

RSIC Newsletter



RADIATION SHIELDING INFORMATION CENTER

OAK RIDGE NATIONAL LABORATORY

OPERATED BY UNION CARBIDE CORPORATION FOR THE DEPARTMENT OF ENERGY

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To be blind is bad, but worse it is to have eyes and not to see. . . . Helen Keller

"Dear RSIC" Will Serve

An RSIC participant has written to request that we publish a list of RSIC personnel and their area of responsibility as an aid to direct communication and proper salutation in addressing letters. To do so is contrary to the RSIC working philosophy where we make optimum use of group dynamics to enable a relatively small staff to perform many functions and carry a sizable work load.

We have always encouraged our users to write to "RSIC", or to an entity called "Code and/or Data Coordinator" when pertinent, rather than to individuals by name when requesting RSIC materials. The reality is that all incoming mail is centrally opened and logged into the center so that no communication is lost or forgotten. That which requires the attention of a specific technical staff member is directed to that individual for personal action and response. All requests for RSIC products and services are processed through the Request/Response Section which is managed by Nancy A. Hatmaker, who may be addressed as Miss, or Ms., or Nancy, as you prefer.

Any personal notes on your letters of request are received by the designated individual via a copy. When you write something especially nice about RSIC or it's staff members, we all read it.

Remember, when nothing else fits, "Dear RSIC" will do.

Kahn Book on Monte Carlo Available

We have been advised by the DOE Technical Information Center that the classic document by Herman Kahn, *Applications of Monte Carlo*, is available. This 250-page work, published in 1954, consists of three parts: Techniques with Random Variables "inspired by John von Neumann", Evaluating Integrals, and Integral Equations. This book is timeless, and we feel that anyone using Monte Carlo techniques would benefit by having access to a copy of Kahn. It can be obtained from Engineered Systems, Inc., P.O. Box 866, Oak Ridge, TN 37830 (ask for AECU-3259). The cost is \$3.50 for microfiche or \$39.30 for printed copy.

Indian Nuclear Data Workshop Abstracts Available

R. Shankar Singh, convenor of the *Workshop on Nuclear Data Evaluation, Processing, and Testing*, held in Kalpakkam (Tamil Nadu), India August 4-5, 1981, has sent to RSIC a copy of the program and abstracts. The workshop, with inaugural and keynote addresses by N. Srinivasan and M. K. Mehta

respectively, focused primarily on LMFBF technology, but it also had papers on basic aspects including radiation transport and shielding topics. A total of 19 papers were presented by speakers from the Reactor Research Centre (Kalpakkam), Bhabha Atomic Research Centre (Bombay), Tata Institute of Fundamental Research (Bombay), and Indian Institute of Technology (Kanpur). Copies of the abstracts are available from RSIC upon request.

DR. YERAM S. TOULOUKIAN DIES SUDDENLY

Dr. Yeram S. Touloukian, pioneer and practitioner in the reference data field, died suddenly on June 12, 1981, in Bethesda, Maryland. He was attending a meeting of the CODATA Task Group on Thermophysical Properties. He had also planned to attend the symposium on Thermophysical Properties, the International Symposium on Thermal Expansion, and the International Thermal Conductivity Conference, held concurrently under the auspices of the International Thermophysics Conference. Dr. Touloukian played a prominent role in starting and sustaining each of the groups mentioned above.

In addition to promoting international information exchange in the area of thermophysics, he was the founder and director of Purdue University's CINDAS (Center for Information and Numerical Data Analysis and Synthesis), one of the earliest information analysis centers. CINDAS began as the Thermophysical Properties Research Center (TPRC) in 1957 and currently also includes the Electronics Properties Information Center and the Thermophysical Properties Information Analysis Center. Under Dr. Touloukian's leadership, TPRC and CINDAS established new standards in all phases of scientific documentation and data analysis.

Nuclear Standards News

ANSI will be calling for comment soon on this draft which is now available from ANS: **ANS-10.2** "Recommended Programming Practices to Facilitate the Portability of Scientific Computer Programs" (revision of ANS-Std. 3-1971). Price \$7.50.

PERSONAL ITEMS

We are pleased to note that among ANS members elected to the grade of Fellow this year is a long-time RSIC participant and active member of the ANS Radiation Protection and Shielding Division. **Keran O'Brien** was cited for his achievements in the application of high energy radiation transport theory to accelerator shielding and to cosmic rays, particularly the production of cosmogenic isotopes such as carbon 14, to ionization in planetary atmospheres and to human dose rates, as well as his theoretical determination of human organ doses from natural radiation sources. O'Brien is a staff member of DOE Environmental Measurements Laboratory's Radiation Physics Division, New York City.

