RSIC Newsletter

Oak Ridge National Laboratory
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The effects of our actions may be postponed but they are never lost. There is an inevitable reward for good deeds and an inescapable punishment for bad. Meditate upon this truth, and seek always to earn good wages from Destiny.—Wu Ming Fu

CHANGES TO THE COMPUTER CODE COLLECTION

Four changes were made to the computer code collection during the month. Two new code systems were packaged and added to the collection, an existing code package was extended with an additional hardware version, and an existing code package was enhanced with added software.

CCC-160/PICA

OP SYS: MVT, VMS

Language: Fortran

Computers: IBM, Vax

Format: DOS

Oak Ridge National Laboratory contributed a new hardware version of this Monte Carlo code system for medium-energy, photon-induced intranuclear cascade analysis. This new release of PICA was converted to run on Vax computers from the February 1971 IBM mainframe release. All target nuclei with mass numbers greater than 4 are possible. The program PIC accommodates incident monoenergetic photons as well as thin-target bremmstrahlung spectra, thin-target bremmstrahlung difference spectra, and thick-target bremmstrahlung spectra. The Vax release of PICA was tested under VMS 5.5 using Vax Fortran 5.9. One DS/HD 5.25-in. (1.2 MB) diskette in DOS format is required to transmit the package. References: ORNL-4687 (Sept. 1971) and ORNL-TM-2481 (Feb. 1969). Fortran; IBM 360/75/91 (C00160/I0360/00) or Vax (C00160/D0VAX/00).

CCC-547/TWODANT-SYS

OP SYS: Sun OS, UNICOS, VMS, DOS

Language: Fortran 77, C

Computers: Sun, Cray, Vax, PC 486

Los Alamos National Laboratory contributed new script files which include minor modifications for the Sun version of this one- and two-dimensional, multigroup, discrete-ordinates transport code system. TWODANT-SYS includes ONEDANT, TWODANT, and TWOHEX. The new script files run under both SunOS4.1.1 using the Fortran 1.0 compiler and under SunOS5.3 (Solaris 2.3) using the Fortran 2.0 compiler. No source files were modified. The Sun package is transmitted on either one DS/HD 3.5-in. (2.0 MB) diskette or a cartridge tape in tar format. References: LA-9184-M (Dec. 1989), LA-10258-M (Dec. 1989), LA-10049-M (Dec 1990), and informal documentation. Fortran 77 and C; Sun (C00547/SUN04/01), Cray

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.

Format: tar

(C00547/CY000/00), Vax (C00547/D0VAX/00), and PC 486 (C00547/PC486/00).

CCC-621/PAGAN 1.1

OP SYS: DOS

Language: Fortran 77

Computers: PC

Format: DOS

Sandia National Laboratories, Albuquerque, New Mexico, contributed the PAGAN code system, a performance assessment methodology developed for use by the U. S. Nuclear Regulatory Commission in evaluating license applications for low-level waste disposal facilities. In this methodology, PAGAN is used for analysis of the ground-water pathway. PAGAN contains a simple model for releases from a disposal unit that is based on a cascade of mixing cells, and includes leach mechanisms that can be used to analyze either surface-contaminated wastes or diffusion-controlled releases. Version 1.1 has the capability to model the source term, vadose-zone transport, and aquifer transport of radionuclides from a waste disposal unit. The executable included in the package runs on an IBM compatible PC running DOS 3.31 or later with a color monitor and requires 640 K of RAM, a math coprocessor, and a hard disk. The Fortran source files for PAGAN are included, however, the SUNS (Sensitivity and UNcertainty Analysis Shell) portion of the source is not distribued. One DS/HD 3.5-in. (1.44 MB) diskette written in DOS format is required to transmit the system. Reference: NUREG/CR-5539, SAND90-0585 (Dec. 1990). Fortran 77; IBM PC (C00621/IBMPC/00).

