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CURVES AND TABLES OF NEUTRON CROSS SECTIONS

— JAPANESE EVALUATED NUCLEAR DATA LIBRARY VERSION 3 —

July 1990

(Eds.) Tsuneo NAKAGAWA, Tetsuo ASAMI* and Tadashi YOSHIDA**

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Curves and Tables of Neutron Cross Sections
- Japanese Evaluated Nuclear Data Library version 3 -

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Neutron cross-section curves from the Japanese Evaluated Nuclear Data Library version 3, JENDL-3, are presented in both graphical and tabular form for users in a wide range of application areas in the nuclear energy field. The contents cover cross sections for all the main reactions induced by neutrons with an energy below 20 MeV including; total, elastic scattering, capture, and fission, (n,n'), (n,2n), (n,3n), (n,α), (n,p) reactions. The 2200 m/s cross-section values, resonance integrals, and Maxwellian- and fission-spectrum averaged cross sections are also tabulated.

Keywords: Cross Sections, JENDL-3, Curves, Tables

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中性子断面積の図・表
－日本の評価済み核データライブラリー第3版－

日本原子力研究所東海研究所物理部
（編）中川　庸雄・浅見　哲夫*・吉田　正**

（1990年6月1日受理）

日本の評価済み核データライブラリー第3版，JENDL－3に収納した中性子断面積を，原子力の広範な応用分野の利用者のために，グラフと表の形でまとめた。図表は，20 MeV以下の中性子エネルギーで起る全断面積，弾性散乱断面積，中性子捕獲，核分裂，（n, n′），（n, 2n），（n, 3n），（n, α），（n, p）反応断面積をカバーしている。また，2200 m／s断面積値，共鳴積分値，マックスウェルおよび核分裂スペクトル平均値も表に与えられている。

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1. Preface

1.1 Introduction

The Japanese Evaluated Nuclear Data Library version 3, JENDL-3[1], contains cross-section data for various nuclear reactions induced by incident neutrons with energies from 10^{-5} eV to 20 MeV, the angular-distributions and energy-spectra of emitted secondary-neutrons, and further data on gamma-ray production. These data, available for 324 important nuclides (including 172 FP nuclides), are of great significance in the development of nuclear technology in areas ranging from fission-reactor design to nuclear fuel cycles. Access to this library, however, generally necessitates special computer programs to deal with the bulky data contained in it, and good knowledge on the format in which the data are written. This limitation, therefore, makes it worthwhile to summarize the contents of JENDL-3 in graphical and tabular form for users who are not in position to utilize the bulky original library and who do not have large data-processing computer codes close at hand. For this reason, the Ad-Hoc Committee for Data Book Publications*) was assembled to survey current data needs, and to formulate a plan for publication of data books including the present report, "Curves and Figures of Neutron Cross Sections".

1.2 Data content

This report furnishes tables and figures of neutron cross sections for nuclides listed in Table 1. These 171 nuclides are in the General Purpose File of JENDL-3[1]. The report consists of the items described below.

(1) Figures containing the total, elastic- and inelastic-scattering, capture, and fission (only for fissionables) cross-section curves in log-log frames:

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These are given for the energy range from 10^{-2} eV to 20 MeV. Curves for charged-particle emission cross-sections are also included if they take place even in the thermal energy region. In the resolved resonance region, overlapping of the resonance curves often prevents users from distinguishing one curve from another. Where this happens, the tables of average cross sections described in item (4) below may help to clarify the rough trends of the cross sections.

(2) Figures showing the threshold-reaction cross sections such as (n,2n), (n,3n), (n,α) and (n,p) reactions in linear-log frames:

(3) For fissile nuclides, figures containing the curves of fission-neutron number per fission (ν value) and the fission cross section muliplied by ν:

In addition to these, the major reaction cross sections are also presented in tabular form in order to help users obtain numerical values. This is especially useful in the resolved resonance region, where strong and dense fluctuations of the cross-section curves in the graphical presentation make it difficult for users to get a clear indication of average magnitude.

(4) Tables of cross sections averaged over energy-intervals in 38-energy group structure from 10^{-5} eV to 20 MeV:

The cross sections were averaged with a constant weight in energy, namely,

$$\overline{\sigma_i} = \int_{E_i}^{E_{i+1}} \sigma(E)dE \ / \ (E_{i+1} - E_i) \quad ,$$

and for the capture-to-fission ratio,

$$\overline{\sigma_c/\sigma_f} = \int_{E_i}^{E_{i+1}} \frac{\sigma_c(E)}{\sigma_f(E)} dE \ / \ (E_{i+1} - E_i) \ .$$

(5) Tables showing the 2200-m/s and 14-MeV cross sections, resonance integrals, and Maxwellian-and fission-spectrum average cross sections:

The cross-section data given in item (5) were obtained from pointwise data. The resonance integrals were calculated by assuming a cut-off energy of 0.5 eV. The Maxwellian-spectrum average cross sections were calculated in the energy interval from 10^{-5} eV to 3.0 eV with the temperature of 0.0253 eV, and fission-spectrum average cross sections from 10^{-5} eV to 20 MeV with the following Watt-type fission spectrum.

$$S(E) = \sqrt{4/(\pi a^3 b)} \times \exp(-ab/4-E/a) \times \sinh(\sqrt{bE}),$$

where a and b were assumed to be 0.988 MeV and 2.249 MeV^{-1}, respectively.

1.3 Notes

In the threshold-reaction graphs given in item (2), users may notice a repetitive slight convex structure in most of the cross-section curves. This is a result of drawing the curves in a linear-log frame though a linear-linear interpolation is suggested in the original library for these reaction cross sections.

Users are advised to be careful when using the first-interval averages of the cross-sections in the tables of item (4). This energy interval is quite wide with respect to the neutron lethargy (10^{-5} to 10^{-2} eV) and therefore the "true" averages depend strongly on details of the weighting functions (or neutron fluxes) within the interval. These details are disregarded here.

For the threshold reactions, the energy intervals in the tables of item (4) are too great to follow the sharp variations in values. The curves given in the figures of item (2) will help users to visualize the shape of these cross sections more accurately.

Table 1 Nuclides in JENDL-3 General Purpose File

No	Nuclide	MAT	Abundance* or $T_{1/2}$	I^{π}	Resonance region (eV)** E_1	E_2	E_3
1	1-H - 1	3011	99.985 %	1/2+	no resonances		
2	1-H - 2	3012	0.015 %	1 +	no resonances		
3	2-He- 3	3021	0.000138 %	1/2+	no resonances		
4	2-He- 4	3022	99.999862%	0 +	no resonances		
5	3-Li- 6	3031	7.5 %	1 +	no resonances		
6	3-Li- 7	3032	92.5 %	3/2-	no resonances		
7	4-Be- 9	3041	100.0 %	3/2-	no resonances		
8	5-B - 10	3051	19.9 %	3 +	no resonances		
9	5-B - 11	3052	80.1 %	3/2-	no resonances		
10	6-C - 12	3061	98.90 %	0 +	no resonances		
11	7-N - 14	3071	99.634 %	1 +	no resonances		
12	7-N - 15	3072	0.366 %	1/2-	1.0E-5	5.46076E+6	no URP
13	8-O - 16	3081	99.762 %	0 +	no resonances		
14	9-F - 19	3091	100.0 %	1/2+	1.0E-5	1.000E+5	no URP
15	11-Na- 23	3111	100.0 %	3/2+	1.0E-5	3.500E+5	no URP
16	12-Mg- 0	3120	--		1.0E-5	5.200E+5	no URP
17	12-Mg- 24	3121	78.99 %	0 +	1.0E-5	5.200E+5	no URP
18	12-Mg- 25	3122	10.00 %	5/2+	1.0E-5	2.200E+5	no URP
19	12-Mg- 26	3123	11.01 %	0 +	1.0E-5	4.500E+5	no URP
20	13-Al- 27	3131	100.0 %	5/2+	1.0E-5	2.100E+5	no URP
21	14-Si- 0	3140	--		1.0E-5	1.810E+6	no URP
22	14-Si- 28	3141	92.23 %	0 +	1.0E-5	1.810E+6	no URP
23	14-Si- 29	3142	4.67 %	1/2+	1.0E-5	1.000E+5	no URP
24	14-Si- 30	3143	3.10 %	0 +	1.0E-5	5.000E+5	no URP
25	15-P - 31	3151	100.0 %	1 2+	1.0E-5	5.4351E+5	no URP
26	16-S - 0	3160	--		1.0E-5	1.56585E+6	no URP
27	16-S - 32	3161	95.02 %	0 +	1.0E-5	1.56585E+6	no URP
28	16-S - 33	3162	0.75 %	3/2+	1.0E-5	2.600E+5	no URP
29	16-S - 34	3163	4.21 %	0 +	1.0E-5	4.800E+5	no URP
30	16-S - 36	3164	0.02 %	0 +	no resonances		
31	19-K - 0	3190	--		1.0E-5	2.000E+5	no URP
32	19-K - 39	3191	93.2581 %	3/2+	1.0E-5	2.000E+5	no URP
33	19-K - 40	3192	0.0117 % 1.277E9 y	4 -	no resonances		
34	19-K - 41	3193	6.7302 %	3/2+	1.0E-5	1.250E+5	no URP
35	20-Ca- 0	3200	--		1.0E-5	5.000E+5	no URP
36	20-Ca- 40	3201	96.941 %	0 +	1.0E-5	5.000E+5	no URP
37	20-Ca- 42	3202	0.647 %	0 +	1.0E-5	3.000E+5	no URP
38	20-Ca- 43	3203	0.135 %	7/2-	1.0E-5	4.000E+4	no URP
39	20-Ca- 44	3204	2.086 %	0 +	1.0E-5	5.000E+5	no URP
40	20-Ca- 46	3205	0.004 %	0 +	no resonances		
41	20-Ca- 48	3206	0.187 % > 2.0E16 y	0 +	1.0E-5	5.000E+5	no URP
42	21-Sc- 45	3211	100.0 %	7/2-	1.0E-5	1.000E+5	no URP
43	22-Ti- 0	3220	--		1.0E-5	1.000E+5	no URP
44	22-Ti- 46	3221	8.0 %	0 +	1.0E-5	1.000E+5	no URP
45	22-Ti- 47	3222	7.3 %	5/2-	1.0E-5	1.000E+5	no URP
46	22-Ti- 48	3223	73.8 %	0 +	1.0E-5	1.000E+5	no URP
47	22-Ti- 49	3224	5.5 %	7/2-	1.0E-5	1.000E+5	no URP
48	22-Ti- 50	3225	5.4 %	0 +	1.0E-5	1.000E+5	no URP

Table 1 (continued)

No	Nuclide	MAT	Abundance* or $T_{1/2}$	I^{π}	Resonance region (eV)** E_1	E_2	E_3
49	23-V - 51	3231	99.750 %	7/2-	1.0E-5	1.000E+5	no URP
50	24-Cr- 0	3240	--		1.0E-5	3.000E+5	no URP
51	24-Cr- 50	3241	4.345 %	0 +	1.0E-5	3.000E+5	no URP
52	24-Cr- 52	3242	83.789 %	0 +	1.0E-5	3.000E+5	no URP
53	24-Cr- 53	3243	9.501 %	3/2-	1.0E-5	1.200E+5	no URP
54	24-Cr- 54	3244	2.365 %	0 +	1.0E-5	3.000E+5	no URP
55	25-Mn- 55	3251	100.0 %	5/2-	1.0E-5	1.000E+5	no URP
56	26-Fe- 0	3260	--		1.0E-5	3.500E+5	no URP
57	26-Fe- 54	3261	5.8 %	0 +	1.0E-5	2.500E+5	no URP
58	26-Fe- 56	3262	91.72 %	0 +	1.0E-5	2.500E+5	no URP
59	26-Fe- 57	3263	2.2 %	1/2-	1.0E-5	2.000E+5	no URP
60	26-Fe- 58	3264	0.28 %	0 +	1.0E-5	3.500E+5	no URP
61	27-Co- 59	3271	100.0 %	7/2-	1.0E-5	1.000E+5	no URP
62	28-Ni- 0	3280	--		1.0E-5	5.570E+5	no URP
63	28-Ni- 58	3281	68.27 %	0 +	1.0E-5	4.200E+5	no URP
64	28-Ni- 60	3282	26.10 %	0 +	1.0E-5	4.560E+5	no URP
65	28-Ni- 61	3283	1.13 %	3/2-	1.0E-5	5.700E+4	no URP
66	28-Ni- 62	3284	3.59 %	0 +	1.0E-5	5.570E+5	no URP
67	28-Ni- 64	3285	0.91 %	0 +	1.0E-5	5.530E+5	no URP
68	29-Cu- 0	3290	--		1.0E-5	1.530E+5	no URP
69	29-Cu- 63	3291	69.17 %	3/2-	1.0E-5	1.530E+5	no URP
70	29-Cu- 65	3292	30.83 %	3/2-	1.0E-5	1.530E+5	no URP
71	40-Zr- 0	3400	--		1.0E-5	1.710E+5	no URP
72	40-Zr- 90	3401	51.45 %	0 +	1.0E-5	1.710E+5	no URP
73	40-Zr- 91	3402	11.22 %	5/2+	1.0E-5	3.016E+4	1.0E+5
74	40-Zr- 92	3403	17.15 %	0 +	1.0E-5	7.100E+4	1.0E+5
75	40-Zr- 94	3405	17.38 %	0 +	1.0E-5	5.350E+4	1.0E+5
76	40-Zr- 96	3407	2.80 %	0 +	1.0E-5	1.000E+5	no URP
			> 3.56E17 y				
77	41-Nb- 93	3411	100.0 %	9/2+	1.0E-5	7.000E+3	1.0E+5
78	42-Mo- 0	3420	--		1.0E-5	5.000E+4	1.0E+5
79	42-Mo- 92	3421	14.84 %	0 +	1.0E-5	5.000E+4	1.0E+5
80	42-Mo- 94	3422	9.25 %	0 +	1.0E-5	2.000E+4	1.0E+5
81	42-Mo- 95	3423	15.92 %	5/2+	1.0E-5	2.000E+3	1.0E+5
82	42-Mo- 96	3424	16.68 %	0 +	1.0E-5	1.900E+4	1.0E+5
83	42-Mo- 97	3425	9.55 %	5/2+	1.0E-5	1.800E+3	1.0E+5
84	42-Mo- 98	3426	24.13 %	0 +	1.0E-5	3.200E+4	1.0E+5
85	42-Mo-100	3428	9.63 %	0 +	1.0E-5	2.600E+4	1.0E+5
86	47-Ag- 0	3470	--		1.0E-5	7.0095E+3	1.0E+5
87	47-Ag-107	3471	51.839 %	1/2-	1.0E-5	7.0095E+3	1.0E+5
88	47-Ag-109	3472	48.161 %	1/2-	1.0E-5	7.0095E+3	1.0E+5
89	48-Cd- 0	3480	--		1.0E-5	9.000E+3	1.0E+5
90	51-Sb- 0	3510	--		1.0E-5	2.500E+3	1.0E+5
91	51-Sb-121	3511	57.3 %	5/2+	1.0E-5	2.000E+3	1.0E+5
92	51-Sb-123	3512	42.7 %	7/2+	1.0E-5	2.500E+3	1.0E+5
93	63-Eu- 0	3630	--		1.0E-5	9.820E+1	1.0E+5
94	63-Eu-151	3631	47.8 %	5/2+	1.0E-5	9.820E+1	1.0E+5
95	63-Eu-153	3633	52.2 %	5/2+	1.0E-5	9.720E+1	1.0E+5
96	72-Hf- 0	3720	--		1.0E-5	2.500E+3	5.0E+4

Table 1 (continued)

No	Nuclide	MAT	Abundance* or $T_{1/2}$	I^{π}	Resonance region (eV)** E_1	E_2	E_3
97	72-Hf-174	3721	0.162 % 2.0E15 y	0 +	1.0E-5	2.200E+2	5.0E+4
98	72-Hf-176	3722	5.206 %	0 +	1.0E-5	7.000E+2	5.0E+4
99	72-Hf-177	3723	18.606 %	7/2-	1.0E-5	2.500E+2	5.0E+4
100	72-Hf-178	3724	27.297 %	0 +	1.0E-5	1.500E+3	5.0E+4
101	72-Hf-179	3725	13.629 %	9/2+	1.0E-5	2.500E+2	5.0E+4
102	72-Hf-180	3726	35.100 %	0 +	1.0E-5	2.500E+3	5.0E+4
103	73-Ta-181	3731	99.988 %	7/2+	1.0E-5	2.400E+3	1.0E+5
104	74-W - 0	3740	--		1.0E-5	1.500E+4	no URP
105	74-W -182	3741	26.3 %	0 +	1.0E-5	1.200E+4	no URP
106	74-W -183	3742	14.3 %	1/2-	1.0E-5	2.200E+3	no URP
107	74-W -184	3743	30.67 % > 3E17 y	0 +	1.0E-5	1.500E+4	no URP
108	74-W -186	3744	28.6 %	0 +	1.0E-5	1.500E+4	no URP
109	82-Pb- 0	3820	--		1.0E-5	4.800E+5	no URP
110	82-Pb-204	3821	1.4 % >1.4E17 y	0 +	1.0E-5	5.000E+4	no URP
111	82-Pb-206	3822	24.1 %	0 +	1.0E-5	5.000E+5	no URP
112	82-Pb-207	3823	22.1 %	1/2-	1.0E-5	5.000E+5	no URP
113	82-Pb-208	3824	52.4 %	0 +	1.0E-5	8.000E+5	no URP
114	83-Bi-209	3831	100.0 %	9/2-	1.0E-5	2.000E+5	no URP
115	88-Ra-223	3881	11.434 d	1/2(+)	no resonances		
116	88-Ra-224	3882	3.66 d	0 +	no resonances		
117	88-Ra-225	3883	14.8 d	(3/2)+	no resonances		
118	88-Ra-226	3884	1600 y	0 +	1.0E-5	1.000E+3	no URP
119	89-Ac-225	3891	10.0 d	(3/2-)	no resonances		
120	89-Ac-226	3892	29 h	(1 -)	no resonances		
121	89-Ac-227	3893	21.773 y	3/2(-)	no resonances		
122	90-Th-227	3901	18.718 d	(3/2+)	no resonances		
123	90-Th-228	3902	1.9131 y	0 +	1.0E-5	7.798E+0	no URP
124	90-Th-229	3903	7340 y	5/2+	1.0E-5	9.500E+0	no URP
125	90-Th-230	3904	7.538E4 y	0 +	1.0E-5	5.6426E+2	no URP
126	90-Th-232	3905	100.0 % 1.405E10 y	0 +	1.0E-5	3.500E+3	5.0E+4
127	90-Th-233	3906	22.3 m	(1/2+)	no resonances		
128	90-Th-234	3907	24.10 d	0 +	no resonances		
129	91-Pa-231	3911	3.276E4 y	3/2-	1.0E-5	1.150E+2	4.0E+4
130	91-Pa-232	3912	1.31 d	(2 -)	no resonances		
131	91-Pa-233	3913	27.0 d	3/2-	1.0E-5	1.650E+1	4.0E+4
132	92-U -232	3921	68.9 y	0 +	1.0E-5	2.000E+2	no URP
133	92-U -233	3922	1.592E5 y	5/2+	1.0E+0	1.000E+2	3.0E+4
134	92-U -234	3923	0.0055 % 2.45E5 y	0 +	1.0E-5	1.500E+3	5.0E+4
135	92-U -235	3924	0.7200 % 7.038E8 y	7/2-	1.0E+0	1.000E+2	3.0E+4
136	92-U -236	3925	2.3415E7 y	0 +	1.0E-5	1.500E+3	4.0E+4
137	92-U -238	3926	99.2745 % 4.468E9 y	0 +	1.0E-5	9.500E+3	5.0E+4
138	93-Np-237	3931	2.14E6 y	5/2+	1.0E-5	1.300E+2	3.0E+4
139	93-Np-239	3932	2.355 d	5/2+	no resonances		

Table 1 (continued)

No	Nuclide	MAT	Abundance* or $T_{1/2}$	I^{π}	Resonance region (eV)** E_1	E_2	E_3
140	94-Pu-236	3941	2.851 y	0 +	1.0E-5	9.150E+0	no URP
141	94-Pu-238	3942	87.74 y	0 +	1.0E-5	5.000E+2	no URP
142	94-Pu-239	3943	24119 y	1/2+	1.0E-5	1.000E+3	3.0E+4
143	94-Pu-240	3944	6570 y	0 +	1.0E-5	4.000E+3	4.0E+4
144	94-Pu-241	3945	14.35 y	5/2+	1.0E+0	1.000E+2	3.0E+4
145	94-Pu-242	3946	3.763E5 y	0 +	1.0E-5	1.150E+3	4.0E+4
146	95-Am-241	3951	432.2 y	5/2-	1.0E-5	1.500E+2	3.0E+4
147	95-Am-242	3952	16.02 h	1 -	no resonances		
148	95-Am-242m	3953	141 y	5 -	1.0E-5	2.000E+1	3.0E+4
149	95-Am-243	3954	7380 y	5/2-	1.0E-5	2.150E+2	3.0E+4
150	95-Am-244	3955	10.1 h	(6 -)	no resonances		
151	95-Am-244m	3956	26 m	(1 -)	no resonances		
152	96-Cm-241	3961	32.8 d	1/2+	no resonances		
153	96-Cm-242	3962	162.8 d	0 +	1.0E-5	2.750E+2	4.0E+4
154	96-Cm-243	3963	28.5 y	5/2+	1.0E-5	7.000E+1	4.0E+4
155	96-Cm-244	3964	18.10 y	0 +	1.0E-5	1.000E+3	4.0E+4
156	96-Cm-245	3965	8500 y	7/2+	1.0E-5	6.000E+1	4.0E+4
157	96-Cm-246	3966	4730 y	0 +	1.0E-5	3.300E+2	3.0E+4
158	96-Cm-247	3967	1.56E7 y	9/2-	1.0E-5	6.000E+1	3.0E+4
159	96-Cm-248	3968	3.40E5 y	0 +	1.0E-5	1.500E+3	3.0E+4
160	96-Cm-249	3969	64.15 m	1/2(+)	no RRP	4.150E+0	3.0E+4
161	96-Cm-250	3970	7400 y	0 +	no resonances		
162	97-Bk-249	3971	320 d	7/2+	1.0E-5	6.000E+1	3.0E+4
163	97-Bk-250	3972	3.22 h	2 -	1.0E-5	1.000E+2	3.0E+4
164	98-Cf-249	3981	350.6 y	9/2-	1.0E-5	7.000E+1	3.0E+4
165	98-Cf-250	3982	13.08 y	0 +	1.0E-5	1.500E+2	3.0E+4
166	98-Cf-251	3983	898 y	1/2+	1.0E-5	1.500E+2	3.0E+4
167	98-Cf-252	3984	2.638 y	0 +	1.0E-5	1.000E+3	3.0E+4
168	98-Cf-254	3985	60.5 d	0 +	no resonances		
169	99-Es-254	3991	275.5 d	(7 +)	no resonances		
170	99-Es-255	3992	39.8 d	(7/2+)	no resonances		
171	100-Fm-255	3995	20.07 h	7/2+	no resonances		

* Abundance, $T_{1/2}$ and I^{π} are taken from the Nuclear Wallet Cards, J.K. Tuli (1985).

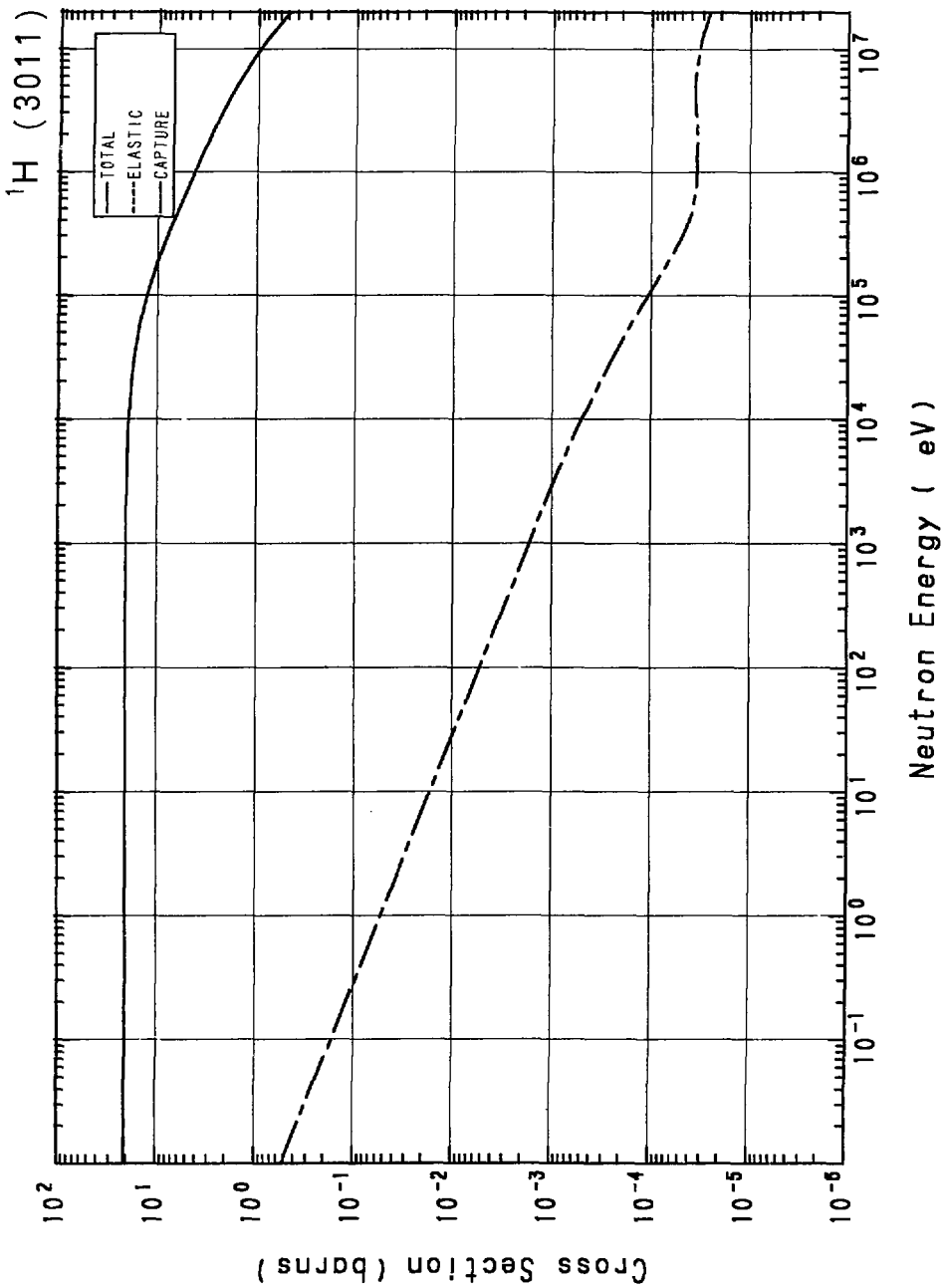
** E_1 : Lower boundary of the resolved resonance region.
E_2 : upper boundary of the resolved resonance region.
E_3 : upper boundary of the unresolved resonance region.
no URP : no unresolved resonance parameters.
no RRP : no resolved resonance parameters.

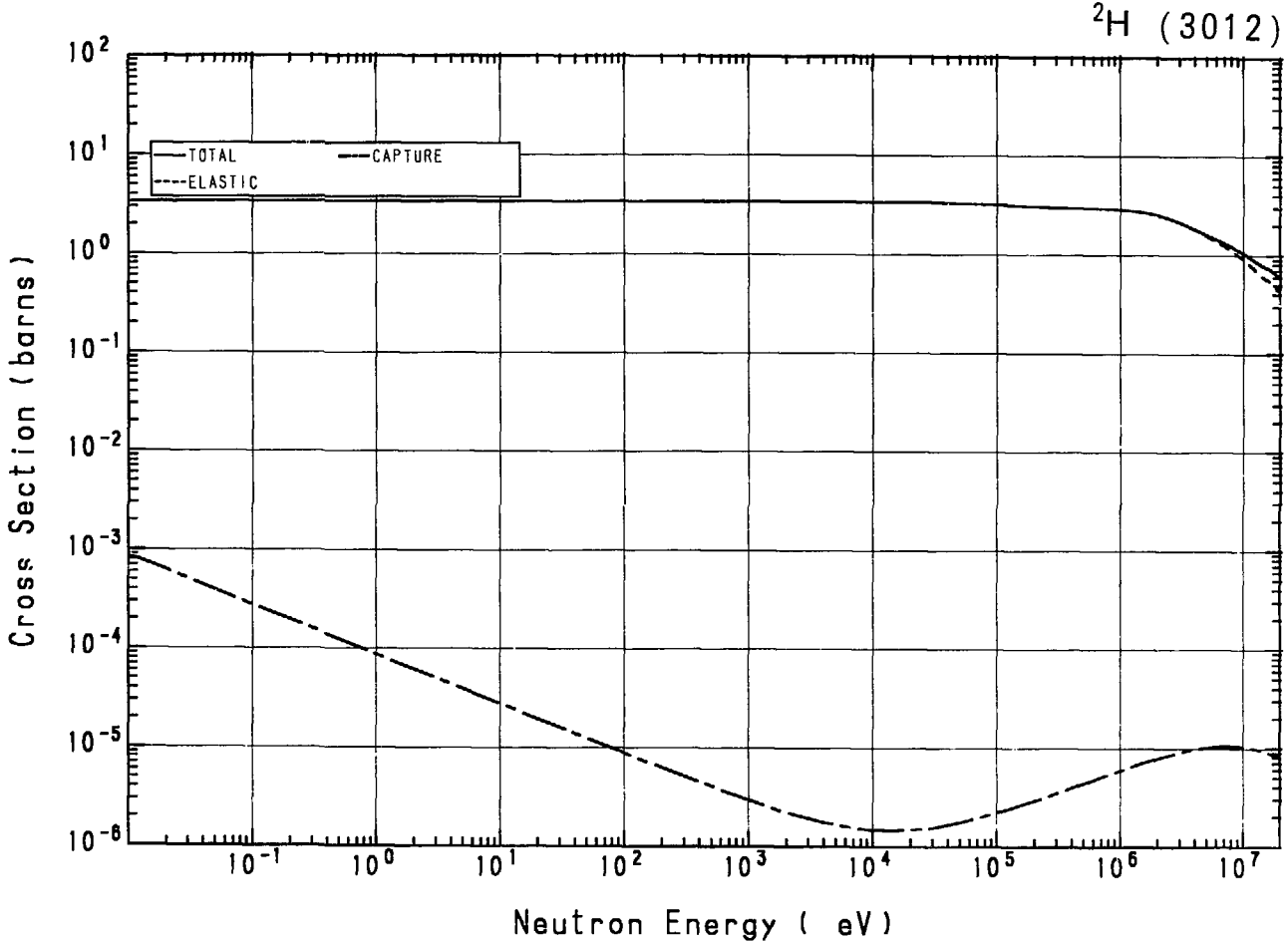
Table 2 Notation of reactions

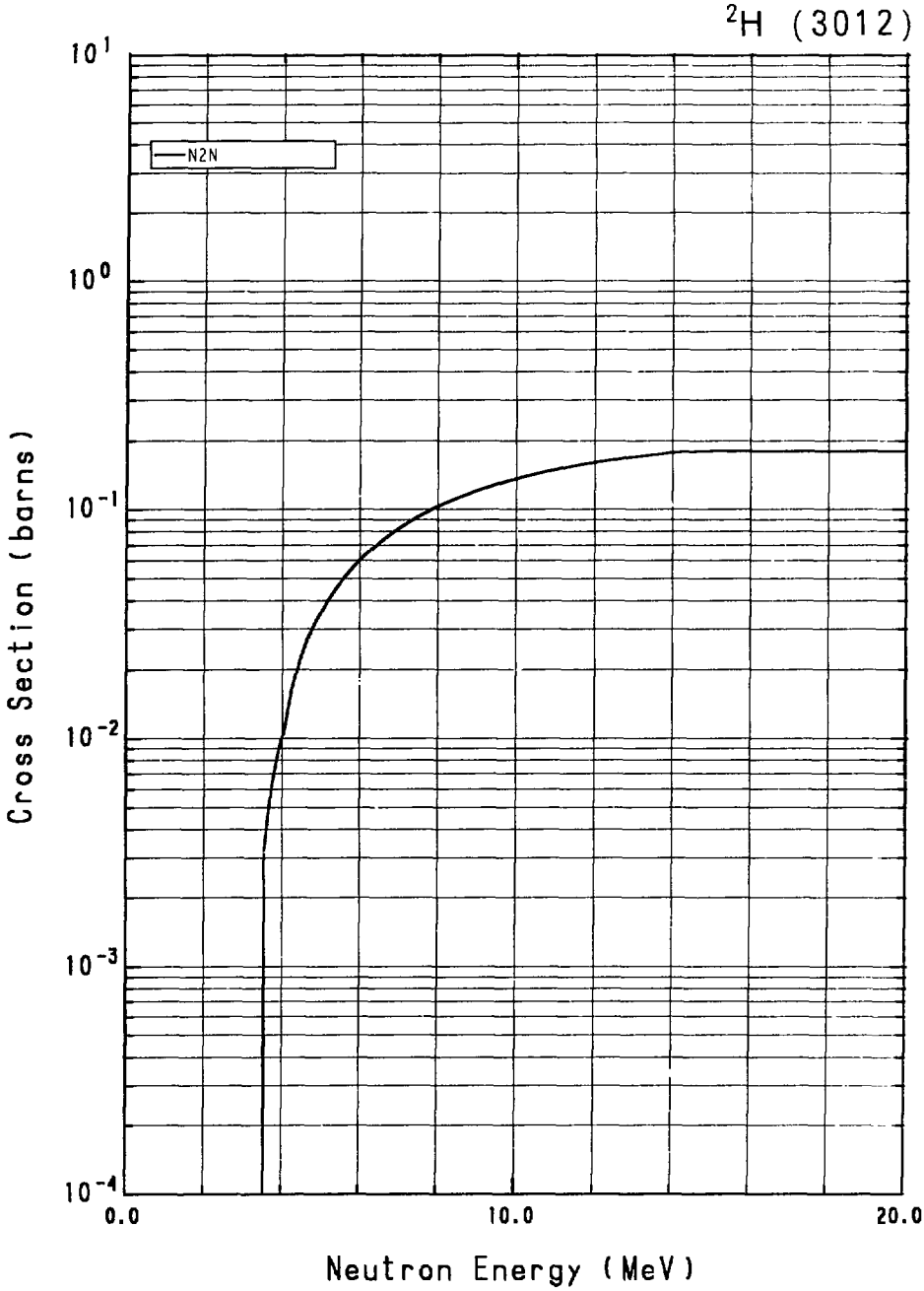
Notation 1*	Notation 2*	reaction
TOTAL	total	total cross section
ELASTIC	elastic	elastic scattering cross section
INELASTIC	inelastic	inelastic scattering cross section
CAPTURE	cupture	(n,γ) cross section
FISSION	fission	fission cross section
N2N	(n,2n)	(n,2n) cross section
N3N	(n,3n)	(n,3n) cross section
N4N	(n,4n)	(n,4n) cross section
NNP	(n,np)	(n,np) cross section
NND	(n,nd)	(n,nd) cross section
NNT	(n,nt)	(n,nt) cross section
NNA	(n,na)	(n,nα) cross section
NN2A	(n,n2a)	(n,n2α) cross section
N2NA	(n,2na)	(n,2nα) cross section
NP	(n,p)	(n,p) cross section
ND	(n,d)	(n,d) cross section
NT	(n,t)	(n,t) cross section
NA	(n,a)	(n,α) cross section
NHE3	(n,He-3)	(n,^{3}He) cross section
N2P	(n,2p)	(n,2p) cross section
N2A	(n,2a)	(n,2α) cross section
NT2A	(n,t2a)	(n,t2α) cross section
	CAP/FISS	α (capture-to-fission cross section ratio)
	NU	ν (average number of total neutrons per fission)
	NU*FIS	ν × fission cross section
	MU-BAR	μ_L

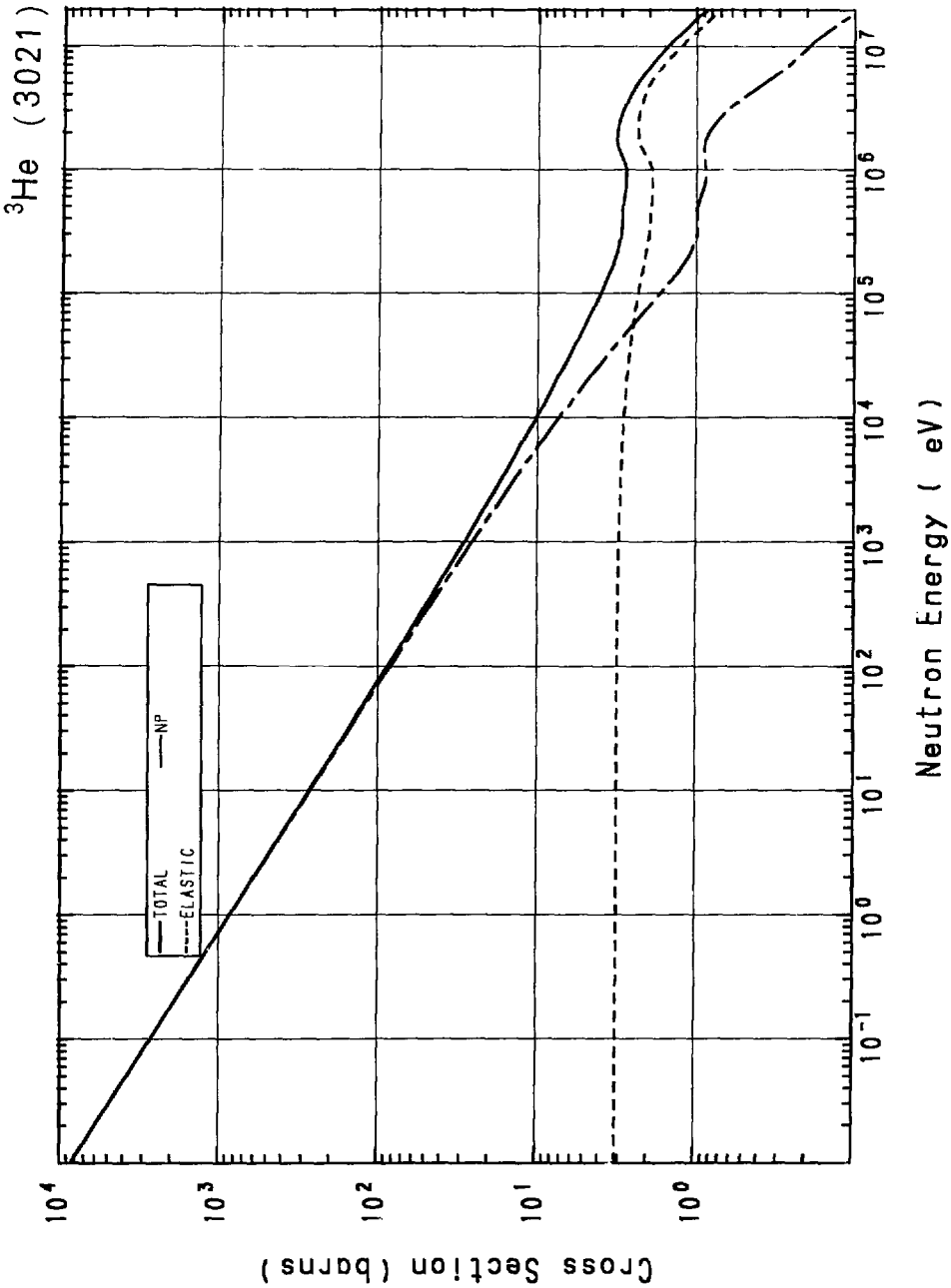
* Notation 1 is used in a legend box of each figure.
Notation 2 is used in tables.

