestand: 1.1974=>

Record 967 of 1145 in INSPEC 1985-1989

Title: Core history and nuclide inventory of the Chernobyl core at the time of accident
Author: Kirchner-G; Noack-CC
Author Affiliation: Bremen Univ., West Germany
Source: Nuclear-Safety. vol.29, no.1; Jan.-March 1988; p.1-5
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Activity ratios found in burnt nuclear fuel are characteristic of burnup and decay time after shutdown of a reactor. Cs-134/Cs-137, Cs-136/Cs-137, and Te-129/Te-132 activity ratios established for the Chernobyl fallout are compared with those calculated for different burnups by using the code system SAS 2(UHB)/ORIGEN-S(UHB). The measured activity ratios in fallout correspond to a calculated mean burnup of 12.85+or-0.15 GWd/ton (core average). Surprisingly, they also indicate a shutdown of the plant between 3 and 5 days before the accident occurred. The inventories of important radionuclides at the time of accident are calculated for the determined burnup and decay period of the core.
Number of References: 12
Descriptors: accidents-; caesium-; fallout-; radioisotopes-; tellurium-
Identifiers: activity-ratios; nuclide-inventory; Chernobyl-core; accident-; burnt-nuclear-fuel; burnup-; decay-time; shutdown-; fallout-; radionuclides-; 134Cs-; 137Cs-; 136Cs-; 129Te-; 132Te-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Chemical Indexing: Cs-el; Cs-el; Cs-el; Te-el; Te-el
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419880002900001000000000000001
Accession Number: 3169055
Update Code: 8800

Record 968 of 1145 in INSPEC 1985-1989

Title: Assessment of the Chernobyl release in the immediate aftermath of the accident
Author: ApSimon-HM; Wilson-JJN; Guirguis-S; Stott-PA
Author Affiliation: Imperial Coll. of Sci. & Technol., London, UK
Source: Nuclear-Energy. vol.26, no.5; Oct. 1987; p.295-301
Publication Year: 1987
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: At the end of August 1986 Russian scientists disclosed information about the Chernobyl release, but at the time of the accident in April 1986 little was known and there was much speculation. The authors describe how numerical modelling of the dispersal of the release across Europe was used in conjunction with reported measurements to assess the accident and how much could be deduced within a few weeks after its occurrence.
Number of References: 6
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: air-pollution; radionuclide-releases; Chernobyl-release; accident-; numerical-modelling; Europe-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NUEGAH
ISSN: 0140-4067
Copyright Clearance Center Code: 0140-4067/87/$0.25+0.20
Sort Key: 00001404067198700026000050000000000000295
Accession Number: 3164063
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08528.002
Bestand: 17.1978=> L:23,24,33

Record 969 of 1145 in INSPEC 1985-1989

Title: How mobile robots have helped at Chernobyl and other accidents
Author: Meieran-HB
Author Affiliation: PHD Technol. Inc., Pittsburgh, PA, USA
Source: Nuclear-Engineering-International. vol.33, no.405; April 1988; p.21-3, 26
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: At several recent accidents, including Chernobyl, mobile robots assumed, with varying degrees of success. many of the tasks and missions that are normally conducted by the emergency response team.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; robots-; safety-
Identifiers: mobile-robots; accidents-; Chernobyl-; emergency-response-team
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); C3390 (Robotics); A28; C33; A2; C3
Treatment Codes: P (Practical)
Coden: NEINBF

ISSN: 0029-5507
Sort Key: 00000295507198800033004050000000000000021
Accession Number: 3163960
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 970 of 1145 in INSPEC 1985-1989

Title: Did the radioactive contamination in Hungary due to the disaster at the Chernobyl nuclear power station had a biopositive effect on plants?
Author: Szabo-AS
Author Affiliation: Univ. of Horticulture & Food Ind., Budapest, Hungary
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.119, no.6; 15 Dec. 1987; p.503-11
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Due to the disaster at the Chernobyl nuclear power station (26.04. 1986, USSR) the radioactive contamination level (e.g. /sup 134/Cs, /sup 137/Cs) of the biosphere in Hungary increased significantly. The external gamma -dose burden from the contaminated ground surface and atmosphere, and the radioactive isotopes taken up directly through the leaves and indirectly from the soil through the root system had a low-dose effect on the plants which was in the dose-range of stimulation (biopositive effect).
Number of References: 10
Descriptors: accidents-; biological-effects-of-ionising-radiation; radioactive-pollution
Identifiers: radiobiology-; radioactive-contamination; Hungary-; Chernobyl-nuclear-power-station; biopositive-effect; plants-; biosphere-; external-gamma-dose-burden; radioactive-isotopes; leaves-; root-system; low-dose-effect; 134Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8750G (Ionizing-radiations-UV-X-ray-gamma-ray-particle-radiation-effects); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 00002365731198700119000060000000000000503
Accession Number: 3161108
Update Code: 8800

Record 971 of 1145 in INSPEC 1985-1989

Title: An examination of the accident scenario in the Chernobyl nuclear power station
Author: Ishikawa-M; Shiozawa-S; Wakabayashi-T; Ohnishi-N; Mochizuki-H
Author Affiliation: JAERI, Tokyo, Japan
Source: Nuclear-Safety. vol.28, no.4; Oct.-Dec. 1987; p.448-54
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The accident scenario in the Chernobyl Nuclear Power Station was examined by using EUREKA-2 analyses and the experimental results from the Nuclear Safety Research Reactor. The accident scenario is characterized by two power excursions, pressure tubes bursting from rapid steam generation resulting from molten fuel dispersion into the coolant, heatup caused by zirconium-water or zirconium-air reaction and subsequent burning of graphite rings, and a graphite moderator fire. These events can be explained quantitatively without conflict with the report submitted by the USSR State Committee to the International Atomic Energy Agency Experts' Meeting in August 1986.
Number of References: 3
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-research-reactors; nuclear-engineering-computing
Identifiers: pressure-tube-break; NSRR-; Zr+air-; Zr+H-2O; accident-scenario; Chernobyl-; EUREKA-2-analyses; Nuclear-Safety-Research-Reactor; power-excursions; steam-generation; molten-fuel-dispersion; graphite-rings; graphite-moderator-fire; Zr-H-2O
Classification Codes: A2843B (Cooling-and-heat-recovery); A2843H (Instrumentation-and-experiments-with-fission-reactors); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850D (Research-test-and-training-reactors); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Chemical Indexing: ZrH2O-ss H2-ss Zr-ss H-ss O-ss
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419870002800004000000000000448
Accession Number: 3159086
Update Code: 8800

Record 972 of 1145 in INSPEC 1985-1989

Title: Chernobyl accident: assessing the data
Author: Sorensen-B
Author Affiliation: Roskilde Univ., Denmark
Source: Nuclear-Safety. vol.28, no.4; Oct.-Dec. 1987; p.443-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA

Language: English
Abstract: Data presented in the official USSR report to the International Atomic Energy Agency on the Chernobyl Atomic Energy Station accident are critically assessed. Special attention is given to the derivation of release fractions from fallout measurements, a procedure demonstrated to involve large elements of uncertainty. Further comments relate to estimates of plume rise and deposition velocity. A comparison is made with the predictions of previously published theoretical reactor safety studies.
Number of References: 14
Descriptors: accidents-; air-pollution; fallout-; radioactive-pollution
Identifiers: data-assessment; Chernobyl-accident; release-fractions; fallout-measurements; plume-rise; deposition-velocity
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8670G (Atmosphere); A28; A86; A2; A8
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419870002800004000000000000443
Accession Number: 3159085
Update Code: 8800

Record 973 of 1145 in INSPEC 1985-1989

Title: Chernobyl radioactivity found in mid-water sediment interceptors in the N. Pacific and Bering Sea
Author: Kusakabe-M; Ku-T-L; Harada-K; Taguchi-K; Tsunogai-S
Author Affiliation: Dept. of Geol. Sci., Univ. of Southern California, Los Angeles, CA, USA
Source: Geophysical-Research-Letters. vol.15, no.1; Jan. 1988; p.44-7
Publication Year: 1988
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Fission-product nuclides /sup 134/Cs, /sup 137/Cs and /sup 103/Ru originated from the Chernobyl accident have been detected in sediment traps deployed at mid-water depths ranging from 110 to 780 m in the N. Pacific and the Bering Sea. The detected radioactivities, originally associated with fine airborne particles, have apparently been incorporated into much larger aggregates of predominantly biogenic material formed in the surface ocean, and transferred downward through the water column with velocities of the order of 100 m/day.
Number of References: 23
Descriptors: caesium-; oceanography-; radioactive-pollution; water-pollution
Identifiers: AD-1986; AD-1985; USSR-; nuclear-power-station-accident; water-pollution; ocean-; marine-pollution; suspended-particle; fallout-; North-Pacific; radioactivity-; Bering-Sea; Chernobyl-; aggregates-; 134Cs-; 137Cs-; 103Ru-; Cs-

Classification Codes: A8670E (Water); A9220N (Pollution); A9330P (Pacific-Ocean); A9330R (Regional-seas); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Cs-el; Ru-el
Coden: GPRLAJ
ISSN: 0094-8276
Copyright Clearance Center Code: 0094-8276/88/007L-8053$03.00
Sort Key: 00000948276198800015000010000000000000044
Accession Number: 3151821
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25572.000
Bestand: 1.1974=>

Record 974 of 1145 in INSPEC 1985-1989

Title: Assessment of the Chernobyl-4 accident localization system
Author: Donahue-M; Gardner-R; Vine-G
Author Affiliation: Stone & Webster Eng. Corp., Boston, MA, USA
Source: Nuclear-Safety. vol.28, no.3; July-Sept. 1987; p.297-310
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The authors summarize the development, design, and operation of the Soviet accident localization system (ALS) and assess the ALS design objectives and capabilities as applied to the Chernobyl Atomic Energy Station Unit 4 (Chernobyl-4) RBMK-1000 reactor. Because the purpose of the ALS is to provide a barrier against the uncontrolled release of radioactive material to the environment during certain reactor-cooling-system pipe breaks, the ALS has been described as the Soviet RBMK-1000 counterpart of commercial US light-water-reactor (LWR) containments. Assessment of the ALS capabilities from this perspective is included through a general description of the design objectives and typical features of commercial US LWR containments. A hypothetical RBMK-1000 containment incorporating typical design features of commercial US LWR containments is studied in a scoping assessment for performance under conditions estimated to be similar to those imposed by the Apr. 26, 1986, accident at Chernobyl-4.
Number of References: 3
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-power-stations
Identifiers: LWR-; Chernobyl-4-accident-localization-system; RBMK-1000-reactor; uncontrolled-release; radioactive-material; reactor-cooling-system-pipe-breaks; design-objectives; LWR-containments

Classification Codes: A2841 (Fission-reactor-theory-and-design); A2843B (Cooling-and-heat-recovery); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419870002800003000000000000297
Accession Number: 3149707
Update Code: 8800

Record 975 of 1145 in INSPEC 1985-1989

Title: Modeling radioactive fallout near the Chernobyl Nuclear Power Plant accident
Author: Izrael-YuA; Petrov-VN; Severov-DA
Author Affiliation: State Comm. on Hydrometeorol. & Environ. Monitoring, Inst. of Appl. Geophys., USSR
Source: Soviet-Meteorology-and-Hydrology. no.7; 1987; p.1-7
Translated from: Meteorologiya-i-Gidrologiya. no.7; 1987; p.5-12
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Discussed is the mathematical modeling of radioactive fallout released into the atmosphere for a long time from the destroyed unit of the Chernobyl Nuclear Power Plant, which led to residual radioactive pollution of the locale. The model can be used to evaluate the possible scale of nuclear danger in the region of a damaged nuclear power plant.
Number of References: 8
Descriptors: accidents-; air-pollution; fallout-
Identifiers: Ukraine-; meteorology-; air-pollution; nuclear-power-station; USSR-atmosphere; radioactivity-; AD-1986; Kiev-; Borispol-; Mozyr-; Gomel-; Chernigov-; radioactive-fallout; Chernobyl-Nuclear-Power-Plant-accident; mathematical-modeling; model-
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/87/$20.00
Sort Key: 0000130290619870000000007000000000000005
Accession Number: 3147444
Update Code: 8800

Record 976 of 1145 in INSPEC 1985-1989

Title: Effective dose equivalent to average individuals in Warsaw after the Chernobyl accident
Author: Jagielak-J; Pietruszewski-A; Woloszyn-Z; Zawanowski-K; Garlinski-K; Kozub-M
Author Affiliation: Central Lab. for Radiol. Protection, Warsaw, Poland
Source: Radiation-Protection-Dosimetry. vol.20, no.4; 1987; p.243-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: An estimation is presented of the effective dose equivalent to average individuals in Warsaw as a result of the Chernobyl accident. The annual effective dose equivalents from particular radionuclides for the period between 1986 and the year 2000 are given. Methods of measuring radionuclide contamination of atmospheric air and the ground surface layer are reported. The gamma dose rate is presented. The population radiation hazard is compared with the exposure to natural and medical diagnostic radiation sources.
Number of References: 9
Descriptors: accidents-; dosimetry-
Identifiers: atmospheric-air-contamination; Warsaw-; Chernobyl-accident; effective-dose-equivalent; radionuclides-; ground-surface-layer; gamma-dose-rate; population-radiation-hazard
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201987000200000400000000000243
Accession Number: 3141921
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 977 of 1145 in INSPEC 1985-1989

Title: External radiation doses to the Norwegian population from the Chernobyl fall-out
Author: Strand-T; Stranden-E; Rudjord-AL
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Radiation-Protection-Dosimetry. vol.20, no.4; 1987; p.231-6
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Calculations of external radiation doses to the Norwegian population from the Chernobyl fall-out are presented. These calculations are based on indoor TLD

measurements performed in about 900 randomly selected houses in the south eastern part of Norway in the first and the sixth month after the accident, and surface activity data based on measurements of soil samples from each municipality of the country. The per caput effective dose equivalent in the first month and the first year were found to be 14 mu Sv and 82 mu Sv respectively. In Oystre Slidre, the municipality of Norway most heavily contaminated, the per caput effective dose equivalents in the first month and the first year were found to be 0.29 mSv and 1.7 mSv respectively. On average the shielding factors of Norwegian houses for the first and the sixth months were found to be 0.50 and 0.29 respectively.

Number of References: 21

Descriptors: accidents-; dosimetry-; fallout-; health-hazards; radioactive-pollution

Identifiers: Chernobyl-fallout; external-radiation-dose; Norwegian-population; indoor-TLD-measurements; surface-activity; soil-samples; per-caput-effective-dose-equivalent; Oystre-Slidre; shielding-factors; Norwegian-houses; 14-muSv-to-1-7-mSv

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A28; A87; A2; A8

Treatment Codes: T (Theoretical-or-Mathematical)

Numerical Data Indexing: radiation dose equivalent 1.4E-05 to 1.7E-03 Sv

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201987000200000400000000000231

Accession Number: 3141919

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 978 of 1145 in INSPEC 1985-1989

Title: Radioactivity in foodstuffs and doses to the Norwegian population from the Chernobyl fall-out

Author: Strand-T; Strand-P; Baarli-J

Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway

Source: Radiation-Protection-Dosimetry. vol.20, no.4; 1987; p.221-9

Publication Year: 1987

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The doses to the Norwegian population from foodstuffs after the fall-out from the Chernobyl accident are discussed. Based on the results of a 'food basket' project and supplementary data from the approx. 30000 measurements on food samples during the first year after the accident, the total annual effective dose equivalent from foodstuffs to an average Norwegian consumer during the first year after the accident was estimated to be 0.15+or-0.02 mSv at the 95% confidence level. The contribution from /sup 131/I was estimated to be less than 3% of the total effective dose equivalent in the first year. The

individual doses, however, depend very much on dietary habits. The southern Lapps are probably the population receiving the highest doses. Individual reindeer-breeding Lapps, neglecting some of the dietary guidelines from the health authorities, may have received an effective dose equivalent of 20-30 mSv in the first year after the accident.

Number of References: 25

Descriptors: accidents-; dosimetry-; fallout-; health-hazards; radioactive-pollution

Identifiers: Chernobyl-fallout; food-basket-project; foodstuff-radioactivity; Norwegian-population; total-annual-effective-dose-equivalent; dietary-habits; southern-Lapps; reindeer-breeding-Lapps; 0-15-mSv; 20-to-30-mSv; 131I-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation dose equivalent 1.5E-04 Sv; radiation dose equivalent 2.0E-02 to 3.0E-02 Sv

Chemical Indexing: I-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201987000200000400000000000221

Accession Number: 3141918

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 979 of 1145 in INSPEC 1985-1989

Title: Chernobyl safety lessons for the CANDU system-a designer's perspective

Author: Brooks-GL

Author Affiliation: AECL, Mississauga, Ont., Canada

Source: 27th Annual Conference of the Canadian Nuclear Association 'Meeting Society's Goals'. Proceedings. Canadian Nucl. Assoc, Toronto, Ont., Canada; 1987; 391 pp.

p.267-71

Publication Year: 1987

Record Type: Conference-Paper

Conference Details: 14-17 June 1987; Saint John, NB, Canada

Country of Publication: Canada

Language: English

Abstract: Now that over a year has passed since the tragic accident at Unit 4 of the Chernobyl Nuclear Power Station, it is appropriate that one stands back a pace from the detailed post-accident analysis program and considers the broader implications of the event. In particular, what are the basic lessons one should learn from the accident and how should such lessons be applied to the CANDU system? Details of the accident sequence itself, and of the many technical analyses performed worldwide in the interest of understanding this sequence, have been widely published and therefore are not repeated. The author firstly discusses the basic characteristics of the accident as he now

understands them. From this basis, he then develops what he believes to be the key lessons to be learned and, finally, how these lessons are now being applied to the CANDU program.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: Chernobyl-safety-lessons; CANDU-system; post-accident-analysis-program
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850J (Heavy-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Sort Key: 10000000000198700000000000000000000000267
Accession Number: 3139859
Update Code: 8800

Record 980 of 1145 in INSPEC 1985-1989

Title: Environmental impact and emergency response lessons from Chernobyl
Author: Warman-EA
Author Affiliation: Stone & Webster Eng. Corp., Boston, MA, USA
Source: 27th Annual Conference of the Canadian Nuclear Association 'Meeting Society's Goals'. Proceedings. Canadian Nucl. Assoc, Toronto, Ont., Canada; 1987; 391 pp.
p.238-66
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 14-17 June 1987; Saint John, NB, Canada
Country of Publication: Canada
Language: English
Abstract: The author discusses the environmental impact of and offsite emergency response to the Chernobyl accident, both within the Soviet Union and in Europe, and provides examples of data and summaries of analyses for several areas. Some conclusions are drawn from the information which addresses Soviet and far-field radiation measurements and an inferred source term from Chernobyl. These conclusions include: (1) restating the radiation doses from Chernobyl in relation to naturally occurring background doses as a means of putting them into perspective with the normal situation; and (2) highlighting some important aspects of the releases of radioactivity from Chernobyl in contrast to the potential for releases from Western water reactors.
Number of References: 15
Descriptors: accidents-; air-pollution; dosimetry-; radiation-monitoring; radioactive-pollution
Identifiers: USSR-; environmental-impact; offsite-emergency-response; Chernobyl-accident; Soviet-Union; Europe-; radiation-doses; background-doses; water-reactors
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A28; A86; A87; A92; A2
Treatment Codes: P (Practical); X (Experimental)

Sort Key: 10000000000198700000000000000000000000238
Accession Number: 3139858
Update Code: 8800

Record 981 of 1145 in INSPEC 1985-1989

Title: The outlook for nuclear power after Chernobyl
Author: Bennett-LL
Author Affiliation: Div. of Nucl. Power, Int. Atomic Energy Agency, Vienna, Austria
Source: 27th Annual Conference of the Canadian Nuclear Association 'Meeting Society's Goals'. Proceedings. Canadian Nucl. Assoc, Toronto, Ont., Canada; 1987; 391 pp. p.113-27
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 14-17 June 1987; Saint John, NB, Canada
Country of Publication: Canada
Language: English
Abstract: The most significant event in nuclear power during 1986 was the Chernobyl accident. The overall effects of this accident on the nuclear power programmes of member states have yet to be seen, but it has not caused the cancellation of any nuclear power programme. The accident produced an immediate upsurge in public and political concerns about nuclear power in many countries. However, a more accurate image of the accident is now becoming visible, and shows an accident comparable to some other grave industrial accidents, rather than an accident of unprecedented magnitude as it was generally portrayed in the media accounts in the period immediately after the accident. With the significant exception of Chernobyl Unit 4, 1986 was another year of safe, reliable and economic operation for nuclear power plantsl.
Number of References: 1
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-power-stations
Identifiers: nuclear-power; Chernobyl-; accident-; power-plants
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2
Treatment Codes: G (General-or-Review); P (Practical); T (Theoretical-or-Mathematical)
Sort Key: 10000000000198700000000000000000000000113
Accession Number: 3139852
Update Code: 8800

Record 982 of 1145 in INSPEC 1985-1989

Title: Nuclear power in the European Community: one year after Chernobyl
Author: Charrault-J-C; Taylor-DM
Author Affiliation: Comm. of the European Communities, Brussels, Belgium

Source: 27th Annual Conference of the Canadian Nuclear Association 'Meeting Society's Goals'. Proceedings. Canadian Nucl. Assoc, Toronto, Ont., Canada; 1987; 391 pp.
p.47-62
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 14-17 June 1987; Saint John, NB, Canada
Country of Publication: Canada
Language: English
Abstract: In April 1986, the European Community had 114 nuclear power reactors in commercial operation with a total electricity generating capacity of around 75 GWe net. This represented about one-fifth of the Community's installed capacity and generated close to one third of the electricity produced and consumed in the Community during that month. In the 15 years since the early 1970s, nuclear power had increased its share of total primary energy demand in the Community from 2% to 13%. The reason for this sustained increase in nuclear power growth was that several of the Member States had anticipated the likely benefits of nuclear power-especially in the wake of the first oil shock in 1973. Among these benefits particular importance was placed on the security of supply aspects of nuclear power, with uranium producers being geographically diverse and distinct from the Community's traditional oil suppliers, and its economic advantages over other fuels in electricity generation.
Number of References: 6
Descriptors: dosimetry-; fission-reactor-safety; fission-reactor-theory-and-design; nuclear-power-stations; radiation-monitoring; radioactive-pollution
Identifiers: Chernobyl-; European-Community; nuclear-power-reactors; commercial-operation; generating-capacity; supply-aspects; electricity-generation
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); B8220 (Nuclear-power-stations-and-plants); A28; A86; A87; B82; A2
Treatment Codes: G (General-or-Review); P (Practical); T (Theoretical-or-Mathematical)
Sort Key: 10000000000198700000000000000000000047
Accession Number: 3139849
Update Code: 8800

Record 983 of 1145 in INSPEC 1985-1989

Title: A school investigation into Chernobyl fallout
Author: Plant-RD
Author Affiliation: Ursuline Convent Sch., Westgate-on-Sea, UK
Source: Physics-Education. vol.23, no.1; Jan. 1988; p.26-30
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The nuclear power station operating at Chernobyl, just north of Kiev in the Ukraine, USSR, contains four RBMK reactors operating at 1000 MW each. The RBMK reactor is a graphite moderated light water cooled reactor using low enriched uranium fuel. Early on Saturday 26 April 1986 a serious accident occurred to one of the four reactors resulting in the release of radioactive material, some of which was carried by the wind northwards across Poland and Scandinavia. The Ursuline Convent School at Westgate-on-Sea is situated in a small seaside town on the North Kent coast. On 30 April the background count was measured in the physics laboratory of the school using a Mullard ZP1481 Geiger-Muller tube in conjunction with a Panax scaler.
Number of References: 0
Descriptors: fallout-; fission-reactor-safety; radiation-monitoring; radioactive-pollution; teaching-
Identifiers: Chernobyl-fallout; nuclear-power-station-operating; RBMK-; Mullard-ZP1481-Geiger-Muller-tube; Panax-scaler
Classification Codes: A0150P (Laboratory-experiments-and-apparatus); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); A01; A28; A87; A0; A2; A8
Treatment Codes: X (Experimental)
Coden: PHEDA7
ISSN: 0031-9120
Copyright Clearance Center Code: 0031-9120/88/010026+05$2.50
Sort Key: 00000319120198800023000010000000000000026
Accession Number: 3136543
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25909.000
Bestand: 1.1966,4=> (18.1983-22.1987:Microfiche edition)

Record 984 of 1145 in INSPEC 1985-1989

Title: Wet and dry deposition of Chernobyl releases
Author: Clark-MJ; Smith-FB
Author Affiliation: Nat. Radiol. Protection Board, Chilton, Didcot, UK
Source: Nature. vol.332, no.6161; 17 March 1988; p.245-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The passage of the Chernobyl plume over the United Kingdom in May 1986 led to the deposition of radionuclides on the ground by wet and dry deposition processes. The authors analyse rainfall during the passage of the plume and the published monitoring data obtained afterwards, and show that levels of deposited /sup 137/Cs can be closely related to rainfall intercepting the plume. /sup 137/Cs was present in the atmosphere mostly as particulate species with wet deposition mechanisms dominating. In contrast, /sup 131/I was present as particulate and vapour phase material, and reported levels on

grass and in cow's milk show that both wet and dry deposition mechanisms were important. Washout factors are calculated for locations where there are data on deposition, rainfall and air concentrations during the passage of the Chernobyl plume. From these factors and interpolated concentrations in the atmosphere, the total deposition of /sup 137/Cs has been estimated at each of 4000 rain gauge stations in the United Kingdom.

Number of References: 19

Descriptors: accidents-; aerosols-; air-pollution; atmospheric-precipitation; atmospheric-radioactivity; caesium-; iodine-; radioactive-pollution; radioisotopes-; rain-

Identifiers: Chernobyl-plume-fallout; AD-1986-05-02-to-04; aerosols-; radionuclides-deposition; total-radioactive-deposition; atmospheric-radioisotopes-concentrations; NW-Europe; deposition-contours; washout-factors; Chernobyl-releases; United-Kingdom; May-1986; dry-deposition-processes; monitoring-data; rainfall-; particulate-species; wet-deposition-mechanisms; vapour-phase-material; grass-; cow's-milk; air-concentrations; rain-gauge-stations; 137Cs-; 131I-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260H (Chemical-composition-and-chemical-interactions); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9260M (Particles-and-aerosols); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A9330K (Islands); A28; A86; A87; A92; A93; A2; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; I-el

Coden: NATUAS

ISSN: 0028-0836

Copyright Clearance Center Code: 0028-0836/88/$1.00+0.10

Sort Key: 0000028083619880033206161000000000000245

Accession Number: 3136264

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 985 of 1145 in INSPEC 1985-1989

Title: Radionuclide concentrations in sewage sludge at several locations in Austria after the Chernobyl accident

Author: Taherani-DK

Author Affiliation: Inst of Biol., Res. Center, Seibersdorf, Austria

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.118, no.6; 14 Sept. 1987; p.421-6

Publication Year: 1987

Record Type: Journal-article

Country of Publication: Switzerland

Language: English

Abstract: The concentrations of the radionuclides /sup 103/Ru, /sup 134/Cs and /sup 137/Cs in sewage sludge samples which were collected between July and September 1986, were measured by gamma -ray spectrometry. High concentrations of /sup 103/Ru, /sup 134/Cs and /sup 137/Cs were found in sewage sludge samples from Lower Austria (Scheibbs, Zwettl) and Styria (Eisenerz, Leoben). The radioactivity concentration of /sup 137/Cs was two times higher than that of /sup 134/Cs. Following concentration values were found: /sup 103/Ru 0.1-63.0 nCi kg/sup -1/, /sup 134/Cs 0.3-41.6 nCi kg/sup -1/, and /sup 137/Cs 0.3-83.3 nCi kg/sup -1/. The activity of these nuclides decreased from July 1986 to September 1986.
Number of References: 12
Descriptors: accidents-; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: sewage-sludge; Austria-; Chernobyl-accident; radionuclides-; gamma-ray-spectrometry; radioactivity-concentration; 103Ru-; 134Cs-; 137Cs-
Classification Codes: A8670Z (Other-topics); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011800006000000000000421
Accession Number: 3132629
Update Code: 8800

Record 986 of 1145 in INSPEC 1985-1989

Title: Determination of /sup 239/Pu in soil samples for Austria after the Chernobyl accident
Author: Batarekh-K; Teherani-DK
Author Affiliation: Dept. of Radiat. Protection, Syrian Atomic Energy Comm., Damascus, Syria
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.118, no.6; 14 Sept. 1987; p.415-20
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: As a consequence of the reactor accident at Chernobyl on Tuesday 29 April 1986 the environmental radioactivity in Austria increased far above the level recorded before. Depending on the amount of precipitation the deposition of radioactive fallout showed great differences. Many soil samples collected (during the period from June 15 to September 15) from Lower Austria, Styria and Burgenland were analyzed for /sup 239/Pu. The concentration found for /sup 239/Pu ranged between 2.9 and 9.2 fCi g/sup -1/. The highest concentration was detected in the soil of south-eastern part of Austria (Radkersburg). /sup 239/Pu concentration increased with depth from which soil samples were taken.

