

RSIC Newsletter



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Formal education is but an incident in the lifetime of an individual. Most of us who have given the subject any study have come to realize that education is a continuous process ending only when ambition comes to a halt.—Col. R. I. Rees

EXPEDITING YOUR REQUEST THROUGH RSIC

Users often comment favorably on the turn-around time required to fill a request from RSIC. If requests include codes/data libraries, participants can benefit with reduced turn-around time by providing complete information and correct media necessary for filling a request. Include with your tape/diskettes a letter of request stating what you want (including version, if applicable), how your tape/s should be written, and a direct telephone number. If this information is absent, we must take time to call for clarification or use our system defaults, which may not conform to the requesters requirements. The system defaults are 6250 bpi, non-labelled, EBCDIC character set, and 6400 blocking. We strongly encourage using tapes written at 6250 bpi. If you do not know which version to request, it will help to let us know what computer system you use.

A list of packages that can be transmitted on diskettes is available upon request. It includes the number of diskettes required to transmit a code/data library. The user may wish to call and verify what will be required with a member of the staff. Unless indicated by the HD notation, the codes/data libraries are written on DS/DD diskettes. Please include labels and write protect tabs with your diskettes.

IF YOU CHANGE YOUR ADDRESS, please notify us (including Building and Room No. where needed). Third Class Mail is returned to us at our expense if the addressee has moved. If your mail is returned, your name will be deleted from our distributions until we hear from you.

WHY REGISTER?

Many have asked that question in the last three months, and now may be a good time to answer it. RSIC implemented the policy requiring users to register (before receiving services) to meet several goals. They are: to gather information with which to profile our users, to gather information to guide us in the acquisition of new radiation protection, shielding, and transport technology, to provide a means for our users to suggest or offer technology, and to impress upon our users how important a current address is for timely delivery of the *RSIC Newsletter*.

Part I of the form gives RSIC accurate information about addresses, sources of funding, organization types, and project areas, which provides the information necessary to ask for continued support from current sponsors and to approach new sponsors for support. This information also provides guidance for future acquisitions. Taken cumulatively, it indicates areas where RSIC's coverage might be broadened or concentrated.

Part II is for you, the user. This is where you tell us what you need, what tape format you prefer, and what you have to share with the radiation protection, shielding, and transport community through RSIC. Steps have already been taken to acquire technology suggested through this survey. Thanks to your suggestions RSIC is able to expand its technology base to the benefit of all users.

So take a few minutes; it will benefit you and RSIC.

RSIC Network Addresses

The *RSIC Newsletter* masthead will now include the RSIC network addresses for direct mail on the RSIC computer. The Bitnet address is PDC@ORNLSTC and the Internet address is PDC@EPIC.EPM.ORNL.GOV. It is now possible to reach RSIC through several channels, by letter, phone, Telex, Easylink, and Bitnet.

ORNL Detector Center Opens

Tony Gabriel, long-time RSIC contributor and supporter, was appointed Director and Hugh Brashear was appointed Deputy Director of the new Oak Ridge Detector Center (ORDC) at ORNL. The Center is to provide an interface between ORNL and outside collaborators in the area of detector research and development, particularly to support the efforts of the Department of Energy, several universities, private industry, and other laboratories in the design and construction of the Superconducting Super Collider (SSC). Several universities in the South and

the Southeast have formed the Southern Association for High Energy Physics (SAHEP) intending to become involved in the design and construction of the major detector system for the SSC. The ORDC was organized at the request of SAHEP to assist in that endeavor. Following several meetings with Professor Sam Ting and his collaborators about their proposed construction of a detector, called Lone Star, for the SSC, it appears that ORNL will play a significant role as a base location for the design and construction of Lone Star. In addition to these specific projects, the ORDC will also be involved in innovative R&D on new detector concepts for high energy physics and other areas important to ORNL programs.

CHANGE TO THE COMPUTER CODE COLLECTION

The long-awaited code system CAP-88, developed by the Environmental Protection Agency, was added to the computer code collection.

CCC-542/CAP-88

The EPA Office of Radiation Programs, Las Vegas, Nevada, contributed this code system for assessing dose and risk due to radionuclide emissions to the air in compliance with National Emission Standards for Hazardous Air Pollutants (NESHAPs) for radionuclides. Health impacts from inhalation, ingestion, air immersion, and ground surface irradiation pathways are estimated, and results for maximum exposure to individuals and regional populations up to 80 kilometers are tabulated. CAP-88 is an updated version of the CCC-476/CAAC package, which implemented radiological assess-

ment methodology used for the preparation of the EPA 1984 Background Information Documents on Radionuclides.

