

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. 36

November 17, 1967

*"Such things and deeds as are not written down are covered with darkness,
and given over to the sepulchre of oblivion." Ivan Bunin*

INTERNATIONAL SHIELDING CONFERENCE HELD AT HARWELL IN SEPTEMBER

Congratulations are in order to the Organizing Committee, P. W. Mummery, Chairman, and the Working Party, J. Butler, Chairman, for the very successful conference on The Physics Problems of Reactor Shielding, held September 26-29, 1967. The conference, which attracted more than 160 delegates from about 20 countries, was largely concerned with the shielding of power reactors with special emphasis on the problems of fast-reactor shielding. The reported research was indeed impressive. The proceedings will be published by the UKAEA and will be announced in the newsletter when available.

CHANGE IN CODE PACKAGE CCC-24/CARSTEP

The RSIC Code Package, CCC-24/CARSTEP has been updated to reflect corrections suggested by S. Martinez, Chrysler Corporation, New Orleans, La., and M. R. Morrison, Northrop Space Laboratory, Hawthorne, California. The changes have been sent to those users who received the code from RSIC. Any requester may have them by writing to the RSIC Codes Coordinator.

REPORTS PUBLISHED

Attention is called to two reports originating in the RSIC Codes Section and now available to requesters.

ORNL-RSIC-15 (Rev. 1), "Bibliography of the Computer Codes Literature Examined by the Radiation Shielding Information Center," by Betty F. Maskewitz, Vivian A. Jacobs, and Jane Gurney, July 1967.

This is a complete revision of the original report.

ORNL-RSIC-13 (Rev. 1), "Abstracts of Digital Computer Codes Assembled by the Radiation Shielding Information Center," by Betty F. Maskewitz.

The above report includes abstracts of code packages CCC-40 through CCC-58 plus a revised set of pertinent data for the introductory pages of the original ORNL-RSIC-13. Anyone on the RSIC codes distribution list not receiving the original document in the binder, may do so by contacting RSIC.

OCTOBER 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

RRA-T73

Monte Carlo Study of Structure Shielding Against Fallout Radiation
R. L. French, J. H. Price and L. Olmedo - March 31, 1967

EUR-3472.d (German)

The Calculation of Place-Dependent Neutron Spectra in Water-Iron-Water Shielding Assemblies and the Relations of the Diffusion
R. Fiebig

ORNL-TM-1944

Mathematical Verification of a Certain Monte Carlo Sampling Technique and Applications of the Technique to Radiation Transport Problems
W. A. Coleman

JINR-P9-3365 (Russian)

Measurement of a Dose Field of Mixed Radiation Behind the Steel Shielding

M. Zel'chinskii, M. M. Komochkov, S. Sychev, and A. P. Cherevatenko
1967

NWEP-1001, Vol. I

Definitions of Nuclear Terms - Including Formulas and Tables
E. M. Thorn - May 1, 1967

ORNL-4147

Calculations Using the Albedo Concept, of Thermal-Neutron Fluxes, Epicadmium-Neutron Fluxes, and Fast-Neutron Dose Rates Along the Center Lines of Square Concrete Ducts: Comparison with Experiment
R. E. Maerker, F. J. Muckenthaler - October 1967

BOOK (Russian)

Physical Research into Reactor Safety

Y. A. Kazanskii, V. I. Kukhtevich, E. S. Matusevich, B. I. Sinitsyn,
S. G. Tsypin

AHSB(RP) R-78

The Application and Interpretation of ICRP Recommendations in the United Kingdom Atomic Energy Authority (June 1967)

H. J. Dunster

CEA-BIB-1004 (1966)

List of CEA Reports Published by the Atomic Energy Commission in 1966

NAA-SR-12494

A New Use of Adjoints in the Monte Carlo Estimation of Resonance Integrals

L. B. Levitt - September 5, 1967

FEI-68 (Russian)

Modern Trends in the Study of Shielding of Nuclear Reactors

S. G. Tsypin

AFWL-TR-67-41, Vol. I

A Computer-Automated Iterative Method for Neutron Flux Spectra Determination by Foil Activation. Volume I - A Study of the Iterative Method

