IAEA 60 Years
Atoms for Peace and Development

IAEA-Nuclear Data Section Report

NSDD Scientific Secretary:
Paraskevi (Vivian) Dimitriou

Nuclear Data Section efforts

- Coordination – European effort
- Organisation of meetings (NSDD, Technical and Consultant Meetings)
- Training
- Technical support: codes, editors, web tools (Codes/Formats sessions)
- Financial support
- Dissemination tools (Live Chart, Isotope Browser, Decay Data Portal)
- Bibliography access (NSR+EXFOR PDF database)
- Coordinated Research Projects (Medical isotopes, beta-delayed neutrons, photonuclear data)

22nd NSDD meeting, LBNL, Berkeley, 22-26 May 2017

- All Data Centres except for Russia (PNPI)
- Membership: 2 new DCs – TAMU (USA), Univ. Sofia (Bulgaria)
- Criteria for joining NSDD determined
- 3 new Committees: Policies and Procedures (McCutchan-Singh), Codes and Formats (Kibedi-Firestone), Experimental Activities (Bernstein-Negret)
- List of Actions to be circulated
- Meeting report INDC(NDS)-0733 in preparation

NSDD at present

Data Centers	Year							
	1981	1986	1996	2008	2015	2015/FTE	2017	2017/FTE
North America	6	6	6	6	7	6.9?	8	6.9?
Europe	6	5	4	1->0	2	0.9	3	1.1
Russia	2	2	2	1	1	0.2	1	0.2
Japan	1	1	1	1	1	0.2	1	0.2
China	-	-	1	2	2	0.4	2	0.4
Kuwait-India-Australia	1	1	1	3	2	0.8	2	0.8
					Tot	9.4		9.6

Committees

- **Codes and Formats** oversees/overlaps with IAEA ENSDF Codes project:

  Kibedi, Firestone, Kondev, Singh, Rodionov, BNL, IAEA, Chen

- Technical Meeting on Improvement of Analysis Codes for NSDD evaluation, IAEA, 2018
  - 2 day meeting of Codes and Formats Committee
  - Back-to-back with Specialized workshop
  - New IAEA atomic radiation code, BrIccemis, progress/needs in other codes, editors, formats

Committees cont'd

- **Experimental Activities**: create a collection/list of data problems revealed by ENSDF evaluations that need to be addressed by new experiments:

  Bernstein, Negret, others tba

  - Email requests/submissions
  - Feedback from exp. Nuclear physics community
  - Web site to be designed by LBNL/Bernstein
  - Hosted at IAEA server

Committees cont'd

- **Policies and Procedures:** propose/modify policies and procedures to improve ENSDF

  McCutchan, Singh, …more on Thursday

  - Discuss and prepare proposals for changes in-between the NSDD/USNDP meetings
  - Final proposals brought to NSDD meeting for adoption
  - Speed-up development of ENSDF

Training

- IAEA-ICTP Workshop on Nuclear Structure and Decay Data; Experiment, Theory and Evaluation, 15-26 October 2018, Trieste, Italy
  - 2 weeks
  - Lectures, Hands-on course work: Data retrieval exercises, Codes demonstration, XUNDL datasets, ENSDF mass chain
  - Confirmed lecturers: A. Macchiaveli, S. Lenzi, P. van Isacker
  - Tentative: day trip to Laboratori Nazionali di Legnaro

Training cont'd

- Specialized/Advanced Workshop for NSDD Evaluators, IAEA, 2018
  - 2.5 days: back-to-back with ENSDF Codes Meeting
  - Hands-on approach
  - ENSDF policies/procedures, codes and physics issues

Technical Support

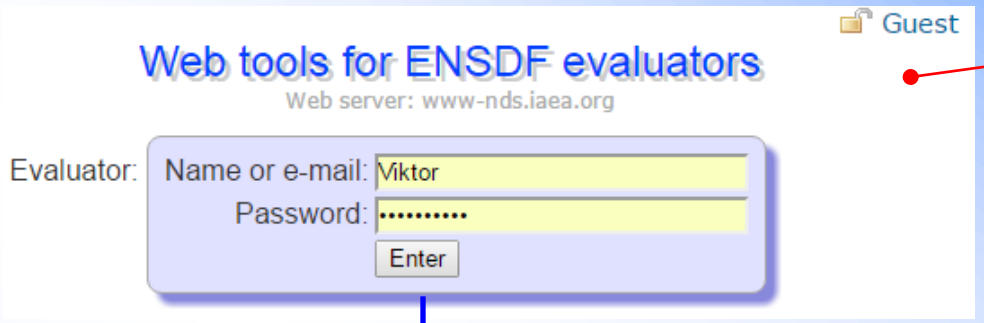
- ENSDF codes, editor, web tools
  - Dissemination (ensure all codes are running on all platforms)
  - Editor: tree-graph editor by V. Zerkin (re-design phase)
  - MyEnsdf Web tool by V. Zerkin
  - PANDORA - J.Tuli and V. Zerkin: include band information in report file - already in MyEnsdf

    Viktor is preparing software package for

    Windows, Linux, MAC OS

Access to full EXFOR-NSR PDF Database

http://www-nds.iaea.org/exfor/myensdf.htm



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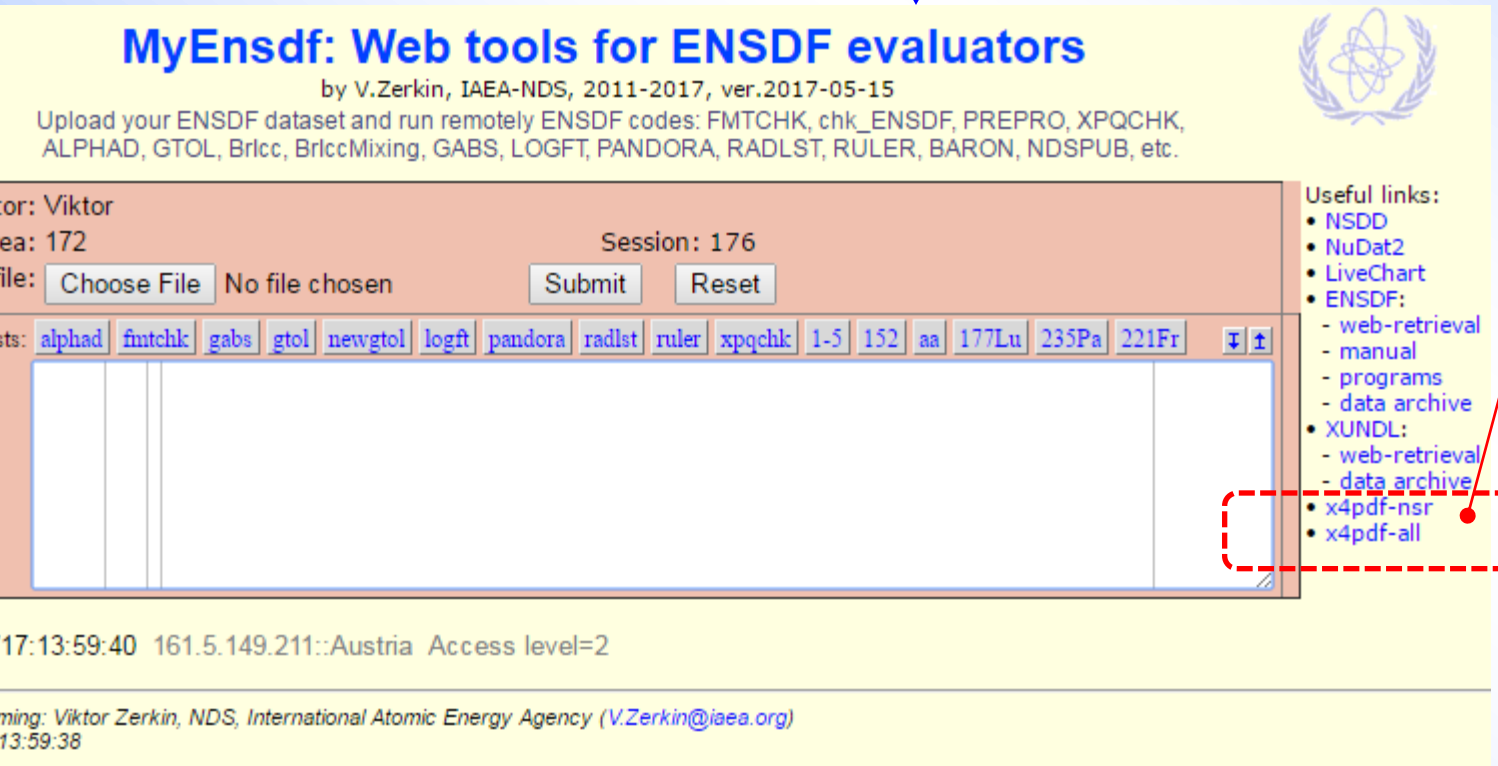


