



Agence pour l'énergie nucléaire  
Nuclear Energy Agency



# NEA/DB work for SG30

*IAEA-NDS, Vienna, 10-11 October 2007*

Hans Henriksson, Nicolas Soppera  
OECD/NEA Data Bank

# EXFOR in tabular format

[Tabular data file](#) (all converted data in fixed width columns)

[dataset Index](#) (Summary index of Exfor subworks converted)

## Description of the tabular format:

Column 1: Exfor subwork number

Column 2: Incident energy (eV)

Column 3: Incident energy error (eV)

Column 4: Outgoing energy (eV)

Column 5: Outgoing energy error (eV)

Column 6: Angle (degrees)

Column 7: Angle error (degrees)

Column 8: Cross section (b, b/sr, ...)

Column 9: Cross section error (b, b/sr, ...)

comma (,) separator

Column 10: Target Z

Column 11: Target A

Column 12: Lab code and year of experiment

Flags: (when blank a period is inserted so as to keep it as a continuous string)

Column 13: Conversion flag: Relative cross section (\*)

Column 14: Conversion flag: Cross section ratio (R)

Column 15: Conversion flag: Angle reference frame (Lab=L, Center of mass=C)

Column 16: Conversion flag: Energy is min and max in columns 2,3 (E); Dummy Spectrum Energy (D)

Column 17: Conversion flag: Secondary Energy is min and max in columns 4,5 (E)

Column 18: Conversion flag: Secondary Energy is Energy level (V) or Q-value (Q) or Excitation energy (X)

Column 19: Conversion flag: Not all data columns in EXFOR were converted (\*)