Number of References: 9
Descriptors: accidents-; plutonium-; radioactive-pollution; radioactivity-measurement; radioisotopes-; soil-
Identifiers: reactor-accident; Chernobyl-; environmental-radioactivity; Austria-; radioactive-fallout; soil-samples; 239Pu-
Classification Codes: A8670C (Soil-and-rock); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011800006000000000000415
Accession Number: 3132628
Update Code: 8800

Record 987 of 1145 in INSPEC 1985-1989

Title: Determination of /sup 131/I, /sup 134/Cs, /sup 137/Cs in grass and cheese after Chernobyl accident in Austria
Author: Teherani-DK
Author Affiliation: Inst. of Biol., Res. Center Seibersdorf, Austria
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.118, no.6; 14 Sept. 1987; p.409-14
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Various samples from Styria (grass) and Salzburg (cheese) were analyzed for /sup 131/I, /sup 134/Cs and /sup 137/Cs concentration during April-July 1986 by gamma -ray spectrometry. The concentrations are reported in nCi kg/sup -1/ wet weight. The concentration values found for /sup 131/I 0.2-17.2 nCi kg/sup -1/ (grass), 0.1-0.5 nCi kg/sup -1/ (cheese), for /sup 134/Cs 1.1-6.2 nCi kg/sup -1/ (grass), 0.2-1.3 nCi kg/sup -1/ (cheese), for /sup 137/Cs 1.6-15.7 nCi kg/sup -1/ (grass), 0.3-2.2 nCi kg/sup -1/ (cheese). While the radioactivity of /sup 131/I, /sup 134/Cs and /sup 137/Cs in cheese samples increases from May to June, it decreases in grass samples from May to July 1986.
Number of References: 5
Descriptors: accidents-; caesium-; iodine-; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: grass-; cheese-; Chernobyl-accident; Austria-; Styria-; Salzburg-; gamma-ray-spectrometry; radioactivity-; 131I-; 134Cs-; 137Cs-
Classification Codes: A8670Z (Other-topics); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)

Chemical Indexing: I-el; Cs-el; Cs-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011800006000000000000409
Accession Number: 3132627
Update Code: 8800

Record 988 of 1145 in INSPEC 1985-1989

Title: Nuclear power after Chernobyl
Author: Rossin-AD
Author Affiliation: USDOE, Washington, DC, USA
Editor: Post-RG
Source: Waste Management '87: Waste Isolation in the U.S., Technical Programs and Public Education. Proceedings of the Symposium. ANS, La Grange Park, IL, USA; 1987; 3 vol.(xi+700+xi+592+x+823) pp.
p.11-14 vol.1
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 1-5 March 1987; Tucson, AZ, USA. Sponsored by: ANS; ASME; EPRI; US Nucl. Regul. Comm.; Univ. Arizona
Country of Publication: USA
Language: English
Abstract: The Chernobyl accident has had a significant impact on the perception of nuclear power throughout the world. The Soviet reactor program has resumed, but delays in programs of other nations have occurred. Even though the implications of the accident to the US program are small because of differences in design and operating practices, some have used the occasion to attempt to demand special safeguards, impractical emergency plans, or to shut down plants. The media has a special responsibility to ensure that the complete facts are available to allow informed public opinion. Resumption of the nuclear option in the United States will require resolution of institutional issues and development of standardized designs.
Number of References: 0
Descriptors: accidents-; nuclear-power
Identifiers: Chernobyl-; nuclear-power; Soviet-reactor-program; safeguards-; emergency-plans
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2846 (Nuclear-materials-safety-aspects); A28; A2
Treatment Codes: G (General-or-Review)
Sort Key: 1000000000019870000000000000000000000011
Accession Number: 3128243
Update Code: 8800

Record 989 of 1145 in INSPEC 1985-1989

Title: Examination of the destructive forces in the Chernobyl accident based on NSRR experiments
Author: Sobajima-M; Fujishiro-T
Author Affiliation: Dept. of Fuel Safety, JAERI, Ibaraki, Japan
Source: Nuclear-Engineering-and-Design. vol.106, no.2; Feb. 1988; p.179-90
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: The possible causes of the destruction of the Chernobyl reactor core were examined by making use of the Nuclear Safety Research Reactor (NSRR) experimental results concerning the destructive forces generated by a fuel failure. A complementary experiment with Chernobyl reactor conditions was performed in order to observe the fuel failure behavior and the resultant vessel pressure rise, etc. Also, the generation of hydrogen from the fuel rod cladding and the consequent system pressure rise were estimated based on the experiments. These examinations led to the conclusion that the most probable cause of the core pressure tube rupture in the accident was a static pressure rise due to rapid energy release from fragmented fuel. Other phenomena such as the hydrogen generation and molten fuel contact to the tube wall might have contributed to the tube rupture. The water hammer force is also estimated to have been large enough to break tubes even using conservative assumptions.
Number of References: 12
Descriptors: accidents-; fission-reactor-safety
Identifiers: destructive-forces; Chernobyl-accident; NSRR-experiments; Chernobyl-reactor-core; Nuclear-Safety-Research-Reactor; fuel-failure; pressure-rise; core-pressure-tube-rupture; energy-release; fragmented-fuel; hydrogen-generation; molten-fuel-contact; water-hammer-force; H-2-formation
Classification Codes: A2843H (Instrumentation-and-experiments-with-fission-reactors); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: H2-el H-el
Coden: NEDEAU
ISSN: 0029-5493
Copyright Clearance Center Code: 0029-5493/88/$03.50
Sort Key: 0000029549319880010600002000000000000179
Accession Number: 3125549
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08465.001
Bestand: 3.1966=>

Record 990 of 1145 in INSPEC 1985-1989

Title: Analysis of the Chernobyl Reactor accident. II. An examination of the improvement measures concerning the accident of the Chernobyl Power Plant
Author: Wakabayashi-T; Hayamizu-Y; Kitahara-T
Author Affiliation: Power Reactor & Nucl. Fuel Dev. Corp., Ibaraki, Japan
Source: Nuclear-Engineering-and-Design. vol.106, no.2; Feb. 1988; p.163-78
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: For pt.I see ibid., vol.103, p.151, (1987). Of the six items of improvement measures including a future improvement measure announced by the USSR regarding the accident at the Chernobyl Nuclear Power Plant No. 4 reactor, the three items having a large influence over the plant behavior at the accident were analyzed by WIMS-ATR, EUREKA-2 and other calculational codes, and technically evaluated. As a result, the following have been made clear. If 80 manual control rods are inserted 1.2 m deep from the core upper end, any accident can be prevented by further inserting them at a 0.4 m/s speed, even under such power increase conditions as in this accident. If the additional 80 manual control rods are inserted into the reactor, the coolant void reactivity coefficient can be improved from 2*10/sup -4/ Delta k/k/% void to 1.4*10/sup -4/ Delta k/k/% void. Further if the coefficient is less than 1.5*10/sup -4/ Delta k/k/% void, the power increase speed will slow down much more and similar accidents can fully be prevented by means of the currently designed control rods of the shut-down system.
Number of References: 14
Descriptors: accidents-; fission-reactor-core-control-and-monitoring; fission-reactor-safety; nuclear-engineering-computing
Identifiers: Chernobyl-Reactor-accident; improvement-measures; WIMS-ATR; EUREKA-2; calculational-codes; manual-control-rods; coolant-void-reactivity-coefficient; power-increase-speed; shut-down-system
Classification Codes: A2841C (Computer-codes); A2843D (Core-control-and-guidance); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NEDEAU
ISSN: 0029-5493
Copyright Clearance Center Code: 0029-5493/88/$03.50
Sort Key: 0000029549319880010600002000000000000163
Accession Number: 3125548
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08465.001
Bestand: 3.1966=>

Record 991 of 1145 in INSPEC 1985-1989

Title: Report from Chernobyl

Author: Varley-J
Source: Nuclear-Engineering-International. vol.33, no.404; March 1988; p.18-22
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Reports on the technical and logistical problems tackled during recovery operations after the Chernobyl accident.
Number of References: 0
Descriptors: accidents-; radiation-decontamination; radiation-protection; safety-
Identifiers: technical-problems; logistical-problems; recovery-operations; Chernobyl-accident
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A28; A87; A2
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507198800033004040000000000000018
Accession Number: 3125536
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 992 of 1145 in INSPEC 1985-1989

Title: Radioactive iodine and cesium in travellers to different parts of Europe after the Chernobyl accident
Author: Stenke-L; Axelsson-B; Ekman-M; Larsson-S; Reizenstein-P
Author Affiliation: Div. of Hematology, Nat. Inst. of Radiat. Protection, Stockholm, Sweden
Source: Acta-Oncologica. vol.26, no.3; 1987; p.207-10
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Sweden
Language: English
Abstract: Thyroid uptake of /sup 131/I was measured in 130 volunteers following the nuclear power plant accident at Chernobyl in April 1986. Ninety of these volunteers had been travelling in different parts of eastern Europe at the time of or immediately after the accident while 40 persons were permanently in Sweden. Also, 28 additional healthy volunteers, living in Sweden, were chosen for a longterm follow-up of the time-course of /sup 134/Cs and /sup 137/Cs whole body uptake. The highest levels of /sup 131/I were found in persons having visited Poland (mean value 3.27 kBq+or-3.68 SD, extrapolated to April 27) while persons that had stayed in other parts of eastern or northern Europe showed significantly lower levels ($p<0.01$). The whole body burdens of cesium radionuclides were barely detectable immediately after the accident but

increased gradually throughout the observed period. After five months nine farmers from a high fallout area in central Sweden had reached mean values of 4.20 kBq(+or-3.34 SD) of /sup 134/Cs and /sup 137/Cs while six nonfarmers from the Stockholm area showed significantly lower levels, 0.64 kBq(+or-0.24 SD, $p<0.05$). The radiation doses from the observed amounts of iodine and cesium isotopes reported in this study reflect only a marginal addition to the already existing dose from the natural environmental background radiation.

Number of References: 5
Descriptors: accidents-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: in-vivo-measurements; travellers-; Europe-; Chernobyl-accident; Sweden-; 137Cs-; Poland-; Stockholm-; 0-64-to-4-20-kBq; 131I-; 134Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 6.4 E02 to 4.2 E03 Bq
Chemical Indexing: I-el; Cs-el
Coden: ACTOEL
ISSN: 0349-652X
Sort Key: 0000349652X19870002600003000000000000207
Accession Number: 3125085
Update Code: 8800

Record 993 of 1145 in INSPEC 1985-1989

Title: In-vivo measurements of /sup 131/I build-up in human thyroids after the Chernobyl reactor accident
Author: Mando-PA; Poggi-G
Author Affiliation: Dipartimento di Fisica, Firenze Univ., Italy
Source: Health-Physics. vol.54, no.2; Feb. 1988; p.207-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The first measurements were performed on 9 May 1986, one week after fallout in central Italy became appreciable. Thirty-six persons, mainly employees of the Physics Department, were monitored from 9 to 13 May. The in-vivo measurements were made using a high efficiency, high resolution hyperpure Ge detector. The average activity of /sup 131/I in the thyroid was determined as a function of time. The average burden of /sup 131/I in the thyroid was 70 Bq. After 13 May, measurements have been repeated at intervals of time on many subjects of the sample. The rate of decrease of /sup 131/I concentration in thyroid was approximately the same for all the examined subjects.
Number of References: 5
Descriptors: air-pollution; health-hazards; iodine-; radioactive-pollution; radioisotopes-

Identifiers: AD-1986; Italy-; radioactive-pollution; human-thyroids; Chernobyl-reactor-accident; fallout-; central-Italy; in-vivo-measurements; high-efficiency; high-resolution-hyperpure-Ge-detector; average-activity; time-; average-burden; 131I-
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/88/$3.00+.00
Sort Key: 0000017907819880005400002000000000000207
Accession Number: 3121941
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 994 of 1145 in INSPEC 1985-1989

Title: Determination of /sup 239+240/Pu in surface air in several localities in Czechoslovakia in 1986 in connection with the Chernobyl radiation accident
Author: Holgye-Z; Filgas-R
Author Affiliation: Inst. of Hygiene & Epidemiology, Prague, Czechoslovakia
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.119, no.1; 2 Oct. 1987; p.21-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: In connection with the radiation accident at the Chernobyl nuclear power plant, the concentration of /sup 239+240/Pu was determined in surface air at several localities of Czechoslovakia during the year 1986. /sup 239+240/Pu was found in the surface air in the period of April 29-May 5 in amounts ranging from 10 to 140 mu Bq.m/sup -3/. In the period of June-December, 1986, the /sup 239+240/Pu concentration in the surface air was comparable with that before the Chernobyl radiation accident.
Number of References: 8
Descriptors: accidents-; air-pollution-detection-and-control; health-hazards; plutonium-; radioactive-pollution; radioactivity-measurement; safety-
Identifiers: 239Pu-; 240Pu-; surface-air; Czechoslovakia-; Chernobyl-radiation-accident; concentration-; 1986-; Pu-determination
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A28; A86; A87; A93; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el

Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011900001000000000000021
Accession Number: 3121853
Update Code: 8800

Record 995 of 1145 in INSPEC 1985-1989

Title: Relationship between indoor and outdoor aerosol concentration following the Chernobyl accident
Author: Roed-J; Cannell-RJ
Author Affiliation: Riso Nat. Lab., Roskilde, Denmark
Source: Radiation-Protection-Dosimetry. vol.21, no.1-3; 1987; p.107-10
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Workshop on Accidental Urban Contamination. 9-12 June 1987; Roskilde, Denmark
Country of Publication: UK
Language: English
Abstract: The integrated air concentration of aerosols inside and outside a house with closed windows and doors have been measured following the Chernobyl accident. The indoor concentration of caesium was about one-fourth of that outdoors. Model for coupling the reduction in indoor dose, the internal deposition velocity, the filtering factor of houses, and the air exchange rate are presented. Instead of using the concept of dry deposition velocity indoors when assessing the dose it is suggested that the total deposition in the house per unit time be defined by a deposition factor. Values of local deposition velocities and of the deposition factor are given.
Number of References: 1
Descriptors: accidents-; aerosols-; air-pollution; health-hazards; radioactive-pollution
Identifiers: closed-doors; indoor-aerosol-concentration; outdoor-aerosol-concentration; Chernobyl-accident; house-; closed-windows; indoor-dose; internal-deposition-velocity; filtering-factor; air-exchange-rate; dry-deposition-velocity; Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: T (Theoretical-or-Mathematical); X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870002100001000000000000107
Accession Number: 3120281
Update Code: 8800

Record 996 of 1145 in INSPEC 1985-1989

Title: Weathering and migration of Chernobyl fall-out in Sweden
Author: Karlberg-O
Author Affiliation: Studsvik Energiteknik AB, Nykoping, Sweden
Source: Radiation-Protection-Dosimetry. vol.21, no.1-3; 1987; p.75-8
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Workshop on Accidental Urban Contamination. 9-12 June 1987; Roskilde, Denmark
Country of Publication: UK
Language: English
Abstract: In situ gamma spectrometer measurements of the Chernobyl fall-out in Sweden have been made in the Gavle and Studsvik areas. The main objective of the measurements was to study the weathering effects on typical urban surfaces and migration on permeable surfaces. Measurements were made in May, July and September 1986 and in May 1987. The average remaining fraction after 12 months is about 0.4 (excluding decay). No significant differences between typical urban surfaces were found, except for paving stones which showed a remaining fraction of 0.8. The depth distribution profiles in soil showed a half-value depth of a few centimetres. Activity was found below 20 cm, which indicates other transport mechanisms than pure diffusion. A similar behaviour of all nuclides with respect to both weathering and migration, indicates that the main part of the activity is bound to carrier particles.
Number of References: 3
Descriptors: accidents-; fallout-; health-hazards; radioactive-pollution
Identifiers: Gavle-area; Studsvik-area; in-situ-gamma-spectrometer-measurements; migration-; Chernobyl-fall-out; Sweden-; urban-surfaces; permeable-surfaces; weathering-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670Z (Other-topics); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201987000210000100000000000075
Accession Number: 3120276
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 997 of 1145 in INSPEC 1985-1989

Title: Radiocaesium on urban surfaces after Chernobyl
Author: Sandalls-FJ
Author Affiliation: Div. of Environ. & Med. Sci., Harwell Lab., UK

Source: Radiation-Protection-Dosimetry. vol.21, no.1-3; 1987; p.65-8
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Workshop on Accidental Urban Contamination. 9-12 June 1987; Roskilde, Denmark
Country of Publication: UK
Language: English
Abstract: On 2 and 3 May 1986, parts of the radioactive cloud from Chernobyl were over the UK. As a result of rainfall on those two days, measurable amounts of several radionuclides were deposited on ground surfaces, predominantly by wet deposition, in some parts of the UK. Measurements in the following September in Cumbria showed that some common urban construction materials had intercepted and retained significant fractions of the radiocaesium incident on surfaces. Retention ranged from 3% for hard, semi-glazed roofing tiles, to more than 50% for Marley roof tiles. The interception/retention factors were derived by comparison with caesium on soil and were derived from the /sup 134/Cs data. The results point to a need to understand the fate of radiocaesium in surface drainage systems and sewage treatment plants and emphasise the importance of considering forced decontamination in nuclear accident contingency planning.
Number of References: 2
Descriptors: accidents-; caesium-; radioactive-pollution; radioisotopes-
Identifiers: hard-semi-glazed-roofing-tiles; urban-surfaces; Chernobyl-; radioactive-cloud; rainfall-; Cumbria-; Marley-roof-tiles; surface-drainage-systems; sewage-treatment-plants; forced-decontamination; nuclear-accident-contingency-planning
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870002100001000000000000065
Accession Number: 3120274
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 998 of 1145 in INSPEC 1985-1989

Title: Run-off from and weathering of roof material following the Chernobyl accident
Author: Roed-J
Author Affiliation: Riso Nat. Lab., Roskilde, Denmark
Source: Radiation-Protection-Dosimetry. vol.21, no.1-3; 1987; p.59-63
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Workshop on Accidental Urban Contamination. 9-12 June 1987; Roskilde, Denmark

Country of Publication: UK
Language: English
Abstract: Run-off from different roof materials of various slopes has been studied following the Chernobyl accident. The study showed that the retention of caesium was higher than that of ruthenium, which in turn was higher than the retention of iodine when considering roof material. The retention on silicon-treated material was less than on porous roof material. The measurement of the content of isotopes in the run-off water was extended to 8 months to give some information about the short-term weathering effect. It is concluded that the wash-off process is slow for caesium and ruthenium and that this highlights the need for forced decontamination in a heavy pollution situation.
Number of References: 2
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: radioisotopes-; roof-slope; weathering-; roof-material; Chernobyl-accident; forced-decontamination; heavy-pollution-situation; Cs-; Ru-; I-; Si-treated-material
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670Z (Other-topics); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Ru-el; I-el; Si-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870002100001000000000000059
Accession Number: 3120273
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 999 of 1145 in INSPEC 1985-1989

Title: Reduction of external exposure from deposited Chernobyl activity by run-off, weathering, street cleaning and migration in the soil
Author: Jacob-P; Meckbach-R; Muller-HM
Author Affiliation: Inst. fur Strahlenschutz, Gesselschaft fur Strahlen- und Umweltforschung, Neuherberg, West Germany
Source: Radiation-Protection-Dosimetry. vol.21, no.1-3; 1987; p.51-7
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Workshop on Accidental Urban Contamination. 9-12 June 1987; Roskilde, Denmark
Country of Publication: UK
Language: English
Abstract: Relatively high concentrations of radionuclides from Chernobyl deposited with a heavy shower of rain in Southern Bavaria made it possible to measure the reduction of external exposures by run-off, weathering, street cleaning and migration in the soil. In situ spectroscopy showed that within the first few days about 60% of the caesium was

removed from asphalt, concrete and granite pavements by run-off and street cleaning. About 70% of the rest disappeared from the urban surfaces with a half-life of about 80 days. Contamination on roofs was found to be higher than on streets. It is shown that the widely used analytical approximation for the reduction of the dose rate due to the migration of caesium in the soil under-estimates the exposure.

Number of References: 12

Descriptors: accidents-; dosimetry-; fallout-; radioactive-pollution

Identifiers: heavy-rain-shower; external-exposure; deposited-Chernobyl-activity; weathering-; street-cleaning; migration-in-the-soil; radionuclides-; Southern-Bavaria; asphalt-; concrete-; granite-; pavements-; roofs-; dose-rate; Co-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670Z (Other-topics); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Co-el

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 000014484201987000210000100000000000000051

Accession Number: 3120272

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 1000 of 1145 in INSPEC 1985-1989

Title: Aerosol behavior research implications of Chernobyl

Author: Kress-TS

Author Affiliation: Oak Ridge Nat. Lab., TN, USA

Source: Canadian Nuclear Society 8th Annual Conference 1987 Proceedings. Canadian Nucl. Soc, Toronto, Ont., Canada; 1987; x+472 pp.

p.327-9

Publication Year: 1987

Record Type: Conference-Paper

Conference Details: 16-27 June 1987; Saint John, NB, Canada

Country of Publication: Canada

Language: English

Abstract: The mechanistic determination of the transport of fission products associated with LWR severe accident analyses largely involves application of aerosol behavior technology. The Chernobyl accident should then be assessed to determine if there are any possible implications regarding the status or the technology and the safety research needs with respect to aerosols. This paper presents a brief overview of the status of aerosol behavior modeling in LWR safety and gives an opinion on the research needs. By comparing the aerosol behavior aspects of the Chernobyl accident, a judgment is made that the accident does not change this perception of the status of the technology or

of the research needs but does suggest some areas indirectly associated with aerosols where additional research could be beneficial.
Number of References: 0
Descriptors: accidents-; aerosols-; fission-reactor-safety
Identifiers: Chernobyl-; LWR-severe-accident-analyses; aerosol-behavior-modeling; LWR-safety; research-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Sort Key: 10000000000198700000000000000000000327
Accession Number: 3119155
Update Code: 8800

Record 1001 of 1145 in INSPEC 1985-1989

Title: The relevance of Chernobyl to LWR and PHWR source term experimental programs
Author: Iglesias-FC; Hunt-CEL; Cox-DS; Osborne-MF; Lorenz-RA; Collins-JL
Author Affiliation: AEC, Chalk River Nucl. Labs., Ont., Canada
Source: Canadian Nuclear Society 8th Annual Conference 1987 Proceedings. Canadian Nucl. Soc, Toronto, Ont., Canada; 1987; x+472 pp.
p.317-26
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 16-27 June 1987; Saint John, NB, Canada
Country of Publication: Canada
Language: English
Abstract: The experimental programs of the Oak Ridge National Laboratory and the Chalk River Nuclear Laboratories were conceived to study fission product release and behaviour under a variety of conditions. In summary the main objectives are: (i) to quantify fission product release from irradiated fuel under conditions from reducing to oxidizing, (ii) to relate fuel morphology changes to release data, (iii) to determine the physical and chemical forms of the released species. The relevance of the Chernobyl accident to these programs is discussed.
Number of References: 16
Descriptors: accidents-; fission-reactor-fuel
Identifiers: LWR-; PHWR-; source-term-experimental-programs; fission-product-release; irradiated-fuel; fuel-morphology-changes; Chernobyl-accident
Classification Codes: A2842D (Fuel-elements); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2850J (Heavy-water-reactors); A28; A2
Treatment Codes: P (Practical); X (Experimental)
Sort Key: 10000000000198700000000000000000000317
Accession Number: 3119154
Update Code: 8800

Record 1002 of 1145 in INSPEC 1985-1989

Title: Safety research and development-post Chernobyl
Author: Brown-RA
Author Affiliation: Ontario Hydro, Toronto, Ont., Canada
Source: Canadian Nuclear Society 8th Annual Conference 1987 Proceedings. Canadian Nucl. Soc, Toronto, Ont., Canada; 1987; x+472 pp.
p.305-6
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 16-27 June 1987; Saint John, NB, Canada
Country of Publication: Canada
Language: English
Abstract: The author considers the possible effects the Chernobyl accident has had on the safety research and development programs for water-cooled reactors. Aspects of the accident which might impact on safety research and development are discussed.
Number of References: 6
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-; safety-research-and-development-programs; water-cooled-reactors
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Sort Key: 10000000000198700000000000000000000305
Accession Number: 3119152
Update Code: 8800

Record 1003 of 1145 in INSPEC 1985-1989

Title: Post-Chernobyl: Current and Future Prospects for Nuclear Power
Source: Radiation-Research. vol.113, no.2; Feb. 1988;
Publication Year: 1988
Record Type: Conference-Proceedings; Journal-article
Conference Details: Post-Chernobyl: Current and Future Prospects for Nuclear Power. 21-26 Feb. 1987; Atlanta, GA, USA
Country of Publication: USA
Language: English
Abstract: The following topics were dealt with: treatment for victims of nuclear accidents-the role of bone marrow transplantation; safety of nuclear plants in the United States; nuclear power levels of safety. Abstracts of individual papers can be found under the relevant classification codes in this or other issues.
Descriptors: fission-reactor-safety
Identifiers: nuclear-accident-victims'-treatment; nuclear-plant-safety; safety-levels; nuclear-power; Chernobyl-; bone-marrow-transplantation; United-States

Classification Codes: A0130C (Conference-proceedings); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A01; A28; A0; A2
Coden: RAREAE
ISSN: 0033-7587
Copyright Clearance Center Code: 88/$3.00
Sort Key: 0000033758719880011300002000000000000000
Accession Number: 3115018
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08058.000
Bestand: 1.1954=>

Record 1004 of 1145 in INSPEC 1985-1989

Title: Radiocesium levels in human muscle samples in Greece one year after the Chernobyl accident
Author: Lymberis-C; Makrigiorgos-G; Sbonias-E; Polizois-E; Mortzos-G; Bacas-A; Fountos-A
Author Affiliation: Dept. of Med. Phys., Gen. Army Hospital, Athens, Greece
Source: Applied-Radiation-and-Isotopes. vol.39, no.2; 1988; p.175-6
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The nuclear accident in Chernobyl (April 1986) produced significant quantities of /sup 137/Cs fallout which deposited on vegetation and soil and which eventually passed to the human foodchain. A study of the cesium levels in human muscle was initiated in an effort to assess the resulting dose equivalent distribution to the population. The authors report on the /sup 137/Cs levels measured in 15 human muscle samples obtained during surgical operations on young male subjects in the 401 General Army Hospital in Athens in the period March-June 1987.
Number of References: 11
Descriptors: accidents-; caesium-; dosimetry-; fallout-; muscle-; radioisotopes-
Identifiers: radiocaesium-; human-muscle-samples; Greece-; Chernobyl-accident; human-foodchain; dose-equivalent-distribution; 137Cs-fallout
Classification Codes: A8760M (Radiation-dosimetry); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: ARISEF
ISSN: 0883-2889
Copyright Clearance Center Code: 0883-2889/88/$3.00+0.00
Sort Key: 0000883288919880003900002000000000000175
Accession Number: 3112723
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001

Bestand: 37.1986-43.1992

Record 1005 of 1145 in INSPEC 1985-1989

Title: Analysis of reactivity coefficients of the Chernobyl reactor by cell calculation
Author: Tsuchihashi-K; Akino-F
Author Affiliation: JAERI, Ibaraki, Japan
Source: Journal-of-Nuclear-Science-and-Technology. vol.24, no.12; Dec. 1987; p.1055-65
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: A series of cell calculations for the Chernobyl reactor was performed using the SRAC code system to provide its fundamental neutronic characteristics for the accident analysis at JAERI. The calculations are based on a two-step cell modelling. The primary cell is supposed on a unit square graphite block of 25 cm*25 cm which contains a fuel assembly or a control channel. The secondary cell is supposed on a unit of 16 channels where 14 fuel and 2 control channels are located so as to simulate the whole core. A detailed investigation on the fractional change of reaction rates for each nuclei along with the increase of void fraction was carried out. The analysis clarified the mechanism to induce the positive void coefficient, together with its burn-up dependence and the increase due to control rod withdrawal. A comparison of the effect of void fraction of the reaction rates in the primary cell between a Monte Carlo VIM and SRAC shows consistent results within the statistical error.
Number of References: 6
Descriptors: accidents-; fission-reactor-core-control-and-monitoring; fission-reactor-safety; nuclear-engineering-computing
Identifiers: RBMK-1000; reactivity-coefficients; cell-calculations; Chernobyl-reactor; SRAC-code-system; neutronic-characteristics; accident-analysis; two-step-cell-modelling; primary-cell; fuel-assembly; control-channel; secondary-cell; reaction-rates; void-fraction; positive-void-coefficient; burn-up-dependence
Classification Codes: A2841C (Computer-codes); A2843D (Core-control-and-guidance); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: JNSTAX
ISSN: 0022-3131
Sort Key: 0000022313119870002400012000000000001055
Accession Number: 3111006
Update Code: 8800

Record 1006 of 1145 in INSPEC 1985-1989

Title: Uptake of dry-deposited radionuclides in Fucus-a field study after the Chernobyl accident
Author: Erlandsson-B; Mattsson-S
Author Affiliation: Dept. of Nucl. Phys., Lund Univ., Sweden
Source: Journal-of-Environmental-Radioactivity. vol.6, no.3; 1988; p.271-81
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The dry deposition of various radionuclides emanating from the plume from the Chernobyl reactor accident was measured at two locations in southern Sweden at the beginning of May, 1986. Samples of Fucus, taken at or near these locations, were also analysed. No precipitation had fallen during the time between the accident and the time of sampling. The ratios between activity concentrations in Fucus and dry depositions on the water surface have been calculated. For any specific radionuclide, this ratio was found to be the same at the two locations, after differences in salinity and in uptake between F. vesiculosus and F. serratus had been taken into account.
Number of References: 15
Descriptors: air-pollution; atmospheric-precipitation; fallout-; radioactive-pollution
Identifiers: AD-1986-05; seaweed-species; S-Sweden; N-Europe; air-pollution; dry-deposited-radionuclides; Chernobyl-accident; southern-Sweden; Fucus-; activity-concentrations
Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000600003000000000000271
Accession Number: 3110610
Update Code: 8800

Record 1007 of 1145 in INSPEC 1985-1989

Title: Transfer of Chernobyl-derived /sup 134/Cs, /sup 137/Cs, /sup 131/I and /sup 103/Ru from flowers to to honey and pollen
Author: Bunzle-K; Kracke-W; Vorwohl-G
Author Affiliation: Gesellschaft fur Strahlen-und Umweltforschung Munchen, Inst. fur Strahlenschutz, Neuherberg, West Germany
Source: Journal-of-Environmental-Radioactivity. vol.6, no.3; 1988; p.261-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The activity concentrations of /sup 137/Cs, /sup 134/Cs, /sup 131/I and /sup 103/Ru were determined separately in honey and pollen samples collected from a single bee colony during several months after the deposition of Chernobyl fallout. The source of each honey and pollen sample was determined by pollen analysis. Although the activity concentrations in honey and pollen varied with time, the concentrations of /sup 137/Cs and /sup 134/Cs were, in general, higher in pollen than in honey. For /sup 103/Ru and /sup 131/I, these differences were comparatively small. The mean /sup 131/I//sup 137/Cs and /sup 103/Ru//sup 137/Cs ratios were about one order of magnitude higher in honey than in pollen. The mean /sup 131/I//sup 103/Ru ratio was about the same for honey and pollen. This observation, in the light of the corresponding nuclide ratios found in the deposition, suggests that /sup 137/Cs, /sup 134/Cs, /sup 131/I and /sup 103/Ru were taken up by the plant leaves and transported to nectar and pollen. The higher activity concentrations of /sup 137/Cs and /sup 134/Cs in pollen, relative to honey, indicate that these radionuclides behave analogously to potassium, which is also found in higher quantities in pollen.
Number of References: 6
Descriptors: air-pollution; fallout-; radioactive-pollution
Identifiers: SW-Germany; air-pollution; foodstuffs-; flowers-; honey-; pollen-; activity-concentrations; single-bee-colony; Chernobyl-fallout; 134Cs-; 137Cs-; 131I-; 103Ru-
Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; I-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000600003000000000000261
Accession Number: 3110609
Update Code: 8800

Record 1008 of 1145 in INSPEC 1985-1989

Title: Studies of /sup 131/I, /sup 137/Cs and /sup 103/Ru in milk, meat and vegetables in North East Scotland following the Chernobyl accident
Author: Martin-CJ; Heaton-B; Robb-JD
Author Affiliation: Dept. of Bio-Med. Phys. & Bio-Eng., Aberdeen Univ., UK
Source: Journal-of-Environmental-Radioactivity. vol.6, no.3; 1988; p.247-59
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Uptake and clearance of radionuclides in foodstuffs have been studied in the neighbourhood of Aberdeen in North East Scotland following the Chernobyl accident. The level of /sup 131/I in goats' milk was 100-200 Bq litre/sup -1/ in early May and

declined with an effective half-life of 4.3 days, but that in cows' milk was only a few Bq litre/sup -1/ as most cattle were kept indoors. /sup 137/Cs and /sup 103/Ru activities in broccoli declined with effective half-lives of 11 and 6 days respectively, while /sup 137/Cs in grass decreased with a half-life of 22 days, the reduction appearing to show a relationship to weekly rainfall. Studies of tissues from groups of lambs initially grazed on contaminated pasture and later (a) fed indoors on concentrates or (b) continuing to graze outdoors, showed the /sup 137/Cs concentrations to decline with half-lives of (a) 17 days and (b) 25 days, while the half-lives describing the reduction in total /sup 137/Cs activity were (a) 20 days and (b) 35 days.

Number of References: 26
Descriptors: air-pollution; fallout-; radioactive-pollution
Identifiers: UK-; uptake-; United-Kingdom; NW-Europe; foodstuffs-; milk-; meat-; vegetables-; North-East-Scotland; Chernobyl-accident; clearance-; foodstuffs-; Aberdeen-; goats'-milk; cows'-milk; broccoli-; grass-; lambs-; 131I-; 137Cs-; 103Ru-
Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A9330K (Islands); A86; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Ru-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000600003000000000000247
Accession Number: 3110608
Update Code: 8800

Record 1009 of 1145 in INSPEC 1985-1989

Title: Deposition of /sup 134,137/Cs from Chernobyl fallout on Norway spruce and forest soil and its incorporation into spruce twigs
Author: Tobler-L; Bajo-S; Wyttenbach-A
Author Affiliation: Swiss Federal Inst. for Reactor Res., Wuerenlingen, Switzerland
Source: Journal-of-Environmental-Radioactivity. vol.6, no.3; 1988; p.225-45
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The aims of the present research are to describe the amounts, and the variation with time, of /sup 134/Cs and /sup 137/Cs in spruce twigs (P.abies karst.) and in the soil of a spruce forest in Switzerland following deposition of the Chernobyl fallout. The activity of the twigs was subdivided into 3 compartments: the activity on their surfaces (i.e. the activity which can be removed from the twigs along with their natural wax coating), the activity incorporated into the needles and, finally, the activity incorporated into the wood. These compartments were separately sampled 6 times over a period from 54 to 233 days after the Chernobyl incident. Twigs which sprouted in two successive years

(1985, 1986) were sampled and were found to show different behaviors. The activities associated with the 1986 twigs were roughly constant with time, while those of the 1985 twigs decreased exponentially, with half-lives around 150 days. The mean activity associated with 1 g (dry) of 1985 twigs is 724 mBq /sup 137/Cs g/sup -1/, of which 58% is incorporated into the twig wood, 17% into the needles and 25% associated with the adhering aerosol. /sup 137/Cs on the surface of the needles was found to be water-insoluble. It is believed to be strongly adsorbed on to the soil-derived fraction of the aerosol residing on the needle surface and thus provides a tracer four studying the behavior of natural aerosols on such surfaces.

Number of References: 22

Descriptors: air-pollution; atmospheric-precipitation; caesium-; fallout-; radioactive-pollution; radioisotopes-

Identifiers: soil-pollution; W-Europe; Chernobyl-fallout; Norway-spruce; forest-soil; spruce-twigs; Switzerland-; surfaces-; natural-wax-coating; needles-; wood-; 134Cs-; 137Cs-

Classification Codes: A8670C (Soil-and-rock); A8670G (Atmosphere); A9330G (Europe); A86; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Cs-el

Coden: JERAEE

ISSN: 0265-931X

Sort Key: 0000265931X19880000600003000000000000225

Accession Number: 3110607

Update Code: 8800

Record 1010 of 1145 in INSPEC 1985-1989

Title: The fallout of Chernobyl radioactivity in Central Ontario, Canada

Author: Joshi-SR

Author Affiliation: Nat. Water Res. Inst., Canada Centre for Inland Waters, Environ. Canada, Burlington, Ont., Canada

Source: Journal-of-Environmental-Radioactivity. vol.6, no.3; 1988; p.203-11

Publication Year: 1988

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The levels of Chernobyl-derived /sup 103/Ru, /sup 106/Ru, /sup 134/Cs and /sup 137/Cs were measured in Algoma, Ontario rain samples collected as weekly composites until September 30, 1986. The radionuclides were consistently measurable until mid-June. The data, when analyzed in conjunction with /sup 7/Be measurements, yield a mean tropospheric residence time of about 14 days for the four radionuclides. This value is significantly lower than the previous estimates based on nuclear explosion-derived radionuclides but is within the range of values reported using radon daughters.