PSR-342/LSMOD-GLS MOD

OP SYS: DOS

Language: Fortran 77

Computers: PC

Format: DOS

Argonne National Laboratory, Argonne, Illinois, contributed this least squares computational "Tool Kit." LSMOD and GLSMOD can be used in a general way to solve simple and generalized least-squares problems. The routines handle input data sets with correlated errors and produce output that includes errors and correlations for solution parameters. Special applications using the routines require tailoring of the input/output routines and/or iterative control (for LSMOD). Matrix formalisms of well-known least-squares algorithms are used and are described in the documentation. LSMOD and GLSMOD run on IBM PC or compatibles running MS DOS 3.1 or higher. A hard disk is not required. The MS Fortran 3.0 or higher compiler is recommended to compile the source files. Executables are included in the package, which is transmitted on one DS/HD 5.25-in. (1.2 MB) diskette in DOS format. Reference: ANL/NDM-128 (April 1993). Fortran 77; IBM PC (P00342/IBMPC/00).

CHANGES TO THE DATA LIBRARY COLLECTION

Two new data libraries were added to the data library collection during the month.

DLC-173/HPPOS 1.5

OP SYS: DOS

Language:

Computers: PC

The Health Sciences Research Division at Oak Ridge National Laboratory (ORNL) contributed the HPPOS Version 1.5 software, a "stand alone" program for IBM and IBM-compatible personal computers. HPPOS is the acronym for the Health Physics Position (HPPOS) Data Base of the Nuclear Regulatory Commission (NRC). The HPPOS Data Base is a collection of NRC staff positions on a wide range of topics involving radiation protection (health physics). It consists of 247 documents in the form of letters, memoranda, and excerpts from technical reports. The HPPOS Data Base

Format: DOS

was developed by NRC Headquarters and Regional Offices to help ensure uniformity in inspections, enforcement, and licensing actions. Staff members of ORNL's Health Sciences Research Division assisted the NRC staff in summarizing the documents during the preparation of NRC report NUREG/CR-5569 (May 1992). The purpose of the report is to allow interested individuals to familiarize themselves with the contents of the HPPOS Data Base and with the basis of many NRC decisions regarding inspection findings and enforcement actions in the area of radiation protection. A variety of indexing schemes were used to increase the usefulness of the report and its associated software. The software can be searched by various regulatory references, subject codes, document authors, and applicability to different types of NRC licensees. A revision will soon be released that will update the HPPOS Data Base to be consistent with the newly revised 10 CFR Part 20 (20.1001-20.2401). The documents and summaries of the HPPOS Data Base are intended to serve as a source of information that will be extremely useful in radiation protection programs at nuclear research and power reactors, nuclear medical facilities, and other industries that either process or use nuclear materials. HPPOS was written using the Foxpro 2.0 Xbase programming language as a stand-alone program; users do not need Foxpro software to run the executable program, which is transmitted on one DS/HD 5.25-in. (1.2 MB) diskette in self-extracting compressed DOS files. Reference: NUREG/CR-5569, ORNL/TM-12067 (May 1992). D00173/IBMPC/00.

DLC-175/BUGLE-93

OP SYS:

Language: Fortran

Computers: All

Format: DOS

Oak Ridge National Laboratory contributed a multigroup cross-section library based on ENDF/B-VI data for light water reactor shielding and reactor pressure vessel dosimetry applications. This broad-group library, designated BUGLE-93, is intended to replace the aging BUGLE-80 and SAILOR libraries. The ENDF data were first processed into a fine-group format using the NJOY91 processing system and then collapsed into the final broad-group format using the AMPX77 code system. The fine-group library, designated VITAMIN-B6, is modeled after the earlier VITAMIN-C and VITAMIN-E libraries and will be released from RSIC later this year. In BUGLE-93 both the neutron and the gamma-ray group structures are identical with the previously developed BUGLE-80 library, which includes 47 neutron groups and 20 gamma-ray groups. It is available in ANISN format and is expected to be of direct and immediate importance to existing pressure vessel surveillance programs and for plant life extension studies. BCBN is included in the package to convert the ASCII data to binary form. The BUGLE-93 package is transmitted on 3.5-in. DS/HD diskettes in self-extracting compressed DOS files. Reference: ORNL-6795 (Draft 1994). Fortran; All computers (D00175/ALLCP/00).

Visitor to RSIC

During the month *Shun-ichi Tanaka*, Japanese Atomic Energy Research Institute, came for an orientation visit and/or to use RSIC facilities.

ICRU Gray Medal Nominees Solicited

The International Commission on Radiation Units (ICRU) is seeking nominations for the seventh ICRU Gray Medal, established in 1967 in honor of the late **Louis Harold Gray**. Nominations may be made by any person or organization. The nomination must include a complete biographical sketch of the nominee, reprints or any other scientific records which show the significant contributions made by the nominee, and the proponent's personal evaluation of the importance of the contributions. The nominations must be received by **May 1, 1994**, and should be sent to the Chairman of the ICRU, Suite 800, 7910 Woodmont Ave., Bethesda, MD 20814 USA.

