



International Atomic Energy Agency

The 8th DAE-BRNS Theme Meeting on

EXFOR Compilation of Nuclear Data

Department of Physics, The M.S. University, Vadodara, India

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EXFOR/ENDF database

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सत्यं शिवं सुन्दरम्



EXFOR from Various Centres / Medias

The collage illustrates the integration of EXFOR data from various international centers. Key elements include:

- EXFOR-CINDA Database and Retrieval System:** A comprehensive library of experimental nuclear reaction data, including charged particle and photon reactions, with over 10,779,091 data points.
- JANIS 3.0:** A Japan-based Nuclear Data Display Program, providing a user-friendly interface for accessing nuclear data.
- International Atomic Energy Agency (IAEA):** The central body for nuclear data, maintaining the EXFOR Master File.
- Other Centers:** Screenshots from CSISRS, NNDC, and JCPN show their respective interfaces for searching and displaying nuclear reaction data.

- Centres may use their own database system.

Example: CSISRS, SIGMA (NNDC), JANIS (NEA-DB), EXFOR (IAEA-NDS)

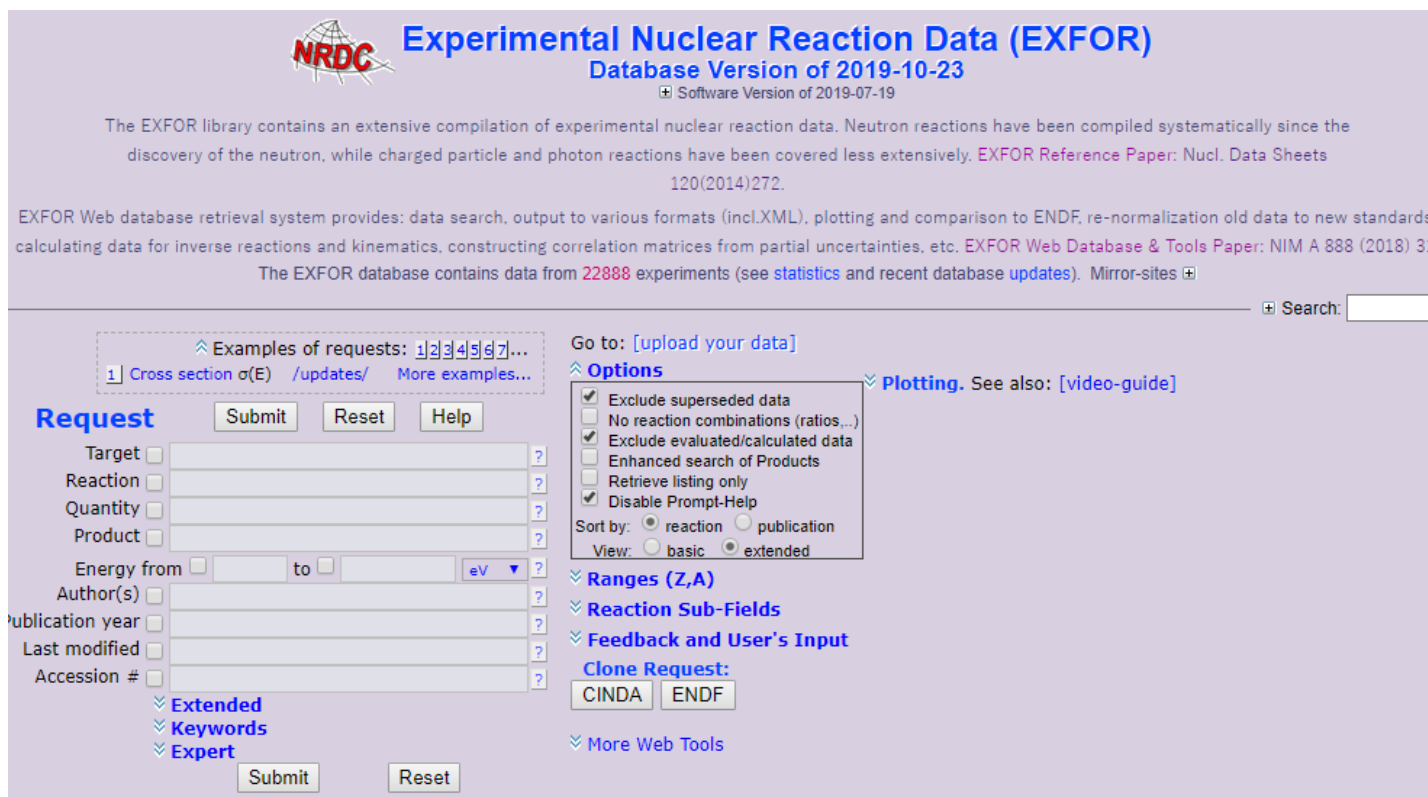
- However, all centres (should) use the latest EXFOR source files.

(IAEA-NDS maintains “EXFOR Master File” 2005~)

EXFOR from Various Centres / Medias (cont)

IAEA Nuclear Data Section maintains EXFOR search system:

<http://www-nds.iaea.org/exfor/>



NRDC Experimental Nuclear Reaction Data (EXFOR)
Database Version of 2019-10-23
Software Version of 2019-07-19

The EXFOR library contains an extensive compilation of experimental nuclear reaction data. Neutron reactions have been compiled systematically since the discovery of the neutron, while charged particle and photon reactions have been covered less extensively. [EXFOR Reference Paper: Nucl. Data Sheets 120\(2014\)272.](#)

EXFOR Web database retrieval system provides: data search, output to various formats (incl.XML), plotting and comparison to ENDF, re-normalization old data to new standards, calculating data for inverse reactions and kinematics, constructing correlation matrices from partial uncertainties, etc. [EXFOR Web Database & Tools Paper: NIM A 888 \(2018\) 31.](#)

The EXFOR database contains data from **22888** experiments (see [statistics](#) and recent database [updates](#)). Mirror-sites [+](#)

Search:

Examples of requests: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) ...
[1](#) Cross section $\sigma(E)$ /updates/ More examples...

Request

Target ?
Reaction ?
Quantity ?
Product ?
Energy from to eV ?
Author(s) ?
Publication year ?
Last modified ?
Accession # ?

Extended
 Keywords
 Expert

Go to: [\[upload your data\]](#)

Options

- Exclude superseded data
- No reaction combinations (ratios...)
- Exclude evaluated/calculated data
- Enhanced search of Products
- Retrieve listing only
- Disable Prompt-Help

Sort by: reaction publication
View: basic extended

Plotting. See also: [\[video-guide\]](#)


Ranges (Z,A)
Reaction Sub-Fields
Feedback and User's Input

Clone Request:

[More Web Tools](#)

EXFOR Search by Reaction/Quantity

Each EXFOR entry is searchable by Target, Projectile etc. at <http://www-nds.indcentre.org.in/exfor/> .



The screenshot shows a search interface titled "Request". It includes several search criteria, each with a checkbox and a text input field, and a question mark icon to the right of each field. The criteria are: Target, Reaction, Quantity, Product, Energy from (with a "to" field and a unit dropdown set to "eV"), Author(s), Publication year, Last modified, and Accession #. Below these fields are three expandable sections: "Extended", "Keywords", and "Expert". At the top right of the form are buttons for "Submit", "Reset", and "Help". At the bottom right are buttons for "Submit" and "Reset".

