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. 63

February 1970

Examine what is said, not him who speaks.
- Arabia

PROCEEDINGS OF MULTIGROUP SEMINAR-WORKSHOP ISSUED

The proceedings of the seminar-workshop held in Oak Ridge in October, 1969 has been issued. It is entitled "A Review of Multigroup Nuclear Cross Section Preparation - Theory, Techniques, and Computer Codes," ORNL-RSIC-27 (January 1970), compiled by D. K. Trubey and Jane Gurney. Copies are available from RSIC upon request. It is also available from CFSTI.

UPDATE TO DLC-10/AVKER LIBRARY

The neutron fluence-to-kerma factors for natural copper have been added to the original AVKER kerma library described in ORNL-TM-2558 and the new version has been designated DLC-10B.

Requesters of DLC-10B should send one reel of magnetic tape to RSIC for the new library.

NUCLEAR NEWS BUYERS GUIDE Issued

The 1970 Nuclear News Buyers Guide is now available from the American Nuclear Society, 244 E. Ogden Avenue, Hinsdale, Illinois 60521, for \$5.00. There are 750 companies listed under 255 products and service categories which include a number of interest to shielders.

AMERICAN NUCLEAR SOCIETY MEETING ON AEROSPACE NUCLEAR APPLICATIONS IN APRIL

The American Nuclear Society and other sponsors will hold a national topical meeting on Aerospace Nuclear Applications in Huntsville, Alabama, April 28-30, 1970. The session subjects include nuclear propulsion, aerospace power technology, and aerospace power applications. Henry E. Stern, of the George C. Marshall Space Flight Center, and active in aerospace shielding technology for many years, is a member of the organizing committee.

Further information may be obtained from American Nuclear Society, Huntsville Section, P.O. Box 4261, Huntsville, Alabama 35803.

SEMINAR ON RADIATION QUANTITIES AT NBS IN MAY

A seminar on radiation measurements will be held May 12-15, 1970, at the National Bureau of Standards laboratories in Gaithersburg, Md. The four-day course will cover measurement of four categories of radiation: X-rays, electrons, neutrons, and radioactivity. Course includes lectures on measurement principles and important instruments and techniques, and visits to NBS radiation and measurements laboratories. Information: E. H. Eisenhower, Center for Radiation Research, National Bureau of Standards, Washington, D.C. 20234.

LEAD SHIELDING AND NUCLEAR SAFETY: REPORT ON CONFERENCE DISCUSSIONS NOW AVAILABLE

A Report on Discussions has been issued which contains abstracts of papers and a comprehensive account of the open discussions that followed their presentation at the Lead Shielding and Nuclear Safety Conference, organized jointly by the Lead Development Association and the UK Atomic Energy Authority in London last year.

It was the first ever conference to be devoted entirely to lead shielding and the program included fifteen papers on all aspects of the standardization, design, manufacture and applications (both industrial and medical) of lead shielding as well as special sessions on safety in the transport of radioactive materials.

Sets of preprinted papers, containing full texts and illustrations, together with a copy of the Report on Discussions are available from the Lead Development Association, 34 Berkeley Square, London WIX 6AJ at the price of £8 per set.

PERSONAL ITEMS

N. R. (Rick) Byrn is now at the School of Nuclear Engineering, Georgia Institute of Technology, Atlanta. He was formerly with the Brown Engineering Company in Huntsville, Alabama.

* * * * *

Joyce P. Davis, formerly of Burns and Roe, is now with Stoller Associates in New York City.

JANUARY 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 (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 biliography) and duplicate microfiche copies of the 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 available for the codes literature.

REACTOR AND WEAPONS SHIELDING

AD-693876

1969

Transport Theory

R. Bellman, G. Birkhoff, I. Abu-Shumays

(Proceedings of Symposium in Applied Mathematics of the SIAM-MAS,

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Available: AD-693876 as microfiche only; paper copy from Mathematical Society, Providence, R. I. \$11.00.