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.

EGS4 Course to be held in Italy

A four-day course on *Radiation Transport Calculations Using the EGS4 Monte Carlo System* will be held June 28–July 1, 1994, in Napoli, Italy. The University of Napoli is the course sponsor. The course will cover the fundamentals of coupled electron-photon transport using Monte Carlo techniques and will introduce the use of the EGS4 code system. Special emphasis will be given to applications in radiation dosimetry and medical physics problems. Attendance will be limited, so early registration is encouraged. Further information may be obtained from Dr. Alberto Del Guerra, Dept. of Physics, Via Paradiso 12, I-44100 Ferrara, Italy.

Radiation Shielding of Nuclear Installations

The sixth Russian Scientific Conference on *Radiation Shielding of Nuclear Installations*, to be held September 20–23, 1994, in Obninsk, Russia, has issued the first call for papers. Participants are invited to submit papers of 1000 words by June 1, 1994, to A. P. Suvorov, Inst. of Physics and Power Engineering, 249020, Bondarenko Sq. 1, Obninsk, Kaluga Region, Russia. Papers will be considered if they fall within the following topics:

1. Shielding Theory and Calculations Methods
   a. Calculation Methods
   b. Computer Codes
   c. Nuclear Data for Shielding
   d. Uncertainties Analysis
   e. Sensitivity Analysis
   f. Shield Optimization Methods
   g. Codes Verification and Validation
2. Experimental Research of Radiation Shielding
   a. Experimental Research Methodology
   b. Benchmark Experiments
   c. Mock-up Experiments
   d. On-reactor Experiments

3. Shielding Design and Supporting Calculations
   a. Shielding of the NPPs and Research Reactors
   b. Spacecraft Shielding
   c. Naval Reactor Shielding
   d. Shielding Materials (properties, characteristics, and technology tests)

4. Radiation Shielding of the Accelerators, Fusion Reactors, and Shielding Against Space Radiation

5. Radiological Safety
   a. Radiological Safety of the Nuclear Facilities Involved in the Fuel Cycle
   b. Analysis of the Radiological Consequence of Accidents
   c. On-site and Off-site Dose Assessment

6. Radiation Shielding Under Decommissioning and Radioactive Waste Management and Disposal

7. Radiation Shielding and Radiological Safety Under Application of Ionizing Radiation in Industry and Medicine

Brazil to Hold 1995 Meetings on Reactor Physics and Nuclear Applications

The *10th Brazilian Meeting on Reactor Physics and Thermal Hydraulics (X ENFIR)* and the *3rd Brazilian Meeting on Nuclear Applications (III ENAN)* will be held in Rio de Janeiro, August 7–11, 1995. The joint conferences seek to advance the knowledge of how to satisfy the world's growing energy needs with the least harm to the environment and examine the benefits which can be derived from nuclear applications in medicine, agriculture, material science, and geophysics. Those interested in participating in either conference should contact: W. S. Bastos, IEN, C. P. 68550, CEP-21945.970, Rio de Janeiro, RJ, Brazil (fax 55-21-5902692, email: IEN RCH@LNCCBR.BITNET).

Calendar

Your attention is directed to the following events of interest.

March 1994

Implementation of the Radiological Control Manual, Mar. 3–4, 1994, Tucson, Arizona. Contact: Technical Management Services, Inc., P.O. Box 226, New Hartford, CT 06057 (phone 203-738-2440; fax 203-738-9322).

Internal Dosimetry, Mar. 14–18, 1994. Contact: Woodson Assoc., Inc., P.O. Box 2665, Gaithersburg, MD 20886 (phone 301-990-0751, Fax 301-990-6153).

The Nuclear Fuel Cycle, Mar. 14–18, 1994, a short course sponsored by Continuing Education, University of Missouri-Rolla, 103 Mechanical Engineering Annex, Rolla, MO 65402-0249 (phone 314-341-4200, fax 314-341-60610.

11th International Conference on the Use of Computers in Radiotherapy, Mar. 20–24, 1994, Manchester, United Kingdom. Contact: J. M. Wilkinson, Christie Hospital, Withington, Manchester M20 9BX, GB.

