

RSIC Newsletter



RADIATION SHIELDING INFORMATION CENTER

OAK RIDGE NATIONAL LABORATORY

OPERATED BY UNION CARBIDE CORPORATION FOR THE DEPARTMENT OF ENERGY

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Nothing is so fatiguing as the eternal hanging on of an uncompleted task. . . . William James

RSIC COMMUNICATIONS

In response to several requests from our user community we will include telex and telephone numbers in each issue of the monthly *RSIC Newsletter*. This should improve communications for those needing a fast service. We remind our users, however, that written communications are generally more efficiently handled and easier for the RSIC staff to process.

The following suggestions are made in an attempt to improve communications and to save RSIC manpower and other related costs.

1. Make your communication in writing whenever possible, giving enough information detail so that a telephone call is not necessary.
2. When a specifically requested RSIC staff member is not available, state the purpose of your call and allow the receptionist to pass your call to another member of the staff who may be able to respond to your satisfaction. If a call-back is required, the caller will be forearmed with the information requested.
3. When requesting information by telephone or in writing, give all necessary information concerning your problem, your code/data needs, your computer installation environment, your complete return address, etc.

You may think of other ways to improve communications. If so, we welcome your comments and suggestions.

Communications are essential to the RSIC operation. We are pleased to receive yours. We will continue to seek ways to improve communications for efficiently and effectively interacting with our international user community.

CHANGES IN THE COMPUTER CODE COLLECTION

The following changes were made during the month.

CCC-368/MORSE-B

MORSE-B, a modified version of MORSE-CG (CCC-203), was contributed by the University of Birmingham, Birmingham, England. MORSE-B allows various flexible options including track-length flux estimation, multiple source region specification and a restart capability for fixed source problems. Reference: Paper No. 80-05. FORTRAN IV; IBM 370/3033.

CCC-406/OZMA

OZMA, a code package for the calculation of resonance reaction rates in reactor lattices using resonance profile tabulations, was contributed by Technion, Israel Institute of Technology, Haifa, Israel. Spherical, slab, cylindrical, square, and hexagonal geometries can be handled. A new methodology is used for solving the point-energy integral or discrete ordinates transport equations on a dense energy grid as required to handle resonance profiles. The resulting spatially dependent flux spectrum provides all resonances reaction rates needed for subsequent complete lattice analysis. References: EPRI NP-926 and EPRI NP-565. FORTRAN IV; IBM 360.

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.

PSR-161/WINDOWS II

WINDOWS II, a code package for the analysis of spectral data foil-activation measurements, was contributed by the Oak Ridge National Laboratory. Based on WINDOWS (PSR-136), WINDOWS II is more easily transported in that it includes no direct plotting via CALCOMP commands. Instead of plotting spectra and "window" functions which existed in WINDOWS, WINDOWS II creates several data sets. This change lets users use the interactive graphics capability which is available on the DEC System-10. Reference: ORNL/TM-6656. FORTRAN IV; IBM 360 and PDP 10.

CHANGE IN THE DATA LIBRARY COLLECTION

The following change was made during the month.

DLC-82/NPCSL-81

The neutron cross section library, preprocessed by the NPTXS module of AMPX-II, was contributed by the Computer Sciences Division, Oak Ridge National Laboratory. It contains total, fission, elastic scattering, and capture cross sections for 57 elements from ENDF/B-IV. These point data can be used to augment the input to the XLACS-2 module of PSR-63/AMPX-II to skip resonance processing and/or calculate elastic scattering matrices to a higher accuracy. The data can also be used in the ROLAIDS module to perform an integral transport calculation and subsequently provide self-shielded multigroup cross sections. Inverse total cross section weighting with XLACS-2 and LAPHNGAS for resonance nuclides can be accomplished using the NPCSL data. A code for conversion from card image to unformatted form is provided. Reference: ORNL/TM-3706, Informal notes. IBM 370/3033.

CONFERENCES AND COURSES

UT Again Offers Reactor Computational Methods Course

A short course on *Computational Methods in Nuclear Reactor Analysis - Statics, Kinetics, Depletion* will be offered August 31--September 4, 1981, at the University of Tennessee, Knoxville, as a part of Tennessee Industries Week (TIW). The registration fee is \$595, and the deadline for registration is August 21, 1981.

Areas to be covered include multidimensional diffusion theory methods for applications in reactor statics; space-time kinetics, and fuel depletion; transport theory methods including the discrete ordinates methods, integral transport theory, and the Monte Carlo method; cross-section generation and processing utilizing the AMPX system developed at the Oak Ridge National Laboratory.