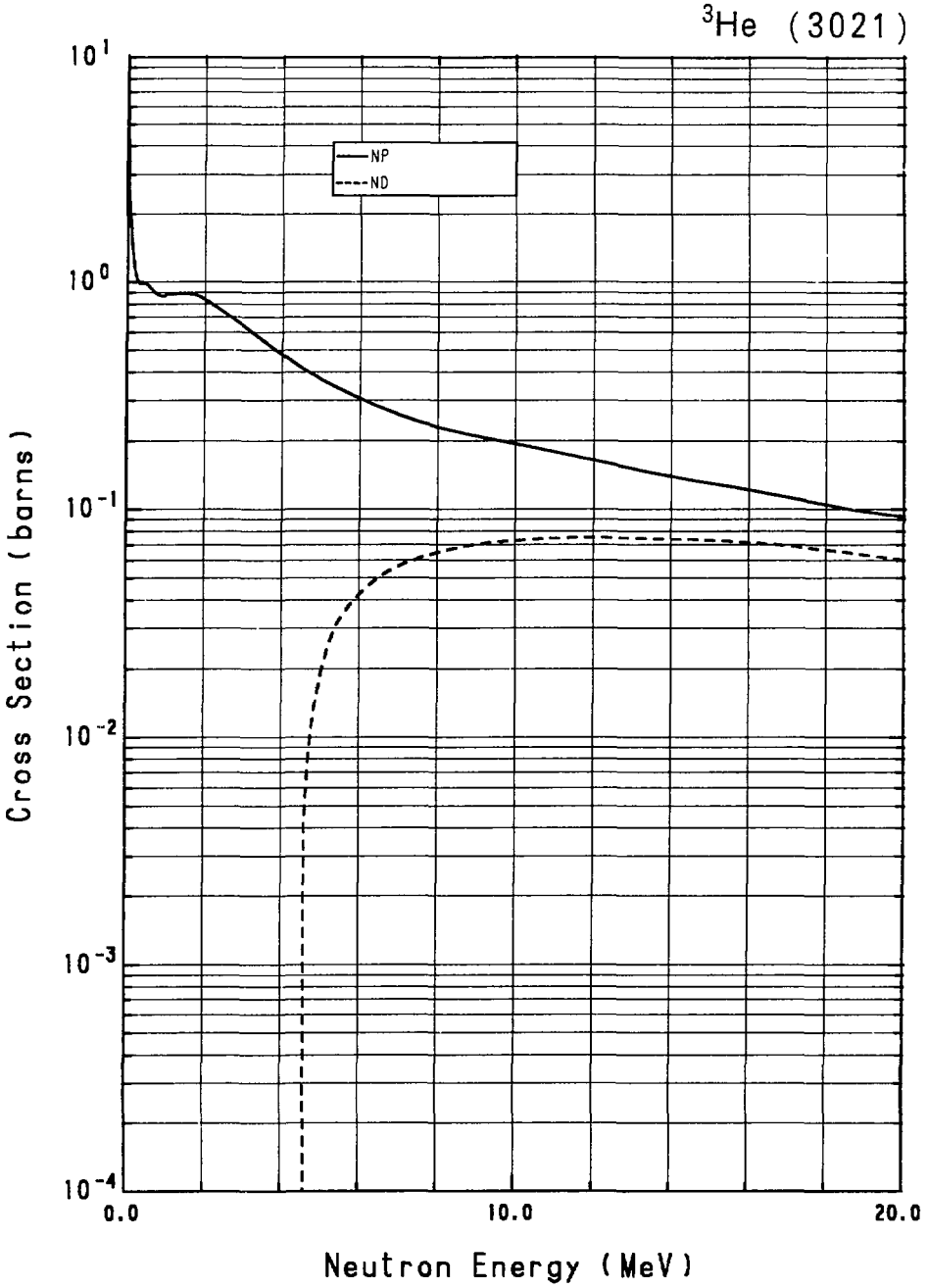
2. Cross Section Curves

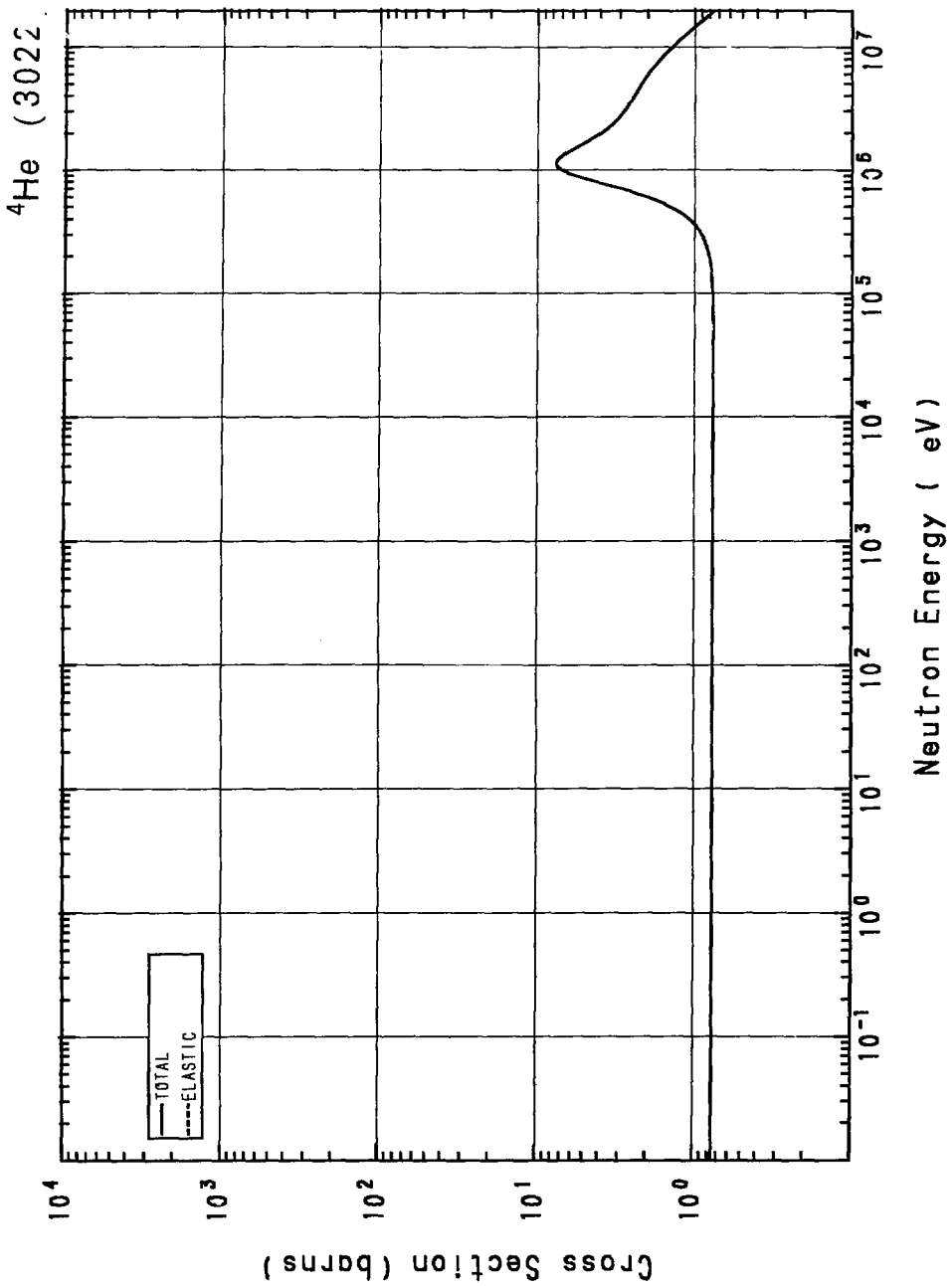

^{1}H (3011)
TOTAL
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

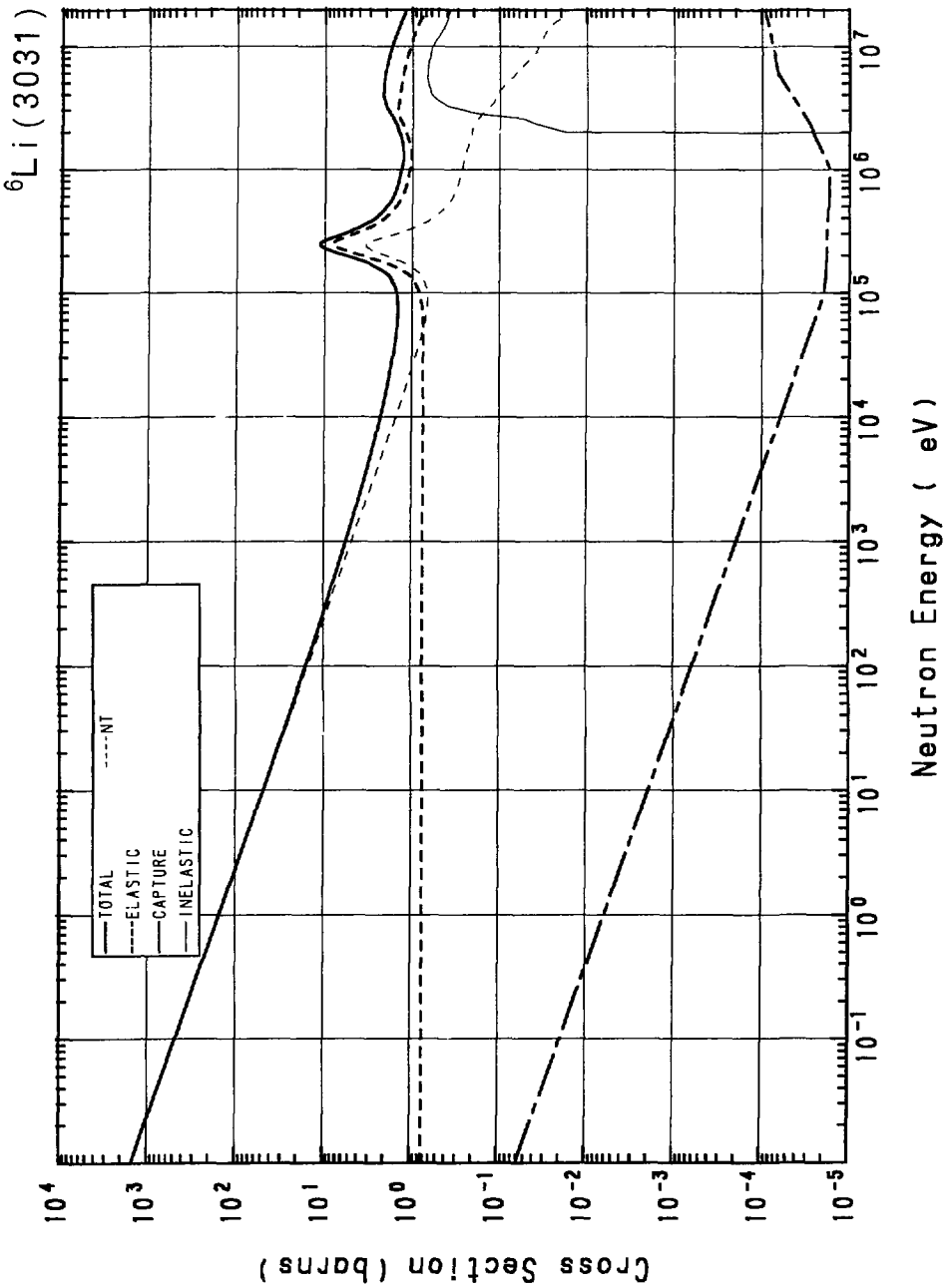

^{2}H (3012)
TOTAL
CAPTURE
ELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

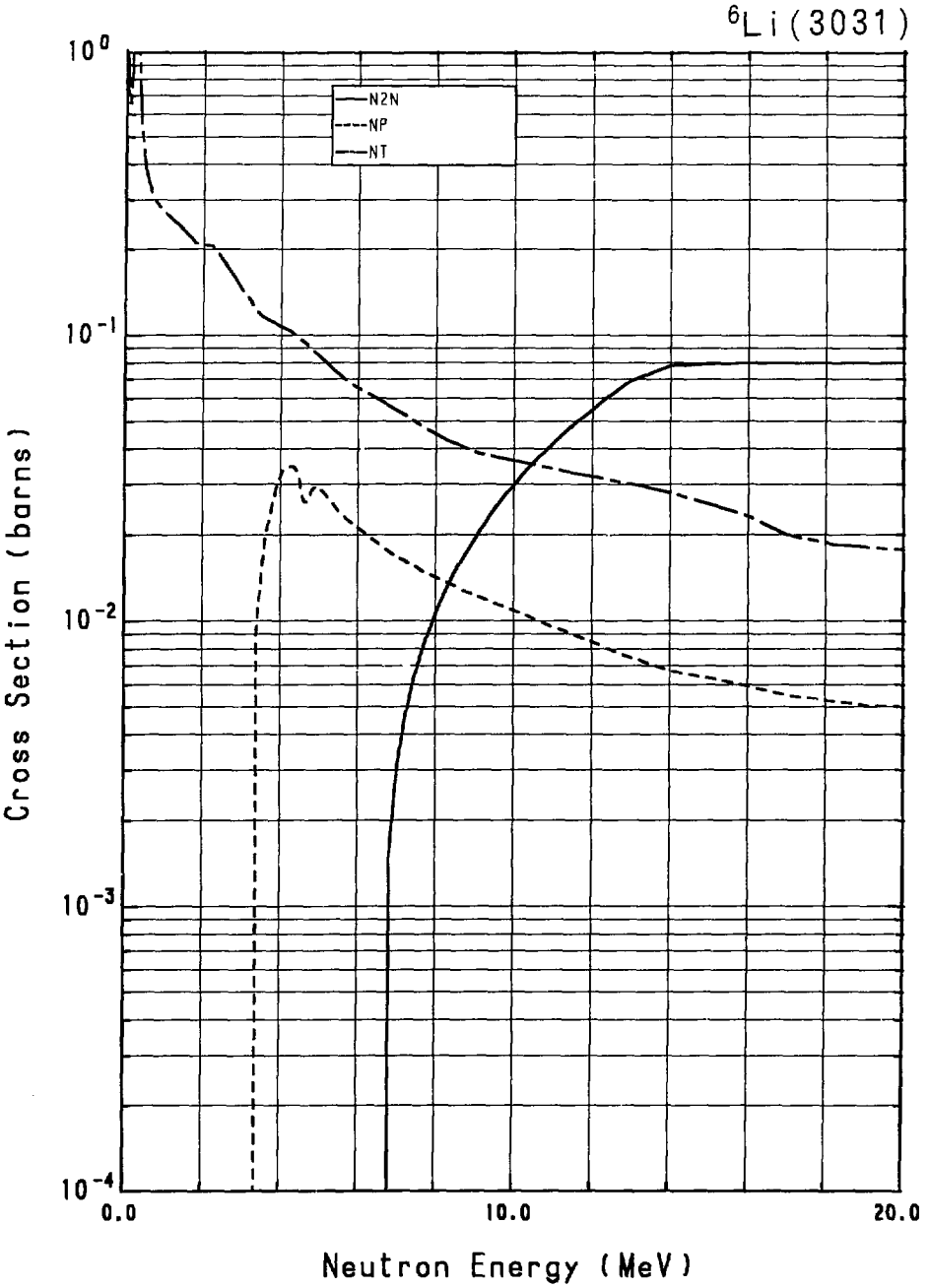

^{2}H (3012)
N2N
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

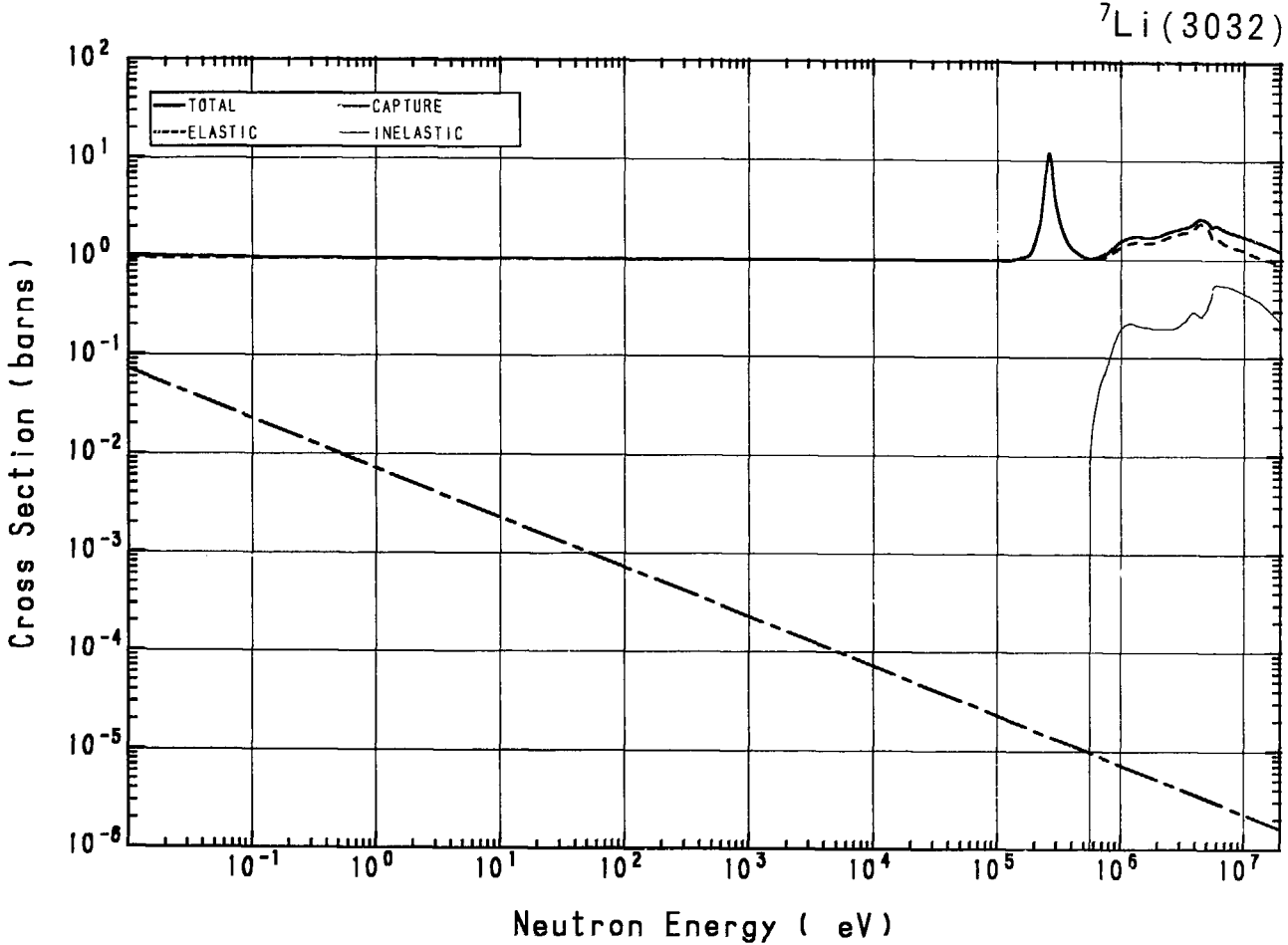

^{3}He (3021)
TOTAL
ELASTIC
NP
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

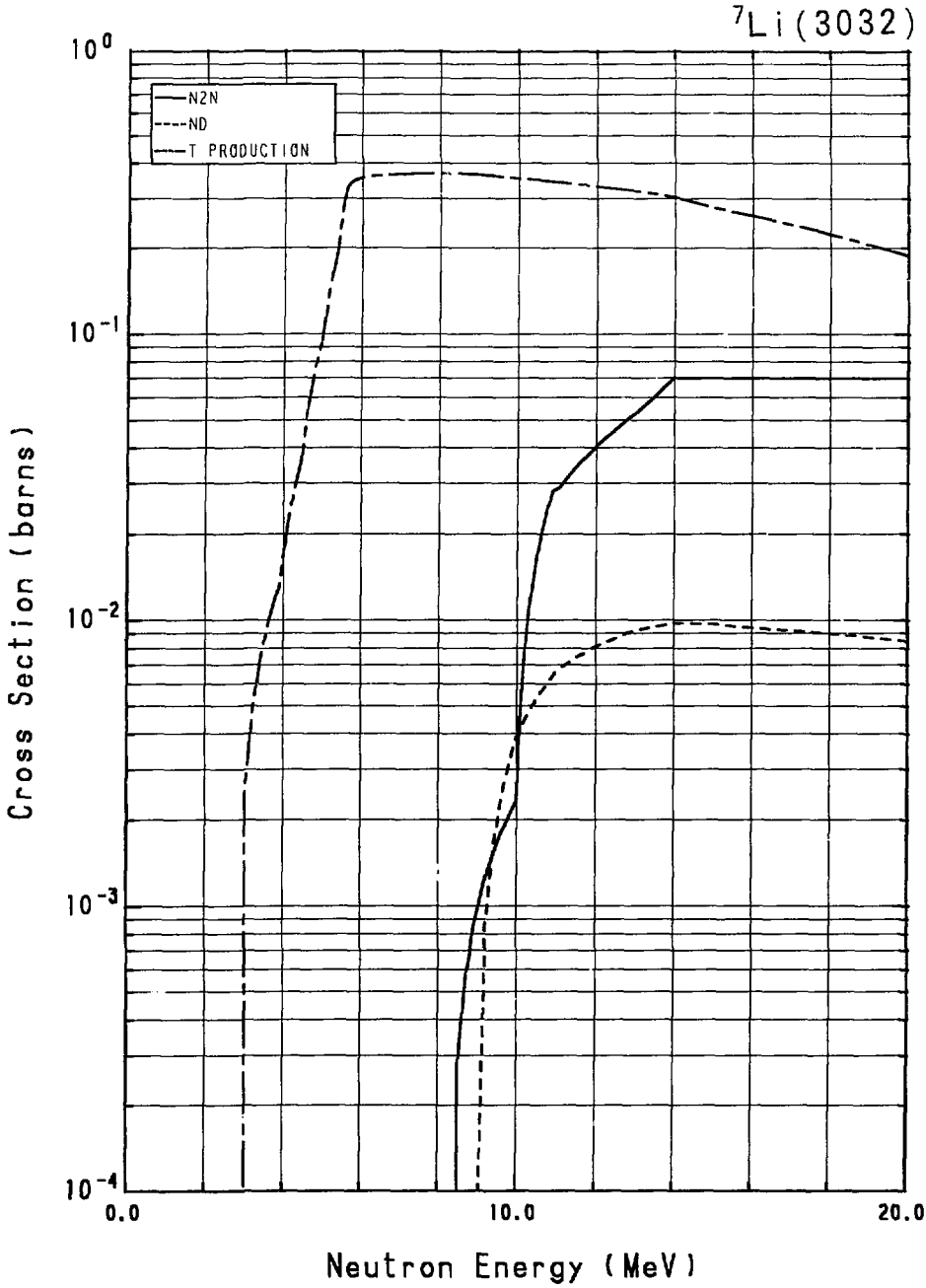

^{3}He (3021)
NP
ND
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

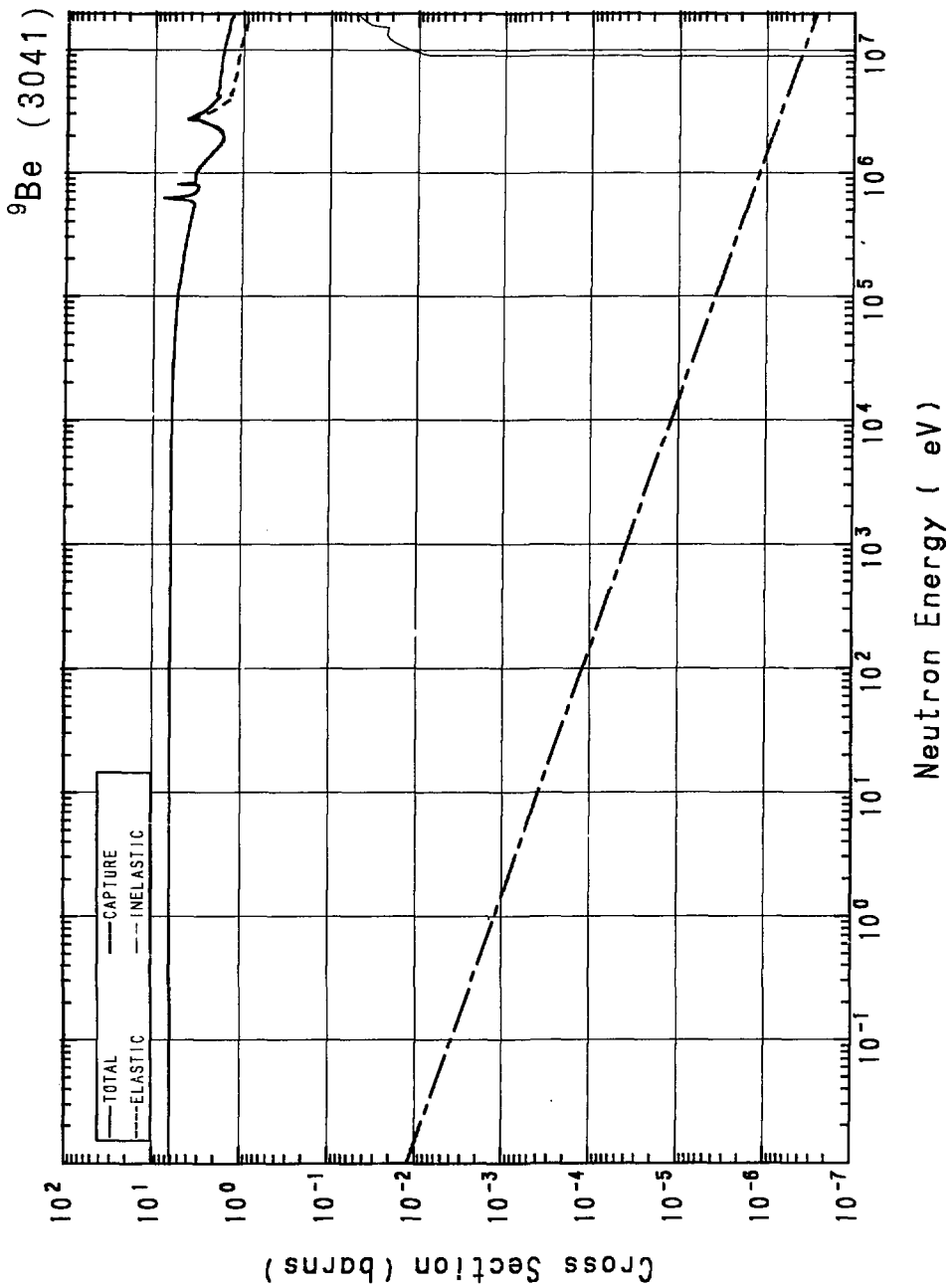

^{4}He (3022
TOTAL
ELASTIC
Cross Section (barns)
10^4
10^3
10^2
10^1
10^0
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7
Neutron Energy (eV)

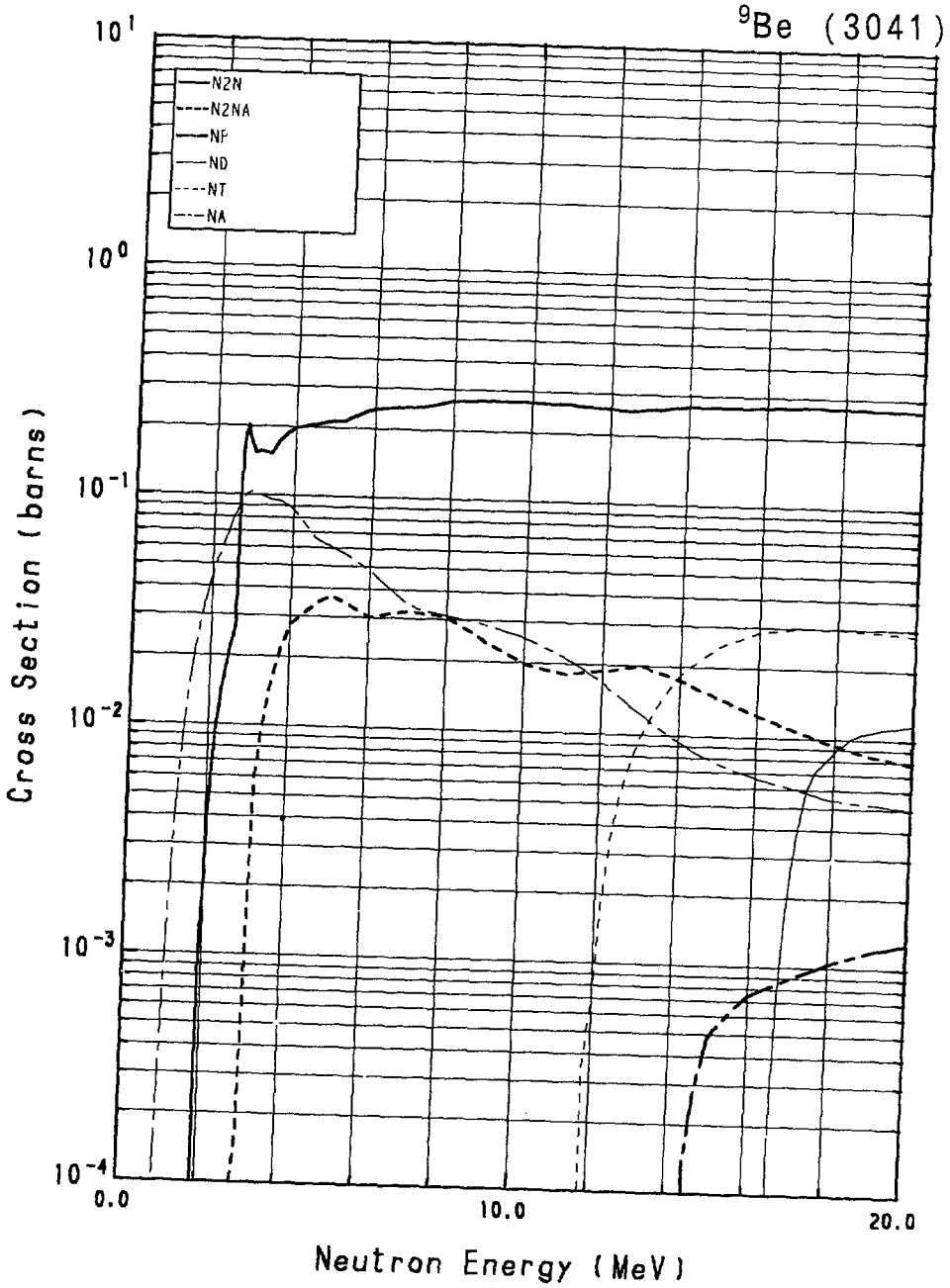

^{6}Li (3031)
TOTAL
ELASTIC
CAPTURE
INELASTIC
NT
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

