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Note: Unless indicated otherwise, the quoted data files, printed materials, or computer codes are available costfree 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: in preparation.

Personal item

We are glad to announce that Dr. Douglas W. Muir from the Los Alamos National Laboratory, USA, is the new Head of the IAEA Nuclear Data Section.

Online nuclear data service

How to access the online Nuclear Data Information System (NDIS), see the last page of this newsletter. A more detailed description is available as report **IAEA-NDS-150 Rev. 96/8** by C.L. Dunford and T.W. Burrows, which is available as hard copy or online in "PostScript". Most of the nuclear data libraries that can be accessed online, are frequently updated. NDIS includes the data libraries CSISRS/EXFOR (experimental nuclear reaction data induced by neutrons, photons, or charged particles); ENDF (evaluated neutron nuclear data, ENDF/B-6, JEF, JENDL, BROND, CENDL); ENSDF and NUDAT (nuclear structure and decay data); CINDA and NSR (nuclear data bibliographies); and others.

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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 files
For users with web-browsers: <http://www-nds.iaea.or.at>

FENDL SUMMARY

FENDL is the evaluated nuclear database for fusion applications. Its present version consists of the following sublibraries for which the documentation and the FTP subdirectory for online service are given below. At the ITER neutronics coordination meeting in San Diego, Feb. 1995, the ITER participants agreed to use FENDL in all design calculations.

1. **FENDL/A-1.1** (April 93): neutron activation cross-sections, selected from different available sources, for 636 nuclides, given in four representations:
 - FENDL/A: "point data", i.e. cross-sections as function of energy in ENDF-6 format (see IAEA-NDS-148, Rev. 2, Feb. 1995). FTP subdirectory: ACTIVATION.FENDLA
 - "MCNP": processed into the format for input to the MCNP Monte-Carlo transport code (see IAEA-NDS-168, Rev. 3, Feb. 1996). FTP subdirectory: ACTIVATION.PROCESSED.MCNP
 - "VITJ_E": VITAMIN-J 175 group data, processed for input to the code REAC*2/3 using the VITAMIN-E weighting spectrum (see IAEA-NDS-168, Rev. 3, Feb. 1996). FTP subdirectory: ACTIVATION.PROCESSED.VITJ_E
 - "VITJ_FLAT": VITAMIN-J 175 group data, processed using a flat weighting spectrum (see IAEA-NDS-148, Rev. 2, Feb. 1995). FTP subdirectory: ACTIVATION.PROCESSED.VITJ_FLAT
2. **FENDL/D-1.0** (Jan. 92): nuclear decay data for 2900 nuclides in ENDF-6 format, extracted from ENDF/B-6 and ENSDF (see IAEA-NDS-167, Jan. 1995). FTP subdirectory: DECAY.FENDLD
3. **FENDL/DS-1.0** (Oct. 93): neutron activation data for dosimetry by foil activation. This is identical with file 1 (neutron activation cross-sections) of the International Reactor Dosimetry File IRDF-90 version 2 of Oct. 1993 (see IAEA-NDS-141, Rev. 2, Oct. 1993), given as multigroup data in 640 group extended SAND-2 format, without covariance data. FTP subdirectory: DOSIMETRY.FENDLDS
4. **FENDL/C-1.0** (Nov. 91): data for the fusion reactions D(d,n), D(d,p), T(d,n), T(t,2n), He-3(d,p) extracted from ENDF/B-6 and processed (see IAEA-NDS-166, Jan. 1995). FTP subdirectories: FUSION.FENDLC and FUSION.PROCESSED
5. **FENDL/E-1.1** (Nov. 94): data for coupled neutron-photon transport calculations, including
 - a data library for neutron interaction and photon production for 63 elements or isotopes, selected from ENDF/B-6, JENDL-3, or BROND-2 (see IAEA-NDS-128, Rev. 2, Feb. 1996)
 - a photon-atom interaction data library for 34 elements taken from ENDF/B-6 (see IAEA-NDS-58, Rev. 4, Sept. 1994)

These are available in three representations:

- original ENDF-6 format, as above, with resonance-parameters where applicable. FTP subdirectory: TRANSPORT.FENDLE
- "FENDL/MG" (March 95): VITAMIN-J 175 group data in GENDF and MATXS format processed by NJOY using the VITAMIN-E weighting spectrum (see IAEA-NDS-129, Rev. 3, Feb. 1996). FTP subdirectory: TRANSPORT.PROCESSED.FENDLMG
- "FENDL/MC" (Nov. 94): processed into the ACE format needed for input to the Monte Carlo code MCNP4A (see IAEA-NDS-169, Rev. 3, Feb. 1996). FTP subdirectory: TRANSPORT.PROCESSED.FENDLMC

FENDL BENCHMARKS

The FENDL/BENCHMARKS subdirectory contains compiled fusion benchmark descriptions and data, provided by the international community of benchmark specialists, for validation of the above mentioned FENDL libraries.

