

IAEA Nuclear Data Section: Progress Report for period 2017/18

Summary of Nuclear Data Activity by Staff of the IAEA Nuclear Data Section May 2017 – April 2018

IAEA Technical Meeting, 1-4 May 2018
Bahadurgarh, Haryana, India

Web: <https://www-nds.iaea.org/>
E-mail: nds.contact-point@iaea.org

1. Staff Changes

The authorized staff level of the Nuclear Data Section (NDS) consists of a total of 16.25 professionals and support staff. The latest staff changes include:

- Valentina Semkova (Nuclear Physicist) resigned on 11 October 2017.
- Hyun Kyung Chung (Head of Atomic Data and Molecular Data Unit) resigned on 30 September 2017.
- Christian Hill (Head of Atomic Data and Molecular Data Unit) joined on 1 October 2017.
- Kalle Heinola (Atomic Physicist) will join on 1 May 2018.

2. Compilations

2.1 EXFOR transmission

During the reporting period, the following final tapes have been transmitted:

- 7 neutron final TRANS tapes (3177 – 3182, V035) containing 61 new entries and 55 revised entries;
- 10 CPND final TRANS tapes (B026, D109 - D115, S022 - S023) containing 144 new entries and 72 revised entries;
- 3 PhND final TRANS tapes (G038 - G040) containing 9 new entries and 25 revised entries.

These include contributions from five other centres (ATOMKI, CNDC, KNDC, NDPCI, UkrNDC) as well as two compilers (Nurzat Kenzheybayev, Myagmarjav Odsuren).

Nurzat Kenzheybayev (Kazakh National University, Almaty) is compiling of data measured in Central Asia (*e.g.*, Kazakhstan, Uzbekistan) for area 3, D and G in collaboration with Timur Zholddybayev (Institute of Nuclear Physics, Almaty).

Myagmarjav Odsuren (National Univ. of Mongolia, Ulaanbaatar) is compiling heavy-ion induced reaction data measured in area 2 countries (*e.g.*, France, Germany, Italy) for area D.

Svetlana Selyankina was contracted from 18 December 2017 to 21 March 2018 as a consultant to support EXFOR activities during the recruitment of Semkova's successor.

Three regular transmissions of the EXFOR/CINDA dictionaries (TRANS.9116 – 9117) were done in TRANS, DANIEL (backup) and archive format.

Number of new entries transmitted by final tapes since the NRDC 2017 meeting
(NK: Nurzat Kenzhebayev, MO: Myagmarjav Odsuren)

	NDS	ATOMKI	CNDC	KNDC	NDPCI	UkrNDC	NK	MO	Sum
Neutron	12	-	25	5	16	3	0	-	61
CPND	47	21	8	4	42	7	8	7	144
PhND	3	-	0	3	0	3	0	-	9
Sum	62	21	33	12	58	13	8	7	214

2.2 EXFOR quality control

During the reporting period, 74 preliminary tapes (PRELIM) were received for checking by NDS and other centres. Both ZCHEX and JANIS TRANS Checker are regularly used. The finalized tapes are also checked against comments from centres before uploading to the NDS open area. NDS also registers comments on EXFOR entries from users and centres to the **EXFOR Feedback List** (<https://www-nds.iaea.org/nrdc/error/>) and monitors the correction process by checking each preliminary tape against the feedback list.

2.3 EXFOR coverage control

Under the EXFOR compilation control system, 56 journal titles are regularly scanned and registered to the EXFOR Compilation Control System (X4CoCoS), and they are listed in the **Article Allocation List** (<https://www-nds.iaea.org/nrdc/alloc/>). The newly published articles are also listed on <https://www-nds.iaea.org/exfor-master/x4compil/>.

Completeness checking of EXFOR for neutron-, proton- and alpha-induced experimental nuclear reaction data against NSR/CINDA was summarized in three memos. We found 10 articles for neutron reactions (Memo 4C-3/412), 104 articles for proton reactions (Memo CP-D/937) and 411 articles for alpha reactions (Memo CP-D/947).

