

JAERI-M
84-052

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**GRAPHS OF EVALUATED NEUTRON CROSS
SECTIONS IN JENDL-2**

March 1984

Japanese Nuclear Data Committee

日本原子力研究所
Japan Atomic Energy Research Institute

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編集兼発行 日本原子力研究所
印刷 日立高速印刷株式会社

JAERI-M 84-052

Graphs of Evaluated Neutron Cross Sections in JENDL-2

Japanese Nuclear Data Committee

Editors : Tetsuo ASAMI and Tsutomu NARITA

(Received February 1, 1984)

Graphs of JENDL-2 Evaluated Neutron Cross-Section Data for 89 nuclides are presented. Total, elastic and inelastic scattering, capture, fission and threshold reaction cross sections are given for each nuclide in the energy range up to 20 MeV.

Keywords : Neutron Cross Section, Evaluated Data, JENDL-2,
Graphs, Energy Range up to 20 MeV.

JENDL-2 の評価中性子断面積データのグラフ集

日本原子力研究所東海研究所シグマ研究委員会

(編) 浅見 哲夫・成田 孟

(1984年2月1日受理)

JENDL-2 に収録されている 89 核種の中性子断面積の評価データのグラフを集録してある。各核種毎に、全断面積、弾性散乱・中性子捕獲・核分裂・非弾性散乱・しきい核反応断面積の評価データがそれぞれ 1 枚のプロット図に示してある。

A general purpose file of Japanese Evaluated Nuclear Data Library version 2 (JENDL-2) has the evaluated data for 89 nuclides and was released in December 1982. Table 1 lists the nuclides whose data have been stored in JENDL-2, and their Material Numbers. The data for these nuclides are compiled in ENDF/B-IV format.

In order to grasp easily an outline of the evaluated data in JENDL-2, a compilation of their graphs is made. In these graphs, only the evaluated neutron cross-section data (i.e., File 3 (MF=3) data) are treated. The data plots are made with a computer code SPLINT^{1),2)} using FACOM-M 380 computer.

In the present graphs, one sheet of data plot is given for each reaction cross section in the energy range up to 20 MeV so as to be able to see immediately its shape.

The plottings for the total, elastic scattering, capture and fission cross sections are made generally in log-log scale. On the other hand, both the data of the inelastic scattering and threshold reaction cross sections are plotted generally in linear-linear scale. In the graph for the inelastic scattering, the cross sections for the first through the fifth excited levels (MT=51 - 55) in maximum are plotted together with the total inelastic scattering cross section. For the threshold reactions, one graph includes all the cross section data for one nuclide. Threshold reaction data for some nuclides are plotted in linear-log scale so as to make an intercomparison between the data which are widely different orders of magnitude.

In the heading for each graph, Material Number and MT

Number as well as the symbols for Nuclide and Reaction Type are given as a guide.

The main purpose of this graph is to give a whole view for each evaluated data. Therefore, when readers want to know details of the evaluated data, they should refer to other reports for JENDL-2. In addition to these graphs, the reports on the JENDL-2 data evaluation and on the comparison plots between the JENDL-2 data and experimental and other evaluated data are to be published in near future.

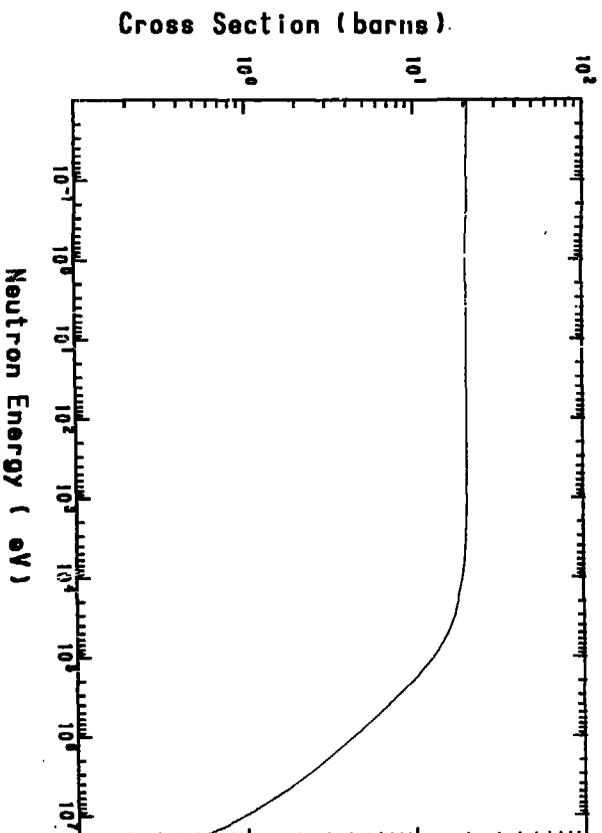
References

- 1) Narita T., Nakagawa T., Kanemori Y. and Yamakoshi H. :
"SPLINT : A Computer Code for Superimposed Plotting of the
Experimental and the Evaluated Data", JAERI-M 5769 (1974).
- 2) Nakagawa T.: "SPINPUT : A Computer Program for Making Input
Data of SPLINT", JAERI-M 9499 (1981).

Table 1 Nuclides in JENDL-2 and their Material Number

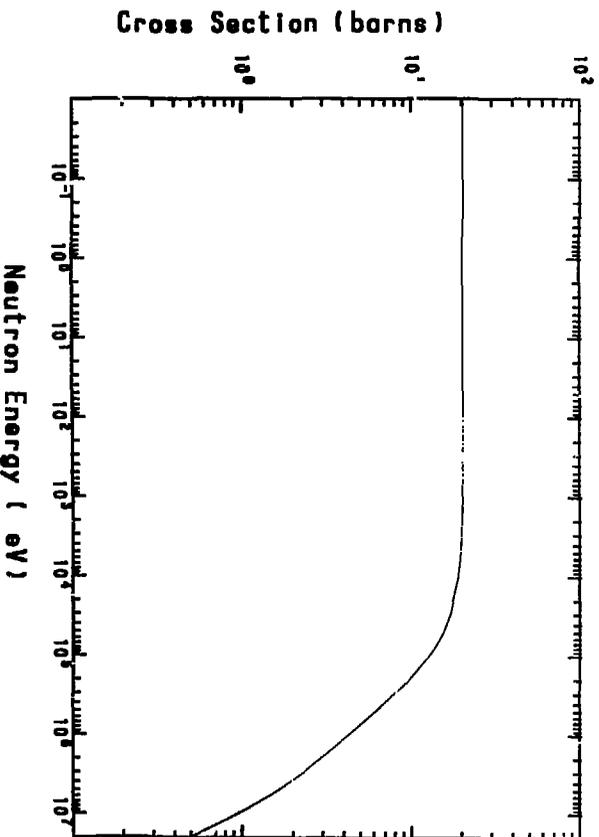
MAT No.		MAT No.		MAT No.		MAT No.		MAT No.	
¹ H	2011	⁵¹ V	2231	Cu	2290	Pb	2820	²³⁶ Pu	2941
² H	2012	Cr	2240	⁶³ Cu	2291	²⁰⁴ Pb	2821	²³⁸ Pu	2942
⁶ Li	2031	⁵⁰ Cr	2241	⁶⁵ Cu	2292	²⁰⁶ Pb	2822	²³⁹ Pu	2943
⁷ Li	2032	⁵² Cr	2242	⁹³ Nb	2411	²⁰⁷ Pb	2823	²⁴⁰ Pu	2944
⁹ Be	2041	⁵³ Cr	2243	Mo	2420	²⁰⁸ Pb	2824	²⁴¹ Pu	2945
¹⁰ B	2051	⁵⁴ Cr	2244	⁹² Mo	2421	²²⁸ Th	2901	²⁴² Pu	2946
¹² C	2061	⁵⁵ Mn	2251	⁹⁴ Mo	2422	²³⁰ Th	2902	²⁴¹ Am	2951
¹⁹ F	2091	Fe	2260	⁹⁵ Mo	2423	²³² Th	2903	^{242g} Am	2952
²³ Na	2111	⁵⁴ Fe	2261	⁹⁶ Mo	2424	²³³ Ti	2904	^{242m} Am	2953
²⁷ Al	2131	⁵⁶ Fe	2262	⁹⁷ Mo	2425	²³⁴ Th	2905	²⁴³ Am	2954
Si	2140	⁵⁷ Fe	2263	⁹⁸ Mo	2426	²³³ Pa	2911	²⁴² Cm	2961
Ca	2200	⁵⁸ Fe	2264	¹⁰⁰ Mo	2427	²³³ U	2921	²⁴³ Cm	2962
⁴⁰ Ca	2201	⁵⁹ Co	2271	¹⁷⁴ Hf	2721	²³⁴ U	2922	²⁴⁴ Cm	2963
⁴² Ca	2202	Ni	2280	¹⁷⁶ Hf	2722	²³⁵ U	2923	²⁴⁵ Cm	2964
⁴³ Ca	2203	⁵⁸ Ni	2281	¹⁷⁷ Hf	2723	²³⁶ U	2924		
⁴⁴ Ca	2204	⁶⁰ Ni	2282	¹⁷⁸ Hf	2724	²³⁸ U	2925		
⁴⁶ Ca	2205	⁶¹ Ni	2283	¹⁷⁹ Hf	2725	²³⁷ Np	2931		
⁴⁸ Ca	2206	⁶² Ni	2284	¹⁸⁰ Hf	2726	²³⁹ Np	2932		
⁴⁵ Sc	2211	⁶⁴ Ni	2285	¹⁸¹ Ta	2731				

¹H
TOTAL



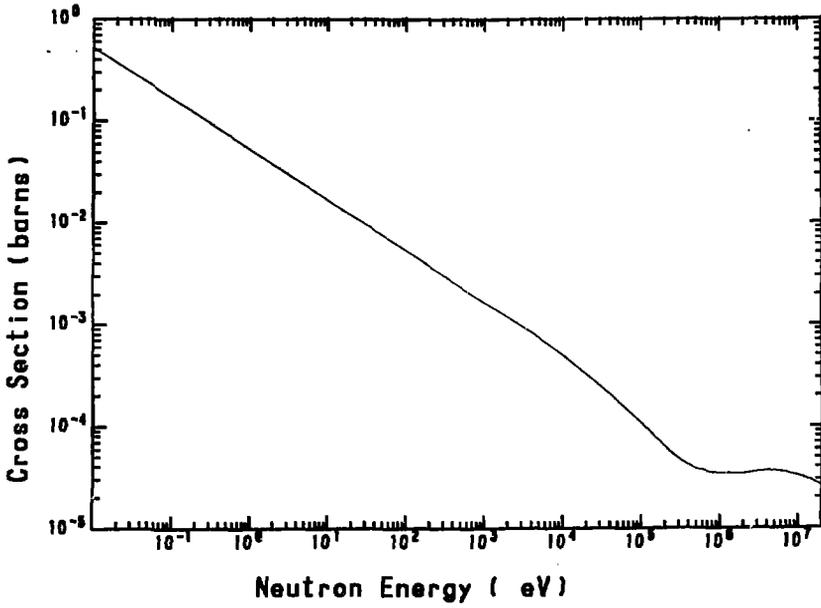
MAT=2011
MT= 1

¹H
(n,n)



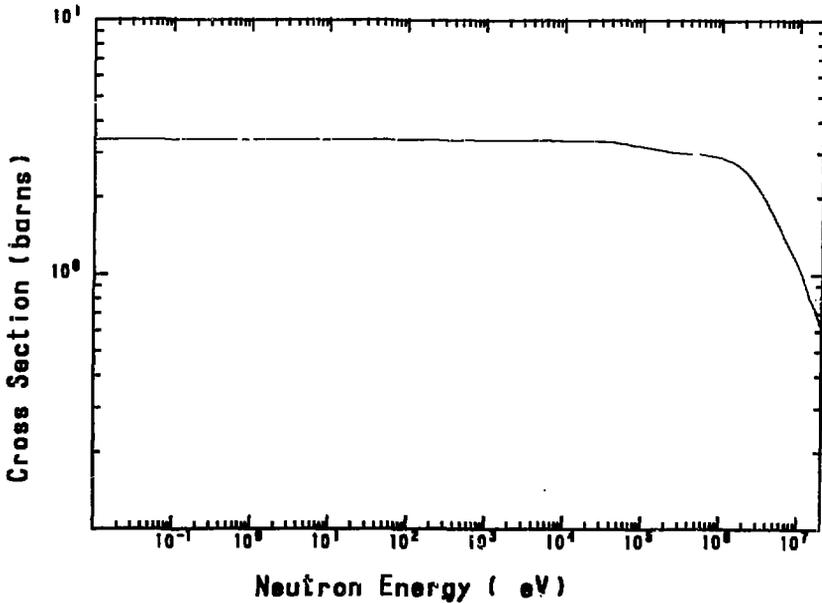
MAT=2011
MT= 2

^1H
(n, γ)



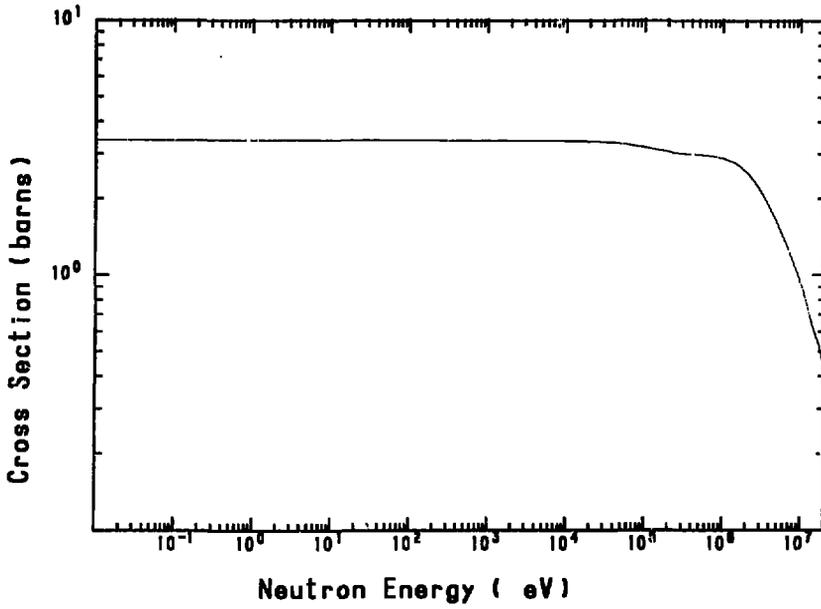
MAT=2011
MT= 102

^2D
TOTAL

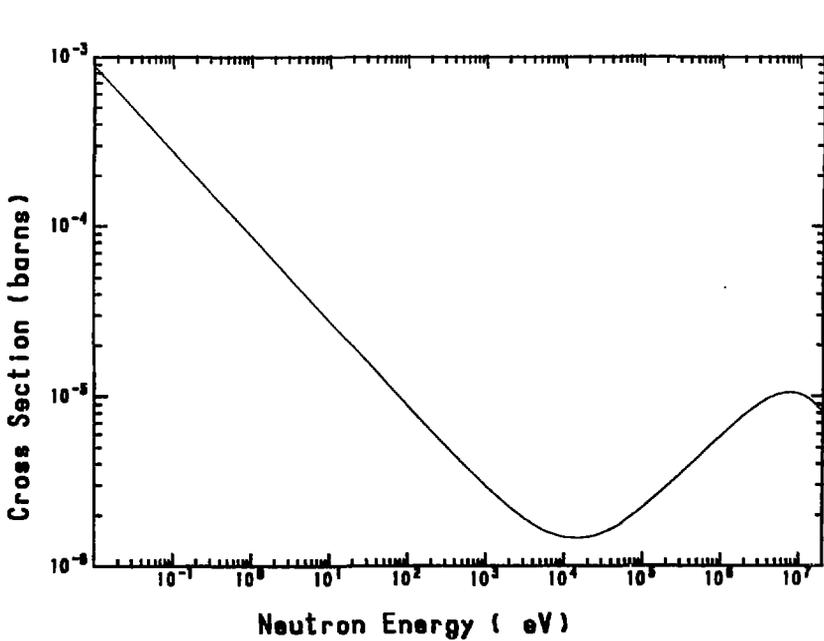


MAT=2012
MT= 1

²D
(n, n)



MAT=2012
MT= 2

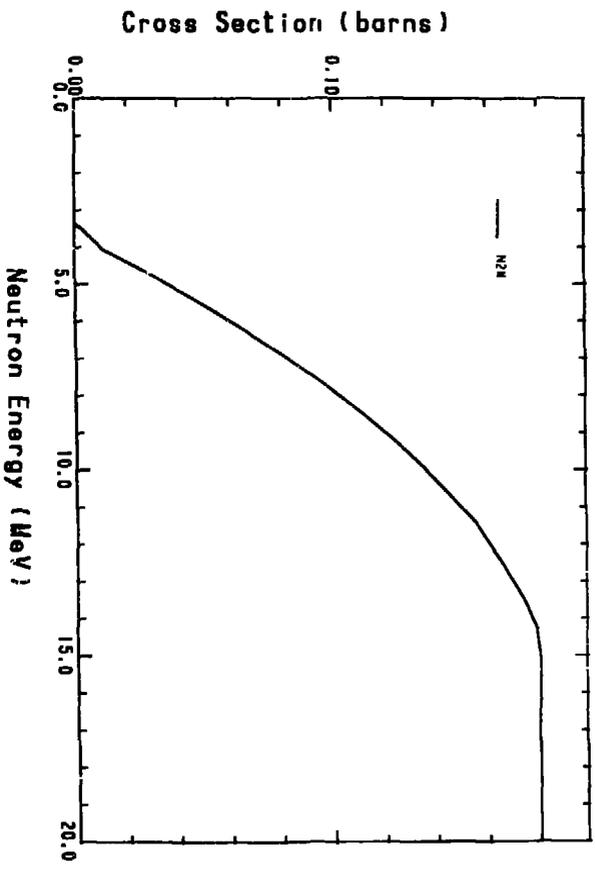


²D
(n, γ)

MAT=2012
MT= 102

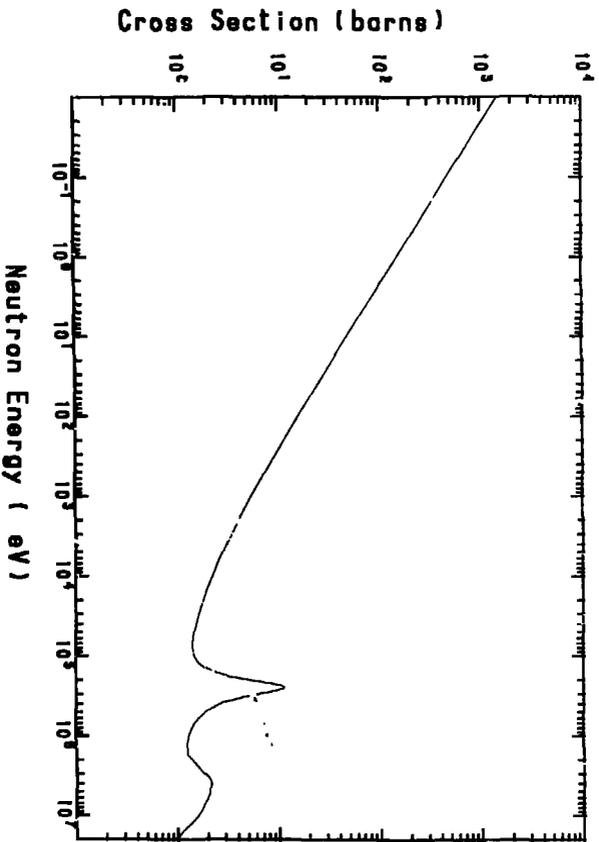
²D
(n,2n)

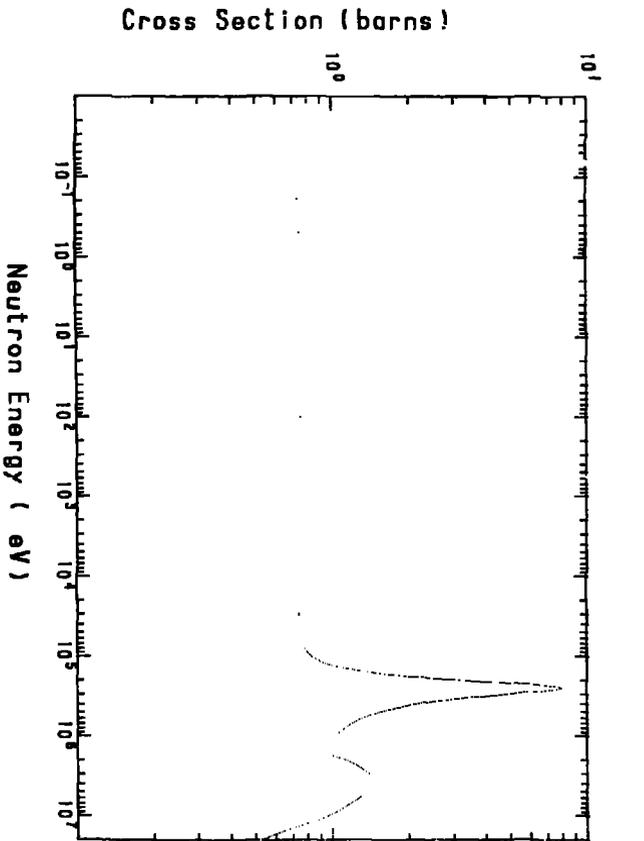
MAT=2012
MT= 16



⁶Li
TOTAL

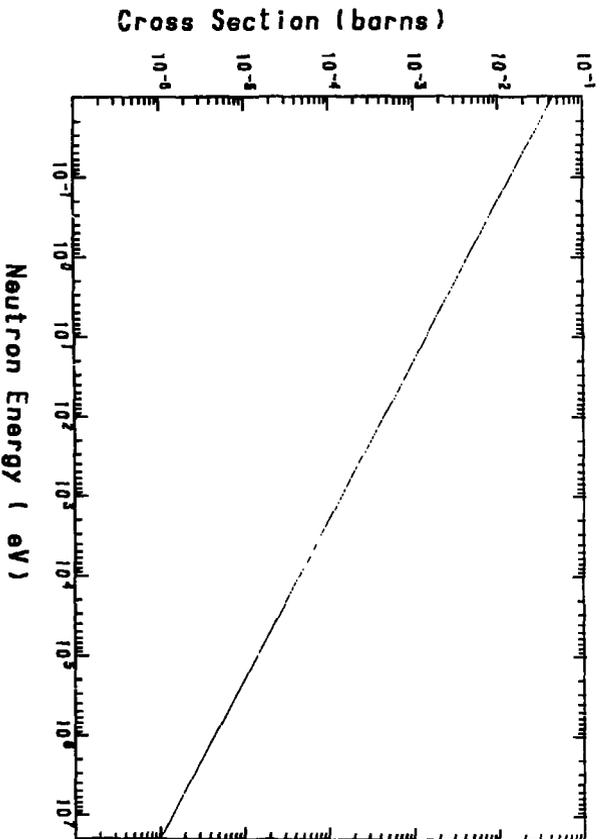
MAT=2031
MT= 1





⁶Li
(n,n)

MAT = 2031
MT = 2

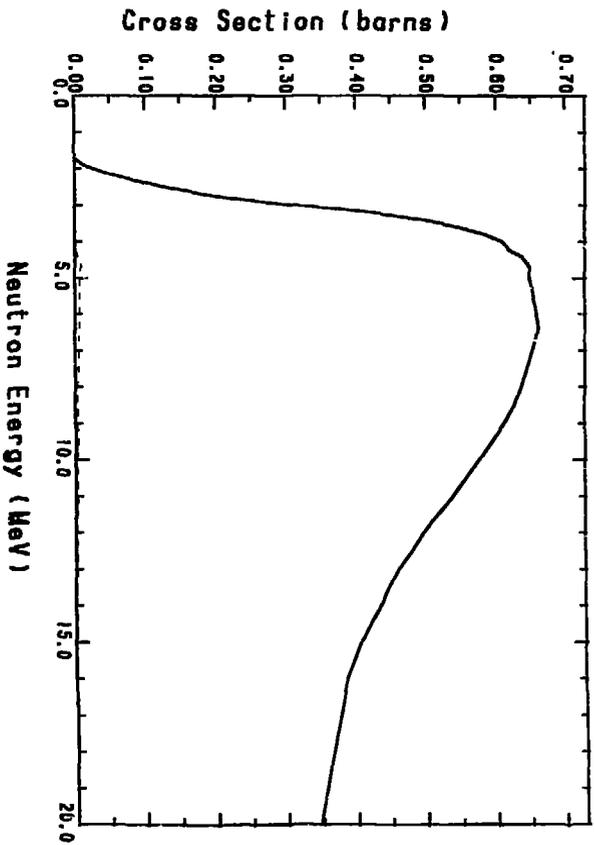


⁶Li
(n, γ)

MAT = 2031
MT = 102

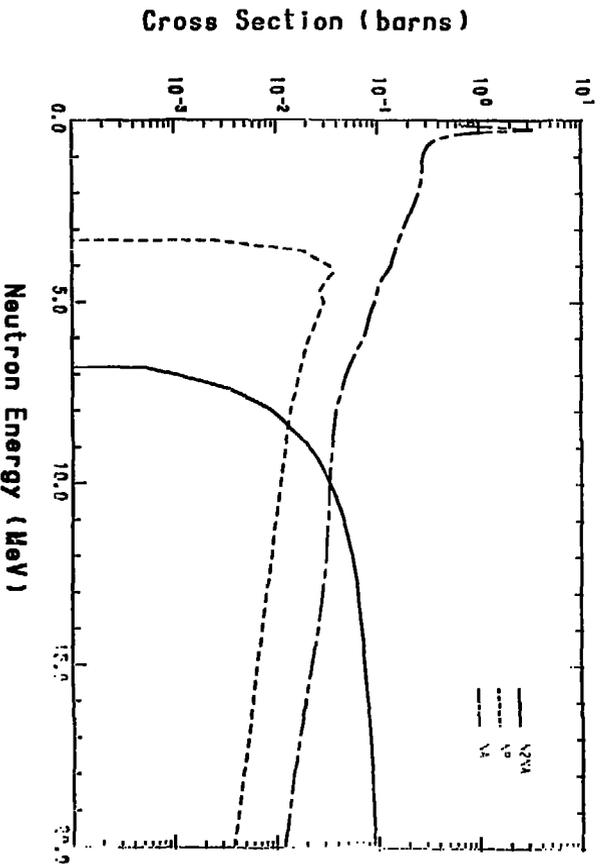
⁶Li
(n, n')

MAT=2031
MT= 4

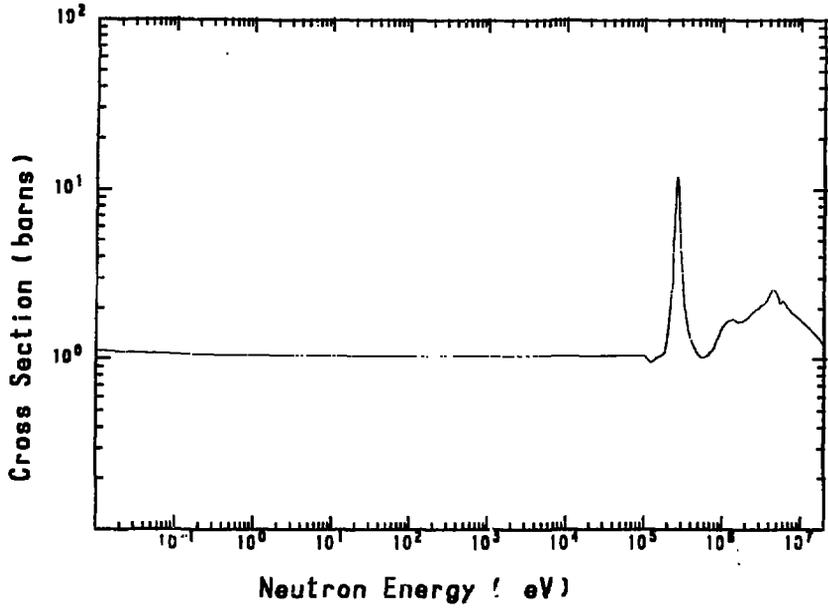


⁶Li
(n, 2n α)
(n, p)
(n, α)

MAT=2031
MT= 24
103
107

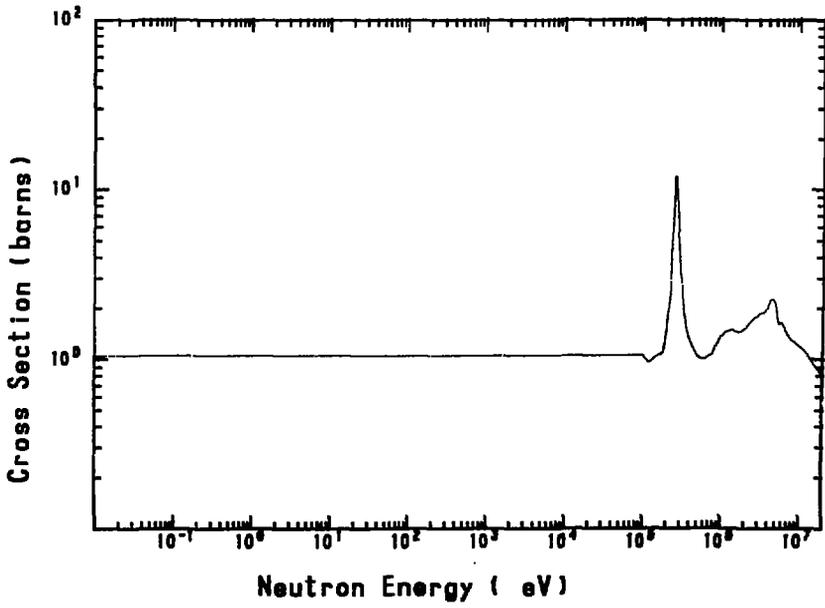


⁷Li
TOTAL



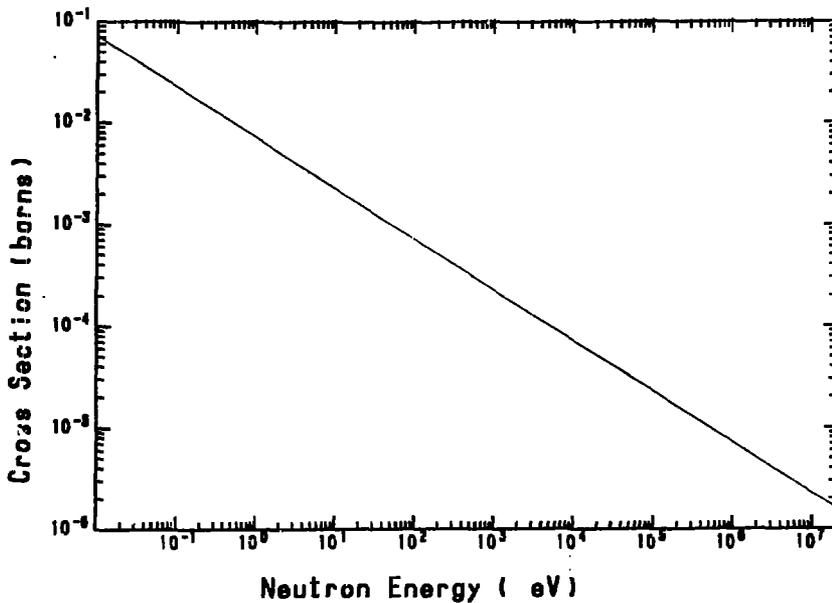
MAT=2032
MT= 1

⁷Li
(n, n)



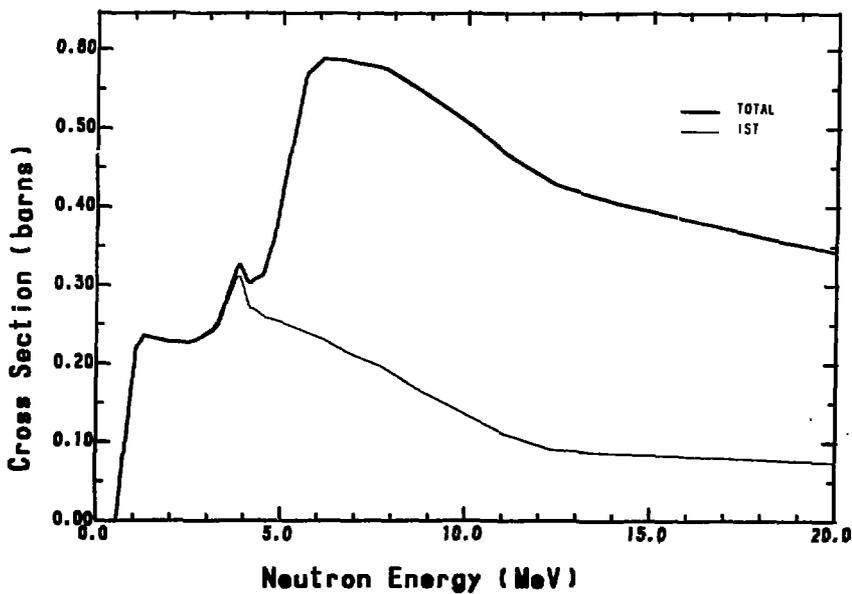
MAT=2032
MT= 2

^7Li
(n, γ)



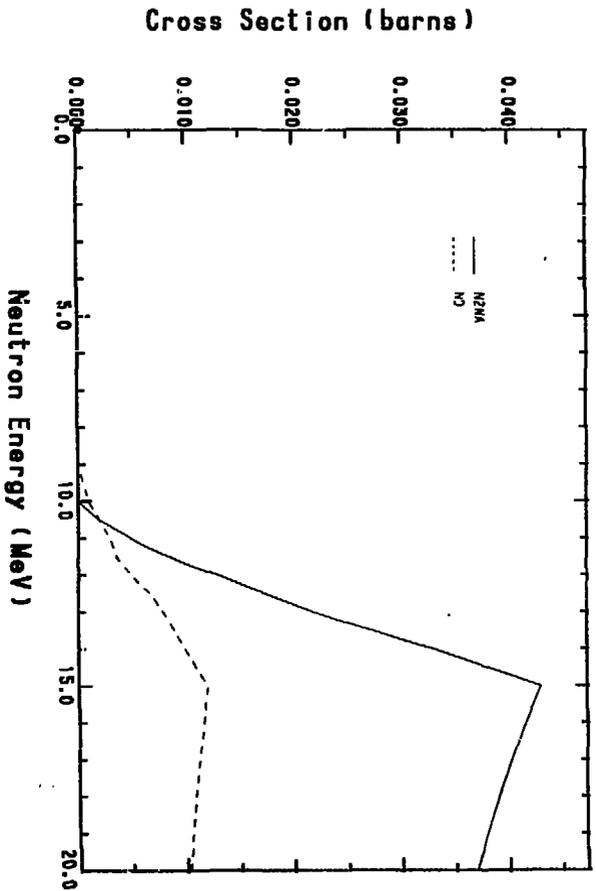
MAT=2032
MT= 102

^7Li
(n, n')



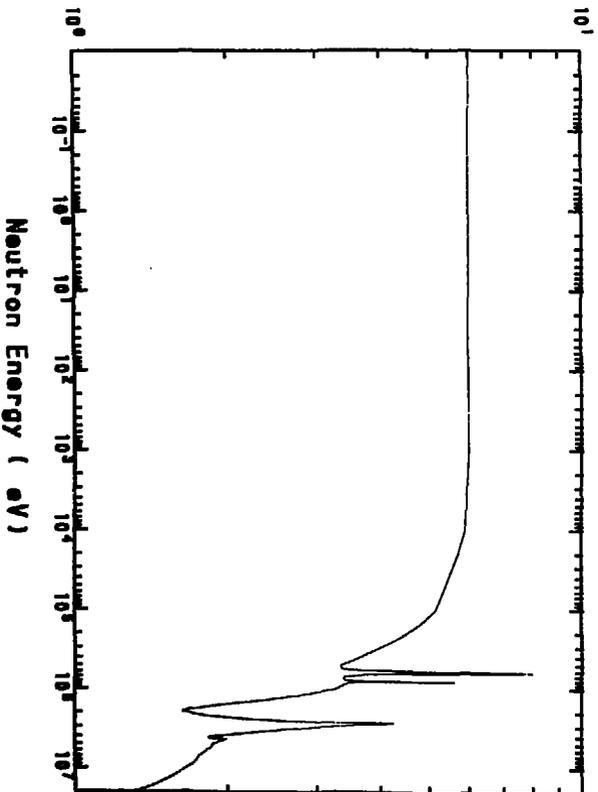
MAT=2032
MT= 4
51

⁷Li
 (n,2n' α)
 (n,d)



MAT=2032
MT= 24
104

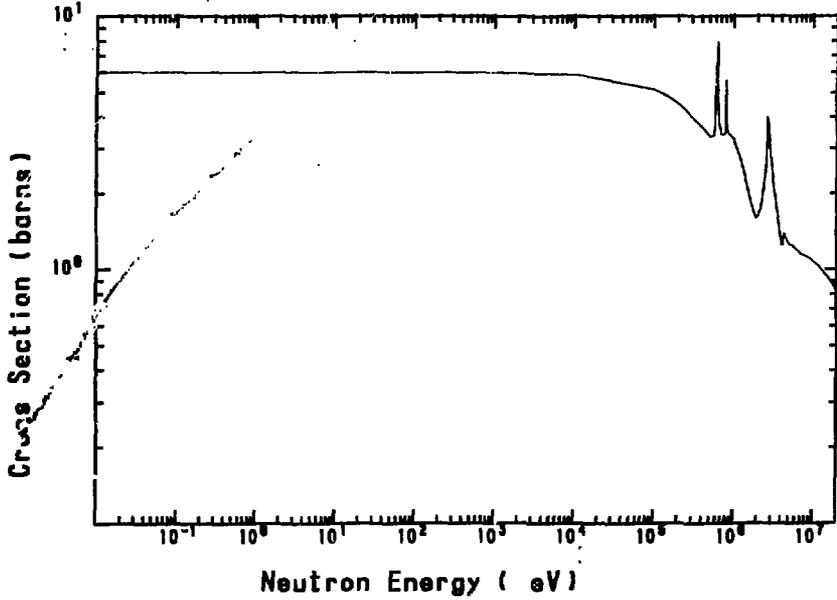
Cross Section (barns)



⁹Be
TOTAL

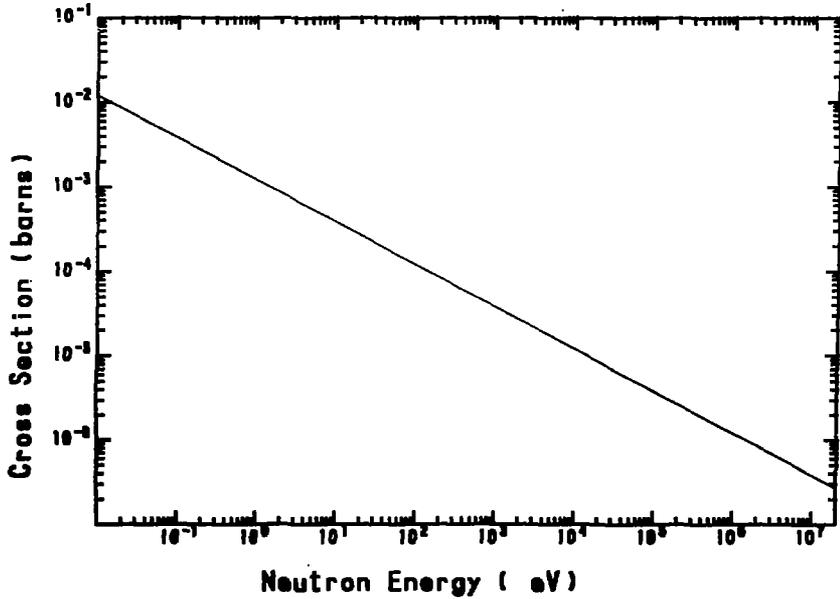
MAT=2041
MT= 1

⁹Be
(n, n)



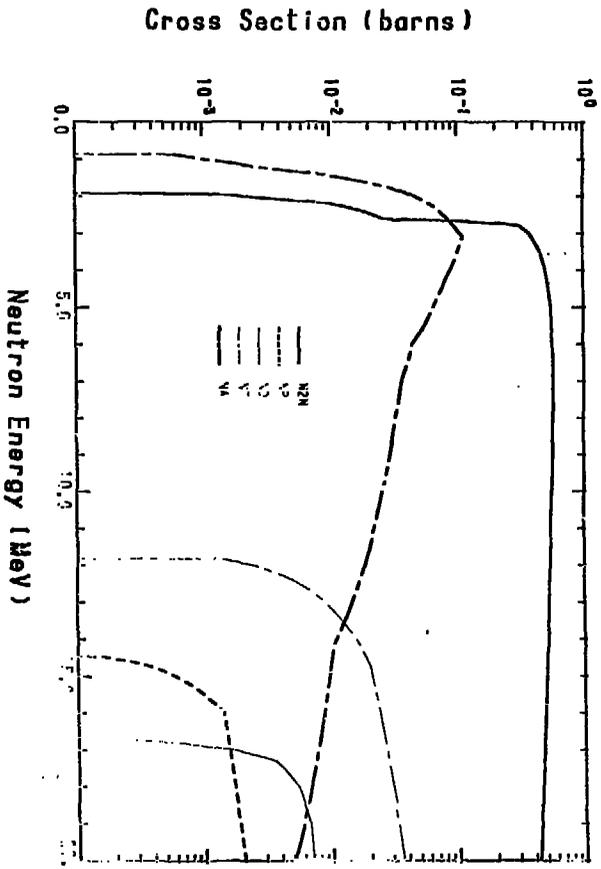
MAT=2041
MT= 2

⁹Be
(n, γ)



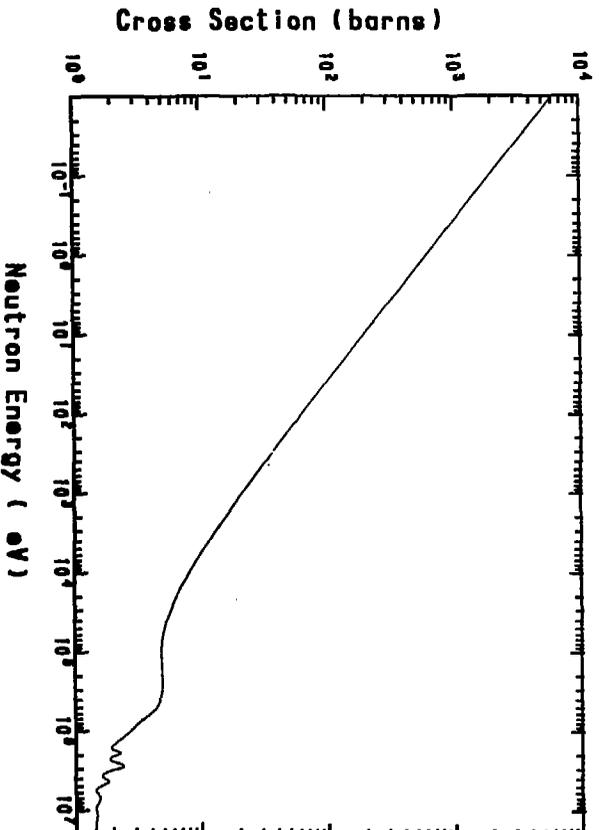
MAT=2041
MT= 102

⁹Be
 (n,2n)
 (n,p)
 (n,d)
 (n,t)
 (n, α)



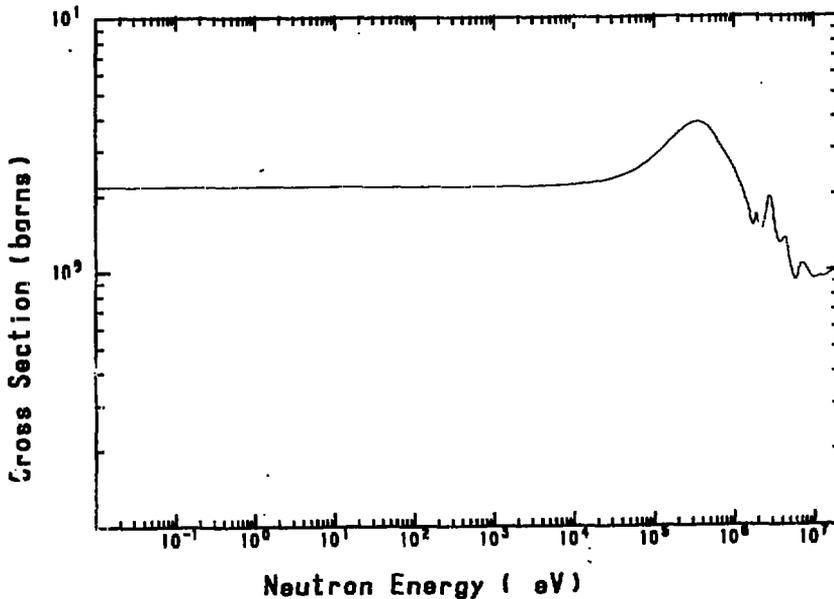
MAT=2041
MT=
 103
 104
 105
 107

¹⁰B
TOTAL



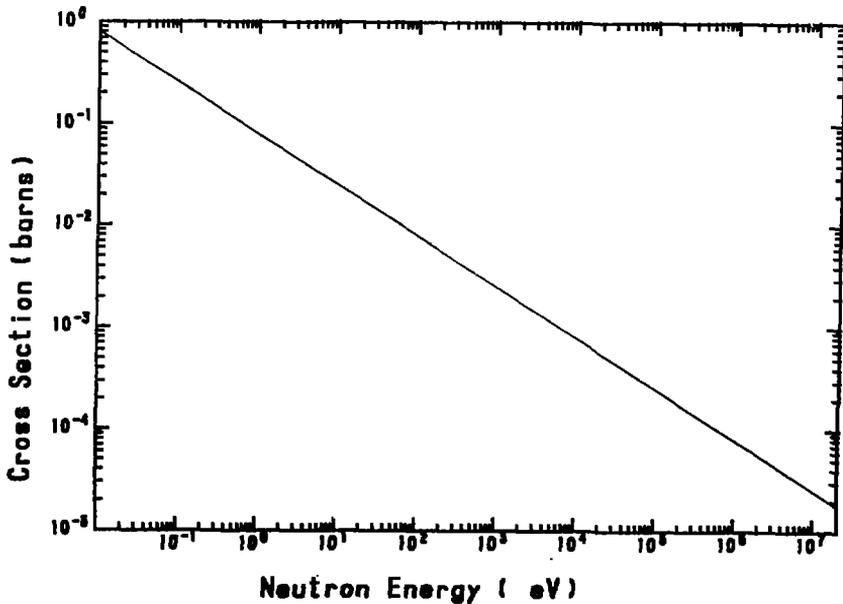
MAT=2051
MT=
 1

^{10}B
(n, n)

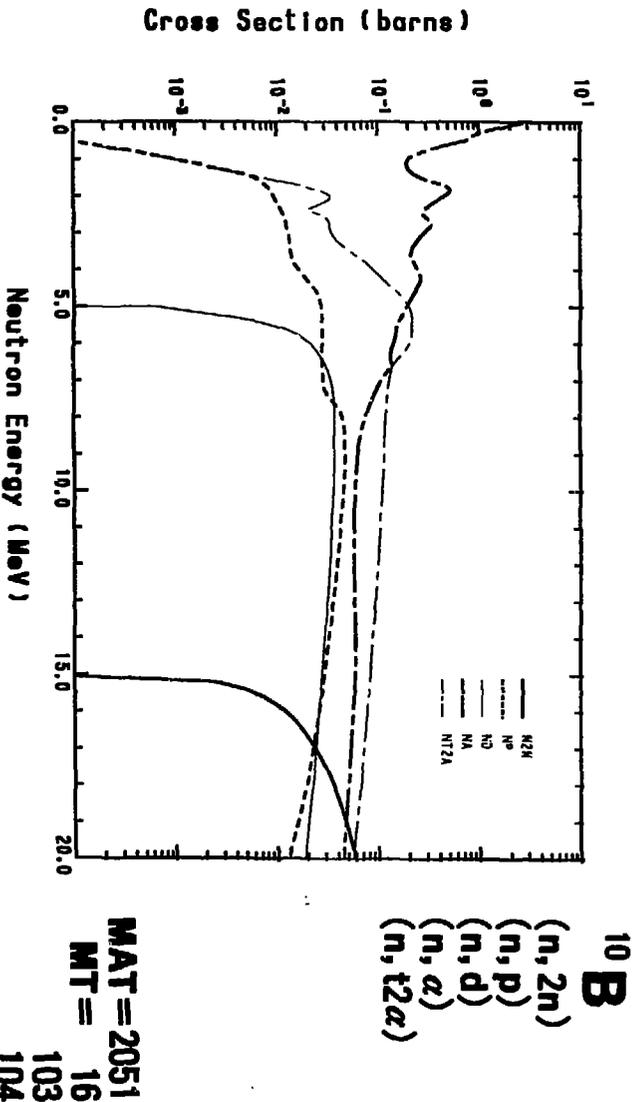
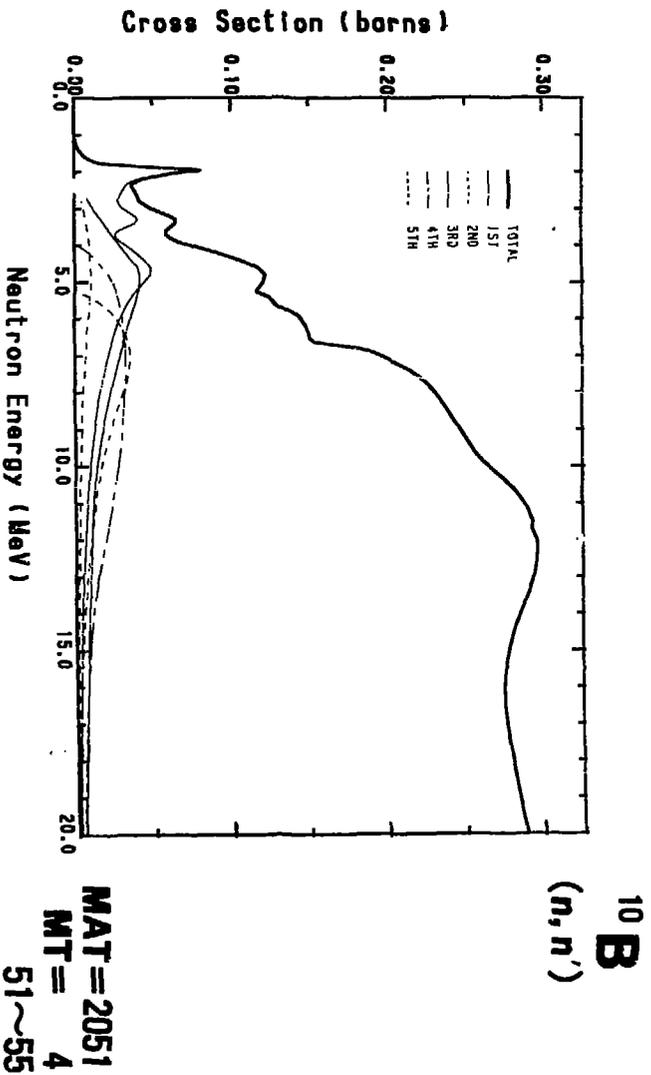


MAT=2051
MT= 2

^{10}B
(n, γ)



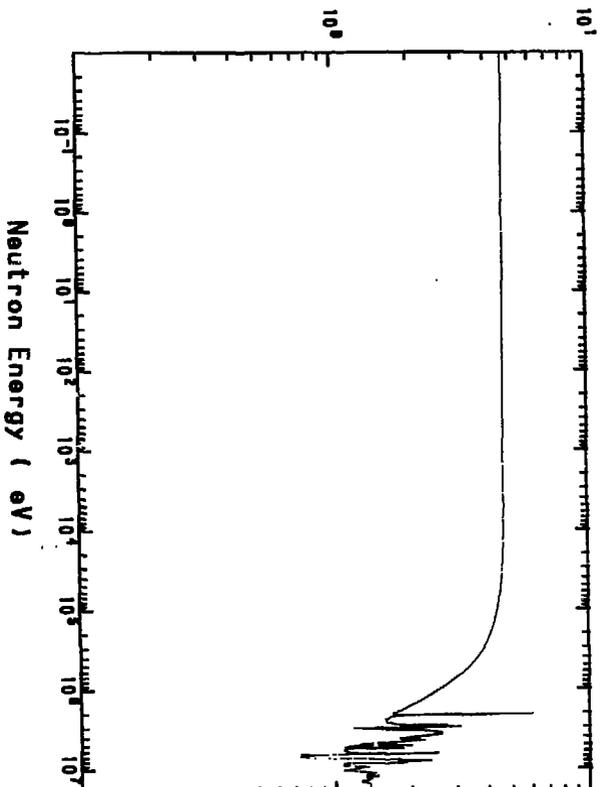
MAT=2051
MT= 102



¹²C
TOTAL

MAT=2061
MT= 1

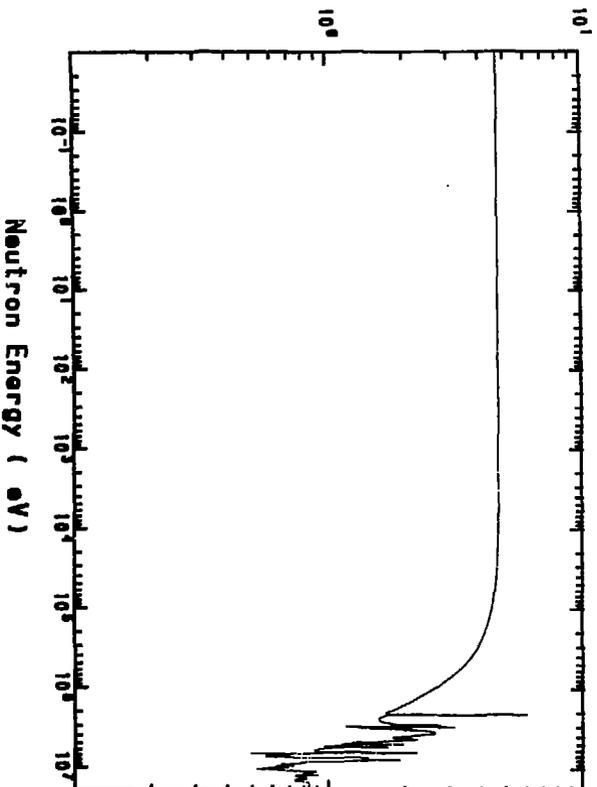
Cross Section (barns)

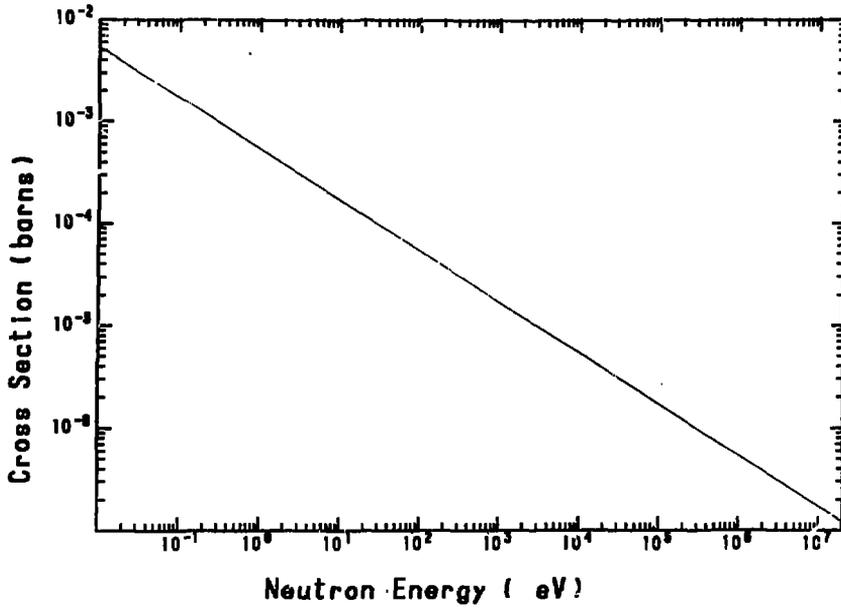


¹²C
(n,n)

MAT=2061
MT= 2

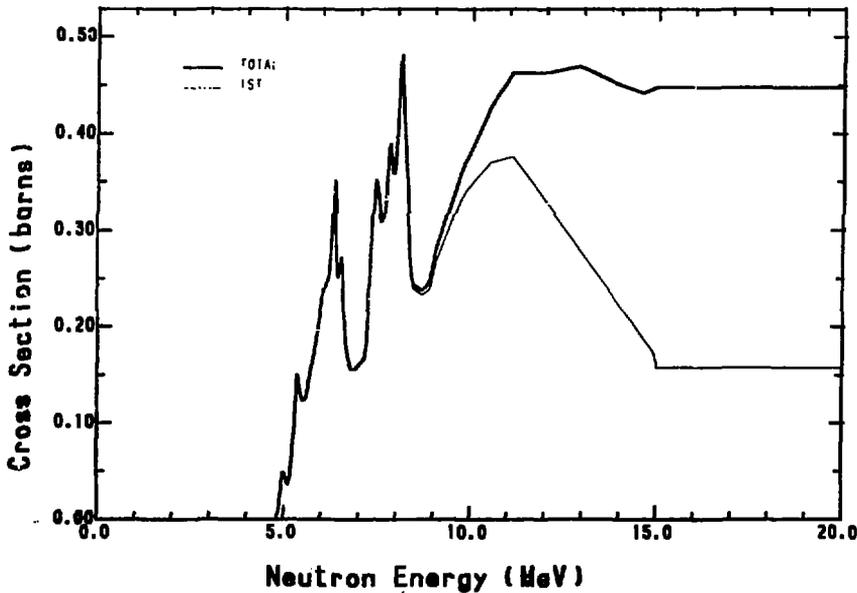
Cross Section (barns)





^{12}C
(n, γ)

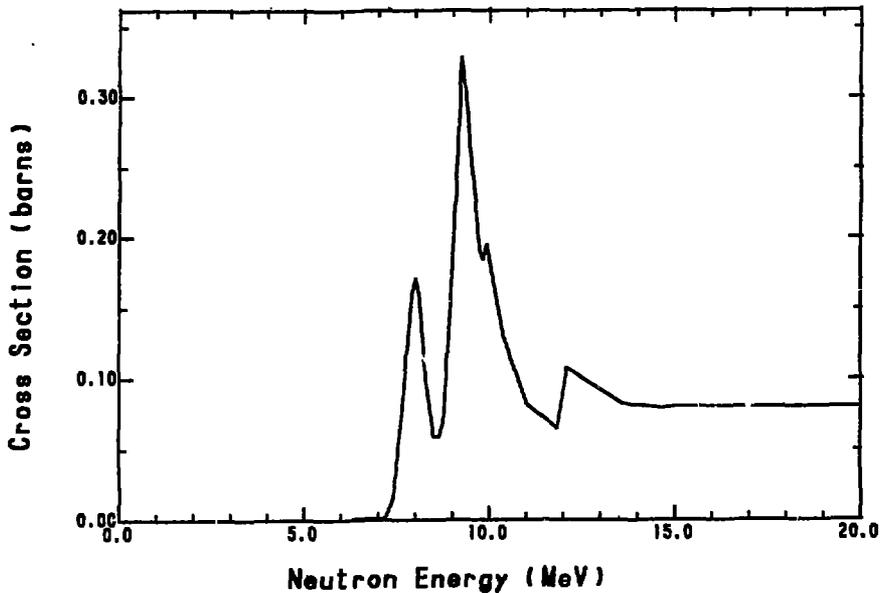
MAT=2061
MT= 102



^{12}C
(n, n')

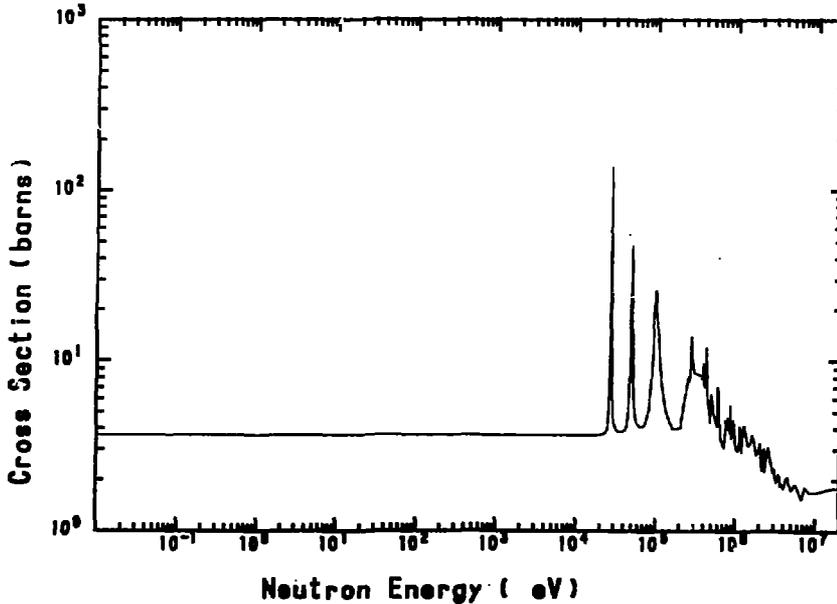
MAT=2061
MT= 4
51

¹²C
(n, α)



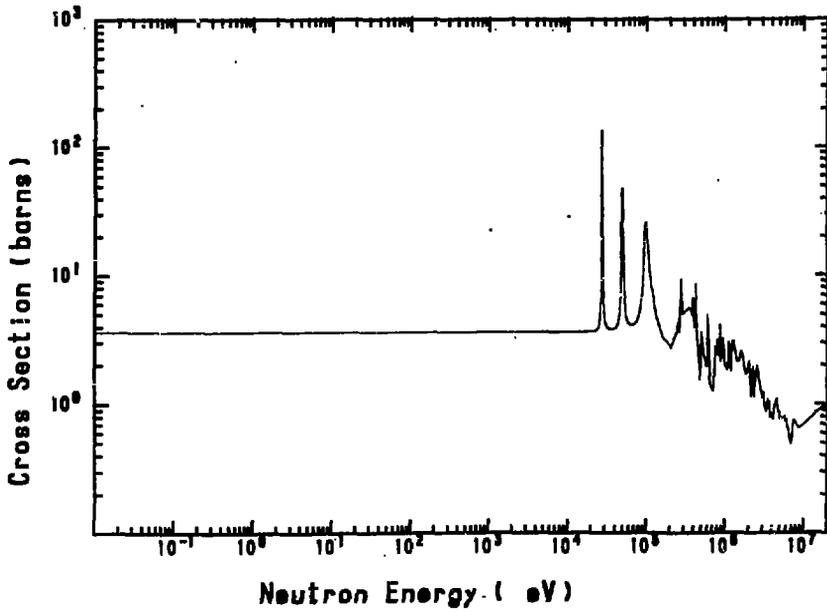
MAT=2061
MT= 107

¹⁹F
TOTAL

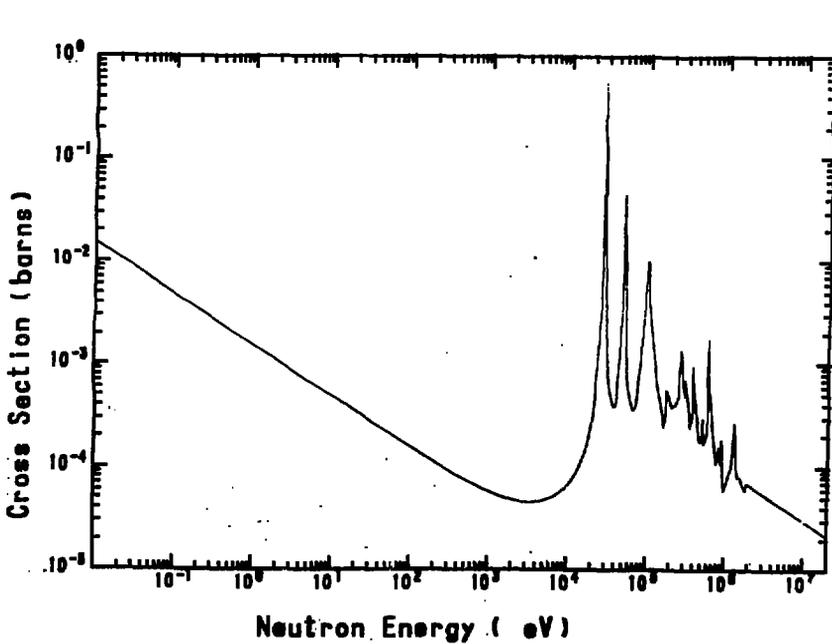


MAT=2091
MT= 1

^{19}F
(n, n)



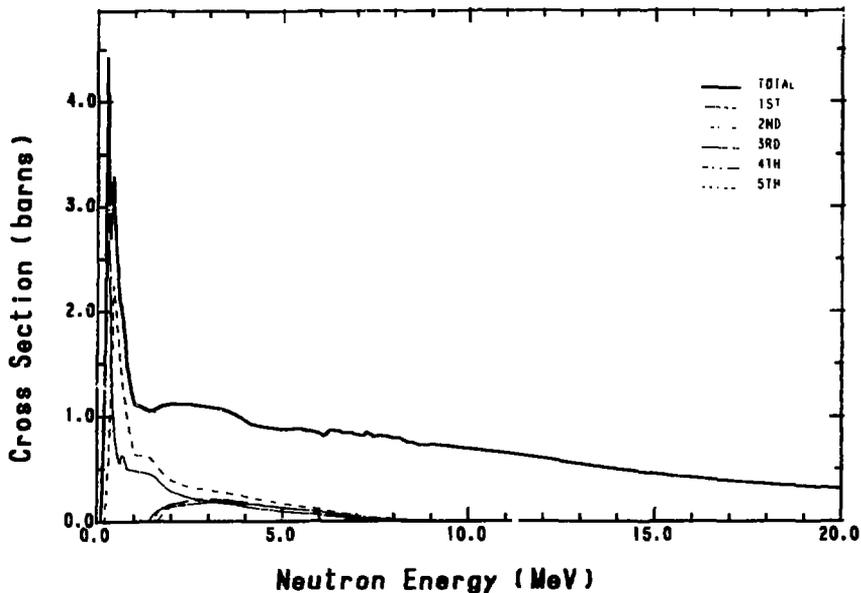
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MT= 2



^{19}F
(n, γ)

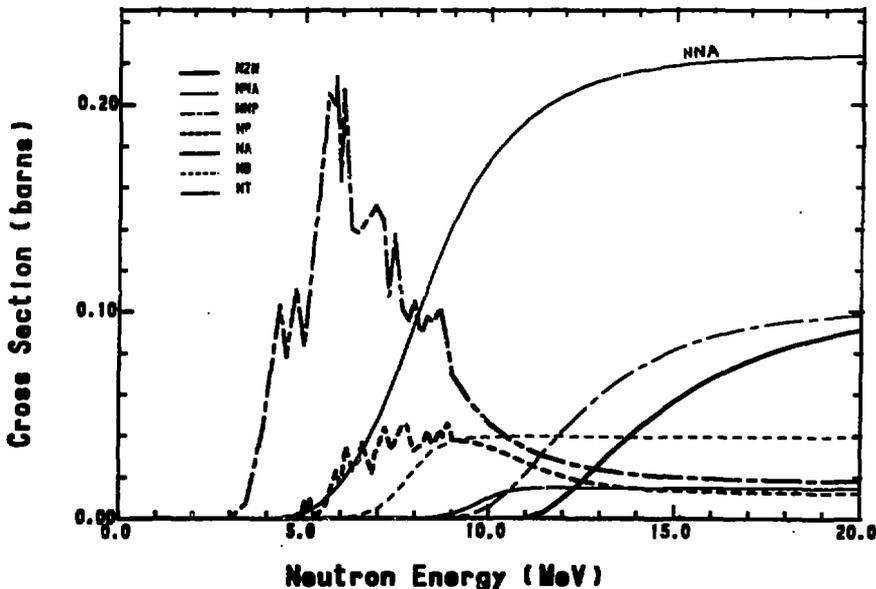
MAT=2091
MT= 102

¹⁹F
(n, n')



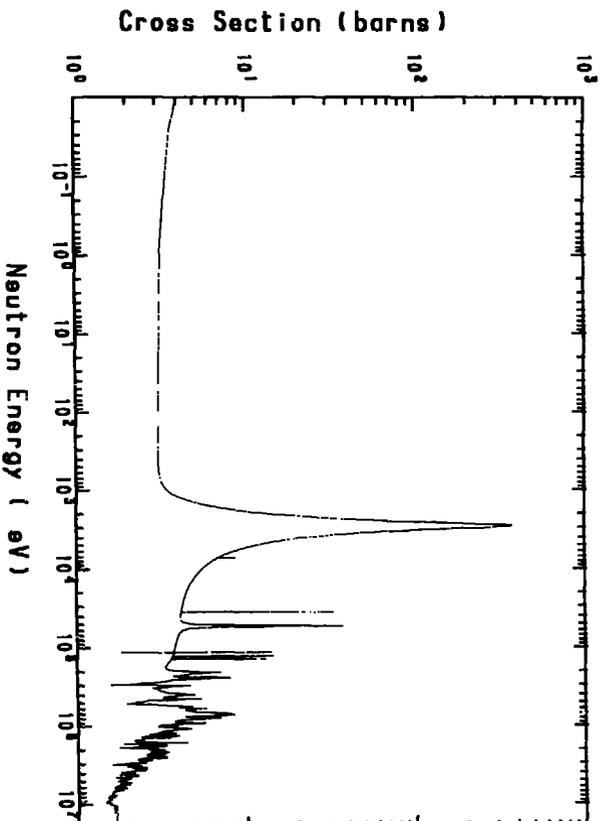
MAT=2091
MT= 4
51~55

¹⁹F
(n, 2n)
(n, n'α)
(n, n'p)
(n, p)
(n, d)
(n, t)
(n, α)



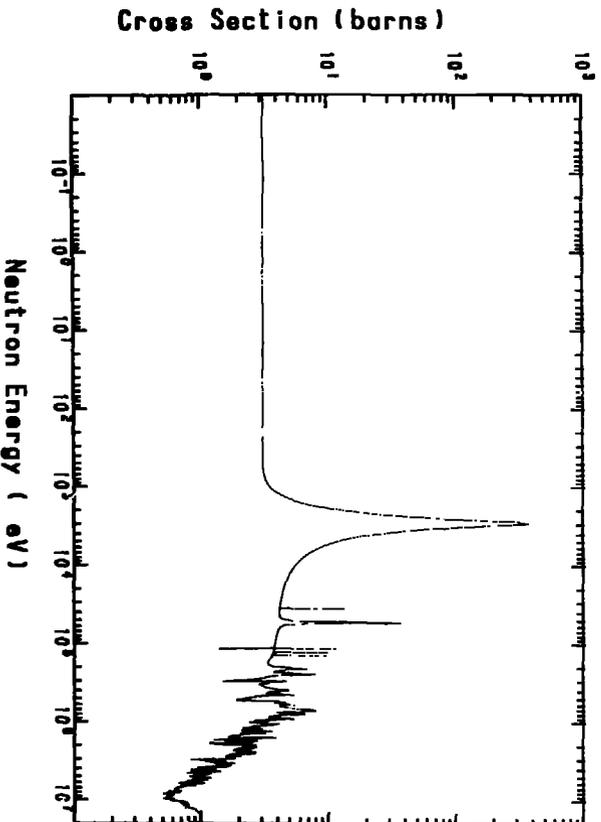
MAT=2091
MT= 16
22
28
103
104
105
107

²³Na
TOTAL



MAT=2111
MT= 1

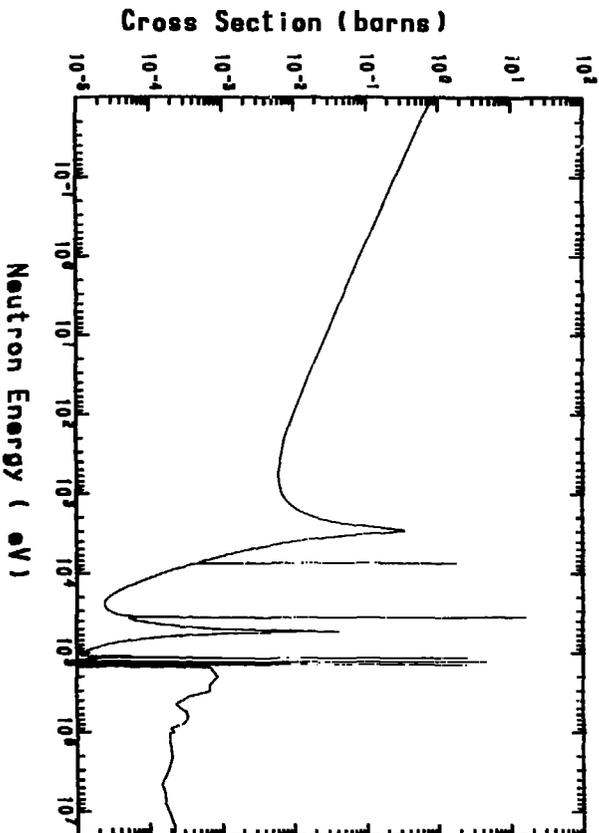
²³Na
(n, n)



MAT=2111
MT= 2

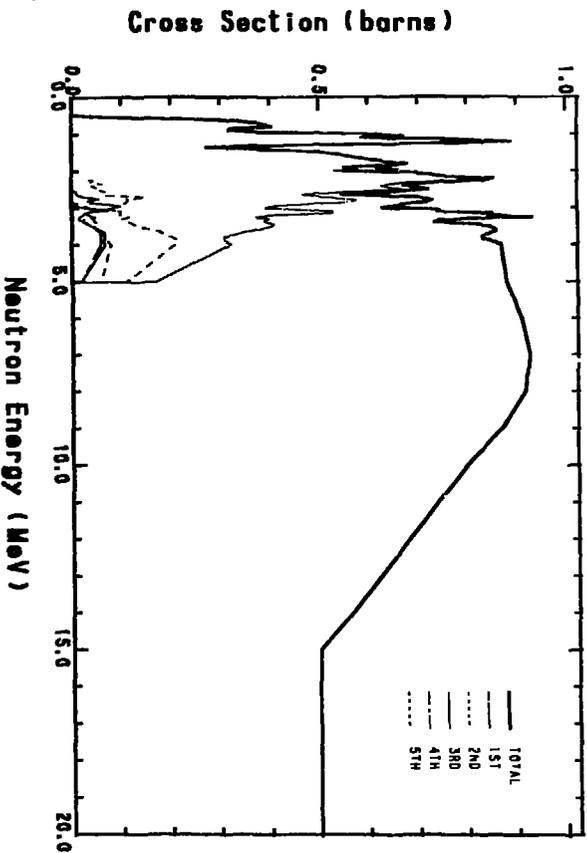
²³Na
(n, γ)

MAT=2111
MT=102

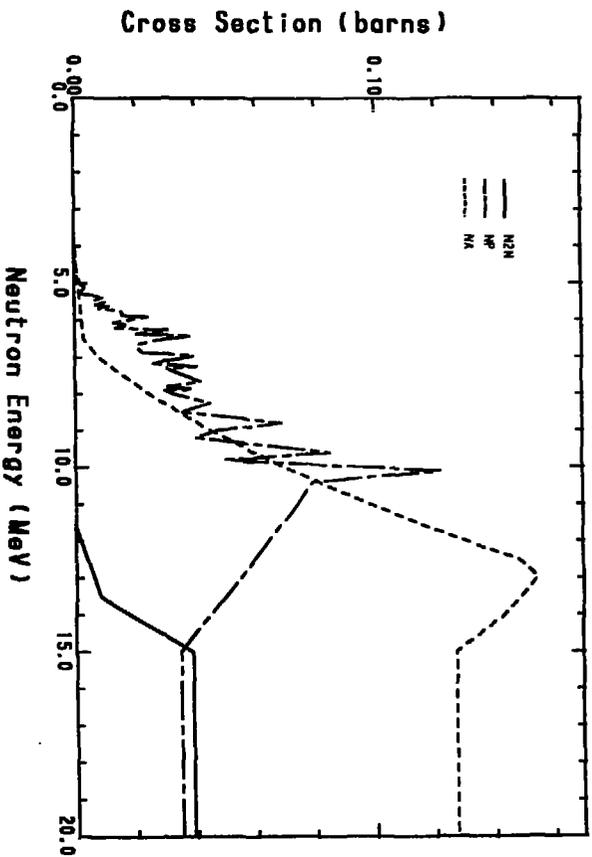


²³Na
(n, n')

MAT=2111
MT=4
51~55

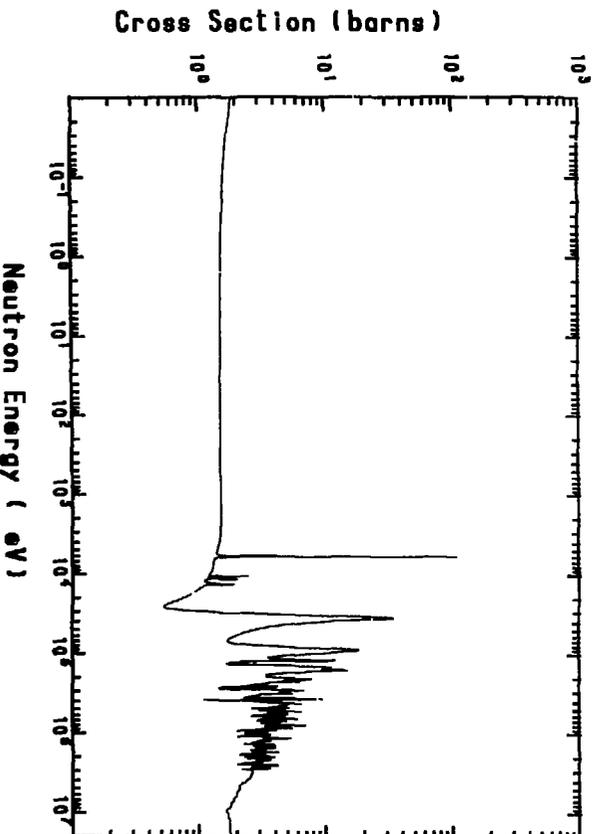


²³Na
 (n, 2n)
 (n, p)
 (n, α)



MAT=2111
MT= 16
103
107

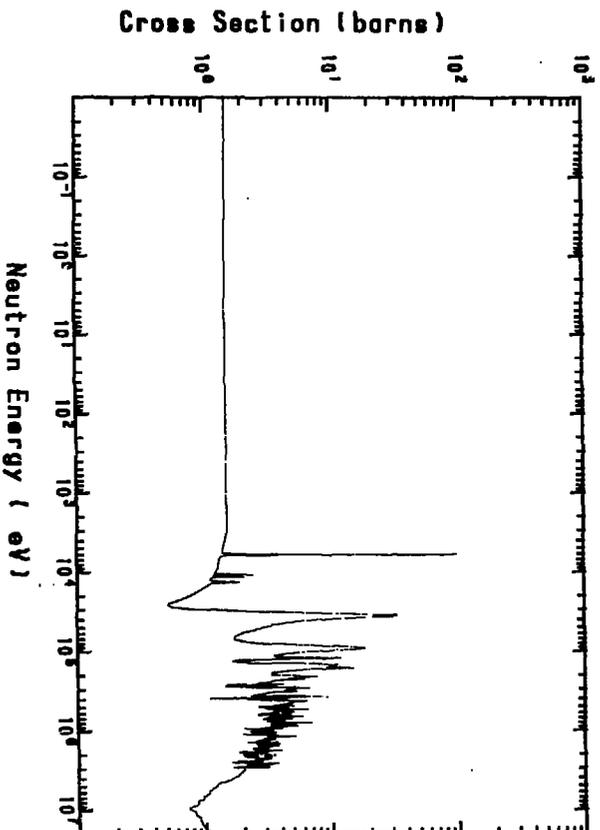
²⁷Al
TOTAL



MAT=2131
MT 1

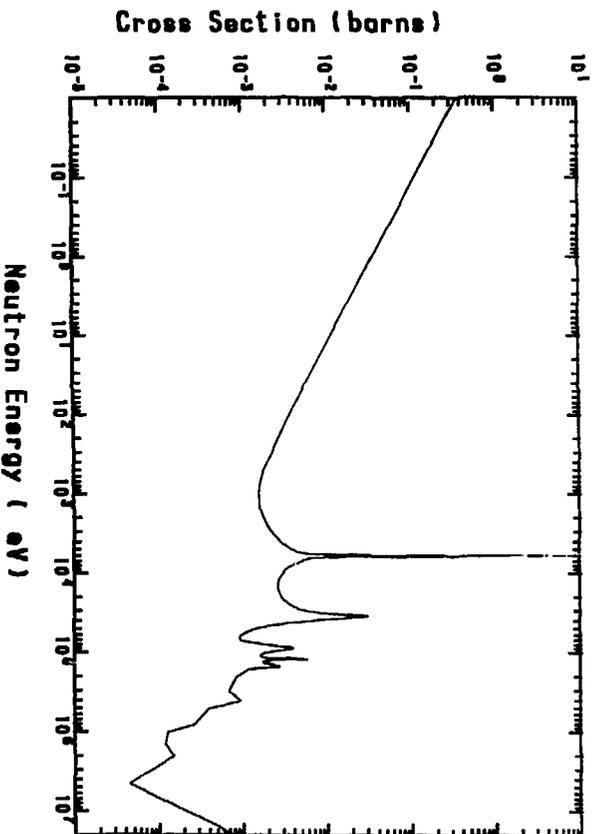
²⁷Al
(n, n)

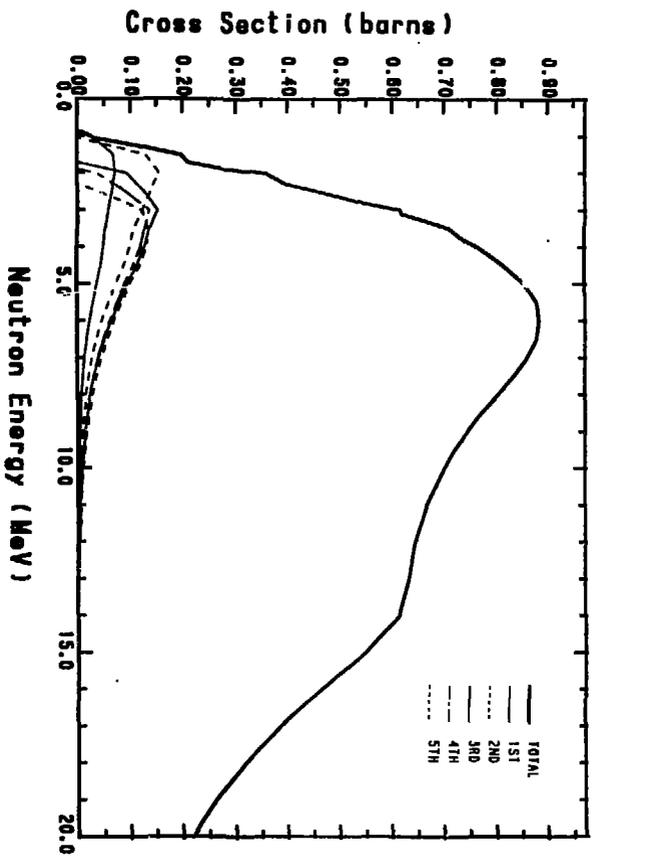
MAT=2131
MT= 2



²⁷Al
(n, γ)

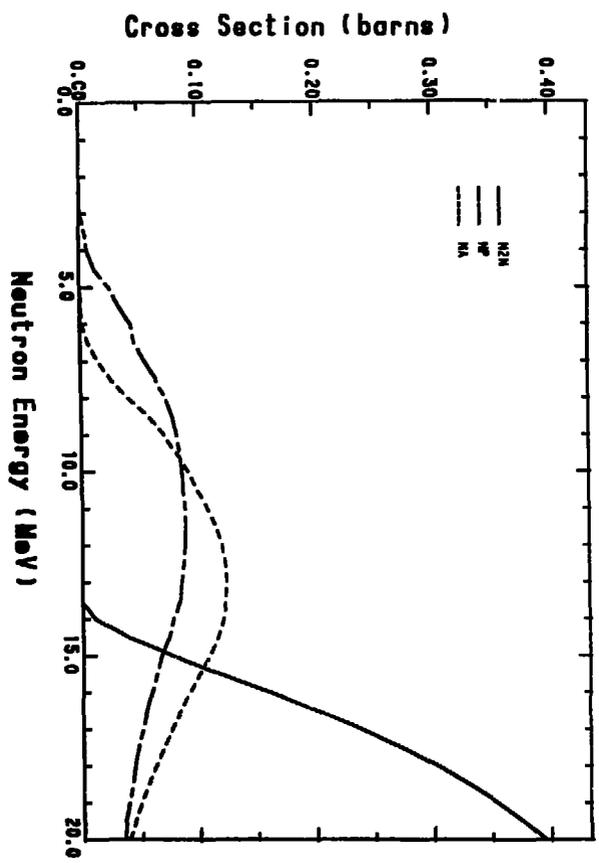
MAT=2131
MT= 102





²⁷Al
(n, n')

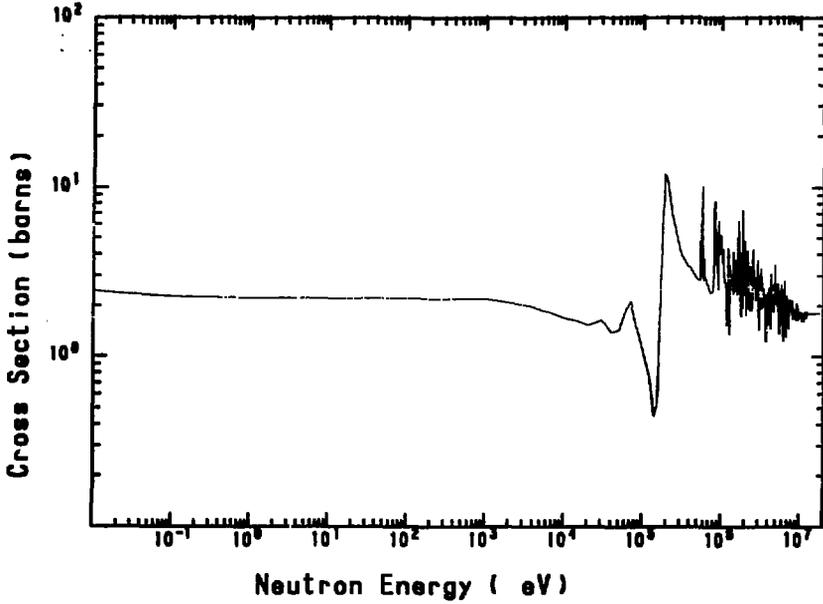
MAT=2131
MT= 4
51~55



²⁷Al
(n, 2n)
(n, p)
(n, α)

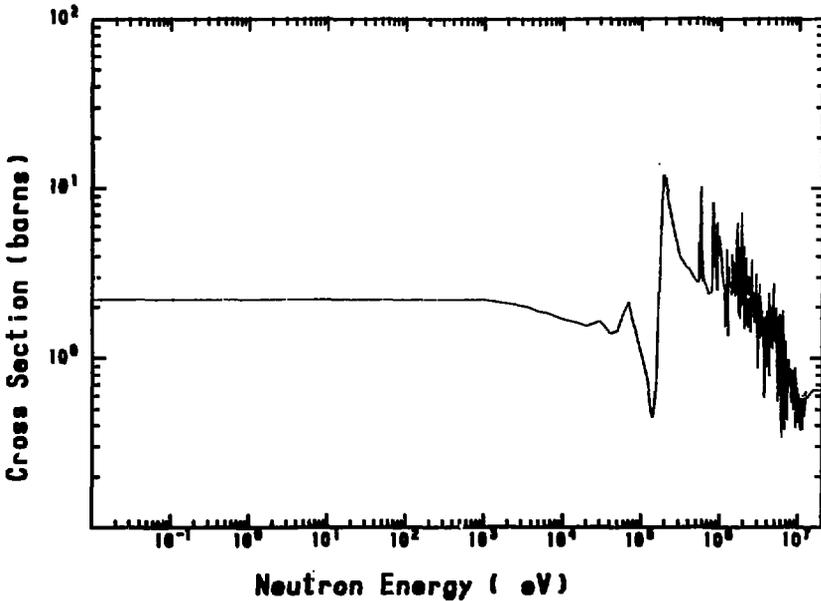
MAT=2131
MT= 16
103
107

¹⁴Si
TOTAL



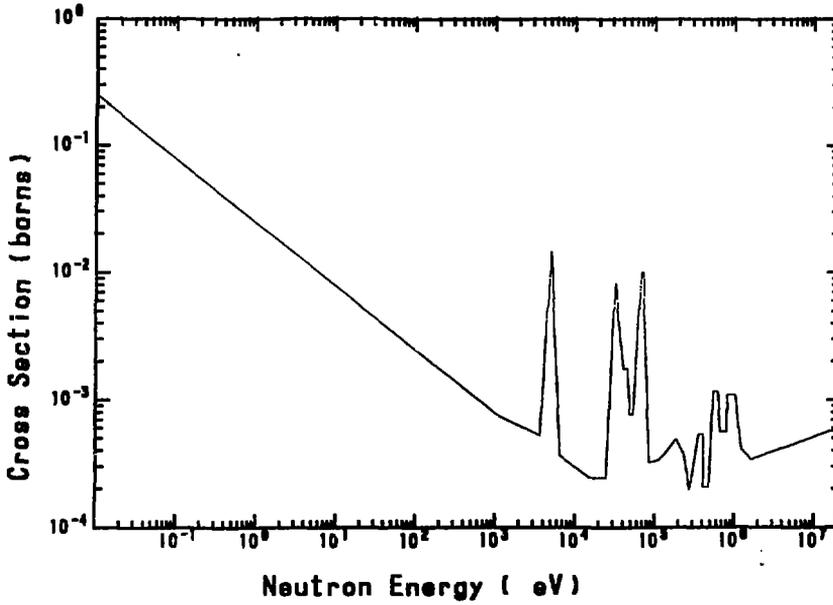
MAT=2140
MT= 1

¹⁴Si
(n, n)



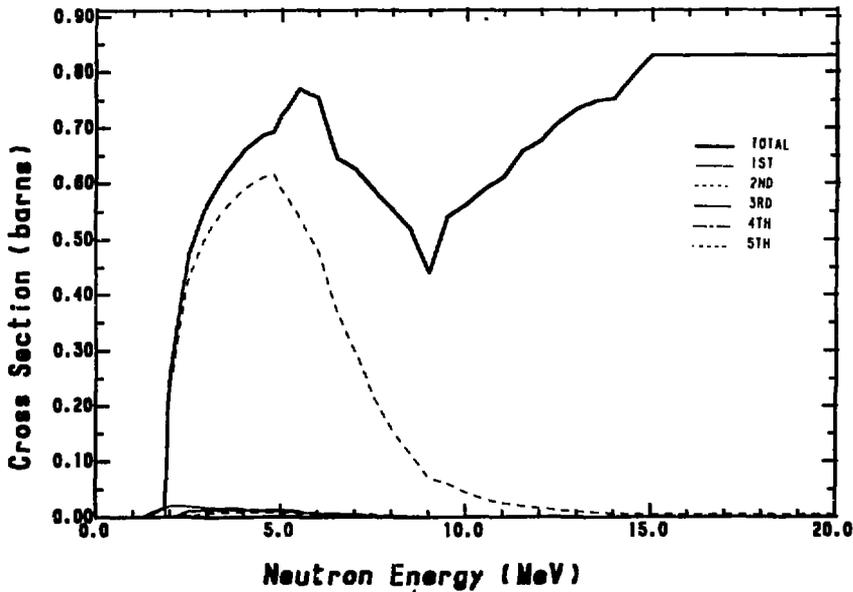
MAT=2140
MT= 2

¹⁴Si
(n, γ)



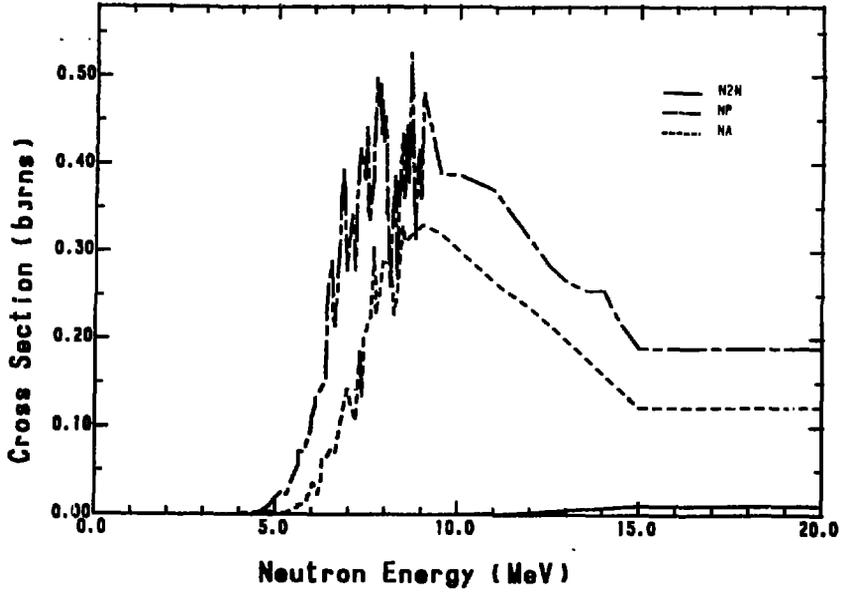
MAT=2140
MT= 102

¹⁴Si
(n, n')



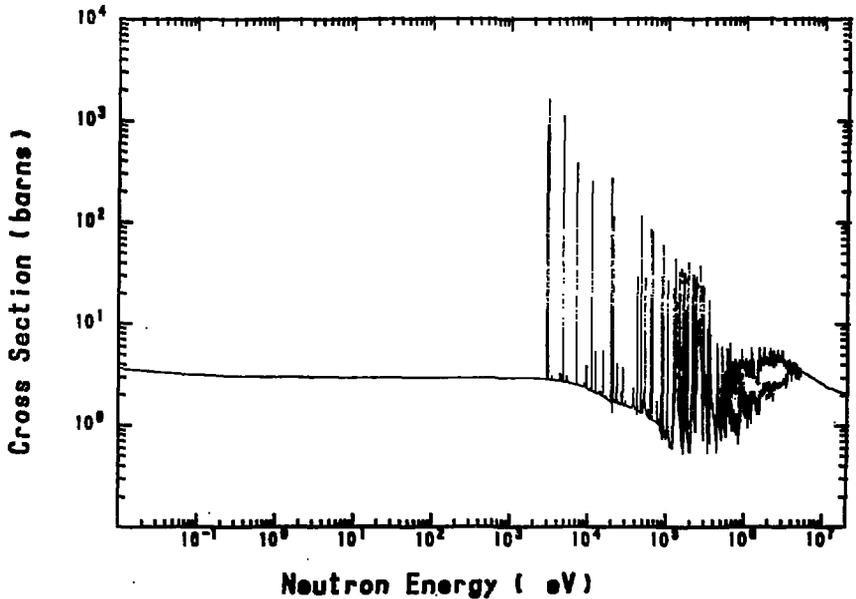
MAT=2140
MT= 4
51~55

¹⁴Si
 (n, 2n)
 (n, p)
 (n, α)



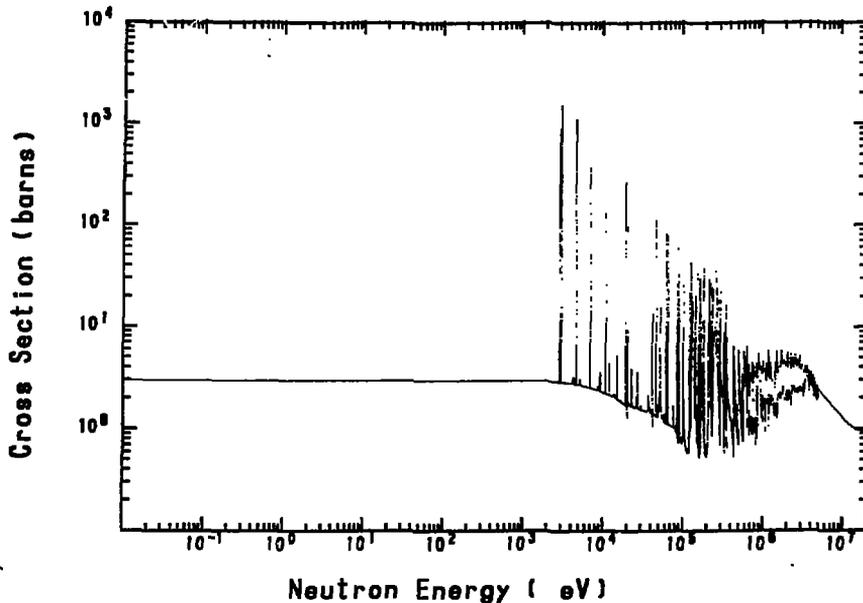
MAT=2140
 MT= 16
 103
 107

²⁰Ca
 TOTAL



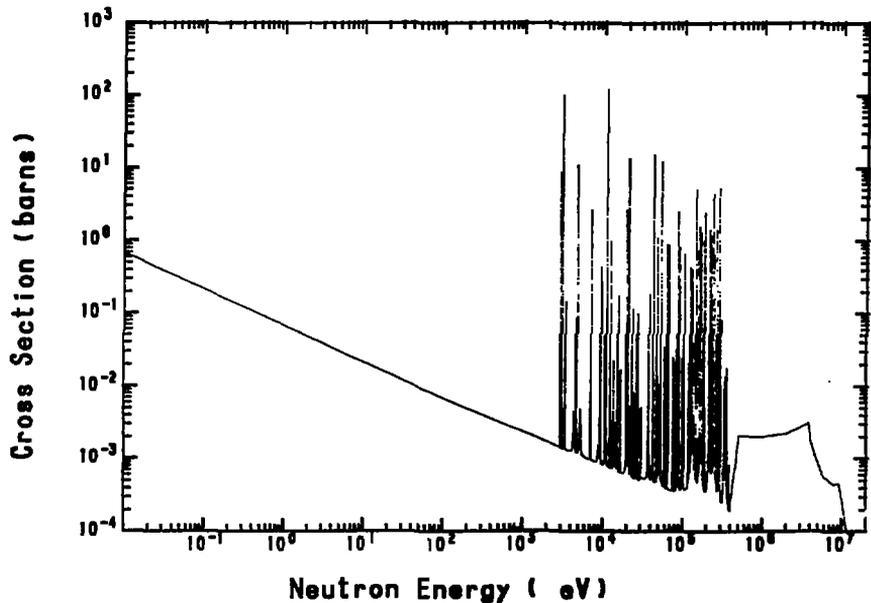
MAT=2200
 MT= 1

²⁰Ca
(n, n)



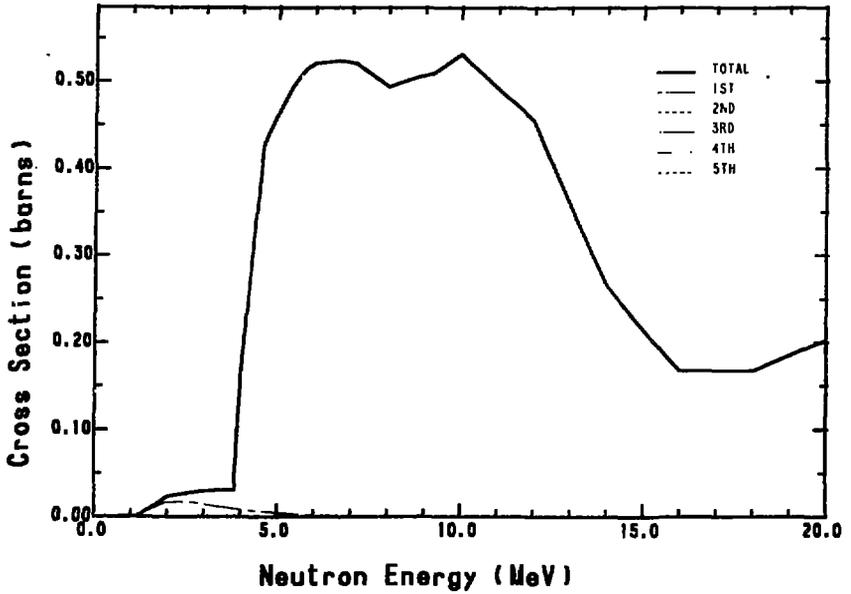
MAT=2200
MT= 2

²⁰Ca
(n, γ)