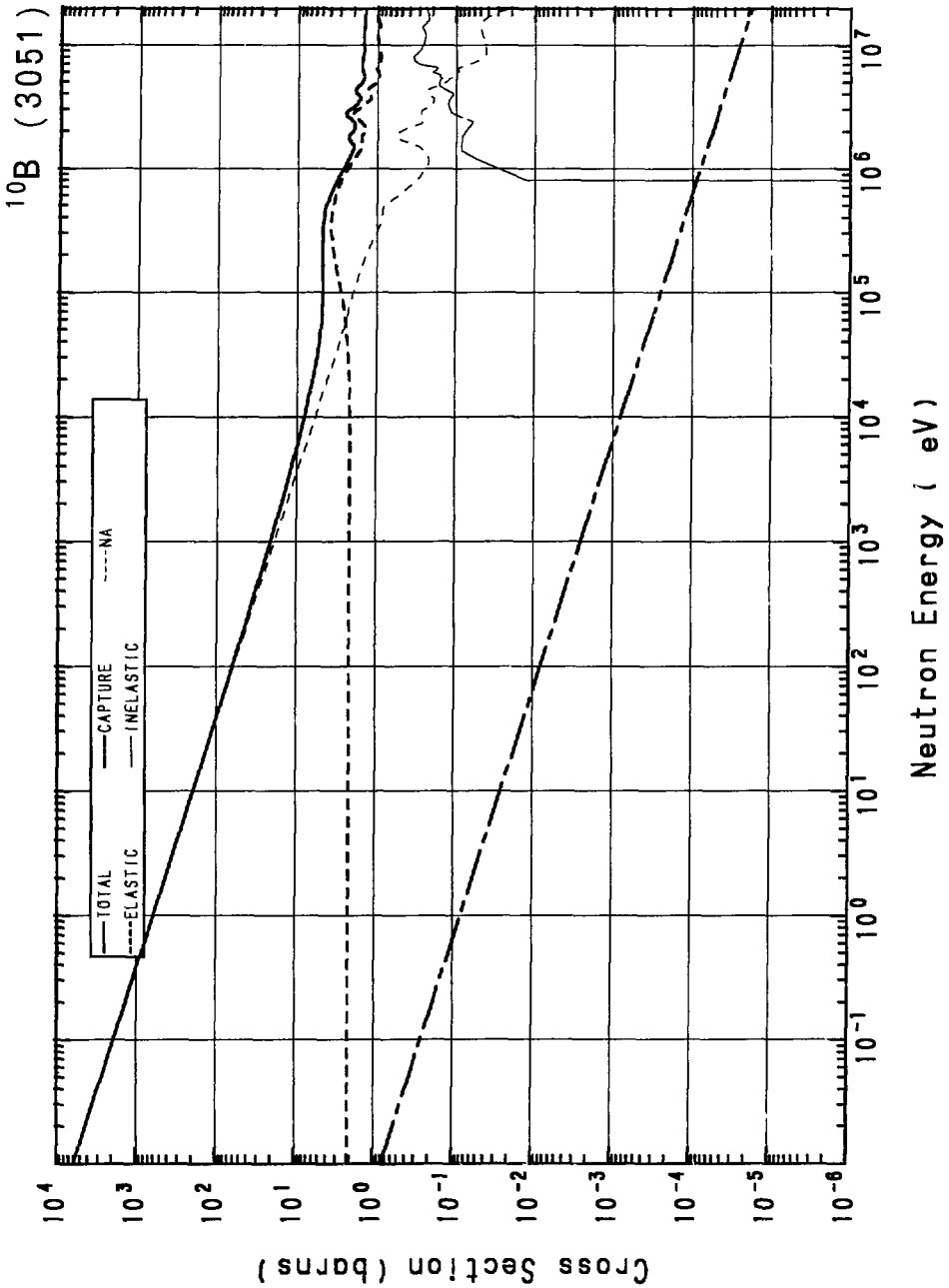

^{6}Li(3031)
N2N
NP
NT
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

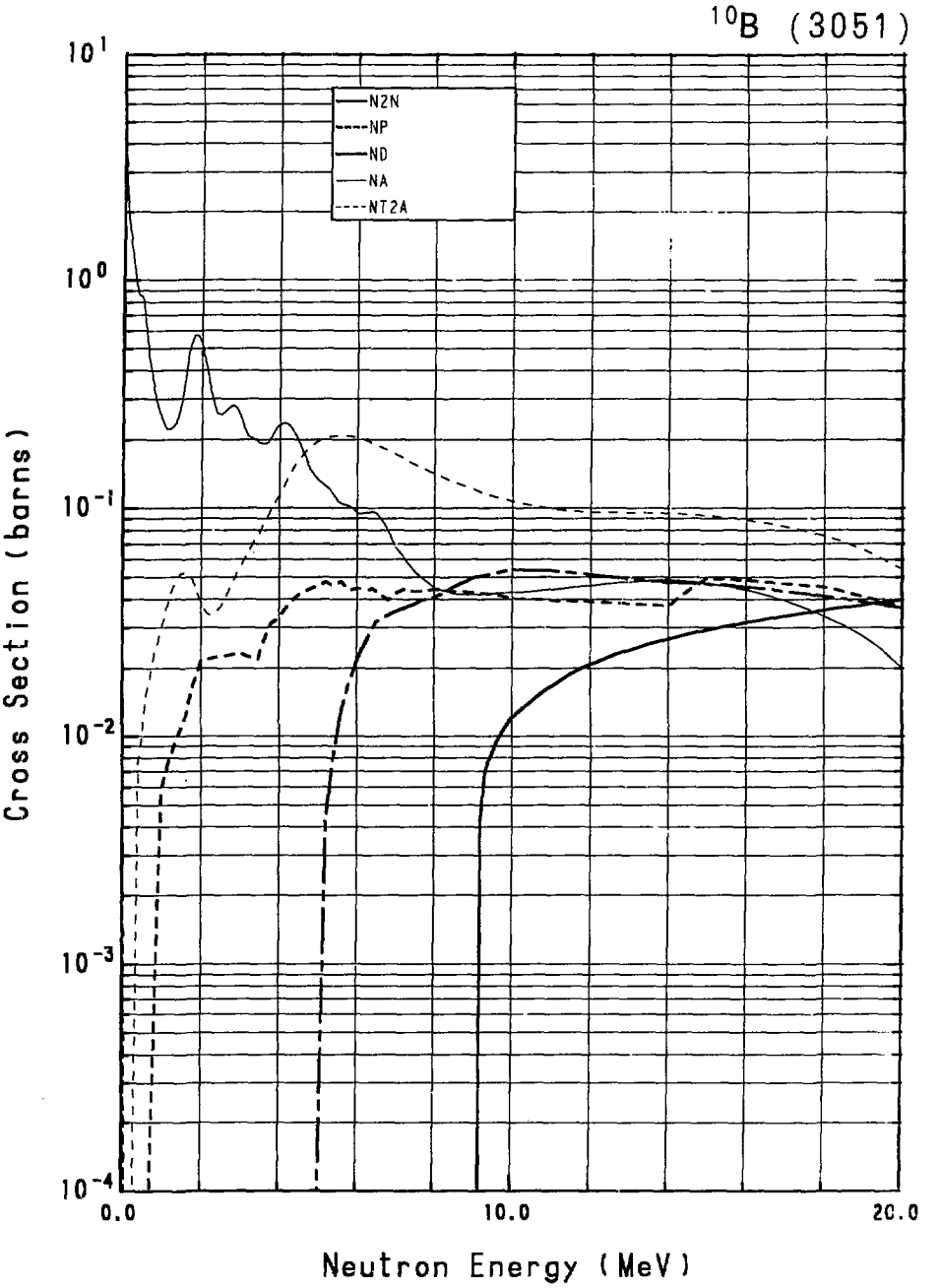

^{7}Li(3032)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

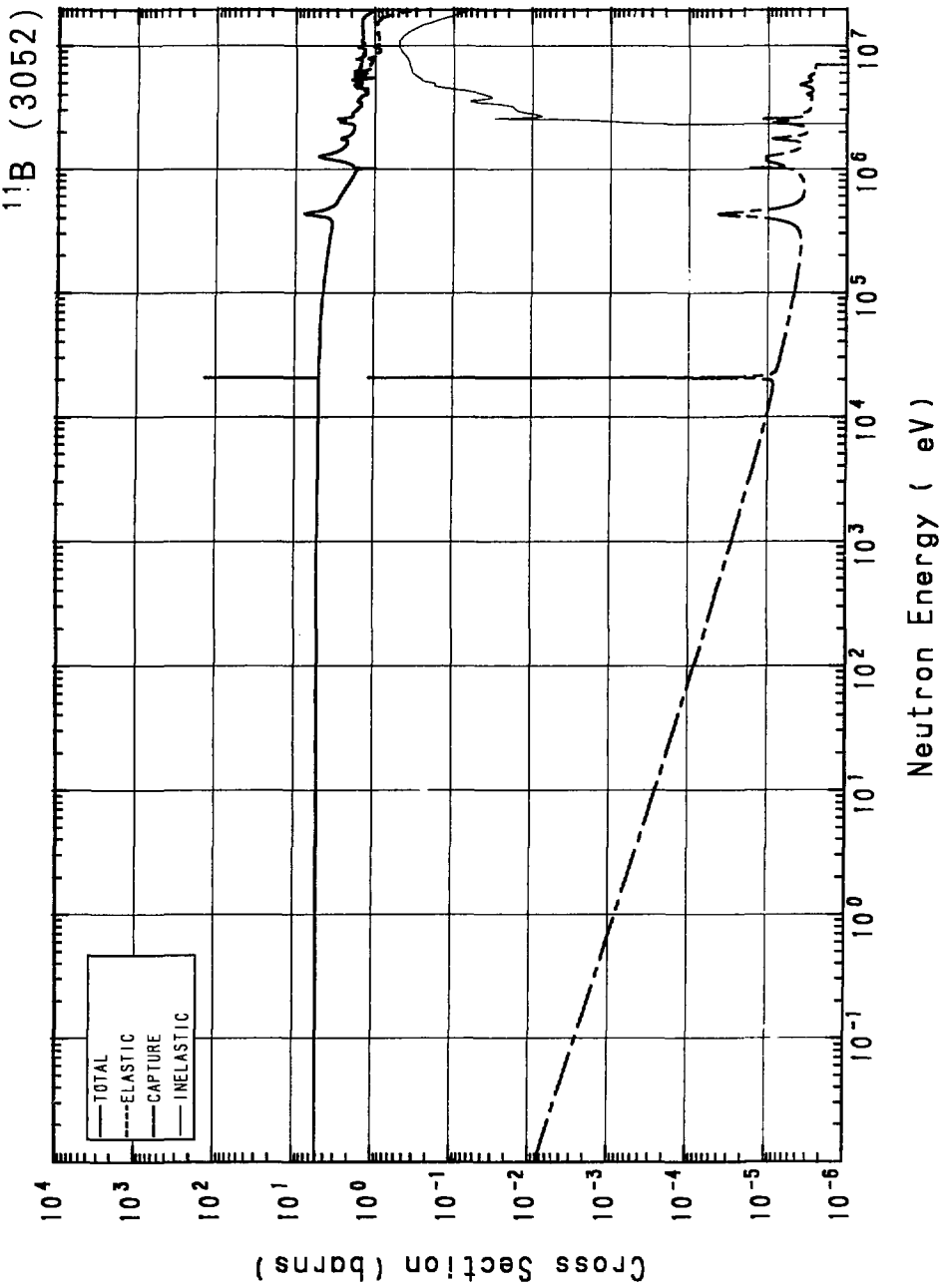

^{7}Li(3032)
N2N
ND
T PRODUCTION
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

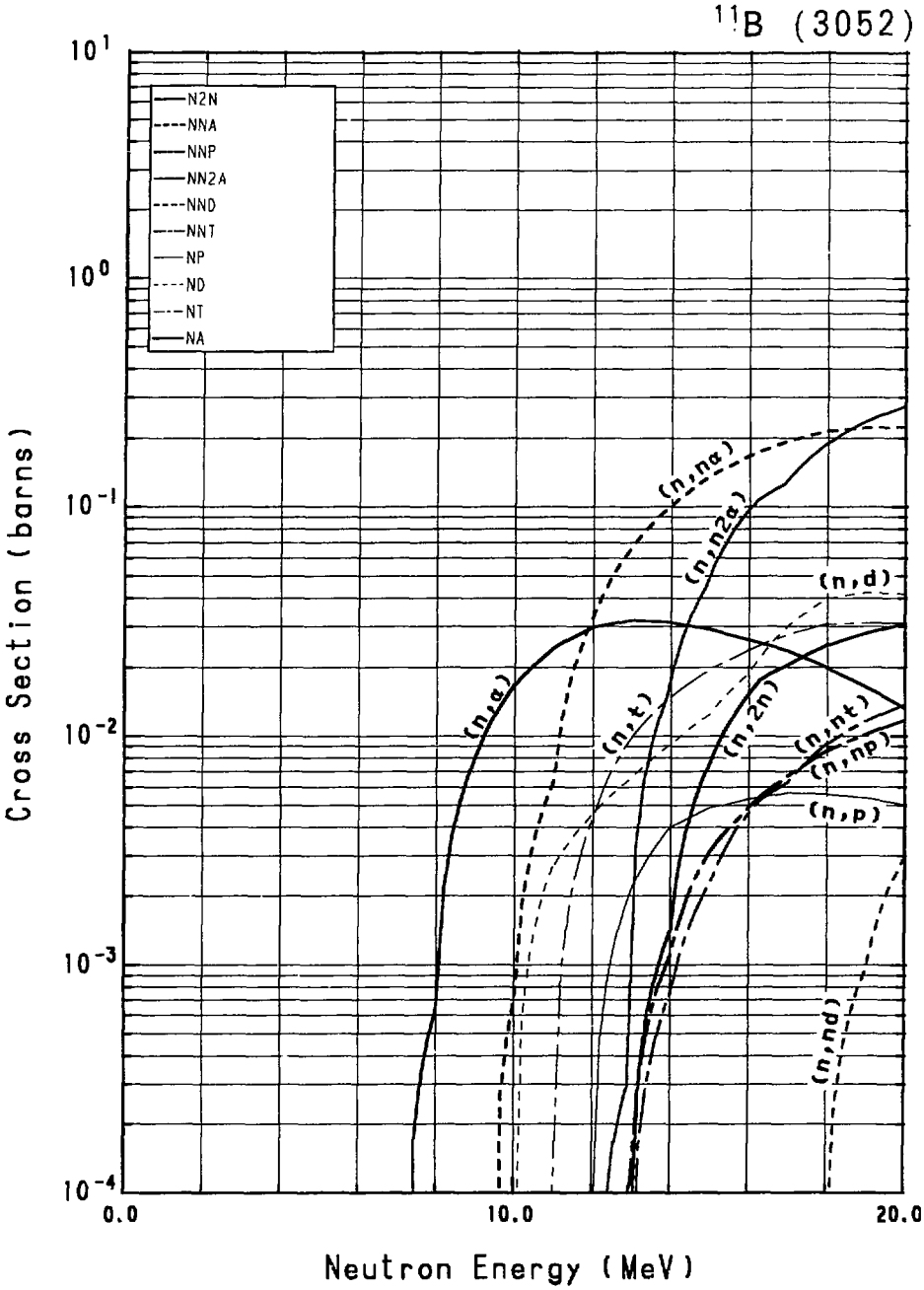

^{9}Be (3041)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

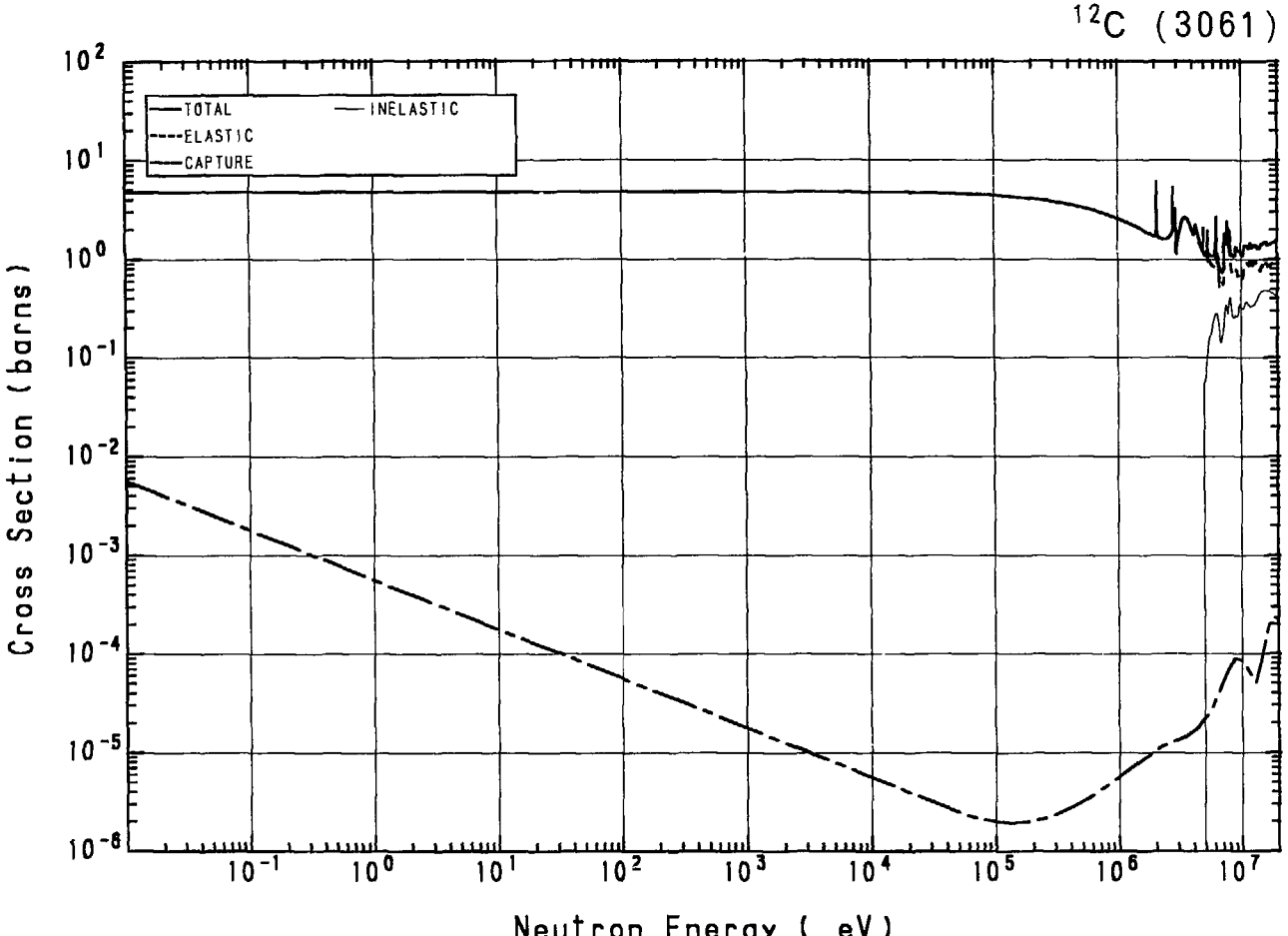

^{9}Be (3041)
N2N
N2NA
NF
ND
NT
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

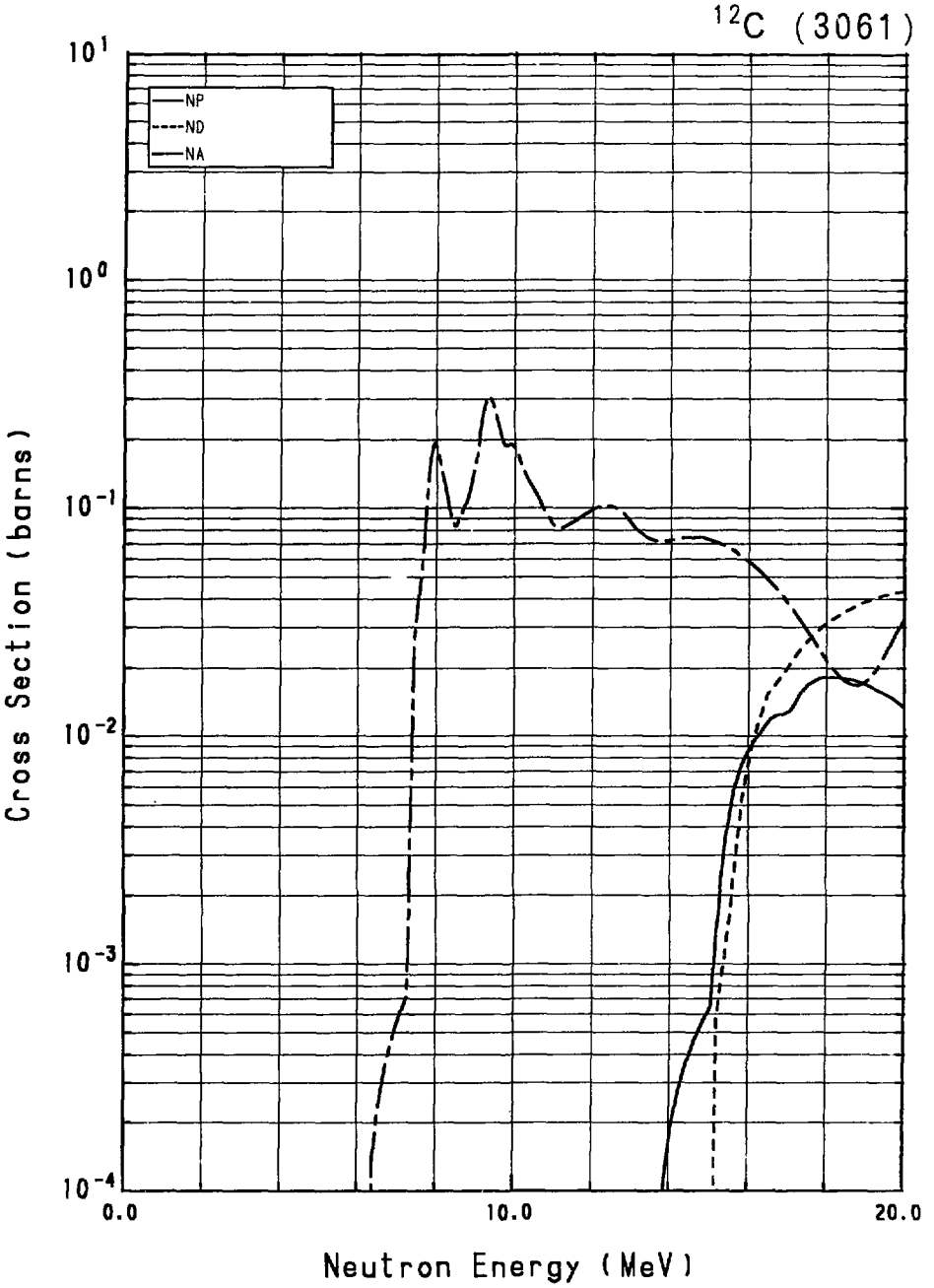

^{10}B (3051)
TOTAL
ELASTIC
CAPTURE
INELASTIC
NA
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

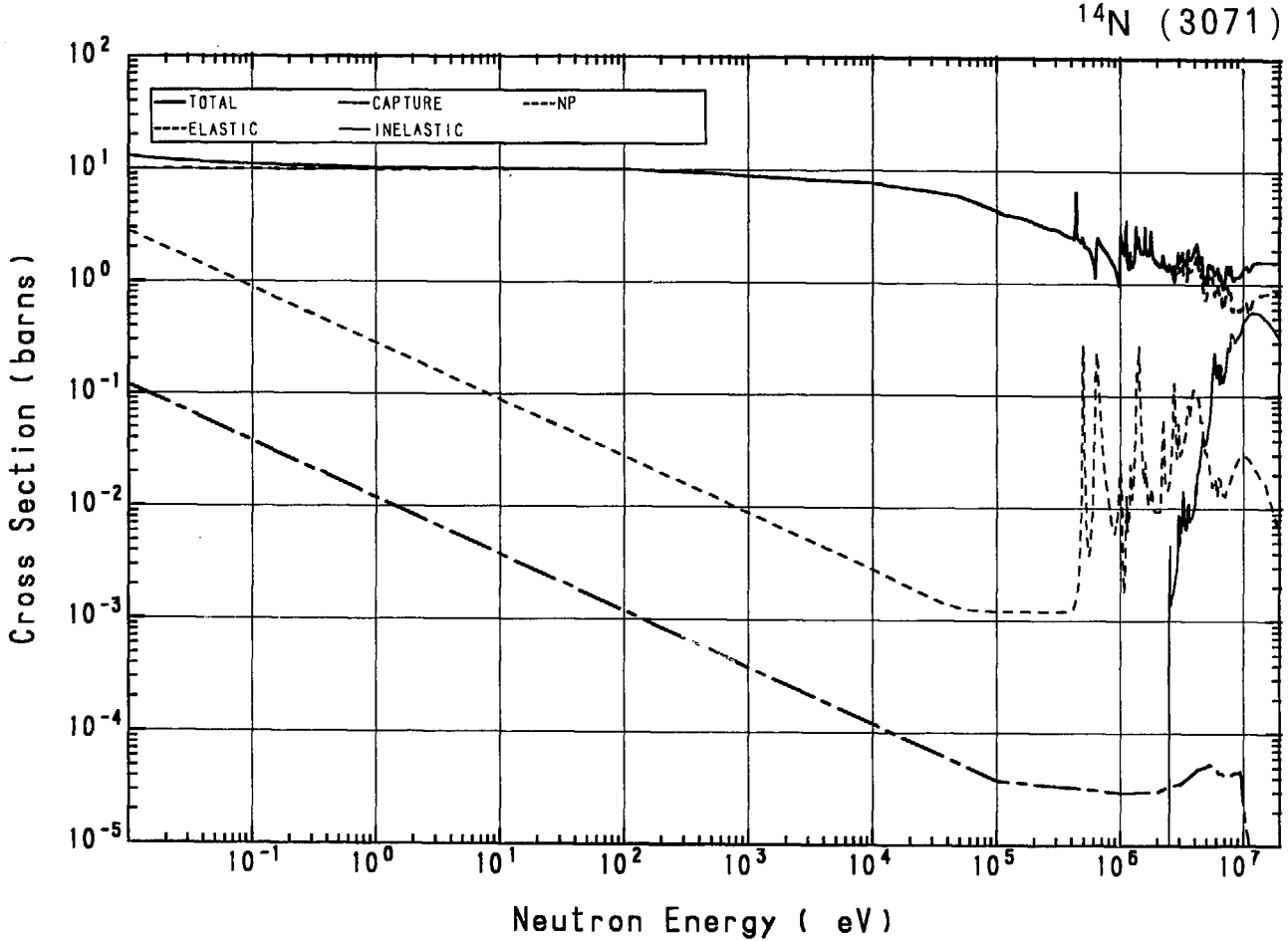

^{10}B (3051)
N2N
NP
ND
NA
NT2A
Cross Section (barns)
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0
Neutron Energy (MeV)

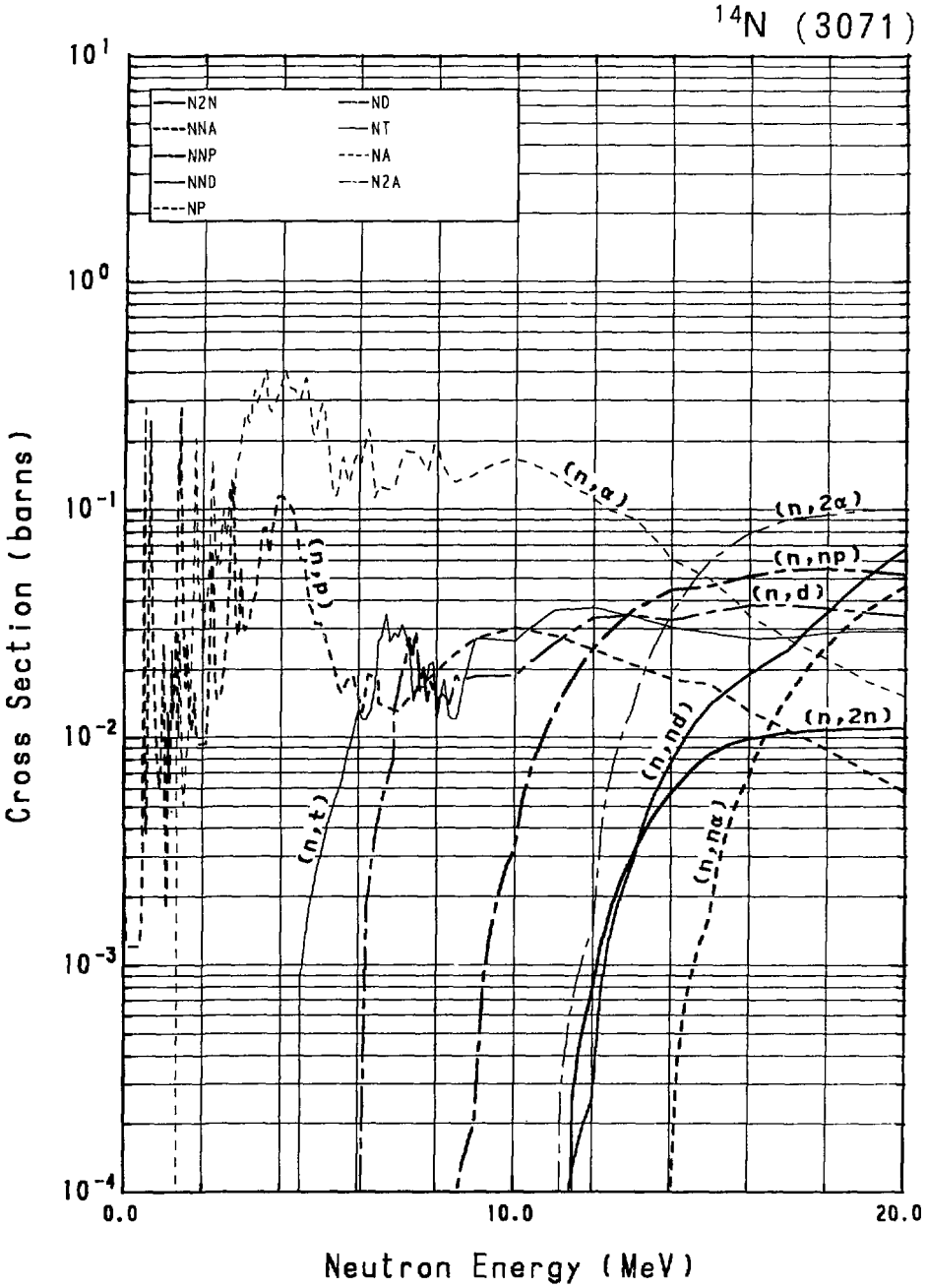

^{11}B (3052)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

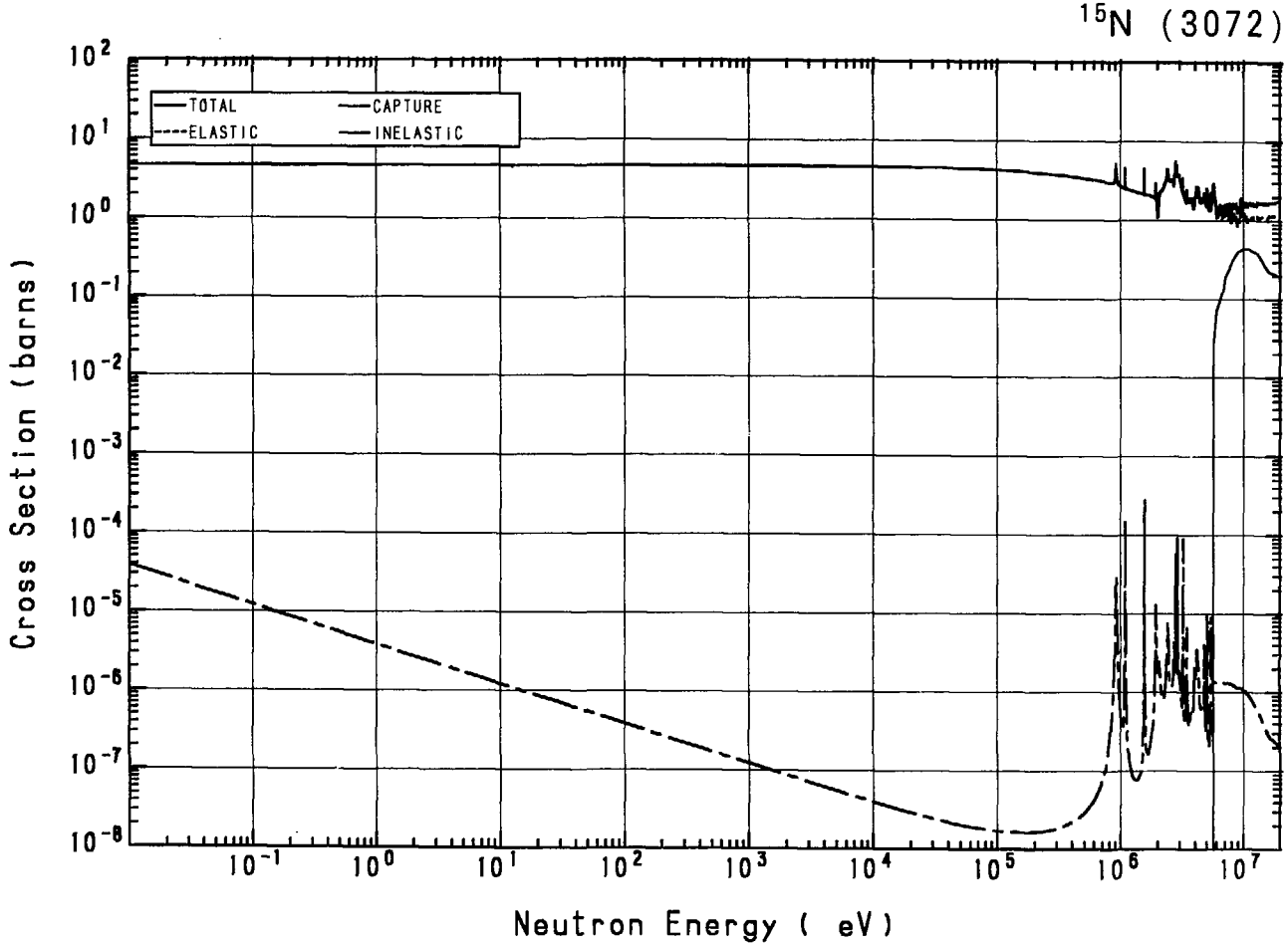

^{11}B (3052)
N2N
NNA
NNP
NN2A
NND
NNT
NP
ND
NT
NA
(n,nα)
(n,n2α)
(n,d)
(n,α)
(n,t)
(n,2n)
(n,nt)
(n,np)
(n,p)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

