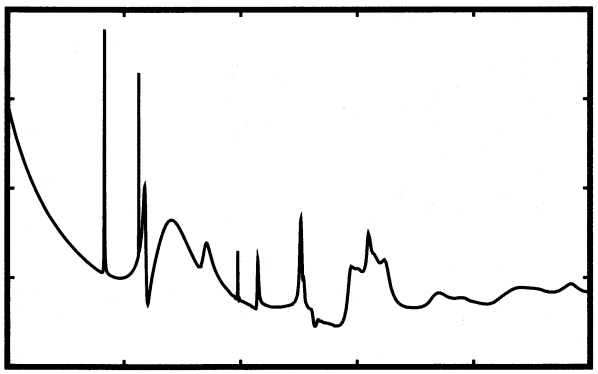
NUCLEAR DATA NEWSLETTER



Nuclear Data Section (NDS)

International Atomic Energy Agency
Vienna

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All services provided to users are free of charge.

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Online: TELNET or FTP: iaeand.iaea.or.at
username: IAEANDS for interactive Nuclear Data Information System
usernames: ANONYMOUS for FTP file transfer;
FENDL2 for FTP file transfer of FENDL-2.0;
RIPL for FTP file transer of RIPL.
NDSONL for FTP access to files sent to NDIS "open" area.
Web: http://www-nds.iaea.or.at

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Personnel Items

Harry Wienke and Sofie Aung left Nuclear Data Section in December 1998. Viktor Zerkin (Kiev, Ukraine) took duties as EXFOR compiler and programmer and Elaine Knotzer as secretary in January 1999.

Announcement

IAEA/ICTP College on Medical Physics followed by Workshop on Nuclear Data for Science and Technology: Medical Applications, will be held at ICTP Trieste, Italy, 20 September - 15 October 1999. Participation forms can be obtained via e-mail: smr1148@ictp.trieste.it, by typing on the subject line "get index", or via WWW server: http://www.ictp.trieste/it/ (search for Activity Information: smr1148). Limited financial support can be obtained from the ICTP Trieste.

Online News

Pointwise data reconstructed by JAERI at **300 K** from files of **JENDL-3.2 Library** are now available through Telnet/NDIS.

Recent **INDC Reports** are ported on http://iaeand.iaea.or.at/indc_sel.html

Revised **IAEA-NDS-0** Report "Index to the IAEA-NDS-Documentation Series" is available online from NDS Web site (http://www-nds.iaea.or.at). It contains a complete up-to-date list of all IAEA-NDS reports. Each IAEA-NDS report briefly describes one product distributed by NDS. It can be a database, data library or data file, computer code or package, manual or document. All of the latest IAEA-NDS reports are available online through hyperlinks in the list.

Offline News

Updated databases and libraries are now available on CD-ROM:

IAEA-NDS-CD-04, ENDF, (updated in 1999), contains all comprehensive evaluated data library (ENDF/B-VI, Release 5, JENDL-3.2, JEF-2.2, BROND-2 and CENDL-2) retrieval and merger system for MS Windows, Manuals and Documentation in PostScript format, Utilities and Preprocessing codes.

IAEA-NDS-CD-05, EXFOR, database of experimental nuclear reaction cross sections (Version January 1999). Updated and revised version of the IAEA-NDS-CD-01.

IAEA-NDS-CD-06, FENDL-2.0, Fusion Evaluated Nuclear Data Library (Version 14 January 1999). Comparing with previous version, corrections were introduced in ^{29}Si and ^{56}Fe files and html interface was added. Platform has to be specified when CD-ROM is requested.

CINDA on CD-ROM. The CD-ROM searchable index to literature and computer files on microscopic neutron data is available on request. Prepared by NEA Data Bank, Paris.

New Data Libraries

ENDF/B-VI Library, Release 5, (including revisions up to October 1998) is available through Telnet/NDIS and Web from the NDS Web server and on CD-ROM. A revised report **IAEA-NDS-100** containing descriptions of the content and major modifications is available as hard copy and online (http://www-nds.iaea.or.at/reports/nds-100.pdf).

ENDF/B-VI Charged-Particle Sublibraries, Version 1998, is available through Telnet/NDIS and Web from NDS server and on CD-ROM. Revised report **IAEA-NDS-105** containing description of sublibraries is available as hard copy and online (http://www-nds.iaea.or.at/reports/nds-105.pdf).