Atmospheric dispersion and deposition are calculated by AIRDOS2. DARTAB2 calculates dose and risk assessment tables from the binary output file produced by AIRDOS2 and a file of dose and risk factors calculated by RADRISK. Preprocessors (PREPAR2 and PREDA) access data bases of element and nuclide dependent data to simplify the execution of the principal programs. The system runs on IBM computers and compiles under OS/VS2 using the IBM VS compiler (Level 2.2.0). References: U.S. EPA Draft (Sept. 1989). FORTRAN 77; IBM 3090.

CONFERENCES, COURSES, SYMPOSIA

RSIC attempts to keep its users/contributors advised of conferences, courses, and symposia in the field of radiation protection, transport, and shielding through this section of the newsletter. Should you be involved in the planning/organization of such events, feel free to send your announcements and calls for papers to RSIC.

Mixed Waste Regulation Conference

The *Mixed Waste Regulation Conference*, presented by Executive Enterprises, Inc., will be held April 17-18, 1990, in Washington, D.C. A

faculty of experts has been chosen and the program has been planned to provide participants with an understanding of the nature and extent of mixed waste generation and management in the U.S. as well as what is being done at the regulatory and

technical levels to address this growing problem. The conference will help attendees understand federal and state mixed waste regulatory programs and plans, identify major regulatory problem areas and potential solutions, obtain permits to operate mixed waste treatment, storage and disposal facilities, and become aware of technological options for mixed waste minimization and management. Registration information may be obtained from Executive Enterprises, Inc., 22 West 21st St., New York, NY 10010-6904 (phone 1-800-831-8333).

Practical Radiation Shielding Course

Practical Radiation Shielding is a course offered by the Georgia Institute of Technology (Georgia Tech) intended for nuclear engineers, health physicists, and other professionals engaged in radiation control at nuclear facilities. The course is conducted by Georgia Tech and Shonka Research Associates, Inc., July 17–20, 1990, in Atlanta. The \$975 course fee includes the text, class notes, and public domain software. Course emphasis is on personal computer-based solutions to dose rate and shielding problems. The course includes training on (1) MICROSHIELD—interactive analysis of gamma ray sources including N-16, waste packages, shipping containers, etc.; (2) ISOSHLD—bremsstrahlung sources and spent fuel; (3) QAD—complex source and shield geometries simplified by combinatorial geometry; (4) ORIGEN—fission product, activation product, and actinide inventories; and (5) introduction to transport theory (ANISN), Monte Carlo, and scattering codes (G3). Further information may be obtained from Education Extension, Georgia Inst. of Technology, Atlanta, GA 30332-0385.

Transport Calculations Using EGS4

Radiation Transport Calculations Using EGS4 will be held September 24–27, 1990, in Ottawa, Canada. This four-day course discusses the simulation of coupled electron-photon transport using Monte Carlo techniques and provides an introduction to the use of the EGS4 code system. EGS4 is a general purpose system for doing these transport simulations for energies in the range 10 keV to 20 GeV. Daily lab sessions using VAX/VMS will emphasize hands-on experience. Applications will be discussed with emphasis on radiation dosimetry

and medical physics problems. Course lecturers are A. F. Bielajew, W. R. Nelson, and D.W.O. Rogers. Further information may be obtained from Alex F. Bielajew, Division of Physics, National Research Council of Canada, Ottawa, Canada K1A 0R6 (phone 613-993-2715, FAX 613-954-7708, E-mail BLIF@NRCVM01 on BITNET).

MARC-II: Call for Papers

The organizing committee has issued a preliminary call for papers for the *2nd International Conference on Methods and Applications of Radioanalytical Chemistry (MARC-II)*, to be held April 21–27, 1991, in Kona, Hawaii. Papers are solicited on the following tentative topics: Ultra Low Level Radioanalytical Methods, Activation Analysis and Its Applications, Nuclear Track Techniques, On-Site and In-Situ Analysis, Radiochemical Separation Techniques, Tracer Techniques and Their Applications, Radiochemical Methodology Applied to Radioactive Waste Disposal, Applications to Environmental, Biomedical, Geochemical, Material Science and Energy Related Problems, Radon Measurement and Environmental Behavior, and Environmental Radioactivity. The conference format includes both oral and poster sessions and all papers presented at the conference will be included in the conference proceedings. Summaries should be submitted no later than **October 1, 1990**, to Dr. James T. Tanner, Food and Drug Administration, 200 C St, SW, Mail Stop, HFF-266, Washington, DC 20204 USA.

