



**A newsletter of the Nuclear Data Section (NDS)**  
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## Online News

### Changes in Telnet and FTP access to NDS Servers

In November 2004, the IAEA implemented sweeping changes to external access rules for servers in the organization. It is now no longer possible to use ordinary Telnet or FTP to connect to any of the NDS computers. Please note that the following services are no longer available.

Telnet access to the NDIS service on:

NDSALPHA.IAEA.ORG and IAEAND.IAEA.ORG

FTP access to FENDL-2, NDSOINL, NDSOPEN,

RIPL, RIPL-2 and the ANONYMOUS area on:

NDSALPHA.IAEA.ORG or IAEAND.IAEA.ORG

Telnet access to the NDIS service is no longer supported and has been replaced with the newer nuclear data web services; see <http://www-nds.iaea.org/> for a full list of all IAEA Nuclear Data Services.

IAEA still runs an anonymous ftp server at [FTP.IAEA.ORG](http://FTP.IAEA.ORG): login as 'anonymous' and give your e-mail address as the password. This computer does not reside in the Nuclear Data Section, but is managed by IAEA central computer services. Files deposited there will remain for only seven days before being removed by weekly housekeeping, so please inform your counterpart by e-mail after transferring.

Members of the NRDC and others involved in CINDA and EXFOR compilations have been informed separately of the new arrangements.

For further information on FTP and Telnet issues relating to IAEA Nuclear Data Services, please contact:

[L.Costello@iaea.org](mailto:L.Costello@iaea.org)

### New Service

The Nuclear Data Section is currently compiling an electronic library of all documents produced by the IAEA pertaining to Nuclear Data Services. These documents are from the IAEA-NDS, INDC and IAEA Tecdoc series. Many only existed originally in microfiche or paper form. All will eventually be converted to PDF and placed on our web site.

This project is ongoing and can be viewed on:

<http://www-nds.iaea.org/reports-new/>

## Web Service

A new version of the Web interface for EXFOR-CINDA-ENDF was released with the following features:

- Link to Web-Journals (abstracts)
- Link to NSR (Nuclear Science References)
- Output to C4 and other computational formats
- “Clone” of request to another database
- Interactive plots of experimental non cross-section data
- Cinda extended by charged particle and Photonuclear reactions

Available on IAEA-NDS- and NNDC-BNL web-sites

## In Memoriam

We sadly were informed in mid-January 2005 of the death of Richard (Dick) Helmer of Idaho National Engineering and Environmental Laboratory and the University of Idaho, USA. Staff at the Nuclear Data Section of the International Atomic Energy Agency knew him well, and worked with him over many years for the overall benefit of the international nuclear data community. His scientific endeavours were firmly focused within the fields of gamma-ray spectroscopy and nuclear data measurements and evaluations, and he achieved high international recognition and respect in these important areas of nuclear physics.

Dick was a person with a wide spectrum of activities, ranging from cutting-edge research in nuclear spectroscopy to building houses for charitable organisations in underdeveloped countries. We will remember him as a man of high integrity, with an unerring ability to get to the root and solve difficult technical problems, and an underlying willingness to help others at all times.

## Staff Items

We extend our very best wishes to Vladimir Pronyaev who left the Nuclear Data Section in November. We also warmly welcome Mark Kellett who has joined us from the CEA and NEA Data Bank. Mark has taken over the post previously held by Raquel Paviotti-Corcuera.

## 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, can be found at:

<http://www.iaea.org/programmes/ripc/nd/crps.htm>.

## Computer Codes and Data Libraries

These databases and libraries are on CD-ROM and are available cost free on request:

**AMDC-Atomic Mass Data Center.** Software and libraries include 2003 Atomic Mass Evaluations and NUBASE 2003 (which contains experimental known nuclear properties and some that have been estimated from extrapolation for 3,177 nuclides, mass, isomeric excitation energy, half-life, spin, parity, decay modes and intensities). Submitted by G. Audi AMDC. These data are available online at:

[http://www-nds.iaea.org/amdc/web/amdew\\_en.html](http://www-nds.iaea.org/amdc/web/amdew_en.html)

or as CD-ROM on request.

