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**Note:** Unless indicated otherwise, the quoted data files, printed materials, or computer codes are available cost-free upon request. The major databases are available online within NDIS, the Nuclear Data Information System. FTP transfer can be arranged by e-mail exchange. When requesting data files or codes on magnetic tapes or diskettes, kindly give us your acceptable specifications:

**Magnetic tapes:** specify acceptable density (1600 or 6250 bpi), maximum block size, and whether the data should be coded in EBCDIC, ASCII, or VAX-backup coding. Only 9-track tapes are used.

**DAT tapes:** 4 mm only, either in TAR format, IBM format or VMS format, uncompressed or compressed. Preferable for very large data libraries (up to several Gigabytes).

**PC diskettes:** DOS standard diskettes, either 3.5 inch or 5.25 inch. Preferable for not too large files (if compressed up to several Megabytes).

**CD-ROM:** Now available. Recording format ISO 9660. Please specify maximum file-name length on your system.

#### Staff changes in the Data Centre

After conducting a prolonged search, we are happy to announce the appointment, effective 21 November 1997, of Vladimir Pronyaev as the new Head of the IAEA Nuclear Data Centre Unit. Vladimir, who comes to us from the Obninsk Nuclear Data Center, is well known for his many contributions to the field of nuclear data measurement, calculation and evaluation. He is also a former staff member of Nuclear Data Section's nuclear data development unit (1980-84). We are also happy to report the return of Sofiate Aung from leave of absence, effective 1 December 1997. The departure of both Hans Lemmel and Sofie in late 1996 naturally placed a heavy burden on the remaining staff of the Data Centre. The NDS management wishes to take this opportunity to thank all of the centre staff for their hard work in providing continuity of services during this difficult period of transition. In particular, Otto Schwerer, our Online Services Manager, deserves special thanks for his outstanding efforts. We are also pleased to announce the arrival of Scott Miller of the University of Texas. Over the next 12 months, Scott will help us in improving our worldwide web interface and in formulating a strategy for dealing with the increased congestion on the Internet.

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online: TELNET or FTP: [iaeaand.iaea.or.at](http://iaeaand.iaea.or.at)  
username: IAEANDS for interactive Nuclear Data Information System  
username: ANONYMOUS for FTP file transfer  
username: FENDL for FTP file transfer of FENDL-1 files, FENDL2 for FENDL-2 files  
For users with Web-browsers: <http://www-nds.iaea.or.at>

## Worldwide Web

Implementation of direct web access to nuclear reaction databases on our "Nuclear Data Services" website is starting in December 1997 with EXFOR and CINDA. See <http://www-nds.iaea.or.at> with links to new retrieval forms.

## New data libraries

**CENDL-2.1R.** 7 revised materials (Fe-nat, Fe-54,56,57,58, Hg-nat, Tl-nat) were received (1997) for the Chinese Evaluated Nuclear Data Library for neutron reaction data (CENDL-2.1). Available on computer media or online through NDIS. Summary documentation: IAEA-NDS-61, Rev. 4.

**"Maslov" update 97/2.** Evaluated neutron reaction data for Pu-238 and Pu-242 were added to this file containing evaluations for several Am and Cm isotopes. Summary documentation: IAEA-NDS-164 Rev. 2 (1997).

**MENDL-2P.** Proton reaction data library for nuclear activation by Yu.N. Shubin et al., Obninsk, Russia. This library includes calculated proton cross-sections in ENDF-6 format for 505 nuclei (Z=13-84) for energies up to 200 MeV. The total number of reactions is 87196. Available on a set of PC diskettes (compressed), on CD-ROM or by FTP. Summary documentation: IAEA-NDS-204.

**SGNucDat Version 2.** Safeguards Nuclear Data for Windows, update 1997, compiled by M. Lammer, O. Schwerer, N.P. Kocherov, available on PC diskette. Included are A: actinide nuclear data (decay data, selected neutron cross-section data, fission-neutron data); B: fission-product nuclear data (decay data and selected neutron cross-section data); C: fission-product yield data. Summary documentation: IAEA-NDS-248, Rev. 1.