Calendar

Your attention is directed to the following events of interest.

April 1990

Workshop on Statistics of Human Exposure to Ionizing Radiation, Apr. 2–4, 1990, Oxford, U.K., sponsored by the CEC, the U.S. Dept. of Energy, and the Atomic Energy Control Board. Contact: Dr. J. Sinnaeve, CEC, DG XII/D/3, Rue de la Loi 200, B-1049 Brussels, Belgium, or M. C. O'Riordan, Chilton, Didcot, Oxon OX11 0RQ, UK.

26th Annual Meeting of the National Council on Radiation Protection and Measurement, Health and Ecological Implications of Radioactively Contaminated Sites, Apr. 4-5, 1990, Washington, D.C. Contact: NCRP, 7910 Woodmont Ave., Suite 800, Bethesda, MD 20814.

International Conference for High-Level Radioactive Waste Management, April 8-12, 1990, Las Vegas, Nevada. Contact: Dean William Wells, Howard Hughes College of Engineering, UNLV, Las Vegas, NV 89154 (phone 702-739-3699).

3rd International Seminar on Finite Element and Allied Methods in Radiation Transport, Shielding, Reactor Physics and Geophysics Applications, Apr. 19-20, 1990, at the Imperial College of Science, Technology, and Medicine, in London. Contact: Prof. A.J.H. Goddard, Nuclear Power Section, Mechanical Engineering Department, Imperial College, London, SW7 2BX, U.K. (phone 01-589 5111 Ext. 6248/9, Fax 1 823 8845).

Radioactive Material Transportation Basic Workshop, Apr. 23-26, 1990, Albuquerque, N. M., sponsored by the U.S. Dept. of Energy. Contact: Teresa Yearwood, Science Applications International Corp., P.O. Box 2501, Oak Ridge, TN 37831 (phone 615-482-9031).

Physor '90, Apr. 23-26, 1990, Marseille, France. Contact: Yuri Orechwa, Engineering Physics Division, Bldg. 208, Argonne National Laboratory, 9700 S. Cass Ave., Argonne, IL 60439 USA.

15th Personnel Dosimetry Intercomparison Study, Apr. 23-27, 1990, Oak Ridge, Tennessee, sponsored by the Dosimetry Applications Research Group of Oak Ridge National Laboratory. Contact: C. S. Sims or W. H. Casson, ORNL, P.O. Box 2008, Oak Ridge, TN 37831-6379 (phone 615-574-5851; FTS 624-5851).

Respiratory Protection at Nuclear Facilities, a course offered Apr. 23-27, 1990, in Atlanta. Contact: Radiation Safety Assoc., Inc., P.O. Box 107, Hebron, CT 06248 (phone 203-228-0487).

May 1990

Radioactive Material Transportation Basic Workshop, May 7-10, 1990, Chicago, Ill., sponsored by the U.S. Dept. of Energy. Contact: Teresa Yearwood, Science Applications International Corp., P.O. Box 2501, Oak Ridge, TN 37831 (phone 615-482-9031).

International Symposium on Radiation Protection Infrastructure, May 7-11, 1990, Munich, Fed. Rep. of Germany, sponsored by the IAEA. Contact: Conference Service Section, IAEA, P.O. Box 100, A-1400, Vienna, Austria.

7th Symposium on Radiation Measurements and Applications, May 21-24, 1990, the University of Michigan, Ann Arbor. Contact: Helen Lum, Symposium Secretary, 3034 Phoenix Memorial Laboratory, The University of Michigan, Ann Arbor, MI 48109-2100 (phone 313-764-6214; Fax 313-763-4540).

June 1990

American Nuclear Society Annual Meeting, June 10-15, 1990, Nashville, Tennessee. Contact: Mary Keenan, Meetings Manager, ANS, 555 N. Kensington Ave., La Grange Park, IL 60525 (phone 312-352-6611).

