

International Atomic Energy Agency

IAEA Nuclear Data Section: Progress Report 2009-2010

**Summary of Nuclear Data Studies
by Staff of the IAEA Nuclear Data Section**

11 May 2009 – 1 April 2010

Editors: S. Dunaeva, N. Otsuka, V. Zerkin

NDS Staff

17 professional and support staff

- **Retired:**
Alan Nichols, Bob Clark, Georgina Bush
- **Terminated contracts:**
Alberto Mengoni, Marco Verpelli
- **Completed rotation period:**
Denis Humbert
- **New appointments:**
Robin Forrest, Bas Braams, Hyun-Kyung Chung, (Valentina Semkova), Alex Oechs
- **New posts:**
Janet Roberts, Lidija Vrapcenjak



Gallery

Robin



Bas



Hyun



Janet



Lidija



Alex



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Valentina Semkova



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Data compilations

	CNPD	N	PhND
Centers	NDS ATOMKI India UkrNDC	NDS India UkrNDC	India UkrNDC
2009	136 new 105 revised	40 new 646 revised	9 new 13 revised
2008	123 new 50 revised	44 new 449 revised	12 new 1 revised
2007	114 new 61 revised	53 new 266 revised	4 new



Data compilations

“Old” papers’ topics:

- Ion Beam Analysis
- Important old references for Coordinated Research Projects

Old entries :

-format revision finished including:

- new date format (4-digit years)
- revised text (up-low case characters)

NDS almost finished retransmission Entries with old data presentation (occasionally 120 Entries were missed and will be retransmitted in two months).



“EXFOR outliers”

Feedbacks from Users and Centres - Microsoft Internet Explorer provided by IAEA

http://www-nds.iaea.org/nds/error/exfor_err1.html

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Nuclear Data Services
قسم البيانات النووية مقدمة من

Feedbacks from Users and Centres
Send your feedback

Area 1 2 3 4 A B C D E F G J K L M O P R S T V
of errors 91 156 3 67 25 1 110 43 8 41 4 0 3 12 58 233 0 1 0 37 1

To be corrected

Data no.	From	Keyword	Comment	Reference	Received	Forwarded
10614.008	V.McLane	REACTION	SF6: Correct reaction AKE -> KE		2009-10-09	
10674.003	N.Soppera	ASSUMED	"(ASSUM, (92-U-238(N, G) , , WID))": Remove parenthesis"	WP2008-18		2008-05-16
10764.007	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10764.008	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10764.009	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10785.003	M.Bossant	NOCOMMON	N1 should be blank or zero		2010-04-15	
10817.011	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.012	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.013	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.014	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.015	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.016	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.017	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.018	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10817.019	M.Bossant	NODATA	N1 should be blank or zero		2010-04-15	
10921.001	N.Otsuka	ERR-ANALYS	Move correlation factor to the 4 th field	CP-D/530rev	2009-02-24	
10921.002	N.Otsuka	ERR-ANALYS	Move correlation factor to the 4 th field	CP-D/530rev	2009-02-24	
10921.003	N.Otsuka	ERR-ANALYS	Move correlation factor to the 4 th field	CP-D/530rev	2010-02-24	
11481.002	N.Otsuka	INC-SOURCE	P-T -> D-D (?)		2010-04-15	
11481.003	K.Zolotarev	MONIT-REF	Add reference to U238(n, f)		2010-04-15	
11481.004	K.Zolotarev	MONIT-REF	Add reference to U238(n, f)		2010-04-15	

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1999 (Vienna)
All meetings

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Memo CP-A (CAJAD)
Memo CP-C (NNDC)
Memo CP-D (NDS)
Memo CP-E (JCPRG)
Memo CP-F (CNPD)
Memo CP-M (CDFE)
Memo CP-N (NEA-DB)

Contacts
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S.Dunaeva
N.Otsuka

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Feedbacks from WPEC SG-30 - Microsoft Internet Explorer provided by IAEA

http://www.nds.iaea.org/ndc/error/exfor_err3.html

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NRDC Centres
NNDC (USA)
NEADB (France)
NDS (Austria)
CJD (Russia)
CNDC (China)
ATOMKI (Hungary)
BARC (India)
JCPRG (Japan)
JAEA (Japan)
KAERI (Korea)
CAJAD (Russia)
CDFE (Russia)
CNPD (Russia)
UkrNDC (Ukraine)

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Feedbacks from WPEC SG-30

Send your feedback

See also Memos [CP-D/623](#), [CP-D/627](#), [CP-D/633](#) for the 4th+5th list by E.Dupont, 1st and 2nd list from A.Koning, respectively.