2) Go to PDF database:
- NSR PDF database
- Joined EXFOR-NSR database

X4-NSR PDF collection.

Database updated: 2017-10-25. Files: 121796 from 2000-04-19 to 2017-10-23.

-	-	-	-	-	-	1896:3	-	1898:4	1899:1	[1890-1899]:8
1910:4	1911:2	1912:1	-	-	-	-	-	1918:2	1919:1	[1910-1919]:10
1920:2	1921:2	-	-	1924:1	-	-	-	1928:4	1929:4	[1920-1929]:13
1930:2	1931:3	1932:5	1933:2	1934:4	1935:20	1936:18	1937:31	1938:29	1939:58	[1930-1939]:172
1940:52	1941:40	1942:18	1943:14	1944:19	1945:24	1946:78	1947:152	1948:161	1949:287	[1940-1949]:845
1950:397	1951:428	1952:387	1953:493	1954:561	1955:621	1956:681	1957:699	1958:958	1959:917	[1950-1959]:6142
1960:1034	1961:1046	1962:1251	1963:1576	1964:1424	1965:1647	1966:1787	1967:1366	1968:1447	1969:2314	[1960-1969]:14892
1970:2714	1971:2865	1972:3257	1973:3323	1974:2898	1975:2541	1976:2533	1977:2446	1978:2414	1979:2167	[1970-1979]:27158
1980:1973	1981:1986	1982:1993	1983:2039	1984:2119	1985:1943	1986:1871	1987:1965	1988:1509	1989:1669	[1980-1989]:19067
1990:1531	1991:1257	1992:1326	1993:1640	1994:1549	1995:2157	1996:2057	1997:2140	1998:2210	1999:2406	[1990-1999]:18273
2000:2565	2001:1818	2002:1949	2003:1857	2004:2339	2005:2423	2006:2518	2007:3040	2008:2152	2009:1943	[2000-2009]:22604
2010:1917	2011:2142	2012:2086	2013:1927	2014:1758	2015:1725	2016:792	2017:265			[2010-2017]:12612

Years: 101 Publications: 121796

Full volumes: [conferences and books] [theses] [reports]

Contributions:

1) 201200_Totans /3610/
2) 201300_Totans /991/
3) 201400_Totans /549/
4) 201500_Totans /622/
5) 201510_Balraj /260/
6) 201510_Rodionov /2470/
7) 201512_Audi /2609/
8) 201600_Totans /2050/
9) 201603_Rodionov /295/
10) 201603_Shulyak /13425/
11) 201604_Kondev /1098/
12) 201611_PNPI /31657/
13) 201701_Totans /275/
14) 201702_Totans /176/
15) 201703_PNPI /11151/
16) 201703_Shulyak /303/
17) 201703_Totans /370/
18) 201704_Totans /116/
19) 201704_Zerkin /132/
20) 201705_Kondev /44/
21) 201705_Totans /820/
22) 201705_Zerkin /31/
23) 201706_Totans /1/
24) 201708_Totans /175/
25) 201709_Pritychenko /1208/
26) 201710_PNPI /18736/
27) 201710_Totans /175/
28) 201710_Zerkin /74/

Sum: /93423/

Contributors:

1	PNPI	61544	65.9%
2	Shulyak	13728	14.7%
3	Totans	9930	10.7%
4	Rodionov	2765	2.96%
5	Audi	2609	2.8%
6	Pritychenko	1208	1.3%
7	Kondev	1142	1.23%
8	Balraj	260	0.28%
9	Zerkin	237	0.26%
	Total	93423	

PDF Statistics:

DB	*#PDF/References*	*#PDF+*	*Total #PDF*
NSR:	93379/225841 ~42%	+7419 from EXFOR	100798
EXFOR:	21913/30804 ~72%	+689 from NSR	22602

Myensdf Webtool

IAEA 60 Years Atoms for Peace and Development

...End of work: after you finished, please, remove your files and close this project → clean

Running utility codes Files frame ☑

Programs, parameters, run, results Timeout: 600 sec

Checking and utility codes

(1) FMTCHK Checking ENSDF format /10.4, 10-May-2017/

(2) chk_ENSDF Total ENSDF checker /v-0.4.7, 10-Apr-2014/

PNPI checking codes (see [page])

(3) chk_PARENT Checking PARENT-records in DECAY datasets /24-Jan-2009/

(4) chk_brackets Pair brackets checker from ENSDF-format files /20-Apr-2012/

(5) sPREPRO 'some' preprocessing /2014/

(6) XPQCHK checks consistency of quantities given on p-card /2014/

(7) ENSDF_to_XML converts file ENSDF to XML /G.Shulyak, PNPI, Nov-2016/

Analysis codes

(8) ALPHAD Alpha Hinderance Factor Program (AHF, AHFYE, ALPHAD) /v-2.0a, 06-Nov-2006/

(9) ALPHAD_RADD Alpha Hinderance Factor Program (AHF, AHFYE, ALPHAD) /v-2.0a + RaddD:16-Aug-2016/

(10) BrIcc calculates conversion coefficients and E0 electronic factors /v2.3b, 16-Dec-2014/

(11) BrIccMixing calculates Mixing Ratio (MR) and Normalization Factor (R) /v2.3b, 16-Dec-2014/

(12) GABS Gamma-ray absolute intensity and normalization calculation /v-11c, 08-Jan-2017/

(13) GTOL Determines level energies from a least-squares fit to Ey's & feedings /v-7.2h, 24-May-2013/

(14) LOGFT Calculates log ft for beta decay /v-7.2, 7-Feb-2001/

(15) PANDORA Checks physics of ENSDF files /v-7.1c, 12-Oct-2017/

(16) RADLST calculates the nuclear and atomic radiations associated with the radioactive decay /v-5.5, 05-Oct-1988/

(17) RULER Calculates reduced transition probabilities /v-3.2d, 20-Jan-2009/

Other evaluation tools/codes

(18) BARON calculates model parameters for nuclear rotation bands /v1.0, 23-Jun-2014/

Publication tools

(19) Upload your ENSDF file to working database /Sept. 2014/

(20) NDSPUB ENSDF publication program /v-12.26b, 15-Jul-2008/

Save your files

(21) ZIP Put all your files into ZIP archive /2015/

Your Files [refresh] Sort by: [name] [extension] [length] [time]

×	a174.ens-00	931,501	2017/10/27 14:31:44
×	a174.ens	931,500	2017/10/27 14:31:44
×	a174.ens.html	7,430,194	2017/10/27 14:31:34
×	a174.ens.pandora	921,618	2017/10/25 17:35:02
×	a174.ens.pandora.err	0	2017/10/25 17:35:01
×	a174.ens.pandora.err0	7,799	2017/10/25 17:35:02
×	a174.ens.pandora.gam	541,242	2017/10/25 17:35:02
×	a174.ens.pandora.gle	485,144	2017/10/25 17:35:02
×	a174.ens.pandora.inp	39	2017/10/25 17:35:01
×	a174.ens.pandora.lev	391,577	2017/10/25 17:35:02
×	a174.ens.pandora.rad	6,627	2017/10/25 17:35:02
×	a174.ens.pandora.rep	196,831	2017/10/25 17:35:02
×	a174.ens.pandora.tt	17,923	2017/10/25 17:35:02
×	a174.ens.pandora.xrf	80,522	2017/10/25 17:35:02
×	a174.txt	0	2017/10/25 17:36:19

Total files: 15, length: 11942517 (byte)

Note. Codes are updated on requests of developers, NSDD members or twice a year.