RRDF-98. Russian Reactor Dosimetry File. K.I. Zolotarev, A.V. Ignatyuk, V.N. Manokhin, A.B. Pashchenko. File contains cross sections and covariance matrices of uncertainties for 22 reactions used for neutron flux dosimetry by foil activation. Report **IAEA-NDS-193** contains brief description of the file. Available on diskette or online: http://www-nds.iaea.or.at/reports/nds-193.htm

Computer Codes

EPICSHOW (Electron Photon Interactive Code - Show Data), 1998 Update, by D.E.

Cullen. This is interactive graphics code that allows users to view and interact with neutron, photon, electron and light charged particle data. The code is implemented on UNIX, IBM-PC, Power MAC and Windows platform. Available on CD-ROM. Report **IAEA-NDS-194** with brief description is available as hard copy or online (http://www-nds.iaea.or.at/reports/nds-194.pdf).

Selected Reports and Documents

CINDA 98, Supplement to CINDA 97 (1988-1998). The index to literature and computer files on microscopic neutron data.

INDC(BLR)-013. *Fission level density and barrier parameters for actinide neutron-induced cross section calculations.* V.M. Maslov. Fission barrier parameters (inner barrier height, outer barrier height, curvatures) were extracted for alltogether 49 isotopes of Th, Pa, U, Np, Pu, Am, CM, Bk, and Cf.

INDC(CCP)-413. *Status of Experimental and Evaluated Discrete Gamma-Ray Production at E_n=14.5 MeV.* Final report of Research Contract 7809/RB, performed under the CRP on Measurement, Calculation and Evaluation of Photon Production Data. S.P. Simakov, A. Pavlik, H. Vonach, S. Hlavac.

INDC(CCP)-414. *Development and Testing of Helium Production Data Base for Main Structural Materials.* K.I. Zolotarev. Results of the evaluation of helium production cross sections and covariance matrices of uncertainty for reactions induced by neutrons with energy in the range up to 20 MeV on nuclei of Mn, Co and Cu stable isotopes are presented.

INDC(CCP)-415. *Two reports: (i) Correlation properties of delayed neutrons from fast neutron induced fission.* V.M. Piksaikin, S.G. Isaev. *(ii) Method and set-up for measurements of trace level content of heavy fissionable elements based on delayed neutron counting* . V.M. Piksaikin, A.A. Goverdovski, G.M. Pshakin. Available online: http://iaeand.iaea.or.at/indc_sel.html.

INDC(CCP)-416. *Selected articles translated from Yadernye Konstanty* (Nuclear Constants) (Series: Nuclear Constants Issue No. 3 - 4 1997 and No. 1 1998). 1. *Status of nuclear data for the thorium fuel cycle.* B.D. Kuz'minov, V.N. Manokhin. 2. *Neutron radiative capture by the Am-241nucleus in the energy range 1 keV - 20 MeV.* K.I. Zolotarev, A.V. Ignatyuk, V.A. Tolstikov, G.Ya. Tertychnyj. 3. *Neutron radiative capture gamma spectra structure.* O.T. Grudzevich. 4. *Investigation of the resonance structure of neutron cross-sections for Th-232 and Np-237 in the 2 eV - 100 keV energy range.* Yu.V. Grigor'ev, V.V. Sinitsa, G.N. Gundorin, Yu.P. Popov, Kh. Fajkov. Available online: http://iaeand.iaea.or.at/indc_sel.html.

INDC(CCP)-417. *Benchmarking of evaluated neutron data for vanadium by a 14 MeV spherical shell transmission experiment.* S.P. Simakov, B.V. Devkin, B.I. Fursov, M.G. Kobozev, V.A. Talalaev, U. von Möllendorf, M.M. Potapenko. Available online: http://iaeand.iaea.or.at/indc_sel.html.

INDC(CCP)-418. *Method of estimating the sensitivity of a calculated nuclear vector to deviation in initial data.* E.A. Ivanov. The application of perturbation theory algorithms in modelling of nuclear transmutation is considered. Available online: http://iaeand.iaea.or.at/indc_sel.html.