The first day of the course will cover the fundamentals of nuclear reactor physics beginning with the fission process and proceeding through development of the Boltzmann transport equation and the diffusion approximation of the transport equation. This material will provide a good foundation to the non-nuclear engineer for study of the more advanced material to be presented Tuesday through Friday. For the participant with some nuclear background, the first day would be a review of basic nuclear engineering.

For additional information contact: P. F. Pasqua, Nuclear Engineering Department, University of Tennessee, Knoxville, Tennessee 37916 (615-974-2525), or H. L. Dodds, Associate Professor of Nuclear Engineering, Oak Ridge National Laboratory, P. O. Box X, Oak Ridge, Tennessee 37830 (615-574-6085).

Calendar of Meetings

We call attention to the following meetings.

September 1981

Federal Computer Conference, September 21, 22 and 23, 1981, Sheraton Washington Hotel, Washington, D.C. Contact: Federal Computer Conference, P. O. Box 368, Wayland, Massachusetts 01778. (800) 225-5926 or (617) 358-5181 collect for Massachusetts residents.

October 1981

Advanced Course on Radiological Protection, October 5—30, 1981, Harwell Education Centre, Oxfordshire, England. Contact: The Education and Training Centre, A.E.R.E. Harwell, Oxfordshire, OX110QJ, England, Telephone (STD 0235) 24141, ext. 2469 or 2422.

March 1982

Waste Management '82, March 8—11, 1982, Tucson Community Center, Tucson, Arizona. Contact: J. G. McCray, Publications Chairman, or M. E. Wacks, Technical Program Chairman, Department of Nuclear and Energy Engineering, the University of Arizona, Tucson, Arizona 85721.

Post-Graduate Course on Radiological Protection, March 8—April 2, 1982, Harwell Education Centre, Oxfordshire, England. Contact: The Education and Training Centre, A.E.R.E. Harwell, Oxfordshire, OX110QJ, England, Telephone (STD 0235) 24141, ext. 2469 or 2422.

SPECIAL ISSUE OF *NUCLEAR TECHNOLOGY* ON REACTOR ACCIDENT TERMS

The May issue of *Nuclear Technology*, a publication of the American Nuclear Society, features a series of special technical papers that were released during the November 1980 meeting of the Society dealing with "Realistic Estimates of the Consequences of Nuclear Accidents." Editor Roy Post said that the *Nuclear Technology* issue "includes a particularly timely and important group of papers. The papers, which deal with a new look at the source terms for nuclear accidents, show why models have predicted release consequences to be much more severe than those actually observed." Source terms are the quantity, mix, and rate of emission of radioactive isotopes estimated to enter the environment from the site of a damaged nuclear plant. These papers indicate that the risk from an accident in a conventional light water reactor is not nearly as severe in terms of public health consequences as was formerly thought.

The publication is available for \$29 prepaid from the American Nuclear Society, 555 N. Kensington Avenue, La Grange Park, Illinois 60525.

PERSONAL ITEMS

Science/Science Fiction

Gary L. Bennett, Chief of the Safety and Isotope Fuels Branch of the Space and Terrestrial Systems Division (NE-550) of the Department of Energy in Washington, D.C., has just published (St. Martin's Press, 175 Fifth Avenue, New York 10010) his first novel, *The Star Sailors*. This work of science fiction is concerned with adventurous explorers who defy the "Galactic Federation" and continue their quest for the secrets of the universe.

Gary has returned to the space nuclear power business from a stint in NRC water reactor safety research. He is currently working on nuclear power supplies for the Galileo mission to Jupiter (1985 launch) and the International Solar Polar Mission (1986 launch).

Incidentally, *The Star Sailors* should be available in libraries (LC 79-27175, ISBN 0-312-75582-1) or from the publisher at \$12.95.

Change of Address

L. John Perkins, formerly with IRT Corporation in San Diego, California, has taken an academic staff appointment at the University of Wisconsin in the Fusion Engineering Program of the Nuclear Engineering Department.

James B. Smathers, formerly with the University of California in Los Angeles, California, has taken a position with Texas A and M University, College Station, Texas.