Keyword	Example
Target	O-18
Reaction	"p,n"
Quantity	"CS" (cross section)
Product	F-18

EXFOR Search by REACTION (cont)

Request Submit Reset Help

Target O-18

Reaction p,n

Quantity cs

Product F-18

Energy from to eV

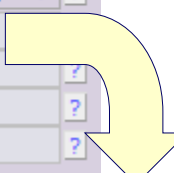
Author(s)

Publication year

Last modified

Accession #

Extended



Target: O-18
 Reaction: p,n
 Quantity: cs
 Product: F-18

n	Display	Year	Author-1	Energy range, eV	Points	Reference	Subentry#P	NSR-Key	Info+							
1) 8-O-18 (P,N) 9-F-18,, SIG C4: MF3 MT4 <input type="checkbox"/> Invert data to reaction 9-F-18(N,P)8-O-18,,SIG (PAR.LVL=0) must be used with option Advanced plot/C5																
Quantity: [CS] Cross section																
*	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2001 E.Hess+	2.43e6	3.00e7	110	[pdf]+ J,RCA,89,357,2001	D4095002 [4]	2001HE34 #2:pdf
g	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1990 S.W.Kitwanga+	1.09e7	2.98e7	7	[pdf]+ J,PR/C,42,748,1990	O0916004 [4]	1990WA10
g*	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1973 J.K.Bair	2.52e6	3.87e6	295	[pdf]+ J,PR/C,8,120,1973	C1010004 [3]	1973BA31
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1967 G.Amsel+	2.70e6		1	[pdf]+ J,AC,39,1689,1967	D0104009 [3]	#2:pdf #3:pdf
g	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1960 J.M.Blair+	2.63e6	2.96e6	30	[pdf]+ J,PR,118,495,1960	O0454005 [4]	1960BL05
	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1952 L.Marquez	4.20e8		1	[pdf]+ J,PR,86,405,52	C0250003 [6]	1952MA60
g	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1951 J.P.Blaser+	2.08e6	6.79e6	60	[pdf]+ J,HPA,24,465,1951	D0095004 [3]	#2:pdf
2) 8-O-18 (P,N) 9-F-18, IND, SIG,, EXP C4: MF=3 MT=?																
Quantity: [CS] Independent cross section																
f	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1979 T.J.Ruth+	2.30e6	1.47e7	35	[pdf]+ J,RCA,26,21,79	A0235002 [6]	1979RU10

1st author

beam energy (eV)

reference

subent #

EXFOR Cross Section Plot

Data Selection

Retrieve Selected Unselected All

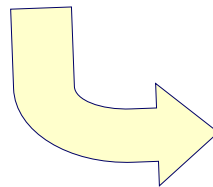
Output: X4+ EXFOR Bibliography TAB C4 PlotC4

Plot: Quick-plot (cross-sections) ungroup Advanced plot [how-to] using

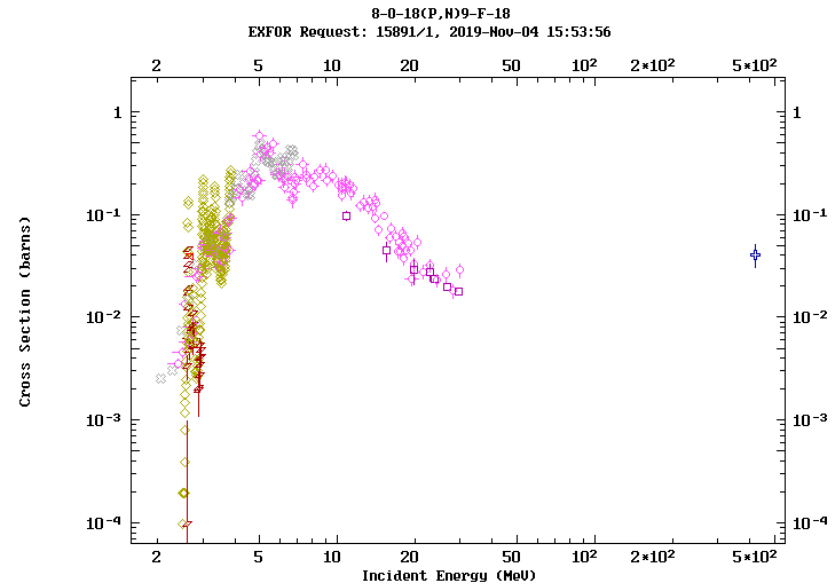
Narrow incident energy (optional), eV: Min: Max:

Apply Data re-normalization (for advanced users, results in: C4, T)

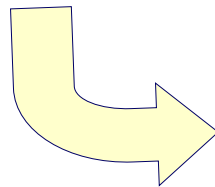
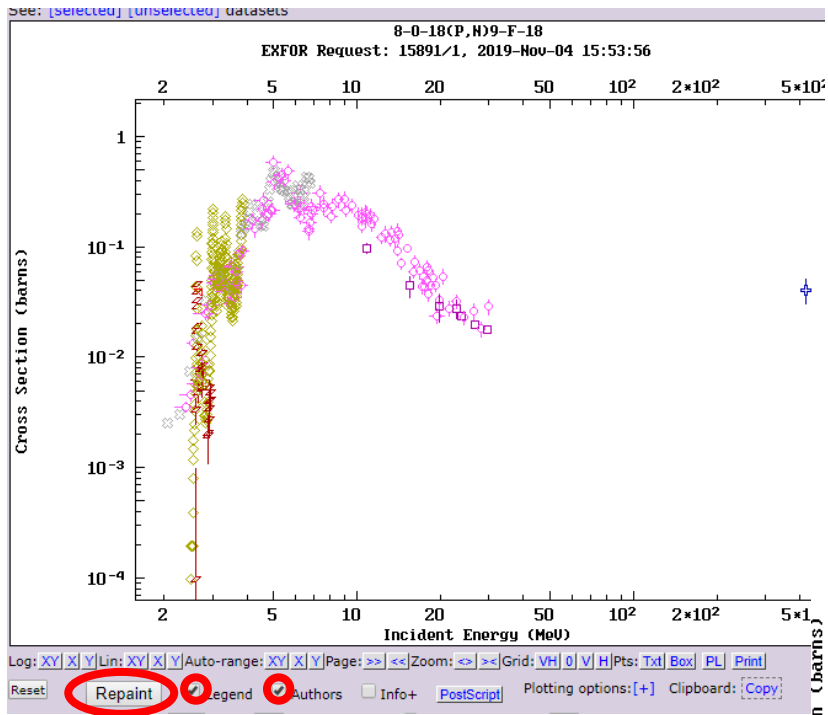
n	Display	Year	Author-1	Energy range, eV
1)	8-O-18 (P,N) 9-F-18,, SIG	C4: MF3 MT4	<input type="checkbox"/> Invert data to re	
Quantity: [CS] Cross section				
1	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	2001	E.Hess+	2.43e6
2	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1990	S.W.Kitwanga+	1.09e7
3	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1973	J.K.Bair	2.52e6
4	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1967	G.Amsel+	2.70e6
5	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1960	J.M.Blair+	2.63e6
6	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1952	L.Marquez	4.20e8
7	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1951	J.P.Blaser+	2.08e6
2)	8-O-18 (P,N) 9-F-18, IND, SIG,, EXP	C4: MF=3 MT=?		
Quantity: [CS] Independent cross section				
f	<input type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1979	T.J.Ruth+	2.30e6