2.4 EXFOR article collection

We are continuing collection of EXFOR article pdf files to support EXFOR compilation carried out at NDS and other centres. In order to replace text unsearchable pdf files with text searchable ones, we have continued systematic upgrade of pdf files in our internal collection. During the reporting period, Masahiro Wakukawa visited NDS as an intern (6 November 2017 to 2 February 2018), and collected 3,100 pdf files from the publisher's website for 71 journals and two conference proceedings (82ANTWER and 91JUELIC).

2.5 CINDA

The CINDA Master File is available via the NDS compilers' Web site including all components and history. Automatic updates using the EXFOR and NSR databases have been

carried out 12 times (after every update of NSR). Complete MySQL CINDA database was regularly sent to NNDC (USA), BARC (India), CNDC (China) and “Atomstandart” (Russia).

2.6 Evaluated data libraries, files and programs

Various new and revised evaluated data libraries, files and programs for data checking, processing and graphical presentation were added, developed and distributed via the NDS Web site and on DVD-ROM (see below).

3. Services

3.1 Web Services

Further improvements have been implemented in the Web EXFOR-CINDA-ENDF-IBANDL database retrieval systems and Web-Tools for nuclear data compilers and evaluators since the last NRDC meeting:

- ENDF (Evaluated Nuclear Data Files):
 - new and updated evaluated libraries in the ENDF database:
 - ENDF/B-VIII.0, U.S. Evaluated Nuclear Data Library, 2018
 - TENDL-2015: TALYS-based Evaluated Nuclear Data Library
 - BROND-3.1 Russian evaluated neutron data library, 2016
 - JEFF-3.3, Evaluated nuclear data library, OECD Nuclear Energy Agency, 2017
 - JENDL/PD-2016, JENDL Photonuclear Data File 2016
 - FENDL-3.1c Fusion Evaluated Nuclear Data Library, 2017
 - software news: plotting MF8/MT454 /MT459 (fission product yield)
- EXFOR:
 - added to C5 and on-line recalculation of angular distributions to inverse reactions
 - Reference table extended by external DOI's from “cross-ref” service
- PDF database (now in total: 168,956 PDF files)
 - EXFOR-PDF database: 29 updates (now in total: 29,255 PDF files)
 - NSR-PDF database: 23 updates (now total: 139,701 PDF files)
 - PDF files are made accessible on Web systems via X4Ref1, Endfd+, Ensdf±
- CINDA:
 - added summary statistics to the list of References
 - added search by DOI and NSR-KeyNo
 - added generating list of References for preparing candidates for EXFOR compilation (linked to NSR and PDF databases)
 - added external DOI's and improved import from EXFOR and NSR to CINDA

Development of the Web-Tools for EXFOR compilers, ENDF and ENSDF evaluators:

- MyExfor: updated by new version of ZCHEX and new Dictionaries
- MyEndf: GRUCON processing package was upgraded to the version "2017-12-14"
- MyEnsdf:
 - added programs: ALPHA_RADD, upgraded: PANDORA, FMTCHK, GABS
 - added lists of References, Datasets and Nuclides, "Nuclide Parallel View" was extended for tools for interactive averaging Gammas.

The Web EXFOR-CINDA-ENDF database retrieval system is functioning at NNDC (USA), BARC (India), CNDC (China) and "Atomstandart" (Russia). Statistics for usage of the Web retrieval system are presented in figures below.

3.2 DVD-ROM and Web downloading

Most of NDS CD/DVD-ROMs (22 from 28) are available via Web downloading.