VISITORS TO EPIC

The following persons came for an orientation visit and/or to use EPIC facilities during the month of May: **Marcel M. Barbier**, Marcel M. Barbier, Inc., Herndon, Virginia; **Cheng-Tai Hsu** and **Ching-Ou Liu**, Chung Shan Institute of Science and Technology, Lung-Tan, Taiwan; **Ray Ng**, Department of Energy - Office of Fusion Energy, Washington, D.C.; **Keran O'Brien**, Department of Energy - Environmental Measurements Laboratory, New York, New York; **Richard Strand**, U.S. Army ARRADCOM, Dover, New Jersey; and **Jim West, III**, Los Alamos National Laboratory, Los Alamos, New Mexico.

MAY 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 22151.

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.

REACTOR AND WEAPONS RADIATION SHIELDING LITERATURE

ARL/TR-014

Calculation of Gamma Ray Exposure Rates from Uranium Ore Bodies., Thomson, J.E.; Wilson, O.J., February 1980, NTIS (U.S. Sales Only), PC A03/MF A01

BNL-NCS-28933; CONF-800979-14

Evaluation Methods for Neutron Cross Section Standards., Bhat, M.R., 1980, NTIS, PC A03/MF A01, Portions of document are illegible.

EGG-FT-5281

Fusion Technology Development: First Wall/Blanket System and Component Testing in Existing Nuclear Facilities., Hsu, P.Y.S.; Bohn, T.S.; Deis, G.A.; Judd, J.L.; Longhurst, G.R.; Miller, L.G.; Millsap, D.A.; Scott, A.J.; Wessol, D.E., December 1980, NTIS, PC A09/MF A01

EPRI-AP-1642(Vol.1)

Determination of Procedures for Transmutation of Fission Product Wastes by Fusion Neutrons., Lang, G.P.; Parish, T.A., December 1980, NTIS, PC A03/MF A01

EPRI-AP-1642(Vol.2)

Determination of Procedures for Transmutation of Fission Product Wastes by Fusion Neutrons., Lang, G.P., December 1980, NTIS, PC A05/MF A01

EPRI-AP-1642(Vol.3)

Determination of Procedures for Transmutation of Fission Product Wastes by Fusion Neutrons., Parish, T.A.; Draper, E.L., Jr., December 1980, NTIS, PC A14/MF A01

EPRI-NP-1763

Evaluation of the Thermal Cross Sections of ^{239}Pu and ^{241}Pu ., Leonard, B.R., Jr.; Thompson, J.K., March 1981, Research Reports Center (RRC), Box 50490, Palo Alto, CA 94303, Tel.(415) 965-4081

EPRI-NP-1771

Fission Energy Release for 16 Fissioning Nuclides., Sher, R.; Beck, C., March 1981, Research Reports Center (RRC), Box 50490, Palo Alto, CA 94303, Tel.(415) 965-4081

INFCE/DEP/WG-8/97

Survey on the Fusion/Fission-Hybrid-Reactors, a Literature Review., Commission of the European Communities, Brussels, Belgium. No Date. NTIS (U.S. Sales Only), PC A04/MF A01

INIS-mf-5935

Monte Carlo Methods in Transfer Theory., Mikhailov, G.A., July 6, 1979, NTIS (U.S. Sales Only), PC A03/MF A01

INIS-mf-6047

Nuclear Constants., 1979, NTIS (U.S. Sales Only), PC A05/MF A01

JAERI-M-9250

Structural Design Study of Tritium Breeding Blanket with a Lead Layer as a Neutron Multiplier., Iida, H.; *et al.*, December 1980, Division of Technical Information, Japan Atomic Energy Research Institute, Tokai-mura, Naka-gun, Ibaraki-ken, Japan

JAERI-M-9318

Evaluation of Neutron Nuclear Data for ^{233}U in Thermal and Resonance Regions., Kikuchi, Y., February 1981, Division of Technical Information, Japan Atomic Energy Research Institute, Tokai-mura, Naka-gun, Ibaraki-ken, Japan

JAERI-M-9357

JNDC FP Decay Data File., Yamamoto, T.; Akiyama, M.; Matumoto, Z.-I.; Nakasima, R., February 1981, Division of Technical Information, Japan Atomic Energy Research Institute, Tokai-mura, Naka-gun, Ibaraki-ken, Japan

JINR-16-80-868 (In Russian)

Verifying of Bremsstrahlung Field Forecast Before and After Shield Barrier of Silund-Collective Heavy-Ion Electron Injector., Tsovbun, V.I., 1980, Joint Institute for Nuclear Research, Dubna

JINR-16-81-103 (In Russian)