Plots by E.Dupont: [[Dupont II](#)] [[Dupont III](#)] [[Dupont IV](#)] [[Dupont V](#)] [[Koning I](#)] [[Koning II](#)]

Area 1 2 3 4 A B C D E F G J K L M O P R S T V
of error 21 9 4 7 7 0 8 2 1 1 0 0 0 0 4 1 0 0 0 0 0

To be corrected

Data no.	Comment	Error?	Source
10074.043	likely to be the same issue as in 10074.052	?	Dupont V
10238.021	pt.2 - ~5 times too large (threshold region)	?	Dupont I
10492.008	30 times too low	Yes	Koning I
10772.003	~4 times too large. However, this data are more or less consistent with the total ($n,2n$).	?	Dupont I
10835.014	1000 times too large	?	Koning II
11320.032	The first point (at 175 eV) is probably wrong. Its value corresponds to one of the last points (at 175 keV).	Yes?	Dupont V
11504.006	~3 times too low	?	Dupont V
11655.002	~10 times too low compared to other "RI" data. However, the value is consistent with "RI,RNV" data.	?	Dupont V
11740.004	~100 times too low	Yes?	Dupont V
12244.002	10 times too large	?	Koning I
12325.003	Uncertainties lie between 100 % and 40000 %. This is the threshold region however.	Yes	Dupont V
12343.002	The last point (at 7.75 MeV) is ~2 times too low	?	Dupont V
12602.003	~1000 times too low	Yes?	Dupont V
12758.006	1000 times too large	Yes	Koning I
12912.003	~4 times too large	?	Dupont I
12977.003	~2 times too low. However, these values are consistent with gs production.	Yes?	Dupont V
13547.004	wrong level energy (1000 times too low)	Yes	Koning I
13783.004	100 times too large	?	Koning I
13799.002	Is this reaction code accurate enough? Data looks like delayed neutron energy spectra (not nubar vs. energy). Moreover, the unit (PC/FIS) does not seem appropriate.	Yes?	Dupont II
14075.004	5 times too large? (1st level only)	Yes	Koning I
14128.002	The data are shifted by a factor 1000 in energy. The energy unit should be eV (not keV).	Yes	Dupont V
20939.005	~100 times too low. Are these values xs?	?	Dupont V
21486.002	1000 times too large	Yes	Koning I
21918.002	~5 times too low. However, the value is consistent with gs production.	Yes	Dupont V
22347.006	1000 times too low	Yes	Koning I
22445.002.2	1000 times too large? (see also 224450021, 22445003)	Yes	Koning I
22662.014	~100 times too low	Yes	Dupont V
22743.002	~10 times too low	Yes	Dupont V
22965.002	2 data sets in the same list??	?	Koning I

Local intranet 100%

Start Inbox - Microsoft O... Re: NRDF2010 : Re... RE: Presentation for... 5 Windows Explorer 7 Internet Explo... NDS_report.ppt agenda_draft-2010... Microsoft Access 13:59



“EXFOR outliers”

Articles Allocated for EXFOR Compilation - Microsoft Internet Explorer provided by IAEA

http://www.nds.iaea.org/nrdc/alloc/

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Articles Allocated for EXFOR Compilation

Last updated: 2010-04-15

This is the list of articles which EXFOR entry numbers are allocated and in compilation process by responsible centres.

