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IAEA Nuclear Data Section (NDS)
P.O. Box 100, A-1400 Vienna, Austria

Note: The quoted data, documents or codes are available costfree upon request (unless indicated otherwise). - When requesting data on magnetic tape, kindly specify the acceptable density and maximum blocking factor. Tapes will be in 9 track EBCDIC; 7 track tapes can no longer be sent.

Nuclear Data Handbooks

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Handbook on Nuclear Activation Data, IAEA Technical Report Series No. 273 (1987). Contributions by leading experts (compiled and reviewed by K. Okamoto) contain data surveys and up-to-date compilations for various data required for applied nuclear activation techniques. Brief summary of contents:

- Isotopic abundances, half-lives, decay modes.
- Neutron-reaction standard reference data.
- Neutron-source reactions: energies and cross-sections.
- The neutron spectrum of a Cf-252 fission-neutron source.
- Decay data for radionuclides used as calibration standards.
- Neutron activation cross-sections for thermal neutrons, for 14 MeV neutrons, for 1 to 20 MeV neutrons, for Cf-252 fission neutrons.
- Activation cross-sections and thick-target yields for charged-particle induced reactions.
- Photonuclear cross-sections.

This handbook (820 pages) is available for 1640.- Austrian Schillings from the IAEA Division of Publications, Box 100, A-1400 Vienna, Austria.

How to buy priced IAEA publications? The aforementioned Handbook on Nuclear Activation Data, like other priced IAEA publications, can be bought for local currency by means of UNESCO coupons which can be obtained at the UNESCO office of your country. Furthermore, priced IAEA publications can be obtained at half the nominal price when ordered through the Permanent Mission of your country to the IAEA in Vienna.

Table of Radioactive Isotopes, by E. Browne, R.B. Firestone (Lawrence Berkeley Lab.), John Wiley & Sons, New York, 1986. Replaces the 1979 edition of the Table of Isotopes by M. Lederer et al. - This handbook should serve as the new decay data reference standard. (Not available from IAEA).

Data Processing Computer Codes

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The 1987 version of ENDF/B pre-processing codes is now available, costfree, upon request. This set of codes is needed for the handling of evaluated data files in any version of the ENDF/B format (specifically ENDF/B-4 and ENDF/B-5, but also ENDF/B-6; first files in ENDF/B-6 format are expected to be issued soon). Among other functions, these codes retrieve data, provide interpolations, treat resonance-parameters or produce graphical plots. The codes are designed to work on any computer. Specifically, these codes now also work on personal computers of the type IBM-PC-AT with a 1.2 Megabyte diskette drive. (An IBM-PC-XT without a 1.2 Megabyte diskette drive is not sufficient.) Accordingly, copies of the ENDF/B pre-processing codes (as well as ENDF/B-formatted data files) can be requested either on magnetic tape or on a 1.2 Megabyte diskette, both free of charge. - A summary of the ENDF/B pre-processing codes is contained in the document IAEA-NDS-39 (Rev.3) by D.E. Cullen.

A set of programs for graphical plotting of EXFOR data and ENDF/B data is available, costfree, upon request. The program "X4TOC4", documented in IAEA-NDS-80 by D.E. Cullen, converts EXFOR data (i.e. experimental nuclear reaction data) from basic EXFOR format to a "computation format". The program "PLOT4", documented in IAEA-NDS-79 by D.E. Cullen, produces graphical plots from EXFOR data that are in "computation format" and from evaluated data files in any version of ENDF/B format. The programs work on any computer, including an IBM-PC-AT, with suitable plotter.

Data indexes and bibliographies

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IAEA-NDS-7 (Rev. 86/7): Index of data libraries available on magnetic tape from the IAEA Nuclear Data Section. H.D. Lemmel (ed.).

IAEA-NDS-70 (Rev. 2): Element and isotope index to the major evaluated neutron data libraries available from the IAEA Nuclear Data Section. P.K. McLaughlin.