INTERNET/FTP online access to FENDL files

The FENDL data files can be electronically transferred to users from the IAEA Nuclear Data Section online system through INTERNET. In the NDS open area 'FENDL', a subdirectory was created for each sublibrary. The subdirectory names are given above. The file transfer via INTERNET (unix system) can be performed by 'ftp' command to the address 'iaeand.iaea.or.at' or '161.5.17.5'. The user should logon to the foreign user name 'FENDL'. No password is required. After having logged on, the user can set the definition to any required subdirectory and transfer files as desired. A grand total of 47 (sub)directories with 810 files with total size of nearly 2 million blocks or about 1 Gigabyte (1 block = 512 bytes) of numerical data is currently available on-line.

World Wide Web: The IAEA Nuclear Data Section's home page

(<http://www-nds.iaea.or.at>) contains now direct web access to several databases (ENSDF, MIRD, Nuclear Wallet Cards, Thermal neutron capture gammas). For access to the other online databases there is a link to the Telnet-based online service NDIS. Other new features are the "IAEA Nuclear Data Guide", a web version of IAEA-NDS-7 (Index of Nuclear Data Libraries available from the IAEA Nuclear Data Section) and the possibility of downloading various manuals, files and nuclear data utility programs.

New data libraries

EXFOR. This data library contains experimental nuclear reaction data and related parameters compiled by the International Network of Nuclear Data Centers. It includes reactions induced by neutrons, charged particles, photons and heavy ions and is updated in about monthly intervals. It is part of our online system NDIS, see the last page of this Newsletter. In parallel to the online services, retrievals for specific reactions can be provided on magnetic tape upon request. Recently, a large compilation has been added on charged particle induced reactions at higher energies.

NMF-90. Neutron metrology file. An integrated database for performing neutron spectrum adjustment calculations. N.P. Kocherov. Documentation in reports INDC(NDS)-347 and IAEA-NDS-171.

"Maslov". Evaluated neutron reaction data for ⁹⁵Am-241,243 and ⁹⁶Cm-243,245,246 by V. Maslov et al, Minsk/Belarus, in ENDF-6 format, documented in report IAEA-NDS-164 (1996).

FENDL. The Evaluated Nuclear Data Library for Fusion. See page 2.

SGNucDat. Safeguards Nuclear Data for Windows. A handbook on this topic had been issued in 1991 as report INDC(NDS)-248 by M. Lammer and O. Schwerer. This data collection has now been issued on a PC diskette "SGNucDat" with a code by G. Pospischil displaying the data in a convenient manner. 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. - **The diskette can be used only under Windows, not under DOS.** - Diskette and report available costfree.

DROSG-96. Monoenergetic neutron source reactions, by M. Drog, University of Vienna. The diskette database, previously known as DROSG-87, was extended significantly and contains now 30 reactions and various new features. The diskette contains the basic data and several FORTRAN programs for calculation of neutron energies, differential cross sections, the angular distribution of the neutron yields, and white source properties. A detailed documentation is included in the diskette. The database with programs (in compressed form) is also available via anonymous FTP from the University of Vienna (FTP to PAP.UNIVIE.AC.AT, subdirectory NEUTRON).

"Kondrashov Gammas". PC database for gamma-rays from radionuclides, by V. Kondrashov, containing 16,682 gamma lines for 749 radionuclides. A set of PC diskettes with files either in ASCII or in MS Word, available costfree. Documentation in IAEA-NDS-172. - While there are other databases with similar contents, this one had been produced for use with the gamma-spectra analysis code DIMEN which is available from RSIC.

Atomic Masses 1995, a database containing the 1995 update to the Atomic Mass Evaluation, by G. Audi and A.H. Wapstra, as published in Nucl. Phys. A595 (Dec. 1995). There are tables of atomic masses and reaction energies in three versions: experimental values ("exp"); recommended values unrounded ("rmd"); and rounded recommended values ("rmd/round"). Explanation is given in the file "readme.mas95". The files can be obtained from the Nuclear Data Centers (on tape or by FTP), or directly from the "Atomic Mass Data Center (AMDC)", - contact: "audi@csnsm.in2p3.fr" or "<http://www-csnsm.in2p3.fr/>".