April 1994

30th Annual Meeting of the National Council on Radiation Protection and Measurements, Apr. 6–7, 1994, Arlington, Virginia. Contact: National Council on Radiation Protection and Measurements, 7910 Woodmont Ave., Suite 800, Bethesda, MD 30814-3095 (phone 301-657-2652).

Methods and Applications of Radioanalytical Chemistry (MARC III), Apr. 10–16, 1994, Kona, Hawaii, an International Topical Conference of the American Nuclear Society. Contact Prof. Roy H. Filby, Technical Program Chairman, Department of Chemistry, Washington State University, Pullman, WA 99164-4630 (phone 509-335-3331, fax 509-335-8867).

Topical Meeting on Advances in Reactor Physics, Apr. 11–14, 1994, Knoxville, Tennessee, sponsored by the American Nuclear Society. Contact: B. A. Worley, Oak Ridge National

Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6363 USA (phone 615-574-6106).

High Performance Computing '94: Grand Challenges in Computer Simulation, Apr. 11–15, 1994, La Jolla, California, sponsored by the Society for Computer Simulation. Contact: Dr. Adrian Tetner, Argonne National Laboratory, 9700 S. Cass Ave., Argonne, IL 60439 (phone 708-252-8454).

ARS '94, International Meeting on Advanced Reactor Safety, Apr. 17–20, 1994, Pittsburgh, Pennsylvania. Contact: D. Squarer, Westinghouse Electric Corp., Science and Technology Center, 1310 Beulah Road, Pittsburgh, PA 15235-5098 USA (phone 412-256-2063; fax 412-256-1348).

8th International Conference on Radiation Shielding, Apr. 24–28, 1994, Arlington, Texas, sponsored by the American Nuclear Society with cooperation from several international and professional societies. Contact: Dr. R. M. Rubin, TU Electric, 400 N. Olive St., LB81 24 SLIC, Dallas, TX 75201, or Nolan Hertel, Georgia Tech, Atlanta, Georgia 30332-0405 USA. R. W. Roussin is the International Liaison.

RECOD '94, 4th International Conference on Nuclear Fuel Reprocessing and Waste Management, Apr. 24–28, 1994, London. Contact: W. L. Wilkinson, RECOD '94 Steering Committee, British Nuclear Forum, 22 Buckingham Gate, London SW1E 6LB, United Kingdom. (phone 071-828-0116; fax 071-828-0110).

42nd Annual Meeting of the Radiation Research Society, Apr. 25–29, 1994, Nashville, Tennessee. Contact: Radiation Research Society, 1891 Preston White Drive, Reston, VA 22091.

Specialist's Meeting on Shielding Aspects of Accelerators, Targets, and Irradiation Facilities, Apr. 28–29, 1994, Arlington, Texas. Contact: R. W. Roussin, RSIC, ORNL, P.O. Box 2008, Oak Ridge, TN 37831-6362 USA (phone 615-574-6176; fax 615-574-6182).

May 1994

9th Pacific Basin Nuclear Conference, May 1–5, 1994, Sydney, Australia. Contact: Australian Nuclear Association, P.O. Box 445, Sutherland, NSW 2232, Australia.

Advanced Health Physics (C.H.P. Part 2 Exam Study), May 1–6, 1994. Contact: Woodson Assoc., Inc., P.O. Box 2665, Gaithersburg, MD 20886 (phone 301-990-0751, Fax 301-990-6153).

International Workshop on Implementation of ALARA at Nuclear Power Plants, May 8–11, 1994, Long Island, New York. Contact: Dr. John W. Baum or Dr. T. A. Khan, Brookhaven National Laboratory, ALARA Center, Upton, Long Island, NY 11973 USA (phone 516-282-3228, Fax 516-282-5810).

International Conference on Nuclear Data for Science and Technology, May 9–13, 1994, Gatlinburg, Tennessee, USA. Contact: J. K. Dickens, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6356 USA (phone 615-574-6115).

Principles of Liquid Scintillation Counting, May 11–12, 1994, a continuing education course presented by North Carolina State University. Contact: Joni M. Tanner, Office of Continuing Education and Professional Development, Box 7401, Raleigh, NC 27695-7401 (phone 919-515-2261, Fax 919-515-7614).