Number of References: 14

Descriptors: air-pollution; atmospheric-precipitation; fallout-; radioactive-pollution; rain-
Identifiers: AO-1986-09-30; AD-1986-06; fallout-; Chernobyl-radioactivity; Central-Ontario; Canada-; Algoma-; rain-samples; mean-tropospheric-residence-time; 14-days; 103Ru-; 106Ru-; 134Cs-; 137Cs-; 7Be-
Classification Codes: A8670G (Atmosphere); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9330H (North-America); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Ru-el; Ru-el; Cs-el; Cs-el; Be-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000600003000000000000203
Accession Number: 3110604
Update Code: 8800

Record 1011 of 1145 in INSPEC 1985-1989

Title: Concentrations of /sup 131/I in the urine of Japanese adults and children following the Chernobyl nuclear accident
Author: Kawamura-H; Sakurai-Y; Shiraishi-K; Yanagisawa-K
Author Affiliation: Div. of Radioecology, Nat. Inst. of Radiol. Sci., Ibaraki, Japan
Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.185-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Iodine-131 in urine samples from 15 Japanese subjects was determined during the period 4 to 29 May 1986. In a male adult, the peak concentration (3.3 Bq dm/sup -3/) was observed on 9 May, the levels decreasing thereafter to less than the detection limit by 29 May. The highest concentration observed was 7.6 Bq dm/sup -3/ in a female adult. The urinary concentrations in the 11 adult subjects appeared to correlate with consumption of green leafy vegetables and milk. In four children, 6 to 14 years old, /sup 131/I concentrations in urine were generally higher than those of the adults. The major source of /sup 131/I intake was confirmed to be from vegetables, not milk.
Number of References: 11
Descriptors: accidents-; health-hazards; iodine-; radioactive-pollution; radioisotopes-
Identifiers: Japanese-children; urine-; Japanese-adults; Chernobyl-; peak-concentration; green-leafy-vegetables; milk-; vegetables-; 131I-concentrations
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50

Sort Key: 0000265931X19880000600002000000000000185
Accession Number: 3110602
Update Code: 8800

Record 1012 of 1145 in INSPEC 1985-1989

Title: Radioactivity in fungi in Slovenia, Yugoslavia, following the Chernobyl accident
Author: Byrne-AR
Author Affiliation: J. Stefan Inst., E. Kardelj Univ., Ljubljana, Yugoslavia
Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.177-83
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Caesium (/sup 137/Cs and /sup 134/Cs) concentrations in higher fungi (Basidiomycetes) from Slovenia, north-west Yugoslavia, are reported following the Chernobyl accident. Special attention was paid to the Cortinariaceae, already known as Cs accumulators. The highest levels were found in Cortinarius armillatus, C. traganus, (both inedible species) and Rozites caperata. The median concentration of /sup 137,134/Cs in R. caperata from over 40 sampling sites was about 22 kBq/kg dry weight. High levels were also found in Xerocomus badius and Laccaria amethystina. From the /sup 137/Cs//sup 134/Cs ratios, which reflect the depth of the mycelium and the excess /sup 137/Cs from historic pre-Chernobyl fallout, it may be surmised that radiocaesium levels in certain species will probably increase further next year and subsequently as Cs migrates down the soil profile. In addition, /sup 110m/Ag was found at concentrations up to 500 Bq/kg dry weight in certain species known to be Ag accumulators, particularly Agaricaceae and Lycoperdaceae.
Number of References: 14
Descriptors: accidents-; radioactive-pollution
Identifiers: fungi-; Slovenia-; Yugoslavia-; Chernobyl-; Basidiomycetes-; Cortinariaceae-; Cortinarius-armillatus; C-.-traganus; median-concentration; R-caperata; Xerocomus-badius; Laccaria-amethystina; 137Cs-134Cs-ratios; Agaricaceae-; Lycoperdaceae-; 137Cs-; 134Cs-; 110mAg-
Classification Codes: A8670 (Environmental-science); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Ag-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000600002000000000000177
Accession Number: 3110601
Update Code: 8800

Record 1013 of 1145 in INSPEC 1985-1989

Title: The marine impact of caesium-134 and -137 from the Chernobyl reactor accident
Author: Mitchell-NT; Steele-AK
Author Affiliation: Min. of Agric., Fisheries & Food, Directorate of Fisheries Res., Fisheries Lab., Lowestoft, UK
Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.163-75
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: /sup 134/Cs and /sup 137/Cs from the Chernobyl reactor accident were detected in UK shoreline seawater very quickly after activity from the accident reached this country. Concentrations were highest in areas adjacent to those where deposition over land was highest, but they declined quickly and did not reach radiologically significant levels in terms of public radiation exposure. Subsequently, the distribution in seawater was investigated further afield. Radiocaesium attributable to the Chernobyl accident was found to be widespread: it was readily distinguished from other sources by having a different /sup 137/Cs:/sup 134/Cs ratio (about 2:1). Its presence was especially noticeable in northern UK waters rather than those to the south; much of the North Sea has been surveyed as well as the Norwegian Sea. Evidence of Chernobyl radiocaesium was found as far north as 70 degrees N and in many of these areas, including the northern North Sea, it overshadowed the effect of BNFL (British Nuclear Fuels plc) Sellafield discharges, previously the main source of these radionuclides.
Number of References: 5
Descriptors: accidents-; caesium-; oceanography-; radioactive-pollution; radioisotopes-; seawater-; water-pollution
Identifiers: E-Europe; United-Kingdom; Ukraine-; Soviet-Union; NW-Europe; USSR-; radioactive-Cs-isotopes; marine-impact; reactor-accident; Chernobyl-; UK-; shoreline-seawater; public-radiation-exposure; seawater-; northern-UK-waters; North-Sea; Norwegian-Sea; northern-North-Sea; 134Cs-; 137Cs-
Classification Codes: A8670E (Water); A9220N (Pollution); A9330G (Europe); A9330M (Atlantic-Ocean); A9330R (Regional-seas); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Sort Key: 0000265931X19880000600002000000000000163
Accession Number: 3110600
Update Code: 8800

Record 1014 of 1145 in INSPEC 1985-1989

Title: The radiological impact of the Chernobyl debris compared with that from nuclear weapons fallout

Author: Aarkrog-A
Author Affiliation: Riso Nat. Lab., Roskilde, Denmark
Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.151-62
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The basic knowledge of the radiological impact of fallout from nuclear accidents is based on the experience gained from the study of nuclear weapons fallout. Radioecologically, the most important radionuclides generated by the Chernobyl accident were /sup 137/Cs, /sup 134/Cs, /sup 131/I and, to a lesser degree, /sup 90/Sr. These nuclides are well known from global fallout, although in different relative amounts to those observed in the Chernobyl debris. Another important difference between the fallout from Chernobyl and that from nuclear weapon tests is that their seasonal and geographical distributions were quite dissimilar. A number of examples show how these differences influenced transfer factors and thus population doses. Special emphasis is paid to the contamination of milk and cereal products. Furthermore, it is shown how the composition of the Chernobyl debris changed with distance from Chernobyl, due to the differences in volatility of the various radionuclides involved. Finally, the paper compares the dose equivalents received from unit releases (1 PBq /sup 137/Cs) of global fallout and of Chernobyl accident debris.
Number of References: 13
Descriptors: accidents-; dosimetry-; fallout-; radioactive-pollution
Identifiers: seasonal-distributions; milk-contamination; cereal-product-contamination; radiological-impact; Chernobyl-debris; nuclear-weapons-fallout; fallout-; geographical-distributions; transfer-factors; population-doses; dose-equivalents; global-fallout; 137Cs-; 134Cs-; 131I-; 90Sr-
Classification Codes: A8670 (Environmental-science); A8760R (Radioactive-pollution); A86; A87; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; I-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X1988000060000200000000000151
Accession Number: 3110599
Update Code: 8800

Record 1015 of 1145 in INSPEC 1985-1989

Title: Tropospheric and stratospheric distributions of radioactive iodine and cesium after the Chernobyl accident
Author: Jaworowski-Z; Kownacka-L
Author Affiliation: Central Lab. for Radiol. Protection, Warsaw, Poland

Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.145-50
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Concentrations of /sup 131/I and /sup 134,136,137/Cs in tropospheric and stratospheric air were determined over Poland during the first three weeks after the Chernobyl accident. Large amounts of activity were found at the higher levels of the troposphere up to 9 km. In the stratosphere, the activities at 15 km were usually about 1 to 6% of ground-level, values.
Number of References: 11
Descriptors: accidents-; air-pollution; atmospheric-composition; atmospheric-radioactivity; caesium-; iodine-; radioactive-pollution; radioisotopes-; stratosphere-; troposphere-
Identifiers: troposphere-; stratosphere-; ground-level-concentrations; Chernobyl-; Poland-; 9-km; 15-km; 131I-concentration; 134Cs-concentration; 137Cs-concentration; 136Cs-concentration
Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: altitude 9.0 E03 m; altitude 1.5 E04 m
Chemical Indexing: I-el; Cs-el; Cs-el; Cs-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X19880000600002000000000000145
Accession Number: 3110598
Update Code: 8800

Record 1016 of 1145 in INSPEC 1985-1989

Title: Radioactivity in surface air and precipitation in Japan after the Chernobyl accident
Author: Higuchi-H; Fukatsu-H; Hashimoto-T; Nonaka-N; Yoshimizu-K; Omine-M; Takano-N; Abe-T
Author Affiliation: Japan Chem. Anal. Center, Chiba, Japan
Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.131-44
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Radioactive plumes from the Chernobyl reactor accident first passed over Japan on 3 May 1986. Measurements of /sup 103/Ru, /sup 131/I and /sup 137/Cs in rainfall and airborne dust collected at Chiba near Tokyo show that, in fact, at least two or more kinds of plume arrived during May. Their altitudes were calculated to be about 1500 m in early May and 6300 m in late May. Radionuclides detected in 33 precipitation

samples collected by the network of prefectural radiation monitoring stations from 1 to 22 May were /sup 7/Be, /sup 89/Sr, /sup 90/Sr, /sup 95/Zr, /sup 95/Nb, /sup 103/Ru, /sup 106/Ru, /sup 110m/Ag, /sup 125/Sb, /sup 129m/Te, /sup 131/I, /sup 132/Te, /sup 132/I, /sup 134/Cs, /sup 136/Cs, /sup 137/Cs, /sup 140/Ba, /sup 140/La, /sup 141/Ce and /sup 144/Ce, the measurements being made using germanium detectors and low-background GM counters after radiochemical separation. The radiation was characterized by higher levels of the volatile nuclides, such as /sup 103/Ru (in the form of RuO/sub 2/), /sup 132/Te, /sup 131/I and /sup 137/Cs, than fallout levels in nuclear weapons testing, and by activity ratios of 0.48 and 14 for, respectively, /sup 134/Cs//sup 137/Cs and /sup 89/Sr//sup 90/Sr, as on 26 April. The fallout activity was higher in northwestern Japan, the average depositions of /sup 90/Sr and /sup 137/Cs in Japan from 1 May (or 30 April) to 22 May being 1.4 Bq m/sup -2/ and 95 Bq m/sup -2/, inventories which are 14 and 550 times higher than the pre-Chernobyl values.

Number of References: 9

Descriptors: accidents-; air-pollution; atmospheric-composition; atmospheric-radioactivity; radioactive-pollution; radioisotopes-; rain-

Identifiers: USSR-; AD-1986-05-03; Ukraine-; Soviet-Union; radioactive-plumes; E-Asia; radionuclides-; NW-Japan; surface-air; precipitation-; Japan-; Chernobyl-; rainfall-; Chiba-; volatile-nuclides; activity-ratios; 134Cs-137Cs; 89Sr-90Sr; fallout-activity; 1500-m; 6300-m; 103Ru-; 131I-; 137Cs-; 7Be-; 89Sr-; 90Sr-; 95Zr-; 95Nb-; 106Ru-; 110mAg-; 125Sb-; 129mTe-; 132Te-; 132I-; 134Cs-; 136Cs-; 140Ba-; 140La-; 141Ce-; 144Ce-; RuO-2

Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260H (Chemical-composition-and-chemical-interactions); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9260T (Air-quality-and-air-pollution); A9330D (Asia); A9330G (Europe); A9330K (Islands); A86; A87; A92; A93; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: altitude 1.5 E03 m; altitude 6.3 E03 m

Chemical Indexing: Ru-el; I-el; Cs-el; Be-el; Sr-el; Sr-el; Zr-el; Nb-el; Ru-el; Ag-el; Sb-el; Te-el; Te-el; I-el; Cs-el; Cs-el; Ba-el; La-el; Ce-el; Ce-el; RuO2-bin O2-bin Ru-bin O-bin

Coden: JERAEE
ISSN: 0265-931X
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Sort Key: 0000265931X19880000600002000000000000131
Accession Number: 3110597
Update Code: 8800

Record 1017 of 1145 in INSPEC 1985-1989

Title: On the transport of Chernobyl radioactivity to eastern Canada

Author: Roy-J-C; Cote-J-E; Mahfoud-A; Villeneuve-S; Turcotte-J
Author Affiliation: Dept. of Chem., Laval Univ., Que., Canada

Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.121-30

Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A large number of radionuclides released by the Chernobyl nuclear reactor were detected in air and river water samples collected in the Quebec region of eastern Canada. Analysis of the data supports the view that three waves of airborne radioactivity entered eastern Canada between 6 May 1986 and the end of June 1986. The first two waves would have followed an Arctic route and arrived over Quebec on 6 May and around 14 May respectively. The third wave would have been carried by the prevailing westerly winds across the Pacific Ocean and arrived over Quebec around 25-26 May. On 25 June and thereafter, Chernobyl radioactivity was undetectable in air filters but was still being detected in the St Lawrence river in March 1987.
Number of References: 16
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-radioactivity; radioactive-pollution; water-pollution
Identifiers: USSR-; AD-1986-05; AD-1986-06; air-pollution; water-pollution; atmospheric-transport; AD-1987-03; Ukraine-; Soviet-Union; North-America; Chernobyl-radioactivity; eastern-Canada; Chernobyl-nuclear-reactor; air-; river-water; Quebec-; airborne-radioactivity; May-1986; June-1986; Arctic-route; prevailing-westerly-winds; St-Lawrence-river; March-1987
Classification Codes: A8670E (Water); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9240Q (Water-quality-and-water-resources); A9260B (General-circulation); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A9330H (North-America); A86; A87; A92; A93; A8
Treatment Codes: X (Experimental)
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/88/$03.50
Sort Key: 0000265931X1988000060000200000000000121
Accession Number: 3110596
Update Code: 8800

Record 1018 of 1145 in INSPEC 1985-1989

Title: Size distributions and growth of natural and Chernobyl-derived submicron aerosols in Tennessee
Author: Bondietti-EA; Brantley-JM; Rangarajan-C
Author Affiliation: Div. of Environ. Sci., Oak Ridge Nat. Lab., TN, USA
Source: Journal-of-Environmental-Radioactivity. vol.6, no.2; 1988; p.99-120
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The median aerodynamic diameters of aerosol-associated SO/sub 4//sup 2-/, /sup 210/Pb, /sup 7/Be, and Chernobyl-derived fission products in Tennessee were examined using high-volume cascade impactors. Regardless of season, the 'steady-state' size distributions of SO/sub 4//sup 2-/ shifted to larger sizes than found for either /sup 210/Pb or /sup 7/Be, and for /sup 7/Be sizes showed a weaker seasonal dependency than for either SO/sub 4//sup 2-/ or /sup 210/Pb. It is suggested that the size differences are the result of the different spatial distributions of these species in the atmosphere during aerosol formation and growth. The mean growth rate of aerosols between approximately=0.2 mu m and approximately=0.4 mu m was estimated to be approximately=0.03 mu m d/sup -1/ from a comparison of the median diameter of /sup 210/Pb when it is first produced from /sup 214/Po decay with the median diameter after a mean atmospheric residence time of 7 d. Measurements of the size distributions of radioactive aerosols released during the nuclear reactor accident at Chernobyl were made in May and June 1986, and provided rare information on growth rates of aerosols released to the atmosphere over a short time period. A linear growth rate of approximately=0.013 mu m d/sup -1/ was observed in the lower troposphere after the median diameter had reached approximately=0.4 mu m. Chernobyl-derived /sup 134,137/Cs was less soluble than /sup 7/Be, suggesting the presence of an aerosol core derived from reactor constituents.

Number of References: 29

Descriptors: accidents-; aerosols-; air-pollution; atmospheric-composition; atmospheric-radioactivity; particle-size; radioactive-pollution; troposphere-

Identifiers: E-United-States; North-America; Ukraine-; Soviet-Union; USSR-; sulphate-aerosol; AD-1986-05-to-06; submicron-aerosols; Tennessee-; median-aerodynamic-diameters; fission-products; high-volume-cascade-impactors; size-distributions; seasonal-dependency; spatial-distributions; atmosphere-; aerosol-formation; mean-growth-rate; aerosols-; median-diameter; radioactive-aerosols; nuclear-reactor-accident; Chernobyl-; lower-troposphere; aerosol-core; reactor-constituents; SO-4-2-; 210Pb-; 7Be-; 214Po-; 134Cs-; 137Cs-

Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A9330H (North-America); A86; A87; A93; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Cs-el; Cs-el; SO4-bin O4-bin O-bin S-bin; Pb-el; Be-el; Po-el

Coden: JERAEE

ISSN: 0265-931X

Sort Key: 0000265931X19880000600002000000000000099

Accession Number: 3110595

Update Code: 8800

Record 1019 of 1145 in INSPEC 1985-1989

Title: Environmental monitoring in the vicinity of Sellafield following deposition of radioactivity from the Chernobyl accident

Author: Jackson-D; Jones-SR; Fulker-MJ; Coverdale-NGM

Author Affiliation: British Nucl. Fuels plc, Sellafield, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.7, no.2; Summer 1987; p.75-87
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: British Nuclear Fuels plc carries out an extensive programme of routine environmental monitoring around its operating sites. Following the reactor accident at Chernobyl, USSR, in April 1986, special monitoring arrangements were implemented and expanded as the situation developed. Results from the Sellafield Site were of special significance as they showed that West Cumbria was an area of high deposition. Descriptions of the monitoring carried out around Sellafield, and the results obtained, are presented here. Analysis of these results is described in terms of assessment of radiological significance of the incident to the population of Cumbria. Additionally, the effects of the accident on Sellafield environmental monitoring results for 1986 are described and the implications for 1987 and future years considered as a supplement to the summary of annual environmental monitoring data. The major radionuclides detected were /sup 131/I, /sup 134/Cs and /sup 137/Cs. Early results for rainwater indicated concentrations of iodine and caesium more than 30 times those recorded in lakes. Up to 200 Bq kg/sup -1/ /sup 131/I was recorded in leafy green vegetables growing in the fields at the time of the incident, although with much lower concentrations in other crops. Concentrations of /sup 131/I and /sup 137/Cs in milk peaked around 360 Bq l/sup -1/. The consequences of the deposition, although modest in radiological terms when compared with the relevant ERLs, were sufficient to dominate the results of monitoring during 1986 for caesium, iodine, ruthenium and other 'Chernobyl' radionuclides in the terrestrial environment around Sellafield.
Number of References: 25
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioactivity-measurement
Identifiers: environmental-monitoring; reactor-accident; Chernobyl-; Sellafield-Site; West-Cumbria; radiological-significance; 137Cs-; rainwater-; leafy-green-vegetables; milk-; terrestrial-environment; 131I-; 134Cs-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: I-el; Cs-el
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 000026028141987000070000200000000000075
Accession Number: 3106944
Update Code: 8800

Bestand: 1.1981-7.1987 L:1

Record 1020 of 1145 in INSPEC 1985-1989

Title: A comparison of caesium 137 and 134 activity in sheep remaining on upland areas contaminated by Chernobyl fallout with those removed to less active lowland pasture
Author: Howard-BJ; Beresford-NA; Burrow-L; Shaw-PV; Curtis-EJC
Author Affiliation: Inst. of Terrestrial Ecology, Merlewood Res. Station, Grange-over-Sands, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.7, no.2; Summer 1987; p.71-3
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Caesium contamination of vegetation in some upland areas of the United Kingdom after the Chernobyl accident remained persistently higher than many anticipated. Consequently, some sheep continued to graze vegetation containing sufficiently high caesium activity to maintain tissue activity above the limits adopted for slaughter in the United Kingdom (1000 Bq kg/sup -1/ fresh weight). In this study the caesium activity in lambs remaining on affected upland areas has been compared with that of lambs removed to a lowland site. The former lost very little caesium activity from the end of July to mid-September 1987 owing to the persistently high caesium activity of the pasture. The transfer coefficient to lamb muscle (0.79 day kg/sup -1/) was 6 times higher than that previously estimated from lowland field studies. Lambs removed to much less contaminated lowland pasture rapidly lost their Cs activity with an initial biological half life of 10 days.
Number of References: 3
Descriptors: accidents-; caesium-; dosimetry-; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: 134Cs-; 137Cs-; Chernobyl-fallout; lowland-pasture; vegetation-; upland-areas; United-Kingdom; Chernobyl-accident; sheep-; tissue-activity; lambs-; transfer-coefficient; Cs-activity
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: P (Practical); X (Experimental)
Chemical Indexing: Cs-el
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 000026028141987000070000200000000000071
Accession Number: 3106943
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000

Bestand: 1.1981-7.1987 L:1

Record 1021 of 1145 in INSPEC 1985-1989

Title: Early radiation casualties-what Chernobyl has taught us
Author: Berry-RJ
Author Affiliation: Dept. of Oncology, Middlesex Hospital Med. Sch., London, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.7, no.2; Summer 1987; p.55-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: This a condensed version of the information presented by Academician L.A. Ilyin and Professor A.K. Guskova at the International Atomic Energy Agency Expert Meeting held in Vienna, 25th-29th August 1986.
Number of References: 1
Descriptors: accidents-; biological-effects-of-radiation; health-hazards
Identifiers: nuclear-accidents; acute-radiation-sickness; radiation-casualties; Chernobyl-
Classification Codes: A8750 (Biological-effects-of-radiations); A87; A8
Treatment Codes: G (General-or-Review); P (Practical)
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 00002602814198700007000020000000000000055
Accession Number: 3106941
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000
Bestand: 1.1981-7.1987 L:1

Record 1022 of 1145 in INSPEC 1985-1989

Title: Tracing of the radioactive cloud in Krakow after the Chernobyl nuclear accident. Preliminary results
Author: Dulinski-M; Florkowski-T; Grabczak-J; Janczyszyn-J; Kalita-S; Kuc-T; Morawska-L; Rozanski-K
Author Affiliation: Inst. of Phys. & Nucl. Tech., Acad. of Min. & Metall., Cracow, Poland
Source: Acta-Geophysica-Polonica. vol.34, no.4; 1986; p.405-12
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Poland
Language: English
Abstract: Preliminary results of radioactivity measurements in various types of samples (air particulates, noble gases, rain, atmospheric moisture, tap water, milk) collected in

Krakow during the passage of the radioactive cloud induced by Chernobyl nuclear accident are presented.
Number of References: 8
Descriptors: air-pollution; fallout-; radioactive-pollution
Identifiers: Poland-; pollution-; fallout-; radioactive-cloud; Krakow-; Chernobyl-nuclear-accident; air-particulates; noble-gases; rain-; atmospheric-moisture; tap-water; milk-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: AGPOAP
ISSN: 0001-5725
Sort Key: 0000001572519860003400004000000000000405
Accession Number: 3106217
Update Code: 8800

Record 1023 of 1145 in INSPEC 1985-1989

Title: Simulation of the Chernobyl accident
Author: Fletcher-CD; Chambers-R; Bolander-MA; Dallman-RJ
Author Affiliation: Idaho Nat. Eng. Lab., EG&G Idaho Inc., Idaho Falls, ID, USA
Source: Nuclear-Engineering-and-Design. vol.105, no.2; Jan. 1988; p.157-72
Publication Year: 1988
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: An analysis of the April 26, 1986 accident at the Chernobyl-4 nuclear power plant in the Soviet Union is presented. The peak calculated core power during the accident was 550000 MW/sub t/. The analysis provides insights that further understanding of the plant behavior during the accident. The plant was modeled with the RELAP5/MOD2 computer code using information available in the open literature. The Chernobyl-4 model included the reactor kinetics effects of fuel temperature, graphite temperature, core average void fraction, and automatic regulator control rod position. Preliminary calculations indicated the effects of recirculation pump coast down during performance of a test at the plant were not sufficient to initiate a reactor kinetics-driven power excursion. Another mechanism or 'trigger' is required. The accident simulation assumed the trigger was recirculation pump performance degradation caused by the onset of pump cavitation. Fuel disintegration caused by the power excursion probably led to rupture of pressure tubes. To further characterize the response of the Chernobyl-4 plant during severe accidents, simulations of an extended station blackout sequence with failure of all feedwater are also presented. For those simulations, RELAP5/MOD2 and SCDAP/MOD1 were used. The simulations indicated that fuel rod melting was delayed significantly because the graphite acted as a heat sink.
Number of References: 17
Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety; nuclear-engineering-computing

Identifiers: Chernobyl-accident; Chernobyl-4-nuclear-power-plant; peak-calculated-core-power; plant-behavior; RELAP5MOD2-computer-code; reactor-kinetics-effects; fuel-temperature; graphite-temperature; core-average-void-fraction; automatic-regulator-control-rod-position; recirculation-pump-coast-down; reactor-kinetics-driven-power-excursion; pump-cavitation; extended-station-blackout-sequence; SCDAPMOD1-; fuel-rod-melting
Classification Codes: A2841C (Computer-codes); A2843B (Cooling-and-heat-recovery); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NEDEAU
ISSN: 0029-5493
Copyright Clearance Center Code: 0029-5493/88/$03.50
Sort Key: 0000029549319880010500002000000000000157
Accession Number: 3094177
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08465.001
Bestand: 3.1966=>

Record 1024 of 1145 in INSPEC 1985-1989

Title: Total body potassium measurement-the effect of fallout from Chernobyl
Author: Watson-WS
Author Affiliation: Dept. of Clinical Phys. & BioEng., Southern Gen. Hospital, Glasgow, UK
Source: Clinical-Physics-and-Physiological-Measurement. vol.8, no.4; Nov. 1987; p.337-41
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: As a result of fallout from the nuclear accident at Chernobyl in April 1986, the caesium radioisotopes, /sup 134/Cs and /sup 137/Cs, have been detected in man. A minor consequence of this is that total body potassium (TBK) measurements obtained from the whole body activity of /sup 40/K, a naturally occurring radioisotope of potassium, can be overestimated because of gamma spectrum overlap between /sup 134/Cs and /sup 40/K. Whole-body activities for /sup 134/Cs and /sup 40/K were measured in 18 healthy adults (13 M, 5 F) in June/July, 1986, using a whole-body counter with NaI crystal scintillation detectors. Studies using anthropometric phantoms containing known activities of the two radionuclides, allowed the contribution of /sup 134/Cs to the '/sup 40/K activity' in the human subjects to be assessed. The group mean /sup 134/Cs level was 172 Bq, resulting in an average overestimate in TBK of 2.8%. It is recommended that when TBK measurements are being undertaken and /sup 134/Cs contamination is suspected, then /sup 134/Cs levels should be measured and their effect corrected for.
Number of References: 12

Descriptors: biomedical-measurement; fallout-; potassium-
Identifiers: fallout-; Chernobyl-; nuclear-accident; 137Cs-; gamma-spectrum-overlap; healthy-adults; anthropometric-phantoms; 172-Bq; 134Cs-; 40K-; NaI-
Classification Codes: A8760R (Radioactive-pollution); A87; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 1.72 E02 Bq
Chemical Indexing: Cs-el; K-el; NaI-bin Na-bin I-bin
Coden: CPPMD5
ISSN: 0143-0815
Copyright Clearance Center Code: 0143-0815/87/040337+05$02.50
Sort Key: 0000143081519870000800004000000000000337
Accession Number: 3091962
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25870.000
Bestand: 1.1980-13.1992

Record 1025 of 1145 in INSPEC 1985-1989

Title: Ground deposition of long-lived gamma emitters in Poland from the Chernobyl accident
Author: Krolas-K; Kubala-M; Sciezor-T
Author Affiliation: Inst. of Phys., Jagellonian Univ., Cracow, Poland
Source: Acta-Physica-Polonica-B. vol.B18, no.12; Dec. 1987; p.1179-86
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Poland
Language: English
Abstract: Activity composition was measured for soil contaminated with the fallout from the Chernobyl accident. The soil samples were collected at various areas of Poland. A map showing the /sup 137/Cs deposit distribution was drawn for the most contaminated southern part of Poland.
Number of References: 9
Descriptors: accidents-; caesium-; fallout-; radioactive-pollution; soil-
Identifiers: ground-deposition; long-lived-gamma-emitters; Poland-; Chernobyl-accident; fallout-; soil-samples; 137Cs-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: P (Practical)
Chemical Indexing: Cs-el
Coden: APOBBB
ISSN: 0587-4254
Sort Key: 0000587425419870001800012000000000001179
Accession Number: 3091448
Update Code: 8800

Record 1026 of 1145 in INSPEC 1985-1989

Title: Chernobyl-ethical and environmental considerations
Author: Warner-F
Author Affiliation: Dept. of Chem., Essex Univ., Colchester, UK
Source: IEE-Proceedings-A-(Physical-Science,-Measurement-and-Instrumentation,-Management-and-Education,-Reviews). vol.134, no.10; Dec. 1987; p.834-40
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Summarises briefly the main facts of the Chernobyl incident, the reactions to it, and the consequences in terms of global atmospheric pollution. Meteorological conditions determined the pattern of fallout, which over the UK for Cs/sup 137/ varied in the ratio 10:4000 Bq/m/sup 2/ (on grass). There has been poor understanding by the media and the public of the quantitative aspects, aggravated by the differing characteristics of the several radionuclides (15 are listed), and the recent use of SI units in the west (becquerel, gray, sievert), while USSR still uses the old units (curie, rad, rem). Very complete information on fallout in the British Isles was obtained from Bracknell's meteorological data and the atmospheric dispersion models operated at Imperial College. The disaster has underlined the responsibilities of top management and of professional engineers, the need to promote a 'safety culture', and the value of effective organisation, the international exchange of experience, and the role of the media in improving public information.
Number of References: 0
Descriptors: accidents-; economic-and-sociologic-effects; fission-reactor-safety; health-hazards; pollution-detection-and-control; radioactive-pollution
Identifiers: ethical-; environmental-; Chernobyl-; UK-; radionuclides-; SI-units; Bracknell's-meteorological-data; atmospheric-dispersion-models; management-; professional-engineers; safety-culture; Cs-137
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); B0140 (Administration-and-management); B0160 (Plant-engineering-maintenance-and-safety); B7720 (Pollution-detection-and-control); B8220B (Nuclear-reactors); A28; A86; A87; B01; B77; B82; A2; A8
Treatment Codes: G (General-or-Review)
Chemical Indexing: Cs-el
Coden: IPPRDI
ISSN: 0143-702X
Copyright Clearance Center Code: 0143-702X/87/$2.00+0.00
Sort Key: 0000143702X19870013400010000000000000834
Accession Number: 3085373
Update Code: 8800

Record 1027 of 1145 in INSPEC 1985-1989

Title: The Chernobyl reactor accident: the impact on the United Kingdon (Mayneord Lecture)
Author: Fry-FA
Author Affiliation: Nat. Radiol. Protection Board, Chilton, UK
Source: British-Journal-of-Radiology. vol.60, no.720; Dec. 1987; p.1147-58
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Nuclear Reactor Accidents: Preparedness and Medical Consequences. 2 April 1987; Southampton, UK
Country of Publication: UK
Language: English
Abstract: The author describes existing arrangements in the UK for monitoring radionuclides in the environment and for dealing with emergencies. The author then concentrates on the impact of the Chernobyl reactor accident within the UK: the deposition and transfer of radionuclides, doses to the population, and lessons for the future.
Number of References: 39
Descriptors: accidents-; fission-reactors; health-hazards; radioactive-pollution
Identifiers: population-doses; radioactive-pollution; radionuclides-deposition; radionuclides-transfer; radiation-monitoring; Chernobyl-reactor-accident; United-Kingdon; Mayneord-Lecture; environment-; emergencies-
Classification Codes: A0130B (Publications-of-lectures-advanced-institutes-summer-schools-etc); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A01; A28; A87; A0; A2; A8
Treatment Codes: G (General-or-Review)
Coden: BJRAAP
ISSN: 0007-1285
Sort Key: 00000071285198700060007200000000000001147
Accession Number: 3081125
Update Code: 8800

Record 1028 of 1145 in INSPEC 1985-1989

Title: Chernobyl and the Slimbridge swans
Author: Hancock-R; Woolam-P
Author Affiliation: Berkeley Nucl. Labs., CEGB, UK
Source: Atom. no.373; Nov. 1987; p.30-2
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: Describes the measurement of radioactivity in live Bewick's swans at Slimbridge. This was an attempt to discover if the birds were affected by the fallout from the Chernobyl accident.
Number of References: 0
Descriptors: accidents-; radiation-monitoring; radioactive-pollution; radioactivity-measurement
Identifiers: measurement-; radioactivity-; Bewick's-swans; fallout-; Chernobyl-accident
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: P (Practical); X (Experimental)
Coden: ATMMAR
ISSN: 0004-7015
Sort Key: 00000047015198700000003730000000000000030
Accession Number: 3080438
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08662.000
Bestand: 1958,17-1995,437 N:41,300

Record 1029 of 1145 in INSPEC 1985-1989

Title: The nuclear reactor accident at Chernobyl, USSR
Author: Cohen-BL
Author Affiliation: Pittsburgh Univ., PA, USA
Source: American-Journal-of-Physics. vol.55, no.12; Dec. 1987; p.1076-83
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The sequence of events and the consequences of the nuclear reactor accident at Chernobyl, USSR in April 1986 are reviewed. The background material in nuclear reactor and nuclear explosion physics required for understanding these event is extensively explained, and the differences between US and Chernobyl-type reactors are pointed out.
Number of References: 11
Descriptors: fission-reactor-safety; teaching-
Identifiers: weapons-technology; nuclear-reactor-accident; Chernobyl-; background-material; nuclear-explosion-physics
Classification Codes: A0150 (Educational-aids); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A01; A28; A0; A2
Treatment Codes: G (General-or-Review)
Coden: AJPIAS
ISSN: 0002-9505
Sort Key: 00000029505198700055000120000000000001076

Accession Number: 3080288
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04087.001
Bestand: 8.1940=>

Record 1030 of 1145 in INSPEC 1985-1989

Title: Dynamic analysis of the Chernobyl accident
Author: Toffer-H; Twitchell-RW
Author Affiliation: UNC Nucl. Ind., Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.411-12
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Abstract: Since UNC Nuclear Industries had specialized expertise in the analysis of graphite-moderated reactors, the company was requested to help identify the possible contributing factors leading to the Chernobyl transient. The support effort was in three areas: development of a three-dimensional model of the Russian reactor to establish flux and powder distributions, lattice cell calculations to compute reactivity coefficients and to generate cross sections for static and dynamic analyses, and performance of dynamic calculations exploring the contribution of control rod action on the reactivity transient.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety
Identifiers: flux-distributions; graphite-moderated-reactors; Chernobyl-transient; three-dimensional-model; powder-distributions; lattice-cell-calculations; reactivity-coefficients; cross-sections; dynamic-calculations; control-rod-action; reactivity-transient
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000411
Accession Number: 3077350
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1031 of 1145 in INSPEC 1985-1989

