CODE PACKAGE TRANSMITTAL

The transmission of computer codes by RSIC is generally accomplished by mailing magnetic tapes because card decks for these codes are usually very bulky. Therefore, a request to RSIC for a code in the collection should be accompanied by a tape reel which will be returned.

In the past, when the requestor indicated a need for prompt transmittal of a code package the RSIC staff made use of tape reels borrowed from the local computing facility. Several have not been returned. We must account for them periodically and therefore must have them returned as soon as possible. Early processing and return of RSIC tapes will be appreciated.

L-05 REVISION

Modifications have been received for code package CCC-9/L-05 from USAF NARF, General Dynamics, Fort Worth, Texas. According to C. W. Austin the following subroutines have been revised: TFORM, ALF7, ALP11, DBPRZ, SCRP, DUMP and CDAT.

The modifications are available from RSIC. The code package now being distributed reflect the changes.

Additions to the L-05 data library have been made by Radiation Research Associates of Fort Worth.

LOCKHEED SPACE SHIELDING CODES IN RSIC

Dr. Frances S. Alsmiller, Mrs. Hemma E. Francis, and Mrs. Betty F. Maskewitz recently spent two days at the Lockheed-Georgia Company, Marietta, Georgia, in a conference on the Lockheed space shielding codes. C. W. Hill, W. B. Ritchie, and K. M. Simpson of the Nuclear Analysis Department discussed the codes described in their reports ER-6643 and ER-7777. This group has, in cooperation with M. O. Burrell, NASA George C. Marshall Space Flight Center, Research Projects Division, Huntsville, Alabama, contributed the codes to the RSIC computer code collection.

The code packages, now in RSIC routine processing, include a dose calculation with a geometry and a geometry test routine, a mission flux program (B-L coordinates) and mission trajectory, a range and stopping power calculator,
a proton penetration code with a nuclear constants routine, a source spectrum code, an electron Bremsstrahlung code, a multi-slab gamma code, and an inelastic gamma production code.

An announcement will be made when the packages are available for distribution.

NEW CODES RECEIVED AND BEING PROCESSED

P-36: MAC-RAD  
NEUTRON GAMMA-RAY ATTENUATION CODE; SPINNEY (REMOVAL-DIFFUSION)  
CALCULATION IN PLANE GEOMETRY, contributed by Nuclear Energy Plants, AEC, Frankfurt, Germany, and European Atomic Energy Community-BURATOM, Joint Nuclear Research Center, Ispra Establishment, Italy  
Fortran, IBM-7090  
References: KERNENERGIEANLAGEN Bericht No. 116 (ORNL-tr-610), and EUR 2152.e  
ENEA Computer Programme Library, Abstract No. 006

P-38: ARIEL  
PHOTOPRODUCTION REACTIONS IN HYDROGEN, contributed by Istituto Superiore di Sanita, Physica Laboratories, Rome, Italy  
FORTRAN IV, IBM-7040 and IBM-7090  
(Reference: ISS-64/21 (ORNL-tr-624))

P-39: OGRE SYSTEM  
GAMMA RAY DOSE RATE CALCULATION, contributed by Oak Ridge National Laboratory, Oak Ridge, Tennessee  
FORTRAN/FAP, IBM-7090 and FORTRAN/CODAP, CDC-1604  
(Reference: to be published)

P-40: SPARES/SPACE RADIATION ENVIRONMENT AND SHIELDING CODES:  
TRAJECTORY AND ENVIRONMENT AND PRIMARY PROTON DOSE, contributed by Air Force Weapons Laboratory (WLRB-1), Kirtland Air Force Base, New Mexico, and The Boeing Company, Seattle, Washington.  
Fortran, IBM-7090  

P-41: PROTOS  
THE MIGRATION OF PROTONS, contributed by the Research Institute of National Defense, Stockholm, Sweden  
FORTRAN for IBM-7090  
(Reference: FOA RAPPORT 4 A-4411-411)

P-42: PROGRAM 18-1  
Contributed by General Electric, Nuclear Materials and Propulsion Operation, Cincinnati, Ohio  
FORTRAN for IBM-7090  
(Reference: GEMP-272)
THE SHIELDING COMMUNITY NEEDS YOUR INFORMATION

It is obviously impossible for RSIC to be aware of every piece of shielding literature or of available computer codes for shielding calculations. Therefore, to ensure that your information is made known to the shielding community through RSIC, we request that you assume the responsibility of informing us about it, either by mailing us a copy of your report or by advising us by letter.

