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IAEA Nuclear Data Section (NDS)
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ENDF/B-5 Format
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The ENDF/B-5 Format can now practically be regarded as the international format for the exchange of evaluated neutron reaction data. Data evaluators are encouraged to use this format, and data users are encouraged to implement ENDF/B-5 processing codes. There are some minor differences in the formats of ENDF/B-4 and ENDF/B-5. Data originally issued in ENDF/B-4 format can be transformed at NDS into ENDF/B-5 format, and requestors should specify which format they prefer. Anyone who already received data in ENDF/B-4 format, can request a transmission of the same data in ENDF/B-5 format.

The ENDF/B-5 format is documented in the report BNL-NCS-50496 (ENDF-102) 2nd edition, dated Oct. 1979, issued by the US National Nuclear Data Center (NNDC). Please contact us if you need a full-size copy of this report, so that we can arrange adding you to the NNDC distribution list. Microfiche copies of this report are available from us and distributed to recipients of ENDF/B-5 formatted data tapes.

New nuclear data libraries received
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ENDF/B-5 Fission Products. This library was announced already earlier. However, a second part of this library was recently received from the USA National Nuclear Data Center, so that the total library now includes neutron cross-sections and decay data for 887 fission-product nuclei. 104,762 logical records. The contents will be summarized in Rev.1 of the document IAEA-NDS-25. (Recipients of the first part of this library have been individually informed of the availability of the second part.)

UKNDL Dosimetry File, including 71 neutron reactions on 43 nuclides used for neutron dosimetry by foil activation, 3974 logical records. The format is that of the UK Nuclear Data Library.

LLL Neutron Activation Library, containing neutron activation cross-sections extracted from the Lawrence Livermore Laboratory evaluated nuclear data library, 18,837 logical records. Compare report UCRL-50400 vol. 18 (LLL, 1978).

Fission-Product Yields, a compilation of experimental data by M.E. Meek and B.F. Rider, General Electric Co., USA (1980). Compare report NEDO-12154-2.

Note: This library which is available on magnetic tape, is already superseded by a revision that we received on microfiche: B.F. Rider, NEDO-12154-3 (Sept. 1980).

Resonance Integrals, the 1980 version of a compilation by E.M. Gryntakis and J.I. Kim, Institute of Radiochemistry, Technische Universitaet Muenchen, Fed. Rep. of Germany.

CINDA

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A Supplement to the 1980 issue of CINDA, the bibliography and data index of neutron reaction data, was issued and distributed to subscribers of CINDA. (Compare issue no.2 of this Newsletter.)

The 1981 issue is in preparation and will be available in June 1981.

10-50 MeV neutron cross-sections

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The proceedings of a symposium on neutron cross sections from 10 to 50 MeV, held at the Brookhaven National Laboratory, USA, 12-14 May 1980, have been issued:

M.R. Bhat, S. Pearlstein (editors), report BNL-NCS-51245 (July 1980), 2 volumes (available from NDS).

As a conclusion from this symposium, the US National Nuclear Data Center (NNDC) plans to issue a "Fast Neutron Cross-Section Newsletter", which will summarize twice a year related experimental or theoretical work, in progress, planned or completed. If you wish to contribute to this Newsletter, or if you wish to be on the mailing list of this Newsletter, please contact the IAEA Nuclear Data Section.

Charged-Particle and Heavy-Ion Induced Nuclear Data

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The 1980 issue of "The Bibliography of Integral Charged Particle Nuclear Data" [BNL-NCS-50640, 4th edition] is available costfree (by courtesy of NNDC) either as a book or on magnetic tape. This edition supersedes all previous editions.

It should be noted that the 1980 edition is an archival publication in the sense that future issues will no longer be cumulative but only supplements to the 1980 edition. The 1980 edition was issued in two volumes:

Vol.1 is sorted primarily by the incident particle, i.e. the first half of the book is devoted to proton induced reactions, followed by sections on reactions induced by deuterons, tritons, He-3, alpha-particles and heavy ions. The heavy-ion section from Li-6 to Xe-136 comprises one quarter of the book.

Vol.2 is devoted to isotope production. It contains an inverted index to volume 1 sorted by Z and A of the reaction product.

This bibliography serves at the same time as an index to the charged-particle reaction data presently compiled in the EXFOR system.

However, contrary to the bibliography which is restricted to integral cross-sections and thick-target yields, the EXPOR data file also contains angular distribution data, in particular for neutron-source reactions.