1994 Symposium on Radiation Measurements and Applications, May 16–19, 1994, Ann Arbor, Michigan, the 8th in a series sponsored by the U.S. Department of Energy. Contact: Helen Lum, Symposium Secretary, 3034 Phoenix Memorial Laboratory, The University of Michigan, Ann Arbor, MI 48109-2100.

Radiation Safety Principles and Procedures, May 16–20, 1994, a continuing education course presented by North Carolina State University. Contact: Joni M. Tanner, Office of Continuing Education and Professional Development, Box 7401, Raleigh, NC 27695-7401 (phone 919-515-2261, Fax 919-515-7614).

Radioactive Materials Transport and Radwaste Disposal, May 16–20, 1994. Contact: Woodson Assoc., Inc., P.O. Box 2665, Gaithersburg, MD 20886 (phone 301-990-0751, Fax 301-990-6153).

International High-Level Radioactive Waste Management Conference, May 22–26, 1994, Las Vegas, Nevada, sponsored by the American Nuclear Society and the American Society of

Civil Engineers. Contact: Meetings, American Nuclear Society, 555 North Kensington Ave., La Grange Park, IL 60525 (phone 708-352-6611).

June 1994

Radiation Safety Officer Training, June 13–17, 1994. Contact: Woodson Assoc., Inc., P.O. Box 2665, Gaithersburg, MD 20886 (phone 301-990-0751, Fax 301-990-6153).

17th Symposium on Effects of Radiation on Materials, June 20–23, 1994, Sun Valley, Idaho, sponsored by the American Society for Testing and Materials. Contact: Dorothy Savini, Symposia Operations, ASTM, 1916 Race St., Philadelphia, PA 19103-1187 (phone 215-299-2617, fax 215-977-9679).

Third International Symposium on Fusion Nuclear Technology, June 27–July 1, 1994, University of California, Los Angeles. Contact: Dr. Mark Tillack, 44-139 Engineering-IV, Univ. of California, Los Angeles, CA 90024-1597 (phone 310-206-1230; Fax 310-825-2599, Internet, MST@fusion.ucla.edu).

July 1994

First International Congress of Environmental Geotechnics: Geotechnical and Related Aspects of Waste Management Associated with Municipal, Mine, Industrial and Nuclear Wastes, July 10–15, 1994, Edmonton, Canada. Contact: D. C. Sego, University of Alberta, Dept. of Civil Engineering, Sego, Edmonton, TG6 2G7, Canada.

Environmental Health Physics, July 11–15, 1994. Contact: Woodson Assoc., Inc., P.O. Box 2665, Gaithersburg, MD 20886 (phone 301-990-0751, Fax 301-990-6153).

Planning for Radiation Emergencies, July 11–15, 1994, Guildford, Surrey, England. Contact: Prof. J.R.A. Lakey, c/o MOS Ltd, 17 Wrotham Road, Gravesend, Kent DA11 OPA, UK (phone 44-0-474-350580, Fax 44-0-474-320042).

18th International Radiation Physics Society, July 18–22, 1994, Rabat, Morocco. Contact: Pr. M. Berrada, Lab. de Physique Nucléaire, Faculté des Sciences, B. P. 1014 Rabat, Morocco (Fax 212-7-77-99-78).

31st Annual International Nuclear and Space Radiation Effects Conference, July 18–22, 1994, Tucson, Arizona, sponsored by the Institute of Electrical and Electronics Engineers. Contact: Timothy R. Oldham, AMSRL-WT-NG, Army Research Laboratory, 2800 Powder Mill Road, Adelphi, MD 20783-1197 (phone 301-394-3180).

6th International Symposium on Radiation Physics, July 18–24, 1994, Rabat, Morocco. Contact: Dr. M. Berrada, Lab. de Physique Nucleaire, Univ. Mohammed V, bp 1014, Rabat, Morocco (phone 212 7 77 89-73, fax 212 7 77 99-78).

27th International Conference on High Energy Physics, July 21–27, 1994, Glasgow, United Kingdom. Contact: Institute of Physics, 47 Belgrave Square, London SW1X 8OX, UK.

August 1994

Occupational & Environmental Radiation Protection, Aug. 15–19, 1994, Harvard School of Public Health, Boston, Massachusetts. Contact: Office of Continuing Education, Harvard School of Public Health, Dept. A, 677 Huntington Ave., Boston, MA 02115-6023 USA (phone 617-432-1171; fax 617-432-1969).