**NUBASE.** New database for experimentally known nuclear properties, by G. Audi, O. Bersillon, J. Blachot, A.H. Wapstra. Available from the Atomic Mass Data Center (AMDC), see below. **Not available from IAEA.** - NUBASE contains mass, isomeric excitation energy, half-life, spin, parity, decay modes and intensities for more than 3000 nuclides. Published in the journal Nuclear Physics, Vol. A624(1997), pp. 1-124. Available by anonymous FTP from [csnftp.in2p3.fr](mailto:csnftp.in2p3.fr), directory /pub/symfond/audi/mass, or consult the AMDC web site at <http://csnwww.in2p3.fr/amdc/>

## Charts of nuclides

**1996 Japanese Chart of Nuclides** issued by JNDC and JAERI-NDC, compiled by T. Horiguchi et al. Desk chart showing decay modes and half-lives. Supplemented by 5 tables (periodic table of elements; fundamental constants;  $\gamma$ -ray energy and intensity standards;  $\alpha$ -particle energies and intensities; isotopic abundances and thermal neutron cross sections). A limited number of copies is available cost-free from IAEA. For a WWW version (containing additional data) see <http://cracker.tokai.jaeri.go.jp/CN96/index.html>.

Still available: **Chart of Stable Atomic Nuclei** - with attached periodic table of elements, **in Chinese**.

## Conference announcement

**International Conference on the Physics of Nuclear Science and Technology, 5-8 October 1998, Islandia, Long Island (NY), USA**, sponsored by the American Nuclear Society. Major technical areas are: Nuclear Data; Neutron/Reactor Physics; Reactor Analysis; Particle Transport; Monte Carlo Calculations; Numerical Methods; Non-Linear Dynamics; Transient Phenomena; Space-Time Kinetics; Coupled Neutronics-Thermal Hydraulics; Neutron Sources; Core Monitoring; Incore Fuel Management; Reactor Physics Standards; Reactor Physics Benchmarks; Nuclear Safeguards; Nuclear Instrumentation; Measurement Techniques; Fast Neutron Penetration; Neutron Dosimetry; Research & Test Reactors; Analysis of Nuclear Systems; Physics of MOX Fuels; Medical Applications; Space Applications; Spallation Physics; Actinide Burners; High Burnup Fuel.

Deadline for Summaries: 5 January 1998, to be sent to Dr. Dimitrios Cokinos, Brookhaven National Laboratory, Building 197C, Upton, NY 11973-5000, USA. For news of the conference see the website:  
<http://www.dne.bnl.gov/html/confweb/conf-98.htm>

#### Conference proceedings

**INDC(JPN)-178.** Proceedings of the First Internet Symposium on Nuclear Data, April 8 - June 15, 1996, JAERI, Tokai, Ibaraki, Japan. Editors Tokio Fukahori, Osamu Iwamoto and Tsuneo Nakagawa.

**INDC(JPN)-179.** Proceedings of the 1996 Symposium on Nuclear Data, 21-22 November, 1996, JAERI, Tokai, Ibaraki, Japan. Editors T. Iguchi and T. Fukahori.

#### Data indexes and bibliographies

**CINDA 97**, the 1997 edition of the bibliography and data index for microscopic neutron reaction data, is available for a sales price of 840 Austrian Schillings. It covers the period 1988-1997 and supplements the five volume issue of CINDA A (1935-1987) issued in 1990, which is also still available. A limited number of copies of CINDA is available cost-free, primarily for users in developing countries. - The CINDA database is available online, see the last page of this Newsletter.

**IAEA-NDS-7 Rev. 97/12.** Index of nuclear data libraries available from the IAEA Nuclear Data Section.

**IAEA-NDS-0 Rev. 97/12.** Index to the IAEA-NDS-Documentation Series for available nuclear data libraries.

#### Selected reports and documents on nuclear data

- ☆ = documents available cost-free from IAEA/NDS upon request.
- = available from originator or from the INIS Microfiche Service (IAEA, P.O. Box 100, A-1400 Vienna, Austria)

#### Nuclear Data Center coordination

- ☆ **INDC(NDS)-374.** Co-ordination of the Nuclear Reaction Data Centers (Technical Aspects). Report on a meeting held in Vienna, Austria, 26-28 May 1997. Edited by O. Schwerer and H. Wienke.

#### Progress reports

- **JAERI-Review 97-010.** JAERI Tandem & V.D.G. Annual Report 1996 (1 April 1996-31 March 1997). Research activities which have been performed with the JAERI tandem accelerator and the Van de Graaf accelerator.
- ☆ **Annual Report 1996.** Physikalisches-Technische Bundesanstalt, Division 7 - Neutron Physics, Braunschweig, Germany. Edited by W.G. Alberts, O. Hecker and H. Klein.
- ☆ **INDC(GER)-043.** Progress Report on Nuclear Data Research in the Federal Republic of Germany for the period April 1, 1996 to March 31, 1997. Edited by S.M. Qaim, Forschungszentrum Jülich, Germany.
- **BARC/1997/E/003.** Progress Report on Nuclear Data Activities in India for the period April 1995 to January 1997. Compiled by S. Ganesan, Bhabha Atomic Research Centre, Bombay, India.
- ☆ **INDC(CPR)-042.** Communication of Nuclear Data Progress No. 17 (1997). China Nuclear Information Center.

