

**EXFOR Completeness for Articles cited in Mughabghab's Atlas (A35-36)**

(N. Otsuka, L. Vrapcenzak, 2014-04-01, Memo 4C-3/395)

**Action 35** from the NRDC 2013 Meeting asks one of us (NO) to formulate completeness checking against the citation lists in Said Mughabghab's "Atlas of Neutron Resonances", and assign responsibility of the checking to NNDC, NEA DB, NDS and CJD.

In order to arrange this checking, all articles related to cross sections or resonance integrals (3144 articles) were extracted from the citation lists of the book except for theses and private communications. Each article was tagged by the area of publication (e.g., PR/C → area 1, NP/A → area 2, YF → area 4) to determine the centre responsible for further checking. The lists for area 1, 2 and 4 were sent to NNDC, NEA DB and CJD on 9 December. **Each centre is asked to check if each article is coded in EXFOR, and to distribute the result in a memo.**

**Action 36** asks Four Neutron Centres to perform completeness checking of the listed articles. For the articles published in area 3,

1. Each article was checked against the NDS EXFOR database, and the article was removed from the list if the article is coded under the keyword REFERENCE of an EXFOR entry.
2. The articles missing in the database were then checked against CINDA. If the article is compiled in CINDA but without the work type code E (Experimental) or M (Experimental plus theoretical), then the article was removed from the list.

Each article survived after the above two steps was tagged by the area of the laboratory to determine the centre responsible for compilation of the article. For articles reporting experiments in Ukraine, related EXFOR entries are also added to show the responsible centre (CJD or UkrNDC).

The result of this analysis is appended to this memo. **Each centre is asked to check if each article must be compiled in a new entry or must be added to an existing entry, and to distribute the result in a memo.** Note that the abstracts and progress reports should *not* be added to the related existing entry if they do not give additional useful information missing in other coded references.

**Coding mistakes errors found during the checking**

- 21027.001: Correct TITLE and AUTHOR as given in the primary reference.
- 30089.001: Check if the author list is correct (1<sup>st</sup> author is Petrascu in Atlas).
- 30487.001: Correct TITLE and AUTHOR as given in the primary reference.
- 30399.001: Correct volume of the RRP article to 23.

**Articles published in area 3 countries and missing in EXFOR**

(NDS, 2014-03-31)

<b>Ref.</b>	<b>Author</b>	<b>Reference</b>	<b>Lab</b>	<b>Centre</b>	<b>Remark</b>	<b>CINDA*</b>
1	Santry	P, INDC (SEC) - 62, 120 (2), 1977	1CANCRC	NNDC		N/A
2	Inghram	C, 55GENEVA, 4, 105, 1955	1USAANL	NNDC		E
3	Kane	C, 69STUDSVIK, , 105, 1969	1USABNL	NNDC		E
4	Chrien	C, 70HELSINKI, 1, 377, 1970	1USABNL	NNDC		E
5	Mughabghab	C, 72BUD, , 214, 1972	1USABNL	NNDC		E
6	Choi	C, 72BUD, , 198, 1972	1USADKE	NNDC		M
7	Bowman	C, 58GENEVA, 15, 212, 1958	1USALRL	NNDC		E
8	Macklin	C, 55GENEVA, 5, 96, 1955	1USAORL	NNDC		E,R
9	Halperin	C, 55GENEVA, 7, 258, 1955	1USAORL	NNDC	Also J, NSE, 1, 108, 1956?	E,R
10	Block	C, 60VIENNA, 535, 1960	1USAORL	NNDC		E,R
11	Musgrove	P, AAEC/PR-43-PD, 39, 1977	1USAORL	NNDC	=P, INDC (AUL) - 27, 39, 1977	N/A
12	Weinstein	C, 69VIENNA, , 477, 1969	1USARPI	NNDC		E
13	Hockenbury	C, 72BUD, , 224, 1972	1USARPI	NNDC		E
14	Roth	J, JRN, 169, 159, 1993	2AUSATI	NEADB		E
15	Schneider	P, INDC (AUS) - 6, 8, 1981	2AUSATI	NEADB		E
16	Simonits	J, JRC, 82, 169, 1984	2BLGGHT	NEADB		N/A
17	Letourneau	C, 2002PRUHON, 734, 2002	2FR ILL	NEADB		N/A
18	Blons	C, 65SALZBURG, 1, 205, 1965	2FR SAC	NEADB		E
19	Lucas	C, 77PARIS, , 407, 1977	2FR SAC	NEADB		E
20	Michaelis	C, 69STUDSVIK, , 35, 1969	2GERKFK	NEADB		E
21	Aly	J, RRL, 18, 259, 1974	2GERKLN	NEADB		E
22	Gryntakis	J, JRC, 29, 175, 1976	2GERMUN	NEADB		E,C
23	Gryntakis	J, JRC, 46, 159, 1978	2GERMUN	NEADB		E

