

IAEA Nuclear Data Section: Progress Report, 2007/08
Summary of Nuclear Data Studies by Staff of the IAEA Nuclear Data Section
1 October 2007 – 9 September 2008
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1. Staff

The authorized staff level of the Nuclear Data Section consists of a total of 17 professionals and support staff. One new staff member joined during the reported period: Naohiko Otsuka (effective from 2 February 2008) has replaced Otto Schwerer (retirement).

2. Data Compilations

2.1 EXFOR and Dictionaries

Over the previous year, NDS staff have distributed 7 CPND TRANS files (D057 - D063) containing 114 new entries (63 compiled at NDS, 7 at ATOMKI, 9 at UkrNDC and 27 in India) and 61 revised entries, 7 neutron TRANS files (3124 - 3130) containing 53 new entries (38 compiled at NDS, 2 at UkrNDC and 13 in India) and 266 revised entries, 1 PhND TRANS files (G017), containing 4 new entries (1 compiled in India and 3 at UkrNDC), and 6 TRANS files (Y001-Y006) with 121 corrected Entries from different areas of responsibility. The compilations consist of new literature as well as many important old references. Also, four topics (mostly lists of "old" papers) are still monitored for completeness of compilation:

1. Ion Beam Analysis,
2. Reference Input Parameter Library (RIPL),
3. Medical CRP,
4. PR/C neutron studies.

NDS staff have finished the format revision of all old Entries from China (S0001-S0044) - originated from CPND, including conversion to new date format (4-digit years), revised text (upper and lower case characters) and continued revision of neutron entries.

As of 10 September 2008, 72 TRANS files were received, checked (with feedback to the originating centres) and processed, of which 69 were final versions that were added to the master file. These final transmissions contained 743 neutron entries (171 new, 572 revised), 886 CPND entries (577 new, 309 revised) and 57 photonuclear entries (43 new, 14 revised).

NDS staff have produced and distributed two regular transmissions of the EXFOR/CINDA dictionaries (TRANS.9096-9097) in EXFOR, DANIEL (backup) and archive format.

Three lists of “EXFOR outliers” submitted by Emmeric Dupont (CEA) to WPEC SG-30 were reviewed and a number of mistakes were identified. Feedbacks to EXFOR from users, database administrators and WPEC SG-30 have been accumulated on the NRDC web page:

(http://www-nds.iaea.org/nrdc/error/exfor_err1.html,
http://www-nds.iaea.org/nrdc/error/exfor_err2.html,
http://www-nds.iaea.org/nrdc/error/exfor_err3.html, respectively).

The correction process for these mistakes is being monitored by NDS staff.

2.2 CINDA

CINDA Master file

The up-to-date CINDA Master File is available via the NDS compilers’ Web site. An automatic update using the EXFOR database has been carried out once (June 2008). A Sybase-dump of the complete CINDA database was sent to NNDC. A few new CINDA lines have been prepared manually for new non-EXFOR experimental studies. Corrections to CINDA lines have also been carried out according to various feedback from users (http://www-nds.iaea.org/nrdc/error/cinda_err.html).

Coverage control

Under the CINDA coverage control system, NDS staff scan over 80 journal titles (mainly through the Internet) for the purpose of compilation coverage control. The current status of these compilation activities has been made available to EXFOR compilers on the NDS Web site during the course of this year.

Over 1210 journal issues from 1990 to 2008 were added to the database for CINDA coverage control in late 2007/2008. Journal references that should be compiled elsewhere were also dispatched to the relevant centres (Japan, Russia, Hungary and NEADB).

All references absent from EXFOR were sent to the responsible centres for compilation, along with pdf copies of the papers, if necessary.

Other EXFOR database statistics are also available from the NDS Web site:

- contributions to EXFOR according to individual centres,
- history (Preliminary, TRANS files, database updates),
- general statistics (contents by Quantities, Targets, Reactions, etc.).

NDS continues to save articles in pdf format. Articles stored previously on the shelf at NDS are now held in electronic form. All articles compiled during this year in the other centres have been scanned and stored in pdf-format by NDS. More than 3500 files were saved in pdf-format during the year.