New and updated "CD/DVD products":

- EXFOR-CINDA for Applications: database retrieval systems (Linux, Windows and MacOSX). Includes Endver/GUI package integrated with Prepro and full EXFOR/CINDA database. Portable.
- ENDF libraries: 35 Evaluated Data Libraries.
- GRUCON ver-2017-12-14: ENDF Data Processing Code. Distribution: 32-bit and 64-bit executables for Linux and Windows, Manual in English and Russian, examples with scripts (by V.Sinitsa, Kurchatov Institute, Moscow, Russia).
- Portable Empire-3.2.3 for Windows-64, Linux (new) and MacOSX (new): does not require installation; includes full EXFOR in C4 format; available for downloading on NDS Web site

3.3 Document Services

Nuclear Data Services Unit (NDSU) continued supporting the Member States in providing the reports published, as well as distributing data libraries on CDs and DVDs as requested. Following the introduction of the webpage (<https://www-nds.iaea.org/cdroms/>) for download to ensure quicker and easier service, the number of requests for physical copies decreased.

We create INDC reports for unpublished documents (*e.g.*, theses, internal reports) reporting experimental works compiled in EXFOR. During the reporting period, the following one report was published for this purpose in collaboration with the authors:

- E. Pirovano, Neutron scattering cross section measurements with a new scintillator array, INDC(BLG)-2 (for EXFOR 23365).

Any improvement suggestions should be sent to our contact address (nds.contact-point@iaea.org).

Number of INDC reports published between May 2017 and March 2018

Report code	Country of origin	Reports
INDC(AUS)	Austria	1
INDC(BLG)	Belgium	1
INDC(CPR)	China	1
INDC(IND)	India	1
INDC(JPN)	Japan	1
INDC(MGL)	Mongolia	1
INDC(NDS)	Nuclear Data Section	22

3.4 Nuclear Data Newsletters

The Nuclear Data Newsletter is published biannually to inform the scientific community about actual NDS work. During the reporting period, # 63 was issued in July 2017 and # 64 was issued in January 2018. We have currently 134 recipients of hardcopies and 1507 recipients of softcopies.

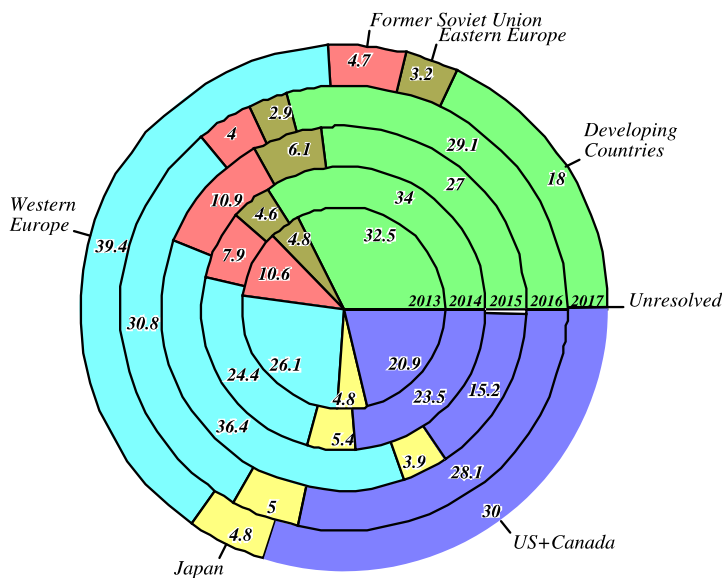
4. Visits and Inter-centre Cooperation

- V. Zerkin (NDS) visited NNDC from 24 September to 15 October 2017 to deploy and further develop software for ENDF-EXFOR-PDF database management, Web retrieval and Web-tools; to extend ENDF and PDF databases.
- N. Otsuka (NDS) visited CNDC from 16 to 20 October 2015 to review and revise the EXFOR entries prepared by the EXFOR compilers of China Nuclear Data Centre (CNDC).

