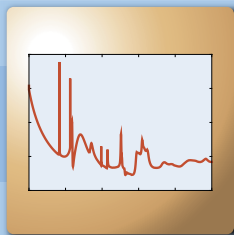




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Nuclear Data Newsletter

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All services provided to users are free of charge. Please contact us on the following addresses:

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Online News

The following INDC Reports are available online at http://www-nds.iaea.org/indc_sel.html: INDC(BLR)- 019, 020, INDC(CCP)-437, 438, INDC(NDS)-441, 445, 447, 448, 449, 451, 453 and 456.

PGAA Database for Prompt Gamma-ray Neutron Activation Analysis. Database contains neutron-capture prompt-gamma activation analysis (PGAA) library for elemental and nuclide analysis in materials science, geology, mining, archaeology, environment, food industry and medicine. The resulting database provides a variety of tables for all natural elements (from H to U) including the following data: isotopic composition, thermal radiative cross section (total and partial), Westcott g-factors, energy of the gamma rays (prompt and delayed), decay mode, half life and branching ratios.

CD-ROM contains:

[PGAA IAEA Database Viewer](#) - undertakes interactive searches of the PGAA database by isotope, energy, or cross section;

[Documentation](#) - report on the IAEA Coordinated Research Project for the Development of a Database for Prompt Gamma-ray Neutron Activation Analysis;

[PGAA Database Files](#) - adopted PGAA database and associated files in EXCEL, PDF, and TEXT formats;

[Evaluated Gamma-ray Activation File \(EGAF\)](#) - adopted PGAA database in ENSDF format. Data can be viewed with Isotope Explorer 2.2 ENSDF Viewer;

[PGAA Database Evaluation](#) - ENSDF format versions of the adopted PGAA database, and the Budapest and ENSDF isotopic input files. Decay scheme balance and statistical analysis summaries are provided;

[Isotope Explorer 2.2 ENSDF Viewer](#) - Windows software for viewing the level scheme drawings and tables provided in ENSDF format. The complete ENSDF database as of December 2002 is included;

[The CRP](#) - description of an IAEA Coordinated Research Project for the Development of a Database for Prompt Gamma-ray Neutron Activation Analysis.

All data are available online at:

<http://www-nds.iaea.org/pgaa/>.

Full CD-ROM version of the Web PGAA database (see above) is freely available on the request.

IBANDL – Ion Beam Analysis Nuclear Data Library. Collection of experimental cross sections, merging databases SigmaBase and NRABASE. Graphs and numerical data in R33 and RTR format are given. Available online at:

<http://www-nds.iaea.org/ibandl/>

Minsk Actinide Library, by M.M. Maslov et al. (2004). The library includes evaluated neutron reaction data for Th-232, Pa-231,233, U-232,233,234,238, Np-238, Pu-238, Pu-242, Am-241,242-g,242-m,243, Cm-243,245,246 in ENDF-6 format. February 2004 update includes new evaluations for Pa-231 and Pa-233 nuclides. The data are available on CD-ROM on request or online:

<http://www-nds.iaea.org/minskact/>

Charged-particle Cross Section Database for Medical Radioisotope Production – now updated. Version January 2004, with links to ENDF-6 formatted data. The data are available online at:
<http://www-nds.iaea.or.at/medical/>
or on CD ROM on request.

Offline News

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

CINDA 2003 Book (1988 – 2003) with 2 CD-ROMs (1935 – 2003). The Index to Literature and Computer Files on Microscopic Neutron Data. The CINDA bibliography allows users to find the references to specific types of cross-section information or other microscopic data from neutron-induced reactions, for any given target nucleus. Prepared by NEA Data Bank, Paris and published on behalf of: USA National Nuclear Data Center, Russian Nuclear Data Centre, NEA Data Bank, IAEA Nuclear Data Section. Available cost free on request.

EXFOR+CINDA/Java2 CD-ROM for Windows. Contains Microsoft Access database and improved interactive program. Does not need installation. Can work from CD-ROM. Contains EXFOR and CINDA libraries as of January 2004. Available cost free on request.

EXFOR+CINDA for Applications. CD-ROM for Linux and Windows. Contains MySQL database with database server, and both interactive and non-interactive retrieval programs. Does not need installation. Can work on CD-ROM. Can be used together with EMPIRE nuclear model and EndVer packages. Contains EXFOR and CINDA libraries as of January 2004. *Developed by Viktor Zerkin, Nuclear Data Section, IAEA, 2003.* Available cost free on request.