2.3 Evaluated data libraries, files and programs

Various new or revised evaluated data libraries, files and programs for data checking, processing and graphical presentation were added to the NDS Web site and distributed on CD-ROM:

- EXFOR - CINDA Database and Retrieval System, Version 1.98, data updated June 2008 (CD-ROM);

- ENDVER/GUI and EXFOR-CINDA package; Integrated Tools for ENDF-Evaluators, Version 1.46, June 2008;
- ENDF archive for simple downloading of old and new libraries, range of versions and single evaluations with short description and list of evaluations; this software will also be used for data which are not available via the Web ENDF retrieval system, such as data in old ENDF-4 and 5 formats and non-ENDF formats. Currently contains 25 libraries at Web-address: <http://www-nds.iaea.org/ndspub/download-endf/>.

3. Services

Web Services

New NDS and NRDC home-pages: dynamic, intuitive, clear, and oriented to different categories of users.

Further improvements have been implemented in the EXFOR-CINDA-ENDF retrieval systems since the previous NRDC meeting:

- new criteria in EXFOR Web retrieval system: by Title, Header, Units, number of data points;
- handling of “large” requests in EXFOR and ENDF Web through new type of request: “Listing of Entries/Evaluations”;
- output of EXFOR data in R33-IBANDL format (angular distributions): significantly improved, agreed with IBANDL community, tested and released;
- several new evaluated libraries are included in the ENDF database:
 - JENDL/HE-2007: High Energy File 2007
 - Medical radioisotope production: extended by 10 (n, γ) evaluations
 - JENDL/AC-2008: JENDL Actinoid File 2008
 - JENDL/AN-2005: (α ,n) Reaction Data File 2005
 - JENDL/PD-2004: Photoreaction Data File 2004
 - JENDL/HE-2004: High Energy File 2004
 - MENDL-2: Medium Energy Nuclear Data Library, 1995-1998
 - MINKS-ACT: Minsk Actinides Library (Maslov et al.)
 - Wind: Library for U, Np, Pu and Pu-239, Obninsk, Russia
 - Yavshits: neutron-, proton-induced fission for Pb-Pu (20-200 MeV), St. Petersburg, Russia
 - IBA-Eval: extended
 - PADF-2007 Proton Activation Data File, FZK.DE
- ENDF Flexible Database Explorer released: <http://nds121.iaea.org/exfor2/e4explorer.htm>

The system is functioning well at NNDC, BARC (India) and IPEN (Brazil). Statistics for usage of the Web retrieval system are presented in Fig. 1.

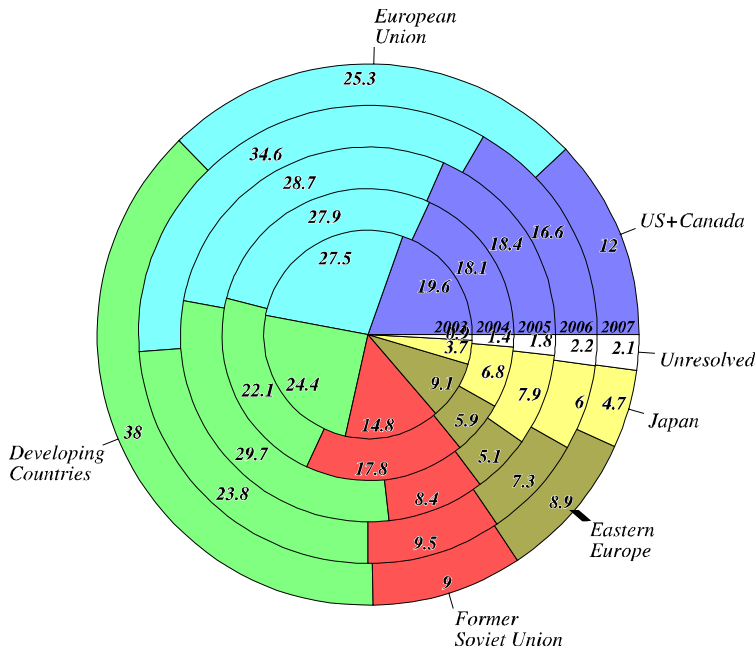
CD-ROMs

- “EXFOR/CINDA for Windows” CD issued twice;
- “EXFOR/CINDA for Applications” for Linux, Windows and Macintosh (MacOSX) issued twice; also distributed together as part of EndVer/GUI-CD and Empire-package.

