RSIC Newsletter

RADIATION SHIELDING INFORMATION CENTER

OAK RIDGE NATIONAL LABORATORY

OPERATED BY UNION CARBIDE CORPORATION • FOR THE U.S. ATOMIC ENERGY COMMISSION

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"The eternal mystery of the world is its comprehensibility."
- Einstein

CINDA 72 AVAILABLE

CINDA 72, Vol. 1 Z ≤ 52 and *Vol. 2 Z ≤ 53*, An Index to the Literature on Microscopic Neutron Data, dated May 1972, is now available. Published by the International Atomic Energy Agency, Vienna, on behalf of the USAEC Technical Information Center, the USSR Nuclear Data Centre, the NEA Neutron Data Compilation Centre, and the IAEA Nuclear Data Section, this issue supersedes all earlier issues.

CINDA, the Computer Index of Neutron Data, contains bibliographical references to measurements, calculations and evaluations of neutron cross sections and other microscopic neutron data. CINDA 72 is a cumulative issue in two volumes, which contains the complete CINDA file as at 1 May 1972. A supplement, to be published in January 1973, will include CINDA entries compiled between May and November 1972.

The compilation and publication of CINDA are the result of world-wide cooperation involving the four information centers above. Each center is responsible for compiling the CINDA entries from the literature published in a defined geographical area.

In addition to the published CINDA books, up-to-date computer retrievals for specified CINDA information are currently available on request. For CINDA computer retrievals, as well as for suggestions and corrections, scientists are invited to contact their responsible Center:

For USA and Canada:

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A NEW YEAR REMINDER

Information exchange is vital to the information analysis center concept. Although constant communication takes place between the Center and the individuals in the shielding community, we normally are concerned with customer requests. The RSIC staff is required to aggressively pursue the collection of shielding information, including computer codes and compilations of nuclear data. With the cooperation of the industry in the collection activities, more staff time could be utilized in evaluating, analyzing, synthesizing, and packaging the information acquired.

In other words, the degree to which the Radiation Shielding Information Center is successful obviously depends on the cooperation of the shielding community itself. You are reminded that we may overlook your new information, so will you please assume responsibility for notifying us about it.

We appreciate being placed on your distribution list for shielding reports, being sent reprints of your journal articles, and receiving copies of papers which you give at meetings. It is always helpful when you call our attention to new code development and to useful compilations of nuclear data.

We also like to have news of your current work and problems and to have you make us aware of relevant needs of the shielding community. We always are pleased to have your suggestions on how RSIC services can be improved.

With your full and continued cooperation, RSIC will be in a much better position to serve your radiation shielding information needs.

DISCRETE ORDINATES REVIEW AVAILABLE

Reprints are available in RSIC of the K. D. Lathrop (LASL) Reactor Technology (Vol. 15, No. 2, Summer 1972) review article, "Discrete-Ordinates Methods for the Numerical Solution of the Transport Equation." The review covers the theory, capabilities, limitations, and applications of discrete-ordinates methods and programs for the solution of the transport equation. Copies will be mailed on request.

PERSONAL ITEMS

The following persons have notified RSIC of changes of address:

Howard Rathjen from Sperry Rand at Great Neck, N. Y. to Kaman Sciences Corp., Colorado Springs; *Fred A. Kautz II*, from the University of Michigan to the University of Tennessee; *Arthur Sanders* from A.R.T. in Los Angeles to Bechtel Corp., Norwalk, Calif.; *Michael Weinert* from

Institut für Reine und Angewandte, Kiel University, to the Institut für Strahlenschutz, Stohl, West Germany.

Prof. José Ribeiro Da Costa, a civil and nuclear engineer in Brazil, has recently been appointed by the University of Sao Paulo Professor-Chairman of Shielding for Nuclear Reactors (IEA-754) in the Master of Science program in Nuclear Engineering. The Professor, a visitor to RSIC within the last year, continues his duties in the Brazilian Nuclear Technology Corporation (state-owned) and in the Atomic Energy Institute of the University of Sao Paulo.