INDC(CPR)-044. *Communication of Nuclear Data Progress*, No. 19 (1998). China Nuclear Data Center. Ed. by Liu Tingjin and Zhuang Youxiang. Annual review on the activity in the nuclear data field in China.

INDC(CPR)-045. *Neutron Activation Cross Section Measurements and Evaluations in CIAE.* Huang Xiaolong, Lu Hanlin, Zhao Wenrong, Yu Weixiang, Han Xiaogang. Results of the cross section measurements for 28 and evaluations for 40 reactions are presented.

INDC(CPR)-046. *A method and program CABEI for adjusting consistency between the cross section data of natural elements and its isotopes.* Liu Tingjin and Sun Zhengjun.

INDC(NDS)-379. *Progress in Fission Product Nuclear Data*, No. 15. Collected by M. Lammer. Information about activities and requirements in the field of measurements and compilations/evaluations of fission product nuclear data.

INDC(NDS)-384. *Summary Report of the 2nd Research Coordination Meeting on "Compilation and Evaluation of Photonuclear Data for Applications".* Los Alamos National Laboratory, Los Alamos, U.S.A., 23 - 26 June 1998. Prepared by P. Oblozinsky.

INDC(NDS)-388. *Summary Report of the Third Research Co-ordination Meeting on "Development of Reference Charged-Particle Cross Section Database for Medical Radioisotope Production"*. Vrije Universiteit Brussel, Brussel, Belgium, 28 September - 2 October 1998. Prepared by P. Oblozinsky.

INDC(NDS)-389. *Summary Report of the 1st Research Coordination Meeting on "Nuclear Model Parameter Testing for Nuclear Data Evaluation" (Reference Input Parameter Library: Phase II)*. IAEA Headquarters, Vienna, Austria, 25 - 27 November 1998. Prepared by P. Oblozinsky.

INDC(NDS)-391. *Analysis of Low and Medium Energy Physics Records in Databases. Science and Technology indicators in Low and Medium Energy Physics (With Particular Emphasis on Nuclear Data)*. Claus-Diether Hillebrand.

INDC(NDS)-392. *Summary Report: "Workshop on Processing of Nuclear Data for Use in Power Reactor Pressure Vessel Lifetime Assessment"*. IAEA Headquarters, Vienna, Austria, 19 - 23 October 1998. Ed. by R. Paviotti Corcuera, L.R. Greenwood, D. Muir.

INDC(NDS)-394. *Atlas of Giant Dipole Resonances. Parameters and Graphs of Photonuclear Reaction Cross Sections*. A.V. Varlamov, V.V. Varlamov, D.S. Rudenko, M.E. Stepanov. Parameters of GDR for 200 and graphs of the photonuclear cross sections for 182 stable isotopes and natural compositions are presented.

INDC(POL)-014. *Compilation and evaluation of high energy γ-ray standards from nuclear reactions.* A. Marcinkowski, B. Marianski. Report summarizes status of data on emission probabilities of γ-rays with energies 4.44 MeV and 15.11 MeV from $^{12}C^*$ produced in nuclear reactions.

INDC(SUD)-003. *On the Systematics of the (n,α) Reaction Cross-Sections at 14.5 MeV Neutrons*. Khalda T. Osman, F.I. Habbani. A systematics is proposed for the (n,α) reaction cross sectios based on the statistical model, with consideration of the Q-value dependence and odd-even effects.

JAERI-Conf 98-016. *Proceedings of the Third Specialists' Meeting on high energy nuclear data, March 30-31*, 1998, JAERI, Tokai, Japan. Ed. Tokio Fukahori. Report contains 16 papers devoted to different aspects of the measurement, evaluation, testing and application of high energy (up to a few GeV) nuclear data.

JAERI-Review 98-017. *JAERI Tandem & V.D.G. Annual Report (April 1, 1997 - March 31, 1998)*. Ed. by Suehiro Takeuchi et al.. Summary report of 40 papers.

The reports by the Working Party on International Evaluation Co-operation of the NEA Nuclear Science Committee are available on request:

NEA/WPEC-1, 1996. *Comparison of Evaluated Data for Cromium-52, Iron-56 and Nickel-58.* Co-ordinator: C.Y. Fu, Monitor: D.C. Larson.