We encountered an increasing demand for Stopping Power data of protons and heavier ions in matter. For such data we would like to refer to the following publication:

"The Stopping and Ranges of Ions in Matter"

A series of handbooks organized by J.F. Ziegler, published by Pergamon Press.

Vol. 1: The theory of the stopping of ions in matter

Vol. 2: Bibliography

Vol. 3: Hydrogen - stopping powers and ranges

Vol. 4: Helium - stopping powers and ranges

Vol. 5: Heavy Ions - stopping powers and ranges

These handbooks include data published up to 1976. Please contact us in the event that you require a more up-to-date bibliography of such stopping data covering the period after 1976.

Calibrated γ -ray sources

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The IAEA can provide a set of eight calibrated γ -ray sources for energies between 60 keV and 1.4 MeV with source strengths of about 10 μ C and activity accuracies between 1 and 2%, suitable for the calibration of Ge-Li and other γ -ray detectors. The cost of the total set including all necessary specifications is at present about 500.- US\$. Costfree provision to developing countries is presently under consideration. Interested institutes are invited to contact us for further details as soon as possible.

Selected new documents of interest

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** = document available from NDS
* = limited number of copies available from NDS
- = for other documents listed, contact your institute's library, the originator, or the INIS Microfiche Service (IAEA, P.O. Box 100, A-1400 Vienna, Austria)
- Nuclear Cross-Sections for Technology. Proceedings of an International Conference, Knoxville, October 1979, edited by J.L. Fowler et al., NBS Special Publication 594, issued Sept. 1980
 - * Minutes of the Fourth Annual Meeting of the Panel on Reference Nuclear Data, Brookhaven National Laboratory, Nov. 1979, edited by T.W. Burrows et al., report BNL-NCS-51250, June 1980
 - * Neutron Induced Reactions. Proceedings of the Second International Symposium, Smolenice, June 1979, VEDA Publishing House of the Slovak Academy of Sciences
 - * Interaction of Fast Neutrons with Nuclei, proceedings of the 9th international symposium at Gaussig, German Democratic Republic, Nov. 1979. D. Seeliger, S. Unholzer, ZfK-410 (1980)

- Nuclear Data and Benchmarks for Reactor Shielding, proceedings of a Specialists' Meeting, Paris 1980, OECD Nuclear Energy Agency
- ** Proposed recommended list of transactinium isotope decay data, part I: Half-lives. (December 1980 Edition). A. Lorenz, editor. INDC(NDS)-121
- ** Proposal for an IAEA-sponsored project of interregional co-operation for training of nuclear scientists in developing countries, using the expertise available in the nuclear data field. N. Kocherov, J.J. Schmidt, INDC(NDS)-122, July 1980
- ** The total neutron cross-sections of Eu-151, Eu-153 and Eu below 1 eV. M. Adib et al., INDC(EGY)-1, December 1980
- ** Optical model reaction cross-sections for light projectiles (n,p,d,t,He-3,He-4). A. Chatterjee et al., INDC(IND)-27, Nov. 1980
- ** Table of content translations of Soviet reports. Reports INDC(CCP)-156, 157, 158
- Evaluation and Processing of Nuclear Data. S. Pearlstein, report BNL-NCS-27892, Feb. 1980
- Sensitivity of Nuclear Fuel-Cycle Cost to Uncertainties in Nuclear Data. M. Becker, D.R. Harris, report EPRI-NP-1632, Nov. 1980
- Group cross sections in the resolved resonance region calculated for a CANDU-PHW reactor operating on closed thorium-uranium and thorium-plutonium fuel cycles. D. Hamel, G.B. Wilkin, report AECL-6433
- Catologo de Dados Nucleares. (Catalogue of nuclear data held at the Brazilian nuclear data center). R. Paviotti Corcuera, E. Tanaka, Nota Technica EAV/NT-007/80
- * Photonuclear Data. The Centre for Photonuclear Experimental Data, Institute of Nuclear Physics, Moscow State University issues an information bulletin under the title "Fotojadernye Dannye/Photonuclear Data" containing abstracts of relevant work recently published. The most recent issue is Nr.3 covering literature published in 1979. All abstracts are in Russian and English language.
- Isotopic abundance data. The presently recommended values for the isotopic abundances of the elements were published in Pure and Appl. Chem. vol.52 p.2349-2384. These values are periodically reviewed by a Subcommittee on the Assessment of the Isotopic Composition of the Elements (SAIC) of the International Union of Pure and Applied Chemistry (IUPAC). The 1979 conclusions are contained in the reference quoted above.

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