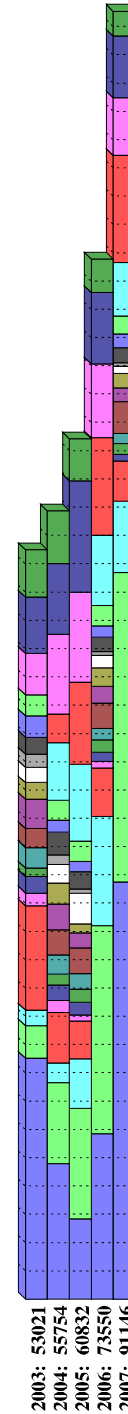
NDS+IPEN+BARC

Nuclear Data Services: Web Statistics

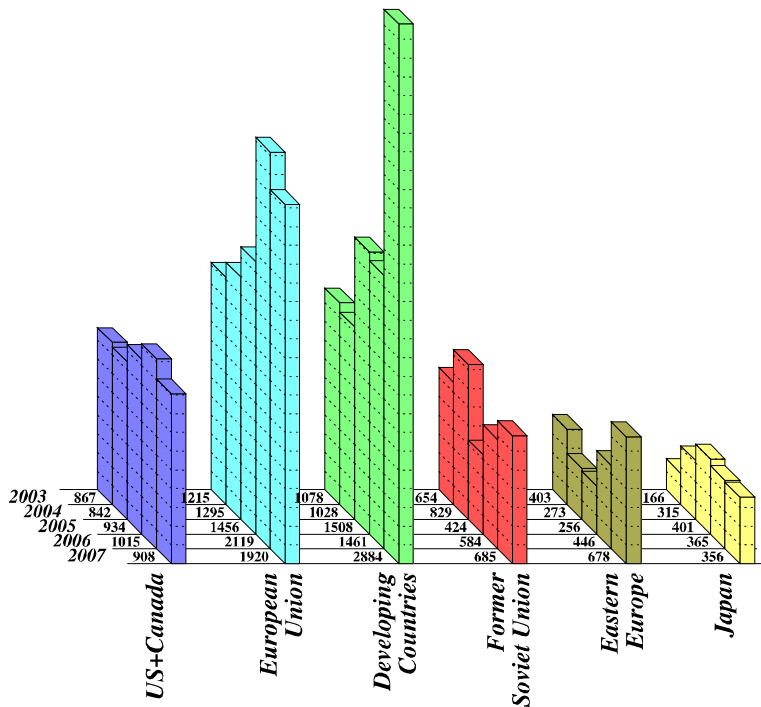
Geographical Distribution (%)



Total per Year
(Number of accesses + retrievals)



Average per Month
(Number of accesses + retrievals)



- | Service | Comment |
|-----------------------|--------------|
| Computer Codes | |
| Documents | |
| OtherData | |
| IBANDL | |
| PGAA | |
| PhotoNuclear | |
| RIPL | Theory |
| FENDL | Fusion |
| Masses | |
| IRDF | Dosimetry |
| Thermal Capture | |
| Wallet Cards | |
| Med.Radio.Prod. | |
| NGAtlas | Activation |
| RNAL | |
| ENSDF | Structure |
| MIRD | Medical |
| NUDAT | |
| CINDA+NSRBibliography | |
| EXFOR | Experimental |
| ENDF | Energy |

4. Software

CINDA software

A program to import information from the ENDF database has been discussed, improved and checked with Henriksson (NEA- Nuclear Data Bank) and Otsuka (JCPRG and NDS).

EXFOR software

Program developed for automatic extension of wild-cards (*) in dictionary-236 according to dictionaries 7 and 33.

Full EXFOR in C4 format

Programs have been developed further to produce the full EXFOR database in extended C4 format (also discussed within WPEC SG-30). New feature: along with C4 file, full EXFOR in a directory structure (one ENTRY in one file) is created. Full C4/X4 files were regularly produced and released (five times).

Flexible ENDF database explorer

Implements a sequential search/scan/view the data; allows the user to select the sequence of data observation “on the fly” and provides additional convenient service. Implemented only for ENDF, but will include EXFOR at a future date.

5. Nuclear Data Developments

Although direct nuclear data developments are outside the immediate operations of the NRDC, we give a brief summary below.