Column 20: R=Reaction

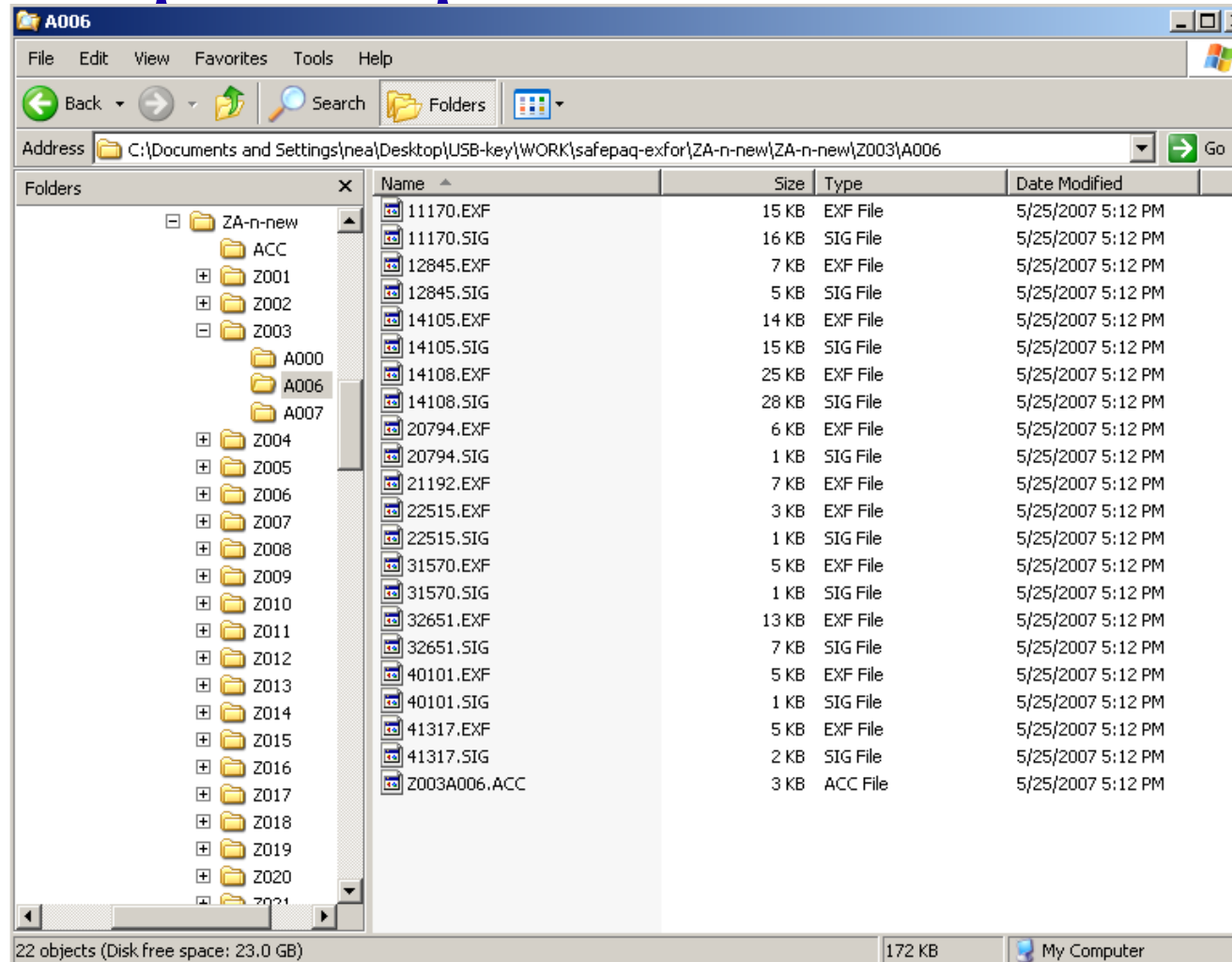
# Reaction to MF-MT

AEN NEA		Agence pour l'énergie nucléaire Nuclear Energy Agency	
<a href="#">Home</a>	<a href="#">About Us</a>	<a href="#">Work Areas</a>	<a href="#">Data Bank</a>
<a href="#">Publications</a>	<a href="#">Press Room</a>	<a href="#">Search</a>	
<b>Table of correspondence between reactions and MF-MT</b>			
<b>General information</b>			
EB6	1 451	(G,-) INFO, 1	{z,....}
EB6	1 452	(N,F) NU	{Z,....}
EB6	1 455	(N,F) NU, DL	{z,....}
EB6	1 456	(N,F) NU, PR	{z,....}
EB6	1 458	(O,F) FPE	{n,....}
EB6	1 460	(N,F) #, DL, G	
<b>Resonance parameter data</b>			
EB6	2 151	(N,O) RES	{n,RES}
<b>Reaction cross sections</b>			
EB6	3 1	(N,TOT) SIG	{n,total}
EB6	3 2	(N,EL) SIG	{z,z0}
EB6	3 3	(N,NONEL) SIG	{z, non-elastic}
EB6	3 4	(N,INL) SIG	{z,n}
EB6	3 5	(N,X) SIG	{z,anything}
EB6	3 6	(N,2N) SIG,L1	{n,2n},L1
EB6	3 7	(N,2N) SIG,L2	{n,2n},L2
EB6	3 8	(N,2N) SIG,L3	{n,2n},L3
EB6	3 9	(N,2N) SIG,L4	{n,2n},L4
EB6	3 10	(N,TOT) SIG,C	{z,continuum}
EB6	3 11	(N,2N+D) SIG	{z,2nd}
EB6	3 16	(N,2N) SIG	{z,2n}
EB6	3 17	(N,3N) SIG	{z,3n}
EB6	3 18	(N,F) SIG	{z,F}

# EXFOR for EASY and EAF

- ✓ Preparation of experimental data for EAF:
  - ✓ EXFOR → sorted on experiment (Work and subwork)
  - ✓ EAF in EASY → sorted on Z and A of target
- ✓ This results in:
  - ✓ A complete list of all (relevant) reactions in EXFOR, and assignment of codes for EAF.
  - ✓ Restructuring of EXFOR where all available data are collected per target: \ZA\Z001\A003 (for  $^3\text{H}$ )
  - ✓ Files with a list of entries are created (e.g. Z001A003.ACC)
  - ✓ EAF data files are stored: 20714.SIG (contains data on  $^3\text{H}$ )
  - ✓ Maintenance to keep track of modifications to EXFOR