PCNUDAT and Papyrus NSR. A CD-ROM by P. Ekström, R.R. Kinsey, E. Browne, containing the databases NUDAT and NSR, running under DOS or Windows. The NUDAT database contains nuclear decay data and thermal neutron cross-sections. NSR contains the bibliographic database Nuclear Science References. Both databases are compiled by the Network of Nuclear Structure and Decay Data

Evaluators and maintained at the U.S. National Nuclear Data Center (NNDC). Both, NUDAT and NSR are also available online as part of NDIS, see last page of this Newsletter. Requests for this CD-ROM may be sent to the U.S. National Nuclear Data Center NNDC (e-mail: NNDC@BNL.Gov) or P. Ekström (Peter.Ekstrom@Nuclear.LU.Se).

Chart of nuclides

A new version of the "Karlsruher Nuklidkarte" (6th ed. 1995) has been issued by G. Pfennig, H. Klewe-Nebenius, W. Seelmann-Eggebert. There is a wall chart and a desk copy with a fold-out chart and introductory text in German, English, Spanish and French. The chart contains many "new" nuclides and all nuclear half-lives and other included parameters have been updated.

It can be ordered from "Marktdienste Haberbeck", Industriestrasse 17, D-32791 Lage/Lippe, Germany. Fax: +49-5232-68445. The sales price is about DM 40,- per set plus shipment costs, with price reductions for multiple orders. A limited number of copies is available from IAEA costfree for scientists in developing countries.

Nuclear data processing computer codes

A new version of the ENDF Utility Codes (Release 6.10) by C.L. Dunford, NNDC, is available. It is documented in the report IAEA-NDS-29 Rev. 7 (1995). These codes are needed for the handling of evaluated nuclear data libraries in the formats ENDF-6 or ENDF-5. Included are subroutines for the checking and maintenance of the data files, for the retrieval and graphical plotting of selected data, and some other purposes. Compared to the previous release a number of minor improvements has been made. The codes are operational on various computer types. Available on tape or diskettes.

A new version of the ENDF Pre-Processing Codes by D.E. Cullen "Pre-Pro 96" is documented in the report IAEA-NDS-39 Rev. 9 (1996). Some of the functions of these codes are: to calculate cross-sections from resonance-parameters; to calculate angular distributions, group averages, mixtures of cross-sections, etc; to produce graphical plottings and data comparisons. The codes are operational on various computer types. Available on tape or diskettes. - Note: The 1996 codes completely supersede all earlier versions and it is strongly recommended to use only the 1996 version. All codes now use double precision throughout and are, at the same time, faster than the previous versions.

Data indexes and bibliographies

CINDA95, the 1995 edition of the bibliography and data index for microscopic neutron reaction data, is available for a sales price of 720 Austrian Schillings. It covers the period 1988-1995 and supplements the five volume issue of CINDA A (1935-1987) issued in 1990, which is also still available (compare issue no. 15 of this Newsletter). CINDA96, supplement to CINDA95, sales price of 180 Austrian Schillings. A limited number of copies of CINDA is available costfree, primarily for users in developing countries. - The CINDA database is available online, see the last page of this Newsletter.

Fotojadernye Dannye - Photonuclear Data, cumulative bibliographic index 1976-1995 by V.V. Varlamov, V.V. Sapunenko, M.E. Stepanov, Moscow State University. 222 pages, 1996. With an appendix: Table of parameters of giant dipole resonance. Limited number of copies available costfree.

IAEA-NDS-7 Rev. 96/11. Index of nuclear data libraries available from the IAEA Nuclear Data Section.

IAEA-NDS-0 Rev. 96/11. Index to the IAEA-NDS-Documentation Series for available nuclear data libraries.

IAEA-NDS-107 Rev. 11. Joint index to BROND-2, CENDL-2, ENDF/B-6, JEF-2, JENDL-3, IRDF, EFF-2.4 and FENDL/E.

Conference announcements

The International Conference on Nuclear Data for Science and Technology will be held in Trieste, Italy, 19-24 May 1997, organized by the ENEA Nuclear Data Centre, Bologna, and the International Centre for Theoretical Physics, Trieste; in collaboration with the OECD Nuclear Energy Agency and the International Atomic Energy Agency. The main nuclear data topics will be

1. Relevant fundamental nuclear physics.
2. Facilities and experiments.
3. Nuclear structure and decay.
4. Nuclear models, methodology and codes.
5. Reactor technology, safety and fuel cycle.
6. Standards and dosimetry.
7. Fission product transmutation and actinide recycling.
8. Environment, safeguards and non-proliferation.
9. Accelerator technology and applications, calorimetry and space science.
10. Astrophysics.
11. Medical applications.
12. Industrial applications.