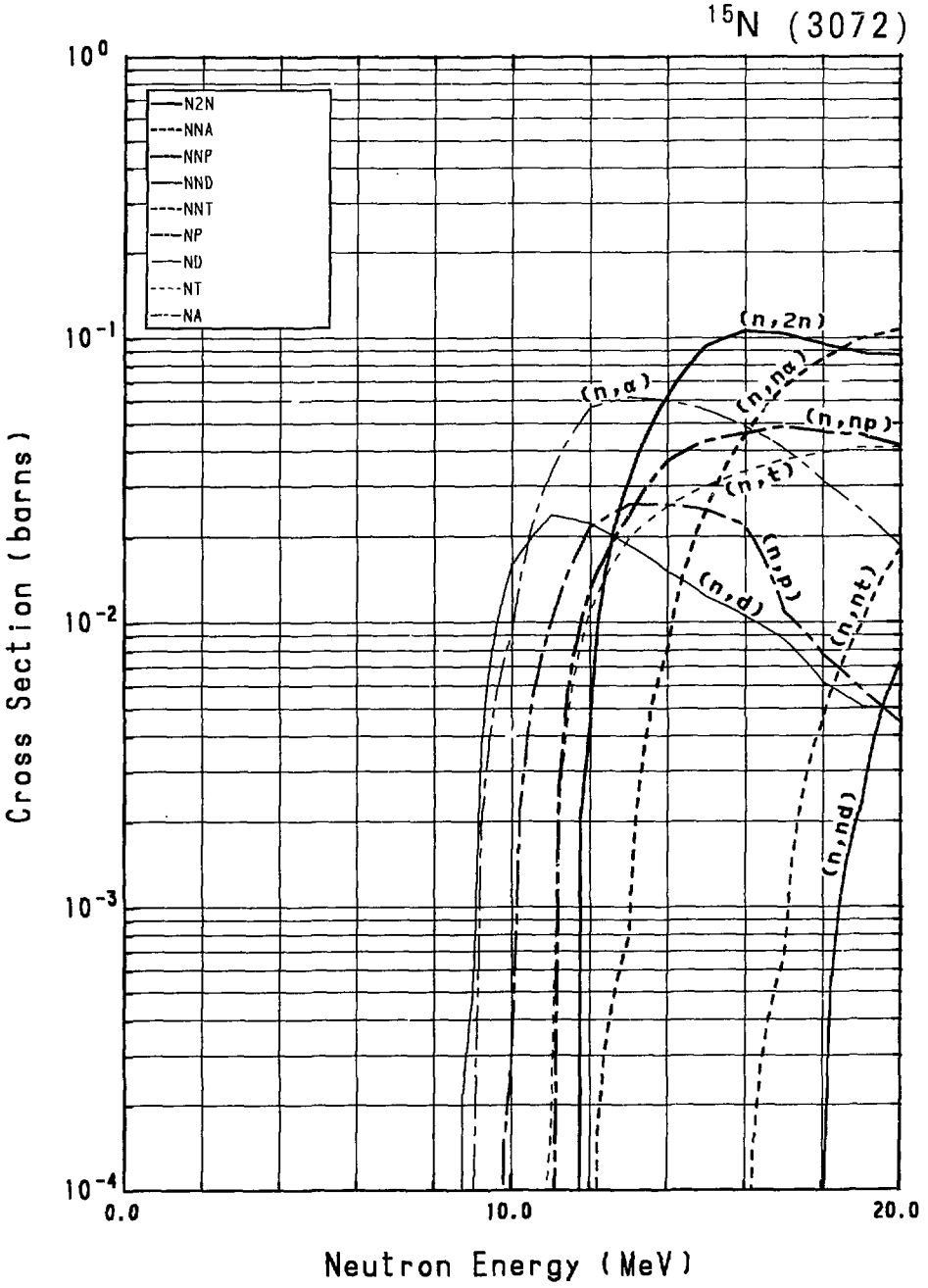

^{12}C (3061)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

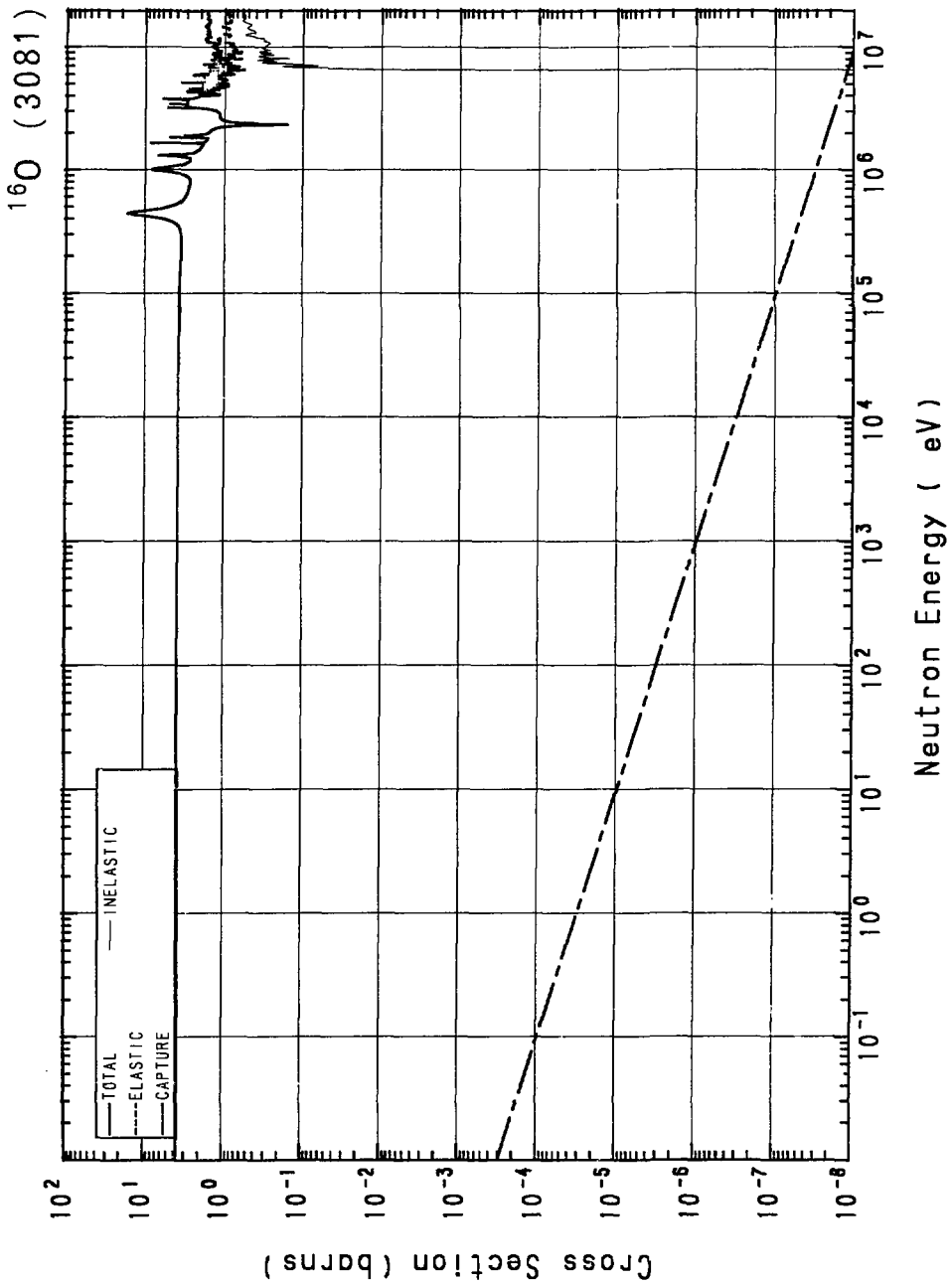

^{12}C (3061)
NP
ND
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

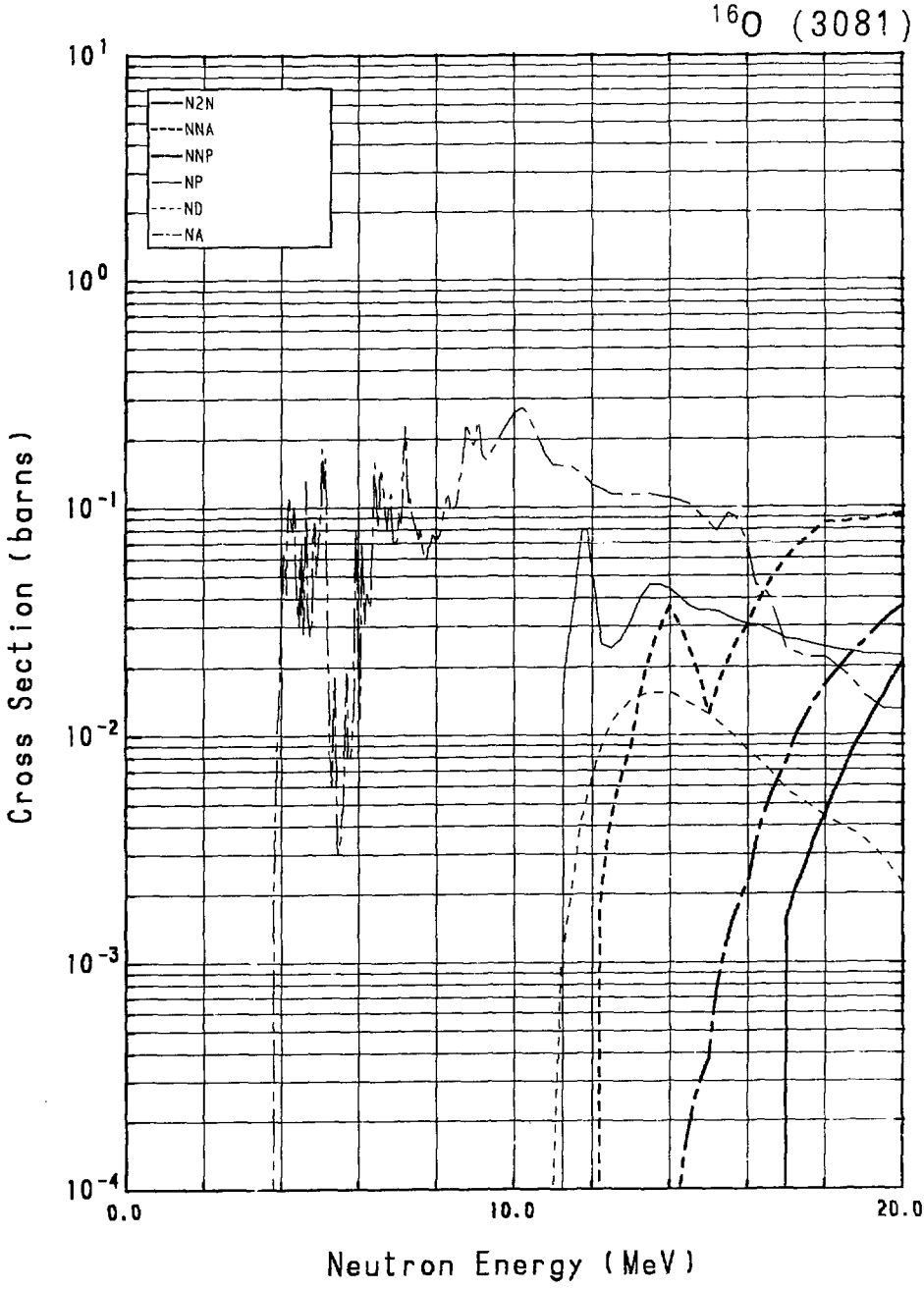

^{14}N (3071)
TOTAL
CAPTURE
NP
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

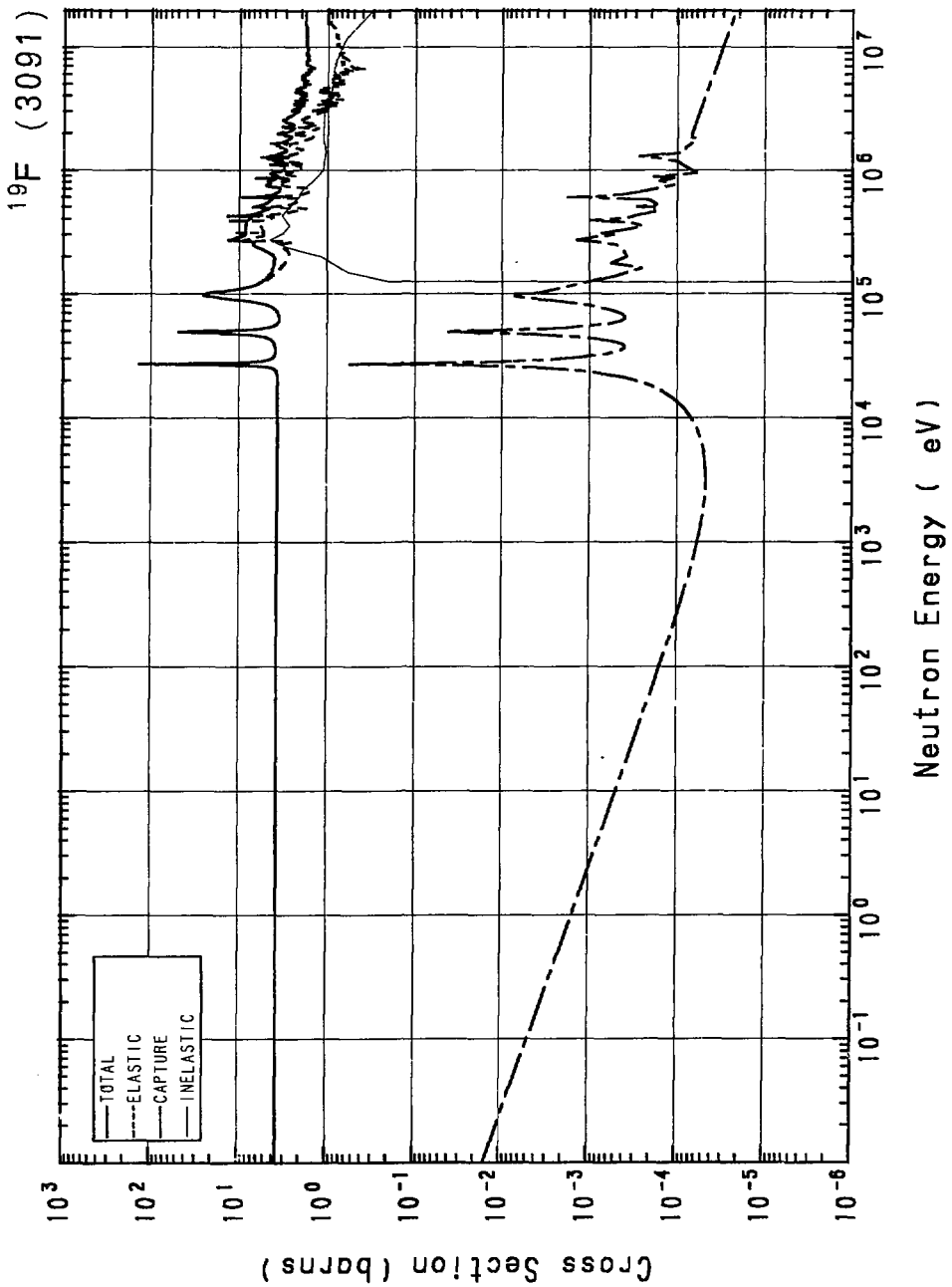

^{14}N (3071)
N2N
NNA
NNP
NND
NP
ND
NT
NA
N2A
(n,α)
(n,2α)
(n,np)
(n,d)
(n,2n)
(n,nd)
(n,nα)
(n,t)
(n,p)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

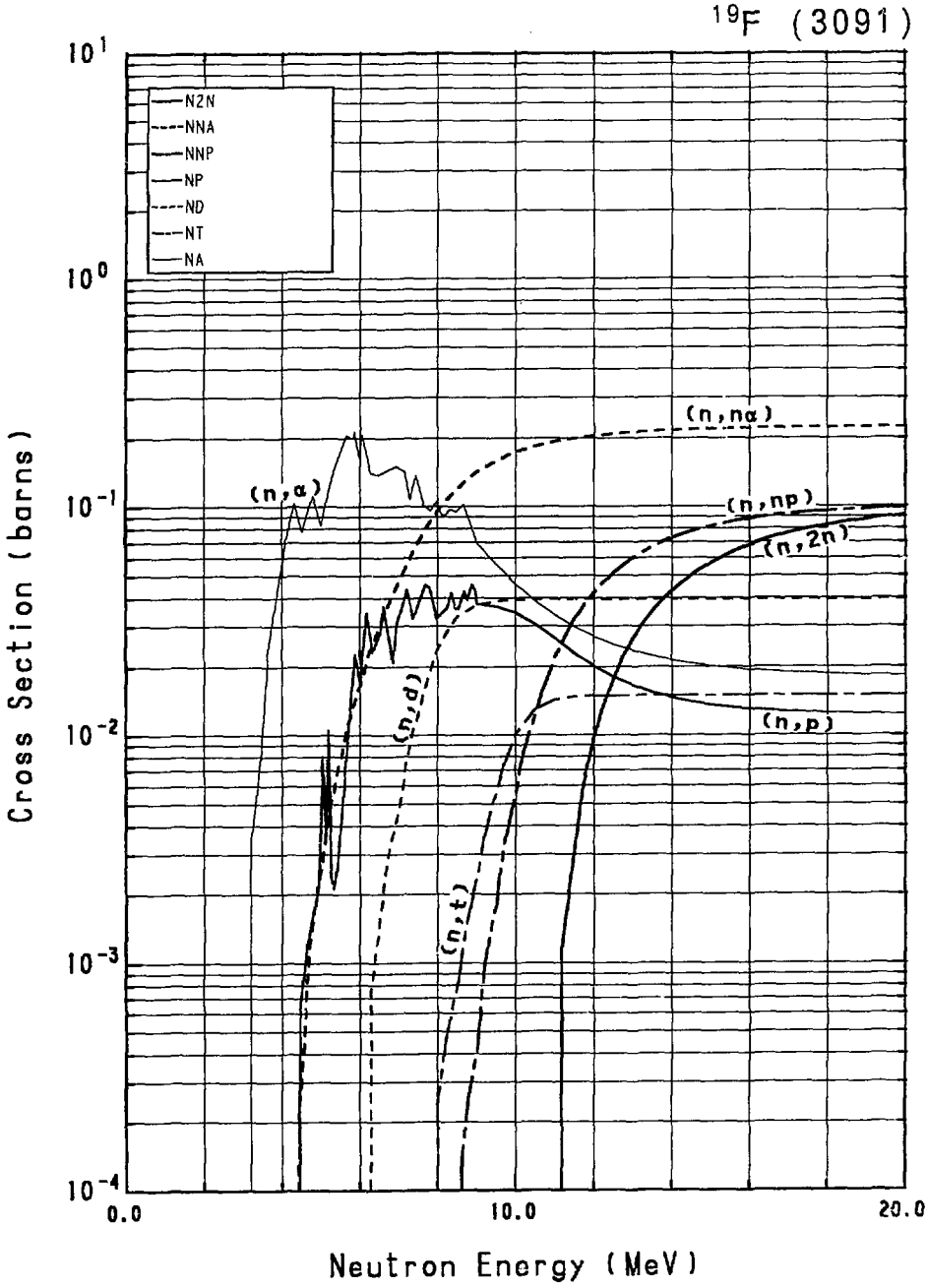

^{15}N (3072)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
10^{-8}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

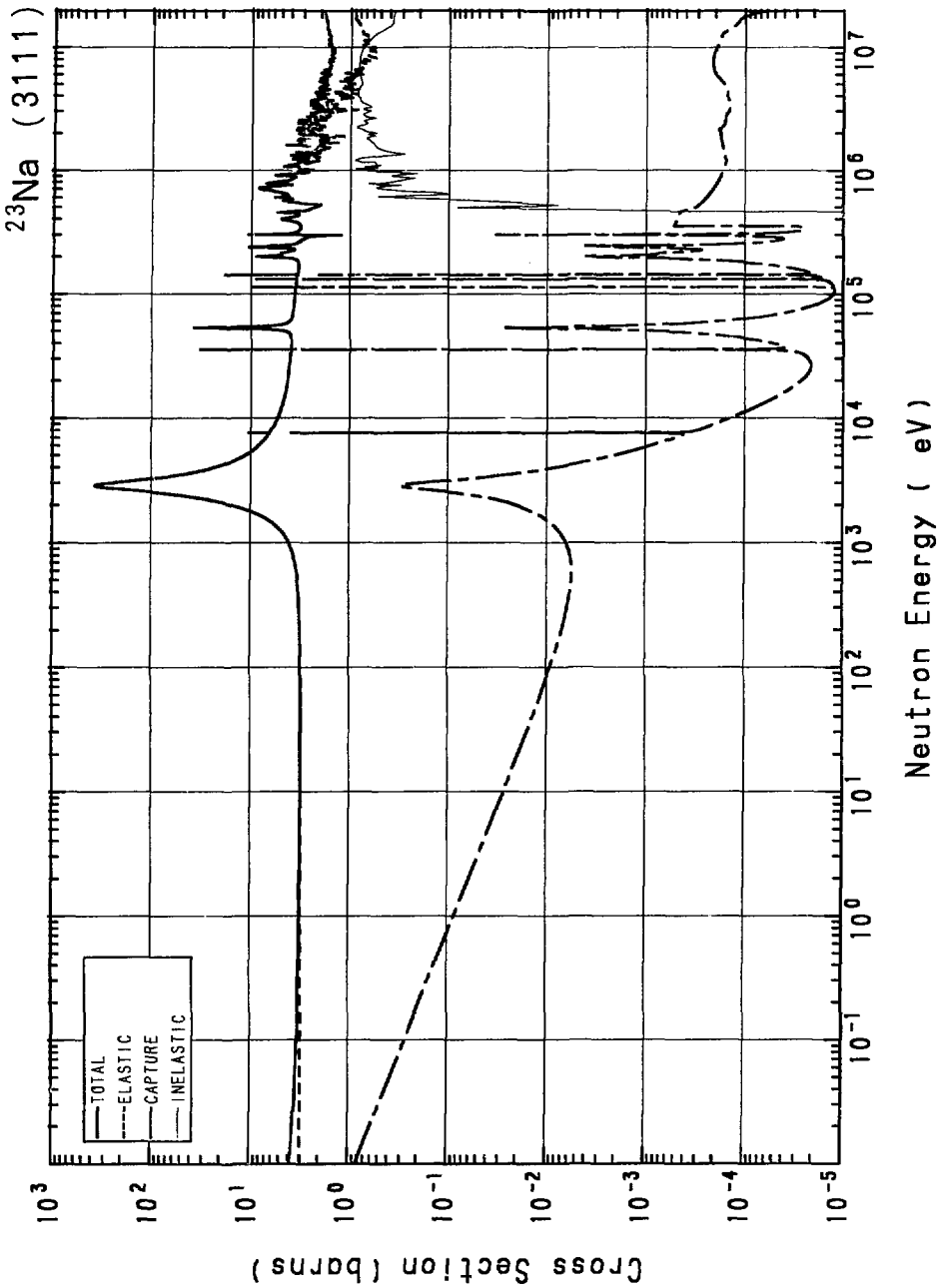

15N (3072)
N2N
NNA
NNP
NND
NNT
NP
ND
NT
NA
(n,2n)
(n,α)
(n,nα)
(n,np)
(n,t)
(n,p)
(n,d)
(n,nt)
(n,nd)
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0
Cross Section (barns)
Neutron Energy (MeV)

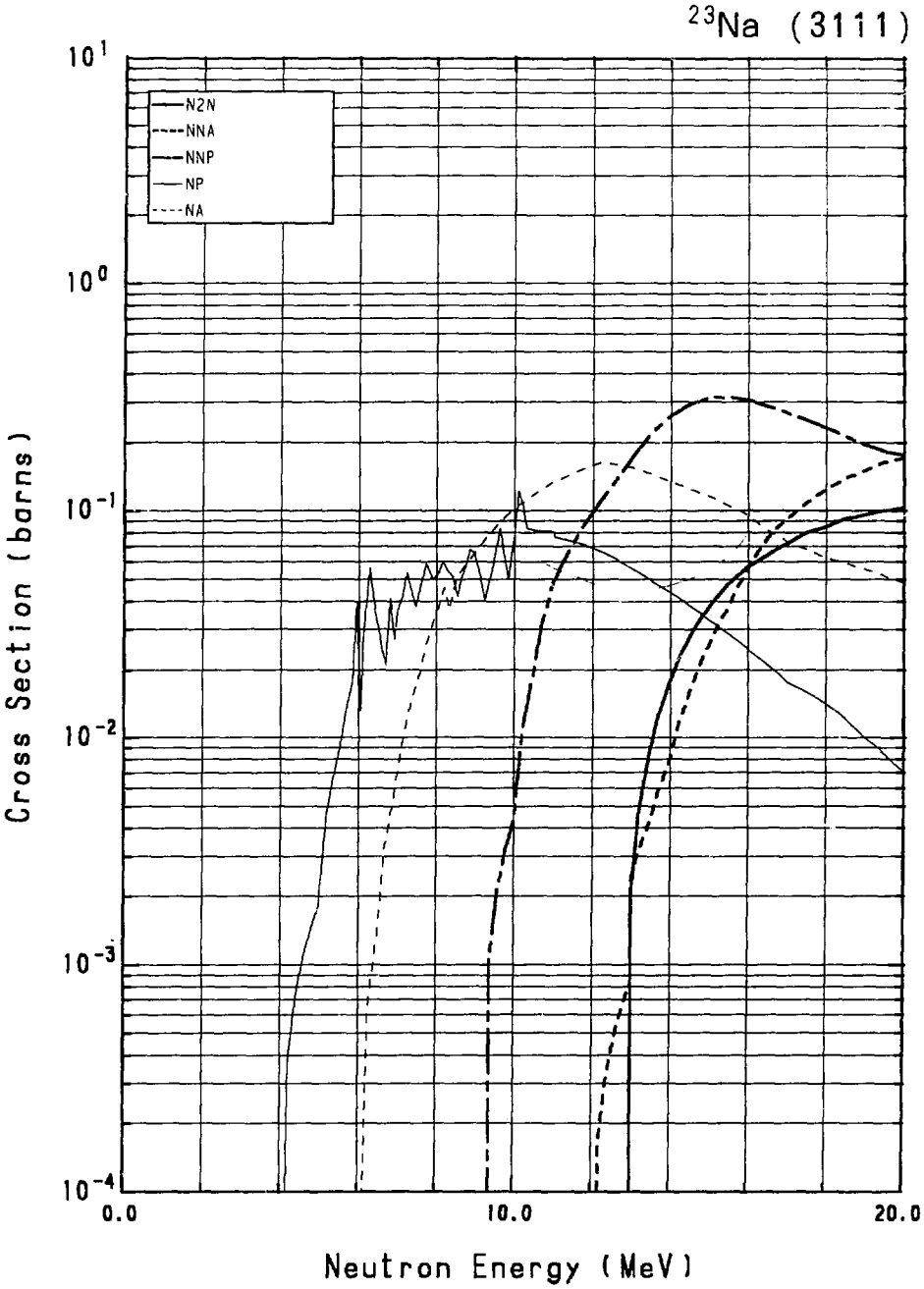

^{16}O (3081)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
10^{-8}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

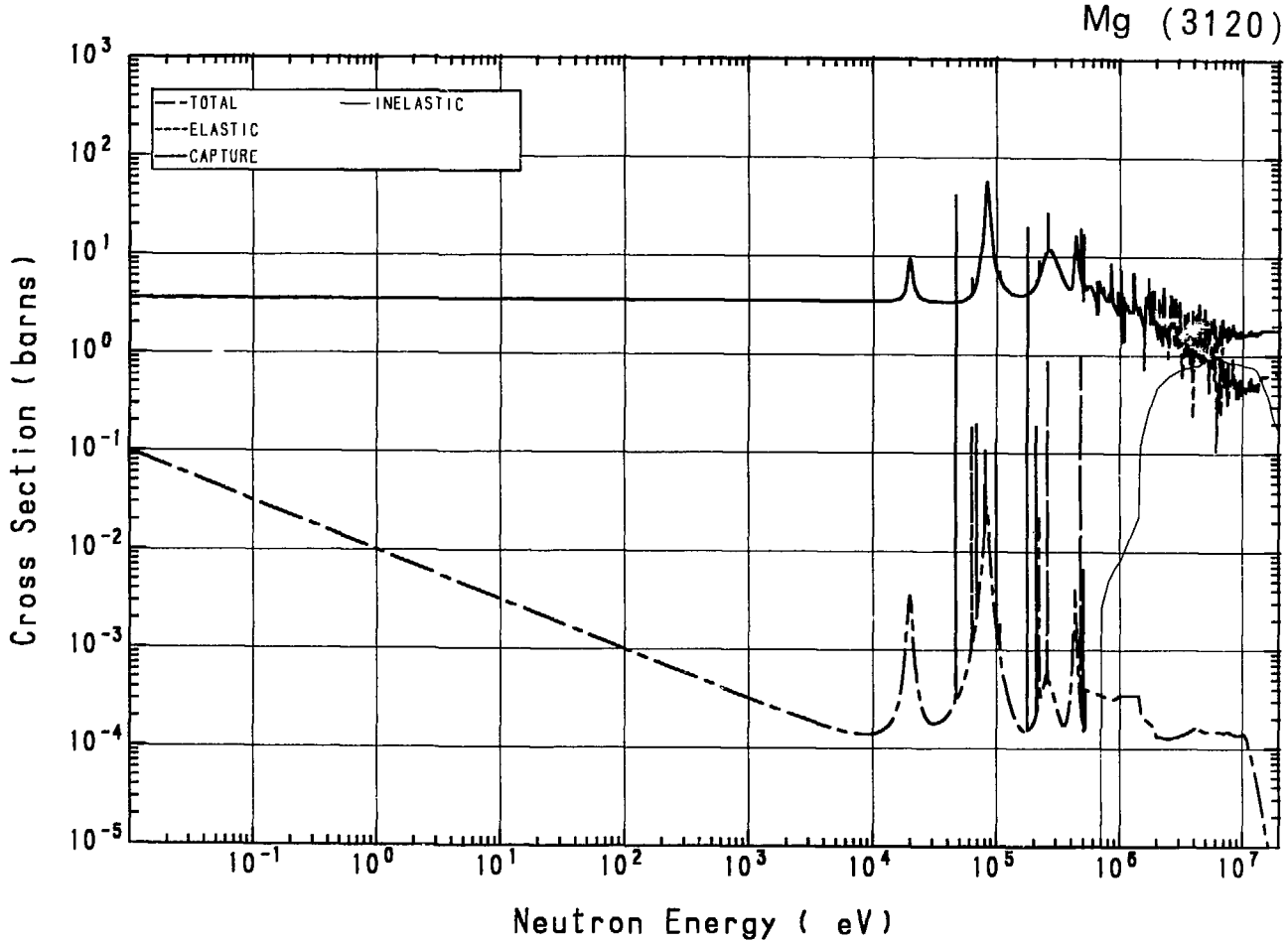

^{16}O (3081)
N2N
NNA
NNP
NP
ND
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

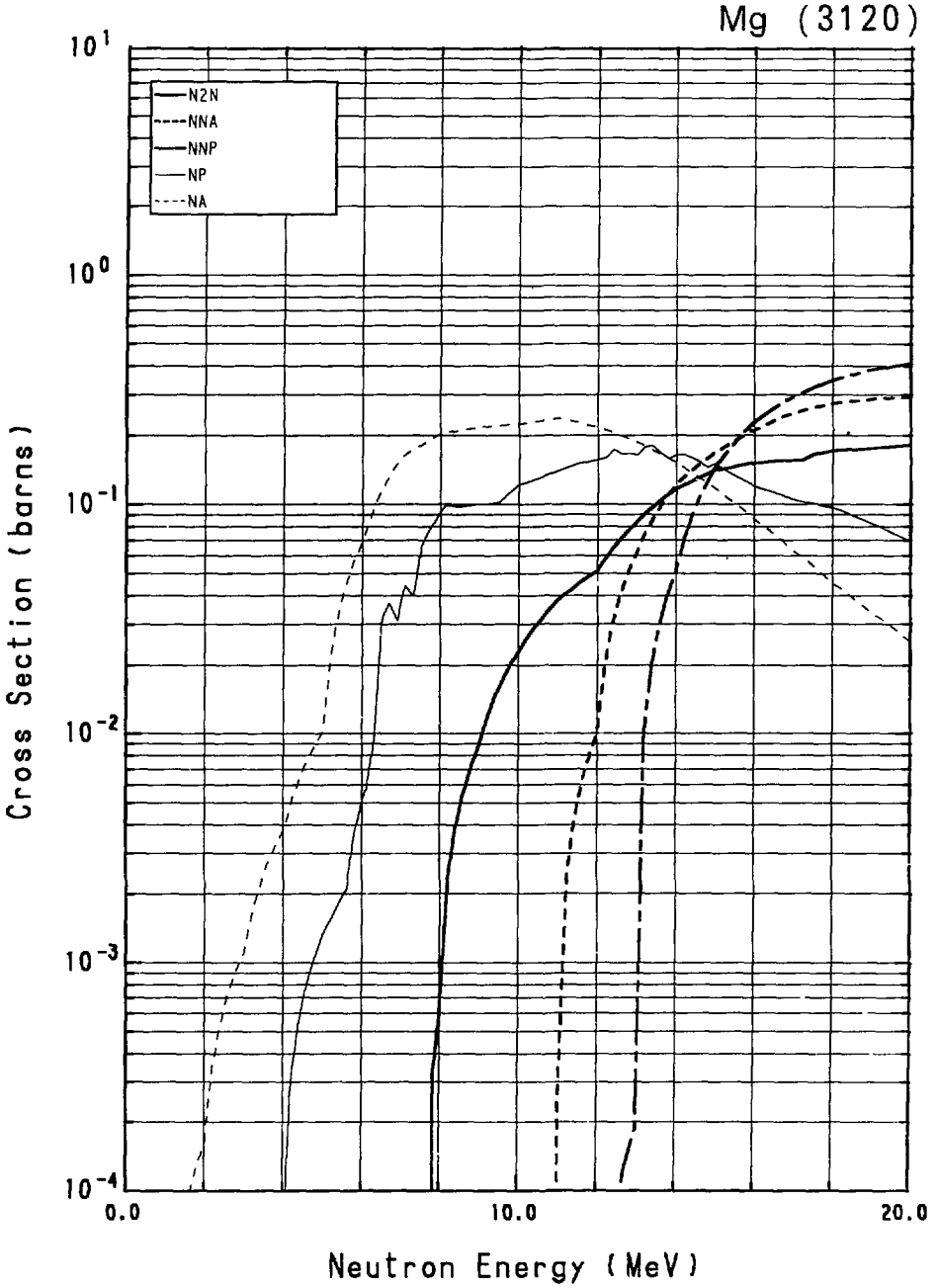

^{19}F (3091)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

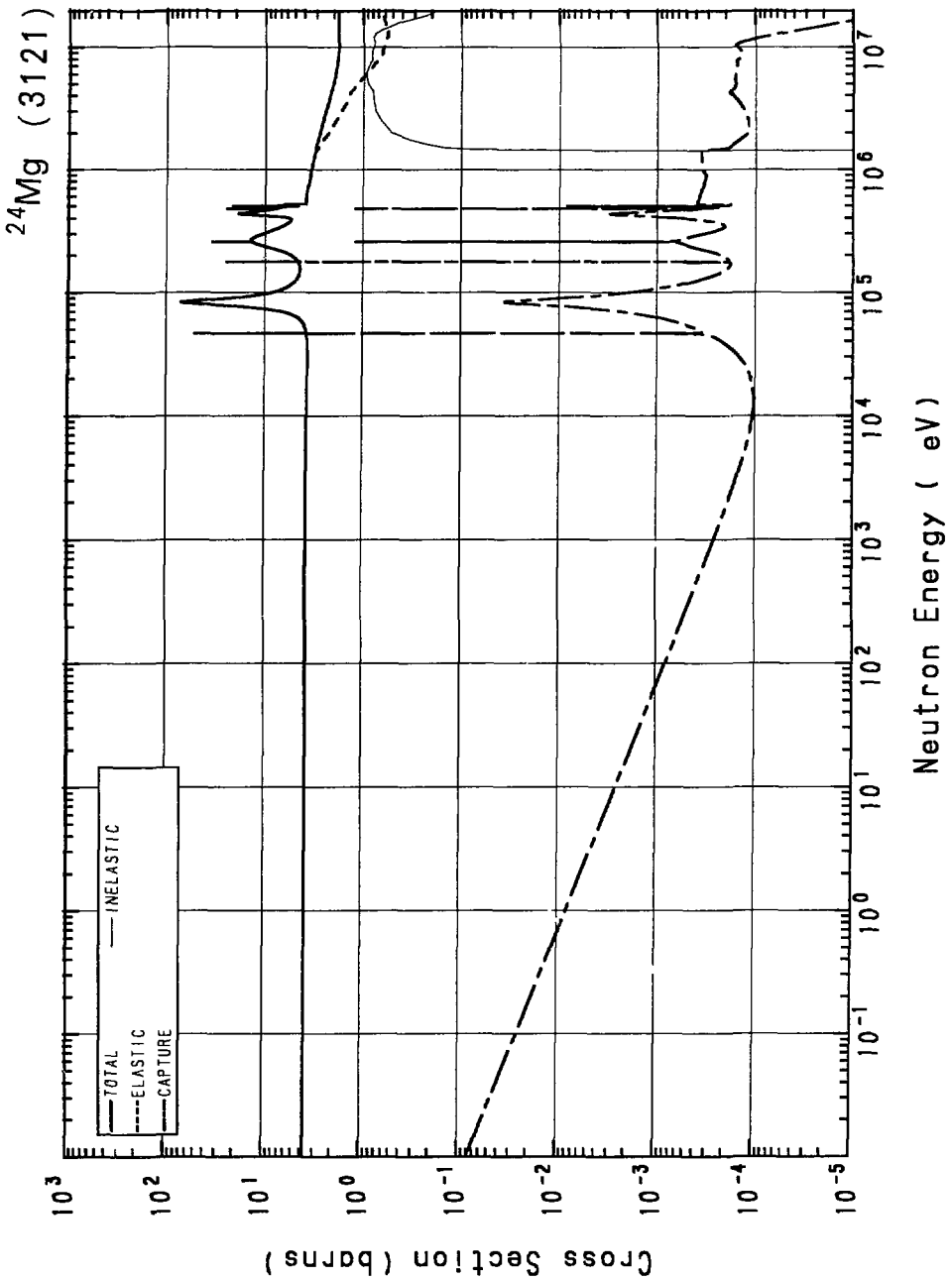

^{19}F (3091)
N2N
NNA
NNP
NP
ND
NT
NA
(n,nα)
(n,α)
(n,np)
(n,2n)
(n,d)
(n,p)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
0.0
10.0
20.0

