



International Atomic Energy Agency

Centre Report - IAEA NDS

presented by S.P. Simakov

Nuclear Data Section

Department of Nuclear Sciences and Applications

NDS Staff

- **12 Professional + 4 Support staff**
- **Staff changes happened or planned:**
 - **Robin Forrest (Section Head)**
is planning to retire on 30 June 2015
 - **Stanislav Simakov (ND Services Unit Head)**
is planning to retire on 31 Oct 2015
 - **Benjaminas Marcinkevicius (Intern, ND Services Unit) joined NDS**
on 1 Sep 2014 and will leave 15 May 2015
 - **Lidija Vrapcenjak (ND Services Assistant of ND Service Unit)**
is on an extended leave
 - **Kira Nathani (ND Services Assistant of ND Service Unit)**
re-joined NDS on 1 Jul 2014
 - **Ann Jensby (Team Assistant of ND Development Unit)**
moved to other department on 1 April 2015
 - **Malgorzata Rydeng (Team Assistant of ND Development Unit)**
joined on 1 Apr 2015



Data Compilations in EXFOR

- **14 final TRANS tapes transmitted from NDS:**
 - 6 neutron tapes (46 new, 65 revised Entries)
 - 5 CPND tapes (65 new, 41 revised Entries)
 - 3 PhND tapes (16 new, 8 revised Entries)
- **61 final TRANS tapes received/checked by NDS from other Centres:**
 - 121 neutron entries (46 new, 65 revised)
 - 106 CPND entries (65 new, 41 revised)
 - 24 PhND entries (16 new, 8 revised)
- **12 EXFOR Master Files were created & distributed**
- **2 transmission of EXFOR/CINDA dictionaries in TRANS, DANIEL (backup), Archive formats**



New Entries in final tapes assembled by NDS in period May 2014 – Apr 2015

	NDS	ATOMKI	CNDC	KNDC	NDPCI	UkrNDC	KAS	MON	Sum
Neutron	13	-	10	0	19	1	3	-	46
CPND	17	10	16	2	4	4	3	9	65
PhND	5	-	-	1	0	9	1	-	16
Sum	35	10	26	3	23	14	7	9	127



EXFOR coverage control

- **EXFOR compilation control system:**
 - ~ 70 journals regularly scanned
 - ~ 750 journal issues scanned and added to compilation control database since last NRDC
 - More information – presentations by Valentina Semkova
- **Completeness checking:**
 - missing prompt fiss. neutron multiplicities ([CP-D/867](#), [871](#)) to respond to IAEA Safeguards request (see [here](#))
 - Neutron KERMA factors missing in EXFOR (see [here](#))
- **Now EXFOR has: 20,779 experiments**
- **PDF collection of EXFOR Articles:**
 - = 28,781 (in EXFOR database); > 36,000 (at NDS)



CINDA

- **Latest CINDA Master File available**
- **Automatically updated using the EXFOR and NSR databases (2 times)**
- **MySQL dump of complete CINDA sent to NNDC (USA), BARC (India) and CNDC (China)**



Services

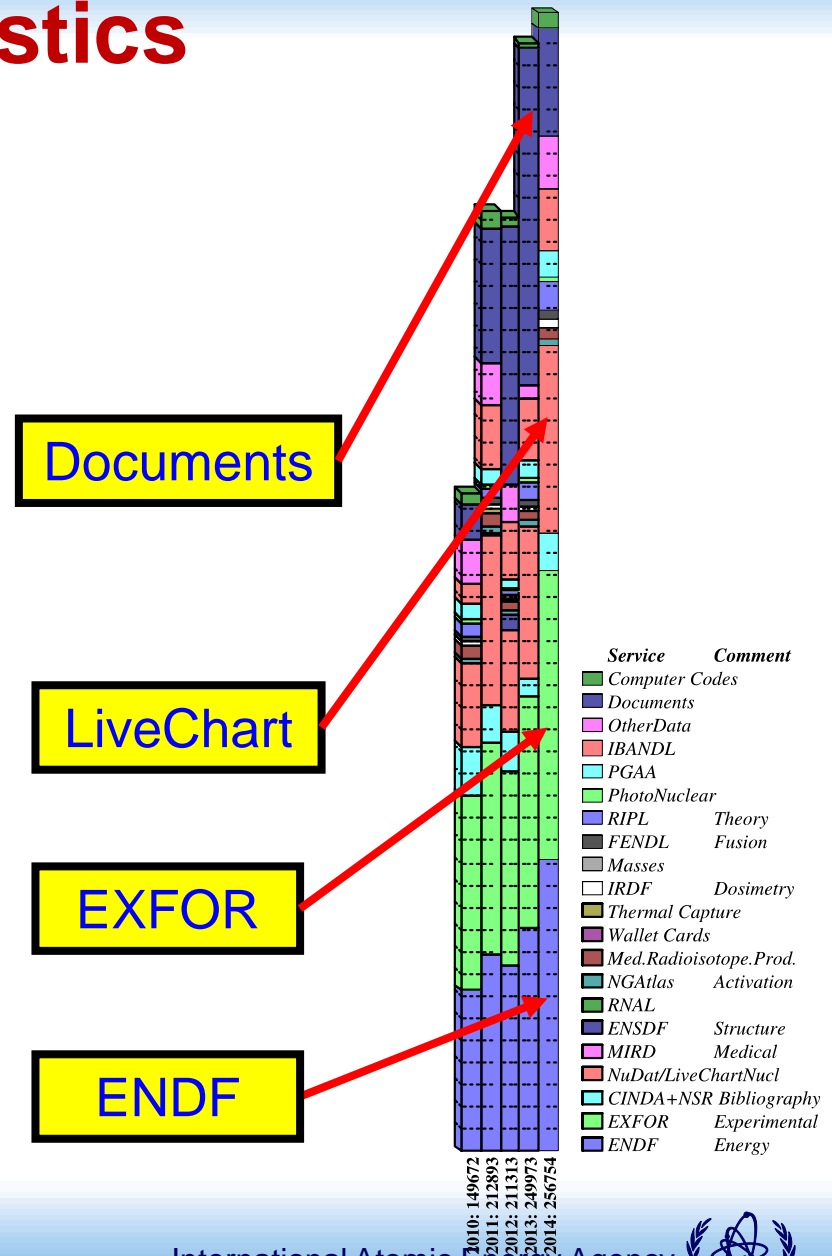
- **Web Services (see Viktor Zerkin presentation):**
 - ENDF - new lib: IRDFF-1.05, JENDL-4.0u2, TENDL-2014
 - many new on-line Tools to process and plot data from ENDF, IBANDL, EXFOR ...
 - ENSDF – new Tools for Nuclear Structure Data
 - DVDs - most are downloaded from Web
- **Documents:**
 - INDC Section and Country Reports, see [Publication Portal](#)
 - 2 Newsletters per year: #58 - Nov 2014, #59 - May 2015
- **Codes:**
 - PREPRO-2015 – evaluated data processing
 - LARELKIN – two-body relativistic kinematics
 - STAYSL PNNL – neutron spectrum unfolding