IAEA-NDS-0 (Rev. 86/7): Index to the IAEA-NDS-Documentation Series. H.D. Lemmel (ed.).

Integral Charged Particle Nuclear Data Bibliography, 1986 issue: literature scanned from 1 April 1985 to 31 March 1986 by N.E. Holden et al. Report BNL-NCS-51771 first ed., suppl. 2, April 1986.

Photonuclear Data

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Fotojadernye Dannye - Photonuclear Data, issue 9, a bibliography with abstracts in Russian and English, covering the literature of 1985, costfree.

Fotojadernye Dannye - Photonuclear Data, Index 1976-1985. Costfree

Photonuclear Data - Abstract Sheets. Report NBSIR-83-2742 in 15 volumes published in the years 1983-1986 by E.G. Fuller and H. Gerstenberg, US National Bureau of Standards. Includes reproductions of graphs and tables from various publications (1955-1982) covering photonuclear data, electron scattering and some ground-state particle capture reactions, e.g. (α, γ). The energy range covered is 0 to 150 MeV with various data up to 4 GeV. (Not available from IAEA Nuclear Data Section).

Selected new publications of interest

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- ** = document available costfree from IAEA/NDS upon request
 - * = few copies available costfree from IAEA/NDS upon request
 - = available from the originator, or from the INIS Microfiche Service (IAEA, P.O. Box 100, A-1400 Vienna, Austria)
 - o = to be purchased from publisher
- o International Conference on Nuclear Data for Basic and Applied Science, Santa Fé, USA, 13-17 May 1985. The proceedings were published as special issues of the journal Radiation Effects, vols. 92-96 (1986).
 - ** INDC(NDS)-179. V. Piksaikin (ed.): Nuclear data for radiation damage estimates for reactor structural materials. Proceedings of an IAEA meeting, Santa Fé, USA, 20-22 May 1985.
 - o Fast Neutron Physics, Proceedings of an Int. Conf., Dubrovnik, Yugoslavia, 26-31 May 1986. D. Miljanić (ed.). Topics covered: Theoretical Models for Fast Neutron Reactions, Fast Neutron Reactions (Experiment), Few Body Studies with Fast Neutrons, Nuclear Data for Biomedical Applications, Development in Experimental Techniques and Fast Neutron Sources, 11 invited talks, 44 contributed papers, 320 pages., Price: US \$ 25.-, Postage free (Surface mail). Please prepay. Send cheques made payable to Ruder Bosković Institute - Neutron Conference. Address all orders to: Mrs. Zdenka Kuzmić, Ruder Bosković Institute, FEP, P.O. Box 1016, 41001 Zagreb, Yugoslavia.
 - * Note: The IAEA Nuclear Data Section has a few copies of this book available for free distribution to developing countries.
 - * JAERI-M-86-080. Proceedings of 1985 Seminar on Nuclear Data, Tokai-mura, Japan, 12-14 November 1985. T. Asami, editor.
 - o Conference on Nuclear Spectroscopy and Structure of Atomic Nuclei, Kharkov, USSR, 15-18 April 1986. Book, containing for each paper a one-page summary, in Russian. Leningrad 1986.
 - * NEANDC-222. Use of the optical model for the calculation of neutron cross-sections below 20 MeV. Proceedings of a meeting, Paris 13-15 Nov. 1985 by the OECD Nuclear Energy Agency. Limited number of copies provided by N.E.A. for distribution by IAEA.
 - * NEANDC-158. Fast neutron scattering on actinide nuclei. Proceedings of a meeting, Paris 23-25 Nov. 1981 by the OECD Nuclear Energy Agency. Vol. 1: Text of papers. Vol. 2: Graphical presentation of cross-section data. Limited number of copies still available.
 - ** INDC(GDR)-39. D. Hermsdorf: Description of the evaluated neutron data file "BROND-8201" for lead.
 - ** INDC(GDR)-38. D. Hermsdorf: Description of the evaluated neutron data file "BROND-1402" for silicon.
 - ** INDC(CPR)-8. Zhao Zhixiang, Zhou Delin: Systematics of excitation-functions for (n, charged particle) reactions.
 - KfK-4099. F.H. Fröhner: Principles and techniques of data evaluation.
 - ** INDC(NDS)-161. M.K. Mehta: Measurement and analysis of 14 MeV neutron nuclear data needed for fission and fusion reactor technology. Summary report of an IAEA Research Co-ordination Meeting, Gaussig, GDR, 21-25 November 1983.
 - ** INDC(NDS)-185. M.K. Mehta, K. Okamoto: Measurement and analysis of double-differential neutron emission spectra in (p,n) and (α ,n) reactions. Summary report of an IAEA Research Co-ordination Meeting, Vienna, 23-27 June 1986

