

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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*Some books are to be tasted,
others to be swallowed,
and some few to be chewed and digested.*

...Bacon - OF STUDIES

RSIC SPACE ACTIVITIES CURTAILED

It is with deep regret that we must announce that RSIC efforts in the space shielding area have been seriously curtailed because of the cessation of financial support by NASA. An effort will be made to preserve the existing material in the information systems, but no new work can be initiated.

A similar announcement was made in November 1970 when a NASA reorganization eliminated the Space Vehicle Research and Technology Division, which previously sponsored RSIC's service in space shielding. Later, however, the NASA Directorate of Materials and Structures arranged for modest funding through the Space Sciences Laboratory of NASA Marshall Space Flight Center, Huntsville, Ala. The NASA-RSIC agreement expired March 1, 1973, was not extended, and no new agreement is foreseen in the immediate future.

NASA well-deserves the reputation for being at the forefront among government agencies in serving the private and industrial sector through its technology utilization programs. It is to be regretted that RSIC has not found a home within those programs from which to serve NASA's space shielding interests.

ON USING CENTERS AS DEPOSITORIES FOR DATA

The editor of the Thermophysics Newsletter, published by the Thermophysical Properties Research Center (TPRC), is requesting a response to the idea of depositing numerical data files at information analysis centers. We quote:

"On this occasion, your Editor felt it would be appropriate to feel out members of the thermophysics community on their reaction to the development of a RESOLUTION which could be transmitted to Editors of primary journals covering the major segment of the thermophysics literature. The resolution which follows has been adapted in part from another discipline and is self-explanatory. The Editor urges everyone interested to respond, indicating his or her position vis a vis the proposal. Journal Editors will be sympathetic only if there exists a broad reader interest.

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.

So let us hear from you now.

A RESOLUTION

All of us engaged in the dissemination and use of scientific results realize that many small and large improvements must be made in our techniques for transmitting information if these techniques are to provide a better match for the efforts going into the production of the information itself. One point on which general agreement seems to exist concerns the need to have information, which appears in journals in graphical form in miniature figures, also available in numerical form.

This need is especially acute in the realm of data on thermophysics, an area in which extensive application is made of the data being generated in a number of laboratories. Many hours are spent, at present, by users of data in efforts to extract numerical values from curves -- efforts which must be duplicated later by others. In addition to the drudgery involved is the associated degradation of knowledge and loss of information.

TPRC would welcome the opportunity to serve as a depository for numerical data on thermophysics when space limitations prevent their presentation in the paper itself.*

**A long time recognized general depository is: American Society for Information Sciences, Auxiliary Publications Project, c/o Library of Congress, Washington, D.C. Deposition here of material of any page size must be made by journal editors. An editor's form and \$2.00 deposit must accompany the material. Depositions at TPRC will be at no cost. Distribution of material on request will be on microfiche at \$2.00 per fiche.*

Your comments on this suggestion for utilizing Data Analysis Centers as depositories are invited. A consensus, even on this small item, would represent a real advance in the techniques of scientific information distribution."

The RSIC staff has long felt that this is a good idea and began developing the computer readable Data Library Collection several years ago. We feel it is more valuable to have computer tapes of large data arrays available than to print vast tables. We invite persons who generate radiation transport data of general usefulness to consider depositing the data on tape with RSIC.

IAEA FISSION PRODUCT NUCLEAR DATA MEETING

The International Atomic Energy Agency (IAEA) plans to convene a study group meeting on Fission Product Nuclear Data (FPND) at Bologna, Italy, November 26-30, 1973. The main objectives of the meeting as defined by the IAEA FPND Consultants Meeting in December 1972 in Vienna are:

- (a) A comprehensive review of
 - needs for FP nuclear data and their precision in various fields of application;
 - the status of knowledge of microscopic FPND including a critical comparison of existing evaluations;
 - the testing of microscopic FPND by integral measurements.
- (b) Identification of unfulfilled requirements and extensive discussion of further measurements, compilations and evaluations needed.
- (c) To work out specific recommendations and aim at measures for coordination of future work.