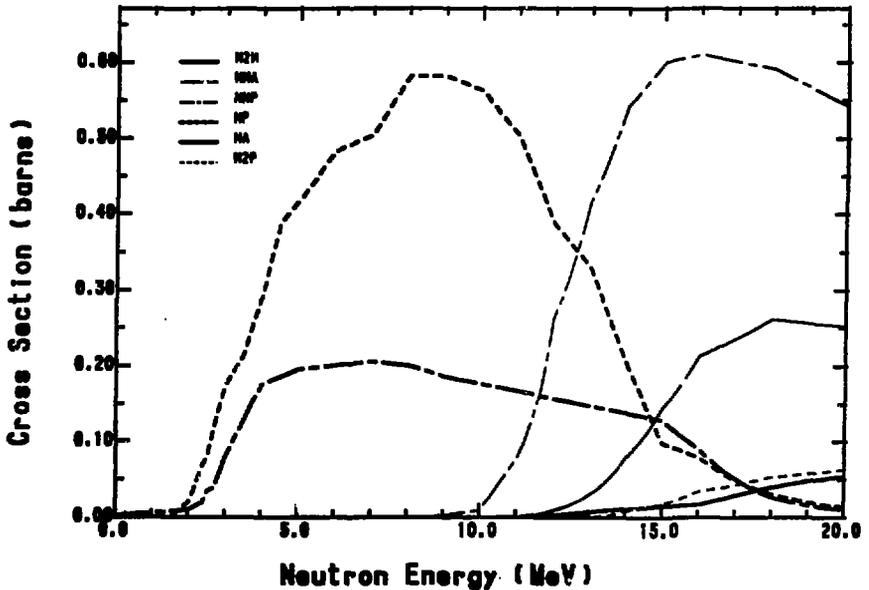
MAT=2200
MT= 102

²⁰Ca
(n, n')



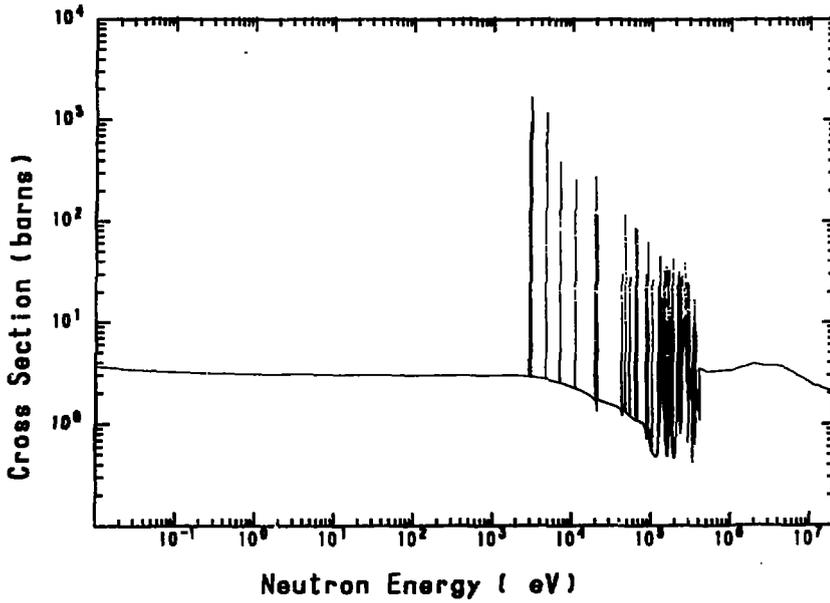
MAT=2200
MT= 4
51~55

²⁰Ca
(n, 2n)
(n, n'α)
(n, n'p)
(n, p)
(n, α)
(n, 2p)



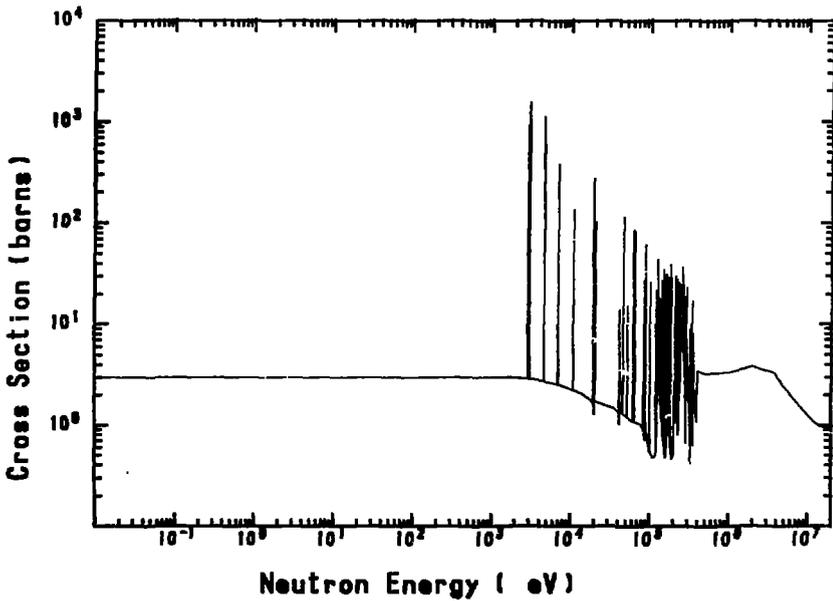
MAT=2200
MT= 16
22
28
103
107
111

⁴⁰Ca
TOTAL



MAT=2201
MT= 1

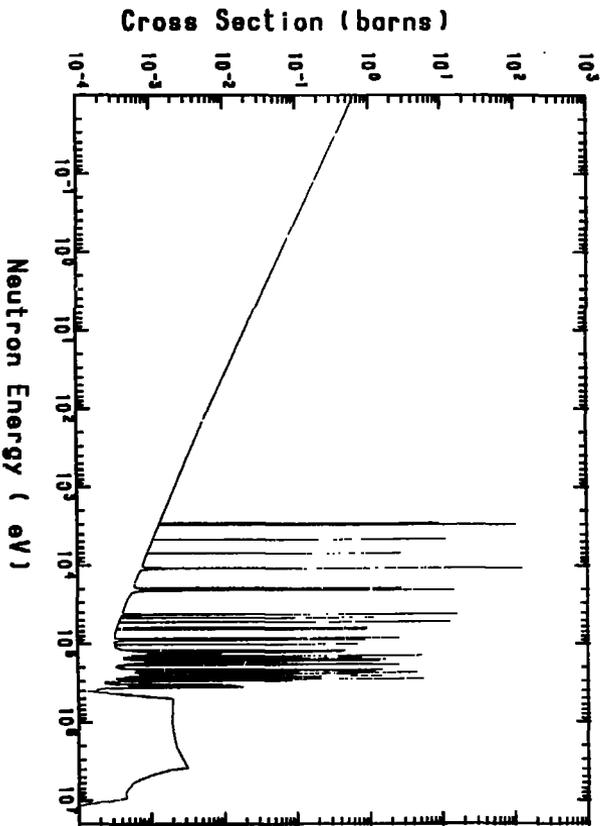
⁴⁰Ca
(n, n)



MAT=2201
MT= 2

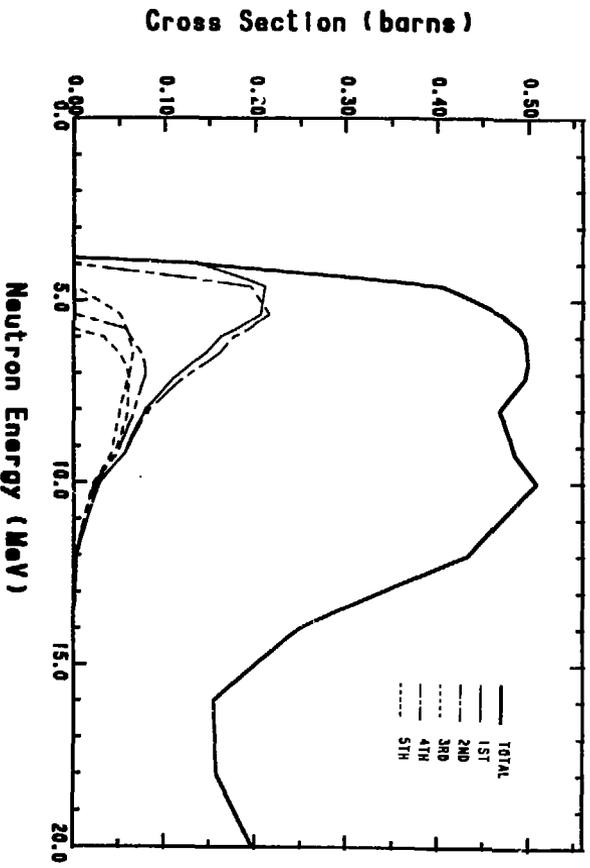
⁴⁰Ca
(n, γ)

MAT=2201
MT= 102

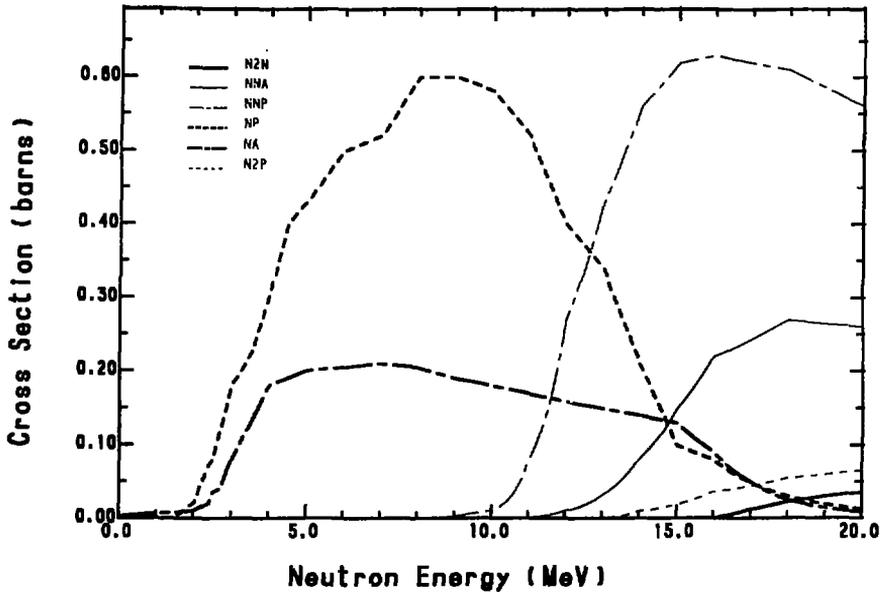


⁴⁰Ca
(n, n')

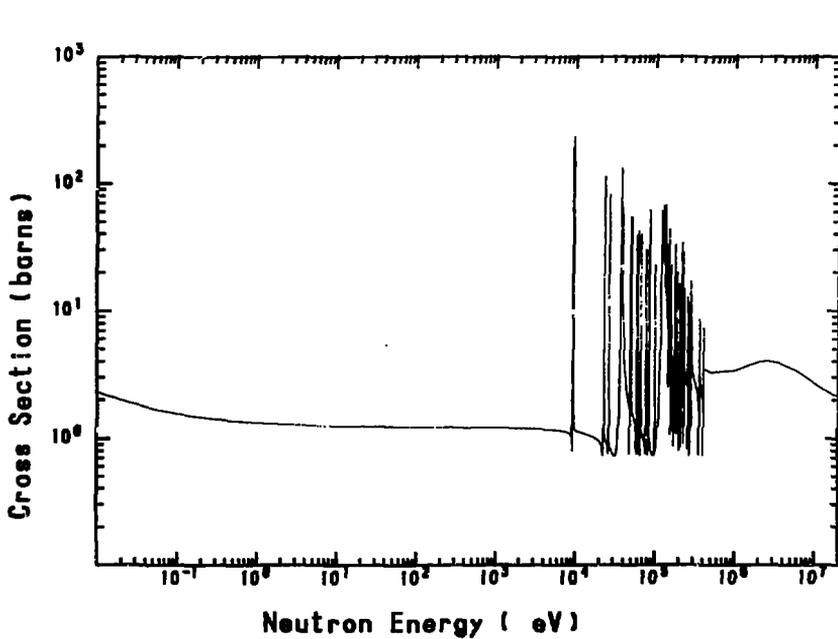
MAT=2201
MT= 4
51~55



⁴⁰Ca
 (n, 2n)
 (n, n'α)
 (n, n'p)
 (n, p)
 (n, α)
 (n, 2p)



MAT=2201
MT= 16
 22
 28
 103
 107
 111

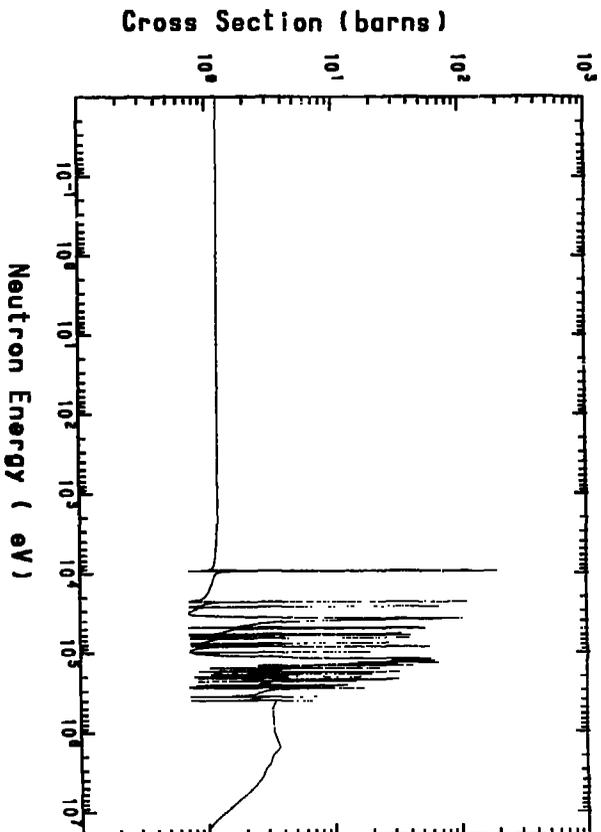


⁴²Ca
TOTAL

MAT=2202
MT= 1

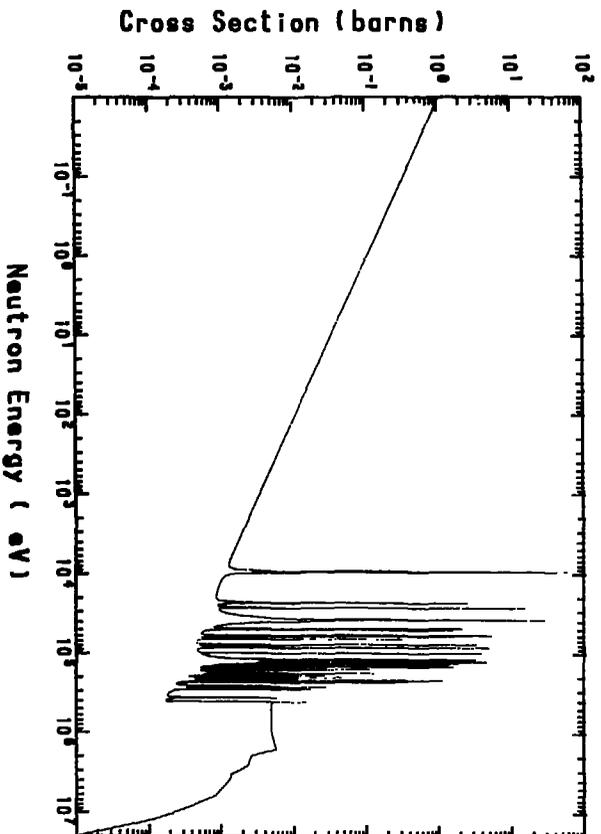
⁴²Ca
(n, n)

MAT=2202
MT= 2

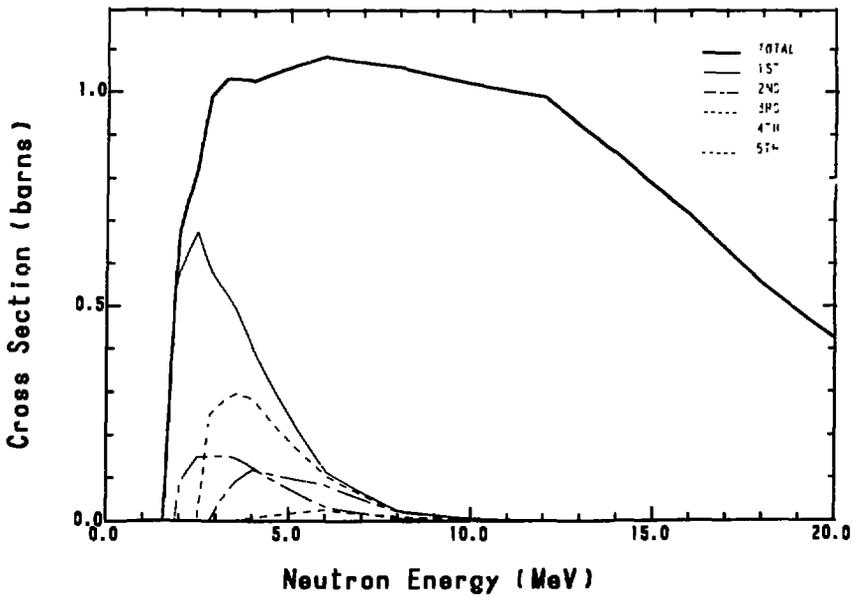


⁴²Ca
(n, γ)

MAT=2202
MT= 102

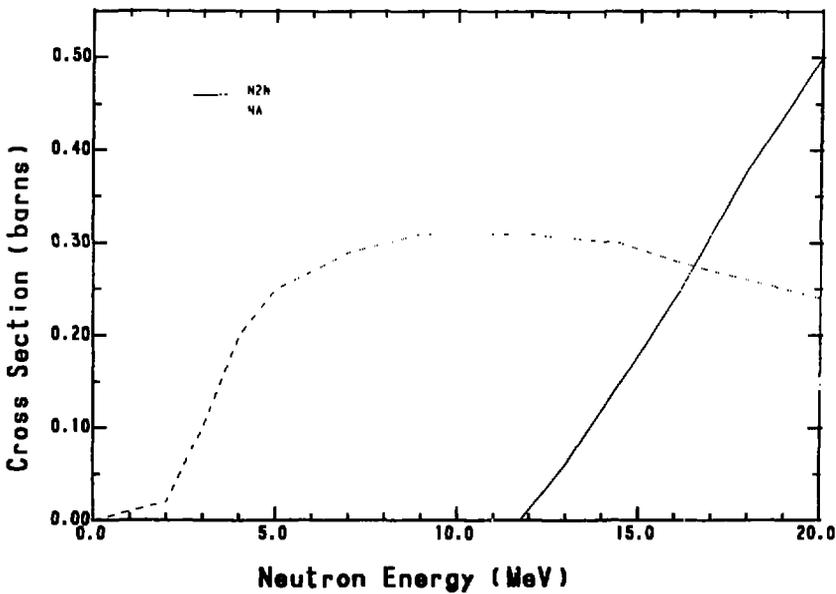


⁴²Ca
(n, n')



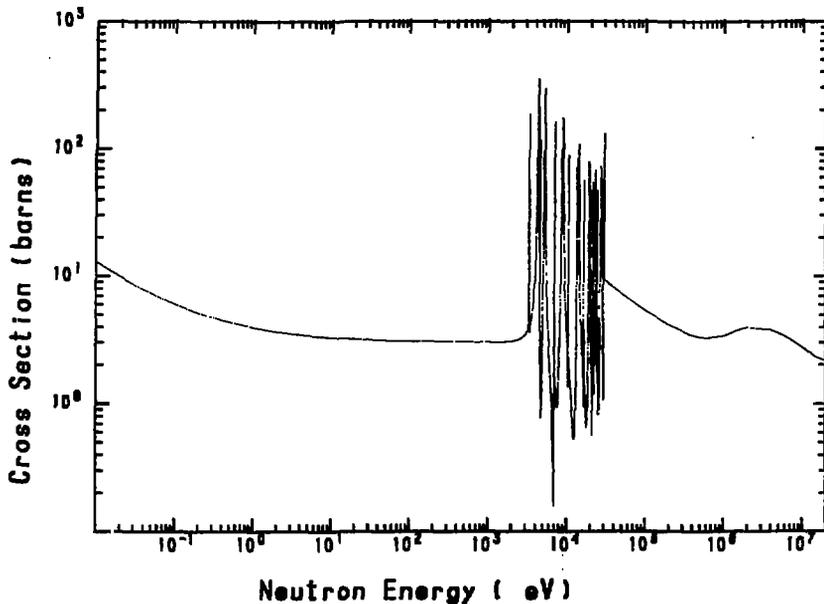
MAT=2202
MT= 4
51~55

⁴²Ca
(n, 2n)
(n, α)



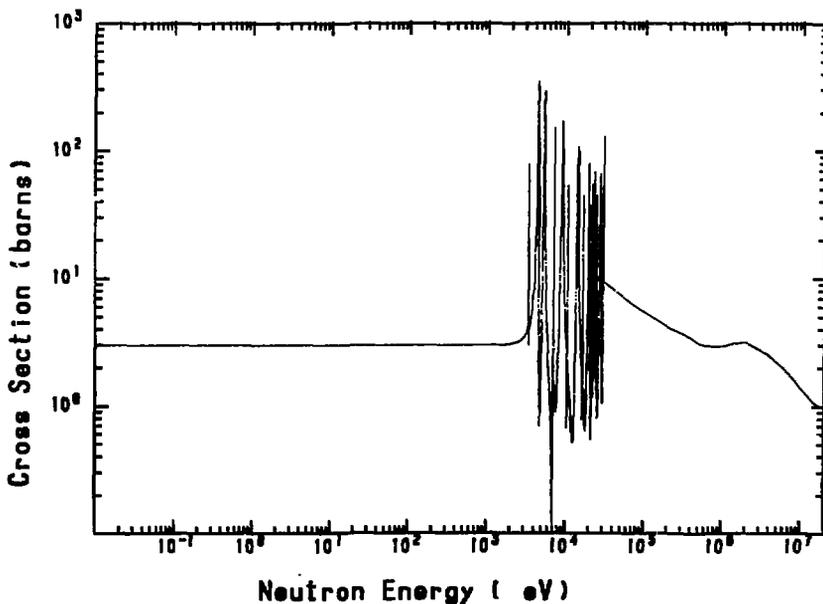
MAT=2202
MT= 16
107

⁴³Ca
TOTAL



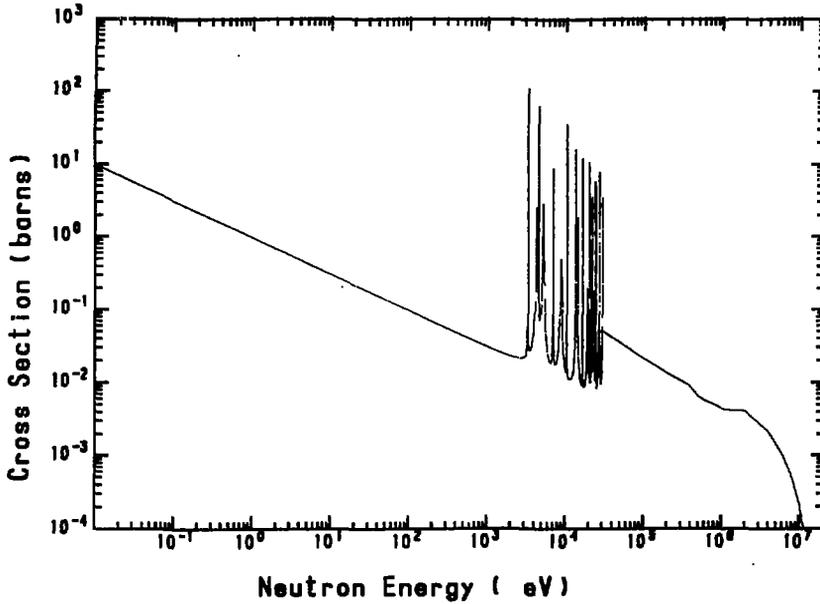
MAT=2203
MT= 1

⁴³Ca
(n, n)



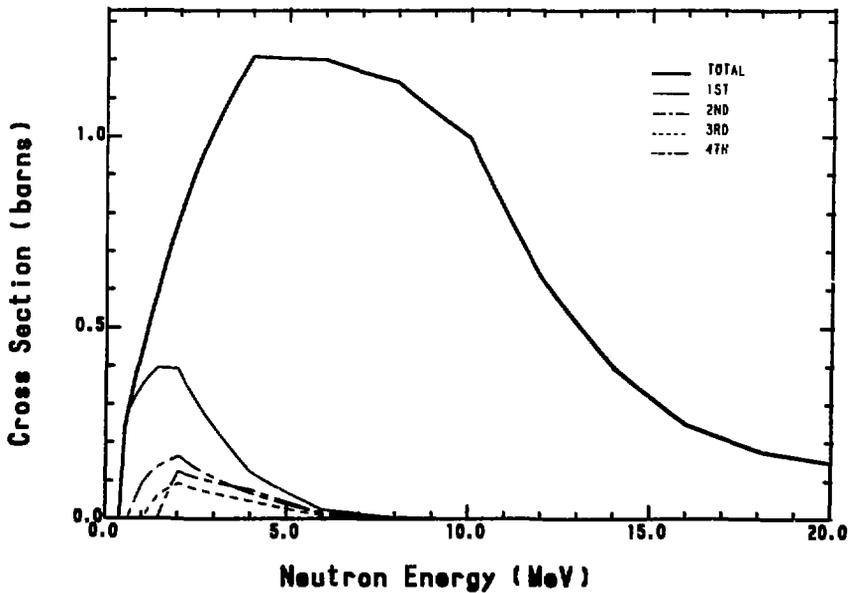
MAT=2203
MT= 2

⁴³Ca
(n, γ)



MAT=2203
MT= 102

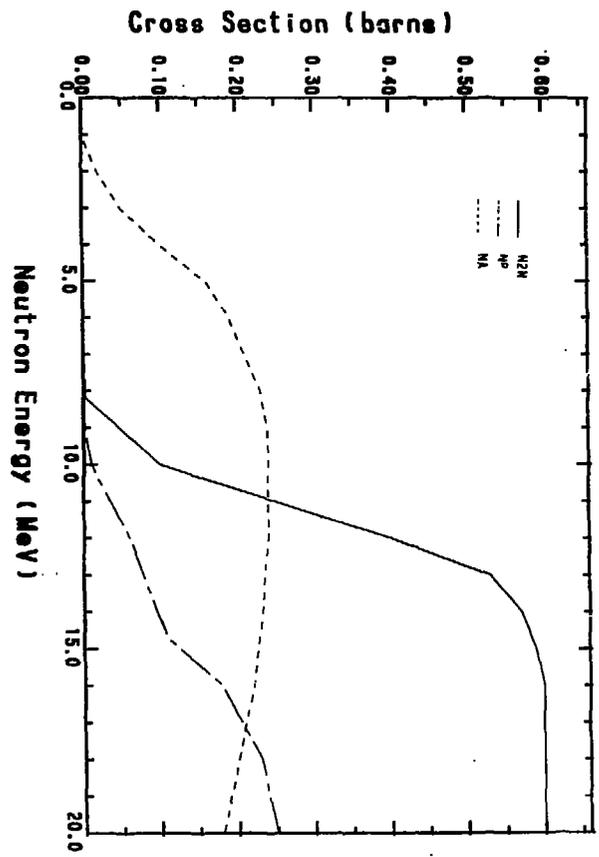
⁴³Ca
(n, n')



MAT=2203
MT= 4
51~54

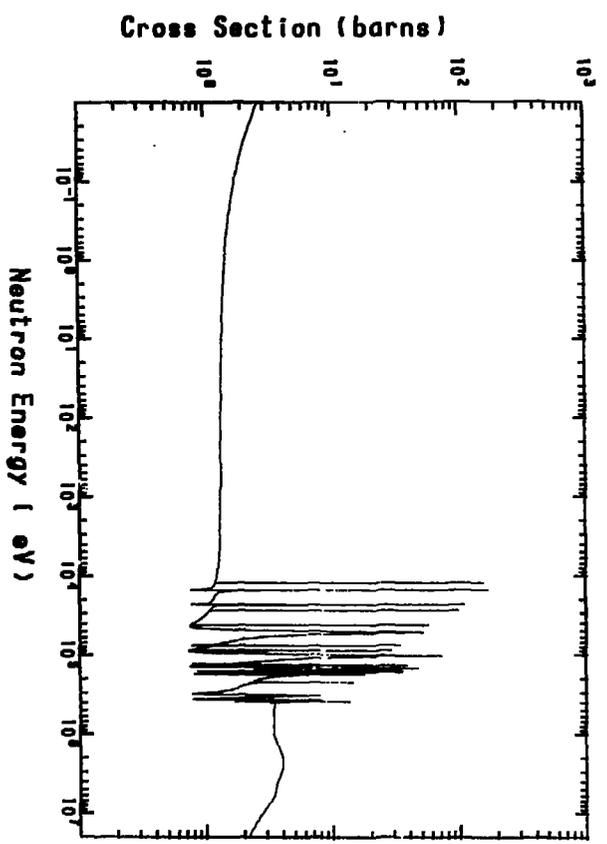
⁴³Ca
(n, 2n)
(n, p)
(n, α)

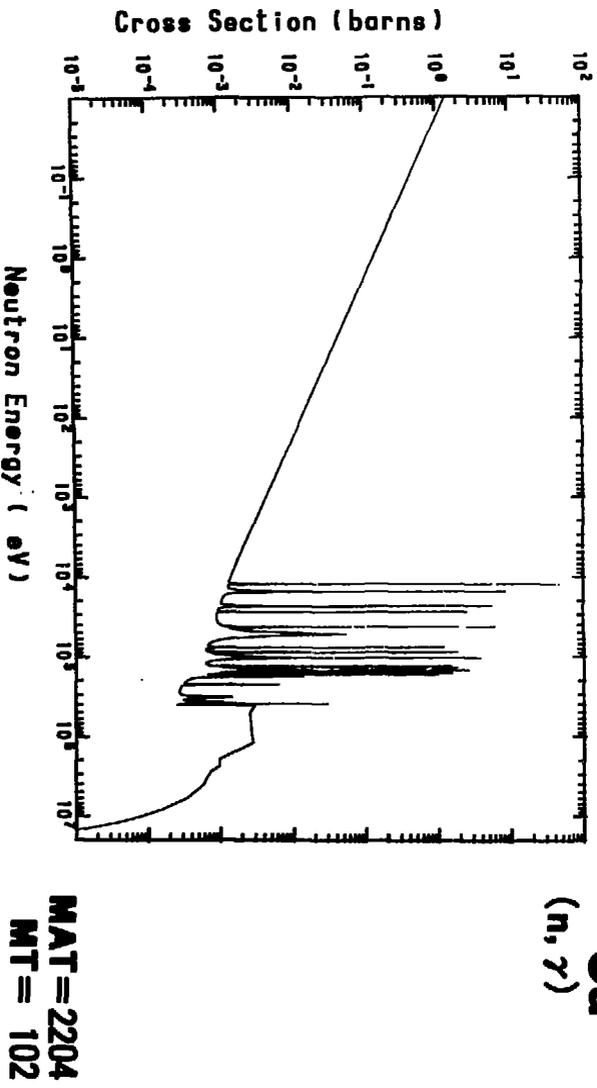
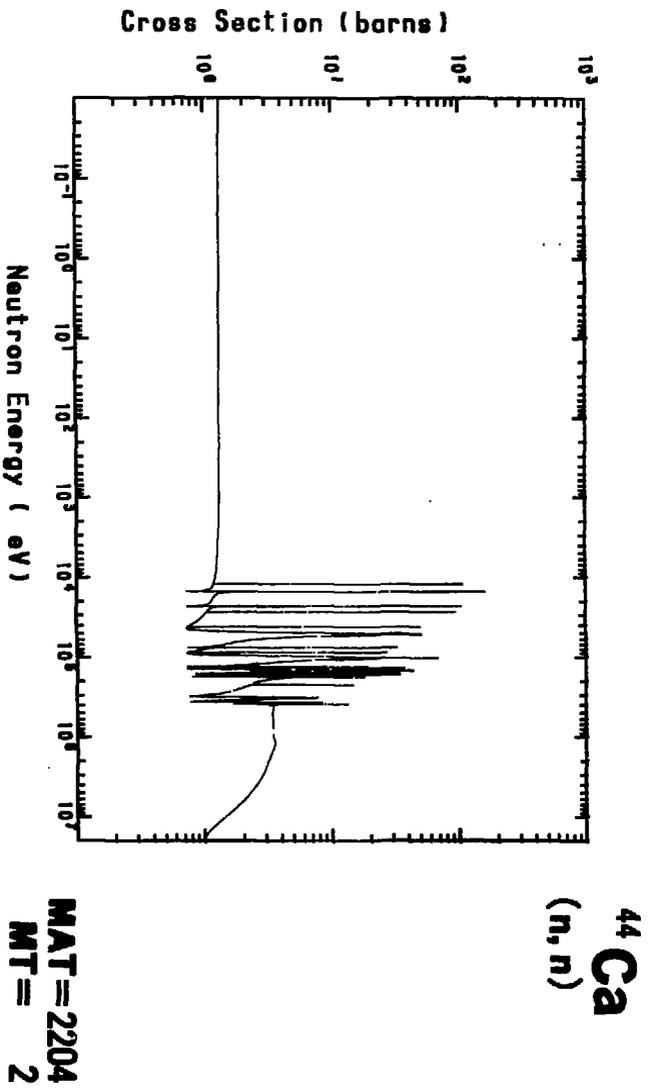
MAT=2203
MT= 16
103
107



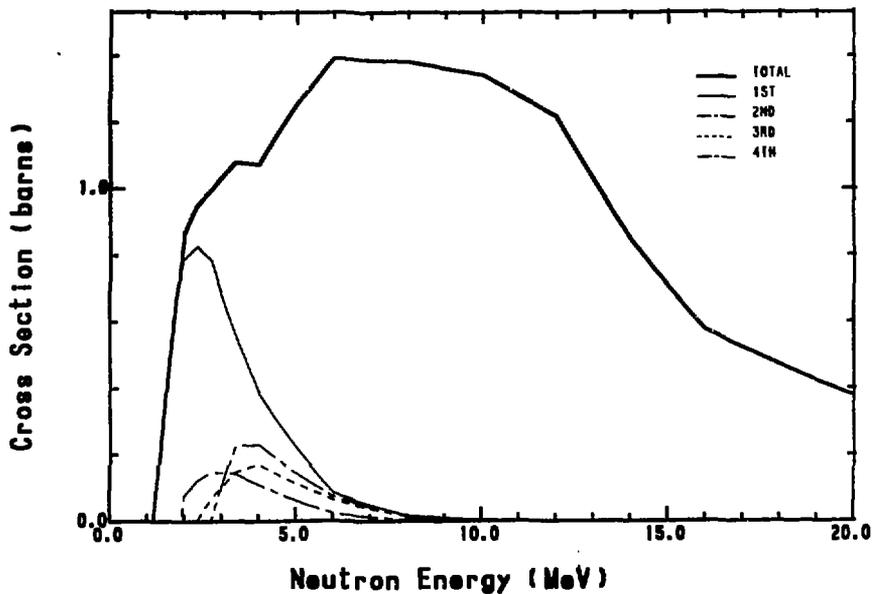
⁴⁴Ca
TOTAL

MAT=2204
MT= 1



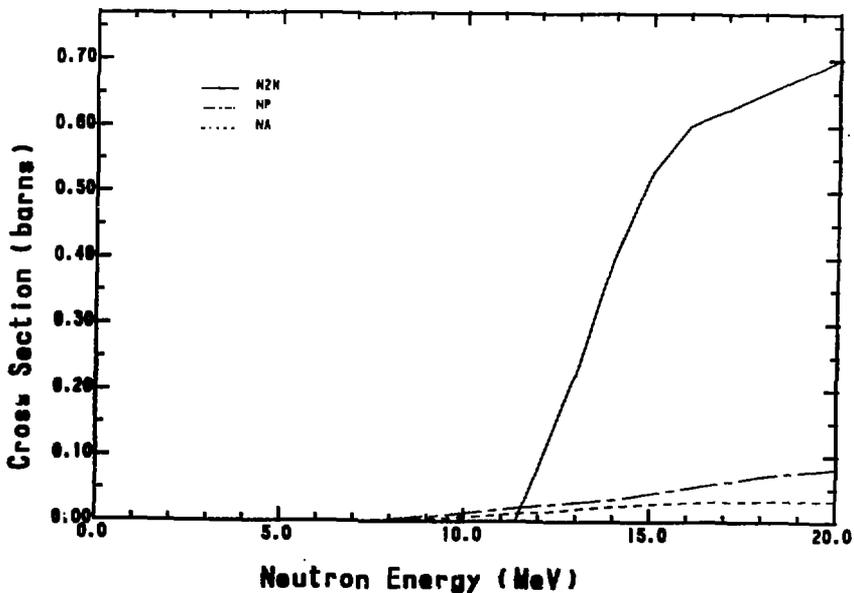


⁴⁴Ca
(n, n')



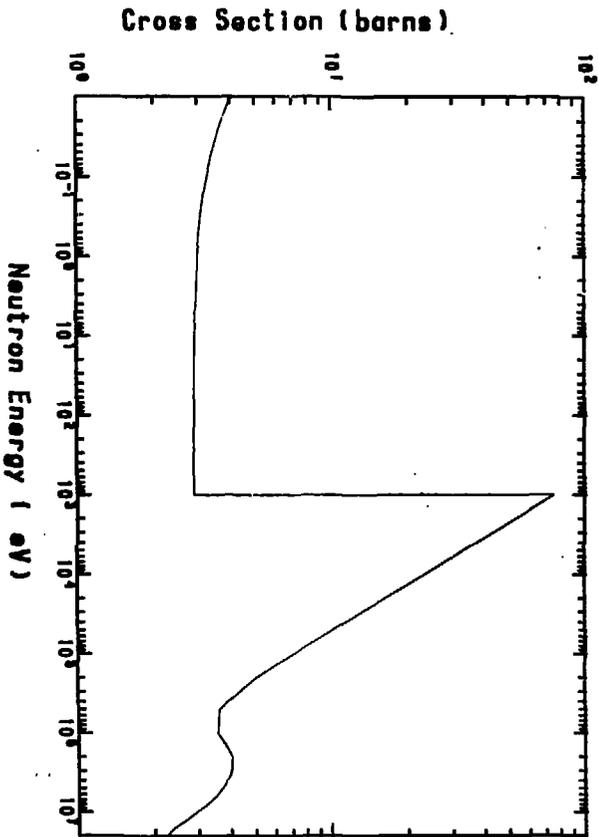
MAT=2204
MT= 4
51~54

⁴⁴Ca
(n, 2n)
(n, p)
(n, α)

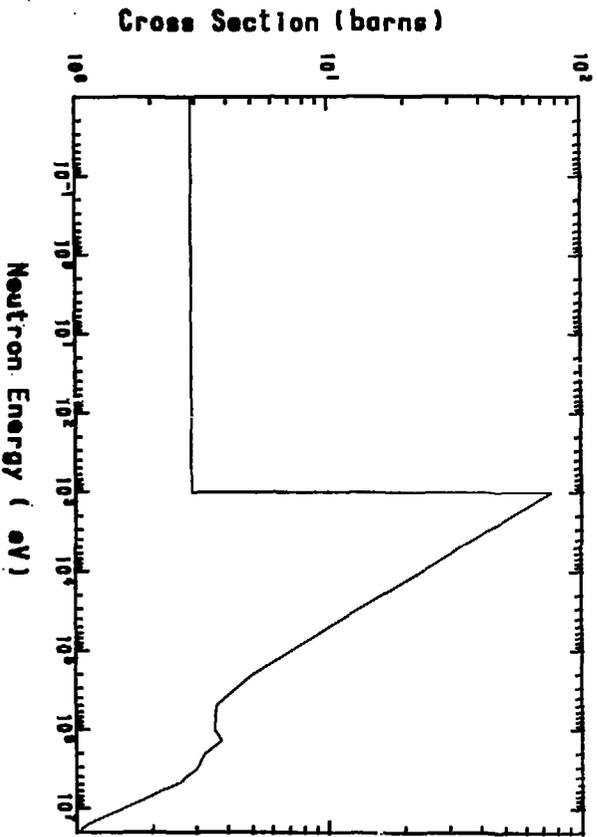


MAT=2204
MT= 16
103
107

⁴⁶Ca
TOTAL



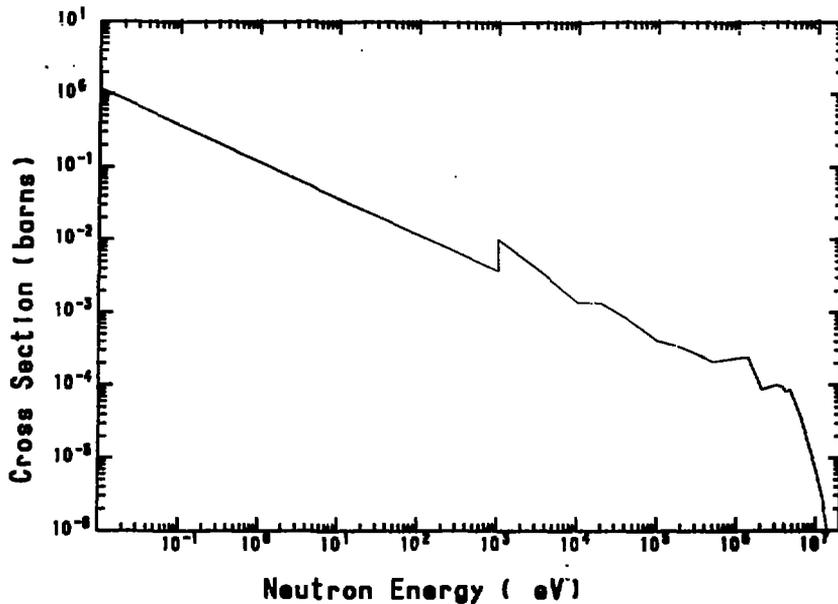
MAT=2205
MT= 1



⁴⁶Ca
(n, n)

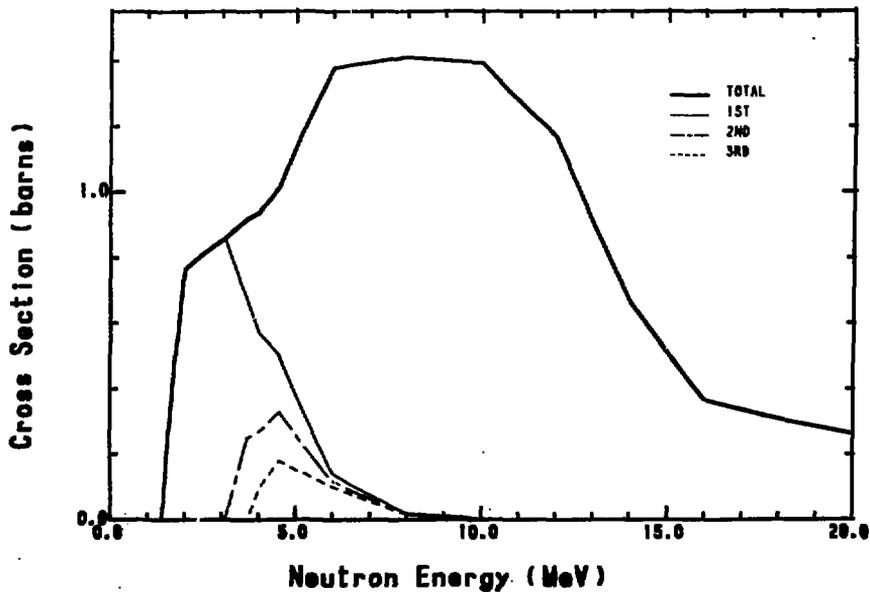
MAT=2205
MT= 2

⁴⁶Ca
(n, γ)



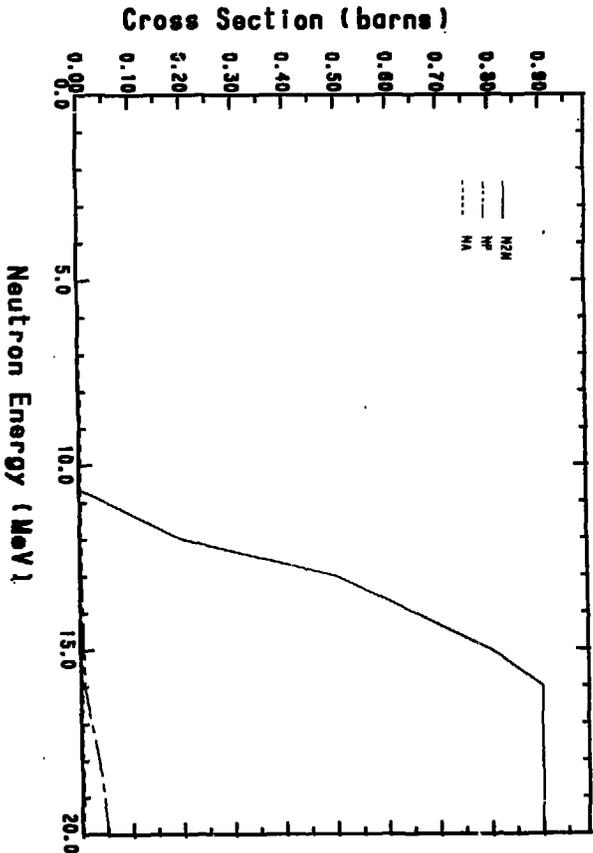
MAT=2205
MT= 102

⁴⁶Ca
(n, n')



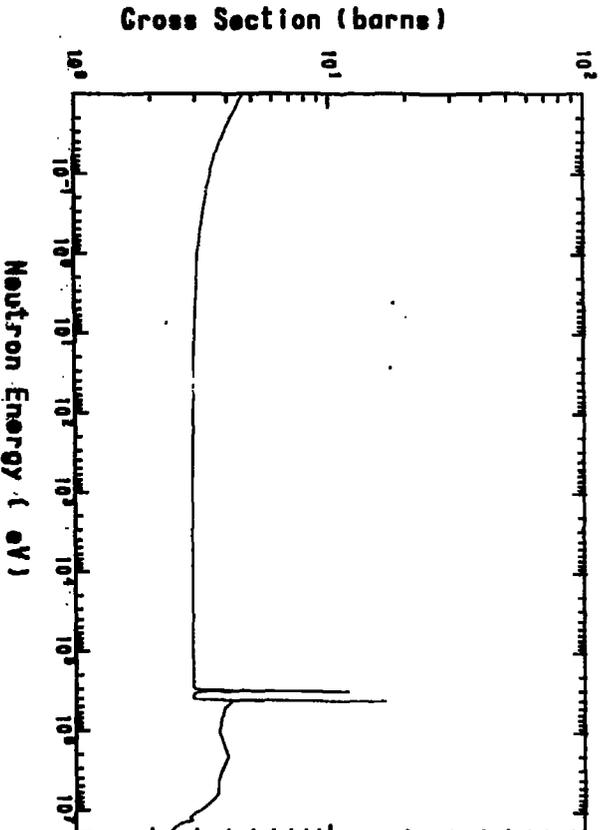
MAT=2205
MT= 4
51~53

⁴⁶Ca
(n, 2n)
(n, p)
(n, α)



MAT=2205
 MT= 16
 103
 107

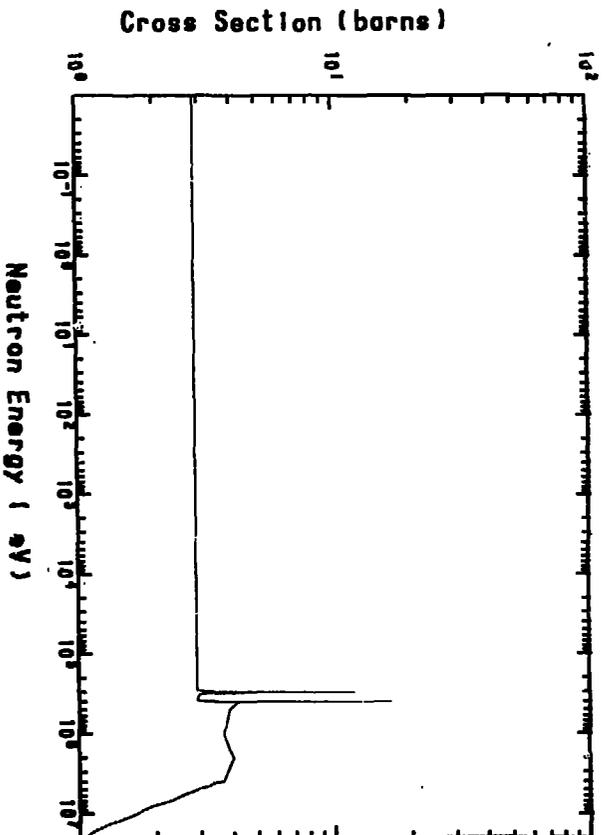
⁴⁸Ca
TOTAL



MAT=2206
 MT= 1

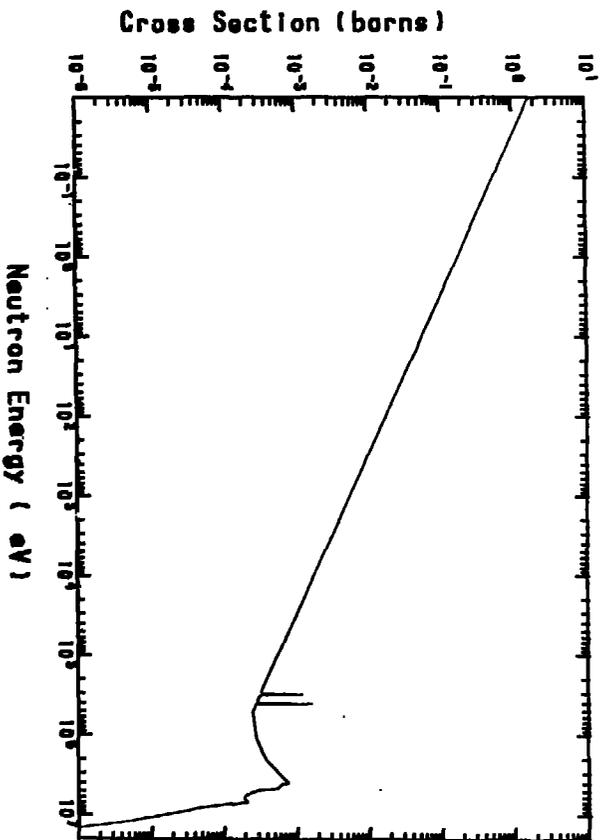
⁴⁸Ca
(n, n)

MAT=2206
MT= 2

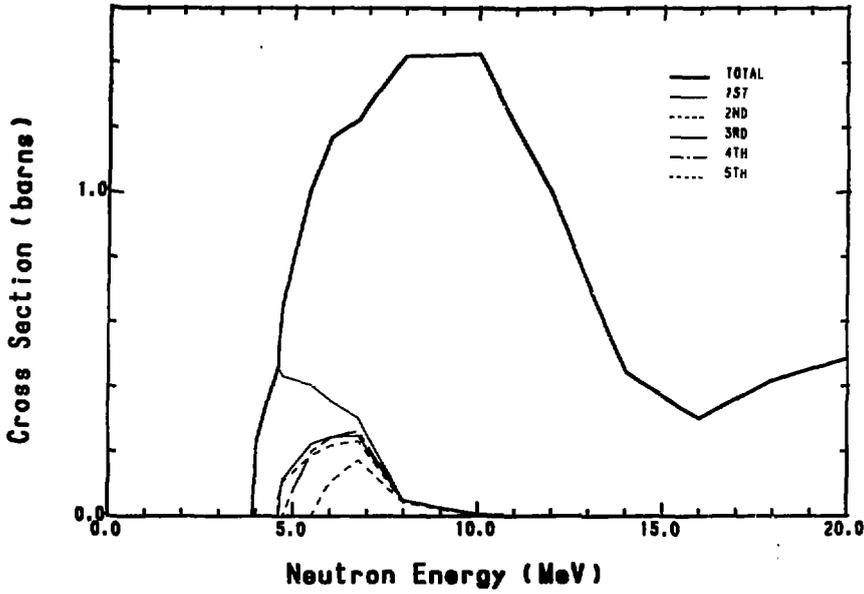


⁴⁸Ca
(n, γ)

MAT=2206
MT= 102

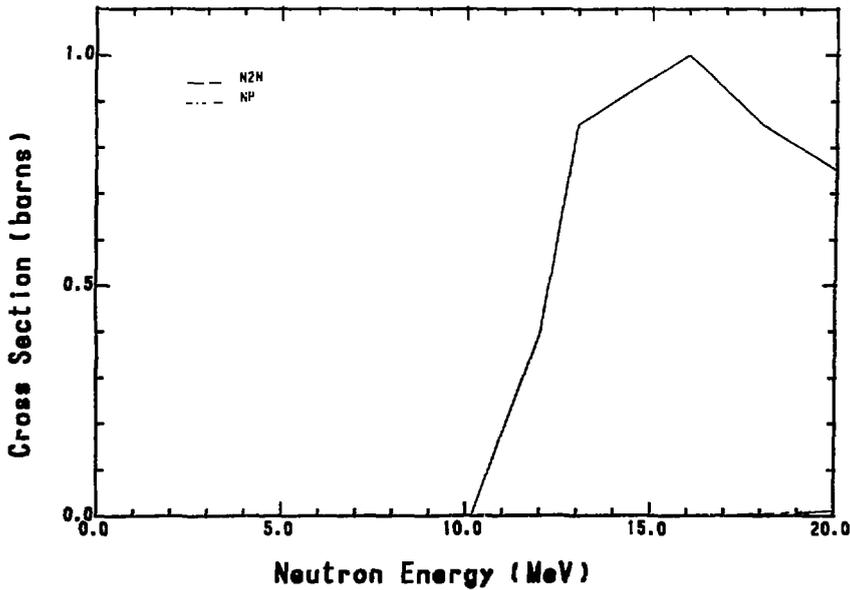


⁴⁸Ca
(n, n')



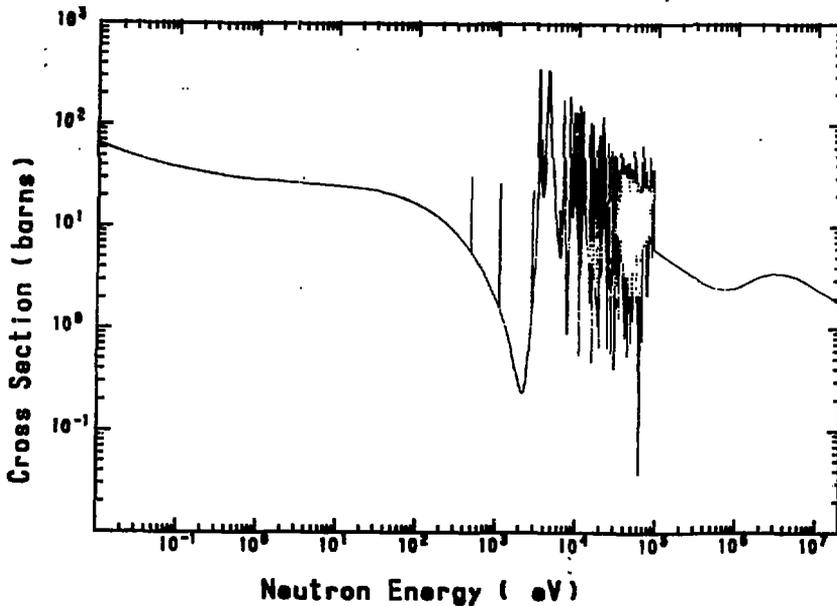
MAT=2206
 MT= 4
 51~55

⁴⁸Ca
(n, 2n)
(n, p)



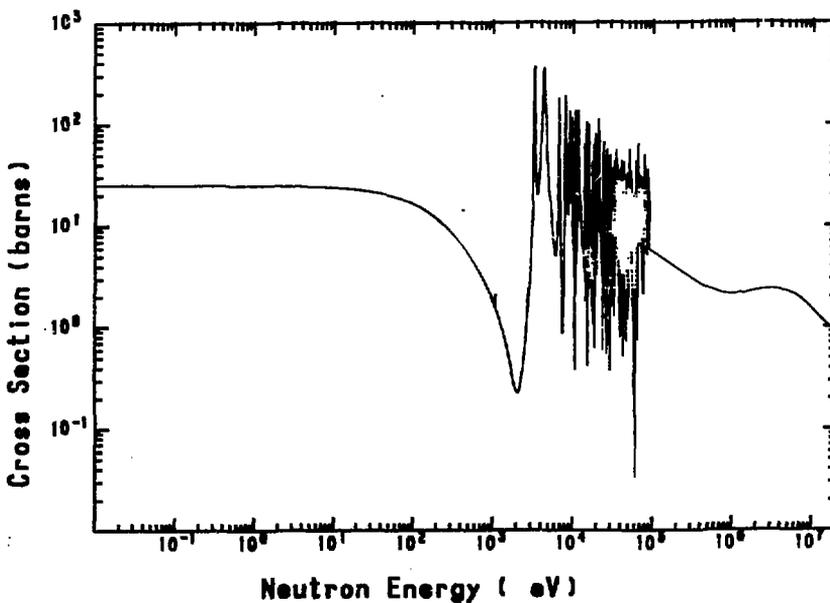
MAT=2206
 MT= 16
 103

⁴⁵Sc
TOTAL

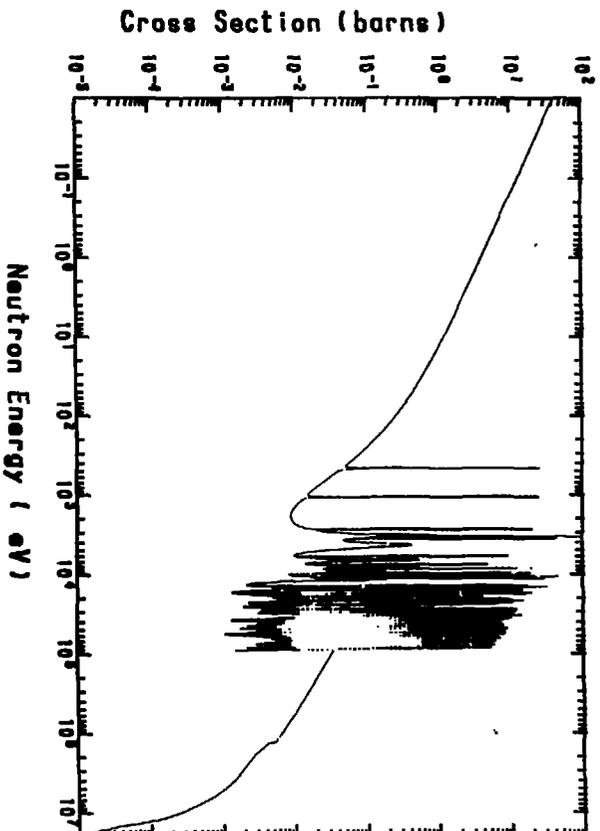


MAT=2211
MT= 1

⁴⁵Sc
(n, n)

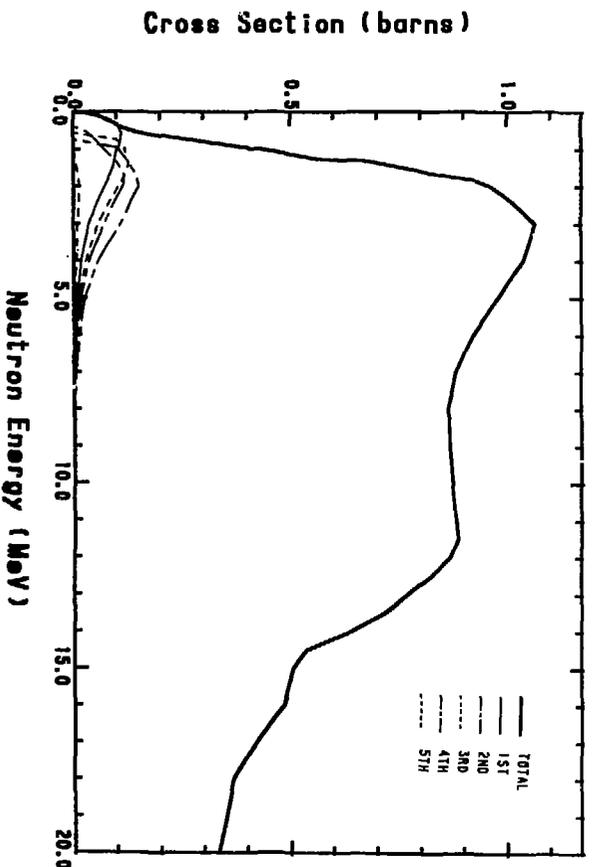


MAT=2211
MT= 2



45 Sc
(n, γ)

MAT=2211
MT= 102

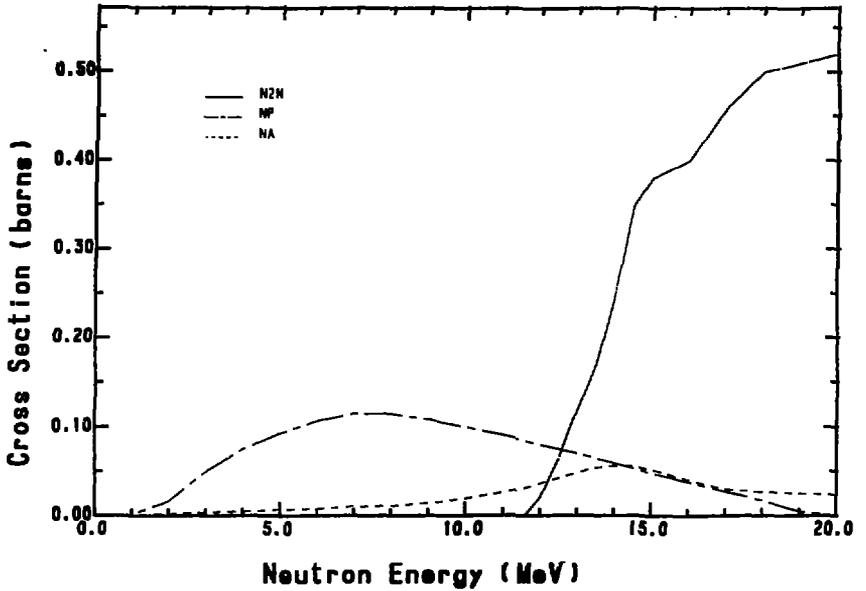


45 Sc
(n, n')

MAT=2211
MT= 4
51~55

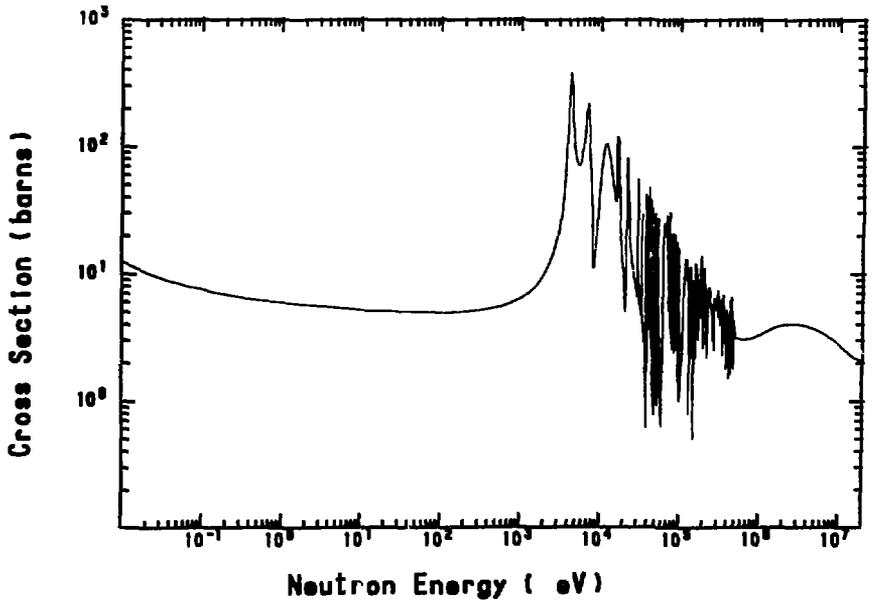
⁴⁵Sc
 (n, 2n)
 (n, p)
 (n, α)

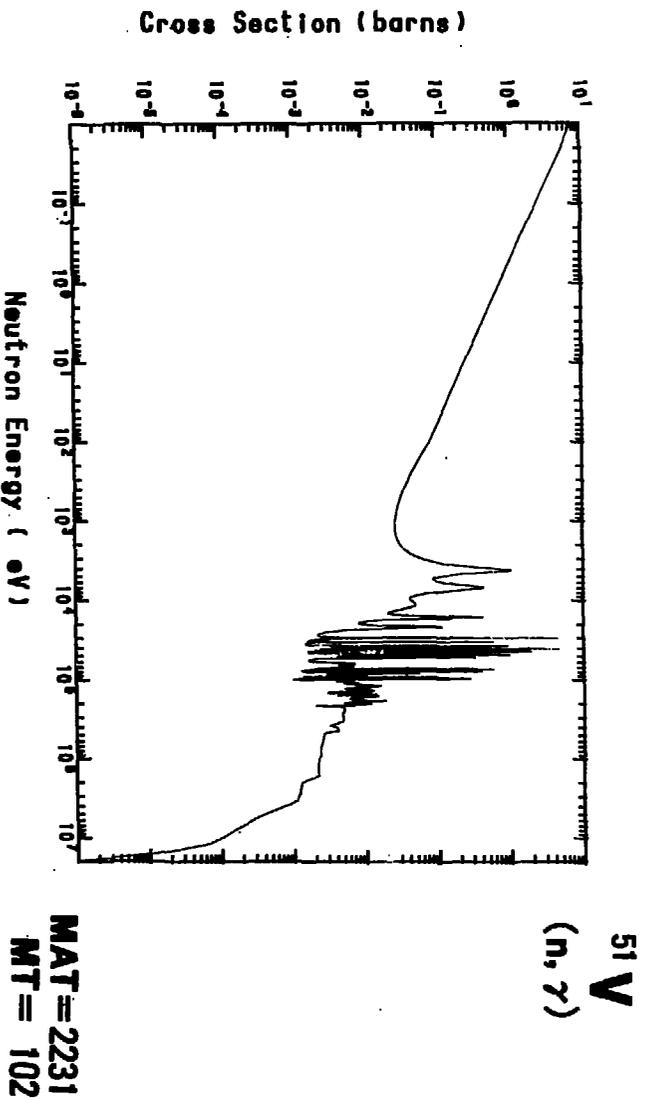
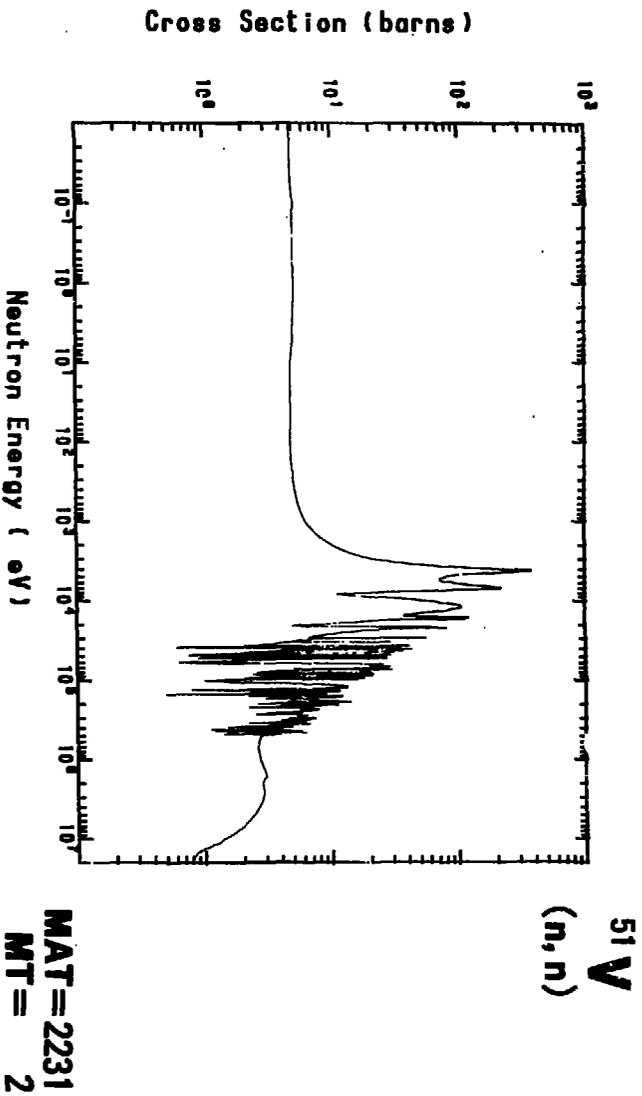
MAT=2211
 MT= 16
 103
 107



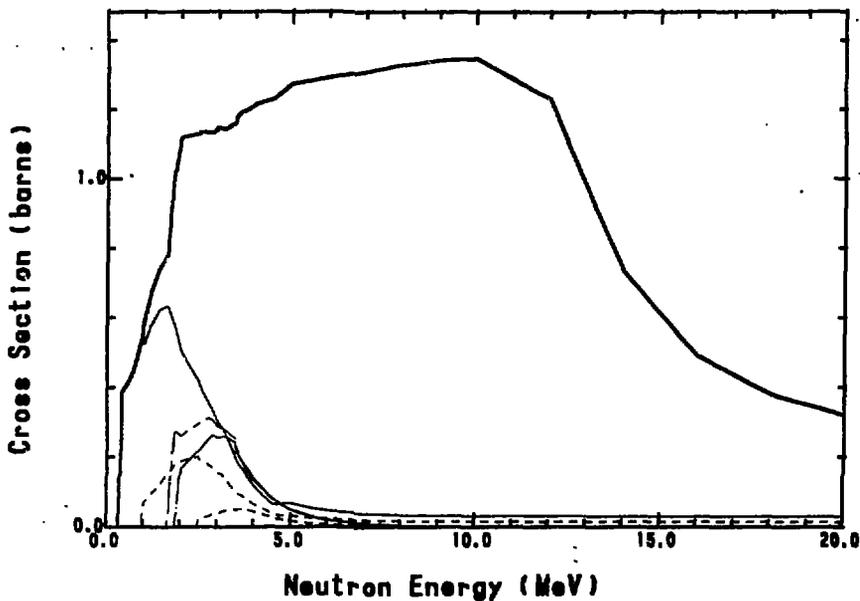
⁵¹V
 TOTAL

MAT=2231
 MT= 1



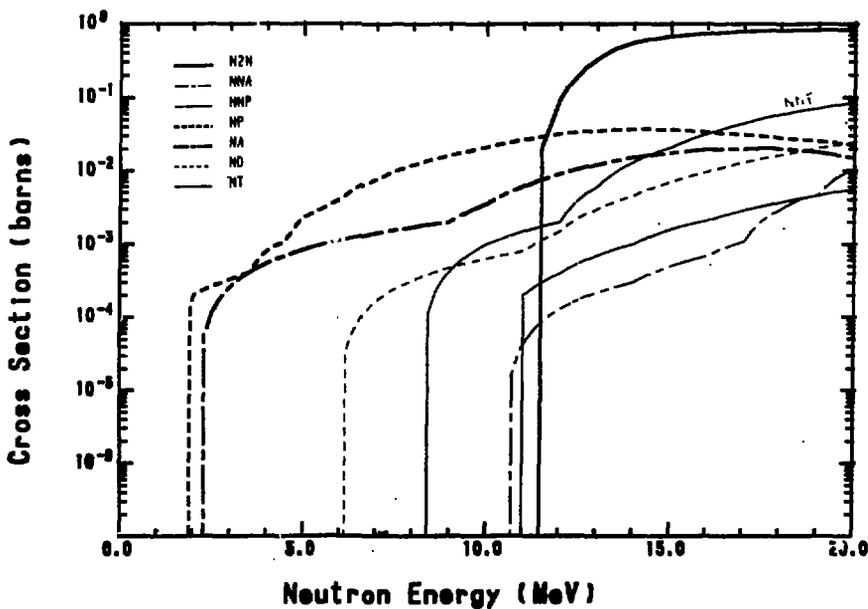


^{51}V
(n, n')

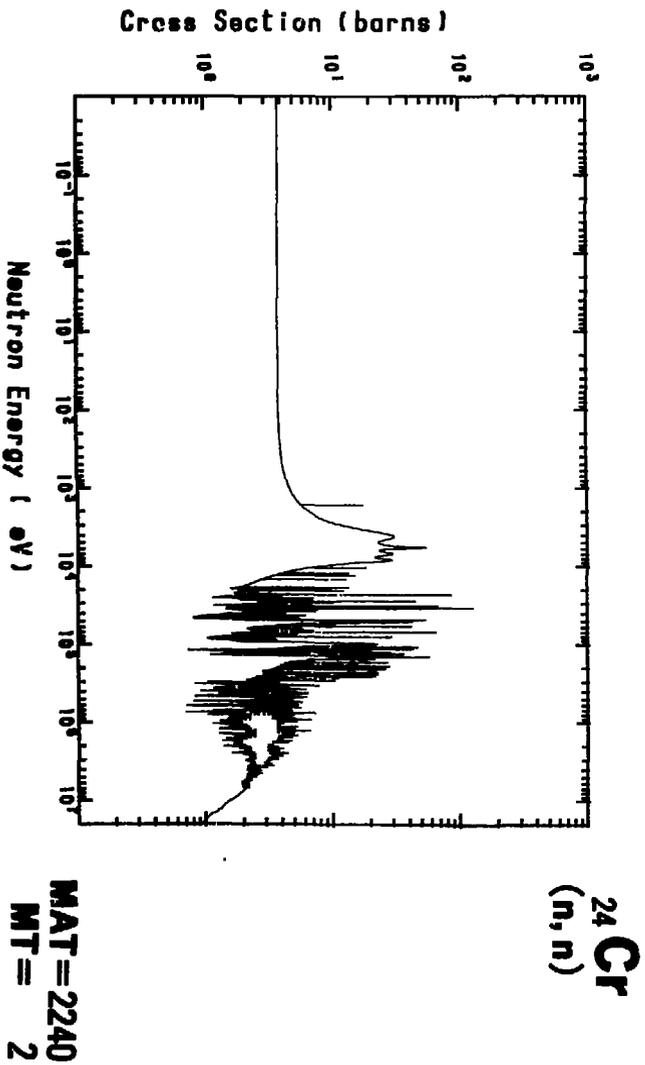
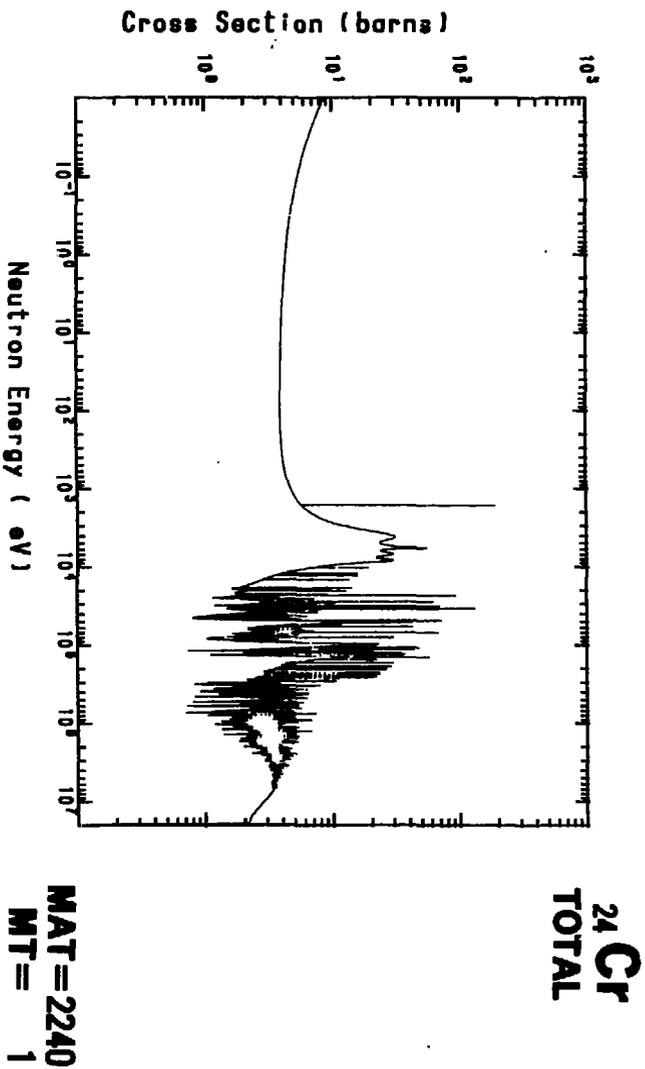


MAT=2231
MT= 4
51~55

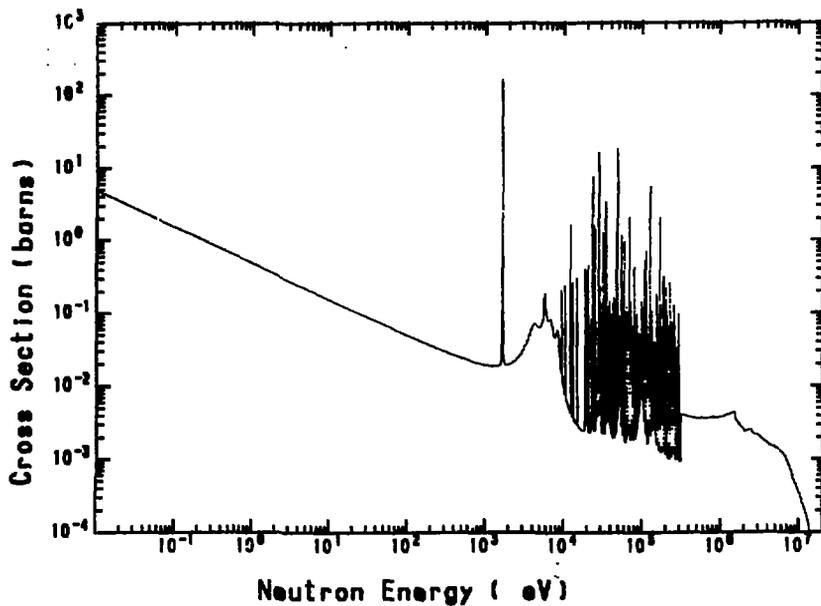
^{51}V
(n, 2n)
(n, n' α)
(n, n' p)
(n, p)
(n, d)
(n, t)
(n, α)



MAT=2231
MT= 16
22
28
103
104
105
107

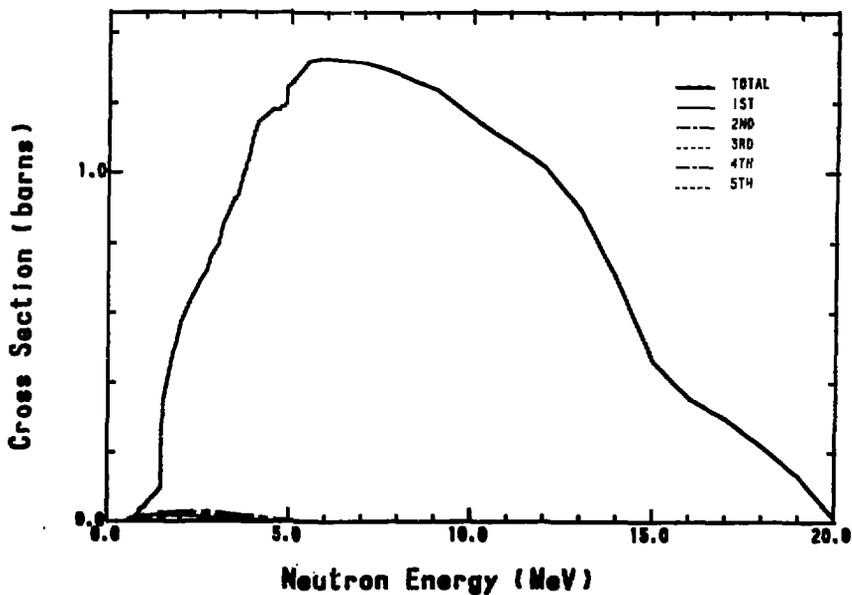


²⁴Cr
(n, γ)

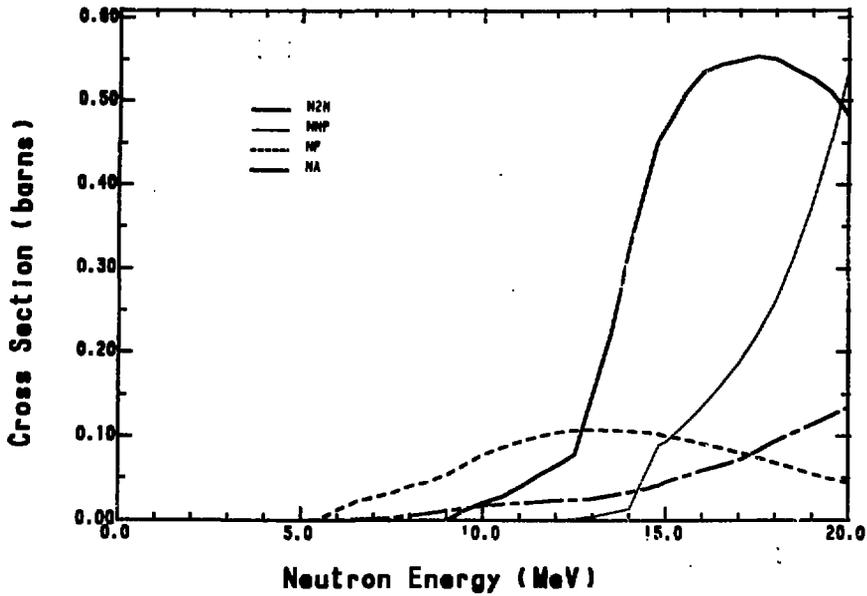


MAT=2240
MT= 102

²⁴Cr
(n, n')

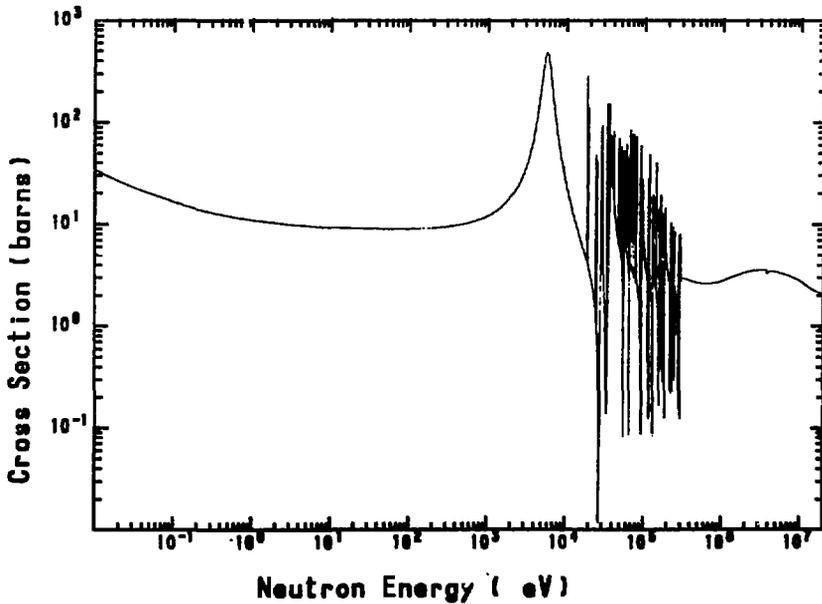


MAT=2240
MT= 4
51~55



²⁴Cr
 (n, 2n)
 (n, n'p)
 (n, p)
 (n, α)

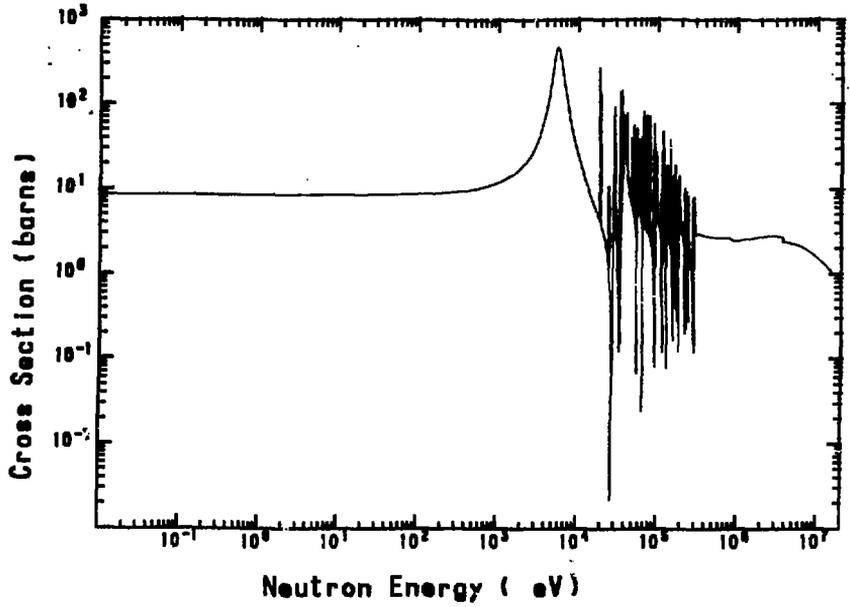
MAT=2240
MT= 16
 28
 103
 107



⁵⁰Cr
TOTAL

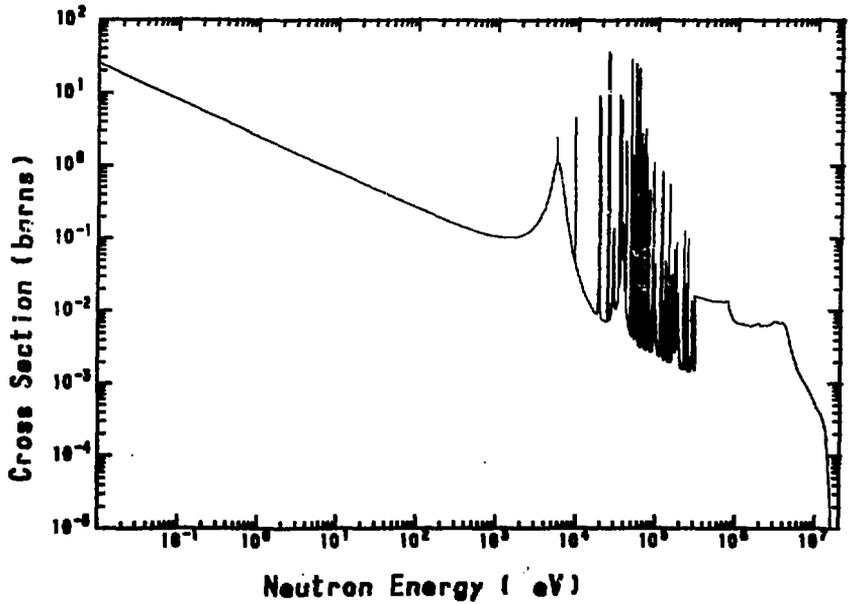
MAT=2241
MT= 1

⁵⁰Cr
(n, n)



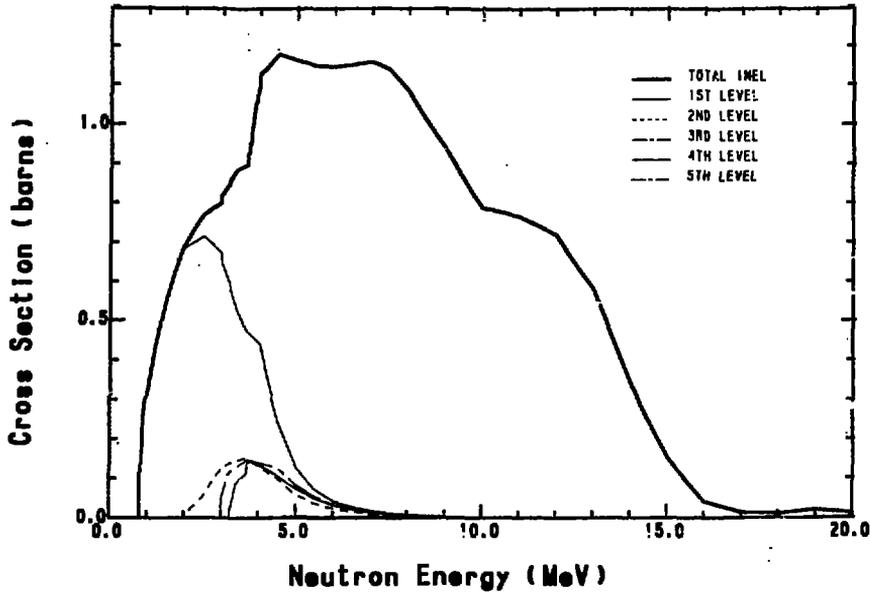
MAT=2241
MT= 2

⁵⁰Cr
(n, γ)



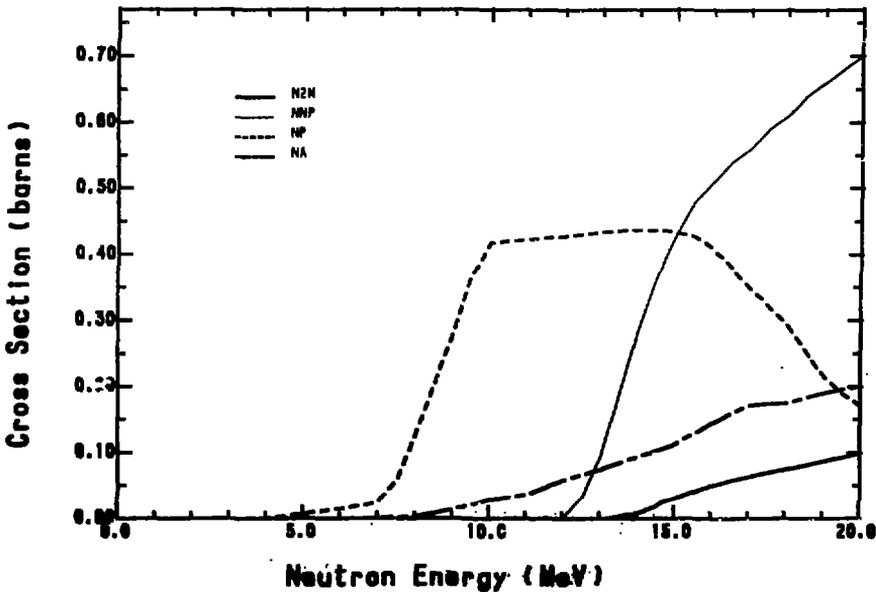
MAT=2241
MT= 102

⁵⁰Cr
(n, n')



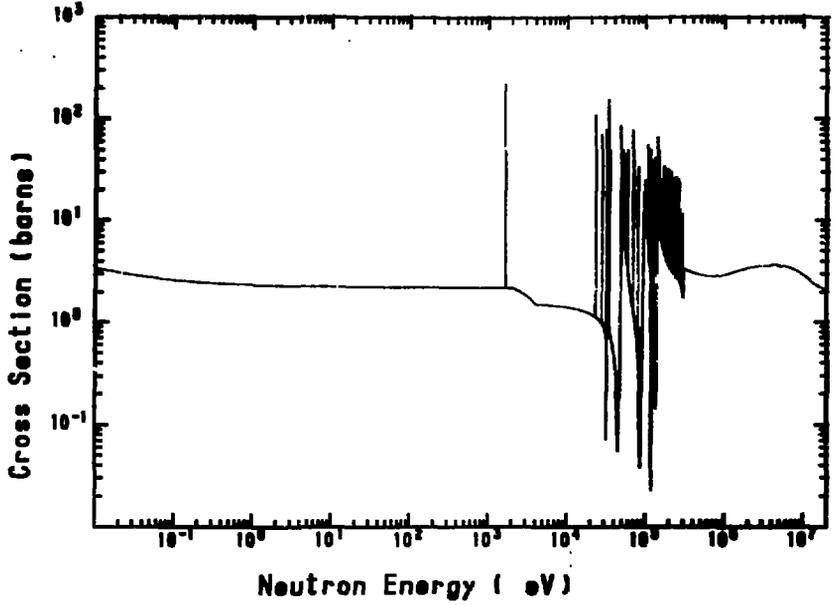
MAT=2241
MT= 4
51~55

⁵⁰Cr
(n, 2n)
(n, n'p)
(n, p)
(n, α)



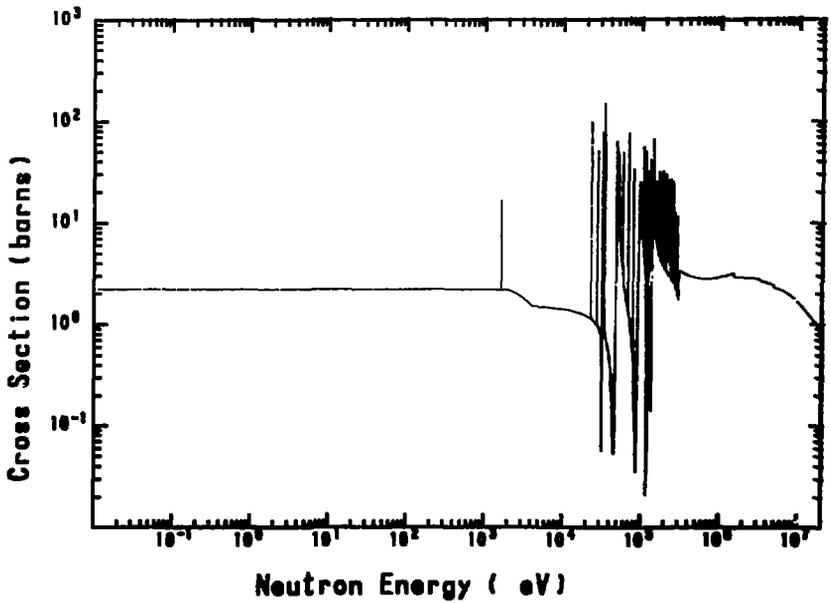
MAT=2241
MT= 16
28
103
107

⁵²Cr
TOTAL



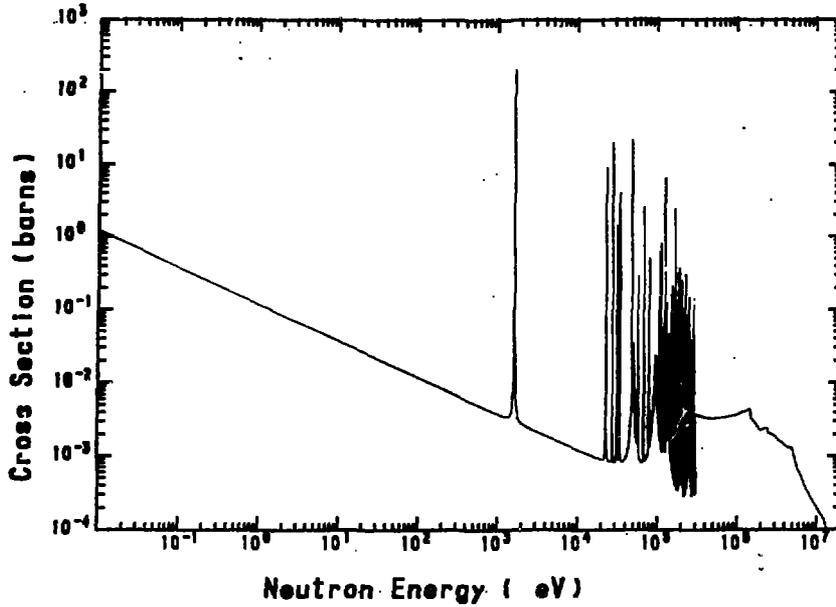
MAT=2242
MT= 1

⁵²Cr
(n, n)



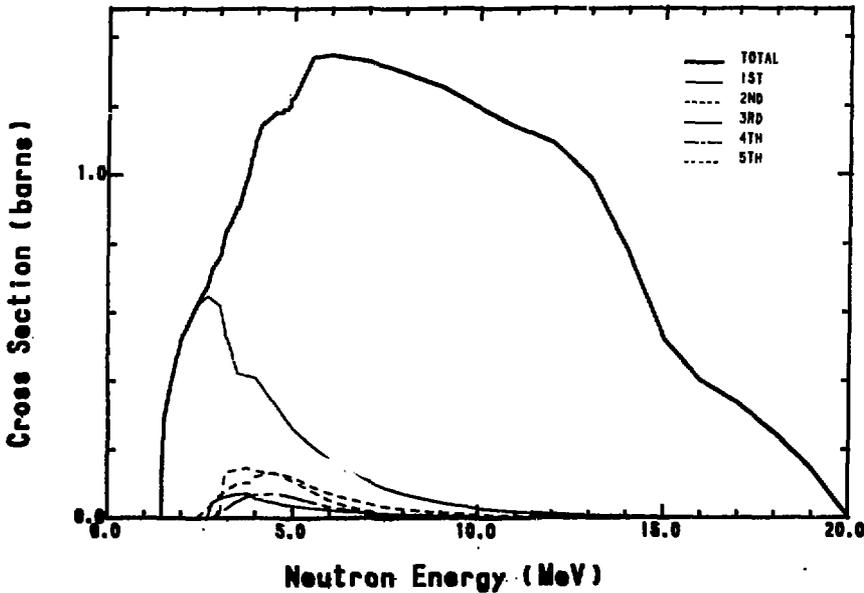
MAT=2242
MT= 2

⁵²Cr
(n, γ)



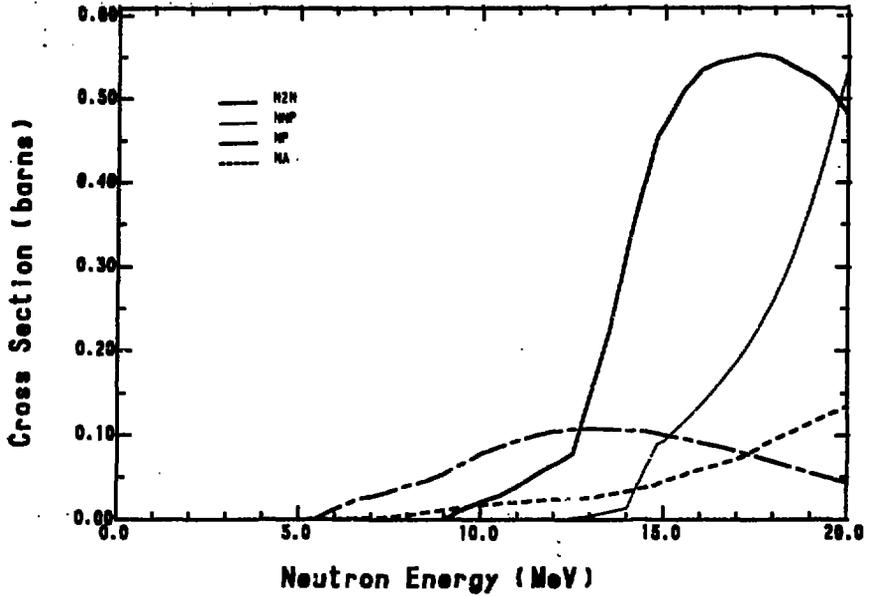
MAT=2242
MT= 102

⁵²Cr
(n, n')



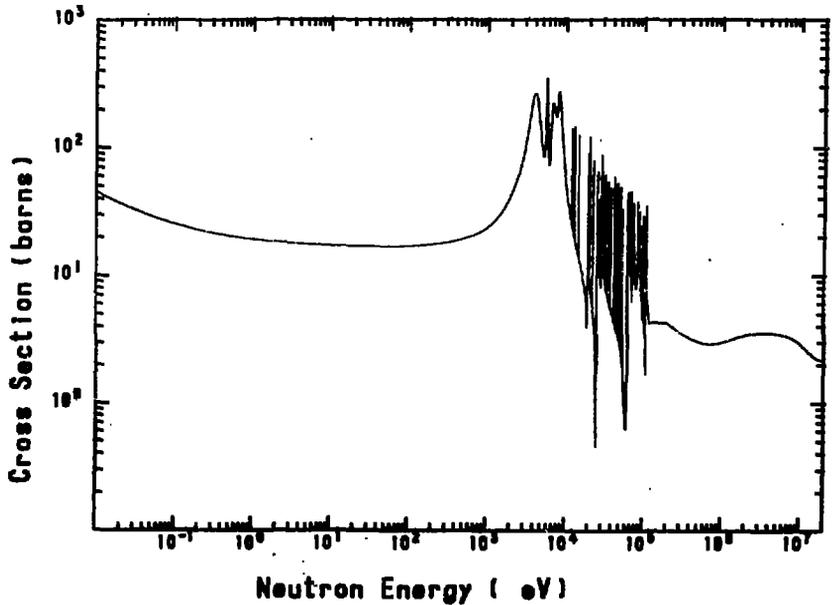
MAT=2242
MT= 4
51~55

⁵²Cr
 (n, 2n)
 (n, n'p)
 (n, p)
 (n, α)