W. N. McElroy, S. Berg, et al. - September 1967

Nucl. Instr. Methods, 51(1), 129 (May 1967)

Tissue Current-to-Dose Conversion Factors for Neutrons with Energies from 0.5 to 60 MeV

D. C. Irving, R. G. Alsmiller, Jr. and H. S. Moran

- Ann. Phys. (Paris), 2, 17-25 (1967) (FRENCH)
Calorimetric Measurement of the Activity, Absorbed Doses and Buildup
Factors of Intense γ Sources
Michel Picq - 1967
- AEC-TR-6719, pp. 1-6
Neutron Dose Composition in Shielding Materials
E. A. Kramer-Ageev, V. P. Mashkovich, and V. K. Sakharov
- AEC-TR-6719, pp. 71-2
Reflection of Gamma-Radiation Emerging from a Semi-Infinite Active
Water Medium by Air
V. V. Pavlov
- AEC-TR-6719, pp. 74-6
Angular Energy Distribution of Gamma Radiation from a Semi-Infinite
Medium with Uniformly Distributed Isotropic Sources
V. V. Pavlov
- AEC-tr-6719, pp. 77-8
Spectral-Angular Distribution of Radiation from the Lateral Walls
of a Channel in Shielding
A. M. Panchenko
- Kerntechnik, 9, 205-8 (May 1967) (GERMAN)
Radiation Shielding Under Restrictive Conditions
K.-D. Schlums
- J. Nucl. Energy, 21(5), 403-15 (May 1967)
An Investigation of Neutron Streaming Using the Pulsed Neutron
Source Technique
R. W. Page
- J. Appl. Phys., 38(8), 3122-6 (July 1967)
Derivation and Experimental Verification of an Equation for
Exposure-Dose Rate due to X-Ray Continua
S. Ray, et al.
- Nucl. Instr. Methods, 50(1), 141-6 (1967)
Neutron Flux Distribution from a 14-MeV Neutron Generator
H. F. Priest, et al.
- Atomnaya Energiya, p 97-100 (Feb. 1967) (RUSSIAN)
Calculation on Fast Neutrons Passing through Graphite
L. M. Shirkin
- Atomnaya Energiya, p. 133 (Feb. 1967) (RUSSIAN)
Air-Capture Gamma-Ray Dose Rates
V. M. Mordashev

Nucl. Instr. Methods, 51(1), 56 (1967)

Shielding of High-Energy Electrons: The Neutron and Muon Components
B. Bathow, E. Freytag and K. Tesch

Nucl. Instr. Methods, 50(2); 302 (May 1967)

Monte Carlo Study of a Method for Lunar (Surface) Analysis Based on
Spectroscopy of Gamma Rays Following 14-MeV Pulsed-Neutron Bombardment
M. Leimdorfer and R. T. Boughner

Kernenergie, 10, 44-47 (Feb. 1967) (German)

Calculation of the Shield of a Spent-Fuel Shipping Container. II.
J. Hoehn

EANDC-56(U)

Three year Progress Report of the ENEA Neutron Data Compilation
Centre 1964-1967
Douglas W. Colvin - May 1967

NP-16776

The Preparation of Simplified Manuals for Shielding Analysis
Interim Report.
John F. Batter and Albert W. Starbird - March 1967

NP-16776 (Suppl. 1)

The Preparation of Simplified Manuals for Shielding Analysis,
Supplement I: In and Down Scattering and Finite Fields of Contamination
Albert W. Starbird and John F. Batter - March 1967

Shielding Computer Codes

NAA-SR-12337 (Vol. 1)	June 1967	GRAMS
GRAMS - A Fortran Program to Solve Gamma Ray Penetration Problems in Multislabs Shields. Volume 1 - Numerical Methods by Bruce D. O'Reilly and Richard C. Lewis FORTRAN		
SRI 3, No. 4 (ORNL-tr-1671)	1966	SELENE EOS
A Study of the Methods for Analyzing Multilayer Gamma-Ray Shields by Iwao Kataoka NEAC 2206 and IBM 7090		