The conference secretariat can be contacted:

e-mail: ndst-97@nudace.arcoveggio.enea.it

fax: E. Tamiso +39-51-6098629
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Uptodate information can be found on the Web page
<http://nudace.arcoveggio.enea.it>

ICRM-97, the Conference on Radionuclide Metrology and its Applications will be held by the U.S. National Institute of Standards and Technology, Gaithersburg, MD, USA, 19-23 May 1997. For information contact M.P. Unterweger, NIST Bldg. 245, room C114, Gaithersburg, MD 20899, USA; e-mail: michael.unterweger@NIST.gov; fax: (301)926-7416.

Methodologies for particle transport simulation and their application to reactor dosimetry/shielding. Training Course/Workshop at Penn State University, USA, 19-23 May 1997. - Contact: Prof. A. Haghghat, Penn State University, 231 Sackett Bldg., University Park, PA 16802, USA; fax: (814)865-8499; e-mail: haghgha@gracie.psu.edu; web: <http://gracie.psu.edu/wshop97/wshop97.annc.html>.

Conference proceedings

1994 Symposium on Nuclear Data, JAERI, Tokai, Japan, 17-18 Nov. 1994. Proceedings as JAERI-Conf-95-008 and INDC(JPN)-173 (March 1995). M. Kawai, T. Fukahori (eds.). Limited number of copies available costfree.

1995 Symposium on Nuclear Data, JAERI, Tokai, Japan, 16-17 Nov. 1995. Proceedings as JAERI-Conf-96-008 and INDC(JPN)-175 (March 1996). T. Iguchi, T. Fukahori (eds.). Limited number of copies available costfree.

Workshop on Nuclear Reactors, Physics, Design and Safety, Trieste, Italy, 11 April - 13 May 1994. Proceedings published by World Scientific, Singapore, 1995, 1120 pages. Editors: A. Gandini, S. Ganesan, J.J. Schmidt. - NOT AVAILABLE FROM IAEA.

Requests for nuclear data measurements and evaluations

The UK Nuclear Science Forum has issued a new Request List - 1996 based on nuclear data needs in the nuclear power industry. - Report **AEAT-0427**.

For a new "High Priority Nuclear Data Request List" contact the NEA Data Bank (see address on page 11).

For earlier request lists see

- WRENDA 93/94, World Request List for Nuclear Data Measurements, report **INDC(SEC)-104**.
- Requests for fission yield measurements, report **INDC(SEC)-105**.

Nuclear data handbooks

Table of Isotopes, 8th edition 1996, by R.B. Firestone, Lawrence Berkeley National Laboratory, USA. It contains nuclear structure and decay data for over 3100 nuclides with masses from 1 to 272. It contains in handbook form data from ENSDF (Evaluated Nuclear Structure Data File) maintained by the U.S. National Nuclear Data Center and updated by the U.S. Nuclear Data Network and the Nuclear Structure and Decay Data Evaluators Network of the IAEA. The bulk of the book contains nuclear structure and decay data (levels, gamma-rays, etc.) in graphical and tabular form for all nuclides, sorted by mass number A and atomic number Z. It is supplemented by additional data tables such as nuclear spectroscopy standards, atomic data, transition probabilities, range and stopping power data, etc. 3200 pages in two volumes, with a CD-ROM containing the same data. - **NOT AVAILABLE FROM IAEA**. To be ordered through scientific book shops or from the publisher, John Wiley and Sons Inc., 605 3rd Avenue, New York, NY-10158. - Note: This book will serve as an international reference book for at least the next decade, similar to the previous edition which had been published by Mike Lederer in 1978. For those nuclides, however, where the evaluated data will be updated due to new and more precise experimental data, the Online Services should be consulted to obtain the most up-to-date information.

Nuclear Wallet Cards (1995 issue), by J.K. Tuli, U.S. National Nuclear Data Center. A pocket booklet containing for all nuclides the natural abundance or the half-life and decay mode as retrieved from the ENSDF database; with appendices with useful physics constants. Available costfree.

Table of simple integral neutron cross-section data from JEF-2.2, ENDF/B-6, JENDL-3.2, BROND-2 and CENDL-2. JEF Report 14 (1994), 236 pages. To be requested from the NEA Data Bank, OECD Nuclear Energy Agency, Le Seine Saint-Germain, 12 boulevard des Iles, F-92130 Issy-les-Moulineaux, France.

EME, data library of electron emissions. A handbook in two volumes, in French, issued in 1995 by the Laboratoire Primaire des Rayonnements Ionisants (LPRI) Saclay, B.P. Nr. 52, 91193 Gif-Sur-Yvette, France. - For 194 radionuclides energies and intensities of electron emissions are given, in nuclide sort and energy sort. - Not available from IAEA; contact the issuing institute.