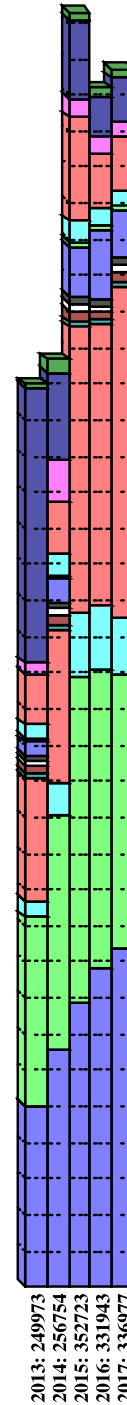
IAEA Nuclear Data Services: Web Statistics

2013-2017

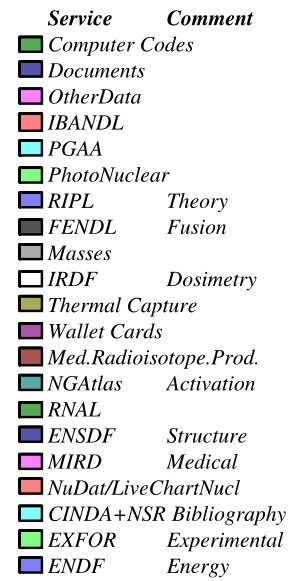
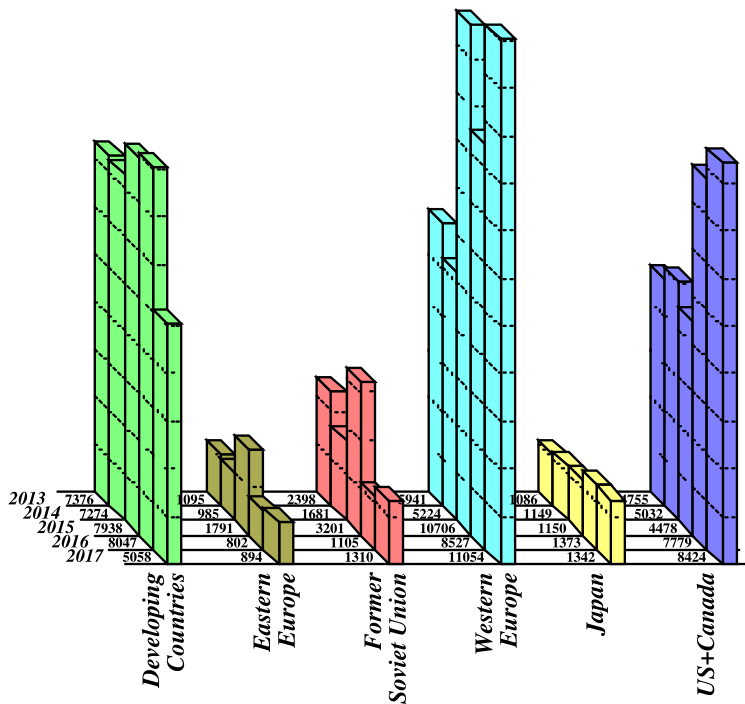
Geographical Distribution (%)



Total per Year* (Number of accesses + retrievals) *2013: 11 Months



Average per Month (Number of accesses + retrievals) *2013: 11 Months



5. Nuclear Data Developments

The Nuclear Data Section undertakes long term nuclear data development by implementing Coordinate Research Projects (CRP) and Data Development Projects (DDP). The staff members of NDS who manage NRDC also follow the currently running CRPs and DDPs to observe the actual trends and needs for nuclear reaction data.

5.1. Coordinated Research Projects (CRP)

- Nuclear data for charged-particle monitor reactions and medical isotope production (2012-2017): *CRP finished. Publication on monitor reactions done (A. Hermanne et al., Nucl. Data Sheets 148(2018)338. Four more publications in preparation - one on decay data, three on radioisotope production.*
- Testing and improving the IAEA International Dosimetry Library for Fission and Fusion IRDFF (2013-2018): *CRP finished. Publication being prepared.*
- Primary radiation damage cross sections (2013-2018): *CRP finished. Publication being prepared.*
- Reference database for beta-delayed neutron emission (2013-2018): *CRP finished, publication being prepared.*
- Updating photonuclear data library and generating a reference database for photon strength functions (2016-2020): *Ongoing.*
- Recommended Input Parameter Library (RIPL) for fission cross section calculations (2016-2021): *Ongoing.*