Title: Impact of the Chernobyl accident on Turkey

Author: Fields-DE; Ozluoglu-N; Yalcintas-MG
Author Affiliation: Oak Ridge Nat. Lab., TN, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.18-19
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Abstract: The authors present and discuss measurements of radionuclide concentrations made in Turkey during the Chernobyl event and perform preliminary analyses of the internal and external doses associated with exposure to these materials.
Number of References: 15
Descriptors: accidents-; air-pollution; health-hazards; radioactive-pollution
Identifiers: radionuclide-concentrations; Chernobyl-event; doses-; exposure-
Classification Codes: A8670G (Atmosphere); A8760P (Radiation-protection); A86; A87; A8
Treatment Codes: X (Experimental)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000018
Accession Number: 3077181
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1032 of 1145 in INSPEC 1985-1989

Title: Effects of the Chernobyl accident on the Federal Republic of Germany
Author: Winkelmann-I; Haubelt-R; Neumann-P
Author Affiliation: Inst. for Radiat, Hygiene of the Federal Health Office, Neuherberg, West Germany
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.15-18
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Abstract: After the reactor accident in the USSR, the radioactive plume reached the southern parts of the Federal Republic of Germany (FRG) on the morning of April 30, 1986. Consequently, an intensive measuring program to determine air, soil, and food contamination as well as whole-body counting was initiated from that day onward. During the first days of May, the plume moved toward northern FRG. No further

substantial amount of radioactivity due to the Chernobyl accident reached the FRG after May 2, 1986.
Number of References: 2
Descriptors: accidents-; air-pollution; health-hazards; radioactive-pollution; water-pollution
Identifiers: Chernobyl-accident; Federal-Republic-of-Germany; reactor-accident; radioactive-plume; air-; soil-; food-contamination; whole-body-counting
Classification Codes: A8670C (Soil-and-rock); A8670E (Water); A8670G (Atmosphere); A86; A8
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000015
Accession Number: 3077180
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1033 of 1145 in INSPEC 1985-1989

Title: Internally deposited fallout from the Chernobyl reactor accident
Author: Schlenker-RA
Author Affiliation: Argonne Nat. Lab., IL, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.12
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Abstract: Shortly after the announcement of the Chernobyl reactor accident, health protection scientists in several countries began monitoring the fallout radioactivity in the local citizenry and in people arriving from abroad. Whose-body counting measurements were made in England, France, Germany, Hungary, Italy, Japan, the Netherlands, Poland, the United States, and USSR. The gamma-ray emitters detected by these methods in laboratories from several countries are listed.
Number of References: 2
Descriptors: accidents-; air-pollution; radioactive-pollution
Identifiers: Chernobyl-reactor-accident; health-protection-scientists; fallout-radioactivity; counting-measurements; gamma-ray-emitters
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: G (General-or-Review); X (Experimental)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000012

Accession Number: 3077178
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1034 of 1145 in INSPEC 1985-1989

Title: Dose estimates from the Chernobyl accident
Author: Hull-AP
Author Affiliation: Brookhaven Nat. Lab., Upton, NY, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.10-12
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Number of References: 6
Descriptors: air-pollution-detection-and-control; radioactive-pollution
Identifiers: dose-estimates; radioactive-pollution; Chernobyl-accident
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000010
Accession Number: 3077177
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1035 of 1145 in INSPEC 1985-1989

Title: A comparison between the Soviet source term and predicted values for the Chernobyl nuclear accident
Author: Till-JE; Meyer-R
Author Affiliation: Radiol. Assessments Corp., Neeses, SC, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.9-10
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English

Abstract: The authors compare predictions of the source term that were based on field measurements of radionuclides made during the Chernobyl accident to those reported by the Soviet Union in their official documentation of the accident in August 1986. Before and during the accident, little was known outside the Soviet Union regarding the operating history of the unit 4 reactor, the events leading up to the accident, or the fraction of the radionuclide inventory being released. Therefore, a source term had to be derived using calculations based on measurements of radionuclides in the environment, often at great distances from the accident site. The reference source term is assumed to be that reported by the Soviets in their postaccident review meeting in Vienna in August 1986 and the International Atomic Energy Agency (IAEA) analysis of the Soviet report prepared by the International Nuclear Safety Advisory Group (INSAG). It is emphasized that, even with the Soviet data and INSAG's analysis of these data, considerable uncertainty still remains in the accident source term with numerous inconsistencies and gaps in the data.
Number of References: 6
Descriptors: air-pollution-detection-and-control; radioactive-pollution
Identifiers: Soviet-source-term; predicted-values; Chernobyl-nuclear-accident; radionuclides-; unit-4-reactor
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: G (General-or-Review); T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000009
Accession Number: 3077176
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1036 of 1145 in INSPEC 1985-1989

Title: Dose estimates from the Chernobyl accident
Author: Lange-R; Dickerson-MH; Gudiksen-PH
Author Affiliation: Lawrence Livermore Nat. Lab., CA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.8-9
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Abstract: Using the Chernobyl accident emission rates, a three-dimensional particle-in-cell atmospheric dispersion model that was specifically adapted to treat continental and hemispheric spatial scales was used. Its particle-in-cell concept involves the injection of a large number of marker particles at the source point to represent a radioactivity.

Number of References: 5
Descriptors: air-pollution-detection-and-control; radioactive-pollution
Identifiers: dose-estimates; Chernobyl-accident; emission-rates; three-dimensional-particle-in-cell-atmospheric-dispersion-model; spatial-scales
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005500000000000000000008
Accession Number: 3077175
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1037 of 1145 in INSPEC 1985-1989

Title: Health and environmental impact of the Chernobyl accident
Author: Goldman-M; Anspaugh-LR
Author Affiliation: California Univ., Davis, CA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.55; 1987; p.7-8
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Winter Meeting of the American Nuclear Society (papers in summary form only received). 15-19 Nov. 1987; Los Angeles, CA, USA
Country of Publication: USA
Language: English
Abstract: The pattern of radioactive releases from the Chernobyl nuclear reactor accident that began in April 1986 has been analyzed to provide estimates of possible future health effects in exposed populations. Appropriate environmental transport models were used to integrate data from affected countries in order to estimate present and future distributions of radiation doses to pertinent population groups. Based on the most recent risk projection methodology, estimates of possible increases in cancer mortality, in teratogenic effects, and in genetic effects have been derived from these dose projections for population groups in the USSR, the United States, and other regions in the northern hemisphere.
Number of References: 0
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: environmental-impact; Chernobyl-accident; radioactive-releases; nuclear-reactor-accident; transport-models; population-groups; risk-projection-methodology; cancer-mortality; teratogenic-effects
Classification Codes: A8670 (Environmental-science); A86; A8
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X

Sort Key: 0000003018X19870005500000000000000000007
Accession Number: 3077174
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1038 of 1145 in INSPEC 1985-1989

Title: Radioactive contamination of the environment in the danger zone at the Chernobyl Nuclear Power Plant
Author: Izrael-YuA; Petrov-VN; Avdyushin-SI; Gasilina-NK; Rovinskii-FYa; Vetrov-VA; Vakulovskii-SM
Author Affiliation: State Comm. on Hydrometeorol. & Environ. Monitoring, USSR
Source: Soviet-Meteorology-and-Hydrology. no.2; 1987; p.1-12
Translated from: Meteorologiya-i-Gidrologiya. no.2; 1987; p.5-18
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: In May 1986, in connection with the accident at the Chernobyl Nuclear Power Plant, General Secretary M.S. Gorbachev proposed the creation of an international regime for safe nuclear energy development and sent appropriate messages to many international organizations; the IAEA, UNEP, WMO, and WHO. The IAEA held a conference of experts in Vienna on 25-29 August 1986 at which the Soviet delegation presented information about the accident at the Chernobyl NPP and its aftereffects, including radioactive contamination of the environment. Based on the information presented and discussion the Final Report of the International Consultative Group on Nuclear Safety (ICGNS) was adopted, and two international conventions were developed and approved. The WMO also convened a series of expert conferences, and the ad hoc team on meteorological aspects related to the release of dangerous substances into the atmosphere met on 20-23 January 1987. A published report based on the materials indicated above with the development of meteorological aspects was prepared and presented to the WMO at the meeting of the team mentioned above as the contribution of the Soviet Union.
Number of References: 2
Descriptors: air-pollution; radioactive-pollution
Identifiers: radioactive-pollution; nuclear-power-station; AD-1986; USSR-; air-pollution; atmosphere-; environment-; danger-zone; Chernobyl-Nuclear-Power-Plant; accident-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Coden: MEGIAC; Translation: SMHYDK
ISSN: 0130-2906; Translation: 0146-4108
Copyright Clearance Center Code: 0146-4108/87/$20.00
Sort Key: 0000130290619870000000002000000000000005
Accession Number: 3077072

Update Code: 8800

Record 1039 of 1145 in INSPEC 1985-1989

Title: Influence of the Chernobyl accident on the natural levels of tritium and radiocarbon
Author: Florkowski-T; Kuc-T; Rozanski-K
Author Affiliation: Inst. of Phys. & Nucl. Tech., Krakow, Poland
Source: Applied-Radiation-and-Isotopes. vol.39, no.1; 1988; p.77-9
Publication Year: 1988
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The influence of the Chernobyl accident on the radiocarbon content in atmospheric carbon dioxide in Krakow is shown to be about 10% of modern carbon over a short period of time. Recorded increase of tritium in atmospheric water vapour and precipitation is also small. Both these two isotopes should not change their natural level in the environment.
Number of References: 7
Descriptors: accidents-; air-pollution; atmospheric-composition; atmospheric-precipitation; atmospheric-radioactivity; carbon-; carbon-compounds; radioactive-pollution; radioisotopes-; tritium-
Identifiers: Poland-; Chernobyl-accident; natural-levels; radiocarbon-; Krakow-; atmospheric-water-vapour; precipitation-; 14C-; T-; atmospheric-CO-2
Classification Codes: A8670G (Atmosphere); A9260H (Chemical-composition-and-chemical-interactions); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: C-el; T-el; CO2-bin O2-bin C-bin O-bin
Coden: ARISEF
ISSN: 0883-2889
Copyright Clearance Center Code: 0883-2889/88/$3.00+0.00
Sort Key: 0000883288919880003900001000000000000077
Accession Number: 3074219
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08651.001
Bestand: 37.1986-43.1992

Record 1040 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl accident for Italy
Author: Busuoli-G
Author Affiliation: ENEA, PAS-COORBOL, Bologna, Italy
Source: Radiation-Protection-Dosimetry. vol.19, no.4; 1987; p.247-51
Publication Year: 1987
Record Type: Conference-Paper; Journal-article

Conference Details: Chernobyl and the Consequences in Central Europe. 9 Dec. 1986; Siebersdorf, Austria
Country of Publication: UK
Language: English
Abstract: Since the end of April 1986 measurements on environmental samples and air have been made all over Italy in order to assess the contamination levels as a consequence of the Chernobyl accident. Data obtained in different Italian regions are presented. The examples show very significant non-uniformity of the deposition due to local rain falls; the maximum concentration levels are, as expected, in northern Italy. Data on internal contamination measurements, performed by the whole body counter of ENEA up to the end of 1986 are presented and discussed.
Number of References: 5
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: radioactive-contamination; deposition-nonuniformity; local-rainfall; nuclear-power-station; Chernobyl-accident; Italy-; environmental-samples; air-; internal-contamination; whole-body-counter
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870001900004000000000000247
Accession Number: 3069412
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1041 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl accident for Hungary
Author: Andrasi-A
Author Affiliation: Central Res. Inst. for Phys., Budapest, Hungary
Source: Radiation-Protection-Dosimetry. vol.19, no.4; 1987; p.239-45
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Chernobyl and the Consequences in Central Europe. 9 Dec. 1986; Siebersdorf, Austria
Country of Publication: UK
Language: English
Abstract: The main radiological consequences of the Chernobyl nuclear accident for Hungary are summarised. The territory of Hungary was unevenly contaminated by radioactive fallout after the accident at Chernobyl. A nationwide survey was instituted to determine the levels of radioactive contamination in different environmental media and in the food

chain. As final consequence the average dose equivalent for Budapest residents due to internal plus external exposure was estimated to be about 150 mu Sv in the first year after the accident and 450-500 mu Sv was predicted over 50 years. From the series of assumptions made, the uncertainty in these values is quite high and the doses received by different individuals can vary considerably.

Number of References: 15

Descriptors: accidents-; health-hazards; radioactive-pollution

Identifiers: internal-exposure; radiation-dose; nuclear-power-station; Chernobyl-accident; Hungary-; radiological-consequences; radioactive-fallout; radioactive-contamination; environmental-media; food-chain; Budapest-residents; external-exposure; 150-muSv; 450-to-500-muSv

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation dose equivalent 1.5E-04 Sv; radiation dose equivalent 4.5E-04 to 5.0E-04 Sv

Coden: RPDODE

ISSN: 0144-8420

Sort Key: 00001448420198700019000040000000000000239

Accession Number: 3069411

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000

Bestand: 1.1981=>

Record 1042 of 1145 in INSPEC 1985-1989

Title: Radiological consequences of the Chernobyl accident for Switzerland

Author: Wernli-C

Author Affiliation: Div. of Health Phys., Federal Inst. for Reactor Res., Wuerenlingen, Switzerland

Source: Radiation-Protection-Dosimetry. vol.19, no.4; 1987; p.235-8

Publication Year: 1987

Record Type: Conference-Paper; Journal-article

Conference Details: Chernobyl and the Consequences in Central Europe. 9 Dec. 1986; Siebersdorf, Austria

Country of Publication: UK

Language: English

Abstract: The Chernobyl accident has led to the first full scale operation of the Swiss Radiological Emergency Organisation. Although this Organisation and especially the network of monitoring systems and emergency laboratories was still under development in May 1986, a centralised handling of the radiological situation by the Organisation was possible and successful. The deposition of radioactive substances in Switzerland took place in three different time periods, affecting mainly three different parts of the

country. Highest levels were found in the southern part where heavy rainfall occurred in early May. External dose rates reached values of 180 mu R.h/sup -1/ and the maximum surface depositions of /sup 137/Cs and /sup 131/I were 26 and 180 kBq.m/sup -2/ respectively. Average values for Switzerland remained more than one order of magnitude lower. Activity concentrations in vegetables, milk, and meat reached high values in some regions (maximum for /sup 131/I or /sup 137/Cs close to 5 kBq.kg/sup -1/). Consumption of certain products were not recommended in these regions, especially by the critical group, i.e. small children and pregnant women. No food was banned in Switzerland. The resulting effective dose equivalent to the most exposed group was estimated to be about 1.5-2 mSv in 1986. The average for the Swiss population is about one order of magnitude lower. The average annual effective dose equivalent due to all sources (except Chernobyl) in Switzerland is around 4 mSv.y/sup -1/.

Number of References: 5
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: radiological-consequences; radioactive-pollution; nuclear-power-station; Chernobyl-accident; Switzerland-; radioactive-substances; vegetables-; milk-; meat-; effective-dose-equivalent; 1-5-to-2-mSv; 131I-; 137Cs-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.5E-03 to 2.0E-03 Sv
Chemical Indexing: I-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870001900004000000000000235
Accession Number: 3069410
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1043 of 1145 in INSPEC 1985-1989

Title: Radiological consequences in the Federal Republic of Germany of the Chernobyl reactor accident
Author: Doerfel-H; Piesch-E
Author Affiliation: Karlsruhe Nucl. Res. Center, West Germany
Source: Radiation-Protection-Dosimetry. vol.19, no.4; 1987; p.223-34
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Chernobyl and the Consequences in Central Europe. 9 Dec. 1986; Siebersdorf, Austria
Country of Publication: UK

Language: English
Abstract: In the Federal Republic of Germany the Chernobyl reactor accident resulted in a south-north gradient of fallout contamination reaching a maximum of 20 kBq.m/sup -2/ in South Bavaria, a mean of 1.7 kBq.m/sup -2/ in the Karlsruhe area-representative for most of the country areas-and minimum values of about 1 kBq.m/sup -2/ in North Germany. Measurements of the activity concentration in air, milk, milk products, vegetables and meat have been performed country-wide by many laboratories. First estimations of the exposure on the basis of activity measurements overestimated the exposure of the public, compared with measurements in a whole-body counter. After /sup 131/I in the first two weeks, /sup 134/Cs//sup 137/Cs became the dominant radionuclides in the human body, reaching maximum values in the beginning of 1987. The mean specific /sup 137/Cs body burden has been found to level out at about 20 Bq.kg/sup -1/ for Munich, 8 Bq.kg/sup -1/ for Karlsruhe and 6 Bq.kg/sup -1/ for Aachen/Julich. Using the fall-out data from the nuclear weapon tests (total ground contamination of 4.7 kBq.m/sup -2/) in the Karlsruhe area, the measured long-term /sup 137/Cs body burden data have been unfolded on the basis of the fall-out data using a least squares fit technique; it was thus possible to predict the /sup 137/Cs body burden from the Chernobyl accident.
Number of References: 27
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: radiological-consequences; nuclear-power-station; Federal-Republic-of-Germany; Chernobyl-reactor-accident; fallout-contamination; South-Bavaria; milk-; vegetables-; meat-; human-body; nuclear-weapon-tests; Karlsruhe-area; least-squares-fit-technique; 60-muSv-to-230-muSv; 131I-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 6.0E-05 to 2.3E-04 Sv
Chemical Indexing: I-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870001900004000000000000223
Accession Number: 3069409
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1044 of 1145 in INSPEC 1985-1989

Title: The exposure of the Austrian population due to the Chernobyl accident
Author: Duftschmid-K; Muck-K; Steger-F; Vychytik-P; Zechner-J
Author Affiliation: Austrian Res. Centre, Seibersdorf, Austria
Source: Radiation-Protection-Dosimetry. vol.19, no.4; 1987; p.213-22

Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: Chernobyl and the Consequences in Central Europe. 9 Dec. 1986; Siebersdorf, Austria
Country of Publication: UK
Language: English
Abstract: A description is given of the various measurements performed in Austria to estimate the exposure of the Austrian population and to control the intervention levels imposed after the Chernobyl accident. A description of the early warning system consisting of 336 gamma dose rate meters distributed over the whole country is provided. Particular emphasis is given to its advantages and the problems encountered following the Chernobyl accident. The dose due to external exposure and due to inhalation was measured, including monitoring of aerosols and volatiles at different regions of the country. In addition approximately 100,000 food samples of various types were analysed at five different laboratories. From these measurements an estimate of the exposure of the Austrian population due to this accident can be derived. In the first year the additional average exposure (effective dose equivalent) is estimated to be 0.05 mSv external dose 0.02 mSv inhalation dose, and 0.46 mSv ingestion dose. This corresponds to approximately one quarter of the annual dose due to natural background radiation in Austria. However, measurements on whole-body counters indicate ingestion doses significantly lower than the values derived from food samples.
Number of References: 9
Descriptors: accidents-; dosimetry-; health-hazards; radioactive-pollution
Identifiers: inhalation-exposure; nuclear-power-station; Austrian-population; Chernobyl-accident; gamma-dose-rate; aerosols-; volatiles-; food-samples; effective-dose-equivalent; external-dose; annual-dose; ingestion-doses; 0-02-to-0-46-mSv
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radiation dose equivalent 2.0E-05 to 4.6E-04 Sv
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201987000190000400000000000213
Accession Number: 3069408
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1045 of 1145 in INSPEC 1985-1989

Title: Chernobyl and the Consequences in Central Europe
Source: Radiation-Protection-Dosimetry. vol.19, no.4; 1987;
Publication Year: 1987
Record Type: Conference-Proceedings; Journal-article

Conference Details: Chernobyl and the Consequences in Central Europe. 9 Dec. 1986; Siebersdorf, Austria
Country of Publication: UK
Language: English
Abstract: The following topics were dealt with: the exposure of the Austrian population due to the Chernobyl accident; radiological consequences of the Chernobyl accident to the Federal Republic of Germany, Switzerland, Hungary, and Italy; /sup 137/Cs incorporation in man. Abstracts of individual papers can be found under the relevant classification codes in this or other issues.
Descriptors: accidents-; health-hazards; radioactive-pollution
Identifiers: Austrian-population-exposure; nuclear-power-station-accident; radioactive-pollution; radiological-consequences; Chernobyl-accident; Federal-Republic-of-Germany; Switzerland-; Hungary-; Italy-; 137Cs-incorporation-in-man
Classification Codes: A0130C (Conference-proceedings); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); A01; A28; A86; A87; A0; A2; A8
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 00001448420198700019000040000000000000000
Accession Number: 3069407
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1046 of 1145 in INSPEC 1985-1989

Title: Application of the integrated environmental simulation system for the analysis of the Chernobyl event
Author: Pudykiewicz-J
Author Affiliation: MEP Co., Dorval, Que., Canada
Editor: Chou-JQB
Source: Proceedings of the 1987 Summer Computer Simulation Conference. SCS, San Diego, CA, USA; 1987; xliv+1021 pp.
p.459-66
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 27-30 July 1987; Montreal, Que., Canada. Sponsored by: SCS
Country of Publication: USA
Language: English
Abstract: Presents a first application of a hemispheric environmental simulation system to quantitatively evaluate the spreading of the radioactive debris following the Chernobyl nuclear accident. The model employed in the simulation is essentially a simplified version of the system designed for the continental scale modeling of the long range

transport of air pollutants (LTRAP). Meteorological data driving the model were obtained from the standard Canadian Meteorological Centre (CMC) analysis. Simulations were performed for iodine-131, cesium-137 and xenon-133. The accident scenario was estimated using data presented on the International Atomic Energy Agency (IAEA) experts meeting in Vienna, in August 1986. Results of the model simulation for iodine-131 and cesium-137 were verified against measurements for Stockholm, Resolute, Halifax and Vancouver and indicate a relatively high level of agreement considering the simplicity of the approach.

Number of References: 14

Descriptors: accidents-; air-pollution; caesium-; digital-simulation; fission-reactor-safety; geophysics-computing; iodine-; radioisotopes-; xenon-

Identifiers: integrated-environmental-simulation-system; Chernobyl-event; hemispheric-environmental-simulation-system; radioactive-debris; Chernobyl-nuclear-accident; continental-scale-modeling; long-range-transport-of-air-pollutants; LTRAP-; International-Atomic-Energy-Agency; IAEA-; 131I-; 137Cs-; 133Xe-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A9330H (North-America); C7340 (Geophysics); A28; A86; A87; A92; A93; C73; A2

Treatment Codes: P (Practical)

Chemical Indexing: I-el; Cs-el; Xe-el

ISBN: 0911801200

Sort Key: 10911801200198700000000000000000000000459

Accession Number: 3067858

Update Code: 8800

Record 1047 of 1145 in INSPEC 1985-1989

Title: Atmospheric radioactivity in Valencia, Spain, due to the Chernobyl reactor accident

Author: Ferrero-JL; Jorda-ML; Milio-J; Monforte-L; Moreno-A; Navarro-E; Senent-F; Soriano-A; Baeza-A; del-Rio-M; Miro-C

Author Affiliation: Inst. de Fisica Corpuscular, Valencia Univ., Spain

Source: Health-Physics. vol.53, no.5; Nov. 1987; p.519-24

Publication Year: 1987

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: The authors analyse the atmospheric samples collected in Valencia from 29 April 1986 to 7 May 1986, the period immediately after the accident at Chernobyl. The present results are compared with the historical indexes found from 1962-68 in the same place resulting from atmospheric nuclear weapons tests conducted in the 1950s and 1960s.

Number of References: 6

Descriptors: air-pollution; atmospheric-radioactivity; health-hazards

Identifiers: AD-1986-04-29-to-1986-05-07; Valencia-; Spain-; Chernobyl-reactor-accident; 29-April-1986-to-7-May-1986
Classification Codes: A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/87/$3.00+.00
Sort Key: 0000017907819870005300005000000000000519
Accession Number: 3062514
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 1048 of 1145 in INSPEC 1985-1989

Title: Air activity concentrations and particle size distributions of the Chernobyl aerosol
Author: Reineking-A; Becker-KH; Porstendorfer-J; Wicke-A
Author Affiliation: Central Isotope Lab., Georg-August-Univ., Gottingen, West Germany
Source: Radiation-Protection-Dosimetry. vol.19, no.3; 1987; p.159-63
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The concentrations of radioactive isotopes attached to aerosol particles resulting from the accident in the nuclear power plant at Chernobyl were determined in the ambient air of Gottingen (FRG) during May 1986 by means of gamma spectroscopy. Measurements of the activity concentration of the long lived fission product /sup 137/Cs were continued up to December 1986. During May some measurements were performed with charcoal filters to determine the gaseous fraction of /sup 131/I. Size distributions of the radioactive aerosol particles were determined by a low pressure Berner impactor and a high volume Sierra impactor. Most of the measurements yield unimodal distributions with activity median aerodynamic diameters (AMAD) in the range 500-1000 nm. Some distributions were bimodal with an additional AMAD in the size range greater than 5000 nm. The AMADs of the /sup 131/I distributions were shifted to slightly smaller values than those of the other isotopes. In some air samples 'hot particles', containing the isotopes /sup 95/Zr, /sup 95/Nb, /sup 141/Ce and /sup 144/Ce were determined with diameters in the size range 2000-5000 nm and activities of about 0.3-3.1 Bq.
Number of References: 11
Descriptors: accidents-; aerosols-; air-pollution; particle-size; radioactive-pollution
Identifiers: air-activity-concentration; West-Germany; nuclear-power-station-accident; particle-size-distribution; radioactive-air-pollution; fission-reactor-accident; Chernobyl-

aerosol; radioactive-isotopes; ambient-air; Gottingen-; gamma-spectroscopy; 144Ce-; 131I-; 95Zr-; 95Nb-; 141Ce-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Zr-el; Nb-el; Ce-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201987000190000300000000000159
Accession Number: 3060964
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1049 of 1145 in INSPEC 1985-1989

Title: Caesium-137 body burden in the region of Vienna after the Chernobyl accident
Author: Ouvrard-R; Hochmann-R
Author Affiliation: Health Phys. Group, IAEA/NENS/RPSS, Seibersdorf, Austria
Source: Radiation-Protection-Dosimetry. vol.19, no.3; 1987; p.151-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: More than 200 measurements were performed in a six month period after the Chernobyl accident, on individuals working at the IAEA, in order to evaluate the /sup 137/Cs incorporation through ingestion of contaminated food. During this period, the daily intake was estimated at between 4 and 45 Bq.d/sup -1/, with a mean of 15 Bq.d/sup -1/.
Number of References: 17
Descriptors: accidents-; caesium-; health-hazards; radioactive-pollution; radioisotopes-
Identifiers: contaminated-food-ingestion; radioactive-pollution; IAEA-workers; radioisotope-; nuclear-reactor-accident; Vienna-; Chernobyl-accident; 137Cs-body-burden
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 000014484201987000190000300000000000151
Accession Number: 3060963
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1050 of 1145 in INSPEC 1985-1989

Title: How Chernobyl happened: a second opinion
Author: Reisch-F
Author Affiliation: Swedish Nucl. Power Inspectorate, Stockholm, Sweden
Source: Nuclear-Safety. vol.28, no.1; Jan.-March 1987; p.43-5
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: At the time of the accident, the Chernobyl core was heavily xenon poisoned. The control rods were at the upper edge of the reactor. Because of the xenon the axial shape of the thermal neutron flux was unusual, with relatively high flux at the top and bottom and a depression in the center. If the reactor power had been constant or changing slowly, most of the steam would have been at the top of the channels because steam builds up axially toward the top. In that case, the greatest flux increase during the excursion would have been at the top because there water is displaced by steam, which captures far fewer neutrons, and many fission neutrons can lead to the axial graphite moderator and be thermalized. However, the control rods are also in this zone and, being in a high thermal neutron flux area, would have been very effective. So the flux increase probably occurred near the bottom of the core where there was nothing to stop it.
Number of References: 0
Descriptors: accidents-; fission-reactor-core-control-and-monitoring; fission-reactor-safety; fission-reactor-theory-and-design; neutron-flux
Identifiers: accident-; Chernobyl-core; control-rods; thermal-neutron-flux; reactor-power; steam-; axial-graphite-moderator
Classification Codes: A2820H (Neutron-diffusion); A2841 (Fission-reactor-theory-and-design); A2843D (Core-control-and-guidance); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604198700028000010000000000000043
Accession Number: 3060333
Update Code: 8800

Record 1051 of 1145 in INSPEC 1985-1989

Title: Onsite response to the accident at Chernobyl (accident management)
Author: Jankowski-MW; Powers-DA; Kress-TS
Author Affiliation: Int. Atomic Energy Agency, Vienna, Austria
Source: Nuclear-Safety. vol.28, no.1; Jan.-March 1987; p.36-42

Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: In summarizing the information provided in the USSR report on plant stabilization shortly after the accident at Chernobyl and on the early response measures, the following three main stages can be identified: (1) the building fire-fighting actions and measures (techniques) undertaken and their effectiveness in controlling and finally extinguishing the fire; (2) the short-term stabilization of the plant immediately following the accident; and (3) the long-term recovery, including entombment of the damaged unit and the monitoring of the evolution and long-term stability of the entombed core debris and reactor building.
Number of References: 1
Descriptors: accidents-; fission-reactor-safety
Identifiers: onsite-response; accident-management; plant-stabilization; accident-; Chernobyl-; response-measures; fire-fighting-actions; short-term-stabilization; long-term-recovery; entombment-; monitoring-; core-debris; reactor-building
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 0000029560419870002800001000000000000036
Accession Number: 3060332
Update Code: 8800

Record 1052 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident-its impact on Sweden
Author: Reisch-F
Author Affiliation: SKI, Stockholm, Sweden
Source: Nuclear-Safety. vol.28, no.1; Jan.-March 1987; p.29-36
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The paper describes the Swedish experience with the radioactivity that emanated from the Chernobyl accident. Although it deals specifically with data from Sweden, it should be somewhat typical of results in other Scandinavian countries and thus give insight into the magnitude of the problem and the measures adopted in one country to deal with it.
Number of References: 0
Descriptors: accidents-; dosimetry-; fission-reactor-safety; radioactive-pollution
Identifiers: radioactivity-; Chernobyl-accident; Sweden-; Scandinavian-countries

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604198700028000010000000000000029
Accession Number: 3060331
Update Code: 8800

Record 1053 of 1145 in INSPEC 1985-1989

Title: The Chernobyl source term
Author: Powers-DA; Kress-TS; Jankowski-MW
Author Affiliation: Sandia Nat. Labs., Albuquerque, NM, USA
Source: Nuclear-Safety. vol.28, no.1; Jan.-March 1987; p.10-28
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Much of the information made available by the USSR on the release of radionuclides during the reactor accident at the Chernobyl Atomic Energy Station is described. The release of radionuclides took place in two stages. The first, which was brief but intense, can be understood in terms of the known behavior of reactor fuel during reactivity insertion accidents and the interactions of high-temperature fuel with water and air. The second, which lasted for nine days, may be understood from the physical and chemical behavior of the fuel in the core region.
Number of References: 47
Descriptors: accidents-; dosimetry-; fission-reactor-safety; radioactive-pollution
Identifiers: radionuclide-releases; source-term; radionuclides-; reactor-accident; Chernobyl-; reactor-fuel; reactivity-insertion-accidents; high-temperature-fuel; water-; air-; chemical-behavior
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604198700028000010000000000000010
Accession Number: 3060330
Update Code: 8800

Record 1054 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident sequence
Author: Kress-TS; Jankowski-MW; Joosten-JK; Powers-DA
Author Affiliation: Oak Ridge Nat. Lab., TN, USA
Source: Nuclear-Safety. vol.28, no.1; Jan.-March 1987; p.1-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A historic meeting was held Aug. 25-29, 1986, in Vienna, Austria. A delegation of USSR experts presented detailed information on the design characteristics of the RBMK-1000 type of reactor and their evaluation of all aspects of the Chernobyl accident, including causes, events, measured releases, mitigation efforts, response measures taken, atmospheric transport, and the consequences. This article was developed as a result of the authors' participation in this meeting and participation in additional one-on-one interactions with the USSR experts. An overview is presented of the important design features, the ill-fated experiment, and the significant events up to the time of the initial excursion.
Number of References: 1
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design; reviews-
Identifiers: Chernobyl-accident-sequence; design-characteristics; RBMK-1000; design-features; initial-excursion
Classification Codes: A0130R (Reviews-and-tutorial-papers-resource-letters); A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A01; A28; A0; A2
Treatment Codes: B (Bibliography); P (Practical)
Coden: NUSAAZ
ISSN: 0029-5604
Sort Key: 00000295604198700028000010000000000000001
Accession Number: 3060329
Update Code: 8800

Record 1055 of 1145 in INSPEC 1985-1989

Title: Detailed early measurements of the fallout in Sweden from the Chernobyl accident
Author: Erlandsson-B; Asking-L; Swietlicki-E
Author Affiliation: Dept. of Nucl. Phys., Lund Inst. of Technol., Sweden
Source: Water,-Air-and-Soil-Pollution. vol.35, no.3-4; Oct. 1987; p.335-46
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Low-volume samplers collecting ambient aerosols in two size fractions have been used to collect radioactivity from the Chernobyl accident. The samplers were situated near lighthouses on the east coast of Sweden and samples were collected during

consecutive 12-hr periods. Activity concentrations of /sup 95/Zr, /sup 95/Nb, /sup 103,106/Ru, /sup 131/I, /sup 134,136,137/Cs, /sup 140/Ba, /sup 140/La, /sup 141,144/Ce, and /sup 239/Np were measured with a Ge(Li) detector. The transport time between Chernobyl and the two sampling sites is in good agreement with times calculated from air mass trajectories. The main part of the radioactivity was found on particles with an aerodynamic diameter of less than 2 mu m.