Atlas of energy-angular distributions of gamma-rays produced in neutron reactions. A.I. Blokhin, et. al. Report **INDC(CCP)-387** (1996) 140 pages. English translation from Jadernye Konstanty 2/1993. Available costfree.

Neutron radiative capture, a handbook by T.S. Belanova et al, in Russian, with many tables and figures, 248 pages, Energoatomizdat 1986. - Report as report **INDC(CCP)-262**, available costfree.

"Nuclide Guide", a handbook in Russian and English by T.V. Golashvili, V.P. Chechev, A.A. Lbov, Atominform Moscow 1995. It contains, for all known nuclides, properties of ground and isomeric states, mass, half-life, decay modes, intensities, particle energies, and the energies of the dominating decay gammas. - **Not available from IAEA**. The book can be obtained from V.P. Chechev, Khlopin Radievyy Institut, 194021 Sankt-Petersburg, Russia, fax (812)247-80-95.

The following handbooks which were announced in earlier issues of this Newsletter, are still available.

Atomic and molecular data for radiotherapy and radiation research. IAEA-TECDOC-799 (750 pages), N. Kocherov (ed.), 1995. Contents: Particle therapy in cancer management; heavy ion therapy. Ionization by fast charged particles. Electron collision cross-sections. Low energy electron interaction with condensed matter. Photoabsorption, photoionization, photodissociation cross-sections. Collision processes between ions and molecules. Stopping powers, ranges, and straggling. Yields of ionization and excitation in irradiated matter. Track structure quantities. ESTAR, PSTAR, ASTAR; computer programs for calculating stopping powers and ranges for electrons, protons, and helium ions.

X-ray and gamma-ray standards for detector calibration. IAEA-TECDOC-619 (158 pages), A. Lorenz, H.D. Lemmel (eds.), 1991, reprint 1995. Contents: Recommended values of half-lives, x-ray emission probabilities, gamma-ray emission probabilities for 35 nuclides used for detector calibration.

Decay data of the transactinium nuclides. IAEA Tech. Rep. No. 261 (174 pages), A. Lorenz (ed.), 1986, reprint 1995. Contents: Recommended values of half-lives, branching ratios, gamma-ray energies and emission probabilities, alpha-radiation energies and emission probabilities.

Handbook on nuclear activation data. IAEA Tech. Rep. No. 273 (812 pages), K. Okamoto (ed.), 1987, reprint 1995. Contents: 1. Standard reference data; 2. Neutron activation; 3. Charged particle activation; 4. Photonuclear activation. Many tables, figures and references.

Selected reports and documents on nuclear data

- * = documents available costfree 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)-359. The Nuclear Data Centers Network. Addresses and activities of the cooperating nuclear data centers. H.D. Lemmel (ed.).
- * INDC(NDS)-360. Coordination of the Nuclear Reaction Data Centers. Report on a meeting in Brookhaven, U.S.A., 3-7 June 1996. O. Schwerer, H.D. Lemmel (ed.).
- * INDC(NDS)-343. Technical aspects of the cooperation of Nuclear Reaction Data Centers. Report on a meeting in Vienna, 2-4 May 1995. Edited by H.D. Lemmel, O. Schwerer, H. Wienke.
- * INDC(NDS)-339. Technical aspects of atomic and molecular data processing and exchange. Report on a meeting in Vienna, 10-11 July 1995. J. Botero.
- * BNL-NCS-63381. Citation guidelines for nuclear data retrieved from databases resident at the Nuclear Data Centers Network. V. McLane (ed.).
- * BNL-NCS-63380. "EXFOR Basics", a short guide to the Nuclear Reaction Data Exchange Format. V. McLane (ed.).
- * INDC(NDS)-328. Development of an international nuclear decay data and cross-section database. Summary report of a meeting in Vienna, 24-28 Oct. 1994. H.D. Lemmel (ed.).
- * INDC(NDS)-329. Texts of papers presented at the same meeting. H.D. Lemmel (ed.).