5.2 Data Development Project (DDP)

- Maintain the international neutron cross section standards file and evaluation techniques: *IAEA STD 2017 released and documented in NDS publication; project will keep going.*
- CIELO collaboration: coordination and technical work: *Concluded, published (M.B.Chadwick et al., Nucl. Data Sheets 148(2018)189).*
- INDEN collaboration (International Nuclear Data Evaluation Network): *Ongoing.*
- Development of evaluation methodology and nuclear reaction modelling systems: *Ongoing (EMPIRE, TALYS).*
- Evaluation of charged-particle-induced reaction data in the resolved-resonance region for applications: *Ongoing.*
- Improvement of analysis codes for nuclear structure and decay data evaluations: *Ongoing.*
- Stopping power database: *Ongoing.*
- Different data processing routes (NJOY, PREPRO and other methods): *Ongoing.*
- Total absorption gamma-ray spectroscopy (TAGS): Decay data for decay heat calculations and other applications: *Ongoing.*

- Nuclear data for safeguards: *Ongoing*.
- Nuclear Data Libraries for Advanced Systems: Fusion Devices (FENDL-3): *Ongoing*.
- Thermal scattering law data: *Ongoing*.

5.3. Training Activities (Schools, Workshops)

- Joint ICTP-IAEA Workshop on “Monte Carlo Radiation Transport and Associated Data Needs for Medical Applications”, 18 - 29 September, 2017, Trieste.
- Joint ICTP-IAEA Workshop on “Evaluation of Nuclear Reaction Data for Applications”, 2 - 13 October 2017, Trieste.
- Joint ICTP-IAEA Workshop on “Joint ICTP-IAEA Workshop on Nuclear Structure and Decay Data: Theory, Experiment and Evaluation”, 15 - 26 October 2018, Trieste.

6. Nuclear Data Journal Publications (2017-2018)

CIELO Collaboration Summary Results: International Evaluations of Neutron Reactions on Uranium, Plutonium, Iron, Oxygen and Hydrogen

M.B.Chadwick, R.Capote, A.Trkov, M.W.Herman, D.A.Brown, G.M.Hale, A.C.Kahler, P.Talou, A.J.Plompen, P.Schillebeeckx, M.T.Pigni, L.Leal, Y.Danon, A.D.Carlson, P.Romain, B.Morillon, E.Bauge, F.-J.Hambsch, S.Kopecky, G.Giorginis, T.Kawano, J.Lestone, D.Neudecker, M.Rising, M.Paris, G.P.A.Nobre, R.Arcilla, O.Cabellos, I.Hill, E.Dupont, A.J.Koning, D.Cano-Ott, E.Mendoza, J.Balibrea, C.Paradela, I.Duran, J.Qian, Z.Ge, T.Liu, L.Hanlin, X.Ruan, W.Haicheng, M.Sin, G.Noguere, D.Bernard, R.Jacqmin, O.Bouland, C.De Saint Jean, V.G.Pronyaev, A.V.Ignatyuk, K.Yokoyama, M.Ishikawa, T.Fukahori, N.Iwamoto, O.Iwamoto, S.Kunieda, C.R.Lubitz, M.Salvatores, G.Palmiotti, I.Kodeli, B.Kiedrowski, D.Roubtsov, I.Thompson, S.Quaglioni, H.I.Kim, Y.O.Lee, U.Fischer, S.Simakov, M.Dunn, K.Guber, J.I.Marquez Damian, F.Cantargi, I.Sirakov, N.Otuka, A.Daskalakis, B.J.McDermott, S.C.Van Der Marck, *Nucl. Data Sheets*. **148** (2018) pp. 189-213.

Rod insertion method analysis - A methodology update and comparison to boron dilution method

V. Merljak, M. Kromar, A. Trkov, *Ann. Nucl. En.* **113** (2018) pp. 96-104.

The experimental nuclear reaction data (EXFOR): Extended computer database and Web retrieval system

V.V.Zerkin, B.Pritychenko, *Nucl. Instrum. Meth. A* **888** (2018) pp. 31-43.