Co-ordinated Research Projects (CRPs):

- *Reference Input Parameter Library for Non-Energy Applications: (RIPL-III):* completed; technical report in preparation; database will be available at the end of this year on the Web
- *Development of a Reference Database for Ion Beam Analysis:* on-going; preliminary database available on the Web
- *Updated Decay Data Library for Actinides:* on-going
- *Reference Base for Neutron Activation Analysis:* on-going
- *Evaluated Nuclear Data Files of Charged Particle Interactions for Medical Therapy Applications:* started in 2007
- *Minor Actinide Neutron Reaction Data (MANREAD):* started in 2007
- *Nuclear Data Library for Advanced Systems – Fusion Devices (FENDL-3):* started in 2008

6. Publications

6.1 Journals

Measurement of the neutron capture cross section of the s-only isotope ^{204}Pb from 1 eV to 440 keV

by C. Domingo-Pardo, U. Abbondanno, G. Aerts, *et al.* (the n_TOF collaboration),
Phys. Rev. C **75** (2007) 015806.

Angular distributions of protons scattered by ^{40}Ar nuclei with excitation of the 2+(1.46 MeV) and 3-(3.68 MeV) collective levels for incident energies of 25.1, 32.5 and 40.7 MeV

by N.T. Okumusoglu, F. Korkmaz Gorur, E.Sh. Soukhovitskii, R. Capote, J.M. Quesada, S. Chiba, Phys. Rev. C **75** (2007) 034616.

The $^{139}\text{La}(n,\gamma)$ cross section: Key for the onset of the s-process

by R. Terlizzi, U. Abbondanno, G. Aerts, *et al.* (the n_TOF collaboration),
Phys. Rev. C **75** (2007) 035807.

Measurement of the radiative neutron capture cross section of Pb-206 and its astrophysical implications

by C. Domingo Pardo, A. Mengoni, *et al.* (the n_TOF collaboration),
Phys. Rev. C **76** (2007) 045805.

Approximate Lane consistency of the dispersive coupled-channels potential for actinides

by J.M. Quesada, R. Capote, E.Sh. Soukhovitskii, S. Chiba,
Phys. Rev. C **76** (2007) 057602.

Neutron reactions and nuclear cosmo-chronology

by M. Mosconi, M. Heil, F. Käppeler, R. Capote, A. Mengoni, *et al.*,
Prog. Part. Nucl. Phys. **59** (2007) 165-173.

Uncertainty estimation in intensity-modulated radiotherapy absolute dosimetry verification

by F. Sanchez-Doblado, G.H. Hartmann, J. Pena, R. Capote, M. Paiusco, B. Rhein, A. Lea, J.I. Lagares, Int. J. Radiation Oncology Biol. Phys. **68** (2007) 301-310.

Measurement of the ^{240}Pu half-life

by I. Ahmad, F.G. Kondev, J.P. Green, M.A. Kellett, A.L. Nichols,
Nucl. Instrum. Methods Phys. Res. **A579** (2007) 459-460.

Status and outlook of the neutron time-of-flight facility n_TOF at CERN

by F. Gunsing, R. Capote, A. Mengoni, *et al.*,
Nucl. Instrum. Methods Phys. Res. **B261** (2007) 925-929.

Measurements of the half-life of ^{246}Cm and the α -decay emission probabilities of ^{246}Cm and ^{250}Cf

by F.G. Kondev, I. Ahmad, J.P. Greene, M.A. Kellett, A.L. Nichols,
Appl. Radiat. Isot. **65** (2007) 335-340.

Exploring the reactor heat problem: Study of the beta decay of $^{104,105}\text{Tc}$ using the TAS technique

by A. Algora, A.L. Nichols, *et al.*, Eur. Phys. J. Special Topics **150** (2007) 383-384.

EMPIRE: Nuclear Reaction Model Code System for Data Evaluation

by M. Herman, R. Capote, B.V. Carlson, P. Obložinský, M. Sin, A. Trkov, H. Wienke, V. Zerkin, Nucl. Data Sheets **108** (2007) 2655-2715.

Mass chain evaluations for the Evaluated Nuclear Structure Data File (ENSDF) – An urgent appeal for European participation

by F.G. Kondev, A.L. Nichols, J.K. Tuli (invited paper), Nuclear Physics News, **17**, No. 4 (2007) 19-23, published on behalf of the Nuclear Physics European Collaboration Committee (NuPECC).

Nuclear physics for the Re/Os clock

by M. Mosconi, R. Capote, A. Mengoni, *et al.*, J. Phys. G: Nucl. Part Phys. **35** (2008) 014015.

The $^{14}\text{C}(n,\gamma)$ cross section between 10 keV and 1 MeV

by R. Reifarth, M. Heil, C. Forssen, U. Besserer, A. Couture, S. Dababneh, L. Dorr, J. Gorres, R.C. Haight, F. Kappeler, A. Mengoni, S. O'Brien, N. Patronis, R. Plag, R.S. Rundberg, M. Wiescher, J.B. Wilhelmy, Phys. Rev. C **77** (2008) 015804.