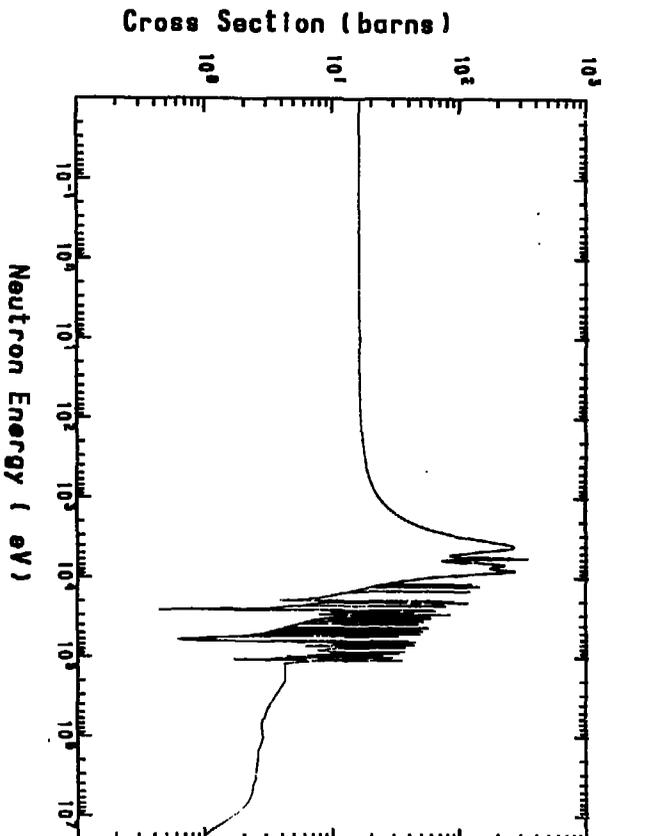


MAT=2242
 MT= 16
 28
 103
 107

⁵³Cr
 TOTAL

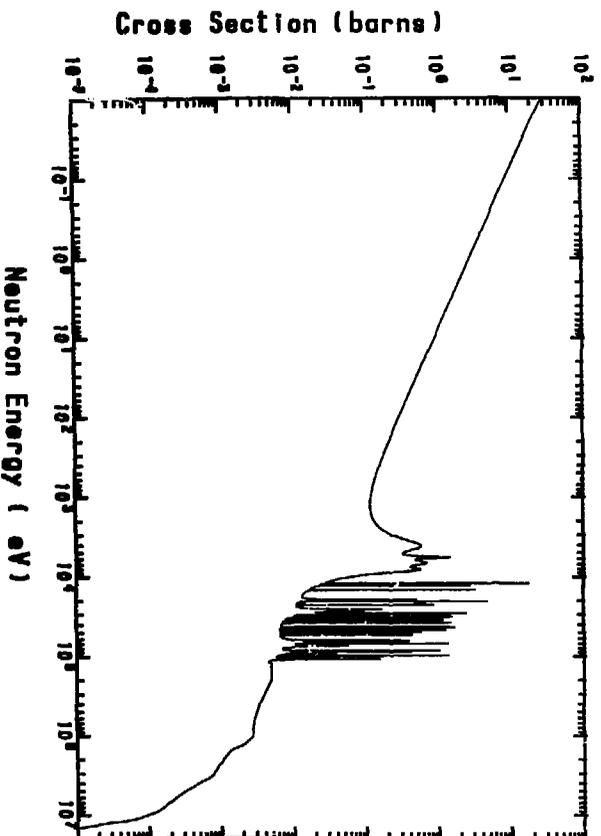


MAT=2243
 MT= 1



^{53}Cr
(n, n)

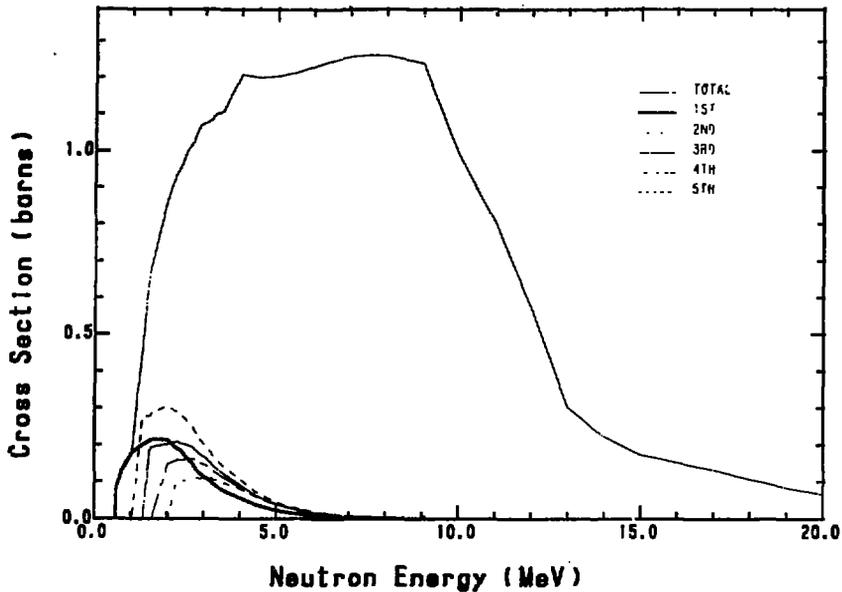
MAT=2243
MT= 2



^{53}Cr
(n, γ)

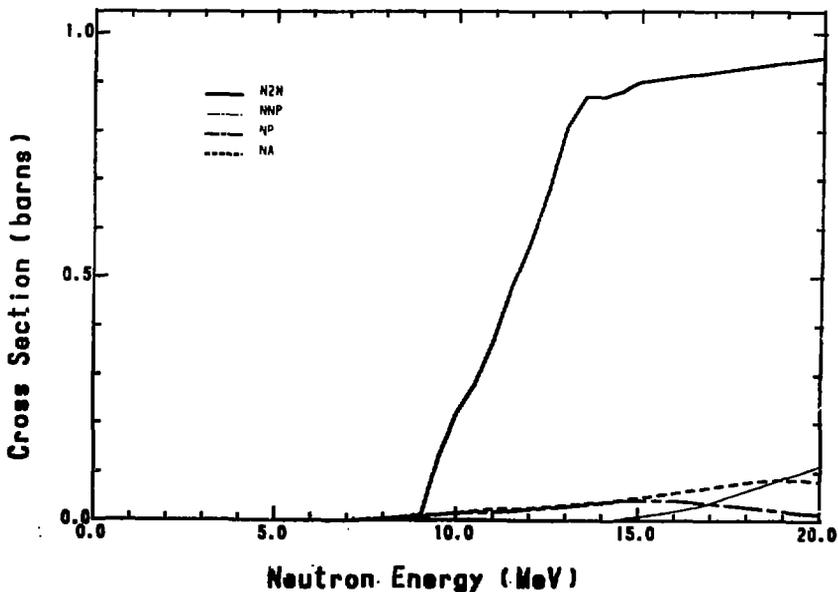
MAT=2243
MT= 102

⁵³Cr
(n, n')



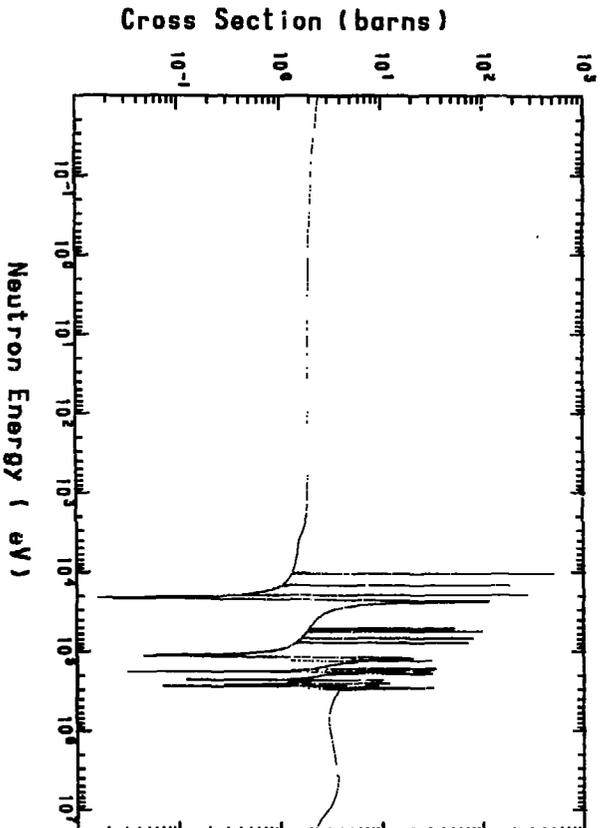
MAT=2243
MT= 4
51~55

⁵³Cr
(n, 2n)
(n, n'p)
(n, p)
(n, α)

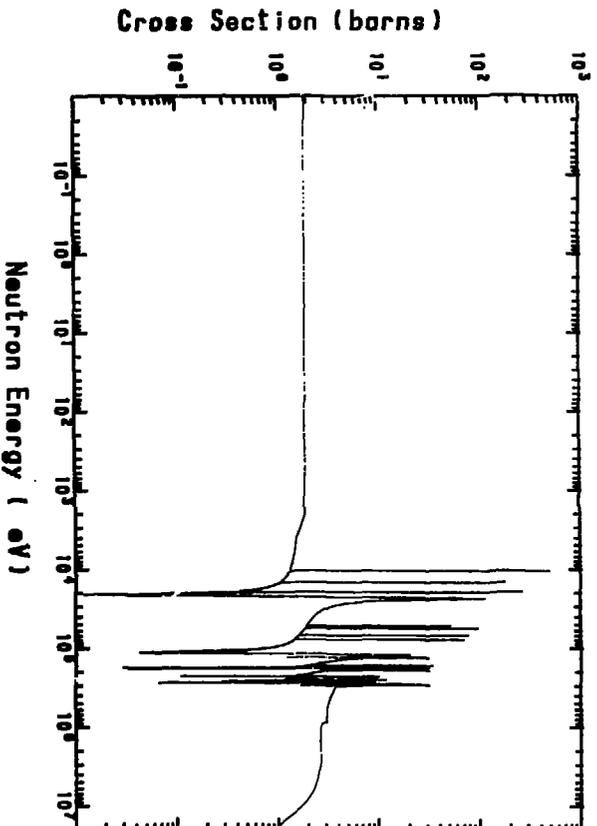


MAT=2243
MT= 16
28
103
107

⁵⁴Cr
TOTAL



MAT=2244
MT= 1

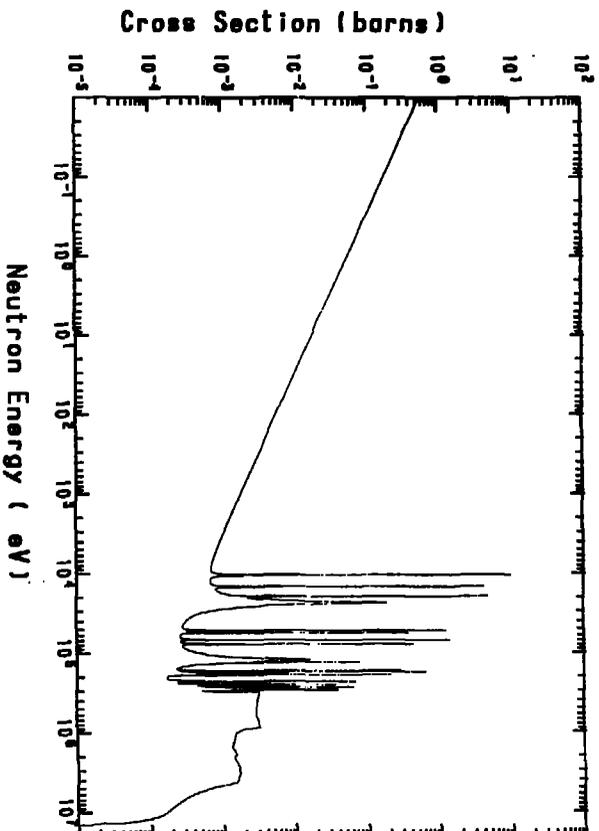


⁵⁴Cr
(n,n)

MAT=2244
MT= 2

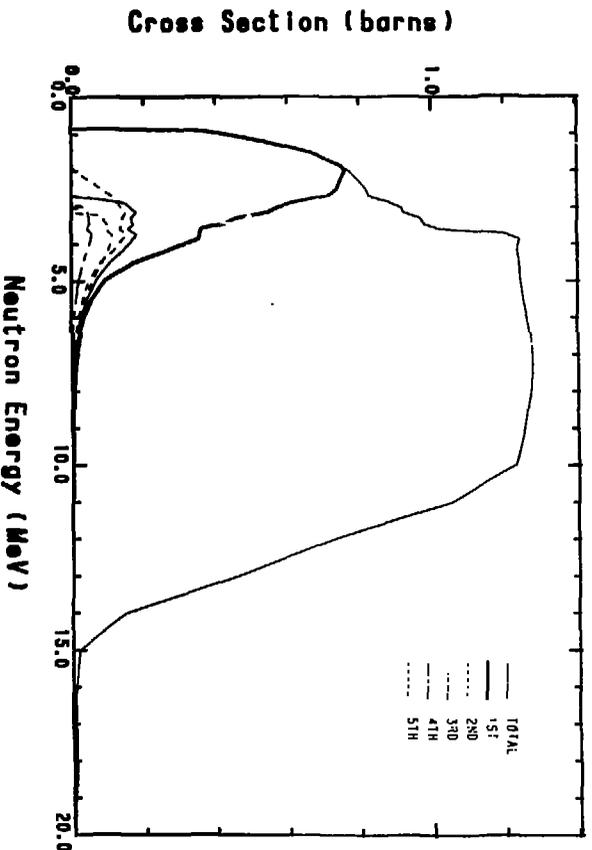
⁵⁴Cr
(n, γ)

MAT=2244
MT= 102

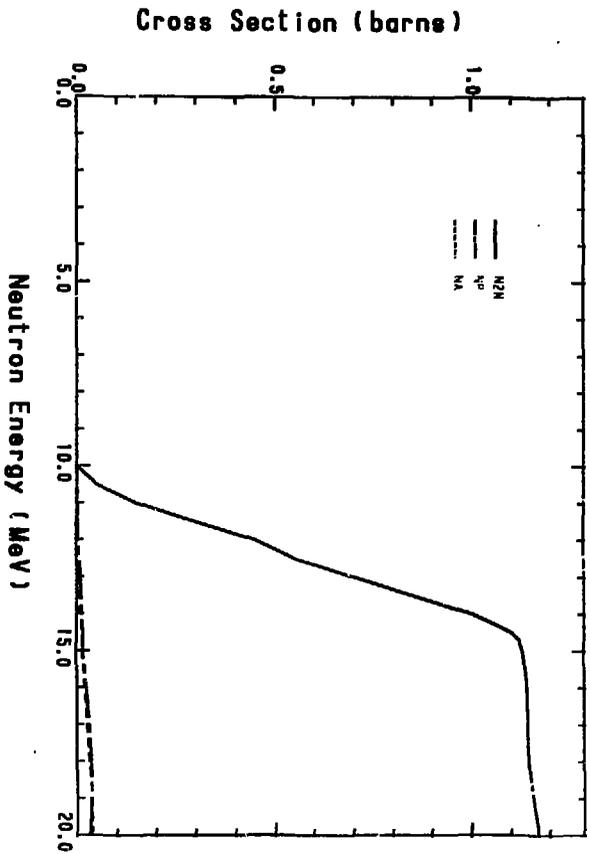


⁵⁴Cr
(n, n')

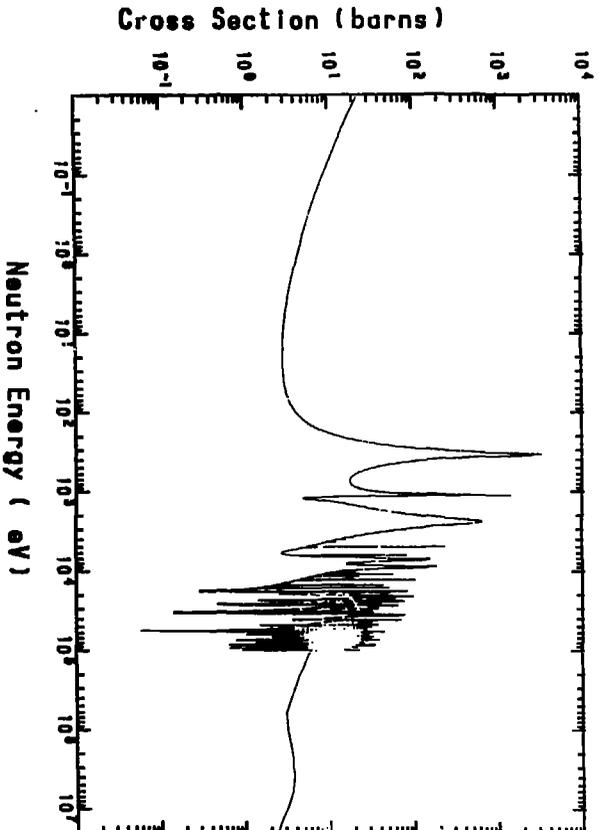
MAT=2244
MT= 4
51~55



⁵⁴Cr
 (n, 2n)
 (n, p)
 (n, α)



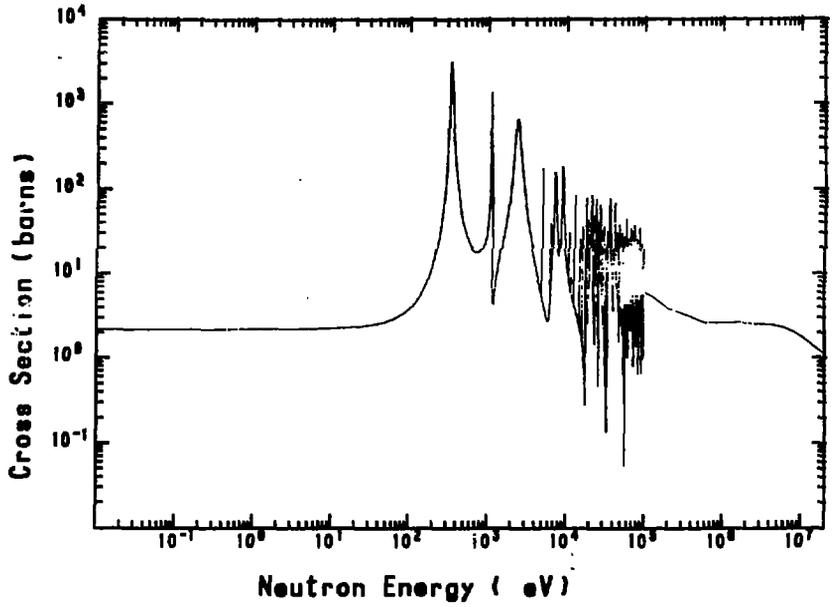
MAT=2244
MT= 16
103
107



⁵⁵Mn
TOTAL

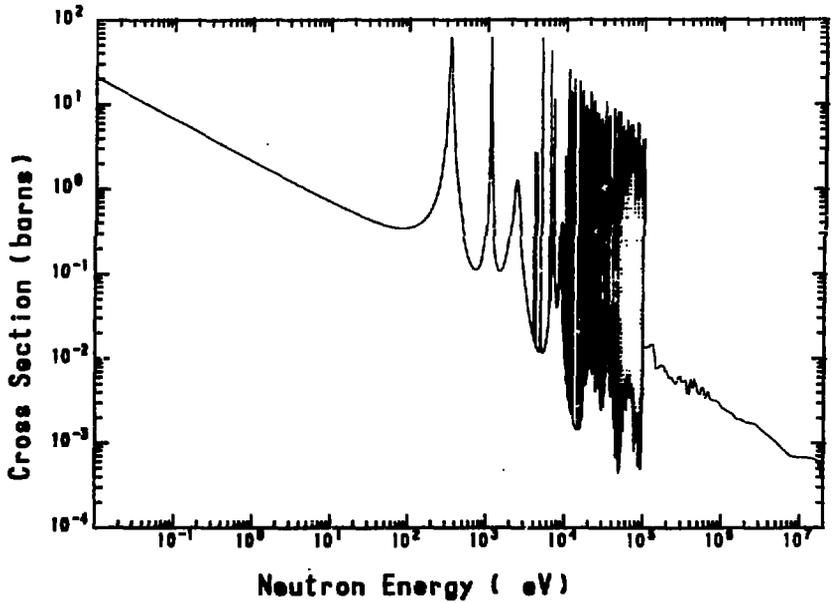
MAT=2551
MT= 1

⁵⁵Mn
(n, n)



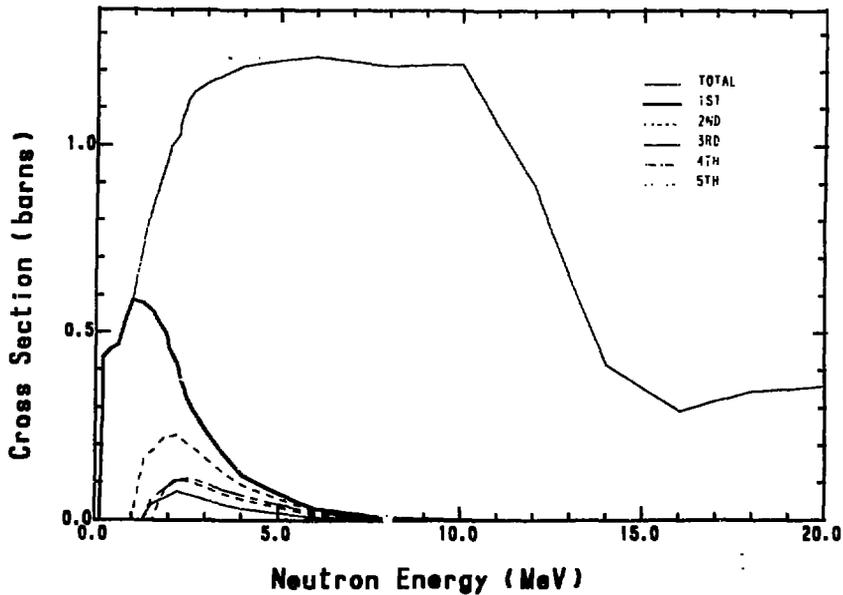
MAT=2251
MT= 2

⁵⁵Mn
(n, γ)



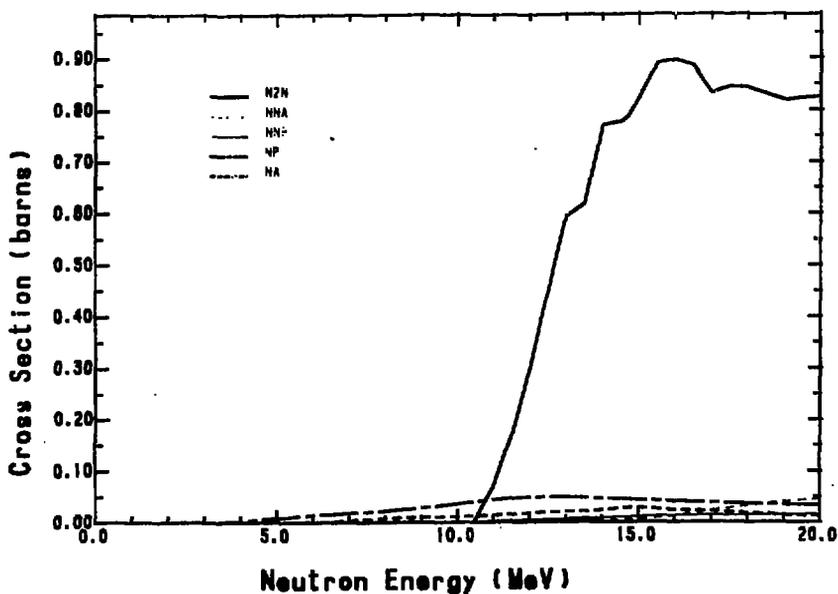
MAT=2251
MT= 102

⁵⁵Mn
(n, n')



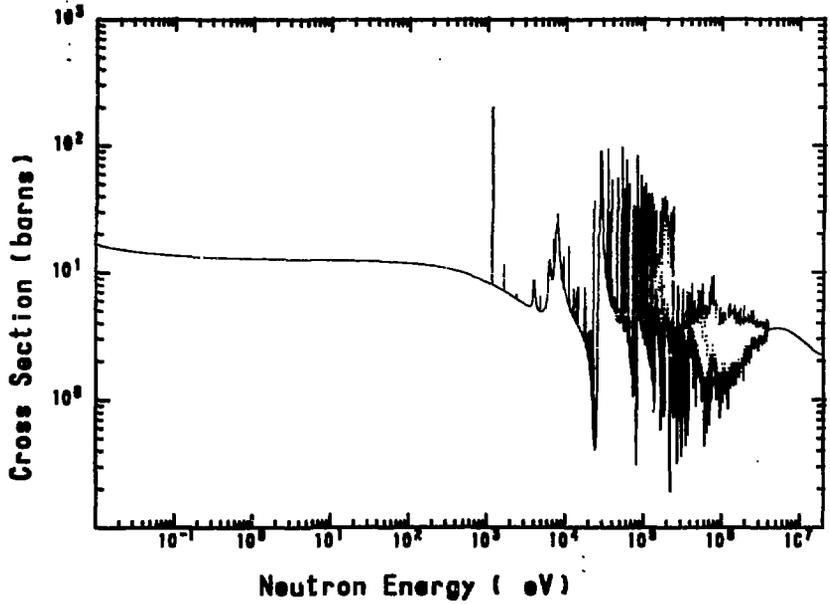
MAT=2251
 MT= 4
 51~55

⁵⁵Mn
 (n, 2n)
 (n, n'α)
 (n, n'p)
 (n, p)
 (n, α)



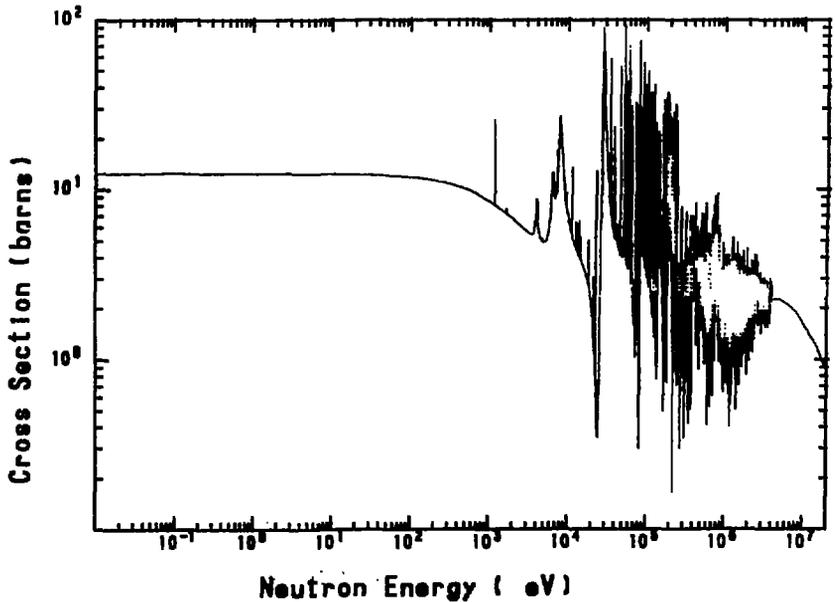
MAT=2251
 MT= 16
 22
 28
 103
 107

²⁶Fe
TOTAL

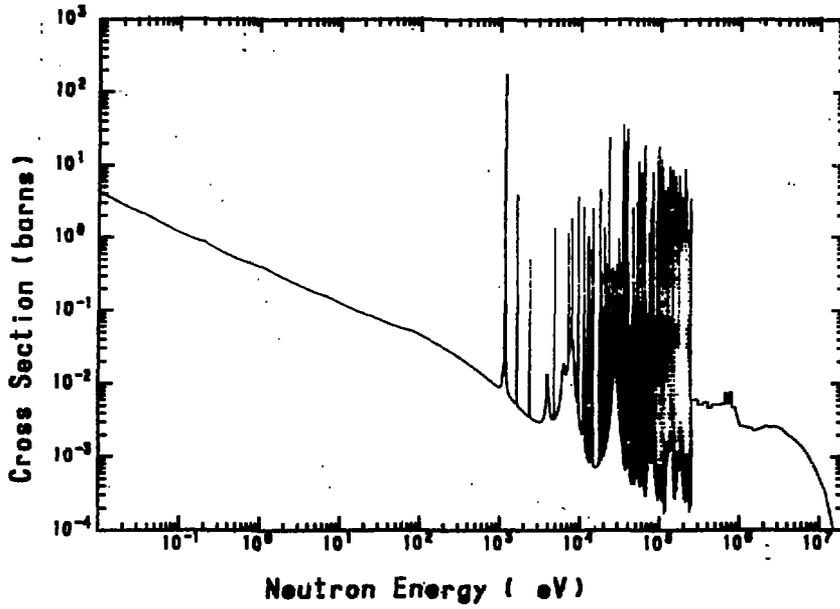


MAT=2260
MT= 1

²⁶Fe
(n, n)

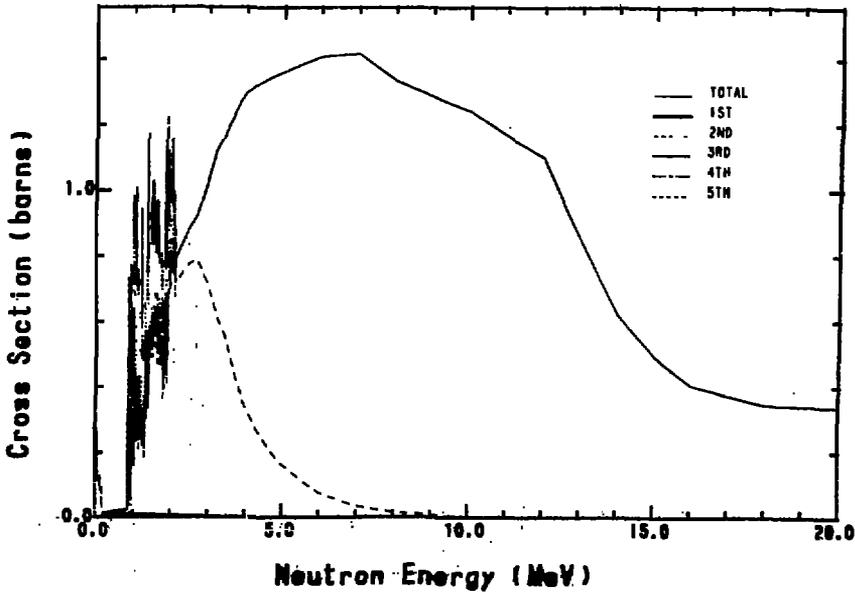


MAT=2260
MT= 2



²⁶Fe
(n, γ)

MAT=2260
MT= 102

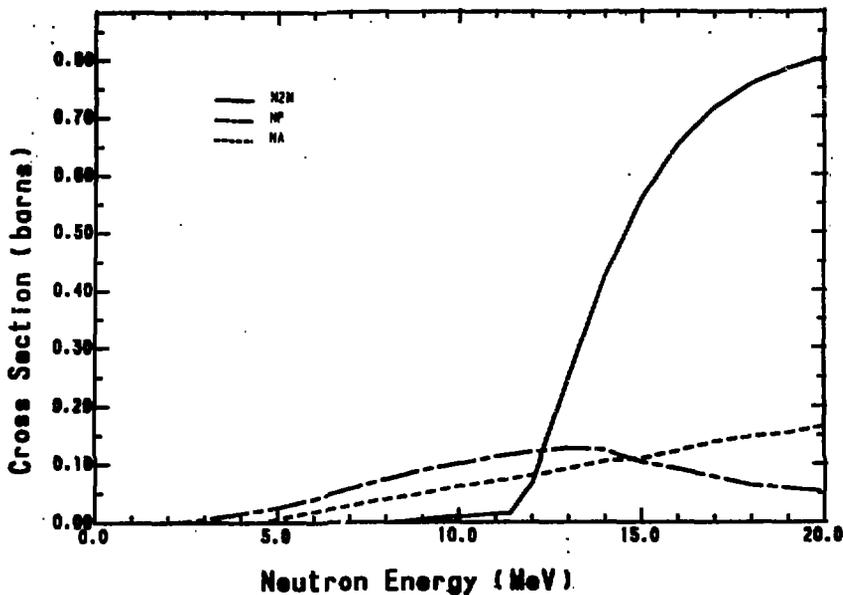


²⁶Fe
(n, n')

MAT=2260
MT= 4
51~55

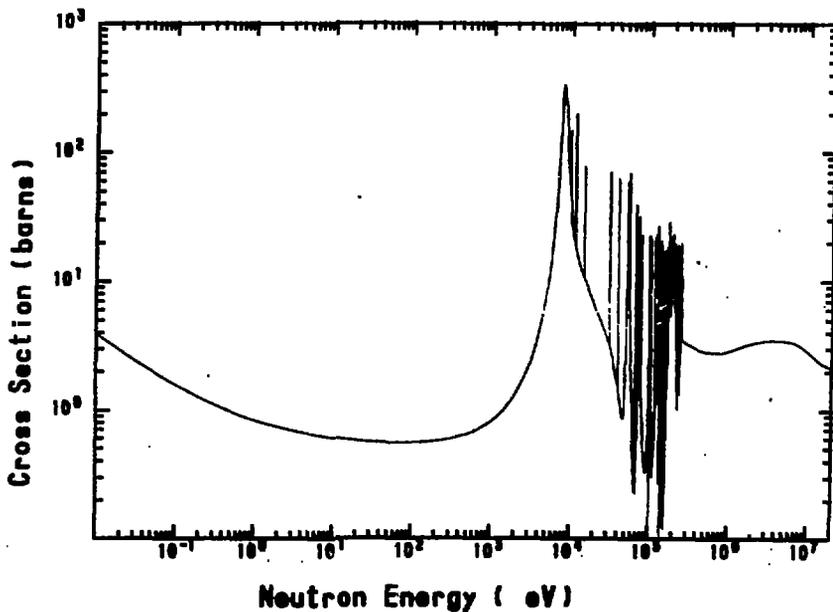
²⁶Fe
 (n, 2n)
 (n, p)
 (n, α)

MAT=2260
 MT= 16
 103
 107

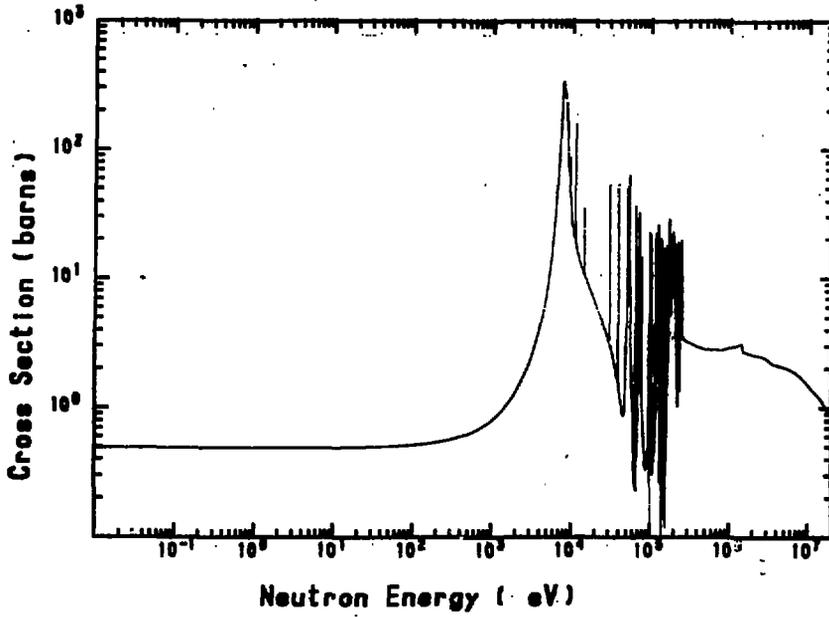


⁵⁴Fe
 TOTAL

MAT=Z261
 MT= 1

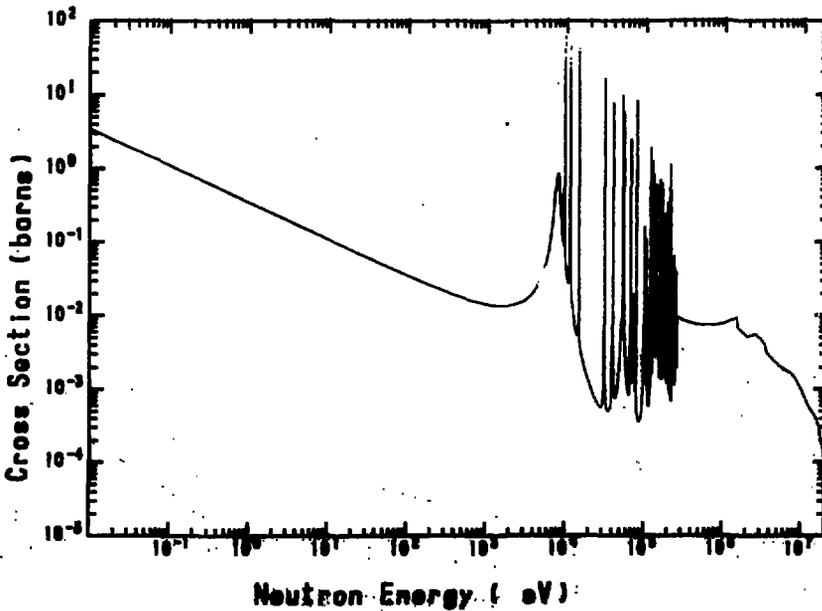


⁵⁴Fe
(n, n)



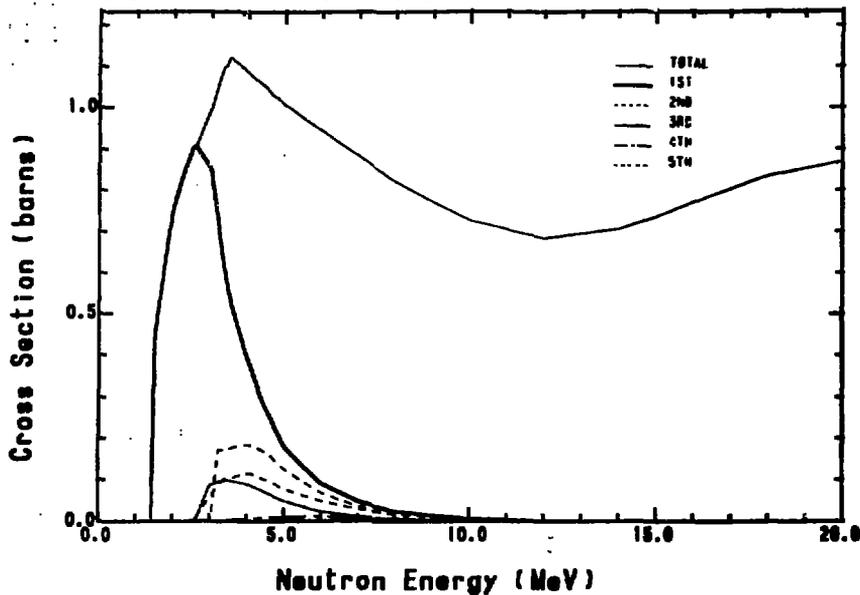
MAT=2261
MT= 2

⁵⁴Fe
(n, γ)



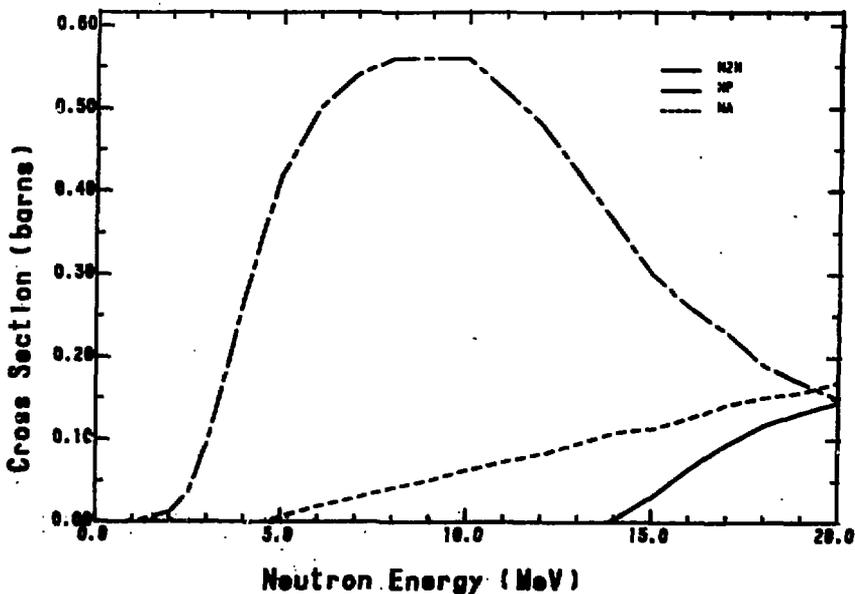
MAT=2261
MT= 102

⁵⁴Fe
(n, n')



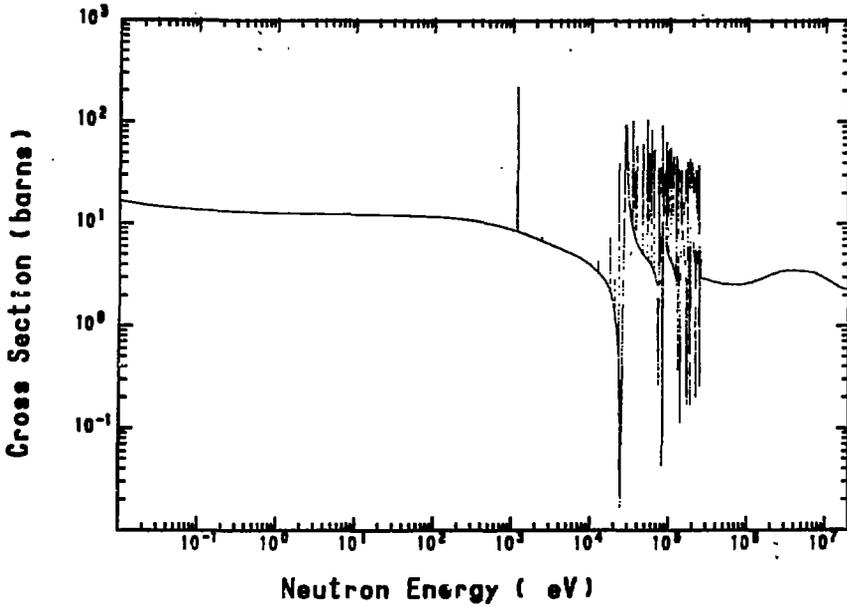
MAT=2261
MT= 4
51~55

⁵⁴Fe
(n, 2n)
(n, p)
(n, α)

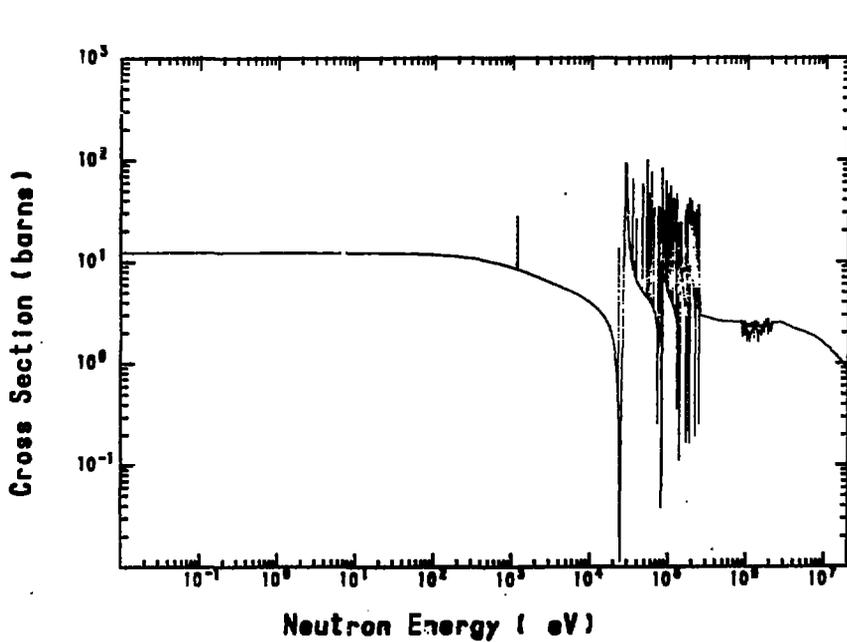


MAT=2261
MT= 15
103
107

⁵⁶Fe
TOTAL



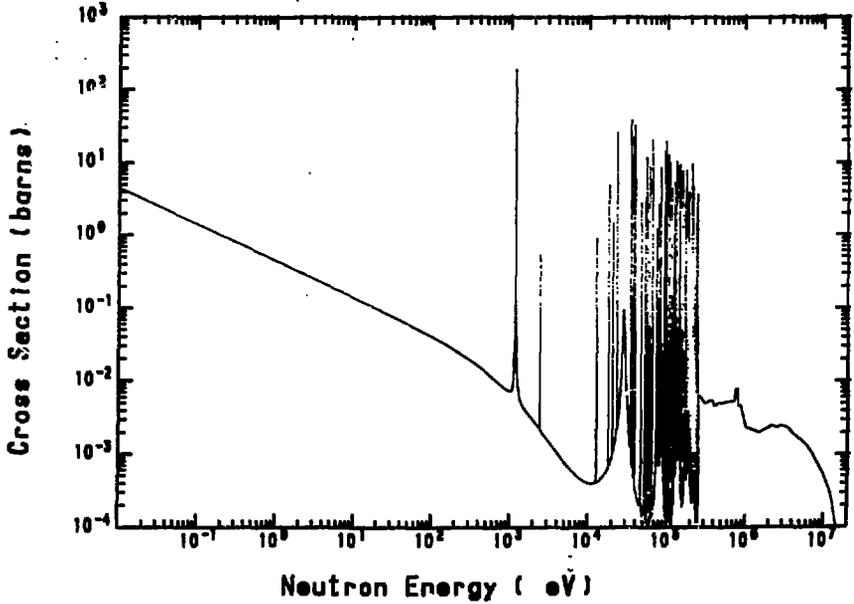
MAT=2262
MT= 1



⁵⁶Fe
(n, n)

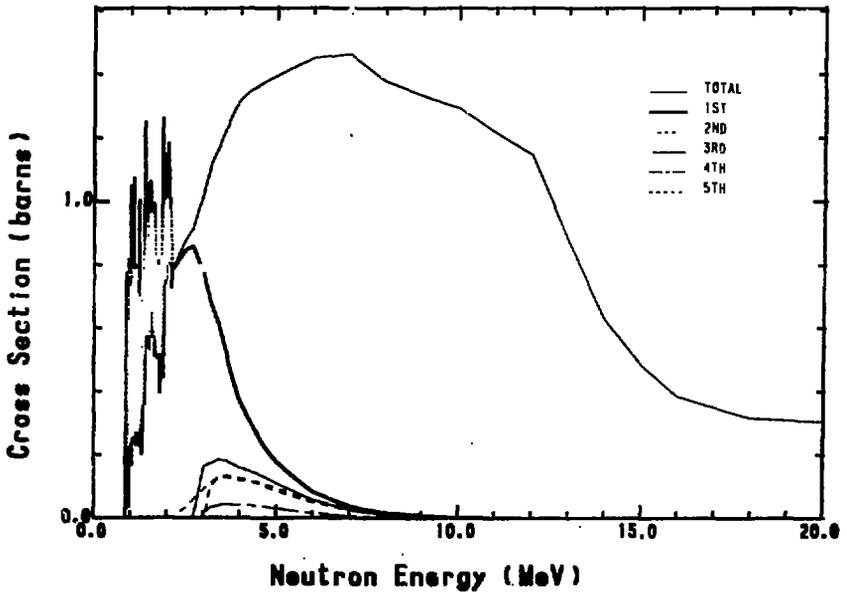
MAT=2262
MT= 2

⁵⁶Fe
(n, γ)

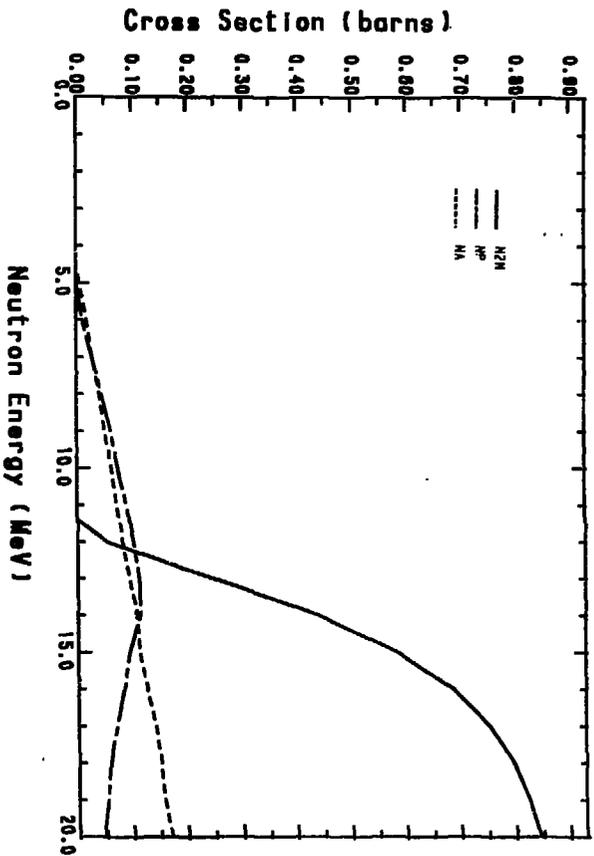


MAT=2262
MT= 102

⁵⁶Fe
(n, n')

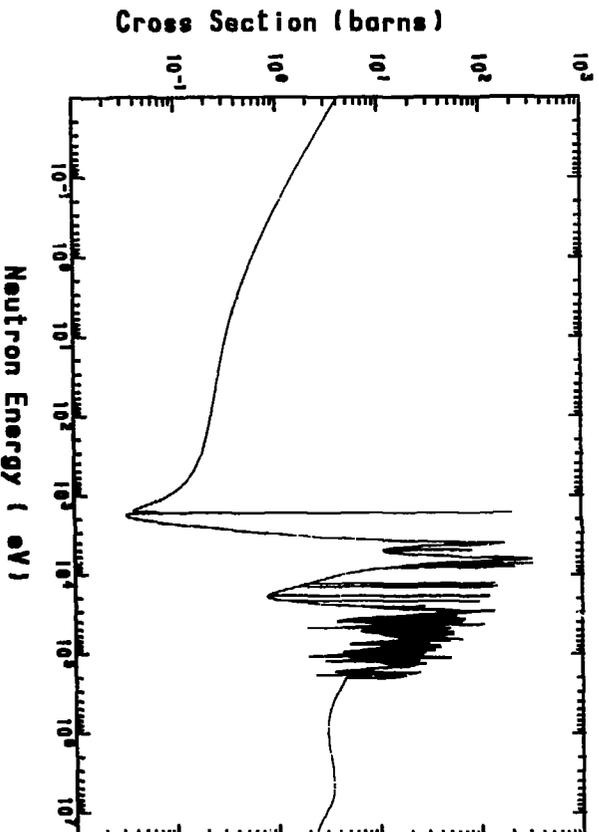


MAT=2262
MT= 4
51~55



⁵⁶Fe
(n, 2n)
(n, p)
(n, α)

MAT=2262
MT= 16
103
107

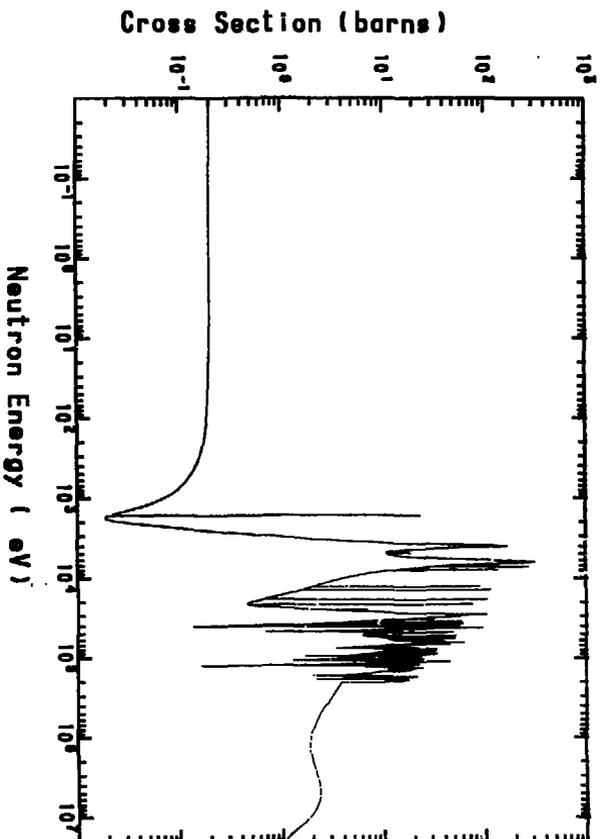


⁵⁷Fe
TOTAL

MAT=2263
MT= 1

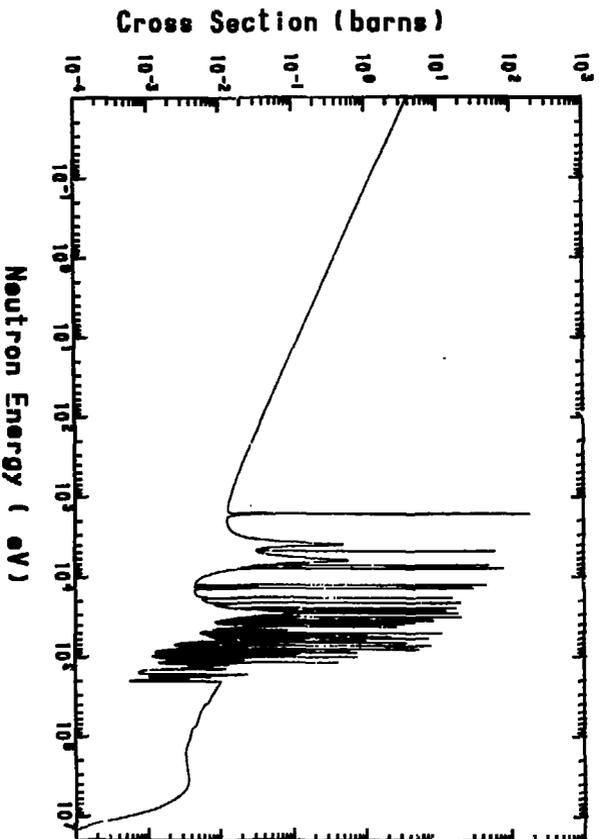
^{57}Fe
(n, n)

MAT=2263
MT= 2

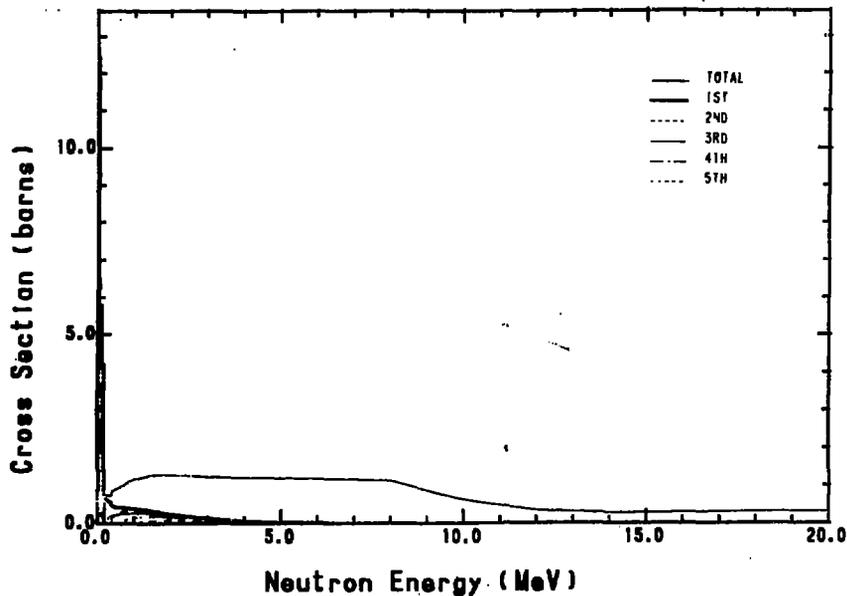


^{57}Fe
(n, γ)

MAT=2263
MT= 102

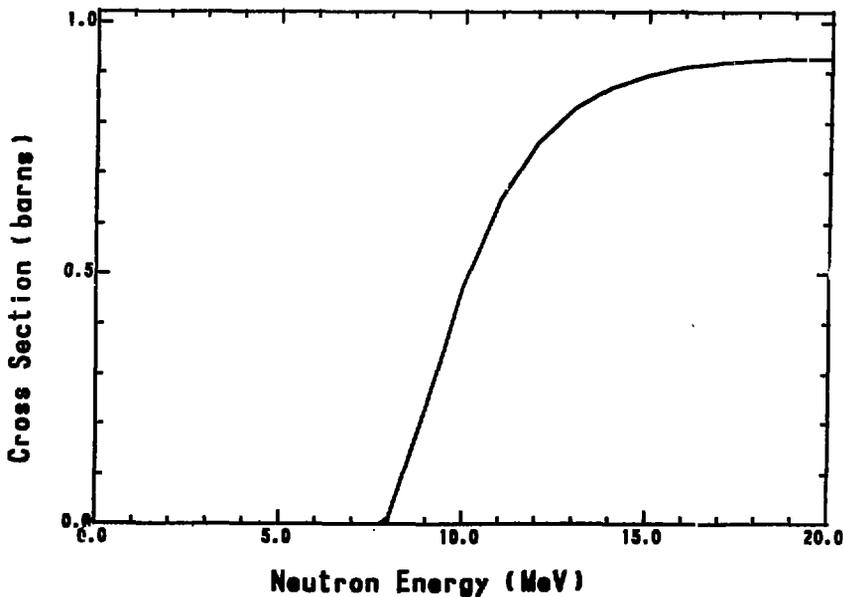


⁵⁷Fe
(n, n')



MAT=2263
 MT= 4
 51~55

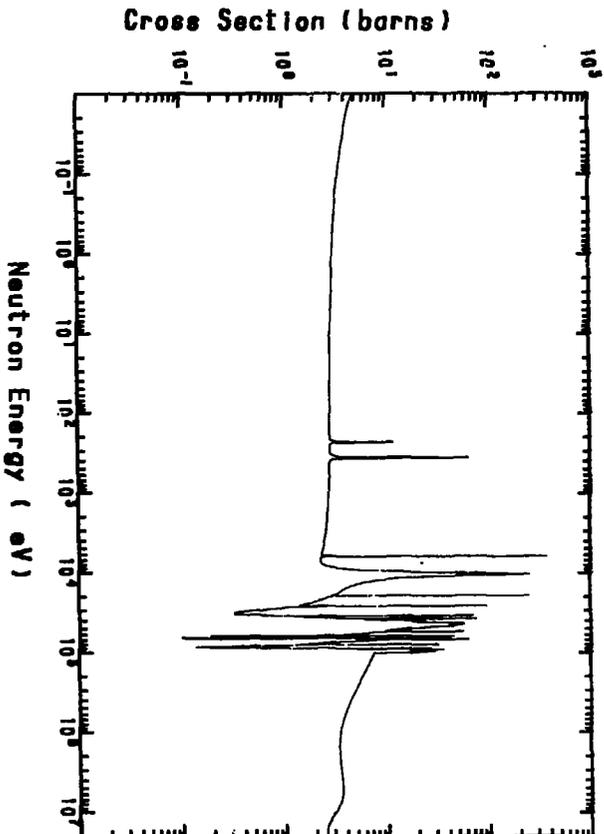
⁵⁷Fe
(n, 2n)



MAT=2263
 MT= 16

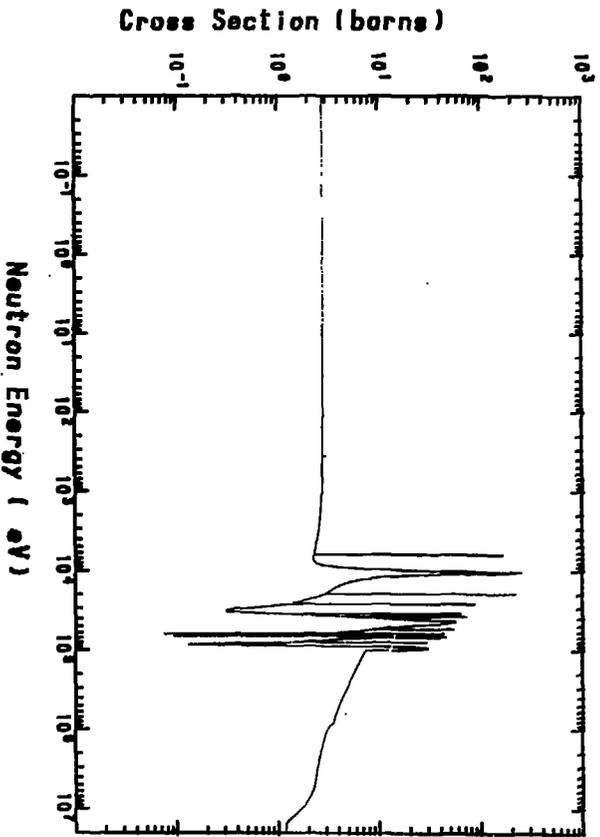
⁵⁸Fe
TOTAL

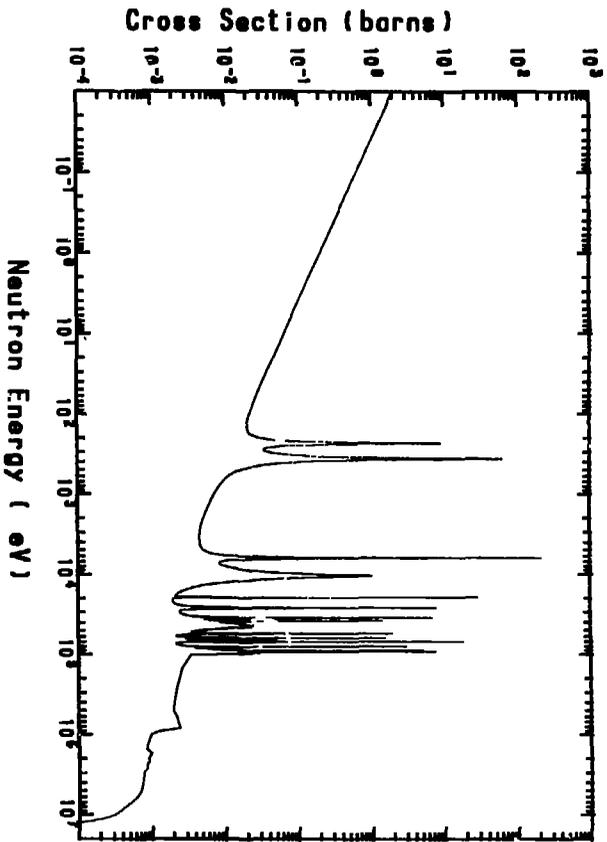
MAT=2264
MT=1



⁵⁸Fe
(n,n)

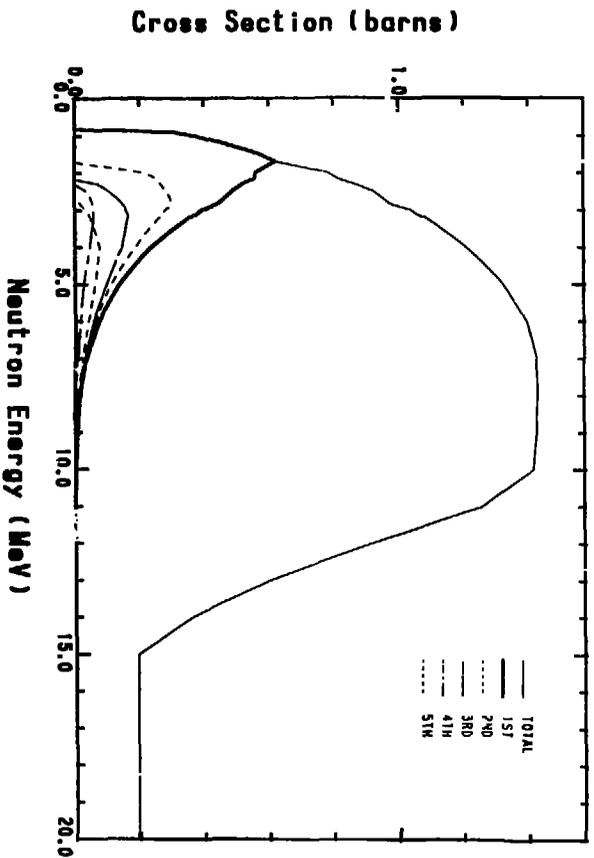
MAT=2264
MT=2





⁵⁸Fe
(n, γ)

MAT = 2264
MT = 102



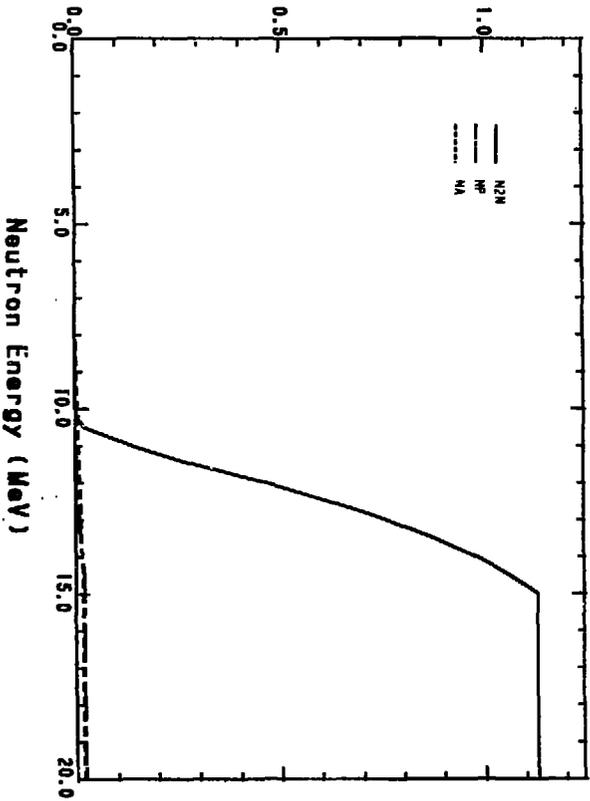
⁵⁸Fe
(n, n')

MAT = 2264
MT = 4
51~55

⁵⁸Fe
 (n,2n)
 (n,p)
 (n, α)

MAT=2264
MT= 16
 103
 107

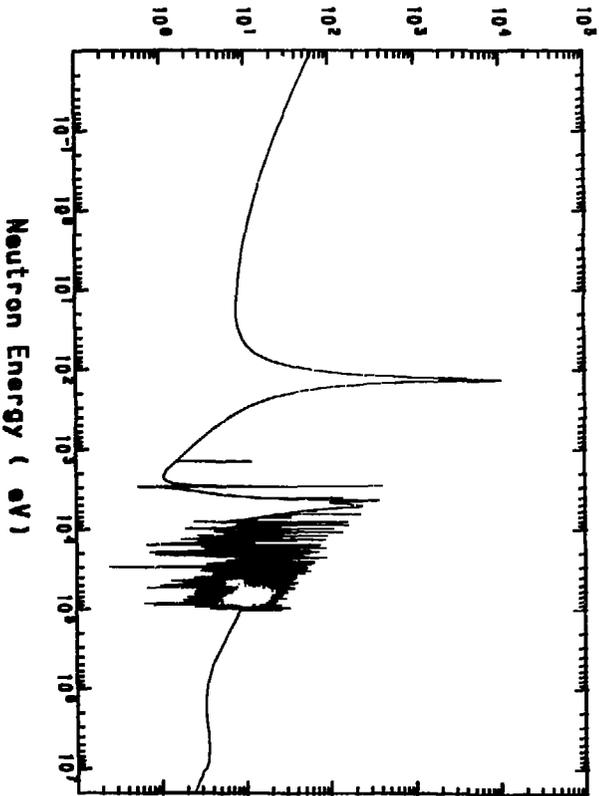
Cross Section (barns)



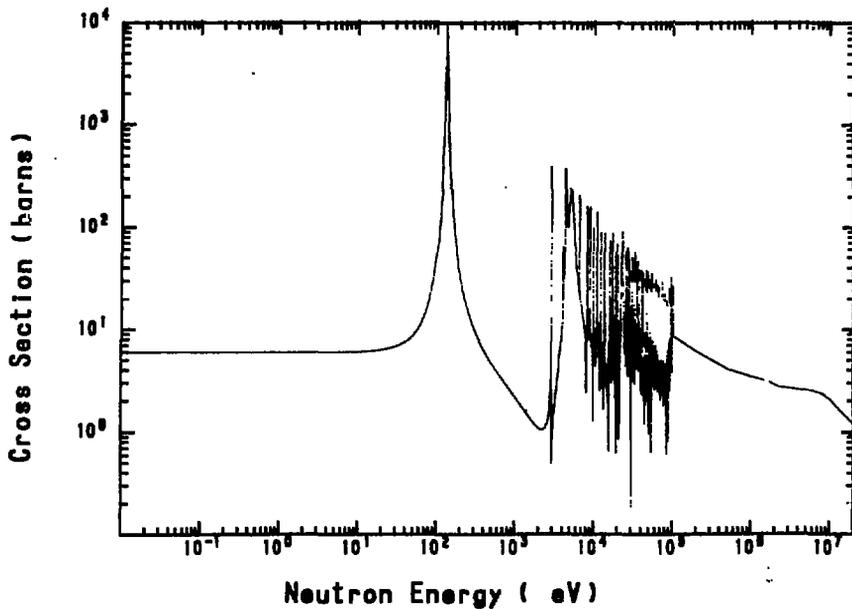
⁵⁹Co
TOTAL

MAT=2271
MT= 1

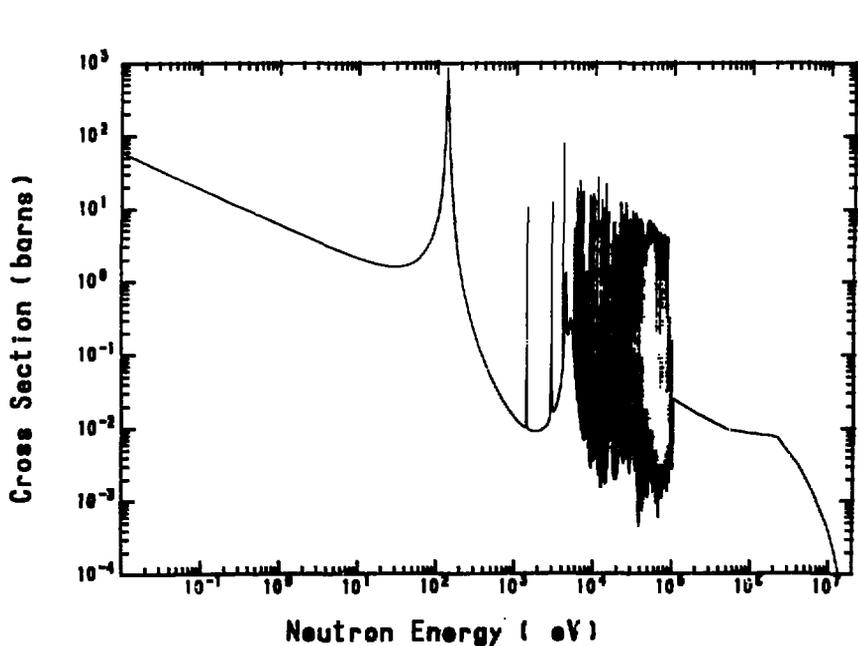
Cross Section (barns)



⁵⁹Co
(n, n)



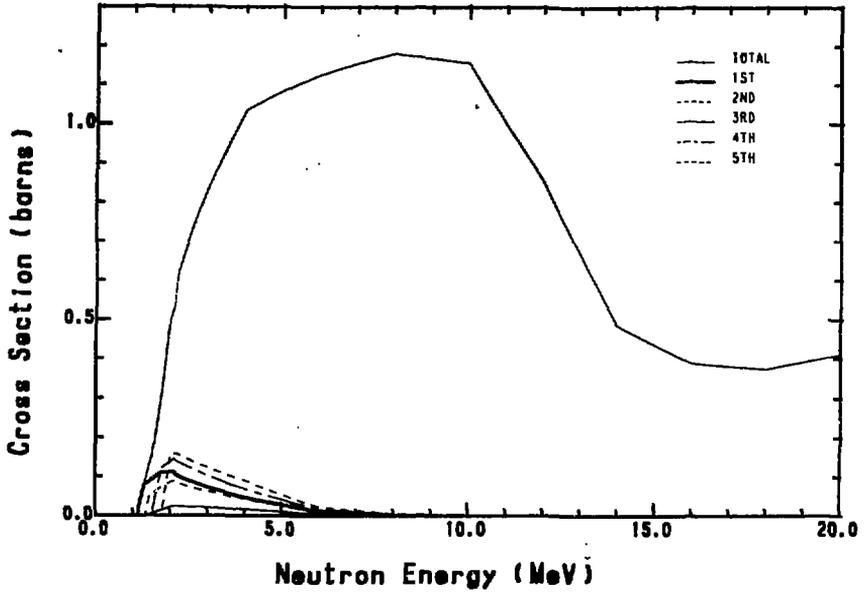
MAT=2271
MT= 2



⁵⁹Co
(n, γ)

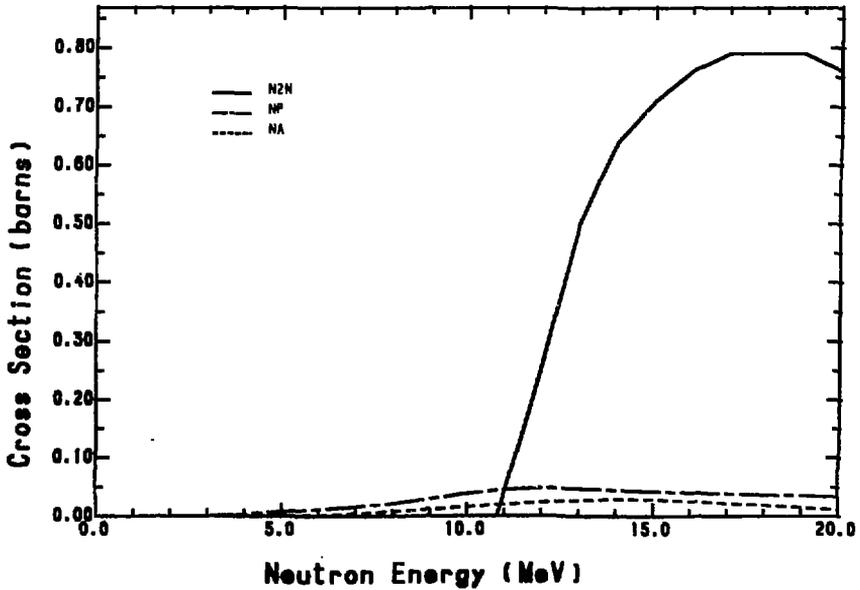
MAT=2271
MT= 102

⁵⁹Co
(n, n')



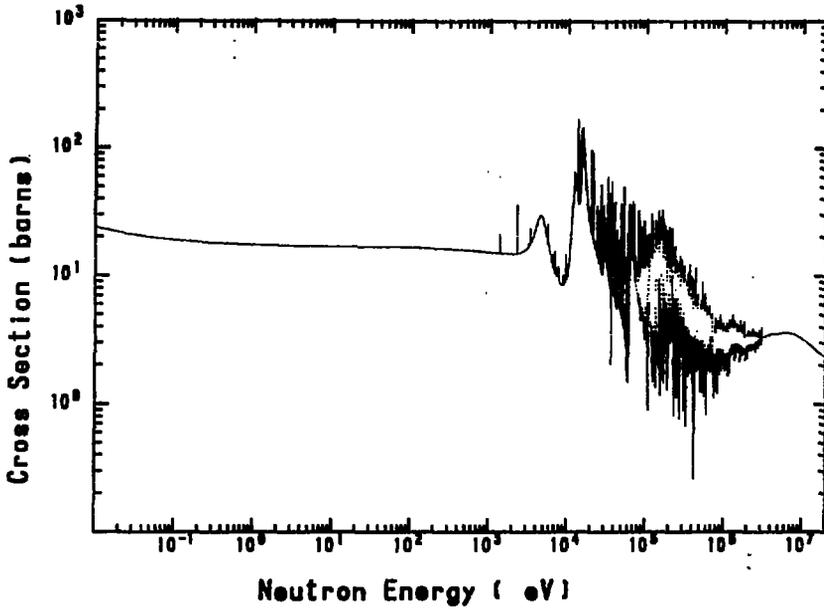
MAT=2271
 MT= 4
 51~55

⁵⁹Co
(n, 2n)
(n, p)
(n, α)



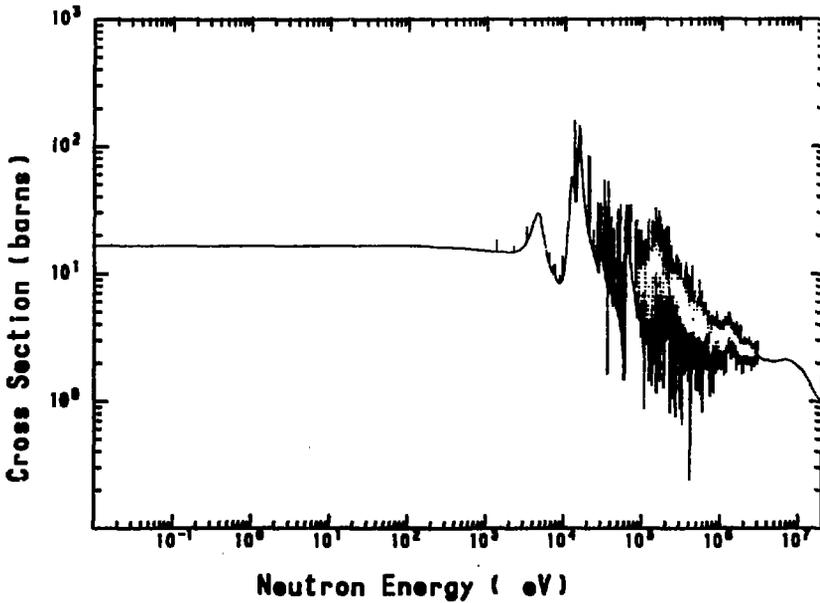
MAT=2271
 MT= 16
 103
 107

²⁸Ni
TOTAL



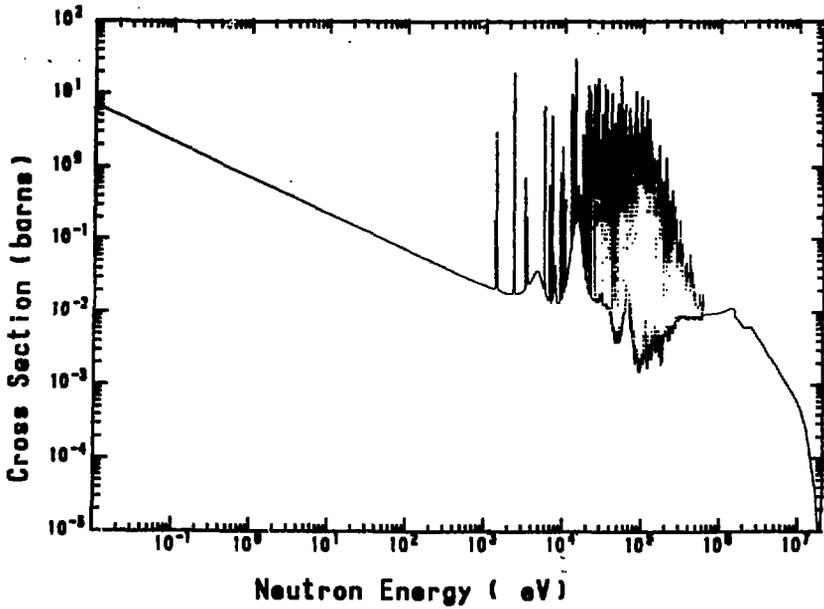
MAT=2280
MT= 1

²⁸Ni
(n, n)



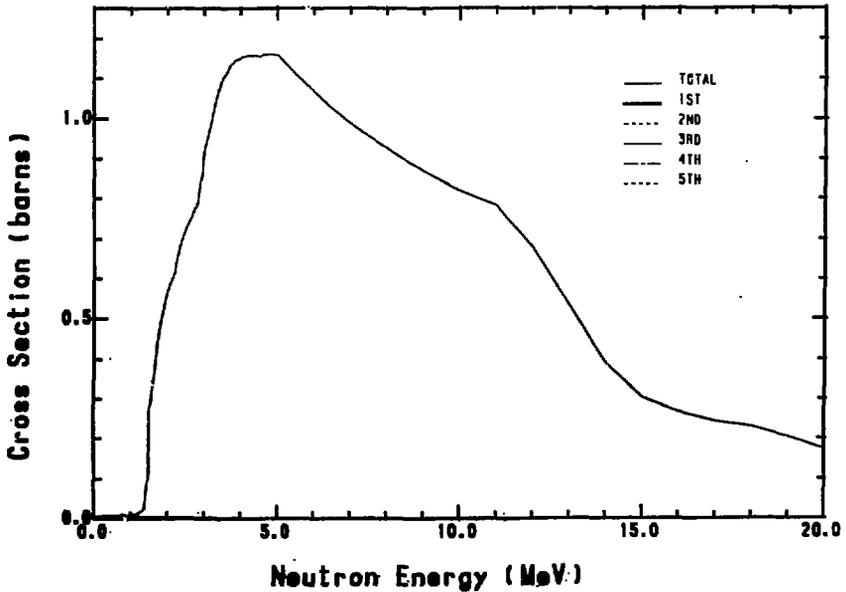
MAT=2280
MT= 2

²⁸Ni
(n, γ)



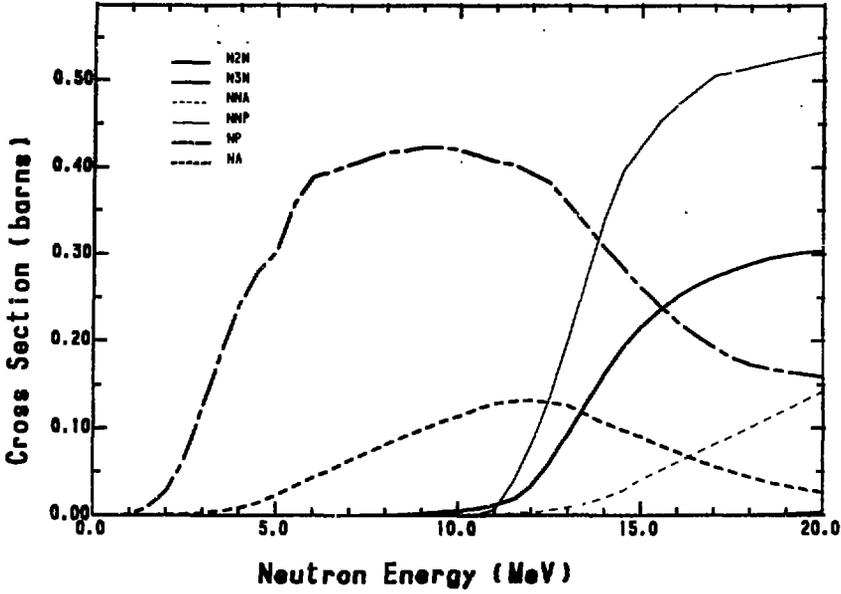
MAT=2280
MT= 102

²⁸Ni
(n, n')

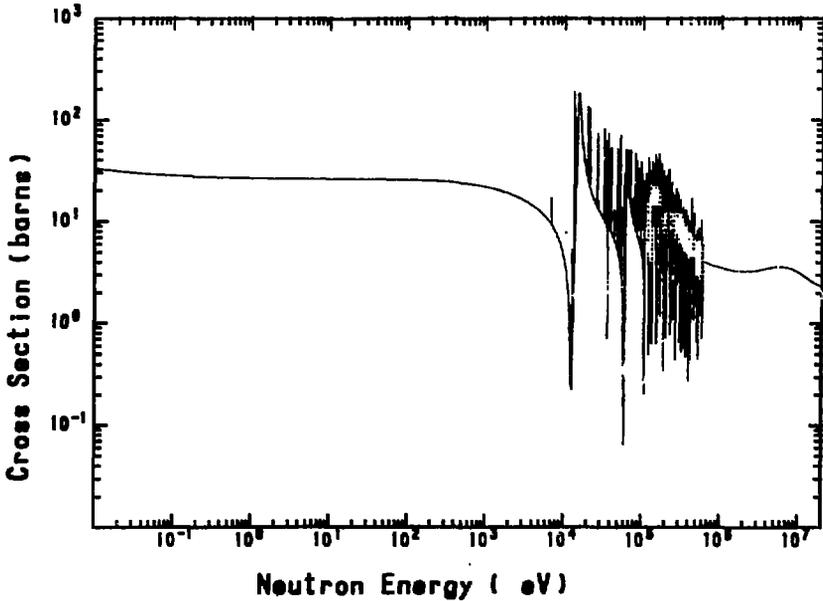


MAT=2280
MT= 4
51~55

²⁸Ni
 (n, 2n)
 (n, 3n)
 (n, n'α)
 (n, n'p)
 (n, p)
 (n, α)



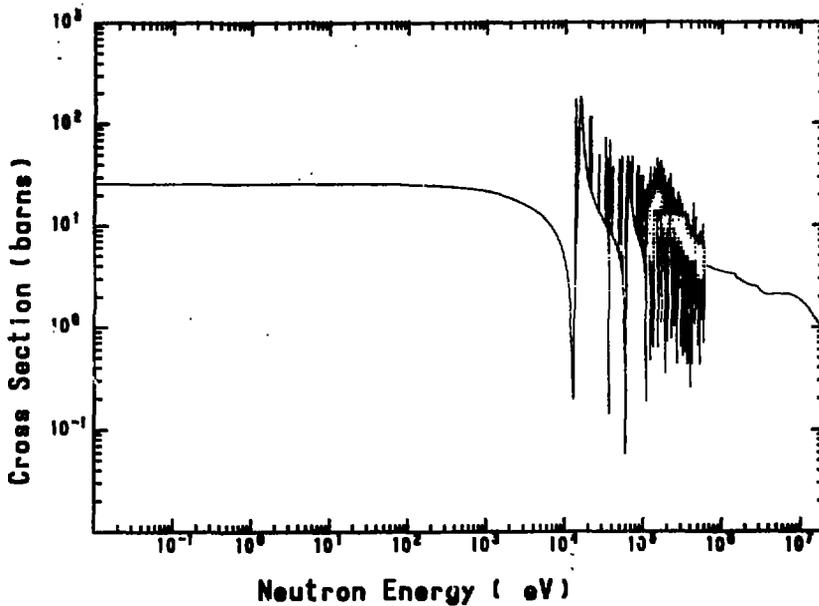
MAT=2280
MT= 16
 17
 22
 28
 103
 107



⁵⁸Ni
TOTAL

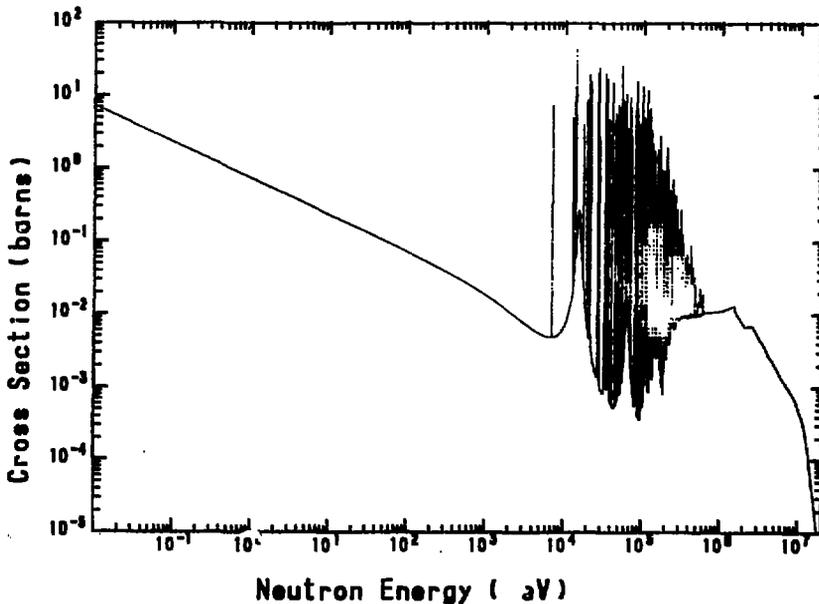
MAT=2281
MT= 1

⁵⁸Ni
(n, n)



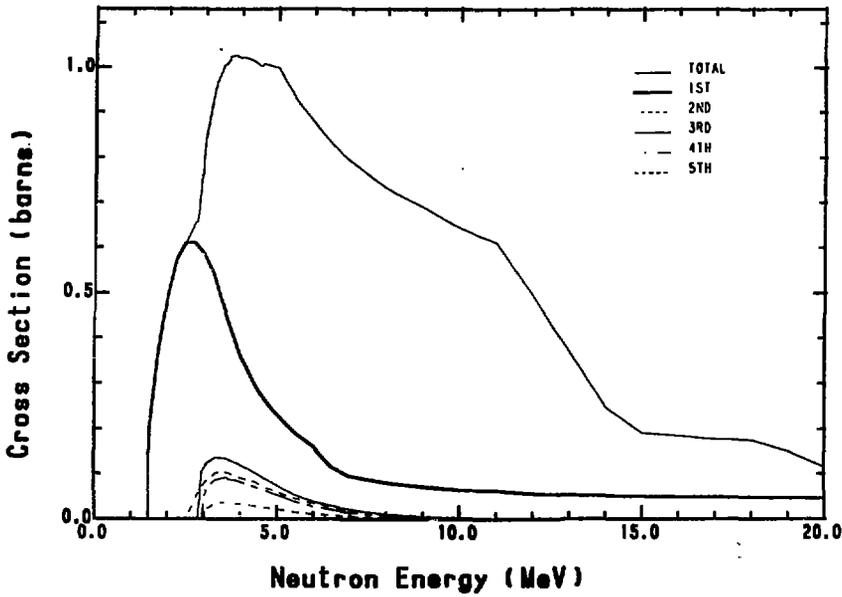
MAT=2281
MT= 2

⁵⁸Ni
(n, γ)



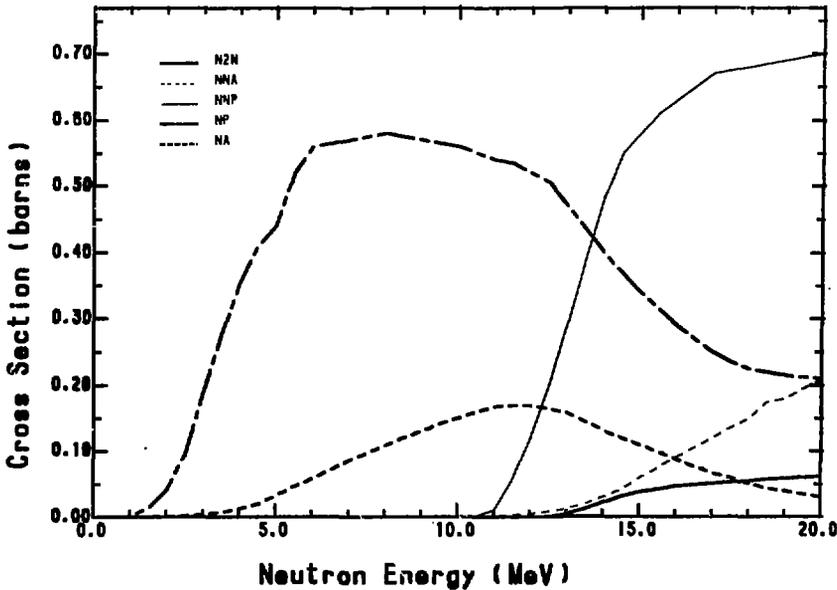
MAT=2281
MT= 102

⁵⁸Ni
(n, n')



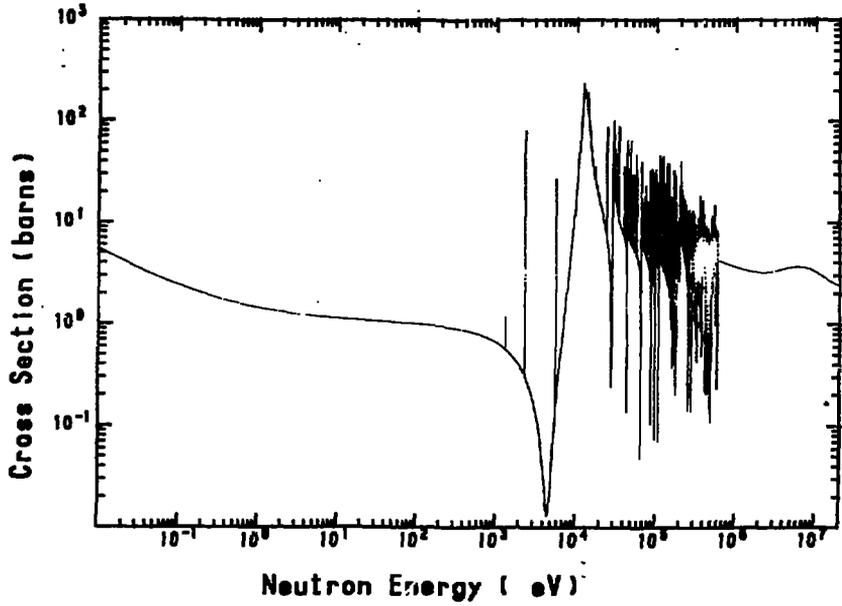
MAT=2281
MT= 4
51~55

⁵⁸Ni
(n, 2n)
(n, n'p)
(n, n'α)
(n, p)
(n, α)



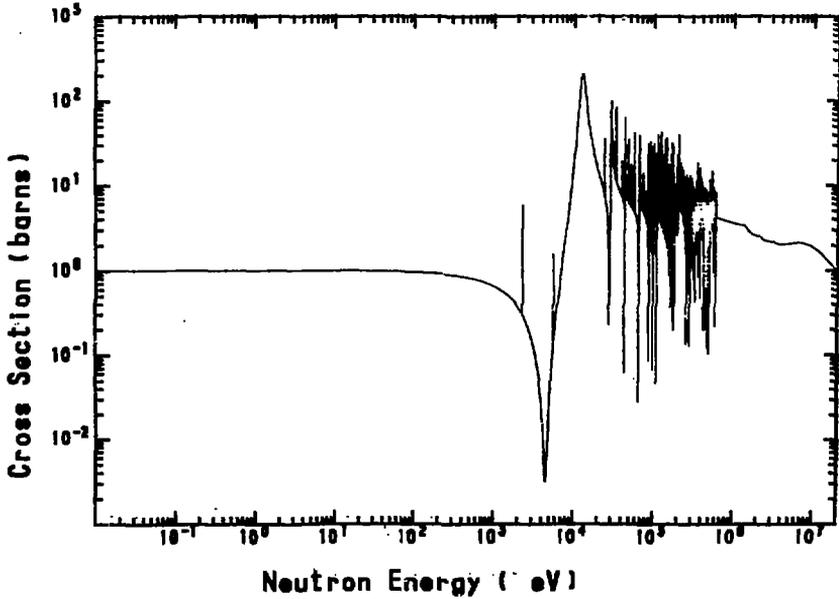
MAT=2281
MT= 16
22
28
103
107

⁶⁰Ni
TOTAL

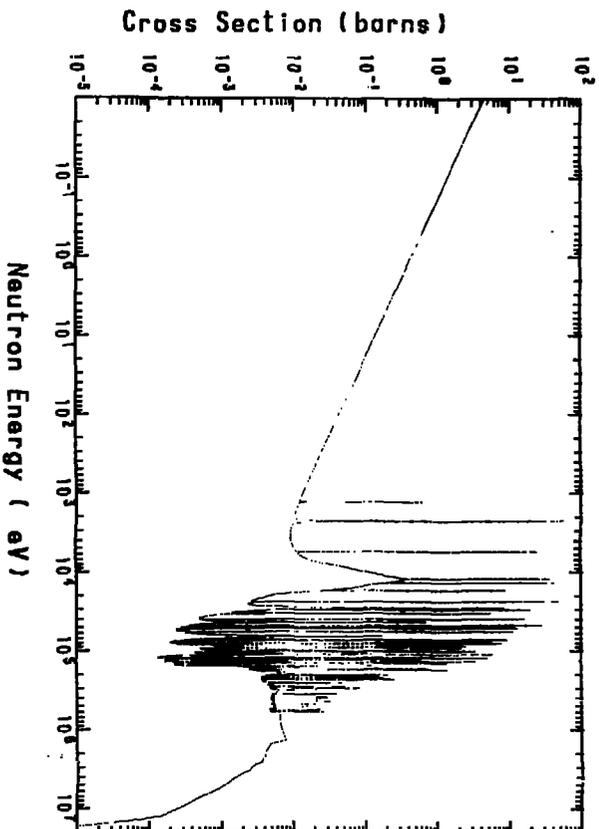


MAT=2282
MT= 1

⁶⁰Ni
(n, n)

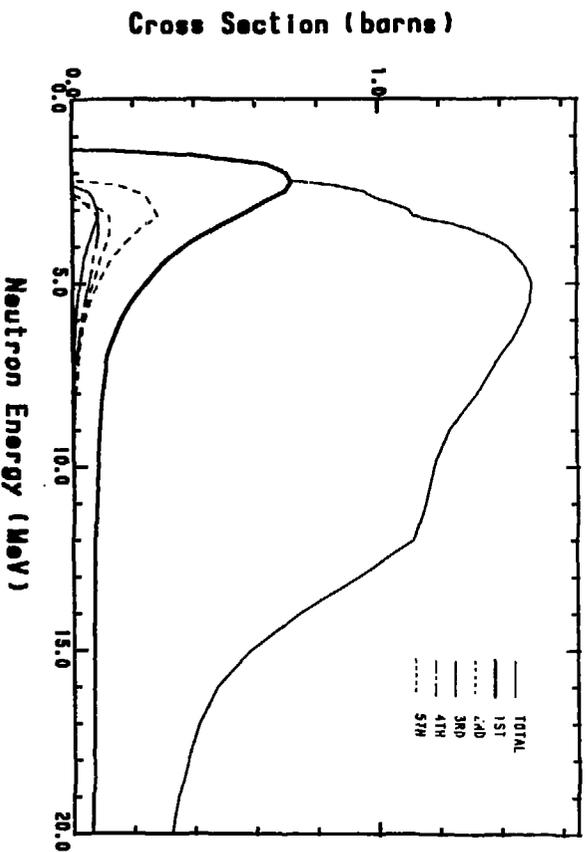


MAT=2282
MT= 2



⁶⁰Ni
(n, γ)

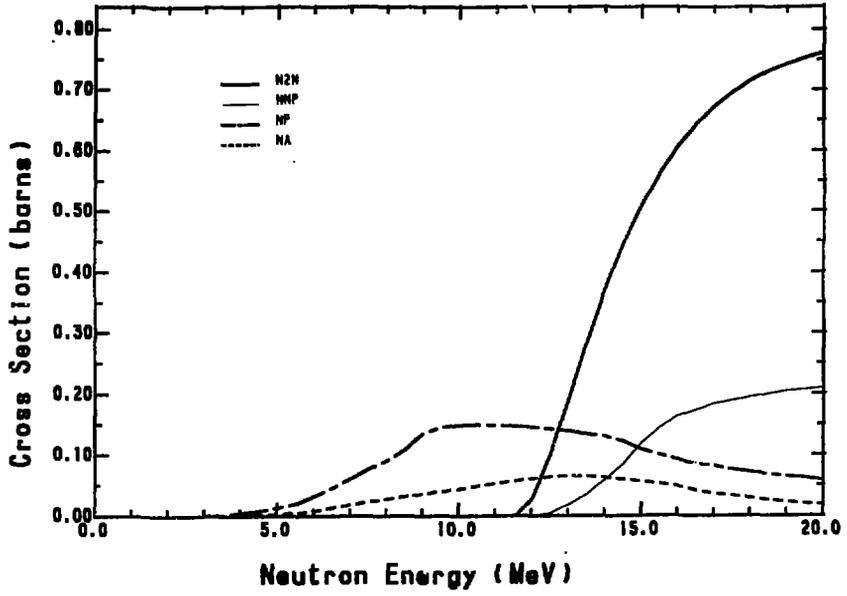
MAT=2282
MT= 102



⁶⁰Ni
(n, n')

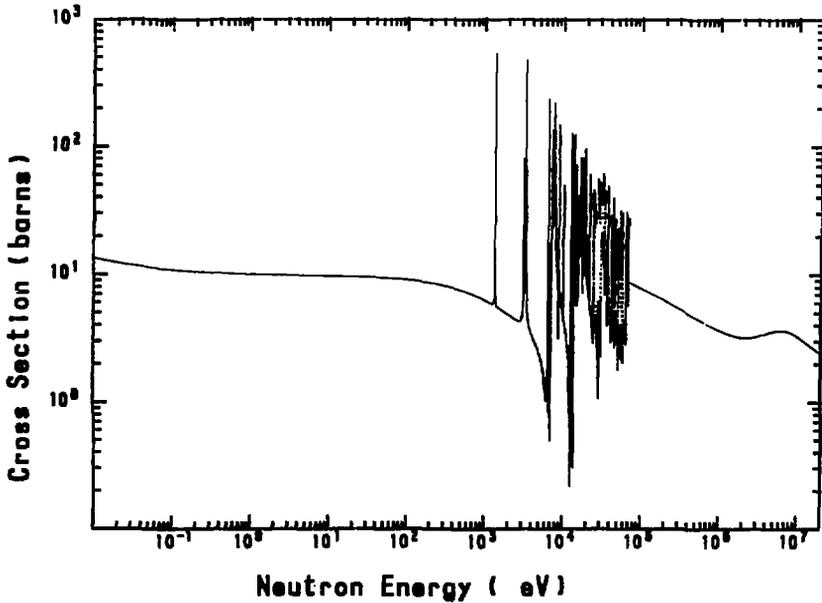
MAT=2282
MT= 4
51~55

⁶⁰Ni
 (n, 2n)
 (n, n'p)
 (n, p)
 (n, α)