- ** INDC(CPR)-9. Fission cross-section measurements around 14 MeV. Inst. of Atomic Energy, Beijing, P.R. China.
- ** INDC(CPR)-10. Zhou Hongyu et al.: Gamma ray production cross-sections for the interactions of 14.9 MeV neutrons with C, Al, V, Fe and Nb at 90°.
- ** INDC(VN)-5. Hoang Dac Luc et al.: Determination of some (n,p), (n,np) and (n, α) reaction cross-sections induced by 14.8 MeV neutrons on Cr and Ti isotopes.
- ** INDC(CSR)-8. I. Ribansky: Neutron activation cross-section measurements at Bratislava.
- ** INDC(CSR)-9. I. Ribansky: Analysis of neutron and proton spectra from neutron-induced reactions.
- ** INDC(PAK)-6. K. Gul et al., PINSTECH, Pakistan: Double differential neutron emission cross-sections of Pb, Cu and Al for 14.6 MeV neutrons.
- ** INDC(AUS)-11. A. Pavlik, G. Winkler: Calculation of the energy spread and the average neutron energy of 14 MeV neutrons produced via the T(d,n)He-4 reaction in solid Ti-T targets.
- Thesis, A. Chetaine: Determination des spectres en energie de neutrons rapides par la methode de Monte-Carlo (in French), University Mohammed V, Rabat, Morocco.
- ECN-182. H. Gruppelaar et al.: Processing of double-differential cross-sections in the new ENDF-6 format. - Groups Code Description and Users' Manual.
- ** INDC(BZL)-21. L. Henrique Claro et al.: Procedure for calculating sensitivity profiles by transport theory - the FORSS system.
- * Review of (γ ,X γ ') reactions, by V.V. Varlamov et al., a compilation of experimental data in tables and graphs, covering literature up to 1984. Appeared in the series Fotojadernye Dannye/Photonuclear Data by the USSR Photonuclear Data Centre Moscow. Text in Russian and English.
- ** INDC(NDS)-183. M. Allab: A review of pion-minus producing cross-sections and yields in proton-nucleus collisions from threshold to E_p=70 GEV.
- ** INDC(NDS)-187. M. Lammer: Nuclear data for safeguards - status and information needs.
- ** INDC(NDS)-182. A. Lorenz (ed.): The international network of nuclear structure and decay data evaluators.
- ** INDC(SEC)-91. Addresses for distribution of INDC documents.
- ** INDC(SEC)-92. List of INDC documents 1984-1986.

Announcement of a Conference

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An International Conference on Neutron Physics will take place in Kiev, USSR, 21-25 September 1987. All correspondence concerning participation in the conference should be sent to the scientific secretary of the Organization Committee Dr. M.F. Vlasov. Address: USSR, 252028, Kiev-28, Prospekt Nauki 119, Institute for Nuclear Research of the Ukr. SSR Academy of Sciences. Telephone: 653619. - Please feel free to request more detailed information either directly from above address or through the IAEA Nuclear Data Section.

Nuclear Data Section (NDS), International Atomic Energy Agency
P.O. Box 100, A-1400 Vienna, Austria

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