Date field:
Pink: This entry is allocated more than 6 month ago.
Yellow: This entry exists, but the reference is not coded.

sort by [Entry #] [Reference] [Published] [Centre] [Copy sent /Allocated]

Entry #	1st author	Reference	Published	Centre	Copy sent /Allocated	Remark
14117		NST54(2004)34	2004	NNDC	2010-02-15	Old analysis
14148		ISINN-14(2007)249	2007	NNDC	2007-07-11	add ref.
14152		Phys.Rev.C75(2007)011301	2007	NNDC	2007-03-02	
14153		Proc.Symp.Capt.Gamma Ray Spect., Notre Dame(2005)312	2005	NNDC	2006-05-12	
14155	K.H. Guber	Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,403	2007	NNDC	2007-05-14	
14156		IAEA-C-2009-004(2009)89	2009	NNDC	2009-11-12	
14157		Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,507	2007	NNDC	2007-05-14	
14158		Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,607	2007	NNDC	2007-05-14	
14161		Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,579	2007	NNDC	2007-05-14	
14171		Phys.Rev.C43(1991)1086	1991	NNDC	2008-10-15	
14173		IAEA-C-2008-006(2008)58	2008	NNDC	2007-07-09	add ref.
14181	D. A. Smith	Phys.Rev.C60(1999)045502	1999	NNDC	2008-10-15	
14184	W.Abhalterer	Phys.Rev.C47(1993)1033	1993	NNDC	2008-10-15	
14194	B.J.Allen	Phys.Rev.C7(1973)2598	1973	NNDC	2008-10-15	
14196	M.J.Flüss	Phys.Rev.C6(1972)2252	1972	NNDC	2008-10-15	
14199	J.Toraskar	Phys.Rev.C4(1971)267	1971	NNDC	2008-10-15	
14200	G.Kugler	Phys.Rev.C3(1971)849	1971	NNDC	2008-10-15	
14201	R.W.Peele	Phys.Rev.C3(1971)373	1971	NNDC	2008-10-15	
14202	F.P.Brady	Phys.Rev.C2(1970)1579	1970	NNDC	2008-10-15	
14203	M.G.Bachman	Phys.Rev.C52(1995)495	1995	NNDC	2008-10-15	
14208	M.Derengowski	Phys.Rev.C2(1970)1554	1970	NNDC	2008-10-15	
14214		Phys.Rev122(1961)168	1961	NNDC	2009-02-13	
14216		Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,495	2007	NNDC	2008-07-25	
14220		Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,371	2007	NNDC	2008-07-25	
14221		Proc.Conf.Nucl.Data for Sci.Tech., Nice(2007)1,491	2007	NNDC	2008-07-25	
14239		Nucl.Sci.Eng-161(2009)303	2009	NNDC	2009-11-10	
14241		Nucl.Sci.Eng-159(2008)346	2008	NNDC	2008-07-21	
14244		2008MACKIN(2008)077	2008	NNDC	2009-07-03	
14245		2008MACKIN(2008)084	2008	NNDC	2009-07-28	

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CINDA

CINDA Master file

- The up-to-date CINDA Master File is available via the NDS compilers' Web site:

<http://www-nds.iaea.org/exfor-master/backup/?C=M;O=D>

- An automatic update using the EXFOR database has been carried out three times (April 2009, December 2009, March 2010).
- A Sybase/MySQL-dump of the complete CINDA database was sent to NNDC.
- A few new CINDA lines (one exchange file from NDS) have been prepared manually where some coding errors were corrected.



EVALUATED DATA LIBRARIES

New and revised data libraries, files and programs available:

- **EXFOR-CINDA Database and Retrieval system, Version 1.98 (CD-ROM)**
- **ENDVER/GUI and EXFOR –CINDA package, Version 1.46 (Integrated tools for ENDF-Evaluators)**
- **ENDF archive (software for downloading old and new libraries)**



Web services

New evaluated libraries 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



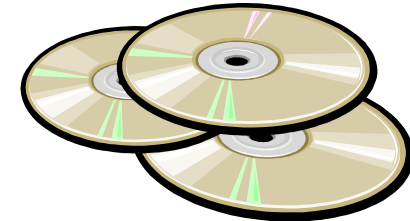
BARC

IPEN



CD-ROMs:

- EXFOR/CINDA for Windows
- EXFOR/CINDA for Applications for Linux, Windows and Macintosh



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Software

- **CINDA**
- **EXFOR**
- **Full EXFOR in C4 format**
- **Flexible ENDF database explorer**