NEA/WPEC-2, 1996. *Generation of Covariace Files for Iron-56 and Natural Iron.* Co-ordinator: H. Vonach, Monitor: H. Gruppelaar.

NEA/WPEC-3, 1996. *Actinide Data in the Thermal Energy Range.* Co-ordinators: H. Tellier, H. Weigmann, Monitor: M. Sowerby.

NEA/WPEC-5, 1996. *Plutonium-239 Fission Cross-Section between 1 and 100 keV.* Co-ordinator: E. Fort, Monitor: M. Salvatores.

NEA/WPEC-12, 1998. *Nuclear Models to 200 MeV for High-Energy Data.* Co-ordinators: M. Chadwick, G. Reffo, Monitors: C.L. Dunford, P. Oblozinsky.

NEA/WPEC-13, 1998. *Intermediate Energy Data.* Co-ordinators: A.J. Konong, T. Fukahori, Monitor: A. Hasegawa.

NEA/WPEC-15, 1996. *Cross-Section Fluctuations and Self-Shielding Effects in the Unresolved Resonance Region.* Co-ordinator: F.H. Fröhner, Monitor: D.C. Larson.

NEA/WPEC-16, 1998. *Effects of Shape Differences in the Level Densities of Three Formalisms on Calculated Cross-Sections. Co-ordinator*: C.Y. Fu, Monitor: D.C. Larson.

NEA/WPEC-17, 1998. *Status of Pseudo-Fission-Product Cross-Sections for Fast Reactors*. Co-ordinator and Monitor: H. Gruppelaar.

Yadernye Konstanty ("Nuclear Constants") Moscow, Russia. The papers in Voprosy Atomnoj Nauki i Tekhniki ("Problems of Atomic Science and Technique") appear in Russian with abstracts in English, or in English

only. Copies of the full report and individual papers are available, free of charge, from the IAEA Nuclear Data Section. Subject to available funds, selected articles are translated by IAEA and published as INDC(CCP) reports.

Yad. Konst. 1998 (2). *Neutrons and gamma-ray yields from spherical and semispherical samples with 14 MeV central neutron source* (A.I. Saukov et al., in Russian). *Investigation of resonance self-shielding effect in α–value of Pu-239 in energy range 4.65-2150 eV* (Yu. V. Grigor'ev et al., in Russian). *Systematic trends in the behaviour of fission and (n,2n) reaction cross section of fissile isotopes* (V.N. Manokhin et al., in English). *Simulation of neutron flow energy dependence in polyethylene block with fast neutron source* (V.P. Gorelov et al., in English). *Gamma-ray production cross sections on ^{209}Bi* (K.I. Zolotarev et al., in Russian). *Validation of constant system ABBN/CONSYST* (T.T. Ivanova et al., in Russian, will be published in English as INDC(CCP) report). *Decay data evaluations for ^{3}H and ^{36}Cl* (V.P. Chechev, in Russian, will be published in English as INDC(CCP) report). *Neutron channels of $^{6}Li+^{3}H$ and $^{7}Li+^{3}H$ reactions* (G.B. Yan'kov et al., in Russian).

International Chart of Nuclides - 1998. Published by TECHSNABEXPORT of the Ministry of Russian Federation for Atomic Energy. Preliminary version, to be approved by CODATA-ICSU. A limited number of copies is available.

IAEA Nuclear Data Activities

A new Web site (http://www.iaea.or.at/programmes/ripc/nd/) is available, describing the IAEA Nuclear Data Programme and Activities. Information can be obtained on Publications, Coordinated Research Projects (CRPs), Technical Co-operation Projects, Workshops and Meetings.