Neutron capture cross section of ^{90}Zr : Bottleneck in the s-process reaction flow

by G. Tagliente, A. Mengoni, *et al.* (the n_TOF collaboration), Phys. Rev. C **77** (2008) 035802.

Transmission thorough multi-humped fission barriers with absorption: A recursive approach

by M. Sin, R. Capote, Phys. Rev. C **77** (2008) 054601.

Covariance analyses of self-shielding factor and its temperature gradient for Uranium-238 neutron capture reaction

by N. Otuka, A. Zukeran, H. Takano, G. Chiba, M. Ishikawa, J. Nucl. Sci. Technol. **45** (2008) 195.

A global dispersive coupled-channel optical model potential for actinides

by R. Capote, S. Chiba, E.Sh. Soukhovitskii, J.M. Quesada, E. Bauge, J. Nucl. Sci. Technol. **45** (2008) 333-340.

An ENDF-6 compatible evaluation for neutron induced reactions of ^{232}Th in the unresolved resonance region

by I. Sirakov, R. Capote, F. Gunsing, P. Schillebeeckx, A. Trkov, Ann. Nucl. Energy, **35** (2008), 1223-1231.

Nuclear physics of the s process

by I. Dillmann, C. Domingo Pardo, F. Käppeler, A. Mengoni, K. Sonnabend, Pub. Astro. Soc. of Australia, **25** (2008) 18–29; www.publish.csiro.au/journals/pasa

IAEA Coordinated Research Project: Updated decay data library for actinides

by M.A. Kellett, F.G. Kondev, A.L. Nichols,
Appl. Radiat. Isot. **66** (2008) 694-700.

Cross sections of the reaction $^{232}\text{Th}(p,3n)^{230}\text{Pa}$ for production of ^{230}U for targeted alpha therapy

A. Morgenstern, C. Apostolidis, F. Bruchertseifer, R. Capote, T. Goudera, F. Simonelli, M. Sin, K. Abbas,
Appl. Radiat. Isot. **66** (2008) 1275-1280.

6.2 Conference Presentations and Proceedings

The aims and activities of the International Network of Nuclear Structure and Decay Data Evaluators

by A.L. Nichols, J.K. Tuli (invited paper), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 37-42, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

β -decay data requirements for reactor decay heat calculations: Study of the possible source of the gamma-ray discrepancy in reactor heat summation calculations

by A. Algora, A.L. Nichols, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 43-46, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Experimental studies to improve specific actinide decay data

by F.G. Kondev, M.A. Kellett, I. Ahmad, J.P. Greene, A.L. Nichols, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 93-96, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Deformation dependent TUL multi-step direct model

by H. Wienke, R. Capote, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 171-174, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

EMPIRE ultimate expansion: resonances and covariances

by M. Herman, S.F. Mughabghab, P. Oblozinsky, D. Rochman, M.T. Pigni, T. Kawano, R. Capote, V. Zerkin, A. Trkov, M. Sin, B.V. Carlson, H. Wienke, Young-Sik Cho, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 207-210, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Lane consistency of the dispersive coupled channel optical model potential

by R. Capote, E. Soukhovitskii, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 239-242, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Extension of the nuclear reaction model code EMPIRE to actinides nuclear data evaluation

by R. Capote, M. Sin, A. Trkov, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 255-258, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Neutron-induced fission cross section on actinides using microscopic fission energy surfaces

by M. Sin, R. Capote, S. Goriely, S. Hilaire, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin, S. Leray, Vol. 1 (2008) pp. 313-316, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Measurement of neutron induced fission of ^{235}U , ^{233}U and ^{245}Cm with the FIC detector at the CERN n_TOF facility

by M. Calviani, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 335-338, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Design study for a new spallation target of the n_TOF facility at CERN

by C. Carrapico, S. Andriamonje, E. Berthoumieux, I. F. Goncalves, F. Gunsing, A. Mengoni, P. Vaz, V. Vlachoudis and the n_TOF collaboration, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 445-448, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Neutron resonance spectroscopy at n_TOF at CERN

by F. Gunsing, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 537-542, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

New cross section measurements for neutron-induced reactions on Cr, Ni, Cu, Ta and W isotopes obtained with the activation technique

