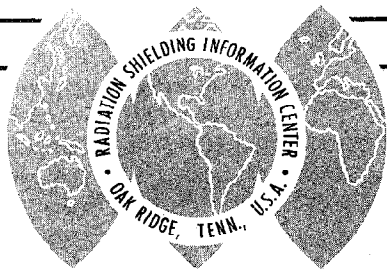


RSIC Newsletter



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. 14

January 19, 1966

O5R CORRECTION

Correction to the IBM 7090 version of O5R:

In converting O5R from the CDC 1604-A to the IBM 7090, a card was inadvertently lost from the deck of subroutine BANKR. This error will not affect the calculation of the neutron histories in any way, but will result in portions of the first record of most batches on the history tape being blank. The missing card contains the statement "NBCNT = 3" and should be inserted following statement 1052 between the "WRITE TAPE" and "RETURN" statements.

The CCC-17A/O5R code package has been corrected. A corrected source card deck for the subroutine BANKR is available. Anyone now using the code and wishing to save themselves the trouble of correcting the specific error may write to RSIC.

RECENT VISITORS TO RSIC

The following people visited RSIC during the month of December: J. Rastoin and J. Nimal, French AEC, France; Fred E. Farhat, Atomics International, Canoga Park, Calif.; C. E. Huddleston, USNCEL, Port Hueneme, Calif.; Art Chilton, University of Illinois, Urbana, Ill.; Bill Kreger, USNRDL, San Francisco, Calif.; Jim Buchanan, OCD, Washington, D. C.; Carl Bogart and Millard L. Wohl, NASA/Lewis Research Center, Cleveland, Ohio.

DECEMBER ACCESSION LIST OF LITERATURE

The following accession list consists of literature which the RSIC obtained through its usual scanning procedures. This literature will be examined for assignment to various files or for possible rejection. The accession list is divided into three fields of (1) reactor and weapons shielding, (2) space and accelerator shielding, and (3) shielding computer codes.

RSIC is not a documentation center. Hard copies of the literature cited below must generally be obtained elsewhere. In most cases, however, we will be able to supply microfiche copies upon request. There may be a delay if a microfiche original is not available and we must produce one. This will be the case with ordered and newly obtained literature only.

Reactor and Weapons Shielding

BOOK

Shielding Materials for Nuclear Reactors
A. N. Komarovskii - 1961 (Publisher: Pergamon Press)

USNRDL-TR-915

The Effect of a Changing Gamma-Ray Fallout Spectrum on the Ground Roughness Factor
F. M. Tomnovec, J. M. Ferguson and D. M. Weldon - September 22, 1965

CEX-59.7B

Experimental Radiation Measurements in Conventional Structures. Part III. The Attenuation of Air-Scattered Radiation in a Basement
Z. G. Burson - November 1965

GEMP-388

Neutron Cross Sections for Tantalum and Tungsten
A. Prince - November 12, 1965

LA-3415

Computation of Fast Neutron Penetration in Air by the "Sn-Method" with Special Emphasis on the Use of "Multitable-Multigroup Cross Sections Sets"
H. A. Sandmeier, G. E. Hansen, R. B. Lazarus, and R. J. Howerton
August 1965

NAA-SR-11528

Capabilities of the 1 Mw Shield Test and Irradiation Reactor
K. G. Golliher and K. G. Randen - November 10, 1965

AWRE O-79/65

A 12 Group Set of Photon Cross Sections for Use in Anisotropic Sn Calculations of Photon Transport
W. M. M. Kerr, K. Parker, D. V. J. Williams, and Patricia M. Wilton
October 1965

AWRE R-4/65

Measurement of the Neutron Spectrum in Herald Thermal Column
J. M. A. Reichelt - October 1965

UCRL-7703

Photoneutron Cross Sections for 12-C and 27-Al
S. C. Fultz, J. T. Caldwell, B. L. Berman, R. L. Bramblett and R. R. Harvey
October 21, 1965

WAPD-T-1862 (Rev.)

A New Class of Monte Carlo Estimators
E. M. Gelbard, L. A. Ondis, II, and J. Spanier - August 1965

LA-3403

Thermal Neutron Spectra from an Underground Nuclear Explosion with Special
Consideration of Spectral Modification Due to Bomb Debris Motion
Henry A. Sandmeier and Gordon E. Hansen - August 1965

UCRL-12411

Finite Difference Methods for Nonlinear Radiation Transport
P. M. Campbell - August 20, 1965

BOOK

Decay Schemes of Radioactive Nuclei
B. S. Dzheleпов and L. K. Peker - 1961 (Publisher: Pergamon Press)

FWAC-484 (C)

Fuel and Shield Component Development - SNAP-50
Pratt and Whitney Aircraft - October 1965

NAA-SR-10853

Analysis of Neutron Transmission Through Slabs of Lithium Hydride
R. S. Hubner - July 25, 1965

U. S. Patent 3,197,641

Protective Windows or Skylights for Fallout Shelters
J. P. Larkin - July 27, 1965

JINR-P-2216

Neutron Correlation in Nuclear Reactors with Account of Their Space and
Energy Distribution
Ben'yamin Kozik - 1965

JINR-P-2140

An Account of Energy and Momentum Conservation Laws in Inelastic Inter-
actions in the Monte Carlo Method
V. M. Mal'tsev and I. I. P'yanov - 1965

AAEC/TM-226 (Suppl. 1)

Purity of Gamma-Ray Sources
J. S. Watt - April 1965

SRI-MU-5116

Fallout Models and Radiological Countermeasure Evaluations
C. F. Miller - May 1965

FWAC-471 (C)

Reactor and Shield Design Status - SNAP-50
Pratt and Whitney Aircraft - September 1965