### **EMPIRE-Nuclear Reaction Model Code, version 2.19 beta (Lodi) April 2005.**

#### **New features:**

- Multi-modal fission with multi-hump barriers
- Photo nuclear reactions
- Reactions on excited targets
- Exact treatment of exclusive spectra
- Improved algorithm for recoil spectra
- Exciton model with cluster emission
- Extensive RIPL-2 integration: masses, levels, resonances, optical model, gamma-strength functions, fission barriers and fission level densities

Available as CD-ROM on request or available online at:

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

### **ENDF-WINENDF Update March 2005**

Release 10, Contains all comprehensive evaluated data libraries (ENDF/B-VI release 8, JENDL-3.3, JEFF-3.0, BROND-2 and CENDL-2). This update includes ENDF Utility Codes version 7.0, new Pre-Processing Codes 2004, and retrieval and merger system for MS Windows,

with manuals and documentation in PostScript format. Available as CD-ROM on request.

## EXFOR-CINDA Database and Retrieval Systems, version 1.70, data updated as of January 2005.

- Integrated CINDA and EXFOR
- Advanced interactive search
- Help based on Dictionaries
- Interactive graphics with ZVView
- Does not need installation; can run from CD-ROM
- Works with local and remote databases
- CINDA extended by charged particle and photonuclear reactions
- Includes non-interactive EXFOR retrievals
- Two CD-ROMS are available:
- “For Windows” with MS-Access databases
- “For Applications” for Linux and Windows with MySQL databases

*Developed by V. Zerkin, Nuclear Data Section, IAEA, 2001-2005*

**EXFOR**-Comprehensive library of experimental nuclear reaction data induced by neutrons, charged particles and photons. Contains 14,700 entries and 96,800 data tables.

**CINDA**-Bibliographical references to experimental nuclear reaction data, and calculations, reviews, compilations and evaluations of neutron reaction and spontaneous fission data. Contains 351,600 lines, 47,100 publications and 161,400 blocks.

## ENDVER/GUI and EXFOR-CINDA PACKAGE:

- EndVer with Graphics User Interface
- Integrated EndVer-EXFOR
- PostScript graphics with PlotC4
- Interactive graphics with ZVView
- Does not need installation; can run from CD-ROM
- Works on Linux and Windows
- Has all features of the EXFOR-CINDA CD-ROM

**EndVer – Integrated Tools for ENDF Evaluators. Version 1.2c, February 2005.** EndVer/GUI is an integrated software package for comparison of evaluated nuclear data files with experimental data from the EXFOR database and contains interactive plotting.

*Developed by A. Trkov and V. Zerkin, NDS, IAEA, 2005.*

## FENDL-2.1 Fusion Evaluated Nuclear Data Library Package. December 2004.

**FENDL/E-2.1:** contains selected evaluated nuclear data files in ENDF-6 format

**FENDL/MC-2:** contains pointwise continuous-energy cross-section data in ACE format for MCNP calculations; also includes probability tables (PT) in the unresolved resonance range.

**FENDL/MG-2.1** contains multigroup cross-section data in the  $^{175}\text{n}/^{42}\text{g}$  Vitamin J energy structure for multigroup transport codes in two formats:

**FENDL/MG-2.1 (MATXS)**, which includes files in MATXS format from the NJOY module MATXSR.

**FENDL/MG-2.1 (GENDF)**, which contains data in GENDF format from the NJOY modules GROUPT and GAMINR. Databases available as CD-ROM or online at:

<http://www-nds.iaea.org/fendl21/fendl21e.html>

**IBANDL-Ion Beam Analysis Nuclear Data Library.** Update of April 2005 is available on CD-Rom or online at: <http://www-nds.iaea.org/ibandl/>

**IRDF-2002-** International Reactor Dosimetry File – March 2005.

Preparation and distribution of a standardised, updated and benchmarked evaluated cross-section library of neutron dosimetry reactions with uncertainty information for use in lifetime management assessments of nuclear power plants and other applications.

