

# RSIC Newsletter



OAK RIDGE NATIONAL LABORATORY  
POST OFFICE BOX X • OAK RIDGE, TENNESSEE 37831-6362  
OPERATED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.  
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Phone No. 615-574-6176 or FTS 624-6176  
EasyLink Mailbox: 62813374  
Telex(Answer Back): 854467(ORNL EPIC UD)  
(For RSIC TELEX Communication Only)

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*Getting an idea should be like sitting down on a pin; it should make you jump up and do something.—E. L. Simpson*

## RSIC DDN/ARPANET Hostname Changed

Effective immediately the Oak Ridge National Laboratory (ORNL) hostnames on the DDN/ARPANET network have been changed. The

RSIC user-hostname is `pdc@STC10.CTD.ORNL.GOV`. The RSIC name on BITNET remains the same: `pdc@ORNLSTC`.

## "MCNP Workshop" Video Tapes Available

The Radiation Transport Group (X-6) at Los Alamos National Laboratory conducted an MCNP Workshop in 1983 for users with access to the National Magnetic Fusion Energy Computer Center (NMFECC). The workshop was video taped, and copies are available from RSIC.

The workshop tapes consist of 26, 50-minute (approximately) presentations on various aspects of MCNP. General categories include: Overview, Introduction to Monte Carlo, Geometry, Data and Physics, Tallies, Variance Reduction Techniques, Input, Output, Coding, and other topics of interest.

Contact RSIC for details about ordering a copy of the MCNP Workshop video tapes.

## CHANGES TO THE COMPUTER CODE COLLECTION

Three changes were made to the computer code collection during the month. One existing code package was updated, and two code packages were replaced with newly-frozen versions.

### CCC-467/ITS 2.1

A newly-frozen version of the integrated TIGER

series of coupled electron/photon Monte Carlo transport codes was contributed by Sandia National Laboratories, Albuquerque, New Mexico.

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The primary purpose of this modification was the implementation of an improved sampling of Landau energy loss straggling for electrons provided by the National Bureau of Standards. Since PSR-245/UPEML is now provided as a stand-alone package (see October 1987 *RSIC Newsletter*), the original version and its associated documentation are no longer provided as part of CCC-467. Requesters of ITS version 2.1 will also receive PSR-245. References: Sandia National Laboratories Memo (December 1987 and April 1987), SAND 84-0573 (November 1984), and Informal Report (1988). FORTRAN-77; CRAY, CYBER-76, IBM 3081, CRAY-1, VAX.

#### PSR-155/DOGS

DOGS, a collection of routines for the graphical display of calculated data generated by discrete ordinates codes, has been upgraded to be compatible with DISSPLA version 10.0 by the original code contributors, ORNL, and a Cray version has been added. The codes are tailored for minimum input requirements when used with discrete ordinates codes, such as CCC-254/ANISN-ORNL and CCC-429/DOT4.3; however, options for alternate

uses and flexible plot enhancements are included. Informal documentation has been added to highlight changes and options not explained in the original document. References: ORNL/TM-7188 (March 1980) and Informal Notes (1987, 1983, 1981). FORTRAN 77, Assembler; IBM (A), Cray (B).

#### PSR-245/UPEML 2.1

A newly-frozen version of this machine-portable CDC UPDATE emulator was contributed by Sandia National Laboratories, Albuquerque, New Mexico. It is capable of emulating a significant subset of the standard CDC UPDATE functions, including program library creation and subsequent modification. UPEML was written primarily to facilitate the use of CDC-based scientific packages on alternate computers such as VAX, IBM, Cray, and others. Version 2.1 corrects errors found in Version 2.0 (see October 1987 *RSIC Newsletter*) and adds the command 'z' to produce a quick compile file on Cray computers. References: Sandia National Laboratories Memo (January 16, 1988), SAND87-0679 (August 1987). FORTRAN 77; VAX, Cray, IBM, CDC.

## CHANGES TO THE DATA LIBRARY COLLECTION

Two additions were made to the data library collection during the month, including one contribution from Korea.