CEA-CONF-1355 (in French)

1968

Properties of Absorbent Carbons Intended for Fast Reactor Shielding J. Cledat, R. Gremion, J. Rappeneau, P. Degas

CONF-690320, pp. 36-9

March 1969

Lay-out and Shielding for 3 Hospital Accelerators

S. K. Stephenson

(Proceedings of the Conference on Radiation Protection in Accelerator Environments, Chilton, England, March 1969)

G. R. Stevenson, editor Rutherford Laboratory

IFA-FR-77

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Fast and Resonance Neutron Spectrum in Water and Graphite I. Grancea, V. Cuculeanu, V. Iosif

Available: AEC Depository Libraries; CFSTI (U.S. Sales only)

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A. Strupczewski

Available: AEC Depository Libraries; CFSTI (U.S. Sales only)

JPRS-48331, pp. 343-71 1967

Characteristics of the Planning of Biological and Activation Shielding for Fast Reactors M. Ya. Kulakovskii

LA-4266 November 10, 1969

Cantor-Type Interval Dissections as Random Number Tests W. A. Beyer

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Fast Neutron Streaming in Helical Ducts M. L. Wohl, T. M. Jordan

NP-tr-1796 1964

The LET Effect of Radiation A. Danno

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An Evaluation and Compilation of the Fission and Capture Cross Sections of 239-Pu in the Energy Range 25 keV - 15 MeV. N. M. Greene, J. L. Lucius, C. W. Craven, Jr. Available: CFSTI

PB-187267 January 1969

Radiological Emergency Procedures for the Non-Specialist Atomic Energy Commission, Washington, D.C. Available: CFSTI

RHEL/M-149 September 1968

Depth Dose and Depth Dose Equivalent Data as Functions of Neutron Energy

K. B. Shaw, G. R. Stevenson, R. H. Thomas

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RRA-T97-I through VII

July 10, 1969

Differential Neutron and Secondary Gamma-Ray Albedos for Steel-Covered Concrete Slabs

M. B. Wells, J. D. Marshall

Vol. I, Description of Calculations and Comparisons with Other Data Vol. II, Neutron Doubly Differential Albedos for Incident Polar Angle of 15.78 Degrees

Vol. III, Neutron Doubly Differential Albedos for Incident Polar Angle of 32.98 Degrees

Vol. IV, Neutron Doubly Differential Albedos for Incident Polar Angle of 46.06 Degrees

Vol. V, Neutron Doubly Differential Albedos for Incident Polar Angle of 59.39 Degrees

Vol. VI, Neutron Doubly Differential Albedos for Incident Polar Angle of 78.9 Degrees

Vol. VII, Secondary Gamma-Ray Differential Number Albedo Data

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A Study on the Prompt Gamma Rays of 252-Cf-Fission K. Rumpold, F. Semturs, P. Weinzierl Available: AEC Depository Libraries; CFSTI (U.S. Sales only)

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P. S. Nagarajan

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Incident Energy Dependence of Fission Spectra R. J. Doyas, R. J. Howerton Available: CFSTI

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The Evaluation of an Iterative Technique's Use in Unfolding Neutron Spectra Data G. L. Watkins, G. R. Holeman

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Perturbation Method for Calculating γ-Radiation Reflection from Two-Layer Shielding
A. M. Kol'chuzhkin, V. V. Uchaikin

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Structure in Fast Spectra of Atmospheric Neutrons J. W. Wilson, et al.

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J. P. Bell, J. S. G. McCulloch

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 V. S. Avzyanov, O. A. Barsukov, A. N. Davletshin, V. N. Ivanov
- Soviet J. At. Energy (English Transl.), 24(4), 435- (April 1968)

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 Yu. A. Kazanskii, V. I. Kukhtevich, B. P. Shemetenko

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SPACE AND ACCELERATOR SHIELDING

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A Program to Calculate Particle Spectra Produced in High Energy Proton-Proton Collisions by the Two-Temperature Statistical Model J. R. Wayland, M. La Pointe Available: CFSTI as N69-40943

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- (2) The Radiation Field of the Oxford Coupled Electrostatic Generators H. R. McK. Hyder (pp. 26-33)
- (3) Design Considerations for Dealing with Accelerator Produced
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 M. Awschalom
- In: PROCEEDINGS OF THE CONF. ON RADIATION PROTECTION IN ACCELERATOR ENVIRONMENTS, Chilton, Eng., Rutherford Lab., (1969)

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High-Energy Interactions of γ -Quanta with Nuclei K. K. Gudima, A. S. Iljinov, V. D. Toneev

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NASA-TT-F-12607

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Energy Dependence of the Cross Sections of the Interactions of Nucleons and Atomic Nuclei at Energies Greater than 50 MeV. V. S. Barashenkov, et al. Available: CFSTI as N69-39659

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R. Dalziel

In: ESRO ESRO/ELDO Bull., Suppl.: ESRO 1/Aurorae (April 1969)
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T. L. Cline

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Incidence, Distribution and Warning of Solar Flares and Radioactivity R. W. Knecht (pp. 458-468)

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In: Aeron. Meteorol. 1969

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P. V. Vakulov, et al.

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R. G. Alsmiller, Jr., H. S. Moran

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