In order to meet these objectives and to make the meeting as efficient as possible, it was decided to cover the full scope of subjects by 16 comprehensive review papers, leaving ample time for discussions. These review papers shall be prepared by top experts in their fields and shall include contributions from a number of other experts all over the world. The reviews of user needs in various application fields will be presented first, followed by reviews of the status and integral testing of the main categories of FPND.

Data types to be considered are neutron cross sections, fission yields, decay data, and delayed neutron data.

CALL FOR COMMENTS ON STANDARDS

The American National Standards Institute has called for comment by May 31 on new standards including:

- BSR N105, Definitions of Terms Relating to Dosimetry (ASTM E170-63(1968))
- BSR N109, Method for Measuring Neutron Flux by Radioactivation Techniques (ASTM E261-70)
- BSR N110, Method for Measuring Fast-Neutron Flux by Radioactivation Techniques (ASTM E 262-70)
- BSR N111, Method for Measuring Fast-Neutron Flux by Radioactivation of Iron (ASTM E263-70)

- BSR N112 Method for Measuring Fast-Neutron Flux by
 Radioactivation of Nickel (ASTM E264-70)
- BSR N113, Method for Measuring Fast-Neutron Flux by
 Radioactivation of Sulfur (ASTM E265-70)
- BSR N114, Method for Measuring **Fast**-Neutron Flux by
 Radioactivation of Aluminum (ASTM E266-70)

Order from ASTM, 1916 Race St., Philadelphia, Pa. 19103, by ASTM designation;
price \$1.50 per copy; minimum order \$3.00.

NEA CPL SECU ACTIVITY

The OECD Nuclear Energy Agency Computer Programme Library, Ispra, Italy, has initiated an activity called "Service on Experience of Code Utilization (SECU)" in which they wish to have feedback from users of ANISN, DOT II, MORSE, TIMOC, UNC-SAM-2, SABINE, ATTOW, and MERCURE-3. A questionnaire has been prepared designed to elicit information on present status, improvements, strengths and weaknesses, typical applications, etc. The responses will be studied by a committee (G. Hehn, Stuttgart, Germany, C. Devillers, Fontenay-aux-Roses, France, and C. Ponti, Ispra, Italy) and will be published.

USA users are urged by NEA CPL to participate in SECU by sharing experience from using any of the above codes. Copies of the questionnaire are available from RSIC.

CUSTOMER NAME FOR NEWSLETTER DISTRIBUTION

To more easily identify RSIC users and to assign individual responsibility to notify us of changes of address, we request that we be given a name to which each newsletter can be mailed, rather than to an installation or a librarian. Please check the address on your newsletter. If it is not directed to an individual by name, please return to us the old address indicating the new address, marking "changed from" and "changed to." Your cooperation will be appreciated.

When writing to RSIC, please give your current telephone number and, if applicable, your Federal Telecommunication System (FTS) number. We will check such information to ensure that our system is up-to-date.

ADDITIONS TO THE DNA WORKING CROSS SECTION LIBRARY

Evaluations for magnesium and copper have been added to the DNA Working Cross Section Library by Marvin Drake and Martin Fricke of Science Applications, Inc., La Jolla, California. They are identified as MAT 4512 MOD 0 magnesium and MAT 4529 MOD 0 copper and are available from RSIC. Requests should be accompanied by a full reel of magnetic tape.