15th Symposium on Effects of Radiation on Materials, June 17-21, 1990, Nashville, Tennessee, sponsored by the American Society for Testing and Materials. Contact: Conferences, ASTM, 1916 Race St., Philadelphia, PA 19103 (phone 215-299-5400).

17th European Conference on Controlled Fusion and Plasma Heating, June 25-29, 1990, Amsterdam, The Netherlands. Contact: F. C. Schuller, FOM-Instituut voor Plasmafysica "Rijhuizen," Postbus 1207, NL-3430 BE Nieuwegein.

July 1990

3rd International Workshop on Respiratory Tract Dosimetry, July 1-3, 1990, Albuquerque, N. M., sponsored by the U.S. Dept. of Energy, CEC, and the Inhalation Toxicology Research Institute. Contact: Raymond A. Guilmette,

Workshop Co-chairman, Inhalation Toxicology Research Inst., P.O. Box 5890, Albuquerque, NM 87185 (phone 505-844-5835).

51èmes Journées d'Etudes sur la Chimie sous Rayonnement, July 1-6, 1990, Sherbrooke, Québec. Contact: Jean-Paul Jay-Gerin, JECR-90, Département de médecine nucléaire et de radiobiologie, Faculté de médecine, Univ. de Sherbrooke, Sherbrooke, Québec, Canada J1H 5N4 (phone 819-563-5555, ext. 4682, Fax 819-564-5445; Bitnet S015@UDESVM). The conference language is French.

27th Annual International Nuclear and Space Radiation Effects Conference and Short Course, July 16-20, 1990, Reno, Nevada, sponsored by the Institute of Electrical and Electronics Engineers, Inc. Contact: Joseph R. Srour, Northrop Corp., M.S. X400/N5, 2301 West 120th St., P.O. Box 5032, Hawthorne, CA 90251-5032 (phone 213-600-4151).

3rd European Community Conference on Radioactive Waste Management and Disposal, July 17-21, 1990, Luxembourg, sponsored by the Commission of the European Communities. Contact: M. L. Cecille, CEC, DG XII/D-2, Rue de la Loi 200, B-1-49, Brussels, Belgium.

August 1990

International Topical Meeting on Fast Reactor Safety, Aug. 12-16, 1990, Snowbird, Utah, sponsored by the ANS. Contact: Wayne K. Letho, Argonne National Laboratory, P.O. Box 2528, Idaho Falls, ID 83403-2528 (phone 208-526-7369).

Operational Radiation Protection, Aug. 20-22, 1990, Idaho Falls, Idaho, sponsored by the ANS. Contact: Jack Liebenthal, EG&G Idaho, Inc., P.O. Box 1625, Idaho Falls, ID 83415-3515 (phone 208-526-1252).

7th ASTM-EURATOM Symposium on Reactor Dosimetry, Aug. 27-31, 1990, Strasbourg, France. Contact: G. Tsotridis, Joint Research Centre, Petten Establishment, HFR Div., Postbus 2, NL-1755 ZG, Petten, The Netherlands (phone 02246 5122, Telex REACP NL 57211, Fax

02246 1449) or G. P. Lamaze, National Inst. of Standards and Technology, Bldg. 235, Gaithersburg, MD 20899 USA (phone 301-975-6202, Telex 197 674 NBS UT, Fax 301-921-9847).

September 1990

16th Symposium on Fusion Technology, Sept. 3-7, 1990, London. Contact: JET Joint Undertaking, Conference Office, Abingdon, Oxon, OX14 3EA, United Kingdom.

Radioactive Materials Transportation Basic Workshop, Sept. 10-13, 1990, Kennewick, Washington. Contact: Teresa Yearwood, SAIC, P.O. Box 2501, Oak Ridge, TN 37831 (phone 615-482-9031).

Symposium on ALARA: Ionizing Radiation Levels in the Nuclear Industry, Sept. 21, 1990, London. Contact: M. S. Blackburn, Inst. of Nuclear Engineering, Allan House, 1 Penerley Road, London SE6 2LQ, UK (phone 44 1-698-1500).

ENC'90, The World Conference and Exhibition, Looking Into Nuclear's Future in the 21st Century, Sept. 23-28, 1990, Geneva, Switzerland, organized by the European Nuclear Society in collaboration with the American Nuclear Society and the European Atomic Forum, Foratom. Contact: ENC '90 Secretariat, c/o ENS, P.O. Box 5032, CH-3001 Berne, Switzerland.