Number of References: 16

Descriptors: air-pollution; fallout-

Identifiers: Scandinavia-; AD-1986-04-26-to-30; Ukraine-; USSR-; nuclear-power-station; air-pollution; atmosphere-; aerosol-; AD-1986-05-01; particulate-; Baltic-; fallout-; Sweden-; Chernobyl-; radioactivity-; accident-; 95Zr-; 95Nb-; 131I-; 137Cs-; 140Ba-; 140La-; 144Ce-; 239Np-; air-mass-trajectories; Zr-; Nb-; Ru-; I-; Cs-; Ba-; La-; Ce-; Np-

Classification Codes: A8670G (Atmosphere); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9

Treatment Codes: X (Experimental)

Chemical Indexing: Zr-el; Nb-el; Ru-el; I-el; Cs-el; Ba-el; La-el; Ce-el; Np-el

Coden: WAPLAC

ISSN: 0049-6979

Copyright Clearance Center Code: 0049-6979/87/$1.00+0.15

Sort Key: 0000049697919870003500003000000000000335

Accession Number: 3057721

Update Code: 8800

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26042.000

Bestand: 1.1971/72=>

Record 1056 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident

Author: Kouts-H

Author Affiliation: Dept. of Nucl. Energy, Brookhaven Nat. Lab., Upton, NY, USA

Source: Hong-Kong-Engineer. vol.15, no.10; Oct. 1987; p.29-40

Publication Year: 1987

Record Type: Journal-article

Country of Publication: Hong Kong

Language: English

Abstract: The author describes the construction of the Chernobyl nuclear power station and in particular the RMBK reactor. The main disadvantage of this type of reactor is discussed and how it contributed to the destruction of reactor number 4. Each step building up to the accident, with approximate times, is described in detail. The after effects of the radiation release on the USSR and the rest of Europe are discussed.

Number of References: 0

Descriptors: accidents-; explosions-; nuclear-power-stations

Identifiers: Chernobyl-accident; nuclear-power-station; RMBK-reactor; radiation-release

Classification Codes: B0160 (Plant-engineering-maintenance-and-safety); B8220 (Nuclear-power-stations-and-plants); B01; B82; B0; B8
Treatment Codes: P (Practical)
Coden: HKOEDU
ISSN: 0378-8776
Sort Key: 0000378877619870001500010000000000000029
Accession Number: 3052397
Update Code: 8800

Record 1057 of 1145 in INSPEC 1985-1989

Title: Isotopic composition of the radioactive fallout in eastern Poland after the Chernobyl accident
Author: Pienkowski-L; Jastrzebski-J; Tys-J; Batsch-T; Jaracz-P; Kurcewicz-W; Mirowski-S; Szeflinska-G; Szeflinski-Z; Szweryn-B; Wilhelmi-Z; Zozefowicz-ET
Author Affiliation: Heavy Ion Lab., Warsaw Univ., Poland
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.117, no.6; 15 June 1987; p.379-409
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: After the Chernobyl accident the radioactivity of air, soil, dust and grass samples, originating from Eastern Poland, was investigated by gamma-ray techniques. The isotopic composition of the radioactive fission products in these samples was determined. By combining the obtained results with those from other groups the evolution of the activity ratio in air for some isotopes was gathered. It is suggested that this evolution may be related to the differences in the deposition velocities of various elements. The distributions of the activity ratio in the measured samples indicate different transport and deposition properties for the volatile and nonvolatile fission products. It is concluded that the main part of the released nonvolatile products was deposited in the form of hot particles.
Number of References: 34
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; fallout-; radiation-monitoring; radioactive-pollution
Identifiers: E-Europe; air-pollution; transport-properties; volatile-fission-products; radioactive-fallout; eastern-Poland; Chernobyl-accident; air-; soil-; dust-; grass-; gamma-ray-techniques; isotopic-composition; fission-products; activity-ratio; deposition-velocities; various-elements; deposition-properties; nonvolatile-fission-products; hot-particles
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A28; A86; A87; A93; A2; A8
Treatment Codes: X (Experimental)

Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 00002365731198700117000060000000000000379
Accession Number: 3052251
Update Code: 8800

Record 1058 of 1145 in INSPEC 1985-1989

Title: Chernobyl fallout measurements in some Mediterranean biotas
Author: Barci-G; Dalmasso-J; Ardisson-G
Author Affiliation: Lab. de Radiochimie, Nice Univ., France
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.117, no.6; 15 June 1987; p.337-46
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The radioactivity of various terrestrial vegetation leaves characteristic of Mediterranean countries has been measured after the Chernobyl accident. In addition, the authors paid particular attention to lichens and seaweed which are considered as bioindicators of radioactive contamination. The measurements were performed in a non-destructive way using both coaxial and planar HPGe detectors. For odd mass radionuclides having low energy lines, such as /sup 125/Sb or /sup 141/Ce the sensitivity of the planar HPGe detector is better than the coaxial detector. The concentration of long lived fission nuclides remaining three months after the accident were found to be enhanced in needle form leaves and in lichens. The seaweed Sphaerococcus exhibits a strong specific activity for iodine and ruthenium and poor concentration for cesium nuclides. The activity ratios of different isotopes of the same element, measured in vegetation samples, agree well with the values found by other authors in airborne aerosols. The activation nuclide /sup 110/Ag/sup m/ is found in all samples with the same ratio /sup 110/Ag/sup m///sup 137/Cs=(1.0+or-0.2)*10/sup -2/, as in the soil deposition.
Number of References: 13
Descriptors: accidents-; air-pollution; fallout-; radiation-monitoring; radioactive-pollution; water-pollution
Identifiers: S-Europe; Mediterranean-Sea; marine-algae; fallout-measurements; biotas-; terrestrial-vegetation-leaves; Mediterranean-countries; Chernobyl-accident; lichens-; seaweed-; bioindicators-; radioactive-contamination; odd-mass-radionuclides; low-energy-lines; planar-HPGe-detector; coaxial-detector; long-lived-fission-nuclides; needle-form-leaves; Sphaerococcus-; airborne-aerosols; soil-deposition; 125Sb-; 141Ce-; Ag-; I-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A8670E (Water); A8670G (Atmosphere); A8760P (Radiation-

protection); A8760R (Radioactive-pollution); A9330G (Europe); A9330R (Regional-seas); A28; A86; A87; A93; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ag-el; I-el; Sb-el; Ce-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011700006000000000000337
Accession Number: 3052250
Update Code: 8800

Record 1059 of 1145 in INSPEC 1985-1989

Title: Aerosol and gaseous radioiodine concentration in the air of Prague after the Chernobyl accident
Author: Wilhelmova-L; Tomasek-M; Rybacek-K
Author Affiliation: Inst. of Radiat. Dosimetry, Czechoslovak Acad. of Sci., Prague, Czechoslovakia
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.117, no.5; 29 May 1987; p.305-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Data on /sup 131/I concentration in the atmosphere of Prague observed during the first days after the Chernobyl accident are presented. The sampling device enabling the differentiation between aerosol-fixed and gaseous form of /sup 131/I is briefly described. The highest total /sup 131/I concentration, 63 Bq.m/sup -3/, was observed between 30 April and 1 May. Until 9 May the level of /sup 131/I activity ranged between 14 and 1 Bq.m/sup -3/ and then dropped below 1 Bq.m/sup -3/. The content of gaseous /sup 131/I was found to be a significant and represented on average 60-80% of its total activity.
Number of References: 2
Descriptors: accidents-; aerosols-; air-pollution; atmospheric-composition; atmospheric-radioactivity; dosimetry-; radiation-monitoring; radioactive-pollution
Identifiers: aerosols-; AD-1986-04-30-to-05-01; Czechoslovakia-; Central-Europe; concentration-; air-; Prague-; Chernobyl-accident; total-activity; 131I-concentration; 131I-activity; gaseous-131I
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9260H (Chemical-composition-and-chemical-interactions); A9260M (Particles-and-aerosols); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A28; A86; A87; A92; A93; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; I-el; I-el

Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870011700005000000000000305
Accession Number: 3052248
Update Code: 8800

Record 1060 of 1145 in INSPEC 1985-1989

Title: Gamma spectroscopy analysis of hot particles from the Chernobyl fallout
Author: Broda-R
Author Affiliation: Inst. of Nucl. Phys., Cracow, Poland
Source: Acta-Physica-Polonica-B. vol.B18, no.10; Oct. 1987; p.935-50
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Poland
Language: English
Abstract: An analysis of the gamma radiation was performed for 65 radioactive particles from the Chernobyl fallout. Isotopic ratios for Ce and Ru isotopes, as well as ratios of radioisotopes of various elements have been systematized and provided information concerning general features of processes leading to the hot particle formation.
Number of References: 9
Descriptors: accidents-; fallout-; gamma-ray-spectra; radioactive-pollution; radioactivity-measurement; radioisotopes-
Identifiers: isotopic-ratio; gamma-radiation; radioactive-particles; Chernobyl-fallout; radioisotopes-; hot-particle-formation; Ce-; Ru-
Classification Codes: A2880 (Radiation-technology-including-shielding); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ce-el; Ru-el
Coden: APOBBB
ISSN: 0587-4254
Sort Key: 0000587425419870001800010000000000000935
Accession Number: 3049809
Update Code: 8800

Record 1061 of 1145 in INSPEC 1985-1989

Title: Observations on radioactivity from the Chernobyl accident
Author: Cambray-RS; Cawse-PA; Garland-JA; Gibson-JAB; Johnson-P; Lewis-GNJ; Newton-D; Salmon-L; Wade-BO
Author Affiliation: AERE Harwell, UK
Source: Nuclear-Energy. vol.26, no.2; April 1987; p.77-101
Publication Year: 1987
Record Type: Journal-article

Country of Publication: UK
Language: English
Abstract: Following the Chernobyl accident on 26 April 1986 the Harwell Laboratory undertook many measurements of radioactivity in air, rain and soil, some foodstuffs and in laboratory staff. In some cases existing research programmes were enhanced by increasing the frequency of sampling; in other cases, ad hoc investigations were arranged. The atmospheric plume of activity from Chernobyl reached the UK on 2 May 1986. Daily measurements of particulate concentrations in air were taken at Harwell throughout May and weekly measurements continued until October at Harwell, at five other locations in the UK and at several stations overseas served by the existing network used to monitor weapon test fall-out.
Number of References: 28
Descriptors: accidents-; dosimetry-; radiation-monitoring; radioactive-pollution; radioactivity-measurement; safety-
Identifiers: radioactivity-observations; Chernobyl-accident; air-; rain-; soil-; foodstuffs-; atmospheric-plume; UK-; particulate-concentrations
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A86; A87; A2
Treatment Codes: X (Experimental)
Coden: NUEGAH
ISSN: 0140-4067
Copyright Clearance Center Code: 0140-4067/87/$0.25+0.20
Sort Key: 0000140406719870002600002000000000000077
Accession Number: 3045308
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08528.002
Bestand: 17.1978=> L:23,24,33

Record 1062 of 1145 in INSPEC 1985-1989

Title: Chernobyl nuclide record from a North Sea sediment trap
Author: Kempe-S
Author Affiliation: Geol.-Palaontologisches Inst., Hamburg Univ., West Germany
Source: Nature. vol.329, no.6142; 29 Oct. 1987; p.828-31
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A sediment trap deployed 22-m-deep in the North Sea off Bergen recorded the onset and magnitude of the deposition of Chernobyl nuclides. The trap collected 13 samples between 24 April and 21 September 1986. The flux of nuclides adsorbed to particles sinking from surface waters to sediments started less than ten days after contaminated air reached the site. Maximum specific activity occurred on 16-27 May

for /sup 137/Cs, /sup 134/Cs, /sup 106/Ru and /sup 103/Ru, and on 8-20 June for /sup 144/Ce, /sup 95/Nb and /sup 95/Zr. The highest activity was found for /sup 103/Ru. The highest total specific activity of these nuclides in depositing sediments reached 670000 Bq kg/sup -1/, and the highest total activity flux for one day amounted to 50 Bq m/sup -2/.

Number of References: 11
Descriptors: air-pollution; fallout-; radioactive-pollution; sediments-; water-pollution
Identifiers: AD-1986-04-24-to-09-21; Chernobyl-nuclide-record; North-Sea-sediment-trap; deposition-; particles-; surface-waters; contaminated-air; specific-activity; 222-m; 137Cs-; 134Cs-; 106Ru-; 103Ru-; 144Ce-; 95Nb-; 95Zr-
Classification Codes: A8670E (Water); A8670G (Atmosphere); A9330R (Regional-seas); A86; A93; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: depth 2.22 E02 m
Chemical Indexing: Cs-el; Cs-el; Ru-el; Ru-el; Ce-el; Nb-el; Zr-el
Coden: NATUAS
ISSN: 0028-0836
Copyright Clearance Center Code: 0028-0836/87/$1.00+.10
Sort Key: 0000028083619870032906142000000000000828
Accession Number: 3045208
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 1063 of 1145 in INSPEC 1985-1989

Title: Chernobyl radionuclides in a Black Sea sediment trap
Author: Buesseler-KO; Livingston-HD; Honjo-S; Hay-BJ; Manganini-SJ; Degens-E; Ittekkot-V; Izdar-E; Konuk-T
Author Affiliation: Woods Hole Oceanogr. Inst., MA, USA
Source: Nature. vol.329, no.6142; 29 Oct. 1987; p.825-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Initial measurements of fallout Chernobyl radionuclides from a time-series sediment trap at 1071 m during June-September 1986 in the southern Black Sea are presented. The specific activities of /sup 137/Cs, /sup 144/Ce and /sup 106/Ru in the trap samples (0.5-2, 4-12 and 6-13 Bq g/sup -1/) are independent of the particle flux while their relative activities reflect their rates of scavenging in the order Ce>Ru>Cs.
Number of References: 14
Descriptors: air-pollution; fallout-; radioactive-pollution; sediments-; water-pollution
Identifiers: AD-1986-06-to-09; Chernobyl-radionuclides; Black-Sea; fallout-; time-series-sediment-trap; particle-flux; scavenging-; 1071-m; 137Cs-; 144Ce-; 106Ru-

Classification Codes: A8670E (Water); A8670G (Atmosphere); A9330R (Regional-seas); A86; A93; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: depth 1.071 E03 m
Chemical Indexing: Cs-el; Ce-el; Ru-el
Coden: NATUAS
ISSN: 0028-0836
Copyright Clearance Center Code: 0028-0836/87/$1.00+.10
Sort Key: 00000280836198700329061420000000000000825
Accession Number: 3045207
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 1064 of 1145 in INSPEC 1985-1989

Title: External dose to a Japanese tourist from the Chernobyl reactor accident
Author: Nakajima-T
Author Affiliation: Div. of Phys., Nat. Inst. of Radiol. Sci., Chiba, Japan
Source: Health-Physics. vol.53, no.4; Oct. 1987; p.405-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: As a result of the accident at the Chernobyl nuclear plant, many of the inhabitants around the plant could have been exposed to radiation. The ESR method was applied to evaluate the external dose to a Japanese tourist traveling near Chernobyl at the time of the accident. The evaluation method, the result and the detectable dose are reported.
Number of References: 6
Descriptors: accidents-; dosimetry-; paramagnetic-resonance
Identifiers: accidental-radiation-exposures-human; Japanese-tourist; Chernobyl-reactor-accident; Chernobyl-nuclear-plant; ESR-method; external-dose; evaluation-method
Classification Codes: A2880C (Dosimetry); A8760M (Radiation-dosimetry); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/87/$3.00+.00
Sort Key: 00000179078198700053000040000000000000405
Accession Number: 3042607
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 1065 of 1145 in INSPEC 1985-1989

Title: Nuclear power after Chernobyl. DOE's nuclear power agenda
Author: Rossin-AD
Author Affiliation: USDOE, Washington, DC, USA
Source: Fuel Cycle Conference '87. Atomic Ind. Forum, Bethesda, MD, USA; 1987; 368 pp. 8 pp.
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 15-18 March 1987; Boston, MA, USA
Country of Publication: USA
Language: English
Abstract: The author discusses the effect on world nuclear power programs due to the Chernobyl reactor accident. The Soviet Union design plans and cleanup operations are considered, and the US repercussions are also presented. The long term view is finally discussed.
Number of References: 0
Descriptors: accidents-; nuclear-power
Identifiers: US-DOE; Chernobyl-; nuclear-power-agenda; world-nuclear-power-programs; accident-; design-; cleanup-
Classification Codes: A8610N (Nuclear-energy); B8220 (Nuclear-power-stations-and-plants); A86; B82; A8; B8
Sort Key: 1000000000019870000000000000000000000008
Accession Number: 3039010
Update Code: 8800

Record 1066 of 1145 in INSPEC 1985-1989

Title: Chernobyl and the safety of the PWR NSSS design
Author: Charles-J
Source: Nuclear-Engineer. vol.28, no.4; July-Aug. 1987; p.119-21
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The author discusses briefly the SAF Functional Analysis Simulator used for analyzing complex accident scenarios. Procedures for dealing with certain reactor situations are also discussed.
Number of References: 0
Descriptors: accidents-; nuclear-engineering-computing
Identifiers: Functional-Analysis-Simulator; accident-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); C7470 (Nuclear-engineering); A28; C74; A2
Treatment Codes: P (Practical)

Coden: NUEND7
ISSN: 0262-5091
Sort Key: 00002625091198700028000040000000000000119
Accession Number: 3035657
Update Code: 8800

Record 1067 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident: radioactive contamination in the area of Lake Como and in other Northern Italy sites
Author: Capra-D; Facchini-U; Gianelle-V; Ravasini-G; Ravera-O; Pizzala-A; Bacci-P
Author Affiliation: Istituto di Fisica Generale Applicata, Milano Univ., Italy
Source: Nuovo-Cimento-C. vol.10C, ser.1, no.3; May-June 1987; p.285-313
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Italy
Language: English
Abstract: The radioactive cloud released during the Chernobyl accident reached the Po Plain and Lombardy during the night of April 30, 1986; the cloud remained in the northern Italian skies for a few days and then disappeared either dispersed by winds or washed by rains. The evidence in the atmosphere of radionuclides such as tellurium, iodine, cesium was promptly observed by the Istituto di Fisica. The intense rain, in the first week of May, washed the radioactivity, and the fallout contaminated the land, soil, grass and vegetables. The present authors discuss the overall contamination of Northern Italy and in particular the radioactive fallout in the Alpine region. Samples of soil have been measured with a gamma-spectroscope; a linear correlation is found between the radionuclide concentration in soil samples and the rain intensity, when appropriate deposition models are considered. Measurements have been carried out on the Lake Como ecosystem: sediments, plankton, fishes and the overall fallout in the lake area have been investigated.
Number of References: 14
Descriptors: air-pollution; fallout-; pollution-; radioactive-pollution; water-pollution
Identifiers: pollution-; AD-1986-04-to-05; Chernobyl-accident; radioactive-contamination; Lake-Como; Northern-Italy; Po-Plain; Lombardy-; winds-; rains-; atmosphere-; radionuclides-; fallout-; soil-; grass-; vegetables-; Alpine-region; concentration-; deposition-models; ecosystem-; sediments-; plankton-; fishes-; I-; Cs-; Te-
Classification Codes: A8670C (Soil-and-rock); A8670E (Water); A8670G (Atmosphere); A9330G (Europe); A86; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Te-el
Coden: NIFCAS
ISSN: 0390-5551
Sort Key: 00003905551198700010000030000000000000285
Accession Number: 3035651

Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02607.030
Bestand: 1.Ser.1.1978=>

Record 1068 of 1145 in INSPEC 1985-1989

Title: Study of medium- and long-range transport analysing the data of the Chernobyl accident
Author: Bonelli-P; Tronci-N; Villone-B
Author Affiliation: ENEL-CRTN, Milano, Italy
Source: Nuovo-Cimento-C. vol.10C, ser.1, no.3; May-June 1987; p.265-83
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Italy
Language: English
Abstract: Analyses the meteorological factors that characterized the transport and deposition on the ground of radionuclides from the Chernobyl nuclear power station over Northern Italy during the accident in April-May 1986. The aim of the study is to test some computational procedures and meteorological analyses specifically for a comprehensive study of the long-range pollution transport problem. By reconstructing the particle trajectories of the radioactive Chernobyl plume, the authors determined the most probable start and arrival dates of the plume and the level over the source. Moreover, analysis of the meteorological configuration up- and downwind of the Alps permitted the authors to explain the temporal displacement between different kinds of measured fall-out readings.
Number of References: 1
Descriptors: air-pollution; atmospheric-movements; fallout-; radioactive-pollution
Identifiers: Fallout-; atmosphere-; AD-1986-04-to-05; long-range-transport; Chernobyl-accident; meteorological-factors; deposition-; radionuclides-; Northern-Italy; computational-procedures; pollution-; particle-trajectories; radioactive-Chernobyl-plume; Alps-; temporal-displacement
Classification Codes: A8670G (Atmosphere); A9260G (Winds-and-their-effects); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: NIFCAS
ISSN: 0390-5551
Sort Key: 00003905551198700010000030000000000000265
Accession Number: 3035650
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02607.030
Bestand: 1.Ser.1.1978=>

Record 1069 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident: air radioactivity measurements in Italy
Author: Colacino-M; Favale-B; Passamonti-V; Baldi-M; Dietrich-E
Author Affiliation: Istituto di Fisica, CNR, Roma, Italy
Source: Nuovo-Cimento-C. vol.10C, ser.1, no.3; May-June 1987; p.249-64
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Italy
Language: English
Abstract: Air radioactivity data collected in the period 26/4-25/5, 1986 after the Chernobyl accident are presented. In particular the network of the sampling stations and the analyses carried out are briefly described. The meteorological situation responsible for the long-range transport of the pollutants from the place of emission to Italy is also shown. The data of the atmospheric radioactivity are discussed and finally some observations on the functioning of the network are given.
Number of References: 6
Descriptors: air-pollution; atmospheric-movements; fallout-; radioactive-pollution
Identifiers: AD-1986-04-to-05; Chernobyl-accident; air-radioactivity-measurements; Italy-; sampling-stations; long-range-transport; pollutants-
Classification Codes: A8670G (Atmosphere); A9260G (Winds-and-their-effects); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Coden: NIFCAS
ISSN: 0390-5551
Sort Key: 00003905551198700010000030000000000000249
Accession Number: 3035649
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02607.030
Bestand: 1.Ser.1.1978=>

Record 1070 of 1145 in INSPEC 1985-1989

Title: Rapid removal of Chernobyl fallout from Mediterranean surface waters by biological activity
Author: Fowler-SW; Buat-Menard-P; Yokoyama-Y; Ballestra-S; Holm-E; Huu-Van-Nguyen
Author Affiliation: Int. Lab. of Marine Radioactivity, IAEA, Vienna, Austria
Source: Nature. vol.329, no.6134; 3 Sept. 1987; p.56-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Reports data from a time-series sediment trap experiment and concomitant zooplankton collections which show conclusively that Chernobyl radioactivity, in particular the rare earth nuclides /sup 141/Ce and /sup 144/Ce, entering the

Mediterranean as a single pulse, was rapidly removed from surface waters and transported to 200 m in a few days primarily by zooplankton grazing.
Number of References: 29
Descriptors: air-pollution; biology-; fallout-; radioisotopes-; water-pollution
Identifiers: pollution-; Chernobyl-fallout; Mediterranean-surface-waters; biological-activity; time-series-sediment-trap; concomitant-zooplankton-collections; radioactivity-; rare-earth-nuclides; 141Ce-; grazing-; 144Ce-
Classification Codes: A8670E (Water); A8670G (Atmosphere); A9220J (Biological-aspects); A9220N (Pollution); A9330R (Regional-seas); A86; A92; A93; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Ce-el
Coden: NATUAS
ISSN: 0028-0836
Copyright Clearance Center Code: 0028-0836/87/$1.00+0.10
Sort Key: 0000028083619870032906134000000000000056
Accession Number: 3035505
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 1071 of 1145 in INSPEC 1985-1989

Title: Challenger and Chernobyl, lessons and reflections
Author: Mark-H; Carver-L
Author Affiliation: Univ. of Texas Syst., Austin, TX, USA
Source: Interdisciplinary-Science-Reviews. vol.12, no.3; Sept. 1987; p.241-52
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The primary cause of the Challenger accident was the failure of O-ring seals in the solid rocket booster, a subcomponent which had been known to be faulty for some time. The accident to the Chernobyl atomic reactor has not been publicly analyzed to the same extent as the Challenger explosion, and hence there must remain some speculation as to the detailed sequence of events. The lessons from both accidents are clear: faulty human understanding of the equipment and the lack of education, training and discipline were critical. The authors conclude that the space Shuttle will fly again soon, and that political problems in the Soviet Union may be great and may force some changes.
Number of References: 5
Descriptors: accidents-; dosimetry-; fission-reactor-safety
Identifiers: Challenger-accident; O-ring-seals; solid-rocket-booster; Chernobyl-atomic-reactor; Challenger-explosion; faulty-human-understanding; space-Shuttle; Soviet-Union

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880C (Dosimetry); A28; A2
Treatment Codes: G (General-or-Review); P (Practical)
Coden: ISCRD8
ISSN: 0308-0188
Sort Key: 00003080188198700012000030000000000000241
Accession Number: 3033127
Update Code: 8800

Record 1072 of 1145 in INSPEC 1985-1989

Title: The Chernobyl fallout in Greece and its effects on the dating of archaeological materials
Author: Liritzis-Y
Author Affiliation: Minis. of Culture, Athens, Greece
Source: Nuclear-Instruments-&-Methods-in-Physics-Research,-Section-A-(Accelerators,-Spectrometers,-Detectors-and-Associated-Equipment). vol.A260, no.2-3; 15 Oct. 1987; p.534-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Netherlands
Language: English
Abstract: The effects of the fallout from the nuclear reactor accident at Chernobyl have been monitored at various sites in Greece. The authors present the first estimates of gamma dose rates, an essential parameter in the dating of archaeological materials by thermoluminescence (TL) and ESR methods. The dose rates are derived from the long-lived radionuclides of /sup 137/Cs, /sup 134/Cs, /sup 106/Ru and /sup 144/Ce (with t/sub 1/2/>or=1 yr). The present dose rates vary between 30 and 60 mrad/yr, but maximum values of around 811 mrad/yr have also been recorded, for ground-surface exposures. These dose rate values must be regarded as very significant to TL and ESR dating of samples from now on and a correction factor should be applied.
Number of References: 10
Descriptors: archaeology-; fallout-; radioactive-dating; radioactive-pollution
Identifiers: Chernobyl-fallout; Greece-; dating-; archaeological-materials; nuclear-reactor-accident; gamma-dose-rates; ground-surface-exposures; correction-factor; 137Cs-; 134Cs-; 106Ru-; 144Ce-
Classification Codes: A8670C (Soil-and-rock); A9385 (Instrumentation-and-techniques-for-geophysical-hydrospheric-and-lower-atmosphere-research); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el; Cs-el; Ru-el; Ce-el
Coden: NIMRD9
ISSN: 0168-9002
Copyright Clearance Center Code: 0168-9002/87/$03.50
Sort Key: 00001689002198700260000020000000000000534

Accession Number: 3032487
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08574.010
Bestand: A219.1984=>

Record 1073 of 1145 in INSPEC 1985-1989

Title: Measured human thyroid radioactivities in Britain arising from the Chernobyl disaster
Author: Bowlt-C
Author Affiliation: Dept. of Radiat. Biol., Med. Coll., St. Bartholomew's Hospital, London, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.7, no.3; Autumn 1987; p.129-35
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: /sup 131/I activities in thyroids taken at necropsy from more than 160 adults from 7 areas in Britain who died during the 9 weeks following the Chernobyl incident were measured. Peak mean specific activities in these areas varied from 2.5-5 Bq g/sup -1/ dry weight (i.e. by a factor of only 2) in spite of the reported enhanced deposition of radioactivity in N and W Britain. It is suggested that this reflects diets deriving from a wide area, including the pooling of milk. Activities decayed with effective half-lives 11-16 days, which is longer than expected if milk were the only main source. Mean thyroid doses in the areas fell within the range of 44-74 mu Sv with probably most adults in Britain receiving between 15-150 mu Sv and very few more than 200 mu Sv.
Number of References: 7
Descriptors: radiation-monitoring; radioactive-pollution; radioactivity-measurement
Identifiers: human-thyroid-radioactivities; Britain-; Chernobyl-disaster; necropsy-; mean-specific-activities; milk-; thyroid-doses; 15-to-200-muSv; 131I-activities
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: P (Practical); X (Experimental)
Numerical Data Indexing: radiation dose equivalent 1.5E-05 to 2.0E-04 Sv
Chemical Indexing: I-el
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 0000260281419870000700003000000000000129
Accession Number: 3030511
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000
Bestand: 1.1981-7.1987 L:1

Record 1074 of 1145 in INSPEC 1985-1989

Title: Information on the accident at the Chernobyl nuclear power station and its consequences prepared for IAEA
Source: Soviet-Atomic-Energy. vol.61, no.5; Nov. 1986; p.845-68
Translated from: Atomnaya-Energiya. vol.61, no.5; Nov. 1986; p.301-20
Publication Year: 1986
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: A brief summary of the information presented by Soviet experts concerning the Chernobyl accident to the IAEA is presented. Topics discussed are: (i) accident history; (ii) model analysis of accident history; (iii) reasons for the accident; (iv) preventing the growth of the accident; (v) monitoring radioactive contamination in the environment; and population health (vi) recommendations on improving safety in nuclear power.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; health-hazards; radiation-monitoring; radioactive-pollution
Identifiers: environmental-effects; accident-analysis; radiation-monitoring; accident-; Chernobyl-nuclear-power-station; Chernobyl-accident; population-health
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2
Treatment Codes: P (Practical)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/86/6105-0845$12.50
Sort Key: 00000047163198600061000050000000000000301
Accession Number: 3027598
Update Code: 8800
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 1075 of 1145 in INSPEC 1985-1989

Title: Analysis of the Chernobyl reactor accident. I. Nuclear and thermal hydraulic characteristics and follow-up calculation of the accident
Author: Wakabayashi-T; Mochizuki-H; Midorikawa-H; Hayamizu-Y; Kitahara-T
Author Affiliation: Power Reactor & Nucl. Fuel Dev. Corp., O-arai Eng. Center, Ibaraki, Japan
Source: Nuclear-Engineering-and-Design. vol.103, no.2; 1987; p.151-64
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Netherlands
Language: English

Abstract: A follow-up calculation was made on the accident of Reactor No.4 of the Chernobyl Nuclear Power Plant based on the literature and accident reports published by the USSR. The analysis code system used had models peculiar to a pressure tube type reactor, of which the accuracy had been verified by the experimental facilities at the O-arai Engineering Center and the tests made at the 'Fugen' Nuclear Power Plant. The analysis data were prepared based on plant specifications and its operation history obtained from those published literature and accident reports. The analysis was composed of (1) a calculation of the nuclear and thermal-hydraulic characteristics, and the graphite heating and temperature distributions which were the basic data for the follow-up calculation of the accident, (2) an analysis of the plant behavior before the test started, using three basic characteristics, and (3) a follow-up calculation of the power increase which occurred after the test started. The analytical results were found to agree well with the data published by the USSR. It was confirmed from these analyses that the main factors causing the accident were the increased enthalpy at the core entrance caused by the test made at low power level and the increased void fraction due to reduced coolant flow rate, in addition to the nuclear characteristics and performance of the control system peculiar to the Chernobyl Nuclear Power Plant.
Number of References: 16
Descriptors: accidents-; fission-reactor-theory-and-design
Identifiers: enthalpy-increase; Chernobyl-reactor-accident; thermal-hydraulic-characteristics; analysis-code-system; analysis-data; graphite-heating; temperature-distributions; void-fraction; coolant-flow-rate
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: NEDEAU
ISSN: 0029-5493
Copyright Clearance Center Code: 0029-5493/87/$03.50
Sort Key: 0000029549319870010300002000000000000151
Accession Number: 3016854
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08465.001
Bestand: 3.1966=>

Record 1076 of 1145 in INSPEC 1985-1989

Title: The causes and consequences of the Chernobyl nuclear accident and implications for the regulation of US nuclear power plants
Author: Denton-HR
Author Affiliation: US Nucl. Regulatory Comm., Washington, DC, USA
Source: Annals-of-Nuclear-Energy. vol.14, no.6; 1987; p.295-315
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK

Language: English
Abstract: As in the case of the TMI accident public concern around the world over nuclear safety has been aroused by the Chernobyl nuclear accident. Because of its severity and enormous impact on public opinion, it is important to study the accident and its implications carefully and to provide accurate information to the public. Since this was the first nuclear accident with large offsite releases of radionuclides, valuable insights are to be gained especially, for example, from Soviet actions to terminate the accident and mitigate its consequences, emergency preparedness and evacuation measures, medical treatment, protection against contaminated food and water supplies, and a variety of post-accident recovery measures. With the perspective of a year since the accident and a recent visit by the author to Chernobyl with a US nuclear safety delegation this paper reviews a number of new studies to draw conclusions about the causes of the Chernobyl accident, its health and environmental consequences and some of the implications for regulation of the safety of US nuclear power plants.
Number of References: 33
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: Chernobyl-nuclear-accident; regulation-; nuclear-power-plants; nuclear-safety; public-opinion; offsite-releases; radionuclides-; emergency-preparedness; evacuation-measures; medical-treatment; post-accident-recovery-measures
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2; B8
Treatment Codes: P (Practical)
Coden: ANENDJ
ISSN: 0306-4549
Copyright Clearance Center Code: 0306-4549/87/$3.00+0.00
Sort Key: 0000306454919870001400006000000000000295
Accession Number: 3010426
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25946.001
Bestand: 2.1975=>

Record 1077 of 1145 in INSPEC 1985-1989

Title: Radioactive cesium from the Chernobyl accident in the Greenland ice sheet
Author: Davidson-CI; Harrington-JR; Stephenson-MJ; Monaghan-MC; Pudykiewicz-J; Schell-WR
Author Affiliation: Dept. of Civil Eng., Carnegie Mellon Univ., Pittsburgh, PA, USA
Source: Science. vol.237, no.4815; 7 Aug. 1987; p.633-4
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Measurements of cesium-134 and cesium-137 in Greenland snow together with models of long-range transport have been used to assess radionuclide deposition in the

Arctic after the Chernobyl accident. The results suggest that a well-defined layer of radioactive cesium is now present in polar glaciers, providing a new reference for estimating snow accumulation rates and dating ice core samples.
Number of References: 21
Descriptors: accidents-; air-pollution; atmospheric-movements; atmospheric-precipitation; caesium-; fallout-; geochronology-; glaciology-; ice-; snow-
Identifiers: AD-1986-04-29-to-06-07; ice-core-samples-dating; long-range-atmospheric-transport; dry-deposition; wet-deposition; air-pollution-tracer; 134Cs-; 137Cs-; radioactive-fallout; Chernobyl-accident; Greenland-ice-sheet; radionuclide-deposition; Arctic-; polar-glaciers; snow-accumulation-rates; radioactive-Cs-layer
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9240S (Ice); A9240V (Glaciers-and-ice-sheets); A9260B (General-circulation); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9330G (Europe); A9330K (Islands); A28; A86; A87; A92; A93; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: SCIEAS
ISSN: 0036-8075
Sort Key: 00000368075198700237048150000000000000633
Accession Number: 3007953
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02810.000
Bestand: 65.1927, 70.1929=> L:65,70,76,77,94,103,106,107,116,117,139

Record 1078 of 1145 in INSPEC 1985-1989

Title: Chernobyl reactor accident consequences on small atmospheric ions concentration above Athens
Author: Retalis-DA
Author Affiliation: Inst. of Meteorol. & Phys. of the Atmos. Environ., Nat. Obs. of Athens, Greece
Source: Pure-and-Applied-Geophysics. vol.125, no.4; 1987; p.669-78
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The variation in small ion concentration (SIC), positive and negative, above Athens (phi =37 degrees 58.3'N, lambda =23 degrees 43'E, h=107 m) after the Chernobyl reactor accident is examined. SIC started to increase importantly at the National Observatory of Athens (NOA) since 3 May 1986 and reached its highest mean daily values on Monday, 5 May. These maximum values were 4 times the normal for positive ions and 5 times the normal for negative ions. Correlation coefficients were calculated between SIC and radionuclides I-131, Cs-137, Ru-103 and outdoor exposure rate.