List of Datasets and Nuclides

List of NSR-References Show: ☑ DOI ☐ Authors ☐ Title

Myensdf cont'd

⊟ List of Datasets and Nuclides

#	Mass	NucID	R	DSID	DSType	nRec	nLines	nLevels	γ's	DS	Nuclide
1	174	174		COMMENTS	COMMENTS	14	39			ds ds+	1) nuc nuc+ 174
2	174	174		REFERENCES	REFERENCES	249	249			ds ds+	
3	174	174DY		COMMENTS	COMMENTS	11	15			ds ds+	2) nuc nuc+ 174DY
4	174	174DY		ADOPTED LEVELS	ADOPTED	7	32	1		ds ds+	
5	174	174HO		COMMENTS	COMMENTS	11	15			ds ds+	3) nuc nuc+ 174HO
6	174	174HO		ADOPTED LEVELS	ADOPTED	6	36	1		ds ds+	
7	174	174ER		ADOPTED LEVELS	ADOPTED	6	13	1		ds ds+	4) nuc nuc+ 174ER
8	174	174TM		ADOPTED LEVELS, GAMMAS	ADOPTED	15	52	8	11	ds ds+	5) nuc nuc+ 174TM
9	174	174TM	A	174ER B- DECAY	DECAY	19	65	8	11	ds ds+	
10	174	174YB		ADOPTED LEVELS, GAMMAS	ADOPTED	260	1004	204	226	ds ds+	6) nuc nuc+ 174YB
11	174	174YB	F	174TM B- DECAY	DECAY	39	165	20	43	ds ds+	
12	174	174YB	G	174LU EC DECAY (3.31 Y)	DECAY	18	92	4	5	ds ds+	
13	174	174YB	H	174LU EC DECAY (142 D)	DECAY	19	78	6	7	ds ds+	
14	174	174YB	Q	172YB(T,P) E=15 MEV	REACTION	23	30	16		ds ds+	
15	174	174YB	A	173YB(N,G) E=THERMAL	REACTION	272	662	134	374	ds ds+	
16	174	174YB	D	173YB(N,G) E=4.51-307.1 EV	REACTION	43	81	29	27	ds ds+	
17	174	174YB	C	173YB(N,G) E=4.53 EV	REACTION	44	110	21	45	ds ds+	
18	174	174YB	B	173YB(N,G) E=2 KEV	REACTION	121	268	99	121	ds ds+	
19	174	174YB	N	173YB(D,P),(D,PG)	REACTION	45	75	28	5	ds ds+	
20	174	174YB		174YB(G,G): MOSSBAUER	REACTION	6	11	2	1	ds ds+	
21	174	174YB	P	174YB(G,G')	REACTION	36	93	23	42	ds ds+	
22	174	174YB	O	174YB(E,E), (E,E')	REACTION	9	13	3		ds ds+	
23	174	174YB		174YB(MU-,G)	REACTION	4	6			ds ds+	
24	174	174YB	E	174YB(N,N'G)	REACTION	66	154	43	73	ds ds+	
25	174	174YB	L	174YB(P,P), (P,P')	REACTION	11	16	4		ds ds+	
26	174	174YB	M	174YB(POL P,P), (POL P,P')	REACTION	10	15	4		ds ds+	
27	174	174YB	J	174YB(D,D')	REACTION	24	33	14		ds ds+	
28	174	174YB	I	COULOMB EXCITATION	REACTION	34	87	15	15	ds ds+	
29	174	174YB	R	175LU(T,A)	REACTION	52	57	41		ds ds+	
30	174	174YB	K	176YB(P,T) E=19 MEV	REACTION	54	71	42		ds ds+	
31	174	174YB		181TA(P,4P4N)	REACTION	5	7			ds ds+	
32	174	174LU		ADOPTED LEVELS, GAMMAS	ADOPTED	213	739	169	144	ds ds+	7) nuc nuc+ 174LU
33	174	174LU	C	174LU IT DECAY (142 D)	DECAY	20	84	4	5	ds ds+	
34	174	174LU	E	174LU IT DECAY (395 NS)	DECAY	16	25	4	5	ds ds+	
35	174	174LU	D	174LU IT DECAY (145 NS)	DECAY	20	37	7	11	ds ds+	
36	174	174LU	B	170ER(7LI,3NG)	REACTION	99	235	73	108	ds ds+	
37	174	174LU	F	173YB(A,T),(3HE,D)	REACTION	105	138	78		ds ds+	
38	174	174LU	H	175LU(D,T)	REACTION	71	111	53		ds ds+	
39	174	174LU	G	175LU(3HE,A)	REACTION	50	79	35		ds ds+	