23rd Annual Meeting for the European Society for Radiation, Sept. 23-28, 1990, Dublin, Ireland. Contact: Dr. C. Seymour, Nuclear Energy Board, Geological Survey Office, Beggars Bush, Dublin 4, Ireland.

Symposium on Recent Advances in Multidisciplinary Analysis and Optimization, Sept. 24-26, 1990, San Francisco, sponsored by the U.S. Air Force and NASA. Contact: V. B. Venkayya, WRDC-FIBRA, WPAFB, OH 45433-6553 (phone 513-255-7191 or 513-255-6992).

Radiation Transport Calculations Using EGS4: A Four-Day Hands-on Course, Sept. 24-27, 1990, Ottawa, Canada. Contact: Dr. A. F. Bielajew, Div. of Physics, National Research Council of Canada, Ottawa, Canada, K1A 0R6 (phone 613-

993-2715, Bitnet BLF@NRCVM01).

International Conference on Monte Carlo Methods for Neutron and Photon Transport Calculations, Sept. 25–28, 1990, Budapest, Hungary. Contact: Dr. Lázló Koblinger, Central Research Inst. for Physics, P.O. Box 49, H-1525 Budapest, Hungary (Fax 36-1-15552530).

The Safety, Status and Future of Non-Commercial Reactors and Irradiation Facilities, Sept. 30–Oct. 4, 1990, Boise, Idaho, ANS Topical Meeting, sponsored by the Idaho Section and co-sponsored by The Commission of the European Communities (CEC), Atomic Energy Society of Japan, and the Nuclear Reactor Safety Division of the ANS. Contact: Dr. Romney B. Duffey, General Chairman, The Safety, Status and Future of Non-Commercial Reactors and Irradiation Facilities, P.O. Box 51218, Idaho Falls, ID 83405-1218 (phone 208-526-9804).

October 1990

Spectrum '90: Radioactive Waste Technologies, Decontamination, Decommissioning and Hazardous Wastes, Oct. 3–5, 1990, Knoxville, Tennessee, sponsored by ANS. Contact: Thomas H. Row, ORNL, P.O. Box 2008, 4500N MS6198, Oak Ridge, TN 37831-6198 (phone 615-574-5974 or FTS 624-5974).

9th Topical Meeting on Technology of Fusion Energy, Oct. 8–12, 1990, Chicago, sponsored by the American Nuclear Society. Contact: Ms. L. A. Ciarlette, Argonne National Laboratory, Bldg. 205, 9700 S. Cass Ave., Argonne, IL 60439 (phone 708-972-4835, FTS 972-4835).

November 1990

Nuclear Energy Forum, Nov. 11–14, 1990, Washington, D. C., sponsored by the U.S. Council for Energy Awareness. Contact: Conference Office, U.S. Council for Energy Awareness, 1776 I Street, NW, Suite 400, Washington, DC 20006-2495 (phone 202-293-0770).

American Nuclear Society Winter Meeting, Nov. 11–16, 1990, Washington, D.C. Contact: Mary Keenan, Meetings Manager, ANS, 555 N. Kensington Ave., La Grange Park, IL 60525.

International Symposium on High-Dose Dosimetry for Radiation Processing, Nov. 12–16, 1990, Vienna, sponsored by IAEA. Contact: Conference Service Section, IAEA, P.O. Box 100, A-1400 Vienna, Austria.

May 1991

International Conference on Nuclear Data for Science and Technology, May 13–17, 1991, Jülich, Fed. Rep. of Germany. Contact: Renate Mengels, KFA Jülich GmbH, Conference Service, P.O. Box 1913, D-5170 Jülich, F.R. Germany (phone 02461-61-3833; Fax 02461-61-4666).

June 1991

18th European Conference on Controlled Fusion and Plasma Physics, June 3–7, 1991, Berlin, German Democratic Republic. Contact: J. Lingertat, Akad. der Wissenschaften, Zentralinst. f. Elektronenphysik, Hausvogteiplatz d5-7, 1086 Berlin, DDR.

September 1991

ICNC '91, International Conference on Nuclear Criticality Safety, September 1991, Oxford, United Kingdom. Contact: ICNC '91 Secretariat, Publicity Office, AEA Technology, Winfrith, Dorchester, Dorset DT2 8DH, United Kingdom (phone 0305 251888 ext 2739, Fax 0305 202122, Telex 41231).