24	Albert	J,KE,10,306,1967	2GERZFK	NEADB		E
25	Albert	R,ZFK-RN-23,1964	2GERZFK?		To be assessed at NDS	?
26	Alexander	R,ZFK-RN-23,1964	2GERZFK?		To be assessed at NDS	?
27	Huttel	R,ZFK-RN-23,1964	2GERZFK?		To be assessed at NDS	?
28	Ohno	R,INDSWG-90,2,1965	2JPNJAE	NEADB	Only index is available at NDS.	E
29	Hashimoto	J,JRN,120,185,1988	2JPNKTO	NEADB	Compiled and to be transmitted by NEA DB.	E
30	Alstad	P,INDC(NOR)-1,1(1),1972	2NORJEN	NEADB		E
31	Alstad	P,INDC(NOR)-1,1(2),1972	2NORJEN	NEADB		E
32	Glomset	P,INDC(NOR)-1,3(1),1972	2NORJEN	NEADB		E
33	Rambaeck	P,INDC(SEC)-62,151,1977	2NORJEN	NEADB		N/A
34	Lundberg	C,69STUDSVIK,,667,1969	2SWDFOA	NEADB		E
35	Campbell	C,58GENEVA,16,233,1958	2UK HAR	NEADB		N/A
36	Uttley	C,70HELSINKI,1,191,1970	2UK HAR	NEADB		E
37	Rajput	J,JRN,189,51,1995	2UK IST	NEADB		E
38	Deruytter	C,73ROCH,2,417,1973	2ZZZGEL	NEADB		E
39	Poortmans	R,INDC(CCP)-134,68,1978	2ZZZGEL	NEADB	=J,YK,1978,(3/30),68,1978 (English)	N/A
40	Poortmans	S,INDC(NDS)-129,112,1981	2ZZZGEL	NEADB		N/A
41	Moore	S,INDC(NDS)-129,151,1981	2ZZZGEL	NEADB		N/A
42	Wall	R,AAEC/TM-466,1968	3AULAU	NDS		E
43	Herdade	P,INDC(SEC)-28,34(3),1972	3BZLIEN	NDS	=P,INDC(BZL)-4,21(3),1972	N/A
44	Becvar	R,UJV-1705,1966	3CZRUV?		To be assessed at NDS	E
45	Moens	J,JRC,54,377,1979	3HUNKFI	NDS		N/A
46	Simonits	J,JRC,60,461,1980	3HUNKFI	NDS		N/A
47	Simonits	J,JRC,81,397,1984	3HUNKFI	NDS		N/A
48	de Corte	J,JRN,133,131,1989	3HUNKFI	NDS	Compilation of Q0=I0/sigma0	R
49	Stefanescu	J,RRP,6,311,1961	3RUMPIT	NDS		N/A
50	Thai	R,THAI-AEC-10,1967	3TAITAI	NDS	Add R,INDC(TAI)-001,1967 (alias)	E

51	Prokhorov	R, INDSWG-64, 75, 1964	4RUS?	CJD	No such article exists. Eng.Trans. of ICD-1?	N/A
52	Malinovsky	R, INDC (CCP) -178, 1982	4RUSFEI	CJD		E
53	Ignatiev	R, INDSWG-120, 19, 1965	4RUSITE	CJD		E
54	Spivak	C, 55GENEVA, 5, 172, 1955	4RUSKUR	CJD		E
55	Zamyatnin	C, 70HELSINKI, 2, 183, 1970	4RUSNIR	CJD		E
56	Kuks	R, INDC (CCP) -111, 11, 1978	4RUSRI	CJD		N/A
57	Vertebnyi	R, INDC (CCP) -15, 50, 1971	4UKRIJD	CJD	For addition to 40273? (English)	N/A
58	Vertebnyi	R, INDC (CCP) -7, 40, 1970	4UKRIJD	CJD	For addition to 40052? (English)	E
59	Vertebny	R, INDC (CCP) -30, 60, 1972	4UKRIJD	CJD	For addition to 40127? (English)	N/A
60	Vertebny	R, INDC (CCP) -30, 64, 1972	4UKRIJD	CJD	For addition to 40109? (English)	N/A
61	Vertebny	R, INDC (CCP) -31, 58, 1972	4UKRIJD	CJD	For addition to 40090? (English)	N/A
62	Vertebnyi	R, INDC (CCP) -36, 11, 1974	4UKRIJD	CJD	For addition to 40191? (English)	N/A
63	Popov	C, 2002PRUHON, 264, 2002	4ZZZDUB	CJD		N/A
64	Van Shi-di	C, 65SALZBURG, 1, 287, 1965	4ZZZDUB	CJD		E
65	Becvar	C, 69STUDSVIK, , 651, 1969	4ZZZDUB	CJD		E,M

C: Compilation, E: Experimental, M: Experimental plus theoretical, N/A: not compiled in CINDA

Extraction from “EXFOR, the nuclear physics perspective”,

B. Pritychenko, presented in NRDC 2013.

## Missing Data Strategies

- Volume of missing data is high, therefore, it has to be tackled in small parts to address research interests one by one, from nuclear energy to nuclear astrophysics.
- Broaden EXFOR scope and pick all relevant data.
- We already compiled KaDONiS, Atlas of Neutron Resonances data to ensure complete neutron reactions coverage.
- Why not to check Atlas of Neutron Resonances references against EXFOR; it was partially done for KaDONiS.