Verification of kinetic capabilities of the GNOMER neutron diffusion code

V. Merljak, M. Kromar, A. Trkov, *Ann. Nucl. En.* **109** (2017) pp. 431-439.

The IAEA stopping power database, following the trends in stopping power of ions in

matter

C.C. Montanari, P. Dimitriou, *Nucl. Instrum. Meth. B* **408** (2017) pp. 50-55.

Cross-section measurements for the $^{57}\text{Fe}(n,n\gamma)^{57}\text{Fe}$ and $^{57}\text{Fe}(n,2n\gamma)^{56}\text{Fe}$ reactions

A. Negret, M. Sin, C. Borcea, R. Capote, Ph. Dessagne, M. Kerveno, N. Nankov, A. Olacel, A. J. M. Plompen, and C. Rouki, *Phys. Rev. C* **96** (2017) 024620.

A Theoretical Study of Deuteron-induced Surrogate Reactions

B.V. Carlson, R. Capote and M. Sin *J. Physics: Conference Series* **863** (2017) 012039.

Inter-comparison of Hauser-Feshbach model codes toward better actinide evaluations

Roberto Capote, Stephane Hilaire, Osamu Iwamoto, Toshihiko Kawano, and Mihaela Sin, *EPJ Web of Conferences* **146** (2017) 12034.

Optical model with multiple band couplings using soft rotator structure

Dmitry Martyanov, Efrem Soukhovitskii, Roberto Capote, Jose Manuel Quesada, and Satoshi Chiba, *EPJ Web of Conferences* **146** (2017) 12031.

Saturation of coupling of collective levels in optical model calculations of even-even actinides

Jose Manuel Quesada, Dmitry Martyanova, Efrem Soukhovitski, Roberto Capote, and Satoshi Chiba, *EPJ Web of Conferences* **146** (2017) 12013.

Description of nucleon scattering on ^{208}Pb by a fully Lane-consistent dispersive spherical optical model potential

W.L. Sun, J. Wang, E.Sh. Soukhovitskii, R. Capote, and J.M. Quesada, *EPJ Web of Conferences* **146** (2017) 12010.

A theoretical study of deuteron-induced surrogate reactions

B.V. Carlson, R. Capote, and M. Sin, *EPJ Web of Conferences* **146** (2017) 12001.

Measurement of $(n, xn\gamma)$ reaction cross sections in W isotopes

G. Henning, R. Capote, et al., *EPJ Web of Conferences* **146** (2017) 11016.

 $(n, xn\gamma)$ cross sections on actinides versus reaction code calculations

M. Kerveno, R. Capote, et al., *EPJ Web of Conferences* **146** (2017) 11012.

IAEA coordinated research project on nuclear data for charged-particle monitor reactions and medical isotope production

Roberto Capote, et al., *EPJ Web of Conferences* **146** (2017) 08007.

Experiments in the EXFOR library for evaluation of thermal neutron constants

Naohiko Otuka, Roberto Capote, Valentina Semkova, Takuma Kawai and Gilles Noguere, *EPJ Web of Conferences* **146** (2017) 07005.

Dissemination of data measured at the CERN n TOF facility

E. Dupont, N. Otuka, R. Capote, et al. (n_TOF Collaboration) *EPJ Web of Conferences* **146**

(2017) 07002.

TANGRA-an experimental setup for basic and applied nuclear research by means of 14.1MeV neutrons

I. Ruskov, R. Capote Noy, et al., *EPJ Web of Conferences* **146** (2017) 03024.

On the use of the generalized SPRT method in the equivalent hard sphere approximation for nuclear data evaluation

Gilles Noguere, Pascal Archier, Olivier Bouland, Roberto Capote, Cyrille De Saint Jean, Stefan Kopecky, Peter Schillebeeckx, Ivan Sirakov, and Pierre Tamagno, *EPJ Web of Conferences* **146** (2017) 02036.