#### DLC-132/FGXXRS

This coupled neutron, gamma-ray cross section library of 78 materials was generated by Korea Advanced Energy Research Institute, Choongnam, Korea, for use in research reactor shielding calculations. The few-group (10n,7g), self-shielded, microscopic, ANISN-formatted cross sections were generated by collapsing DLC-41C/VITAMIN-C using the spectra of the zone-dependent total fluxes. The Legendre order of expansion for angular distribution is 3. Reference: KAERI/TR-100/87 (August 1987). CDC CYBER.

#### DLC-133/VELM

These two multigroup cross-section libraries based on DLC-113B/VITAMIN-E data for sodium-cooled reactor shield analysis, VELM61 and VELM22, were developed at ORNL. The energy group structures (61n,23g) and (22n,10g) are subsets of the VITAMIN-E group structure and

are tailored to the iron and sodium resonances, windows, and capture gamma-ray spectra. Though the libraries were specifically designed for sodium-cooled reactor shield analysis, part of the data is general enough for most other purposes until more appropriate problem-dependent cross-section libraries based on ENDF/B-V are available. The (22n,10g) library is recommended for scoping calculations of a new problem with the (61n, 23g) library used for final results. Eighty-one materials from the VITAMIN-E library are included as a first part of each VELM library. The second part contains 33 additional shielding materials such as Na, Fe, and steel using problem-dependent weighting functions generated by ANISN analysis of a typical problem. Each library is available in both AMPX and ANISN formats. The Legendre order of expansion for angular distribution is 3. Reference: ORNL/TM-10302 (April 1987). IBM 360/370.

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## PERSONAL ITEMS

In serving a specialized area of scientific endeavor, it seems important that we note significant changes in the activities of people concerned with radiation protection, transport, and shielding in the nuclear industry. Therefore, we continue to carry personal items as they are brought to our attention.

**Robert C. Block** was appointed Head of the Department of Nuclear Engineering and Engineering Physics for the School of Engineering at Rensselaer Polytechnic Institute, effective September 1987.

**Swiss Institute Renamed** Effective January 1, 1988, the Swiss Federal Institute for Reactor Research Würenlingen, became the Paul Scherrer Institute.

### Visitors to RSIC

During the month the following persons came for an orientation visit and/or to use RSIC facilities: *Moshe Goldstein*, Nuclear Research Center, Beer-sheva, Israel; *D. W. Muir*, *R. MacFarlane*, and *P. Young* Los Alamos National Laboratory, New Mexico; and *Bruce R. West*, Defense Nuclear Agency, Alexandria, Virginia.

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## 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. Your attention is directed to the following events of interest.

### February 1988

*Radioactive Waste Management Conference*, Feb. 25-26, 1988, London. Contact: Louise Marriott, IBC Technical Services Ltd., 3rd Floor, Bath House, 56 Holborn Viaduct, London EC1A 2EX, U.K. (phone 01-236-4080).

*Waste Management '88: Symposium on Radioactive Waste Management*, Feb. 26-Mar. 3, 1988, Tucson, Arizona, sponsored by the University of Arizona. Contact: M. Wacks, Dept. of Nuclear and Energy Engineering, University of Arizona, Tucson, AZ 85721 (phone 602-621-2475).

### March 1988

*24th Annual Meeting of the National Council on Radiation Protection and Measurements*, Mar. 30-31, 1988, Washington, D.C. The principal session is "Radon." Contact: NCRP, 7910 Woodmont Ave., Suite 1016, Bethesda, MD 20814.

### April 1988

*International Workshop on Radiological Protection in Mining*, Apr. 4-5, 1988, Darwin, Australia. Contact: J. Kvasnicka, Dept. of Mines and Energy, Minerals House, Esplanade, G.P.O. Box 2901, Darwin, N.T. 5794, Australia.

*Annual Meeting of the Atomic Energy Society of Japan*, Apr. 4-6, 1988, Tokyo. Contact: Minoru Masamoto, Secretary General, AESJ, No. 1-13, 1-chome, Shim-bashi, Minato-ku, Tokyo 105, Japan.

*Workshop on Non-ionising Radiation Biological Effects, Protection and Standards*, Apr. 5-8, 1988, Melbourne, Australia. Contact: J. C. Button, Scientific Secretary, IRPA 7, Health and Safety Div., Australian Atomic Energy Commission, Private Mail Bag, Sutherland, NSW 2232 Australia.