Progress reports

- * INDC(CCP)-388. Russian institutes dealing with nuclear data research. B. Fursov.
- * INDC(CCP)-395. The Russian nuclear data research programme. Atomic Energy Ministry of the Russian Federation.
- * INDC(CPR)-34, INDC(CPR)-36, and INDC(CPR)-40. Communication of nuclear data progress, Chinese Nuclear Data Center, No. 13, 14 (1995) and No. 15 (1996). Liu Tingjin and Zhuang Youxiang (eds.).
- * INDC(IND)-46. Progress report on nuclear data activities in India, July 1992 - March 1995. S. Ganesan (ed.).
- * INDC(VN)-7. Study of nuclear data and applied nuclear physics at the Dalat Institute for Nuclear Research (Vietnam). Vuong Huu Tan.
- * INDC(VN)-9. Status report of the program on neutron beam utilization at the Dalat nuclear research reactor. Vuong Huu Tan.
- * INDC(JPN)-176. Progress report of the Japanese Nuclear Data Committee, July 1994 - Dec. 1995. J. Katakura (ed.).
- * NEA/NSC/DOC(95)-11. Annual progress report on nuclear data, 1994. Inst. for Reference Materials and Measurements, Geel, Belgium.
- * NEA/NSC/DOC(95)-10 and NEA/NSC/DOC(96)-24. Progress reports on nuclear data research in Germany, 1994/95 and 1995/96. S.M. Qaim (ed.).
- * AEA-TSD-1016. Data studies during 1994. UK Nuclear Science Forum. A.L. Nichols (ed.).
- * AEA-TSD-0360. Data studies during 1995. UK Nuclear Science Forum. A.L. Nichols (ed.).
- Physikalisch-Technische Bundesanstalt Braunschweig, Germany: Neutron Physics, Annual Report 1995. R. Jahr and O. Hecker (eds.).

Evaluation of neutron reaction data

- * INDC(BLR)-2. Evaluation of neutron data for Cm-243. V.M. Maslov et al.
- * INDC(BLR)-3. Evaluation of neutron data for Cm-245. V.M. Maslov et al.
- * INDC(BLR)-4. Evaluation of neutron data for Cm-246. V.M. Maslov et al.
- * INDC(BLR)-5. Evaluation of neutron data for Am-241. V.M. Maslov et al.
- * INDC(BLR)-6. Evaluation of neutron data for Am-243. V.M. Maslov et al.
- * INDC(CCP)-391. Evaluation of thermal neutron cross-section and resonance integrals of Pa, Am, Cm, and Bk isotopes. T.S. Belamova. Translation from Jadernye Konstanty 1/1993 p.22.
- * INDC(CCP)-398. Systematics and evaluation of (n,2n) and (n,3n) cross-sections. V.N. Manokhin.
- * INDC(CCP)-399. This includes, inter alia: Evaluation of the excitation of the Pr-141(n,2n)Pr-140 reaction from threshold to 20 MeV. K.I. Zolotarev et al. Translation from Jadernye Konstanty 2/1994.
- * INDC(CPR)-37. A simultaneous evaluation of neutron induced reaction cross-sections for Fe-56 at E(n) = 14.1 MeV. Zhou Delin.
- * INDC(CPR)-38. Revision of the inelastic scattering cross-section evaluation of U-238 for CENDL-2.1. Tang Guoyou et al.
- * INDC(UKR)-2. R-matrix evaluation of neutron cross-sections and average resonance parameters of U-236 and U-238 in the unresolved resonance region. L.L. Litvinsky, G.M. Novosiolov, M.F. Vlasov.

FENDL - evaluated nuclear data library for fusion

- * INDC(NDS)-351. Benchmark validation of FENDL-1. Summary report of a meeting in Karlsruhe, Germany, 17-19 Oct. 1995. A.B. Pashchenko (ed.).
- * INDC(NDS)-352. Compilation of FENDL-1 and start of FENDL-2. Summary report of a meeting in Del Mar, California, USA, 5-9 Dec. 1995. A.B. Pashchenko (ed.).
- * INDC(NDS)-356. Selection of basic evaluations for FENDL-2. Summary report of a meeting in Karlsruhe, Germany, 24-28 June 1996. A.B. Pashchenko (ed.).

Nuclear model calculations

- * INDC(NDS)-350. Development of a reference input parameter library for nuclear model calculations of nuclear data. Summary report of a meeting in Vienna, 30 Oct. - 3 Nov. 1995. P. Obložinský (ed.).
- * INDC(PAK)-12. Hauser-Feshbach calculations of neutron-induced reaction cross-sections for Cr-52 in 6-20 MeV neutron energy range. K. Gul.

Helium production

- * INDC(NDS)-353. Improvement of measurements, theoretical computations and evaluations of neutron induced helium production cross-sections. Summary report of a meeting in Sendai, Japan, 25-29 Sept. 1995. A.B. Pashchenko.

Neutron dosimetry

- * INDC(AUS)-15. Update of the evaluation of the cross-section of the neutron dosimetry reaction Rh-103(n,n')Rh-103m. A. Pavlik, M.M.H. Miah, B. Strohmaier, H. Vonach.
- * INDC(CCP)-399. This report includes, inter alia: Evaluation of the (n,2n) reaction cross-section for In-115 and In-113. V.N. Manokhin. Translation from Jadernye Konstanty 2/1994.