Myensdf cont'd

IAEA 60 Years Atoms for Peace and Development

List of NSR-References Show: ☑ DOI ☐ Authors ☐ Title

#	NSR	Author-1	Reference	DOI
1	1958CH36 pdf	E.L.Chupp	Phys.Rev. 112, 518 (1958)	10.1103/PhysRev.112.518
2	1959DI44 pdf	L.T.Dillman	Phys.Rev. 113, 635 (1959)	10.1103/PhysRev.113.635
3	1959RI34 pdf	W.Riezler	Z.Naturforsch. 14a, 196 (1959)	
4	1960EL07 pdf	B.Elbek	Nuclear Phys. 19, 523 (1960)	10.1016/0029-5582(60)90262-5
5	1960FA03 pdf	K.T.Faler	Phys.Rev. 118, 265 (1960)	10.1103/PhysRev.118.265
6	1960HA18 pdf	B.Harmatz	Phys.Rev. 119, 1345 (1960)	10.1103/PhysRev.119.1345
7	1960RO14 pdf	V.A.Romanov	Zhur.Eksptl.i Teoret.Fiz. 38, 1019 (1960); Soviet Phys.JETP 11, 733 (1960)	
8	1960WI03 pdf	R.G.Wilson	Phys.Rev. 117, 517 (1960)	10.1103/PhysRev.117.517
9	1960WI10 pdf	R.G.Wille	Phys.Rev. 118, 242 (1960)	10.1103/PhysRev.118.242
10	1961BU13 pdf	F.D.S.Butement	J.Inorg.Nuclear Chem. 20, 171 (1961)	10.1016/0022-1902(61)80480-6
11	1961MA05 pdf	R.D.Macfarlane	Phys.Rev. 121, 1758 (1961)	10.1103/PhysRev.121.1758
12	1962BI05 pdf	M.Birk	Phys.Rev. 126, 726 (1962)	10.1103/PhysRev.126.726
13	1962BO12 pdf	N.A.Bonner	Phys.Rev. 127, 217 (1962)	10.1103/PhysRev.127.217
14	1962DZ07	B.S.Dzhelepov	Izv.Akad.Nauk SSSR, Ser.Fiz.26, 1154 (1962); Bull.Acad.Sci.USSR, Phys.Ser.26, 1166 (1963)	
15	1962PR02 pdf	H.J.Prask	Nuclear Phys. 29, 100 (1962)	10.1016/0029-5582(62)90169-4
16	1963BA28	V.A.Balalaev	Izv.Akad.Nauk SSSR, Ser.Fiz. 27, 200 (1963); Bull.Acad.Sci. USSR, Phys.Ser. 27, 210 (1964)	
17	1963BJ04 pdf	J.Bjerregaard	Nucl.Phys. 44, 280 (1963)	10.1016/0029-5582(63)90026-9
18	1963HA39 pdf	G.B.Hansen	Nucl.Phys. 47, 529 (1963)	10.1016/0029-5582(63)90902-7
19	1964BA25 pdf	V.A.Balalaev	Zh. Eksperim. i Teor. Fiz. 46, 1478 (1964); Soviet Phys. JETP 19, 998(1964)	
20	1964DE07 pdf	J.de Boer	Phys.Rev. 134, B1032 (1964)	10.1103/PhysRev.134.B1032
21	1964KA15 pdf	J.Kantele	Phys.Letters 11, 59 (1964)	10.1016/0031-9163(64)90258-6
22	1964KA16 pdf	J.Kantele	Ann.Acad.Sci.Fennicae Ser. A VI, No.162 (1964)	
23	1964OR01	C.J.Orth	Bull.Am.Phys.Soc. 9, No.4, 498, KA13 (1964)	
24	1964SA22	A.Santoni	Phys.Nucl.Annuaire 1962-1963, Faculte Sci.L'Univ.Paris Inst.Rad. p.41(January 1964)	
25	1965AB02 pdf	H.Abou-Leila	Arkiv Fysik 29, 53 (1965)	
26	1965DE25 pdf	I.Demeter	Phys.Letters 19, 47 (1965)	10.1016/0031-9163(65)90958-3
27	1965FU01 pdf	L.Funke	Nucl.Phys. 61, 465 (1965)	10.1016/0029-5582(65)90105-7
28	1965RI05	R.A.Ricci	Nuovo Cimento 36, 1398 (1965)	
29	1965ST03 pdf	F.S.Stephens	Nucl.Phys. 63, 82 (1965)	10.1016/0029-5582(65)90854-0
30	1966BU16	D.G.Burke	Kgl.Danske Videnskab.Selskab., Mat.-Fys.Medd. 35, No.2 (1966)	
31	1966DE22	I.Demeter	Yadern.Fiz. 4, 231 (1966); Soviet J.Nucl.Phys. 4, 167 (1967)	
32	1966EC04 pdf	J.Eck	Phys.Rev.Letters 17, 120 (1966)	10.1103/PhysRevLett.17.120
33	1966EL07 pdf	B.Elbek	Nucl.Phys. 86, 385 (1966)	10.1016/0029-5582(66)90546-3
34	1966FU03 pdf	E.G.Funk	Phys.Rev. 141, 1200 (1966)	10.1103/PhysRev.141.1200
35	1966GR04 pdf	R.Graetzer	Nucl.Phys. 76, 1 (1966)	10.1016/0029-5582(66)90956-4

Dissemination tools

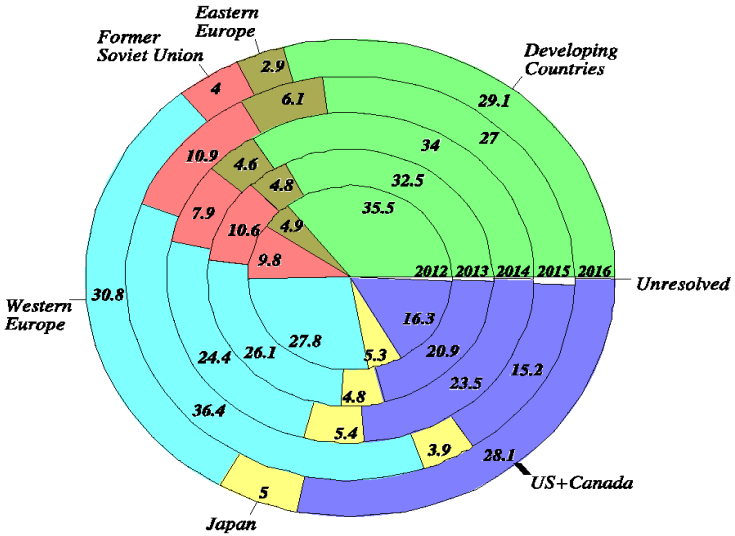
- Live Chart (M. Verpelli) 
  - New 2017 masses correctly inserted with proper treatment/calculation of uncertainties
  - New code to calculate atomic radiation data (using EADL database): currently in test mode

- Isotope Browser (M. Verpelli)
  - Translated in 5 UN official languages (french, spanish, chinese, arabic, russian) + italian, slovenian, traditional chinese

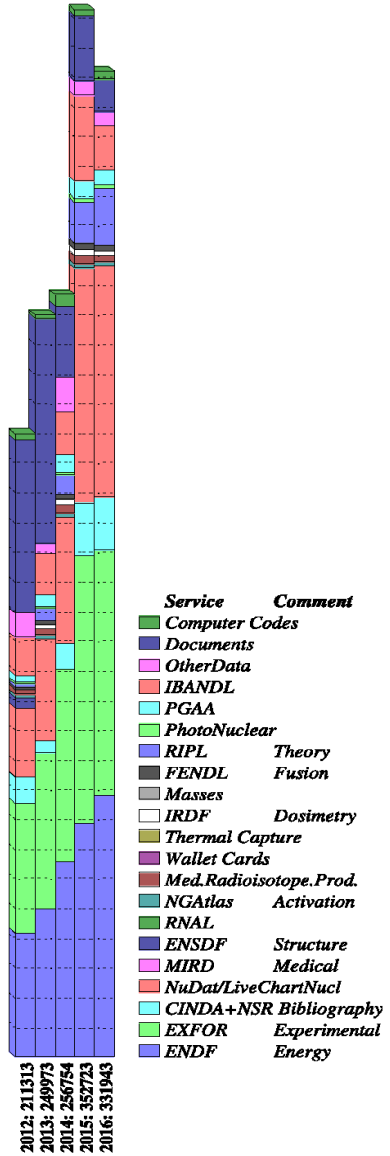
Statistics

IAEA Nuclear Data Services Web Statistics
2012-2016

Geographical Distribution (%)



Total per Year*
(Number of accesses + retrievals)
*2012: 9 Months
*2013: 11 Month



Average per Month
(Number of accesses + retrievals)
*2012: 9 Months
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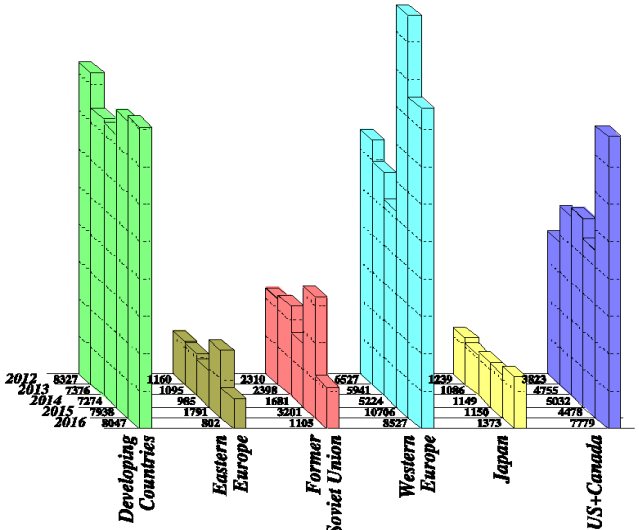