By V. Semkova, R. Capote, R. Jaime Tornin, A.J. Koning, A. Moens, A.J.M. Plompen, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 559-562, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Simultaneous measurement of the neutron capture and fission yields of ^{233}U

by E. Berthoumieux, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 571-574, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

The ^{234}U neutron capture cross section measurement at the n_TOF facility

by C. Lampoudis, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 595-598, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Capture cross section measurements of $^{186,187,188}\text{Os}$ at n_TOF: the resolved resonance region

by K. Fujii, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 599-602 48, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

The neutron capture cross sections of ^{237}Np and ^{240}Pu and its relevance in the transmutation of nuclear waste

by C. Guerrero, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 627-630, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Evaluation of the ^{103}Rh neutron cross-section data in the unresolved resonance region for improved criticality safety

by L.C. Mihailescu, I. Sirakov, R. Capote, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin, S. Leray, Vol. 1 (2008) pp. 649-652, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

Evaluation of tungsten isotopes in the fast neutron range including cross-section covariance estimation

by R. Capote, A. Trkov, I. Kodeli, *et al.*, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 1 (2008) pp. 689-692, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

The Global Assessment of Nuclear Data, GANDR

by D.W. Muir, A. Trkov, I. Kodeli, R. Capote, V. Zerkin, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin, S. Leray, Vol. 1 (2008) pp. 717-720, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0090-2.

The JEFF Evaluated Nuclear Data Project

by A.J. Koning, R.A. Forrest, M.A. Kellett, A.L. Nichols, *et al.* (invited paper), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 2 (2008) pp. 721-726, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0091-9.

Recent advances in the JENDL project

by K. Shibata, T. Nakagawa, T. Fukahori, O. Iwamoto, A. Ichihara, N. Iwamoto, S. Kunieda, N. Otuka, J. Katakura, Y. Watanabe, K. Kosako, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 2 (2008) pp. 727-732, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0091-9.

The art of collecting experimental data internationally: EXFOR, CINDA and the NRDC network

by H. Henriksson, O. Schwerer, D. Rochman, M.V. Mikhaylyukova, N. Otuka, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 2 (2008) pp. 737-740, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0091-9.

Status and future work of the NEA Working Party on International Nuclear Data Evaluation Cooperation

by A.J. Koning, J. Katakura, P. Oblozinsky, A.L. Nichols, C. Nordborg (invited paper), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 2 (2008) pp. 741-746, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0091-9.

Development of IAEA nuclear reaction databases and services

by V. Zerkin, A. Trkov, Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 2 (2008) pp. 769-772, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0091-9.

Measurement of the $^{197}\text{Au}(n,\gamma)$ cross section at n_TOF: towards a new standard

by C. Massimi, R. Capote, A. Mengoni, *et al.* (the n_TOF collaboration), Proc. Int. Conf. on Nuclear Data for Science and Technology, Editors: O. Bersillon, F. Gunsing, E. Bauge, R. Jacqmin and S. Leray, Vol. 2 (2008) pp. 1265-1268, EDP Sciences, Les Ulis, France, ISBN 978-2-7598-0091-9.

Measurement of the $^{90,91,92,93,94,96}\text{Zr}(n,\gamma)$ and ^{139}La cross sections at n_TOF

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6.3 Reports

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International evaluation of neutron cross-section standards

by S.A. Badikov, *et al.*, STI/PUB/1291, November 2007, International Atomic Energy Agency, Vienna, Austria, ISBN 92-0-100807-4.

Fission product yield data for the transmutation of minor actinide nuclear waste

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7. Workshops 2007/2008

- Workshop on Nuclear Structure and Decay Data - Theory and Data Evaluation, ICTP Trieste, Italy, 28 April to 9 May 2008, IAEA report INDC(NDS)-0533, IAEA, Vienna, Austria, June 2008, IAEA Workshop Director: A.L. Nichols; available at Web site:
<http://www-nds.iaea.org/reports-new/indc-reports/indc-nds/indc-nds-0533.pdf>
- Workshop on Nuclear Reaction Theory and Evaluation, ICTP Trieste, Italy, 19-30 May 2008, IAEA Workshop Directors: A. Mengoni and A. Stanculescu.

8. Visits and Inter-centre Cooperation

- S. Dunaeva (IAEA/NDS) to BARC, Mumbai, India, 26 October – 4 November 2007: EXFOR compilation in India.
- V. Zerkin (IAEA/NDS) to NNDC, BNL, USA, 13-23 November 2007: EXFOR and ENDF Web and database software deployment.