Neutron activation cross-sections

- * INDC(NDS)-340. Activation cross-sections for the generation of long-lived radionuclides of importance in fusion reactor technology. Summary report of a meeting in St. Petersburg, Russia, 19-23 June 1995. A.B. Pashchenko.
- * INDC(NDS)-341. Selection of evaluations for the FENDL/A-2 activation cross-section library. Summary report of a meeting in St. Petersburg, Russia, 25-27 June 1995. A.B. Pashchenko (ed.).
- * INDC(NDS)-342. Texts of papers from the same meeting in St. Petersburg, Russia, 19-23 June 1995. A.B. Pashchenko (ed.).

Nuclear data benchmarks

- * INDC(CCP)-392. Compilation of leakage neutron spectrum measurements for spherical assemblies with T(d,n) and Cf-252 neutron sources. S.P. Simakov. Translation from Jadernye Konstanty 1/1993 p.43.
- * INDC(CCP)-399. This includes, inter alia: Integral testing of evaluated data files for Si, Zr and Nb from the BROND-2 Library. A.I. Blokhin, V.V. Sinitisa. Translated from Jadernye Konstanty 2/1994.
- * INDC(CPR)-39. Homogenous fast reactor benchmark testing of CENDL-2 and ENDF/B-6. Liu Guisheng.
- * INDC(NDS)-338. Fusion benchmarks for nuclear data validation studies. Texts of papers of a meeting in Vienna, 13-16 Dec. 1993. S. Ganesan.
- * INDC(NDS)-355. International benchmark calculations of radioactive inventory for fission reactor decommissioning. N.P. Kocherov (ed.).
- * INDC(SLN)-2. The impact of ENDF/B-6 Rev. 3 data on thermal reactor lattices. A. Trkov.
- NEA/WPEC-1. Comparison of evaluated data for Cr-52, Fe-56, Ni-58.
- NEA/WPEC-2. Generation of covariance files for Fe-56 and natural Fe.
- NEA/WPEC-3. Actinide data in the thermal range.
- NEA/WPEC-5. Pu-239 fission cross-section between 1 and 100 keV.
- NEA/WPEC-15. Cross-section fluctuations and self-shielding effects in the unresolved resonance region.

Above NEA reports, which resulted from the International Evaluation Cooperation, should be requested from the NEA Data Bank (see page 11).

Nuclear data processing

- * INDC(NDS)-317. Preparation of processed nuclear data libraries for thermal fast and fusion research and power reactor applications. Proceedings of an IAEA Meeting, Vienna, 8-10 Dec. 1993. Texts of 12 papers; 260 pages. S. Ganesan, ed.

Nuclear data measurements

- * INDC(CCP)-389. Neutron radiative capture cross-sections for Th-232 and Au-197 in the 0.37 - 1 MeV region. A.N. Davletshin et al. Translation from Jadernye Konstanty 1/1993 p.13.
- * INDC(CCP)-390. Neutron radiative capture cross-sections for even isotopes of Nd in the energy range 0.5-2.2 MeV. Ju.N. Trofimov. Translation from Jadernye Konstanty 1/1993 p.17.
- * INDC(CCP)-396. Thermal neutron capture cross-section for Cd-111. E.V. Vasileva et al. Translation from Jadernye Konstanty 1/1994 p.80.
- * INDC(CCP)-399. This includes, inter alia: Inelastic scattering of neutrons with excitation of the most populated levels of Ba-178 and Pr-141. L.A. Pobedonostsev et al. Translation from Jad. Konst. 2/1994.
- * INDC(NEA)-10. Newsletter on International Nuclear Data Measurement Activities. No. 1 (1995). NEA Nuclear Science Committee.
- * INDC(SUD)-1. Measurement and study of (n,p) reaction cross-sections for Cr, Ti, Ni, Co, Zr and Mo isotopes using 14.7 MeV neutrons. K.T. Osman, F.I. Habbani.
- * INDC(UKR)-1. Elastic and inelastic scattering of 134 keV neutrons by Au-197. L.L. Litvinskij et al. Translation from Jad. Konst. 1/1994 p. 15.
- * INDC(VN)-8. Measurement of capture cross-sections of U-238 on filtered keV neutron beams. Vuong Huu Tan et al.

Photonuclear data

- * INDC(CCP)-393. Evaluation of photonuclear reaction cross-sections using the reduction method for large systematic uncertainties. V.V. Varlamov et al. Translation from Jadernye Konstanty 1/1993 p.52.
- * INDC(CCP)-399. This includes, inter alia: Cross-sections for the Cu-63,65,nat(gamma,np) reactions in the Giant Dipole Resonance Region. V.V. Varlamov. Translation from Jadernye Konstanty 2/1994.