Number of References: 9
Descriptors: air-pollution; atmospheric-movements; radioactive-pollution
Identifiers: Greece-; AD-1986-05-03-to-05; Chernobyl-reactor-accident; small-atmospheric-ions-concentration; Athens-; May-1986; positive-ions; negative-ions; radionuclides-; outdoor-exposure-rate; 131I-; 137Cs-; 103Ru-
Classification Codes: A8670G (Atmosphere); A9260G (Winds-and-their-effects); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A86; A92; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Cs-el; Ru-el
Coden: PAGYAV
ISSN: 0033-4553
Copyright Clearance Center Code: 0033-4553/87/040669-10$1.50+0.20/0
Sort Key: 0000033455319870012500004000000000000669
Accession Number: 3007644
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08113.001
Bestand: 57.1964=>

Record 1079 of 1145 in INSPEC 1985-1989

Title: Fallout deposition at Monaco following the Chernobyl accident
Author: Ballestra-SB; Holm-E; Walton-A; Whitehead-NE
Author Affiliation: Int. Lab. of Marine Radioactivity, Musee Oceanogr., Monaco
Source: Journal-of-Environmental-Radioactivity. vol.5, no.5; 1987; p.391-400
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Increased atmospheric radioactivity from the Chernobyl accident was first detected on air filters taken in Monaco on 30 April 1986, with maximum activities of 10, 2.9, 1.5 and 0.84 Bq m/sup -3/ for /sup 132/Te, /sup 131/I, /sup 137/Cs and /sup 134/Cs, respectively, occurring about 1-3 May 1986. About one week later the activities had fallen to about 1% of peak values. A total of 33 radioisotopes were detected. The integrated inventories were significantly less than at other sites to the east. Preliminary results of plutonium analyses are also presented, together with other deposition data in rain and soil.
Number of References: 9
Descriptors: accidents-; air-pollution-detection-and-control; fallout-; radioactive-pollution
Identifiers: fallout-; atmospheric-radioactivity; Chernobyl-; Monaco-; integrated-inventories; rain-; soil-; 132Te-; 131I-; 137Cs-; 134Cs-; Pu-
Classification Codes: A8670G (Atmosphere); A86; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Pu-el; Te-el; I-el; Cs-el; Cs-el
Coden: JERAEE

ISSN: 0265-931X
Sort Key: 0000265931X19870000500005000000000000391
Accession Number: 3005063
Update Code: 8700

Record 1080 of 1145 in INSPEC 1985-1989

Title: Radioactivity measurements in northwest Italy after fallout from the reactor accident at Chernobyl

Author: Corvisiero-P; Salvo-C; Boccacci-P; Ricco-G; Pilot-A; Taccini-G; Scielzo-G; Corso-M; Valerio-F; Bordo-D
Author Affiliation: Dipartimento di Fisica e Istituto Nazionale di Fisica Nucleare, Genova Univ., Italy

Source: Health-Physics. vol.53, no.1; July 1987; p.83-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Radioactive contamination from the Chernobyl accident has been continuously monitored in northwest Italy (Liguria) by the health physics group of the University of Genova. The authors used a 3 inch * 3 inch NaI detector surrounded by a complete 4 pi NaI anticoincidence counter inside a 10-cm Pb shielding. Air radioactivity was monitored daily by filters (2000 m/sup 3//24h) retaining particles about 0.3 mu m in diameter with 99% efficiency. A few peaks between 120 keV and 1.5 MeV seem to indicate the presence in air of a limited number of radionuclides probably present because of their sufficiently long half-lives and relatively high vapour pressure. Because of the poor resolution of the NaI detector, the identification of the radionuclides was attempted by simultaneous measurement of the peak energy and half-life. In the first few days after arrival of the fallout cloud (during the night of 30 April until 1 May), the gamma -ray activity was mostly due to /sup 132/Te(E/sub gamma /=228 keV), /sup 131/I (E/sub gamma /=364 keV) and /sup 132/I, following the decay of /sup 132/Te (E/sub gamma /=523 keV, 668 keV, 773 keV, 955 keV). The half-lives of the 228-keV (T/sub 1/2/=78 h) and 364-keV peaks (T/sub 1/2/=8 d) (Fig. 1) are, in fact, fully compatible with the values expected for /sup 132/Te and /sup 131/I, respectively, while the 510+or-50 keV, 660+or-50 keV, and 780+or-55 keV peaks show longer half-lives than expected from pure /sup 132/Te decay.

Number of References: 3
Descriptors: accidents-; fallout-; health-hazards
Identifiers: radioactivity-measurements; 132I-; half-life; northwest-Italy; fallout-; reactor-accident; Chernobyl-; radionuclides-; vapour-pressure; peak-energy; 120-keV-to-1-5-MeV; 131I-; 132Te-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)

Numerical Data Indexing: electron volt energy 1.2 E05 to 1.5 E06 eV
Chemical Indexing: I-el; Te-el
Coden: HLTPAO
ISSN: 0017-9078
Copyright Clearance Center Code: 0017-9078/87/$3.00+.00
Sort Key: 0000017907819870005300001000000000000083
Accession Number: 3004469
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08646.000
Bestand: 1.1958=> L:3

Record 1081 of 1145 in INSPEC 1985-1989

Title: Gamma-spectrometric examination of hot particles emitted during the Chernobyl accident
Author: Balashazy-I; Szabadine-Szende-G; Lorinc-M; Zombori-P
Source: Hungarian Acad. Sci., Budapest, Hungary, 1987; 16 pp.
Publication Year: 1987
Record Type: Report
Country of Publication: Hungary
Language: English
Abstract: Presents the Ge(Li) gamma-spectrometric examination of hot particles prepared from air filtered dust of Budapest air after the Chernobyl accident. The method of separating hot particles is described and the authors determine their concentration in the air. Their radioactive isotope composition is discussed and compared with that of dust samples. Finally they draw conclusions on the inhalation probability and radiation burden of hot particles.
Number of References: 10
Descriptors: accidents-; air-pollution; fission-reactor-safety; gamma-ray-spectroscopy; radiation-monitoring; radioactive-pollution
Identifiers: gamma-spectrometric-examination; hot-particles; air-filtered-dust; Budapest-; Chernobyl-accident; radioactive-isotope-composition; inhalation-probability; radiation-burden
Classification Codes: A0130Q (Reports-dissertations-theses); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A01; A28; A86; A87; A0; A2
Treatment Codes: P (Practical); X (Experimental)
Report Numbers: KFKI-1987-24/K
Sort Key: 3KFKI198724K19870000000000000000000000000
Accession Number: 2998950
Update Code: 8700

Record 1082 of 1145 in INSPEC 1985-1989

Title: Conditions during the release of radionuclides during the Chernobyl reactor accident
Author: Feuerstein-H
Author Affiliation: Kernforschungszentrum Karlsruhe GmbH, West Germany
Source: Kerntechnik. vol.51, no.1; Aug. 1987; p.55-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: West Germany
Language: English
Abstract: An attempt is made to estimate the conditions of the release of radionuclides and fuel during the Chernobyl accident. The composition of the nuclide mixtures from many measurements was analyzed using the results of two experimental programs. Besides the release with fuel particles, radionuclides were mainly released at temperatures above 2400 degrees C. The cladding was not oxidized by steam. The behaviour of ruthenium cannot be explained satisfactorily. The reactor core was heated up over several days. During this time, more and more fuel elements were affected and destroyed. The results of the analysis do not fully agree with the descriptions given by the Soviet authorities.
Number of References: 17
Descriptors: accidents-; fission-reactor-safety; radiation-monitoring; radioactive-pollution
Identifiers: release-; radionuclides-; Chernobyl-reactor-accident; conditions-; fuel-; composition-; nuclide-mixtures; cladding-; oxidized-; steam-; reactor-core
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A86; A87; A2
Treatment Codes: X (Experimental)
Coden: KERNEU
ISSN: 0932-3902
Sort Key: 0000932390219870005100001000000000000055
Accession Number: 2995605
Update Code: 8700

Record 1083 of 1145 in INSPEC 1985-1989

Title: Plutonium and Am contamination of tourist property and estimated inhalation intake of visitors to Kiev after the Chernobyl accident
Author: Kawamura-H
Author Affiliation: Div. of Radioecology, Nat. Inst. of Radiol. Sci., Ibaraki, Japan
Source: Health-Physics. vol.52, no.6; June 1987; p.793-5
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: A special program for health inspection was operated by the National Institute of Radiological Sciences, Chiba, Japan, for 118 tourists who participated in a guided tour of Moscow, Kiev and Leningrad and returned in early May. Upon their arrival at Tokyo International Airport, they were checked for radioactivity on clothes, property and hair by health physics personnel. On 5 May, considerable contamination was found, particularly in one group. To obtain further information about external and internal exposures, biochemical specimens such as spot urine samples and a fabric bag belonging to a tourist were subjected to gamma spectrometry and to the determination of alpha -emitting nuclides. A report is preserved of the results of the analysis for actinide elements, with a rough estimation of inhalation intake of these nuclides among these tourists.

Number of References: 12

Descriptors: accidents-; alpha-particle-detection-and-measurement; americium-; fission-reactor-safety; gamma-ray-detection-and-measurement; health-hazards; plutonium-; radioisotopes-

Identifiers: tourist-property; estimated-inhalation-intake; visitors-; Kiev-; Chernobyl-accident; radioactivity-; clothes-; hair-; internal-exposures; biochemical-specimens; spot-urine-samples; fabric-bag; gamma-spectrometry; alpha-emitting-nuclides; Am-contamination; Pu-contamination

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Pu-el; Am-el

Coden: HLTPAO

ISSN: 0017-9078

Sort Key: 00000179078198700052000060000000000000793

Accession Number: 2992090

Update Code: 8700

Record 1084 of 1145 in INSPEC 1985-1989

Title: The deposition of radionuclides from Chernobyl to a forest in Belgium

Author: Ronneau-C; Cara-J; Apers-D
Author Affiliation: Lab. de Chimie Inorg. et Nucl., Louvain Univ., Belgium

Source: Atmospheric-Environment. vol.21, no.6; 1987; p.1467-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: In the course of a study performed on traditional pollutants, deposition of radionuclides from Chernobyl was observed at a forest in E Belgium. The main

deposition flux occurred as a consequence of a 7.4 mm rainfall episode which took place on 4 May 1986. The deposition behaviour of radionuclides is very similar to the behaviour of traditional pollutants with the noteworthy exception of radioactive caesium which seems to have been absorbed by tree foliage.
Number of References: 2
Descriptors: air-pollution; radioactive-pollution
Identifiers: AD-1986-05-04; deposition-; radionuclides-; Chernobyl-; forest-; Belgium-; rainfall-; 4-May-1986; pollutants-; tree-foliage; Cs-
Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Chemical Indexing: Cs-el
Coden: ATENBP
ISSN: 0004-6981
Copyright Clearance Center Code: 0004-6981/87/$3.00+0.00
Sort Key: 0000004698119870002100006000000000001467
Accession Number: 2989358
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25813.010
Bestand: 24.1990-27.1993

Record 1085 of 1145 in INSPEC 1985-1989

Title: Chernobyl - a Canadian technical perspective
Source: Atomic Energy Canada Ltd., Chalk River, Ont., Canada, Jan. 1987; 94 pp.
Publication Year: 1987
Record Type: Report
Country of Publication: Canada
Language: English
Abstract: On April 26, 1986, the No.4 reactor at the Chernobyl Nuclear Power Station in the Soviet Union suffered a severe accident which destroyed the reactor core. The reactor design and the accident sequence are reviewed in detail, using Soviet literature and information presented at the International Atomic Energy Agency Post-Accident Review Meeting in August 1986. The aspects of the design and operation which exacerbated the accident, in the authors' view, are presented and compared to the CANDU reactor design. Key design aspects for Chernobyl examined are (in order of importance): capability of shutdown, containment and variation of void reactivity with operating state. Other concerns raised on Chernobyl (involving features common with CANDU) which they feel are not key design weaknesses for either Chernobyl or CANDU, are reviewed. These are: the sign of the void coefficient, pressure tubes, computer control, spatial control at low power, on-power refuelling, multi-unit containment, and fire protection.
Number of References: 11
Descriptors: accidents-; fission-reactor-core-control-and-monitoring; fission-reactor-safety

Identifiers: Chernobyl-; severe-accident; reactor-core; reactor-design; accident-sequence; CANDU-; design-aspects; shutdown-; containment-; void-reactivity; void-coefficient; pressure-tubes; computer-control; spatial-control; on-power-refuelling; multi-unit-containment; fire-protection
Classification Codes: A0130Q (Reports-dissertations-theses); A2843D (Core-control-and-guidance); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2850J (Heavy-water-reactors); A01; A28; A0; A2
Treatment Codes: P (Practical)
Report Numbers: AECL-9334
Sort Key: 300AECL93341987000000000000000000000000
Accession Number: 2987029
Update Code: 8700

Record 1086 of 1145 in INSPEC 1985-1989

Title: Determination of strontium-90 in various kinds of water after Chernobyl accident in Austria
Author: Batarekh-MK; Teherani-DK
Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.108, no.3; 16 Feb. 1987; p.133-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: As a consequence of the reactor-accident of Chernobyl on Tuesday 29 April 1986 the environmental radioactivity in Austria increased from above the level recorded before. Depending on the amount of precipitation the deposition of radioactive fallout showed great differences. Many water samples (rain water, lake water, swimming pool water, drinking water, underground water) collected (during the period of April 29 to May 30) from Vienna, Lower Austria and Steiermark were analyzed for /sup 90/Sr. The following concentrations in (nCi 1/sup -1/) of /sup 90/Sr was found: 8.69+or-2.3 for rain water, 0.09+or-0.12 for lake water 0.008-0.18 for swimming pool, 0.04-0.13 for drinking water, 0.07-0.2 for underground water. The /sup 90/Sr concentration was not higher than the maximal permissible (0.004-0.4 nCi 1/sup -1/) except for rain water.
Number of References: 14
Descriptors: accidents-; air-pollution; fallout-; lakes-; radioactive-pollution; radioactivity-measurement; rain-; strontium-; water-pollution
Identifiers: AD-1986-04-29-to-05-30; Chernobyl-accident; Austria-; reactor-accident; 29-April-1986; environmental-radioactivity; radioactive-fallout; rain-water; lake-water; swimming-pool-water; drinking-water; underground-water; Vienna-; Lower-Austria; Steiermark-; 90Sr-
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670E (Water); A8670G (Atmosphere); A9240N (Limnology); A9260J (Water-in-the-

atmosphere-humidity-clouds-evaporation-precipitation); A9330G (Europe); A28; A86; A92; A93; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119870010800003000000000000133
Accession Number: 2981795
Update Code: 8700

Record 1087 of 1145 in INSPEC 1985-1989

Title: Nuclear power after Chernobyl
Author: Ahearne-JF
Source: Science. vol.236, no.4802; 8 May 1987; p.673-80
Publication Year: 1987
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The causes and progress of the accident at Chernobyl are described, and a comparison between the Chernobyl accident and the 1979 accident at the Three Mile Island nuclear power station is made. Significant similarities between Chernobyl and Three Mile Island include complacency of operators and industry, deliberate negation of safety systems, and a lack of understanding of their plant on the part of the operators, which shows the critical importance of the human element. The Chernobyl accident has implications for nuclear power in the United States; it will affect the research program of the Nuclear Regulatory Commission, regulation of Department of Energy reactors, new reactor designs, and public attitudes.
Number of References: 30
Descriptors: accidents-; fission-reactor-safety; nuclear-power; nuclear-power-stations
Identifiers: accident-; Chernobyl-; Three-Mile-Island; nuclear-power-station; operators-; safety-systems; human-element; nuclear-power; United-States; reactor-designs; public-attitudes
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8610N (Nuclear-energy); B8220B (Nuclear-reactors); A28; A86; B82; A2
Treatment Codes: P (Practical)
Coden: SCIEAS
ISSN: 0036-8075
Sort Key: 0000036807519870023604802000000000000673
Accession Number: 2975108
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 02810.000
Bestand: 65.1927, 70.1929=> L:65,70,76,77,94,103,106,107,116,117,139

Record 1088 of 1145 in INSPEC 1985-1989

Title: Reflections on Chernobyl
Author: Weinberg-AM
Author Affiliation: Inst. for Energy Anal., Oak Ridge Assoc. Univ., TN, USA
Source: JNMM. vol.15, no.1; Oct. 1986; p.18-21
Publication Year: 1986
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: The Chernobyl and Three Mile Island reactor accidents are revealing some of the social costs of such failures, widespread opposition to nuclear power. As far as mortality and morbidity go, Chernobyl was probably a smaller incident than the chemical disaster at Bhopal. However, nuclear people must accept the idea that a nuclear hazard is perceived as somehow different. Since nuclear energy will be needed to replace oil eventually, and the environmental impacts of properly operating nuclear power plants are far less than those of fossil fuelled power plants, this appears to be an appropriate time for the United States and other interested countries to start developing inherently safe nuclear power plants which will be acceptable to the public.
Number of References: 0
Descriptors: accidents-; safety-
Identifiers: TMI-2; social-aspects; environmental-effects; Chernobyl-
Classification Codes: A8610N (Nuclear-energy); A86; A8
Treatment Codes: G (General-or-Review)
ISSN: 0362-0034
Sort Key: 0000362003419860001500001000000000000018
Accession Number: 2973760
Update Code: 8700

Record 1089 of 1145 in INSPEC 1985-1989

Title: Estimation of internal exposure of four Japanese travellers to fission products released from the reactor accident at Chernobyl
Author: Kai-M; Kusama-T; Eguchi-H; Sugiura-N; Niimi-K; Ban-N; Fukui-T; Yoshizawa-Y
Author Affiliation: Dept. of Radiol. Health, Fac. of Med., Tokyo Univ., Japan
Source: Radiation-Protection-Dosimetry. vol.18, no.3; 1987; p.175-8
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The radioactive release from the reactor accident at Chernobyl provided unexpected exposure of four Japanese travellers. The internal contamination was measured with a whole-body counter. They happened to stay at a distance of 300 km north of Chernobyl

immediately after the accident. The results of an estimation of the internal dose to the four Japanese are described.
Number of References: 11
Descriptors: dosimetry-; fission-products; health-hazards; radioactive-pollution
Identifiers: internal-exposure; Japanese-travellers; fission-products; reactor-accident; Chernobyl-; radioactive-release; internal-contamination; whole-body-counter
Classification Codes: A2880C (Dosimetry); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870001800003000000000000175
Accession Number: 2969039
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1090 of 1145 in INSPEC 1985-1989

Title: Three-dimensional diffusion theory model of Chernobyl-4
Author: Heeb-CM; Lotz-TL; Doherty-AL
Author Affiliation: Battelle-Pacific Northwest Lab., Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.54; 1987; p.382-3
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1987; Dallas, TX, USA
Country of Publication: USA
Language: English
Abstract: A three-dimensional neutron diffusion theory model of the Chernobyl-4 RBMK reactor was developed to analyze the April 26, 1986, accident. The model provides a means to determine the reactivity worths of key reactor systems such as control rods and reactor coolant condition, as well as power distributions at various times during the accident scenario. Hence it is useful in evaluating proposed corrective action by the USSR. Initial applications of the model have focused on the scram rod worths as a function of insertion and the reactivity effect of increasing core steam void fraction.
Number of References: 2
Descriptors: accidents-; fission-reactor-core-control-and-monitoring; fission-reactor-safety; neutron-diffusion
Identifiers: three-dimensional-neutron-diffusion-theory; Chernobyl-4-RBMK-reactor; accident-; reactivity-worths; reactor-systems; control-rods; reactor-coolant-condition; power-distributions; scram-rod-worths; core-steam-void-fraction

Classification Codes: A2820H (Neutron-diffusion); A2843D (Core-control-and-guidance); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005400000000000000000382
Accession Number: 2965994
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1091 of 1145 in INSPEC 1985-1989

Title: Chernobyl accident and its consequences
Author: Gittus-JH; Hicks-D; Bonell-PG; Clough-PN; Dunbar-IH; Egan-MJ; Hall-AN; Nixon-W; Bulloch-RS; Luckhurst-DP; Maccabee-AR
Source: UKAEA, Culcheth, UK, March 1987; 184 pp.
Publication Year: 1987
Record Type: Report
Country of Publication: UK
Language: English
Abstract: The Chernobyl accident was the most traumatic event in the entire history of civil nuclear power. For some months one could only speculate and guess about the causes of the accident but in August 1986, the IAEA organised an international conference in Vienna at which a group of Russian scientists and engineers made comprehensive presentations on what had happened. The presentation by the Russians was extremely frank and the nuclear industry throughout the world is now confident that it knows why the accident happened, how it happened and how it should have been prevented. The Russian report is available to the general public, so is the report by the IAEA experts written immediately after the conference ended. But necessarily both those reports concentrate on what happened at Chernobyl. The purpose of this report is to do something different-namely to give an account of the Chernobyl incident from a UK point of view, comparing and contrasting safety, design and operational matters in Russia compared to UK practice.
Number of References: 28
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design; health-hazards; radioactive-pollution
Identifiers: RBMK-design; design-modifications; safety-considerations; environmental-consequences; Chernobyl-accident; civil-nuclear-power; nuclear-industry; UK-point-of-view; safety-; design-; operational-matters; Russia-
Classification Codes: A0130Q (Reports-dissertations-theses); A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8760R (Radioactive-pollution); A01; A28; A87; A0; A2

Treatment Codes: P (Practical)
Report Numbers: NOR 4200
Availability: HMSO, London, UK
Sort Key: 3000NOR4200198700000000000000000000000000
Accession Number: 2955693
Update Code: 8700

Record 1092 of 1145 in INSPEC 1985-1989

Title: Source term and radiological consequences of the Chernobyl accident
Author: Mourad-R; Snell-V
Author Affiliation: AECL, Mississauga, Ont., Canada
Source: Transactions-of-the-American-Nuclear-Society. vol.54; 1987; p.226-8
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1987; Dallas, TX, USA
Country of Publication: USA
Language: English
Abstract: The authors assess the source term and evaluate the maximum hypothetical individual doses in European countries (including the Soviet Union) from the Chernobyl accident through the analyses of measurements of meteorological data, radiation fields, and airborne and deposited activity in these countries.
Number of References: 3
Descriptors: accidents-; air-pollution; radiation-monitoring; radioactive-pollution
Identifiers: airborne-activity; Europe-; RBMK-; radiological-consequences; Chernobyl-accident; source-term; hypothetical-individual-doses; Soviet-Union; meteorological-data; radiation-fields; deposited-activity
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A28; A86; A2
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005400000000000000000226
Accession Number: 2955035
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1093 of 1145 in INSPEC 1985-1989

Title: Hydrogen generation during the TMI-2 and Chernobyl events
Author: Henrie-JO; Postma-AK

Author Affiliation: Rockwell Hanford Oper., Richland, WA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.54; 1987; p.225-6
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1987; Dallas, TX, USA
Country of Publication: USA
Language: English
Abstract: A number of studies concerning hydrogen generation and combustion during the March 28, 1979, Three Mile Island Unit 2 (TMI-2) event have been conducted. These studies have had the advantage of considerable recorded data and physical evidence, which was not destroyed by the event. Conversely, the April 26, 1986, Chernobyl event was destructive of physical evidence, and recorded data are sparse. This greatly inhibits a Chernobyl learning process similar to the one experienced in relation to TMI-2 over the past 8 yr. However, a study of available Chernobyl (RBMK) reactor design and event-related data indicates that hydrogen was generated at very rapid rates during the seconds prior to the reported explosions. The authors describe the methods and results of estimating the rates and quantities of hydrogen generated during these two events.
Descriptors: accidents-; hydrogen-
Identifiers: TMI-2; Chernobyl-; RBMK-; H-generation
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
Chemical Indexing: H-el
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005400000000000000000225
Accession Number: 2955034
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1094 of 1145 in INSPEC 1985-1989

Title: Dynamic analysis of the Chernobyl accident with the one-dimensional program TRAB
Author: Kyrki-Rajamaki-R; Rajamaki-M
Author Affiliation: Tech. Res. Center of Finland, Helsinki, Finland
Source: Transactions-of-the-American-Nuclear-Society. vol.54; 1987; p.222-3
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1987; Dallas, TX, USA
Country of Publication: USA
Language: English

Abstract: The accident in the Chernobyl nuclear power plant in April 1986 was a reactivity-initiated accident. The catastrophic nature of the accident was due to the large positive void coefficient of reactivity. In order to study the effects of the positive feedback coefficient of voidage and the other axial phenomena in this transient, illustrative calculations were made with the one-dimensional Finnish computer program TRAB.
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: Chernobyl-accident; one-dimensional-program; TRAB-; nuclear-power-plant; reactivity-initiated-accident; void-coefficient; positive-feedback; transient-
Classification Codes: A2841C (Computer-codes); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005400000000000000000222
Accession Number: 2955032
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1095 of 1145 in INSPEC 1985-1989

Title: An analysis of the Chernobyl accident
Author: Heck-CL; Hochreiter-LE; Huang-P; Stolmar-A
Author Affiliation: Westinghouse Electr. Corp., Pittsburgh, PA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.54; 1987; p.221-2
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1987; Dallas, TX, USA
Country of Publication: USA
Language: English
Abstract: The unfortunate accident at Chernobyl Unit 4 has indicated the strong feedback effects that coupled neutronics and thermal-hydraulics core have for some reactor designs. To better understand the accident and to provide an independent assessment of the accident scenario given by Soviet scientists, Westinghouse has attempted to model the Chernobyl RBMK reactor using its safety analysis system computer codes. Before the RBMK reactor could be modeled, a coarse, three-dimensional reactor kinetics model (FASTAR), which was under development at Westinghouse, was integrated into the Westinghouse small-break loss-of-coolant accident code, NOTRUMP.
Number of References: 3
Descriptors: accidents-; fission-reactor-theory-and-design; neutron-transport-theory
Identifiers: Chernobyl-accident; feedback-effects; neutronics-; thermal-hydraulics; RBMK-; safety-analysis-system-computer-codes; reactor-kinetics-model; FASTAR-; small-break-loss-of-coolant-accident-code; NOTRUMP-

Classification Codes: A2841C (Computer-codes); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005400000000000000000221
Accession Number: 2955031
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1096 of 1145 in INSPEC 1985-1989

Title: Radiation monitoring of imported food to Saudi Arabia after Chernobyl
Author: Abul-faraj-WH; Abdul-Majid-S; Abdul-Fattah-AF
Author Affiliation: King Abdulaziz Univ., Jeddah, Saudi Arabia
Source: Transactions-of-the-American-Nuclear-Society. vol.54; 1987; p.39-40
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1987 Annual Meeting of the American Nuclear Society (papers in summary form only received). 7-11 June 1987; Dallas, TX, USA
Country of Publication: USA
Language: English
Abstract: Saudi Arabia has been indirectly affected by the Chernobyl accident. Large amounts of food or products that may enter the food chain are daily imported from European countries. The Saudi government assigned the responsibilities of radiation monitoring of imported food to some universities and governmental sectors. The nuclear engineering department at King Abdulaziz University (KAU) has undertaken the monitoring duties for products coming to western and southern provinces of the country.
Descriptors: radiation-monitoring
Identifiers: imported-food; Chernobyl-; Saudi-Arabia; radiation-monitoring
Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); A28; A87; A2; A8
Treatment Codes: G (General-or-Review)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19870005400000000000000000039
Accession Number: 2954907
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1097 of 1145 in INSPEC 1985-1989

Title: Chernobyl has a less-than-expected impact on orders and future plans
Author: Masters-R
Source: Nuclear-Engineering-International. vol.32, no.395; June 1987; p.25-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Principal events in the nuclear industry worldwide over the past 12 months are recalled in a necessarily selective record of what was reported at the time. The aim is to remind the reader of useful information that may have been missed or forgotten, not to attempt a systematic and comprehensive review of the status of nuclear development in each country.
Number of References: 0
Descriptors: fission-reactor-safety; nuclear-power-stations
Identifiers: nuclear-power-plant-orders; Chernobyl-; nuclear-industry; nuclear-development
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220B (Nuclear-reactors); A28; B82; A2; B8
Treatment Codes: P (Practical)
Coden: NEINBF
ISSN: 0029-5507
Sort Key: 00000295507198700032003950000000000000025
Accession Number: 2952479
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08256.001
Bestand: 13.1968,150=>

Record 1098 of 1145 in INSPEC 1985-1989

Title: Fall-out pattern in Norway after the Chernobyl accident estimated from soil samples
Author: Backe-S; Bierke-H; Rudjord-AL; Ugletveit-F
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Radiation-Protection-Dosimetry. vol.18, no.2; 1987; p.105-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Results of country-wide measurements of /sup 137/Cs and /sup 134/Cs in soil samples in Norway after the Chernobyl accident are reported. Preliminary estimates of the Chernobyl fall-out of some other gamma emitters are also given. The results clearly demonstrate that certain areas in Norway have been rather heavily contaminated. The total fall-out of /sup 137/Cs and /sup 134/Cs in Norway is estimated to be 2300+or-200 TBq and 1200+or-100 TBq respectively. This is approximately 6% of the caesium activity released from the reactor.