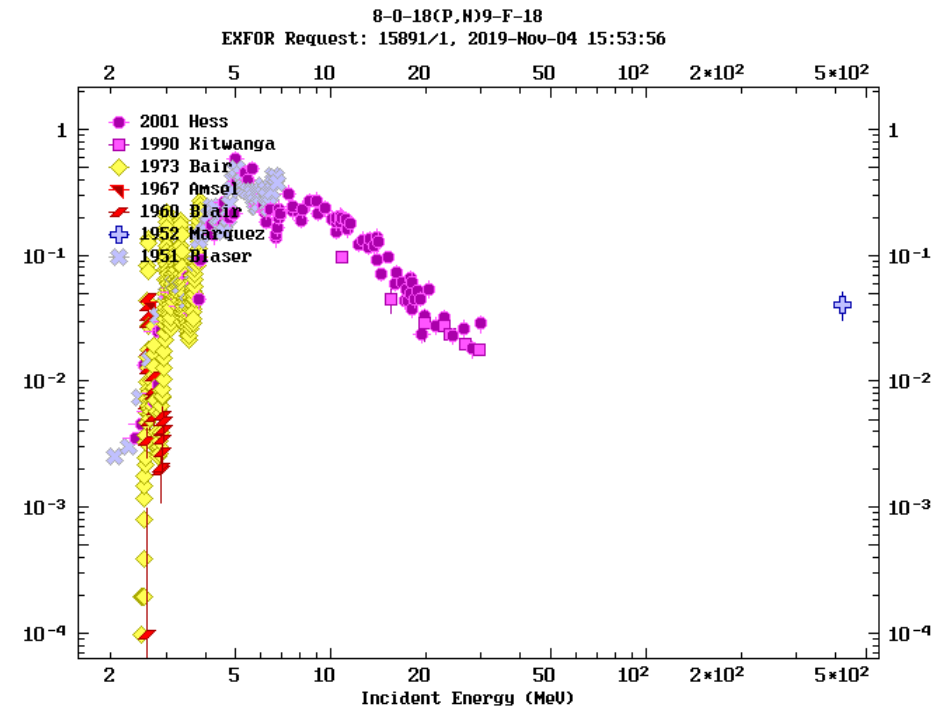
Plot of cross section
is very easy! (*Quick-plot*)



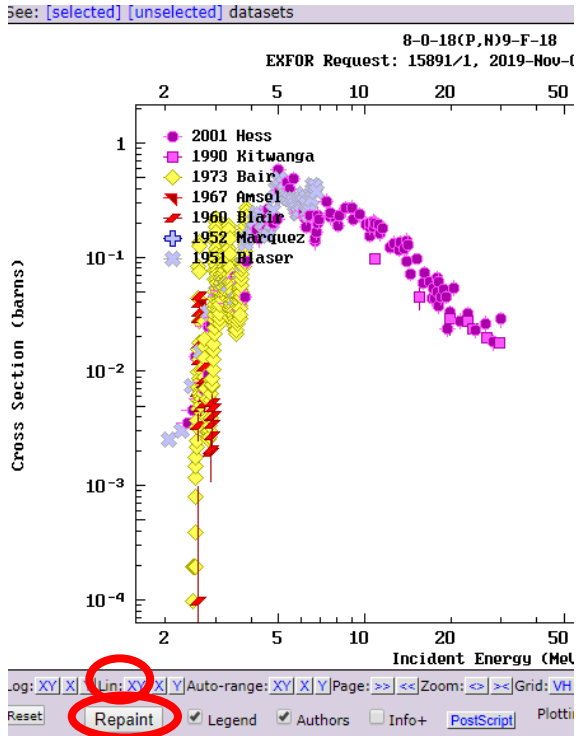
Adjustment of Plot on Web



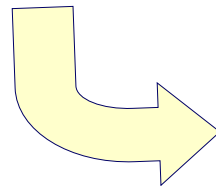
Check “Legend” and “Authors”
and click “Repaint”.



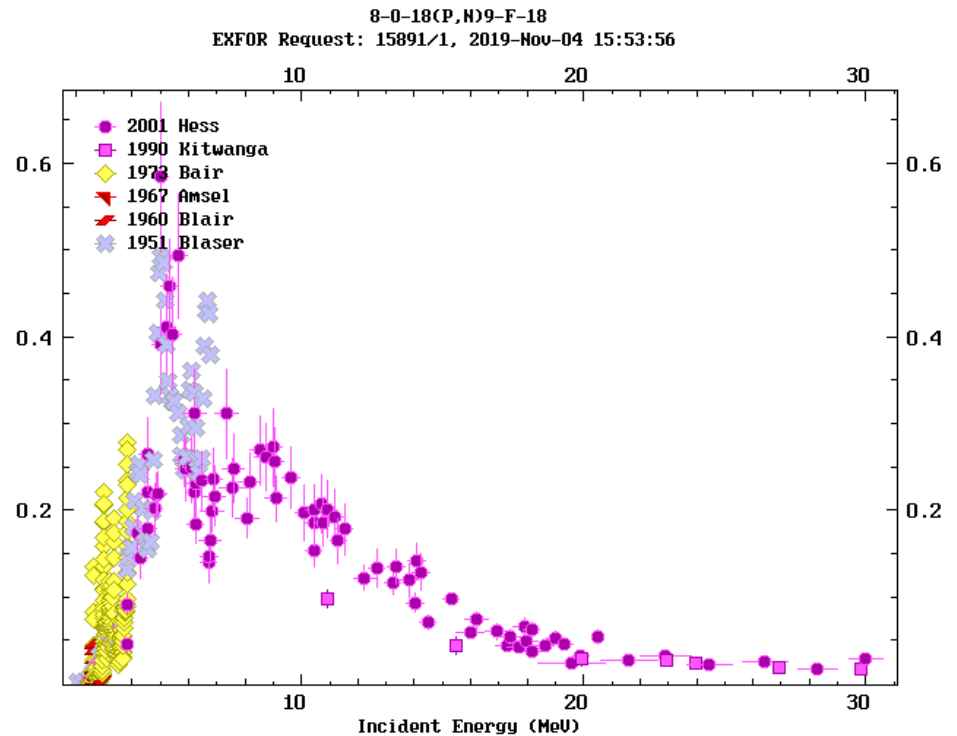
Adjustment of Plot on Web (cont)



Select area,
Click “Lin:XY”
and click “Repaint”.



Cross Section (barns)



Exercise: $^{233}\text{Pa}(n,f)$

Exercise:

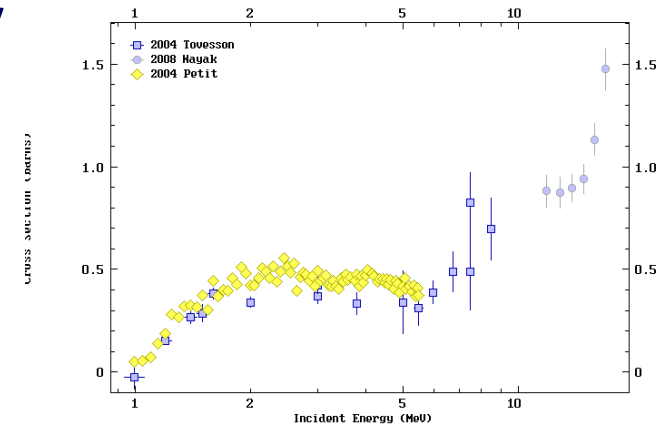
^{233}Pa neutron-induced fission cross section

- Search $^{233}\text{Pa}(n,f)$ cross sections in EXFOR at <http://www-nds.iaea.org/exfor/>

Target: Pa-233

Reaction: n,f

Quantity: cs

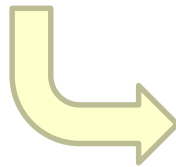


- Select 3 data sets (Nayak, Tovesson, Petit)
- (Quick-)Plot all data sets in (x,y)=(log-lin)

Exercise: $^{233}\text{Pa}(n,f)$ (cont)

Request

Target Pa-233 ?
Reaction n,f ?
Quantity cs ?
Product ?
Energy from to eV ?