3rd Conference on Radiation Protection and Dosimetry, Oct. 21–24, 1991, Orlando, Florida, sponsored by the Health and Nuclear Safety Division, ORNL. Contact: C. S. Sims, ORNL, P.O. Box 2008, Oak Ridge, TN 37831-6379 (phone 615-574-5851).

FEBRUARY ACCESSION OF LITERATURE

The following literature cited has been ordered for review, and that selected as suitable will be placed in the RSIC Information Storage and Retrieval Information System (SARIS). This early announcement is made as a service to the shielding community. Copies of the literature are not distributed by RSIC. They may generally be obtained from the author or from a documentation center such as the National Technical Information Service (NTIS), Department of Commerce, Springfield, Virginia 22161.

RSIC maintains a microfiche file of the literature entered into SARIS, and duplicate copies of out-of-print reports may be available on request. Naturally, we cannot fill requests for literature which is copyrighted (such as books or journal articles) or whose distribution is restricted.

This literature is on order. It is not in our system. Please order from NTIS or other available source as indicated.

RADIATION SHIELDING LITERATURE

ANL/NDM-112. *Some Remarks on the Neutron Elastic- and Inelastic-Scattering Cross Sections of Palladium*. . . . May 1989. . Argonne National Laboratory, Argonne, Illinois 60439

E16-89-668. *Neutron Dose Equivalent Determination in the Energy Range from Thermal to High-Energy Neutrons*. . Aleinikov, V.E.; Krylov, A.R.; Timoshenko, G.N. . 1989 . . Publishing Dept. JINR, P.O.Box 79 1010000 Moscow, USSR

INDC(NDS)-231/L+R. *Nuclear Data for Radiation Damage Assessment and Related Safety Aspects*. . Kocherov, N.P. . Dec. 1989. . Kocherov, N.P. . Advisory Group Meeting organized by IAEA, Vienna, 19-22 Sep 1989

JAERI-M 89-026. *Proceedings of the 1988 Seminar on Nuclear Data*. . Nakagawa, T.; Zukeran, A. . Mar. 1989. . Nakagawa, T

JAERI-M-89-129; INDC(JPN)-128/L (Eng. Abstract/Charts Only). *Activation Cross Section Data File (I)*. . . . Aug. 30, 1989. . . . Department of Physics, Tokai Research Establishment, JAERI, Tokai-mura, Naka-gun, Ibaraki-ken

JAERI-M88-198. *Interpolation of Gamma-Ray Buildup Factors in Atomic Number, Using the Geometrical Progression (G-P) Parameters*. . Sakamoto, Y.; Tanaka, S.; Harima, Y. . Oct. 1988

N-88-30201, p. 150-152. *Growth of Planetary Crusts*. . Ashwal, L.D. . 1988. . NTIS, PC A08/MF A01. . NASA Houston, TX, LBJ Space Center:

Workshop on the Growth of Continental Crust
NUREG/CR-5421; ORNL/TM-11285. *LAPUR User's Guide*. . Otaduy, P.J.; March-Leuba, J. . Jan. 1990

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Applied Radiation and Isotopes, 40(6), (UK), 477-484. *Void Effects and the Determination of "Patches" for Radiation Distribution in Heterogeneous Multilayer Shields*. . Sayedahmed, F.M.; Makarious, A.S.; Kansouh, W.A. . 1989

Health Phys., 58(1), 37-39; ISSN 0017-9078. *Practical High-Density Shielding Materials for Medical Linear Accelerator Rooms*. . Barish, R.J. . Jan. 1990

Int. J. Appl. Radiat. Isot., 40(6), 473-476. *Radial Attenuation of Thermal Neutrons Around a Joint in a Straight Duct in an Ilmenite Concrete Shield*. . Makarious, A.S.; Sayedahmed, F.M. . 1989

Nucl. Sci. Eng., 104(1), pp. 40-45. *Energy Dependence of Neutron Self-Shielding Factors in an Isolated Resonance*. . Lopes, M.D.C.; Avila, J.M. . 1990

Nucl. Sci. Eng., 104(1), pp. 26-33. *Optimized Two-Dimensional S_n Transport (BISTRO)*. . Palmiotti, G.; Rieunier, J.M.; Gho, C.; Salvatores, M. . 1990