- Intercomparison of reactor dosimetry cross section data and their uncertainties in various libraries including IRDF-90, JENDL/D-99 and IRDF-98
- Reaction rates in a standard neutron field were compared selected best data based on the above comparison of data for IRDF-2002.
- Evaluated and tested new reaction cross sections requested by the reactor dosimetry community for extension of the database - includes evaluated decay radiation characteristics in the files.
- Comparison of experimental and calculated fission and thermal spectrum averaged cross sections.
- Data library is available as CD-ROM or online at:

<http://www-nds.iaea.org/irdf2002/>

**Minsk Actinide Library – Updates of April 2005** By V.M. Maslov et al. 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, 242g, 242m, 243, Cm-243, 245, 246 in ENDF-6 format. Library available as CD-ROM on request or online at: <http://www-nds.iaea.org/minskact/>

## POINT 2004 ENDF/B-VI, Release 8 Data.

By D.E. Cullen (2004). Processed into temperature-dependent form for use in applications at eight temperatures between 0 and 2100 Kelvin, in steps of 300

Kelvin. Point 2004 is distributed on a single DVD, allowing the author to tighten the tolerance on the data to reconstruct cross sections at all energies and temperatures to 0.1% accuracy; almost two and a half times the size of the previous Point 2003 library. Available as DVD on request or online at: <http://www-nds.iaea.org/point2004/>

### PREPRO 2004. ENDF/B Pre-Processing Codes version November 2004.

Collection of 16 computer codes designed to convert ENDF/B formatted neutron and/or photon data from the original distributed form to one where the data can be used in applications. These codes are available cost free as CD-ROM or online at:

<http://www-nds.iaea.org/ndspub/endl/prepro/>

### INDL/TSL-Thermal Neutron Scattering Library.

For the Moderator Materials H<sub>2</sub>O, D<sub>2</sub>O and ZrH<sub>x</sub>, in ENDF-6 Format and as MCNP(X) Data Sets. Objectives are to produce an improved library of thermal scattering law data for hydrogen bound in water, hydrogen bound in zirconium hydride, and deuterium bound in heavy water. Result of a data development project of the IAEA. See also INDC(NDS)-470. Produced by M. Mattes and J. Keinert. Available cost free as CD-ROM or online at:

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

**XNWLUP Version January 2005.** Software and Data to Plot and Compare Neutron Nuclear Cross sections from WIMS-D Library. This library is available cost free as CD-ROM or online at:

<http://www-nds.iaea.org/wimsd/downloads.htm>

## Selected Reports and Documents

**Chart of the Nuclides.** Prepared by Knolls Atomic Power Laboratory and distributed by Lockheed Martin (16<sup>th</sup> edition, revised to 2002). Available cost free on request for scientists and teachers from developing countries.

**Karlsruher Nuklidkarte.** Wall Chart of the Nuclides from Karlsruhe, 6<sup>th</sup> edition (1995). Available cost free on request for scientists and teachers from developing countries.

**Karlsruher Nuklidkarte Desk Chart** of the Nuclides from Karlsruhe, 6<sup>th</sup> edition (1995). Updates from 1998. Available cost free on request for scientists and teachers from developing countries.

**IGC Vol: 261, 2004.** *Creep Properties of Alloy D9 Fuel Clad Tubes for PFBR.* By S. Latha et al, Indira Gandhi Centre for Atomic Research, 2004.

**IGC Vol: 262, 2004.** *AGNI-Compartment Fire Model for Designers.* By K. Marimuthu and R. Seshadri, Indira Gandhi Centre for Atomic Research, 2004.

**IGC Vol: 263, 2004.** *Bio-Fouling and it's Control in the Cooling Water System of PFBR.* By K.K. Satpathy and S.E. Kannan, Indira Gandhi Centre for Atomic Research, 2004.

**IGC Vol: 264, 2004.** *Ageing of Nuclear Power Plant Concrete Structures and a Method of Determining the Moisture Content of Concrete by Gamma Scattering Method.* By Shivaramu, Indira Gandhi Centre for Atomic Research, 2004.

**IGC Vol: 265, 2004.** *Development of Code for the Transport and Deposition of <sup>54</sup>Mn and <sup>60</sup>Co in the Primary Sodium Circuit of PFBR.* By K. Sivasubramanian et al, Indira Gandhi Centre for Atomic Research, 2004.

**IGC Vol: 266, 2004.** *A Matlab Package for Gaussian Nodes.* By T. Kannan et al, Indira Gandhi Centre for Atomic Research, 2004.