- ☆ INDC(JPN)-177. Progress Report of the Japanese Nuclear Data Committee (January 1996 to December 1996). Editor J. Katakura.
- ☆ INDC(EUR)-031. Annual Progress Report on Nuclear Data 1996. Institute for Reference Materials and Measurements, Geel, Belgium.
- ☆ INDC(NDS)-366. Report of the IAEA Nuclear Data Section to the International Nuclear Data Committee for the Period 1995/1996. Edited by P. Obložinský.
- ☆ INDC(UK)-053. UK Nuclear Science Forum. Progress Report: Data Studies during 1996. Edited by A.L. Nichols.
- ☆ INDC(VN)-010. Progress Report on Research of Nuclear Data and Applied Nuclear Physics at Nuclear Research Institute for the Period 1 January - 31 December 1996. Edited by Vuong Huu Tan.

#### Nuclear data standards

- ANL/NDM-139 [ENDF-358]. The Simultaneous Evaluation of the Standards and Other Cross Sections of Importance for Technology. September 1997. By W.P. Poenitz and S.E. Aumeier.

#### Evaluation of neutron reaction data

- ☆ INDC(BLR)-009. Evaluation of Neutron Data for Plutonium-238. By V.M. Maslov et al.
- ☆ INDC(BLR)-010. Evaluation of Neutron Data for Plutonium-242. By V.M. Maslov et al.
- NEA/SEN/NSC/WPPR(96)5. Evaluation of Pu-242 data for the Incident Neutron Energy Range 0.1 - 6 MeV. G. Vladuca et al.

#### Comparison of evaluated data

- ☆ INDC(CCP)-397. Some Criteria for Selection of Evaluated Threshold Reaction Excitation Functions. By V.N. Manokhin.
- ☆ IEAv-NT-004/97. Table of Thermal and Resonance Parameters: Experimental and Calculated Values. By R. Paviotti Corcuera and V.R. Mendoza.

#### FENDL - evaluated nuclear data library for fusion

- ☆ INDC(NDS)-373. Extension and Improvement of the FENDL Library for Fusion Applications (FENDL-2). Report on a meeting held in Vienna, Austria, 3-7 March 1997. Edited by M. Herman and A.B. Pashchenko.

#### 14 MeV neutron cross sections

- ☆ INDC(HUN)-031. Investigations on (n, $\alpha$ ) Cross Sections in the 14 MeV Region. By A.D. Majeddin, V. Semkova and R. Doczi.
- ☆ INDC(HUN)-032. Investigations on (n,p) Cross Sections in the 14 MeV Region. By A.D. Majeddin, V. Semkova and R. Doczi.
- ☆ INDC(SUD)-002. On the Systematics for the (n,p) Reaction Cross-Sections at 14.5 MeV Neutrons. By K.T. Osman and F. Habbani.

#### Photon production

- ☆ INDC(NDS)-375. Measurement, Calculation and Evaluation of Photon Production Data. Report on a meeting held in Bled near Ljubljana, Slovenia, 29 September - 3 October 1997. Edited by P. Obložinský.

#### Charged-particle cross section data

- ANL/NDM-143. A Compilation of Information on the S-32(p, $\gamma$ )Cl-33 Reaction and Properties of Excited Levels in Cl-33. July 1997. By Roy E. Miller and Donald L. Smith.
- ☆ INDC(NDS)-371. Development of Reference Charged-Particle Cross Section Database for Medical Radioisotope Production. Report on a meeting held in the National Accelerator Centre, Faure, Cape Town, South Africa, 7-10 April 1997. Edited by P. Obložinský.
- ☆ INDC(PAK)-013. Excitation Functions of Cu-63(p,n)Zn-63, Cu-63(p,2n)Zn-62 and Cu-65(p,n)Zn-65 Reactions in 3-25 MeV Proton Energy Range. By K. Gul.

#### Photonuclear data

- ☆ INDC(NDS)-364. Compilation and Evaluation of Photonuclear Data for Applications. Report on a meeting held in Obninsk, Russia, 3-6 December 1996. Edited by P. Obložinský.

#### Nuclear structure data

- ☆ INDC(NDS)-367. Histogram Plots and Cutoff Energies for Nuclear Discrete Levels. By T. Belgia et al.