Financial support

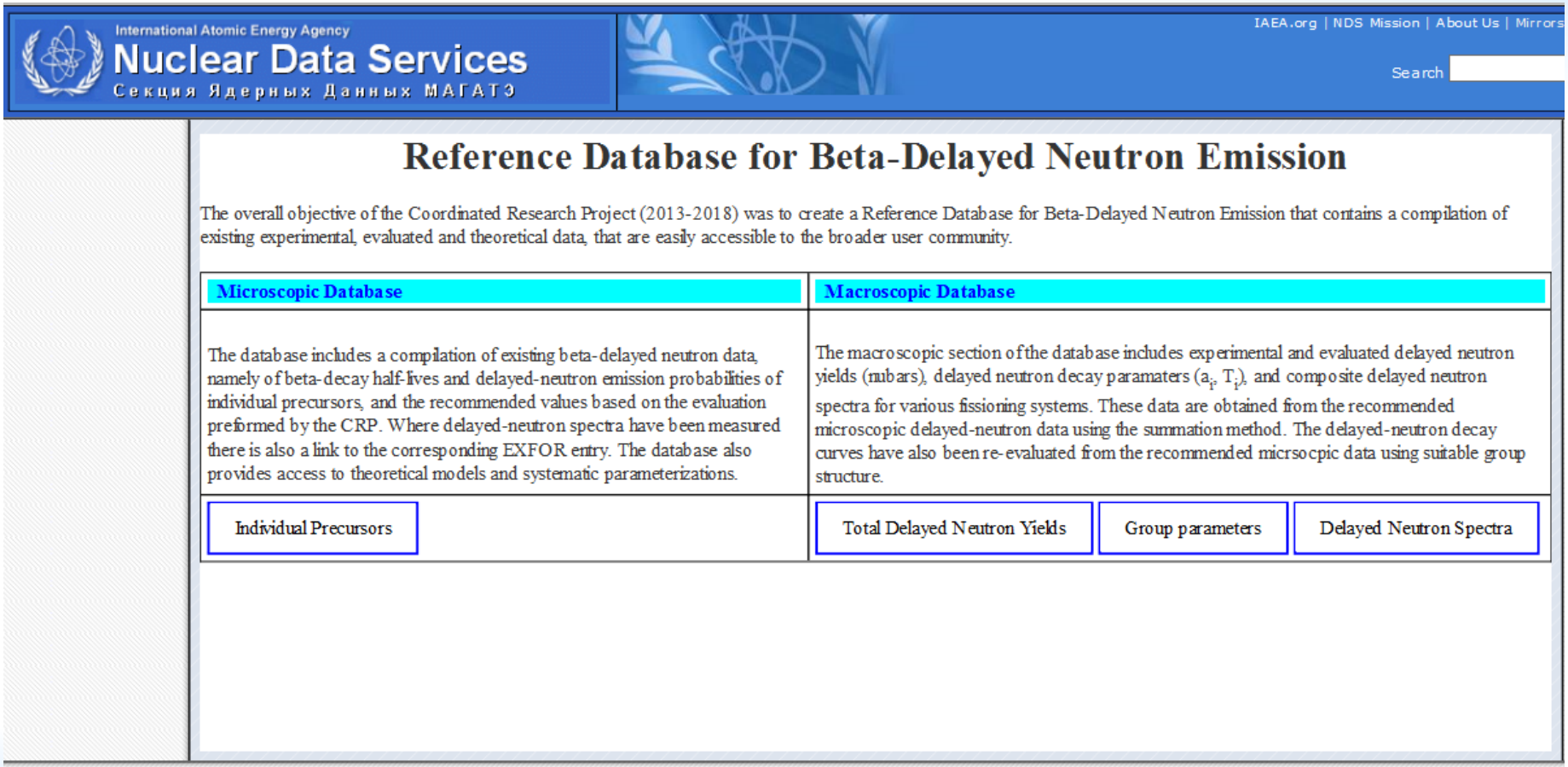
- Mass chain evaluations:
  - *Pascu (ROM): new in 2017*
  - Abusaleem (JOR): ended in 2016
  - Dhindsa (IND) : ended in 2016
  - Lalkovski (BUL): ended in 2014
  - Erturk (TUR): ended in 2014
  - Timar (HUN): ended in 2014
  - Negret (ROM): ended in 2013

- Horizontal evaluations:
  - Singh (2016-2017): beta-delayed neutron $T_{1/2}$ and P_n for Z>28
  - Stone (2017-): Tables of Evaluated Nuclear Moments

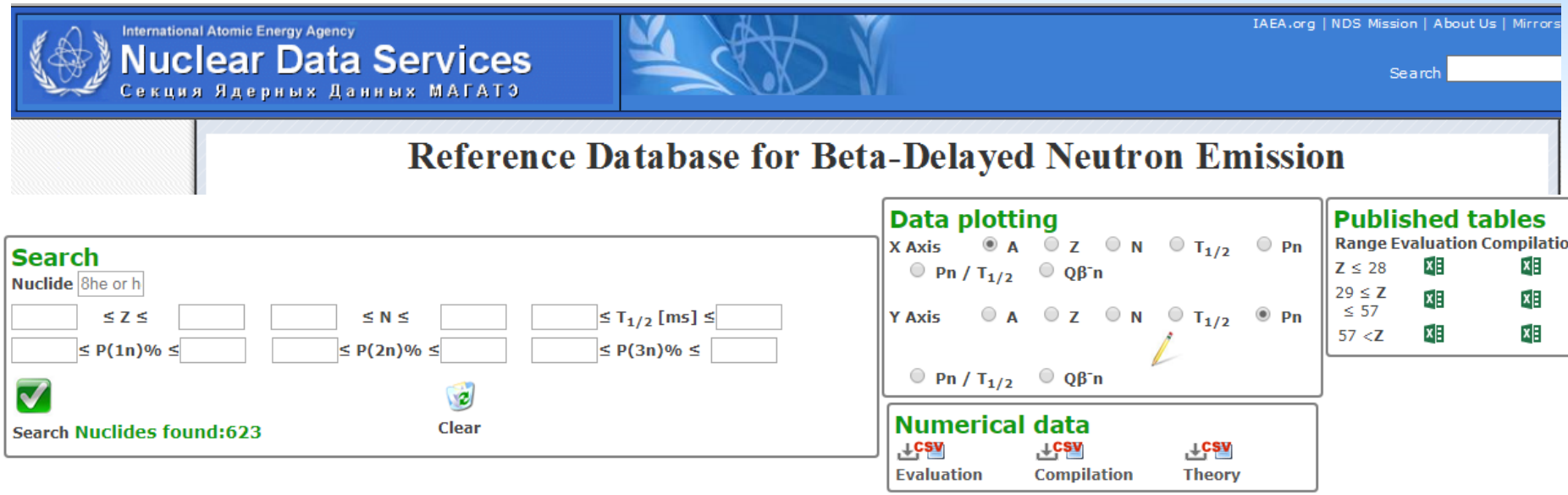
Coordinated Research Projects

- Reference database for Beta-delayed neutrons (2013-2018)
  - 3rd RCM: 12-16 June 2017; INDC(NDS)-0735
  - Z>28: evaluation completed; final checks before submitting for publication; new systematics in progress
  - Benchmarking of new evaluated tables: in progress
  - Re-evaluation of 6- and 8-group constants from new pn tables
  - Final CRP publication: Nuclear Data Sheets

New database



New database



Click a label to show/hide table columns Legend & References

✓Compilations ✓Comments

Systematics

Theory ✓Moeller et al. 03 ✓Marketin et al. 16

Recommended values

Nuclide	Jⁿ	$T_{1/2}$	%P(1n)	%P(2n)	%P(3n)	Pn	# of neutrons per decay	Reference	Qβ⁻ n	Qβ⁻ 2n	Qβ⁻ 3n
$^{8}_{2}He_{6}$		119.4(15) ms	16 (1)	–	–	0.16	0.16	2015BI05	8631.260(90)	1380.168(89)	
$^{9}_{3}Li^{*}_{6}$		178.2(4) ms	50.5 (10)			0.505	0.505	2015BI05	11941.91(19)		
$^{11}_{3}Li_{8}$		8.58(32) ms	86.6 (13)	4.2 (4)	1.9 (2)	0.927	1.007	2015BI05	20049.45(62)	13237.17(62)	11572.63(62)
$^{11}_{4}Be_{7}$		13740(80) ms	–					2015BI05	55.16(45)#		