**INDC(CCP)-441.** *Articles translated for Journal Yadernye Konstanty (Nuclear Constants). (Series: Nuclear Constants, Issue No. 1, 2004), November 2004.* This report contains the full English version of the Nuclear Constants journal, and includes 3 papers translated from Russian:

- *Differential Cross-Sections of (p,n) Reactions for Sn, Pb and Bi Isotopes* by A.A. Lychagin et al.

- *Evaluation of the <sup>244</sup>Cm Resolved Resonance Region* by G.B. Morogovskij and Yu.A Chalyj.

- *Effective Reaction Cross-Sections for <sup>7</sup>Be Production by Interaction of Fast Neutrons in an Accelerator-driven System with Light Nuclei* by V.S. Buttsev et al.

This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(GER)-050** *Progress Report on Nuclear Data Research in the Federal Republic of Germany for the Period April 1, 2003 to March 31, 2004.* Edited by S.M. Qaim. Forschungszentrum Juelich, Germany, November 2004. This report is available as hard copy on request.

**INDC(HUN)-036 (Rev. 1)** *International Reactor Dosimetry File, IEDF-2002, Final steps in preparation of the Library.* Prepared by E.M. Zsolnay, Hungary, and

**INDC(HUN)-036 (Rev. 1)** *International Reactor Dosimetry File, IEDF-2002, Final steps in preparation of the Library.* Prepared by E.M. Zsolnay, Hungary, and H.J. Nolthenius, The Netherlands, November 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(ITY)-012** *Activity Report of the ENEA Nuclear Data Project for 2004.* Prepared by A. Ventura, Centro di Ricerche Ezio Clementel, Italy, March 2005. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(JPN)-194 (Rev. 1)** *Progress Report (January 2004 to December 2004).* Japanese Nuclear Data Committee. Edited by A. Ichihara, March 2004. Available as hard copy on request.

**INDC(NDS)-441.** *IAEA International Database on Irradiated Nuclear Graphite Properties, 4<sup>th</sup> Meeting of the Technical Steering Committee, 16-17 October 2002, IAEA Headquarters, Vienna, Austria.* Prepared by D. Humbert and A.J. Wickham, February 2003. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-454.** *IAEA International Database on Irradiated Nuclear Graphite Properties, 5<sup>th</sup> Meeting on the Technical Steering Committee, 3-4 September 2003, IAEA Headquarters, Vienna, Austria.* Prepared by D. Humbert and A.J. Wickham, March 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-462.** *Parameters for Calculation of Nuclear Reactions of Relevance to Non-energy Nuclear Applications (Reference Input Parameter Library: Phase III) Summary Report of the First Research Coordination Meeting, IAEA Headquarters, Vienna, Austria. 23-25 June 2004.* Prepared by R. Capote Noy, IAEA August 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-463.** *Summary Report of the Third Research Coordination Meeting on Improvement of the Standard Cross Sections, 18-22 October 2004, IAEA Headquarters, Vienna, Austria.* Prepared by A.D. Carlson, G.M. Hale and V.G. Pronyaev, November 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-464.** *Report on the IAEA Technical Meeting on Network of Nuclear Reaction Data Centres: NRDC, Brookhaven National Laboratory, Upton, USA,*

*IAEA Nuclear Data Section, Vienna, Austria and NEA Data Bank, IssyLes-Moulineaux, France, 4-7 October 2004.* Prepared O. Schwerer and H. Henriksson, January 2005. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-465.** *Nuclear Data for Production of Therapeutic Radionuclides. Summary Report of Second Research Coordination Meeting IAEA Headquarters, Vienna, Austria, 15-19 November 2004.* Prepared by J.-Ch. Sublet, CEA France and R. Capote Noy, IAEA, Nuclear Data Section, November 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-466.** *IAEA International Database on Irradiated Nuclear Graphite Properties, 6<sup>th</sup> Meeting of the Technical Steering Committee 16-17 September 2004, Plas Tan-Y-Bwch, Maentwrog, Gwynedd, UK.* Prepared by D. Humbert and A.J. Wickham, December 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-467.** *FENDL-2.1: Update of an Evaluated Nuclear Data Library for Fusion Applications.* Summary documentation prepared by D. Lopez Aldama and A. Trkov, IAEA, Nuclear Data Section, December 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-468.** *Evaluated Nuclear Data for Th-U Fuel Cycle, Summary Report of the Second Research Coordination Meeting, IAEA Headquarters, Vienna, Austria, 6-9 December 2004.* Prepared by P. Schillebeeckx, Geel, Belgium and A. Trkov, IAEA, Nuclear Data Section, December 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-469.** *Report on the IAEA Technical Meeting on Application Libraries for ADS and Transmutation, 15-17 December 2004, IAEA Headquarters, Vienna, Austria.* Prepared by A. Stanculescu and A. Trkov, IAEA, Nuclear Data Section, December 2004. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(NDS)-470.** *Thermal Neutron Scattering Data for the Moderator Materials H<sub>2</sub>O, D<sub>2</sub>O and ZrH<sub>x</sub> in ENDF-6 Format and as MCNP(X) Data Sets.* Prepared by M. Mattes and J. Keinert, April 2005. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

