



IAEA

60 Years

Atoms for Peace and Development

IAEA Nuclear Data Section: Progress Report for period 2016/2017

**Editors: N. Otsuka, V. Semkova, V. Zerkin and L.
Vrapcenjok**

**Arjan Koning
Head of Nuclear Data Section
Division of Physical and Chemical Sciences NAPC
Department for Nuclear Sciences and Applications**

NRDC Meeting, May 23-26 2017, IAEA, Vienna

– 12 Professional + 4.25 Support staff

- Stanislav Simakov (Head of Nuclear Data Services Unit) retired on 31 January 2016.
- Jean-Christophe Sublet joined on 19 March 2017 as Head of Nuclear Data Services Unit.
- Bas Braams (Head of Nuclear Data Services Unit) retired on 30 November 2016.
- Kira Nathani (Team Assistant) was in a temporary reassignment in Publishing Section from 1 October 2016 to 1 May 2017.

EXFOR transmission

- During the reporting period, the following final tapes have been transmitted:
 - 3 neutron final TRANS tapes (3174 – 3176) containing 18 new entries and 64 revised entries;
 - 7 CPND final TRANS tapes (D104 – D108, S020-S021) containing 107 new entries and 79 revised entries;
 - 3 PhND final TRANS tapes (G035 - G037), containing 12 new entries and 19 revised entries.

Number of new entries transmitted by final tapes in June 2016 - April 2017

(NK: Nurzat Kenzhebeyev, MO: Myagmarjav Odsuren)

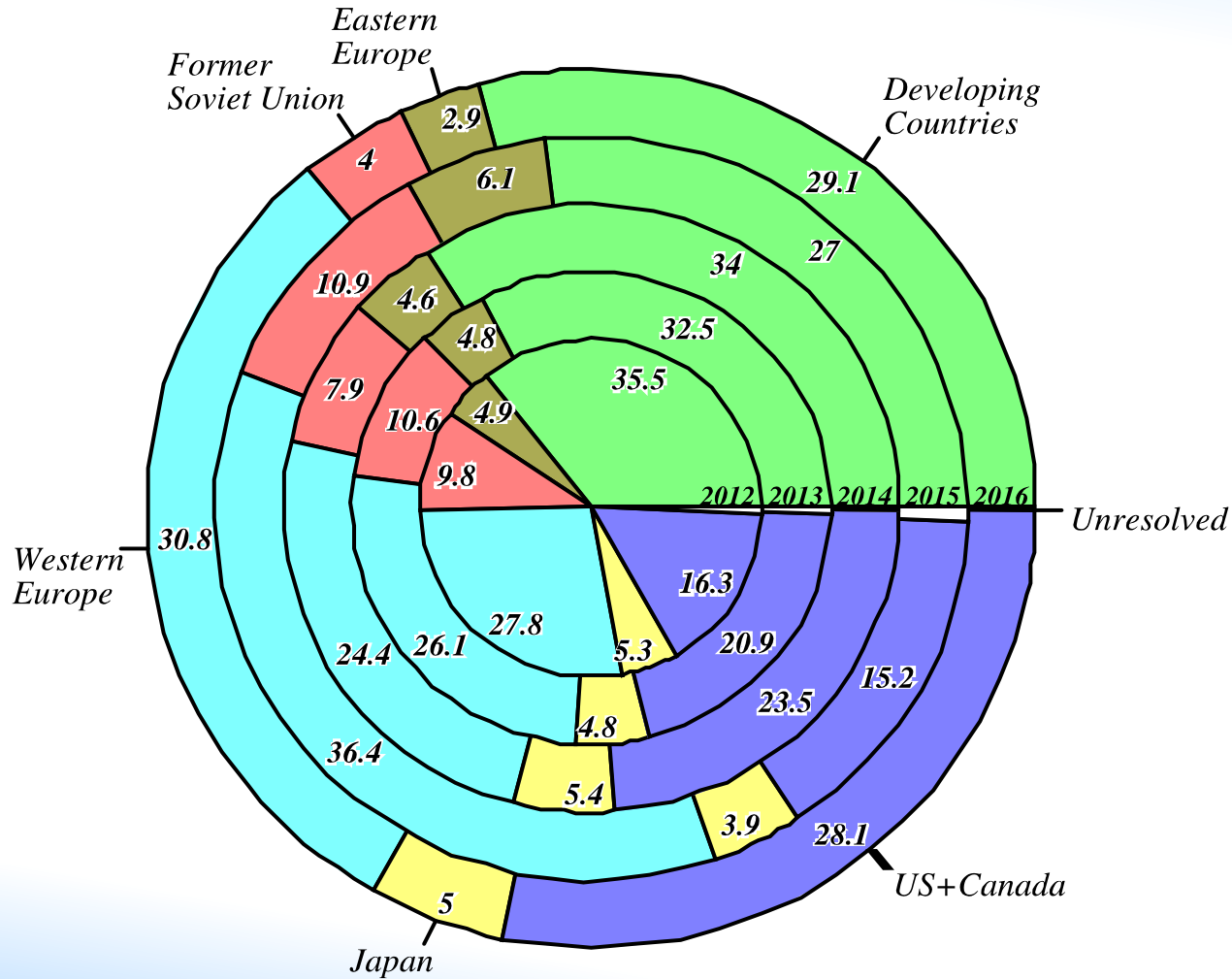
	NDS	ATOMKI	CNDC	KNDC	NDPCI	UkrNDC	NK	MO	Sum
Neutron	6	-	5	2	5	-	-	-	18
CPND	23	31	21	-	3	12	6	11	107
PhND	7	-	-	4	-	1	-	-	12
Sum	36	31	26	6	8	13	6	11	137