Number of References: 6
Descriptors: caesium-; fallout-; radioactive-pollution; soil-
Identifiers: pollution-; Norway-; Chernobyl-accident; soil-samples; fall-out; 2100-to-250-TBq; 1100-to-1300-TBq; 137Cs-; 134Cs-
Classification Codes: A8670C (Soil-and-rock); A8760R (Radioactive-pollution); A9330G (Europe); A86; A87; A93; A8
Treatment Codes: X (Experimental)
Numerical Data Indexing: radioactivity 2.5 E14 to 2.1 E15 Bq; radioactivity 1.1 E15 to 1.3 E15 Bq
Chemical Indexing: Cs-el; Cs-el
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870001800002000000000000105
Accession Number: 2946803
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1099 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident and its consequences
Author: Gittus-JH
Source: Atom. no.368; June 1987; p.2-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The author describes the Chernobyl plant and the circumstances leading to the accident; the development of the accident and its consequences; and the significant differences between Russian and UK nuclear safety standards revealed by analysis of the reactor design.
Number of References: 4
Descriptors: accidents-; air-pollution; fission-reactor-safety; fission-reactor-theory-and-design; radioactive-pollution
Identifiers: Chernobyl-plant; accident-; nuclear-safety-standards; reactor-design
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8670G (Atmosphere); A8760R (Radioactive-pollution); A28; A86; A87; A2
Treatment Codes: P (Practical)
Coden: ATMMAR
ISSN: 0004-7015
Sort Key: 0000004701519870000000368000000000000002
Accession Number: 2946112
Update Code: 8700

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08662.000
Bestand: 1958,17-1995,437 N:41,300

Record 1100 of 1145 in INSPEC 1985-1989

Title: Lessons for the Soviets (Chernobyl accident)
Author: Milne-R
Source: New-Scientist. vol.114, no.1557; 23 April 1987; p.37-9
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The origins of the explosion at the Chernobyl nuclear plant are examined. Means of controlling the fire and the release of radionuclides are described. The sealing of the reactor, the radioactive pollution caused by the incident and the efforts of Soviet medical workers to cope with the resulting cases of radiation sickness are also discussed.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; radiation-monitoring; radioactive-pollution
Identifiers: core-debris; sarcophagus-; contamination-; burns-; RBMK-reactor; positive-void-coefficients; Chernobyl-accident; explosion-; Chernobyl-nuclear-plant; fire-; radionuclides-; radioactive-pollution; medical-workers; radiation-sickness
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8760R (Radioactive-pollution); A28; A87; A2
Treatment Codes: G (General-or-Review); T (Theoretical-or-Mathematical)
Coden: NWSCAL
ISSN: 0028-6664
Sort Key: 00000286664198700114015570000000000000037
Accession Number: 2941606
Update Code: 8700

Record 1101 of 1145 in INSPEC 1985-1989

Title: Indoor gamma radiation in Norwegian dwellings during the first three months after the Chernobyl accident
Author: Strand-T; Stranden-E
Author Affiliation: Nat. Inst. of Radiat. Hygiene, Osteras, Norway
Source: Radiation-Protection-Dosimetry. vol.18, no.1; 1987; p.13-17
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: During the first month after the Chernobyl accident measurements of external radiation in about 900 randomly selected houses in Norway were carried out. The survey was originally planned to be a nationwide survey of natural radiation in Norwegian dwellings, and the first series of measurements were, by coincidence, started a few days before the accident. Follow-up measurements in selected houses in the third month after the accident, together with preliminary results of measurements on earth samples, were used to assess population doses, effective dose equivalents on the municipality level and the overall collective dose equivalent to the Norwegian population, from fall-out gamma radiation during the first three months after the accident. Follow-up measurements in the 900 houses are planned in order to assess shielding factors for houses and to improve the calculations of the indoor doses and dose equivalents for the first period after the accident.
Number of References: 9
Descriptors: dosimetry-; radiation-monitoring; radioactivity-measurement; shielding-
Identifiers: Norwegian-dwellings; Chernobyl-accident; external-radiation; Norway-; population-doses; effective-dose-equivalents; overall-collective-dose-equivalent; fall-out-gamma-radiation; shielding-factors; indoor-doses
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A28; A87; A2
Treatment Codes: X (Experimental)
Coden: RPDODE
ISSN: 0144-8420
Sort Key: 0000144842019870001800001000000000000013
Accession Number: 2936480
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 26869.000
Bestand: 1.1981=>

Record 1102 of 1145 in INSPEC 1985-1989

Title: The issues raised by Chernobyl
Author: Tanguy-P
Author Affiliation: Electr. de France, Paris, France
Source: Understanding Chernobyl. Uranium Inst, London, UK; 1986; vii+85 pp.
p.27-34
Publication Year: 1986
Record Type: Conference-Paper
Conference Details: 2 Sept. 1986; London, UK
Country of Publication: UK
Language: English
Abstract: Discusses the issues raised about Russian reactor operation and reactor safety generally after the Chernobyl accident.
Number of References: 0

Descriptors: accidents-; fission-reactor-operation; fission-reactor-safety
Identifiers: Russian-reactor-operation; reactor-safety; Chernobyl-accident
Classification Codes: A2843 (Fission-reactor-operation); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
ISBN: 0946777098
Sort Key: 10946777098198600000000000000000000000027
Accession Number: 2935367
Update Code: 8700

Record 1103 of 1145 in INSPEC 1985-1989

Title: What happened at Chernobyl
Author: Gittus-J
Author Affiliation: UKAEA, Harwell, UK
Source: Understanding Chernobyl. Uranium Inst, London, UK; 1986; vii+85 pp.
p.19-25
Publication Year: 1986
Record Type: Conference-Paper
Conference Details: 2 Sept. 1986; London, UK
Country of Publication: UK
Language: English
Abstract: The Chernobyl reactor went wrong because it had three design deficiencies: instability, slow shutdown and inadequate automation of safety systems. Coupled with maloperation during an experiment by the staff, these deficiencies led to the accident. The Russians acknowledge the deficiencies and have described sweeping design changes which they are making to put matters right. What happened at Chernobyl is that the uranium fuel in the nuclear reactor overheated, and it consequently gave off radioactive fumes (my description of particulate and aerosol emissions), which were carried by the wind to places 100 miles away and more, contaminating land and buildings. Thirty-one people, most of them firemen and other emergency workers, have since died. The majority of these people who died were 'acute fatalities', or early deaths. They were people who received intense radiation from the cloud of activity, and indeed some of them were probably exposed to direct radiation from the reactor core.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-reactor; instability-; slow-shutdown; safety-systems; accident-; radioactive-fumes; radiation-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: P (Practical)
ISBN: 0946777098
Sort Key: 10946777098198600000000000000000000000019
Accession Number: 2935366

Update Code: 8700

Record 1104 of 1145 in INSPEC 1985-1989

Title: Understanding Chernobyl
Source: Uranium Inst, London, UK; 1986; vii+85 pp.
Publication Year: 1986
Record Type: Conference-Proceedings
Conference Details: 2 Sept. 1986; London, UK
Country of Publication: UK
Language: English
Abstract: The following topics were dealt with: reactor physics; the Chernobyl accident; reactor safety; Magnox and AGR safety; the biological effects of radiation; radiation protection policy; PWR safety philosophy.
Descriptors: accidents-; biological-effects-of-radiation; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety; nuclear-power-stations; radiation-protection
Identifiers: reactor-physics; Chernobyl-accident; reactor-safety; Magnox-; AGR-; biological-effects; radiation-; radiation-protection-policy; PWR-safety-philosophy
Classification Codes: A0130C (Conference-proceedings); A2843B (Cooling-and-heat-recovery); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2850I (Gas-cooled-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A8750 (Biological-effects-of-radiations); A8760P (Radiation-protection); B8220B (Nuclear-reactors); A01; A28; A87; B82; A0; A2
ISBN: 0946777098
Sort Key: 1094677709819860000000000000000000000000
Accession Number: 2935364
Update Code: 8700

Record 1105 of 1145 in INSPEC 1985-1989

Title: Aspects of environmental monitoring by British Nuclear Fuels plc following the Chernobyl reactor accident
Author: Fulker-MJ
Author Affiliation: British Nucl. Fuels plc, Sellafield, UK
Source: Journal-of-Environmental-Radioactivity. vol.5, no.3; 1987; p.235-44
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The radioactive cloud from the Chernobyl reactor accident arrived in West Cumbria on 2 May 1986. The environmental monitoring facilities of the British Nuclear Fuels plc, Sellafield reprocessing plant were used to monitor radioactivity in air, deposition on grass and on soil and concentrations in milk. The distribution of deposition between sampled grass and soil was affected by heavy rainfall during the

passage of the radioactive cloud. Measurements of radioactivity in milk at a lowland farm on the coastal plain resulted in a critical group effective dose of 0.64 mSv up to the end of July, but additional doses are expected to result from the use of silage during the winter. Comparisons are made between these doses from milk consumption and those predicted from the data available shortly after the deposition of the radioactivity on the pasture.

Number of References: 6

Descriptors: accidents-; air-pollution; atmospheric-radioactivity; radiation-monitoring; radioactive-pollution; rain-

Identifiers: radionuclides-deposition; radionuclides-concentration; atmospheric-radionuclides; winter-silage; NW-England; UK-; pasture-deposition; United-Kingdom; dairy-herds-grazing; AD-1986-05-02-to-07-31; 131I-; 137Cs-; 134Cs-; 132Te-; 132I-; 99Tc-; wet-deposition; dry-deposition; environmental-monitoring; British-Nuclear-Fuels-plc; Chernobyl-reactor-accident; radioactive-cloud; West-Cumbria; 2-May-1986; Sellafield-reprocessing-plant; radioactivity-; air-; grass-; soil-; heavy-rainfall; lowland-farm; coastal-plain; critical-group-effective-dose; milk-consumption; 0-64-mSv

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9260J (Water-in-the-atmosphere-humidity-clouds-evaporation-precipitation); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A9330K (Islands); A28; A86; A87; A92; A93; A2; A8

Treatment Codes: X (Experimental)

Numerical Data Indexing: radiation dose equivalent 6.4E-04 Sv

Coden: JERAEE

ISSN: 0265-931X

Copyright Clearance Center Code: 0265-931X/87/$03.50

Sort Key: 0000265931X19870000500003000000000000235

Accession Number: 2927721

Update Code: 8700

Record 1106 of 1145 in INSPEC 1985-1989

Title: The Chernobyl accident

Author: Connolly-JW

Author Affiliation: Nucl. Tech. Div., Australian Atomic Energy Comm., Mascot, NSW, Australia

Source: Australian-Physicist. vol.24, no.3; April 1987; p.60-6

Publication Year: 1987

Record Type: Journal-article

Country of Publication: Australia

Language: English

Abstract: Following the accident at Unit 4 of the Chernobyl Nuclear Power Plant on 26 April 1986, there was considerable speculation in the West about the nature and cause of the disaster. At a meeting sponsored by the International Atomic Energy Agency (IAEA) in

Vienna at the end of August 1986, the USSR State Committee on the Utilisation of Atomic Energy presented details of the design and operation of the RBMK reactor involved in the accident and the events which culminated in the destruction of Unit-4. This information, though incomplete in some details and relying on a theoretical analysis of the last seconds before the reactor was destroyed, allows a broad understanding of the causes and nature of the accident. The author attempts to provide a description (necessarily compressed) of the plant, the operating procedures followed, operator errors and the cause of the rapid and large energy release which occurred in the reactor core.

Number of References: 5

Descriptors: accidents-; fission-reactor-cooling-and-heat-recovery; fission-reactor-safety; fission-reactor-theory-and-design

Identifiers: Chernobyl-Nuclear-Power-Plant; disaster-; RBMK-reactor; accident-; theoretical-analysis; operating-procedures; operator-errors; energy-release; reactor-core

Classification Codes: A2841 (Fission-reactor-theory-and-design); A2843B (Cooling-and-heat-recovery); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2

Treatment Codes: P (Practical)

Coden: AUPHBZ

ISSN: 0004-9972

Sort Key: 00000049972198700024000030000000000000060

Accession Number: 2925608

Update Code: 8700

Record 1107 of 1145 in INSPEC 1985-1989

Title: Regulation of nuclear power in the UK after Chernobyl

Author: Ryder-EA

Source: Atom. no.366; April 1987; p.8-10

Publication Year: 1987

Record Type: Journal-article

Country of Publication: UK

Language: English

Abstract: Describes the function of the Nuclear Installations Inspectorate in the regulation of nuclear power stations in the UK. The effects of the Chernobyl accident on safety standards are assessed.

Number of References: 0

Descriptors: fission-reactor-safety; nuclear-power-stations

Identifiers: nuclear-power; UK-; Nuclear-Installations-Inspectorate; regulation-; nuclear-power-stations; Chernobyl-accident; safety-standards

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2; B8

Treatment Codes: P (Practical)

Coden: ATMMAR

ISSN: 0004-7015
Sort Key: 00000047015198700000003660000000000000008
Accession Number: 2922408
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08662.000
Bestand: 1958,17-1995,437 N:41,300

Record 1108 of 1145 in INSPEC 1985-1989

Title: Public opinion and nuclear energy: Sweden after Chernobyl
Author: Zetterberg-HL
Source: Uranium and Nuclear Energy: 1986. Proceedings of the Eleventh International Symposium. Uranium Inst, London, UK; 1987; xix+452 pp.
p.207-29
Publication Year: 1987
Record Type: Conference-Paper
Conference Details: 2-4 Sept. 1986; London, UK
Country of Publication: UK
Language: English
Abstract: The author describes the effect of the Chernobyl nuclear disaster in April 1986 on a local area around the Swedish nuclear plant of Forsmark. This is then repeated for Sweden as a whole. He then speculates about the future of nuclear energy in public opinion based on surveys conducted before and after the accident by the Swedish Institute of Opinion Research and the Institute of Market Research.
Number of References: 8
Descriptors: nuclear-power
Identifiers: public-opinion; nuclear-energy; Sweden-; Chernobyl-; Forsmark-
Classification Codes: A8610N (Nuclear-energy); A86; A8
Treatment Codes: G (General-or-Review)
ISBN: 0946777071
Sort Key: 10946777071198700000000000000000000207
Accession Number: 2922058
Update Code: 8700

Record 1109 of 1145 in INSPEC 1985-1989

Title: Application of the SPEEDI system to the Chernobyl reactor accident
Author: Chino-M; Ishikawa-H; Yamazawa-H; Moriuchi-S
Source: Japan Atomic Energy Res. Inst., Tokai, Ibaraki, Japan, Oct. 1986; 69 pp.
Publication Year: 1986
Record Type: Report
Country of Publication: Japan
Language: English

Abstract: The SPEEDI system is a computational code system to predict the radiological dose due to a plume released from a nuclear accident in Japan. This paper describes SPEEDI's application to the Chernobyl reactor accident for the estimation of the plume movement and the release rate of radioactive nuclides into the environment. The predicted results on the plume movement agreed well with the monitoring data in Europe. The estimated results of the release rate showed that half of the noble gas inventory, about 5% of the iodine inventory and about 3% of the cesium inventory are released into the environment within 24 hours.
Number of References: 6
Descriptors: accidents-; air-pollution; dosimetry-; fission-reactor-safety; nuclear-engineering-computing; radioactive-pollution; radioisotopes-
Identifiers: radioactive-plume; SPEEDI-system; computational-code-system; radiological-dose; nuclear-accident; Chernobyl-reactor-accident; release-rate; radioactive-nuclides; Europe-; noble-gas-inventory; I-; Cs-
Classification Codes: A0130Q (Reports-dissertations-theses); A2841C (Computer-codes); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A01; A28; A86; A87; A0; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Chemical Indexing: I-el; Cs-el
Report Numbers: JAERI-M-86-142
Description of Unconventional Medium: Microfiche
Sort Key: 3JAERIM8614219860000000000000000000000000
Accession Number: 2919740
Update Code: 8700

Record 1110 of 1145 in INSPEC 1985-1989

Title: Review of nuclear power plant advanced concepts: implications of the Chernobyl accident
Author: Zebroski-EL
Author Affiliation: Electr. Power Res. Inst., Palo Alto, CA, USA
Source: 21st Intersociety Energy Conversion Engineering Conference: Advancing Toward Technology Breakout in Energy Conversion. American Chem. Soc, Washington, DC, USA; 1986; 3 vol. 2149 pp.
p.272 vol.1
Publication Year: 1986
Record Type: Conference-Paper
Conference Details: 25-29 Aug. 1986; San Diego, CA, USA. Sponsored by: IEEE; American Chem. Soc.; SAE; ANS; ASME; AIChE; AIAA
Country of Publication: USA
Language: English
Abstract: The author describes the current status of nuclear power plants in the US, reviews the advanced reactor concepts, and discusses modular designs that are being explored

for high-temperature gas-cooled reactors and for liquid-metal reactors. He examines the implications of the Chernobyl accident for design criteria and technical specifications.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations; power-plants
Identifiers: nuclear-power-plants; advanced-reactor-concepts; modular-designs; high-temperature-gas-cooled-reactors; liquid-metal-reactors; Chernobyl-accident; design-criteria; technical-specifications
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850F (Fast-reactors); A2850I (Gas-cooled-reactors); B0160 (Plant-engineering-maintenance-and-safety); B8220B (Nuclear-reactors); A28; B01; B82; A2
Treatment Codes: G (General-or-Review); P (Practical)
ISBN: 0841209863
Copyright Clearance Center Code: 8412-0986/86/0869-495$06.00
Sort Key: 10841209863198600000000000000000000000272
Accession Number: 2906486
Update Code: 8700

Record 1111 of 1145 in INSPEC 1985-1989

Title: Fire fighting at Chernobyl and fire protection at UK nuclear power stations
Author: Bindon-FJL
Source: Nuclear-Engineer. vol.28, no.1; Jan.-Feb. 1987; p.21-4
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Number of References: 0
Descriptors: accidents-; fission-reactor-safety
Identifiers: Chernobyl-; fire-protection; UK-nuclear-power-stations
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: G (General-or-Review)
Coden: NUEND7
ISSN: 0262-5091
Sort Key: 00002625091198700028000010000000000000021
Accession Number: 2904118
Update Code: 8700

Record 1112 of 1145 in INSPEC 1985-1989

Title: Distribution of /sup 89/Sr and /sup 90/Sr in Slovenia, Yugoslavia, after the Chernobyl accident
Author: Juznic-K; Fedina-S
Author Affiliation: Jozef Stefan Inst., Ljubljana, Yugoslavia

Source: Journal-of-Environmental-Radioactivity. vol.5, no.2; 1987; p.159-63
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A survey of /sup 89/Sr and /sup 90/Sr measurements in rain and surface waters, plants, milk and soil in Slovenia following the Chernobyl accident is presented. The total inventory of each isotope deposited by rain is estimated at 5.7 kBq m/sup -2/. The activity ratio of /sup 89/Sr to /sup 90/Sr is 12. The maximum radiostrontium concentration in rain appeared during the period 3-5 May. It is estimated that most of the activity in plants resulted from direct absorption through the leaves.
Number of References: 5
Descriptors: accidents-; air-pollution-detection-and-control; fission-reactor-safety; radioactive-pollution; radioisotopes-; soil-; strontium-; water-pollution-detection-and-control
Identifiers: Slovenia-; Yugoslavia-; Chernobyl-accident; rain-; surface-waters; plants-; milk-; soil-; total-inventory; activity-ratio; radiostrontium-concentration; direct-absorption; 89Sr-; 90Sr-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880 (Radiation-technology-including-shielding); A8670C (Soil-and-rock); A8670E (Water); A8670G (Atmosphere); A8760R (Radioactive-pollution); A9330G (Europe); A28; A86; A87; A93; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Sr-el; Sr-el
Coden: JERAEE
ISSN: 0265-931X
Copyright Clearance Center Code: 0265-931X/87/$03.50
Sort Key: 0000265931X19870000500002000000000000159
Accession Number: 2901173
Update Code: 8700

Record 1113 of 1145 in INSPEC 1985-1989

Title: Observation of fallout in Hiroshima caused by the reactor accident at Chernobyl
Author: Shizuma-K; Iwatani-K; Hasai-H; Nishiyama-F; Kiso-Y; Hosi-M; Sawada-S; Inoue-H; Suzuki-A; Hoshita-N; Kanamori-H; Sakamoto-I
Author Affiliation: Appl. Phys. & Chem., Fac. of Eng., Hiroshima Univ., Japan
Source: International-Journal-of-Radiation-Biology. vol.51, no.2; Feb. 1987; p.201-7
Publication Year: 1987
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: Fallout from the reactor accident at Chernobyl has been surveyed at Hiroshima. gamma -rays from samples of aerosol, rain water and tap water were measured using

low-background gamma -ray spectrometers and concentrations of activities were followed. Almost all of the nuclides detected in Europe were observed in Hiroshima. In addition to dominant volatile fission products of /sup 131/I, /sup 132/Te-/sup 132/I and /sup 103/Ru, long-lived fission products /sup 137/Cs, /sup 106/Ru-/sup 106/Rh, /sup 126/Sb and activities produced through the (n, gamma) process in the reactor such as /sup 134/Cs, /sup 136/Cs and /sup 110m/Ag were observed in relatively high concentrations.

Number of References: 4

Descriptors: accidents-; fallout-; fission-reactor-safety; health-hazards; radioactive-pollution

Identifiers: gamma-ray-spectra; 106Ru-; 136Cs-; 132I-; Hiroshima-; reactor-accident; Chernobyl-; aerosol-; rain-water; tap-water; volatile-fission-products; long-lived-fission-products; 103Ru-; 106Rh-; 125Sb-; 134Cs-; 110Ag-; 131I-; 132Te-

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8

Treatment Codes: X (Experimental)

Chemical Indexing: Ru-el; Rh-el; Sb-el; Cs-el; Ag-el; I-el; Te-el

Coden: IJRBA3

ISSN: 0020-7616

Copyright Clearance Center Code: 0020-7616/87/$3.00

Sort Key: 00000207616198700051000020000000000000201

Accession Number: 2900786

Update Code: 8700

LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 1114 of 1145 in INSPEC 1985-1989

Title: Radioactive iodine-131 over Taiwan after the Chernobyl accident

Author: Chung-C; Lo-JG

Author Affiliation: Inst. of Nucl. Sci., Nat. Tsing Hua Univ., Hsinchu, Taiwan

Source: Journal-of-Radioanalytical-and-Nuclear-Chemistry,-Letters. vol.105, no.6; 15 July 1986; p.325-33

Publication Year: 1986

Record Type: Journal-article

Country of Publication: Switzerland

Language: English

Abstract: Two weeks after the Chernobyl Nuclear Power Plant accident, a substantial increase in radioactivity above normal background levels was observed in various samples taken in Taiwan, ROC, which is 7600 km from Chernobyl. The /sup 131/I concentrations in grass, rainwater, and milk were monitored continuously in succeeding weeks and correlations with weather conditions are discussed. Levels of radiation fallout over Taiwan due to the Chernobyl accident are much lower than the response levels recommended by local authorities and pose no danger to the public.

Number of References: 5
Descriptors: accidents-; fission-reactor-safety; iodine-; radioactive-pollution; radioisotopes-
Identifiers: radioactive-pollution; Chernobyl-accident; Nuclear-Power-Plant; background-levels; grass-; rainwater-; milk-; weather-conditions; fallout-; response-levels; danger-; 131I-concentrations
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8670 (Environmental-science); A8760R (Radioactive-pollution); A28; A86; A87; A2
Treatment Codes: X (Experimental)
Chemical Indexing: I-el
Coden: JRNCDM
ISSN: 0236-5731
Sort Key: 0000236573119860010500006000000000000325
Accession Number: 2899831
Update Code: 8700

Record 1115 of 1145 in INSPEC 1985-1989

Title: Chernobyl operators mesmerized by mind-set
Author: Rippon-S
Source: Modern-Power-Systems. vol.6, no.12; Dec. 1986; p.45-7, 49, 51, 53
Publication Year: 1986
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: This post mortem report is based mainly on the information presented by Soviet specialists to a post accident review conference organized by the International Atomic Energy Agency in Vienna, 25-29 Aug. 1986, and analysis of that information reported by the International Nuclear Safety Advisory Group to a special session of the IAEA General Conference, 30 Aug. to 5 Sept.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: RBMK-reactor-design-factors; operator-errors; Chernobyl-; mind-set
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); B0160 (Plant-engineering-maintenance-and-safety); B8220B (Nuclear-reactors); A28; B01; B82; A2
Treatment Codes: G (General-or-Review)
Coden: MPSYDU
ISSN: 0260-7840
Sort Key: 0000260784019860000600012000000000000045
Accession Number: 2896937
Update Code: 8700

Record 1116 of 1145 in INSPEC 1985-1989

Title: Early measurements of the Chernobyl fallout in Sweden
Author: Vintersved-I; De-Geer-L; Bjurman-B; Arntsing-R; Jakobsson-S; Mellander-H
Author Affiliation: Nat. Defence Res. Inst., Stockholm, Sweden
Source: IEEE-Transactions-on-Nuclear-Science. vol.NS-34, no.1; Feb. 1987; p.590-4
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1986 Nuclear Science Symposium and 1986 Symposium on Nuclear Power Systems. 29-31 Oct. 1986; Washington, DC, USA. Sponsored by: IEEE; NASA; Lawrence Livermore Nat. Lab.; Lawrence Berkeley Lab.; et al
Country of Publication: USA
Language: English
Abstract: The accident at the nuclear power plant at Chernobyl resulted in more radioactive fallout over Sweden than over other parts of western Europe. An effort to establish its impact on Sweden has been carried out. A description of how this was done, and what equipment was used, is given.
Number of References: 6
Descriptors: accidents-; fallout-; radiation-monitoring
Identifiers: Chernobyl-fallout; Sweden-; nuclear-power-plant
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A9330G (Europe); A28; A86; A93; A2
Treatment Codes: X (Experimental)
Coden: IETNAE
ISSN: 0018-9499
Copyright Clearance Center Code: 0018-9499/87/0200-0590$01.00
Sort Key: 0000018949919870003400001000000000000590
Accession Number: 2890245
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04024.132
Bestand: 10.1963=> L:10,11 N:12

Record 1117 of 1145 in INSPEC 1985-1989

Title: The current status of ARAC and its application to the Chernobyl event
Author: Gudiksen-PH; Sullivan-TJ; Harvey-TF
Author Affiliation: Lawrence Livermore Nat. Lab., Livermore, CA, USA
Source: IEEE-Transactions-on-Nuclear-Science. vol.NS-34, no.1; Feb. 1987; p.584-9
Publication Year: 1987
Record Type: Conference-Paper; Journal-article
Conference Details: 1986 Nuclear Science Symposium and 1986 Symposium on Nuclear Power Systems. 29-31 Oct. 1986; Washington, DC, USA. Sponsored by: IEEE; NASA; Lawrence Livermore Nat. Lab.; Lawrence Berkeley Lab.; et al
Country of Publication: USA

Language: English
Abstract: The authors provide an overview of the Atmospheric Release Advisory Committee (ARAC) system and its utilization during the Chernobyl accident for deriving the source term and the global transport of the released radioactivity. Also included is a comparison of the radioactivity released by the Chernobyl event with the activity releases associated with the atmospheric nuclear weapons testing programs, as well as the Windscale and Three Mile Island (TMI) nuclear reactor accidents.
Number of References: 9
Descriptors: accidents-; fallout-; radiation-monitoring
Identifiers: ARAC-; Atmospheric-Release-Advisory-Committee; Chernobyl-accident; source-term; global-transport; released-radioactivity; atmospheric-nuclear-weapons-testing-programs; Windscale-; Three-Mile-Island
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A28; A86; A2
Treatment Codes: G (General-or-Review)
Coden: IETNAE
ISSN: 0018-9499
Copyright Clearance Center Code: 0018-9499/87/0200-0584$01.00
Sort Key: 0000018949919870003400001000000000000584
Accession Number: 2890244
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 04024.132
Bestand: 10.1963=> L:10,11 N:12

Record 1118 of 1145 in INSPEC 1985-1989

Title: Analyses of power excursion event in Chernobyl accident with RETRAN code
Author: Yoshida-K; Tanabe-F; Hirano-M; Kohsaka-A
Author Affiliation: Dept. of Reactor Safety Res., JAERI, Ibaraki, Japan
Source: Journal-of-Nuclear-Science-and-Technology. vol.23, no.12; Dec. 1986; p.1107-9
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Japan
Language: English
Abstract: The accident at the Chernobyl-4 reactor on April 26, 1986 has had a serious impact all over the world. Although the outline of causes, sequence and consequences of the accident has been reported by the USSR, enough information has not been given for full understanding. In order to obtain a profounder understanding of the accident, analyses of the power excursion event have been performed. The items analyzed are thermal hydraulic behavior of the primary loop, power excursion behavior and fuel rods thermal behavior.
Number of References: 6
Descriptors: fission-reactor-core-control-and-monitoring; fission-reactor-safety

Identifiers: power-excursion-event; Chernobyl-accident; RETRAN-code; thermal-hydraulic-behavior; primary-loop; power-excursion-behavior; fuel-rods-thermal-behavior
Classification Codes: A2843D (Core-control-and-guidance); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: JNSTAX
ISSN: 0022-3131
Sort Key: 00000223131198600023000120000000000001107
Accession Number: 2881527
Update Code: 8700

Record 1119 of 1145 in INSPEC 1985-1989

Title: Chernobyl-a technical appraisal
Source: Atom. no.362; Dec. 1986; p.14-17
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The reactor accident at Chernobyl is analysed from the design point of view and its influence on the accident sequence.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: Chernobyl-; design-; accident-sequence
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A28; A2
Treatment Codes: T (Theoretical-or-Mathematical)
Coden: ATMMAR
ISSN: 0004-7015
Sort Key: 00000047015198600000003620000000000000014
Accession Number: 2877773
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08662.000
Bestand: 1958,17-1995,437 N:41,300

Record 1120 of 1145 in INSPEC 1985-1989

Title: Radionuclide concentrations in ground-level air from 1984 to mid 1986 in north Germany and north Norway; influence of the Chernobyl accident
Author: Kolb-W
Source: Phys.-Tech. Bundesanstalt, Braunschweig, West Germany, Sept. 1986; 63 pp.
Publication Year: 1986
Record Type: Report
Country of Publication: West Germany

Language: English
Abstract: The activity concentration of various fission products and some other radionuclides (e.g. /sup 7/Be, /sup 22/Na, /sup 40/K and /sup 210/Pb) contained in surface air were determined by gamma-ray spectroscopy. The mean monthly activity concentrations of up to 30 radionuclides measured from 1984 to mid 1986 in Brunswick, Berlin and Skibotn (North Norway) are tabulated. Early in 1984 the ground level air at all three stations still contained some fission and activation products resulting from the latest nuclear test carried out at a high altitude by the People's Republic of China. By the end of 1984 only /sup 137/Cs was still detectable with activity concentrations of less than 1 mu Bq/m/sup 3/. Fresh fission products from the Chernobyl accident arrived in late April 1986 in Brunswick, Berlin and Skibotn. The mean /sup 137/Cs concentration in May estimated for Brunswick was 28 mBq/m/sup 3/ (i.e. 15 times higher than the hitherto recorded maximum in June 1964). It had decreased by July 1986 down to 0.13 mBq/m/sup 3/. The effective dose equivalent due to inhalation of fission products is estimated for all three sites and compared with the /sup 210/Pb inhalation dose.
Number of References: 14
Descriptors: air-pollution-detection-and-control; dosimetry-; fission-products; radiation-detection-and-measurement; radiation-monitoring; radioactive-pollution
Identifiers: activity-concentration; fission-products; surface-air; gamma-ray-spectroscopy; mean-monthly-activity-concentrations; Brunswick-; Berlin-; Skibotn-; North-Norway; Chernobyl-accident; effective-dose-equivalent; inhalation-; 7Be-; 22Na-; 40K-; 210Pb-; 137Cs-
Classification Codes: A0130Q (Reports-dissertations-theses); A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A01; A28; A86; A87; A93; A0; A2
Treatment Codes: X (Experimental)
Chemical Indexing: Be-el; Na-el; K-el; Pb-el; Cs-el
Report Numbers: PTB-Ra-18
Sort Key: 3000PTBRa1819860000000000000000000000000
Accession Number: 2876122
Update Code: 8700

Record 1121 of 1145 in INSPEC 1985-1989

Title: Analysis of Landsat TM images of Chernobyl
Author: Richter-R; Lehmann-F; Haydn-R; Volk-P
Author Affiliation: DFVLR, Wessling, West Germany
Source: International-Journal-of-Remote-Sensing. vol.7, no.12; Dec. 1986; p.1859-67
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: Landsat-5 TM images of the nuclear power plant of Chernobyl are analysed with the emphasis on estimating the reactor surface temperature. The investigation was done for TM channels 5 and 7 using the simulation model SENSAT developed at DFVLR. It accounts for the sensor characteristics (spectral response, IFOV) and target/background properties (size, temperature, emissivity). For the atmospheric part the LOWTRAN-6 model is used. The estimated surface temperature is 1000-1300K for 29 April 1986, 3 days after the nuclear accident.
Number of References: 13
Descriptors: accidents-; fission-reactors; nuclear-power-stations; remote-sensing; temperature-measurement
Identifiers: AD-1986-04-29; Landsat-TM-images; Chernobyl-; nuclear-power-plant; reactor-surface-temperature; SENSAT-; 29-April-1986; nuclear-accident; 1000-to-1300-K
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A28; A2
Treatment Codes: X (Experimental)
Numerical Data Indexing: temperature 1.0 E03 to 1.3 E03 K
Coden: IJSEDK
ISSN: 0143-1161
Sort Key: 0000143116119860000700012000000000001859
Accession Number: 2856496
Update Code: 8700

Record 1122 of 1145 in INSPEC 1985-1989

Title: Radioactivity size distributions of ambient aerosols in Helsinki, Finland, during May 1986 after the Chernobyl accident: preliminary report
Author: Kauppinen-EI; Hillamo-RE; Hannele-Aaltone-S; Sinkko-KTS
Author Affiliation: Lab. of Heating & Ventilating, Tech. Res. Centre of Finland, Espoo, Finland
Source: Environmental-Science-and-Technology. vol.20, no.12; Dec. 1986; p.1257-9
Publication Year: 1986
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: Ambient aerosol size distribution of /sup 131/I, /sup 103/Ru, /sup 132/Te and /sup 137/Cs radionuclides were measured in Helsinki, Finland, during May 7-14, 1986. Radioactivity size distributions were unimodal. The geometric mean diameter of /sup 131/I was in the size range 0.33-0.57 mu m a.e.d. Other isotopes had geometric mean diameters in the size range 0.65-0.93 mu m a.e.d.
Number of References: 11
Descriptors: aerosols-; air-pollution; particle-size; radioactive-pollution
Identifiers: pollution-; AD-1986-05-07-to-14; USSR-; size-distributions; ambient-aerosols; Helsinki-; Finland-; May-1986; Chernobyl-; geometric-mean-diameter; 0-65-to-0-95-micron; 131I-; 103Ru-; 132Te-; 137Cs-

Classification Codes: A8670G (Atmosphere); A9330G (Europe); A86; A93; A8; A9
Treatment Codes: X (Experimental)
Numerical Data Indexing: size 6.5E-07 to 9.5E-07 m
Chemical Indexing: I-el; Ru-el; Te-el; Cs-el
Coden: ESTHAG
ISSN: 0013-936X
Copyright Clearance Center Code: 0013-936X/86/0920-1257$01.50/0
Sort Key: 0000013936X19860002000012000000000001257
Accession Number: 2846456
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25512.000
Bestand: 1.1967=> L:11