Data Selection Selected Unselected All

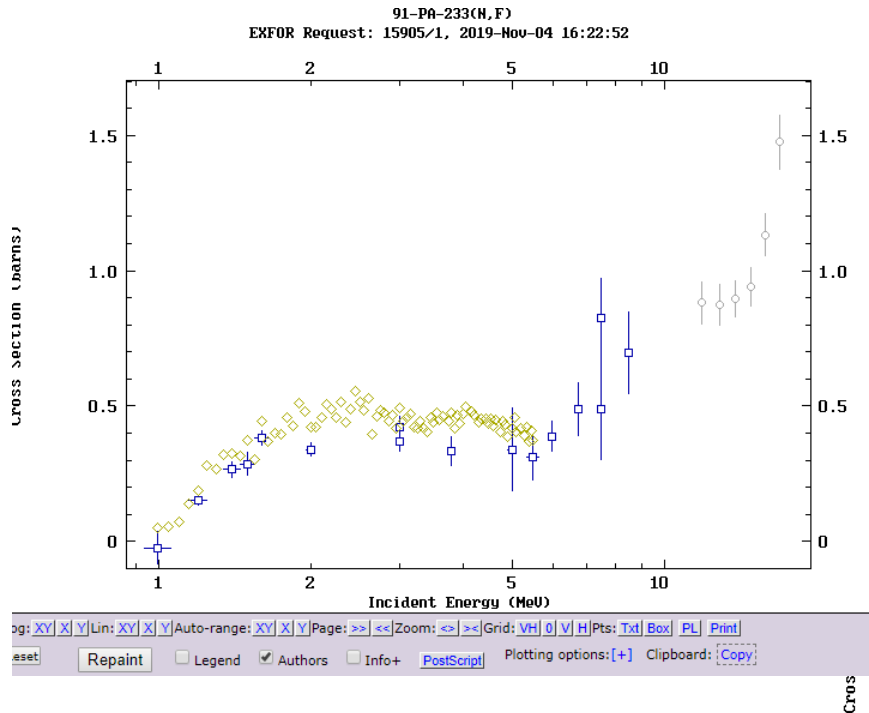
Output: X4+ EXFOR Bibliography TAB C4 PlotC4
Plot: Quick-plot (cross-sections) ungroup Advanced plot [how-to] using
Narrow incident energy (optional), eV: Min: Max:
 Apply Data re-normalization (for advanced users, results in: C4, TA)

n	Display	Year	Author-1	Energy range, eV
1	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 91-PA-233 (N,F),,SIG C4: MF3 MT18 Quantity: [CS] Cross section			
f	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> X4 <input checked="" type="checkbox"/> X4+ <input checked="" type="checkbox"/> X4± <input checked="" type="checkbox"/> T4 <input checked="" type="checkbox"/> Cov	2004	F.Tovesson+	1.00e6
2	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 91-PA-233 (N,F),,SIG,,DERIV C4: MF3 MT18 ...[Derived d Quantity: [CS] Cross section			
2	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> X4 <input checked="" type="checkbox"/> X4+ <input checked="" type="checkbox"/> X4± <input checked="" type="checkbox"/> T4 <input checked="" type="checkbox"/> Cov	2008	B.K.Nayak+	1.18e7
3	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> X4 <input checked="" type="checkbox"/> X4+ <input checked="" type="checkbox"/> X4± <input checked="" type="checkbox"/> T4 <input checked="" type="checkbox"/> Cov	2004	M.Petit+	1.00e6
3	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 91-PA-233 (N,F),,SIG,,FIS C4: MF=3 MT=? Quantity: [CS] Cross section			
4	<input type="checkbox"/> <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> X4 <input checked="" type="checkbox"/> X4+ <input checked="" type="checkbox"/> X4± <input checked="" type="checkbox"/> T4 <input checked="" type="checkbox"/> Cov	1966	H.R.Von Gunten+	1.50e6
4	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (91-PA-233 (N,F),,SIG,,DERIV) // (92-U-235 (N,F),,SIG,, Quantity: [CS] Cross section			
5	<input type="checkbox"/> <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> X4 <input checked="" type="checkbox"/> X4+ <input checked="" type="checkbox"/> X4± <input checked="" type="checkbox"/> T4 <input checked="" type="checkbox"/> Cov	2008	B.K.Nayak+	1.05e7

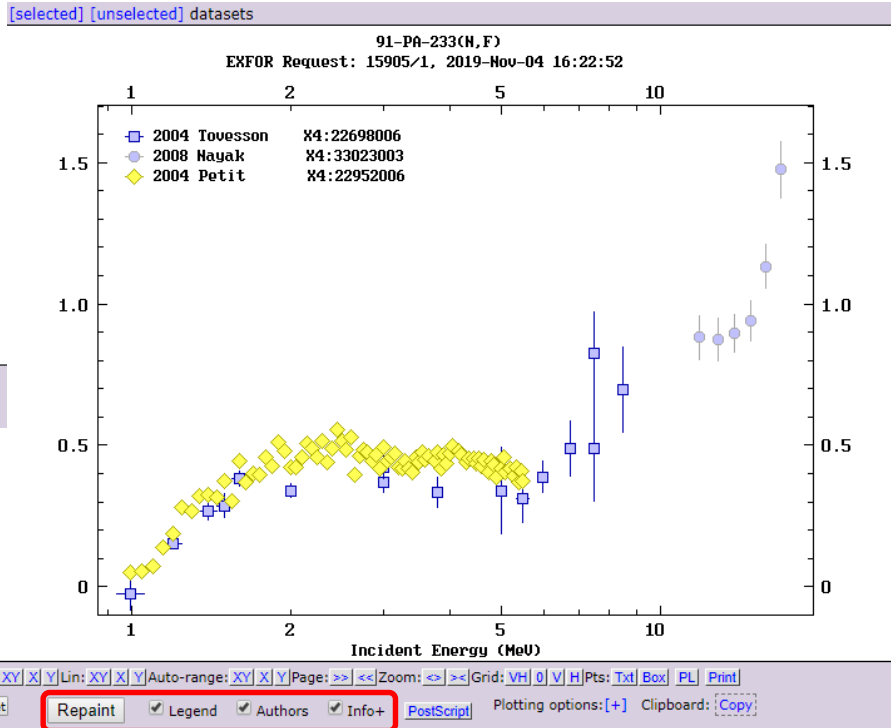
A : Automatic data re-normalization is available
[Info] : Show Summary (with code explanation, links to dependent data, etc.)

“91-PA-233(N,F),,SIG” means $^{233}\text{Pa}(n,f)$ cross section.