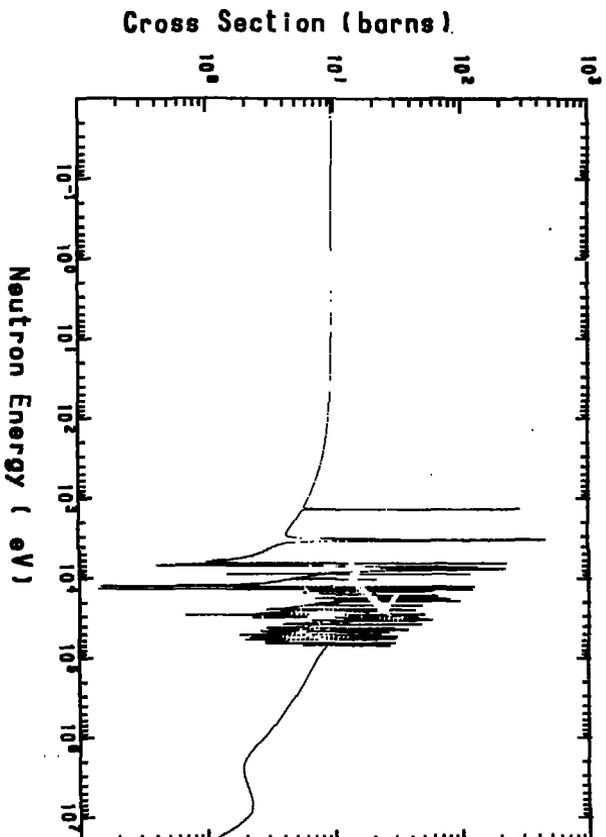


MAT=2282
MT= 16
 28
 103
 107

⁶¹Ni
TOTAL

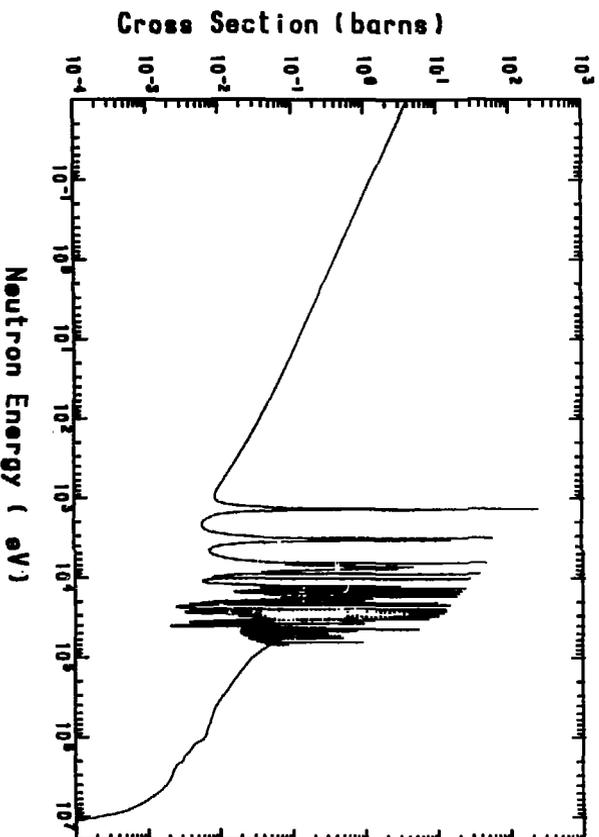


MAT=2283
MT= 1



⁶¹Ni
(n, n)

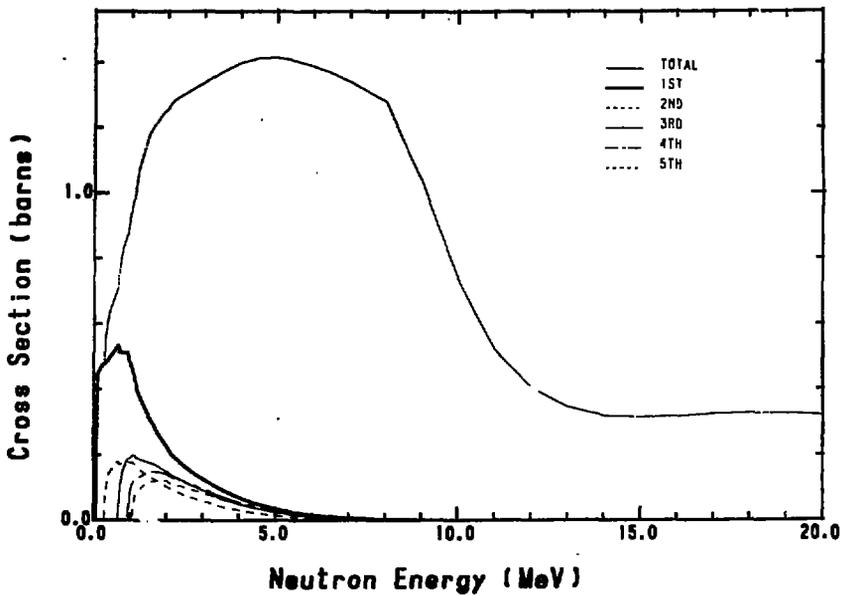
MAT=2283
MT= 2



⁶¹Ni
(n, γ)

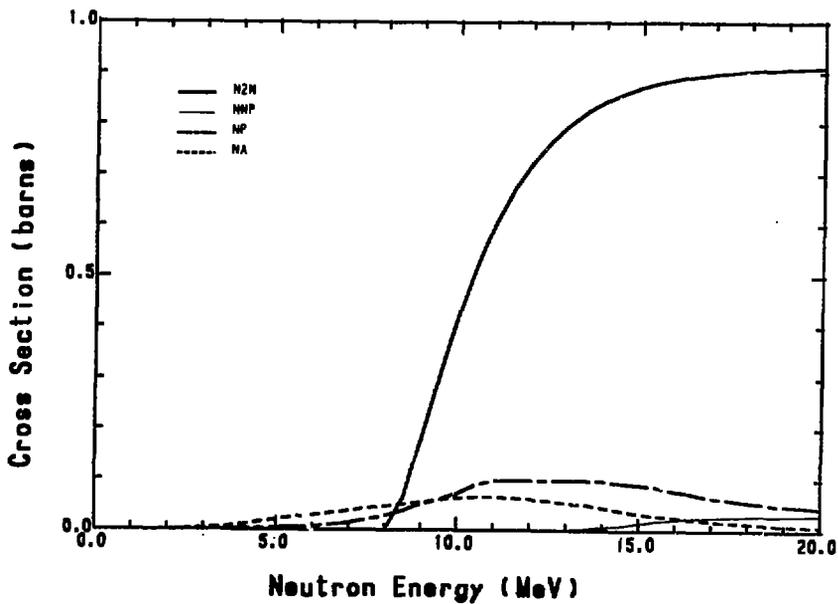
MAT=2283
MT= 102

⁶¹Ni
(n, n')



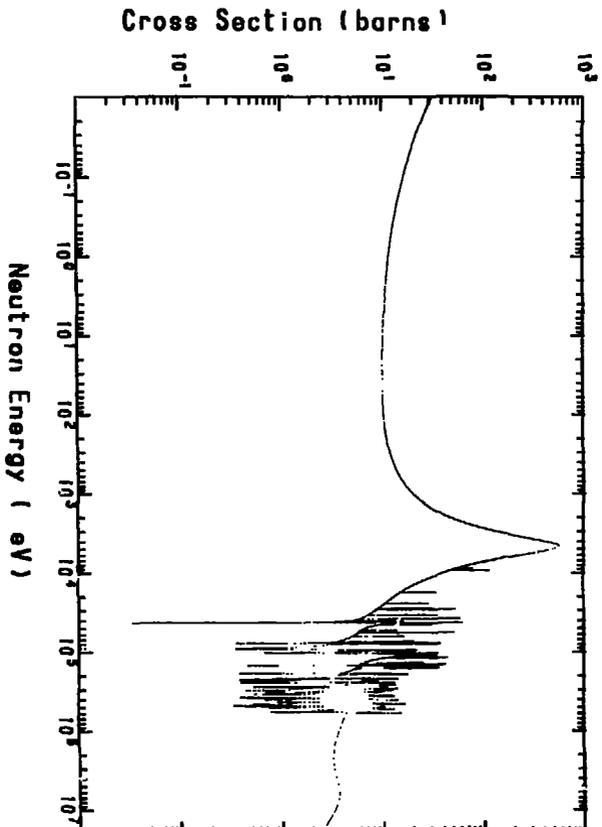
MAT=2283
MT= 4
51~55

⁶¹Ni
(n, 2n)
(n, n'p)
(n, p)
(n, α)



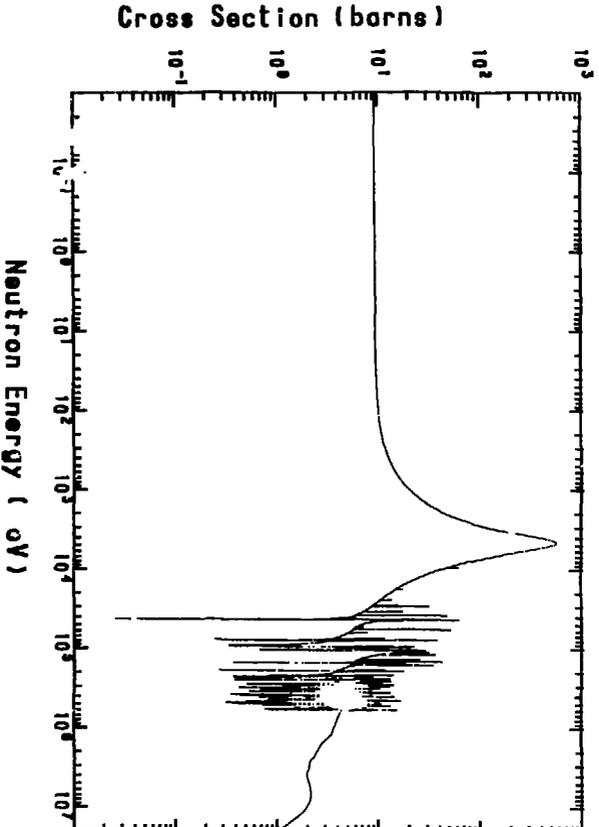
MAT=2283
MT= 16
28
103
107

⁶²Ni
TOTAL



MAT = 2284
MT = 1

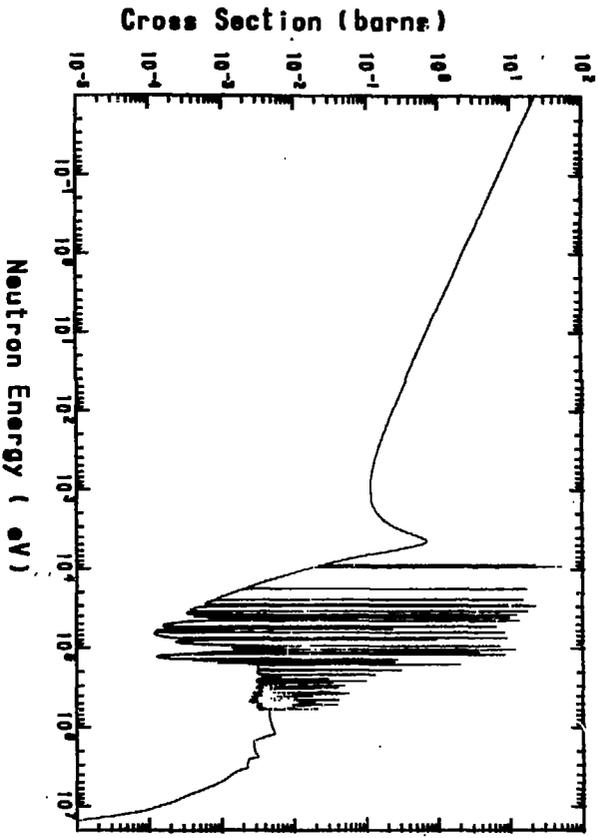
⁶²Ni
(n, n)



MAT = 2284
MT = 2

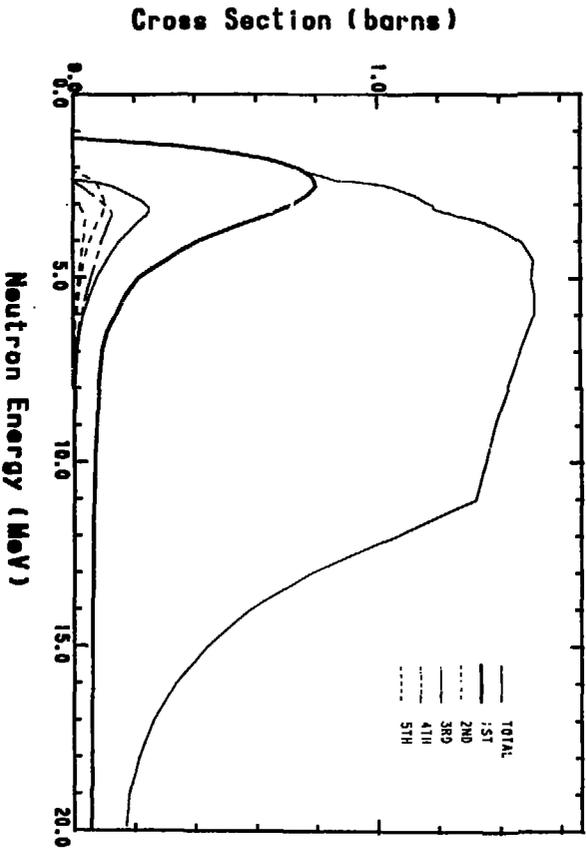
⁶²Ni
(n, γ)

MAT=2284
MT= 102

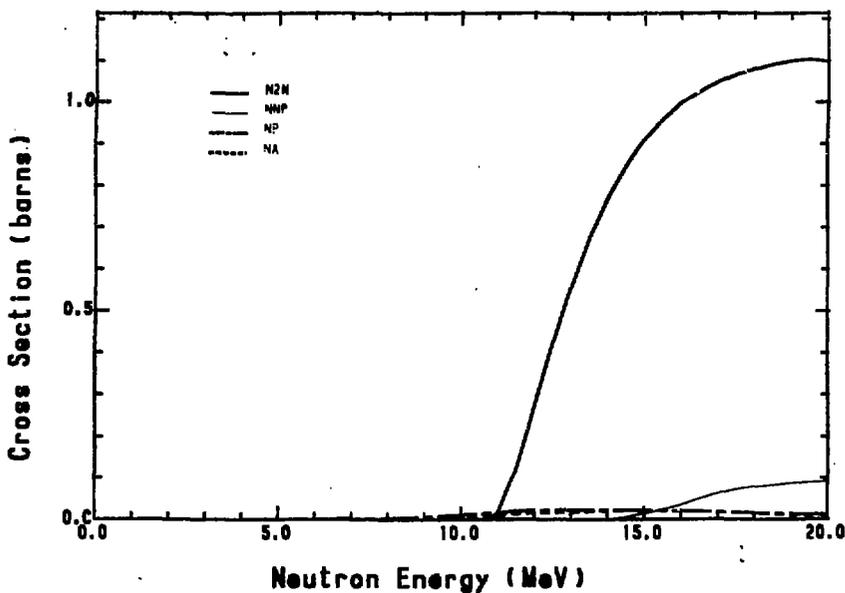


⁶²Ni
(n, n')

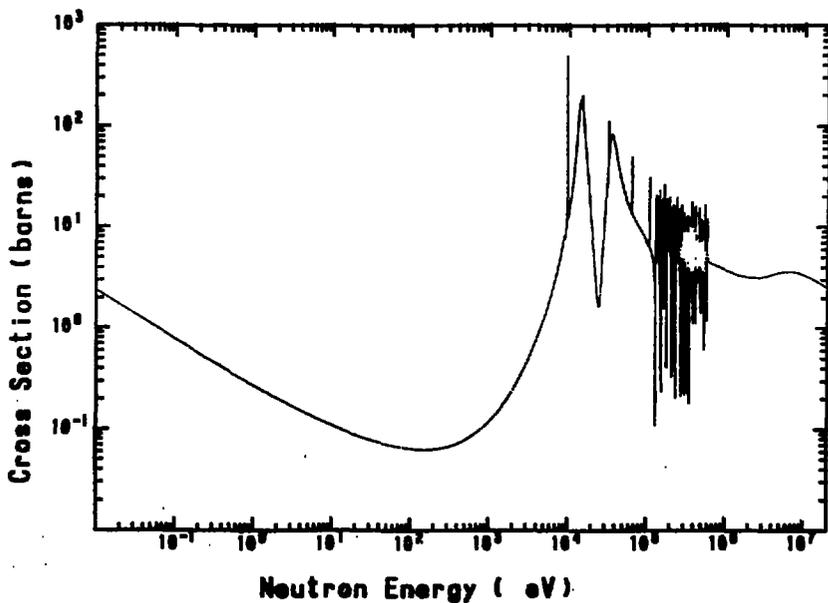
MAT=2284
MT= 4
51~55



⁶²Ni
 (n, 2n)
 (n, n'p)
 (n, p)
 (n, α)



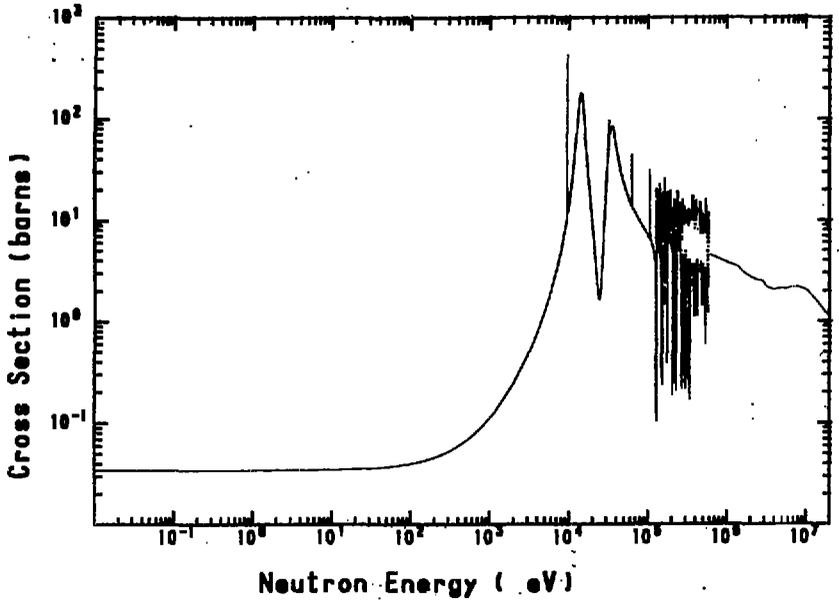
MAT=2284
MT= 16
 28
 103
 107



⁶⁴Ni
TOTAL

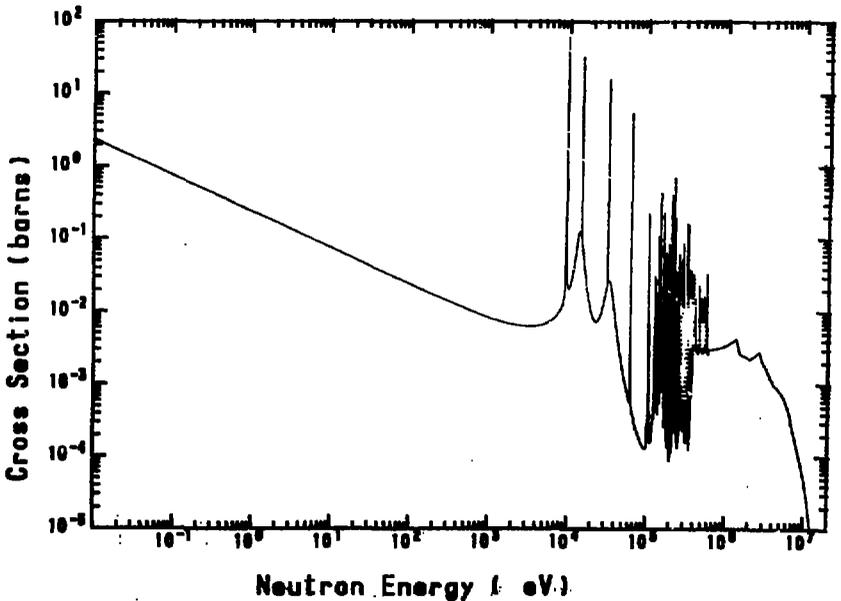
MAT=2285
MT= 1

⁶⁴Ni
(n, n)



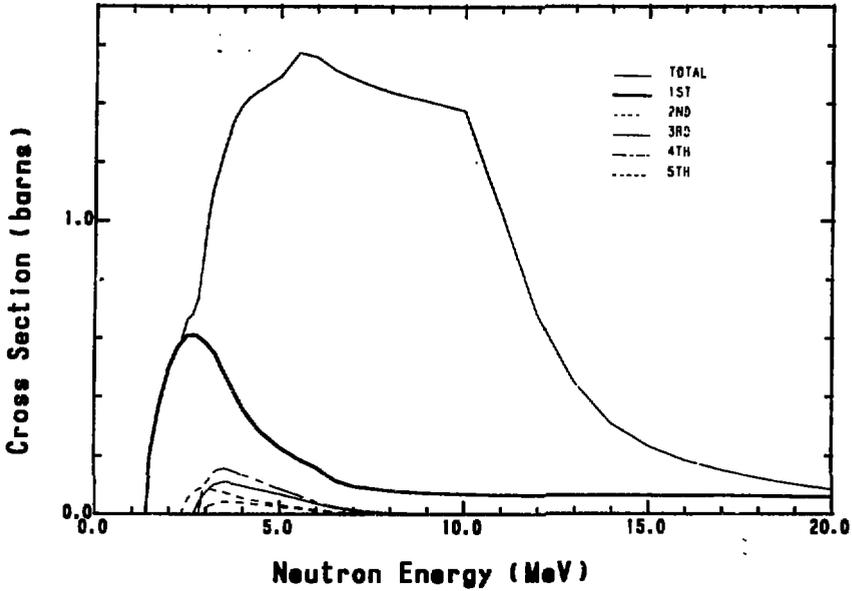
MAT=2285
MT= 2

⁶⁴Ni
(n, γ)



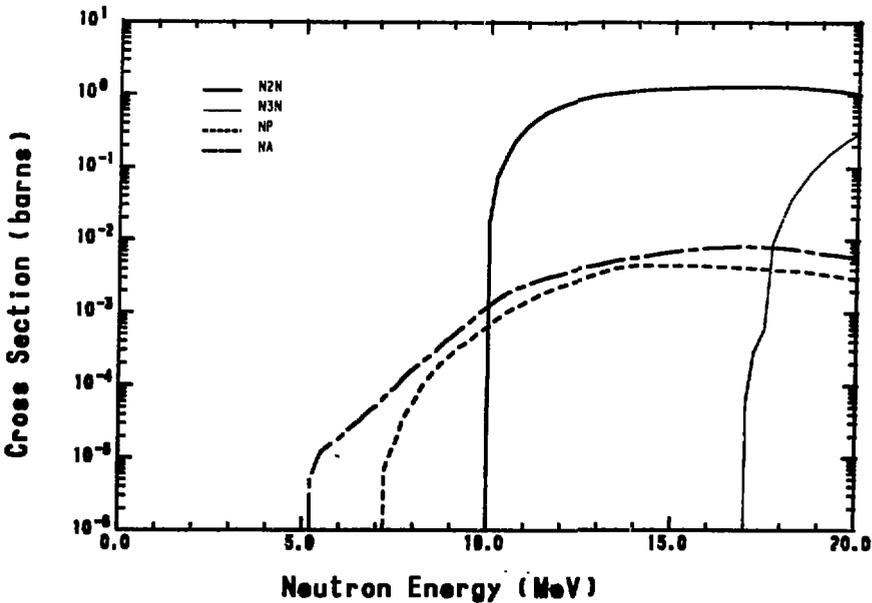
MAT=2285
MT= 102

⁶⁴Ni
(n, n')



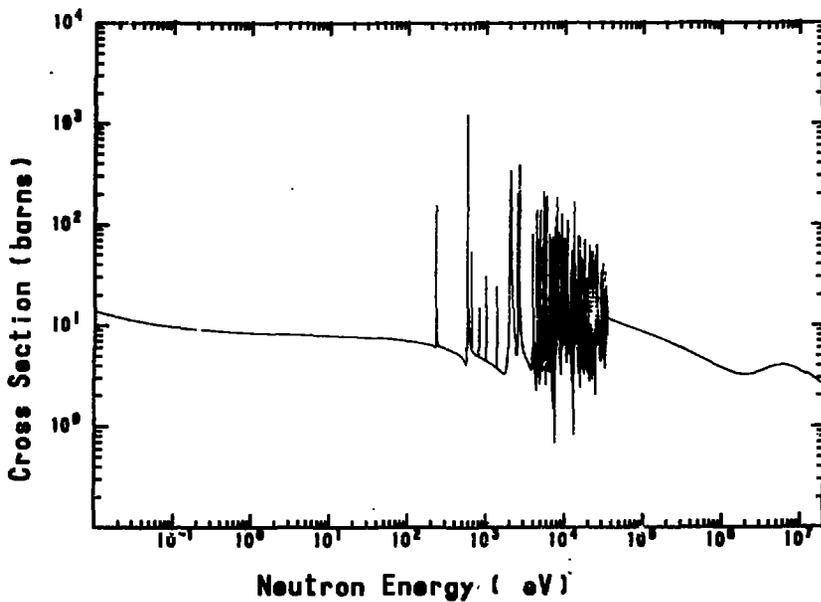
MAT=2285
MT= 4
51~55

⁶⁴Ni
(n, 2n)
(n, 3n)
(n, p)
(n, α)



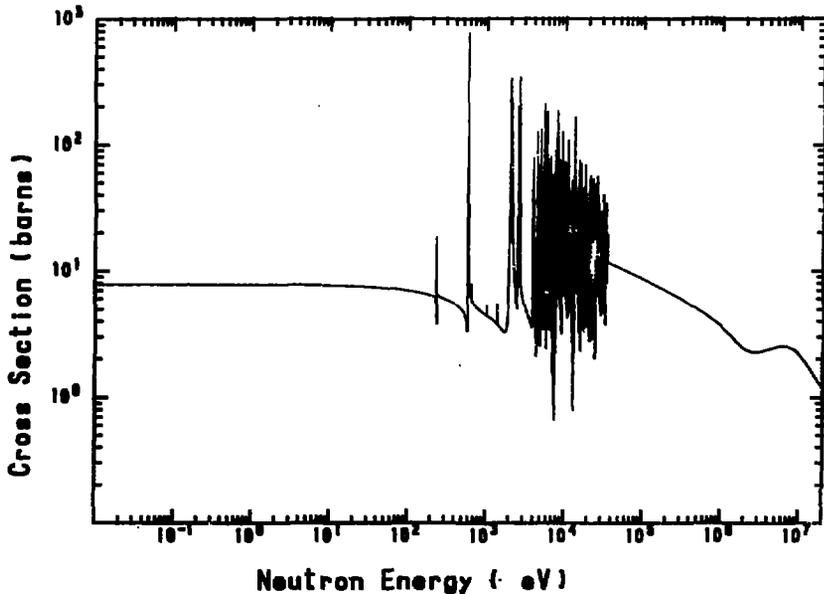
MAT=2285
MT= 16
17
103
107

²⁹Cu
TOTAL



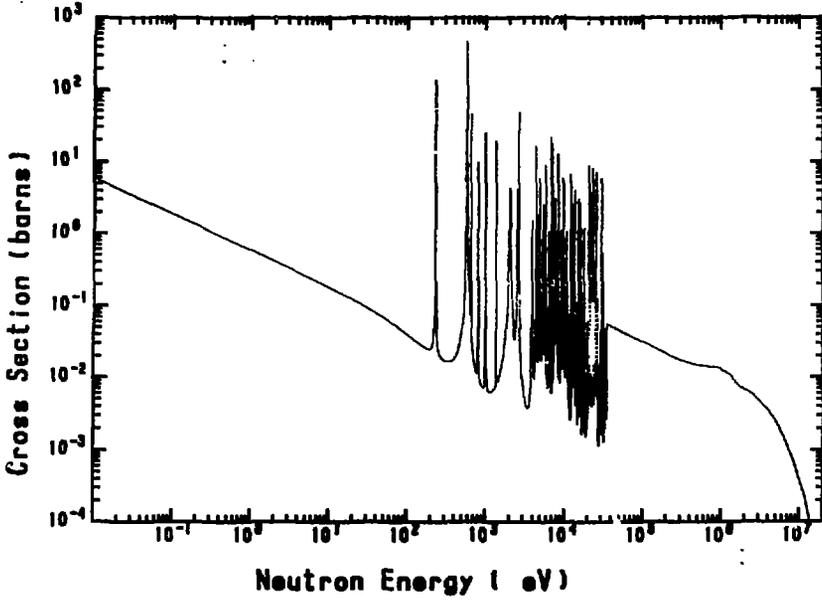
MAT=2290
MT= 1

²⁹Cu
(n, n)



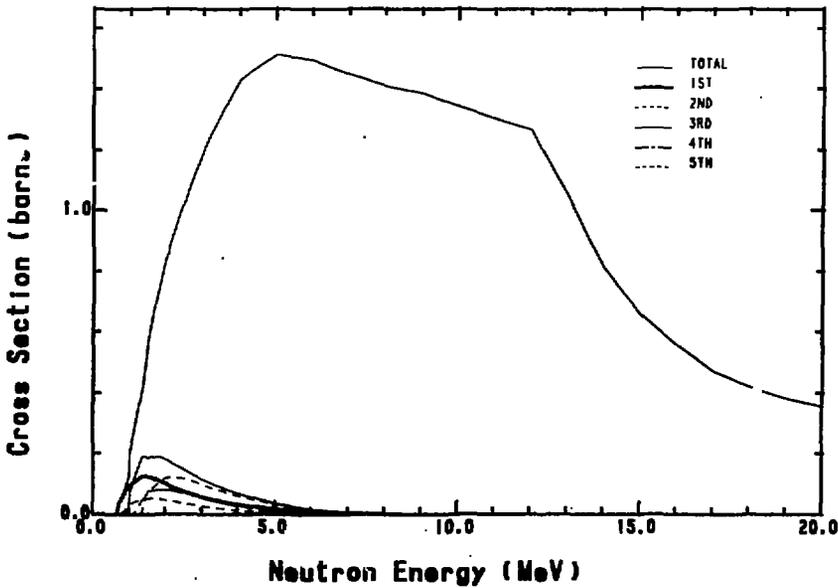
MAT=2290
MT= 2

²⁹Cu
(n, γ)



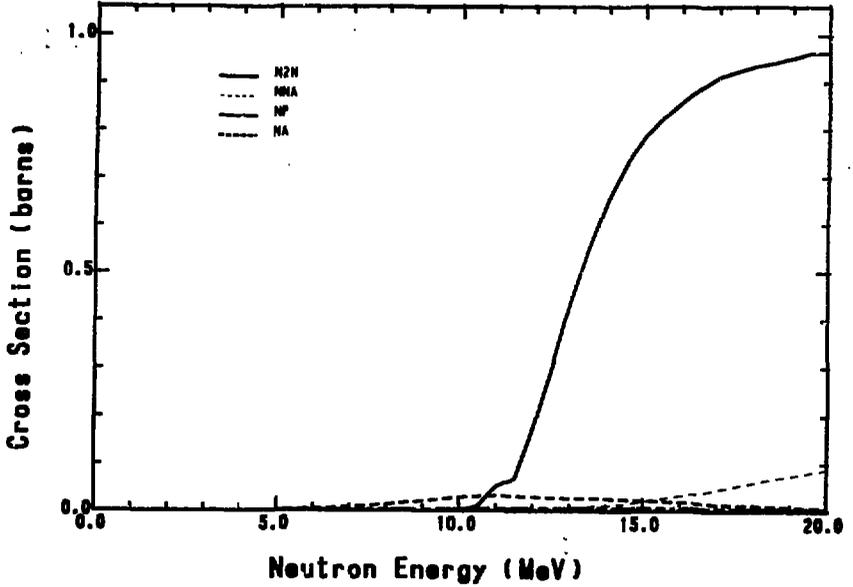
MAT=2290
MT= 102

²⁹Cu
(n, n')



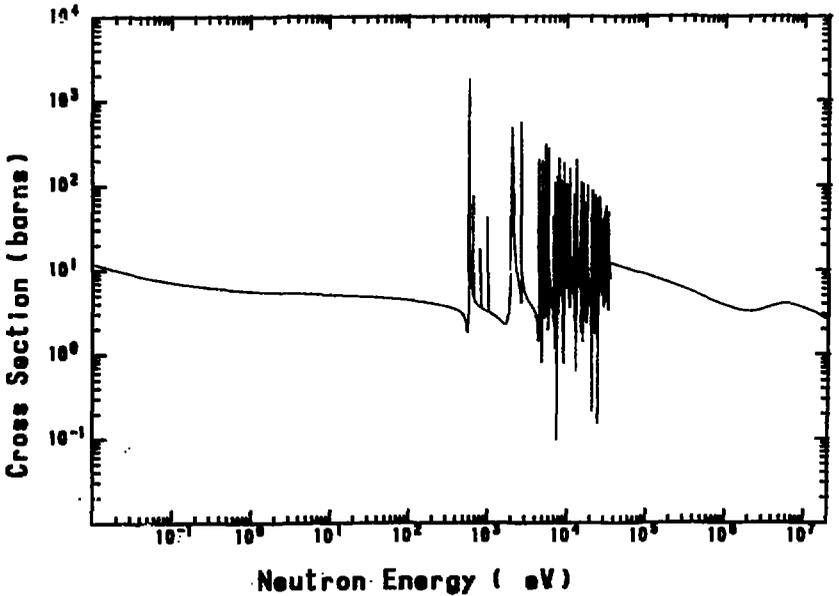
MAT=2290
MT= 4
51~55

²⁹Cu
 (n, 2n)
 (n, n'α)
 (n, p)
 (n, α)

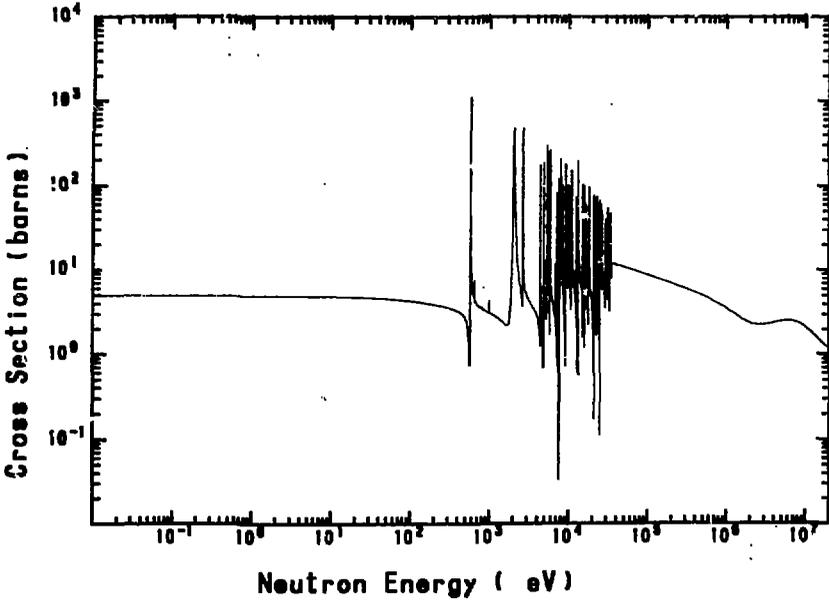


MAT=2290
 MT= 16
 22
 103
 107

⁶³Cu
 TOTAL

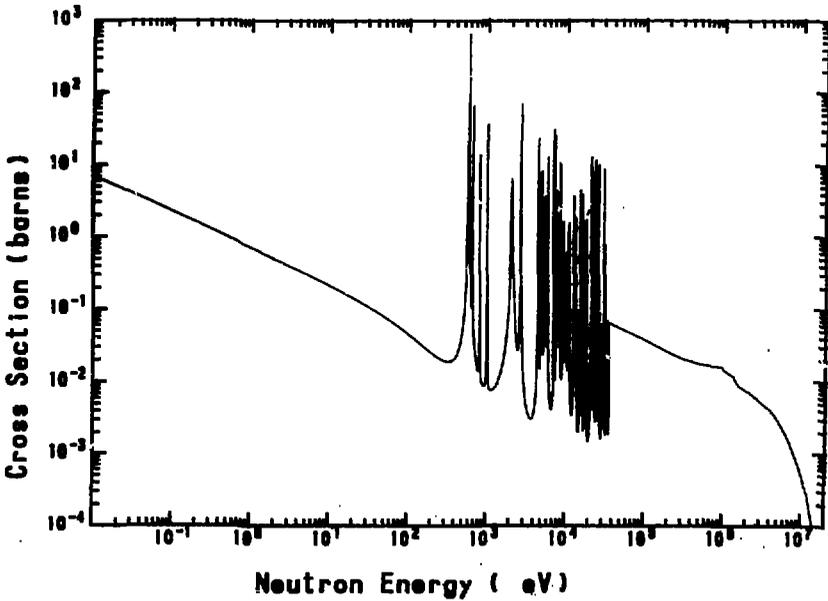


MAT=2291
 MT= 1



⁶³Cu
(n, n)

MAT=2291
MT= 2

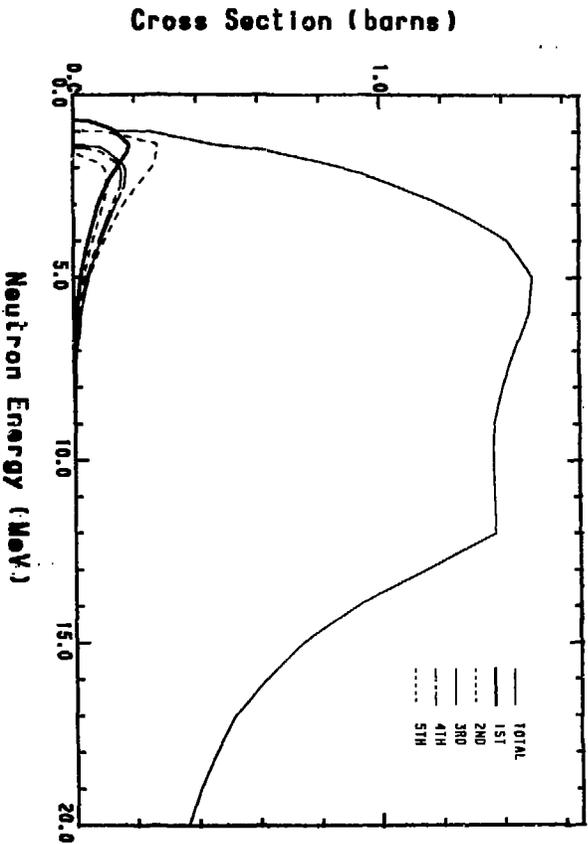


⁶³Cu
(n, γ)

MAT=2291
MT= 102

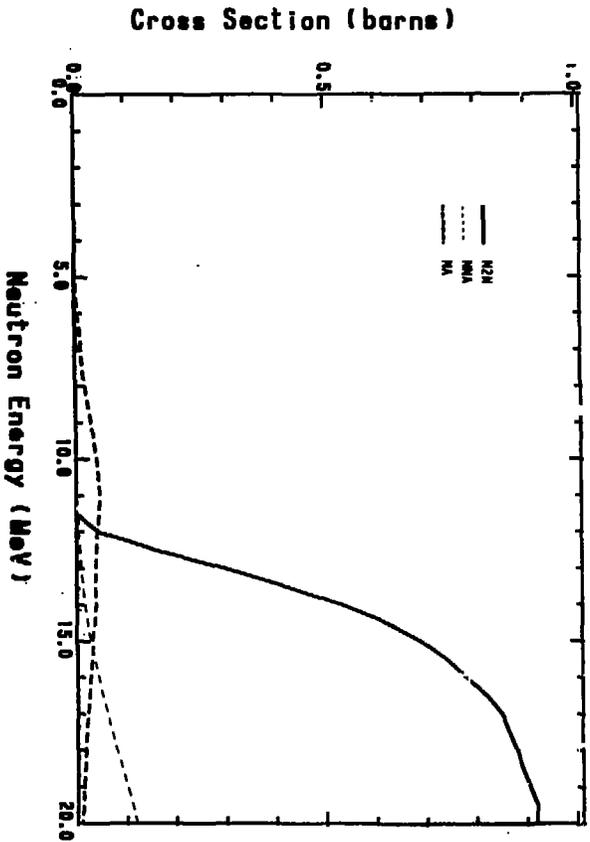
⁶³Cu
(n, n')

MAT=2291
MT= 4
51~55

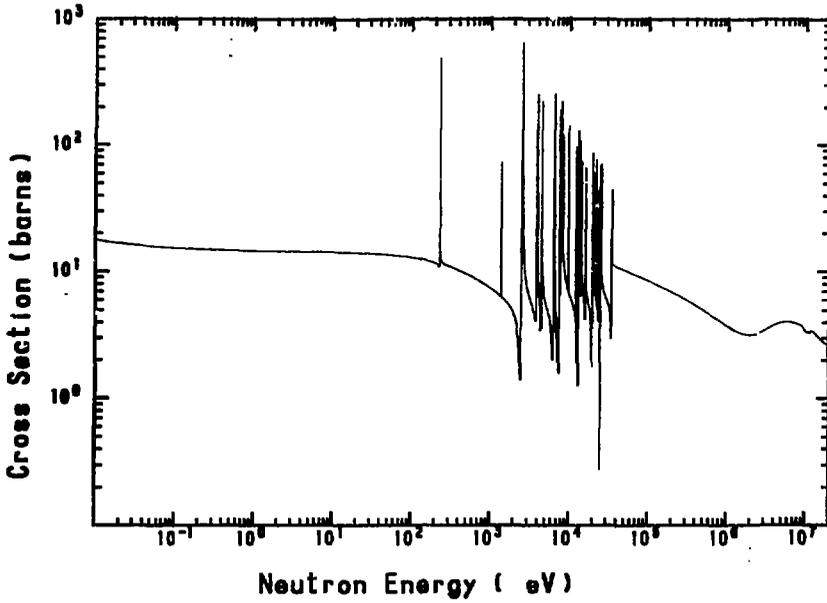


⁶³Cu
(n, 2n)
(n, n'α)
(n, α)

MAT=2291
MT= 16
22
107

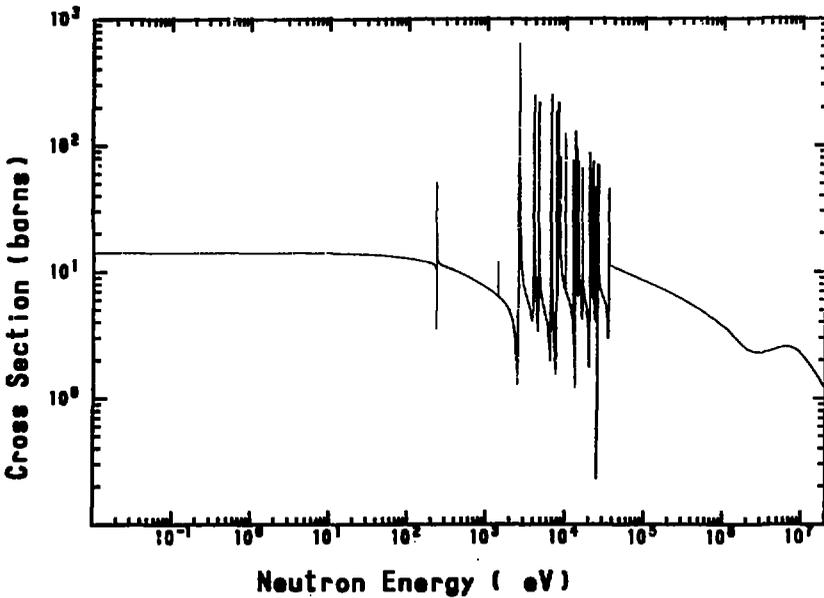


⁶⁵Cu
TOTAL



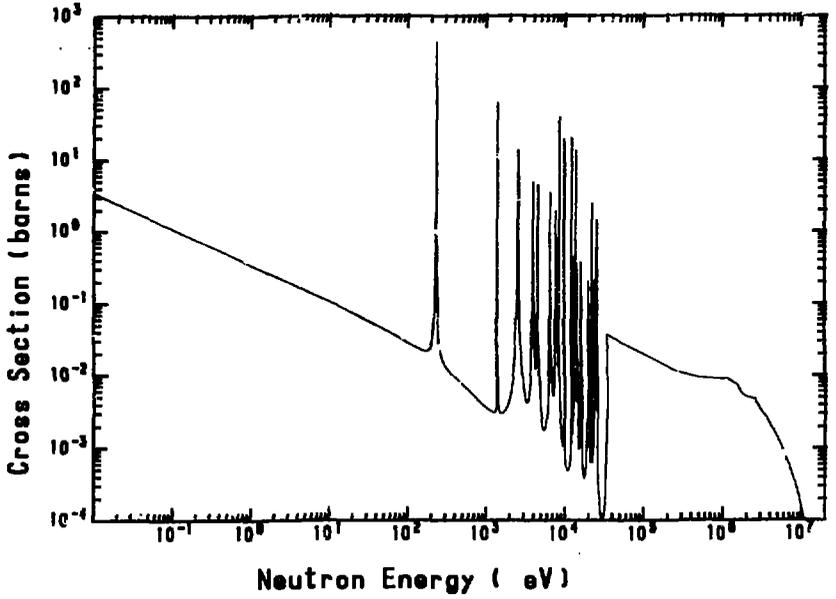
MAT=2292
MT= 1

⁶⁵Cu
(n, n)



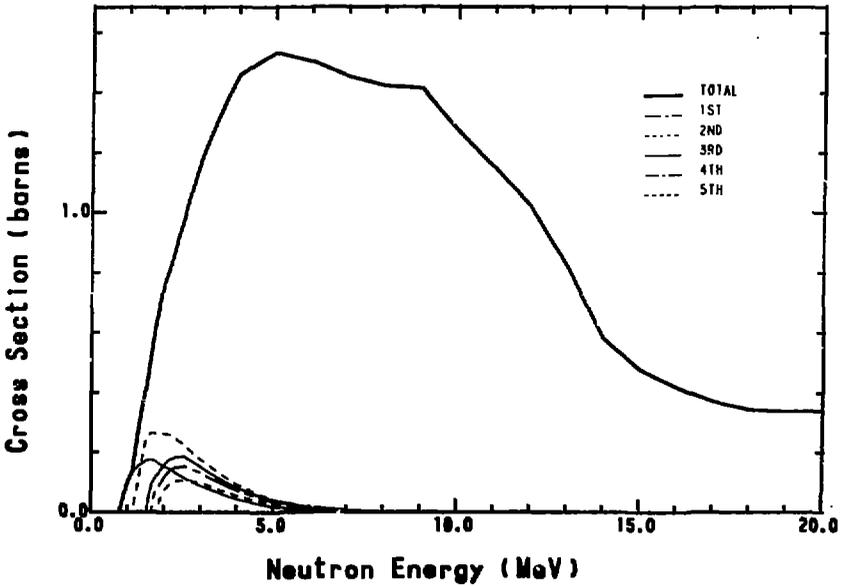
MAT=2292
MT= 2

⁶⁵Cu
(n, γ)

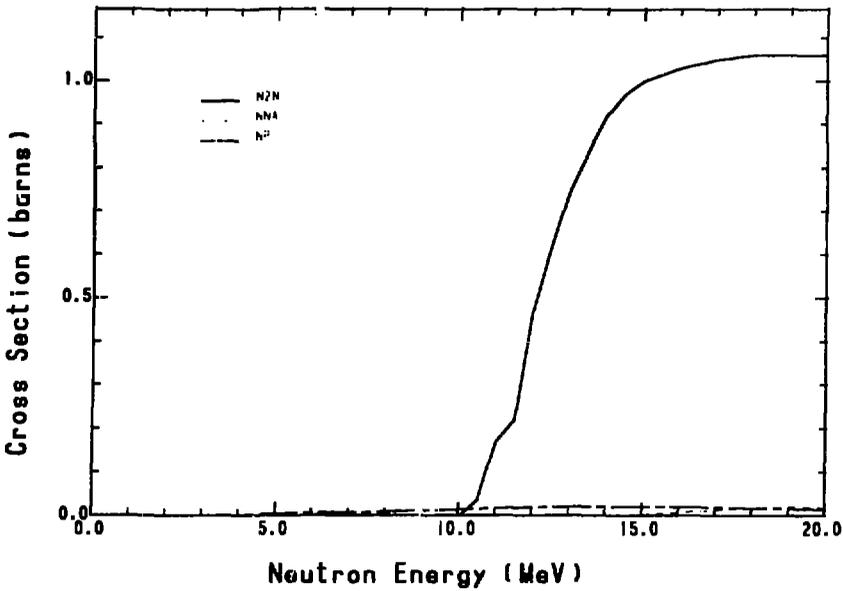


MAT=2292
MT= 102

⁶⁵Cu
(n, n')

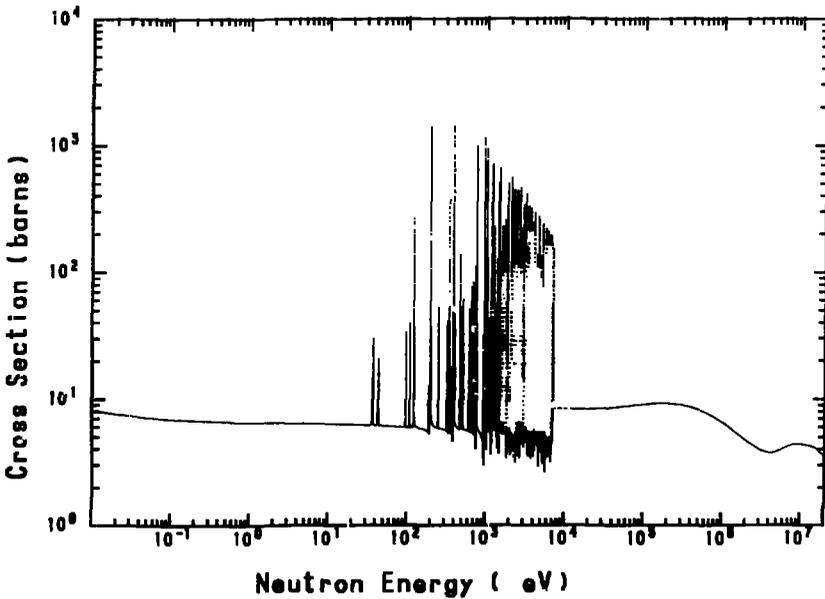


MAT=2292
MT= 4
51~55



⁶⁵Cu
 (n, 2n)
 (n, n'α)
 (n, p)

MAT=2292
MT= 16
22
103

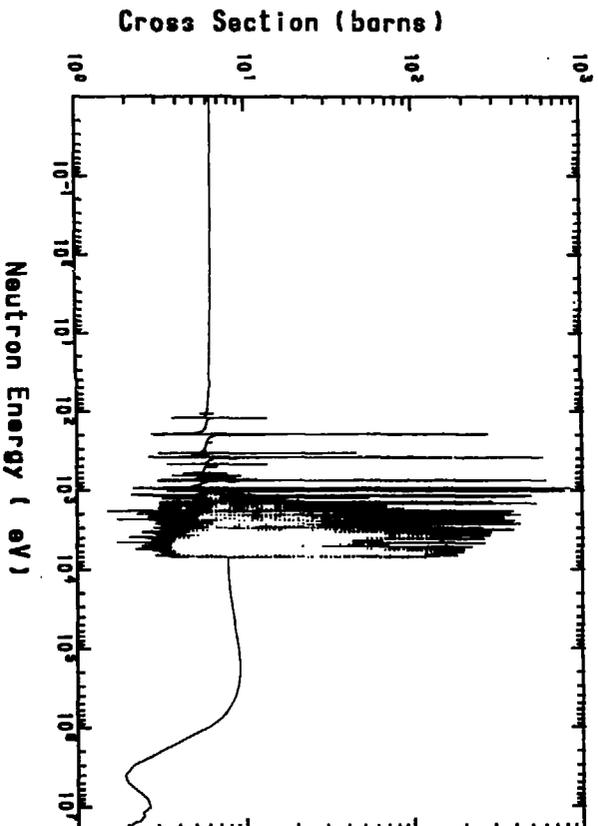


⁹³Nb
TOTAL

MAT=2411
MT= 1

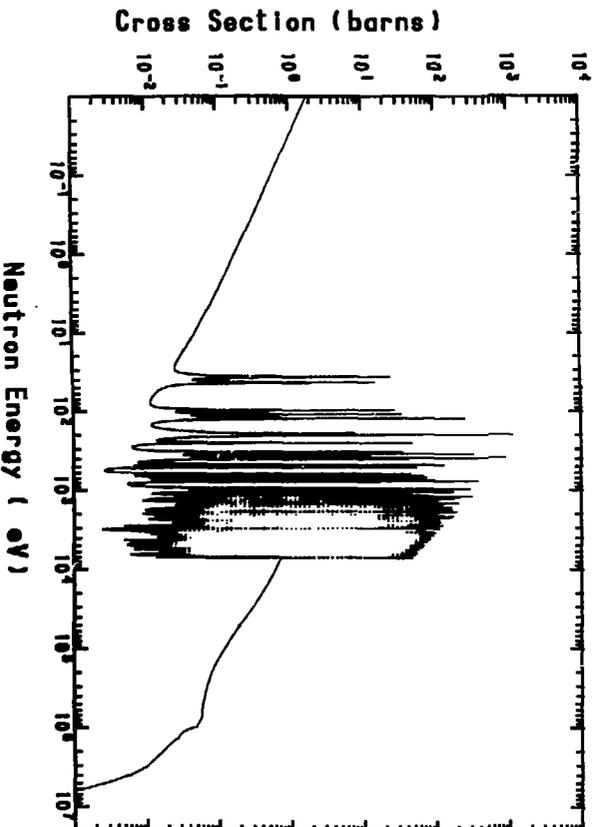
⁹³Nb
(n, n)

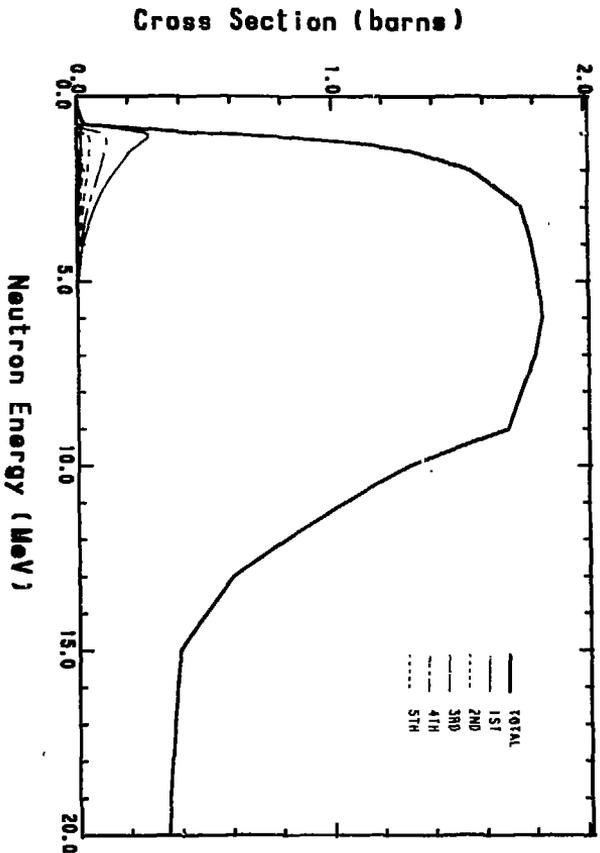
MAT=2411
MT= 2



⁹³Nb
(n, γ)

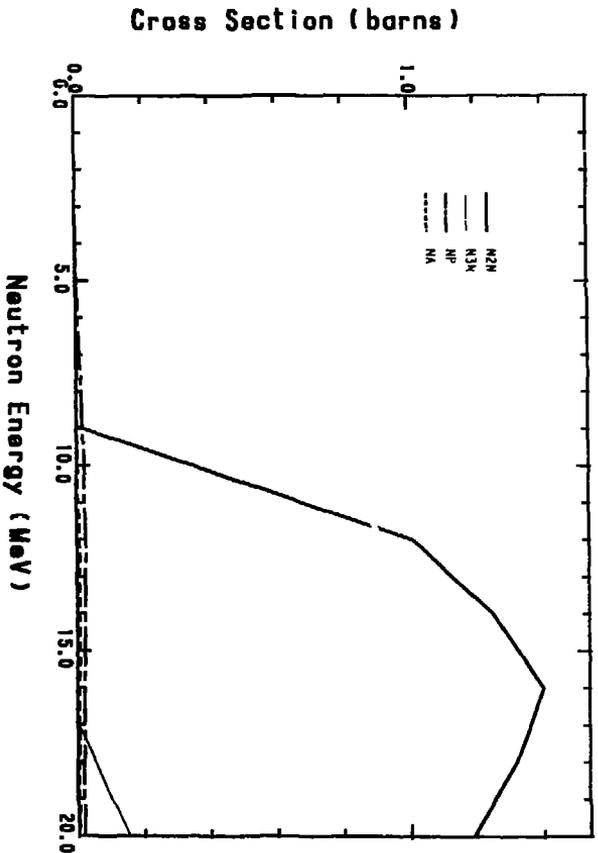
MAT=2411
MT= 102





⁹³Nb
(n, n')

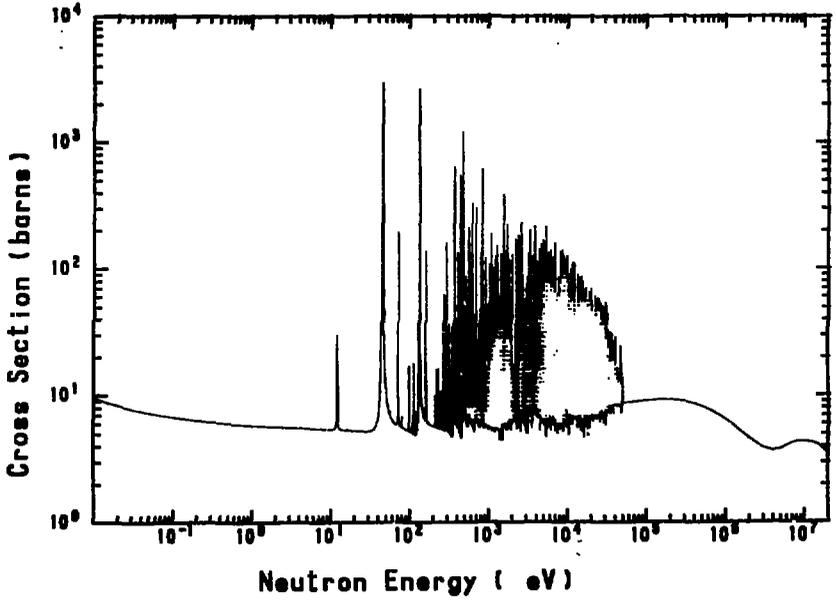
MAT=2411
MT= 4
51~55



⁹³Nb
(n, 2n)
(n, 3n)
(n, p)
(n, α)

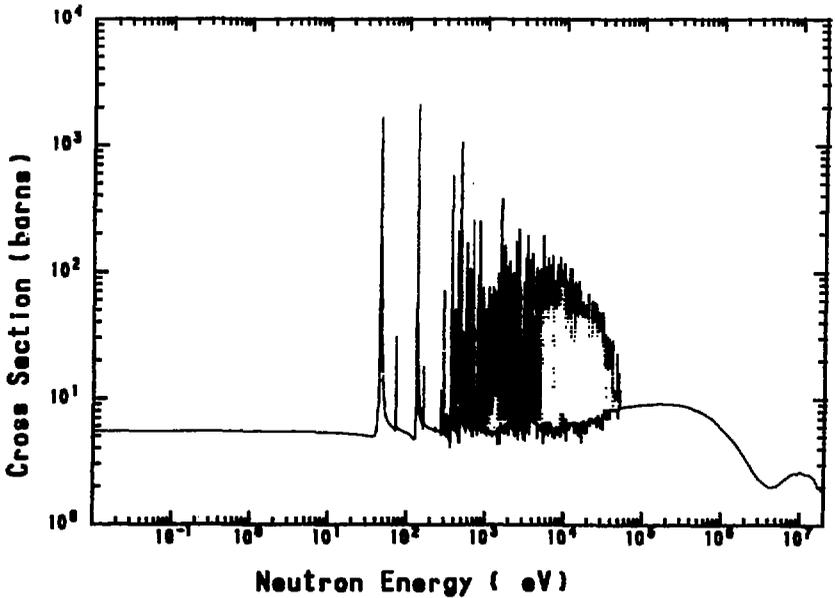
MAT=2411
MT= 16
17
103
107

⁴²Mo
TOTAL



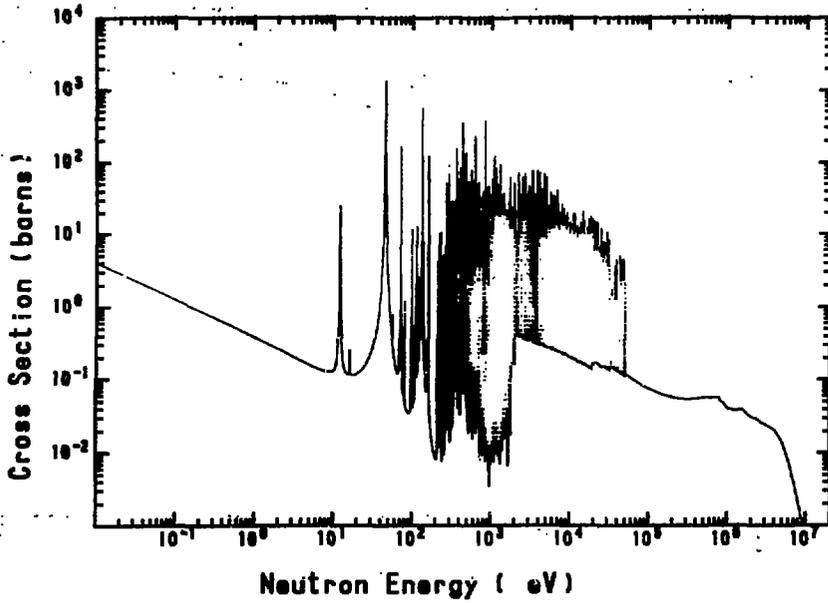
MAT=2420
MT= 1

⁴²Mo
(n, n)

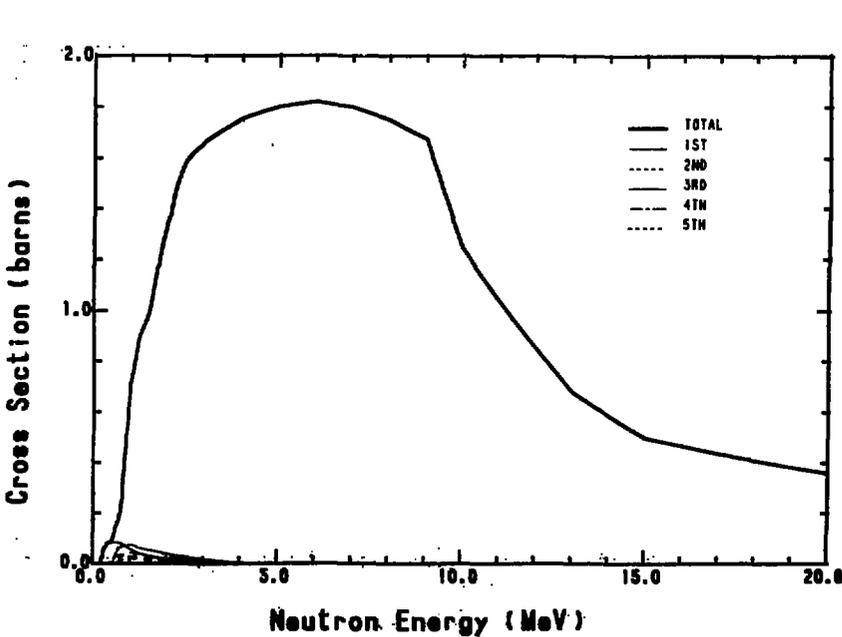


MAT=2420
MT= 2

⁴²Mo
(n, γ)



MAT=2420
MT= 102

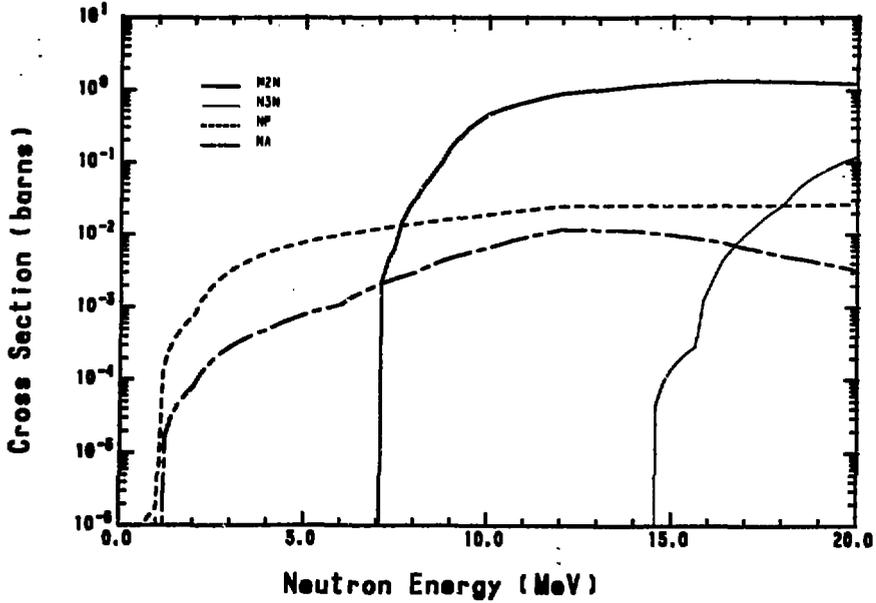


⁴²Mo
(n, n')

MAT=2420
MT= 4
51~55

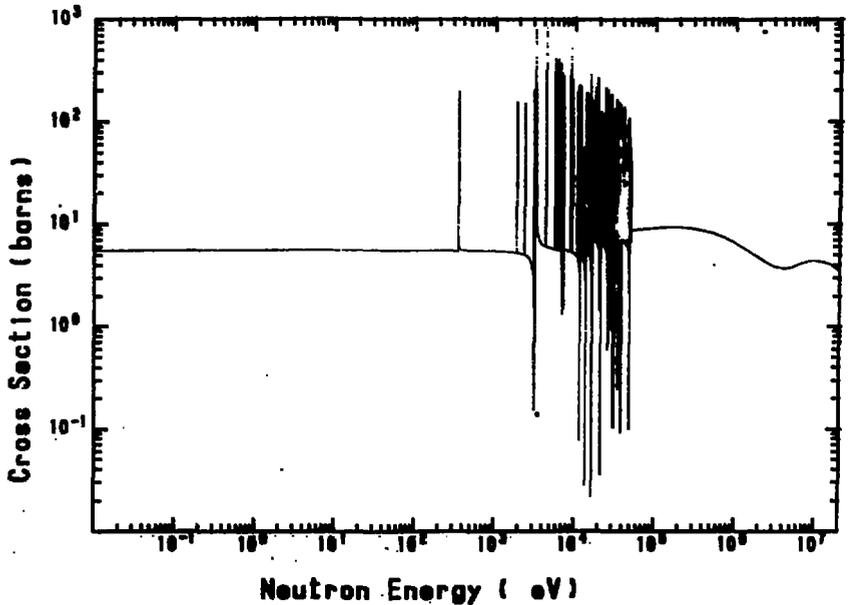
⁴²Mo
 (n, 2n)
 (n, 3n)
 (n, p)
 (n, α)

MAT=2420
MT= 16
 17
 103
 107

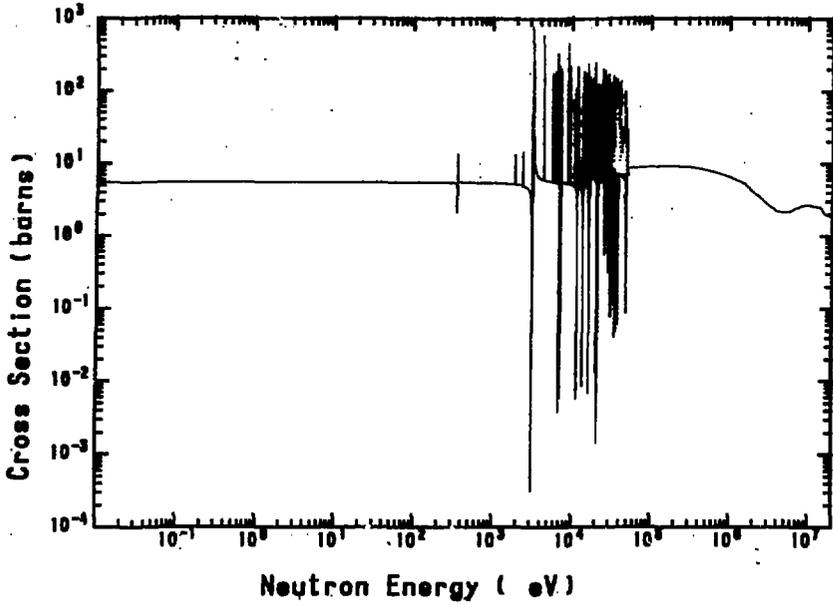


⁹²Mo
TOTAL

MAT=2421
MT= 1

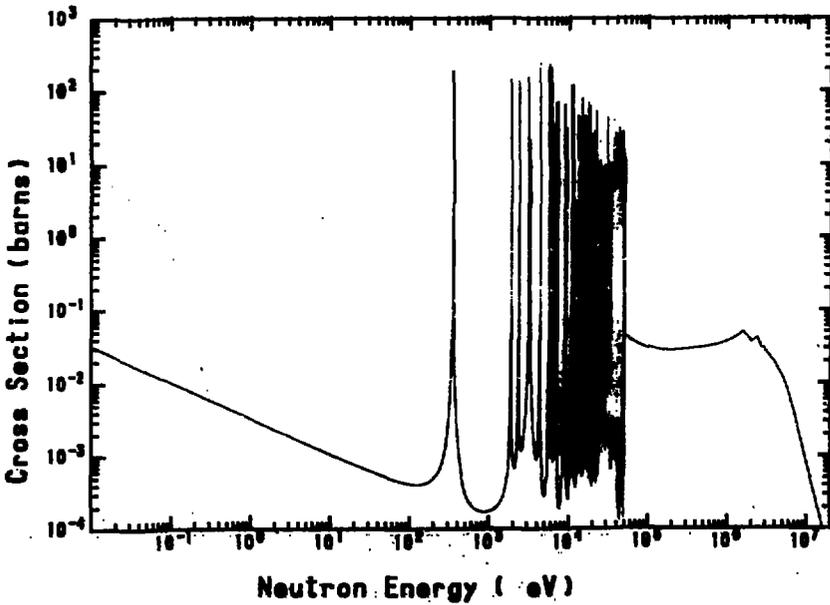


⁹²Mo
(n, n)



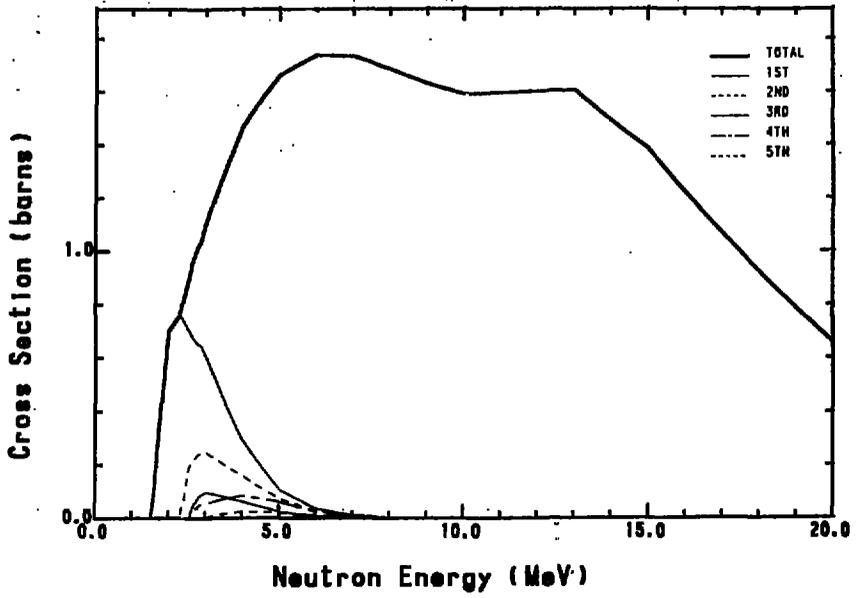
MAT=2421
MT= 2

⁹²Mo
(n, γ)



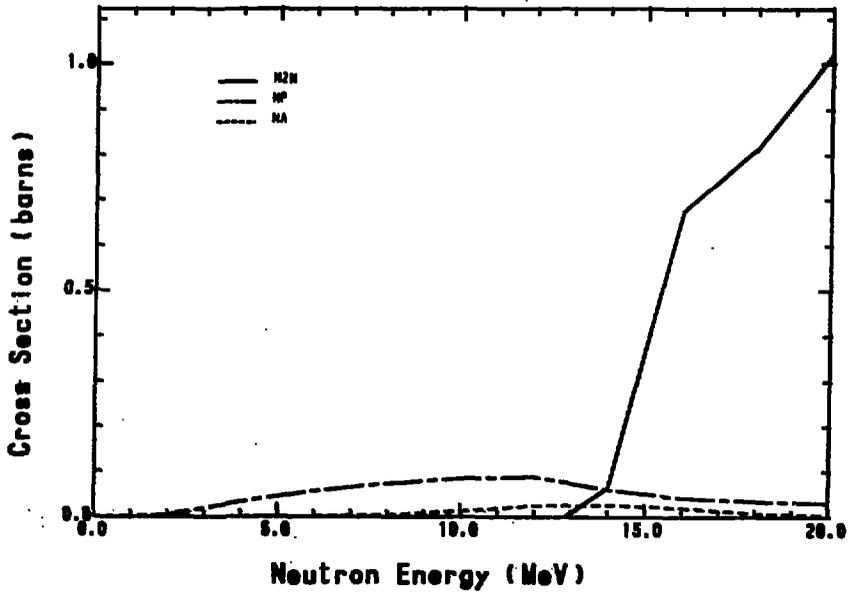
MAT=2421
MT= 102

⁹²Mo
(n, n')



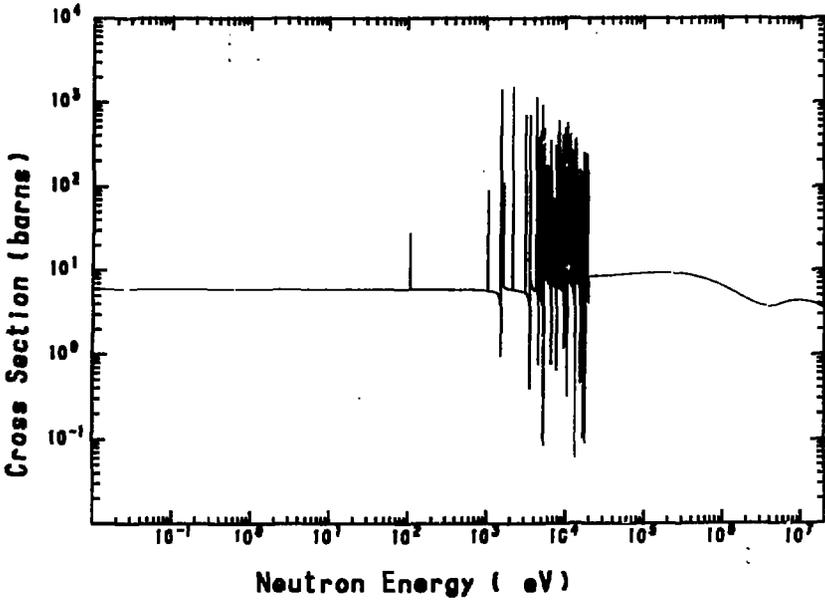
MAT=2421
MT= 4
51~55

⁹²Mo
(n, 2n)
(n, p)
(n, α)

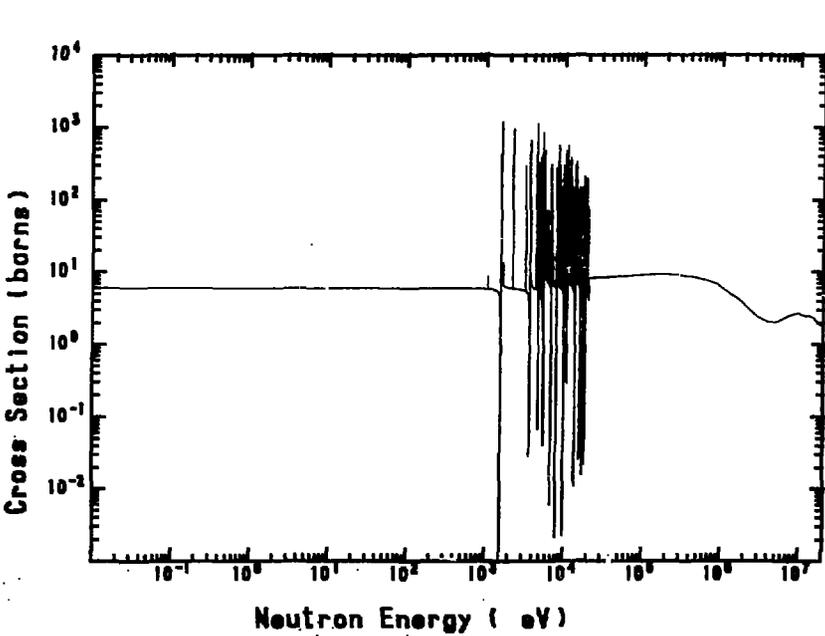


MAT=2421
MT= 16
103
107

⁹⁴Mo
TOTAL



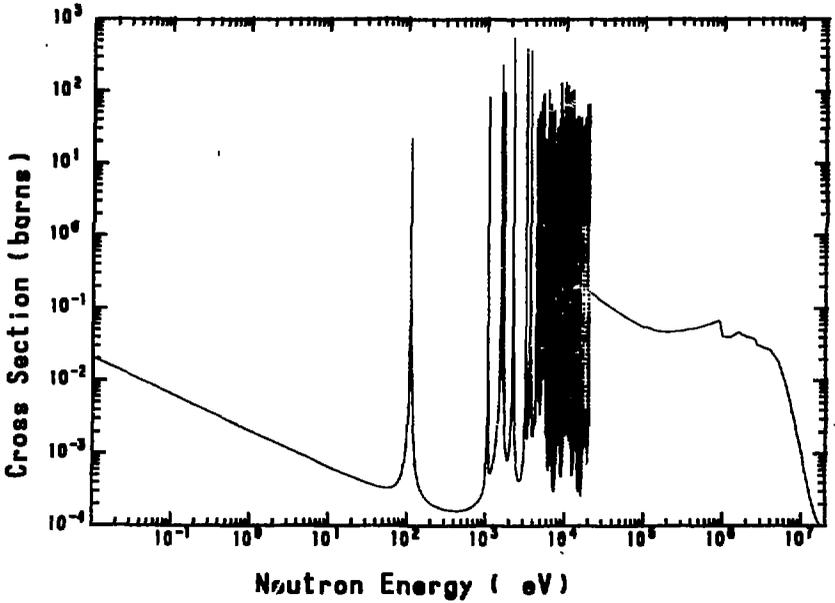
MAT=2422
MT= 1



⁹⁴Mo
(n, n)

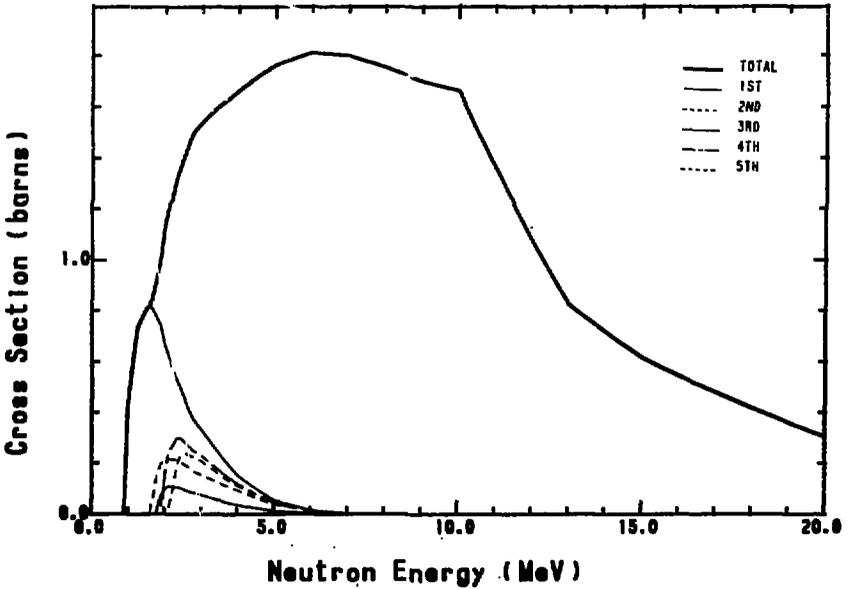
MAT=2422
MT= 2

⁹⁴Mo
(n, γ)



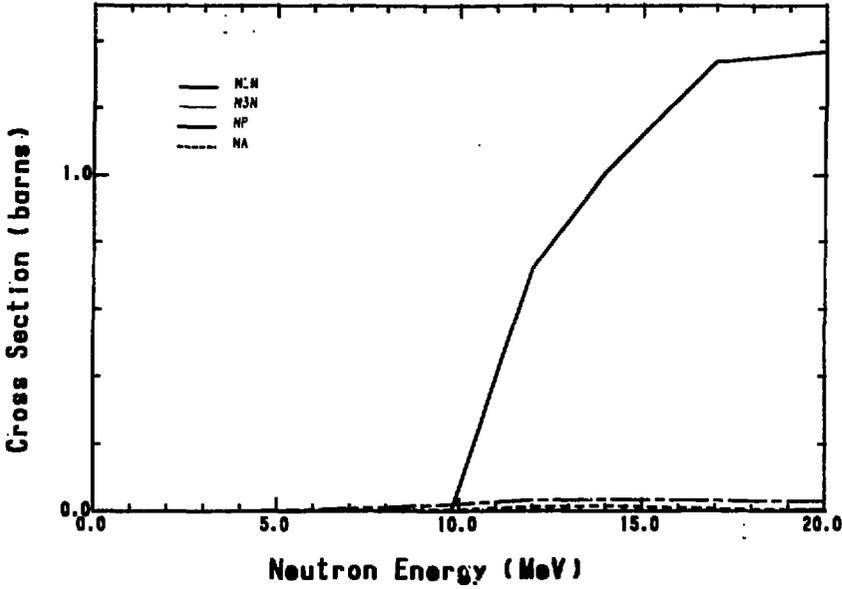
MAT=2422
MT= 102

⁹⁴Mo
(n, n')

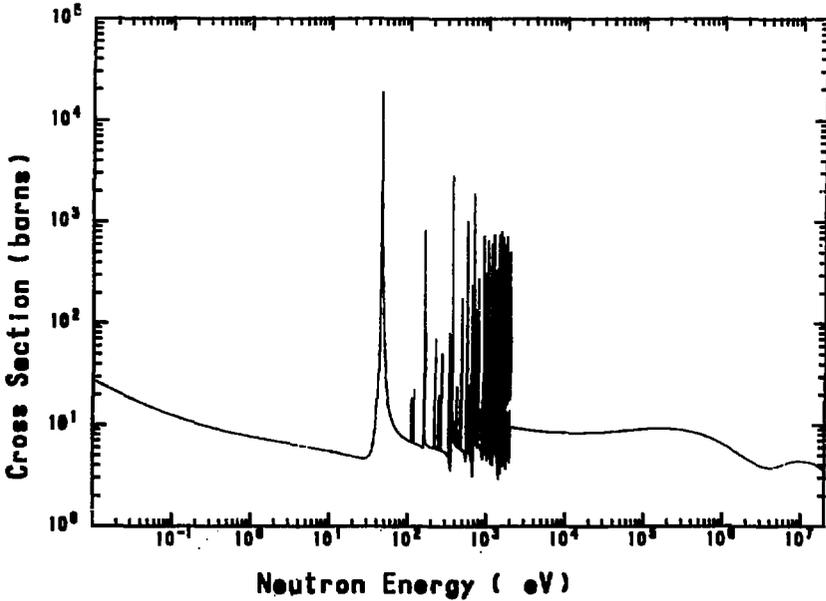


MAT=2422
MT= 4
51~55

⁹⁴Mo
 (n, 2n)
 (n, 3n)
 (n, p)
 (n, α)



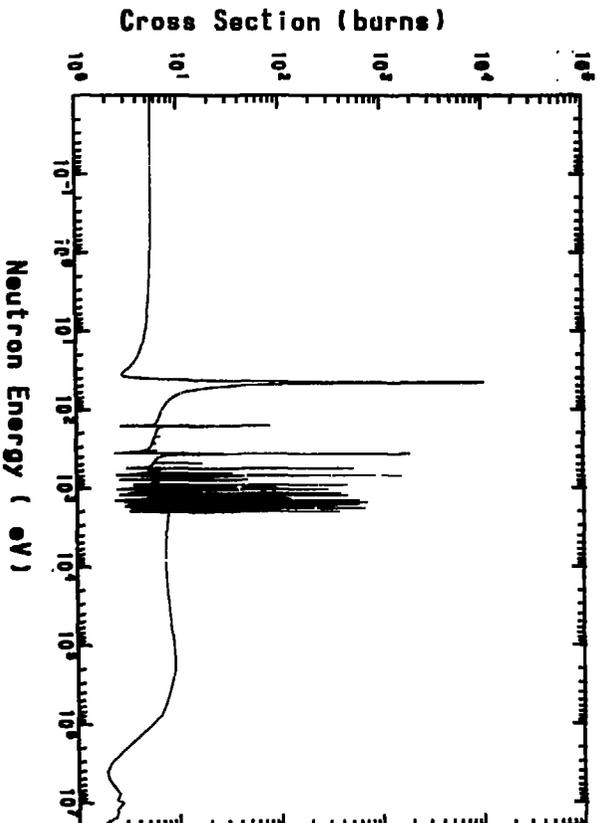
MAT=2422
MT= 16
 17
 103
 107



⁹⁵Mo
TOTAL

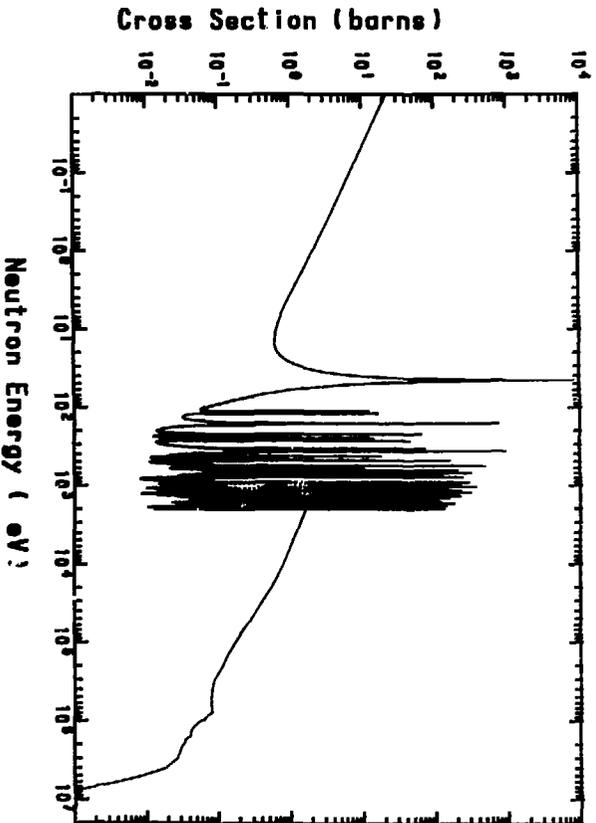
MAT=2423
MT= 1

⁹⁵Mo
(n, n)



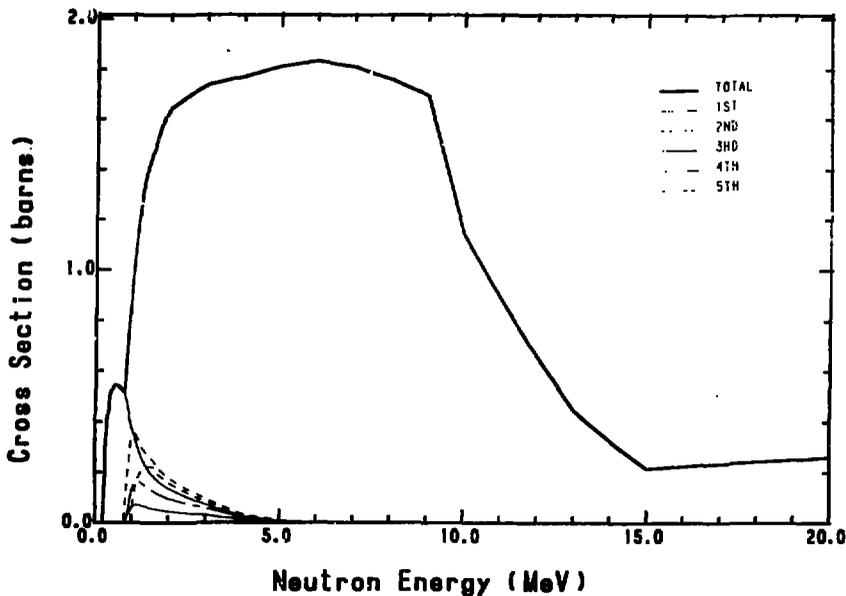
MAT=2423
MT= 2

⁹⁵Mo
(n, γ)

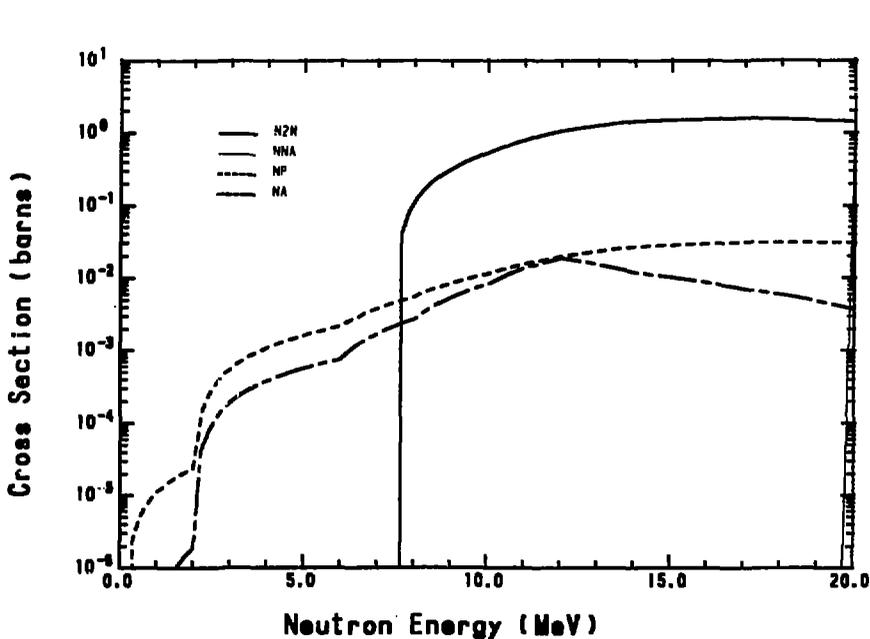


MAT=2423
MT= 102

⁹⁵Mo
(n, n')



MAT=2423
MT= 4
51~55

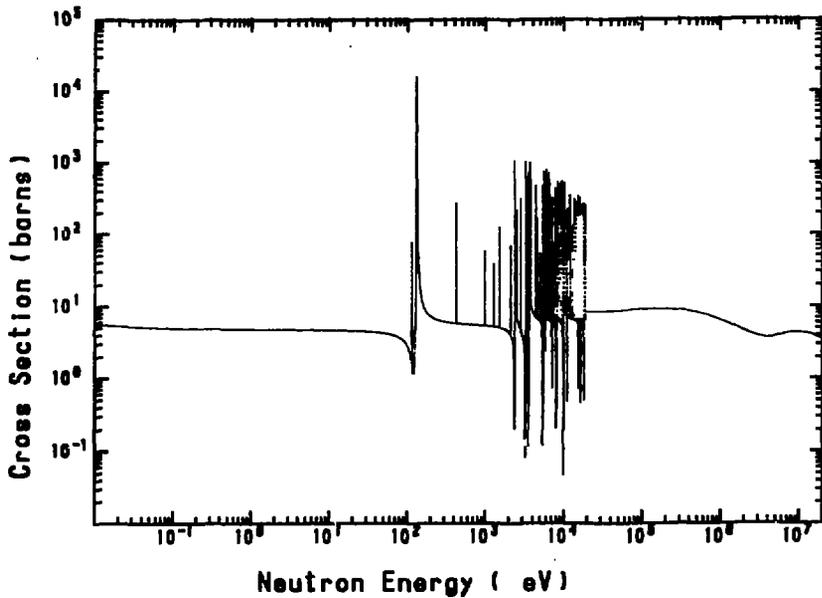


⁹⁵Mo

MAT=2423
MT= 16
17
103
107

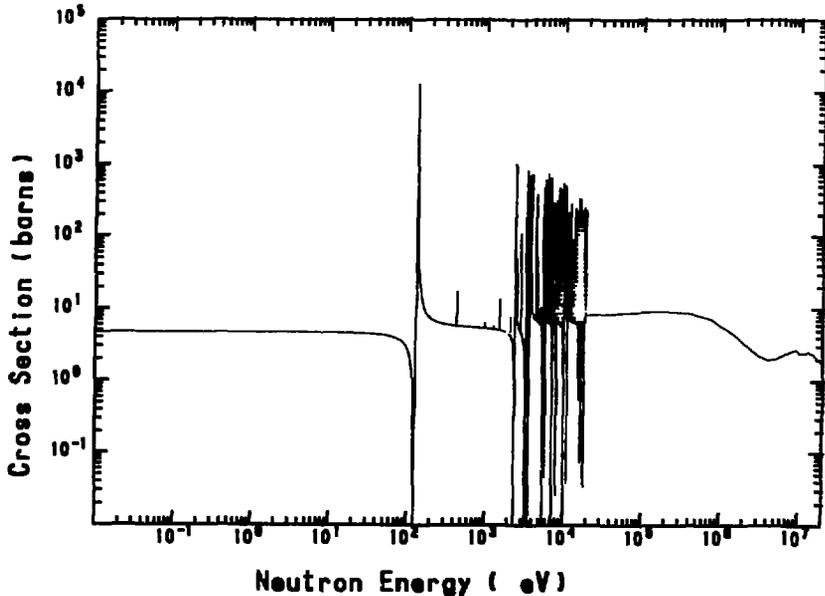
⁹⁶Mo
TOTAL

MAT=2424
MT= 1

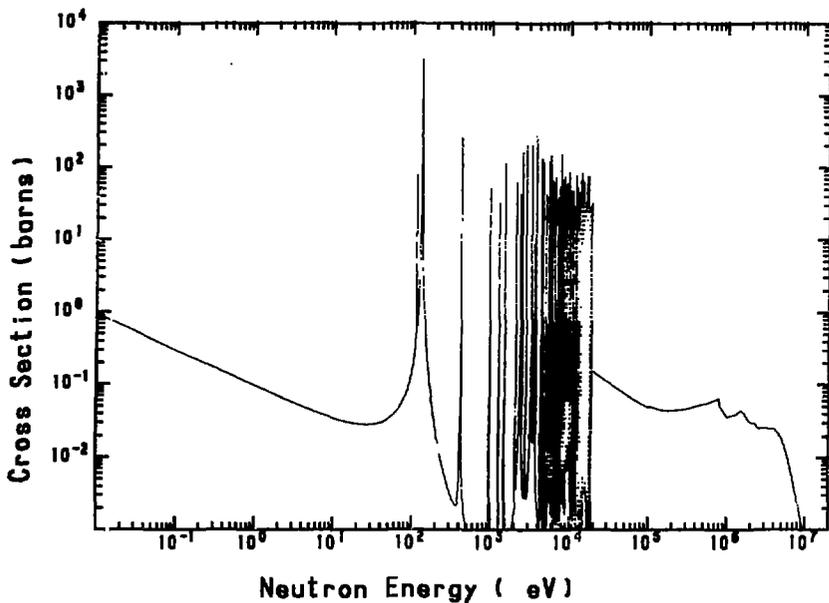


⁹⁶Mo
(n, n)

MAT=2424
MT= 2

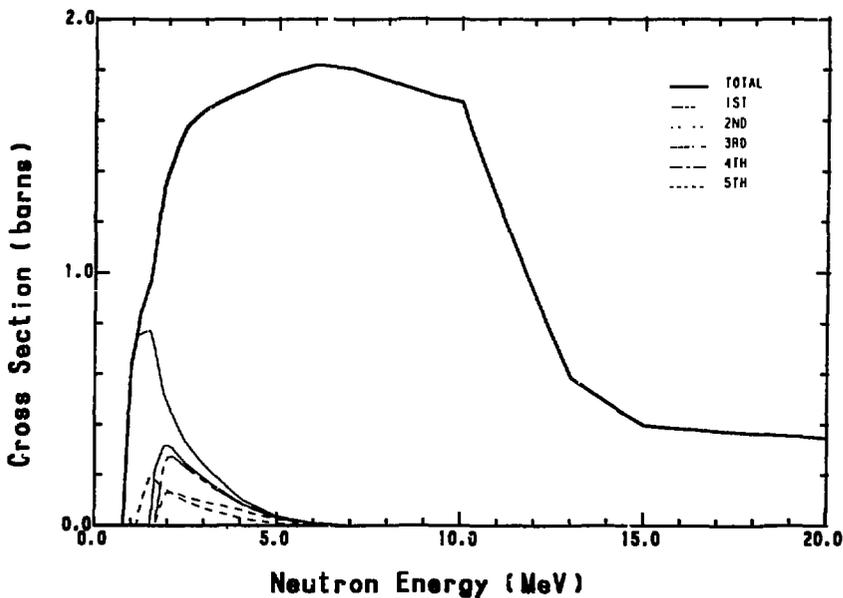


⁹⁶Mo
(n, γ)



MAT=2424
MT= 102

⁹⁶Mo
(n, n')

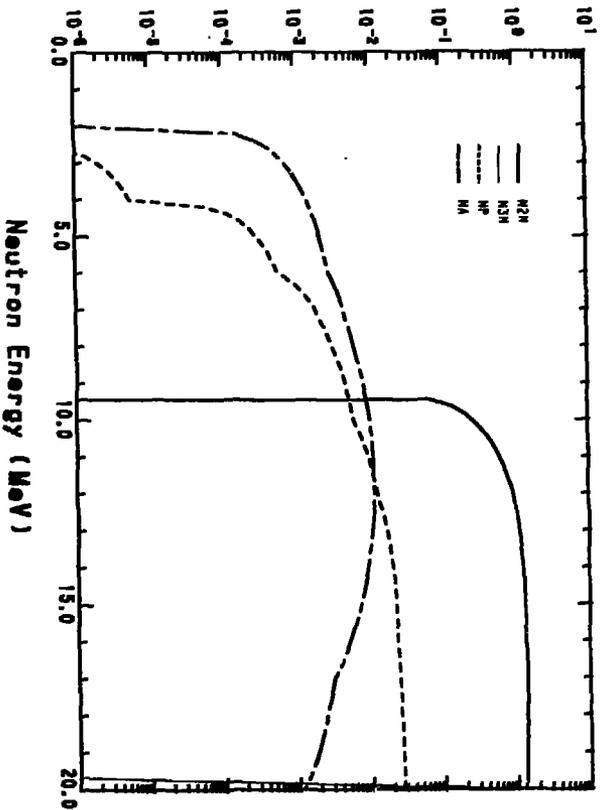


MAT=2424
MT= 4
51~55

96 MO
 (n, 2n)
 (n, 3n)
 (n, p)
 (n, α)

MAT=2424
MT= 16
 17
 103
 107

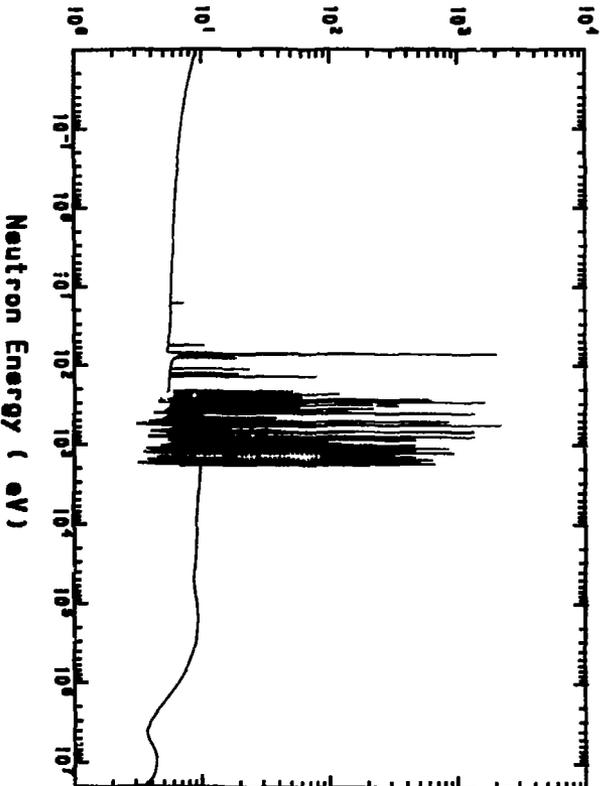
Cross Section (barns)