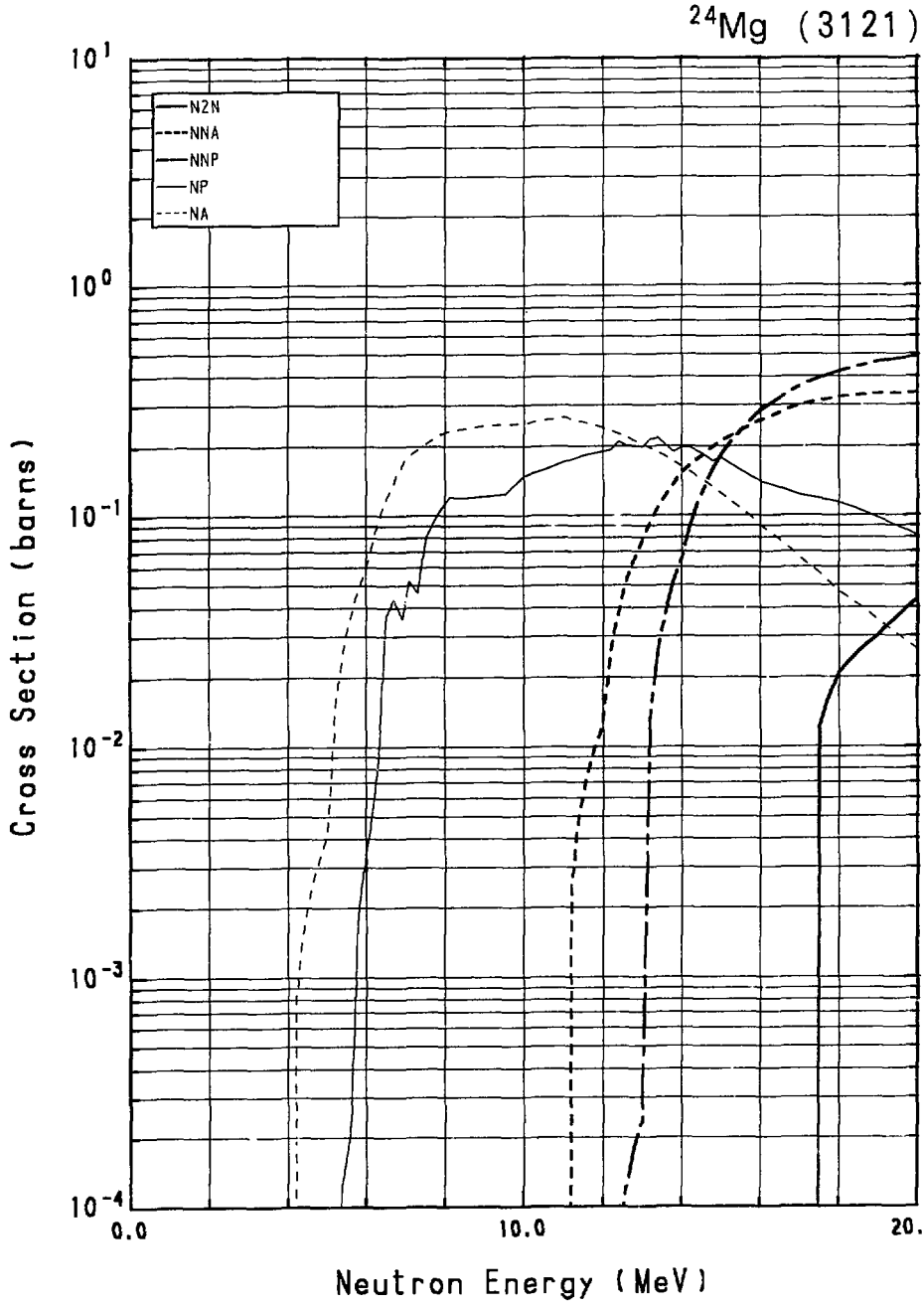

^{23}Na (3111)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

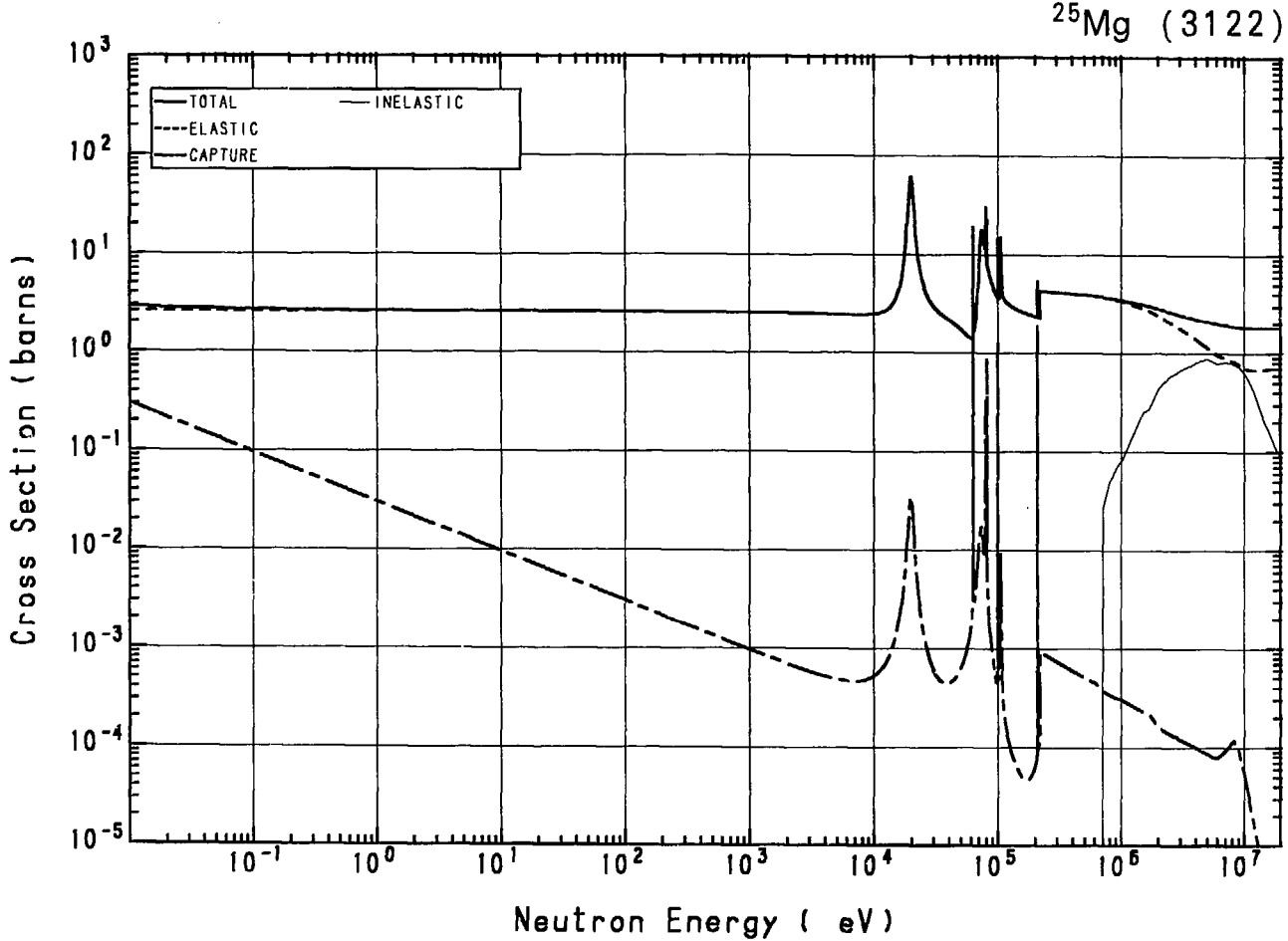

^{23}Na (3111)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

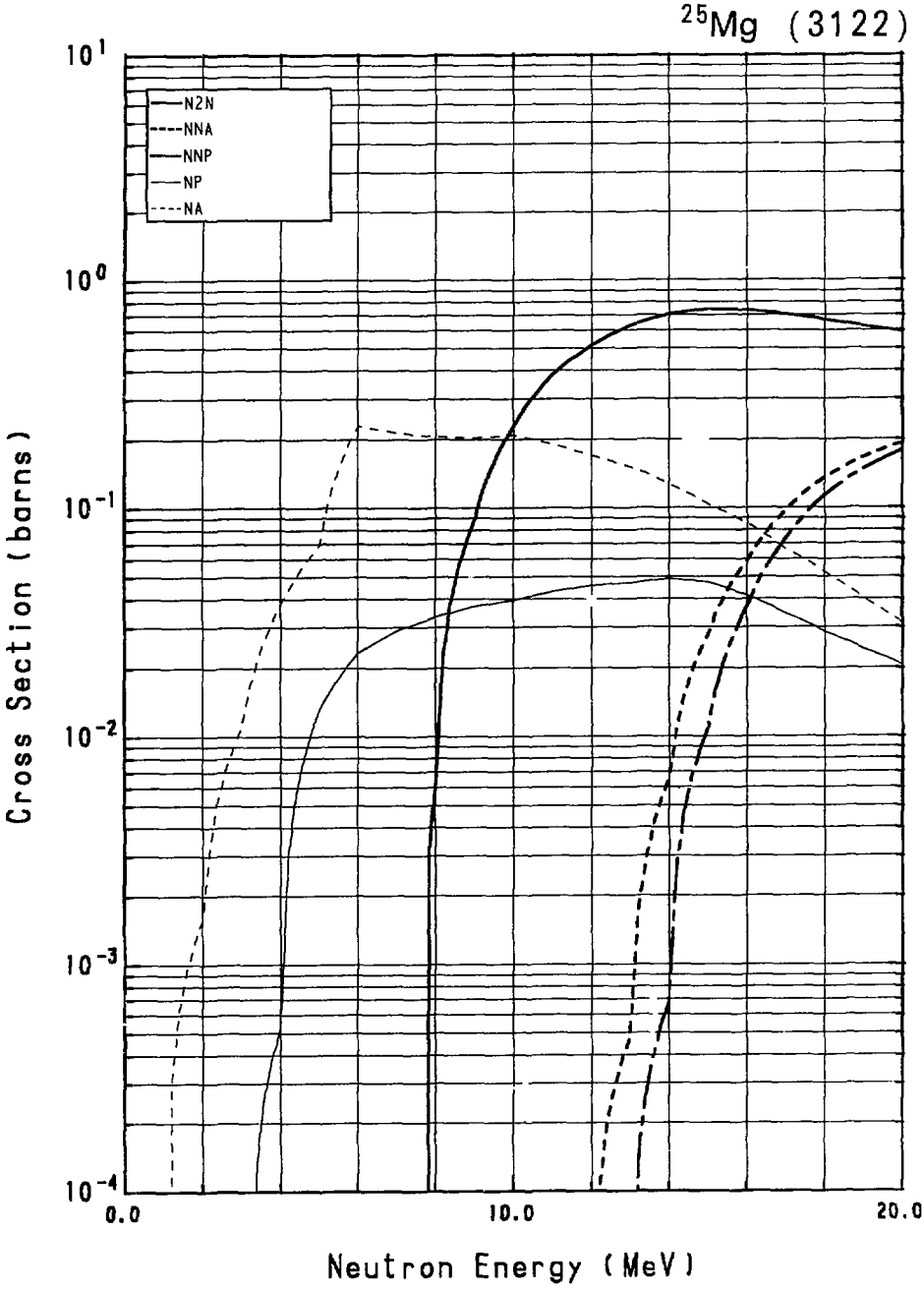

Mg (3120)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

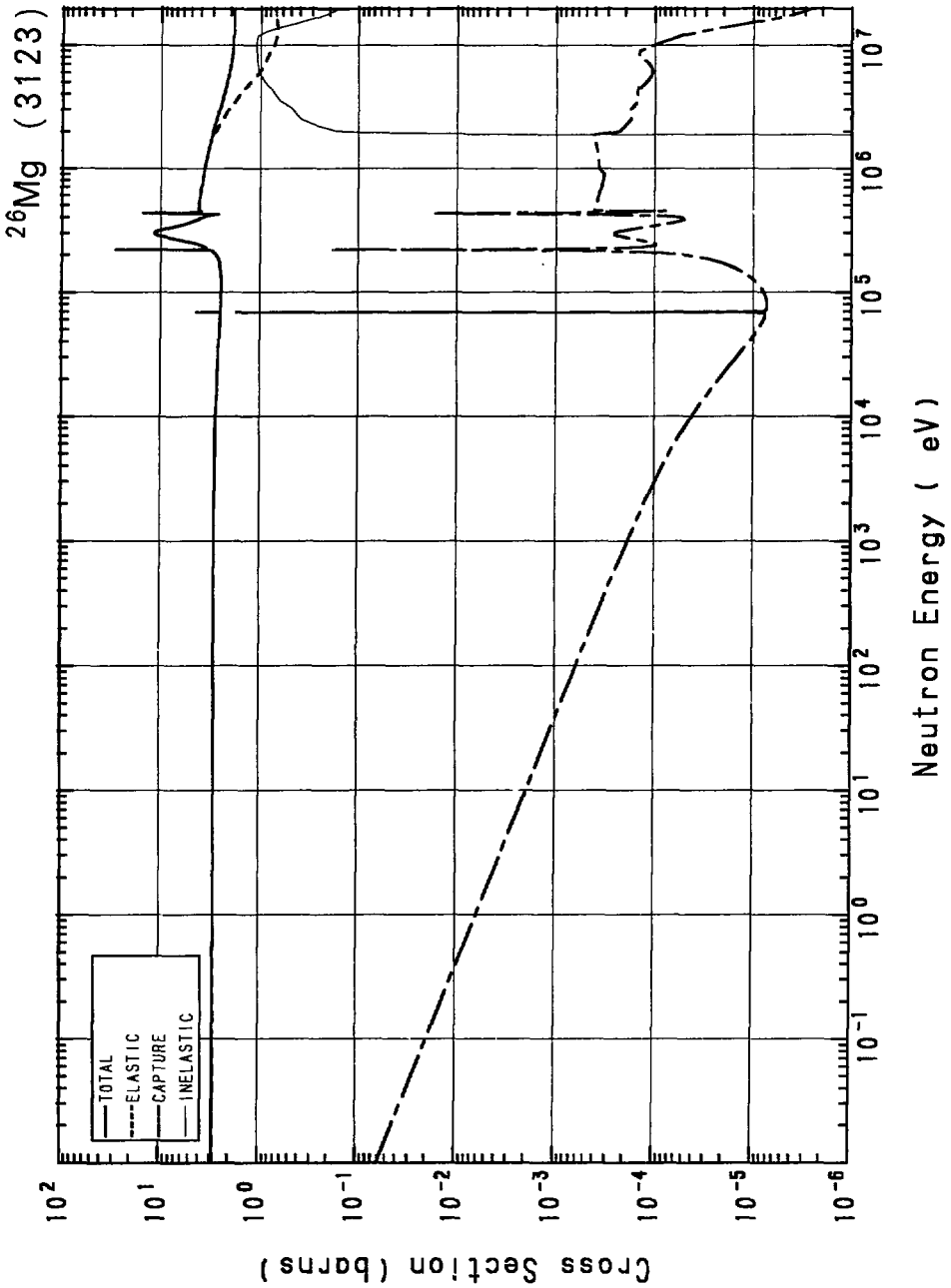

Mg (3120)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

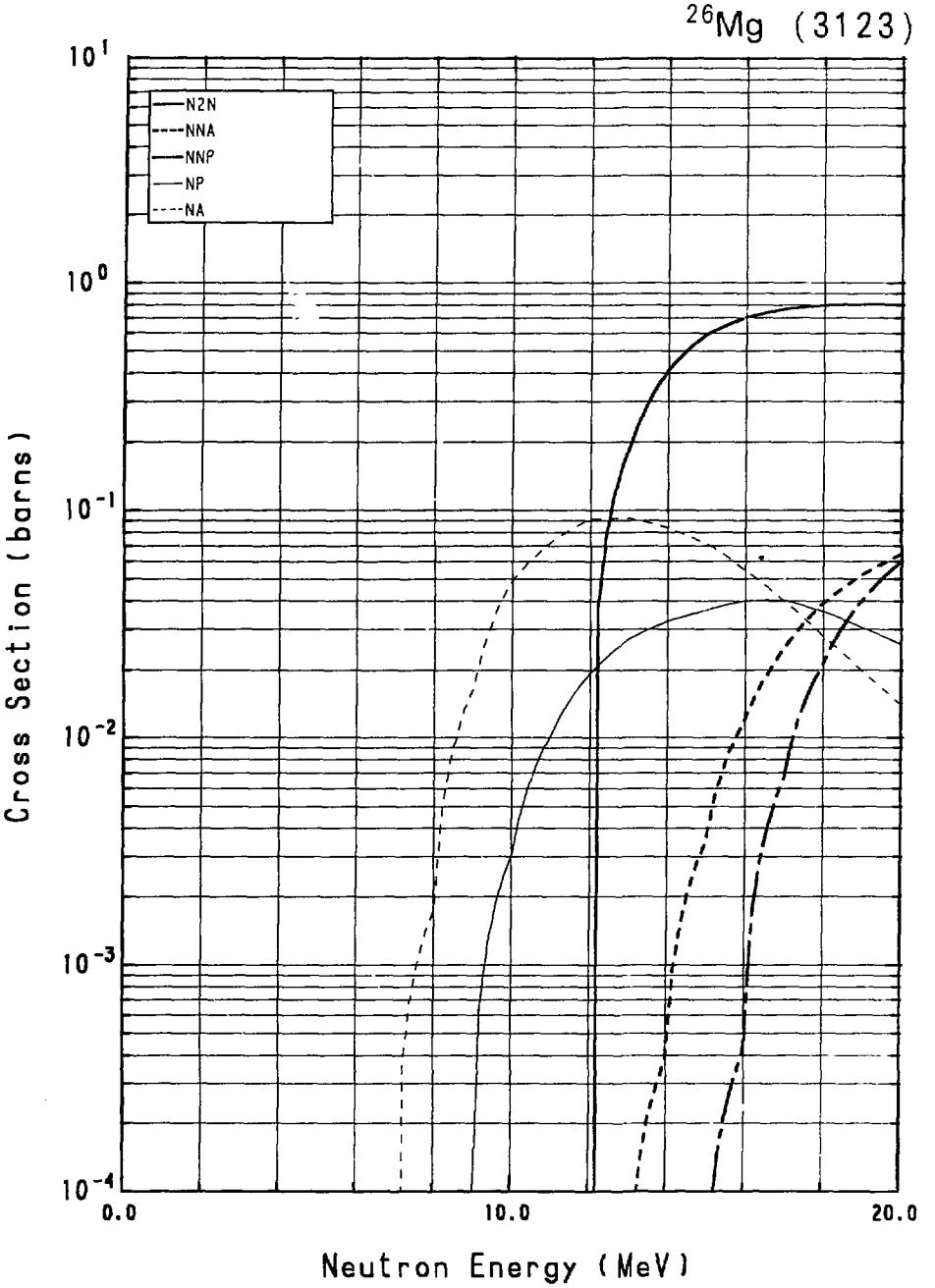

^{24}Mg (3121)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

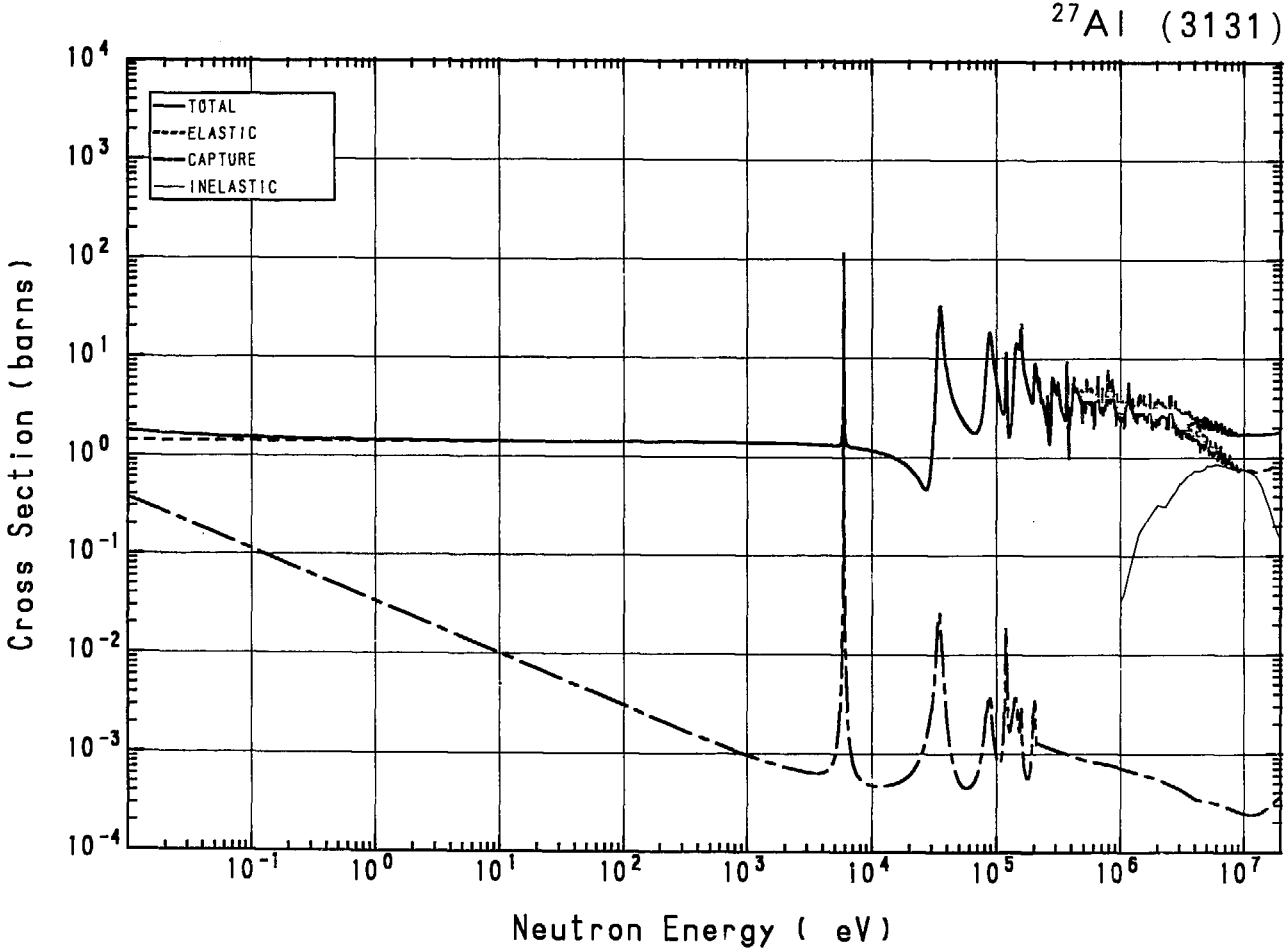

^{24}Mg (3121)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

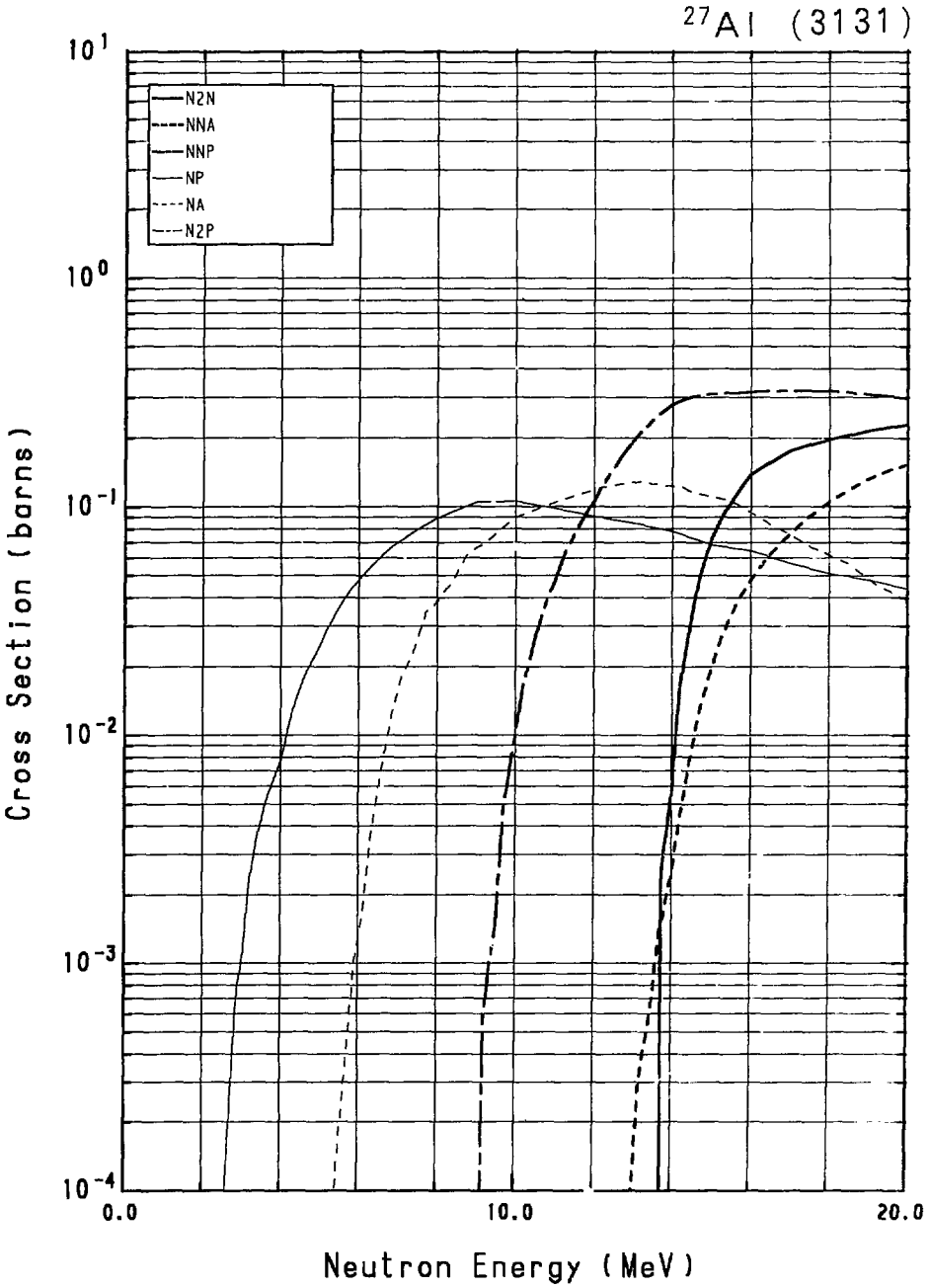

^{25}Mg (3122)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

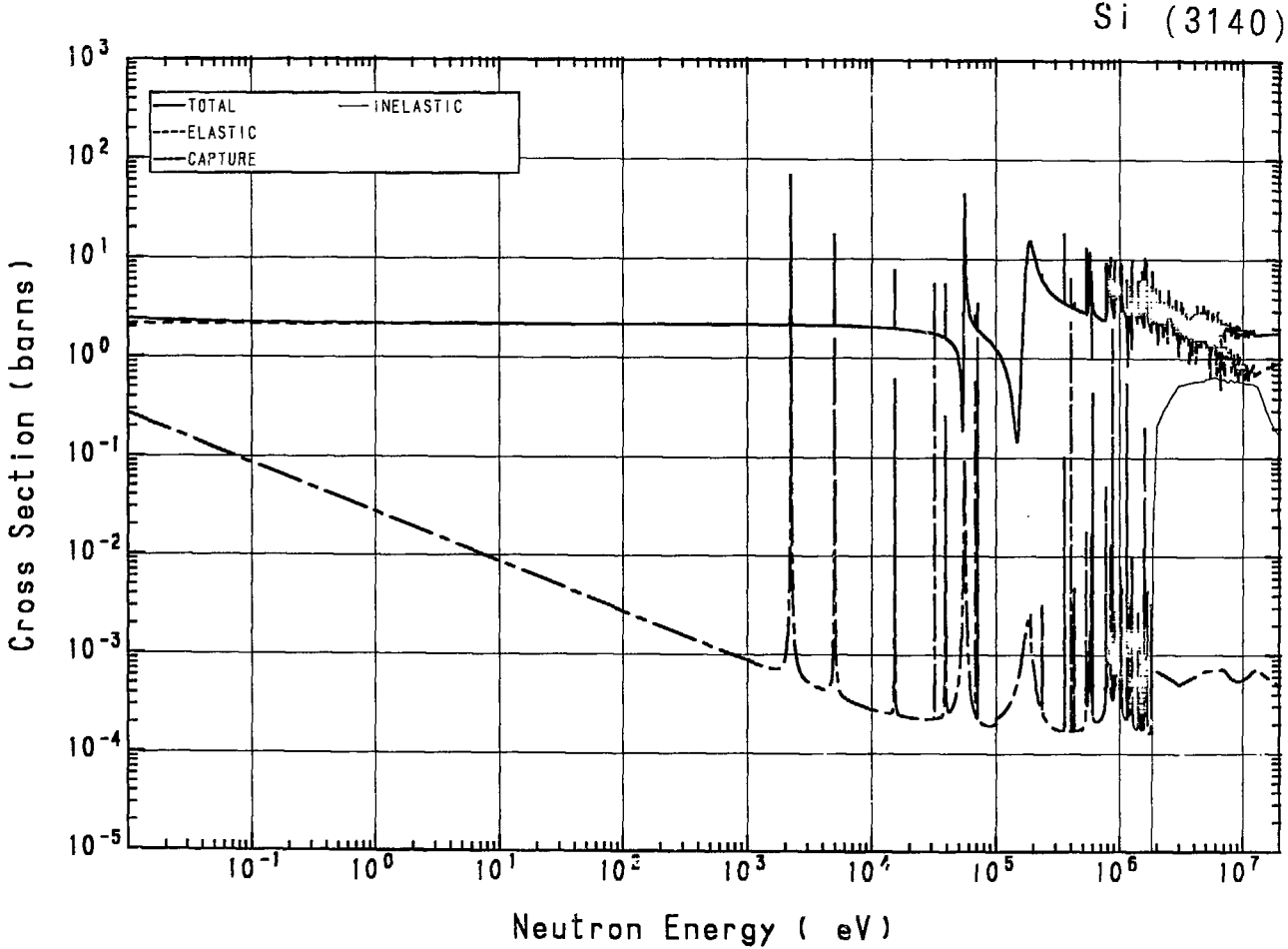

^{25}Mg (3122)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

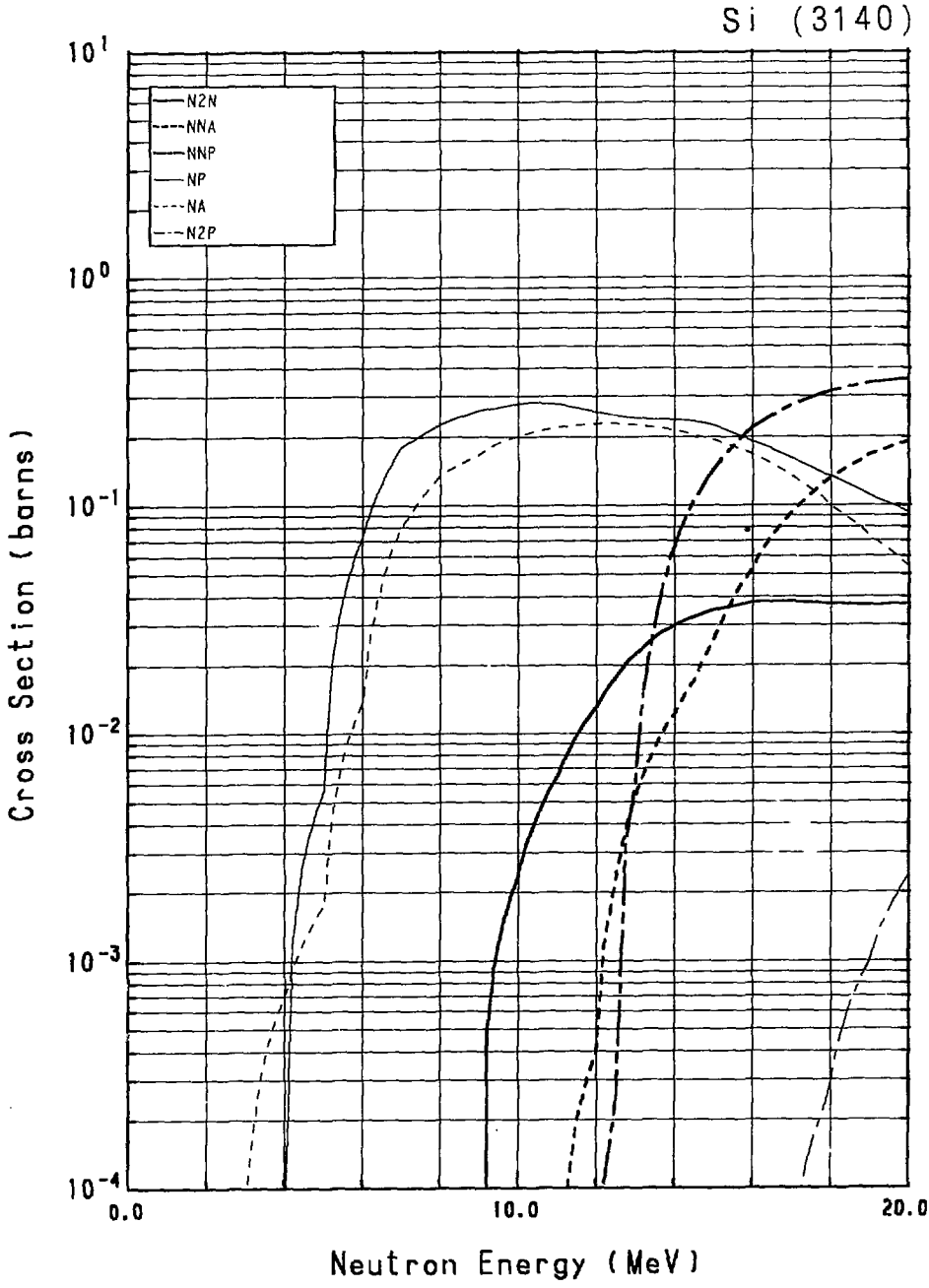

^{26}Mg (3123)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

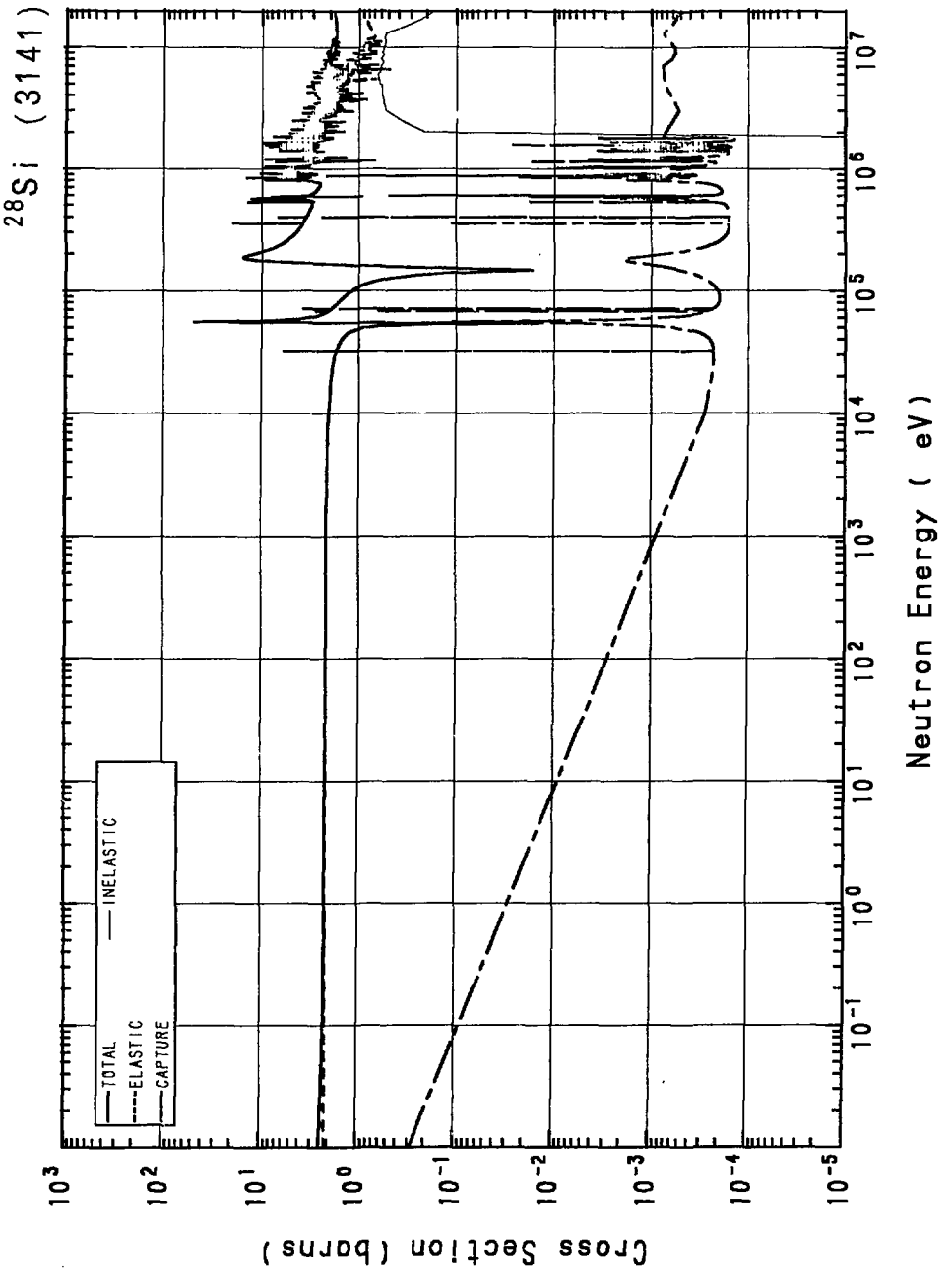