ADDITIONS TO PSR CODE COLLECTION

- PSR-53/CONFOLD Least Structure Unfolding Code for Measured Neutron and Gamma-Ray Spectra, contributed by LASL. FORTRAN IV. Version PSR-53A: CDC 6600; Version PSR-53B: IBM 360. Reference: LA-5088.
- PSR-54/INTRIGUE-II Plotting Package - Linear, Logarithmic, and Semi-logarithmic Graphs Using the Calcomp Plotter, contributed by the Oak Ridge National Laboratory. FORTRAN IV, IBM 360. These subroutines are included in several ORNL-contributed code package and are offered separately because of their versatility and potential usefulness in other applications. Reference: ORNL-4664.
- PSR-55/SIR-3 Sievert's Integral Routine - Computer Evaluation, contributed by the University of Adelaide Anti-Cancer Foundation, Adelaide, South Australia. FORTRAN IV, CDC 6400. SIR-3, along with SIR and ENOFX packaged as PSR-24/IER, offer alternative computer techniques for integral evaluation.
- PSR-56/GAINCALB Computer Determination of the Gain Used with Organic Scintillation Detectors, contributed by ORNL. FORTRAN IV, IBM 360. Reference: ORNL-TM-3598.

PERSONAL ITEMS

Robert S. Hubner, formerly of Atomics International, has recently accepted a position with Sargent & Lundy at Chicago, Illinois. He has joined the Nuclear Safeguards and Licensing Division, which is responsible for the shielding, radiological safety, and licensing of nuclear power plants.

P. M. Krishna has recently been made head of the Nuclear Licensing and Fuels Group of the Newark, N. J. Public Service Electric and Gas Company. He was formerly in the Mechanical Services Group.

The following changes of address have been noted: *L. S. Mims* from Autonetics to Rockwell International Corporation, Electronics Research Division, Anaheim, California, and *George K. Wachs* from Idaho Nuclear to Aerojet Nuclear, Idaho Falls, Idaho.

David F. Dickinson writes that the University of Nevada has dissolved the Nuclear Engineering Department and moved the course work into Electrical Engineering.

The following changes of address have been received from colleagues in Japan: *Mitsuo Shindo* from the Technical Research Laboratory to the Nuclear Engineering Department of the Osaka Hitachi Shipbuilding and Engineering Co., Ltd., and *Yashihiko Kanemori* from JAERI to Mitsui Shipbuilding and Engineering Co., Ltd., Tokyo.

Takashi Nakamura is spending a year in Sweden with Eric Hellstrand in the Reactor Physics Section of AB Atomenergi at Studsvik. *Hideo Hirayama* replaces him on RSIC's distribution at Kyoto University, Japan.

Wallace J. Dodson has returned to Kaiser Engineers after a leave of absence which he spent working with Aerojet Nuclear Corporation.

Michael L. Gritzner and *Tom J. Hoffman* recently transferred from the Oak Ridge National Laboratory to Science Applications, Inc., Huntsville, Alabama.

Roland Schuttler, Professor at the University of Toulouse, has recently been named Scientific Advisor of DERTS, the organization given responsibility by the French Space Administration for radiation shielding problems in space. The Departement d'Etudes et de Recherches en Technologie Spatiale (DERTS) was founded in 1967 at Toulouse University. It was incorporated in 1969 and is operated by ONERA/CERT. DERTS works mostly for space organizations (CNES, ESRO, COMSAT, and some private companies). It includes an operation division and three scientific divisions (solid state, materials, and space radiations).

VISITORS

Working visits of a week's duration each were made by Roland Rühle, IKE, Stuttgart Technical University, Germany, and Harry Berkowitz of the Nuclear Hardening Technical Area, U.S. Army, Fort Monmouth, New Jersey. Other visitors during the month of April were: S. Dagbjartsson, University of Stuttgart, Germany; John Kinch, Ballistics Research Laboratory, Aberdeen Proving Ground, Md.; C. Nappo, NOAA/ U.S. Dept. of Commerce, Oak Ridge, Tenn.; J. Sholtis, Foreign Technology Division, Wright Patterson AFB, O.; J. Tills, Air Force Weapons Laboratory, Albuquerque, New Mexico.

APRIL ACCESSION OF LITERATURE
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