Karl Warkentin, former staff physicist with Radiation Research Associates, Inc., Fort Worth, Texas, has accepted a position as Nuclear Engineering Consultant with Brown and Root, Inc. in Houston, Texas.

Raymond N. Ng, formerly in Reactor Systems and Applications, Office of Fusion Energy, has been appointed Executive Assistant to Shelby Brewer, the Assistant Secretary for Nuclear Energy, U.S. Department of Energy (DOE).

Klaus M. Zwilsky has been appointed Executive Director of the National Materials Advisory Board of the National Research Council, the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. Zwilsky formerly was Chief of Materials and Radiation Effects Division of the DOE Office of Fusion Energy.

Henry Till, formerly with the Electric Power Research Institute, is now with Envirosphere Inc., Newport Beach, California.

We regret to announce the accidental death early this year of **Ilkka Uotila** of the Helsinki, Finland Institute of Radiation Protection. Mr. Uotila was an RSIC participant for several years.

CONFERENCES AND COURSES

Several conferences and courses of general interest are planned for the coming months as follows.

NRC/WRSR Information Meeting

The Office of Nuclear Regulatory Research, NRC, will hold its Ninth Water Reactor Safety Research Information Meeting at the National Bureau of Standards on October 26-30, 1981. The 5-day meeting will highlight research results and accomplishments achieved during the past year. Concurrent sessions covering major research areas are planned as follows:

- October 26 - LOFT, Semiscale, and Seismic Safety Margins
- October 27 - Separate Effects, Advanced Instrumentation, Structural Engineering, and Human Factors
- October 28 - Analysis Development, 2D/3D Program, Mechanical Engineering, and Instrumentation and Control
- October 29 - Fuel Behavior, Severe Accident Assessment, and Materials Engineering
- October 30 - Risk Analysis, Severe Accident Sequence Analysis, and Materials Engineering

Additional information may be secured from Stanley A. Szawlewicz (301-427-4254) or Susan Lynd (301-427-4338) who are in charge of arrangements.

THE RADIATION SAFETY SPECIALIST TRAINING PROGRAM

Oklahoma State University offers a five-day seminar entitled "The Radiation Safety Specialist Training Program" to be held October 19-23, 1981 in Oklahoma City. Topics covered include: Atomic and Nuclear Structure, Radioactive Decay, Types of Radiation and Interaction, Radiation Dosimetry, Biological Effects of Radiation, External Radiation Protection, Internal Radiation Protection, Radiation Safety Instrumentation, Regulatory Control, and Compliance.

Further information may be secured from: Technology Extension, 313 Crutchfield, OSW, Stillwater, OK 74078.

Calendar of Meetings

We call attention to the following meetings.

September 1981

Probabilistic Risk Assessment, September 20-23, Rytown Hilton, Port Chester, New York. Contact: Walter Kato, Brookhaven National Laboratory, Building 130, Upton, New York 11973, (516) 345-2444.

Federal Computer Conference, September 21-23, Sheraton Washington Hotel in Washington, D.C. Contact: Federal Computer Conference, P.O. Box 368, Wayland, Mass. 01778, (617) 358-5181.

Atomic Energy Licensing and Regulation, September 24-26, Hyatt Regency Hotel, Washington, D.C. Contact Donald M. Maclay, Director, Courses of Study, ALI-ABA, 4025 Chestnut Street, Philadelphia, PA 19104, (215) 243-1630.

October 1981

Executive Conference on Alternate Energy Sources for Electrical Power, October 4-7, Dunfey's Hyannis Resort Hotel, Cape Cod, Massachusetts. Contact: Leonard F.C. Reichel, Sr. Vice President, Ebasco Services, Inc., 93rd Flr/World Trade Ctr., New York, NY 10048, (212) 839-2800.

The Information Community: An Alliance for Progress, October 25-30, Washington Hilton Hotel, Washington, D.C. Contact: American Society for Information Science, 1010 Sixteenth St., N.W., Washington, D.C. 20036, (202) 659-3644.

9th Symposium on Engineering Problems in Fusion Research, October 25-29, Palmer House, Chicago, Illinois. Contact: George H. Miley, Nuclear Engr. Program, Univ. of Illinois, 214 Nuclear Engr. Lab., Urbana, Illinois 61801, (217) 333-3772.

November 1981

ANS Winter Meeting, November 29 through December 4, San Francisco Hilton, San Francisco, California. Contact: Barton W. Shackelford, President, Pacific Gas & Electric, 77 Beale Street, San Francisco, California 94106, (415) 781-4211 extension 2941.