Nucl. Sci. Eng., 104(1), pp. 46-52. *Iron and Cadmium Capture Gamma-Ray Photofission Measurements*. . Williamson, T.G.; Lamaze, G.P.; Gil-

liam, D.M.; Eisenhauer, C.M. . 1990

Nucl. Sci. Eng., 104(1), pp. 78-88. . *Global Optimization and Sensitivity Analysis*. . Cacuci, D.G. . 1990

Nucl. Sci. Eng., 104(1), pp. 66-77. . *Feasibility and Incentives for Burnup Credit in Spent-Fuel Transport Casks*. . Sanders, T.L.; Westfall, R. M. . 1990

Radiat. Prot. Dosim., 23(1-4), p. 281-284. . *Measurement of the Neutron Spectrum Inside the Containment Building of a PWR*. . Birch, R.; Delafield, H.J.; Perks, C.A. . 1988. . 6th Symp. on Neutron Dosimetry. Neuherberg (Germany, F.R.). 12-16 Oct. 1987

Radiat. Prot. Dosim., 23(1-4), p. 143-149. . *Nuclear Accident Dosimetry—An Overview*. . Dalafield, H.J. . 1988. . 6th Symp. on Neutron Dosimetry. Neuherberg (Germany, F.R.). 12-16 Oct. 1987

Radiat. Prot. Dosim., 23(1-4), p. 293-296. . *Experimental Determination of the Response of Four Bonner Sphere Sets to Monoenergetic Neutrons*. . Smith, A.B.; Chiba, S.; Guenther, P.T.; Alevra, A.V.; Cosack, M. . 1988. . Hunt, J.B.; Thomas, D.J.; Schraube, H. . 6th Symp. on Neutron Dosimetry. Neuherberg (Germany, F.R.). 12-16 Oct. 1987

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EPRI-NP-6147, Vol.1
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Evaluation of Discrepancies in Assembly Cross-Section Generator Codes, Volume 1, Final Report. . . Fisher, J.R. . . Utility Resource Associates, Rockville, MD . . July 1989

EPRI-NP-6147, Vol.2
. ASSEMBLY XS GENERATOR

Evaluation of Discrepancies in Assembly Cross-Section Generator Codes, Volume 2. . . Fisher, J.R. . . Utility Resource Associates, Rockville, MD . . July 1989

EPRI-NP-6507 EPRI PROGRAMS
Application of Modern Computer Technology to EPRI Nuclear Computer Programs. Final Report. . . Feinauer, L.R. . . Power Computing, Dallas, TX . . August 1989

NUREG/CR-5026 CONTAIN 1.1
User's Manual for CONTAIN 1.1: A Computer Code for Severe Nuclear Reactor Accident Containment Analysis. . . Murata, K.K. . . Sandia National Labs., Albuquerque, NM . . November 1989

NUREG/CR-5184 MIGRAT
User's Manual for the MIGRAT Pre- and Postprocessor. . . Sharp, R.D.; Witten, A.J. . . Oak Ridge National Lab., TN . . November 1989

ORNL/TM-11261 GRESS; ADGEN
Matrix Reduction Algorithms for GRESS and ADGEN. . . Horwedel, J.E. . . Oak Ridge National Lab., TN . . November 1989

ORNL/TM-11329 ISIS
ISIS: An Interactive System for Instruction and Sampling. . . Buckley, B.B.; Fields, D.E. . . Oak Ridge National Lab., TN . . November 1989

ORNL/TM-11375 PVM
PVM: A Framework for Parallel Distributed Computing. . . Sunderam, V.S. . . Oak Ridge National Lab., TN . . October 1989

ORNL/TM-11407 EQ3
Sensitivity Analysis of EQ3. . . Horwedel, J.E.; Wright, R.Q.; Maerker, R.E. . . Oak Ridge National Lab., TN . . January 1990

UCRL-53936, Vol.1 IAEAPU
An MS-DOS-Based Program for Analyzing Plutonium Gamma-Ray Spectra. Volume 1: Data-Analysis Methodology and Software. . . Ruhter, W.D.; Buckley, W.M. . . Lawrence Livermore National Laboratory, Livermore, CA . . September 1989

UCRL-53936, Vol.2 IAEAPU
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