Jun Kuwabara, recently named Deputy Manager, Computer Application Section of Mitsubishi Atomic Power Industries, Inc. (MAPI) of Japan, is now acting as RSIC's volunteer coordinator within MAPI. He replaces Kiyoshi Shoji, who died last year. Mr. Kuwabara has been involved in the design and development of reactor instrumentation systems since 1956 for the Japan Atomic Energy Research Institute (JAERI) taking three years out to work for PADA, Detroit, Michigan, in the design study of the 350 MWe DFBR and in the Fermi project. He has most recently been engaged in JAERI's development of unique subassembly instrumentation systems for a large sodium-cooled fast breeder reactor and has published several journal articles on his work.

The UK-AEA-FRPD/Radiation Physics and Shielding Group headed by *John Butler* has recently relocated from AERE Harwell to the Atomic Energy Establishment at Winfrith, Dorchester, Dorset, England.

Anthony R. Buhl, head of the Reactor Applications Section, Neutron Physics Division, Oak Ridge National Laboratory (ORNL), is leaving to accept a position in the USAEC Division of Reactor Development and Technology, Reactor Engineering Core Design Branch. His responsibilities will be in connection with nuclear design for the FFTF and the DEMO at Oak Ridge. Tony attended the University of Tennessee, completing studies for the B.S. in 1963 and M.S. in 1964 in Nuclear Engineering, and for the Ph.D. in 1967 in Engineering Science. At ORNL he has been involved in the development of a subcriticality monitoring system for LMFBR's and in computational methods development for fast reactor kinetics and design applications. Prior to joining ORNL, he was a group leader at the Nuclear Defense Laboratory and was involved in a variety of radiation transport problems.

CHANGES TO CODE COLLECTION

PSR-35/EDITOR — A CDC 6600 version of EDITOR has been contributed by Nuclear Fuel Services and is now packaged as PSR-35B. EDITOR is an ENDF format data processing code originating at ORNL (ORNL-TM-3266 (ENDF-142)).

CCC-127B/MORSE This IBM 360 code package has been updated to make it more compatible with other compilers as an aid to conversion. Two routines, INPUT and FPROB, were modified by G. P. Lahti (NASA Lewis Research Center) and M. B. Emmett (ORNL Mathematics Division) and RSIC staff members.

CCC-180/TDA An IBM 360 version has been contributed by the code originator (Ward Engle, ORNL Neutron Physics Division) and is packaged as CCC-180B. TDA is a time-dependent multigroup one dimensional discrete ordinates code described in ORNL-4662 (LA-4557) (SAI-70-125).

CCC-182/CDR The NWEF Constant Dose Range code package has been updated to include (as BCD card images) the LASL-NWEF Neutron-Gamma-Ray Air Flux Data Library for Air Transport Calculations. The library, originally available in CDC-6600-compatible binary, can now be read in BCD and a machine-language-written tape made by using an auxiliary routine, TRANS, also packaged. Versions of the code package are available as CCC-182A (CDC 6600) and CCC-182B (IBM 360). Credit for this contribution belongs to Jim Campbell, Naval Weapons Evaluation Facility, Albuquerque, New Mexico. The BCD library may be obtained by sending one reel of magnetic tape for 9 track, or 3 reels for 7 track transmittal.

CCC-194/SMAUG A program for the Calculation of Neutron and Prompt Gamma Doses Resulting from an Atmospheric Nuclear Detonation has been contributed by the Air Force Weapons Laboratory, Kirtland Air Force Base, New Mexico. References: AFWL-TR-72-2 and -3. The programming was done in ANSI FORTRAN as an effort to make it machine-independent. The packaged version is operable on the CDC 6600.

CCC-196/RRR Radiation Transport in Air-Analysis Code for Routine Releases of Short-Lived Radioactive Nuclides contributed by ORNL Health Physics and Mathematics Divisions. Reference: ORNL-TM-3613. FORTRAN IV, IBM 360.

VISITORS TO RSIC

Visitors to RSIC during the month of December were: S. E. Binney, EG&G, Las Vegas, Nev.; J. C. Carter, J. Ritts, and R. Graf, TVA, Knoxville, Tenn.; W. H. Wilkie, TVA, Muscle Shoals, Ala.; L. Huszar, Science Applications, Inc., La Jolla, Calif.; G. H. Herling and J. B. Langworthy, NRL, Washington, D. C.

DECEMBER ACCESSION OF LITERATURE

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