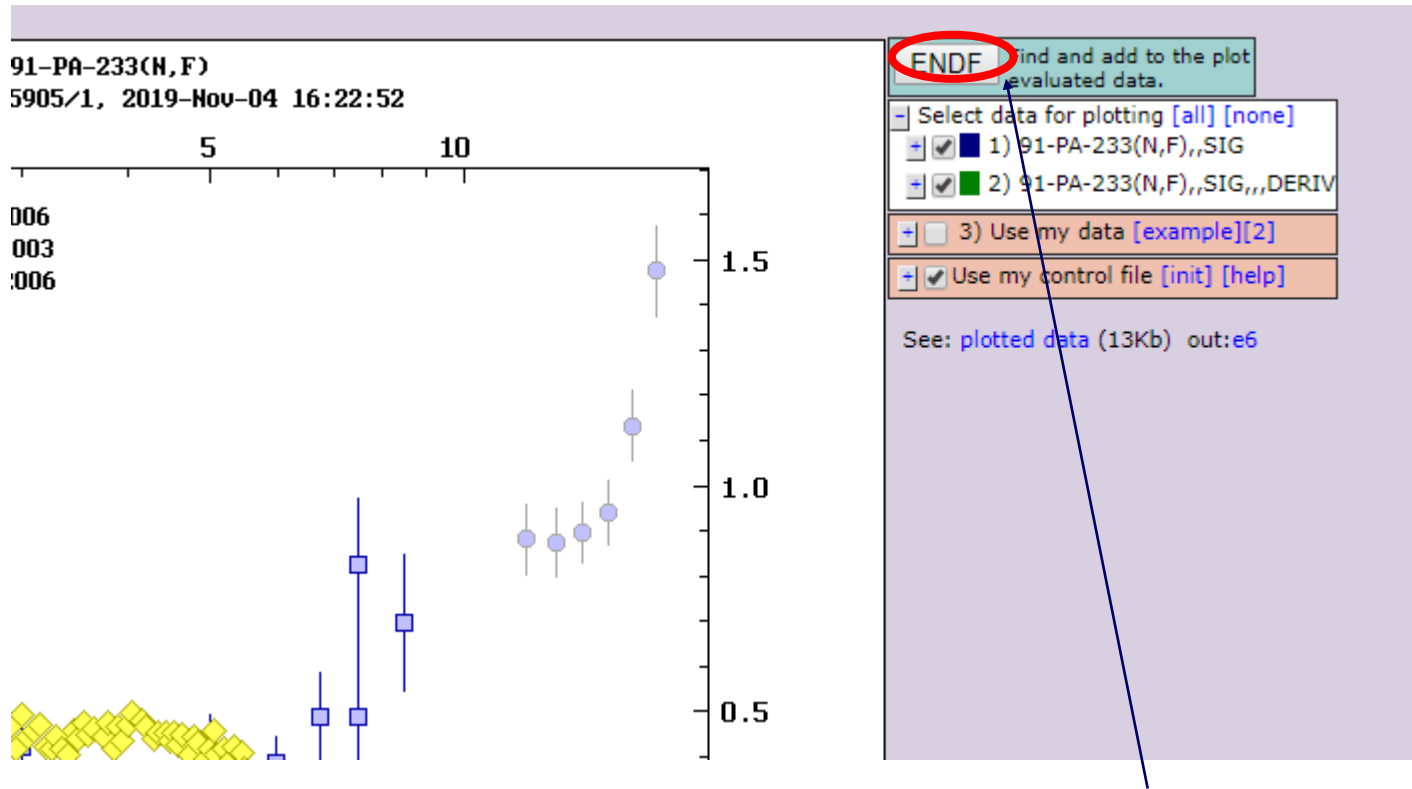
Exercise: $^{233}\text{Pa}(n,f)$ (cont)



Activate 3 options (Legends, Authors, Info+) and repaint.



Comparison with Evaluated Data Libraries (ENDF)



Button for comparison
with evaluated
data libraries

Comparison with Evaluated Data Libraries (cont)

ENDF Data Selection (Plot for EXFOR Request #16063)

Retrieve Plot Selected Unselected All

Plotting options: Quick plot (cross-sections only: σ)

Sorted by: [Reactions] Reorder by: [Libraries] View: basic ex

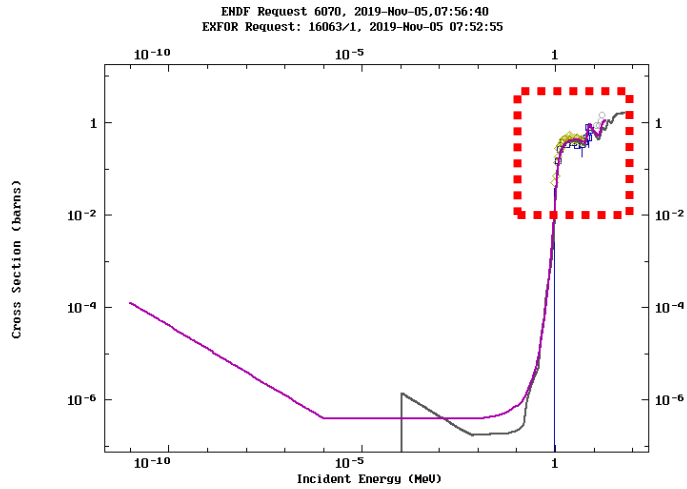
1) PA-233 (N,F), SIG MT=18 MF=3 NSUB=10

ME3: [SIG] Cross sections MT18: [N,F] Total fission.

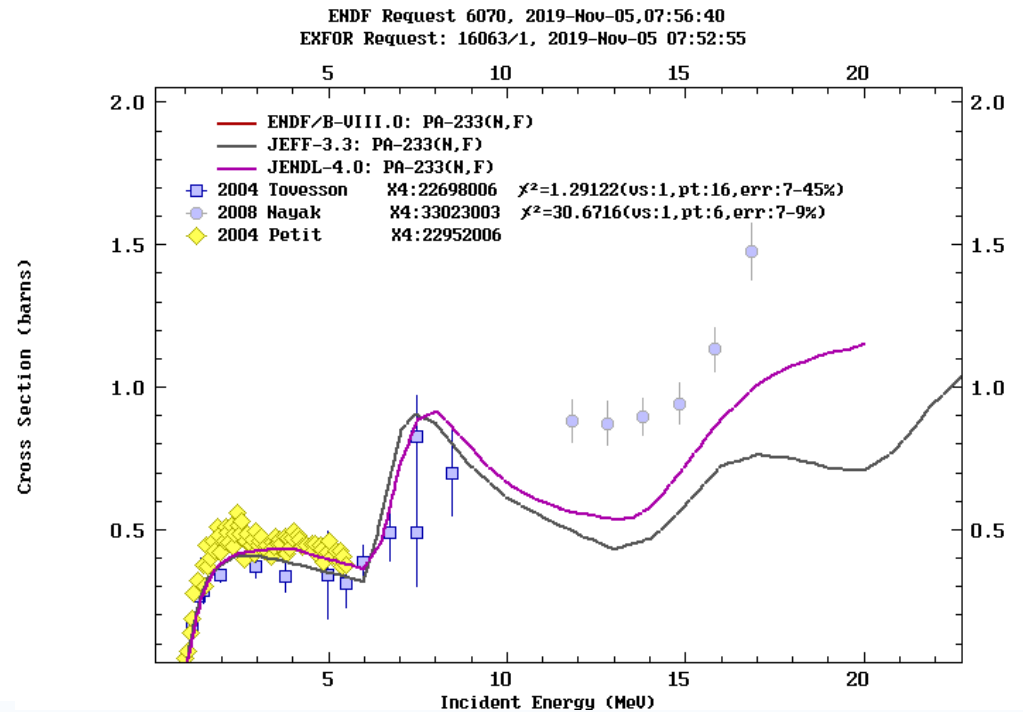
<input checked="" type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VIII.0	E=60MeV Lab=IAEA Date=20111222
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VII.1	E=60MeV Lab=IAEA Date=20111222
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VII.0	E=60MeV Lab=IAEA Date=DEC06
<input checked="" type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.3	E=60MeV Lab=IAEA Date=20171231
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.2	E=60MeV Lab=IAEA Date=Eval-Mar04
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.1.2	E=20MeV Lab=NEA Date=090105
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.1	E=20MeV Lab=NEA Date=090105
<input checked="" type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JENDL-4.0	E=20MeV Lab=JAEA+ Date=20100318
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JENDL-3.3	E=20MeV Lab=KINKI U.+ Date=20020
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JENDL-3.3	E=20MeV Lab=KINKI U.+ Date=20020
<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VI	E=20MeV Lab=GA, BNL, LANL Date=198

Select three libraries (ENDF/B-VIII, JEFF-3.3 and JENDL-4.0) and plot!