Charged-particle cross-sections

- * INDC(NDS)-349. Development of a reference charged-particle cross-section database for medical radioisotopes production. Summary report of a meeting in Vienna, 15-17 Nov. 1995. P. Obložinský (ed.).

High-energy nuclear data

- * INDC(JPN)-174 (= JAERI-Conf-95-016). Proceedings of the second Specialists' Meeting on high-energy nuclear data, JAERI, Tokai, Japan, 26-27 Jan. 1995. T. Fukahori and N. Kishida (eds.).

Radionuclides

- * LA-12981. This report by Jim Clow et al on radiation hazard thresholds contains a table of specific activities [in Ci/g] for 757 radionuclides.

Nuclear structure data

- * INDC(CCP)-394. Experimental grounds for nuclear shape isomerism. V.E. Makarenko.

Electron interaction

- * INDC(NDS)-348. Electron-impact excitation cross-section data for He. Summary report of a meeting in Vienna, 20-21 Nov. 1995. K. Bartschat et al.

Fusion plasma

- * INDC(NDS)-346. Plasma-interaction induced erosion of fusion reactor materials. Summary report of a meeting in Vienna, 9-11 Oct. 1995. R.A. Langley (ed.).
- * INDC(NDS)-345. Tritium retention in fusion reactor plasma facing components. Summary report of a meeting in Vienna, 5-6 Oct. 1995. R.A. Langley (ed.).

Yadernye Konstanty 1995 (1-2). In Russian, with abstracts in English, costfree. Contents: Neutron total cross-sections and resonance parameters of Se-80 in the energy region up to 10 keV (Novoselov et al). Gamma quanta multiplicity spectra of the radiative capture of neutrons in In-113, 115 (Muradjan). Resonance characteristics of Nb-93 and natural tungsten (Grigorev). Resonance parameter library LIPAR-5 (Abagjan). Cross-section data library MENDL-2 to study activation and transmutation of materials irradiated by nucleons of intermediate energies (Shubin). Universal library of neutron products and delayed neutron group yields (Koldobskij). Asijad-Mifi library of fission product yield data (Bogomolova). Calculation of independent yields of fission-products (Bogomolova). Yields of long-lived fission-products and the problem of utilization of transuranium nuclides (Bogomolova). Evaluation of the Np-237 fission cross-section, 20 keV - 20 MeV (Dushin). Transmutation accounts algorithm with complex error control (Shimanskiy). - Calculation of the collective states spectroscopic characteristics of lead isotopes in the one-phonon approach (Blokhin). Photoneutron reaction cross-section evaluation for fission-product nuclei (Shubin). - Analysis of reaction rate measurements for unfolding neutron spectra (Zvonarev).

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. 516-282-2902; Fax 516-282-2806; INTERNET nndc@bnl.gov; World Wide 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; BITNET/EARN (name)@FRNEAB51; INTERNET (name)@NEA.fr or NEA@NEA.fr; World Wide 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. 084-399-8982; Fax 0958833112 or 0952302326; Telex 411509 naf su; INTERNET 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. 095-196-1612; Fax 0959430073; Telex 411594 shu su. INTERNET 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. 095-939-3483; Fax 0959390896; Telex 411483 mgu su. INTERNET 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. INTERNET CNDC@MIPSA.CIAE.ac.cn. Contact: Zhang Jingshang

Computer codes of US origin to all countries:

Radiation Shielding Information Center (RSIC), Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6362, USA. Tel. 615-574-6176; Fax 6155746182; BITNET PDC@ORNLSTC; INTERNET PDC@EPIC.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. (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 INTERNET (TCP/IP):

Sample login:

TELNET IAEAND.IAEA.or.at
(or 161.5.2.2)

IAEA VAX-VMS V5.4-3

Username: IAEANDS

Welcome to VAX/VMS version V5.4-3 on node M4300

.....
.....

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

Enter your last name (or DEFAULT or?) _ _ _ _ _

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 may be obtained by contacting the IAEA Nuclear Data Section.

Access to open areas for FTP file transfer:

Sample login:

FTP IAEAND.IAEA.or.at

Username: FENDL (if FENDL files are wanted)
NDSOPEN (for retrieving other available files or for sending files to IAEA)

No password required.
Then choose one of the available subdirectories, where you may find AAREADME.TXT files for further information.

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username: IAEANDS for interactive Nuclear Data Information System
username: ANONYMOUS for FTP file transfer
username: FENDL for FTP file transfer of FENDL files
For users with web-browsers: <http://www-nds.or.at>