Proton Contribution into IFK_n DN-A-1 Dosimeters and Carbon Activation Detector Readings Behind the Shielding of JINR Laboratory of Nuclear Problems., Alejnikov, V.E.; Timoshenko, G.N., 1981, Joint Institute for Nuclear Research, Dubna

JINR-P16-81-104 (In Russian)

Dosimetric Characteristics of Radiation Fields of JINR Nuclear Installations and Adequacy of Readings of Radiation Dose Detectors., Alejnikov, V.E.; Komochkov, M.M., 1981, Joint Institute for Nuclear Research, Dubna

JINR-P16-18-108 (In Russian)

Dosimetric Monitoring System on "F" Installation. (Foundations and Structure), Komochkov, M.M.; Shishkin, A.L., 1981, Joint Institute for Nuclear Research, Dubna

LA-8609-MS

DOE Research in Utilization of High-Performance Computers., Buzbee, B.L.; Worlton, W.J.; Michael, G.; Rodrigue, G., December 1980, NTIS, PC A02/MF A01

LA-tr-81-1

Total Gamma Ray Production Cross Sections in the Interaction of 1- to 10-MeV Neutrons with Tungsten Nuclei., Savin, M.V.; Khoklov, Yu.A.; Paramonova, I.N.; Chirkin, V.A.; Lunin, V.N.; Zalialov, N.N., 1977, NTIS, PC A02/MF A01

MLM-2807

GRPNL2: An Automated Program for Fitting Gamma and X-Ray Peak Multiplets., Fleissner, J.G.; Gunnink, R., March 30, 1981, NTIS, PC A07/MF A01

ORNL-5694

Comparative Evaluation of Pebble-Bed and Prismatic Fueled High-Temperature Gas-Cooled Reactors., Kasten, P.R.; Bartine, D.E., January 1981, NTIS, PC A10/MF A01

ORNL-5732

TPASS, A Gamma-Ray Spectrum Analysis and Isotope Identification Computer Code., Dickens, J.K., March 1981, NTIS, PC A05/MF A01

ORNL-5756

Final Analysis of the GCFR Radial Blanket and Shield Integral Experiment., Ingersoll, D.T.; Williams, L.R., April 1981, NTIS, PC A06/MF A01

ORNL/TM-7415

A Comparison of 50-Year and 70-Year Internal Dose Conversion Factors., Ryan, M.T.; Dunning, D.E., Jr., March 1981, NTIS

ORNL/TM-7602

Supplementary Neutron Flux Calculations for the ORNL Pool Critical Assembly Pressure Vessel Facility., Macrker, R.E.; Maudlin, P.J., February 1981, NTIS

ORNL/TM-7615

Sixth Personnel Dosimetry Intercomparison Study., Swaja, R.E.; Greene, R.T.; Dickson, H.W., February 1981, NTIS, PC A05/MF A01

ORNL/TM-7631

Method for Sampling from Fission Neutron Energy Spectra., Froehner, F.H.; Spencer, R.R., February 1981, NTIS, PC A02/MF A01

ORNL/TM-7632

Task 2: Concrete Properties in Nuclear Environment - A Review of Concrete Material Systems for Application to Prestressed Concrete Pressure Vessels., Naus, D.J., May 1981, NTIS, PC A07/MF A01

ORNL/TM-7634

Validation Tests of the VENTURE Finite-Difference Diffusion Theory Neutronics Code., Vondy, D.R.; Fowler, T.B., March 1981, NTIS, PC A03/MF A01

ORNL/TM-7661

Measurement of Neutron Transmission Spectra Through ^{232}Th from 8 MeV to 4 KeV., Olsen, D.K.; Ingle, R.W., April 1981, NTIS, PC A04/MF A01

ORNL/TM-7747

A Survey of Nuclear Fuel-Cycle Codes., Thomas, C.R.; de Saussure, G.; Marable, J.H., April 1981, NTIS, PC A04/MF A01

ORNL/TM-7758

Neutronic Calculations for the Conceptual Design of an In-Reactor Solid Breeder Experiment, TRIO-01., Childs, R.L.; Gabriel, T.A.; Lillie, R.A., March 1981, NTIS, PC A03/MF A01

ORNL/TM-7783

Iso-Response Contours in the ETF Neutral Beam Injectors., Barnes, J.M.; Santoro, R.T.; Lillie, R.A.; Alsmiller, R.G., Jr., May 1981, NTIS, PC A03/MF A01

ORNL-tr-4729; JAPFNR-545 (In Japanese)