#### Nuclear data processing

- ☆ IEAv/NT-002/97. Table of Thermal, Resonance and Fast Parameters of JEF-2.2. A Comparison of Inter and NJOY Results. By R. Paviotti Corcuera, V.R. Mendoza and C. Velloso Ferreira.

#### Nuclear model calculations

- ☆ INDC(NDS)-372. Development of Reference Input Parameter Library for Nuclear Model Calculations of Nuclear Data (Phase I: Starter File). Report on a meeting held in Trieste, Italy, 26-29 May 1997. Edited by P. Obložinský.

#### Integral experiments

- ☆ INDC(BUL)-016. Benchmarks on Neutron Leakage from Iron and Beryllium Slabs and Spheres. By S. Belousov et al.

#### Reactor Physics

- ☆ INDC(EGY)-007. Performance and Main Characteristic Parameters of the Cairo Fourier Diffractometer Facility at the ET-RR-1 Reactor. By R.A. Maayouf et al.

#### Electron-impact cross sections

- ☆ INDC(NDS)-369. Critical Assessment of Electron-Impact Cross Section Database for Be and B Plasma Impurity Ions. Report on a meeting held in Vienna, Austria, 2-3 September 1996. Edited by K. Bartschat et al.

Additional copies are now available from the Nuclear Data Section of the following reports on the NEA international evaluation co-operation:

- ☆ NEA/WPEC-1. Comparison of Evaluated Data for Chromium-52, Iron-56 and Nickel-58
- ☆ NEA/WPEC-2. Generation of Covariance Files for Iron-56 and Natural Iron
- ☆ NEA/WPEC-3. Actinide Data in the Thermal Range
- ☆ NEA/WPEC-5. Plutonium-239 Fission Cross-Sections between 1 and 100 keV
- ☆ NEA/WPEC-15. Cross-Sections Fluctuations and Self-Shielding Effects in the Unresolved Resonance Region.

**Yadernye Konstanty** ("Nuclear Constants"), Moscow, Russia. This series appears in Russian with abstracts in English. Copies are available, cost-free, from the IAEA Nuclear Data Section. Tables of contents are given in the following. Subject to available funds, selected articles are translated by IAEA and published as INDC(CCP)-reports.

- ☆ **Yad. Konst. 1997 (1-2).** Contents: Investigation of resonance structure and temperature dependence of Pu-239 neutron cross sections (Grigor'ev). Photofission cross-section of Uranium-234 in the energy region from 5 to 9 MeV and its comparison with the data for Thorium-232 and Neptunium-237 in subbarrier region (Soldatov). Measurements of relative abundances and periods of delayed neutrons from fast neutron induced fission of <sup>237</sup>Np (Piksaikin). Absolute measurements of the efficiency of 4π delayed neutron detector (Piksaikin). Factors determining the energy dependence of delayed neutron yields in neutron induced fission (Pronyaev; article published in English). Evaluation of corrections for spherical-shell neutron transmission experiments by the Monte-Carlo technique (Devkin; article published in English). Absolute level density from analysis of complete set of partial cross sections (Pronyaev; article published in English). The consistent evaluation of the (n,p) and (n,α) reaction cross sections for Y, Zr, Nb, Mo isotopes (Blokhin; article published in English). Actinide neutron data from FOND and ABBN libraries (Zabrodskaia). Shielding requirements for the transport of nuclear warhead components under decommissioning (Hansen; article published in English). Analysis of discrepancy between measured and calculated photon spectra leaking from reactor building materials (Trykov).
- ☆ **INDC(CCP)-403.** Selected articles translated from Yadernye Konstanty (Nuclear Constants) Volumes 3-4, 1994. Translated by the IAEA.
- ☆ **INDC(CCP)-404.** Calculations related to Nuclear Fission-Product Yields. Three papers by E.S. Bogomolova et al. Translated from Yadernye Konstanty 1995 (1-2).
- ☆ **INDC(CCP)-405.** Study of Gamma-ray Multiplicity Spectra for Radiative Capture of Neutrons in In-113, 115. By G.P. Georgiev et al. Translated from Yadernye Konstanty 1995 (1-2).
- ☆ **INDC(CCP)-406.** The LIPAR-5 Resonance Parameter Library. By L.P. Abagyan. Translated from Yadernye Konstanty 1995 (1-2).
- ☆ **INDC(CCP)-407.** Determination of the Resonance Characteristics of Niobium-93 and Natural Tungsten. By Yu.V. Grigor'ev et al. Translated from Yadernye Konstanty 1995 (1-2).
- ☆ **INDC(CCP)-408.** Selected articles translated from Yadernye Konstanty (Nuclear Constants) Volume 1-2, 1995. Translated by A. Lorenz.
- ☆ **INDC(CCP)-409.** Selected articles translated from Yadernye Konstanty (Nuclear Constants) Volume 1, 1996. Translated by A. Lorenz.
- ☆ **INDC(UKR)-003.** Selected articles translated from Yadernye Konstanty (Nuclear Constants) Volumes 3-4, 1994. Translated by the IAEA.
- ☆ **INDC(UKR)-004.** Total Neutron Cross-Sections and Resonance Parameters for Se-80 in the Energy Range up to 10 keV. By G.M. Novoselov et al. Translated from Yadernye Konstanty 1995 (1-2).