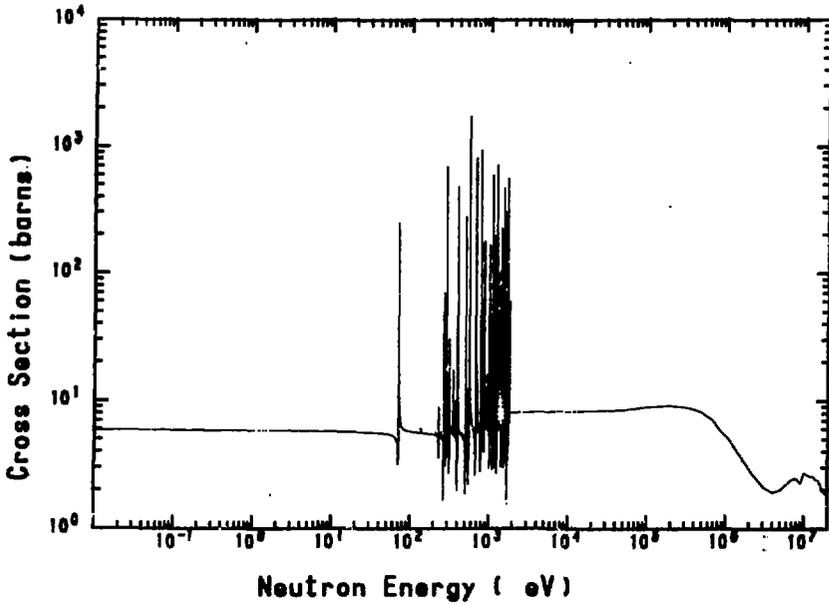
97 MO
TOTAL

MAT=2425
MT= 1

Cross Section (barns)

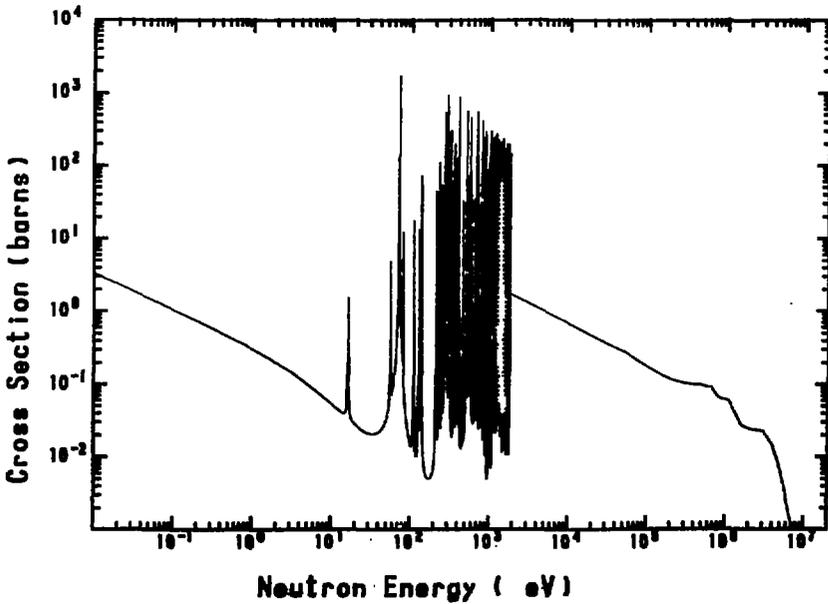


⁹⁷Mo
(n, n)



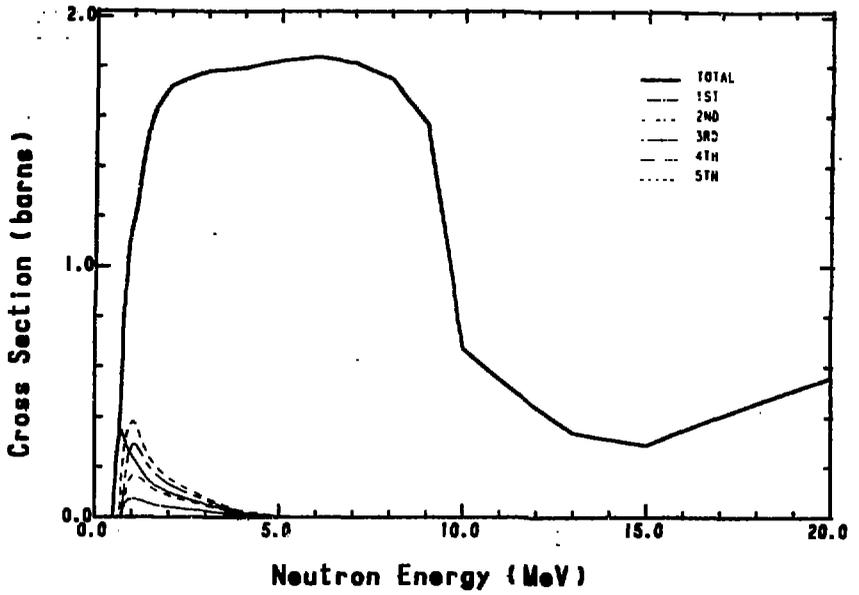
MAT=2425
MT= 2

⁹⁷Mo
(n, γ)



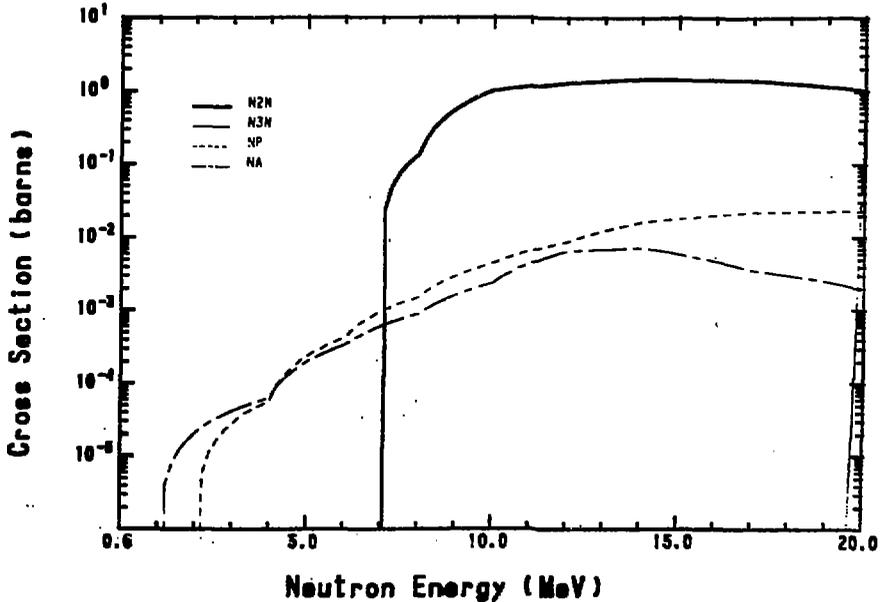
MAT=2425
MT= 102

⁹⁷Mo
(n, n')



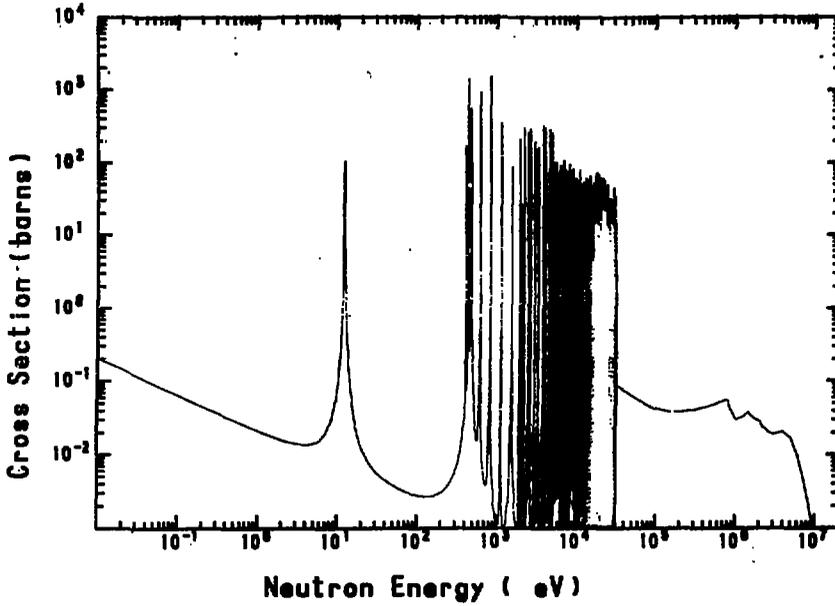
MAT=2425
MT= 4
51~55

⁹⁷Mo
(n, 2n)
(n, 3n)
(n, p)
(n, α)

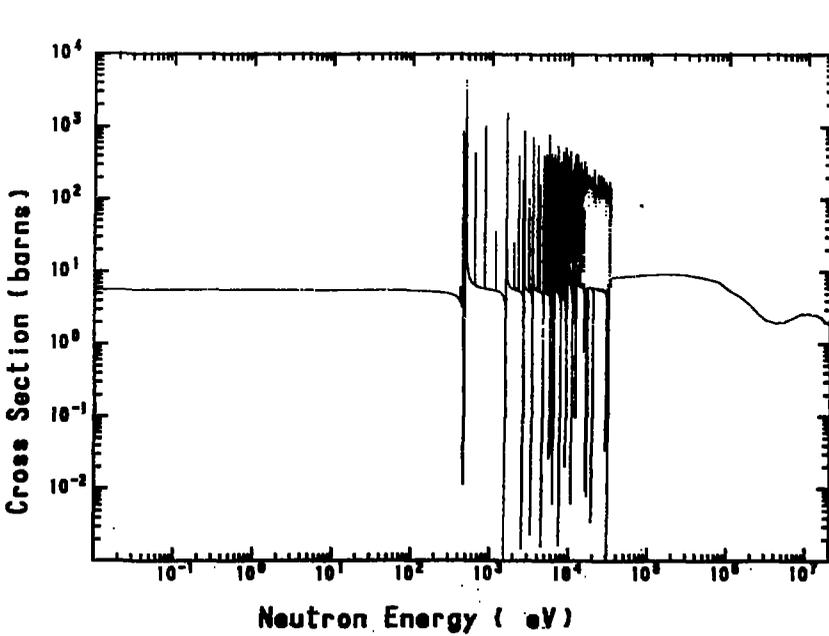


MAT=2425
MT= 16
17
103
107

⁹⁸Mo
TOTAL



MAT=2426
MT= 1

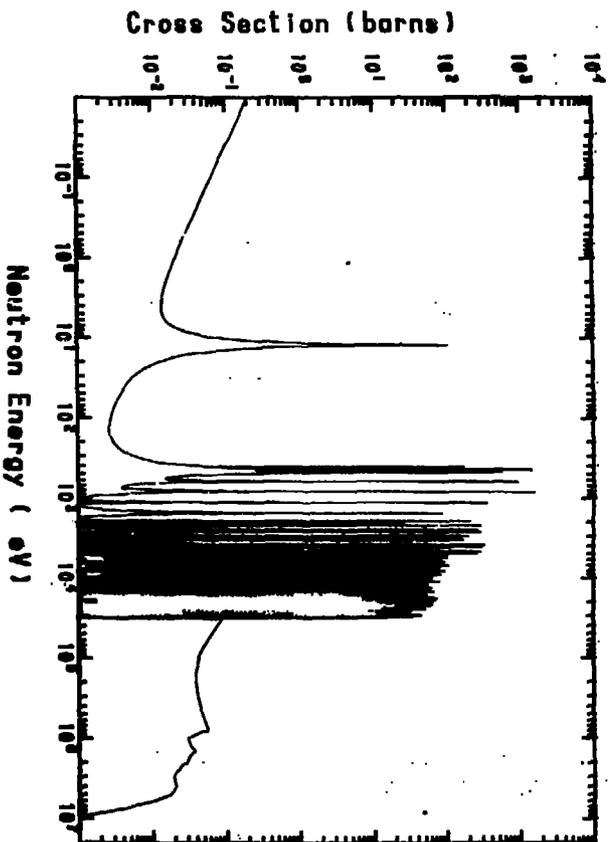


⁹⁸Mo
(n, n)

MAT=2426
MT= 2

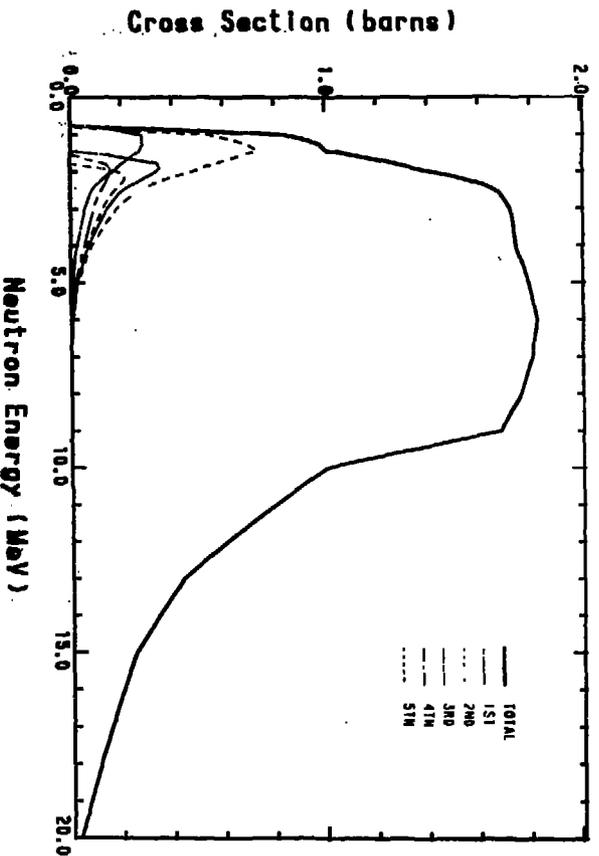
98 MO
(n, γ)

MAT=2426
MT=102

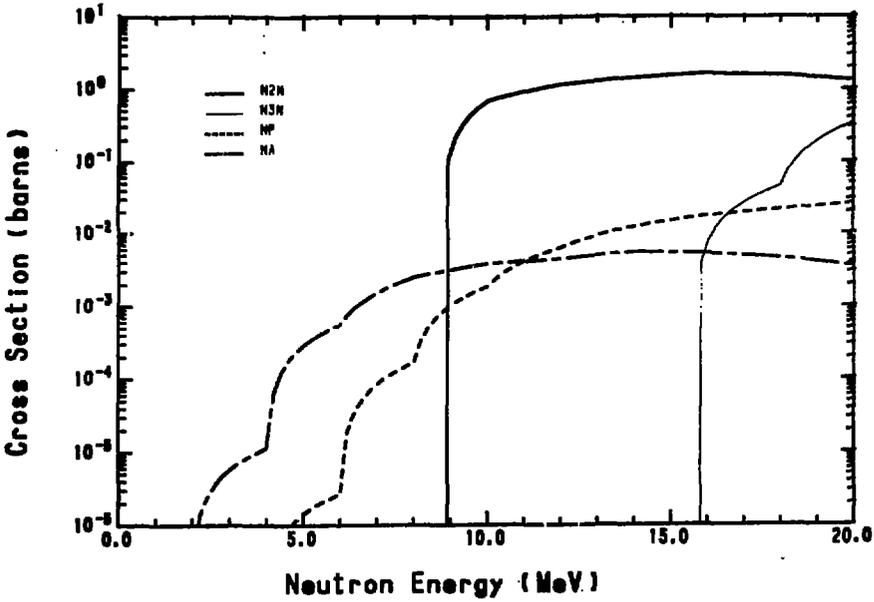


98 MO
(n, n')

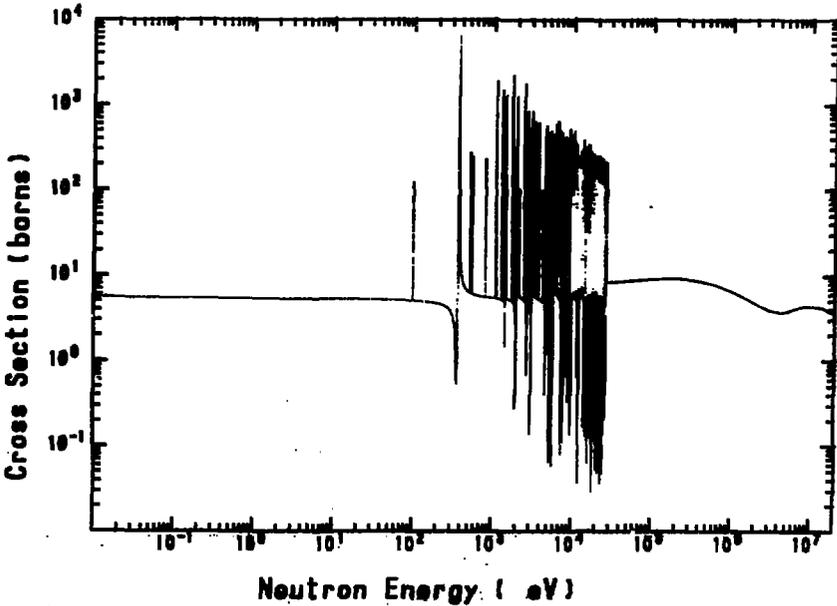
MAT=2426
MT=1
51~53



⁹⁸Mo
 (n, 2n)
 (n, 3n)
 (n, p)
 (n, α)



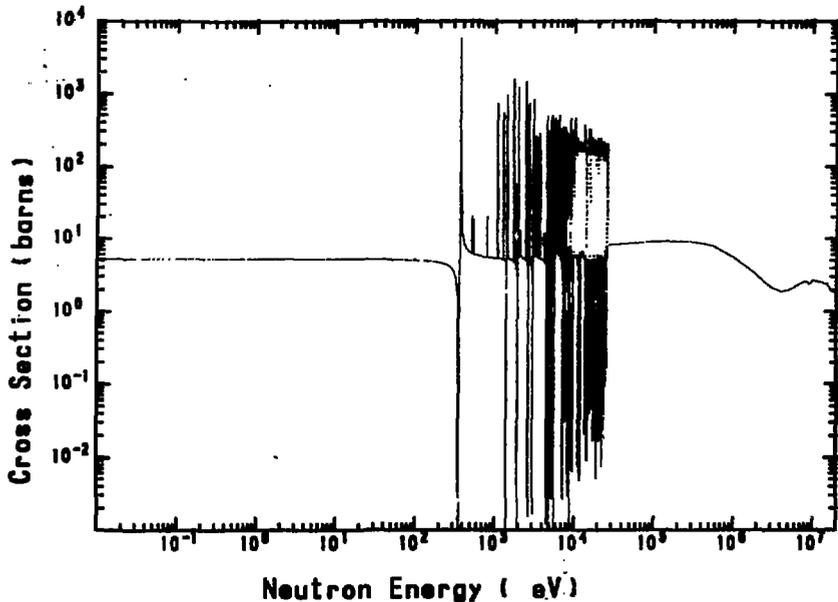
MAT=2426
MT= 16
 17
 103
 107



¹⁰⁰Mo
TOTAL

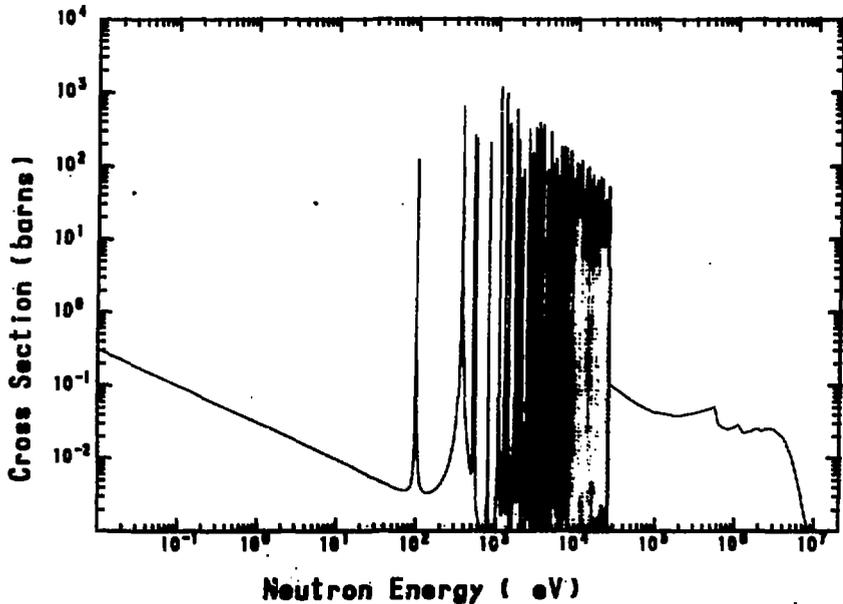
MAT=2427
MT= 1

¹⁰⁰Mo
(n, n)



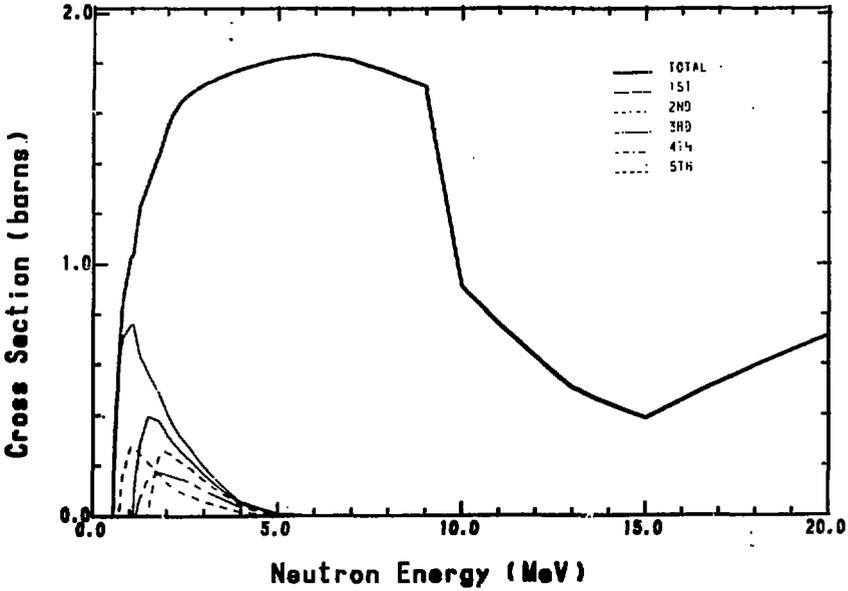
MAT=2427
MT= 2

¹⁰⁰Mo
(n, γ)

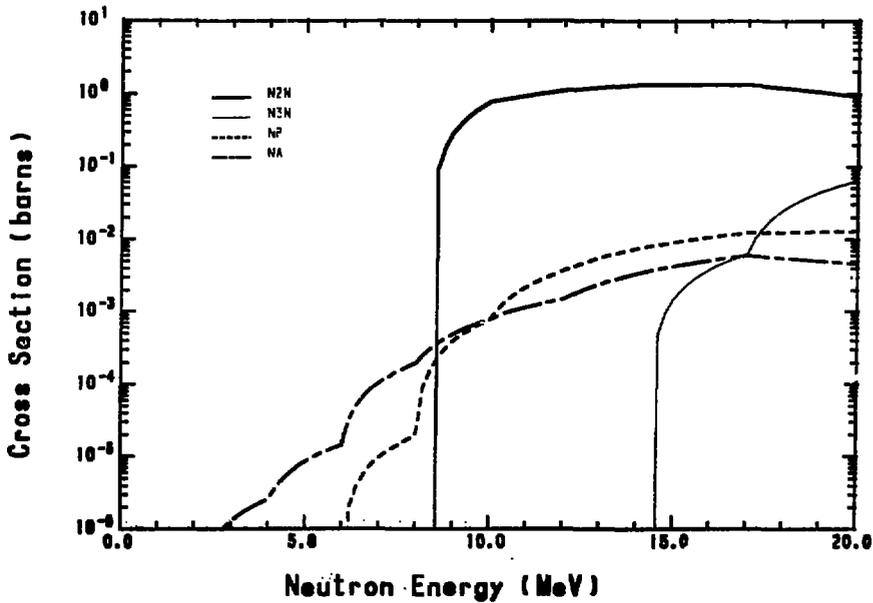


MAT=2427
MT= 102

¹⁰⁰Mo
(n, n')



MAT=2427
 MT= 4
 51~55

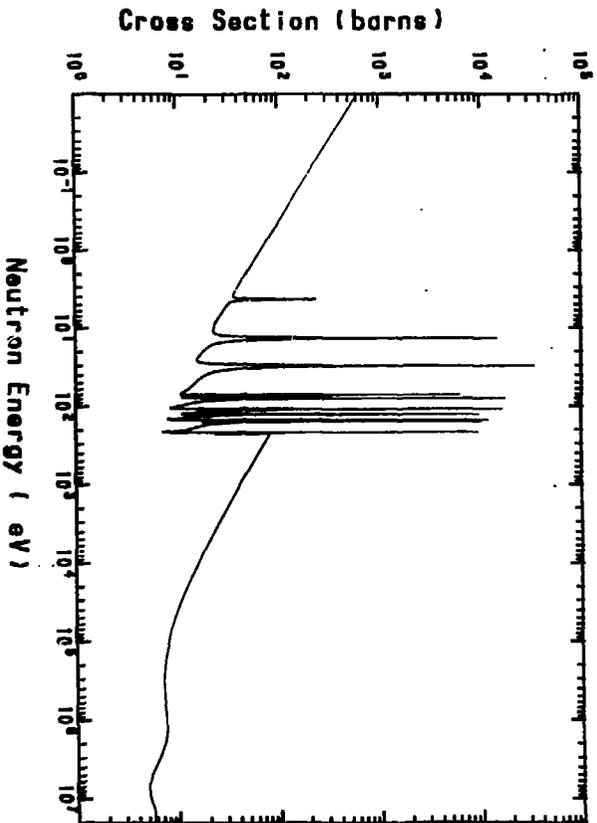


¹⁰⁰Mo

MAT=2427
 MT= 16
 17
 103
 107

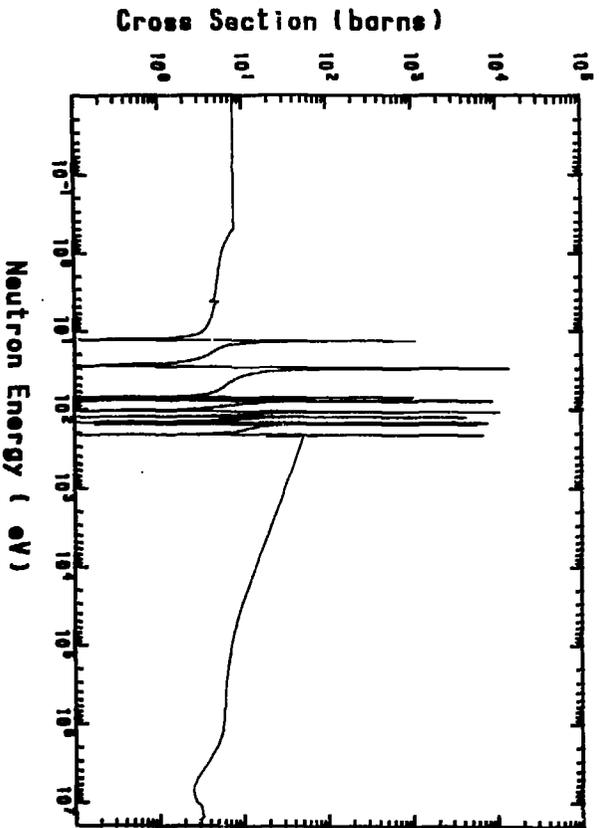
174 **Hf**
TOTAL

MAT=2721
MT= 1

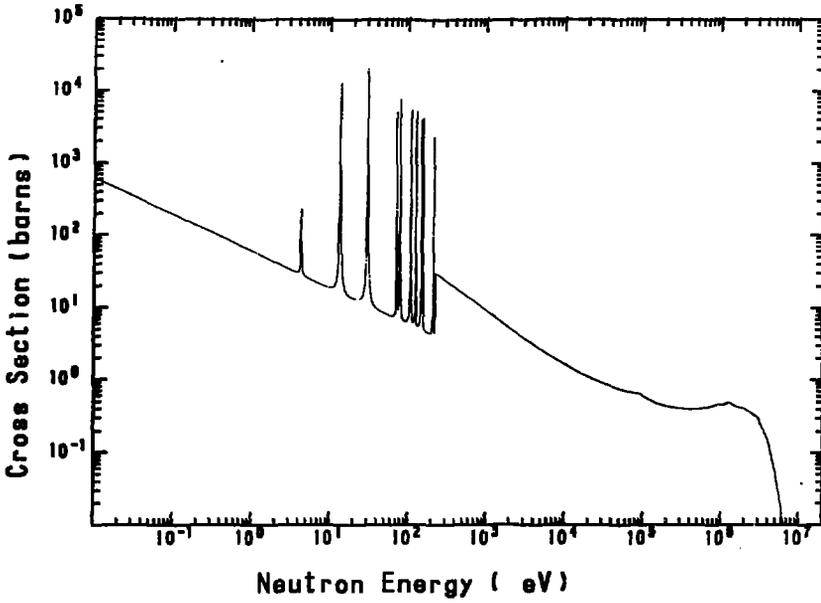


174 **Hf**
(n,n)

MAT=2721
MT= 2

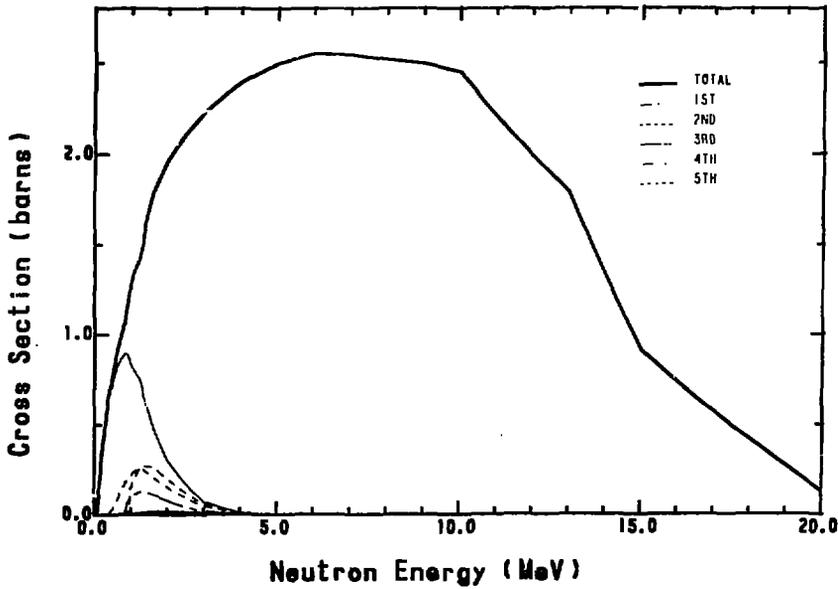


¹⁷⁴Hf
(n, γ)



MAT=2721
MT= 102

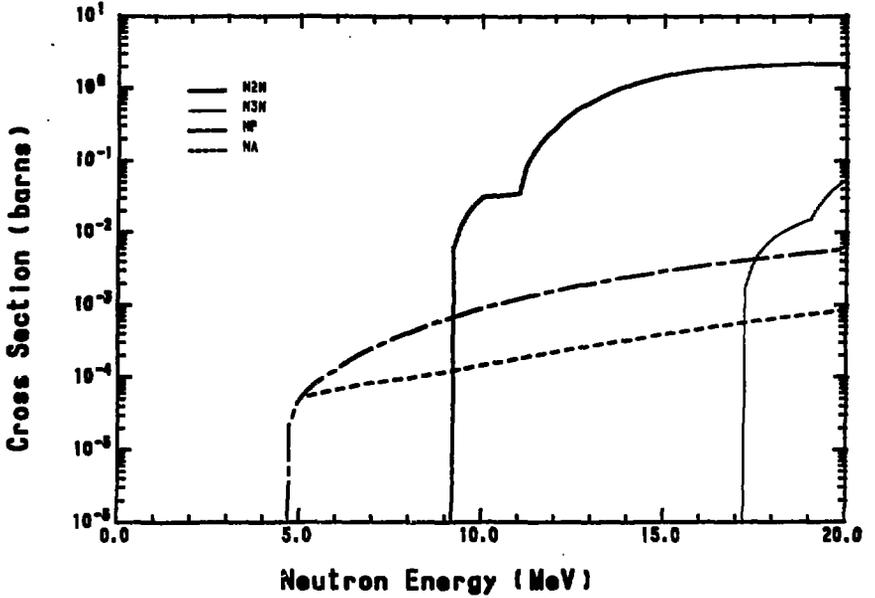
¹⁷⁴Hf
(n, n')



MAT=2721
MT= 4
51~55

¹⁷⁴Hf

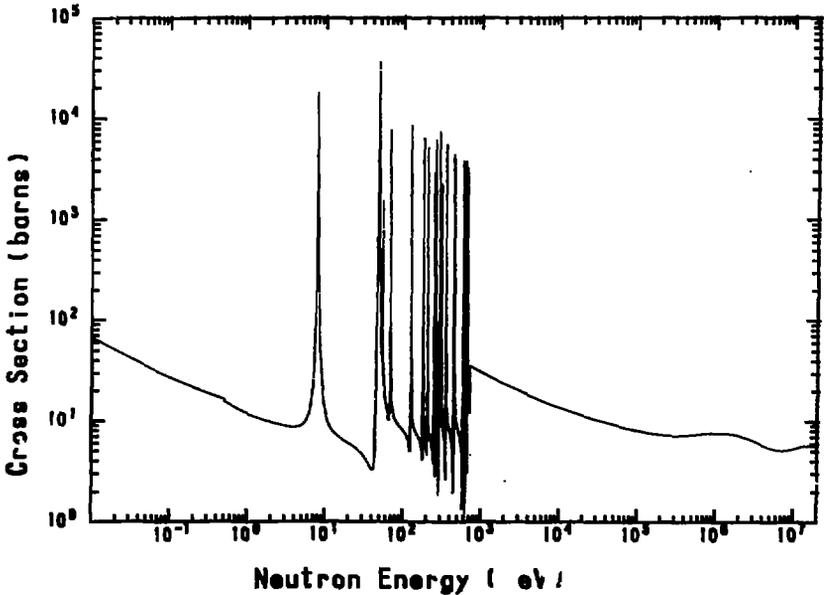
- (n, 2n)
- (n, 3n)
- (n, p)
- (n, α)



MAT=2721
MT= 16
 17
 103
 107

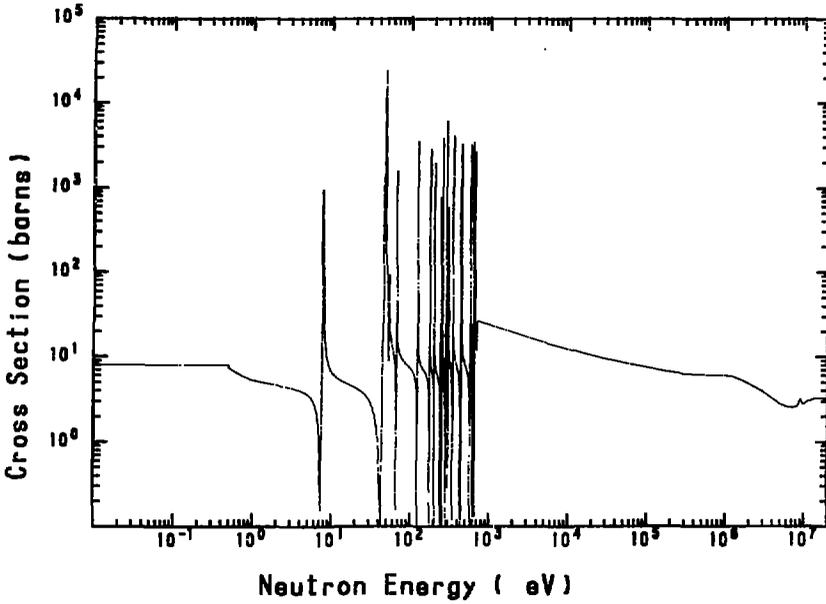
¹⁷⁶Hf

TOTAL



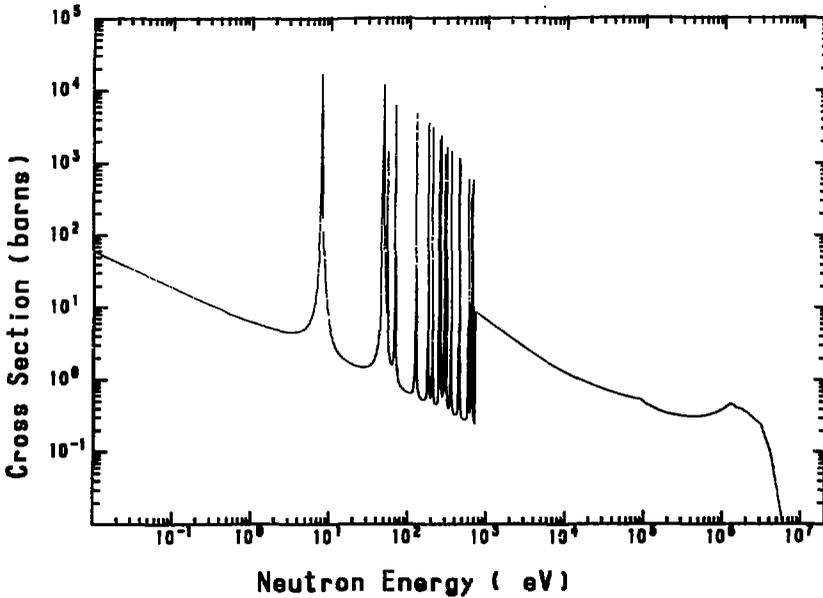
MAT=2722
MT= 1

¹⁷⁶Hf
(n, n)



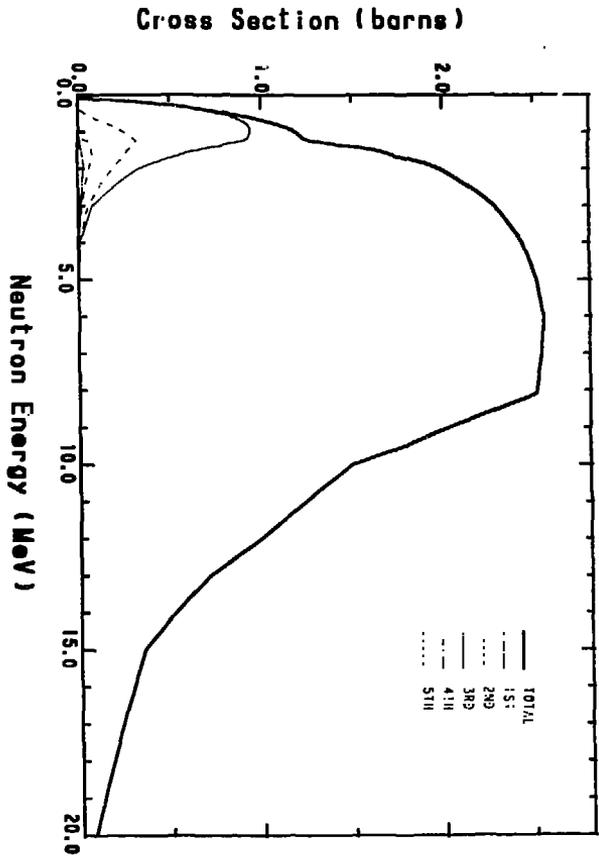
MAT=2722
MT= 2

¹⁷⁶Hf
(n, γ)



MAT=2722
MT= 102

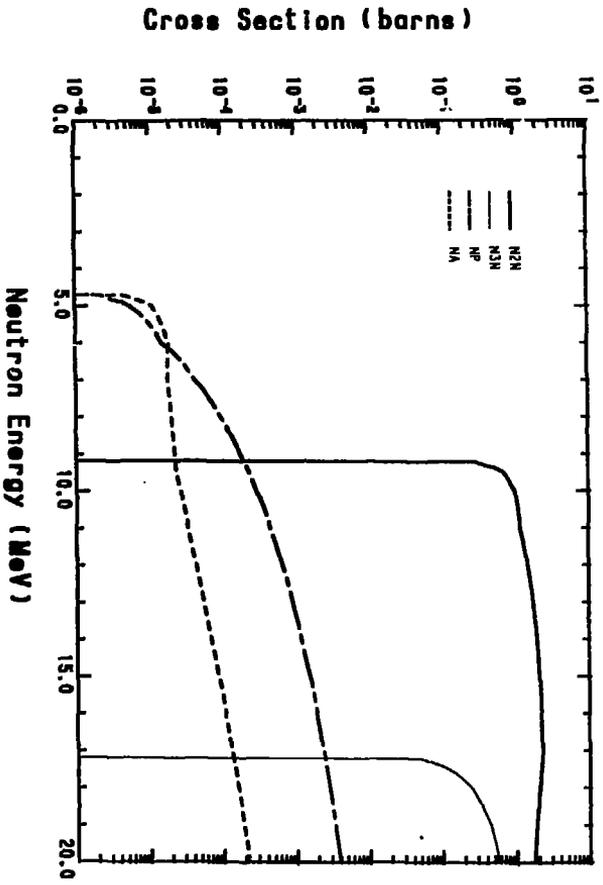
176 **Hf**
(n, n')



MAT=2722
MT= 4
51~55

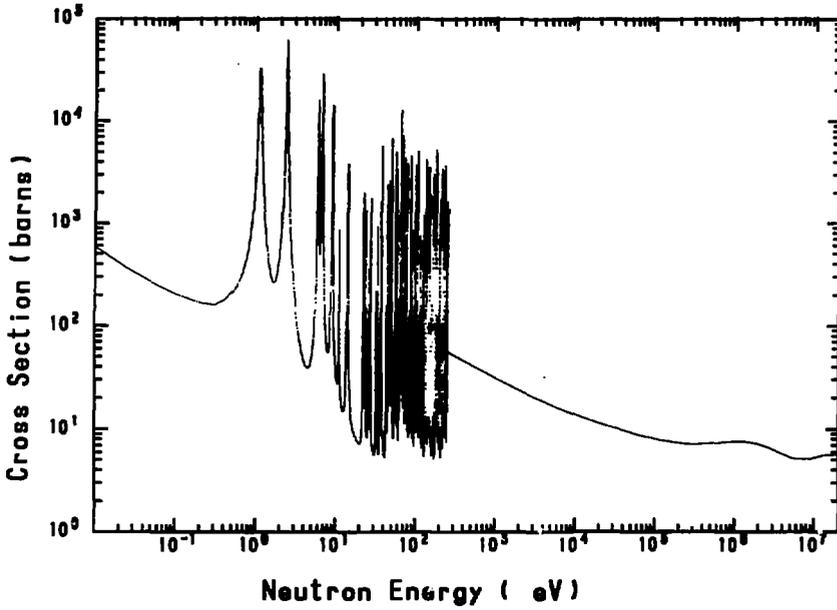
176 **Hf**

(n, 2n)
(n, 3n)
(n, p)
(n, α)



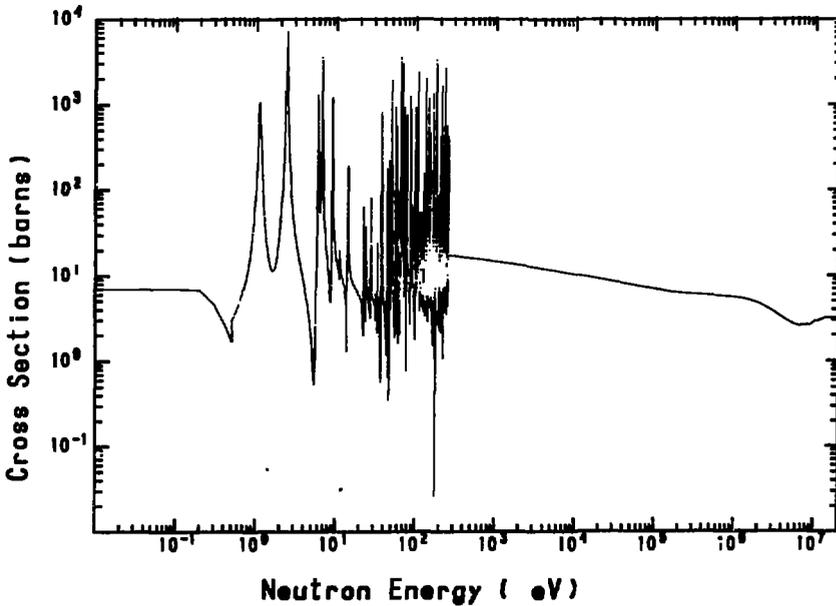
MAT=2722
MT= 16
17
103
107

¹⁷⁷Hf
TOTAL



MAT=2723
MT= 1

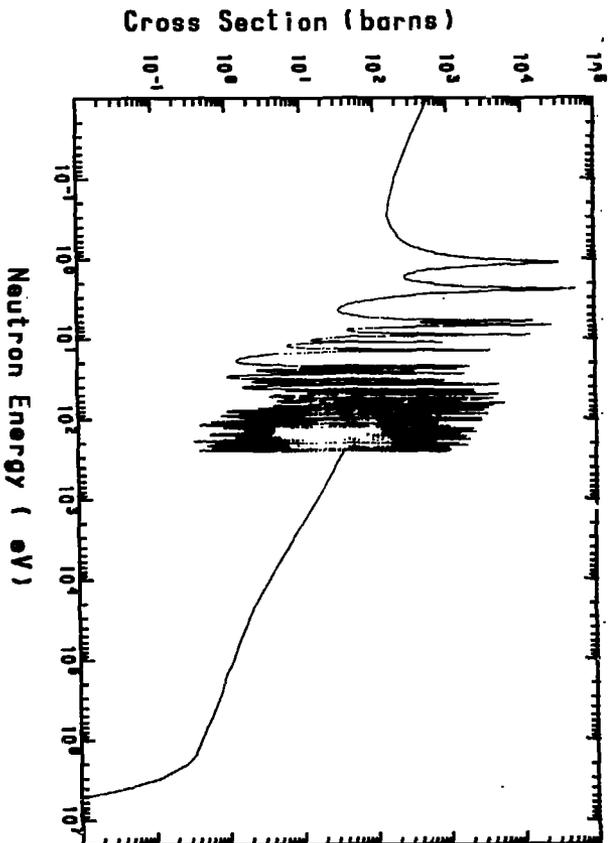
¹⁷⁷Hf
(n, n)



MAT=2723
MT= 2

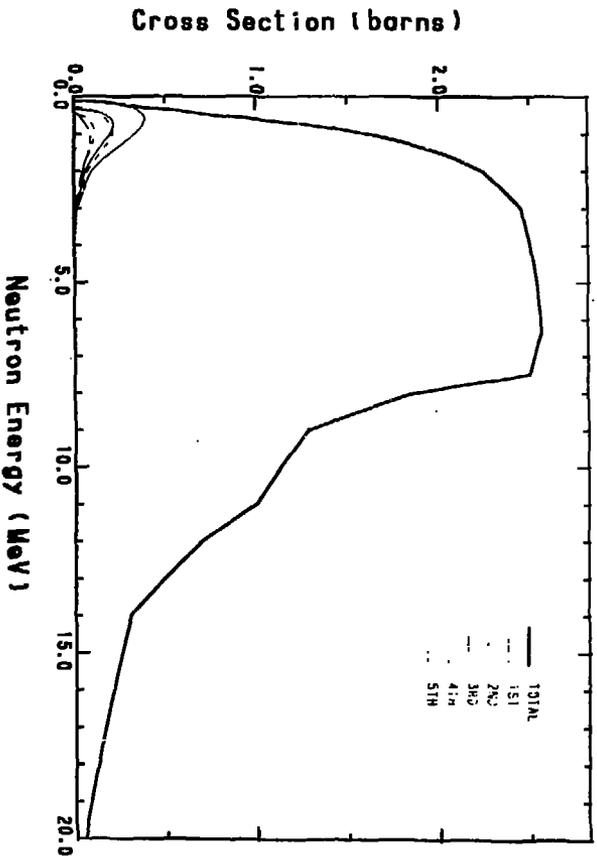
¹⁷⁷Hf
(n, γ)

MAT=2723
MT= 102

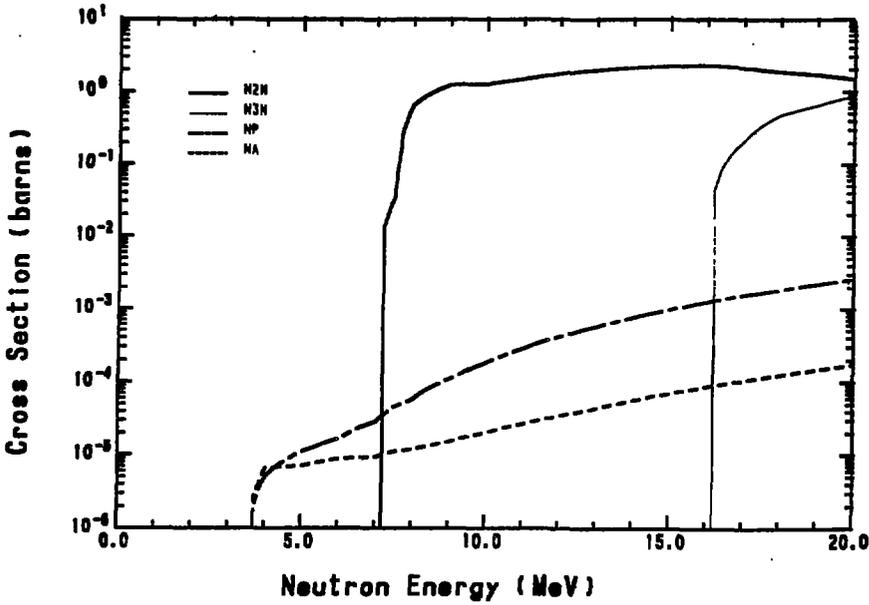


¹⁷⁷Hf
(n, n')

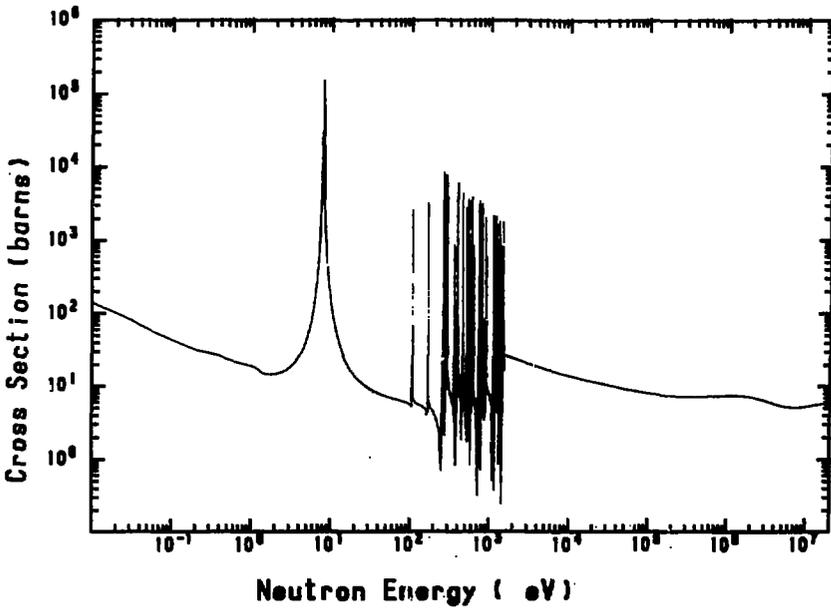
MAT=2723
MT= 4
51~55



¹⁷⁷Hf
 (n, 2n)
 (n, 3n)
 (n, p)
 (n, α)



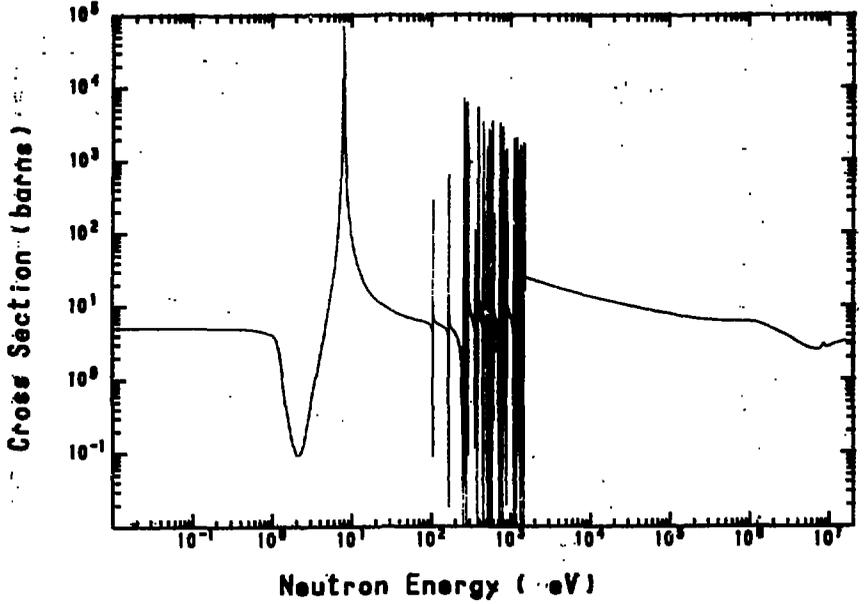
MAT=2723
MT= 16
 17
 103
 107



¹⁷⁸Hf
TOTAL

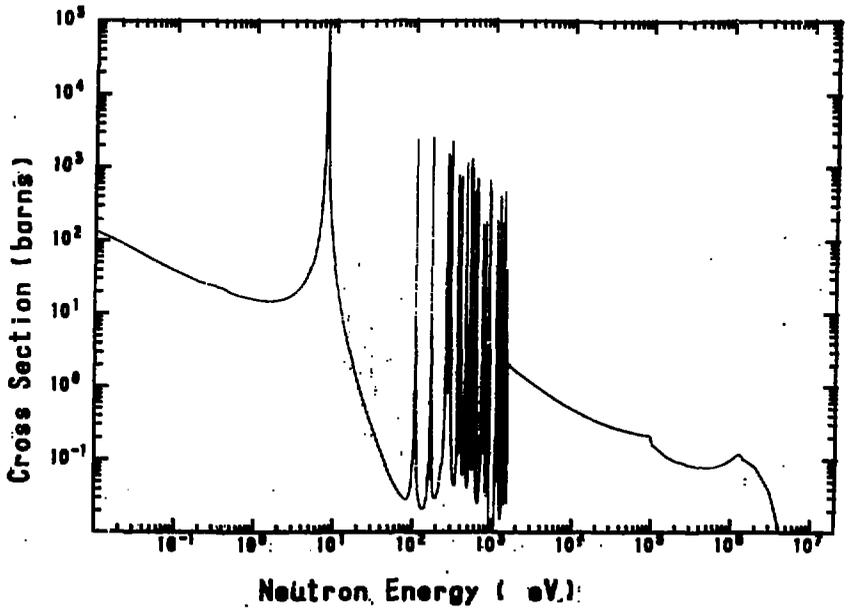
MAT=2724
MT= 1

¹⁷⁸Hf
(n, n)



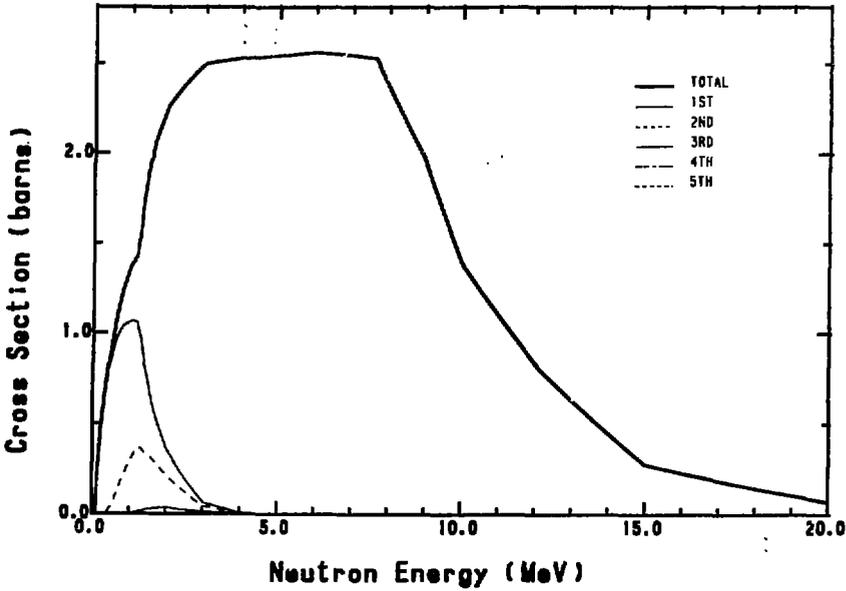
MAT=2724
MT= 2

¹⁷⁸Hf
(n, γ)



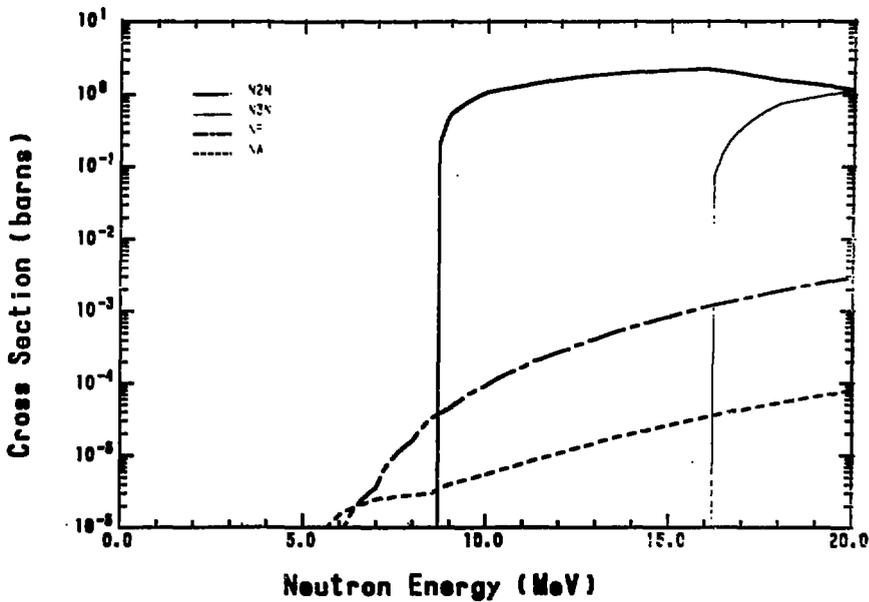
MAT=2724
MT= 102

¹⁷⁸Hf
(n, n')



MAT=2724
MT= 4
51~55

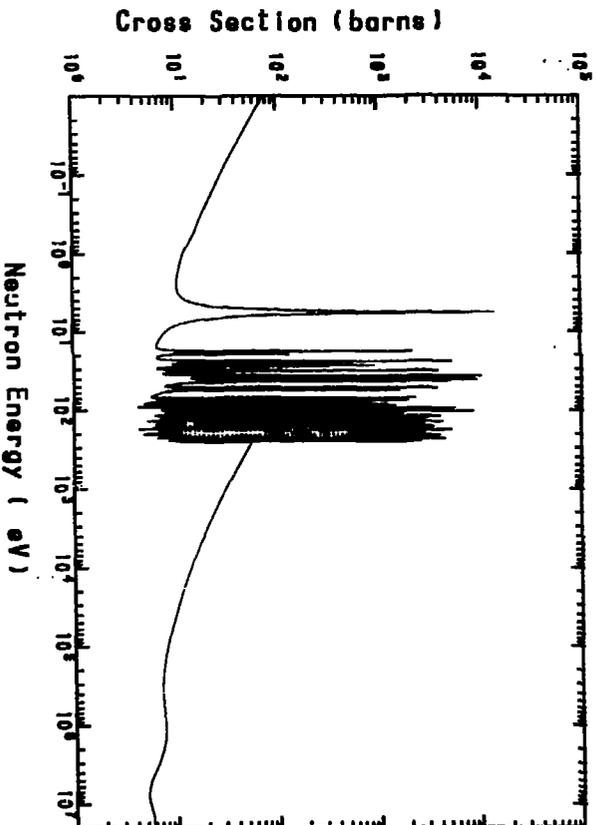
¹⁷⁸Hf
(n, 2n)
(n, 3n)
(n, p)
(n, α)



MAT=2724
MT= 16
17
103
107

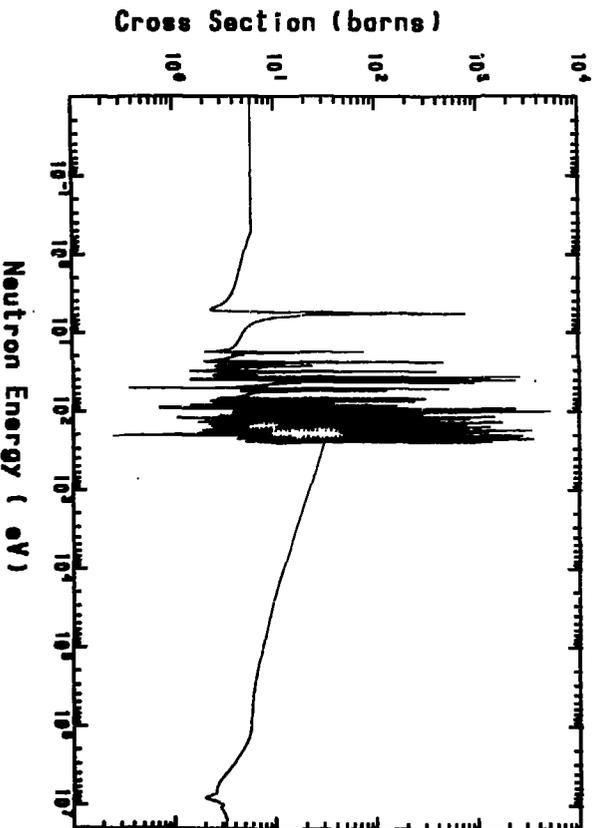
179 Hf
TOTAL

MAT=2725
MT= 1

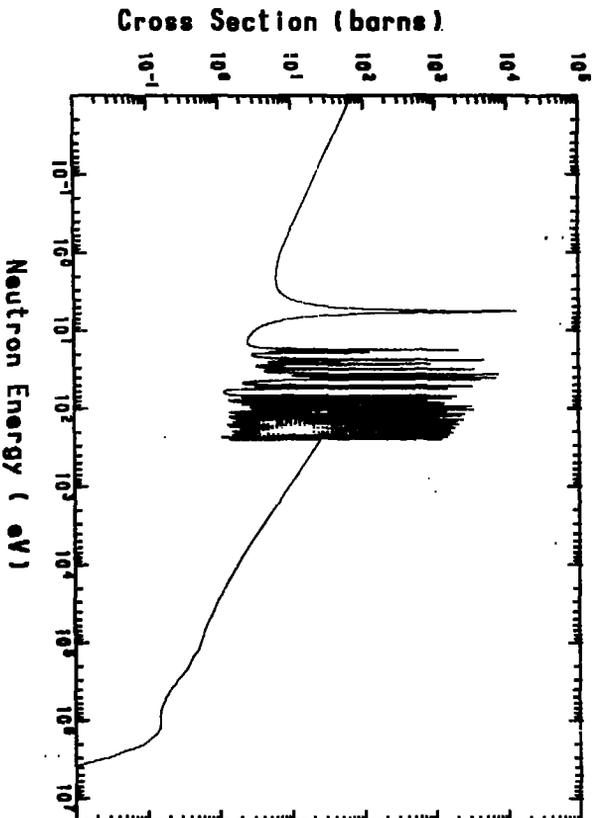


179 Hf
(n,n)

MAT=2725
MT= 2

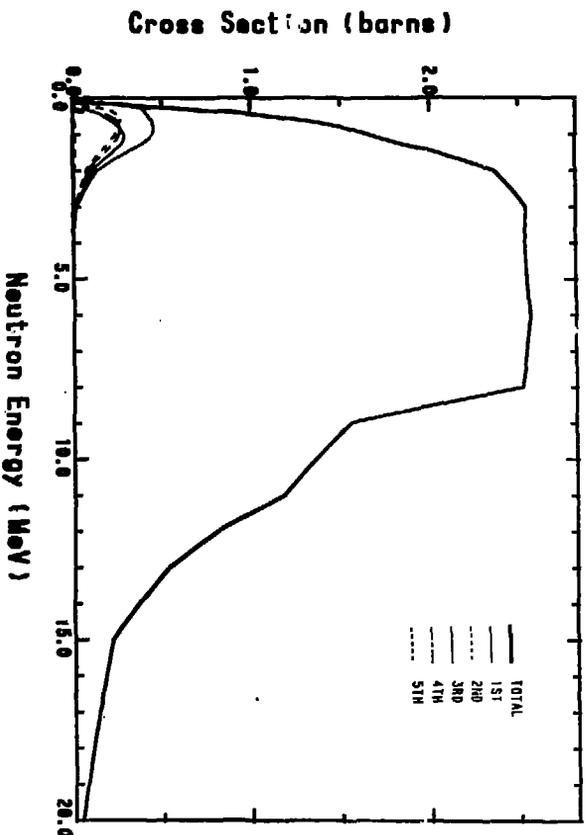


179 **Hf**
(n, γ)



MAT=2725
MT= 102

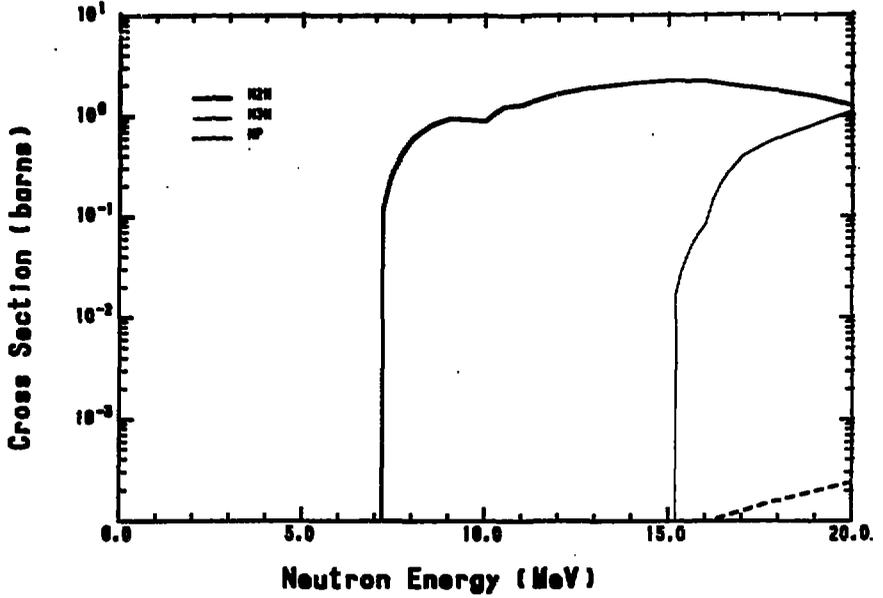
179 **Hf**
(n, n')



MAT=2725
MT= 4
51~55

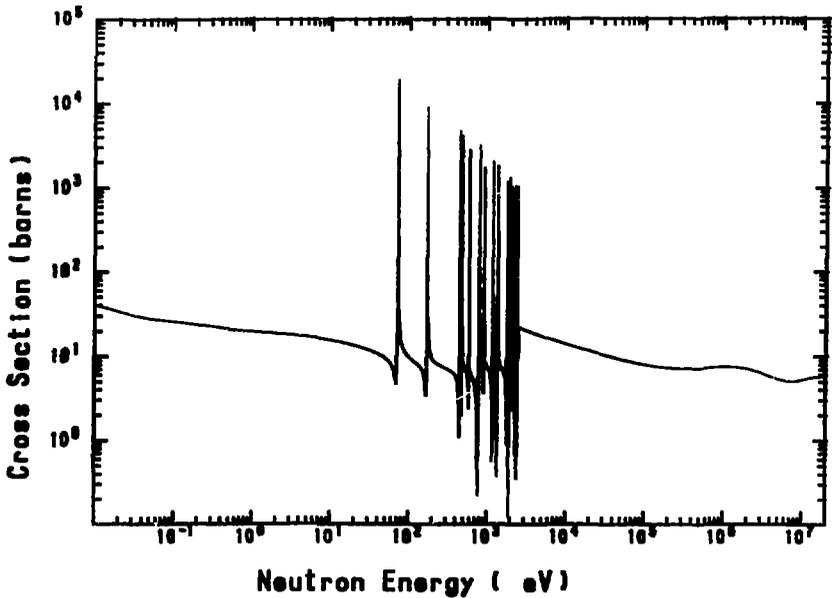
¹⁷⁹Hf

(n, 2n)
(n, 3n)
(n, p)



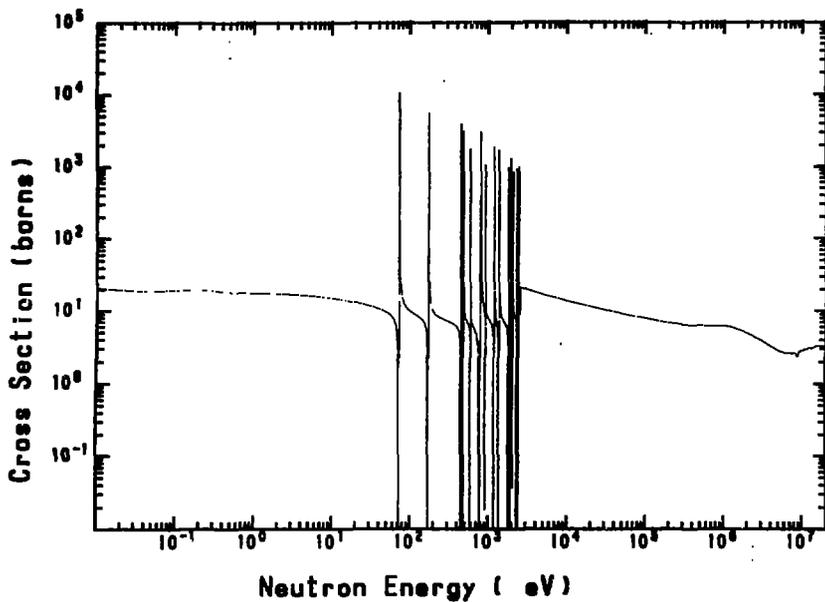
MAT=2725
 MT= 16
 17
 103

¹⁸⁰Hf
 TOTAL



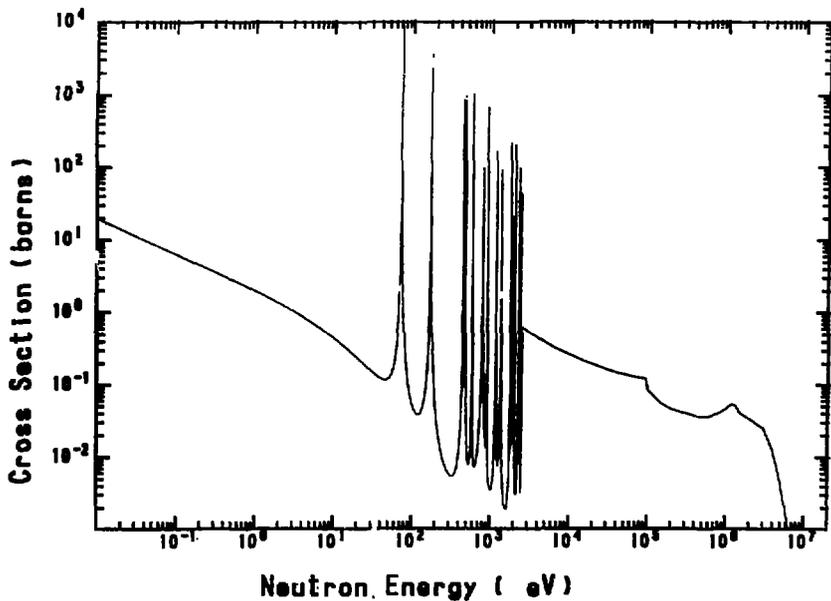
MAT=2726
 MT= 1

¹⁸⁰Hf
(n, n)



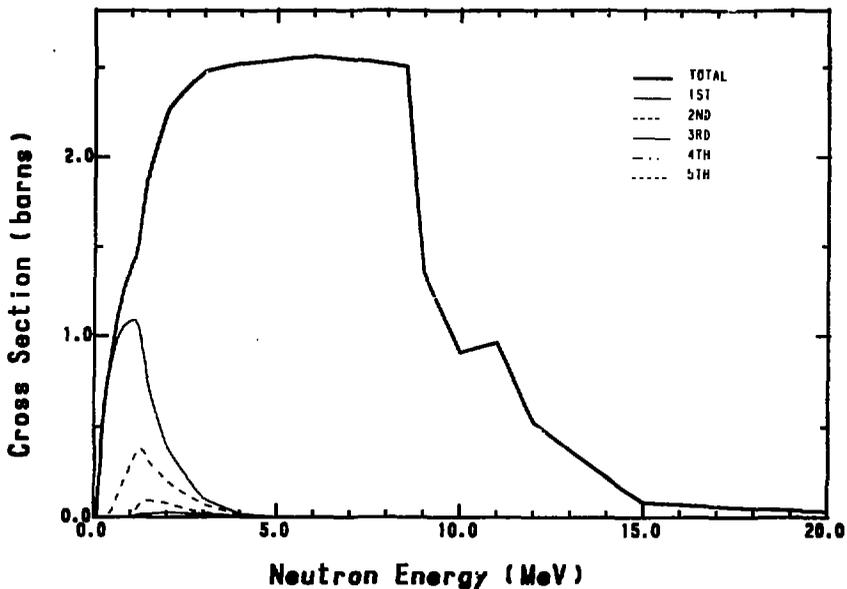
MAT=2726
MT= 2

¹⁸⁰Hf
(n, γ)



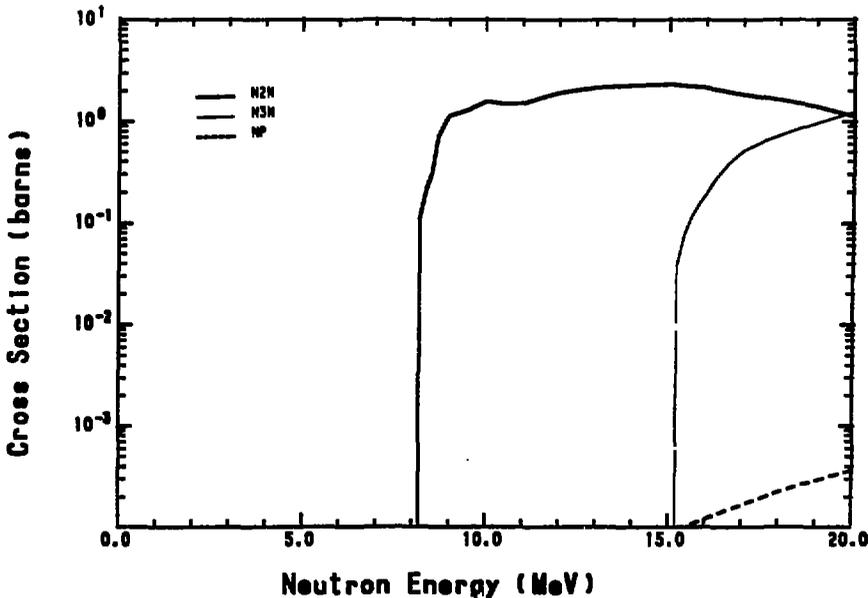
MAT=2726
MT= 102

¹⁸⁰Hf
(n, n')

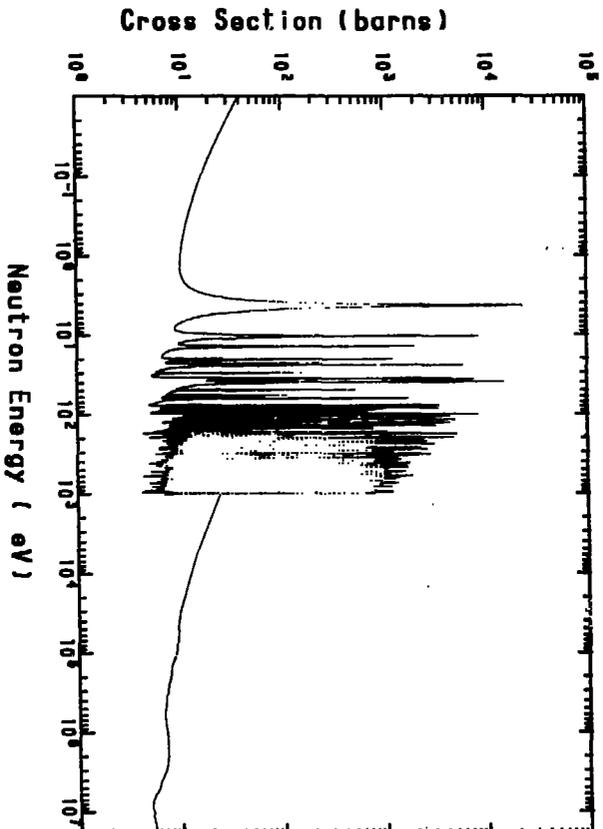


MAT=2726
 MT= 4
 51~55

¹⁸⁰Hf
(n, 2n)
(n, 3n)
(n, p)

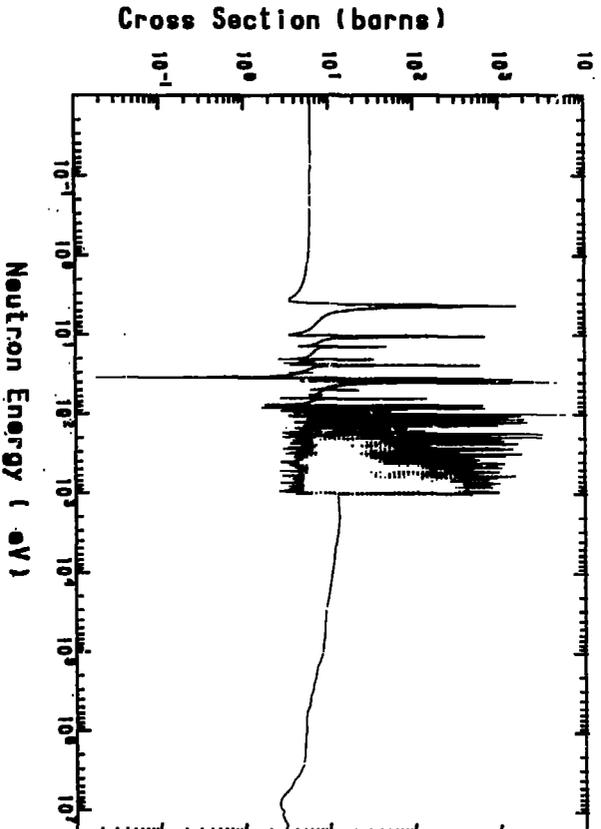


MAT=2726
 MT= 16
 17
 103



^{181}Ta
TOTAL

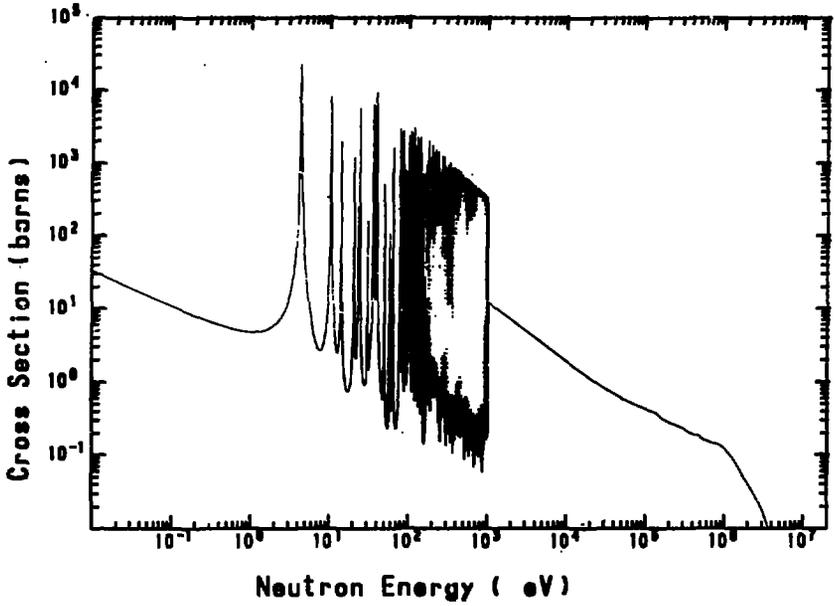
MAT=2731
MT= 1



^{181}Ta
(n,n)

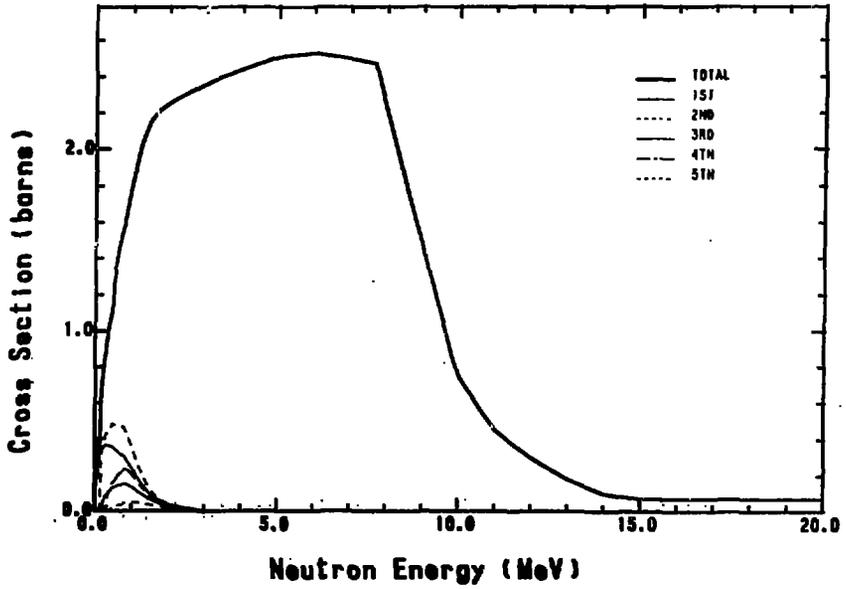
MAT=2731
MT= 2

¹⁸¹Ta
(n, γ)

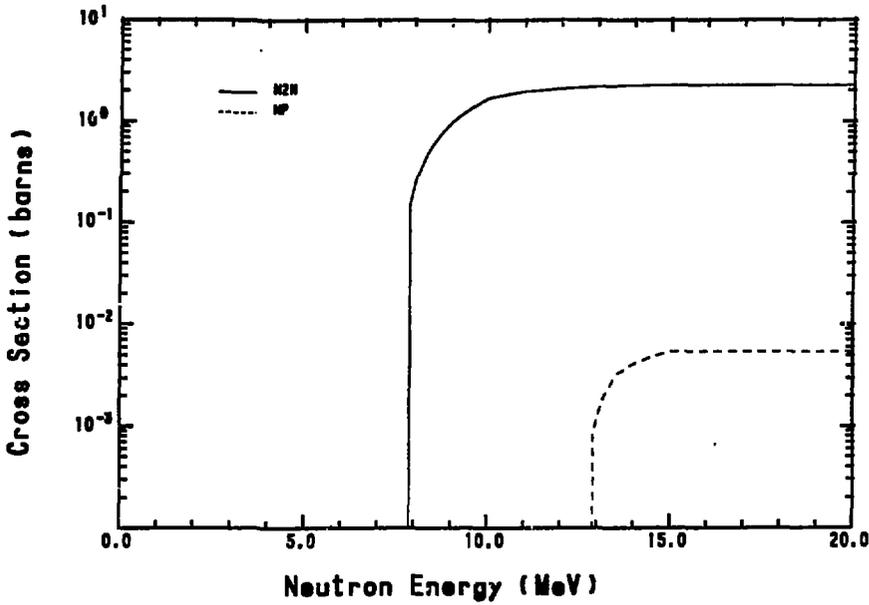


MAT=2731
MT= 102

¹⁸¹Ta
(n, n')

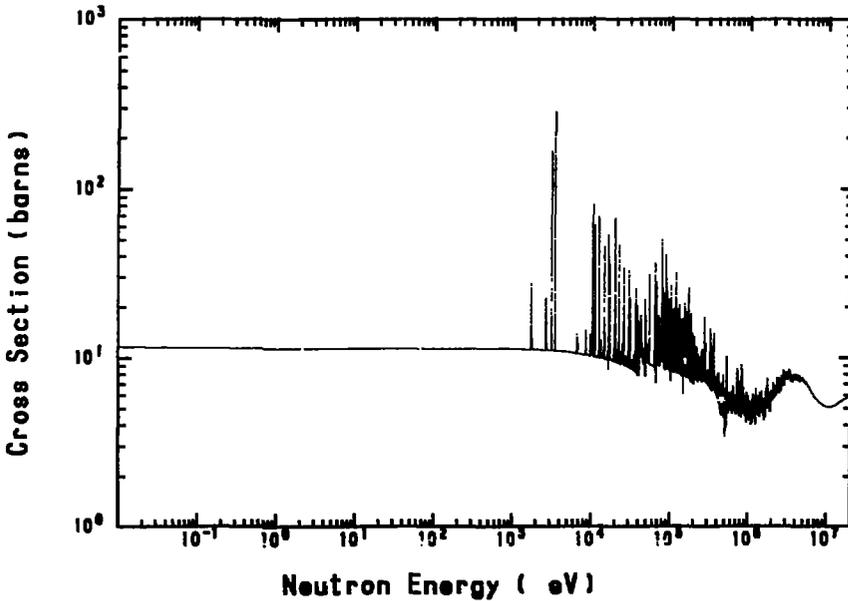


MAT=2731
MT= 4
51~55



¹⁸¹Ta
 (n, 2n)
 (n, p)

MAT=2731
MT= 16
103

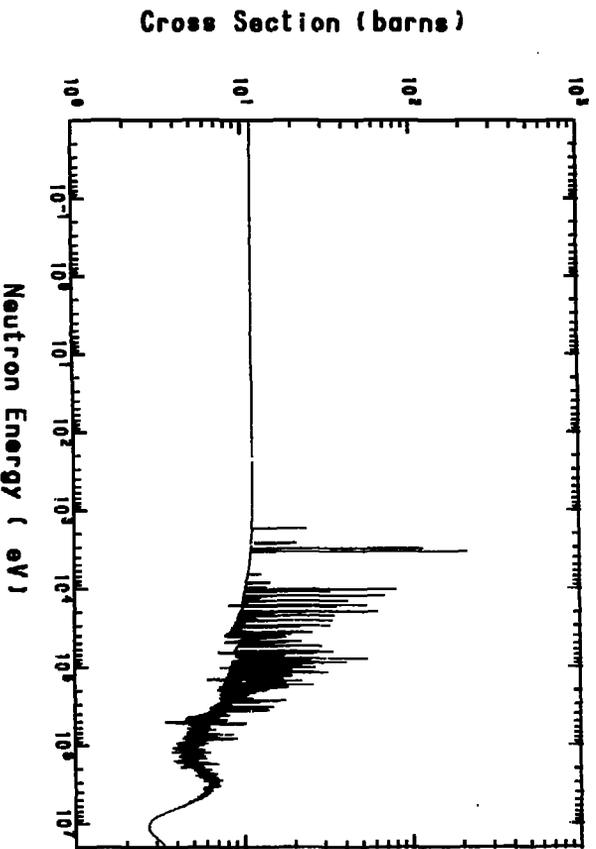


⁸²Pb
TOTAL

MAT=2820
MT= 1

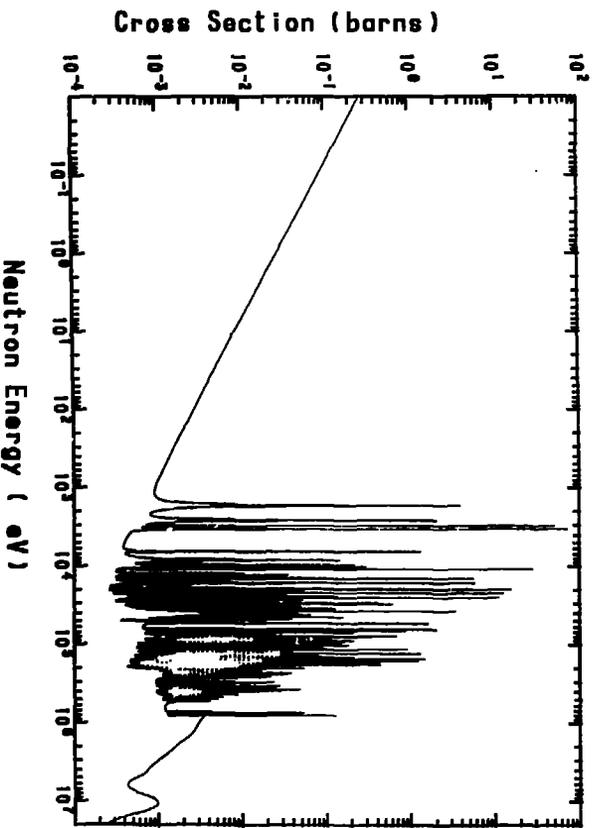
⁸²Pb
(n, n)

MAT=2820
MT= 2

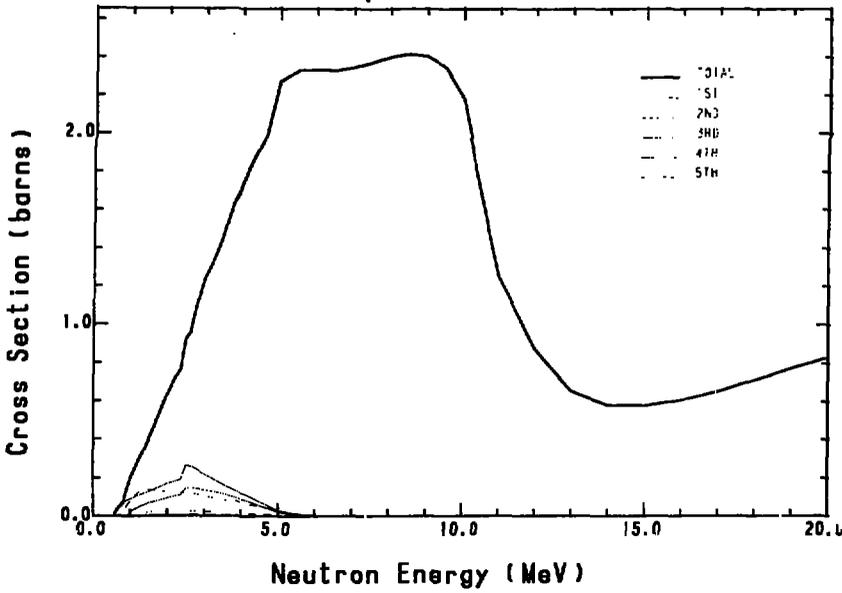


⁸²Pb
(n, γ)

MAT=2820
MT= 102

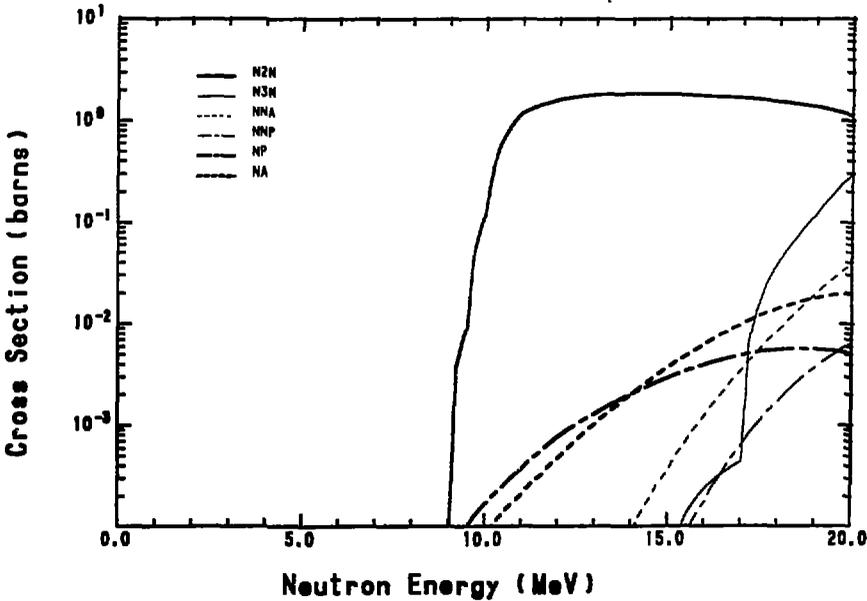


⁸²Pb
(n, n')



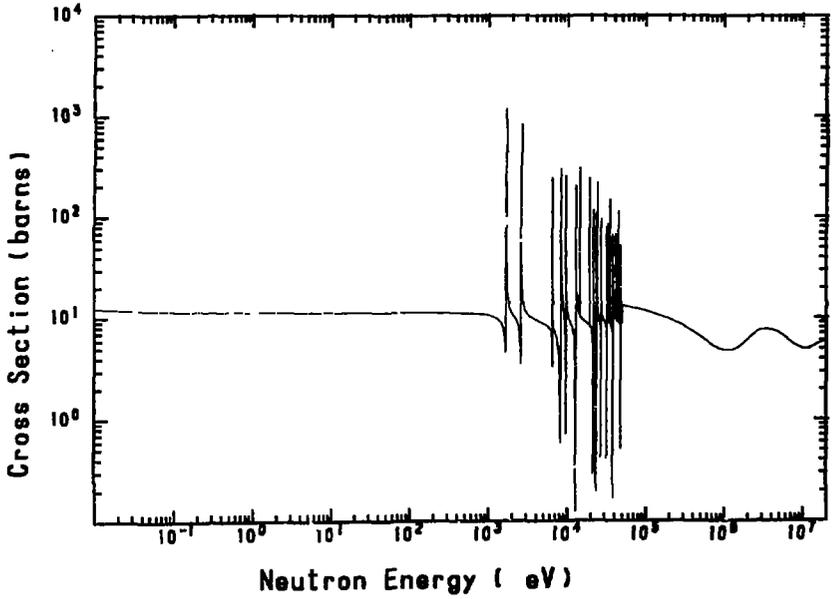
MAT=2820
MT= 4
51~55

⁸²Pb
(n, 2n)
(n, 3n)
(n, n'α)
(n, n'p)
(n, p)
(n, α)



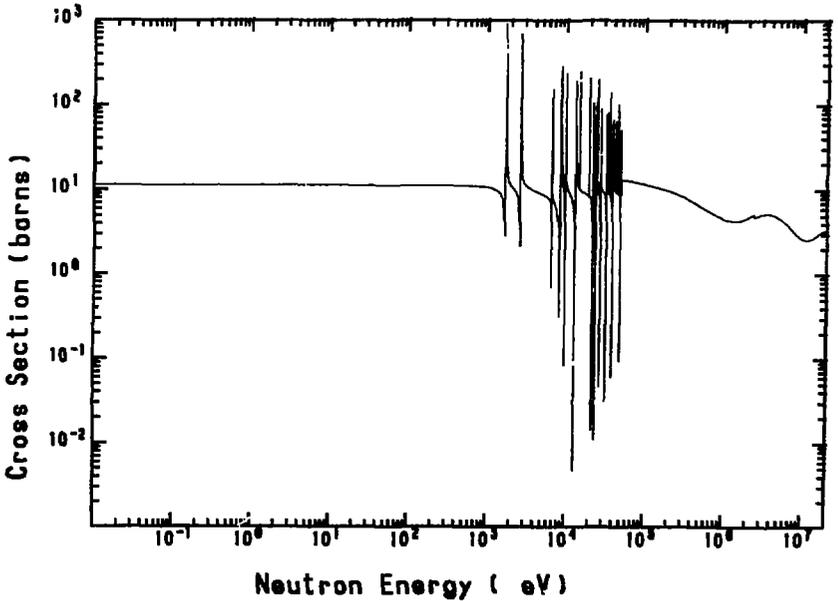
MAT=2820
MT= 16
17
22
28
103
107

²⁰⁴Pb
TOTAL



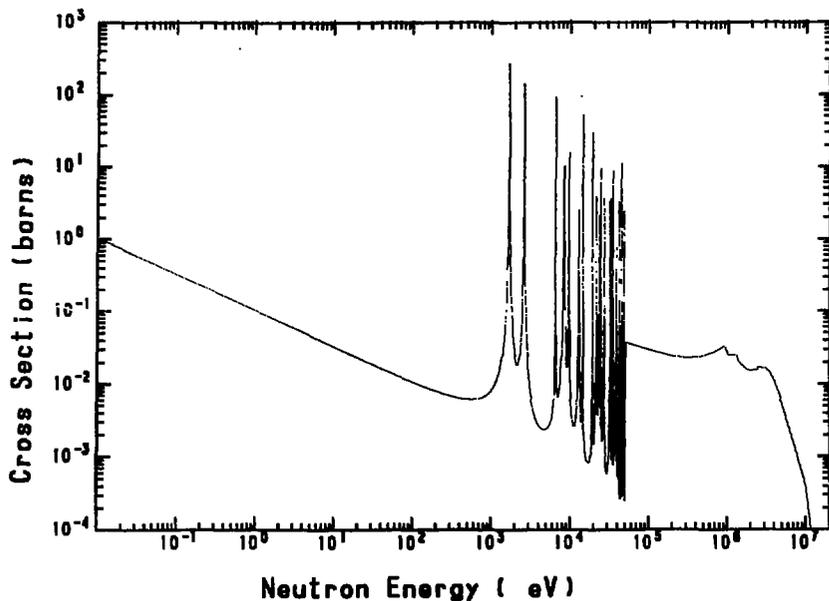
MAT=2821
MT= 1

²⁰⁴Pb
(n, n)



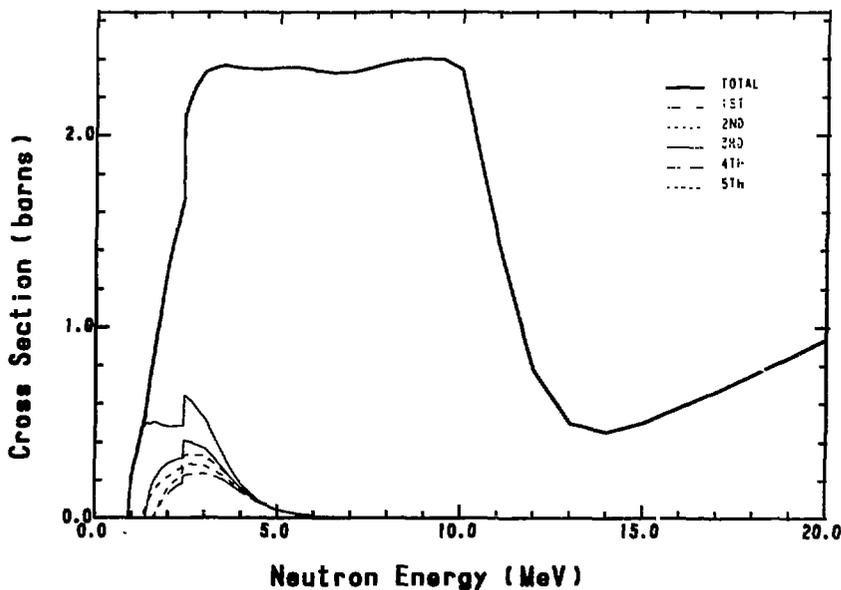
MAT=2821
MT= 2

²⁰⁴Pb
(n, γ)



MAT=2821
MT= 102

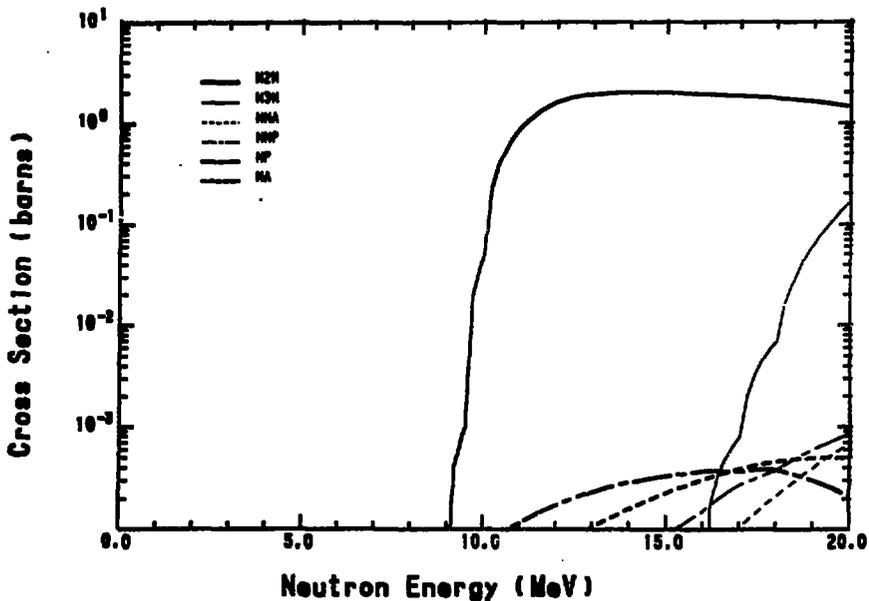
²⁰⁴Pb
(n, n')