Improvement of Streaming Analysis Technique with Monte Carlo Method-II., Toshiba Corporation, February 1980

PNL-3563

Overview of Tritium Fast-Fission Yields., Tanner, J.E., March 1981, NTIS, PC A02/MF A01

PPPL-1740

PDX Experimental Results., Meade, D., January 1981, Plasma Physics Laboratory, Princeton Univ., Princeton, NJ

PPPL-1749; CONF-800427-21

Design of Tritium Breeding Experiments for the Tokamak Fusion Test Reactor., Jassby, D.L.; Caldwell, C.S.; Lewis, R.H.; Pettus, W.G.; Schmotzer, J.K.; Thornton, T.A.; Welfare, F.G.; Womack, R.E., January 1981, NTIS, PC A02/MF A01

SAAS-274 (In German)

Radiation Fields in Rock Salt Resulting from Buried Radioactive Waste., Kaschenz, H.; Hentschel, K.; Gerullis, W.; Noack, W., 1981, Präsident des Staatlichen Amtes für Atomsicherheit und Strahlenschutz der Deutschen Demokratischen Republik, DDR - 1157 Berling-Karlshorst, Waldowallee 117

SAND-80-1446

Collocation Method for the Solution of the Neutron Transport Equation with Both Symmetric and Asymmetric Scattering., Morel, J.E., January 1981, NTIS, PC A09/MF A01

UCID-18909(Vol.1)

Synfuels from Fusion: Producing Hydrogen with the Tandem Mirror Reactor and Thermochemical Cycles., Ribe, F.L.; Werner, R.W., January 21, 1981, NTIS, PC A05/MF A01

UCID-18909(Vol.2)

Synfuels from Fusion: Producing Hydrogen with the Tandem Mirror Reactor and Thermochemical Cycles., Werner, R.W.; Ribe, F.L., January 21, 1981, NTIS, PC A21/MF A01

UCRL-50400, Vol.24

Thresholds and Q Values of Nuclear Reactions Induced by Neutrons, Protons, Deuterons, Tritons, ^3He Ions, Alpha Particles, and Photons., Howerton, R.J., March 25, 1981, Technical Information Dept., Lawrence Livermore National Laboratory, University of California, Livermore, CA 94550

UWFDM-394

An Experimental Investigation of the Convective Heat Transfer Characteristics of Particle-Bed Type Fusion Blankets., Nietert, R.E.; Abdel-Khalik, S.I., October 1980, Fusion Engineering Program, Nuclear Engineering Dept., University of Wisconsin, Madison, WI 53706

UWFDM-395

Coupled Target-Blanket Neutrons and Photonics Analysis for the University of Wisconsin Heavy Ion Beam Fusion Reactor Design., Sawan, M.E.; Vogelsang, W.F.; Moses, G.A., November 1980, Fusion Engineering Program, Nuclear Engineering Dept., University of Wisconsin, Madison, WI 53706

UWFDM-397

Numerical Methods for Calculating the Temperature Increase in ICF First Walls., Hassanein, A.M.; Kulcinski, G.L., November 1980, Fusion Engineering Program, Nuclear Engineering Dept., University of Wisconsin, Madison, WI 53706

WFPS-TME-80-016
Feasibility of Recycling Thorium in a Fusion-Fission Hybrid/PWR Symbiotic System., Josephs, J.M., December 31, 1980, NTIS, PC A04/MF A01

Atomic Data and Nucl. Data Tables, 24(6), 495-508
LPM Bremsstrahlung and Pair Production Probabilities in Lead and Water., Bowen, T.; Ellsworth, R.W.; Stanev, T.; Streitmatter, R.E.; Vankov, Ch., December 1979

Atomic Data and Nucl. Data Tables, 24(6), 509-571
Total and Differential Conversion Coefficients for Internal Electron-Positron Pair Creation., Schluter, P.; Soff, G., December 1979

Atomkernenergie, 35(4), 304
Neutronics Aspects of a Porous Blanket for a D-D Fusion Reactor., Nakashima, H.; Ohta, M., 1980

IEEE Trans. Nucl. Sci., NS-25(6), 1598-1606
Diffusion Equation Model for Kilovolt Electron Transport at X-Irradiated Interfaces., Garth, J.C., December 1978

IEEE Trans. Nucl. Sci., NS-26(6), 4868-4873
Energy Deposition by Soft X-Rays - An Application to Lithography for VLSI., Burke, E.A.; Garth, J.C., December 1979