*Seventh International Congress of the International Radiation Protection Association (IRPA 7)*, Apr. 10-17, 1988, Sydney, Australia. Contact: J.C.E. Button, Scientific Secretary, IRPA 7, Health & Safety Div., Australian Atomic Energy Commission, Private Mail Bag, Sutherland, N.S.W. 2232, Australia (phone 61-2-543-3295) (Telex: AA.24562).

*International Symposium on Fusion Nuclear Technology*, Apr. 10-19, 1988, Tokyo. Contact: Kenzo Miya, Nuclear Engineering Research Lab., University of Tokyo, Tokai-mura, Ibaraki Prefecture, 319-1 Japan (phone 011-813-812-211 ext 7421) or Mohamed Abdou, University of California-Los Angeles (phone 213-206-1228).

*International Conference on Radiation Protection Principles in Nuclear Energy*, Apr. 18-22, 1988, Sydney, Australia, sponsored by the IAEA. Contact: W. Porter, IE-13, U.S. Dept. of Energy, Forrestal, Washington, DC 20585 (phone 202-252-4573).

### May 1988

*Safety of Next Generation Power Reactors*, May 1-6, 1988, Seattle, Washington, sponsored by the ANS Reactor Physics, Reactor Operations, Human Factors, and

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Fuel Cycle and Waste Management Divisions, and the U.S. DOE. Contact: Robert Ferguson, Ferguson & Assoc., 7601 W. Clearwater, Suite 450, Kennewick, WA 99336 (phone 509-783-1446).

*3rd Topical Meeting on Tritium Technology in Fission, Fusion, and Isotopic Applications*, May 1-6, 1988, Toronto, Canada, sponsored by the Canadian Nuclear Society and the American Nuclear Society. Contact: C. D. Burnham, CFFTP, 2700 Lakeshore Road, West, Mississauga, Ontario, Canada, L5J 1X3 (phone 416-823-6364) or Harold Anderson, Monsanto Research Corp., P.O. Box 32, Miamisburg, OH 45342 (phone 513-865-3062).

*International Conference on Incineration of Hazardous and Radioactive Waste*, May 3-6, 1988, San Francisco, sponsored by the American Nuclear Society. Contact: Jim Tripodes, Univ. of California, EG&S Trailer Complex 407, Irvine, CA 92717 USA (phone 714-856-6200).

*International Symposium on the Feedback of Operational Safety Experience from Nuclear Power Plants*, May 16-20, 1988, Paris, sponsored by the IAEA. Contact: IAEA, Conference Service Section, P.O. Box 100, A-1400 Vienna, Austria.

*International Symposium on the Management of Low and Intermediate Level Radioactive Wastes*, May 16-20, 1988, Stockholm, Sweden, sponsored by the International Atomic Energy Agency. Contact: Conference Service Section, IAEA, P.O. Box 100, A-1400 Vienna, Austria.

*NATO Advanced Workshop on "Noise and Nonlinear Phenomena in Nuclear Systems"*, May 23-27, 1988, Valencia, Spain. Contact: Felix C. Difilippo, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, TN 37831-6363 US (phone 615-574-6188) or Jose L. Muñoz-Cobo, Departamento de Ingeniería Química y Nuclear, Universidad Politécnica de Valencia, Apdo. 22012, 46071 Valencia, Spain (phone 361-5051).

*International Conference on Nuclear Data for Science and Technology*, May 30-June 3, 1988, Mito, Japan, sponsored by the Japan Atomic Energy Research Institute. Contact: Sin-iti Igarasi, Conference Secretariat, Nuclear Data Center, JAERI, Tokai-mura, Nakagun, Ibaraki-ken 319-11 Japan (phone 0292-82-5480).

## June 1988

*International Conference on Computational Physics (ICCP)*, June 1-5, 1988, Beijing, sponsored by the Institute of Applied Physics and Mathematics, Beijing, and Drexel University, Pennsylvania. Contact: Zhang Tianyuan, IAPCM, P.O. Box 8009, Beijing, China (PRC) or D. H. Feng, Department of Physics and Atmospheric Science, Drexel University, Philadelphia, PA 19104 USA.