USNRDL-TR-916

Gamma Rays from $(n, n'\gamma)$ Interactions of 2.8 MeV Neutrons with Magnesium,
Aluminum, Silicon, Titanium and Iron
F. C. Engesser and W. E. Thompson

Nucl. Instr. Methods, 36: 141-52 (September 1965)

Measurement of Gamma Heating in D. F. R.
R. Dehn

Sov. J. Nucl. Phys. (English Transl.), 1, 155-8 (August 1965)

Multiple Scattering of a Narrow Beam of Fast Neutrons
G. M. Budyanski

Nucl. Sci. Eng., 23: 34-44 (September 1965) (GA-6034)

Neutron-Spectrum Measurements in H_2O and D_2O
J. C. Young, J. M. Neill, D. H. Houston, and J. R. Beyster

AIAA Paper No. 65-593 (CONF-650610-11)

Ground Test Radiation Experience at the Kiwi B-4 Tests
R. E. Malenfant, and G. A. Graves

FTD-MT-64-284 (p. 135-42)

Optimum Form of Gamma Radiation Shield
V. V. Tokarev and V. I. Tsvetko

AECL-2177 (Paper 8)

Shielding and Activation
G. T. Ewan

Pribory i Metody Analiza Izluchenii. Vypusk III. 53-60 (1962) (Translation requested)

Dependence of the Build-up Factors on the Distance of the Protective Barrier
Between the Source and Detector
D. P. Osanov

Pribory i Metody Analiza Izluchenii. Vypusk III. 37-46 (1962) (Translation requested)

Angular and Energy Distributions of ^{60}Co Gamma Rays Scattered in a Heterogeneous
Al-Pb Medium
A. Larichev, L. Klimanova

Pribory i Metody Analiza Izlucheni. Vypusk III. 15-36 (1962) (Translation requested)

Study of the Spectral-Angular Distributions of Scattered Gamma Radiation in Protective Barriers for the Case of a Plane Monodirectional Source
E. L. Stolyarova, et al.

French Patent 1,352,950

Biological Shield for Nuclear Reactor
January 13, 1964

British Patent 990,328

Shielding Plug for Closing an Aperture in a Radiation Shielding Wall
Roger Lelong - April 28, 1965

British Patent 995,003

Improvements in or Relating to Liquid Filled Windows for Use with Radioactive Sources
T. C. Hardy, R. A. G. Welsher - June 10, 1965

British Patent 988,414

Improvements in Energy Absorbing Compositions and Structures
April 7, 1965

Bull. Inst. Chem. Res., Kyoto Univ., 42, 22-34 (January 1965)

Streaming of Gamma Rays through Metallic Pipes
H. Kakimoto and S. Shimizu

J. Nucl. Sci. Technol. (Toyko), 2, 229-35 (June 1965)

An Approximate Calculation Method of Flux for Spherical and Cylindrical Sources with a Slab Shield
H. Ono, A. Tsuruo

Kerntechnik, 7: 256-61 (June 1965) (Translation requested)

Neutron Sources and Neutron Fields
W. Michaelis

Kerntechnik, 7: 262-6 (June 1965) (Translation requested)

Absorption, Energy Distribution and Biological Effectiveness of Neutrons
M. Hoefert

Kerntechnik, 7: 285-8 (June 1965) (Translation requested)

Methods of Calculation in Neutron Dosimetry
D. Nachtigall

Hiroshima Igaku, 16, 602-21 (1963)

Penetration of Radiation from Nuclear Weapons: Applicability to the Hiroshima and Nagasaki Survey
H. Ritchie and G. S. Hurst

Zentr. Arbeitsmed. Arbeitssch., 15, 1-7 (1965)

Radioprotection with Neutron Generators
R. Schwanecke

Nucl. Sci. Eng., 22, 494-5 (1965)

Measurement and Calculation of Energy Deposition Due to Capture Gamma Rays
Inside Annuli of Cadmium, Silver, and Stainless Steel
A. W. Boyd, H. W. J. Connor and S. A. Kushneriuk

Radiobiol. Radiotherap., 6: 371-5 (1965)

New Results in the Determination of Dose Distribution by Means of Computers
J. Richter and D. Schirrmeister

Am. Ind. Hyg. Assoc. J., 26: 311-17 (May-June 1965)

Radiation Protection Program for a 10-MeV Linear Accelerator
T. A. Bozich

Health Phys., 11: 779-80 (August 1965)

Absorbed Dose Versus Kerma
Harald H. Rossi

Shielding Computer Codes

D2-90418-1

SPARES

General Procedure: Space Radiation Environment and Shielding Codes, Vol. I
by Boeing staff members
Fortran for IBM 7090

D2-90418-2

SPARES

Van Allen Radiation
by Boeing staff members
Fortran for IBM-7090

D2-90418-3

SPARES

Apollo Sector Analysis
by Boeing staff members
Fortran for IBM-7090

D2-90418-6

SPARES

Electron Transmission
by Boeing staff members
Fortran for IBM-7090

EUR-2204-1

January 1965

GAMMONE

Program for Gamma-Ray Attenuation through Multilayer Composite Shields.
Part 1. Mathematical Bases of the Program
by L. Criscuolo
Part 2. Coding of the Program
by L. Criscuolo and M. G. Cerisola

KAPL-M-6420
(Microfiche)

December 1964

ETC4A

A One Dimensional Monoenergetic Transport Program (Revision II)
by E. I. Brooks, Jr., C. W. Dawson and T. E. Dudley

NAA-SR-MEMO-10881
(Microfiche)

January 1965

ANNEX III

Analytic Techniques for the Calculation of the ORNL Tower Shield Experiments,
Part III, Annex 3
by R. S. Hubner
Fortran II, IBM 7090