^{26}Mg (3123)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

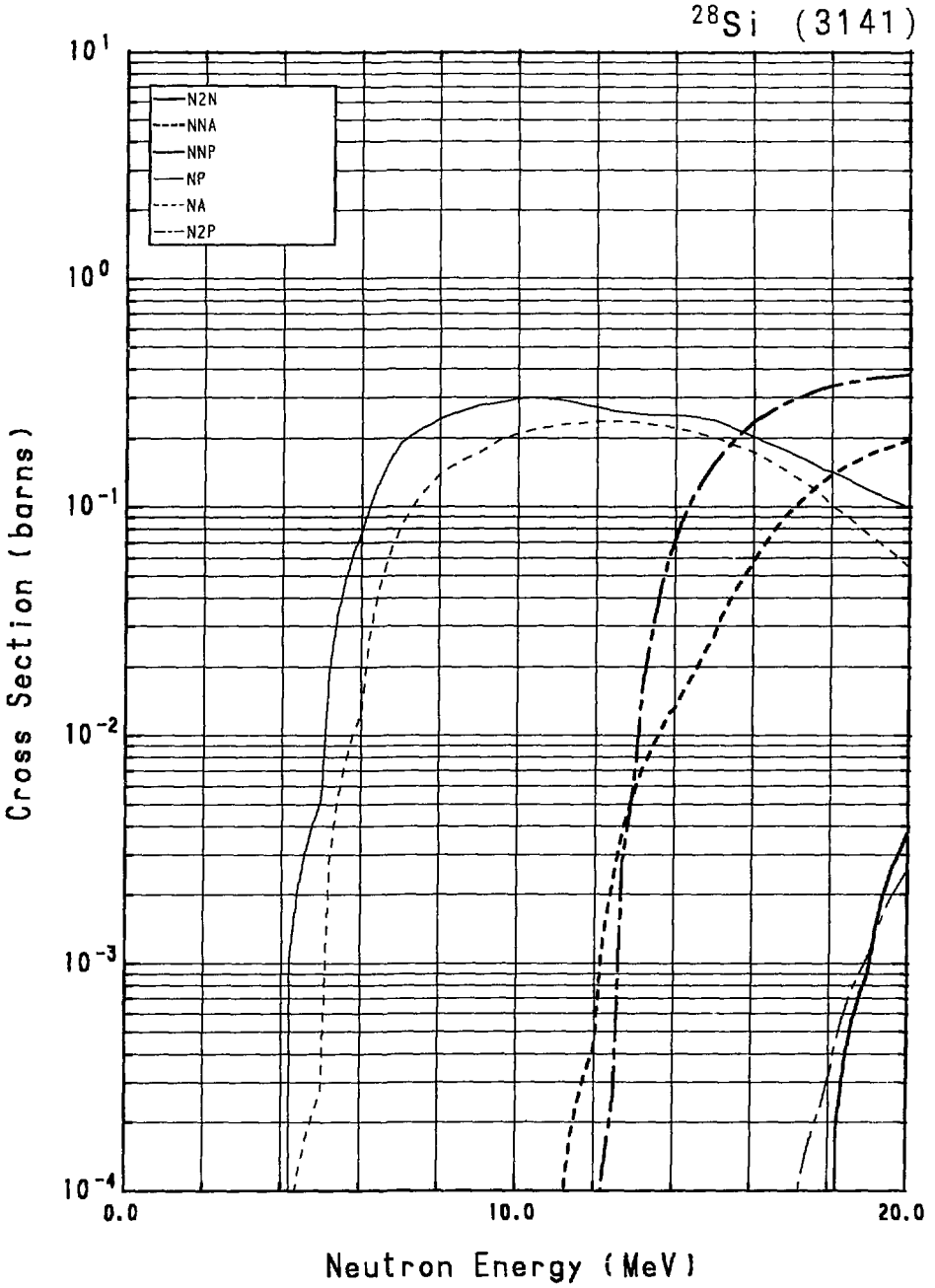

^{27}Al (3131)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

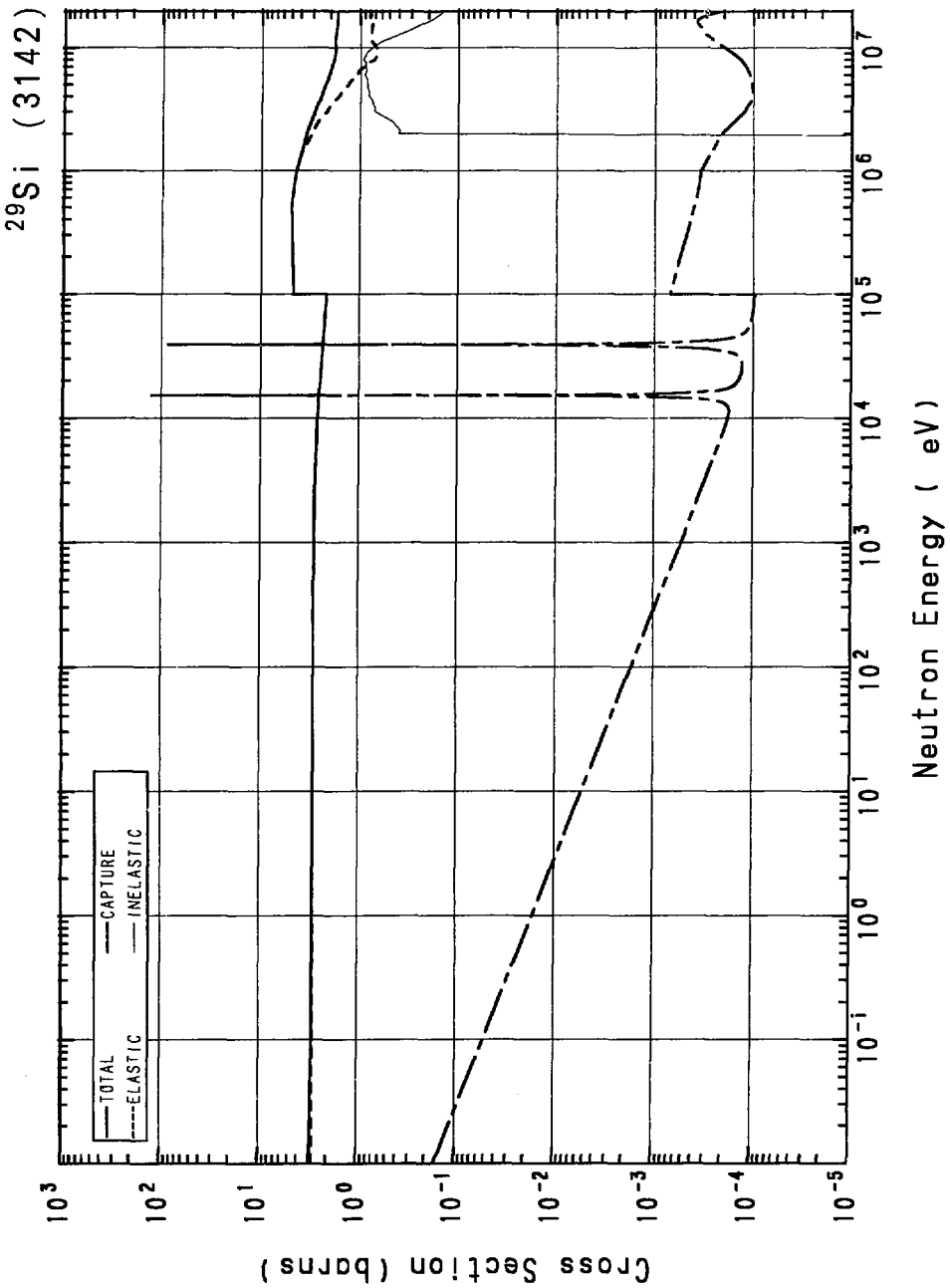

27Al (3131)
N2N
NNA
NNP
NP
NA
N2P
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

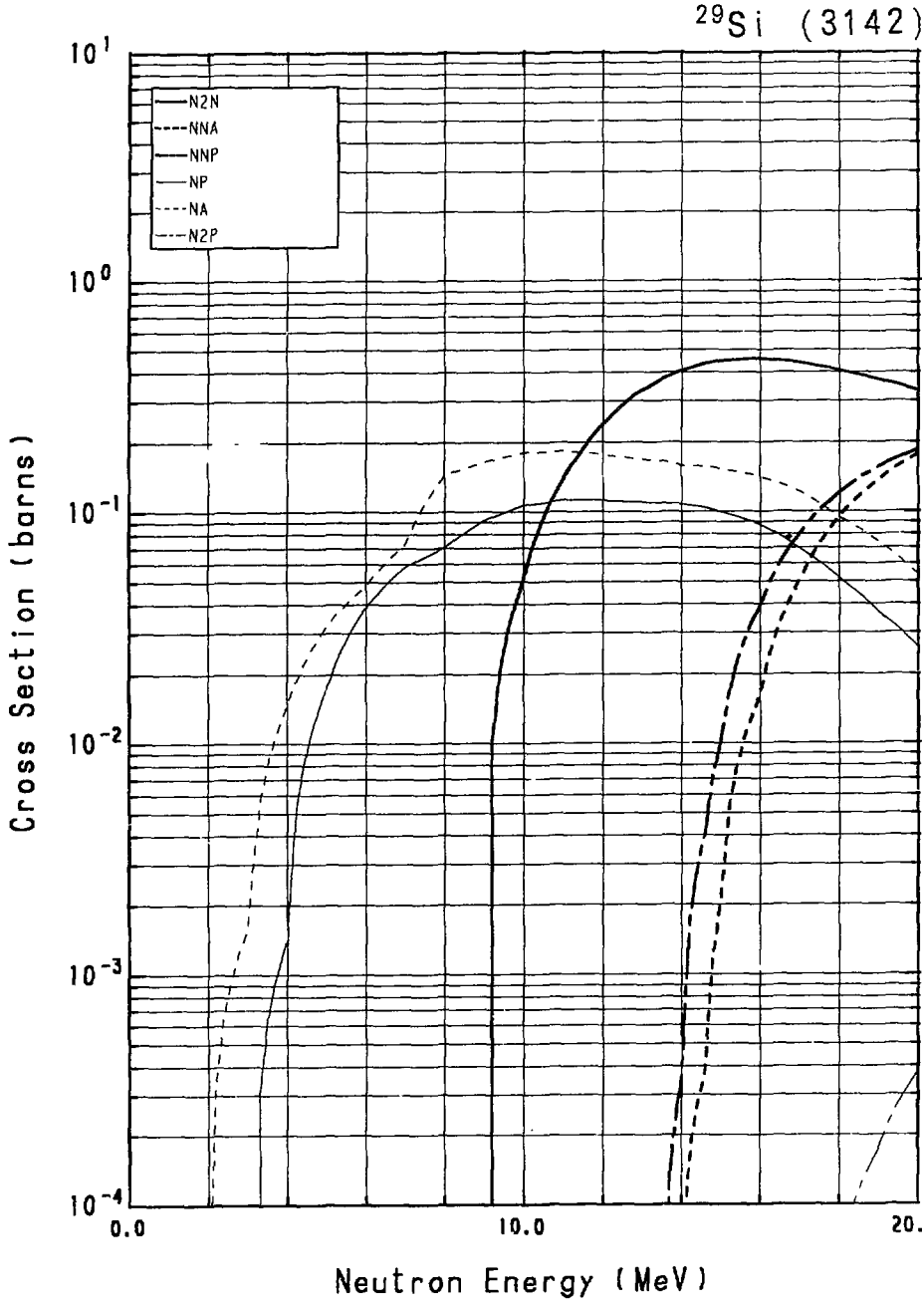

Si (3140)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

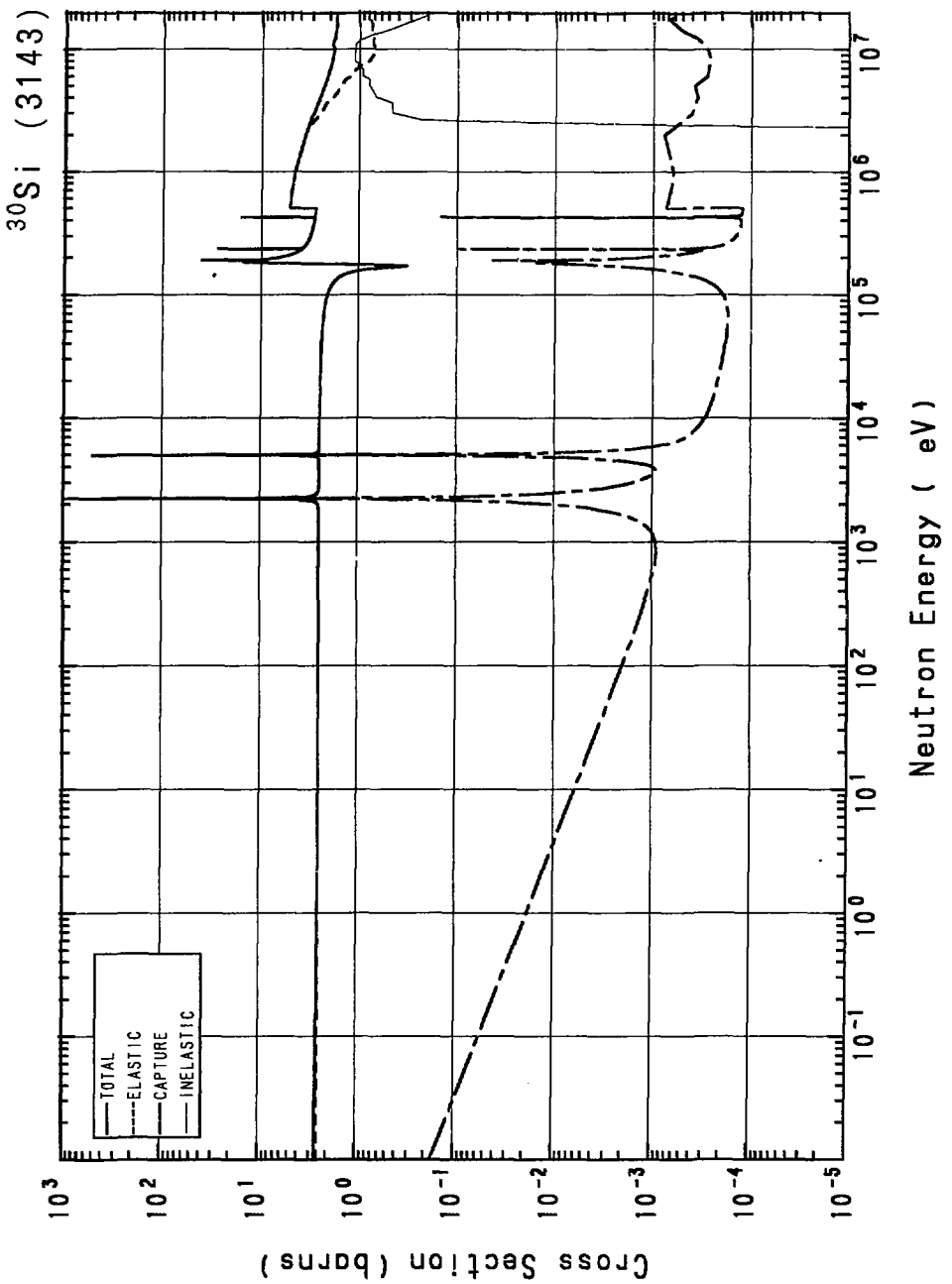

Si (3140)
N2N
NNA
NNP
NP
NA
N2P
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

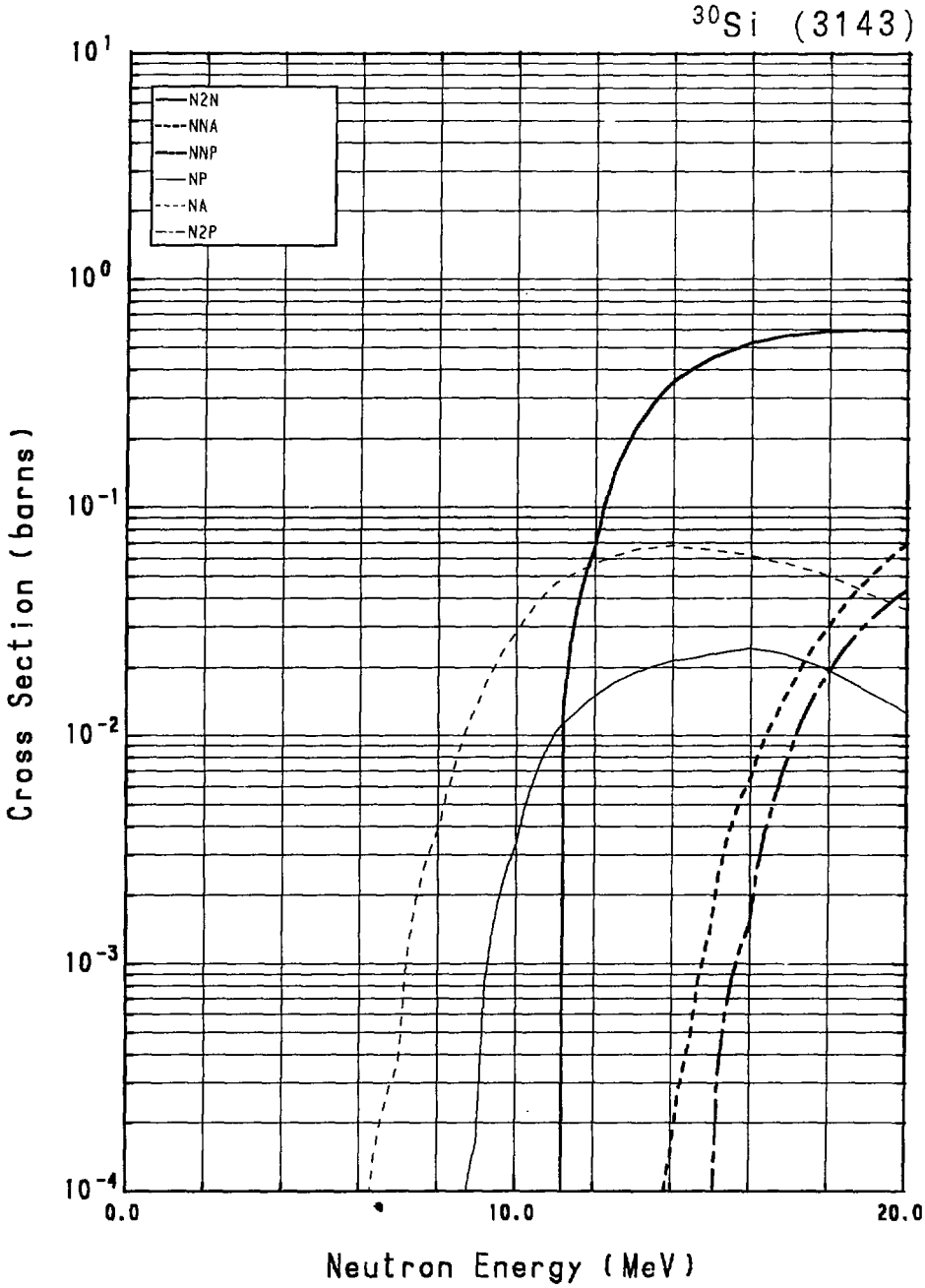

^{28}Si (3141)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

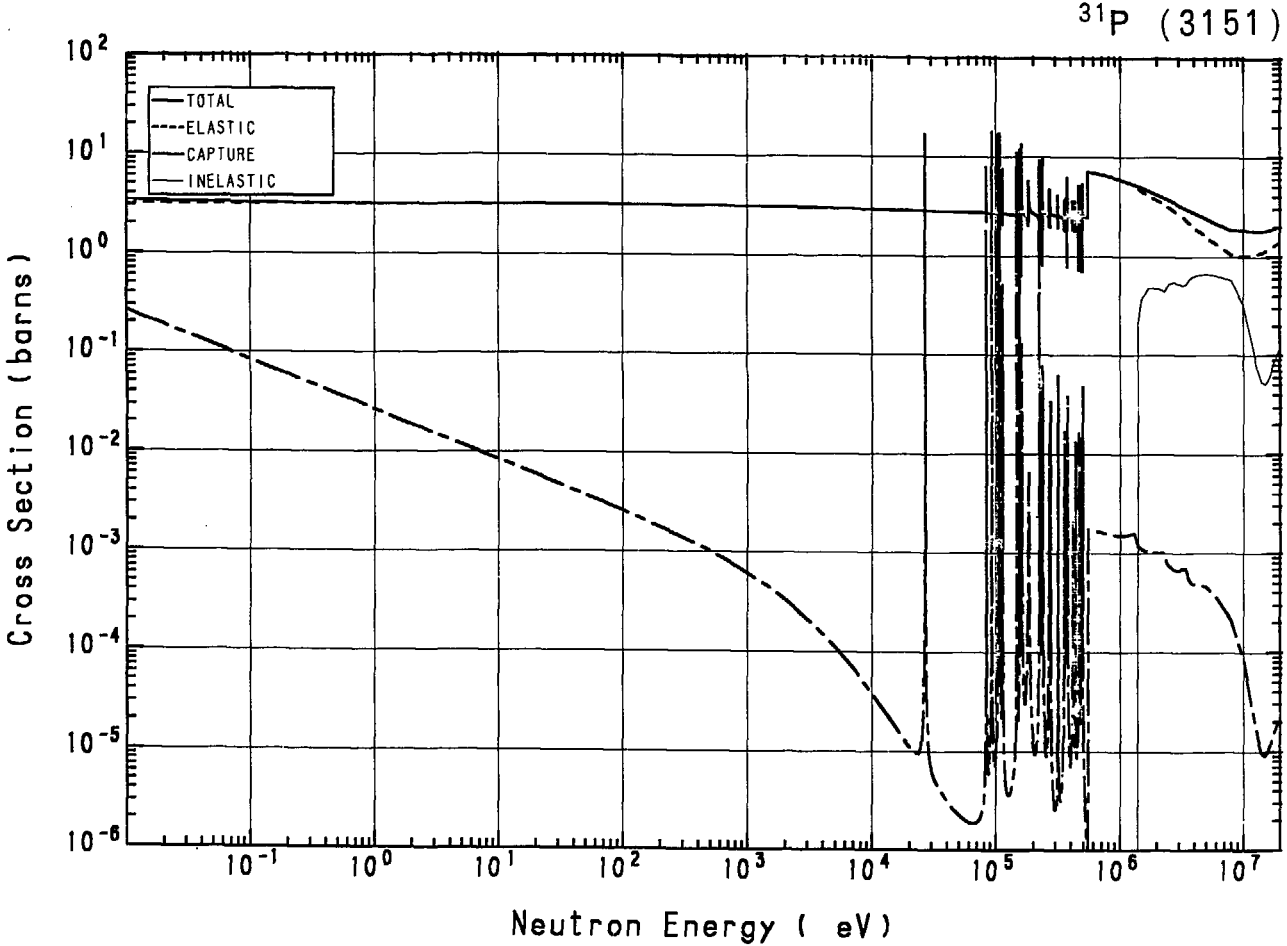

^{28}Si (3141)
N2N
NNA
NNP
NP
NA
N2P
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

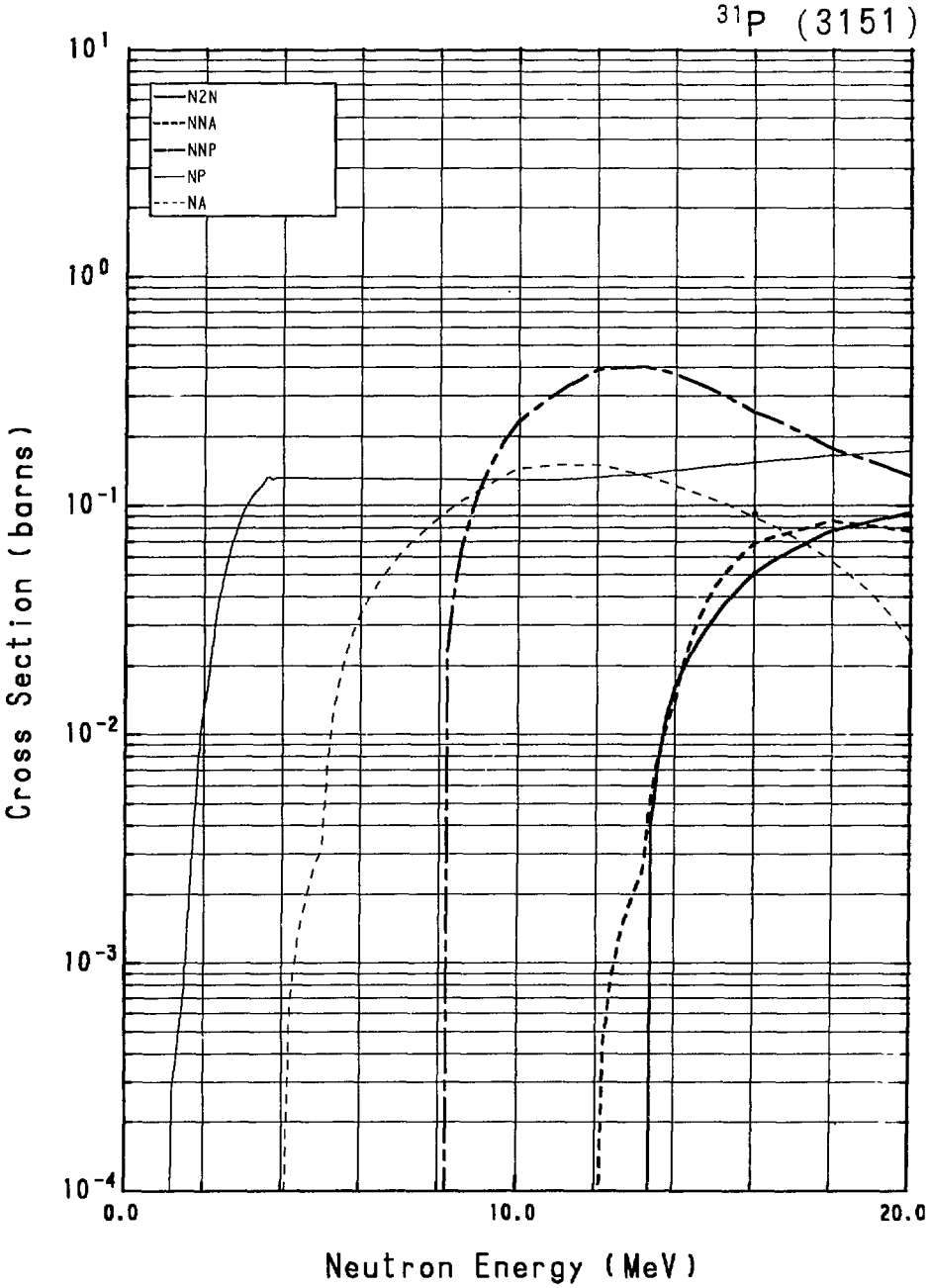

^{29}Si (3142)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

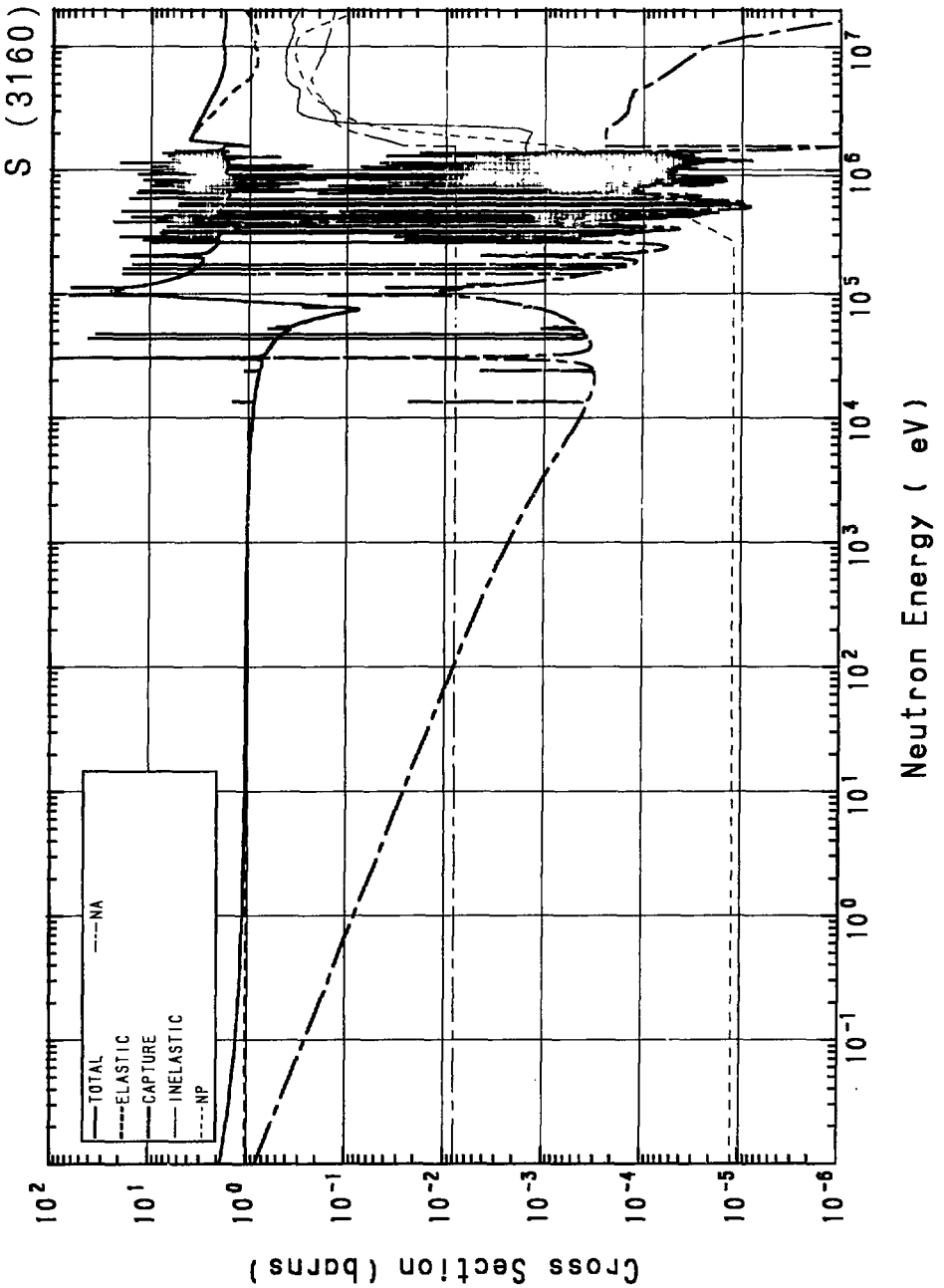

^{29}Si (3142)
N2N
NNA
NNP
NP
NA
N2P
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