MAT=2821
MT= 4
51~55

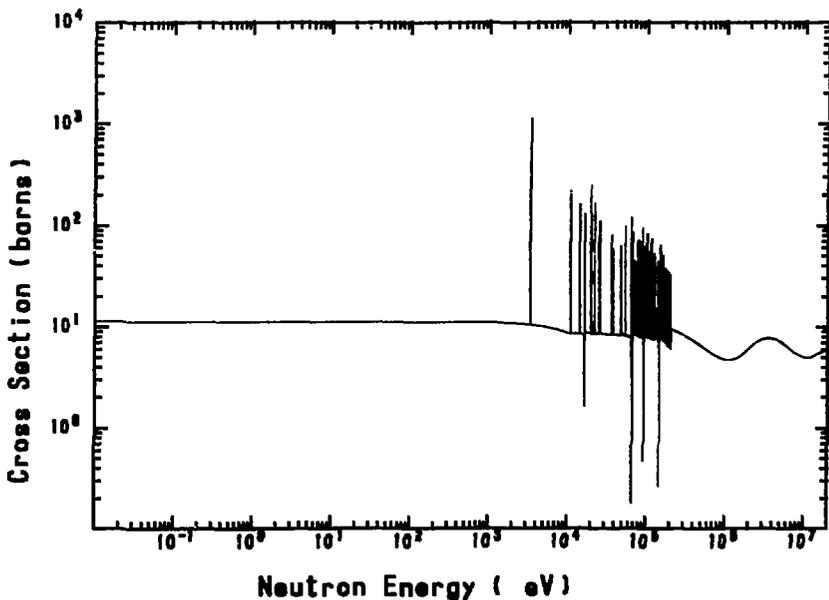
²⁰⁴Pb

- (n, 2n)
- (n, 3n)
- (n, n'α)
- (n, n'p)
- (n, p)
- (n, α)



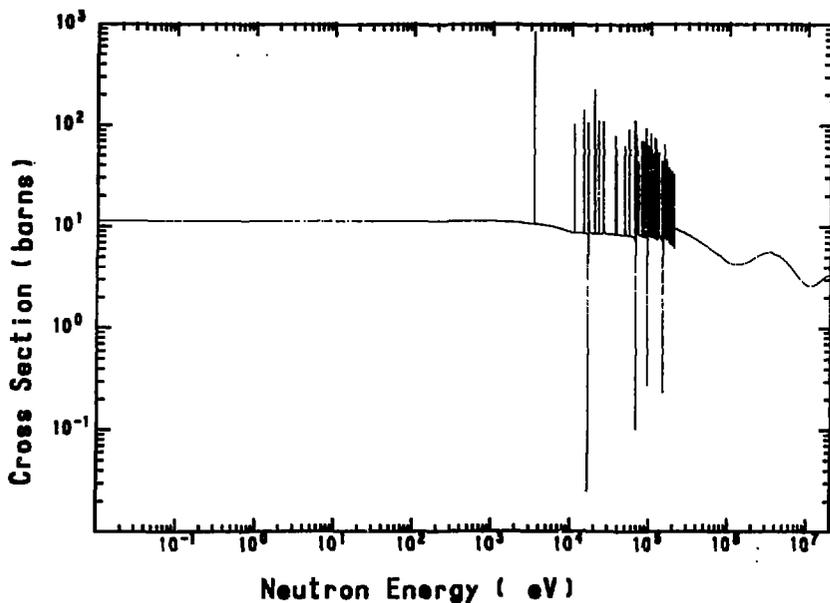
MAT=2822
MT= 16
 17
 22
 28
 103
 107

²⁰⁶Pb
TOTAL



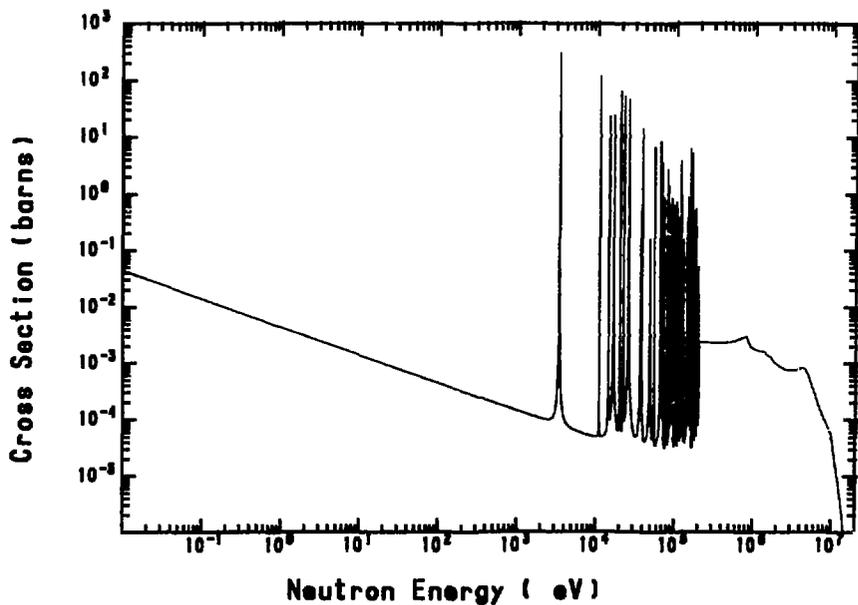
MAT=2822
MT= 1

²⁰⁶Pb
(n, n)



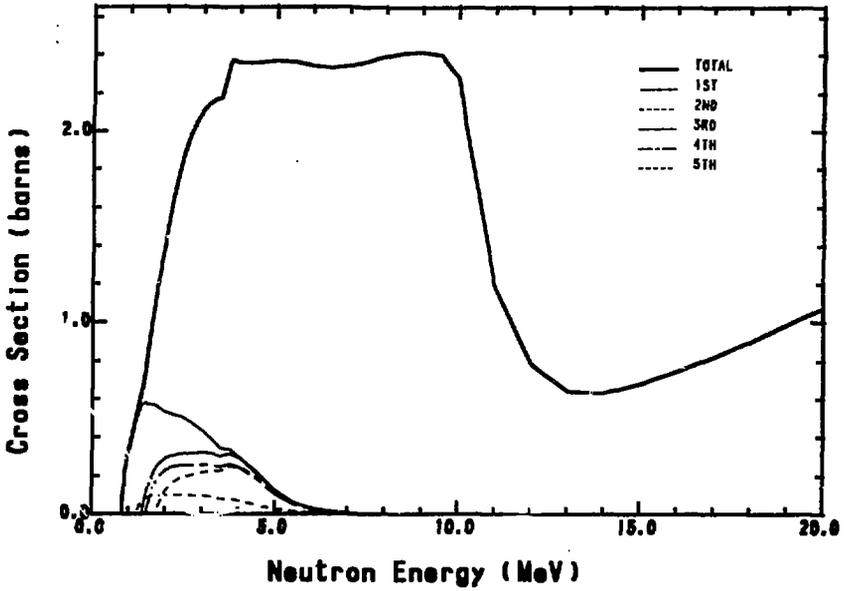
MAT=2822
MT= 2

²⁰⁶Pb
(n, γ)



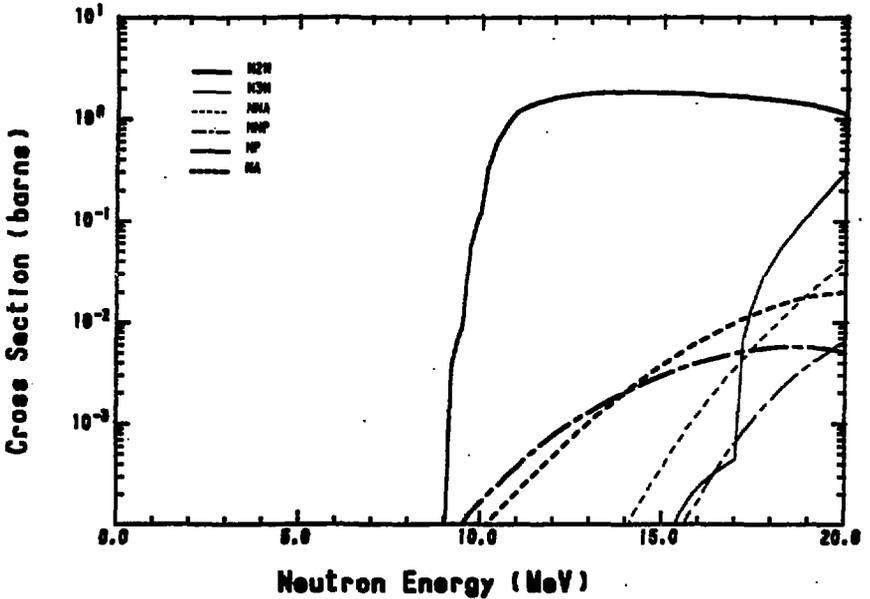
MAT=2822
MT= 102

²⁰⁶Pb
(n, n')



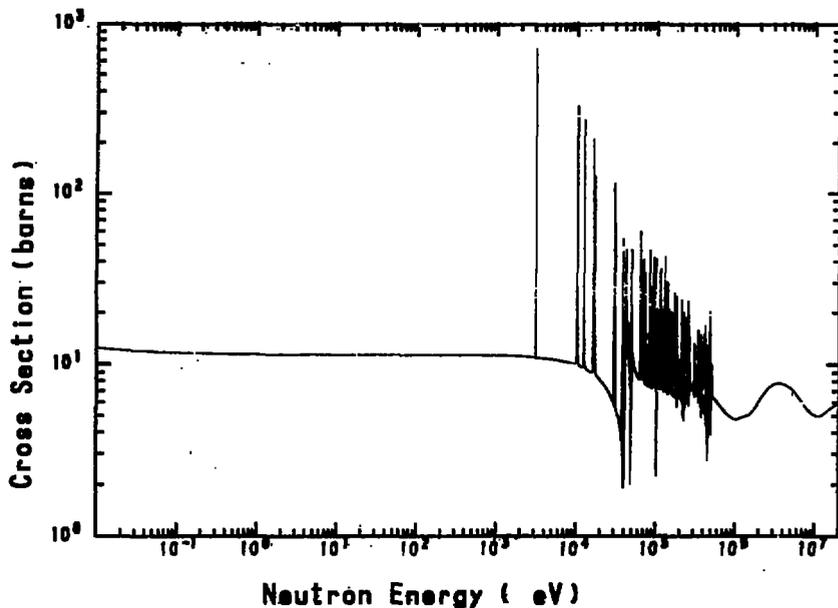
MAT=2822
MT= 4
51~55

²⁰⁶Pb
(n, 2n)
(n, 3n)
(n, n'α)
(n, n'p)
(n, p)
(n, α)

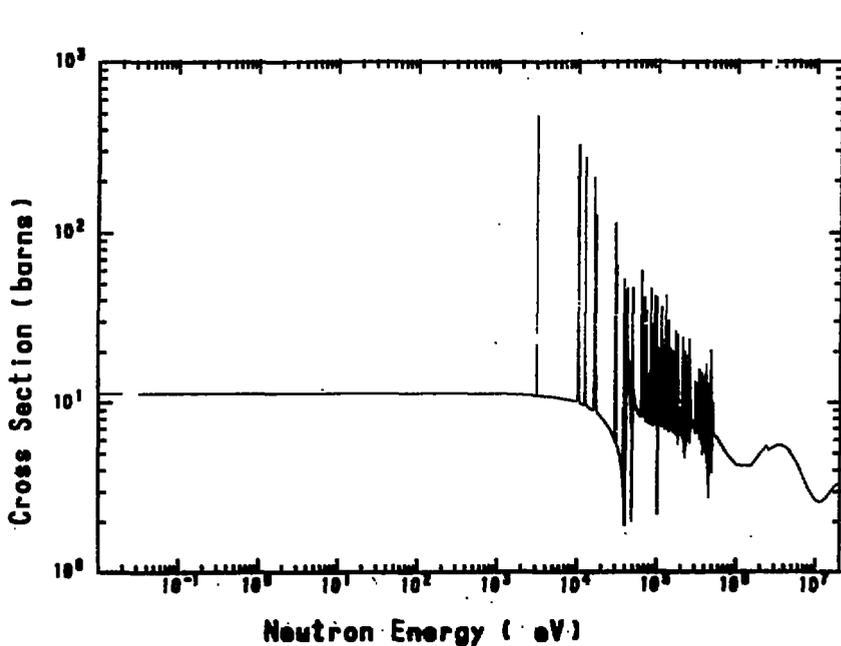


MAT=2822
MT= 16
17
22
28
103
107

²⁰⁷Pb
TOTAL



MAT=2823
MT= 1

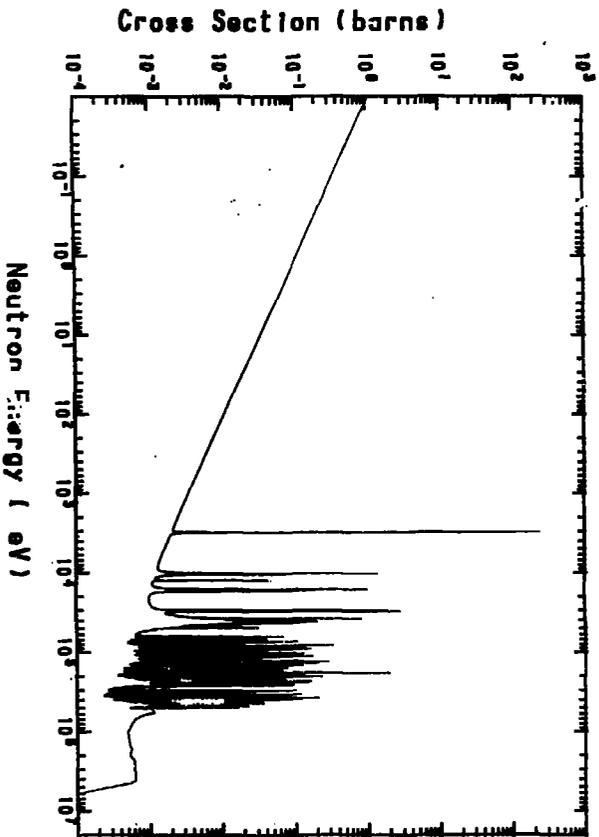


²⁰⁷Pb
(n, n)

MAT=2823
MT= 2

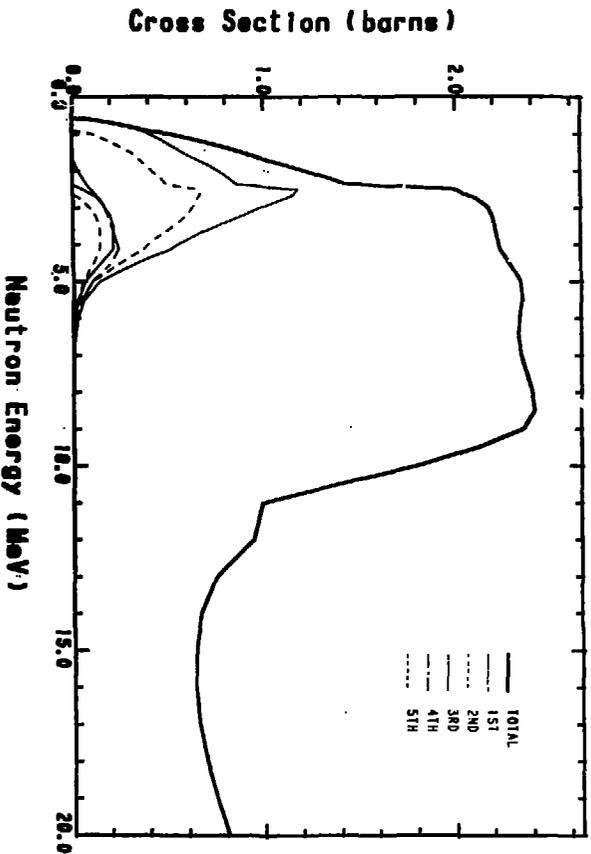
207 Pb
(n, γ)

MAT=2823
MT= 102

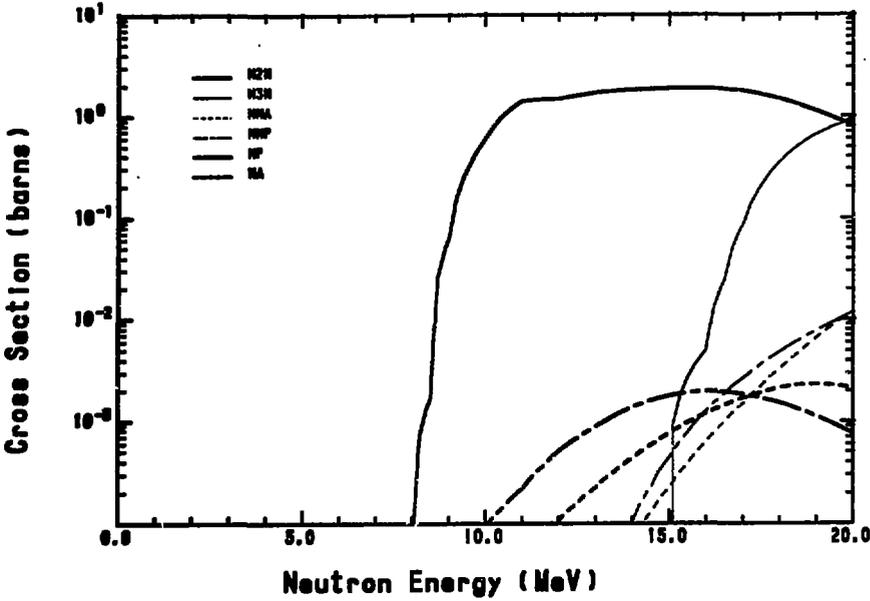


207 Pb
(n, n')

MAT=2823
MT= 4
51~55

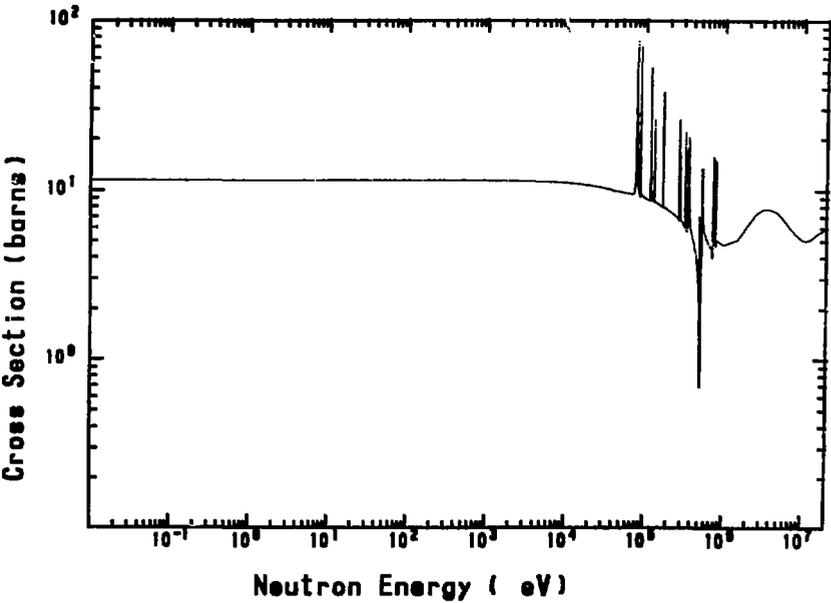


²⁰⁷Pb



(n, 2n)
 (n, 3n)
 (n, n' α)
 (n, n' p)
 (n, p)
 (n, α)

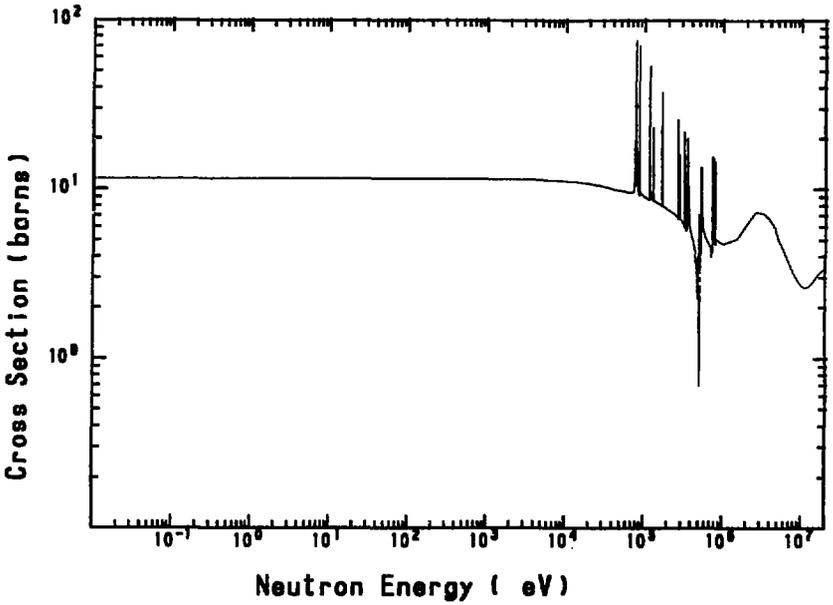
MAT=2823
 MT= 16
 17
 22
 28
 103
 107



²⁰⁸Pb
 TOTAL

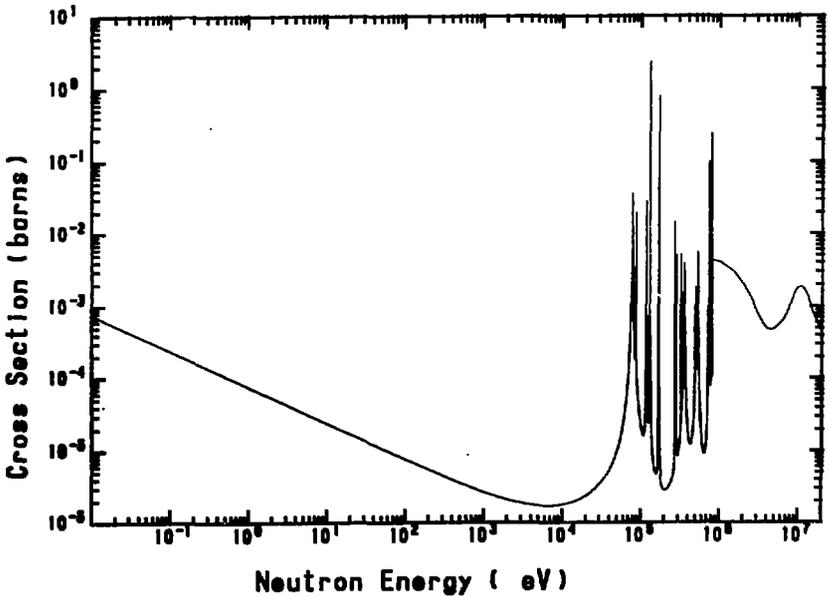
MAT=2824
 MT= 1

²⁰⁸Pb
(n, n)

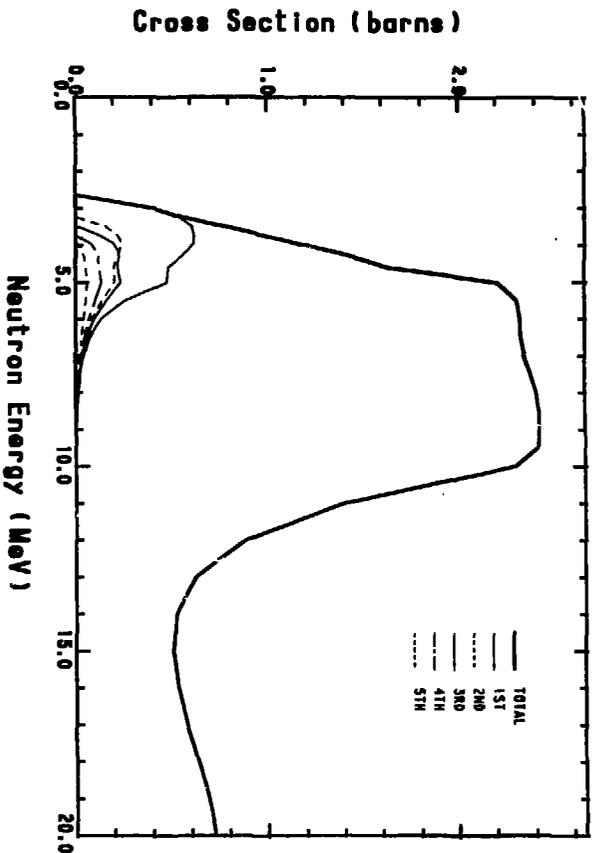


MAT=2824
MT= 2

²⁰⁸Pb
(n, γ)

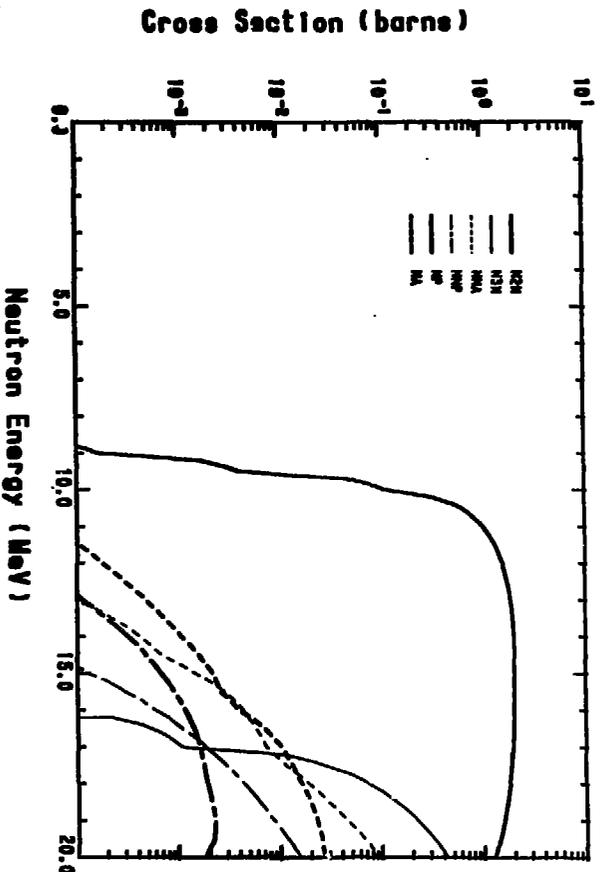


MAT=2824
MT= 102



208 Pb
(n, n')

MAT=2824
MT= 4
51~55

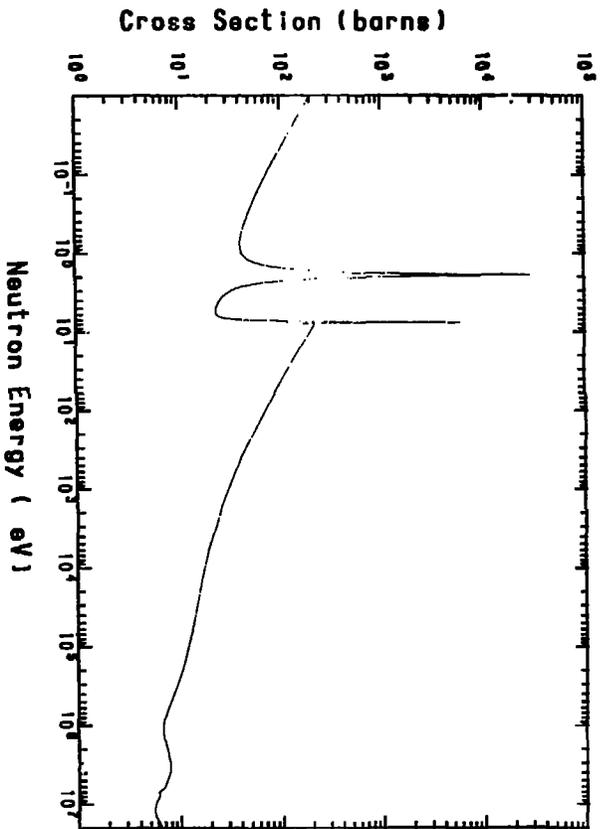


208 Pb
(n, 2n)
(n, 3n)
(n, n', α)
(n, n', p)
(n, p)
(n, α)

MAT=2824
MT= 16
17
22
28
103
107

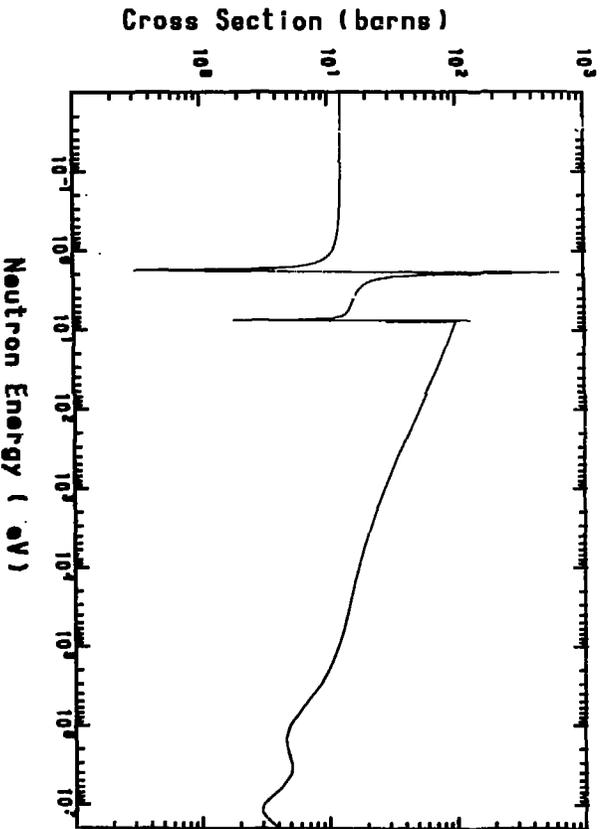
228Th
TOTAL

MAT=2901
MT= 1

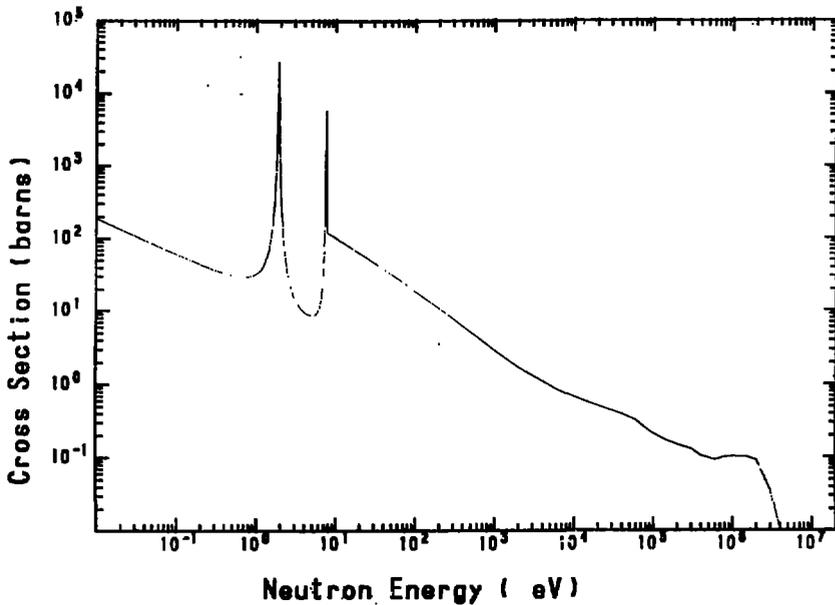


228Th
(n,n)

MAT=2901
MT= 2

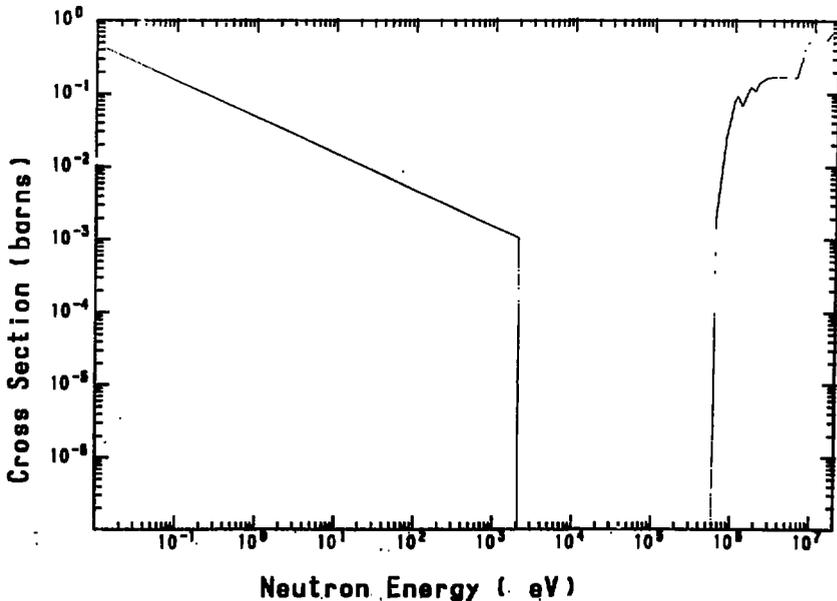


^{228}Th
(n, γ)



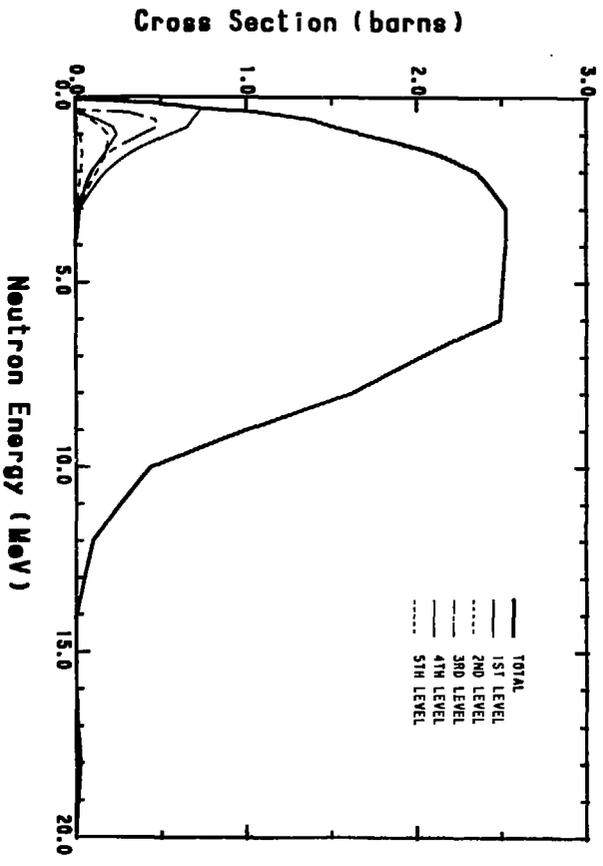
MAT=2901
MT= 102

^{228}Th
(n, f)



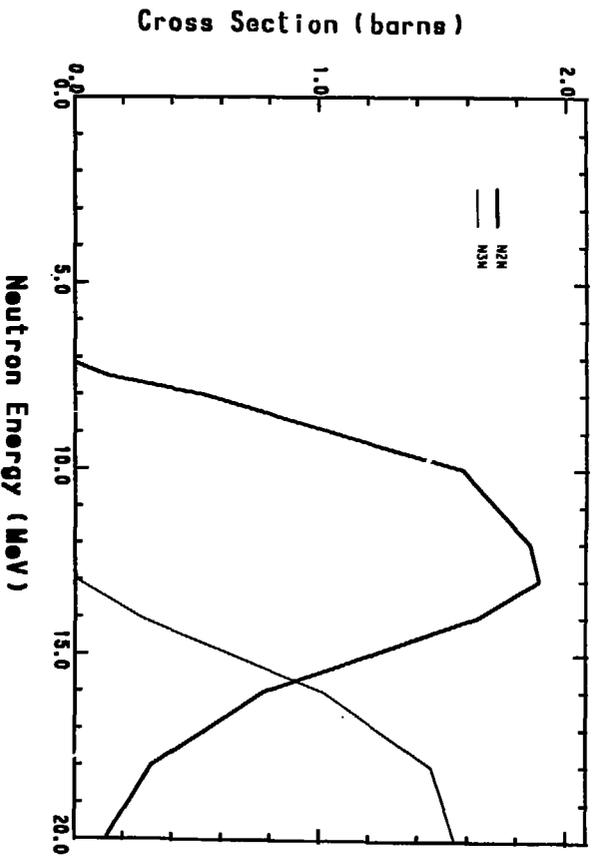
MAT=2901
MT= 18

²²⁸Th
(n, n')



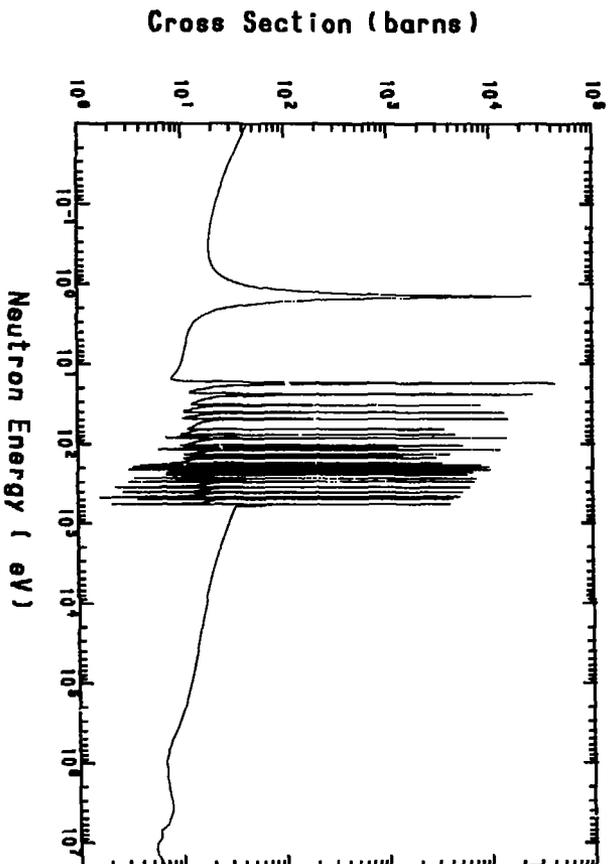
MAT=2901
MT= 4
 51~55

²²⁸Th
(n, 2n)
(n, 3n)



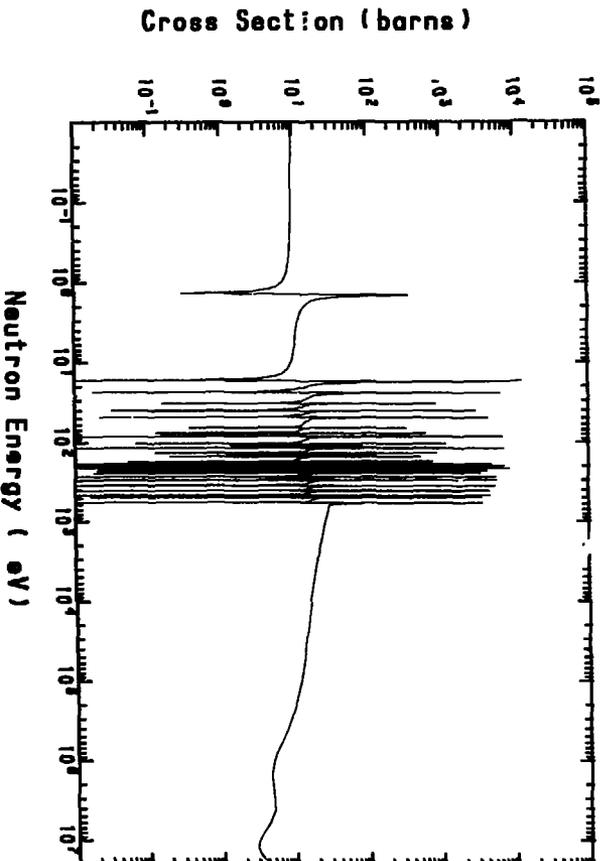
MAT=2901
MT= 16
 17

230 Th
TOTAL



MAT = 2902
MT = 1

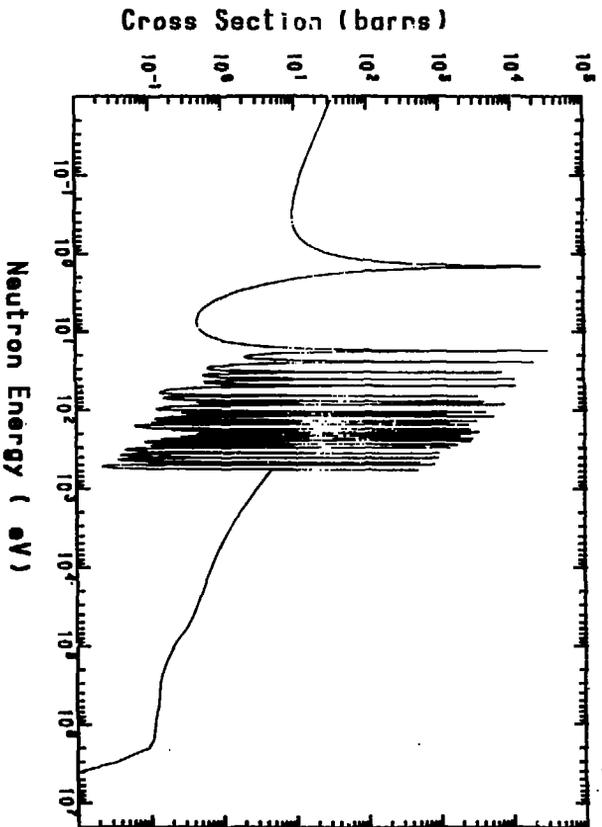
230 Th
(n, n)



MAT = 2902
MT = 2

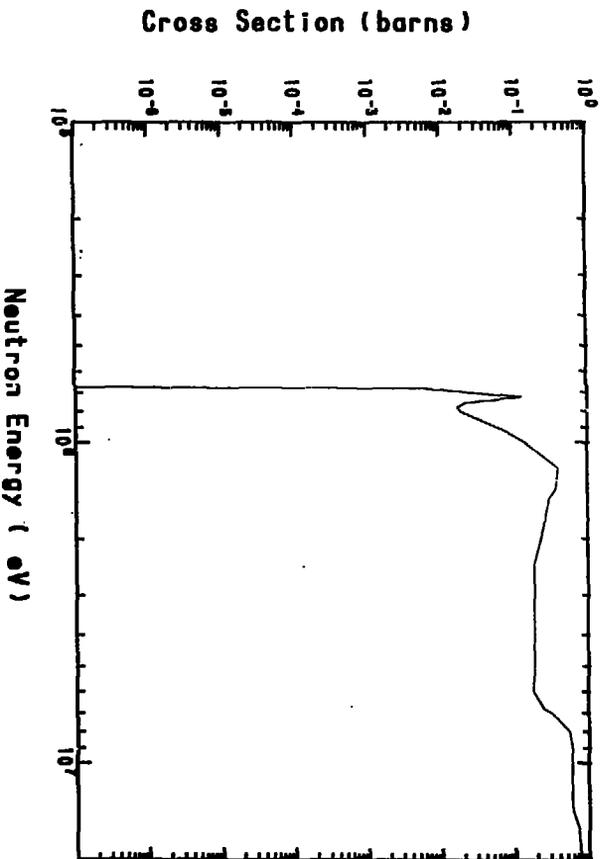
²³⁰Th
(n, γ)

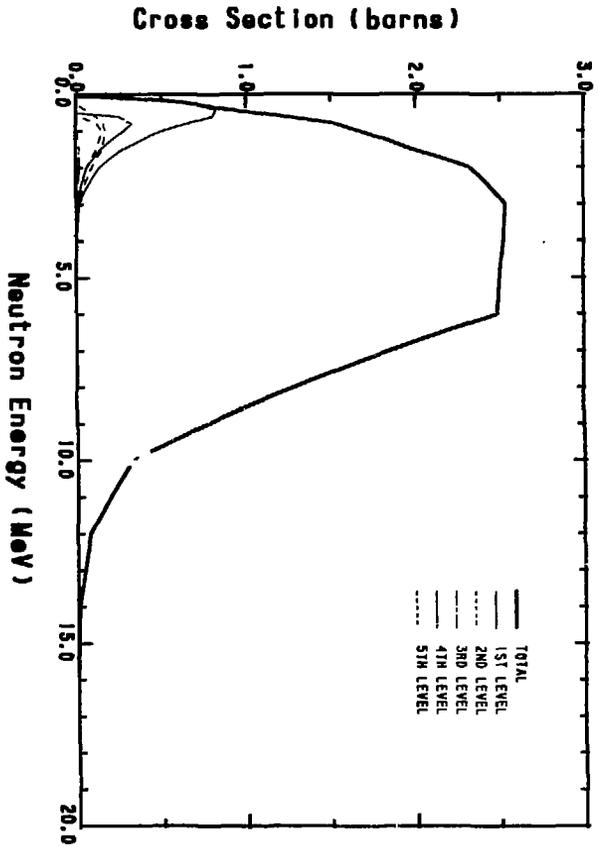
MAT=2902
MT= 102



²³⁰Th
(n, f)

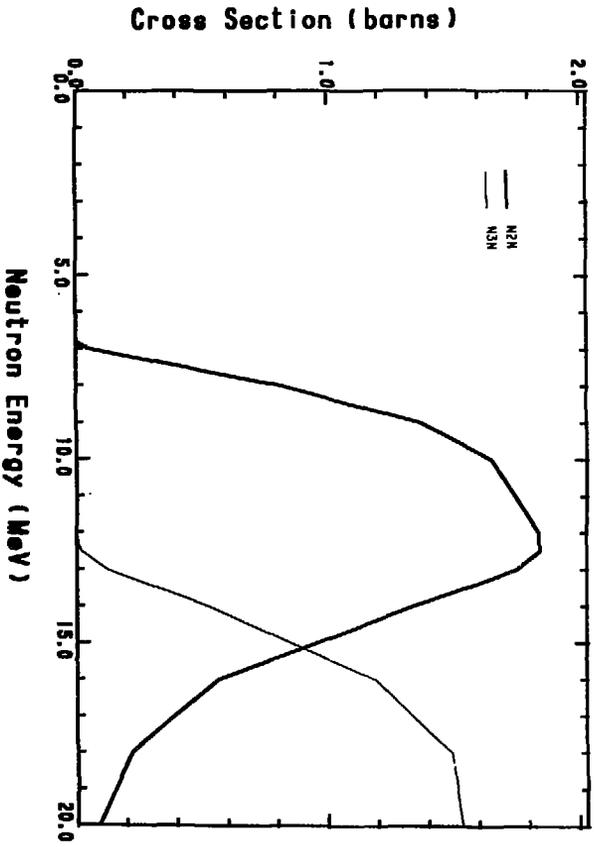
MAT=2902
MT= 18





²³⁰Th
(n, n')

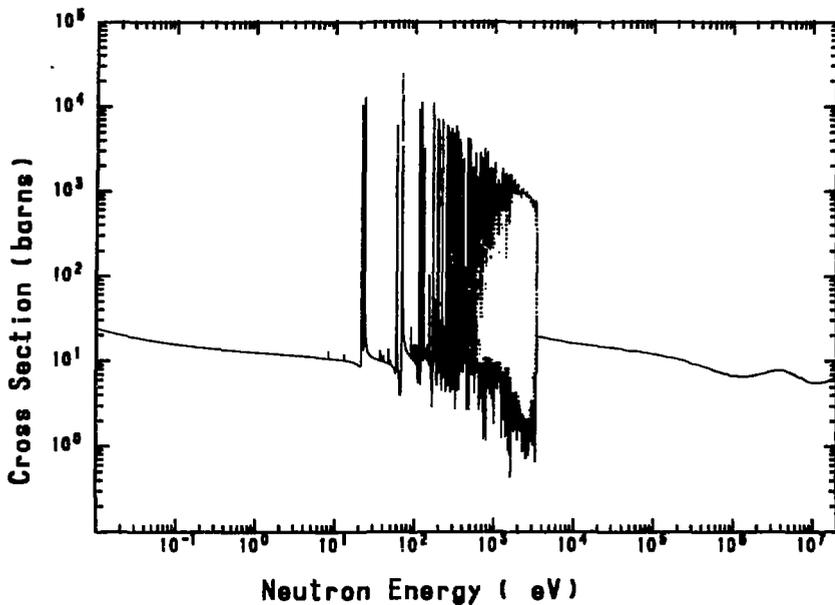
MAT=2902
MT= 4
51~55



²³⁰Th
(n, 2n)
(n, 3n)

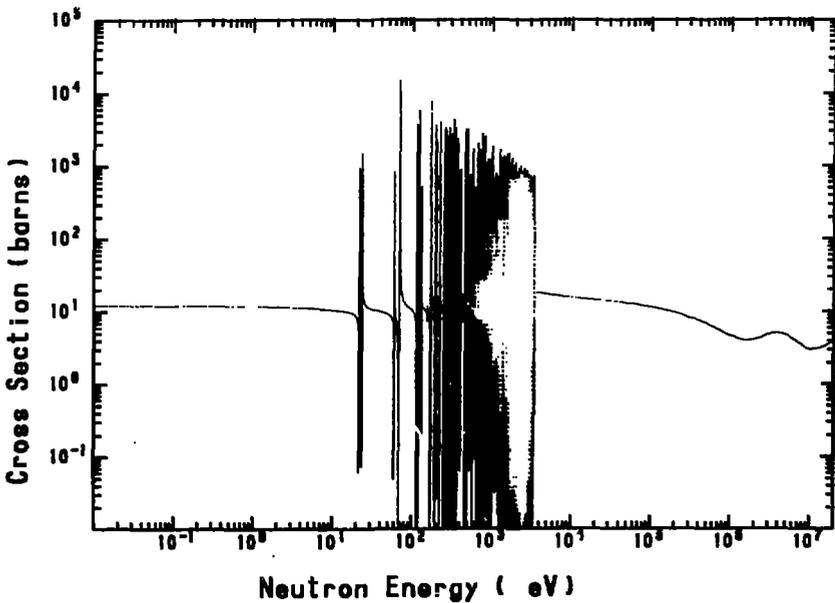
MAT=2902
MT= 16
17

²³²Th
TOTAL



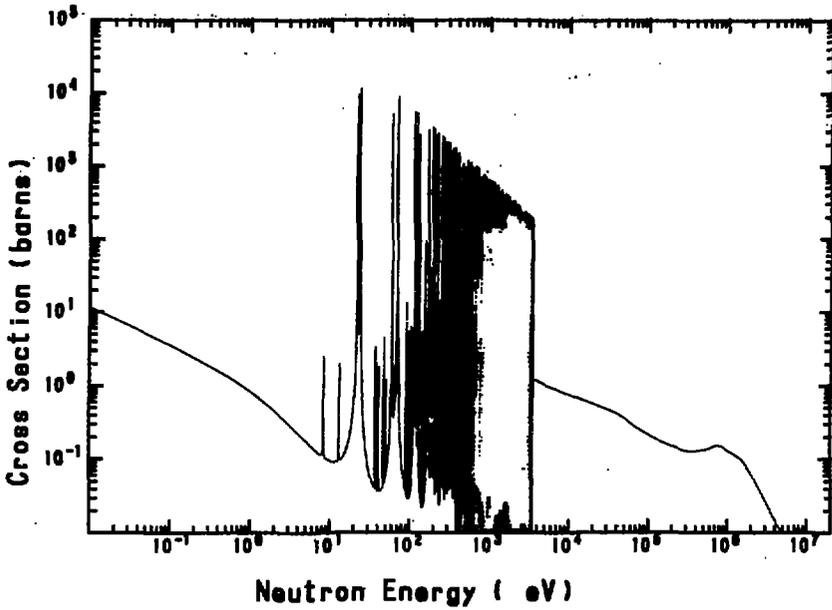
MAT=2903
MT= 1

²³²Th
(n, n)

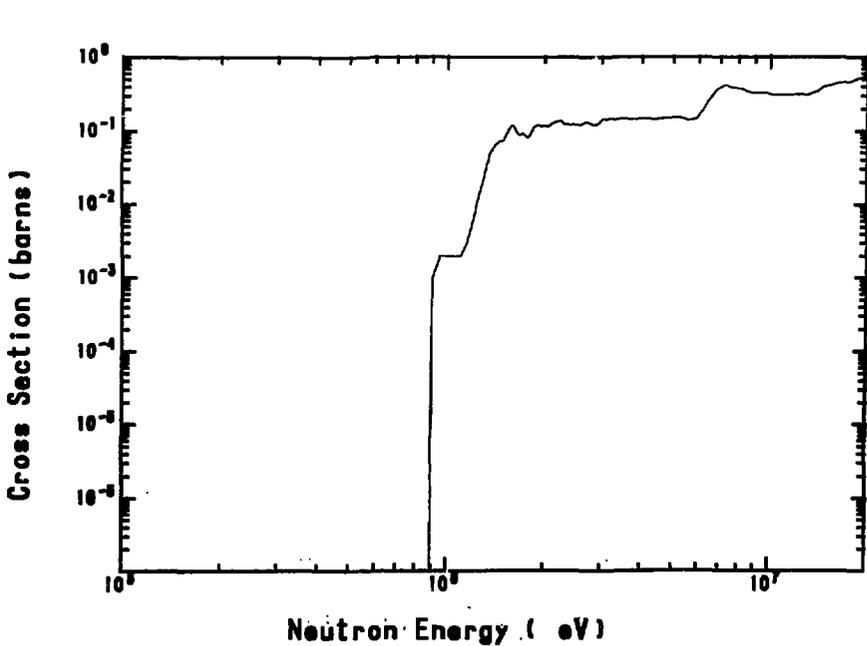


MAT=2903
MT= 2

²³²Th
(n, γ)



MAT=2903
MT= 102



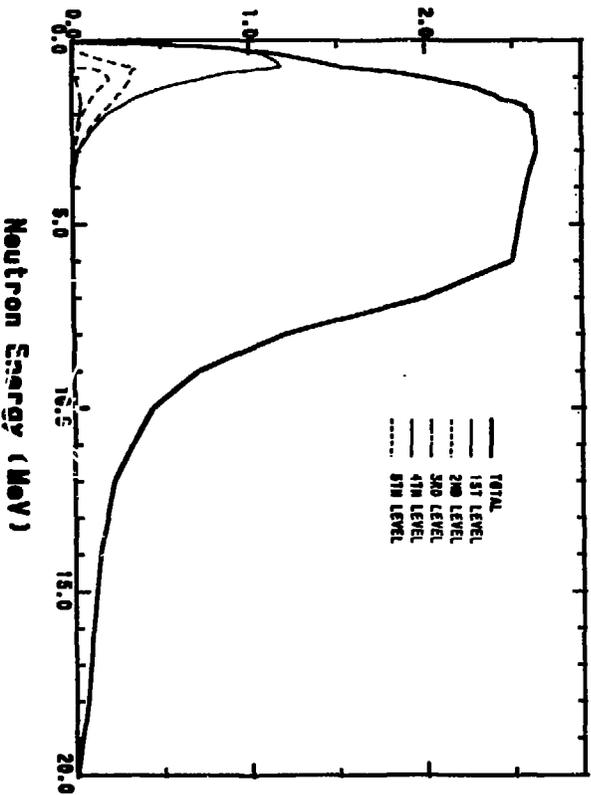
²³²Th
(n, f)

MAT=2903
MT= 18

²³²Th
(n, n')

MAT=2903
MT= 4
51~55

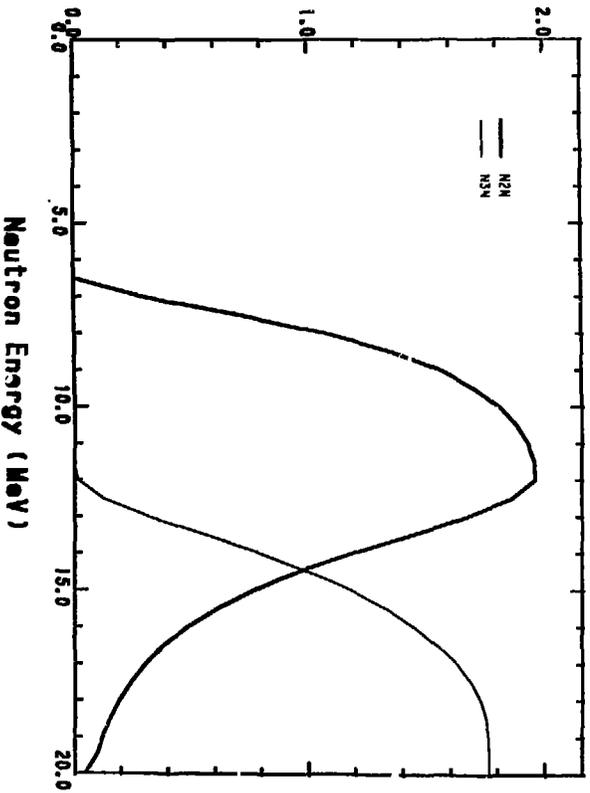
Cross Section (barns)



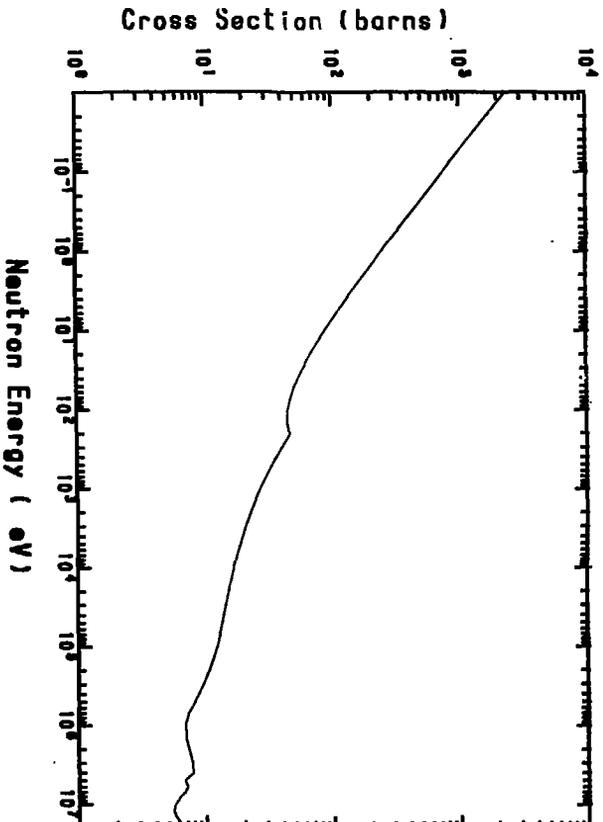
²³²Th
(n, 2n)
(n, 3n)

MAT=2903
MT= 16
17

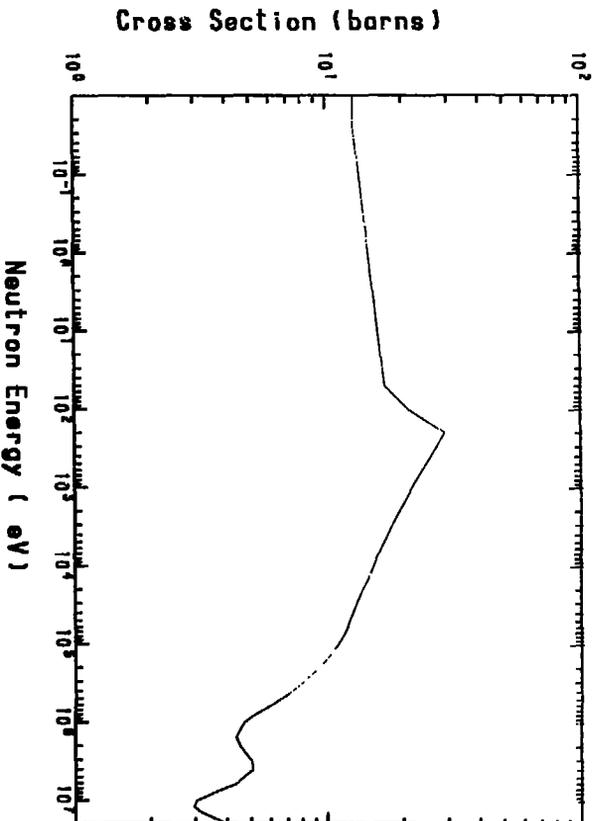
Cross Section.(barns)



²³³Th
TOTAL



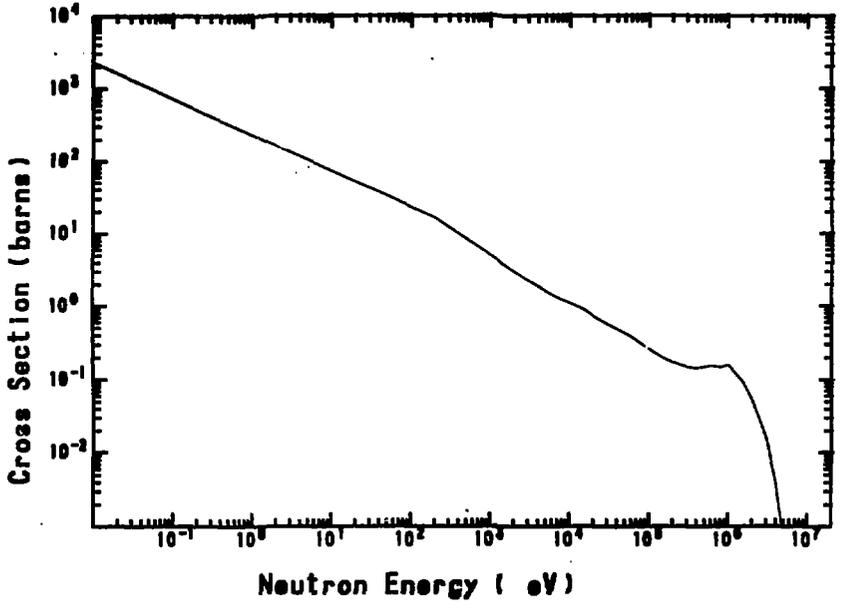
MAT = 2904
MT = 1



²³³Th
(n, n)

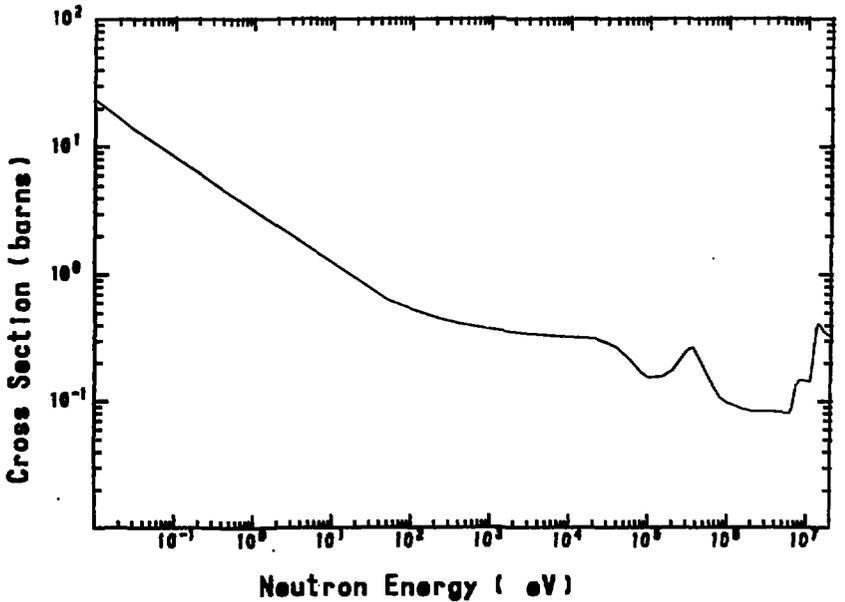
MAT = 2904
MT = 2

²³³Th
(n, γ)

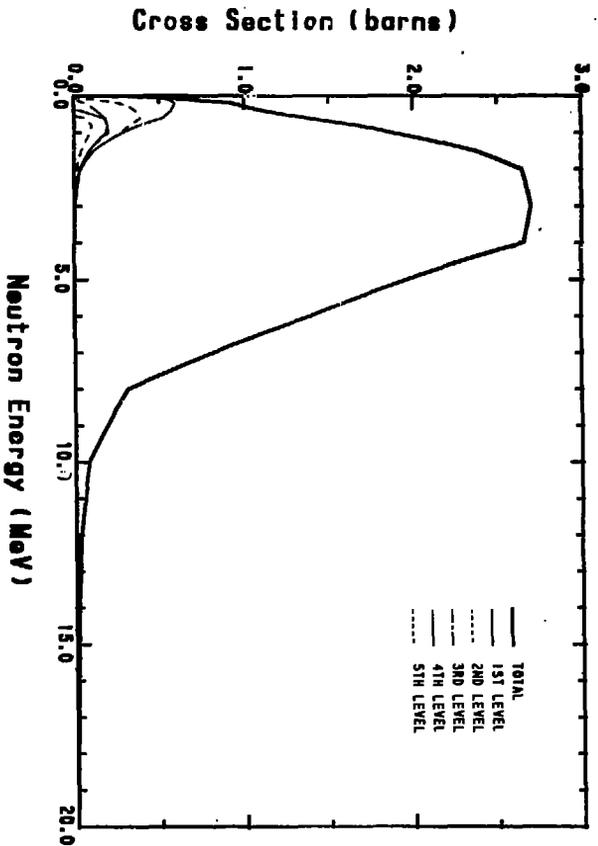


MAT=2904
MT= 102

²³³Th
(n, f)

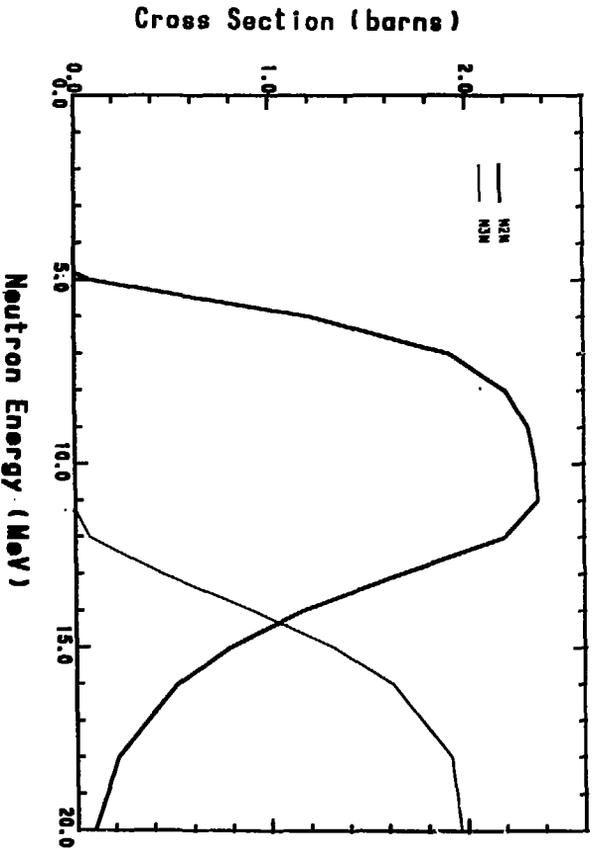


MAT=2904
MT= 18



²³³Th
(n, n')

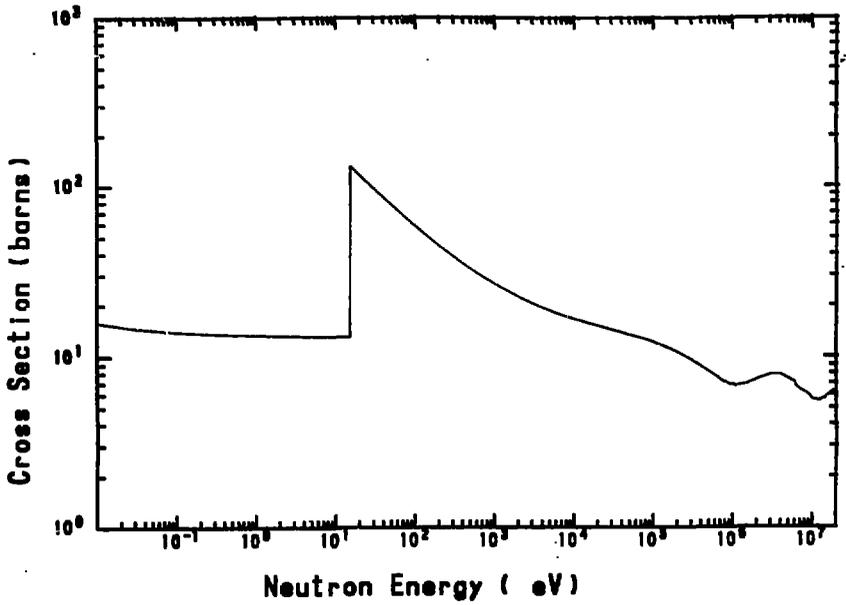
MAT=2904
 MT= 4
 51~55



²³³Th
(n, 2n)
(n, 3n)

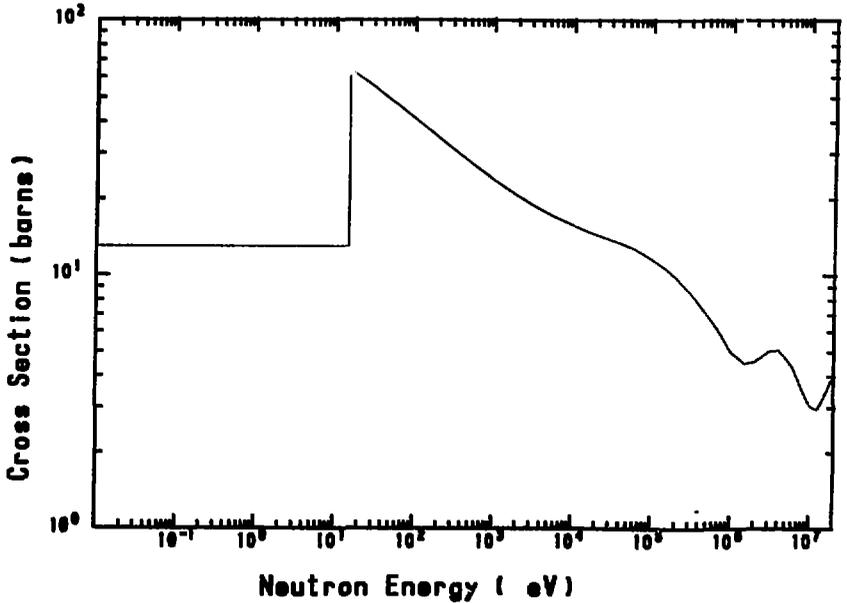
MAT=2904
 MT= 16
 17

²³⁴Th
TOTAL

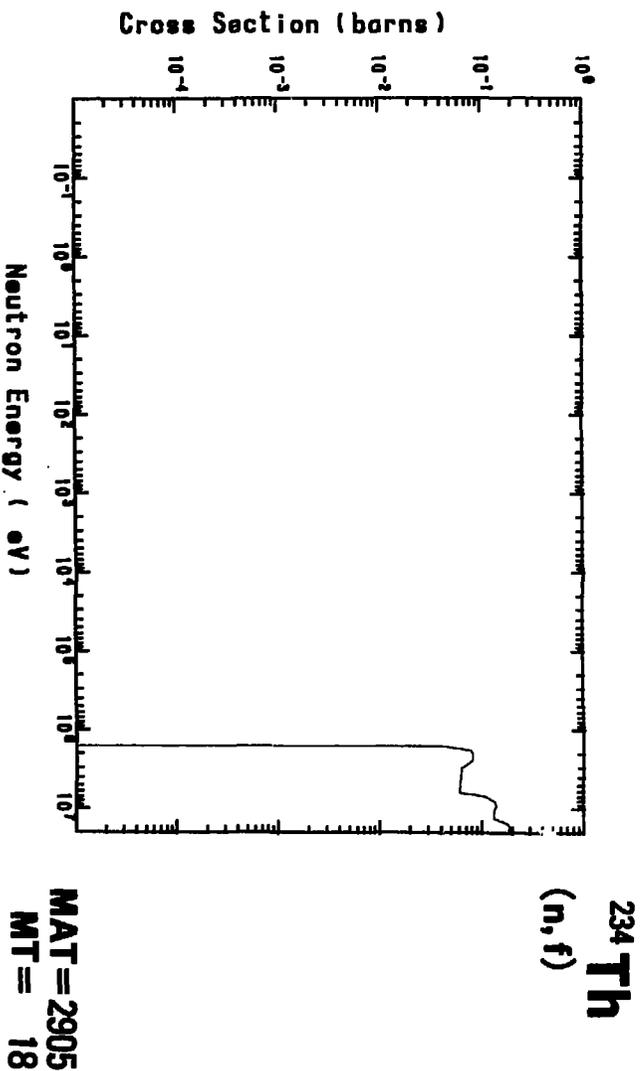
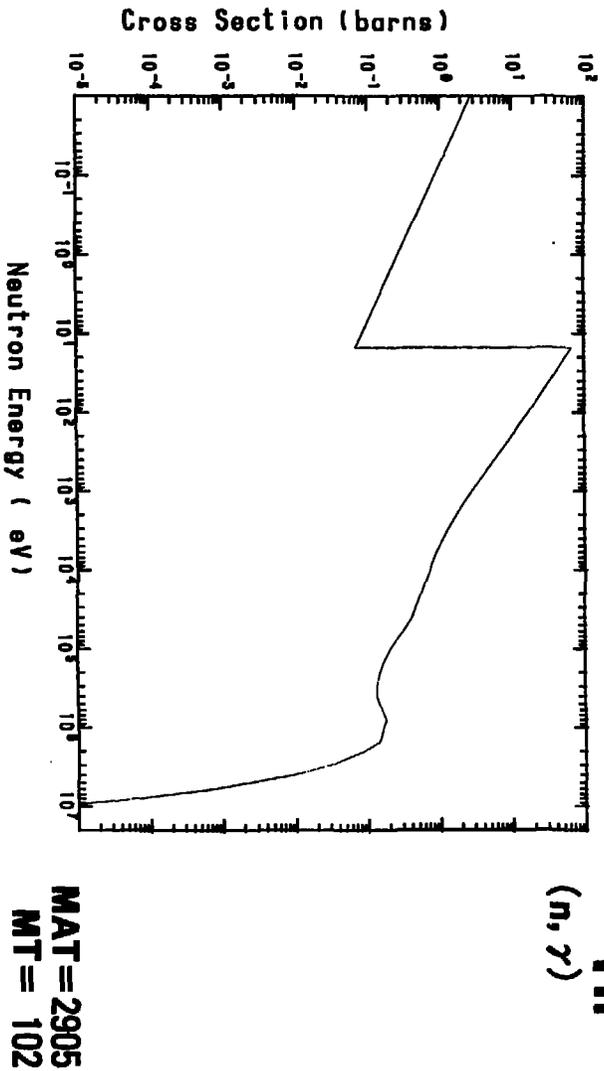


MAT=2905
MT= 1

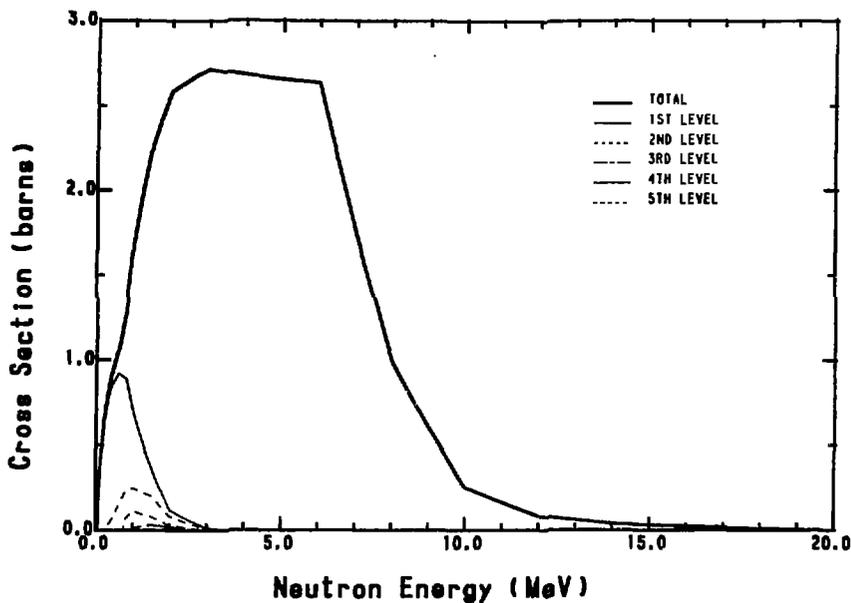
²³⁴Th
(n, n)



MAT=2905
MT= 2

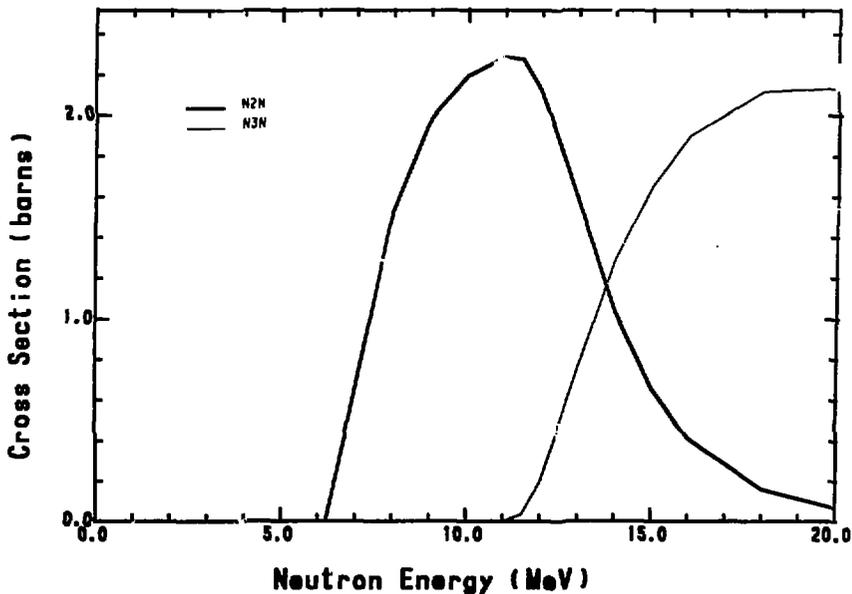


^{234}Th
(n, n')

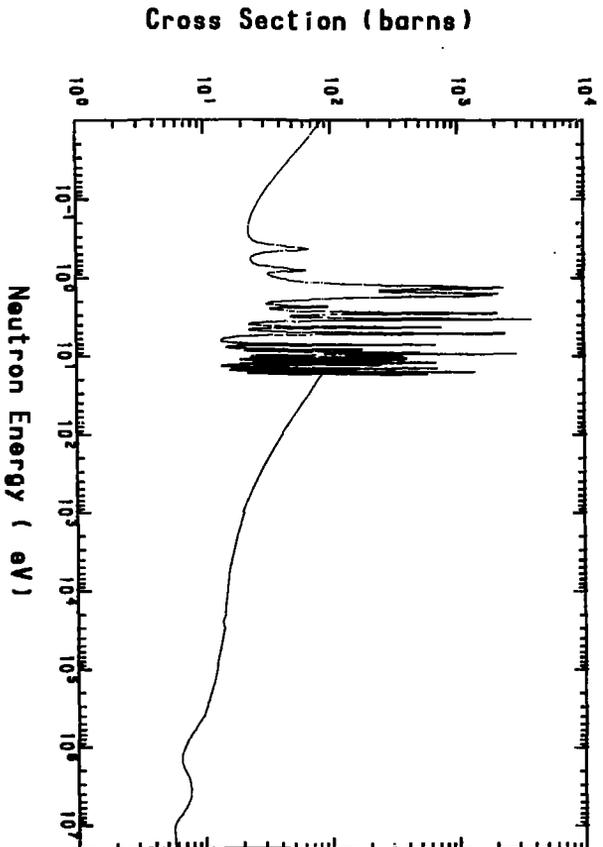


MAT=2905
MT= 4
51~55

^{234}Th
(n, 2n)
(n, 3n)

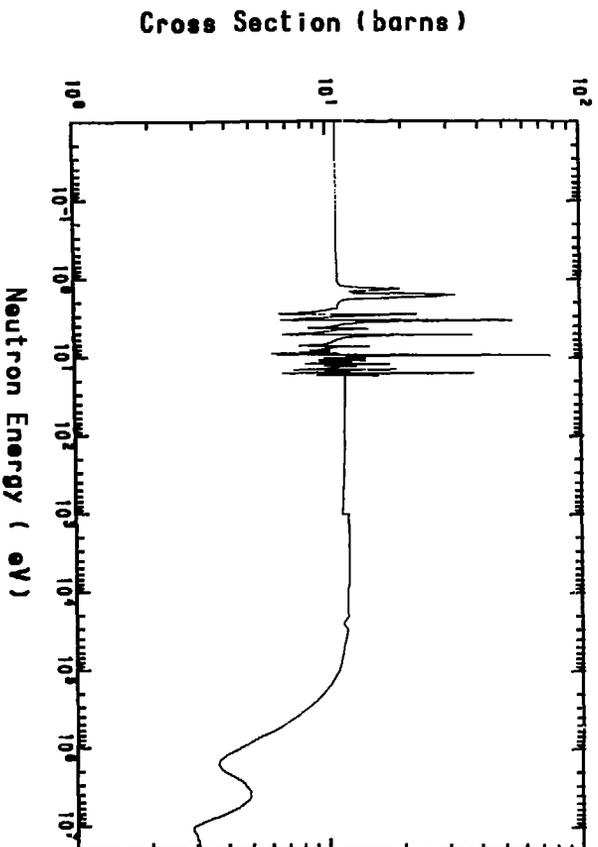


MAT=2905
MT= 16
17



233 Pa
TOTAL

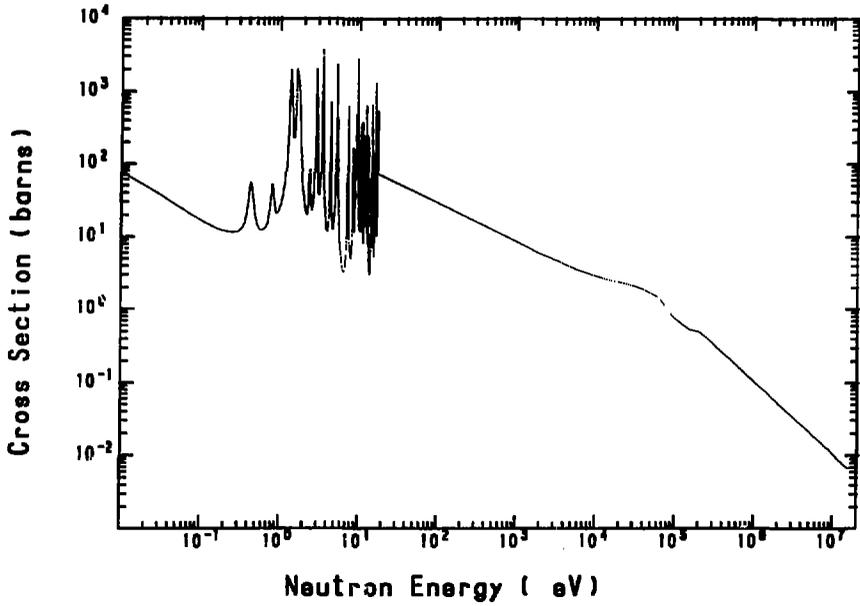
MAT=2911
MT= 1



233 Pa
(n,n)

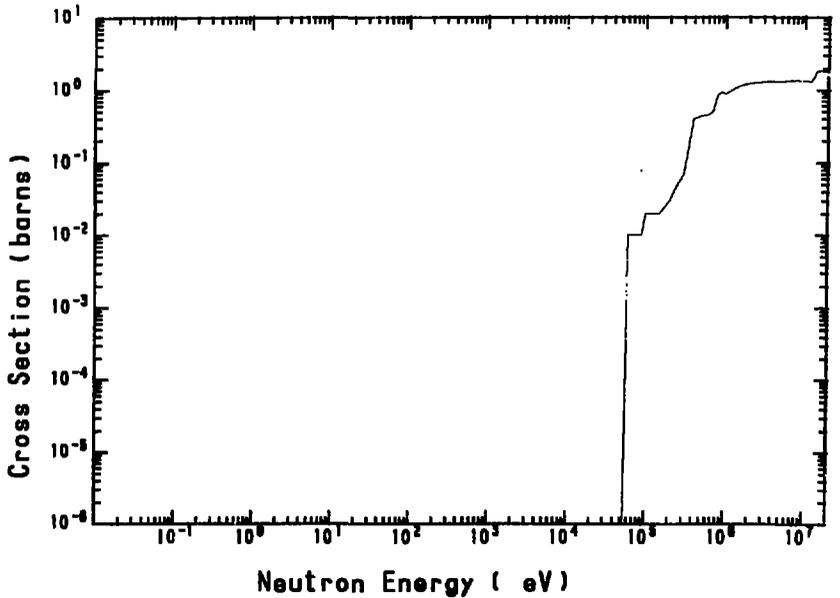
MAT=2911
MT= 2

²³³Pa
(n, γ)

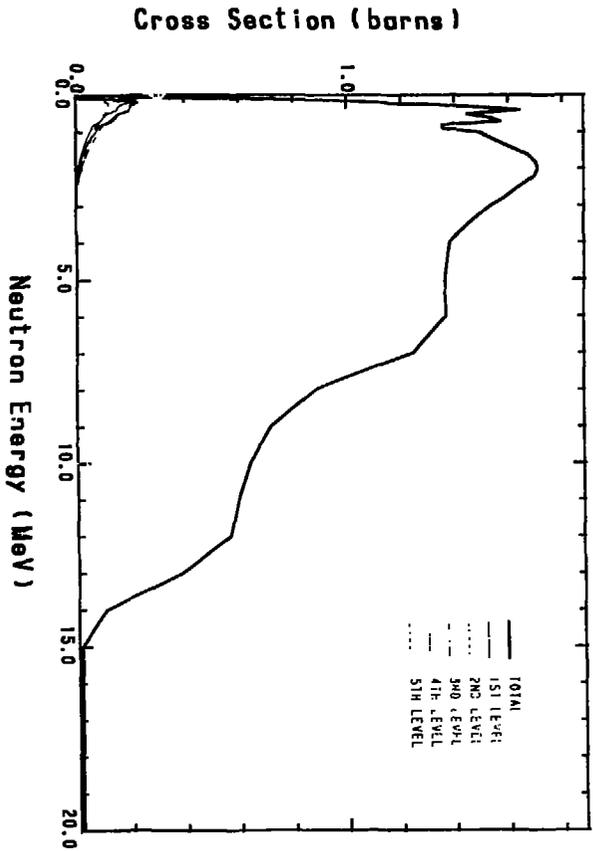


MAT=2911
MT= 102

²³³Pa
(n, f)

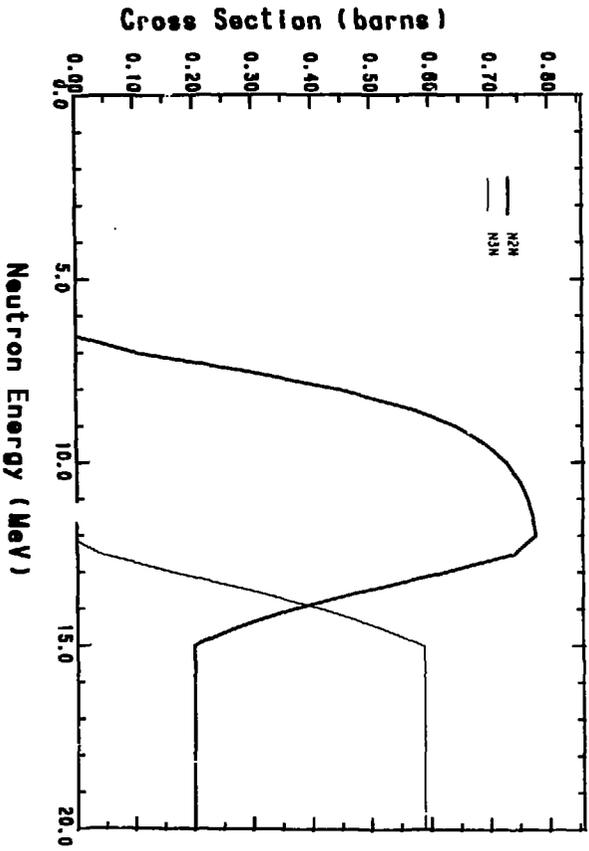


MAT=2911
MT= 18



233 Pa
(n, n')

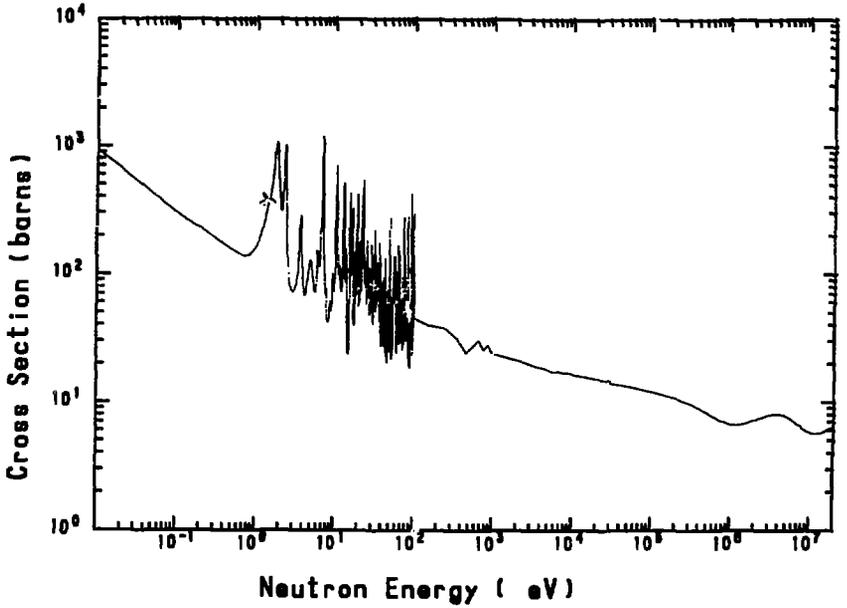
MAT=2911
MT= 4
51~55



233 Pa
(n, 2n)
(n, 3n)

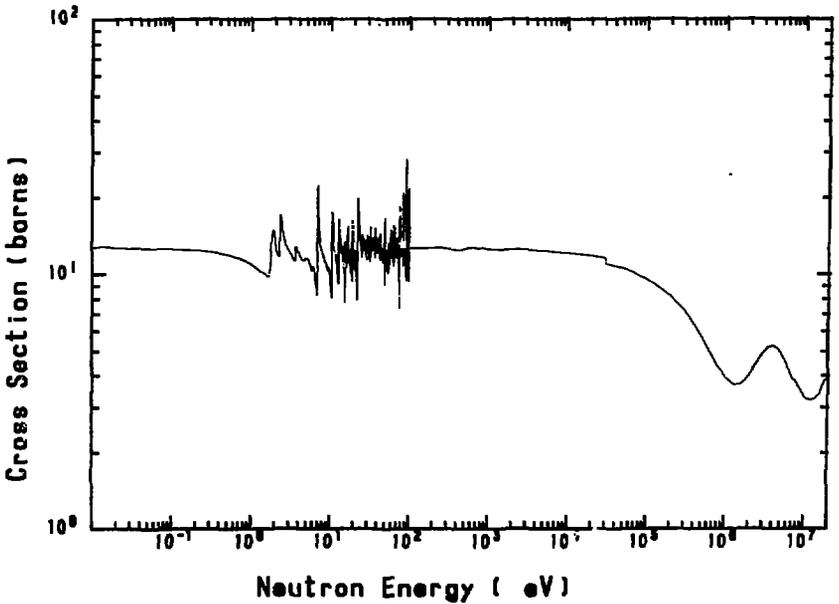
MAT=2911
MT= 16
17

²³³U
TOTAL



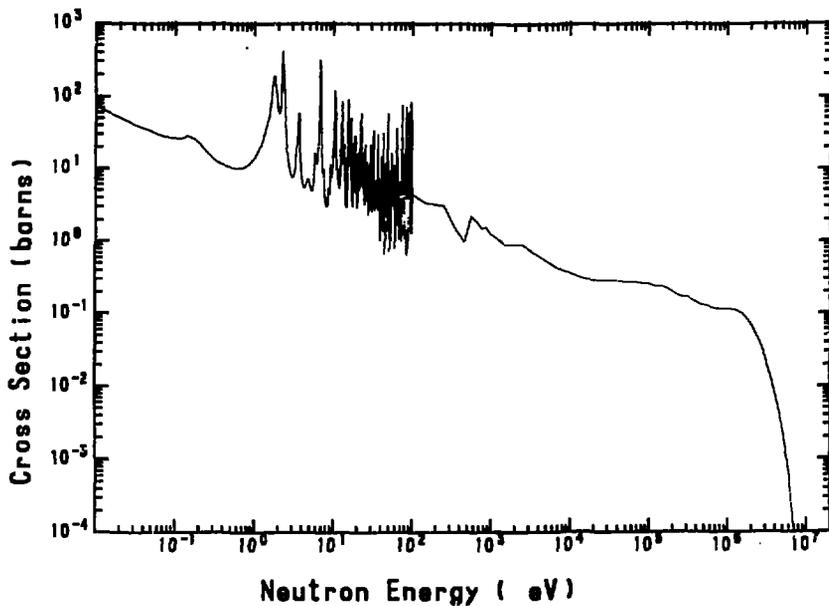
MAT=2921
MT= 1

²³³U
(n, n)



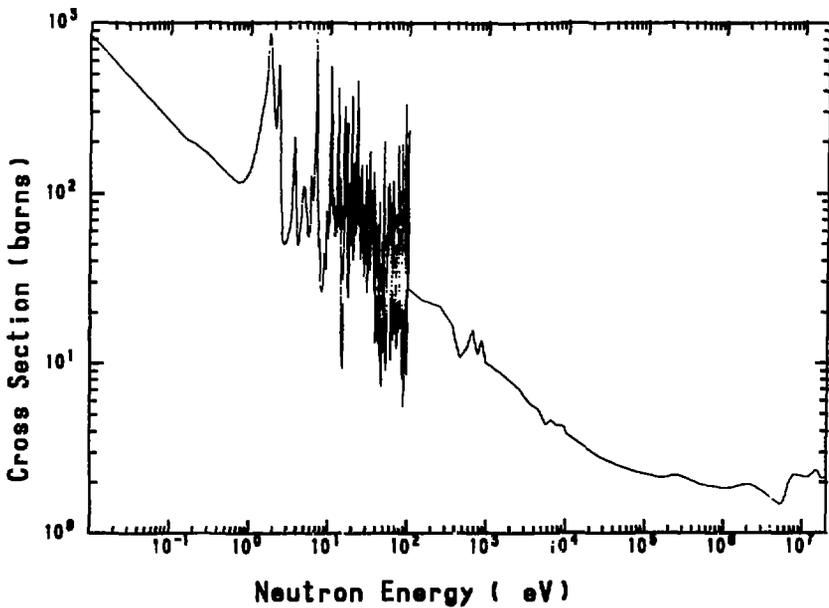
MAT=2921
MT= 2

^{233}U
(n, γ)



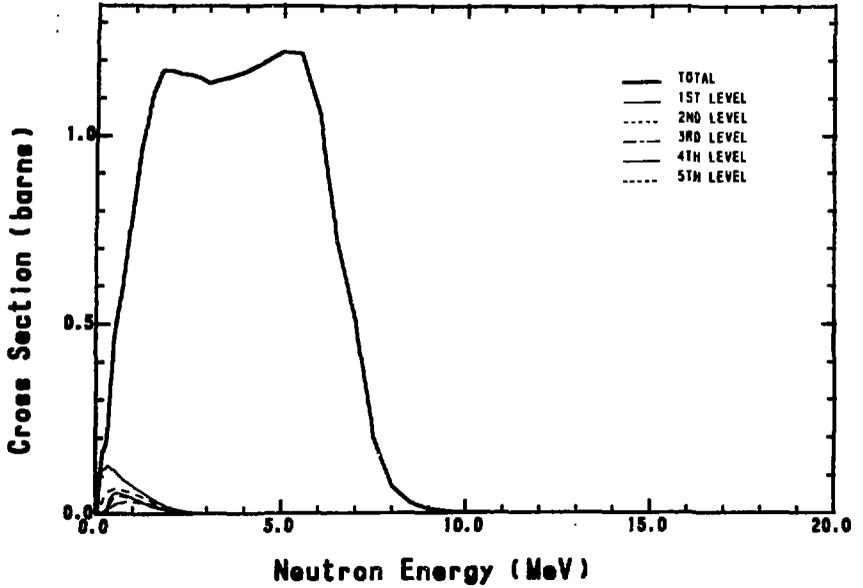
MAT=2921
MT= 102

^{233}U
(n, f)



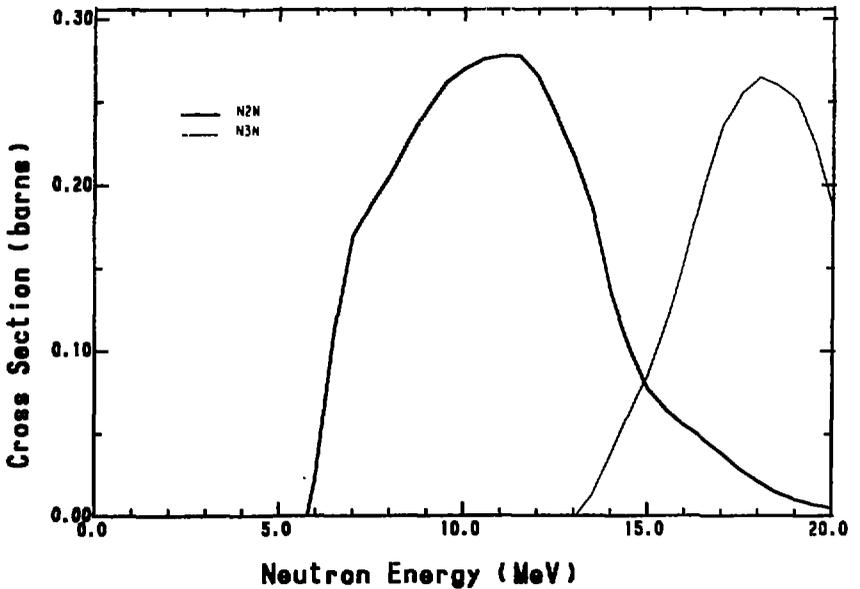
MAT=2921
MT= 18

²³³U
(n, n')

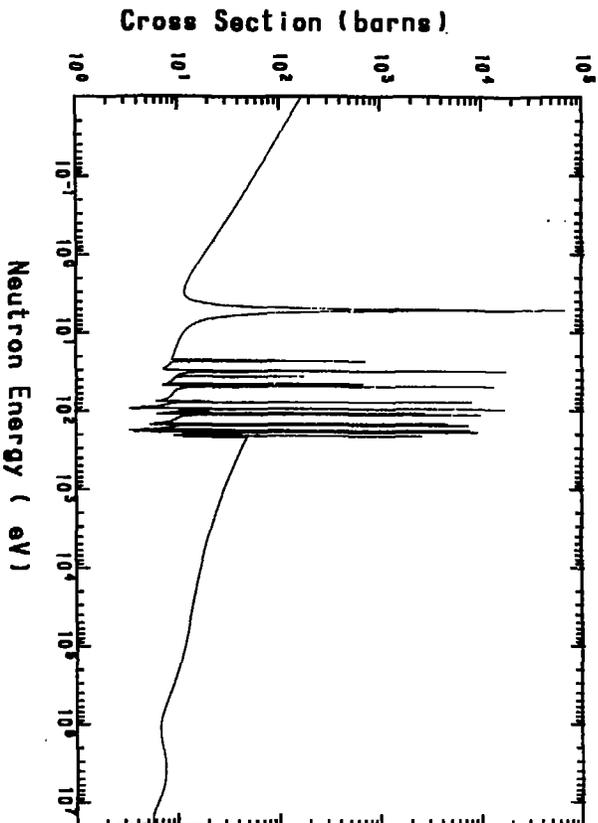


MAT=2921
 MT= 4
 51~55

²³³U
(n, 2n)
(n, 3n)