*Meeting, IAEA, Vienna, Austria, 11-13 April 2005.* Prepared by A. Trkov, April 2005. This report is available as hard copy or online at:

[http://www-nds.iaea.org/indc\\_sel.html](http://www-nds.iaea.org/indc_sel.html)

**INDC(UK)-089.** *Evaluation of the Resonance Region for Fe-58.* Prepared by M.C. Moxon, Oxfordshire, United Kingdom, October 2004. This report is available as hard copy or online at:

<http://www-nds.iaea.org/reports/indc-uk-089.pdf>.

**INDC(VN)-011.** *Neutron Capture Cross Section Measurements of Ag-109, W-186 and Gd-158 on Filtered Neutron Beams of 55 and 144 keV.* Prepared by Huong Huu Tan, et al. Vietnam, December 2004. This report is available as hard copy on request.

**IRDF-2002 Handbook** This document is at present not available as hard copy, but can be viewed online at: <http://www-nds.iaea.org/irdf2002/docs/irdf-2002.pdf> or as CD-ROM on request.

**JAERI-Review 4004-027.** *Annual Report 2003, April 1, 2003 – March 31, 2004.* Describes research activities which have been performed with the JAERI

tandem accelerator and energy booster; edited by T. Ishii et al. This report is available as hard copy on request.

**PGAA Document** *Database of Prompt Gamma Rays from Slow Neutron Capture for Elemental Analysis. Final report of a Coordinated Research Project.* By H.D. Choi, R.B. Firestone, R.M. Lindstrom, G.L. Molnar, S.F. Mughabghab, R. Paviotti-Corcuera, Zs. Revay, A. Trkov, V. Zerkin and C.M. Zhou. This document is at present not available as hard copy, but is available on CD Rom on request and can be viewed online at: <http://www-nds.iaea.org/pgaa/tecdoc.pdf>

**RIPL-2 Handbook** This document is at present not available as hard copy, but can be viewed online at:

<http://www-nds.iaea.org/RIPL-2/handbook/ripl2.pdf>

**WIMS Handbook** This document is at present not available as hard copy, but can be viewed online at: <http://www-nds.iaea.org/wimsd/download/tecdocdraft.pdf>

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](mailto:nndc@bnl.gov); Worldwide Web: <http://www.nndc.bnl.gov/> For information on online services and requests contact: D. Rochman.

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](mailto:) or [nea@nea.fr](mailto: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](mailto:manokhin@ippe.obninsk.ru). Worldwide Web <http://rndc.ippe.obninsk.ru/> Contact: V.N. Manokhin.

Charged-particle data: Russia Nuclear Structure and Reaction Data Center (CAJAD), Kurchatov Institute, Kurchatov Square 1, 123 182 Moscow, Russia. Tel. +7 095-196-9968; Fax +7 095-882-5804; E-mail: [feliks@polyn.kiae.su](mailto: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](mailto:varlamov@depni.sinp.msu.ru) or [varlamov@depni.npi.msu.su](mailto: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](mailto: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: [pd@ornl.gov](mailto:pd@ornl.gov). Worldwide Web <http://epicws.epm.ornl.gov/> (there are 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](mailto:sartori@nea.fr) (there may be release restrictions)

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>



**IAEA**

International Atomic Energy Agency

## Nuclear Data Newsletter

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