Coordinated Research Projects

IAEA Coordinated Research Projects (CRPs) are a valuable mechanism for stimulating research in IAEA Member States of relevance to Agency programmes. CRPs of the Nuclear Data Section, both active and recently completed and additional information can be found at:

www.iaea.org/programmes/ripc/nd/crps.htm

Staff Items

We extend our very best wishes to Raquel Paviotti-Corcuera who left the Nuclear Data Section in February. We also warmly welcome Roberto Capote Noy who has replaced Mike Herman.

In Memoriam

Gabor Molnár

With great sadness we learned of the sudden and untimely death of Professor Gábor Molnár (Institute of Isotope and Surface Chemistry, Budapest, Hungary) in early January 2004, aged 56 years. NDS staff knew Gábor well and worked with him over many years for the benefit of the international community.

Gábor participated in several Coordinated Research Projects of the IAEA and made appreciable contributions to their success. He contributed significantly to nuclear methods of analysis, in which his most recent work with NDS included neutron-induced prompt gamma-ray emission activation analysis and the measurement of high-energy gamma-ray emitters for nuclear structure and decay data studies. Gábor was also a member of the INDC, a panel of international experts who advise the IAEA regularly concerning the contents of its nuclear data programme.

Sol Pearlstein

Sad news was received in the fall of 2003 of the death of Sol Pearlstein (ex-Brookhaven National Laboratory, USA). In the autumn of 1976, Sol Pearlstein used his considerable technical and social skills to chair an important meeting organized in Vienna by the Nuclear Data Section to discuss worldwide needs for nuclear structure and decay data. The net result of this watershed event was the creation of an international network of expertise devoted to the development and maintenance of a key set of data files: ENSDF (and *Nuclear Data Sheets*).

Sol Pearlstein played a pivotal role in the formation of an important network that continues to this day – effectively, he was the creator of the Nuclear Structure and Decay Data Network (NSDD). His contribution to this work, and much else, was acknowledged during the biennial NSDD meeting at IAEA Headquarters in November 2003.

Selected Reports and Documents

Chart of the Nuclides. *Wall chart of the Nuclides from KAPL and General Electric Co, 15th edition (revision to 1996).*

Available cost free on request by users from developing countries.

Karlsruher Nuklidkarte. *Wall Chart of the Nuclides from Karlsruhe, 6th edition (1995).* Available cost free on request by users from developing countries.

INDC(BLR)-019. *Neutron Data Evaluation of ^{231}Pa .* V.M. Maslov, M. Baba, A. Hasegawa, N.V. Kornilov, A.B. Kagalenko, N.A. Tetereva, February 2004. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(BLR)-020. *Neutron Data Evaluation of ^{233}Pa .* V.M. Maslov, N.A. Tetereva, A.B. Kagalenko, N.V. Kornilov, M. Baba and A. Hasegawa, February 2004. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(CCP)-437. *Neutron multiplicity for Neutron Incident Energy from 0 to 150 MeV.* N.V. Kornilov, A.B. Kagalenko, V.M. Maslov, Yu. V. Porodzinskij, December 2003. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(CCP)-438. *Evaluation and Improvement of Cross Section Accuracy for Most Important Dosimetry Reactions $^{27}\text{Al}(n,p)$, $^{56}\text{Fe}(n,p)$ and $^{237}\text{Np}(n,f)$ Including Covariance Data.* K.I. Zolotarev, IPPE, Obninsk, Russia, February 2004. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-441. *IAEA International Database on Irradiated Nuclear Graphite Properties.* IAEA Headquarters, Vienna, Austria, February 2003. Prepared by R.E.H. Clark and A.J. Wickham. Available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-445. *IAEA Technical Meeting on Atomic and Plasma Material Interaction Data for Fusion Science Technology, 28-31 October 2002, Juelich, Germany.* Prepared by R.E.H. Clark, October 2003. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-447. *Evaluated Nuclear Data for Th-U Fuel Cycle. Summary Report of the First Research Co-ordination Meeting, IAEA, Vienna, Austria, 25-29 August 2003.* IAEA.

Prepared by A. Trkov, IAEA, Vienna. December 2003. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-448. *Summary Report of the Final Technical meeting on "International Reactor Dosimetry File: IRDF-2002" IAEA, Vienna, Austria, 1-3 October 2003.* Prepared by P.J. Griffin and R. Paviotti-Corcuera. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-449. *Report on the IAEA Technical Meeting on Database of Evaluated Cross Sections for Ion Beam Applications.* IAEA, Headquarters, Vienna, Austria, 29-30 October 2003. Prepared by I.C. Vickridge and O. Schwerer, November 2003. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-451. *Summary Report of an IAEA Consultants' Meeting "Maintain FENDL Library for Fusion Applications" (Fendl-2 Library for Fusion Applications - Status and Future Developments).* IAEA, Vienna, Austria, 10-12 November 2003. Prepared by R. Forrest and A. Trkov, November 2003. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-453. *Summary Report of the Second Research Co-ordination Meeting on Improvement of the Standard Cross Sections for Light Elements.* NIST, Gaithersburg, USA, 13-17 October 2003. Prepared by A.D. Carlson, G.M. Hale and V.G. Pronyaev, March 2004. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