Record 1123 of 1145 in INSPEC 1985-1989

Title: The Chernobyl reactor accident and the aquatic environment of the UK: a fisheries viewpoint
Author: Mitchell-NT; Camplin-WC; Leonard-DRP
Author Affiliation: Fisheries Lab. Minist. of Agric., Fisheries & Food, Lowestoft, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.6, no.4; Winter 1986; p.167-72
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The monitoring programme undertaken by the Directorate throughout the UK following the Chernobyl reactor accident is described. The results of sampling and analysis of fish, shellfish, seaweed and other materials are discussed. Chernobyl fallout was readily detected in all sectors of the aquatic environment, particularly during May when the highest concentrations were observed. An assessment of the radiological impact of the fallout shows that freshwater fish were the most important source of individual (critical group) exposure though, based on cautious assumptions, the effective dose equivalent is around 1 mSv in a year. The collective effective dose equivalent commitment from Chernobyl due to aquatic ingestion pathways, predominantly marine fish, is estimated to be 30 man Sv.
Number of References: 5
Descriptors: accidents-; dosimetry-; fallout-; radiation-monitoring; radioactive-pollution; water-pollution
Identifiers: monitoring-programme; UK-; Chernobyl-reactor-accident; fish-; shellfish-; seaweed-; fallout-; aquatic-environment; effective-dose-equivalent; 1-mSv
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A28; A86; A87; A93; A2

Treatment Codes: G (General-or-Review)
Numerical Data Indexing: radiation dose equivalent 1.0E-03 Sv
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 00002602814198600006000040000000000000167
Accession Number: 2845186
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000
Bestand: 1.1981-7.1987 L:1

Record 1124 of 1145 in INSPEC 1985-1989

Title: Fallout from Chernobyl
Author: Clark-MJ
Author Affiliation: Nat. Radiol. Protection Board, Didcot, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.6, no.4; Winter 1986; p.157-66
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The impact of the Chernobyl incident on the UK is reviewed, with a brief chronology of events and a description of some of the operational problems that arose. The passage of the cloud over the British Isles during 2nd-4th May is described with special emphasis on the elevated deposition of radionuclides caused by rainfall. The use of Derived Emergency Reference Levels during the incident is considered, along with various matters of public concern which surfaced in the aftermath of the incident. Finally some lessons are drawn from this event.
Number of References: 21
Descriptors: accidents-; dosimetry-; fallout-; radiation-monitoring; radioactive-pollution
Identifiers: fallout-; Chernobyl-; UK-; radionuclides-; rainfall-; Derived-Emergency-Reference-Levels
Classification Codes: A2880C (Dosimetry); A2880F (Radiation-monitoring-and-radiation-protection); A8670 (Environmental-science); A8760M (Radiation-dosimetry); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9330G (Europe); A28; A86; A87; A93; A2
Treatment Codes: G (General-or-Review)
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 00002602814198600006000040000000000000157
Accession Number: 2845185
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000
Bestand: 1.1981-7.1987 L:1

Record 1125 of 1145 in INSPEC 1985-1989

Title: Mobilization of existing robotic and teleoperated mobile vehicles to mitigate the consequences of radiological emergencies; a TMI-2 reality and a Chernobyl scenario
Author: Meieran-HB
Author Affiliation: H.B. Meieran Associates, Pittsburgh, PA, USA
Source: Transactions-of-the-American-Nuclear-Society. vol.53; 1986; p.69-70
Publication Year: 1986
Record Type: Conference-Paper; Journal-article
Conference Details: 1986 Winter Meeting of the American Nuclear Society. 16-20 Nov. 1986; Washington, DC, USA
Country of Publication: USA
Language: English
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations; radiation-protection; robots-
Identifiers: robotic-vehicles; accidents-; nuclear-power-plants; teleoperated-mobile-vehicles; radiological-emergencies; TMI-2-reality; Chernobyl-scenario
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); B8220 (Nuclear-power-stations-and-plants); C3390 (Robotics); A28; B82; C33; A2
Treatment Codes: P (Practical)
Coden: TANSAO
ISSN: 0003-018X
Sort Key: 0000003018X19860005300000000000000000069
Accession Number: 2840983
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08127.010
Bestand: 1.1958=> L:8

Record 1126 of 1145 in INSPEC 1985-1989

Title: Reflections on Chernobyl
Author: Weinberg-M
Author Affiliation: Inst. for Energy Anal., Oak Ridge Associated Univ., TN, USA
Source: Nuclear-Materials-Management. vol.15procissue; 1986; p.20-3
Publication Year: 1986
Record Type: Conference-Paper; Journal-article
Conference Details: INMM 1986 Annual Meeting. 22-25 June 1986; New Orleans, LA, USA
Country of Publication: USA
Language: English
Abstract: Chernobyl and Three Mile Island are revealing some of the social costs of nuclear accidents. These costs can hardly be estimated by probabilistic risk assessment,

especially since they depend very much upon the cultural and political environment of the country in which the accident occurs.
Number of References: 0
Descriptors: nuclear-power
Identifiers: Chernobyl-; social-costs; nuclear-accidents; probabilistic-risk-assessment; cultural-; political-environment
Classification Codes: A8610N (Nuclear-energy); A86; A8
Treatment Codes: G (General-or-Review)
Coden: NUMMB8
ISSN: 0362-0034
Sort Key: 00003620034198600015000000000000000020
Accession Number: 2838679
Update Code: 8700

Record 1127 of 1145 in INSPEC 1985-1989

Title: First lessons from Chernobyl in Western Europe and France
Author: Tanguy-P
Author Affiliation: Electricite de France, Paris, France
Source: Nuclear-Europe. vol.6, no.11; Nov. 1986; p.19-22
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The author summarizes the safety lessons which can be learned from Chernobyl and which are relevant to nuclear power plants in Western Europe, with special reference to the French plants he is familiar with. He makes extensive use of the report prepared for the Director General of the IAEA by the International Nuclear Safety Advisory Group (INSAG) during the week following the Vienna Post-Accident Review Meeting.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: Chernobyl-; Western-Europe; France-; safety-lessons
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: G (General-or-Review)
Coden: NUEUDS
ISSN: 0254-8348
Sort Key: 00002548348198600006000110000000000000019
Accession Number: 2836082
Update Code: 8700

Record 1128 of 1145 in INSPEC 1985-1989

Title: Evaluation of Soviet information on Chernobyl
Author: Gittus-JH
Author Affiliation: UKAEA, Warrington, UK
Source: Nuclear-Europe. vol.6, no.11; Nov. 1986; p.18-19
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: The events leading up to, and actions following, the accident at Chernobyl-4 have been greatly clarified by the information provided by the Soviets at the IAEA Experts' Meeting in Vienna. There is still much work to be done to understand the detailed phenomenological development of the accident, but a broad brush picture of the accident can now be painted with some confidence.
Number of References: 2
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: Soviet-information; Chernobyl-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: G (General-or-Review)
Coden: NUEUDS
ISSN: 0254-8348
Sort Key: 00002548348198600006000110000000000000018
Accession Number: 2836081
Update Code: 8700

Record 1129 of 1145 in INSPEC 1985-1989

Title: How the fallout from Chernobyl was detected and measured in the Nordic countries
Author: Devell-L; Aarkrog-A; Blomqvist-L; Magnusson-S; Tveten-U
Author Affiliation: Studsvik Energiteknik AB, Sweden
Source: Nuclear-Europe. vol.6, no.11; Nov. 1986; p.16-17
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Number of References: 0
Descriptors: accidents-; fallout-; fission-reactor-safety; nuclear-power-stations; radiation-detection-and-measurement; radiation-monitoring
Identifiers: fallout-; Chernobyl-; detected-; measured-; Nordic-countries
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: X (Experimental)
Coden: NUEUDS

ISSN: 0254-8348
Sort Key: 00002548348198600006000110000000000000016
Accession Number: 2836080
Update Code: 8700

Record 1130 of 1145 in INSPEC 1985-1989

Title: The radiation impact of Chernobyl in Western Europe
Author: Waddington-JI
Author Affiliation: Environ. Health Service, World Health Organ. Regional Office for Europe, Copehagen, Denmark
Source: Nuclear-Europe. vol.6, no.11; Nov. 1986; p.11-12
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: During the last two decades in Western Europe, there has been a pronounced movement, which has been reflected in the political arena, toward public discussion of environmental issues and a demand that governments should pursue policies which take environmental issues fully into account. Perhaps partly because the first large-scale utilization of nuclear power was as a weapon of war with an unprecedented propensity for death and destruction, the public perceptions of the risks of radiation have been at or near the top of the pyramid of potential environmental hazards. The Chernobyl accident in April 1986 has undoubtedly had an extremely traumatic effect on public opinion and it remains to be seen to what extent this will have an impact on the political acceptability of particular energy options during the next few years. Certainly, the international community has lost no time in endeavoring to strengthen safeguards and to make sure that the lessons learned are fully understood.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power; nuclear-power-stations; radiation-protection
Identifiers: radiation-impact; Chernobyl-; Western-Europe; environmental-issues; safeguards-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2846 (Nuclear-materials-safety-aspects); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A8610N (Nuclear-energy); B8220B (Nuclear-reactors); A28; A86; B82; A2
Treatment Codes: G (General-or-Review)
Coden: NUEUDS
ISSN: 0254-8348
Sort Key: 00002548348198600006000110000000000000011
Accession Number: 2836079
Update Code: 8700

Record 1131 of 1145 in INSPEC 1985-1989

Title: Nuclear safety after Chernobyl
Author: Blix-H
Author Affiliation: IAEA, Vienna, Austria
Source: Nuclear-Europe. vol.6, no.11; Nov. 1986; p.9-11
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Abstract: Seven years after the Three Mile Island accident, nuclear power had begun to accumulate a substantial capital of confidence. The facts that no person was injured at TMI and that there were no significant radioactive releases connected with the accident were beginning to stand out in people's memory. Although the international nuclear scene was very heterogeneous, there were increasing hopes for a nuclear comeback. The Chernobyl accident has changed all this and has again raised the question of acceptability in several countries. Nobody will dissent from the proposition that nuclear energy poses significant challenges to man to ensure that the genie that he unleashed with the discovery of fission does not become his master rather than his servant. While the 50000 or so nuclear warheads constitute the major threat to mankind, we do not-especially these days-ignore the fact that an accident in a peaceful nuclear power plant can have disastrous consequences. The technical, scientific and political questions that the Chernobyl accident raised must be faced and answered squarely, and shortcomings must be remedied and be seen to be remedied.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power; nuclear-power-stations
Identifiers: Chernobyl-; nuclear-energy; accident-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A8610N (Nuclear-energy); B8220B (Nuclear-reactors); A28; A86; B82; A2
Treatment Codes: G (General-or-Review)
Coden: NUEUDS
ISSN: 0254-8348
Sort Key: 0000254834819860000600011000000000000009
Accession Number: 2836078
Update Code: 8700

Record 1132 of 1145 in INSPEC 1985-1989

Title: The Chernobyl Incident and a comparison between the Chernobyl and Daya Bay power station designs
Author: Littlewood-PA
Author Affiliation: Project Dept., Guangdon Nucl. Power Joint Venture Co. Ltd., Hong Kong
Source: Hong-Kong-Engineer. vol.14, no.9; Sept. 1986; p.45-50

Publication Year: 1986
Record Type: Journal-article
Country of Publication: Hong Kong
Language: English
Abstract: The incident in April 1986 at Chernobyl in Russia was probably the most severe in the history of nuclear power generation and has caused world-wide concern. This concern has been particularly prominent in Hong Kong in view of the project which is under way at Daya Bay, in the people's Republic of China some 50 km from urban Hong Kong. The author summarises the design of the system used at Chernobyl; sets out the likely causes of the incident there and makes a comparison with the plant to be used at Daya Bay.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; nuclear-power-stations
Identifiers: RBMK-; BWR-; USSR-; Daya-Bay-power-station; nuclear-power-generation
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); B8220 (Nuclear-power-stations-and-plants); A28; B82; A2
Treatment Codes: P (Practical)
Coden: HKOEDU
ISSN: 0378-8776
Sort Key: 0000378877619860001400009000000000000045
Accession Number: 2818023
Update Code: 8700

Record 1133 of 1145 in INSPEC 1985-1989

Title: Chernobyl: safety design comparisons with Ontario Hydro reactors
Author: Morison-WG
Author Affiliation: Ontario Hydro, Toronto, Ont., Canada
Source: 26th Annual Conference of the Canadian Nuclear Association 'Innovation Leads the Way'. Proceedings. Canadian Nucl. Assoc, Toronto, Ont., Canada; 1986; vi+322 pp. p.290-308
Publication Year: 1986
Record Type: Conference-Paper
Conference Details: 8-10 June 1986; Toronto, Ont., Canada
Country of Publication: Canada
Language: English
Abstract: The author compares the safety related features of Chernobyl-type reactors to those of CANDU design. The Chernobyl reactor features related to safety are very different from those in CANDU reactors.
Number of References: 0
Descriptors: accidents-; fission-reactor-safety; fission-reactor-theory-and-design
Identifiers: CANDU-; RBMK-; fission-reactor-safety; Chernobyl-reactor

Classification Codes: A2841 (Fission-reactor-theory-and-design); A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2850J (Heavy-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: P (Practical)
Sort Key: 1000000000019860000000000000000000000290
Accession Number: 2804449
Update Code: 8700

Record 1134 of 1145 in INSPEC 1985-1989

Title: Monitoring the radiation consequences due to the disaster at the Chernobyl nuclear facility from April 28 to June 12 1986 (Preliminary report)
Author: Andrasi-A; Beleznay-E; Deme-S; Feher-I; Koblinger-L; Lancsarics-Gy; Lang-E; Lorinc-M; Nagy-Gy; Nemeth-I; Sagi-L; Szabo-PP; Tokai-G; Zombori-P
Source: Hungarian Acad. Sci., Budapest, Hungary, 1986; 43 pp.
Publication Year: 1986
Record Type: Report
Country of Publication: Hungary
Language: English
Abstract: This report presents data on radiation conditions which occurred due to the disaster at the Chernobyl nuclear facility. Measurements were carried out by the Health Physics Department of the Central Research Institute for Physics in cooperation with the Hungarian Civil Defence Organization from April 28 to June 12, 1986 in Hungary. Measurements were taken on air and ground contamination, on activities of /sup 131/I in thyroid and of /sup 103/Ru in lung as well as on whole body activities of /sup 137/Cs and /sup 134/Cs. An in-depth analysis and dosimetric evaluation of data, considered to be preliminary in the present report, are in progress.
Number of References: 17
Descriptors: air-pollution-detection-and-control; radiation-monitoring
Identifiers: radiation-conditions; Chernobyl-nuclear-facility; April-28-to-June-12; Hungary-; air-; ground-contamination; thyroid-; lung-; whole-body-activities; dosimetric-evaluation; 131I-; 103Ru-; 137Cs-; 134Cs-
Classification Codes: A0130Q (Reports-dissertations-theses); A2880F (Radiation-monitoring-and-radiation-protection); A8670C (Soil-and-rock); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A01; A28; A86; A87; A0; A2; A8
Treatment Codes: X (Experimental)
Chemical Indexing: I-el; Ru-el; Cs-el; Cs-el
Report Numbers: KFKI-1986-49/K
Sort Key: 3KFKI198649K19860000000000000000000000000
Accession Number: 2789367
Update Code: 8700

Record 1135 of 1145 in INSPEC 1985-1989

Title: A preliminary assessment of individual doses in the environs of Berkeley, Gloucestershire, following the Chernobyl nuclear reactor accident
Author: Nair-S; Darley-PJ
Author Affiliation: Berkeley Nucl. Labs., CEGB, Berkeley, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.6, no.3; Autumn 1986; p.101-8
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: A preliminary assessment has been made of the individual doses to critical group members of the public in the environs of Berkeley, Gloucestershire, arising from fallout resulting from the Chernobyl nuclear reactor accident. The assessment was based on measurements of airborne radionuclide concentrations, ground deposition and nuclide concentrations in rainwater, tapwater, grass, milk and green vegetables. The committed effective dose-equivalent was found to be 200 mu Sv for an adult, and 500 mu Sv for a 1 year old child; the 10 year old child receiving a dose intermediate between these two values. The estimate accounts only for the nuclides measured and the specific exposure routes considered namely ingestion of milk and vegetables, inhalation and external exposure. However, it is believed that the inclusion of a range of other nuclides of potential significance, which may have been present but not measured, and potential intakes from additional routes is unlikely to increase the above estimates by more than a factor of 2.
Number of References: 13
Descriptors: accidents-; dosimetry-; fission-reactor-safety
Identifiers: individual-doses; critical-group-members; Berkeley-; fallout-; Chernobyl-nuclear-reactor-accident; airborne-radionuclide-concentrations; ground-deposition; nuclide-concentrations; rainwater-; tapwater-; grass-; milk-; green-vegetables; committed-effective-dose-equivalent; adult-; child-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A28; A87; A2
Treatment Codes: P (Practical); X (Experimental)
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 0000260281419860000600003000000000000101
Accession Number: 2775535
Update Code: 8700
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000
Bestand: 1.1981-7.1987 L:1

Record 1136 of 1145 in INSPEC 1985-1989

Title: The puzzle of Chernobyl

Author: Fischetti-MA
Source: IEEE-Spectrum. vol.23, no.7; July 1986; p.34-41
Publication Year: 1986
Record Type: Journal-article
Country of Publication: USA
Language: English
Abstract: A review of the explosion at the Soviet Chernobyl nuclear reactor is presented. A chronology of the accident is pieced together. Two hypotheses for the accident are proposed and discussed. The scenarios note that the accident occurred in an inherently hazardous type of reactor, little used in any country but the Soviet Union. The author maps the released radiation plume and evaluated the health risks. It is noted that so far there is little precise knowledge of the long-range health damage from radioactive iodine, cesium, and other products released by the Chernobyl meltdown. Improvements in international emergency notification procedures are called for.
Number of References: 0
Descriptors: accidents-; explosions-; fission-reactor-safety; health-hazards; nuclear-power-stations; radiation-protection
Identifiers: Chernobyl-nuclear-power-station; explosion-; nuclear-reactor; accident-; radiation-plume; health-risks; meltdown-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2850G (Light-water-reactors); A2880F (Radiation-monitoring-and-radiation-protection); A8760P (Radiation-protection); B7530B (Radiation-protection-and-dosimetry); B8220B (Nuclear-reactors); A28; A87; B75; B82; A2
Treatment Codes: G (General-or-Review)
Coden: IEESAM
ISSN: 0018-9235
Copyright Clearance Center Code: 0018-9235/86/0700-0034$01.00
Sort Key: 0000018923519860002300007000000000000034
Accession Number: 2768852
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25625.000
Bestand: 5.1968=> L:18,32

Record 1137 of 1145 in INSPEC 1985-1989

Title: An initial assessment of the Chernobyl-4 reactor accident release source
Author: ApSimon-HM; Macdonald-HF; Wilson-JJN
Author Affiliation: Dept. of Mech. Eng., Imperial College, London, UK
Source: Journal-of-the-Society-for-Radiological-Protection. vol.6, no.3; Autumn 1986; p.109-19
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English

Abstract: The long-range atmospheric dispersion model MESOS has been used to provide a preliminary evaluation of the distribution over Western Europe of radioactivity released during the accident which occurred at the Chernobyl-4 reactor in the USSR in April 1986. The results of this analysis have been compared with observations during the first week or so following the accident of airborne contamination levels at a range of locations across Europe in order to obtain an estimate of the accident release source. The work presented here was performed during the 6-8 weeks following the accident and the results obtained will be subject to refinement as more detailed data become available. However, at this early stage they indicate a release source for the Chernobyl accident, expressed as a fraction of the estimated reactor core inventory, of approximately 15-20% of the iodine, tellurium and caesium isotopes, approximately 1% of the ruthenium and lesser amounts of the other fission products and actinides, together with an implied major fraction of the krypton and xenon noble gases.
Number of References: 15
Descriptors: accidents-; dosimetry-; fission-reactor-safety
Identifiers: accident-release-source; long-range-atmospheric-dispersion-model; MESOS-; Western-Europe; radioactivity-; Chernobyl-4-reactor; contamination-levels; estimated-reactor-core-inventory; fission-products; actinides-; noble-gases
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8760M (Radiation-dosimetry); A28; A87; A2
Treatment Codes: P (Practical); T (Theoretical-or-Mathematical)
Coden: JSRPDK
ISSN: 0260-2814
Sort Key: 00002602814198600006000030000000000000109
Accession Number: 2767118
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 25978.000
Bestand: 1.1981-7.1987 L:1

Record 1138 of 1145 in INSPEC 1985-1989

Title: Radiation measurements in Germany resulting from the Chernobyl accident
Author: Hennies-HH
Author Affiliation: Karlsruhe Nucl. Res. Center, West Germany
Source: Nuclear-Europe. vol.6, no.7-8; July-Aug. 1986; p.22-5
Publication Year: 1986
Record Type: Journal-article
Country of Publication: Switzerland
Language: English
Number of References: 0
Descriptors: air-pollution-detection-and-control; radiation-monitoring; radioactivity-measurement
Identifiers: Germany-; Chernobyl-accident

Classification Codes: A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A28; A86; A87; A2; A8
Treatment Codes: P (Practical)
Coden: NUEUDS
ISSN: 0254-8348
Sort Key: 0000254834819860000600007000000000000022
Accession Number: 2754253
Update Code: 8600

Record 1139 of 1145 in INSPEC 1985-1989

Title: A preliminary assessment of the consequences for inhabitants of the UK of the Chernobyl accident
Author: Baverstock-KF
Author Affiliation: MRC Radiobiol. Unit., Chilton, Didcot, UK
Source: International-Journal-of-Radiation-Biology. vol.50, no.1; July 1986; p.III-XIII
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The accident with the nuclear power reactor at Chernobyl in the USSR resulted in the release of substantial quantities of radioactive material and subsequent increases in radioactivity in the environment in many countries. In this paper the situation in the UK is considered and, from the preliminary monitoring measurements, the major routes of exposure of the population are identified and quantified. For the most part exposures of the population are identified and quantified. For the most part exposures in the UK are within variations in levels of natural background radiation to be found in Europe. An exception is the dose likely to have been received by the thyroids of young people in the north of the UK. From reported measurements of I-131 in milk it is predicted that thyroid doses up to 10-20 times the annual doses received from 'normal' natural background radiation might have affected young children drinking fresh cows' milk. The ways in which this component of exposure could have been reduced and the criteria that govern decisions as to whether or not to implement countermeasures are discussed. The importance of I-131 milk as a route of exposure of the population to radioactivity is a feature that the Chernobyl accident has in common with the Windscale accident in the UK in 1957, and underlines the importance of milk-producing regions in relation to reactor-siting policy.
Number of References: 18
Descriptors: accidents-; fission-reactor-safety; health-hazards
Identifiers: UK-inhabitants; thyroid-dose; thyroid-cancer; 131I-in-milk; fission-products; radioactive-material-release; nuclear-reactor-accident; Chernobyl-accident; USSR-; natural-background-radiation

Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: IJRBA3
ISSN: 0020-7616
Sort Key: 00000207616198600050000010000000000000000
Accession Number: 2731789
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08599.001
Bestand: 54.1988=>

Record 1140 of 1145 in INSPEC 1985-1989

Title: Iodine-131 in human thyroids in Britain following Chernobyl
Author: Hill-CR; Adam-I; Anderson-W; Ott-RJ; Sowby-FD
Author Affiliation: Inst. of Cancer Res., R. Marsden Hospital, Surrey, UK
Source: Nature. vol.321, no.6071; 12 June 1986; p.655-6
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: On 2 May 1986 raised atmospheric levels of radioactive material were detected in the southern United Kingdom, apparently due to the Chernobyl reactor accident. Some activity persisted subsequently, but at a level considerably lower than the initial peak. One of the most serious consequences believed to result from the accidental release of fission products from irradiated fuel is irradiation of the thyroid gland by /sup 131/I. Thus, particularly because a substantial component of the radioactivity detected was identified as /sup 131/I, the authors felt it desirable to carry out some direct measurements of /sup 131/I in human thyroids. Between 10 May and 22 May they carried out a series of measurements on the thyroids of adults and children resident in the southern United Kingdom (predominantly south London) during the period of exposure. Measurements were taken in a chalk-shielded room with a low radiation background, using a high purity germanium detector, collimated to be sensitive mainly to the thyroid region and with an overall counting efficiency for /sup 131/I of 0.27%.
Number of References: 9
Descriptors: accidents-; health-hazards; iodine-; pollution-; radioisotopes-
Identifiers: 131I-in-human-thyroids; radioisotope-pollution; Britain-; southern-United-Kingdom; Chernobyl-reactor-accident
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A8760R (Radioactive-pollution); A28; A87; A2; A8
Treatment Codes: X (Experimental)
Coden: NATUAS
ISSN: 0028-0836
Sort Key: 00000280836198600321060710000000000000655

Accession Number: 2725555
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 1141 of 1145 in INSPEC 1985-1989

Title: Early estimates of UK radiation doses from the Chernobyl reactor
Author: Fry-FA; Clarke-RH; O'Riordan-MC
Author Affiliation: Nat. Radiolog. Protection Board, Didcot, UK
Source: Nature. vol.321, no.6067; 15 May 1986; p.193-5
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The plume of radioactive material from the Chernobyl reactor accident passed over the United Kingdom and will increase the radiation dose to the population in the coming year. The increase above the normal annual dose from natural radiation, averaged over persons of all ages, will be about 15% in the north and 1% in the south of the country. Averaged over all ages and areas, the increase will be about 4%. This excess dose will decrease substantially in subsequent years.
Number of References: 10
Descriptors: accidents-; air-pollution; dosimetry-; fallout-; fission-reactor-safety; health-hazards
Identifiers: atmosphere-; radioactivity-; air-pollution; England-; Scotland-; Wales-; fallout-; USSR-; Ukraine-; nuclear-reactor-accident; AD-1986; UK-radiation-doses; Chernobyl-; United-Kingdom
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880C (Dosimetry); A8670G (Atmosphere); A8760M (Radiation-dosimetry); A8760R (Radioactive-pollution); A9330G (Europe); A9330K (Islands); A28; A86; A87; A93; A2
Treatment Codes: X (Experimental)
Coden: NATUAS
ISSN: 0028-0836
Sort Key: 00000280836198600321060670000000000000193
Accession Number: 2701302
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 1142 of 1145 in INSPEC 1985-1989

Title: Initial observations of fallout from the reactor accident at Chernobyl
Author: Devell-L; Tovedal-H; Bergstrom-U; Applegren-A; Chyssler-J; Andersson-L

Author Affiliation: Studsvik Energiteknik AB, Nykoping, Sweden
Source: Nature. vol.321, no.6067; 15 May 1986; p.192-3
Publication Year: 1986
Record Type: Journal-article
Country of Publication: UK
Language: English
Abstract: The fallout from the nuclear reactor accident at Chernobyl has been monitored at Studsvik, the Swedish energy research station located 75 km south of Stockholm. The authors present initial results of several different types of measurement. Gamma-ray spectrometry of samples of air, grass and milk reveals sixteen different nuclides, mainly volatile fission products. Radioactive particles up to approximately 1 mu m in diameter have been collected and analysed by electron microscopy; their form and composition lead to an estimate of approximately 2500 degrees C for the temperature in at least part of the reactor core. The level of radioactivity in air has decreased from initial values of a few becquerels (disintegrations per s) per m/sup 3/, to very low values, and the activity level on grass is also decreasing due to decay and weathering. The radiation doses due to the fallout will be small compared with those from natural sources.
Number of References: 3
Descriptors: accidents-; air-pollution; atmospheric-radioactivity; fallout-; fission-reactor-safety; health-hazards; radiation-monitoring; radioisotopes-
Identifiers: atmosphere-; radioactivity-; air-pollution; USSR-; Sweden-; agriculture-; Ukraine-; I-; Te-; 131I-; AD-1986-04; Cs-isotope; AD-1986-05; fallout-; Chernobyl-; nuclear-reactor-accident; Studsvik-; grass-; milk-; fission-products; particles-
Classification Codes: A2844 (Fission-reactor-protection-systems-safety-and-accidents); A2880F (Radiation-monitoring-and-radiation-protection); A8670G (Atmosphere); A8760P (Radiation-protection); A8760R (Radioactive-pollution); A9260T (Air-quality-and-air-pollution); A9330G (Europe); A28; A86; A87; A92; A93; A2
Treatment Codes: X (Experimental)
Coden: NATUAS
ISSN: 0028-0836
Sort Key: 0000028083619860032106067000000000000192
Accession Number: 2701301
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 00832.000
Bestand: 17.1878=> L:95,96,145,147,149,151 N:153

Record 1143 of 1145 in INSPEC 1985-1989

Title: Tests on improved steam separators in the third unit at the Chernobyl nuclear power station
Author: Novosel'skii-OYu; Karasev-VB; Sakovich-EV; Lyutov-MA; An'kov-VI
Source: Soviet-Atomic-Energy. vol.57, no.6; Dec. 1984; p.807-11
Translated from: Atomnaya-Energiya. vol.57, no.6; Dec. 1984; p.382-5
Publication Year: 1984

Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Improved separator drums have been tested at the Chernobyl nuclear power station with its RBMK-1000 reactors, these differing from those used at Leningrad power station and the first units at Kursk and Chernobyl power stations in having a larger internal diameter (2600 instead of 2300 mm) and a different design for the internal devices.
Number of References: 3
Descriptors: fission-reactor-theory-and-design
Identifiers: steam-separators; Chernobyl-nuclear-power-station; RBMK-1000-reactors
Classification Codes: A2841 (Fission-reactor-theory-and-design); A2850G (Light-water-reactors); B8220B (Nuclear-reactors); A28; B82; A2
Treatment Codes: X (Experimental)
Coden: AENGAB; Translation: SATEAZ
ISSN: 0004-7163; Translation: 0038-531X
Copyright Clearance Center Code: 0038-531X/84/5706-0807$08.50
Sort Key: 00000047163198400057000060000000000000382
Accession Number: 2575670
Update Code: 8600
LIBRARY HOLDINGS MESSAGE: ZB f. Physik Wien, Signatur: 08403.000
Bestand: 1.1956-53.1982

Record 1144 of 1145 in INSPEC 1980-1984

Title: Operation of the evaporator in the K-500-65/3000 turbine plant at Chernobyl' nuclear power station
Author: Golubev-EK; Glazov-EE; Plokhii-TG; Bronnikov-VK; Vakulenko-BF; Mikhailov-VS
Source: Thermal-Engineering. vol.29, no.11; Nov. 1982; p.640
Translated from: Teploenergetika. vol.29, no.11; Nov. 1982; p.32-5
Publication Year: 1982
Record Type: Journal-article
Country of Publication: USSR; Translation: UK
Language: English
Abstract: Radioactive substances may pass from the water of the drum-separator of the steam generator of a nuclear power plant (NP plant) into the saturated steam due to dropwise carry-over of water, evolution of radioactive gases, and due to solubility of impurities in the steam. With damage to fuel elements in single-loop NP stations various radioactive gases, volatile elements and stable isotopes enter the coolant and then the steam. Leakage of steam through the end glands of the turbines and through steam valve glands leads to radioactivity in the turbine hall. At Chernobyl' NPS, as well as at Leningrad, Kursk and other NP stations where RBMK-1000 reactors are installed, the K-500-

65/3000 plants have evaporators which are sources of pure steam of low radioactivity for the sealing steam of the turbine plants.
Number of References: 0
Descriptors: evaporation-; nuclear-power-stations; steam-turbines
Identifiers: evaporator-; K-500-653000-turbine-plant; drum-separator; steam-generator; nuclear-power-plant; saturated-steam; fuel-elements; radioactivity-; turbine-hall; sealing-steam
Classification Codes: B8220 (Nuclear-power-stations-and-plants); B82; B8
Treatment Codes: P (Practical)
Coden: TPLOA5; Translation: THENAD
ISSN: 0131-7067; Translation: 0040-6015
Sort Key: 00001317067198200029000110000000000000032
Accession Number: 2163166
Update Code: 8400

Record 1145 of 1145 in INSPEC 1980-1984

Title: Experience in assimilating the design capacity of the first line of the Chernobyl nuclear power plant
Author: Akinfiev-VP; Gellerman-AD; Bronnikov-VK
Source: Soviet-Power-Engineering. vol.9, no.2; Feb. 1980; p.119-27
Translated from: Elektricheskie-Stantsii. vol.9, no.2; Feb. 1980; p.7-10
Publication Year: 1980
Record Type: Journal-article
Country of Publication: USSR; Translation: USA
Language: English
Abstract: Discusses the BWR nuclear power plants (NPP) with RBMK-1000 reactors (channel high-power reactor) which are the base plants of the Soviet nuclear power. The Chernobyl power plant is the first industrial nuclear plant in the Ukraine. Two RBMK reactors of 1000 MW each are installed on the first line. The construction, assembly, adjustment, start-up of both units of the first line of the Chernobyl NPP were achieved by taking into consideration the precious experience accumulated during analogous work on the units of the Leningrad and Kursp NPP. The Chernobyl power plant has one circuit. The steam generated by the reactor and brought in a saturated state to the drum-separators, is led to the turbine blades. Such a design necessitates a very high quality of assembly and adjustment work and places not lesser requirements upon cleanliness of equipment and piping. The unit consists of RBMK-1000 reactor, two K-500-65/3000 turbines of the Kharkov turbine plant operating on saturated steam, and two TVV-500 generators of Leningrad Metal Plant (LMZ).
Number of References: 0
Descriptors: fission-reactor-operation; nuclear-power-stations
Identifiers: Chernobyl-; nuclear-power-plants; base-plants; Soviet-nuclear-power; Ukraine-; construction-; assembly-; adjustment-; experience-accumulated; saturated-steam; BWR-

; boiling-water-reactors; startup-; RBMK-1000-reactors; 1000-MW-reactors; channel-high-power-reactors

Classification Codes: A2843 (Fission-reactor-operation); A2850P (Nuclear-power-supplies); A28; A2
Treatment Codes: G (General-or-Review)
Coden: EKSTAP; Translation: SVPEAQ
ISSN: 0201-4564; Translation: 0049-1756
Sort Key: 00002014564198000009000020000000000000007
Accession Number: 1616901
Update Code: 8100