MISCELLANEOUS POLICIES AND SERVICES OF RSIC

RSIC is not a documentation center. The literature selected by RSIC may be obtained in general elsewhere.

RSIC maintains files of preliminary or informal publications which generally are not selected to be placed in RSIC bibliographies. These publications include proceedings of symposia, transactions of societies, letters to the editor, progress reports, strictly internal reports, etc. Also, RSIC maintains an archival microfiche file of all the shielding literature (except classified literature) and files of full-size copies of the literature, although no attempt is made to ensure complete coverage since the microfiche file does ensure complete coverage.
SEPTEMBER 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.

Reactor and Weapons Shielding

GEAP-3114
Neutron and Gamma Streaming in Void Channels
P. J. Aline - January 31, 1959

German Patent 1,184,026
Device for Radiation Shielding of Ducts through Shielding Walls
Wilhelm Lehner - December 23, 1964

German Patent 1,183,419
Method of Producing Construction Elements of Concrete, Artificial Stone, Stone Wood or Similar Construction Materials Containing Lead
Heinrich Drath - December 10, 1964

British Patent 981,279
Apparatus for Carrying Out a Nuclear Reaction
John E. Bounden - January 20, 1965

British Patent 980,947
Neutron Generator
Reuben Redstone, Peter D. Lomer, et al. - January 20, 1965

BRL R 1284
Alfred J. Dudka - April 1965

GEMP-360
Gamma Ray Production Cross Sections (Supplement No. 1)
W. E. Edwards - August 26, 1965

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Concrete for Radiation Shielding (Second Edition)
American Concrete Institute - 1962

Magazine of Conc. Res., 16(47), 211-220 (December 1964)
An Investigation of the Unit Weight of Concrete
Sandor Popovics
Nucleonics, 23(8), 119-122 (August 1965)
Two-Parameter Formula for Point-Source Buildup Factors
A. B. Chilton

NAA-SR-MEMO-3800 (App.)
A Derivation of the Equations Used to Assess the Specific Activity in the Coolant of a Nuclear Reactor System
C. A. Goetz - May 4, 1959

NAA-SR-MEMO 4264
Parameter Survey of the Average Nuclear Power Generation in the HNFF Rare Earth Control Rod Poison Column Assembly
R. Karcher - August 20, 1959

NAA-SR-MEMO 3830
Sodium-24 Specific Activity in HNFF U-Mo and U-C Reactor Systems
P. Spiegler - May 21, 1959

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Shielding Requirements for the Hemispherical Dome Portion of the Piqua Containment Shell and for Points of Shell Penetration
P. Spiegler - September 16, 1959

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A Determination of Intermediate-Energy Neutron Albedo Data for Concrete Using Monte Carlo
W. A. Coleman - September 1965

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Particle Escape from the Ends of Cylindrical Tubes
John R. Terrall - March 1958

Atomkernenergie, 10, 11-22 (Jan.-Feb. 1965) (Translation requested)
Shielding of a Boiling Water Ship Reactor
H. G. Fendler, A. L. Snellen and K. Werner

Kerntechnik, 7, 105-108 (March 1965) (Translation requested)
Calculation of Irradiated-Fuel Shielding
F. Rohloff

Kernenergie 8(3), 141-162 (March 1965) (Translation requested)
Radiation Streaming through Ducts and Voids in Shields
K. W. Kruegger and U. E. Michaelis

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Spent Nuclear Fuel as a Source of Gamma Radiation
W. M. Campbell and R. C. Hawkins - February 1965
AFWL-TR-64-134
X-Ray Absorption in Dose-Equated Materials
B. C. Clark and J. F. Janni - May 1965

USNRL-TR-852
Computer Correction for Shifts in Gain and Baseline in Gamma-Ray Scintillation Pulse Height Spectra
D. F. Covell - February 2, 1965

GA-6177
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L. W. Nordheim - May 17, 1965

IA-1003
Calculation of Gamma Ray Energy Response for a Flat Silver Metaphosphate Glass Dosimeter

RS2FFD20
Shadow Shield Design for Space Power Plants
G. A. Engleson - January 9, 1962