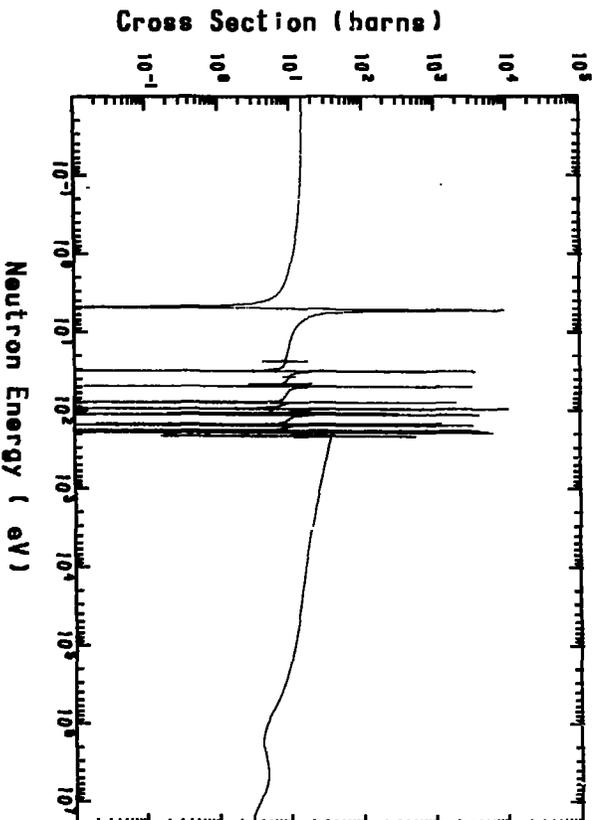


MAT=2921
 MT= 16
 17



²³⁴U
TOTAL

MAT=2922
MT= 1

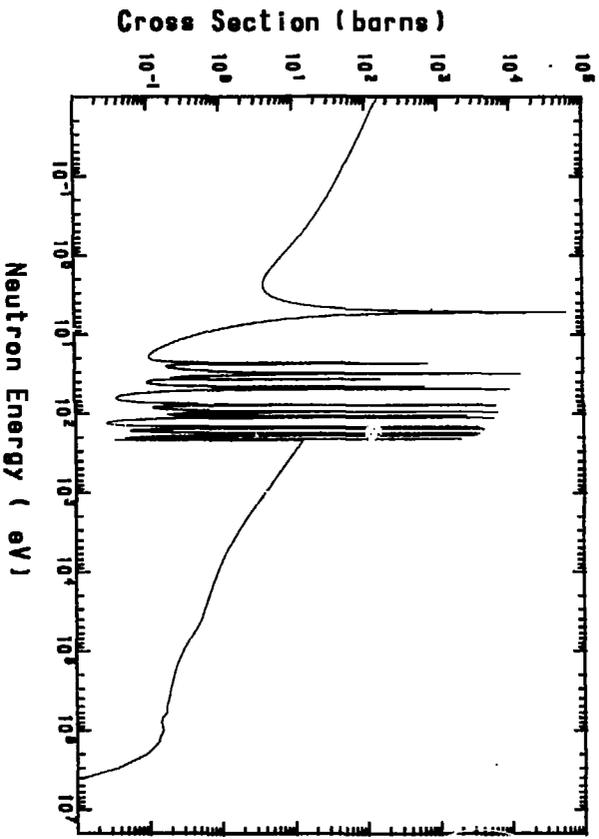


²³⁴U
(n, n)

MAT=2922
MT= 2

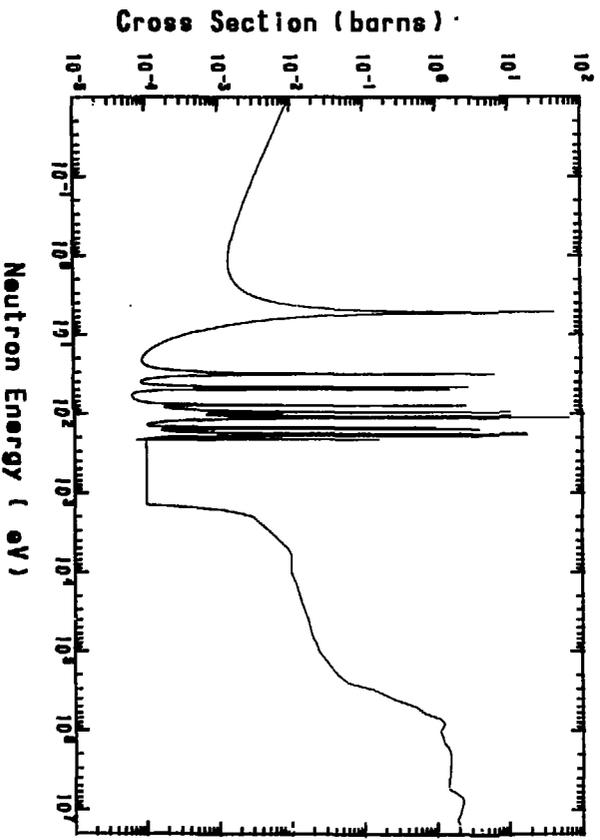
²³⁴U
(n, γ)

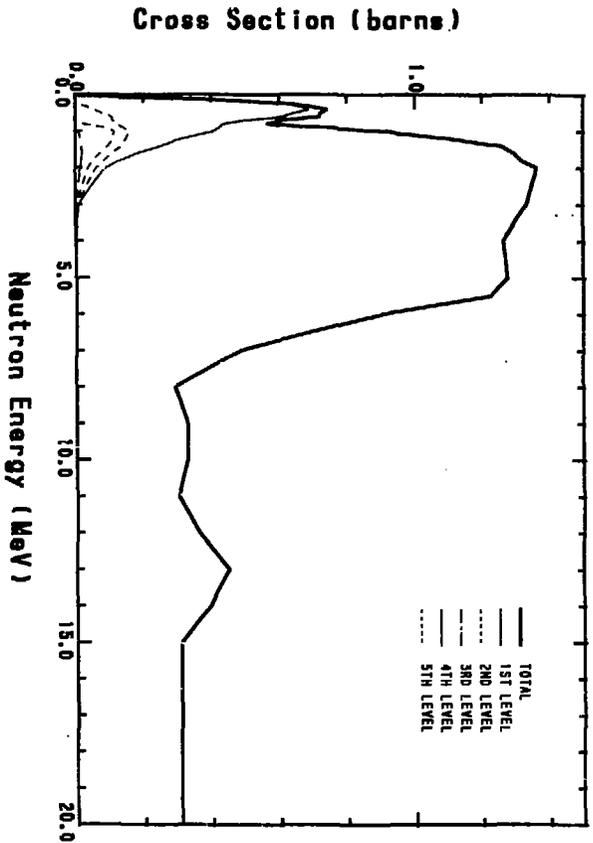
MAT=2922
MT= 102



²³⁴U
(n, f)

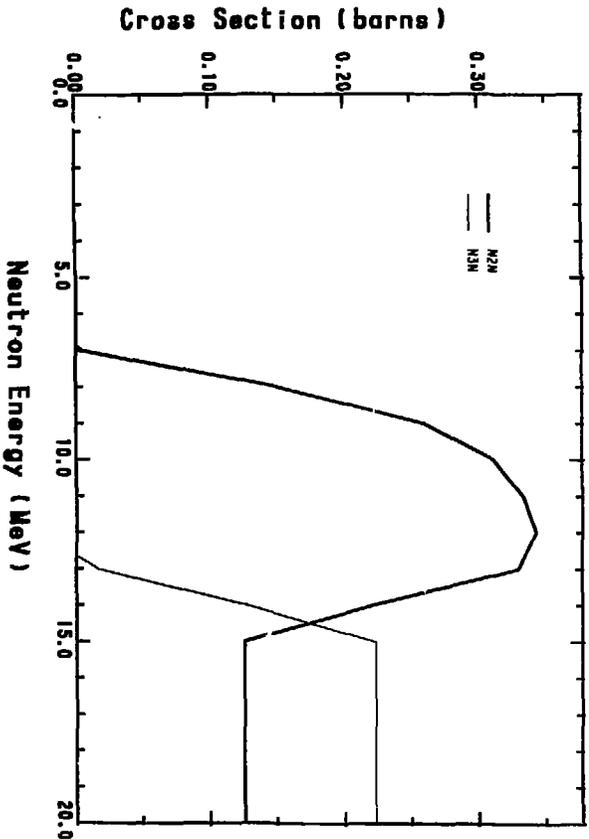
MAT=2922
MT= 18





234 U
(n, n')

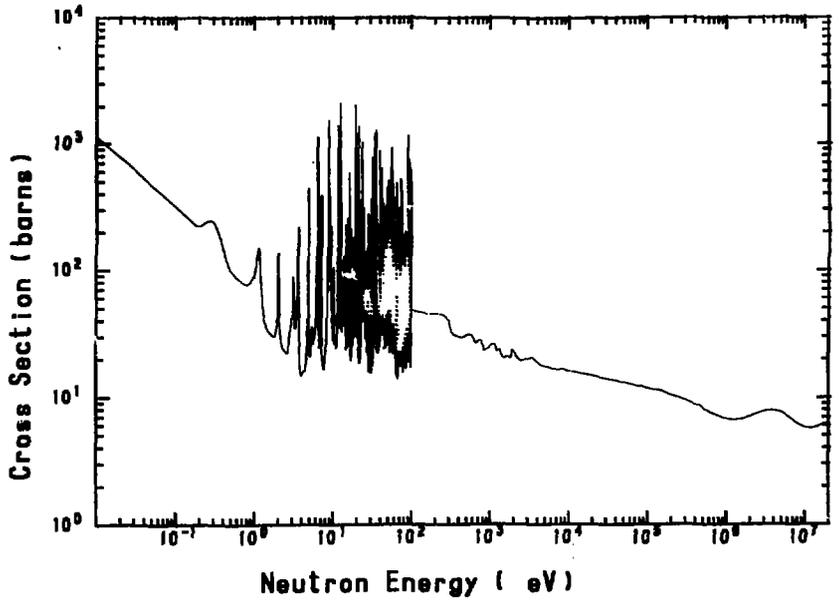
MAT=2922
MT= 4
51~55



234 U
(n, 2n)
(n, 3n)

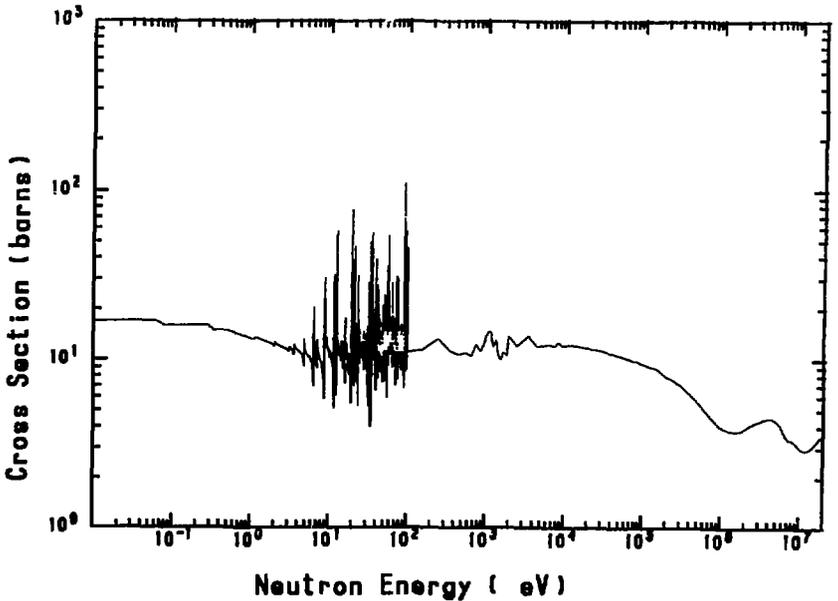
MAT=2922
MT= 16
17

²³⁵U
TOTAL



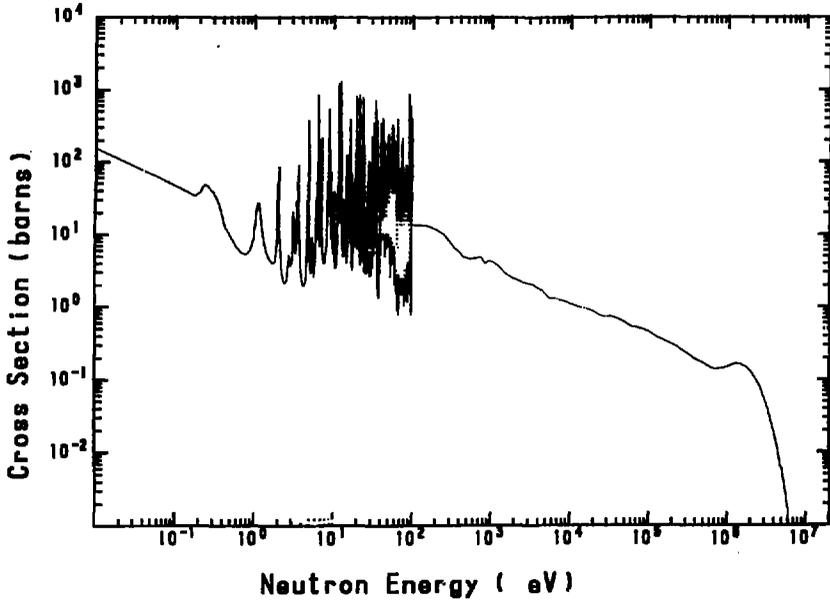
MAT=2923
MT= 1

²³⁵U
(n, n)



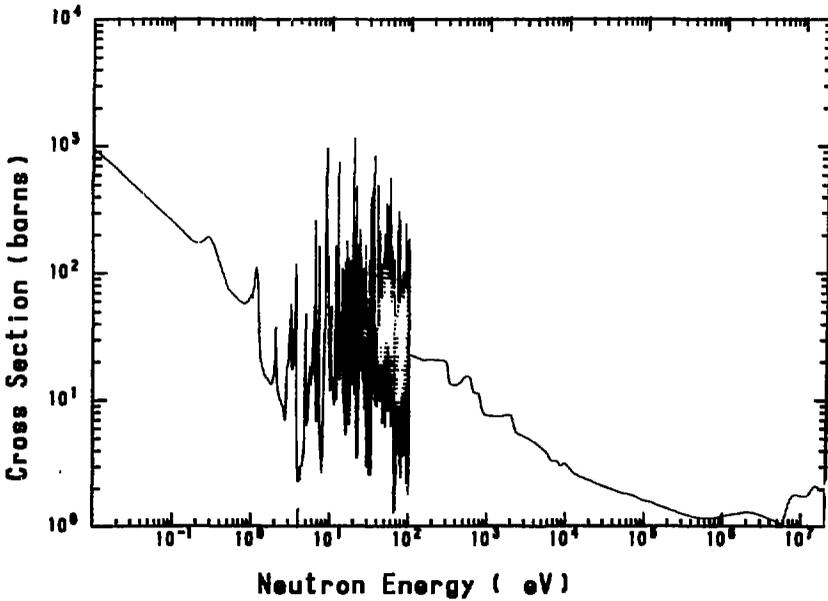
MAT=2923
MT= 2

²³⁵U
(n, γ)



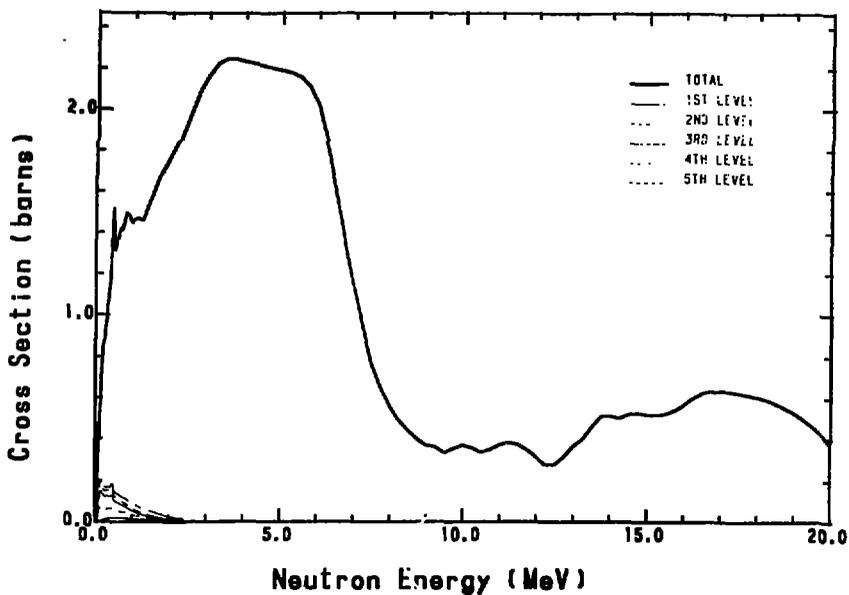
MAT=2923
MT= 102

²³⁵U
(n, f)



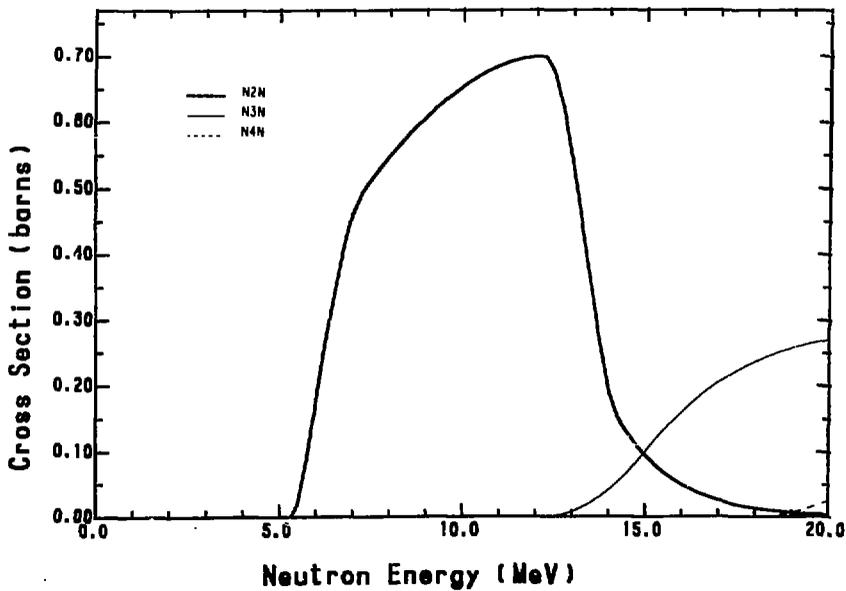
MAT=2923
MT= 18

^{235}U
(n, n')



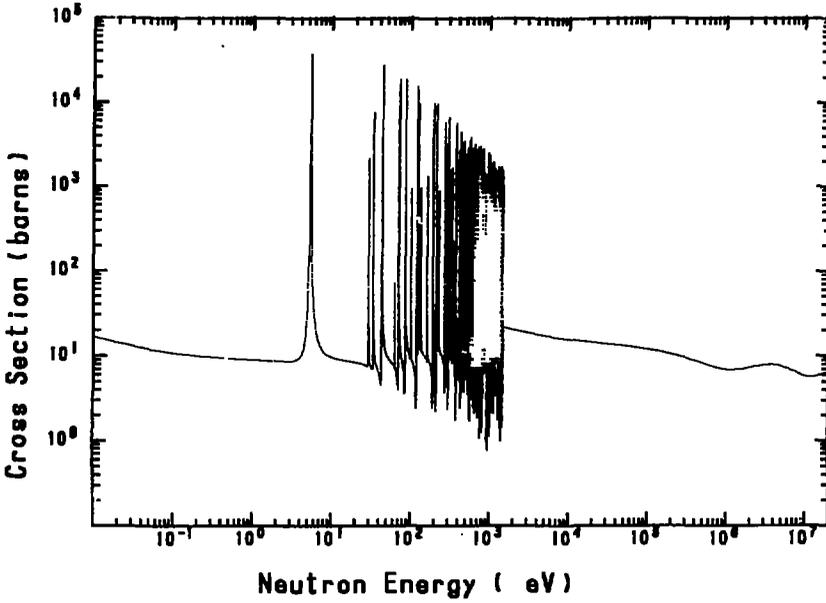
MAT=2923
MT= 4
51~55

^{235}U
(n, 2n)
(n, 3n)
(n, 4n)

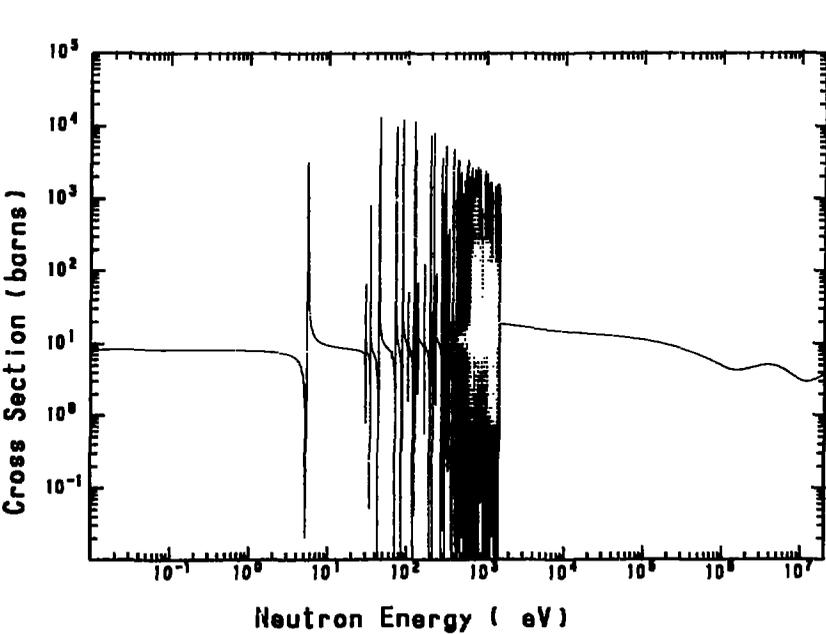


MAT=2923
MT= 16
17
37

²³⁶U
TOTAL



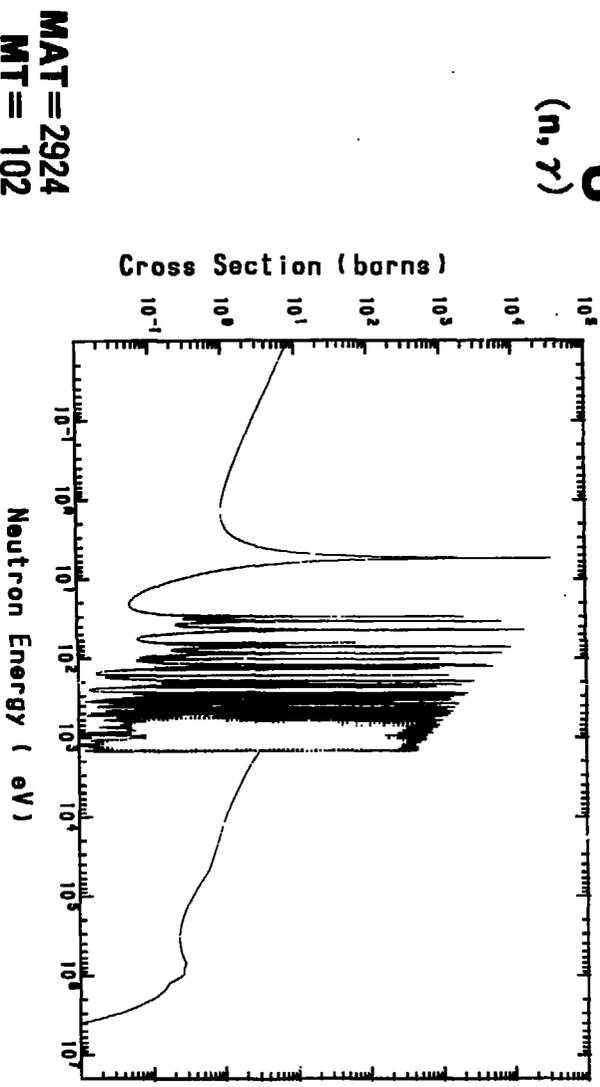
MAT=2924
MT= 1



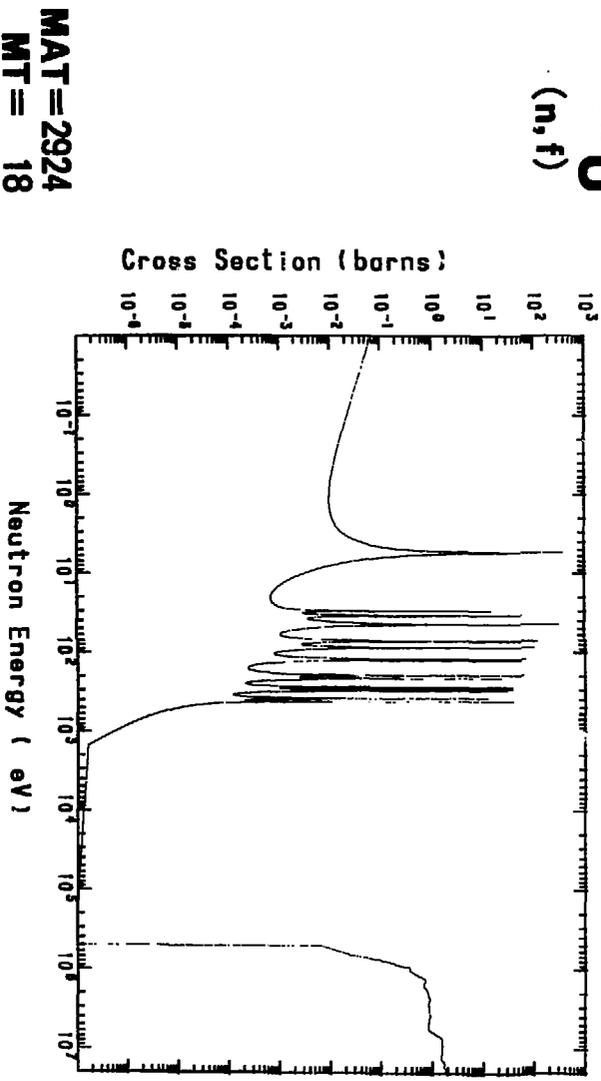
²³⁶U
(n, n)

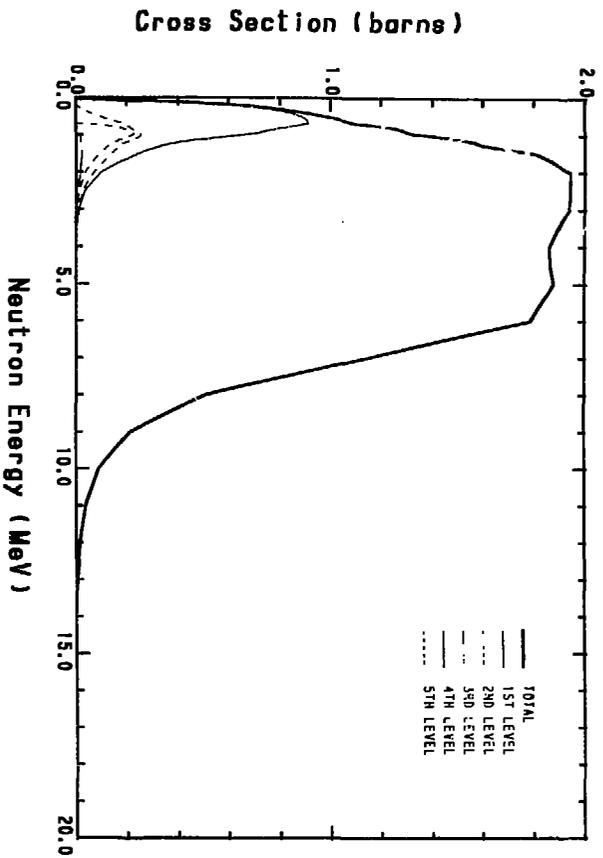
MAT=2924
MT= 2

²³⁶U
(n, γ)



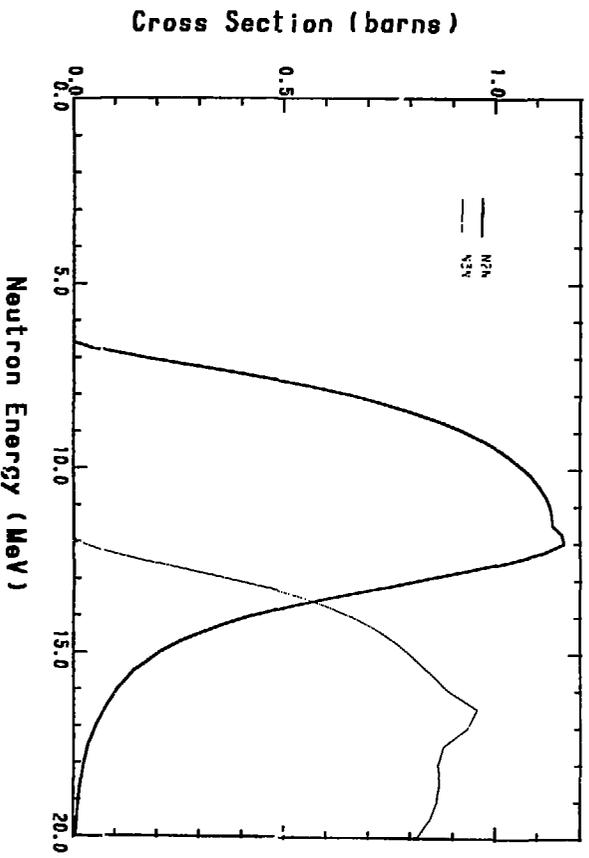
²³⁶U
(n, f)





236 U
(n, n')

MAT = 2924
MT = 4
51~55

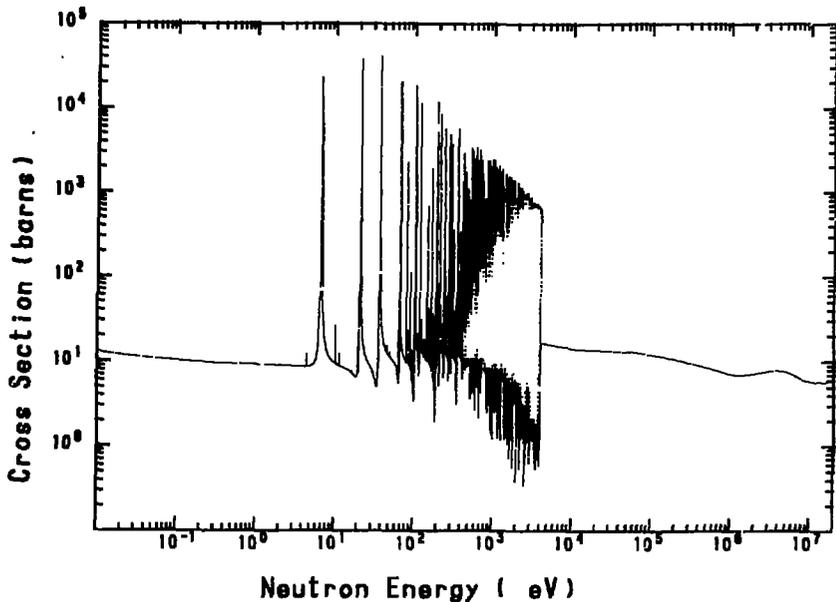


236 U

(n, 2n)
(n, 3n)

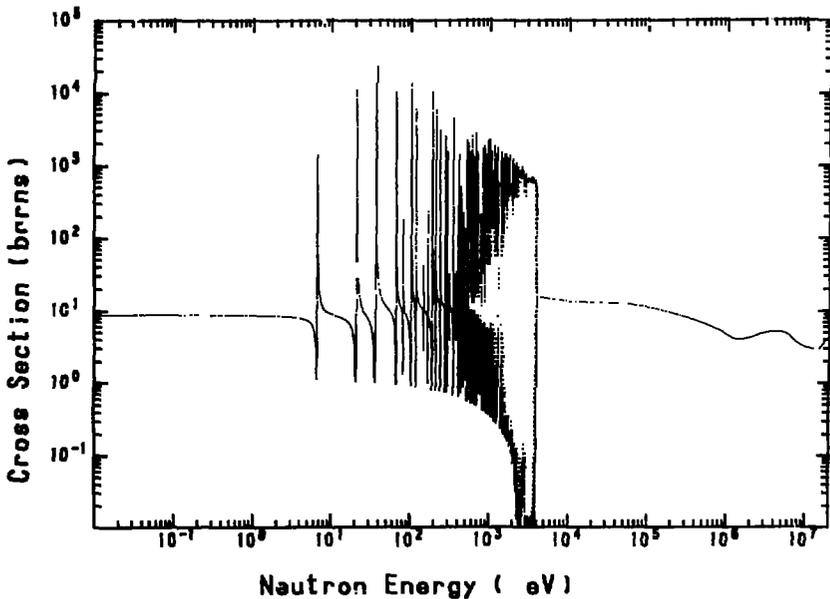
MAT = 2924
MT = 16
17

²³⁸U
TOTAL



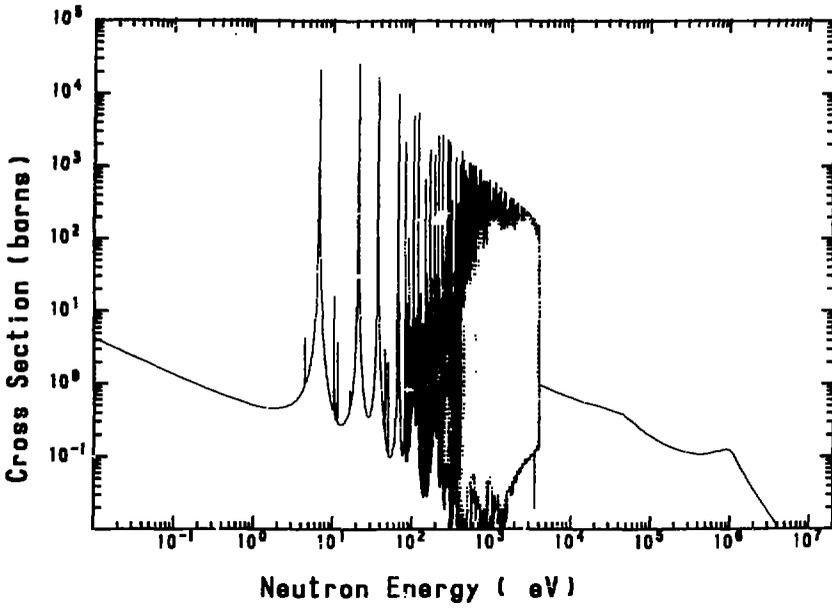
MAT=2925
MT= 1

²³⁸U
(n, n)



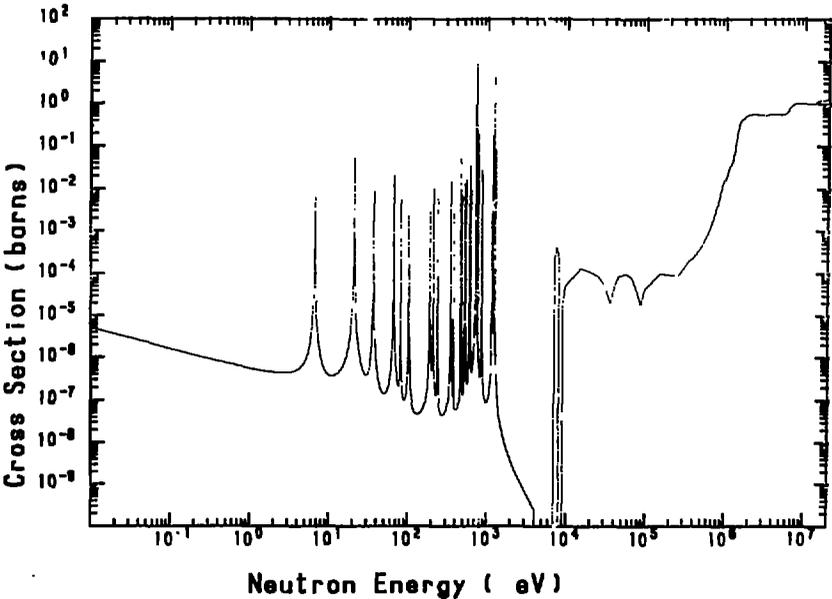
MAT=2925
MT= 2

^{238}U
(n, γ)



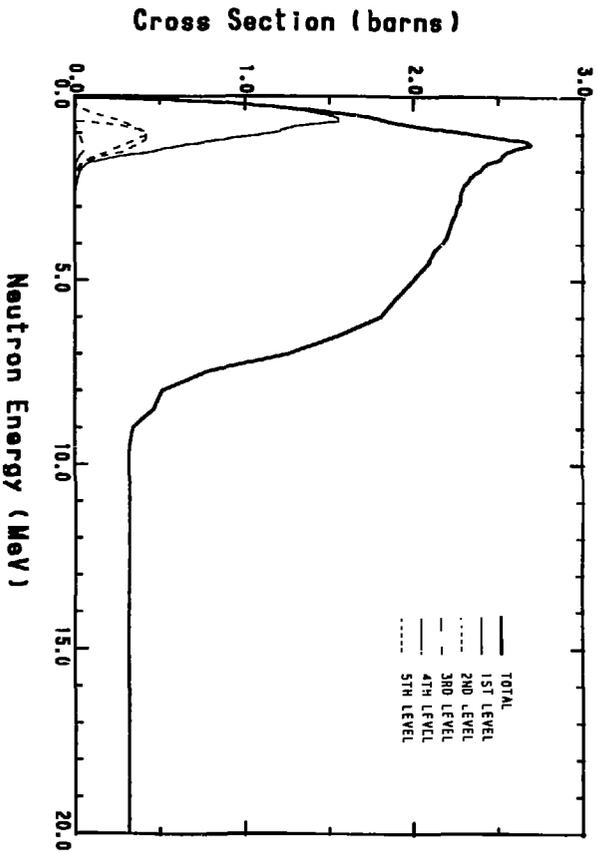
MAT=2925
MT= 102

^{238}U
(n, f)



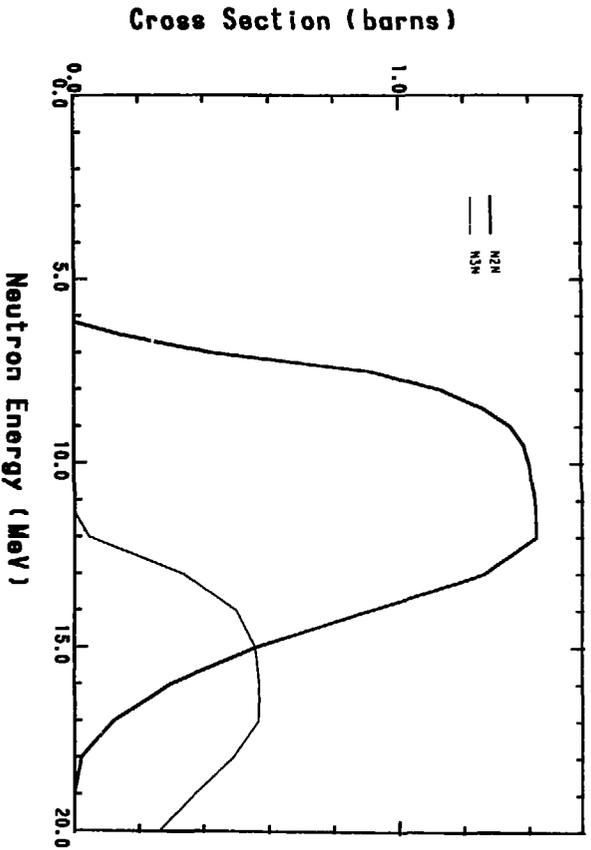
MAT=2925
MT= 18

²³⁸U
(n, n')



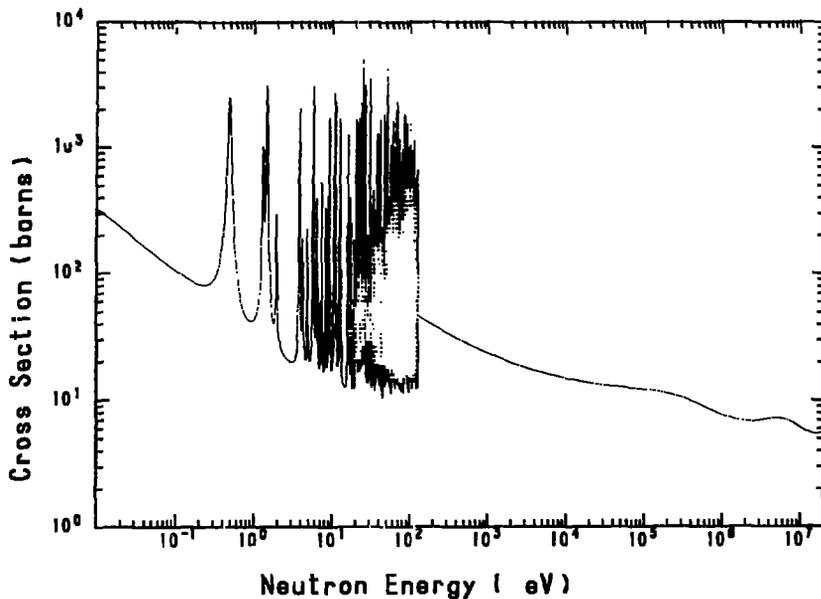
MAT=2925
MT= 4
51~55

²³⁸U
(n, 2n)
(n, 3n)



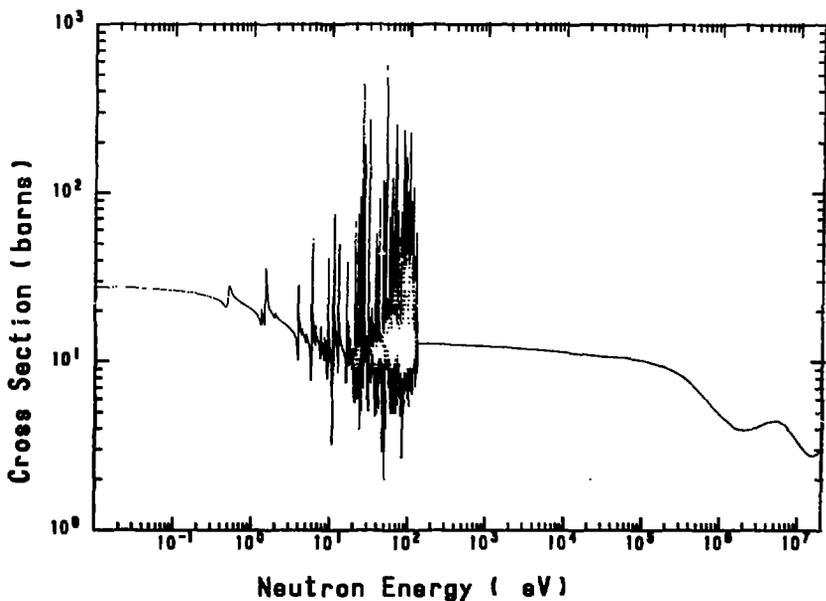
MAT=2925
MT= 16
17

²³⁷Np
TOTAL



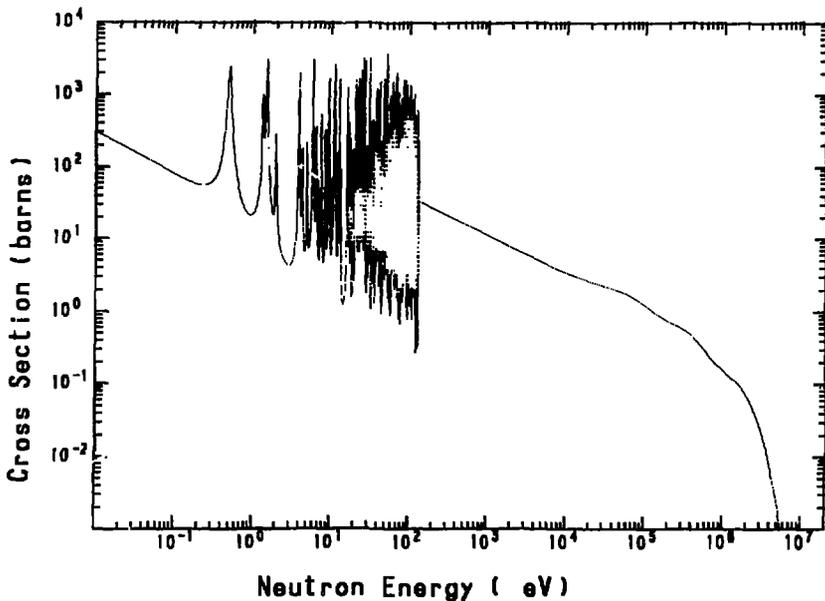
MAT=2931
MT= 1

²³⁷Np
(n, n)



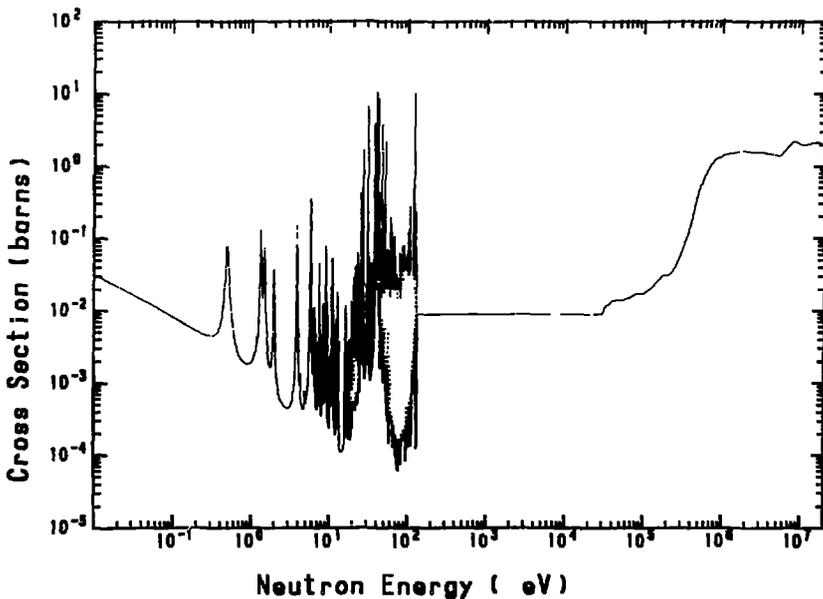
MAT=2931
MT= 2

²³⁷Np
(n, γ)



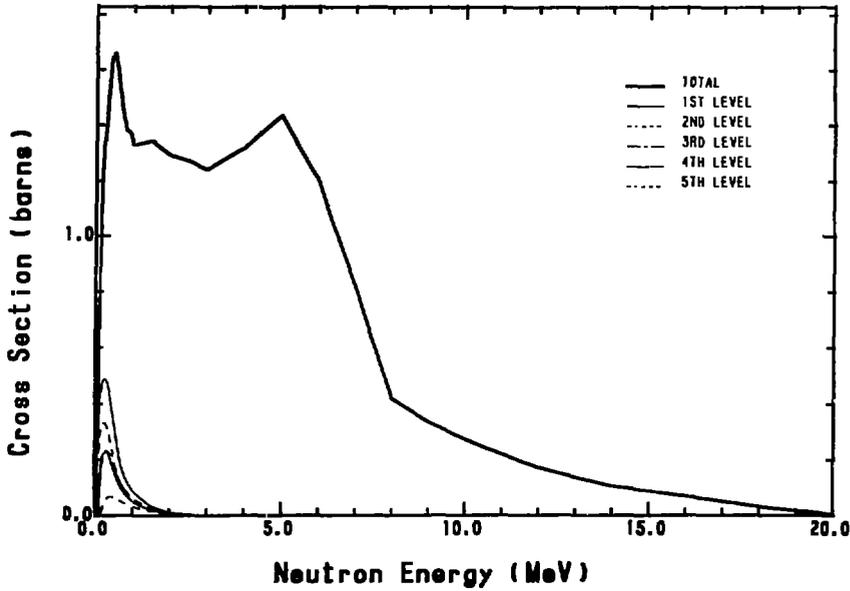
MAT=2931
MT= 102

²³⁷Np
(n, f)



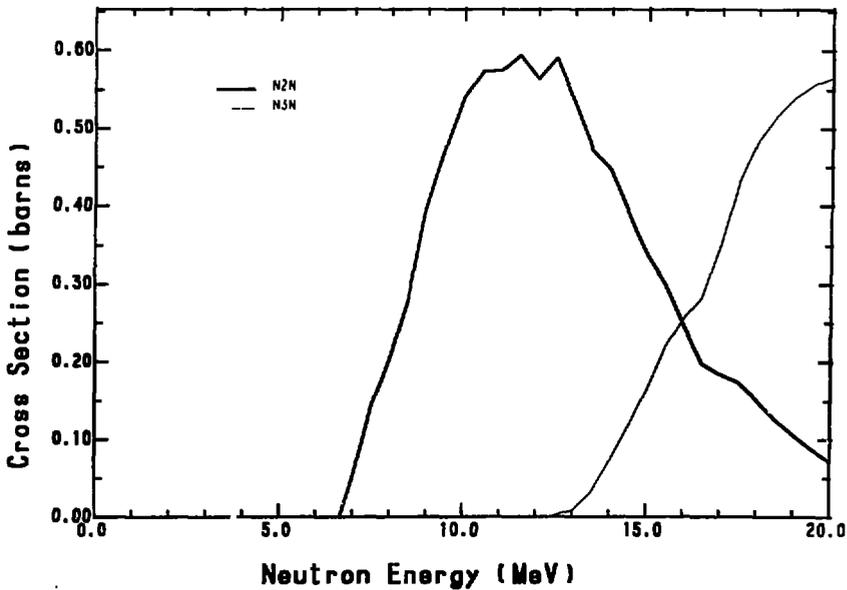
MAT=2931
MT= 18

²³⁷Np
(n, n')



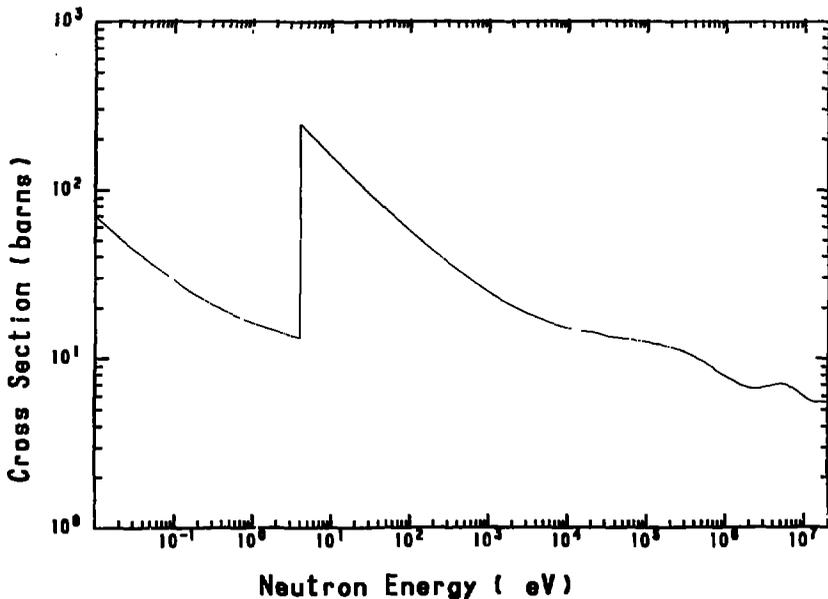
MAT=2931
MT= 4
51~55

²³⁷Np
(n, 2n)
(n, 3n)



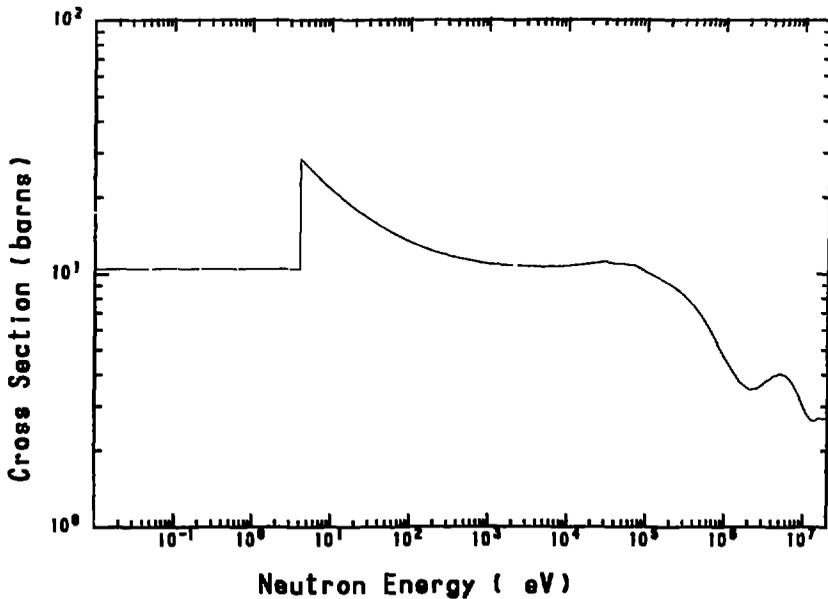
MAT=2931
MT= 16
17

²³⁹Np
TOTAL

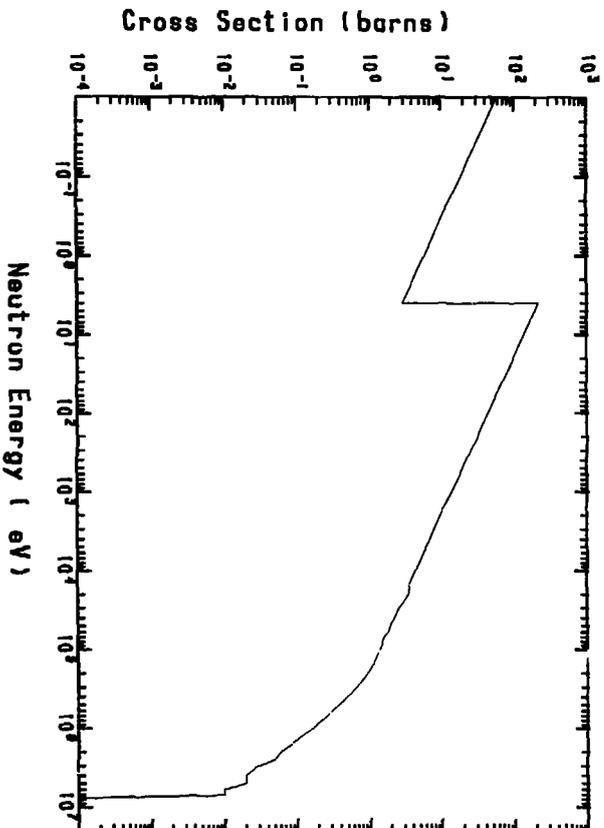


MAT=2932
MT= 1

²³⁹Np
(n, n)

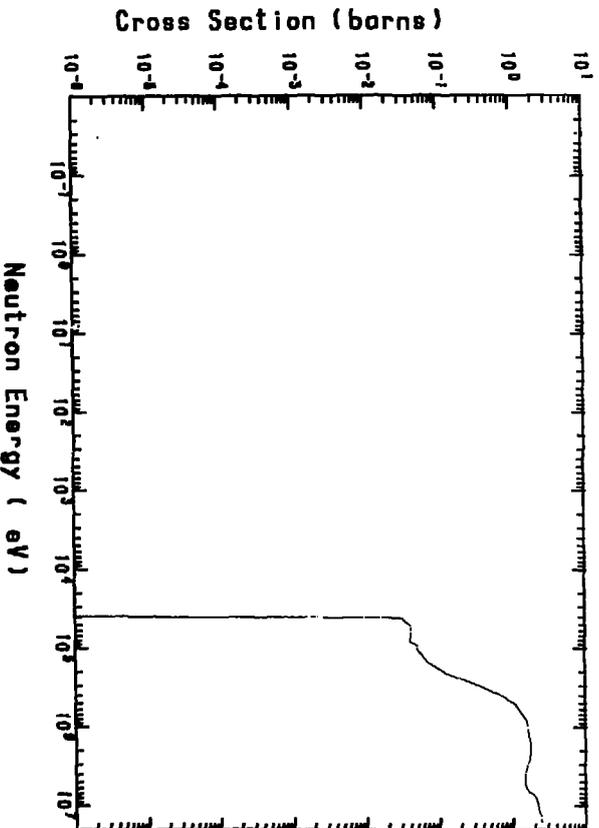


MAT=2932
MT= 2



^{239}Np
(n, γ)

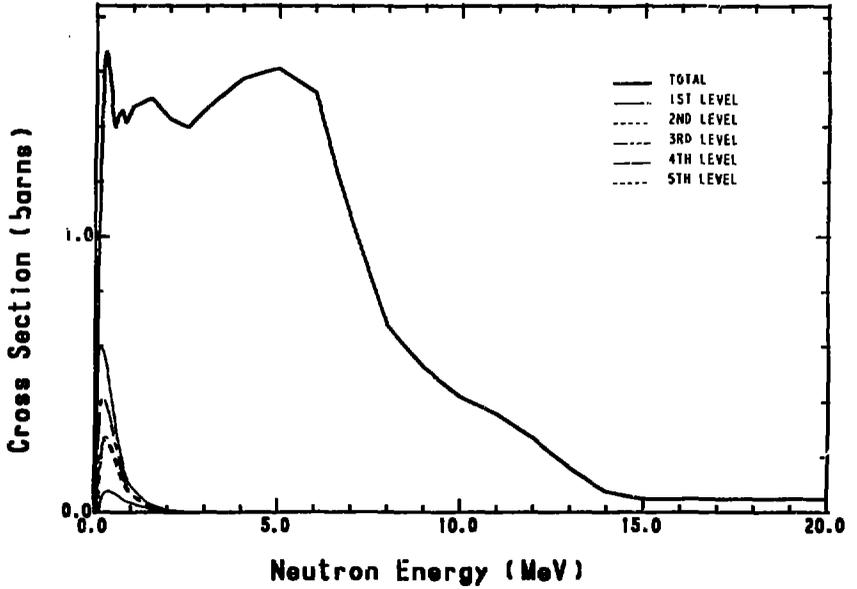
MAT = 2932
MT = 102



^{239}Np
(n, f)

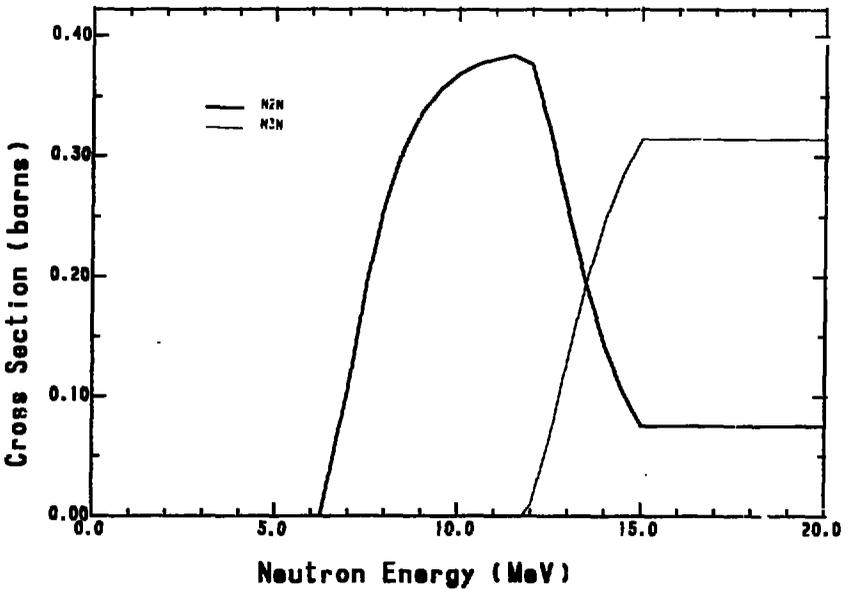
MAT = 2932
MT = 18

²³⁹Np
(n, n')



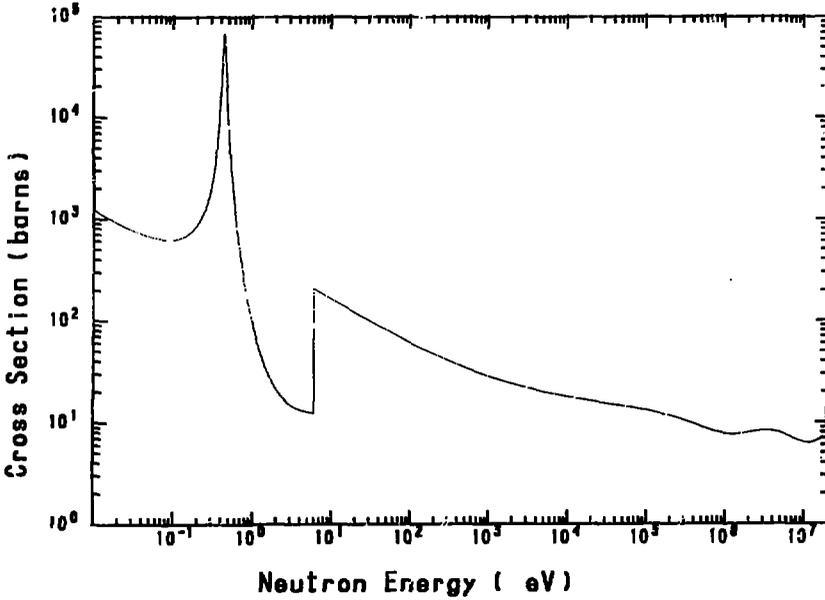
MAT=2932
 MT= 4
 51~55

²³⁹Np
(n, 2n)
(n, 3n)

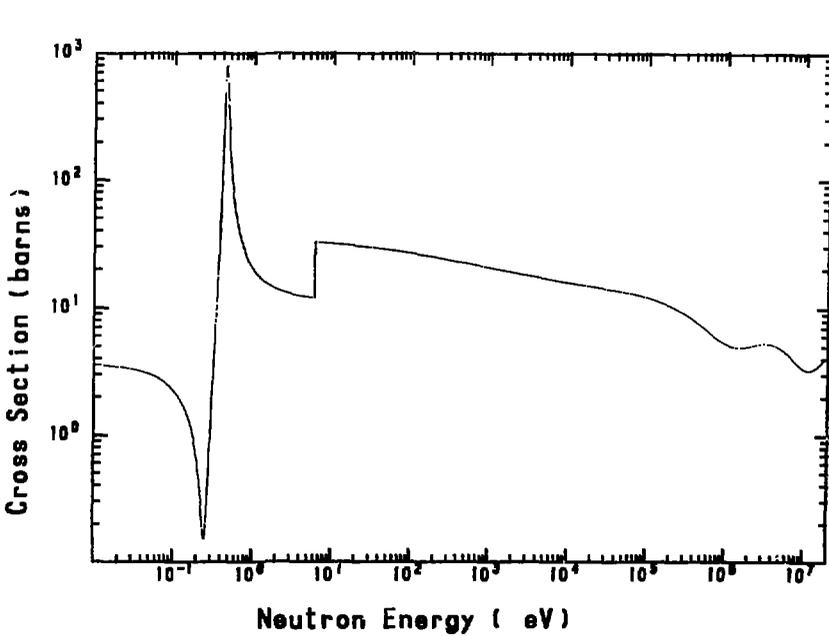


MAT=2932
 MT= 16
 17

²³⁶Pu
TOTAL



MAT=2941
MT= 1

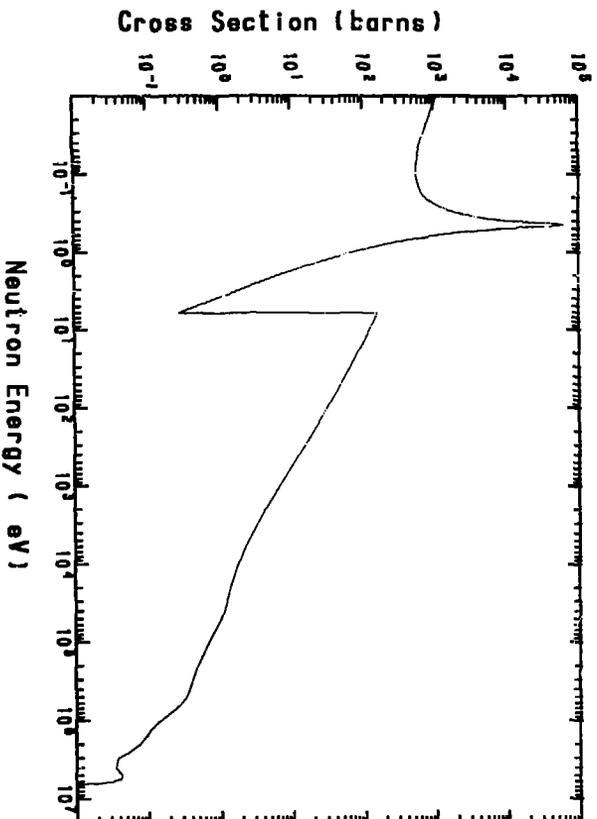


²³⁶Pu
(n, n)

MAT=2941
MT= 2

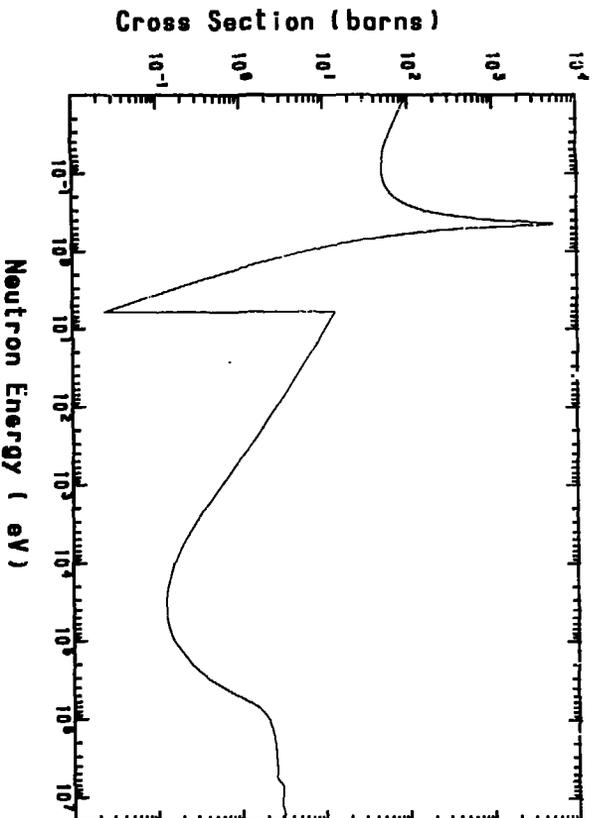
²³⁶Pu
(n, γ)

MAT=2941
MT= 102

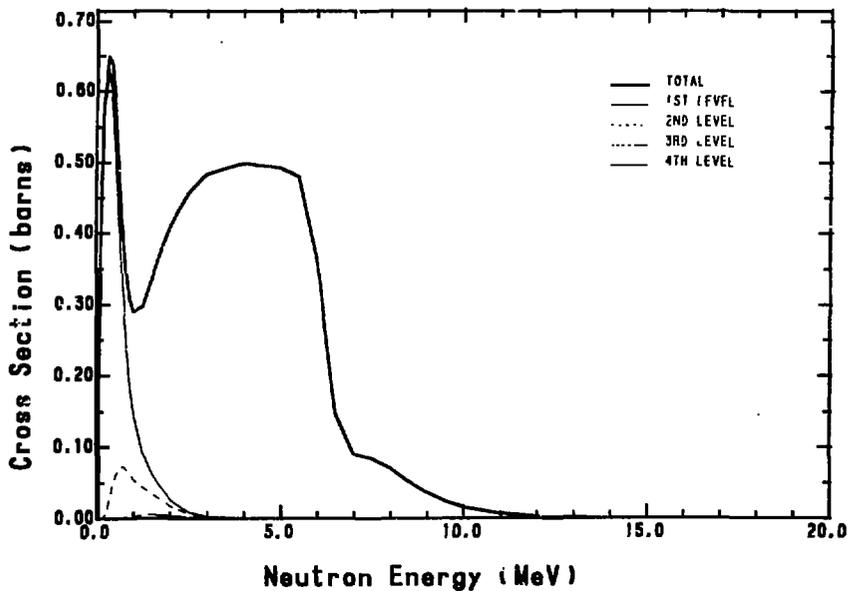


²³⁶Pu
(n, f)

MAT=2941
MT= 18

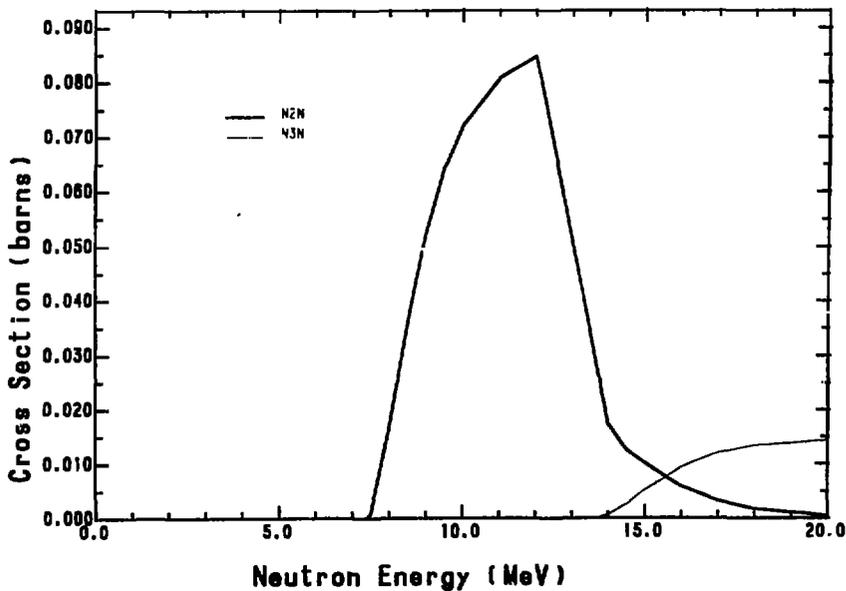


²³⁶Pu
(n, n')



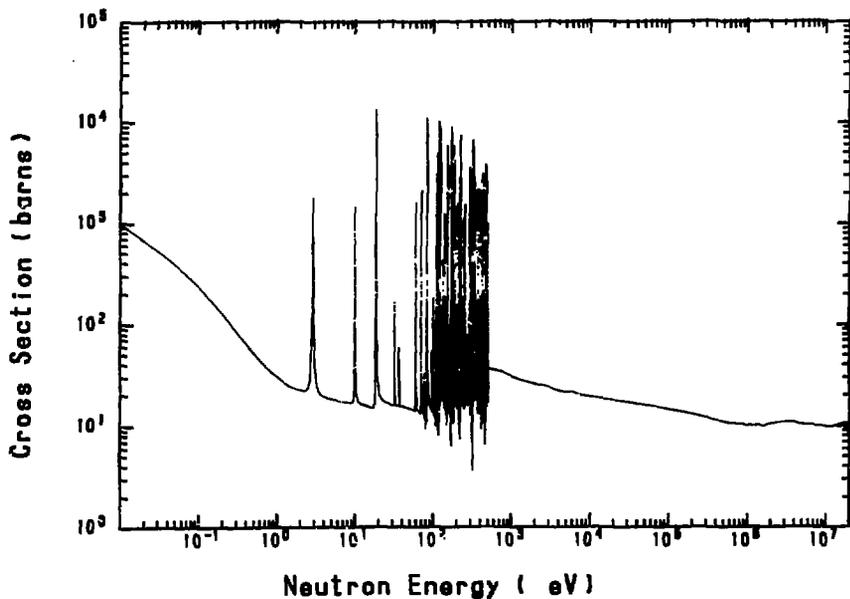
MAT=2941
MT= 4
51~54

²³⁶Pu
(n, 2n)
(n, 3n)



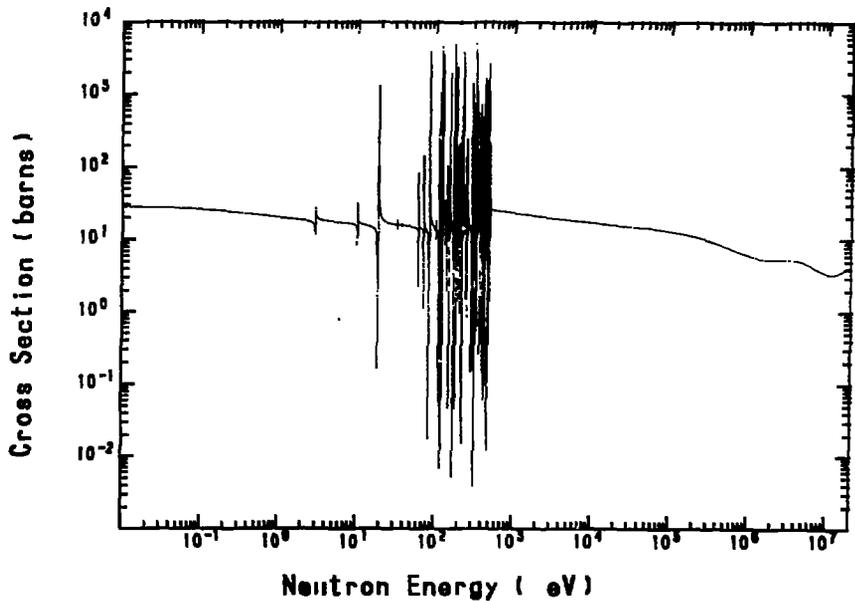
MAT=2941
MT= 16
17

²³⁸Pu
TOTAL



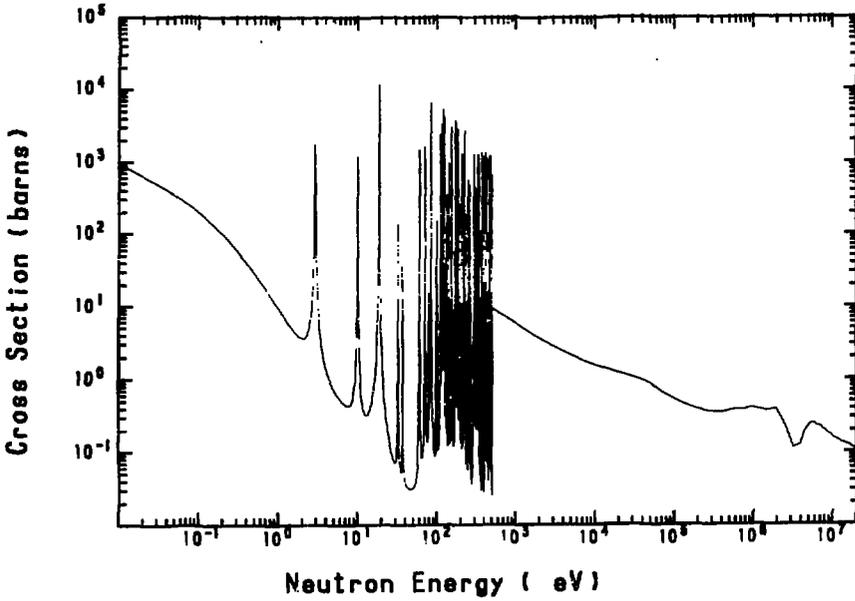
MAT=2942
MT= 1

²³⁸Pu
(n, n)



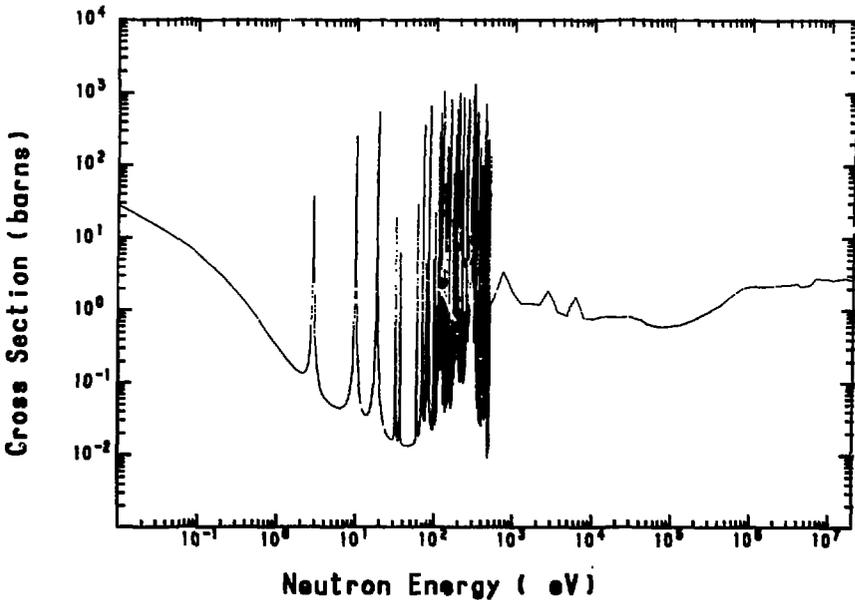
MAT=2942
MT= 2

²³⁸Pu
(n, γ)



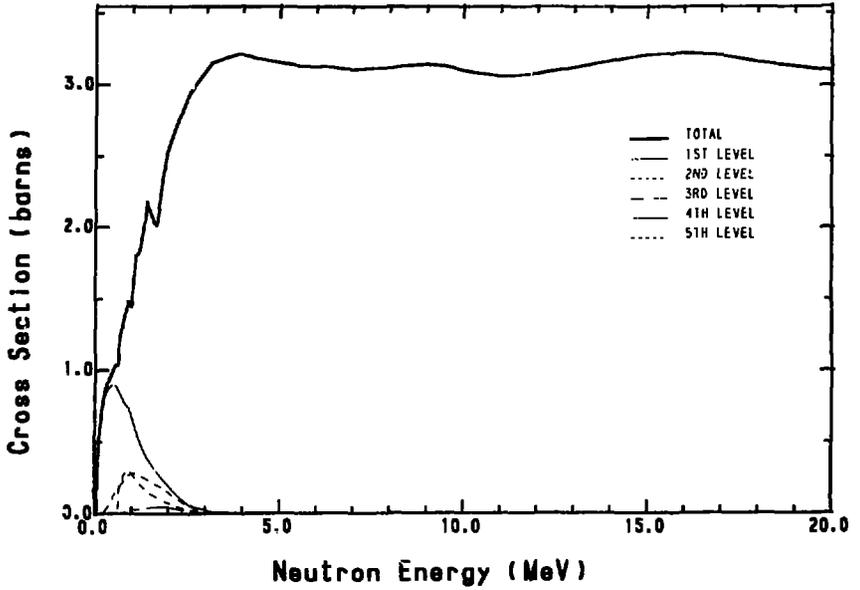
MAT=2942
MT= 102

²³⁸Pu
(n, f)



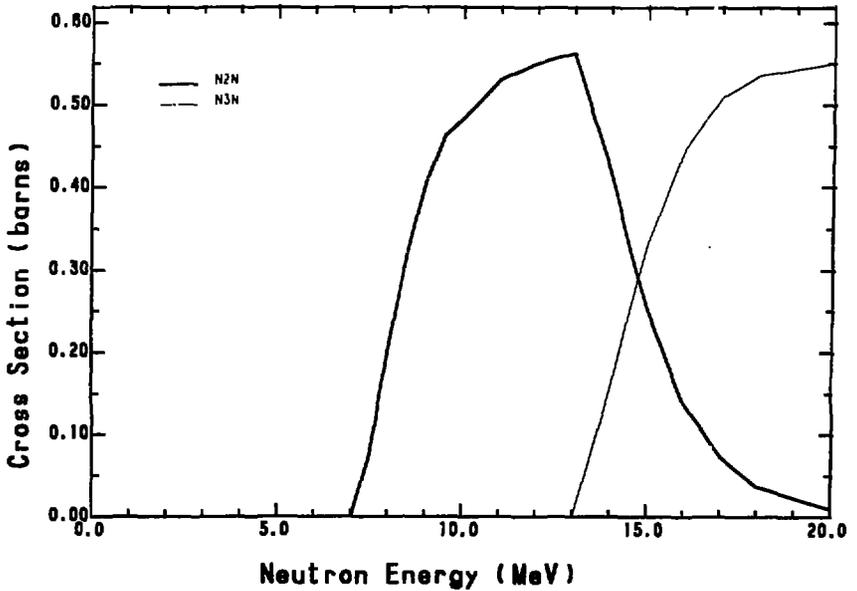
MAT=2942
MT= 18

²³⁸Pu
(n, n')



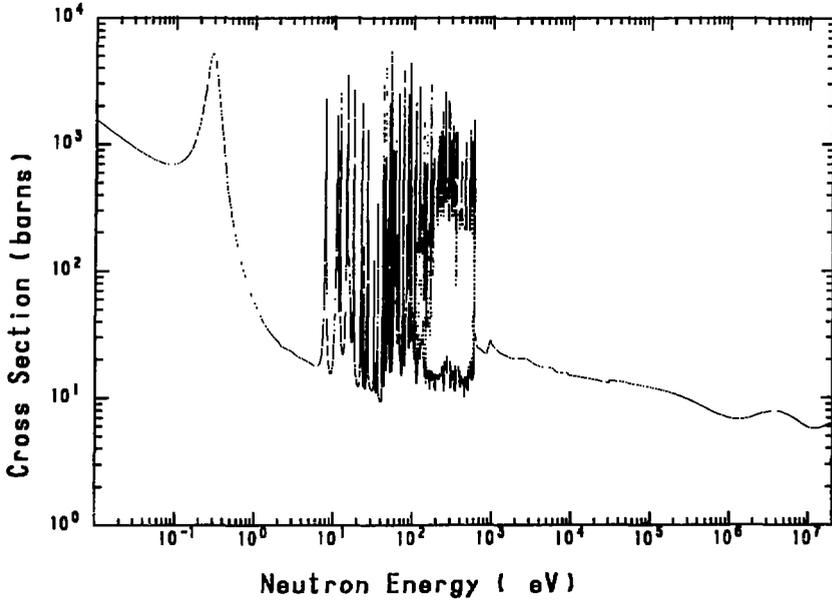
MAT=2942
 MT= 4
 51~55

²³⁸Pu
(n, 2n)
(n, 3n)



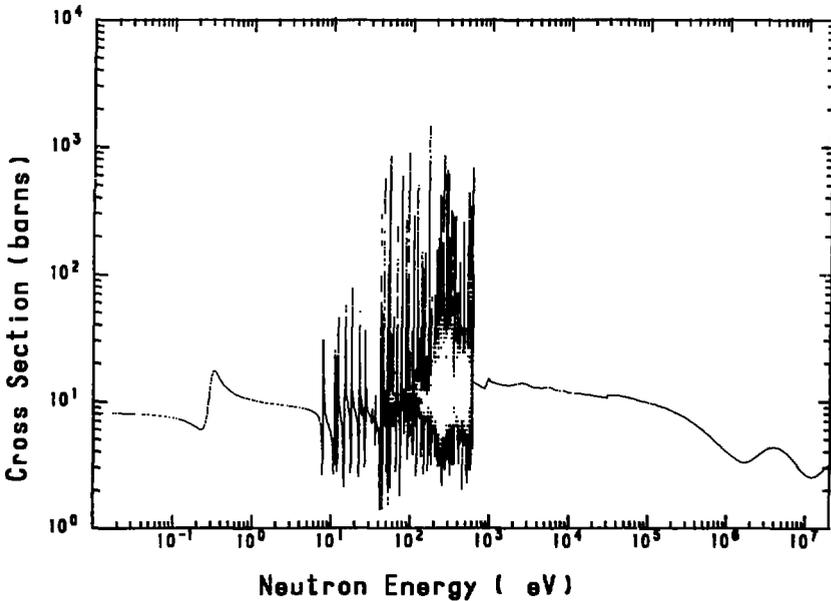
MAT=2942
 MT= 16
 17

²³⁹Pu
TOTAL



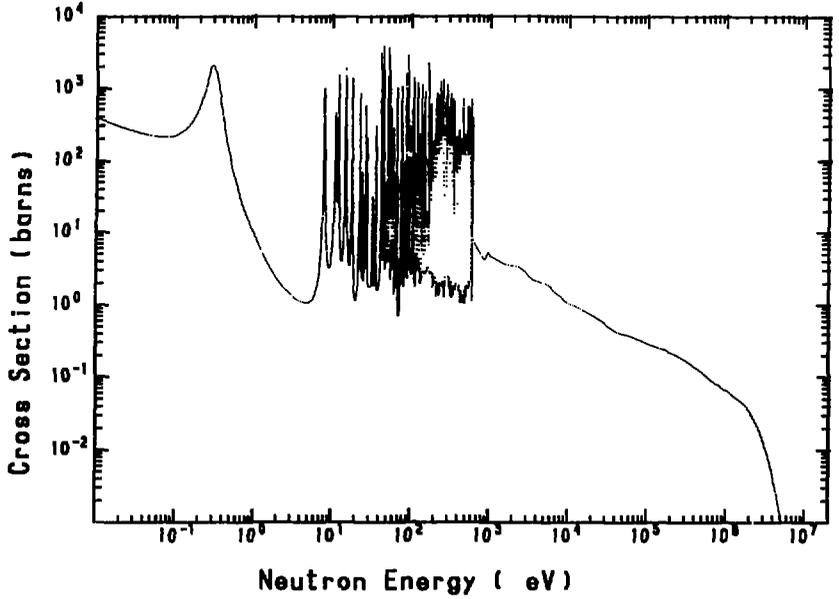
MAT=2943
MT= 1

²³⁹Pu
(n, n)



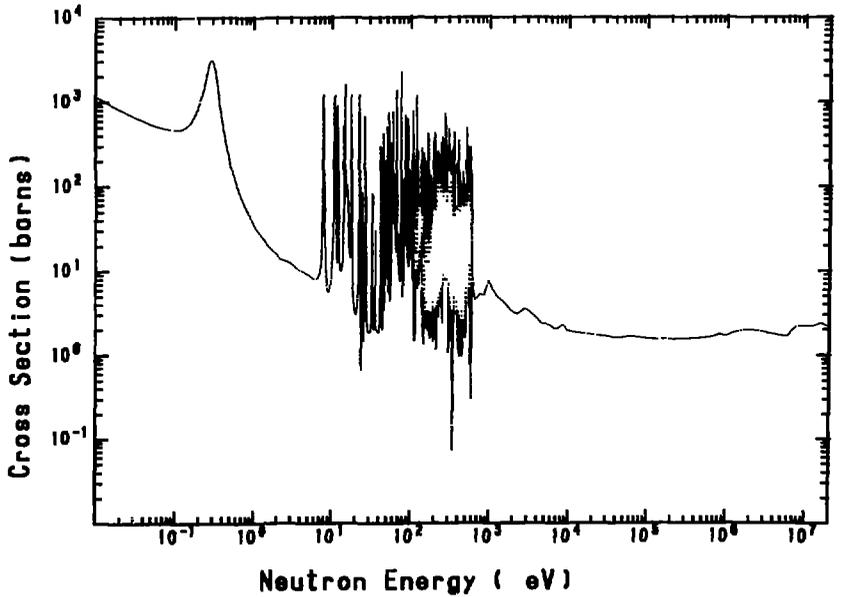
MAT=2943
MT= 2

²³⁹Pu
(n, γ)

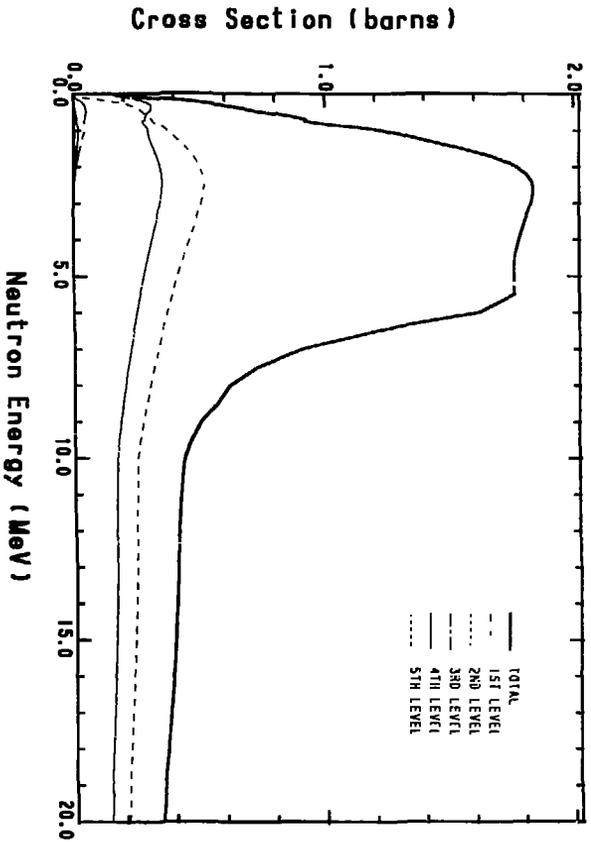


MAT=2943
MT= 102

²³⁹Pu
(n, f)

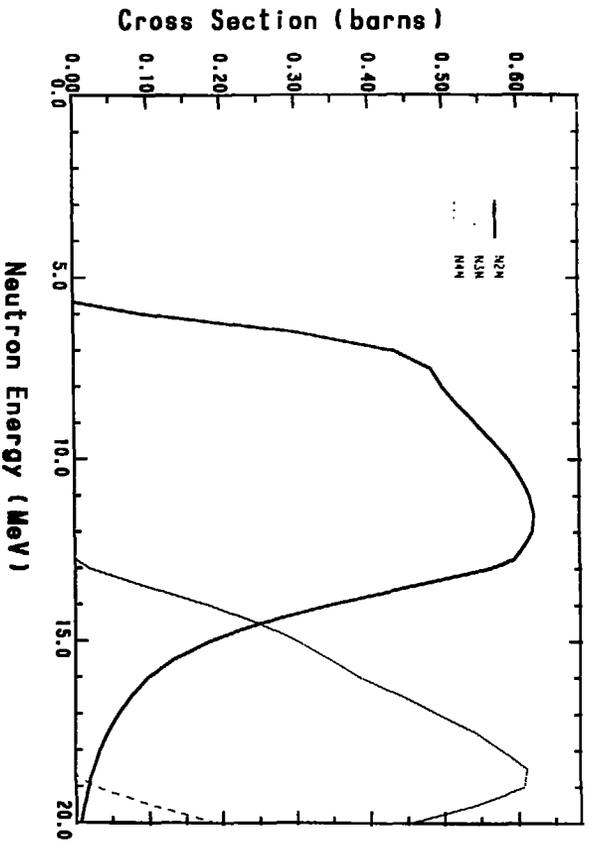


MAT=2943
MT= 18



²³⁹Pu
(n, n')

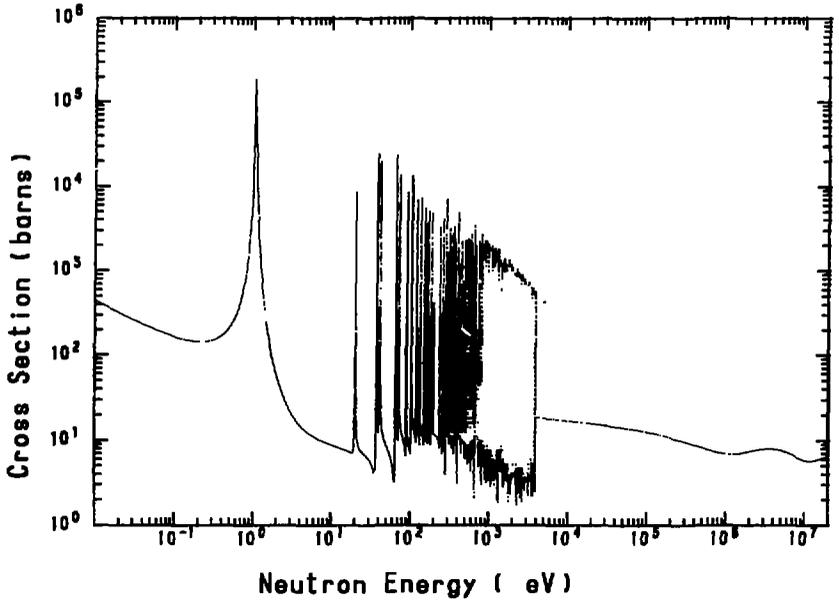
MAT=2943
MT= 4
51~55



²³⁹Pu
(n, 2n)
(n, 3n)
(n, 4n)

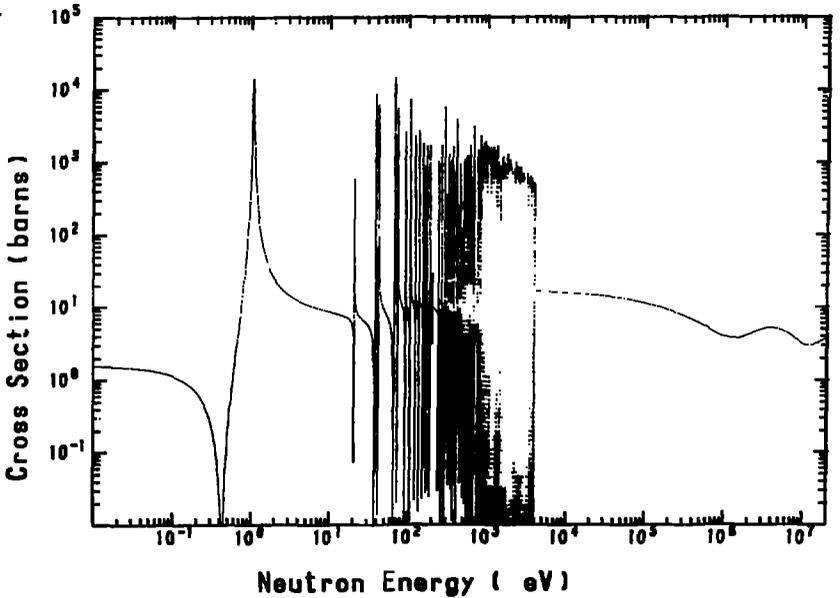
MAT=2943
MT= 16
17
37

²⁴⁰Pu
TOTAL



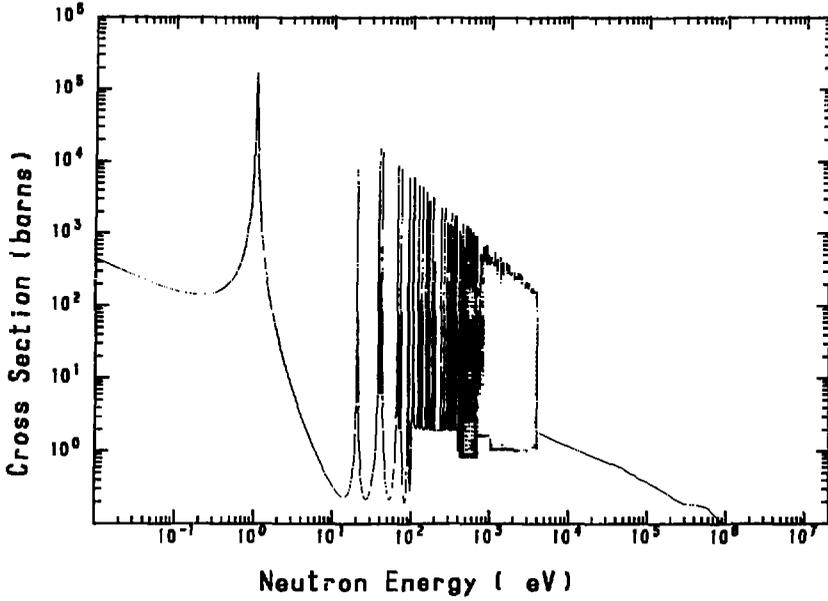
MAT=2944
MT= 1

²⁴⁰Pu
(n, n)

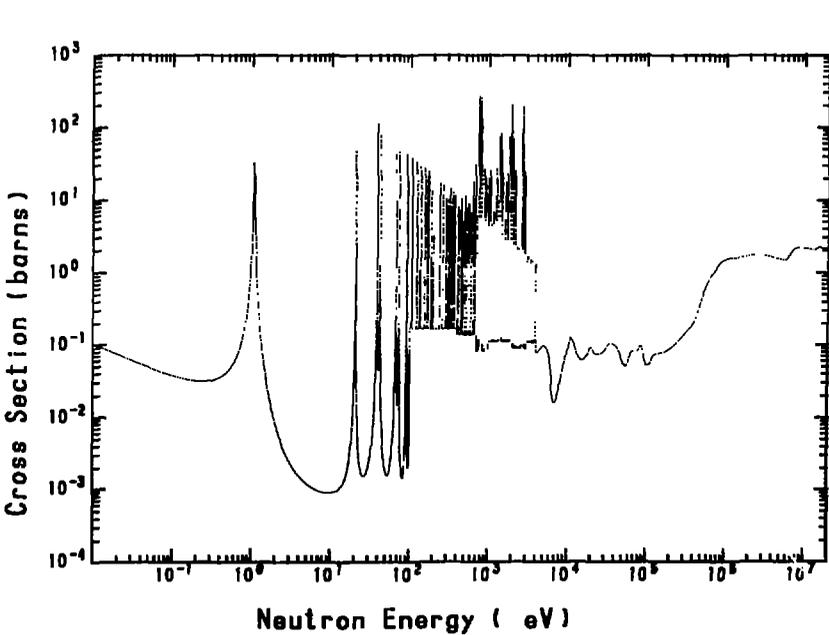


MAT=2944
MT= 2

²⁴⁰Pu
(n, γ)



MAT=2944
MT= 102

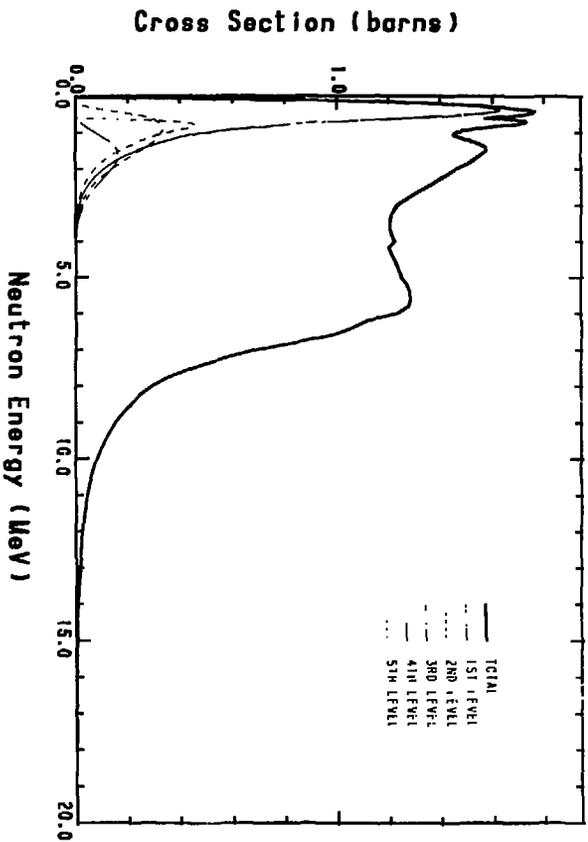


²⁴⁰Pu
(n, f)

MAT=2944
MT= 18

²⁴⁰Pu
(n, n')

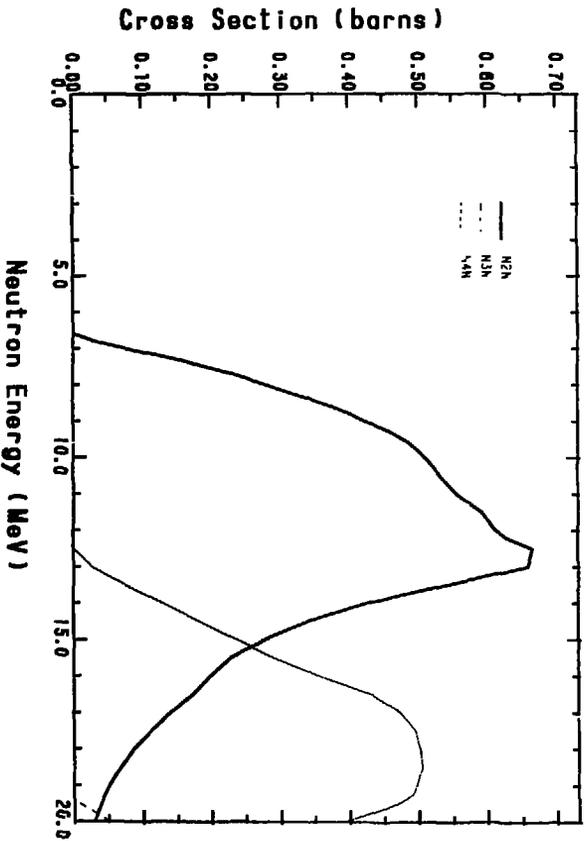
MAT=2944
MT= 4
51~55



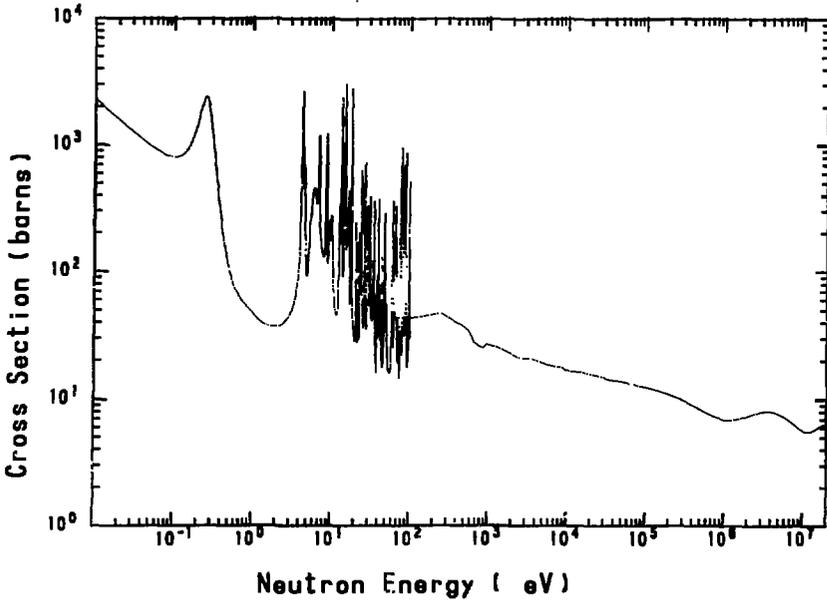
²⁴⁰Pu

(n, 2n)
(n, 3n)
(n, 4n)