Comparison with Evaluated Data Libraries (cont)



Select area, and use
(x,y)=(lin,lin) scale;
Legend & Authors & Info+



$^{78}\text{Se}(n,p)^{78}\text{As}$ in Common article

Exercise:

$^{78}\text{Se}(n,p)^{78}\text{As}$ cross section

- Search $^{78}\text{Se}(n,p)^{78}\text{As}$ cross sections in EXFOR by <http://www-nds.iaea.org/exfor/>

Target: Se-78

Reaction: n,p

Quantity: cs

- Select all relevant data
- (Quick-)Plot all data sets in (x,y)=(lin-lin)

$^{78}\text{Se}(n,p)^{78}\text{As}$ in Common article (cont)

Request

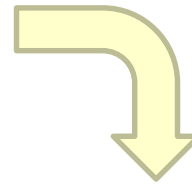
Target Se-78 ?

Reaction n,p ?

Quantity cs ?

Product

Energy from to eV



Check all data sets except for
"2014 F.M.D.Attar+".

Selected Unselected All

Output: X4+ EXFOR Bibliography TAB C4 PlotC4

Plot: Quick-plot (cross-sections) ungroup Advanced plot [how-to] using C5 and conve

Narrow incident energy (optional), eV: Min: Max:

Apply(3A) Data re-normalization (for advanced users, results in: C4, TAB and Pl

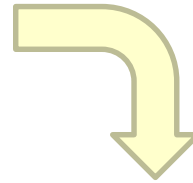
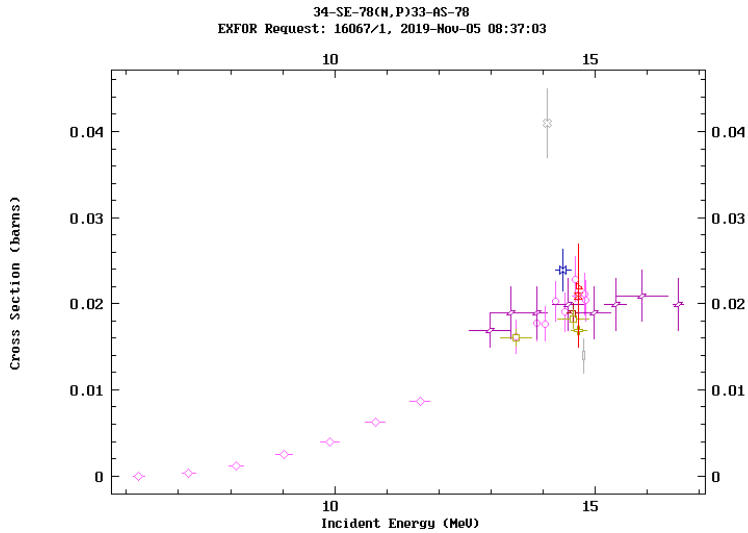
n	Display	Year	Author-1	Energy range, eV	Points
1)	34-SE-78 (N, P) 33-AS-78,, SIG		C4: MF3 MT103	<input type="checkbox"/> Invert data to reaction 33-A	
Quantity: [CS] Cross section					
1	<input checked="" type="checkbox"/> A+ <input type="checkbox"/> i X4 X4+ X4± T4 Cov	2016	A.A.Filatenkov	1.35e7 1.48e7	8
2	<input type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	2014	F.M.D.Attar+	1.37e7 1.48e7	5
3	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	2005	Guozhu He+	1.35e7 1.46e7	2
4	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1994	I.Birn+	6.25e6 1.47e7	8
5	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1993	A.Grallert+	1.46e7	1
6	<input checked="" type="checkbox"/> A+ <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1989	H.M.Hoang+	1.30e7 1.66e7	8
7	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1977	N.I.Molla+	1.47e7	1
8	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1976	J.L.Casanova+	1.41e7	1
9	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1969	V.V.Ivanenko+	1.47e7	1
10	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1967	P.Venugopala Rao+	1.44e7	1
11	<input checked="" type="checkbox"/> + <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1967	B.Minetti+	1.47e7	1
12	<input checked="" type="checkbox"/> A+ <input type="checkbox"/> i X4 X4+ X4± T4 Cov	1967	G.P.Vinitskaya+	1.48e7	1

"34-SE-78(N,P)33-AS-78,,SIG"

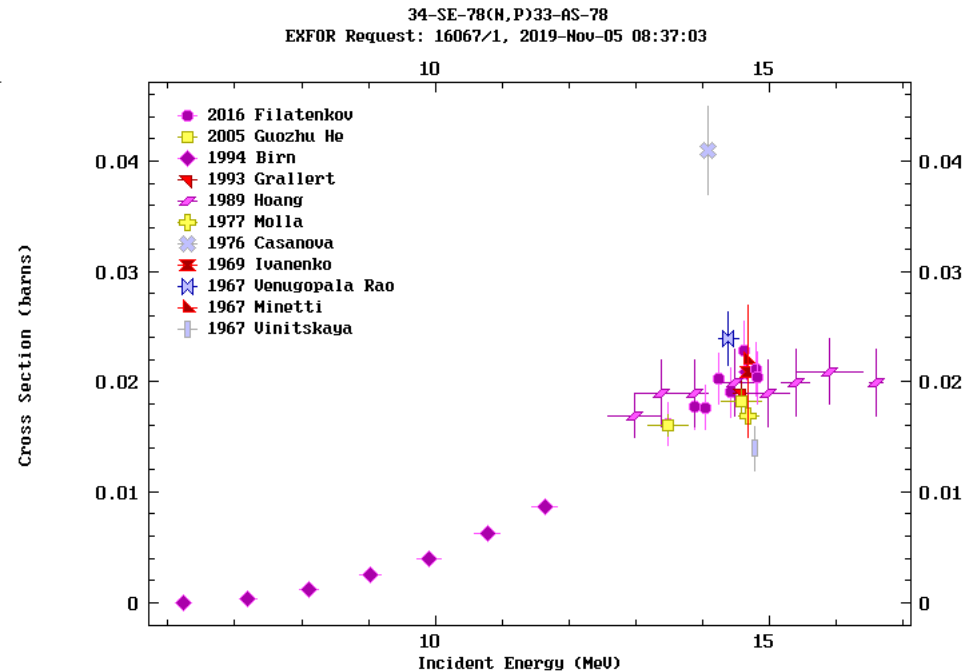
means

$^{78}\text{Se}(n,p)^{78}\text{As}$ cross section.

Exercise: $^{78}\text{Se}(n,p)^{78}\text{As}$ in Common article (cont)



Activate 2 options (Legend, Authors) and repaint.



log: XY X Y Lin: XY X Y Auto-range: XY X Y Page: >> << Zoom: <> >> Grid: VH 0 V H Pts: Txt Box PL Print

Reset: Repaint Legend Authors Info+ PostScript Plotting options: [+] Clipboard: Copy

Exercise: Addition of “my data” to Plot

Add Table II data of the “Common article”, and Repaint.