IEEE Trans. Nucl. Sci., NS-27(6), 1459-1464
The Role of Scattered Radiation in the Dosimetry of Small Device Structures., Garth, J.C.; Burke, E.A., December 1980

J. Inst. Nucl. Eng., 19(6), 191-194
Transition Zone Dosimetry and Its Application to Reactor Shield Surveys., Lowe, D., November-December 1978

Nucl. Sci. Eng., 77(4), 377-414
Treatment of Anisotropic Scattering in Numerical Neutron Transport Theory., Brockmann, H., April 1981

Nucl. Sci. Eng., 77(4), 426-437
Determination and Application of Generalized Bias Operators Using an Inverse Perturbation Approach., Ronen, Y.; Cacuci, D.G.; Wagschal, J.J., April 1981

Nucl. Sci. Eng., 77(4), 496-501
Deposition of Cobalt-60 on the Stainless-Steel Surface Used for the Primary Cooling System of a Boiling Water Reactor., Uchida, S.; Kitamura, M.; Matsushima, Y.; Yonezawa, K.; Ohsumi, K.; Miki, M., April 1981

Nucl. Technology, 53(1), 69-77
Real-Time Simulation of Gamma Exposure Rate by PUFF Model., Ichikawa, Y.; Kobayashi, A.; Kitada, Y., April 1981

Nucl. Technology, 53(1), 78-85
Propagation of Errors from Response Functions to Unfolded Spectrum., Shin, K.; Uwamino, Y.; Hyodo, T., April 1981

Soviet J. At. Energy(English Transl.), 45(2), 794-795
Buildup Factors of Gamma Radiation with Energy 6-10 MeV in Large Depths of Lead Shielding., Butueva, I.N.; Kuchin, N.L.; Popkov, K.K.; Trofimov, I.N., August 1978

Tech. J. Ankara Nucl. Res. Cent., 5(2-3), 23-32
Gamma Ray Streaming Through Ducts., Ozoglu, I., June-October 1978

COMPUTER CODES LITERATURE

ANL/FPP/TM-115 SAND II
Extrapolated Neutron Activation Cross Sections for Dosimetry to 44 MeV., Greenwood, L.R., Argonne National Laboratory, IL

CONF-771109-88 SCAP-BRy, IL
Computer Program SCAP-BR for Gamma-Ray Streaming Through Multi-Legged Ducts., Byoun, T.Y.; Babel, P.J.; Dajani, A.T., Burns and Roe, August 1977

COO-3494-27 HYBRID GDH
Program HYBRID/GDH., Blann, M.; Bisplinghoff, J., Rochester Univ., NY, October 1975, AVAIL: NTIS

INDC(NDS)-102/G+P FNPD
Progress in Fission Product Nuclear Data. Information About Activities in the Field of Measurements and Compilations/Evaluations of Fission Product Nuclear Data., Lammer, G., Nuclear Data Section, IAEA, Vienna, Austria, June 1979

JAERI-M-7288 (In Japanese) SKYSHINE
Problems for Evaluation of the SKYSHINE Calculation Code., Tanaka, S.I.; Sasamoto, N., Japan Atomic Energy Research Inst., Tokyo, September 1977, AVAIL: NTIS(U.S. Sales Only)

JEN-423 (In Spanish) REY
REY: A Computer Code for the Determination of the Radionuclides Activities from the Gamma-Ray Spectrum Data., Palomares, J.; Perez, A.; Travesi, A., Junta de Energia Nuclear, Madrid, Spain, 1978, FORTRAN IV