Other EXFOR progress

- Workshop on EXFOR Compilation, 24 - 28 October 2016, Vienna, Scientific Secretary: V. Semkova). See https://www-nds.iaea.org/nrdc/wksp_2016/ for presentations etc.
- Workshop on Asian Nuclear Reaction Database Development, 8 – 11 November 2017, China Institute of Atomic Energy, Beijing (organized by CNDC). The proceedings will be published as INDC(CPR)-62.
- During the reporting period, 439 new datasets from 25 publications were transmitted to IBANDL.
- EXFOR-PDF database: 23 updates (now in total: 27,753 pdf files). Special effort by two interns from Univ University of Tokyo, Siyi Sun and Ryota Hasegawa, who replaced 12,199 pdf files by “searchable” pdf (for 42 journals)
- A new database (<https://www-nds.iaea.org/index-meeting-crp/CM-THSC-2015/>) for thermal neutron scattering (TSL) evaluations was set up and about 130 datasets with experimental and calculated data were compiled by José Ignacio Márquez Damián.

IAEA Nuclear Data services: Web statistics

Geographical distribution



Coordinated Research Projects (CRP)

CRPs - Technical reports	2009	2010	2011	2012	2013	(6) 2014	(6) 2015	(6) 2016	(6) 2017	(5) 2018
Technical report (Capote Noy): <i>Nuclear Data Sheets 131</i> (2016) 1-106 Prompt fission neutron spectra of actinides										
Technical report (Dimitriou) Development of a reference database of Particle-Induced Gamma-ray Emission Spectroscopy (PIGE)										
Technical report (Capote Noy) Nuclear data for charged-particle monitor reactions and Medical isotope production										
Technical report (Dimitriou) Reference Database for beta-delayed Neutron Emission										
Technical report (Simakov/Trkov) Testing and improving the International Reactor Dosimetry and Fusion File (IRDF)										
Technical report (Simakov/Koning) Primary radiation damage cross sections										
Technical Report (Capote Noy) RIPL for fission cross section calculations										
Technical Report (Dimitriou) Updating the photonuclear data library and generating a reference database for photon strength functions										

Coordinated Research Projects (CRPs) - an IAEA tool to produce outputs by encouraging collaboration between various parties

Data Development projects

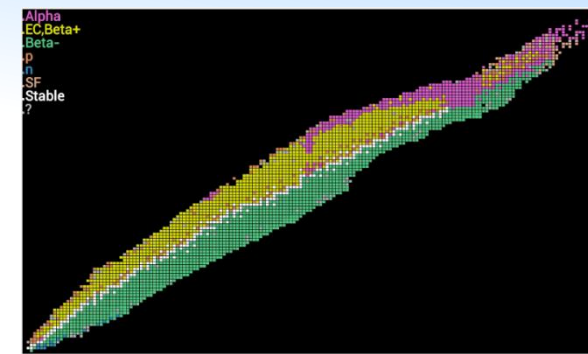
- Maintain the international neutron cross section standards file and evaluation techniques
- CIELO collaboration: coordination and technical work
- Development of evaluation methodology and nuclear reaction modelling systems
- Evaluation of charged-particle-induced reaction data in the resolved-resonance region for applications
- Improvement of analysis codes for nuclear structure and decay data evaluations
- Stopping power database
- Different data processing routes (NJOY, PREPRO and other methods)
- Total absorption gamma-ray spectroscopy (TAGS): Decay data for decay heat calculations and other applications
- Data for Safeguards
- Nuclear Data Libraries for Advanced Systems: Fusion Devices (FENDL-3)
- Thermal scattering law data

Training

- Joint ICTP-IAEA Workshop on "Joint ICTP/IAEA Workshop on Nuclear Structure and Decay Data: Experiment, Theory and Evaluation", 22 August - 2 September 2016, Trieste
- **Upcoming:** Joint ICTP-IAEA Workshop on the Evaluation of Nuclear Reaction Data for Applications, Oct 2 -13, 2017, Trieste, <http://indico.ictp.it/event/7994/>

Isotope Browser – App for smart phones

- Interactive App for Tablet or phone
- Provides nuclide properties for 4,000 nuclides and isomers (data from ENSDF)
- Android , Apple and Amazon Kindle
- ~49,000 downloads so far (~1,200 x month)
- 2 new releases per year
 - <https://play.google.com/store/apps>
 - <https://itunes.apple.com>
- Now available in 10 languages:
 - English, Arabic, Chinese, French, Spanish, Russian (6 UN languages), Japanese, Italian, Slovenian, traditional Chinese




A detailed nuclide chart showing decay modes and half-lives for various isotopes. The chart is color-coded by decay mode: Alpha (red), EC, Beta+ (orange), Beta- (green), p (yellow), n (purple), SF (blue), and Stable (grey). The chart shows a diagonal band of stable nuclides, with various decay chains branching off from unstable nuclides. The chart includes the following decay modes: Alpha, EC, Beta+, Beta-, p, n, SF, and Stable.

Sort by name		Alkaline Metals																Other non-Metals																																																																																				
		Alkaline Earth Metals								Transition Metals								Halogens				Noble Gases																																																																																
		Post Transition Metals								Metalloid								Lanthanides				Actinides																																																																																
1 H	2 He	3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne	11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe	55 Cs	56 Ba	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn	87 Fr	88 Ra	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr



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Thank you!