ENDF Find and add to the plot evaluated data.

Select data for plotting [all] [none]

- 1) 34-SE-78(N,P)33-AS-78,,SIG
- 2) Use my data [example][2]

Columns: x y [dy [dx]]

13.73	15.6	1.5
14.07	17	1.6
14.42	18.6	1.6
14.68	20.4	1.7
14.77	22	1.7

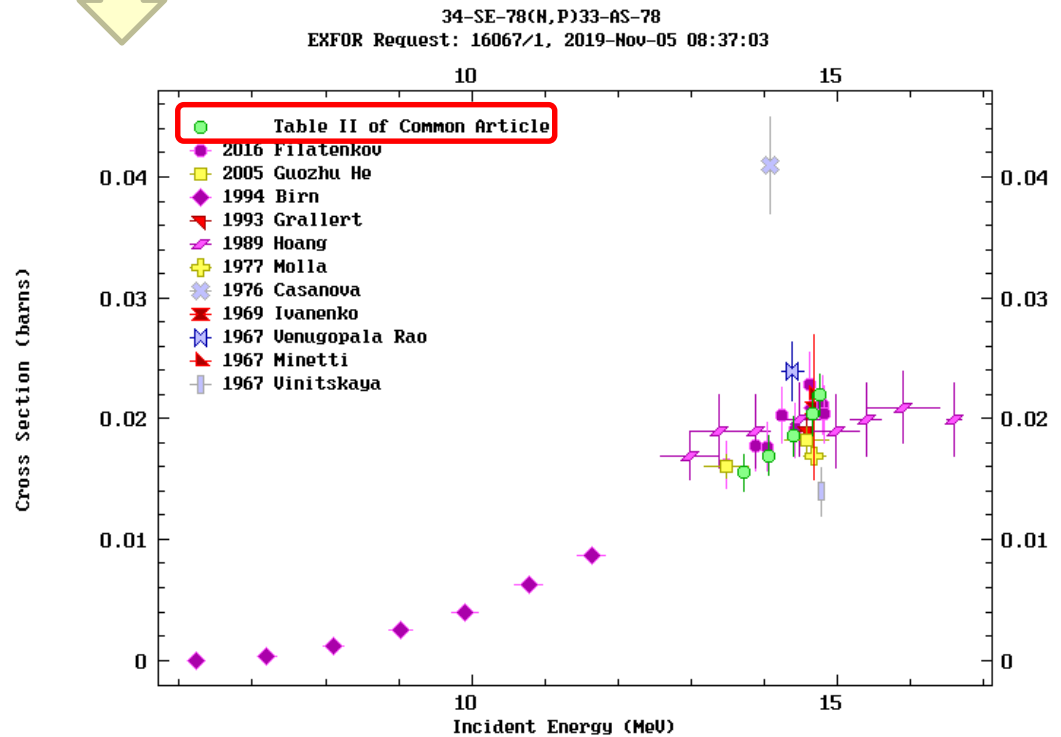
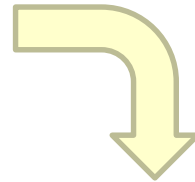
Type: Curve Points

Title: Table II of Common Article

Default: basic units: (eV, barn, etc.)

Multiply by: X: 1e+06 Y: 1e-03

Use my control file [init] [help]



To convert units of the Table (MeV, mb) to the “basic units” (eV, b)

Exercise: Comparison with Evaluated Data Libraries (cont)

ENDF Find and add to the plot evaluated data.

Select data for plotting [all] [none]

- 1) 34-SE-78(N,P)33-AS-78,,SIG
- 2) Use my data [example][2]

Columns: x y [dy [dx]]

13.73	15.6	1.5
14.07	17	1.6
14.42	18.6	1.6
14.68	20.4	1.7
14.77	22	1.7

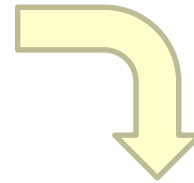
Type: Curve Points

Title: Table II of Common Article

Default: basic units! (eV, barn, etc.)

Multiply by: X: 1e+06 Y: 1e-03

Use my control file [init] [help]



Retrieve Plot Selected Unselected All

Plotting options: Quick plot (cross-sections only: σ)

Sorted by: [Reactions] Reorder by: [Libraries] View

- 1) SE-78 (N,P), SIG MT=103 MF=

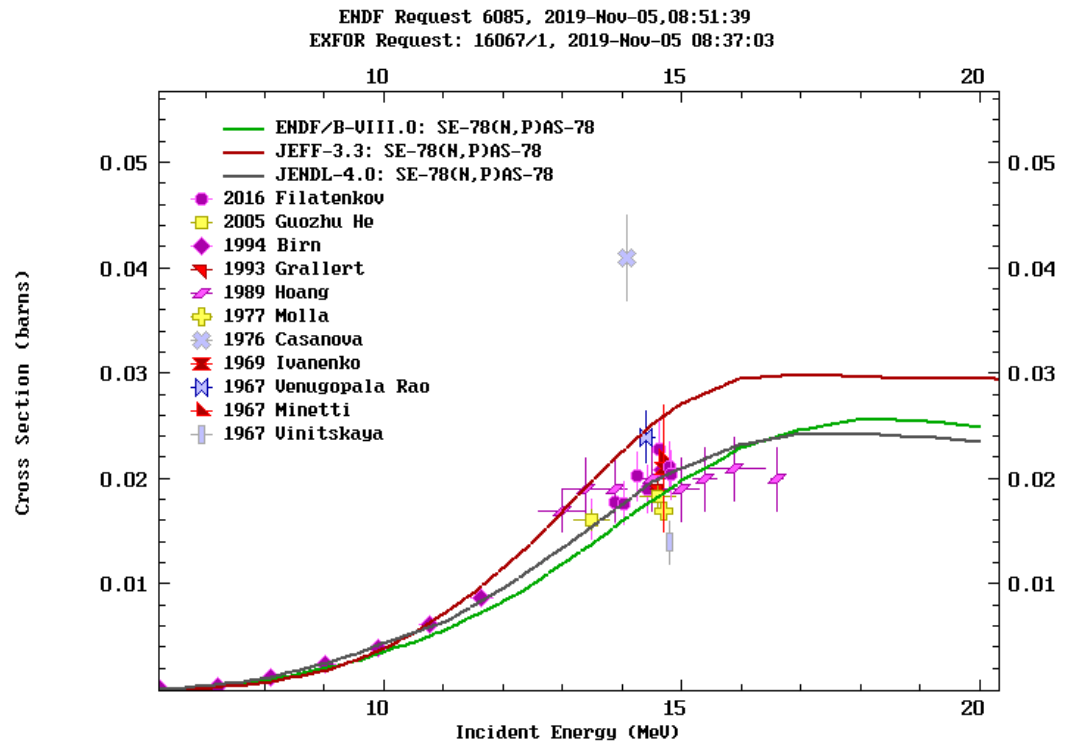
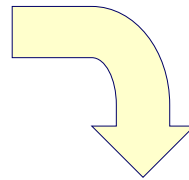
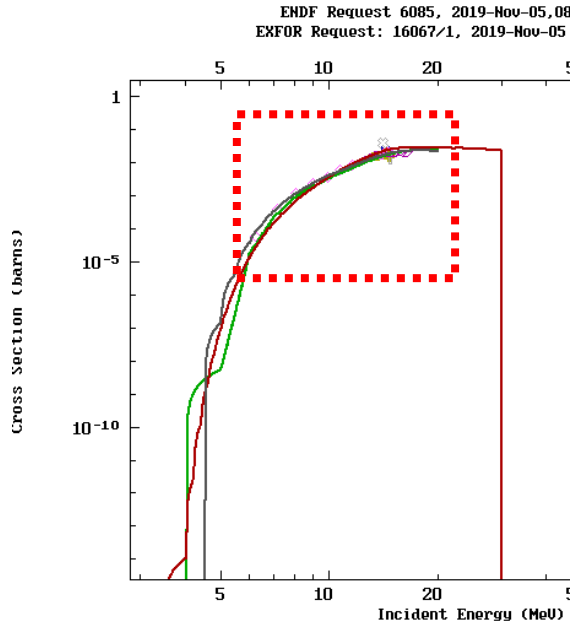
ME3: [SIG] Cross sections MT103: [N,P] Production of a proton, plus a residual. Sum of