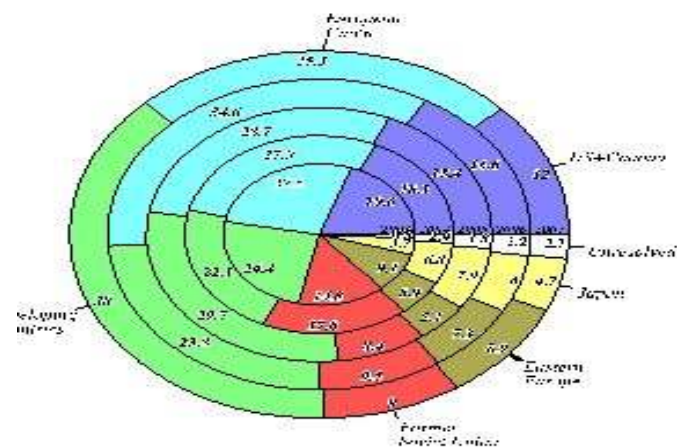


Co-ordinated Research Projects (CRPs)

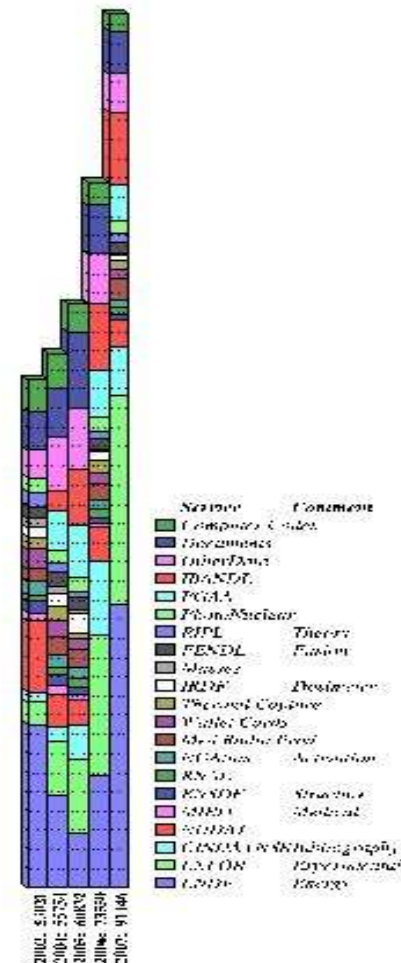
- ***Reference Input Parameter Library for Non-Energy Applications: (RIPL-III) Development of a Reference Database for Ion Beam Analysis:*** on-going; preliminary database available on the Web
- ***Updated Decay Data Library for Actinides:*** on-going
- ***Reference Base for Neutron Activation Analysis:*** 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



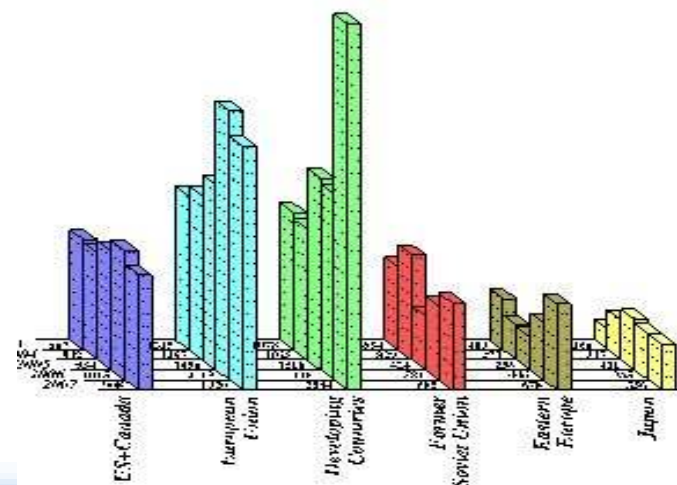
Geographical Distribution (%)



Total per Year
(Number of accesses + retrievals)



Average per Month
(Number of accesses + retrievals)



Publications

- **in Journals – 23**
- **Conference Presentations and Proceedings – 40**
- **Reports – 5**
- **Workshops – 2**
- **Visits and Inter-centre Cooperation - 2**