Web Statistics

- **Web-Access**
 - in 2012 - 211,000
 - in 2013 - 250,000
 - in 2014 - 257,000

- **The most frequently asked:**



On-going CRPs Meetings, held or planned

- **Development of a Reference Database for Particle-induced Gamma Ray Emission (PIGE) Spectroscopy (2011-2015):**
3rd RCM on 7 - 11 April, 2014
- **Nuclear Data for Charged-particle Monitor Reactions and Medical Isotope Production (2012-2016):**
2nd RCM on 8-12 December, 2014
- **International Reactor Dosimetry Library for Fission and Fusion (IRDFF) Testing and Validation (2013-2017):**
2nd RCM on 16 - 20 March 2015
- **Reference Database for Beta-delayed Neutron Emission Evaluation (2013-2017):**
2nd RCM on 23 - 27 March 2015
- **Primary Radiation Damage Cross Sections (2013-2017):**
2nd RCM on 29 June - 2 July 2015
- **Recommended Input Parameters for Fission Cross-Section Calculations (2015 - 2018):**
1st RCM, 20 -24 July 2015



Data Development Projects Meeting, held or planned

- **Structure and Decay Data:**
 - TM on "Improvement of Codes used for NSDD Evaluations"
10 - 13 June 2014
 - CM on "Total Absorption Gamma-ray Spectroscopy (TAGS)"
15 - 17 December 2014
 - TM on "Nuclear Structure and Decay Data Network"
20 - 24 April 2015
 - WS on "Nuclear Structure and Decay Data Evaluation (NSDD)"
27 -29 April 2015
- **International neutron cross section Standards:**
 - TM on "Current Status of Neutron Standards",
1-5 December 2014
 - Evaluation of reference ^{209}Bi and $^{\text{nat}}\text{Pb}$ (n,f) cross sections
B. Marcinkevicius et al., see <https://www-nds.iaea.org/standards/>
- **Ion Beam Analysis Nuclear Data Library (IBANDL):**
 - TM on "Ion Beam Analysis (IBA) Benchmarking Experiments"
26 - 29 May 2015
 - CM on "Codes for charged Particle Resonance Evaluation"
6 - 8 July 2015



Training Activities: Schools, Workshops, co-sponsored or organised:

- **Joliot-Curie School “Neutrons and Nuclei”,
28 Sep – 3 Oct. 2014, Frejus, France
organised by CEA with sponsoring from NDS/IAEA
(Lecturer – S. Simakov)**
- **Joint ICTP-IAEA Workshop "Nuclear Data for Neutron Dosimetry and
Analytical Methods on Research Reactors"
20 - 24 April 2015, Trieste**
- **Joint ICTP-IAEA School on "Nuclear Data Measurements
for Science and Applications”
in collaboration with n_TOF/CERN and University of Sevilla
19 - 23 Oct 2015, Trieste
Motivated Students are welcome
to apply: <http://indico.ictp.it/event/a14288>**



Visits and Publications

- **NDS Staff attends \approx 10 international conferences per year**
- **V. Zerkin (NDS) visited NNDC 18 Aug to 5 Sept 2014**
 - to deploy and develop software for management and web retrieval of ENDF, EXFOR and CINDA databases
 - collaborative work on development of XML for EXFOR and ENDF
- **N. Otsuka (NDS) visited CNDC 17 to 21 Nov 2014**
 - to finalize EXFOR entries compiled from old articles published in Chinese journals
- **38 Publications by Staff for reporting period 2014/2015**



Thanks for attention