Evaluation of the neutron induced reactions on ^{235}U from 2.25 keV up to 30MeV

Andrej Trkov, Roberto Capote, Marco T. Pigni, Vladimir G. Pronyaev, Mihaela Sin, and Efrem S. Soukhovitskii, *EPJ Web of Conferences* **146** (2017) 02029.

A new evaluation of the neutron data standards A.

A.D. Carlson, et al., *EPJ Web of Conferences* **146** (2017) 02025.

$n+^{235}\text{U}$ resonance parameters and neutron multiplicities in the energy region below 100 eV

Marco T. Pigni, Roberto Capote, Andrej Trkov, and Vladimir G. Pronyaev, *EPJ Web of Conferences* **146** (2017) 02011.

The CIELO collaboration: Progress in international evaluations of neutron reactions on Oxygen, Iron, Uranium and Plutonium,

M.B. Chadwick, R. Capote, et al., *EPJ Web of Conferences* **146** (2017) 02001.

Evaluation of cross sections for neutron interactions with ^{238}U in the energy region between 5 keV and 150 keV

I. Sirakov, R. Capote, O. Gritzay, H.I. Kim, S. Kopecky, B. Kos, C. Paradela, V.G. Pronyaev, P. Schillebeeckx and A. Trkov, *Eur. Phys. J. A* **53** (2017) 199.

Predicting the optical observables for nucleon scattering on even-even actinides

D.S. Martyanov, E.Sh. Soukhovitski, R. Capote, J.M. Quesada, S. Chiba, *Chin. Phys. C* **41** No. 9 (2017) 094105

Uncertainty propagation in activation cross section measurements

N. Otuka, B. Lalremruata, M.U. Khandaker, A.R. Usman, L.R.M. Punte, *Radiat. Phys. Chem.* **140** (2017) pp. 502-510.

Inter-comparison of Hauser-Feshbach model codes toward better actinide evaluations

R. Capote, S. Hilaire, O. Iwamoto, T. Kawano and M. Sin, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 12034.

Optical model with multiple band couplings using soft rotator structure

D. Martyanov, E. Soukhovitskii, R. Capote, J.M. Quesada and S. Chiba, Proc. ND2016, *EPJ*

Web of Conferences **146** (2017) 12031.

A tool for calculation of ${}^7\text{Li}(p,n){}^7\text{Be}$ neutron source spectra below the three-body break-up reaction threshold

R. Pachua, B. Lalremruata, N. Otuka, L.R. Hlondo, L.R.M. Punte and H.H. Thanga, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 12016.

Saturation of coupling of collective levels in optical model calculations of even-even actinides

J.M. Quesada, D. Martyanov, E. Soukhovitski, R. Capote and S. Chiba, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 12013.

Description of nucleon scattering on ${}^{208}\text{Pb}$ by a fully Lane-consistent dispersive spherical optical model potential

W.L. Sun, J. Wang, E.Sh. Soukhovitskii, R. Capote and J.M. Quesada, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 12010.

A theoretical study of deuteron-induced surrogate reactions

B.V. Carlson, R. Capote and M. Sin, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 12001.

Investigation of the ${}^{27}\text{Al}(d,x){}^{24}\text{Na}$ nuclear reaction for deuteron beam monitoring purpose

M.U. Khandaker, H. Haba, N. Otuka and H.A. Kassim, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 11029.

Measurement of (n, xn γ) reaction cross sections in W isotopes

G. Henning, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 11016.

(n,xn γ) cross sections on actinides versus reaction code calculations

M. Kerveno, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 11012.

Fission yield covariances for JEFF: A Bayesian Monte Carlo method

O. Leray, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 09023.

Nuclear data for ion beam analysis applications

P. Dimitriou, V. Semkova and V. Zerkin, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 09014.

Nuclear data for fusion technology - the European approach

U. Fischer, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 09003.

IAEA coordinated research project on nuclear data for charged-particle monitor reactions and medical isotope production

R. Capote, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 08007.

Experiments in the EXFOR library for evaluation of thermal neutron constants

N. Otuka, R. Capote, V. Semkova, T. Kawai and G. Noguere, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 07005.

EXFOR: a global experimental nuclear reaction data repository: Status and new developments

V. Semkova, N. Otuka, M. Mikhailiukova, B. Pritychenko and O. Cabellos, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 07003.