March 1982

International Symposium on Applications and Technology of Ionizing Radiations, March 12-17, College of Science, University of Riyadh, Riyadh, Saudi Arabia. Contact: Raymond C. Barrall, Cancer Therapy Institute, King Faisal Hospital, P.O. Box 3354, Riyadh, Saudi Arabia, (01) 464-7272 X.2900, Telex: 201050 ROSPEC SJ.

June 1982

Information and Transformation of Society, June 28-30, St. Patrick's College, Dublin, Ireland. Contact: Conference Officer, Information and the Transformation of Society, Institute for Industrial Research and Standards, Ballymun Road, Dublin 9, Ireland, (01) 370101, Telex: EI 25449.

Eleventh International Symposium on Effects of Radiation on Materials, June 28-30, Mountain Shadows Resort Hotel, Scottsdale, Arizona. Contact: Symposium Chairman Howard R. Brager, Hanford Engineering Development Laboratory, P.O. Box 1970, Richland, Washington 99352, (509) 376-3637.

October 1982

Information Interaction, October 17-21, Columbus, Ohio. Contact: John Fried, ASIS-82 Technical Program Chairman, Battelle Columbus Laboratories, 505 King Avenue, Columbus, Ohio 43201.

CHANGES IN THE COMPUTER CODE COLLECTION

The following changes were made to the codes collection during August.

CCC-190/AKERN

The AKERN point-kernel integration calculational system, contributed by Aerojet Nuclear Company in 1972 was extended to include a CDC version of (C) the GGG-F and QAD-P5F codes. These CDC versions were contributed by the Institute of Nuclear Energy Research, Taiwan, Republic of China. UNIVAC (A) and IBM (B) versions of this are also available. FORTRAN IV.

CCC-209/DOT III

The CDC CYBER-73 (B) version of this two dimensional discrete ordinates radiation transport code package has been extended to include DOTPLT, a two-dimensional isoflux plot routine which was contributed by the Institute of Nuclear Energy Research, Taiwan, Republic of China. Developed for the DOT-III code, DOTPLT can also be used for any other isoflux plots of R-Z or R- θ geometry. DOTPLT uses CALCOMP plotting hardware. Reference: INER-T0718. FORTRAN IV.

CCC-254/ANISN-ORNL

The CDC version (C) of ANISN-ORNL, a multigroup one-dimensional discrete ordinates transport code package with anisotropic scattering, was extended to include ANIPLT, a one-dimensional semi-log plotting routine contributed by the Institute of Nuclear Energy Research, Taiwan, Republic of China. The IBM (A), UNIVAC (B), and TR-440 (D) versions of the ANISN-ORNL package were not affected by this extension. Reference: INER-UM-0002. FORTRAN IV.

CCC-307/QAD-CG

QAD-CG, the combinatorial geometry version of QAD-P5A, a point-kernel code for neutron and gamma-ray shielding calculations, was extended to include a CDC version (B) contributed by the Institute of Nuclear Energy Research, Taiwan, Republic of China. FORTRAN IV.

CCC-335/GALE

GALE, a gaseous and liquid effluents, boiling water and pressurized water reactors, radiological

assessment code package has been extended to include a CDC version (C) of source codes for gaseous effluents from LWR and for liquid effluents from LWR. The IBM 360 (A) and UNIVAC (B) versions are not affected by this extension of the package. FORTRAN IV.

CCC-409/OGRE-MIN

OGRE-MIN, a general-purpose Monte Carlo gamma-ray transport code system for minicomputers, was contributed by Denison University and the Oak Ridge National Laboratory. The major changes to CCC-46/OGRE are (1) adaptation to a minicomputer (tested on a Data General Eclipse S/130) and (2) introduction of interactive input preparation. The interactive module also does the macroscopic cross section preparation which allowed the removal of this function from the Monte Carlo modules, P1 and HOTONE. The major limitation of this system, compared to the main-frame version, is the reduced size of the macroscopic cross section table. References: ORNL-3805 and OGRE-MIN Users Manual. FORTRAN IV; DG ECLIPSE.

PSR-164/TPASS

TPASS, a gamma-ray spectral data-reduction and analysis computer code, was contributed by the Oak Ridge National Laboratory. The code is used to analyze complex Ge(Li) gamma-ray spectra to obtain peak areas corrected for detector efficiencies, from which are determined gamma-ray yields. These yields are compared with an isotope gamma-ray data file to determine the contributions to the observed spectrum from decay of specific radionuclides. Reference: ORNL-5732. FORTRAN IV; PDP-10.

PSR-165/REGN

This code system for solving nonlinear systems of equations via the Gauss-Newton method was contributed by the Institute of Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Sofia, Bulgaria. Reference: Informal report. FORTRAN IV; IBM 360.

AUGUST 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.

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