- LA-8040-MS GAMMON
The GAMMON Activation Library., Battat,
M.E.; LaBauve, R.J.; Muir, D.W., Los Alamos
Scientific Laboratory, NM, September 1979
- Nucl. Sci. Eng., 77, 168-181 MMCR
A Systematic Study on the Neutron Skyshine from
Nuclear Facilities - Part 1. Monte Carlo Analysis of
Neutron Propagation in Air-over-Ground
Environment from a Monoenergetic Source.,
Nakamura, T.; Kosako, T., University of Tokyo,
Japan, 1981
- Nucl. Sci. Eng., 77, 182-191 MMCR
A Systematic Study on the Neutron Skyshine from
Nuclear Facilities - Part 2. Experimental Approach
to the Behavior of Environmental Neutrons Around
an Electron Synchrotron., Nakamura, T.; Hayashi,
K., National Laboratory for High Energy Physics,
Ibaragi, Japan; Kyoto University, Kyoto, Japan,
1981
- ORNL/TM-7033 DOT IV
Flux Extrapolation Models Used in the DOT IV
Discrete Ordinates Neutron Transport Code.,
Tomlinson, E.T.; Rhoades, W.A.; Engle, W.W.,
Oak Ridge National Laboratory, TN, May 1980
- ORNL/TM-7634 VENTURE
Validation Tests of the VENTURE Finite-Difference
Diffusion Theory Neutronics Code., Vondy, D.R.;
Fowler, T.B., Oak Ridge National Laboratory,
TN, March 1981
- PNL-3180 ARRRG; FOOD
ARRRG and FOOD - Computer Programs for
Calculating Radiation Dose to Man from
Radionuclides in the Environment., Napier, B.A.;
Roswell, R.L.; Kennedy, W.E.; Streng, D.L.,
Pacific Northwest Laboratory, Richland, WA,
June 1980
- RT/FI(72)14 CERPI-CEREL
Automatic Peak Identification in the Analysis of
Gamma-Ray Spectra Obtained with Ge(Li)
Detectors., Giannini, M.; Oliva, P.R.; Ramorino,
M.C., Comitato Nazionale Energia Nucleare,
Casaccia, Italy
- RT/FI(78)5 .. CERPI-CEREL Nucleare, Casaccia, Italy
CERPI and CEREL, Two Computer Codes for the
Automatic Identification and Determination of
Gamma Emitters in Thermal Neutron Activated
Samples., Giannini, M.; Oliva, P.R.; Ramorino,
M.C., Comitato Nazionale Energia Nucleare,
Casaccia, Italy
- RT/FI(78)15 .. CERPI-CEREL ucleare, Casaccia, Italy
Automatic Element Analysis in Thermal Neutron
Activated Samples., Giannini, M.; Oliva, P.R.;
Ramorino, M.C., Comitato Nazionale Energia
Nucleare, Casaccia, Italy
- SAAS-255 .. METEOR Irgia Nucleare, Casaccia, Italy
Analytical Method for Assessing the Gamma-Ray
Exposure Resulting from Continuously Discharged
Radioactive Off-Gas., Sowa, W.; Kruger,
F.W., Staatliches Amt Fur Atomsicherheit und
Strahlenschutz, Berlin, East Germany, 1980
- Trans. Am. Nucl. Soc., 34, 349-350 ORIGIN2
ORIGIN2: A Revised and Updated Version of
ORIGIN., Croff, A.G., Oak Ridge National
Laboratory, TN, 1980
- Trans. Am. Nucl. Soc., 34, 626-627 SAILWR
Analysis Techniques in Pressure Vessel
Dosimetry., Simmons, G.L., Science
Applications, Inc., La Jolla, CA, 1980
- Trans. Am. Nucl. Soc., 34, 642-644 EGS-PEGS
One-Dimensional Gamma-Ray Shielding
Calculations for the EBT-P., Lillie, R.A.;
Gabriel, T.A.; Bishop, B.L.; Baker, V.C., Oak
Ridge National Laboratory, TN, 1980
- Trans. Am. Nucl. Soc., 34, 645-646 STARFIRE; RACC
Radioactive Inventories and Material Recyclability
in a Tokamak Power Reactor., Jung, J.; Abdou,
M.A., Argonne National Laboratory, IL, 1980
- ARBRL-MR-03080 MIFT; GIFT; VCS; MORSE
A Methodology to Analyze Particle Leakage for
VCS Problems., Kinch, J.W., Ballistic Research
Laboratory, Aberdeen Proving Ground, MD,
February 1981
- CEGB-RD/B/N-4632 XSEC
Computer Code for Calculating Neutron
Cross-Sections from Resonance Parameter Data.,
Mill, A.J., Central Electricity Generating Board,
Berkeley, UK, August 1979, AVAIL: NTIS
(U.S. Sales Only)
- CONF-8010113, 117-143 ANISN/SWANLAKE
Uncertainty Analysis in a Fast Breeder Reactor
Using ANISN/SWANLAKE., Hall, M.C.G.,
Reactor Physics Division, AEE Winfrith, UK,
October 1980
- CONF-8010113, 171-179 FORSS
A Review of the Capabilities of the ORNL FORSS
Sensitivity and Uncertainty Analysis System.,
Roussin, R.W.; Weisbin, C.R.; Lucius, J.L., Oak
Ridge National Laboratory, TN, October 1980