Dissemination of data measured at the CERN n_TOF facility

E. Dupont, N. Otuka, O. Cabellos et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02045.

TANGRA: an experimental setup for basic and applied nuclear research by means of 14.1 MeV neutrons

I. Ruskov, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 03024.

Improving activation cross section data with TALYS

N. Dzysiuk and A. Koning, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02047.

**New fit of thermal neutron constants (TNC) for $^{233,235}\text{U}$, $^{239,241}\text{Pu}$ and $^{252}\text{Cf(sf)}$:
Microscopic vs. Maxwellian data**

V.G. Pronyaev, R. Capote, A. Trkov, G. Noguere and A. Wallner, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02045.

Nuclear structure and decay data evaluation in Europe

A. Negret, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02042.

On the use of the generalized SPRT method in the equivalent hard sphere approximation for nuclear data evaluation

G. Noguere, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02036.

Propagation of nuclear data uncertainties for fusion power measurements

H. Sjostrand, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02034.

TALYS/TENDL verification and validation processes: Outcomes and recommendations

M. Fleming, J.-C. Sublet, M.R. Gilbert, A. Koning and D. Rochman, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02033.

Evaluation of the neutron induced reactions on ^{235}U from 2.25 keV up to 30 MeV

A. Trkov, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02029.

A new evaluation of the neutron data standards

A.D. Carlson, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02025.

Covariances for the ^{56}Fe radiation damage cross sections

S.P. Simakov, A. Koning and A.Yu. Konobeyev, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02012.

$n+^{235}\text{U}$ resonance parameters and neutron multiplicities in the energy region below 100 eV

M.T. Pigni, R. Capote, A. Trkov and V.G. Pronyaev, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02011.

Implementation of a new energy-angular distribution of particles emitted by deuteron induced nuclear reaction in transport simulations

P. Sauvan, A. Koning, F. Ogando and J. Sanz, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02010.

Characterization of the energy-dependent uncertainty and correlation in silicon neutron displacement damage metrics

P. Griffin, D. Rochman and A. Koning, Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02008.

The CIELO collaboration: Progress in international evaluations of neutron reactions on Oxygen, Iron, Uranium and Plutonium

M.B. Chadwick, et al., Proc. ND2016, *EPJ Web of Conferences* **146** (2017) 02001

Study of deuteron-induced nuclear reactions on natural tungsten for the production of theranostic ^{186}Re via AVF cyclotron up to 38 MeV

M.U. Khandaker, K. Nagatsu, K. Minegishi, T. Wakui, M.R. Zhang, N. Otuka, *Nucl. Instrum. Meth. B* **403** (2017) pp. 51-68.

Thick and thin target $^7\text{Li}(p,n)^7\text{Be}$ neutron spectra below the three-body breakup reaction threshold

R. Pachuau, B. Lalremruata, N. Otuka, L.R. Hlondo, L.R.M. Punte, H.H. Thanga, *Nucl. Sci. Eng.* **187** (2017) pp. 70-80.

Measurements of neutron capture cross sections on ^{70}Zn at 0.96 and 1.69 MeV

L.R.M. Punte, B. Lalremruata, N. Otuka, S.V. Suryanarayana, Y. Iwamoto, R. Pachuau, B. Sathesh, H.H. Thanga, L.S. Danu, V.V. Desai, L.R. Hlondo, S. Kailas, S. Ganesan, B.K. Nayak, A. Saxena, *Phys. Rev. C* **95** (2017) p.024619.

The TENDL library: Hope, reality and future

D. Rochman, et al., Proc. ND 2016, *EPJ Web of Conferences* **146** (2017) 02006.

Update of the α - n Yields for Reactor Fuel Materials for the Interest of Nuclear Safeguards

S.P. Simakov, Q.Y. van den Berg *Nucl. Data Sheets* **139** (2017) pp. 190-203.