# Example of private database



The screenshot shows a Windows Explorer window titled 'A006' with the address bar pointing to 'C:\Documents and Settings\nea\Desktop\USB-key\WORK\safepaq-exfor\ZA-n-new\ZA-n-new\2003\A006'. The left pane shows a folder tree with 'ZA-n-new' expanded to show subfolders 'ACC', '2001', '2002', '2003', 'A000', 'A006', and 'A007'. The right pane displays a list of files with columns for Name, Size, Type, and Date Modified.

Name	Size	Type	Date Modified
11170.EXF	15 KB	EXF File	5/25/2007 5:12 PM
11170.SIG	16 KB	SIG File	5/25/2007 5:12 PM
12845.EXF	7 KB	EXF File	5/25/2007 5:12 PM
12845.SIG	5 KB	SIG File	5/25/2007 5:12 PM
14105.EXF	14 KB	EXF File	5/25/2007 5:12 PM
14105.SIG	15 KB	SIG File	5/25/2007 5:12 PM
14108.EXF	25 KB	EXF File	5/25/2007 5:12 PM
14108.SIG	28 KB	SIG File	5/25/2007 5:12 PM
20794.EXF	6 KB	EXF File	5/25/2007 5:12 PM
20794.SIG	1 KB	SIG File	5/25/2007 5:12 PM
21192.EXF	7 KB	EXF File	5/25/2007 5:12 PM
22515.EXF	3 KB	EXF File	5/25/2007 5:12 PM
22515.SIG	1 KB	SIG File	5/25/2007 5:12 PM
31570.EXF	5 KB	EXF File	5/25/2007 5:12 PM
31570.SIG	1 KB	SIG File	5/25/2007 5:12 PM
32651.EXF	13 KB	EXF File	5/25/2007 5:12 PM
32651.SIG	7 KB	SIG File	5/25/2007 5:12 PM
40101.EXF	5 KB	EXF File	5/25/2007 5:12 PM
40101.SIG	1 KB	SIG File	5/25/2007 5:12 PM
41317.EXF	5 KB	EXF File	5/25/2007 5:12 PM
41317.SIG	2 KB	SIG File	5/25/2007 5:12 PM
Z003A006.ACC	3 KB	ACC File	5/25/2007 5:12 PM

22 objects (Disk free space: 23.0 GB) 172 KB My Computer

# Example of private database (2)

UltraEdit-32 - [C:\Documents and Settings\nea\Desktop\USB-key\WORK\safepaq-exfor\ZA-n-new\ZA-n-new\2003\A006\Z003A006.ACC]