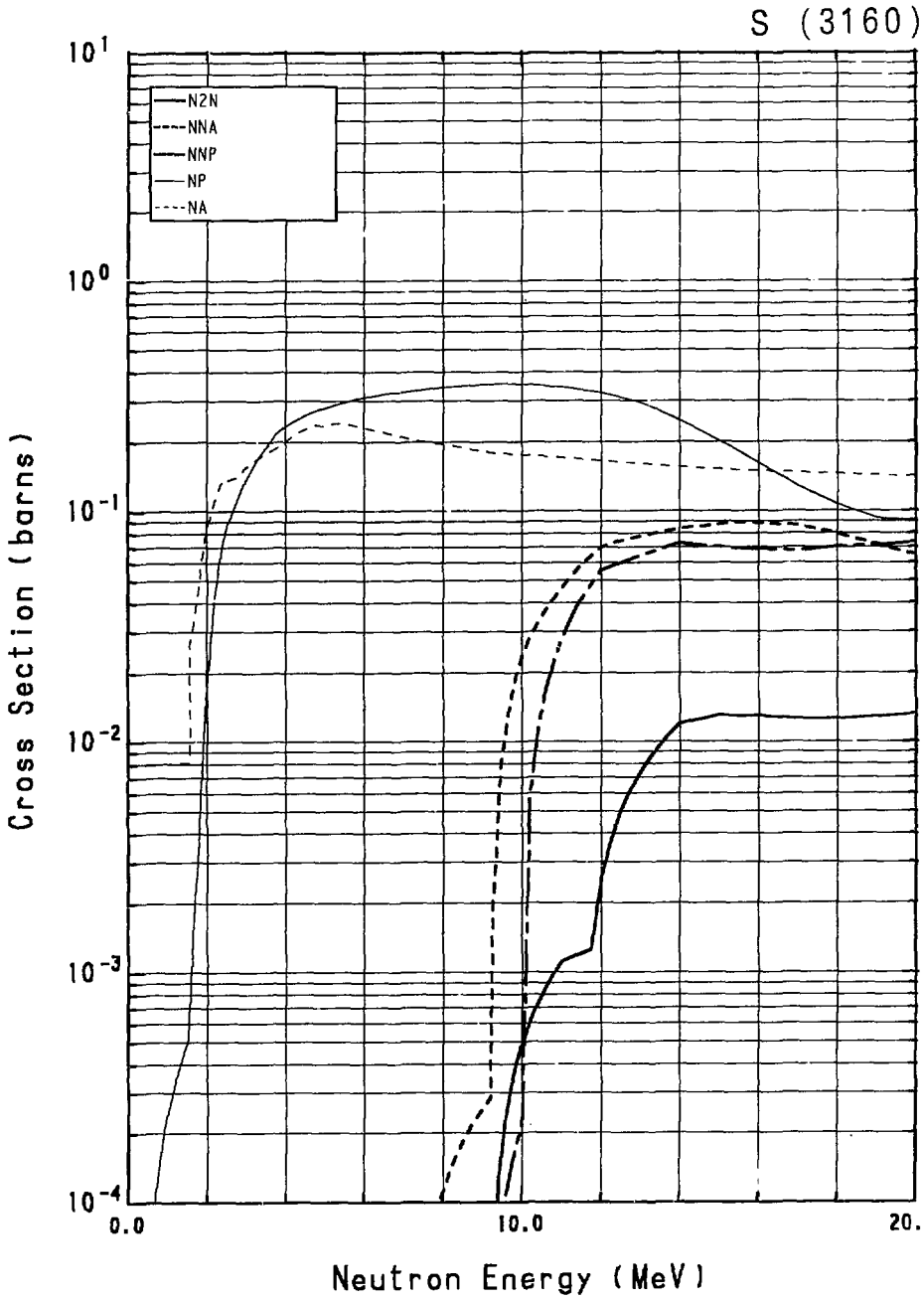

30Si (3143)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

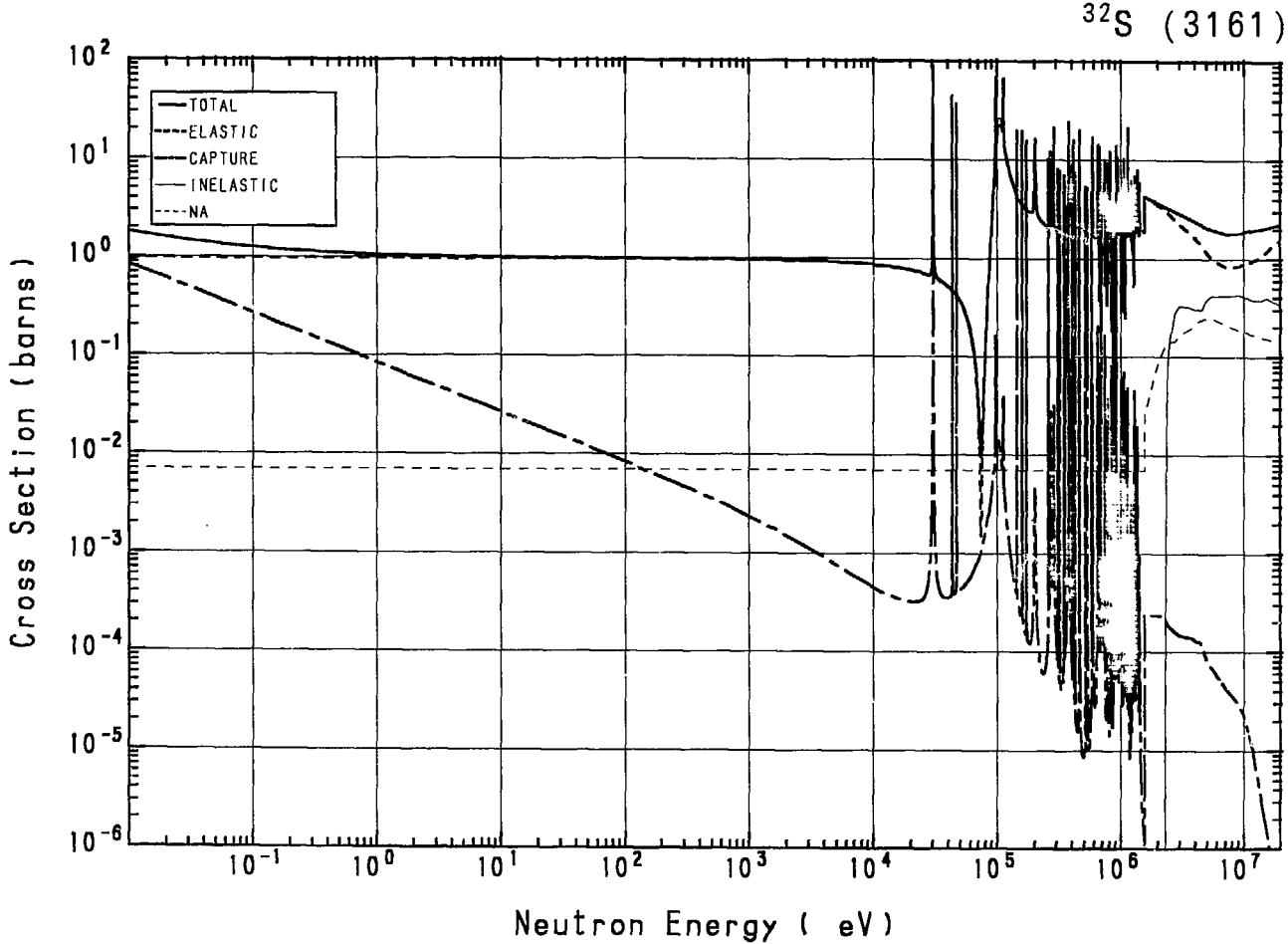

^{30}Si (3143)
N2N
NNA
NNP
NP
NA
N2P
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

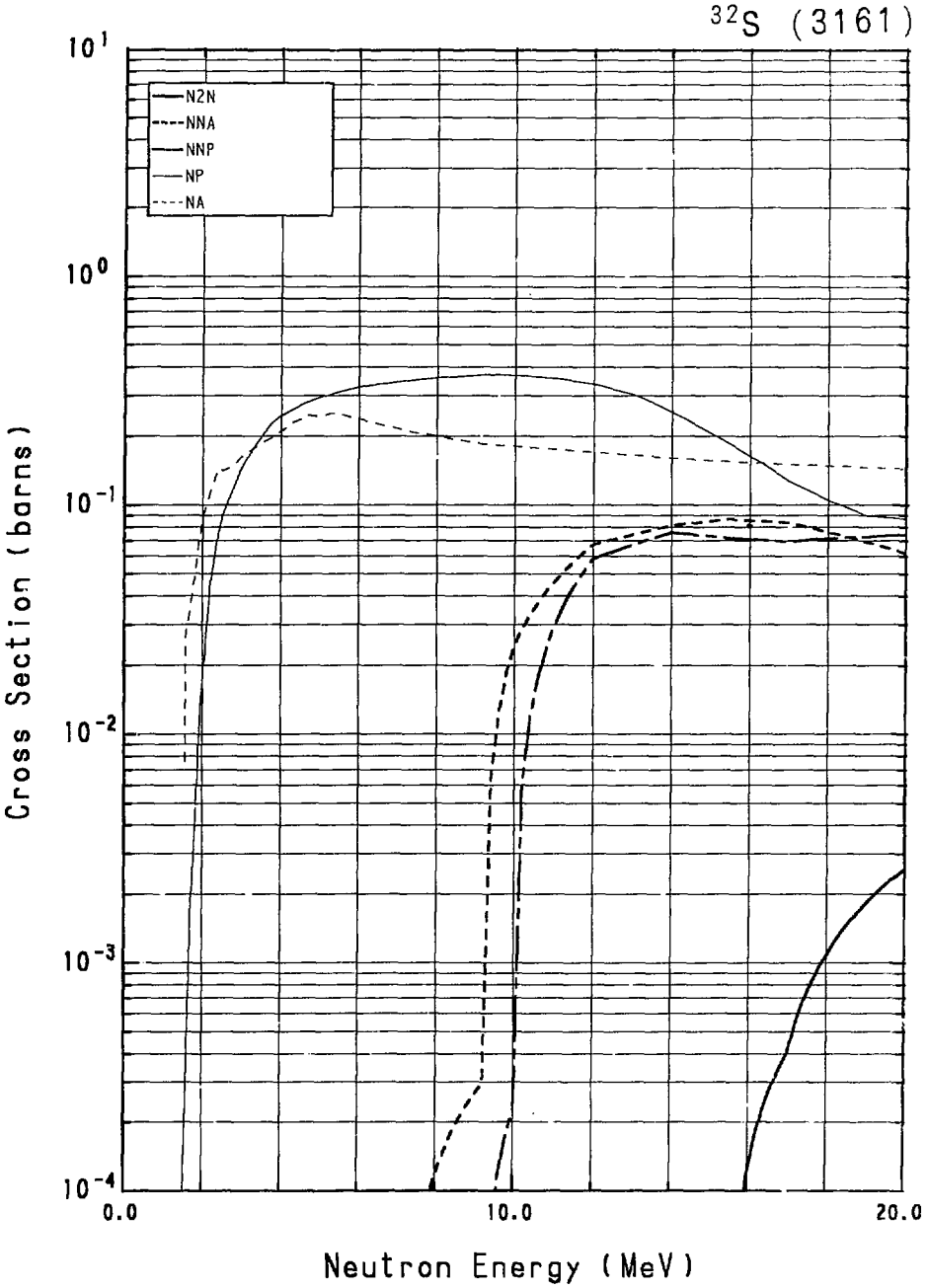

^{31}P (3151)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

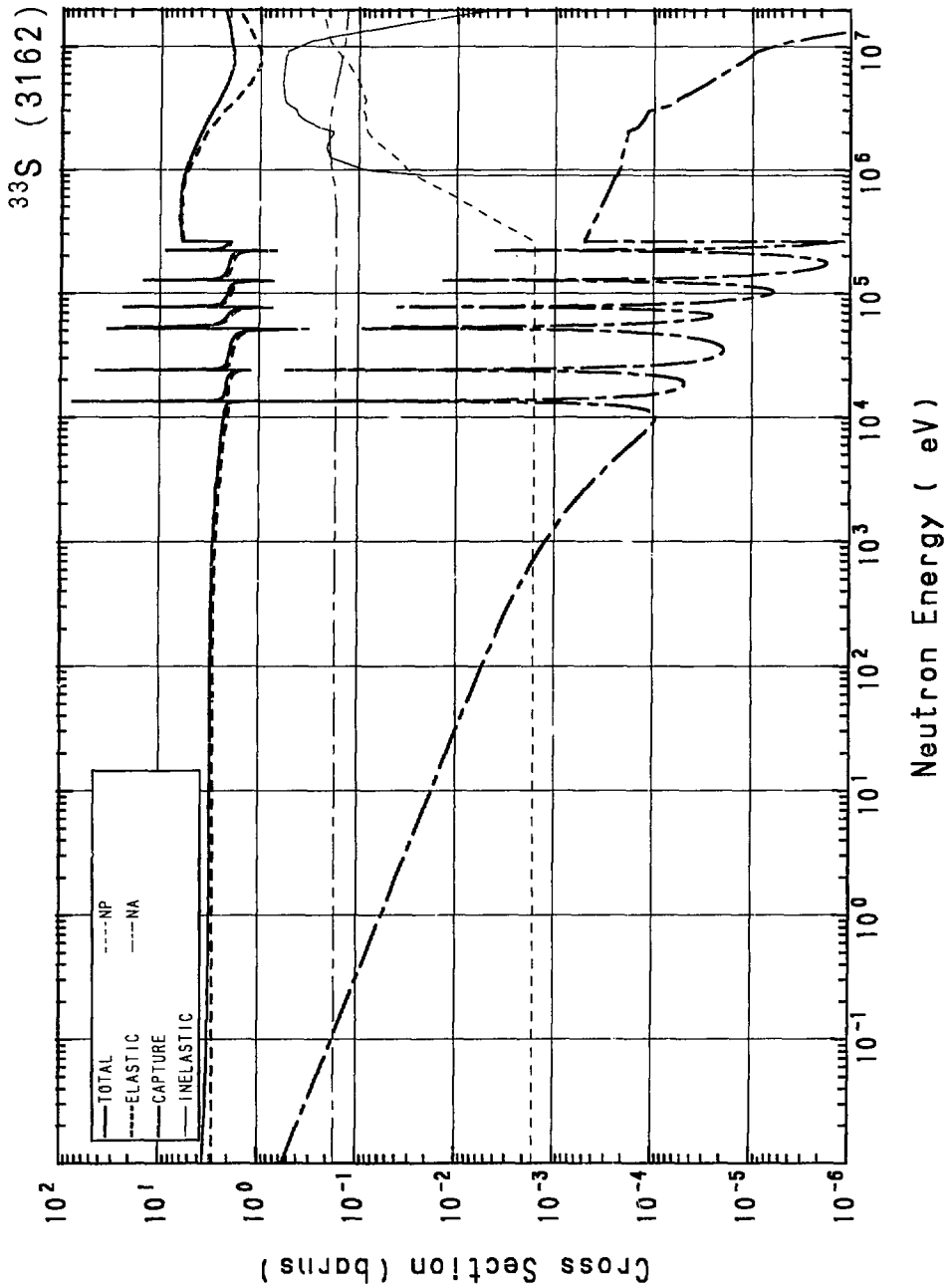

^{31}P (3151)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

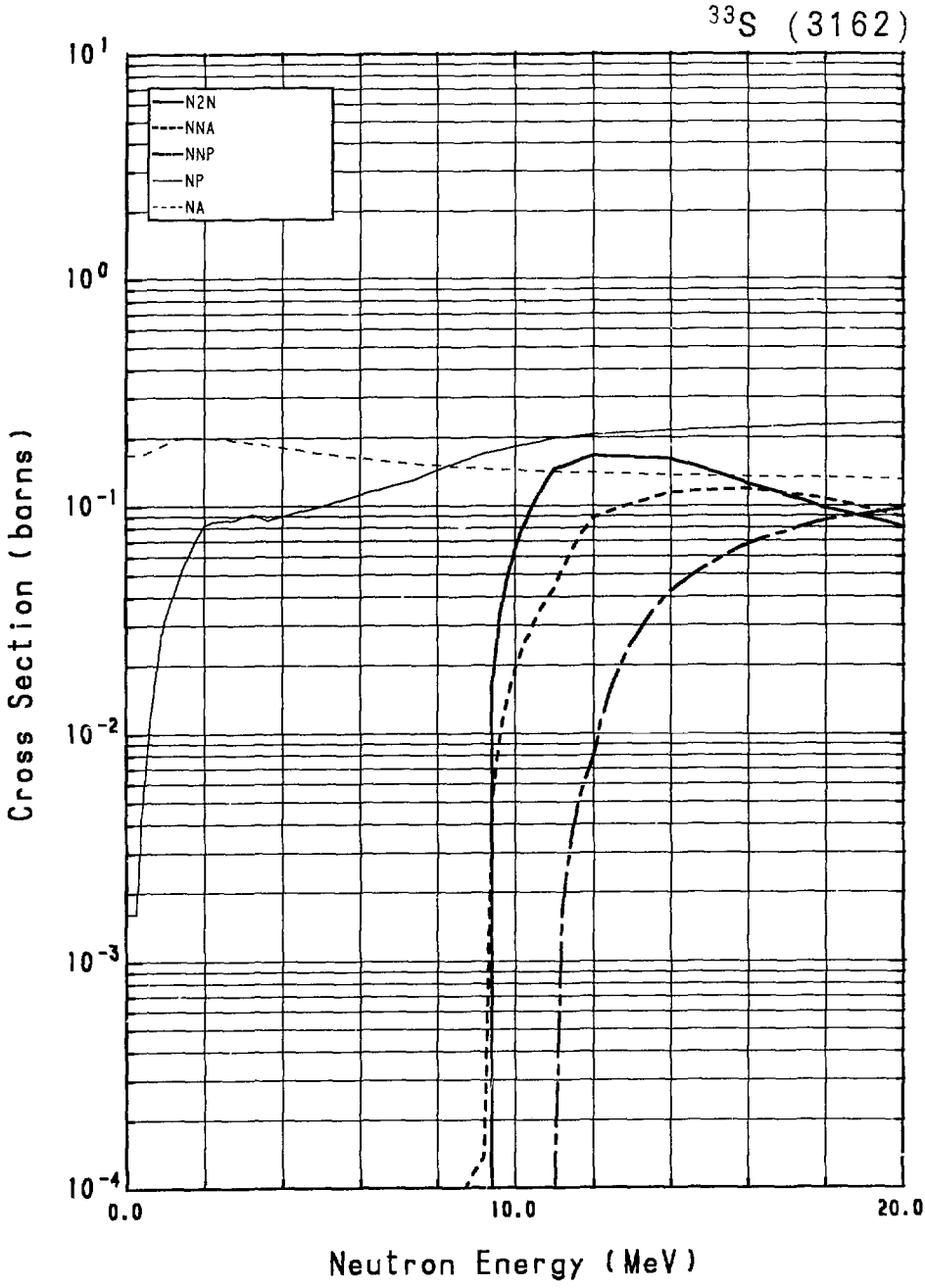

S (3160)
TOTAL
ELASTIC
CAPTURE
INELASTIC
NP
NA
Cross Section (barns)
Neutron Energy (eV)

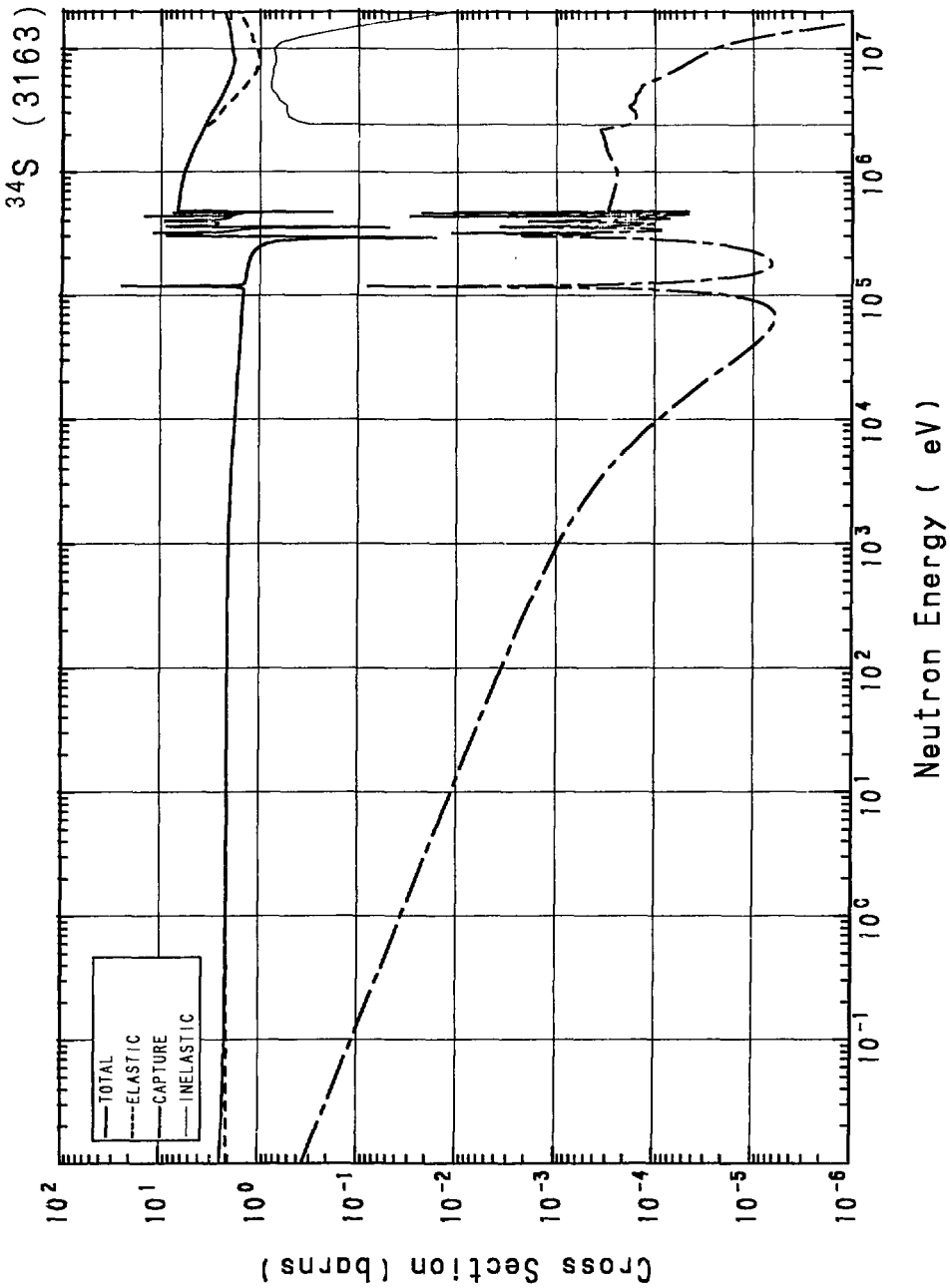

S (3160)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

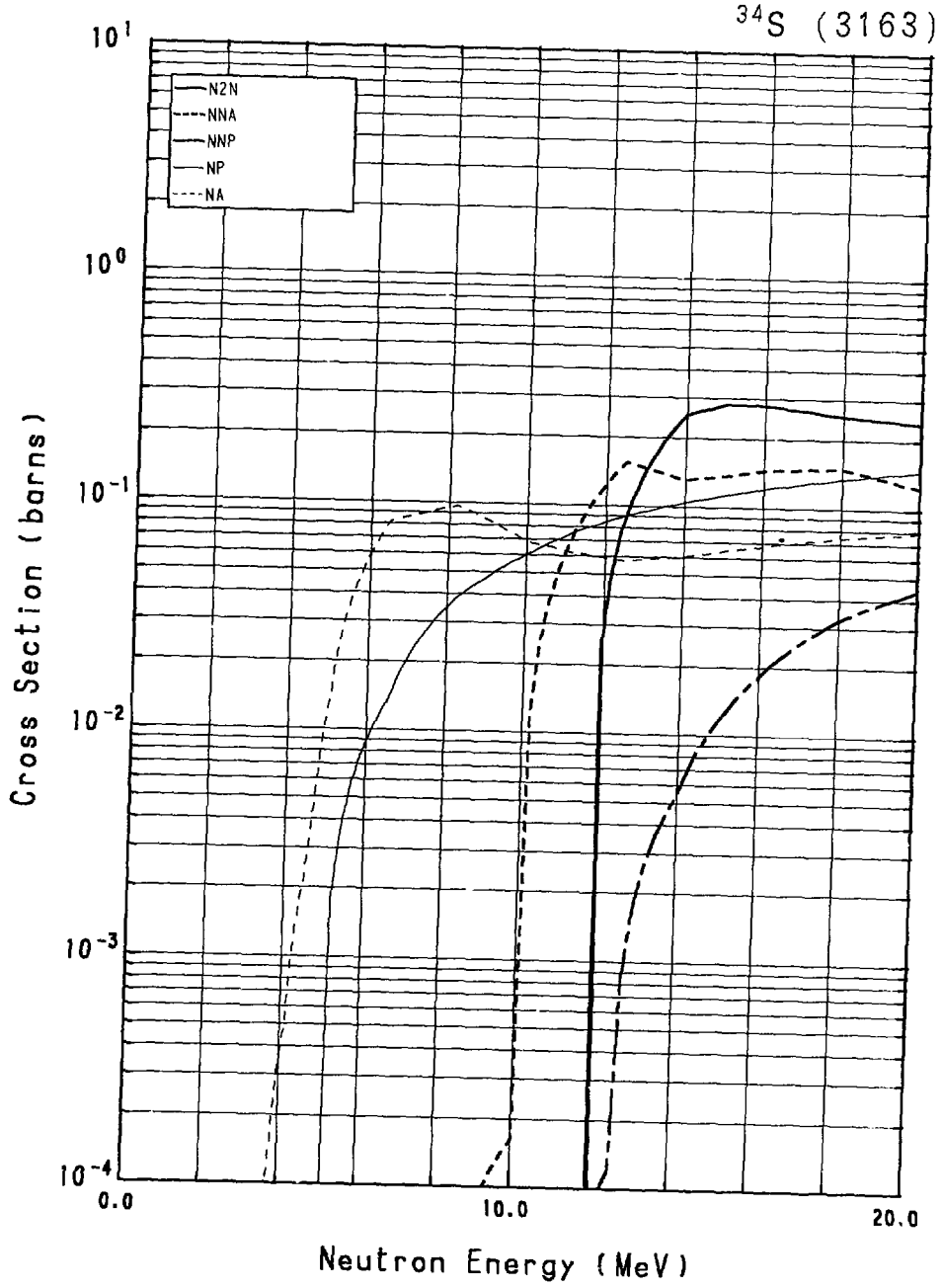

^{32}S (3161)
TOTAL
ELASTIC
CAPTURE
INELASTIC
NA
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

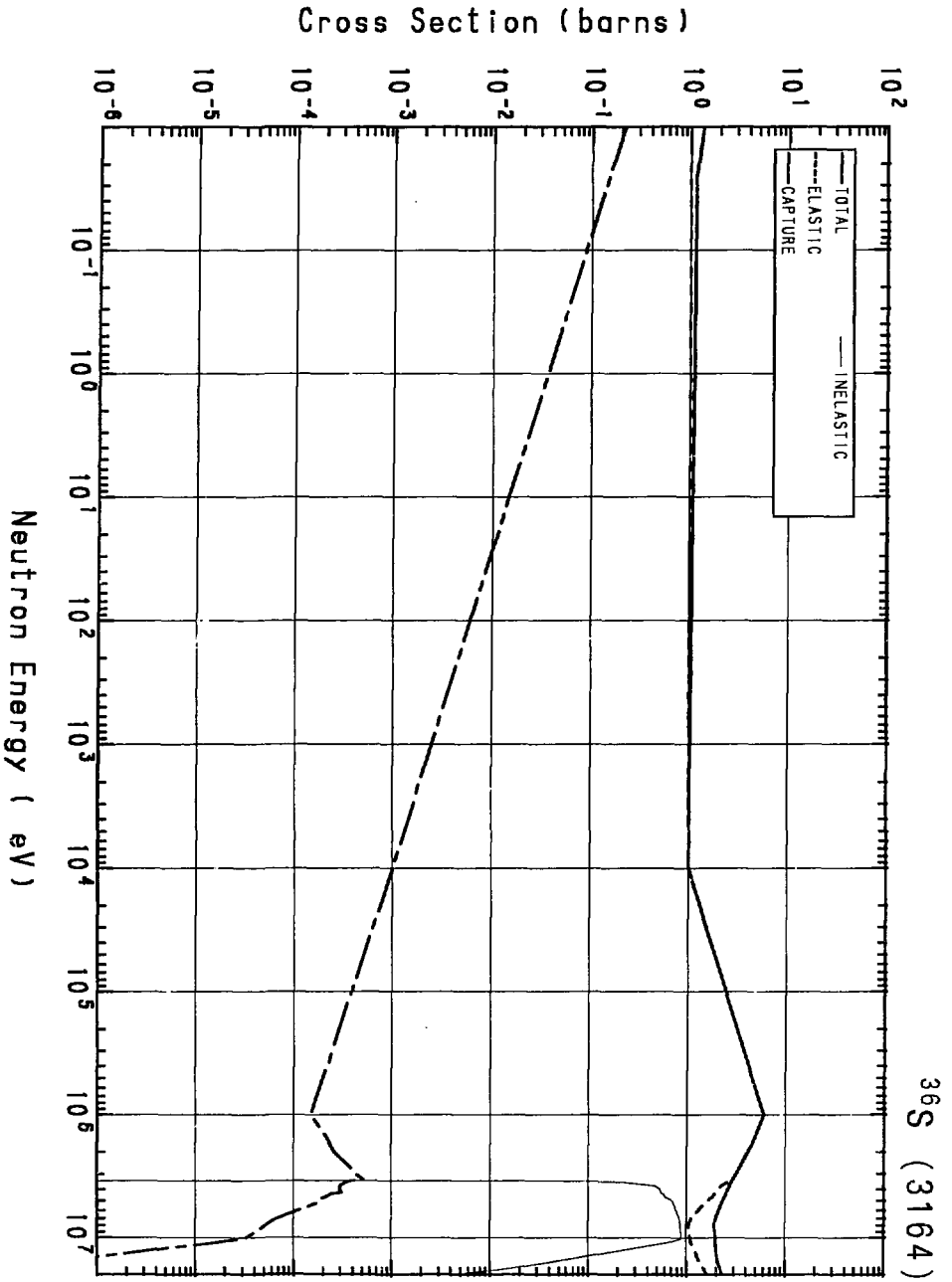

32S (3161)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

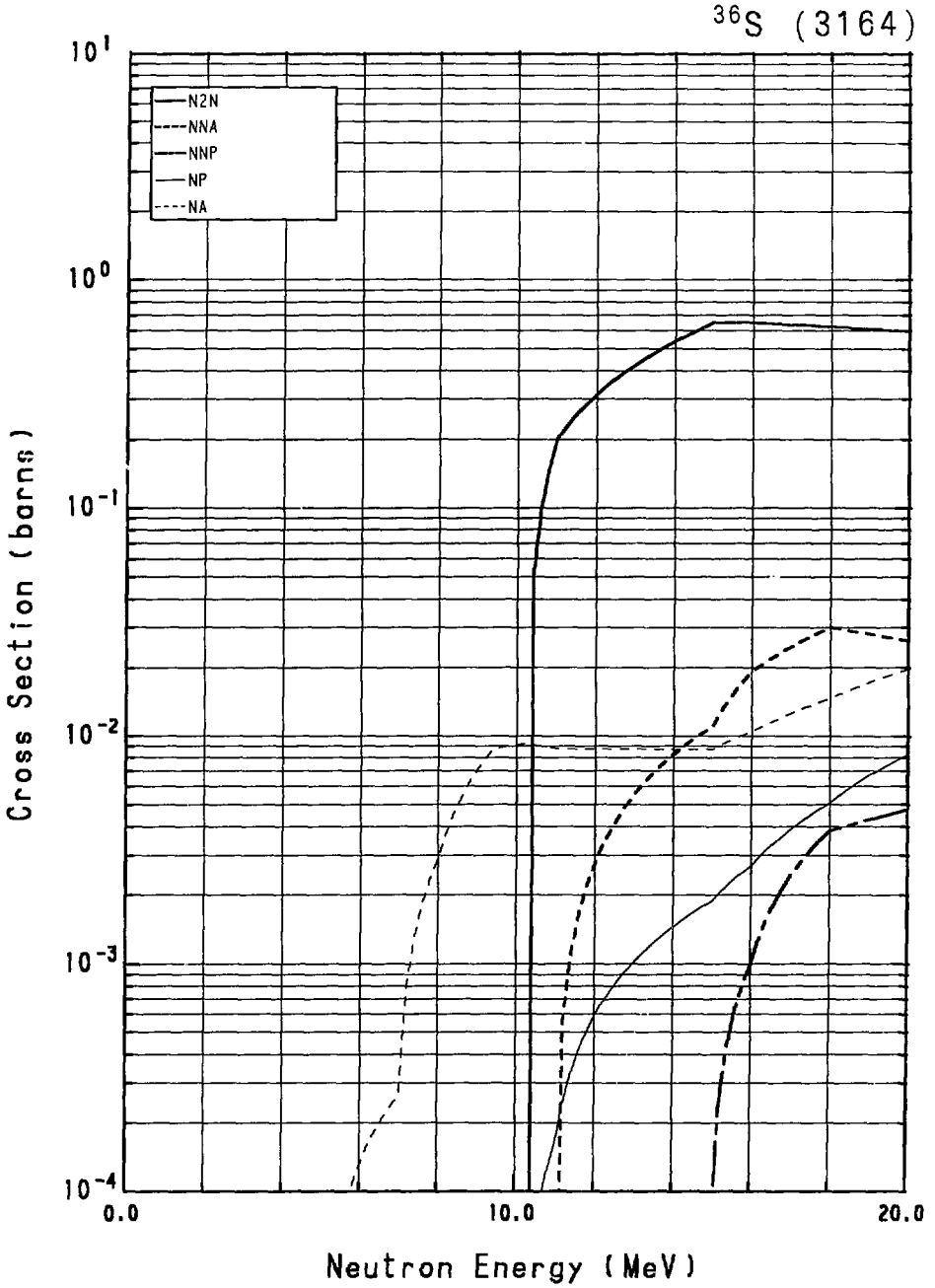

^{33}S (3162)
TOTAL
ELASTIC
CAPTURE
INELASTIC
NP
NA
Cross Section (barns)
Neutron Energy (eV)