- COO-2218-164 RFPBRN
User's Guide for RFPBRN, A One-Dimensional
Transport and Stability Code., Nebel, R.; Miley,
G.H., Illinois University, Urbana, June 1980,
AVAIL: NTIS
- DOE/TIC-11026 DRALIST
Radioactive Decay Tables - A Handbook of Decay
Data for Application to Radiation Dosimetry and
Radiological Assessments., Kocher, D.C.,
Oak Ridge National Laboratory, TN, 1981
- EGG-RE-A-78-279 GAMSCAN
GAMSCAN: ATR Fuel Plate Gamma Scanning
Overcheck Computer Code., Matthews, S.D.,
EG and G Idaho, Inc., Idaho Falls, ID, December
1978, CDC 76/173, AVAIL: NTIS
- EUR-6179 RADIOACTIVITY MIGRATION
Modelling of Artificial Radioactivity Migration in
Environment: A Survey., Bignoli, G.; Bertozzi,
G., Commission of the European Communities,
Ispra, Italy, Joint Research Centre, 1979
- INIS-mf-6224(In Portuguese) AIREK-III
Analysis of Reactivity Insertion Accidents in PWR
Reactors., Camargo, C.T.M., Instituto Militar
de Engenharia, Rio de Janeiro, Brazil, June 1978
- JAERI-M 9357 PROFP
JNDC FP Decay Data File., Yamamoto, T.;
Akiyama, M.; Matumoto, Z.-I.; Nakasima, R.,
JAERI, Tokai Research Establishment; Toshiba
Corporation; University of Tokyo; Hosei
University, January 1981
- K/OP-248 PLOTLIB
PLOTLIB: A Computerized Nuclear Waste
Source-Term Library Storage and Retrieval
System., Marshall, J.R.; Nowicki, J.A., Oak
Ridge Gaseous Diffusion Plant, TN, March
1978, AVAIL: NTIS
- LA-8374-MS RMCCS
Graphs of the Cross Sections in the Recommended
Monte Carlo Cross-Section Library at the Los
Alamos Scientific Laboratory., Soran, P.D.;
Seamon, R.E., Los Alamos Scientific Laboratory,
NM, May 1980, AVAIL: NTIS
- MLM-2807 GRPNL2
GRPNL2: An Automated Program for Fitting
Gamma and X-Ray Peak Multiplets., Fleissner,
J.G.; Gunnink, R., Mound Facility, Miamisburg,
OH, March 1981, PDP-11
- NUREG/CR-1904; ORNL/NUREG/TM-422
PREREM; INREM II
PREREM: An Interactive Data Preprocessing Code
for INREM II. Part I: User's Manual. Part II: Code
Structure., Ryan, M.T.; Fields, D.E., Oak
Ridge National Laboratory, TN, May 1981,
PDP-10
- ORNL-5602 AT123D
AT123D: Analytical Transient One-, Two-, and
Three-Dimensional Simulation of Waste Transport
in the Aquifer System., Yeh, G.T., Oak Ridge
National Laboratory, TN, March 1981
- ORNL-5732 TPASS
TPASS, A Gamma-Ray Spectrum Analysis and
Isotope Identification Computer Code., Dickens,
J.K., Oak Ridge National Laboratory, TN,
March 1981, FORTRAN
- ORNL/TM-7771 DOMINO-II
DOMINO-II, A General Purpose Code for Coupling
DOT-IV Discrete Ordinates and Monte Carlo
Radiation Transport Calculations., Emmett,
M.B., Oak Ridge National Laboratory, TN,
May 1981
- PEL-258 PELSHIE-2
PELSHIE-2. A Revised Version of the PELSHIE
General Purpose Shielding Program for Point and
Extended Gamma-Ray Sources., De Beer, G.P.;
Language, A.E.; Thompson, J.I., Atomic Energy
Board, Pretoria, South Africa, October 1979,
AVAIL: NTIS (U.S. Sales Only)
- UCID-18737 OPTICALs Only)
Optical Model Calculation of Neutron-Nucleus
Scattering Cross Sections., Smith, M.E.; Camarda,
H.S., Lawrence Livermore Lab., Livermore,
CA, July 1980, AVAIL: NTIS
- UCRL-52917 GRPANL
GRPANL: A Program for Fitting Complex Peak
Groupings For Gamma and X-Ray Energies and
Intensities., Gunnink, R.; Ruhter, W.D.,
Lawrence Livermore Lab., Livermore, CA,
January 1980, LSI-11, AVAIL: NTIS