1	<input checked="" type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VIII.0	E=20MeV	Lab=JND
2	<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VII.1	E=20MeV	Lab=JND
3	<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	ENDF/B-VII.0	E=20MeV	Lab=JND
4	<input checked="" type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.3	E=200MeV	Lab=NR
5	<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.2	E=200MeV	Lab=NR
6	<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.1.2	E=20MeV	Lab=NEA
7	<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JEFF-3.1	E=20MeV	Lab=NEA
8	<input checked="" type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JENDL-4.0	E=20MeV	Lab=JAE
9	<input type="checkbox"/>	ENDF-6	Interpreted	σ	Plot	JENDL-3.3	E=20MeV	Lab=JND

Select three libraries (ENDF/B-VIII.0, JEFF-3.3 and JENDL-4.0) and plot!

Exercise: Comparison with Evaluated Data Libraries (cont)

Select area and use (x,y)=(lin,lin) scale; Legend&Authors&Info+



Exercise: $^{80}\text{Se}(n,p)^{80}\text{As}$ in Common article

Exercise:

$^{80}\text{Se}(n,p)^{80}\text{As}$ cross section

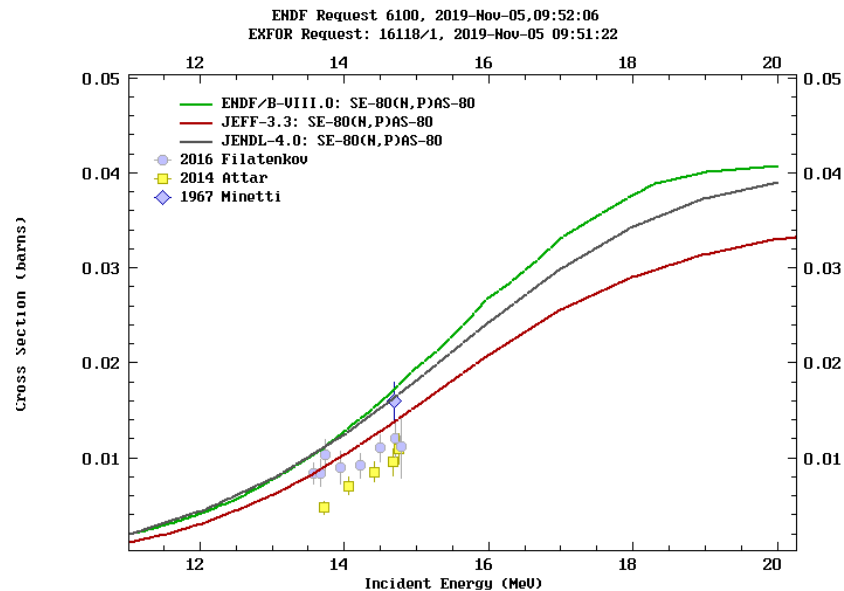
- Search $^{78}\text{Se}(n,p)^{78}\text{As}$ cross sections in EXFOR by

Target: Se-80

Reaction: n,p

Quantity: cs

- Select all relevant data and plot (but only single point).
- Then plot with ENDF/B-VIII.0, JEFF-3.3 and JENDL-4.0 data.
- Then plot with data in Table II of the “Common article”.



Advanced Plot (Diff. Cross Section etc.)

Data Selection

Retrieve Selected Unselected All

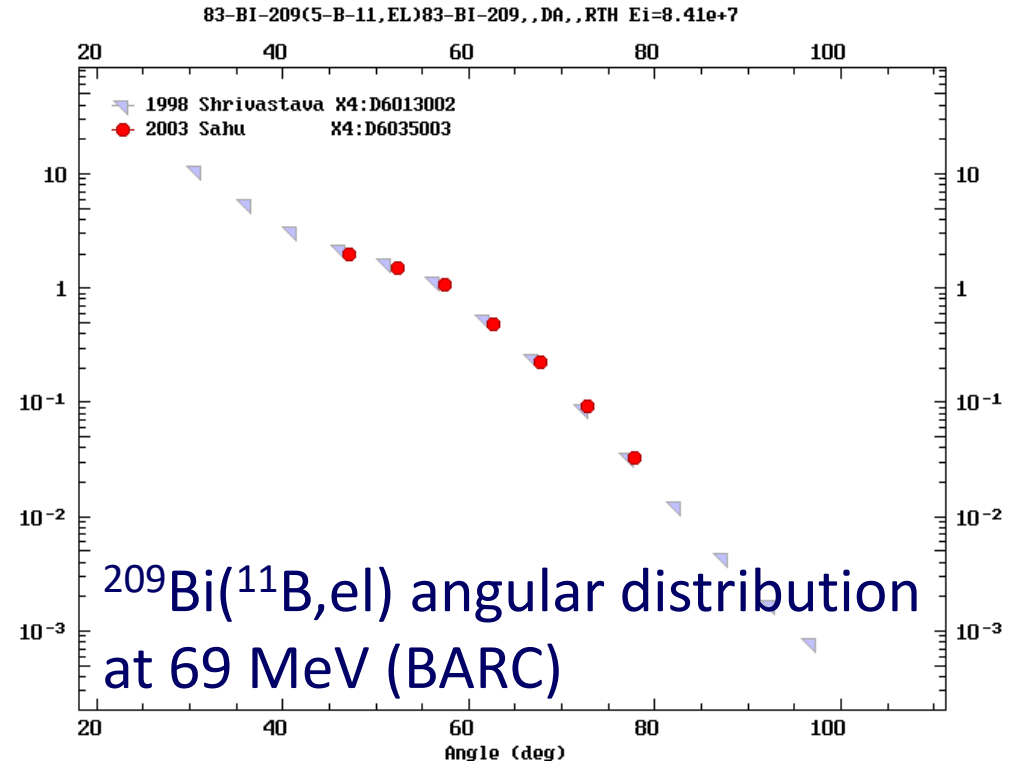
Output: X4+ EXFOR Bibliography TAB C4 PlotC4

Plot: Quick-plot (cross-sections) ungrouped Advanced plot [how to] using C5 and

Narrow incident energy (optional), eV: Min: Max:

Apply Data re-normalization (for advanced users, results in: C4, TAB and Plc)

n	Display	Year	Author-1
1)	83-BI-209(5-B-11,EL)83-BI-209,,DA,		
Quantitv: [DA] Differential cs d/dA rel.to Rut			
	T4	2003	P.K.Sahu+
	T4	1998	A.Shrivastava



Send your question to the NDS Web system developer Dr. V. Zerkin (v.zerkin@iaea.org).