File Edit Search Project View Format Column Macro Advanced Window Help

41317.EXF | 41317.SIG | Z003A006.ACC

11170.002-0	3	6	002	-1.00E+30	1.00E+30	F	ANL64	147	1.0E+06	9.0
12845.002-0	3	6	O42	-1.00E+30	1.00E+30	F	DAV83	46	6.0E+07	6.0
14105.002-0	3	6	NT	-1.00E+30	1.00E+30	F	RPIO6	131	1.1E-01	1.1
14108.004-0	3	6	NT	-1.00E+30	1.00E+30	F	BNLO6	141	1.1E-01	2.1
14108.005-0	3	6	NT	-1.00E+30	1.00E+30	F	BNLO6	111	1.1E-01	3.1
20794.005-0	3	6	NN3	-1.00E+30	1.00E+30	F	ALD69	2	1.4E+07	1.4
21192.002-0	3	6	NT	-1.00E+30	1.00E+30	F	CAD66	8	8.6E+03	9.6
21192.004-0	3	6	NT	-1.00E+30	1.00E+30	F	CAD66	12	1.2E+04	1.3
22515.003-0	3	6	NP	-1.00E+30	1.00E+30	F	ALD63	8	3.5E+06	1.5
31570.002-0	3	6	NG5	-1.00E+30	1.00E+30	F	NSUO6	3	2.5E-02	2.5
31570.003-0	3	6	NG5	-1.00E+30	1.00E+30	F	NSUO6	2	2.5E-02	2.5
32651.002-0	3	6	NT	-1.00E+30	1.00E+30	F	BJGO6	4	1.0E+06	2.2
32651.003-0	3	6	O08	-1.00E+30	1.00E+30	F	BJGO6	15	1.0E+06	1.0
32651.004-0	3	6	O08	-1.00E+30	1.00E+30	F	BJGO6	15	1.5E+06	1.5
32651.005-0	3	6	O08	-1.00E+30	1.00E+30	F	BJGO6	15	2.2E+06	2.2
32651.006-0	3	6	O08	-1.00E+30	1.00E+30	F	BJGO6	16	1.0E+06	2.2
40101.010-0	3	6	O01	-1.00E+30	1.00E+30	F	FEI71	6	4.4E+06	4.4
41317.002-0	3	6	TOT	-1.00E+30	1.00E+30	F	KUR56	19	1.0E+04	4.5

# Example of private database (3)

UltraEdit-32 - [C:\Documents and Settings\nea\Desktop\USB-key\WORK\safepaq-exfor\ZA-n-new\ZA-n-new\2003\A006\41317.SIG]

File Edit Search Project View Format Column Macro Advanced Window Help

41317.EXF 41317.SIG 2003A006.ACC

3	6TOT	KUR5641317002	1.0000E+04	2.0000E+03	2.2000E+00	3.0000E-01
3	6TOT	KUR5641317002	2.0000E+04	4.0000E+03	2.4000E+00	3.0000E-01
3	6TOT	KUR5641317002	5.0000E+04	7.0000E+03	1.4000E+00	3.0000E-01
3	6TOT	KUR5641317002	1.0000E+05	1.1000E+04	1.4000E+00	3.0000E-01
3	6TOT	KUR5641317002	1.5000E+05	1.3000E+04	1.9000E+00	2.0000E-01
3	6TOT	KUR5641317002	1.7500E+05	1.3000E+04	3.1000E+00	3.0000E-01
3	6TOT	KUR5641317002	2.0000E+05	1.3000E+04	4.0000E+00	2.0000E-01
3	6TOT	KUR5641317002	2.2500E+05	1.3000E+04	6.1000E+00	2.0000E-01
3	6TOT	KUR5641317002	2.5000E+05	1.3000E+04	8.5000E+00	2.0000E-01
3	6TOT	KUR5641317002	2.6100E+05	1.3000E+04	9.3000E+00	3.0000E-01
3	6TOT	KUR5641317002	2.6500E+05	1.3000E+04	9.5000E+00	2.0000E-01
3	6TOT	KUR5641317002	2.7200E+05	1.3000E+04	9.3000E+00	2.0000E-01
3	6TOT	KUR5641317002	2.8400E+05	1.3000E+04	8.3000E+00	4.0000E-01
3	6TOT	KUR5641317002	2.9700E+05	1.2000E+04	8.2000E+00	2.0000E-01
3	6TOT	KUR5641317002	3.1900E+05	9.0000E+03	6.2000E+00	2.0000E-01
3	6TOT	KUR5641317002	3.4300E+05	9.0000E+03	5.1000E+00	2.0000E-01
3	6TOT	KUR5641317002	4.0000E+05	9.0000E+03	3.0000E+00	3.0000E-01
3	6TOT	KUR5641317002	4.5000E+05	9.0000E+03	2.6000E+00	3.0000E-01

## For WPEC SG-30: EXFOR compared with evaluations

Test version to  
'automatically'  
(inter)compare  
EXFOR data and  
evaluated data