INDC(NDS)-456. *Co-ordination of the International Network of Nuclear Structure and Decay Data Evaluators. Summary Report of an IAEA Technical Meeting.* IAEA, Vienna, Austria, 10-14 November 2003. Prepared by V.G. Pronyaev, A.L. Nichols and J. Tuli, March 2004. This report is available as hard copy or online at: http://www-nds.iaea.org/indc_sel.html

JAERI-Data/Code 2003-011. *The Libraries FSXLIB and MATXSLIB Based on JENDL-3.3,* edited by Kazuaki Kosako, Naoki Yamano, Tokio Fukahori, Keiichi Shibata and Akira Hasegawa, July 2003. This report is available as hard copy.

JAERI-Research 2003-026. *Evaluations of Heavy Nuclide Data for JENDL-3.3,* edited by

Toshikiko Kawano et al. December 2003. This report is available as hard copy.

JAERI-Review 2003-028. *JAERI Tandem Annual Report 2002. 1 April 2002 – 31 March 2003 (November 2003).* This report is available as hard copy.

Yadernye Konstanty (Nuclear Constants), issue 1-2, 2003. *The evaluation of value and localization of probably systematic errors for level densities and radiative strength functions extracted from $(n,2\gamma)$ -reaction* (Sukhovoi A.M. and Khitrov V.A., in Russian). *Evaluation of ^{233}Pa resolved resonance region* (Morogovskiy G.B. and Bakhanovich L.A., in Russian). *On conservative Multigroup methods* (Abramov B.D., in Russian). *On reactors kinetic sampling with use of different sets of delayed neutrons data* (Abramov B.D., in Russian). *Consistent*

evaluation of photoneutron reaction cross sections using the data obtained in the experiments with quasimonoenergetic annihilation photon beams at USA Livermore and France Saclay (Varlamov V.V., Peskov N.N., Rudenko D.V. and Stepanov M.E., in Russian). *The evaluation of some contribution sources of systematic errors in determination of level densities and radiative strength function from the gamma-spectra of nuclear reactions* (Sukhovoi A.M. et al., in Russian). *Interactive information system "Transmutation of Nuclides in Nuclear Reactors"* (Plyaskin V.I., Kosilov R.A. and Manturov G.N., in Russian).

Note: Unless indicated otherwise, the quoted data files, printed materials, or computer codes are available cost-free upon request. When requesting data files or codes, kindly give us your desired specifications.

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. +1 631-344-2902; Fax +1 631-344-2806; E-mail: nndc@bnl.gov; Worldwide Web: <http://www.nndc.bnl.gov/> For information on online services and requests contact: Ms. 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.obninsk.ru. Worldwide Web <http://rmdc.ippe.obninsk.ru/> Contact: V.N. Manokhin.

Charged-particle data: Russia Nuclear Structure and Reaction Data Center (CAJAD), Kurchatov Institute, Kurchatov's Square 1, 123 182 Moscow, Russia. Tel. +7 095-196-9968; Fax +7 095-882-5804; E-mail: feliks@polyn.kiae.su Contact: F.E. Chukreev.

Photonuclear data: Centre for Photonuclear Experiments Data, Centr Dannykh Fotoyadernykh Eksperimentov (CDFE), Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Leninskie Gory, 119 922 Moscow, Russia. Tel. +7 095-939-3483; Fax +7 095-939-0896; E-mail: varlamov@depni.sinp.msu.ru or varlamov@depni.npi.msu.su. Worldwide Web <http://depni.sinp.msu.ru/cdfe/> 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 10-6935-7275; Fax +86 10-6935-7008; E-mail: gezg@iris.ciae.ac.cn Contact: Ge Zhigang.

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. +1 865-574-6176; Fax +1 865-574-6182; E-mail: cdc@ornl.gov. Worldwide Web <http://epicws.epm.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; E-mail: sartori@nea.fr (there may be release restrictions)

The IAEA Nuclear Data Section offers data centre 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. Users of countries in Latin America and Caribbean may use IAEA-NDS mirror at Worldwide Web <http://www.nds.ipen.br>

The Nuclear Data Newsletter is prepared twice a year by the Nuclear Data Section, IAEA Division of Physical and Chemical Sciences.

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