RSIC Newsletter

RADIATION SHIELDING INFORMATION CENTER

OAK RIDGE NATIONAL LABORATORY

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

POST OFFICE BOX X •
OAK RIDGE, TENNESSEE 37831

No. 26 January 15, 1967

THE BRITISH NUCLEAR ENERGY SOCIETY
International Conference 1967

THE PHYSICS PROBLEMS OF REACTOR SHIELDING

A conference will be held in September, 1967, at the Atomic Energy Research Establishment, Harwell. The provisional programme is as follows:-

26th September, 1967 Bulk Shielding Calculations

The object of the first day will be to review the present state of the art of bulk shield design. Papers are invited on the solution of the one-dimensional shielding problem ranging from kernel methods and diffusion theory approximations to numerical solutions of the transport equation including Monte Carlo techniques. Emphasis will be placed on the comparison of theoretical predictions with experiment for both neutrons and gamma-rays, and the inter-comparison of methods for the solution of both research and engineering design problems.

27th September, 1967 The Treatment of Shield Irregularities

The theme for the second day will be the treatment of shield irregularities such as ducts and voids filled with gases, and regions containing liquid or solid materials. The scope of the programme will include the lattice problems associated with the design of internal and biological axial shields. The aim will again be to assess a variety of methods incorporating different physical and mathematical approximations by comparison with measurements made in reactor and accelerator facilities.

28th September, 1967 Design and Performance of Practical Shields

The topics of the second day will lead to the more general shielding problems associated with complicated geometries in power reactors, including the prediction of activation, nuclear heating and damage spectra. Consideration will therefore be given in the closing session to the comparison of theoretical predictions with measurements made during the commissioning and operation of power reactors, and also to the special requirements for shielding novel reactor concepts for both mobile and land-based systems.

A tour of the establishment has been arranged for the morning of the 29th September, when delegates will have an opportunity to visit the shielding facilities.

Accommodation for delegates will be offered at St. Catherine's College, Oxford, and the opportunity will be provided for informal panel meetings at the College.

Authors who wish to prepare papers on any of these shielding topics, not more than 5,000 words long, are invited to submit a 200 - 500 words synopsis not later than 1st February, 1967, to:-

Mr. F. K. Pyne,
Secretary, Conference on Reactor Shielding Design,
Building 77, A. E. R. E., HARWELL,
Didcot, Berkshire, England.

SEMINAR-WORKSHOP PLANNED

A seminar-workshop is being planned by RSIC and the LASL authors of the neutron and gamma-ray kernel integration code, QAD, to be held at the Oak Ridge National Laboratory in the early Spring (1967). A report describing the computer code, LA-3573, will be available in the near future. Although aimed primarily at the RSIC Codes Section staff, it is thought that the seminar-workshop method of sharing information about QAD would be of interest to current users and to individuals who would like to use the program.

Richard E. Malenfant, Don M. Peterson and Glen Graves of the N-2 Division, Los Alamos Scientific Laboratory are assisting in planning the workshop-seminar. Anyone wishing to attend should notify the RSIC Codes Coordinator, Mrs. Betty F. Maskewitz, ORNL, P. O. Box X, Oak Ridge, Tennessee 37830.

Corrections to ISOSHLD

The computer code, ISOSHLD, is now in the RSIC routine checkout process and has not yet been routinely distributed. Two minor corrections have just been sent in by the originating installation. Anyone now using the program may have the corrections on request.

NEW CODE PACKAGES

The code package CCC-73/ASTROS is now ready for distribution. Contributed by the Health Physics Department, UCRL, Berkeley, California, the program calculates depth dose due to an incident isotropic flux of monoenergetic protons, including the effect of primary and first-generation secondary protons, in spheres of arbitrary size containing tissue equivalent material. A reel of magnetic tape should accompany a request for the code package.

The CCC-17/05R code package has been updated to include a complete FORTRAN IV version. To secure only this version from the package ask for CCC-17-C. Two reels of tape should accompany a request for the package.

RECENT VISITORS TO RSIC

The following people visited RSIC during the months of November and December: Walter Kee, Division of Technical Information, USAEC, Washington; W. J. McDonald, Esso Products Co., Houston, Texas; Ulf Tveten, Institute for Atomenergie, Kjeller, Norway; Robert A. Dannels, Westinghouse Atomic Power Division, Pittsburgh; C. E. Clifford, Jack Yost, Milo Solomito, Neutron Physics Division, ORNL; S. Mann, Chemical Technology Division, ORNL; Arthur Sanders, Adv. Res. and Tech. Assoc., Los Angeles; P. N. Stevens, Jim Ritts, University of Tennessee, Knoxville; C. F. Holloway, Information Center for Internal Exposure, ORNL; and James H. Russell and C. J. Gill, Gilbert Associates, Reading, Pennsylvania.

DECEMBER ACCESSION LIST OF LITERATURE

The RSIC is now aware of the literature cited in the following list. This literature has either been obtained by RSIC or has been placed on order. When received, this material will be examined and assigned to various files if suitable for our information system. The accession list is divided into three fields of (1) reactor and weapons shielding, (2) space and accelerator shielding, and (3) shielding computer codes. These titles are announced before processing and indexing so that there will be no delay and can serve as a prompt announcement of current literature.

RSIC is not a documentation center. Copies of the literature cited must generally be obtained from the author or from a documentation center such as the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

RSIC maintains a microfiche file of literature entered into its information system. Computer searches of this system (which produces a special bibliography) and duplicate microfiche copies of literature in our file are available upon request. Naturally we cannot supply copies of literature which is copyrighted (such as books or journal articles) or whose distribution is restricted. Neither service is yet available for the codes literature.

Reactor and Weapons Shielding

Ishikawajima-Harima Eng. Rev., No. 27, 5-14 (Jan. 1966)

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