New database

Draw

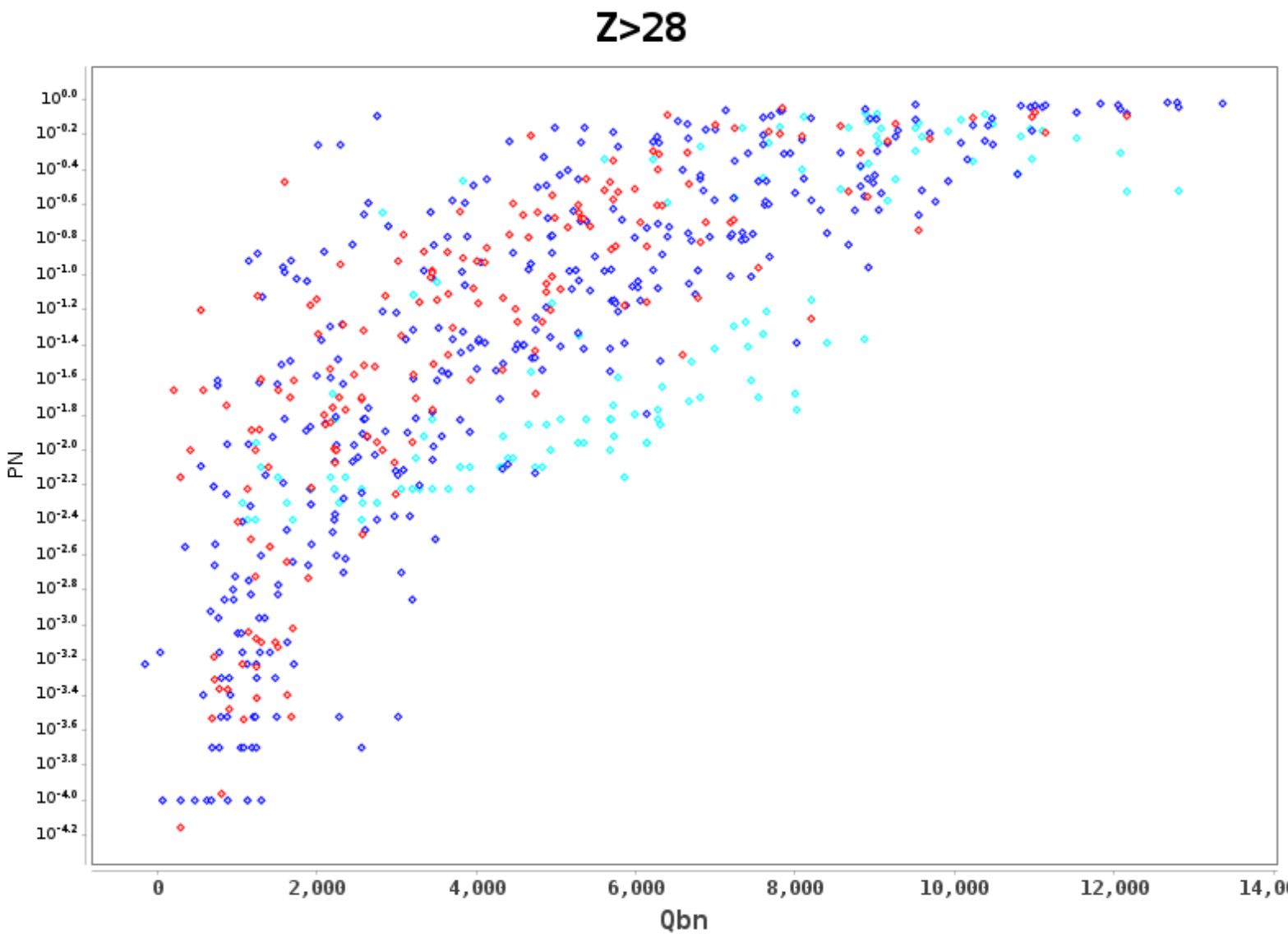
Title Z>28 Labels: x Qbn y

Type
line scatter

Size
w: h:

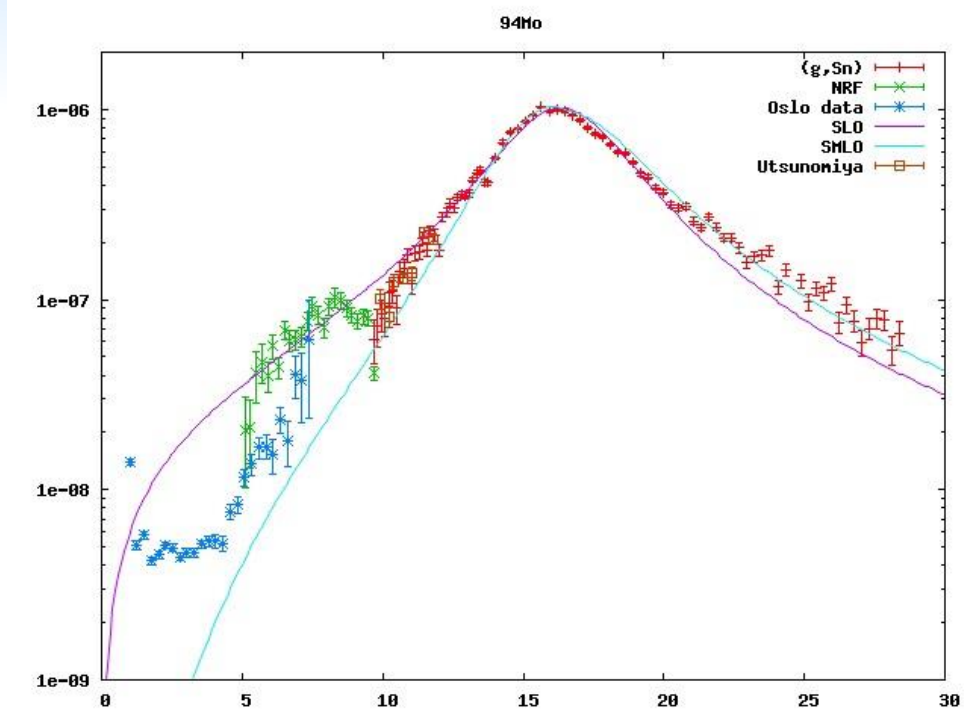
Log Scale
x y

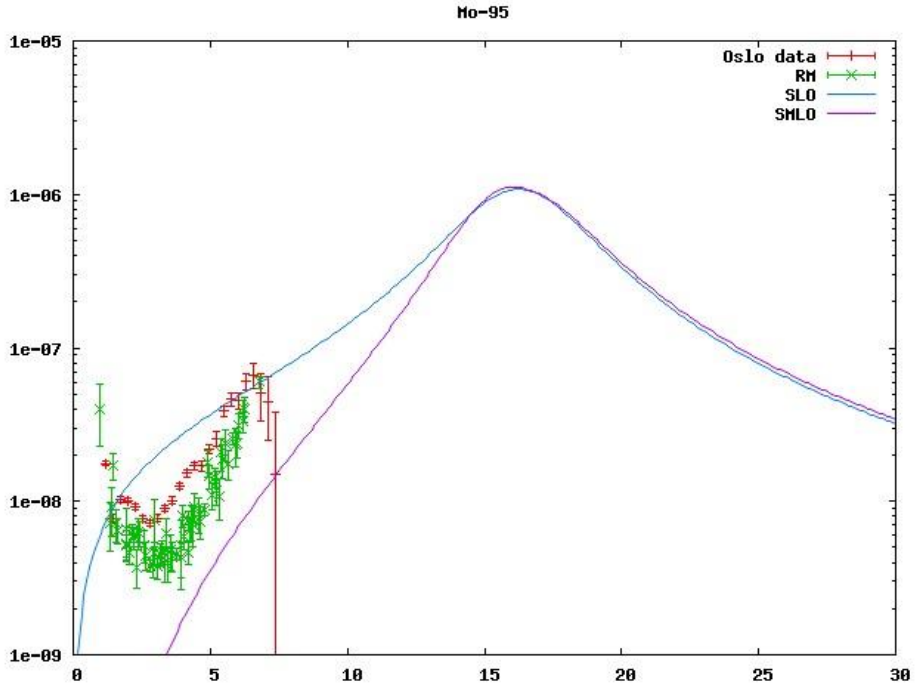
Grids
x y



Coordinated Research Projects (2015-2017)