October 1994

European Nuclear Conference and Exhibition, Oct. 2–6, 1994, Lyon, France. Contact: P. Fuez, European Nuclear Society, P.O. Box 5032, CH-3001 Berne, Switzerland (phone 41-31-21-61-11; fax 41-31-22-92-03).

Meeting of the American Society for Therapeutic Radiology and Oncology, Oct. 3–7, 1994, Philadelphia, Pennsylvania. Contact: ASTRO, 1101 Market St., 14th Floor, Philadelphia, PA 19107-2990 (phone 215-574-3180).

Seminar on Radioactive Waste Management Practices and Issues in Developing Countries, Oct. 10–15, 1994, Beijing, sponsored by the International Atomic Energy Agency. Contact: IAEA, P.O. Box 100, A-1400 Vienna, Austria (phone 43-1-2360-1310, fax 43-1-234564).

Symposium on Spent Fuel Storage and Safety: Engineering and Environmental Aspects, Oct. 11–14, 1994, Vienna, sponsored by the International Atomic Energy Agency. Contact:

IAEA, P.O. Box 100, A-1400 Vienna, Austria (phone 43-1-2360-1310, fax 43-1-234564).

Fourth Conference on Radiation Protection and Dosimetry, Oct. 24–26, 1994, Orlando, Florida, sponsored by the Oak Ridge National Laboratory. Contact: J. S. Bogard, ORNL, P.O. Box 2008, Oak Ridge, TN 37831-6379 (phone 625-574-5851, fax 615-574-9174).

November 1994

Supercomputing '94 Meeting, Nov. 14–18, 1994, Washington, sponsored by the Institute of Electrical and Electronics Engineers Computer Society. Contact: Gary Johnson, ER-7, U. S. Department of Energy, Germantown, MD 20585 (phone 301-902-5800).

2nd Radiation Physics Conference, Nov. 20–24, 1994, Sadaat City, Egypt, sponsored by the Atomic Energy Authority, Menoufia University. Contact: Prof. M. A. Gomaa, Atomic Energy Authority, 101. Kasr El-Aini Street, Cairo, Egypt (phone 02-355-8269/8264, fax 02-354-0982).

March 1995

5th Topical Meeting on Tritium Technology in Fission, Fusion, and Isotopic Applications, Mar. 26–31, 1995, Augusta, Georgia, sponsored by the ANS. Contact: C. E. Murphy, Westinghouse SRC, Savannah River Lab., Aiken, SC 29808.

May 1995

Particle Accelerator Conference, May 1–5, 1995, Dallas, Texas. Contact: Richard Briggs, SSC Laboratory, 2550 Beckleymeade Avenue, Dallas, TX 75237.

June 1995

Annual Meeting of the American Nuclear Society, June 25–29, 1995, Philadelphia, Pennsylvania. Contact: Meetings, American Nuclear Society, 555 North Kensington Ave., La Grange Park, IL 60525 (phone 708-352-6611).

November 1995

Winter Meeting of the American Nuclear Society, Oct. 29–Nov. 1, 1995, San Francisco, California. Contact: Meetings, American Nuclear Society, 555 North Kensington Ave., La Grange Park, IL 60525 (phone 708-352-6611).

JANUARY 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. For literature listed as available from INIS contact INIS Clearinghouse, International Atomic Energy Agency, P.O. Box 100, A-1400 Vienna.

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

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Health Phys. 65, 628-647. . *Metabolism and Dosimetry of Tritium* . . Hill, R.L.; Johnson, J.R. . . 12/93

Health Phys. 65, 648-656. . *Microdosimetry of Tritium* . . Morstin, K.; Kopec, M.; Olko, P.; Schmitz, T.; Feinendegen, L.E. . 12/93

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Health Phys. 66, 10-16. . *Application of Airborne Gamma Spectrometric Survey Data to Estimating Terrestrial Gamma-Ray Dose Rates: An Example in California* . . Wollenberg, H.A.; Revzan, K.L.; Smith, A.R. . 01/94

J. Nucl. Sci. Technol., 30, 1087-1098. . *Benchmark Tests of Principal Fissile Nuclide Data in JENDL-3 with Simple Fast Critical Assemblies* . . Dongfeng TIAN; Akira HASEGAWA; Tsuneo NAKAGAWA; Yasuyuki KIKUCHI. . 11/93

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