MAT=2944
MT= 16
17
37

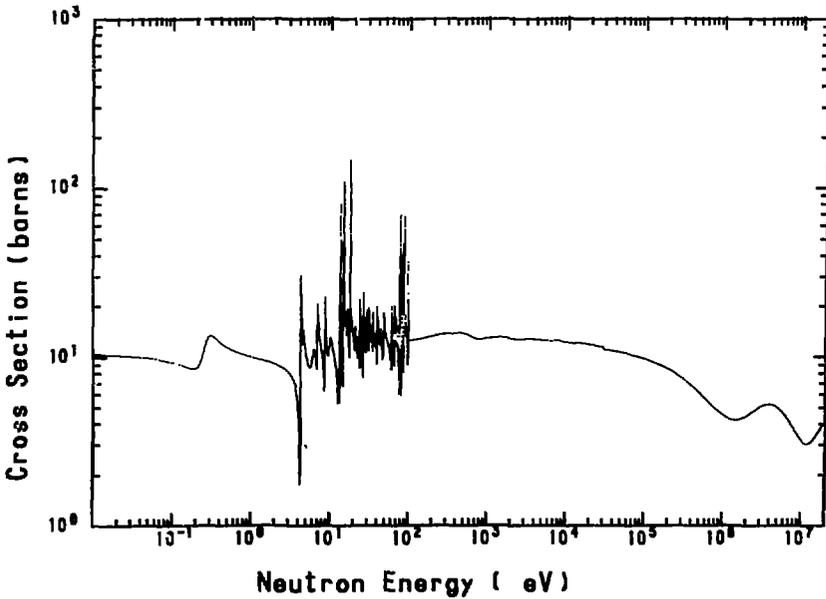


²⁴¹Pu
TOTAL



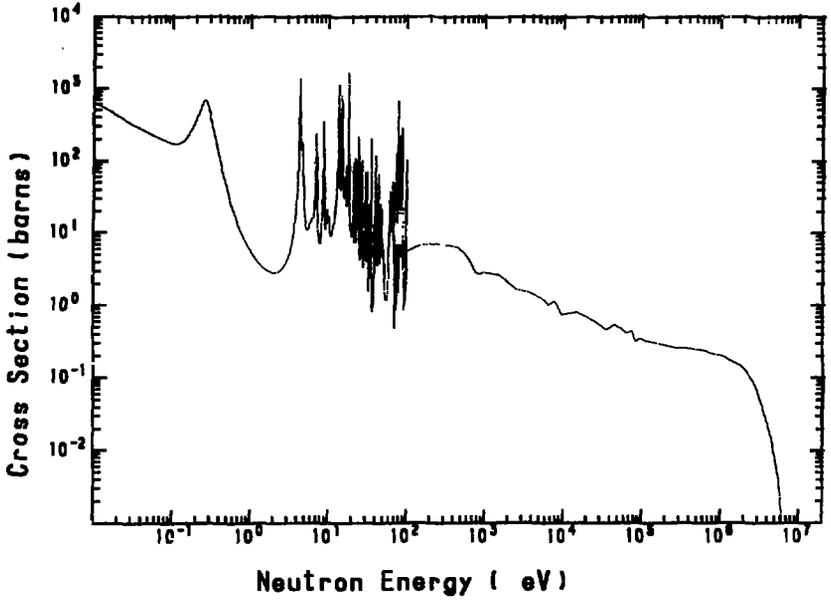
MAT=2945
MT= 1

²⁴¹Pu
(n, n)



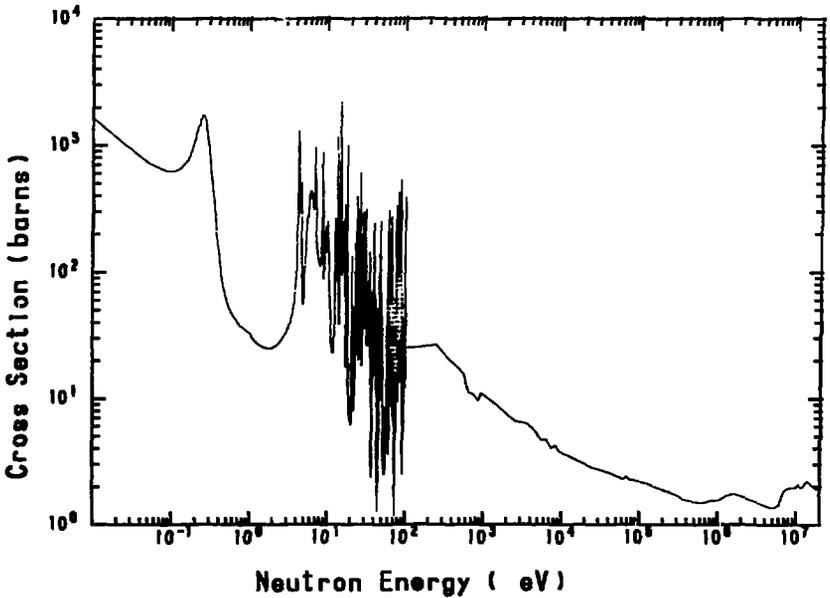
MAT=2945
MT= 2

²⁴¹Pu
(n, γ)

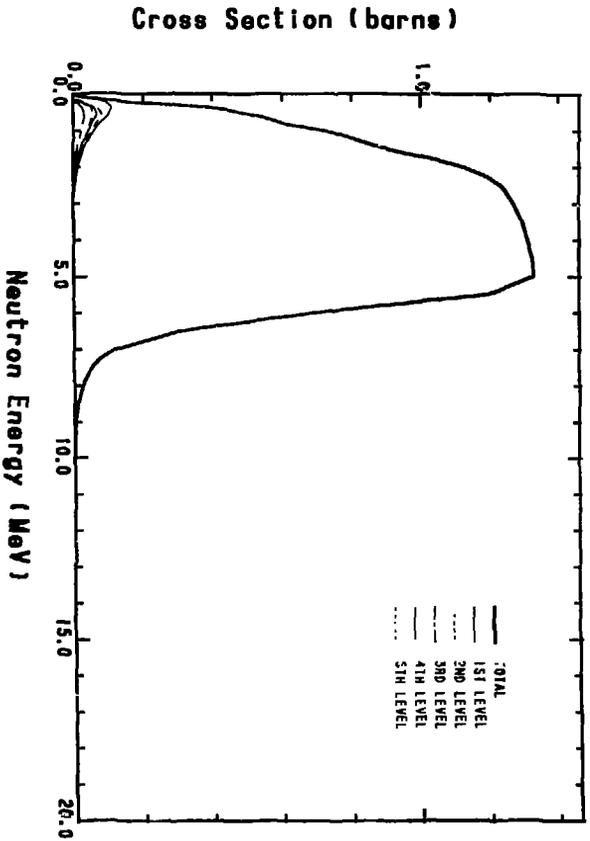


MAT=2945
MT= 102

²⁴¹Pu
(n, f)

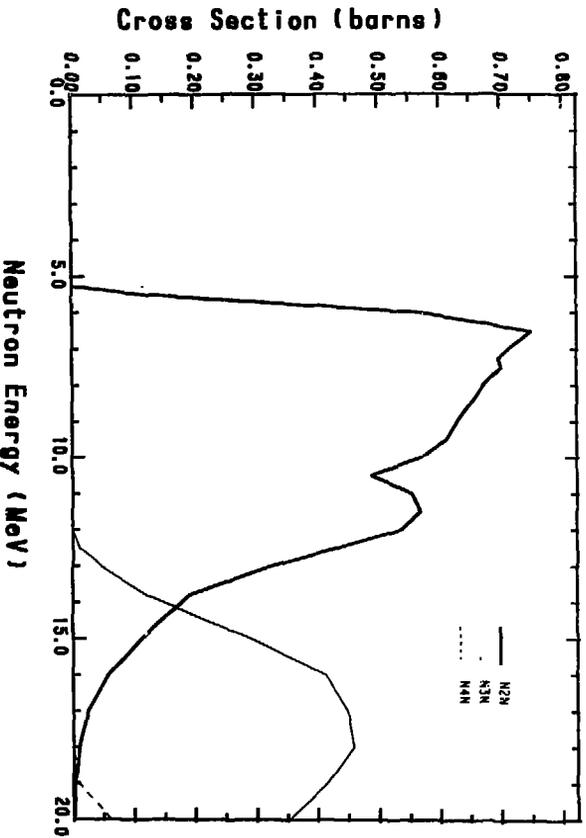


MAT=2945
MT= 18



²⁴¹Pu
(n, n')

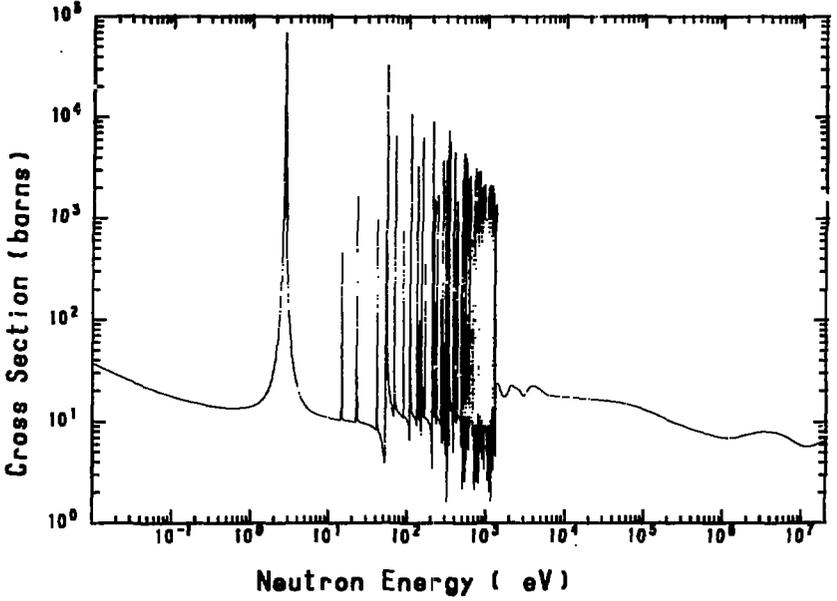
MAT=2945
MT= 4
51~55



²⁴¹Pu
(n, 2n)
(n, 3n)
(n, 4n)

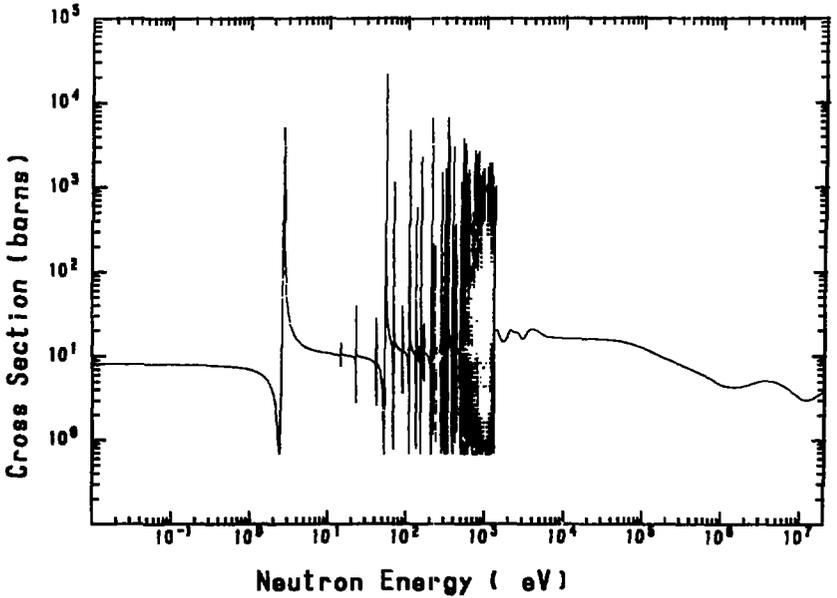
MAT=2945
MT= 16
17
37

²⁴²Pu
TOTAL



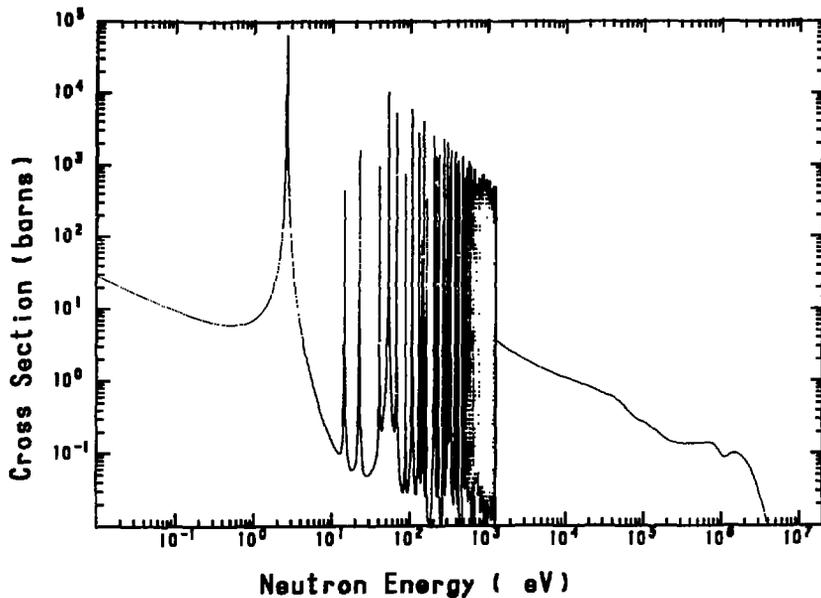
MAT=2946
MT= 1

²⁴²Pu
(n, n)



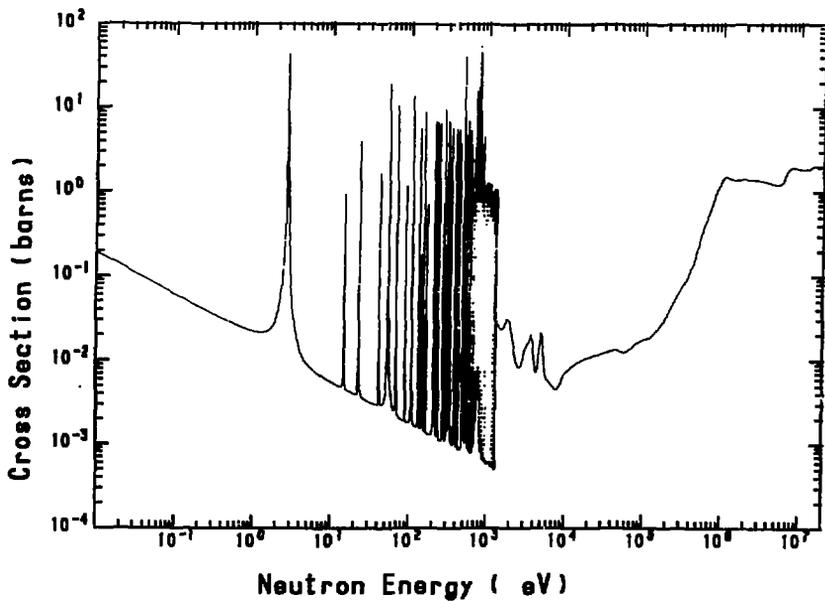
MAT=2946
MT= 2

²⁴²Pu
(n, γ)



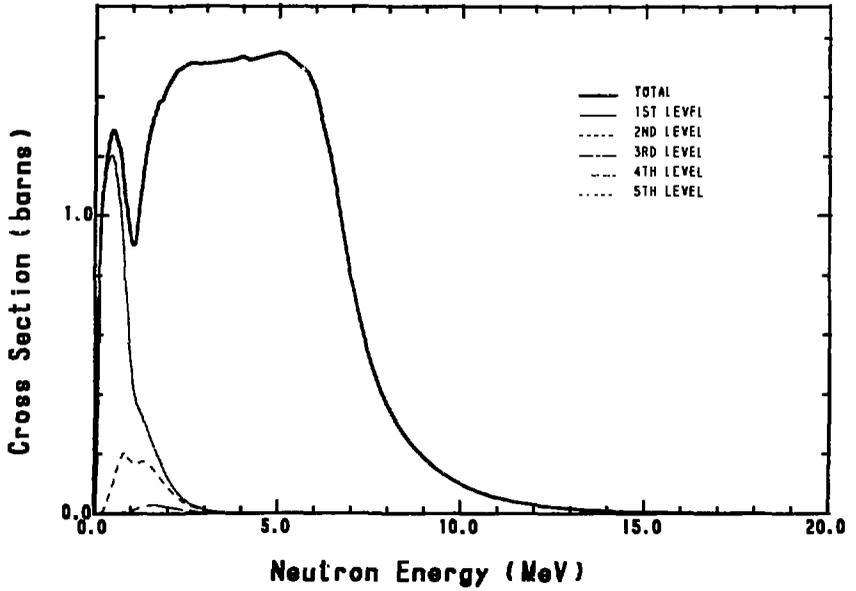
MAT=2946
MT= 102

²⁴²Pu
(n, f)



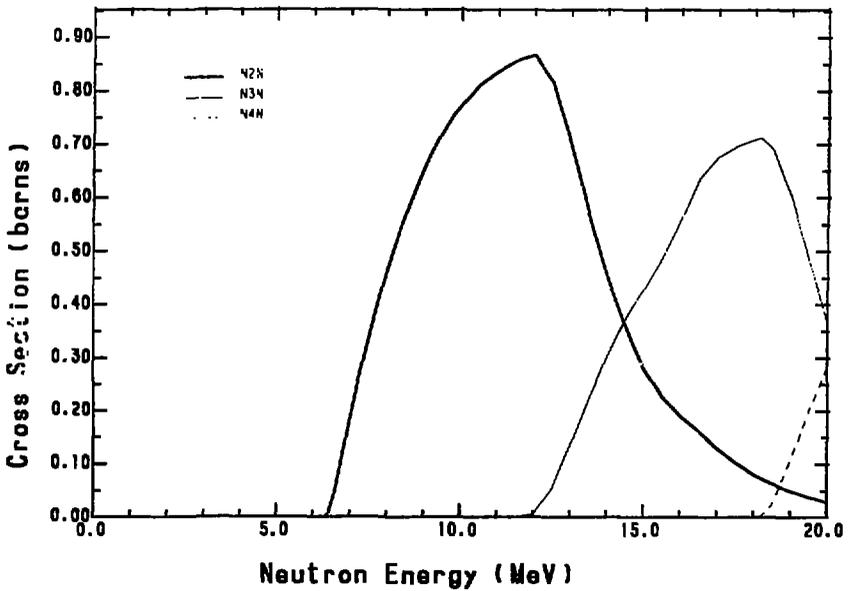
MAT=2946
MT= 18

²⁴²Pu
(n, n')



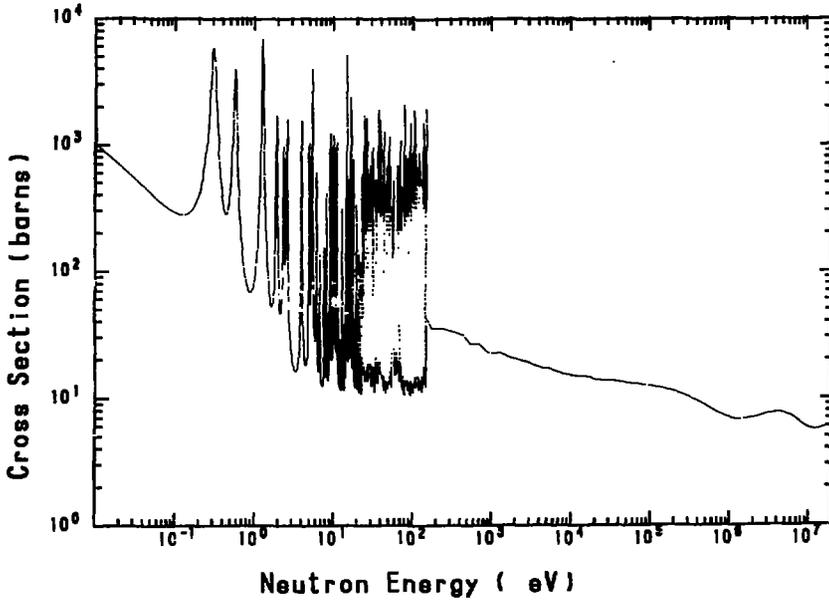
MAT=2946
MT= 4
51~55

²⁴²Pu
(n, 2n)
(n, 3n)
(n, 4n)



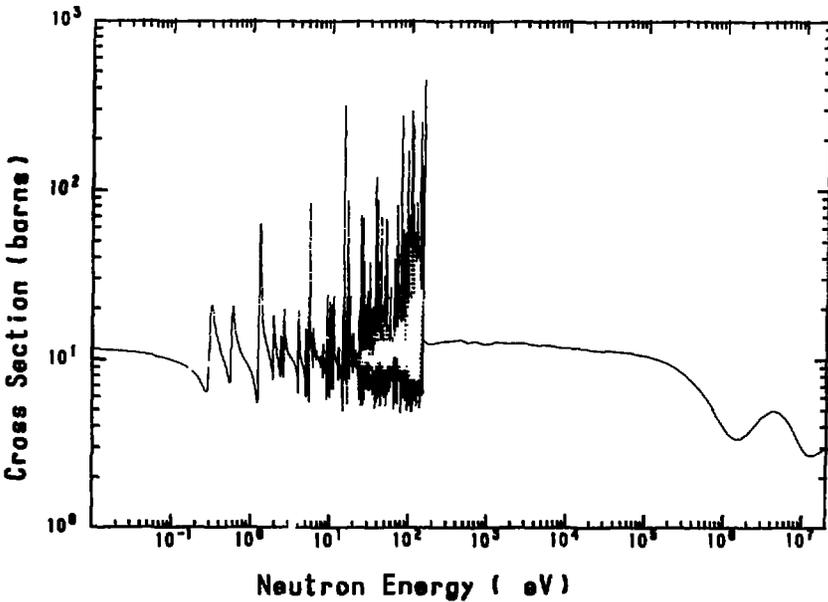
MAT=2946
MT= 16
17
37

²⁴¹Am
TOTAL



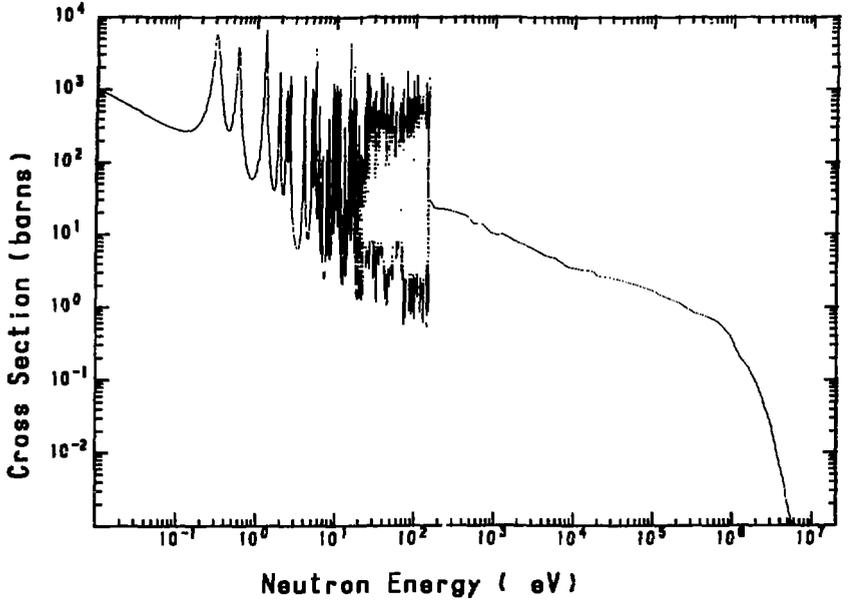
MAT=2951
MT= 1

²⁴¹Am
(n, n)



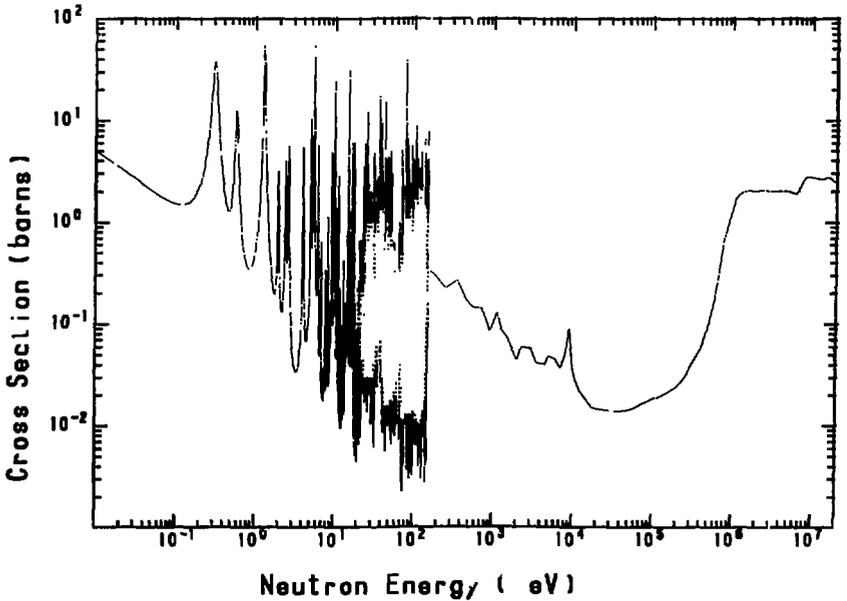
MAT=2951
MT= 2

²⁴¹Am
(n, γ)



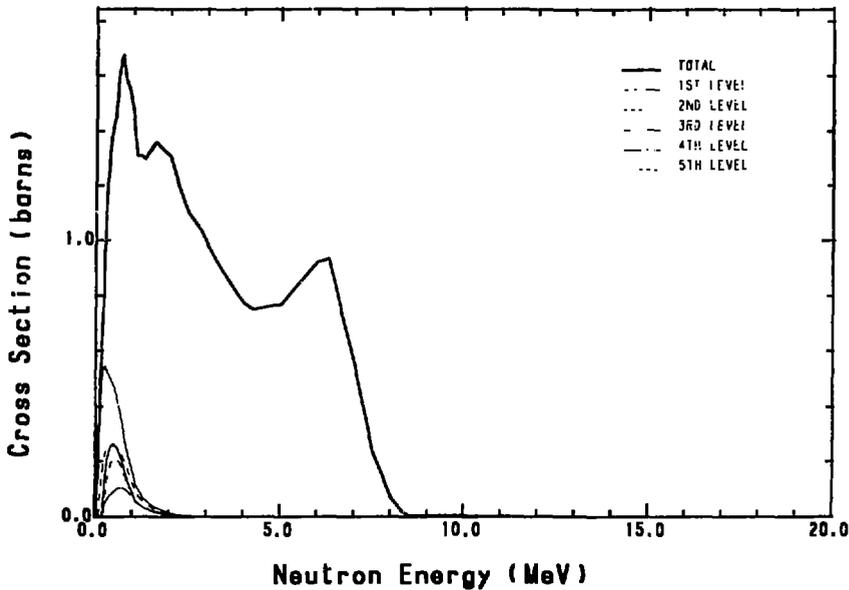
MAT=2951
MT= 102

²⁴¹Am
(n, f)



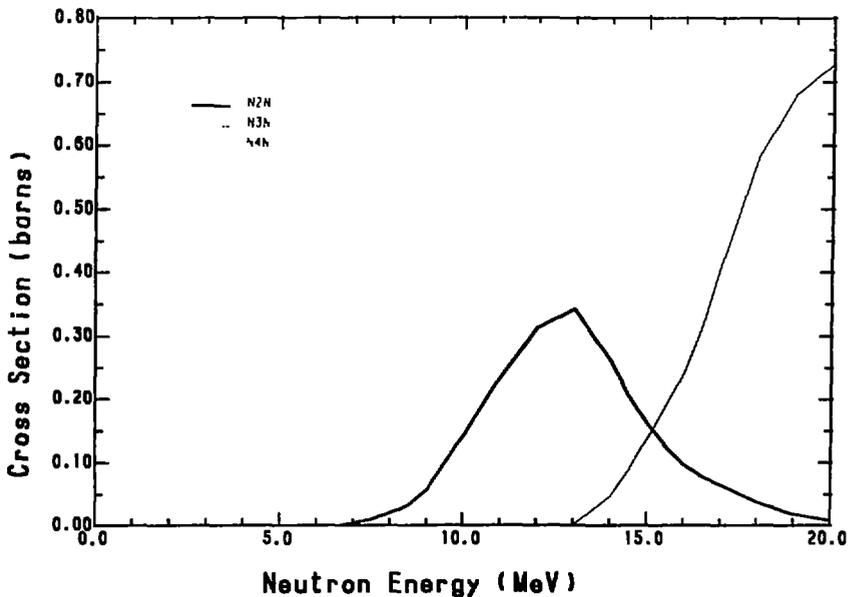
MAT=2951
MT= 18

²⁴¹Am
(n, n')



MAT=2951
MT= 4
51~55

²⁴¹Am
(n, 2n)
(n, 3n)
(n, 4n)



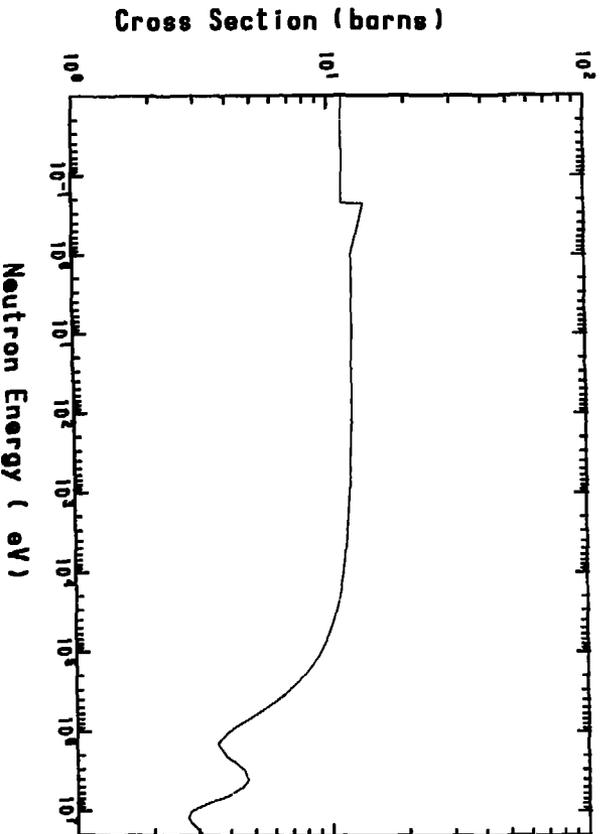
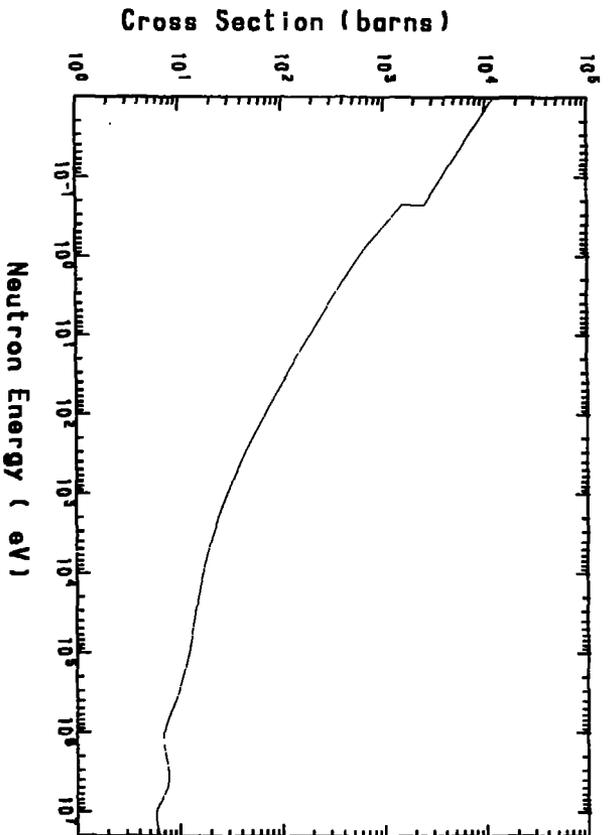
MAT=2951
MT= 16
17
37

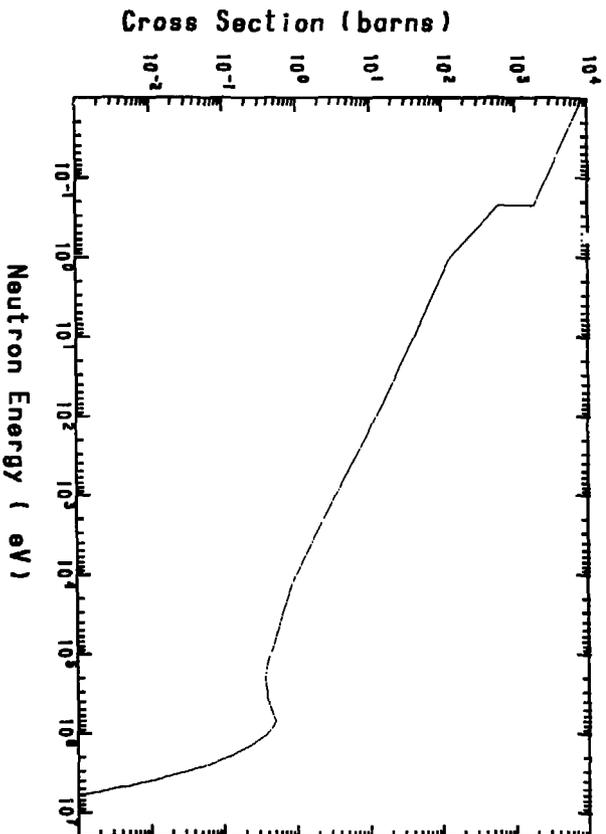
242g Am
TOTAL

MAT = 2952
MT = 1

242g Am
(n, n)

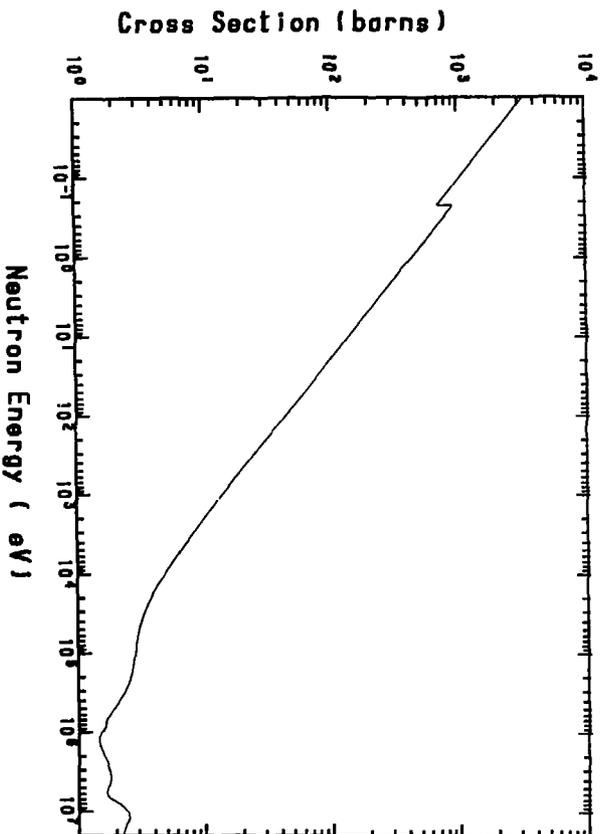
MAT = 2952
MT = 2





²⁴²g Am
(n, γ)

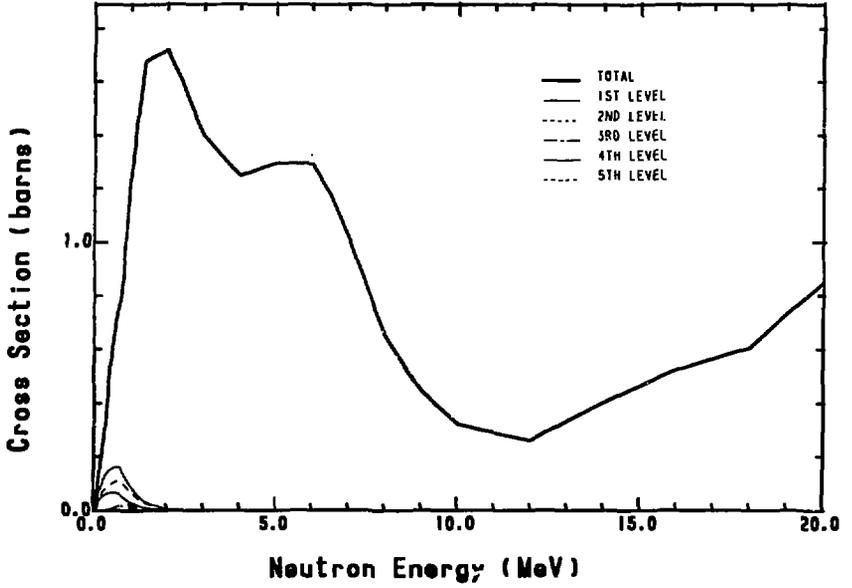
MAT=2952
MT= 102



²⁴²g Am
(n, f)

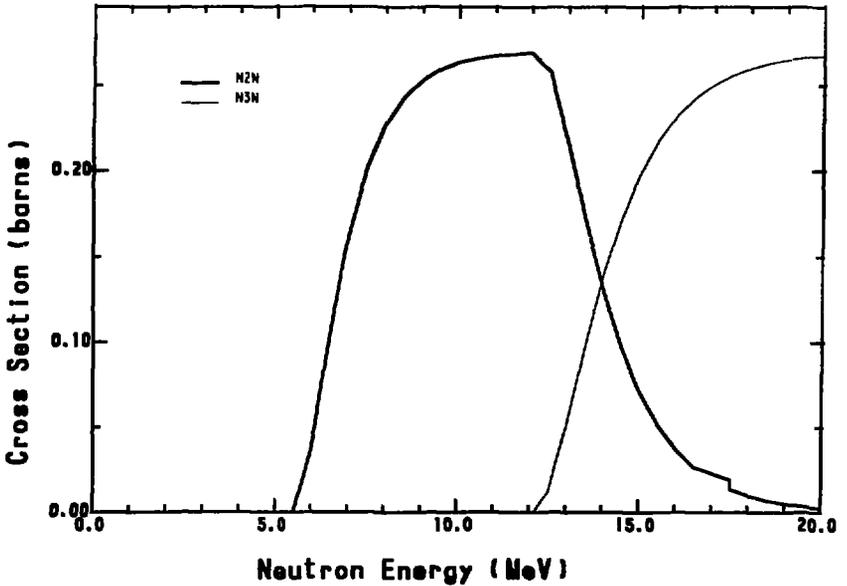
MAT=2952
MT= 18

²⁴²g Am
(n, n')



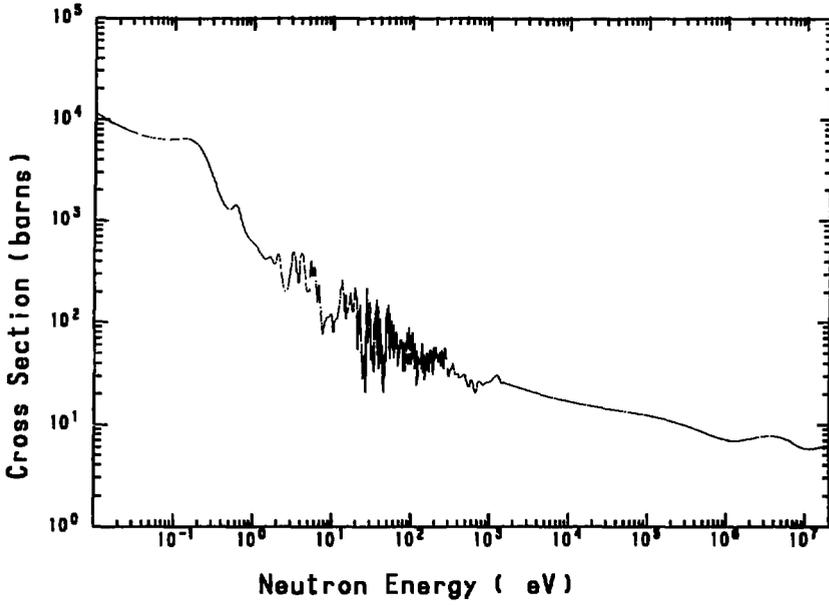
MAT=2952
 MT= 4
 51~55

²⁴²g Am
(n, 2n)
(n, 3n)



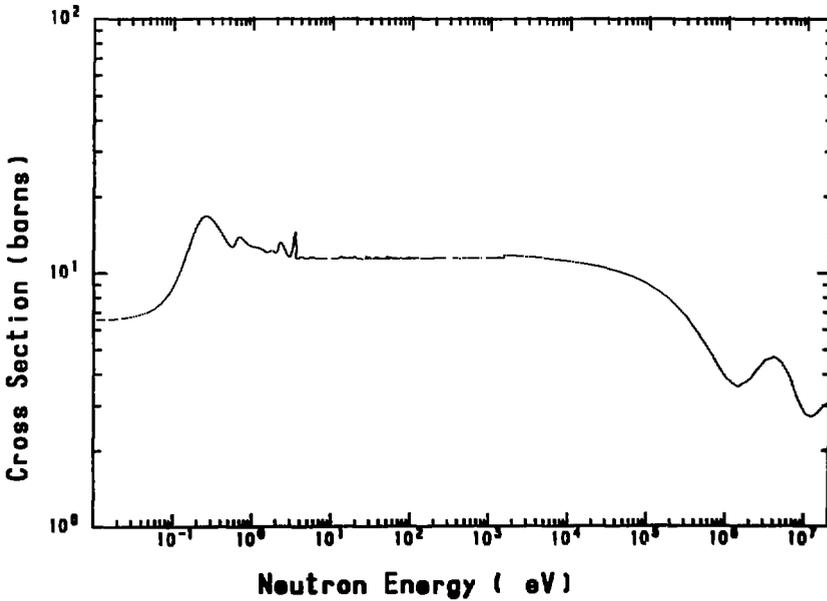
MAT=2952
 MT= 16
 17

^{242m}Am
TOTAL



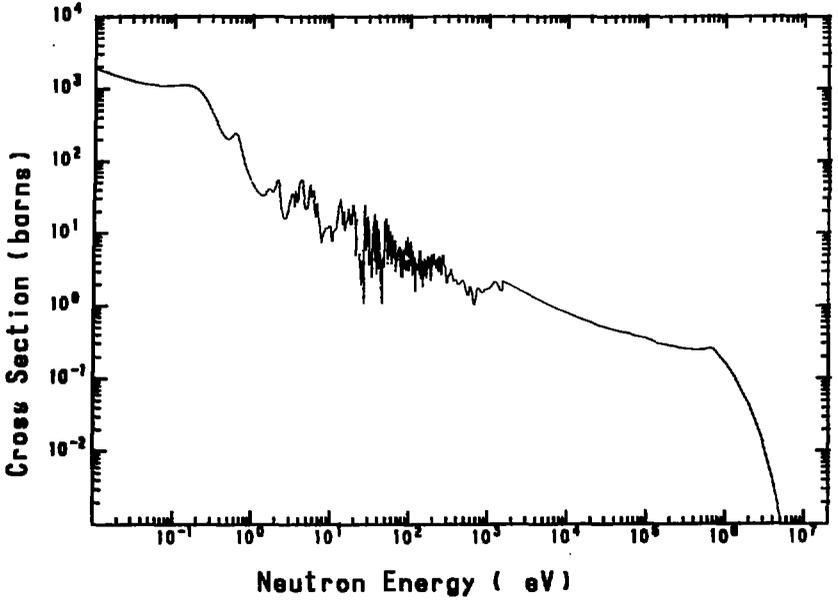
MAT=2953
MT= 1

^{242m}Am
(n, n)



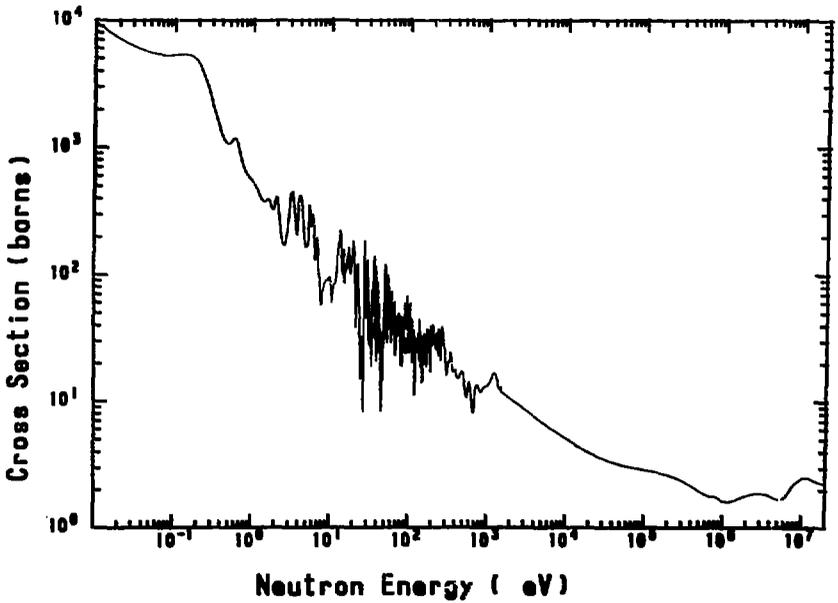
MAT=2953
MT= 2

^{242m}Am
(n, γ)



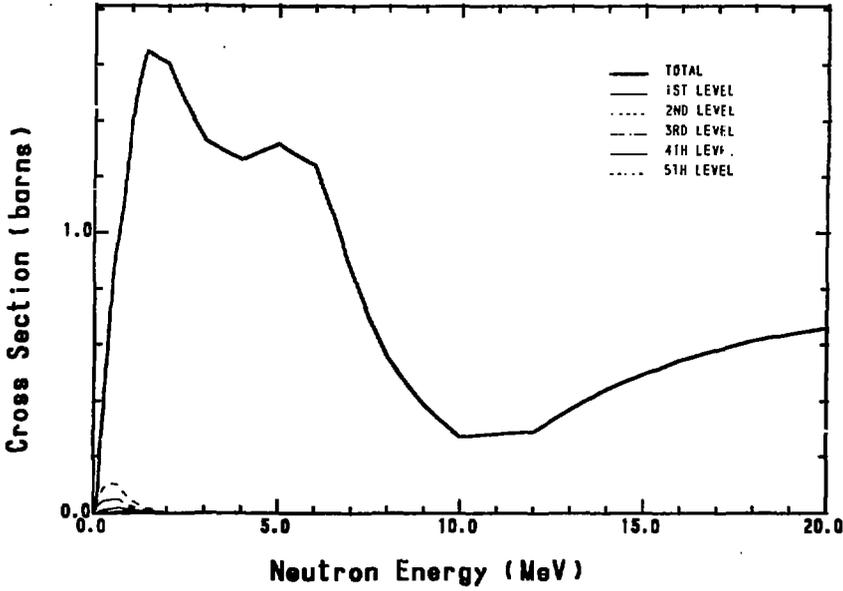
MAT=2953
MT= 102

^{242m}Am
(n, f)

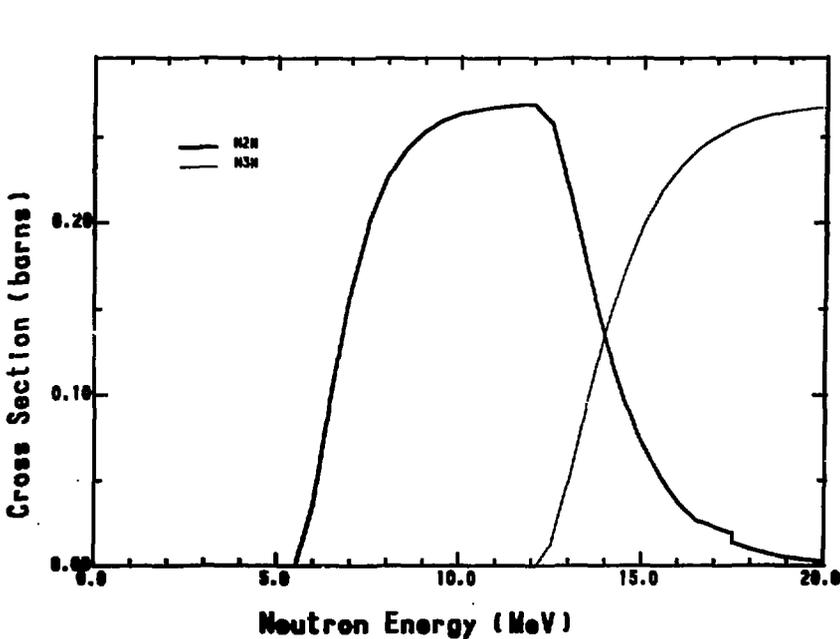


MAT=2953
MT= 18

^{242m}Am
(n, n')



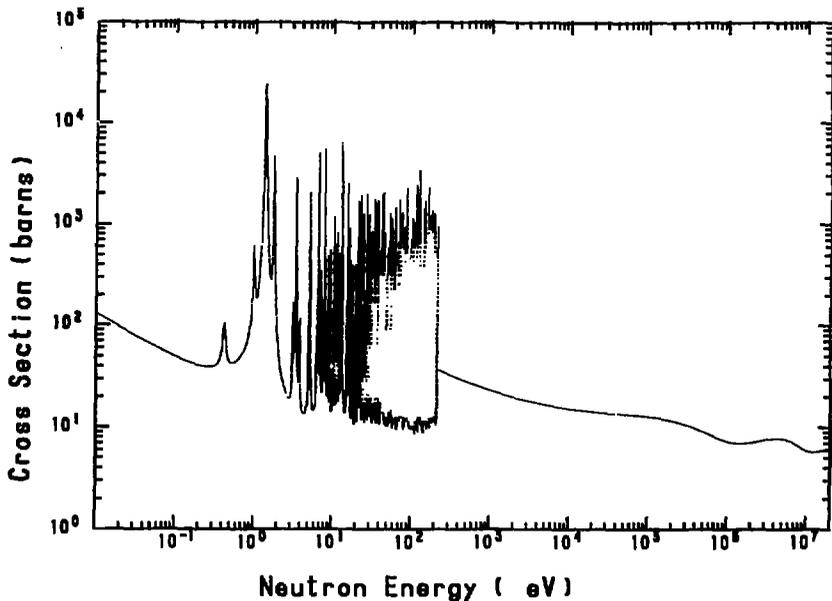
MAT=2953
MT= 4
51~55



^{242m}Am
(n, 2n)
(n, 3n)

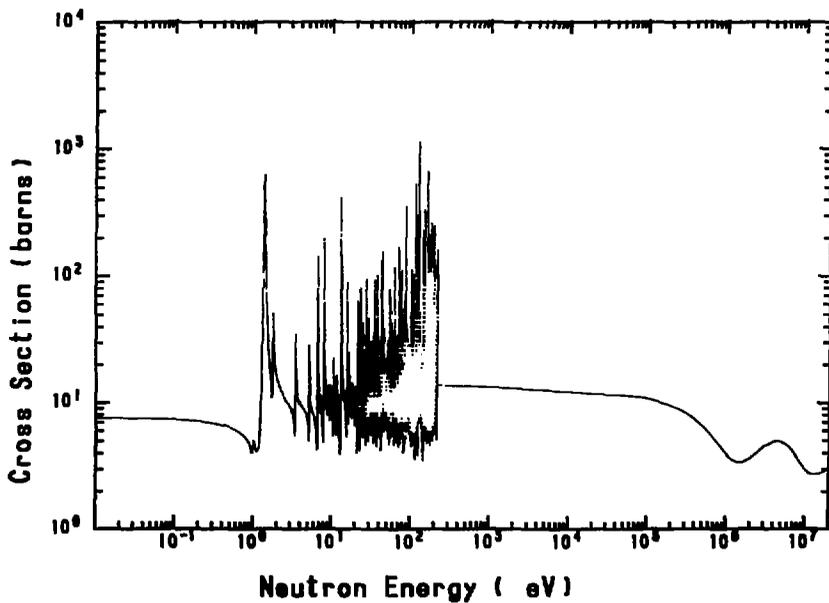
MAT=2953
MT= 16
17

²⁴³Am
TOTAL



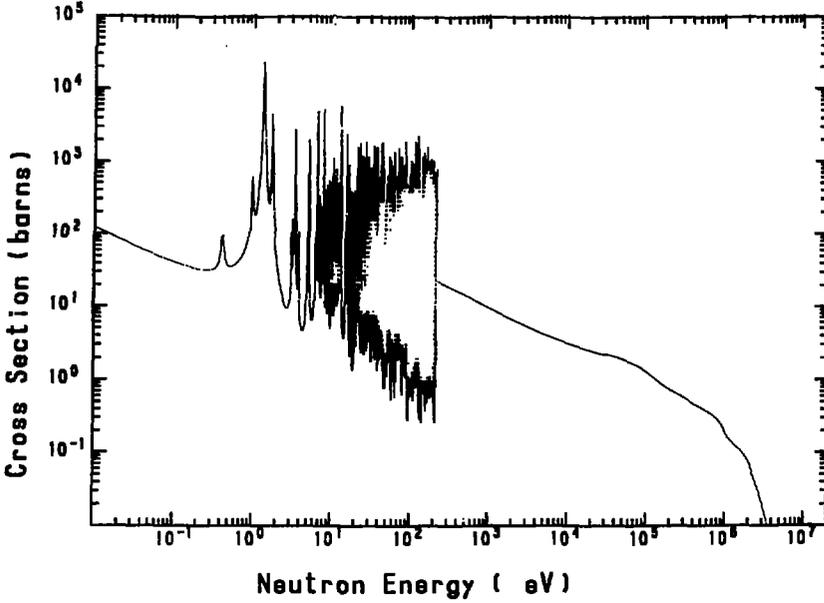
MAT=2954
MT= 1

²⁴³Am
(n, n)

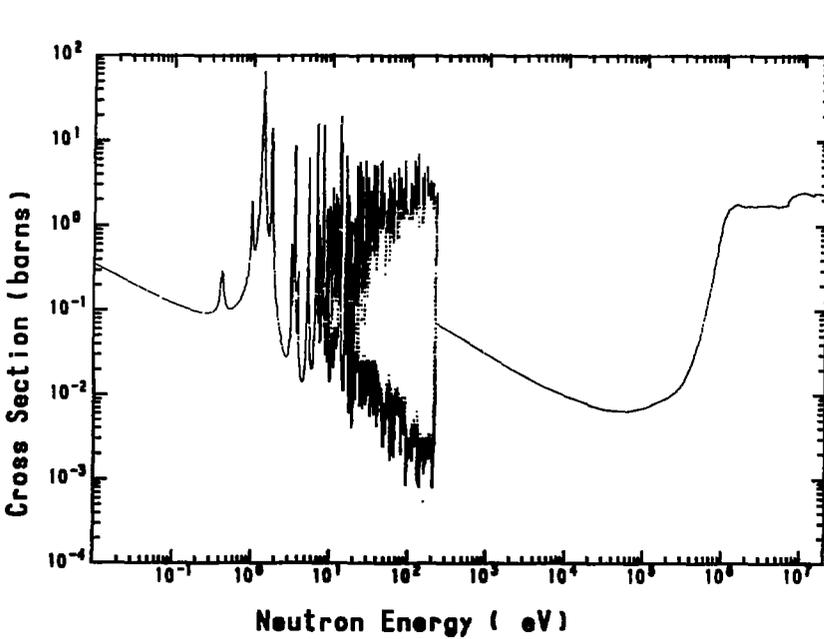


MAT=2954
MT= 2

²⁴³Am
(n, γ)



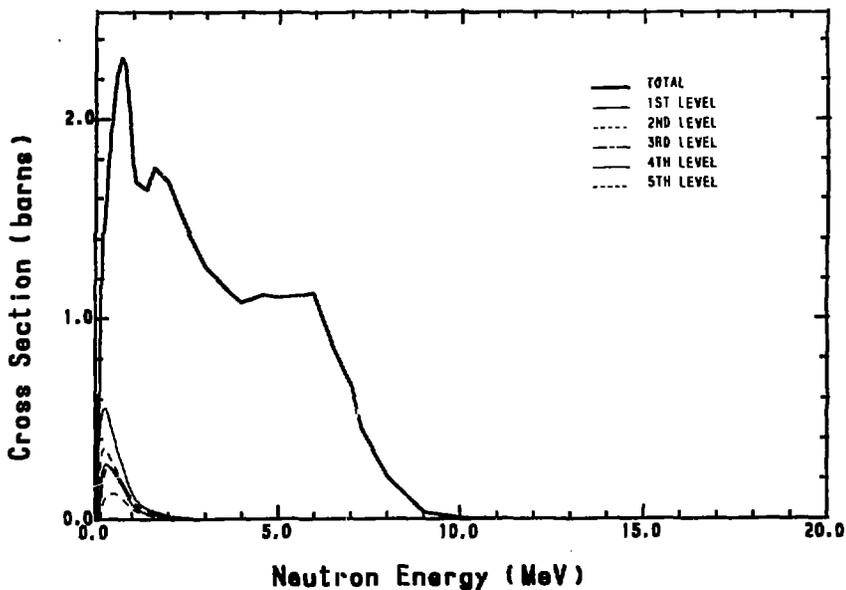
MAT=2954
MT= 102



²⁴³Am
(n, f)

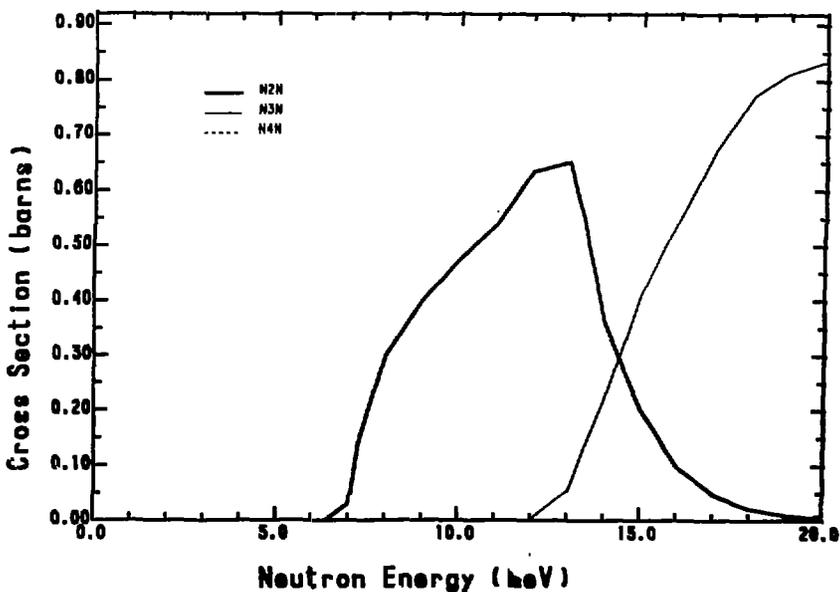
MAT=2954
MT= 18

²⁴³Am
(n, n')



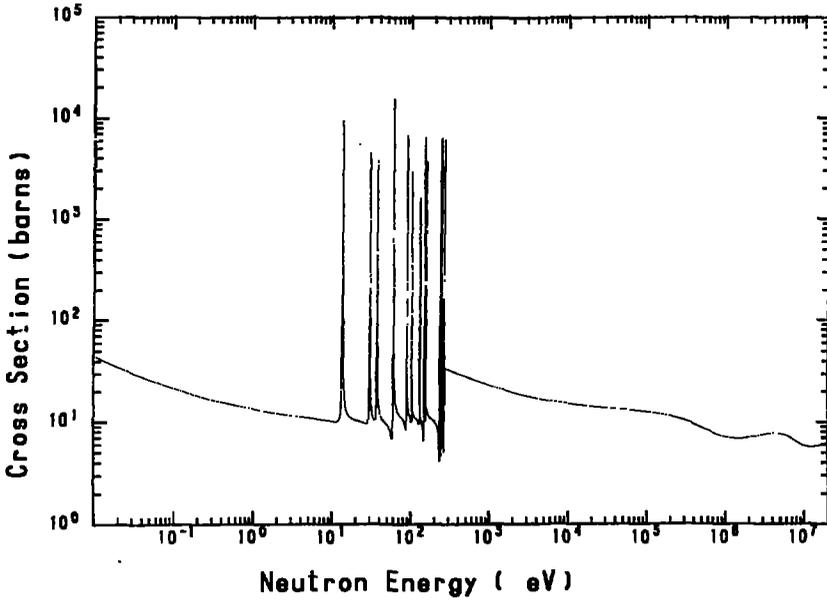
MAT=2954
 MT= 4
 51~55

²⁴³Am
(n, 2n)
(n, 3n)
(n, 4n)



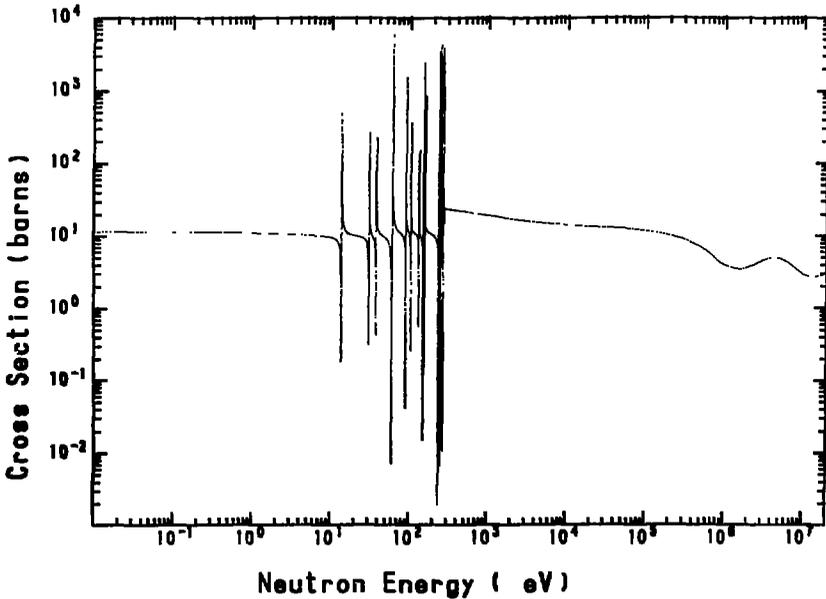
MAT=2954
 MT= 16
 17
 37

²⁴²Cm
TOTAL



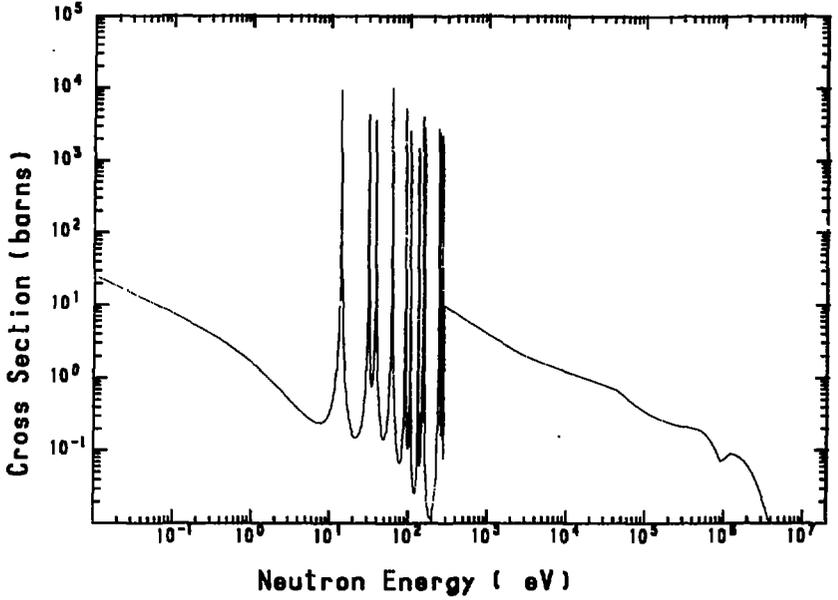
MAT=2961
MT= 1

²⁴²Cm
(n, n)



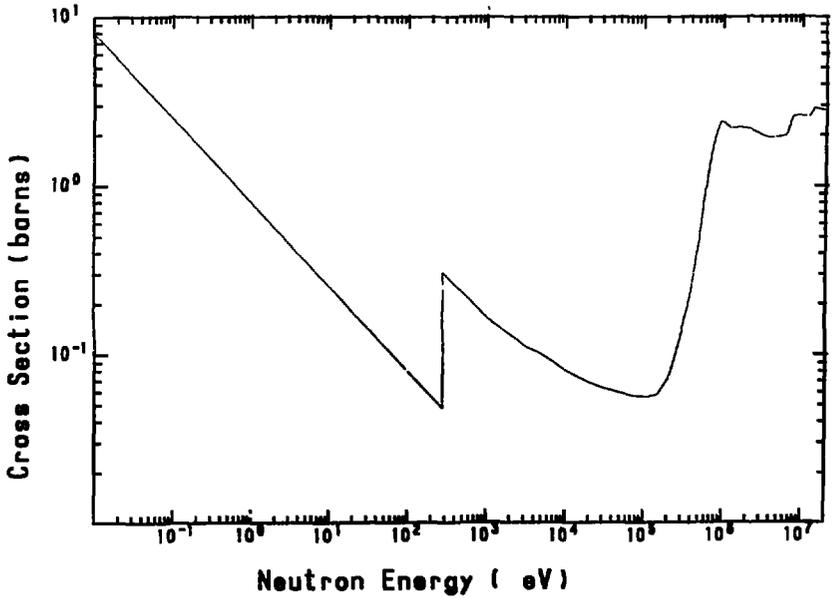
MAT=2961
MT= 2

²⁴²Cm
(n, γ)

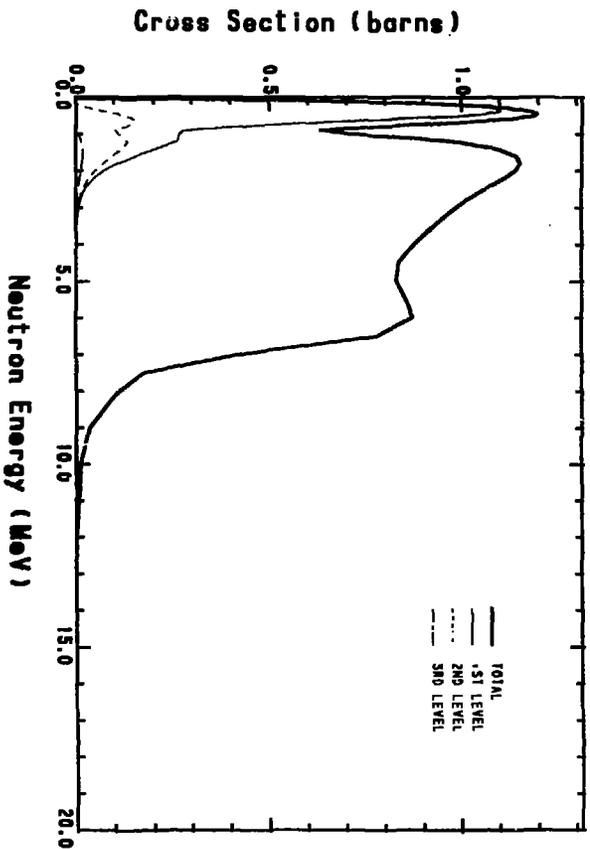


MAT=2961
MT= 102

²⁴²Cm
(n, f)

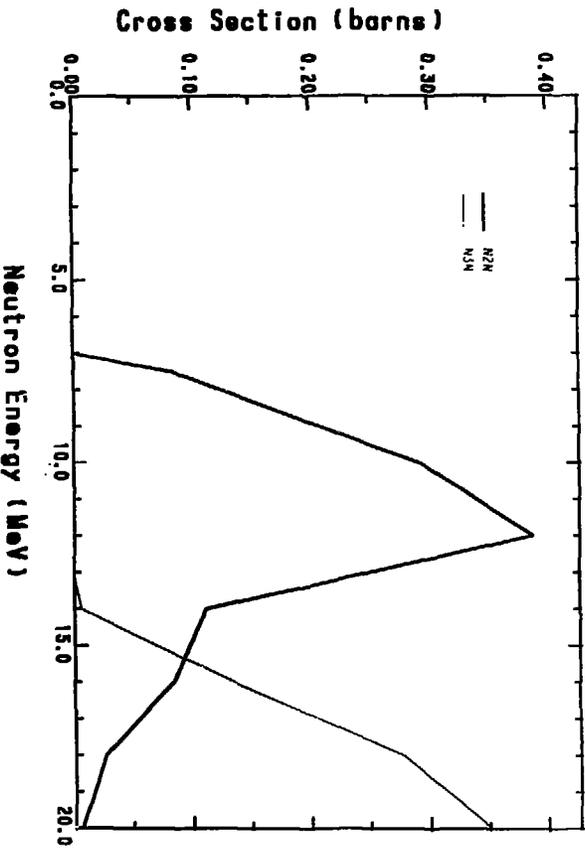


MAT=2961
MT= 18



242 Cm
(n, n')

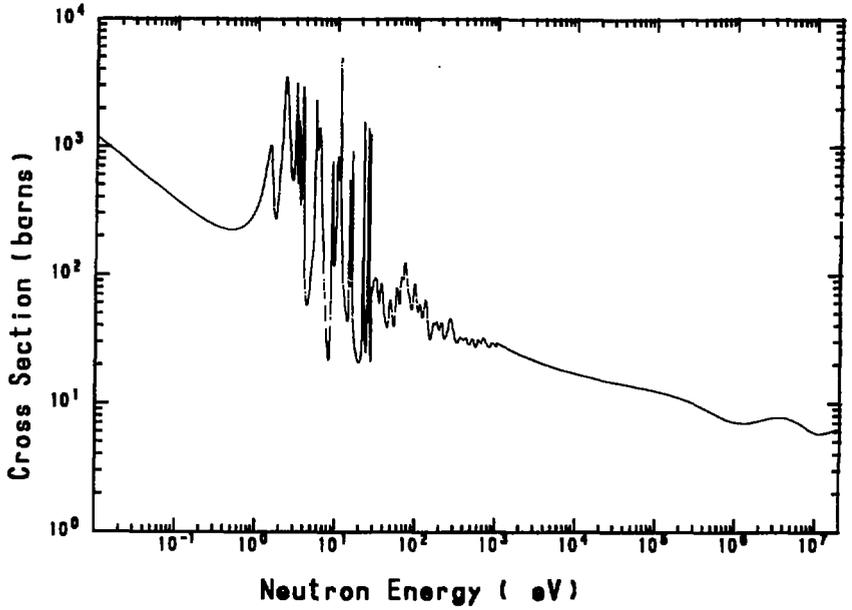
MAT=2961
MT= 4
51~55



242 Cm
(n, 2n)
(n, 3n)

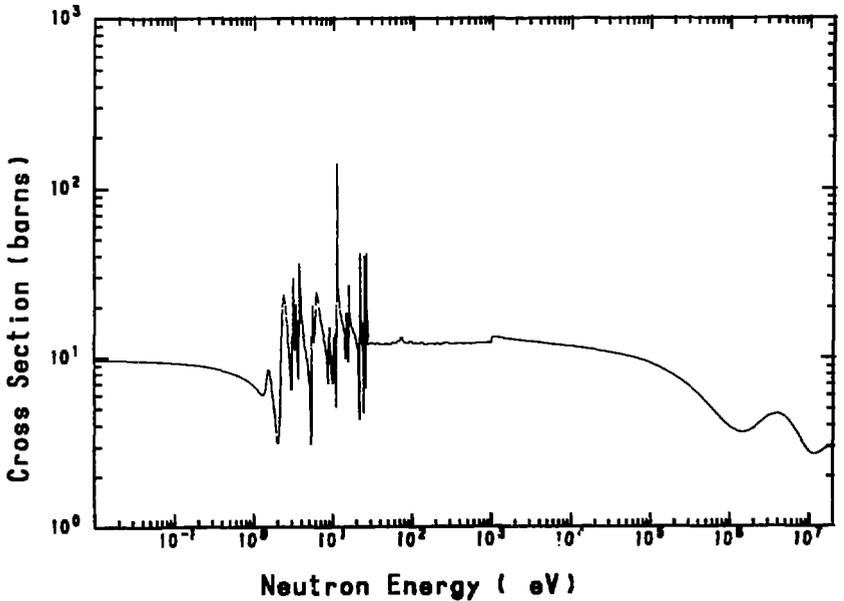
MAT=2961
MT= 16
17

²⁴³Cm
TOTAL

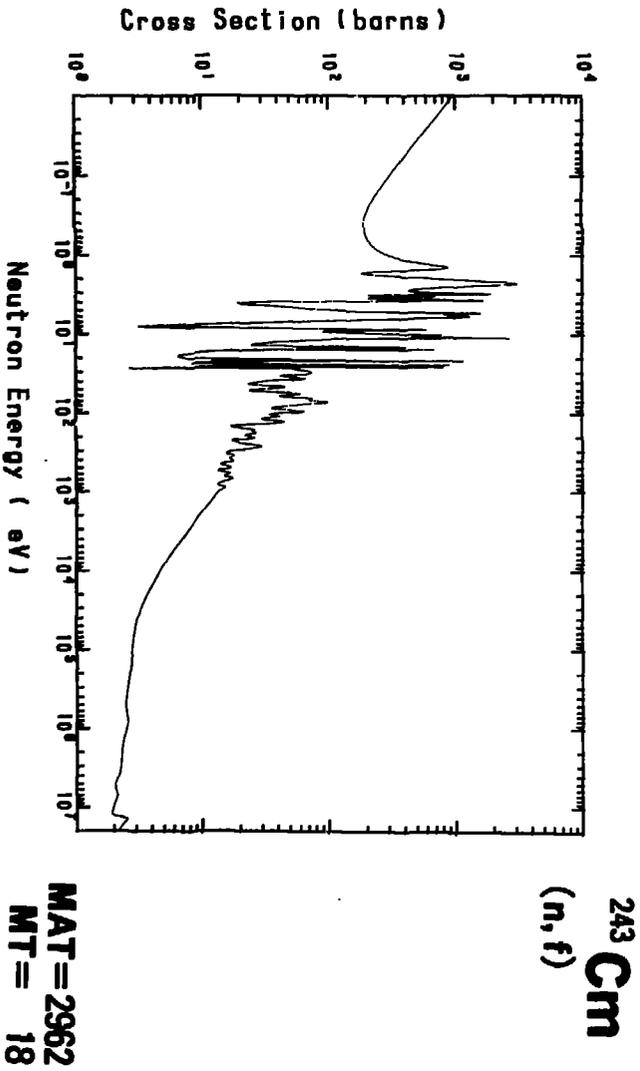
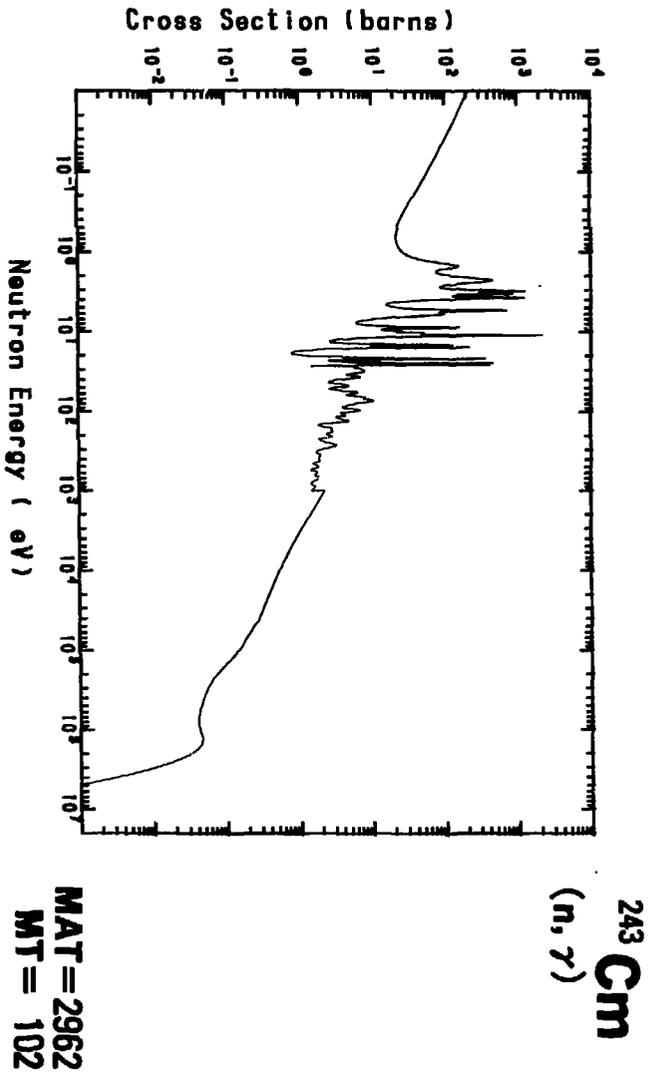


MAT=2962
MT= 1

²⁴³Cm
(n, n)

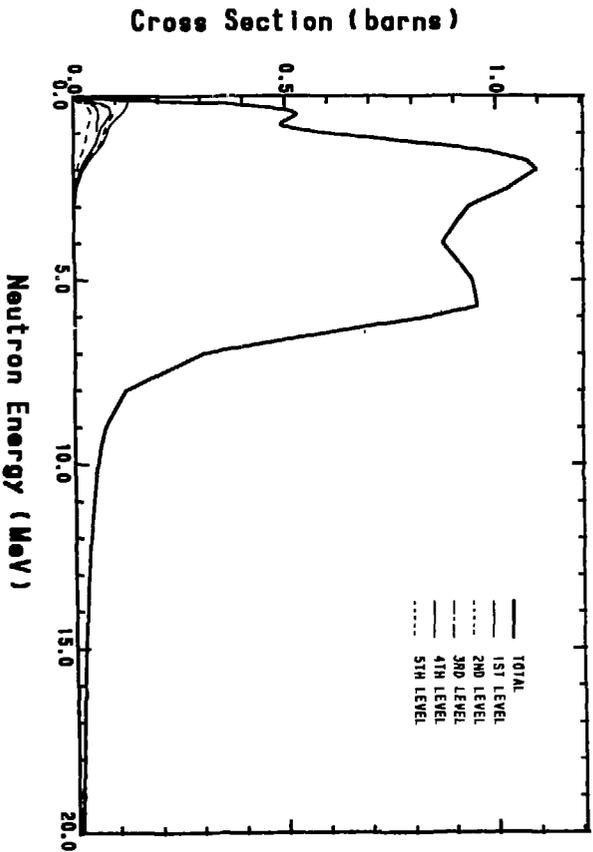


MAT=2962
MT= 2



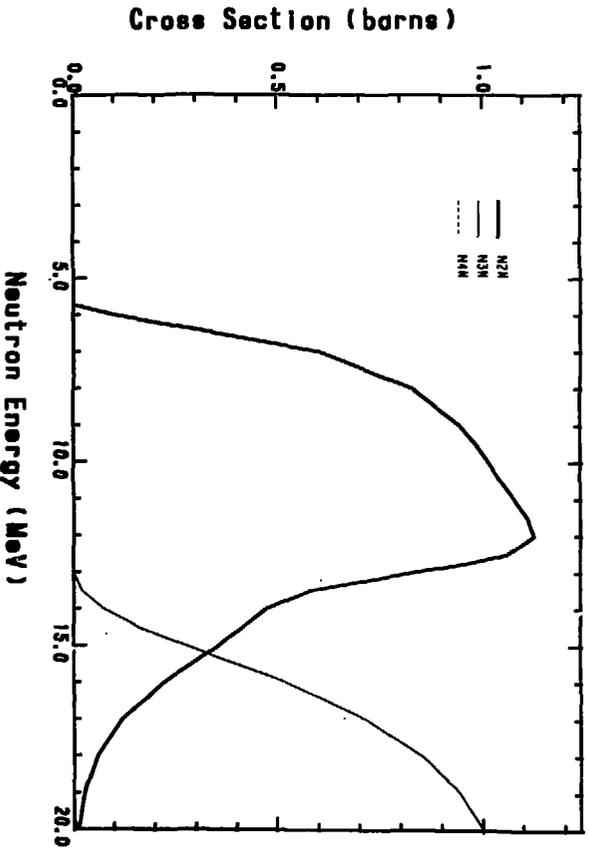
²⁴³Cm
(n, n')

MAT=2962
MT= 4
51~55

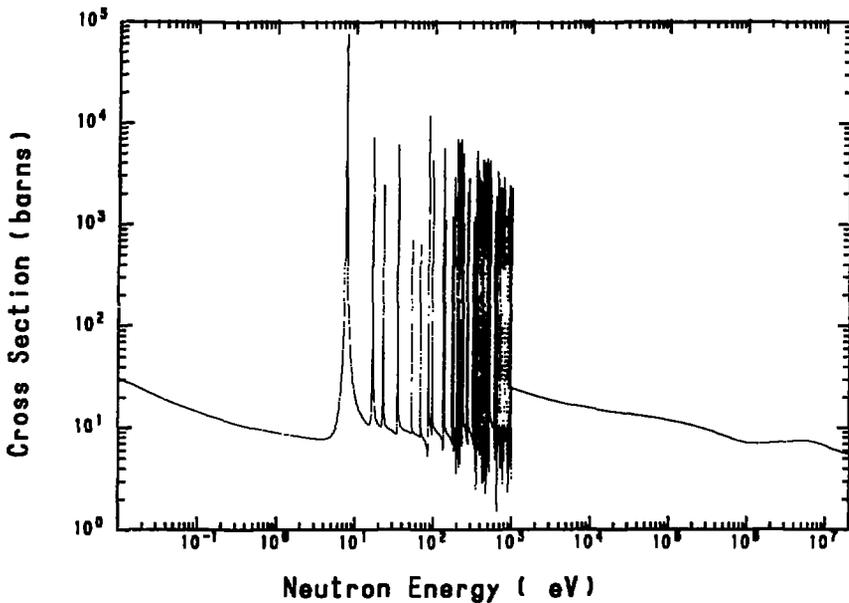


²⁴³Cm
(n, 2n)
(n, 3n)
(n, 4n)

MAT=2962
MT= 16
17
37

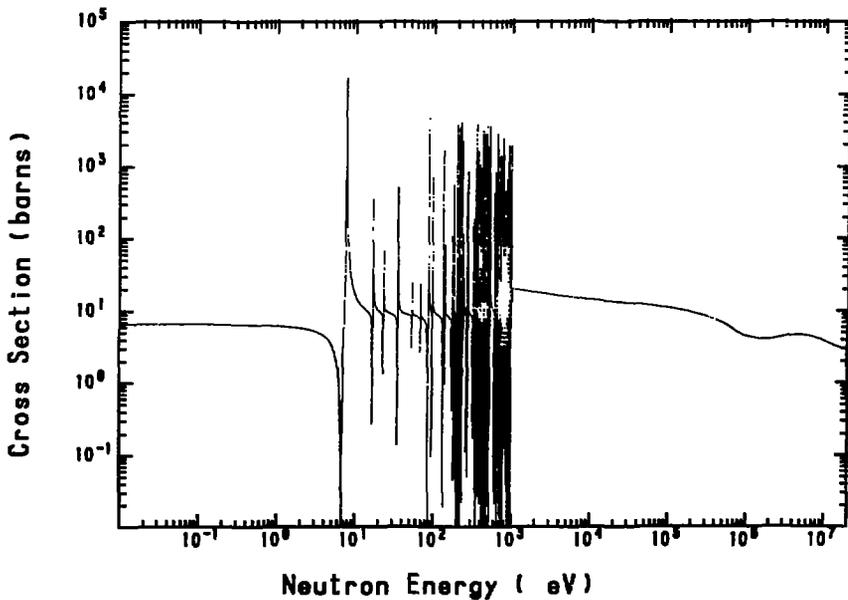


²⁴⁴Cm
TOTAL



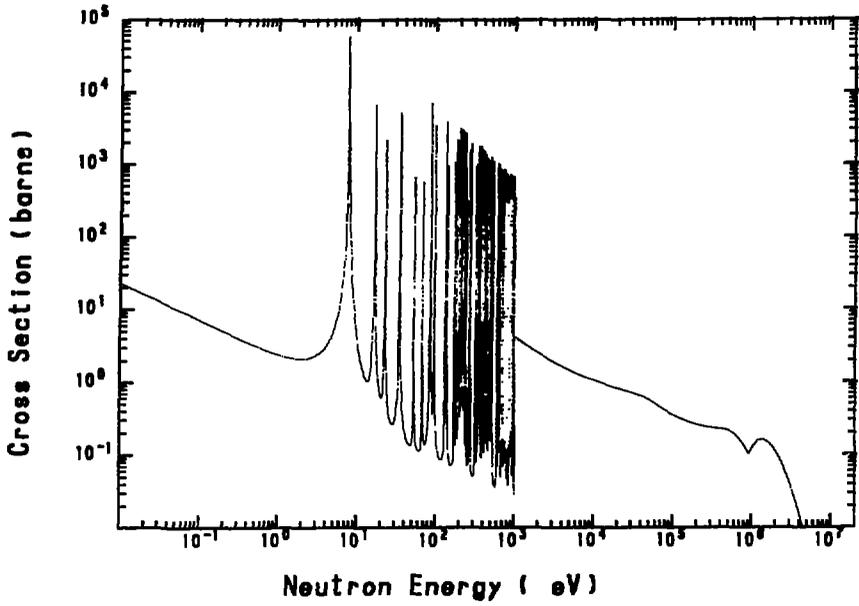
MAT=2963
MT= 1

²⁴⁴Cm
(n, n)



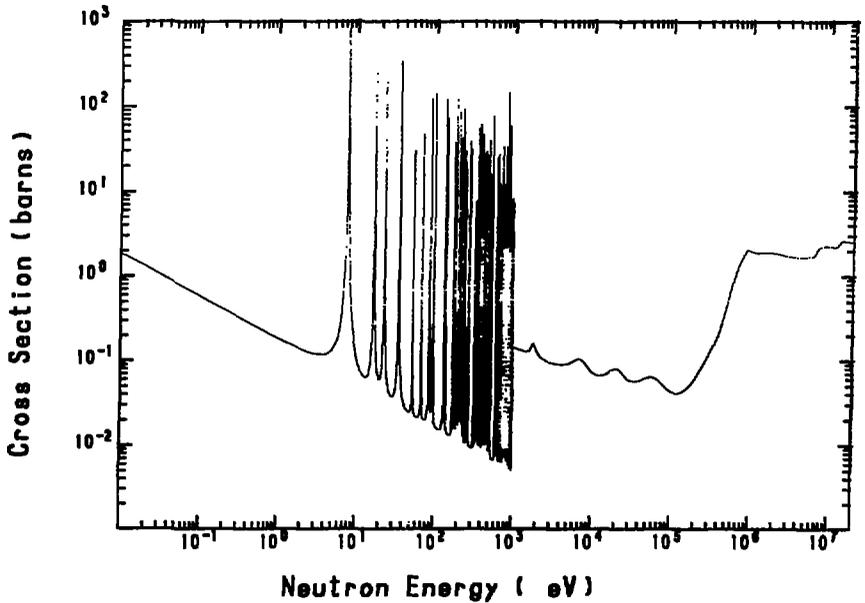
MAT=2963
MT= 2

²⁴⁴Cm
(n, γ)



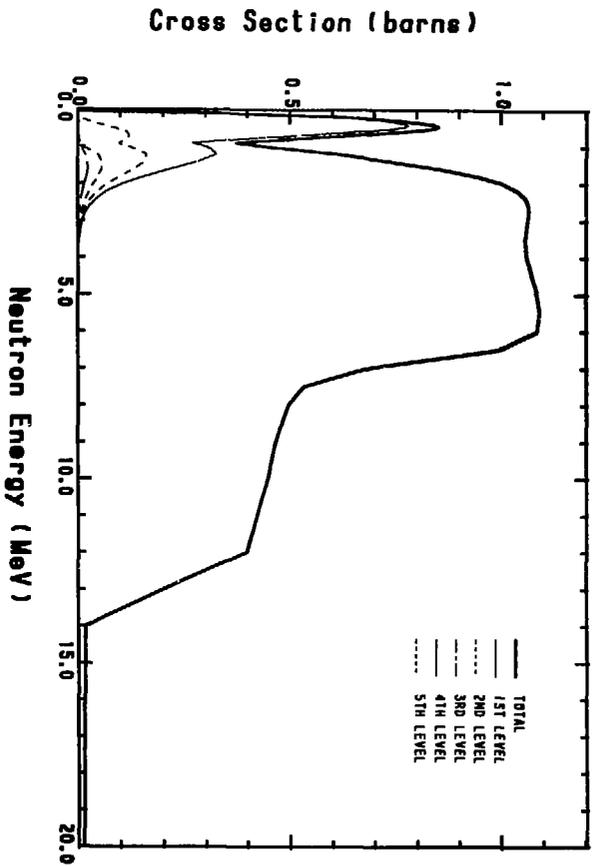
MAT=2963
MT= 102

²⁴⁴Cm
(n, f)



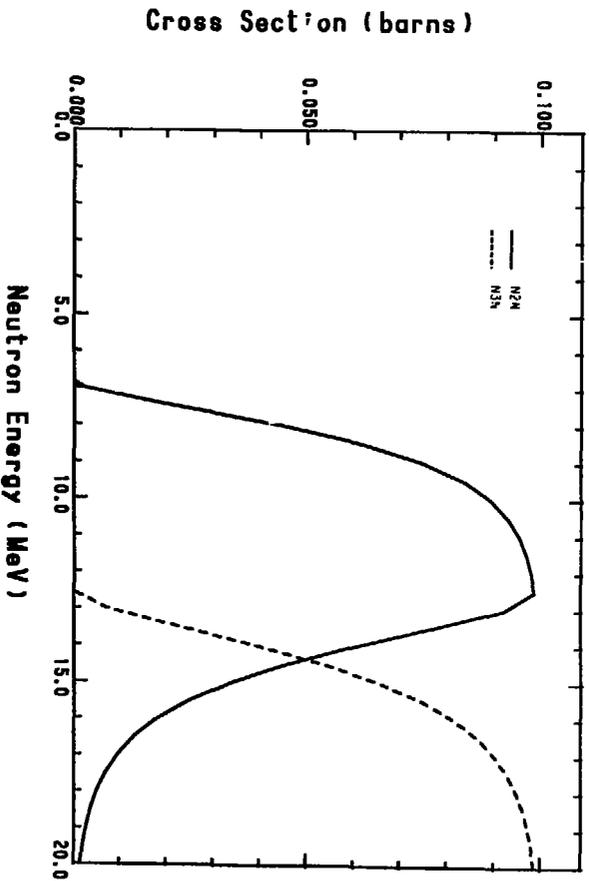
MAT=2963
MT= 18

²⁴⁴Cm
(n, n')



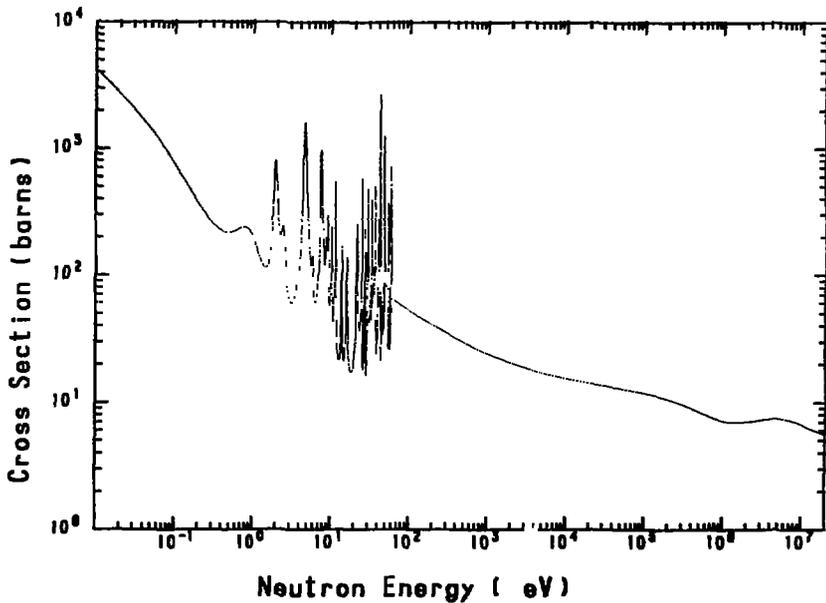
MAT=2963
MT= 4
51~55

²⁴⁴Cm
(n, 2n)
(n, 3n)



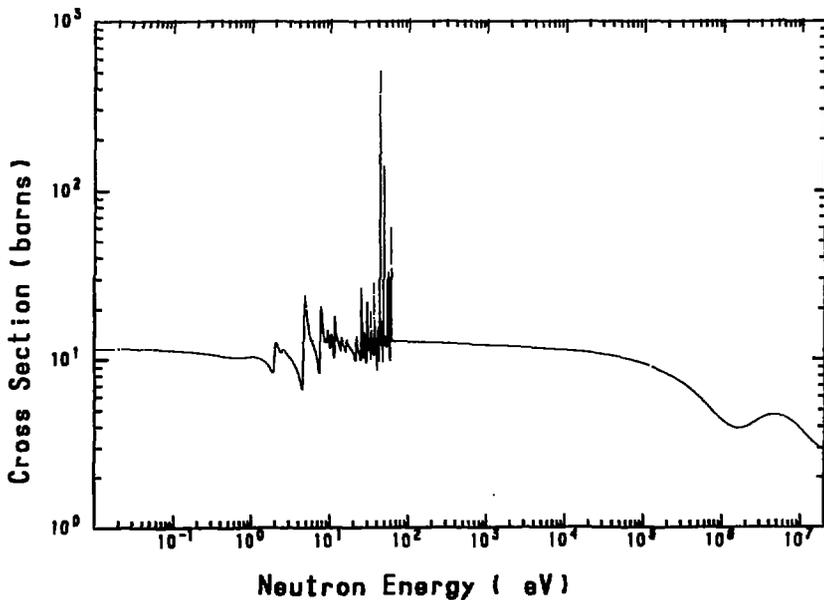
MAT=2963
MT= 16
17

²⁴⁵Cm
TOTAL



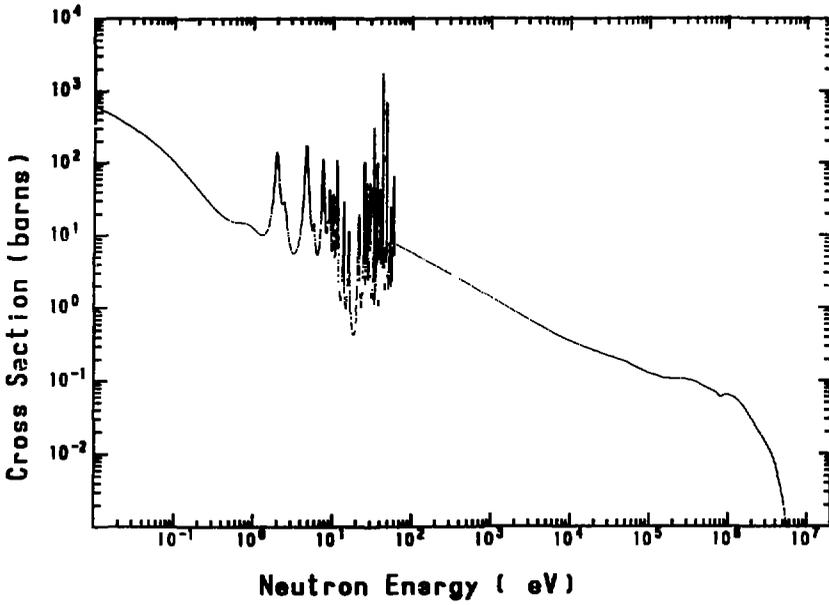
MAT=2964
MT= 1

²⁴⁵Cm
(n, n)



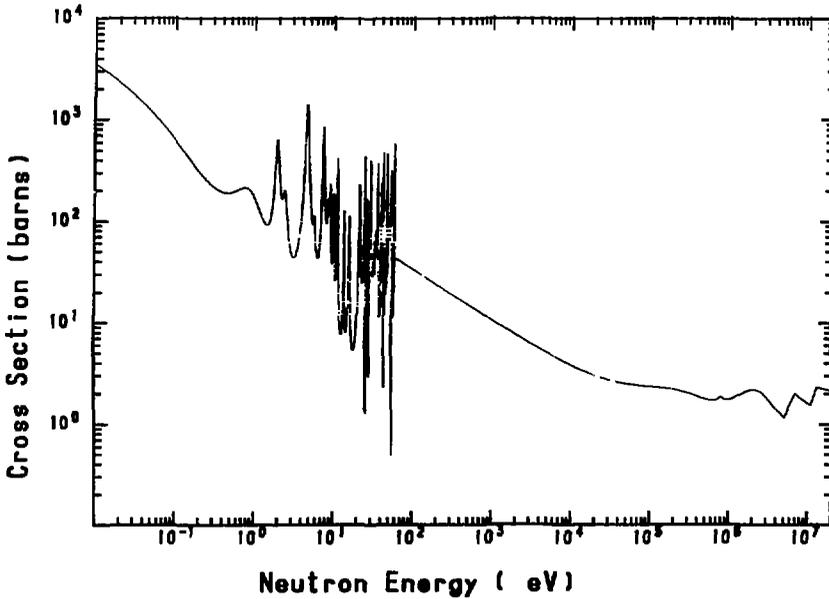
MAT=2964
MT= 2

²⁴⁵Cm
(n, γ)



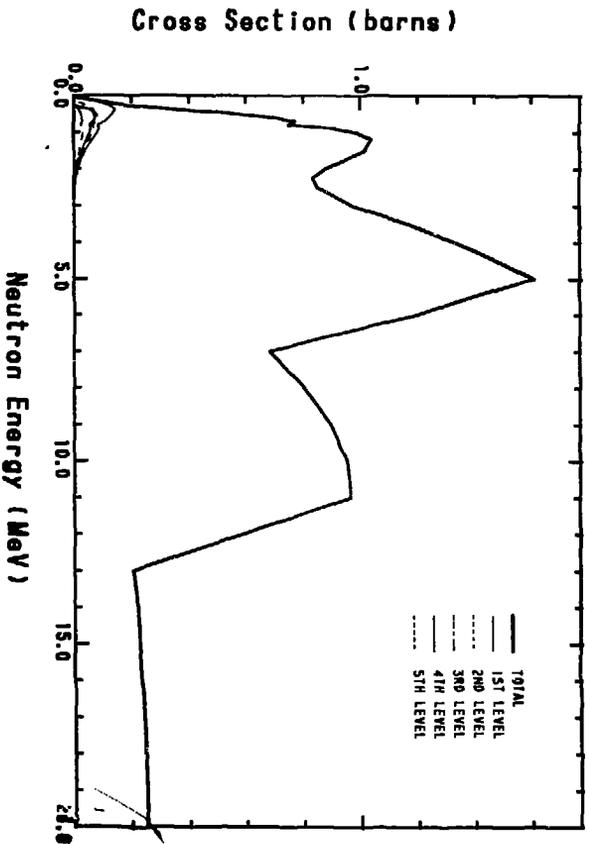
MAT=2964
MT= 102

²⁴⁵Cm
(n, f)



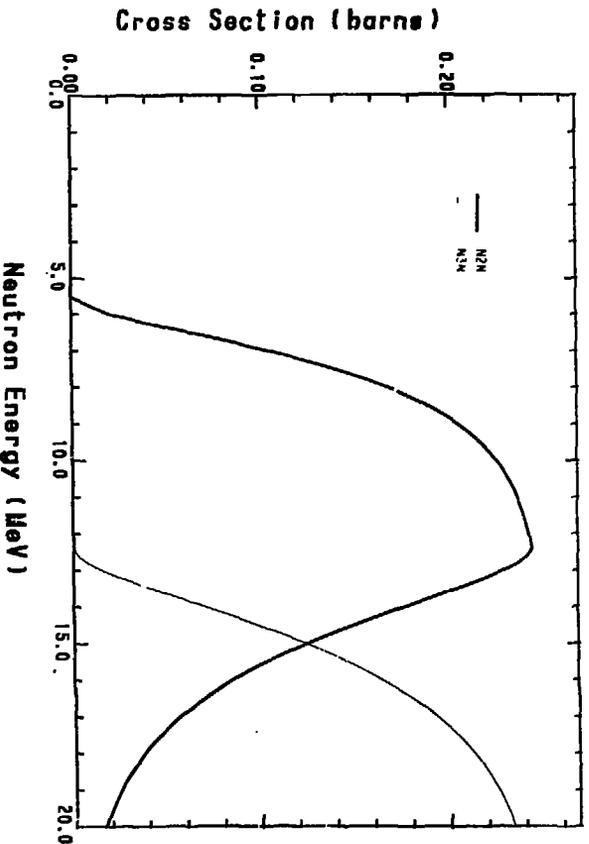
MAT=2964
MT= 18

²⁴⁵Cm
(n, n')



MAT=2964
MT= 4
51~55

²⁴⁵Cm
(n, 2n)
(n, 3n)



MAT=2964
MT= 16
17