- Photonuclear Data and Photon Strength Functions (2016-2020)
  - 2nd RCM: 16-20 October 2017; INDC(NDS)-0745
  - New evaluations of photonuclear cross sections
  - New measurements of photoneutron cross sections using direct multiplicity sorting
  - New Atlas of GDR parameters
  - Compilation and assessment of all existing Photon Strength Function data
  - Models (QRPA, empirical)
  - New empirical M1 formula
  - New retrieval interface


94Mo
(g,Sn)
NRF
Oslo data
SLO
SMLO
Utsunomiya
1e-06
1e-07
1e-08
1e-09
0
5
10
15
20
25
30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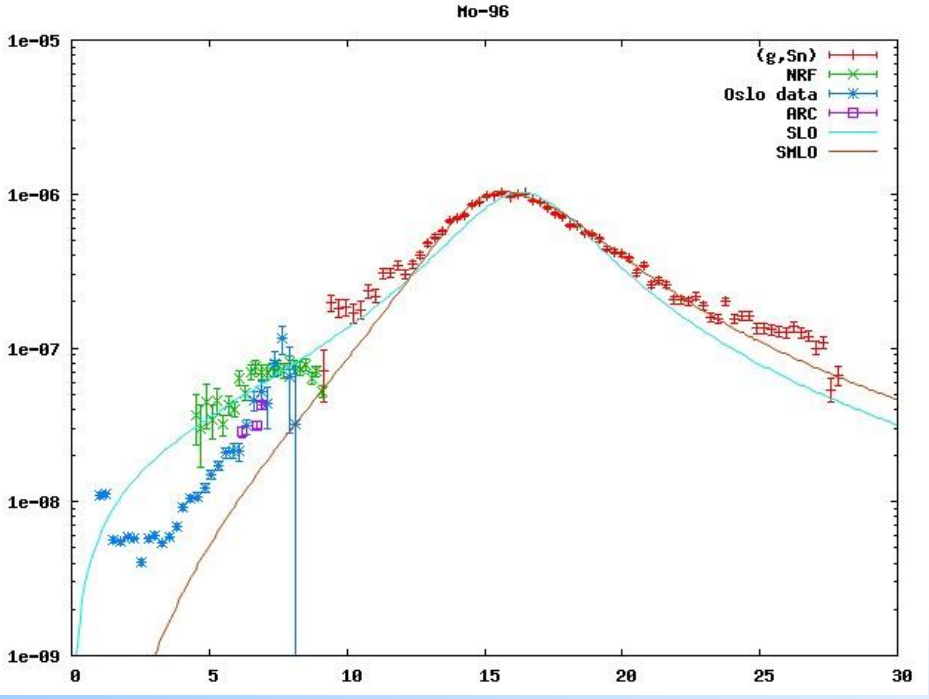
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(g,Sn)
NRF
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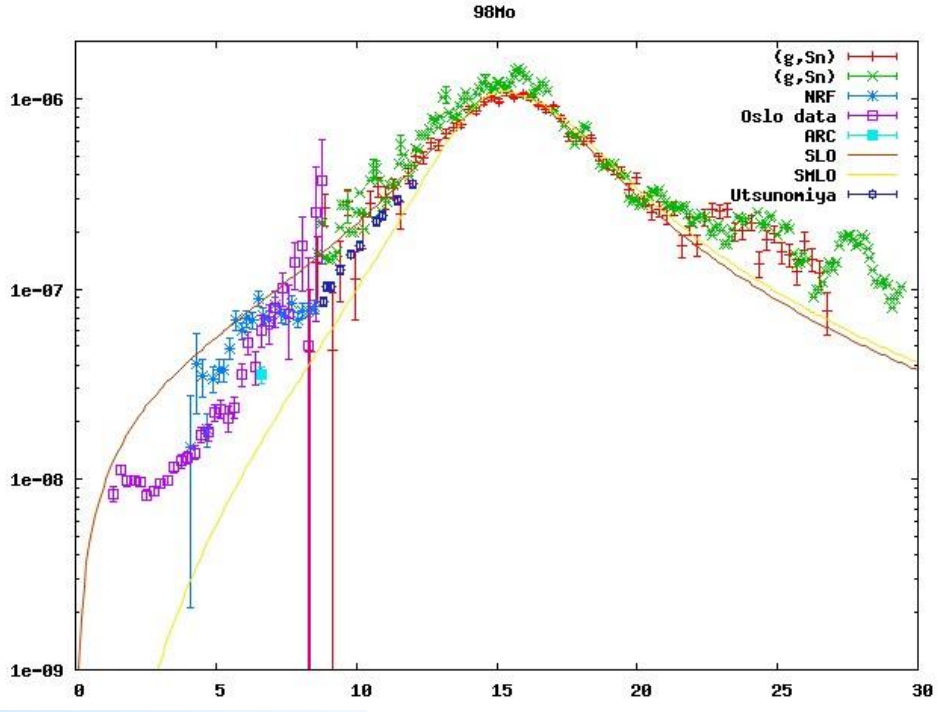
98Mo
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1e-08
1e-09
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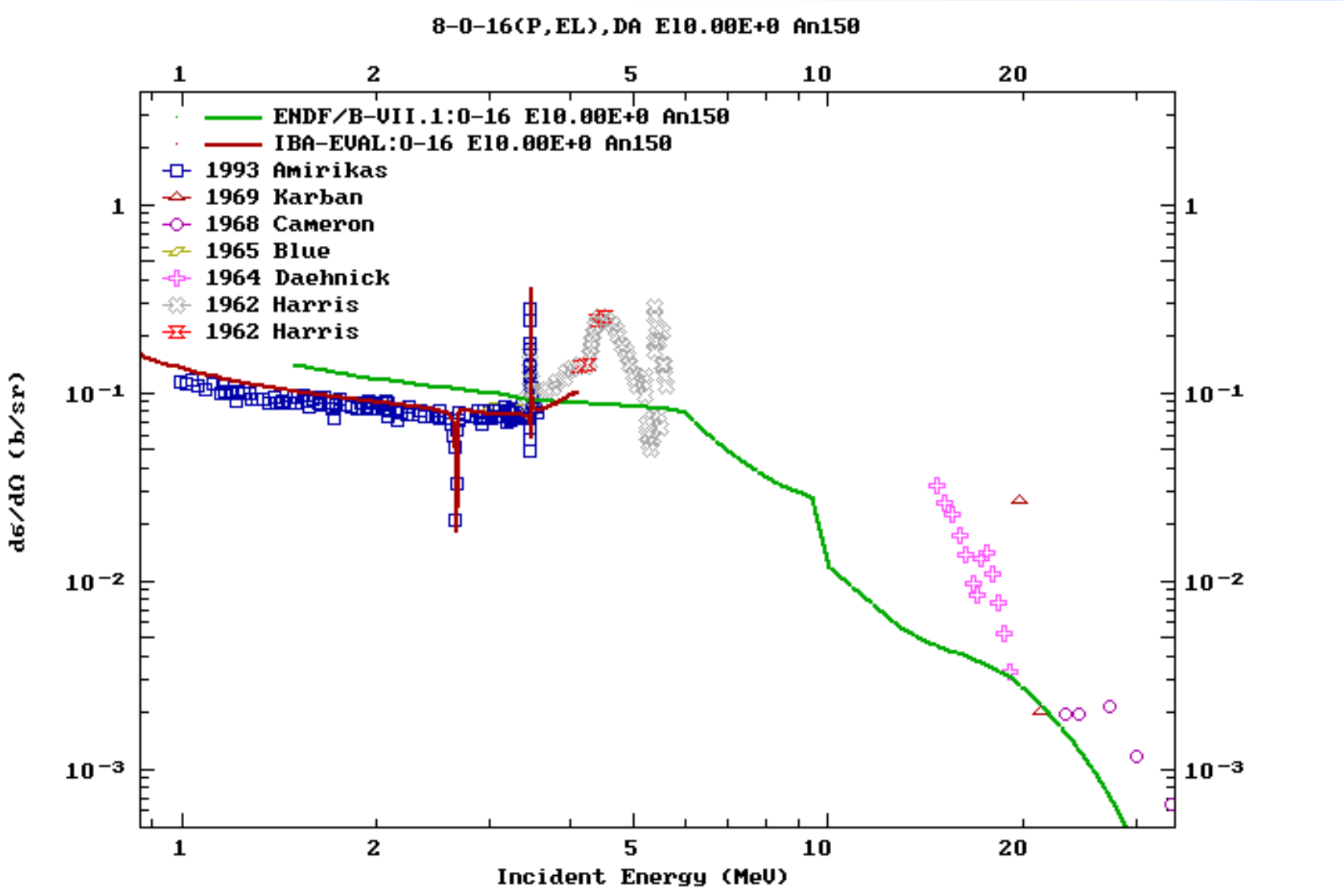
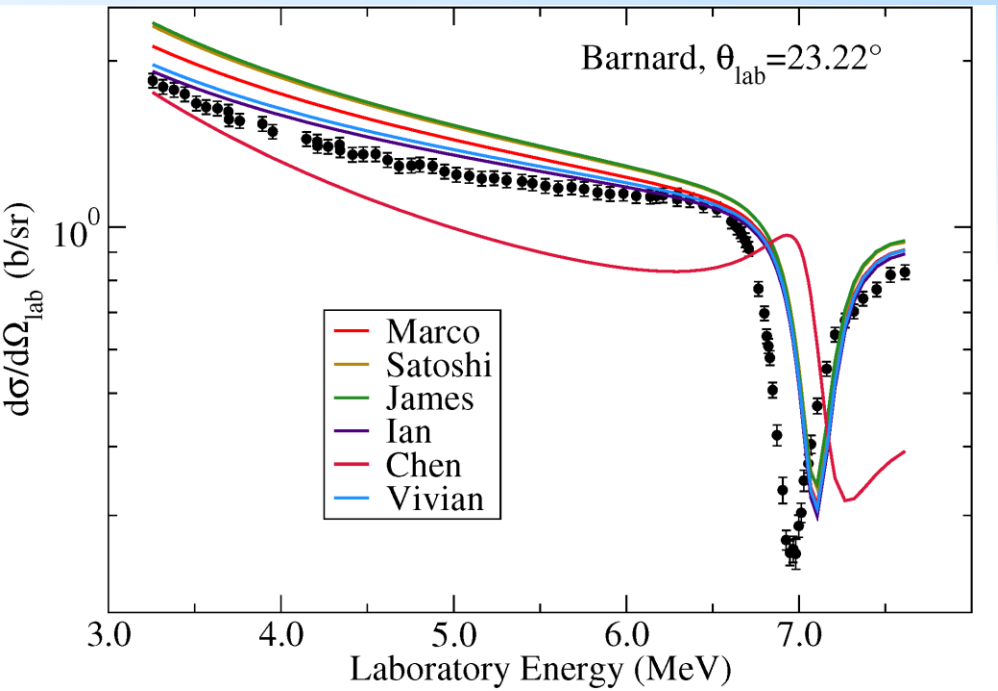
R-matrix codes project