Coordinated Research Projects

The following CRPs will be active in 1999:

- Development of Reference Charged Particle Cross Section Database for Medical Radioisotope Production (1995-1999)
- Compilation and Evaluation of Photonuclear Data for Applications (1996-1999)
- Fission Product Yield Data Required for Transmutation of Minor Actinide Nuclear Waste (1997-2001)
- Update of X- and Gamma-ray Standards for Detector Calibration (1998-2001)
- Nuclear Model Parameter Testing for Nuclear Data Evaluation (Reference Input Parameter Library: Phase II) (1998-2001)
- Development of Database for Prompt Gamma-ray Neutron Activation Analysis (1999-2002)

Workshops and Meetings

- Workshop on Nuclear Data for Science and Technology: Medical Applications, ICTP Trieste, Italy, 4 - 15 October 1999. See also Announcement above.
- Workshop on Advanced Nuclear Data Online Services, Vienna, Austria, 29 November to 3 December 1999 (tentative). Scientific Secretary: O. Schwerer.
- 22nd Meeting of the International Nuclear Data Committee, Vienna, Austria, 11 - 14 May 1999. Scientific Secretary: D.W. Muir
- Consultant's Meeting (CM) on Assessment of Nuclear Data Needs for Thorium Cycle and other Advanced Fuel Cycles, Vienna, Austria, 26-28 April 1999. Scientific Secretary: V. Pronyaev
- CM on Technical Aspects of the Co-operation of Nuclear Reaction Data Centres (NRDC), Vienna, Austria, 18-20 May 1999, Secretary: O. Schwerer
- CM on Validation of FENDL-2 Activation Library, Obninsk, Russia, 22-24 June 1999 (tentative), Scientific Secretary: M. Herman.

Co-operating nuclear data service centers

For services to customers in USA and Canada:
US National Nuclear Data Center, Bldg. 197D, Brookhaven National Laboratory, P.O. Box 5000, Upton, NY 11973-5000, USA. Tel. +1 516-344-2902; Fax +1 516-344-2806; e-mail: nndc@bnl.gov; Worldwide Web: http//www.nndc.bnl.gov/. For information on online services and requests contact: V. McLane

For services to customers in OECD countries in Western Europe and Japan:
NEA Data Bank: OECD Nuclear Energy Agency, Le Seine Saint-Germain, 12 blvd des Iles, F-92130 Issy-les-Moulineaux, France. Tel. +33 (1) 4524 (plus extension); Fax +33 (1) 45241110; e-mail: (name)@nea.fr or nea@nea.fr; Worldwide Web: http://www.nea.fr, username: NEADB. Contact: C. Nordborg, ext. 1090

For services to the countries of the former USSR:
Neutron data: Russia Nuclear Data Center, Centr Jadernykh Dannykh (CJD), Fiziko-Energeticheskij Institut, Ploschad Bondarenko, 249020 Obninsk, Kaluga Region, Russia. Tel. +7 08439-9-8982; Fax +7 095-230-2326; e-mail: manokhin@ippe.rssi.ru. Contact: V.N. Manokhin

Charged-particle data: Russia Nuclear Structure and Reaction Data Center (CAJAD), Kurchatov Institute, 46 Ulitsa Kurchatova, 123 182 Moscow, Russia. Tel. +7 095-196-9968; Fax +7 095-882-5804; e-mail: chukreev@polyn.kiae.su or feliks@polyn.kiae.su. Contact: F.E. Chukreev

Photonuclear data: Centre for Photonuclear Experiments Data, Centr Dannykh Fotoyadernykh Eksperimentov (CDFE), Moscow State University, Vorob'evy Gory, 119 899 Moscow, Russia. Tel. +7 095-939-3483; Fax +7 095-939-0896; e-mail: varlamov@cdfe.npi.msu.su or varlamov@depni.npi.msu.su Contact: V.V. Varlamov

For services to customers in China:
China Nuclear Data Center, China Institute of Atomic Energy, P.O. Box 275(41), Beijing 102413, China. Tel. +86 10-6935-7830; Fax +86 10-6935-7008; e-mail: tong@mipsa.ciae.ac.cn. Contact: Liu Tong

Computer codes of US origin to all countries:
Radiation Safety Information Computational Center (RSICC), Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6362, USA. Tel. +1 615-574-6176; Fax +1 615-574-6182; e-mail: pdc@ornl.gov. (There may be charges and release restrictions.)

Computer codes of non-US origin to all countries:
NEA Data Bank, see above, contact: E. Sartori, ext. 1072. (There may be release restrictions.)

The IAEA Nuclear Data Section offers data center services primarily to non-OECD countries (except Russia and China, see above). However, most products advertised in this Newsletter, specifically INDC reports, IAEA-NDS-documents, etc., are provided, upon request to customers in all countries. For online services see the first page of this Newsletter.

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