KAPL-M-6452
\(^{10}\)B Fast Neutron Cross Sections and Legendre Moments Below 15.0 Mev
E. L. Slaggie and J. T. Reynolds - April 30, 1965

BNML-SA-79
Neutron Attenuation Mechanisms in Concretes
J. Greenborg - June 3, 1965

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Analytic Techniques for the Calculation of the ORNL Tower Shield Experiments. Part III. Annex-3
R. S. Huhar - January 5, 1965

AABC/TM-288
Absolute Calibration of Radioactive Neutron Sources
D. R. Davy - April 1965

ARRE-W-1590
Attempts to Determine the Fast-Neutron Spectrum in a Thermal Reactor by Means of Li-6 and He-3 Semiconductor Spectrometers
M. G. Silk - May 1965

ANL-6751
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W. G. Knapp - March 1965
CRNL-TM-1184

Propagation of Neutron Waves through Heterogeneous Multiplying and Nonmultiplying Media (Thesis)
V. R. Cain - August 1965

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Two-Dimensional $S_n$ Calculations by the 2DXY on the Fast Pulsed Reactor Sora with Two Wheels
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One-Dimensional $S_n$ Calculations for the Evaluation of the Performances of the Source Reactor Sora
R. Quignemelle - 1965

SORA-868

$S_n$ Calculations on a Current Design of the SORA Reactor Part I - One-Dimensional Survey Calculations, Part II - Two-Dimensional Detailed Calculations
T. Asaoka - 1965

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Comparison Between $S_n$ Results and Experiments
T. Asaoka - 1965

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Radiation Properties of Californium - 252
Dean H. Stoddard - June 1965

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Thomas McCreless, Jr. - 1965
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A. R. Dreisner - April 16, 1965

Diffusion of Neutrons from a Point Source in an Exponential Atmosphere
Marshall Rosenbluth - August 12, 1965

Integral Gamma and Neutron Measurements on the Kiwi TNT
P. K. Lee and F. C. V. Worman - May 3, 1965

A Review of Evaluations of Neutron Cross Sections Available at November 1964
K. Parker - March 1965

A Model of the Boltzmann Collision Integral for Mixtures of Light and Heavy Particles
Melvin Epstein - June 1965

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Solution of the Transport Equation by the Monte Carlo Method
Ulrich Moller - February 1965

Subprograms for Solving Problems in Neutron Physics by the Monte Carlo Method
Ulrich Moller - February 1965
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John Moteff - 1963

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T. S. Hubner - January 4, 1965

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Ground Roughness Effects on the Energy and Angular Distribution of  
Gamma Radiation from Fallout  
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Angular Distribution of Gamma Rays Produced in the Fission of U-235, U-233,  
and Pu-239 by Thermal Neutrons  
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Photoneutron Reactions in Thallium up to 105 MeV
J. Moffatt and D. Teitmann

A Statistical Model of U-235 Fission

On a Problem in Neutron Transport Theory
Kennard W. Reed, Jr.

An Analytical Solution of Multi-Group Removal-Diffusion Equations, in Plane Multi-Layered, Reactor Shield System
L. W. Szymendera

Proton Flux, Dosage and Damage Estimates in the Van. Allen Belt
S. Russak and K. Richardson

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M. Ladu, M. Pelliccioni, et al.

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T. M. Jordan and E. F. Koprowski, et al. - September 1964

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The Cross Section for Photoneutron Production in Co, Ni, Cu, and Ga
G. Gaciu, A. Bonazzola, et al.
Nucl. Phys., 66, 595-608 (May 1965)
Photoproduction of Charged Pions from Nuclei, Part III
G. Ramachandran and V. Devanathan
IVA (Ingeniorsventenskapskad.) Medd., No. 138, 21-28 (1964)
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William D. Ehmann

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by C. Johansson
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A One-Dimensional, Multigroup Neutron Transport Program by W. W. Engle,
M. A. Boling, B. W. Colston
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by D. S. Duncan, A. B. Speir, G. H. Anno, D. C. Kolesar
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The Determination of Neutron Flux in Nuclear Reactors by the Uncollided Flux Estimator Applied to Monte Carlo Collisions by J. Wallace Webster
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Cylindrical Volume Source Routine for O5R by L. G. Mooney
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