The addresses of the 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. 516-344-2902; Fax 516-344-2806; e-mail: [nndc@bnl.gov](mailto: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 West 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; Telex OCDE 620160 F; e-mail:  [\(name\)@nea.fr](mailto:(name)@nea.fr) or [nea@nea.fr](mailto:nea@nea.fr); Worldwide Web: <http://www.nea.fr> username: NEADB. Contact: C. Nordborg, ext. 1092

For services to the countries of the former USSR:

Neutron data: Russia Nuclear Data Center, Centr Jadernykh Dannykh (CJD), Ploshchad Bondarenko, 249020 Obninsk, Kaluga Region, Russia. Tel. +7 084-399-8982; Fax +7 095-230-2326; Telex 411509 naf su; e-mail: [manokhin@cjd.obninsk.su](mailto:manokhin@cjd.obninsk.su). Contact: V. Manokhin

Charged-particle data: Russia Nuclear Structure and Reaction Data Center (CAJaD), Kurchatov Institute, 46 Ulitsa Kurchatova, 123182 Moscow, Russia. Tel. +7 095-196-1612; Fax +7 095-882-5804; Telex 411594 shu su; e-mail: [chukreev@cajad.kiae.su](mailto:chukreev@cajad.kiae.su). Contact: F.E. Chukreev

Photonuclear data: Centr Dannykh Fotojad. Eksp. (CDFE), Institute of Nuclear Physics, Moscow State University, Vorob'evy Gory, 119899 Moscow, Russia. Tel. +7 095-939-3483; Fax +7 095-939-0896; Telex 411483 mgu su; E-mail: [varlamov@cdfe.npi.msu.su](mailto:varlamov@cdfe.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. 10-6935-7275; Fax 10-6935-7008; Telex 222373 iae cn; e-mail: [cnndc@mipsa.ciae.ac.cn](mailto:cnndc@mipsa.ciae.ac.cn). Contact: Zhang Jingshang

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. 615-574-6176; Fax 615-574-6182; e-mail: [pdc@ornl.gov](mailto: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, certain 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 last page of this newsletter.



**Access to NDIS (interactive online Nuclear Data Information System)  
via the INTERNET:**

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**Sample login:**

TELNET IAEAND.IAEA.OR.AT

The IAEA/Nuclear Data Section's AlphaServer Computer System

Username: IAEANDS

THE IAEA/NDS ONLINE DATA SERVICE

Enter NDS assigned authorization code (or GUEST): GUEST  
(or your authorization code if you have one)

**Authorization:**

As a "GUEST", you will have 30 seconds of CPU time allocated. At the end of a GUEST session, you may sign up directly for an authorization code for full access service. (This code still needs to be activated by the NDIS manager before you can use it for future access.) Or, you may contact the IAEA Nuclear Data Section for assignment of an authorization code.

**Retrieval system:**

A user-friendly system provides ample help to the user who specifies the retrieval criteria in response to step-by-step prompts by the system. It also provides interactive assistance through HELP files. More detailed documentation on the system can be found in the report IAEA-NDS-150 Rev. 96/8 by C.L. Dunford and T.W. Burrows, which is available as a hardcopy or online in "PostScript".

**Access to open areas for FTP file transfer:**

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**Sample login:**

FTP IAEAND.IAEA.OR.AT

Username: FENDL (if FENDL-1 files are wanted, or FENDL2 for FENDL-2 files)

ANONYMOUS (for retrieving other available files)  
NDSOPEN (for sending files to IAEA)

No password required.

Then choose one of the available subdirectories, which contain AAREADME.TXT files for further information.

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online: TELNET or FTP: iaeand.iaea.or.at  
username: IAEANDS for interactive Nuclear Data Information System  
username: ANONYMOUS for FTP file transfer  
username: FENDL for FTP file transfer of FENDL-1 files, FENDL2 for FENDL-2 files  
For users with web-browsers: <http://www-nds.iaea.or.at>

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