- Series of meetings to address gap in evaluations of charged-particle reactions in the resolved-resonance region
- First step is to compare R-matrix codes and create platform to inter-change input resonance parameters (Ferdinand code)
- Next step is to perform an evaluation (9Be) to compare statistical analysis and treatment of uncertainties
- Final goal: perform evaluations for dissemination in ENDF libraries
- Processing codes
- Participants: AMUR (JAEA), AZURE2 (Notre-Dame), SAMMY (ORNL, IAEA), SFRESCO (LLNL), RAC (Tsinghua Univ.), CECCCO (TUW)

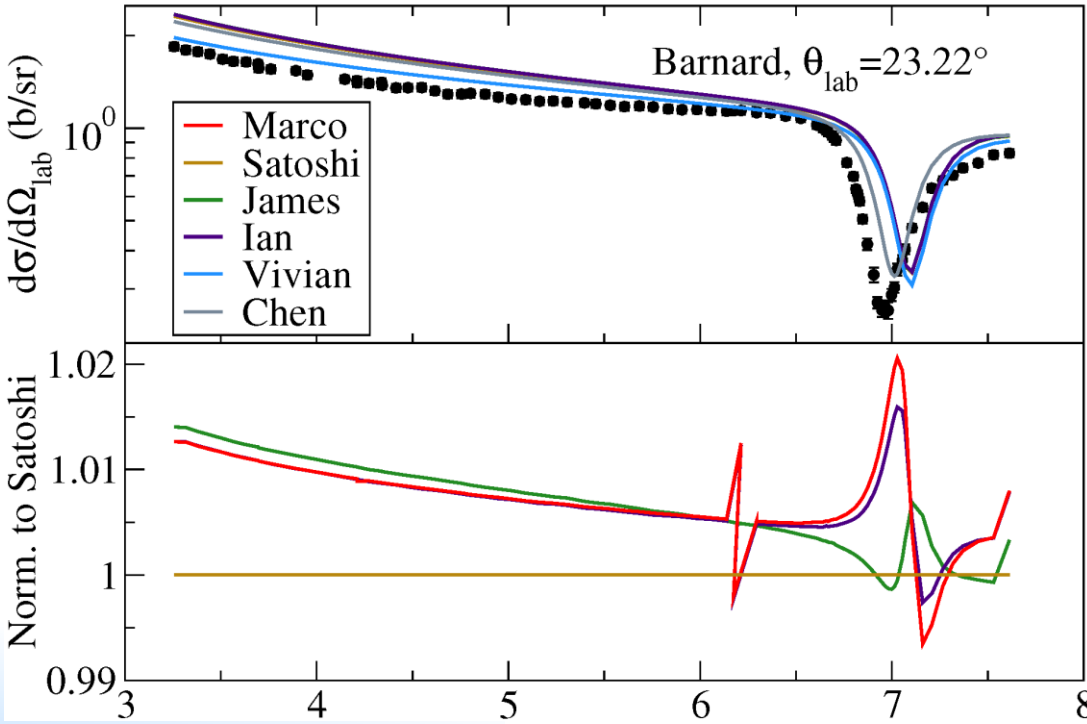
ENDF at present



Comparison



Test 1a



Future Meeting

- CM on Total Absorption Gamma-ray Spectrometry, 19-21 Feb. 2018, IAEA:
  - Update tables of high-priority nuclides for TAGS measurements based on recent comprehensive inventory calculations (UKAEA reports) on a variety of fuel cycles and energies and irradiation times
    - U-235; Pu-238, 240;Am-241; Cm-243; on A. Nichols
    - Others to be assigned
  - Assess impact of new TAGS measurements on decay heat calculations, anti-neutrino spectra and beta-delayed neutron yields
  - Participants: Algora, Tain, Rykaczewski, Kondev, Nichols, Yoshida, Sonzogni, Fallot

IAEA 60 Years
Atoms for Peace and Development

Thank you!