*American Nuclear Society Annual Meeting*, June 12-17, 1988, San Diego, California. Contact: ANS, Meetings Dept., 555 North Kensington Ave., La Grange Park, IL 60525 (phone 312-352-6611).

## September 1988

*Industrial Radiation and Radioisotope Measurement Applications*, Sept. 6-8, 1988, Pinehurst, North Carolina, a topical meeting sponsored by the Isotopes and Radiation Division of the ANS. Contact: Robin P. Gardner, General Chairman, or Kuruvilla Verghese, Tech. Program Chairman, North Carolina State Univ., School of Engineering, Box 7909, Raleigh, NC 27695-7909.

*International Topical Meeting on Waste Management*, Sept. 11-15, 1988, Pasco, Washington. Contact: Bill Bonner, Pacific Northwest Laboratory, P.O. Box 999, Richland, WA 99352 (phone 509-376-5451 or FTS 444-5451).

*7th International Conference on Radiation Shielding (ICRS)*, Sept. 12-16, 1988, Bournemouth, United Kingdom, sponsored by the OECD Nuclear Energy Agency and the UK Atomic Energy Agency. Contact: A. K. McCracken, UKAEA Winfrith, Dorchester, Dorset, DT2 8DH, UK or Leo LeSage, Argonne National Laboratory, Argonne, IL 60439 (phone 312-972-6048).

*International Reactor Physics Conference*, Sept. 18-21, 1988, Jackson Hole, Wyoming, sponsored by the ANS. Contact: Mike Lineberry, Argonne National Laboratory, P.O. Box 2528, Idaho Falls, ID 83403 (phone 208-526-7434).

*11th International CODATA Conference, "Scientific and Technical Data in a New Era,"* Sept. 26-29, 1988, Karlsruhe, Fed. Rep. of Germany. Contact: DECHEMA, ATTN: CODATA Conference, P.O. Box 97 01 46, D-6000 Frankfurt/M. 97, Fed. Rep. of Germany (phone 069 7564 241/242/243; Telex: 412490 dcha d.).

## October 1988

*4th International Symposium on Radiation Physics (ISRP-4)*, Oct. 3-7, 1988, São Paulo, Brazil. Contact: Prof. Ivan Cunha Nascimento, ISRP-4 Chairman of the Organizing Committee, Inst. de Física-Universidade de São Paulo, Caixa Postal 20516 (TELEX: 011-37920 IF SP -1498-São Paulo-SP-Brazil).

*Fundamentals of Nondestructive Assay of Nuclear Material*, Oct. 3-7, 1988, Los Alamos, New Mexico, sponsored by the U.S. Dept. of Energy. Contact: Linda Robinson, Los Alamos National Laboratory, Los Alamos, NM 87545 (phone 505-667-5258 or FTS 843-5258).

*International Symposium on the Feedback of Operational Safety Experience from Nuclear Power Plants*, Oct. 3-7, 1988, Vienna, sponsored by the IAEA. Contact: IAEA, Conference Service Section, P.O. Box 100, A-1400 Vienna, Austria.

*IMEchE International Conference on Decommissioning of Major Radioactive Facilities*, Oct. 11-12, 1988, London, sponsored by the Institution of Mechanical Engineers. Contact: Conference Dept. C376, Inst. of Mechanical Engineers, 1 Birdcage Walk, Westminster, London SW1H 9JJ, United Kingdom.

12th International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Oct. 12-19, 1988, Nice, France, sponsored by the International Atomic Energy Agency (IAEA). Contact: IAEA, P.O. Box 100 A-1400, Vienna, Austria.

5th National Conference on Biomedical Physics and Engineering, Oct. 15-17, 1988, Sofia, Bulgaria. Contact: M. Markov, Department of Biophysics, Biological Fac-

ulty, Sofia University, 8, Dragan Tzankov Blvd., Sofia 1000, Bulgaria.

#### November 1988

*Gamma-Ray Assay of Nuclear Materials*, Nov. 28-Dec. 2, 1988, Los Alamos, New Mexico, sponsored by the U.S. Dept. of Energy. Contact: Linda Robinson, Los Alamos National Laboratory, Los Alamos, NM 87545 (phone 505-667-5258 or FTS 843-5258).

## 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

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