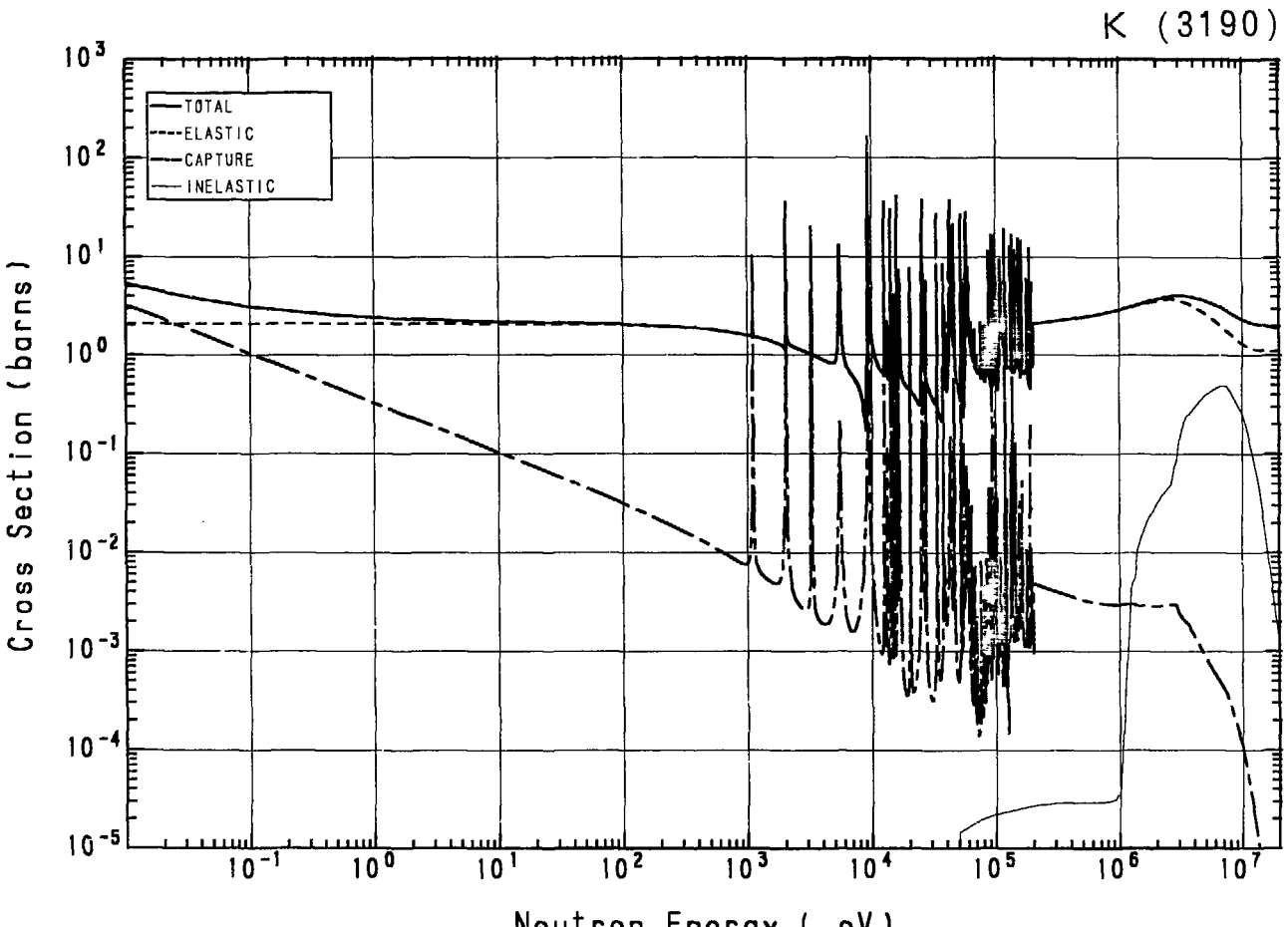

^{33}S (3162)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

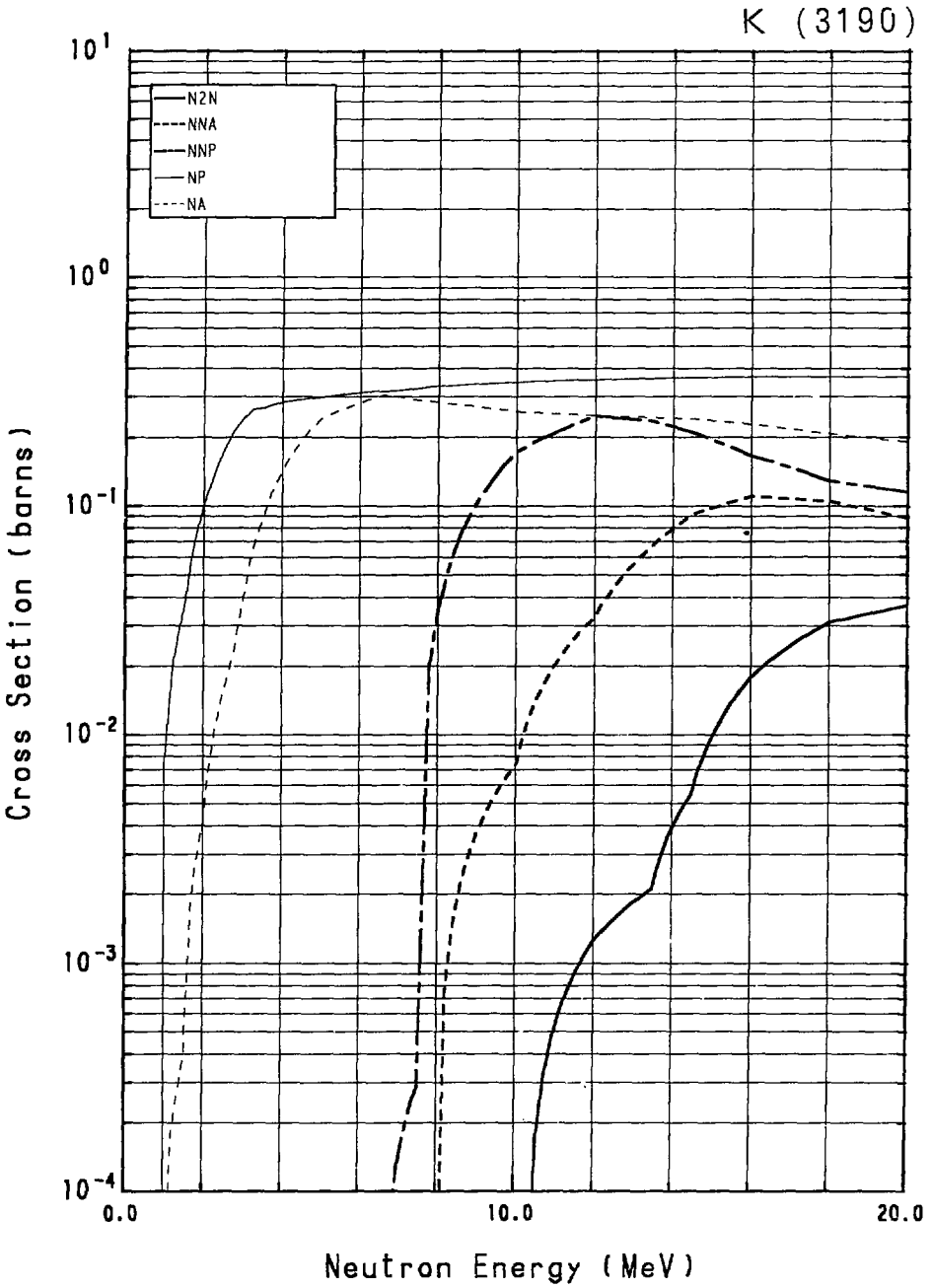

34S (3163)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

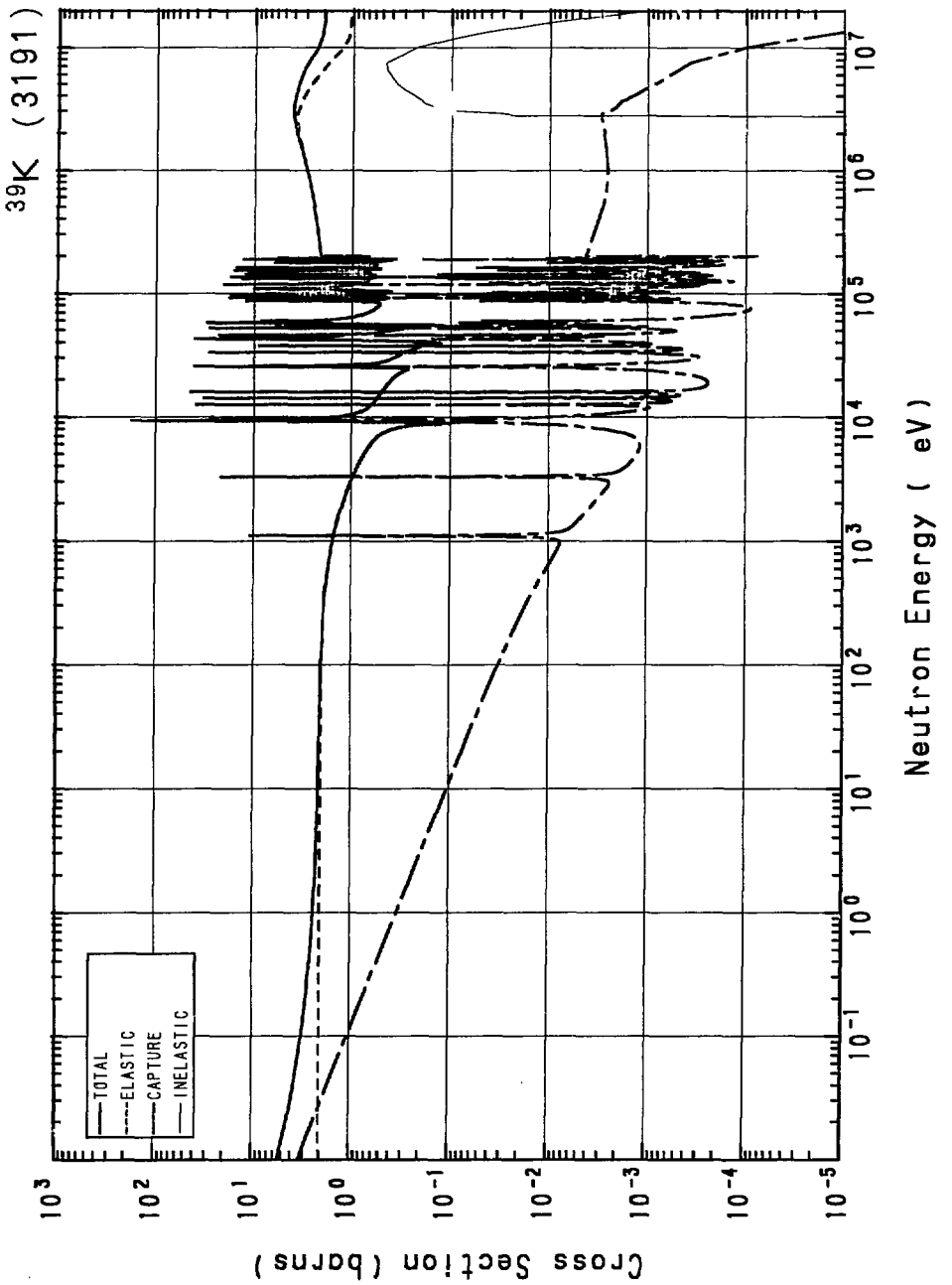

^{34}S (3163)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

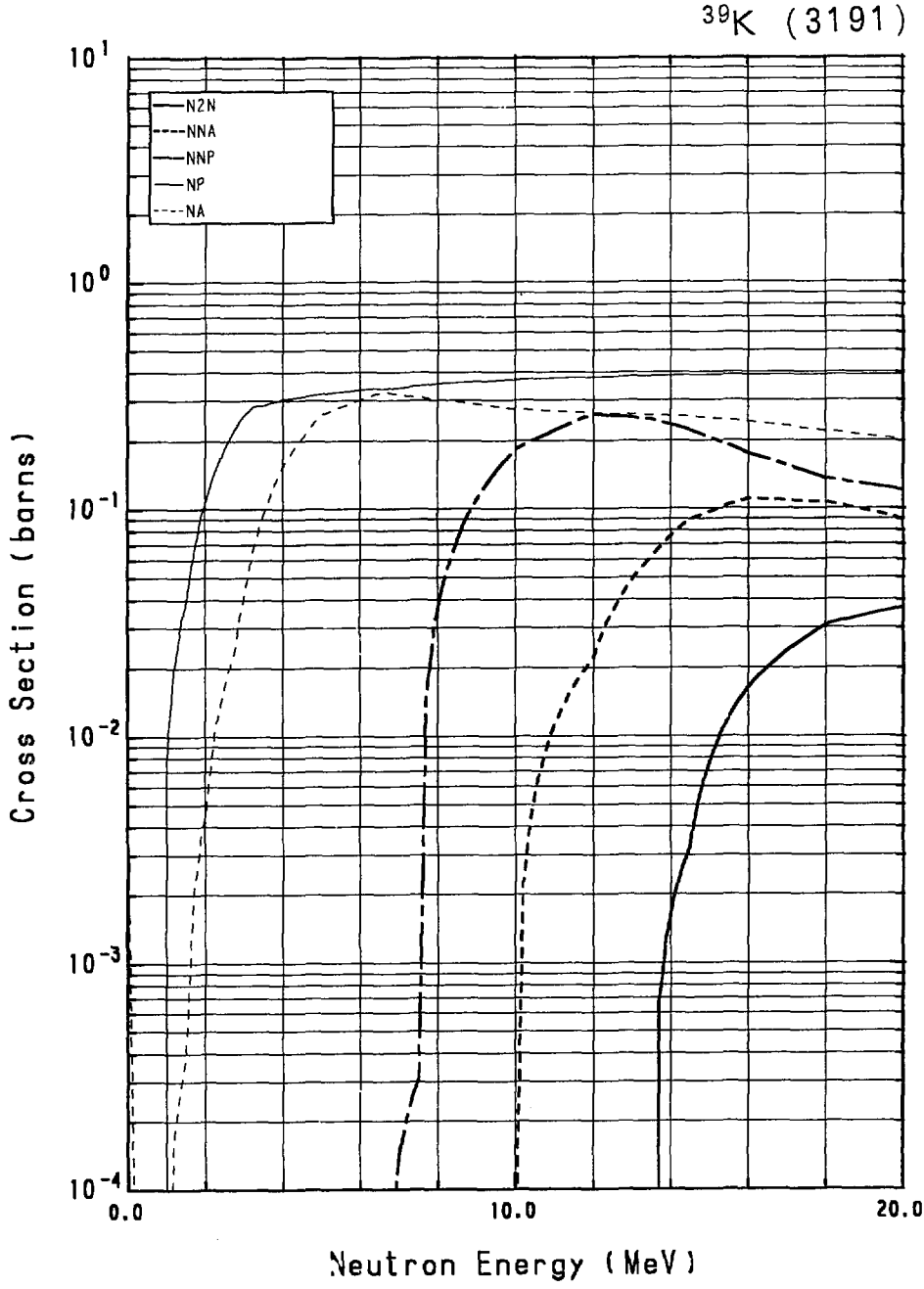

^{36}S (3164)
Cross Section (barns)
TOTAL
ELASTIC
CAPTURE
INELASTIC
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}
Neutron Energy (eV)

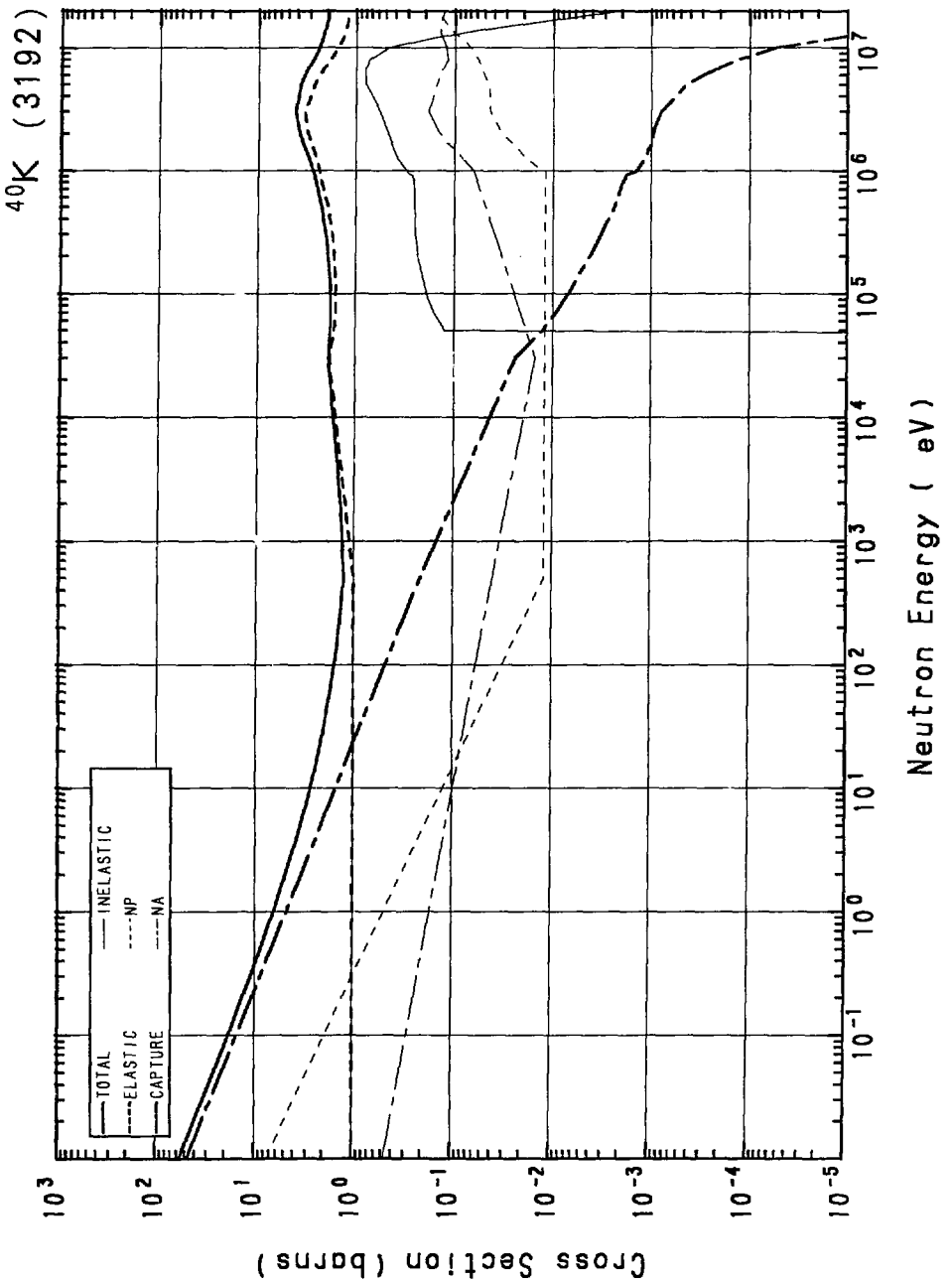

36S (3164)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

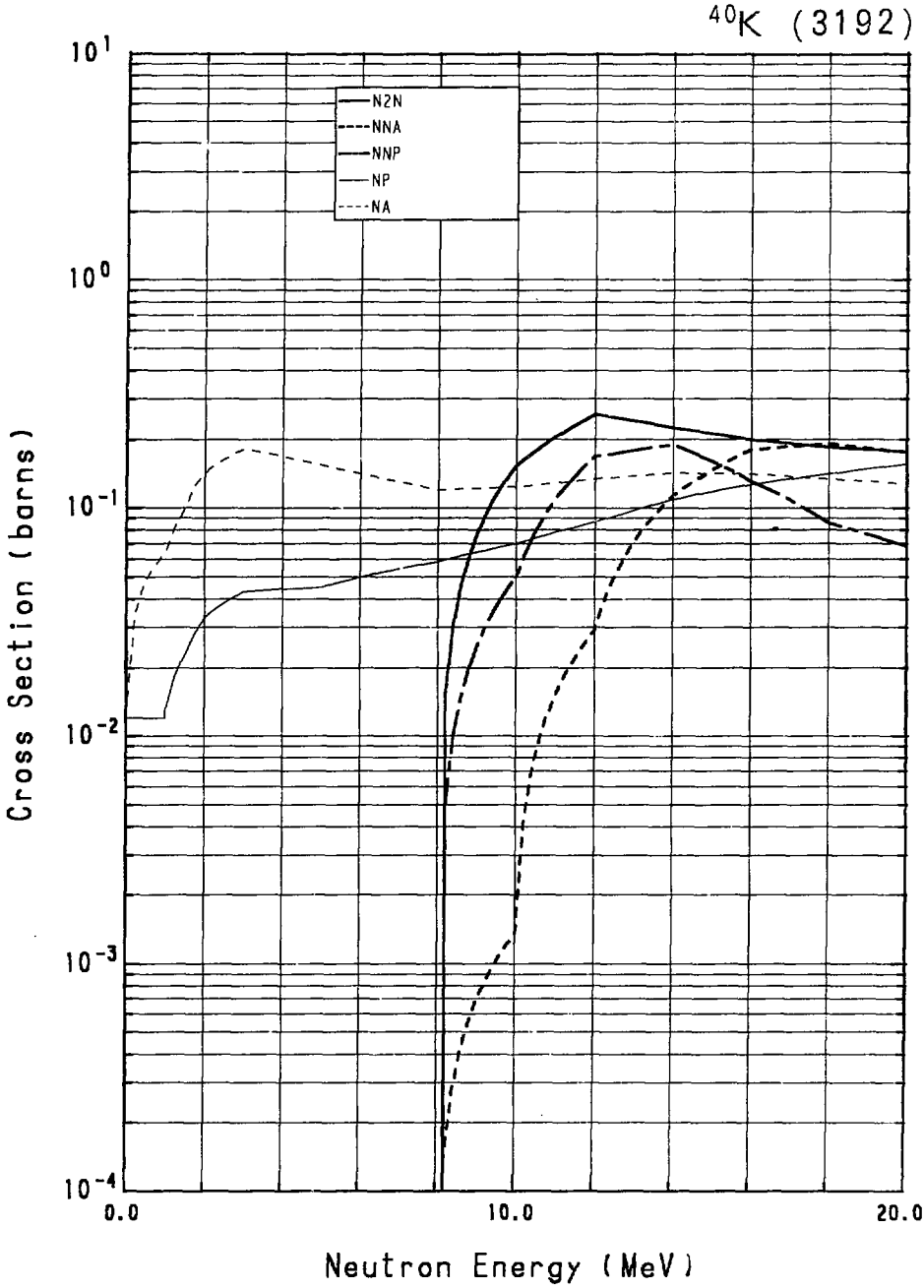

K (3190)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

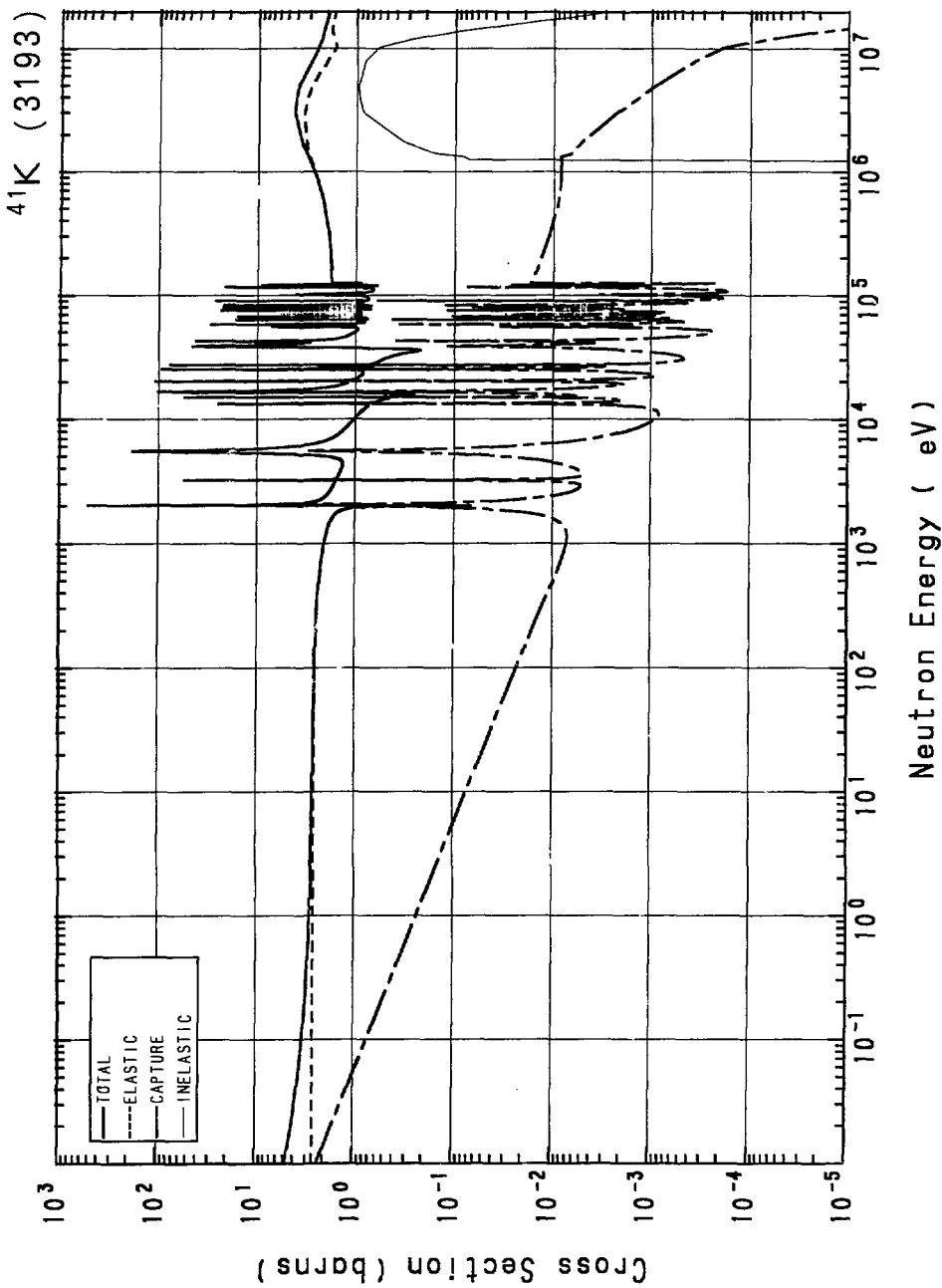

K (3190)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

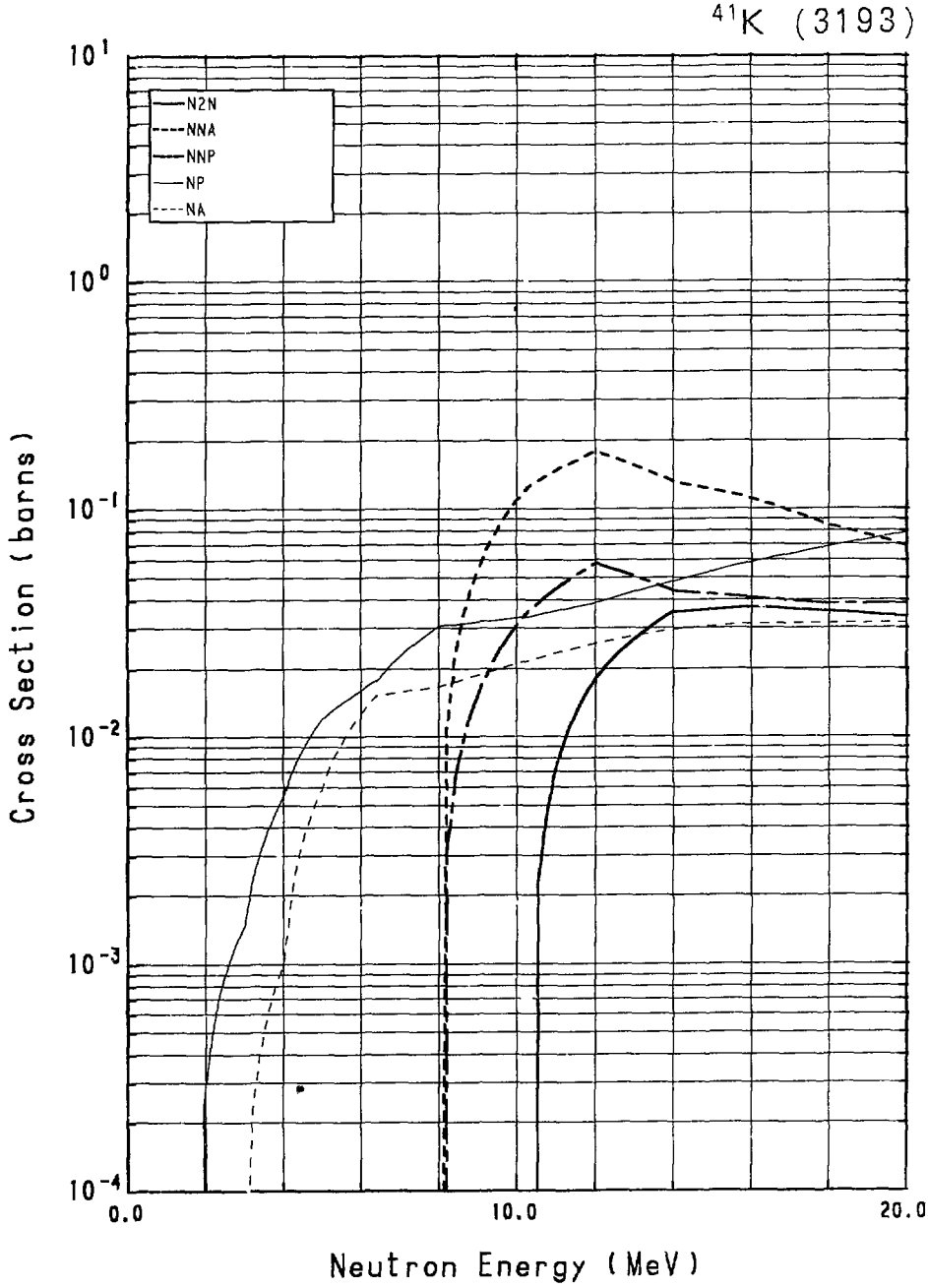

39K (3191)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

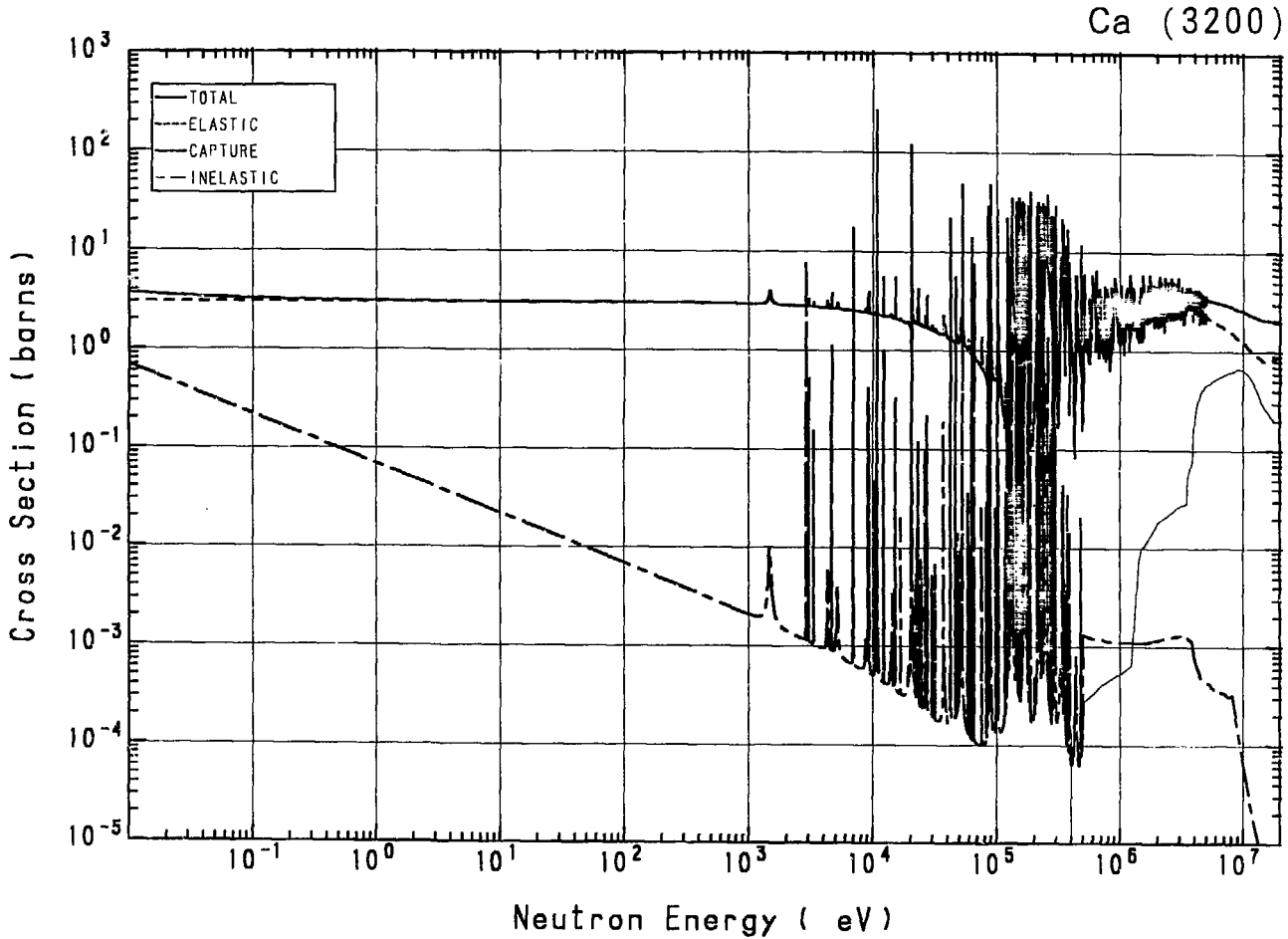

^{39}K (3191)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

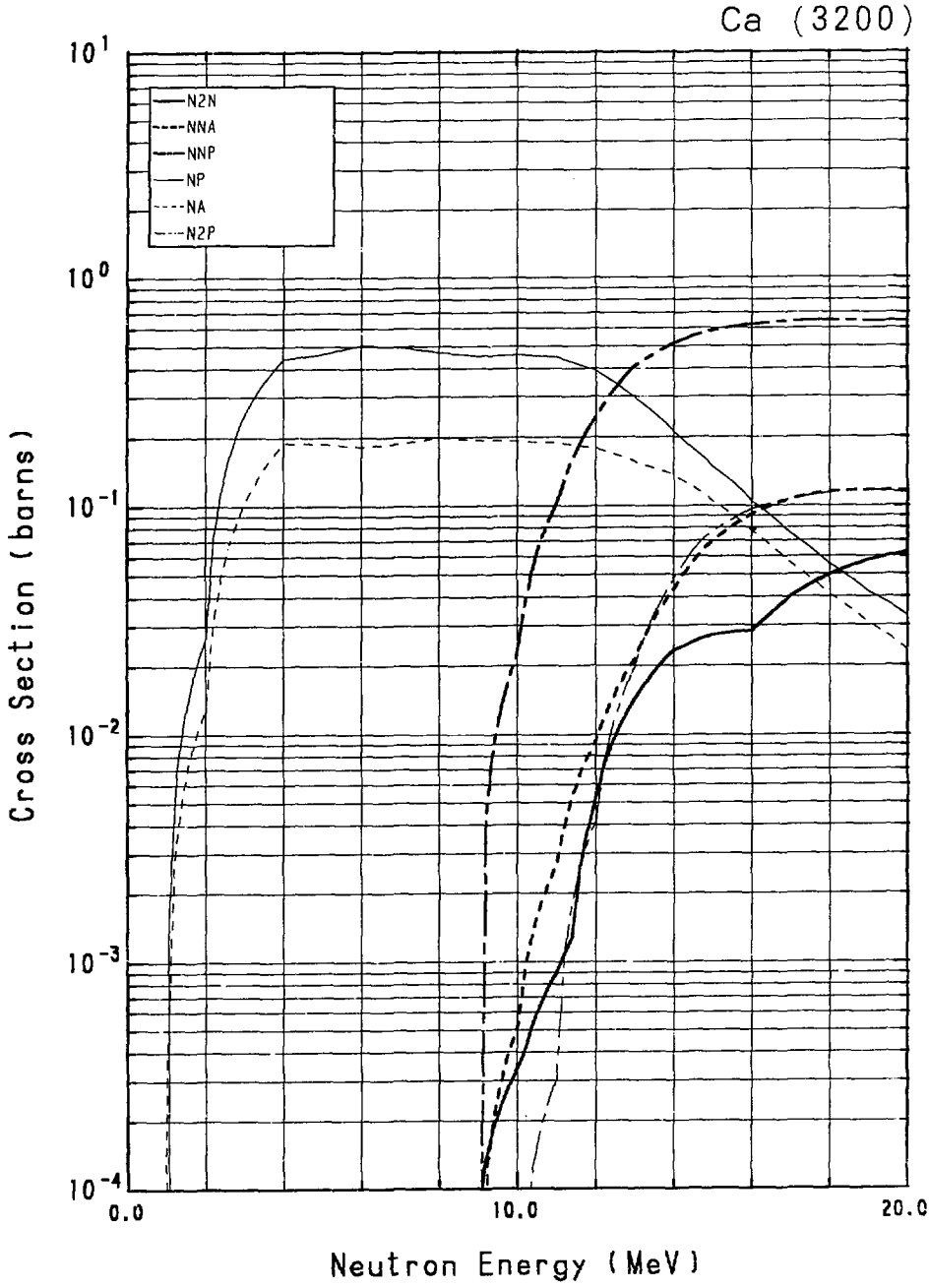

^{40}K (3192)
TOTAL
ELASTIC
CAPTURE
INELASTIC
NP
NA
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

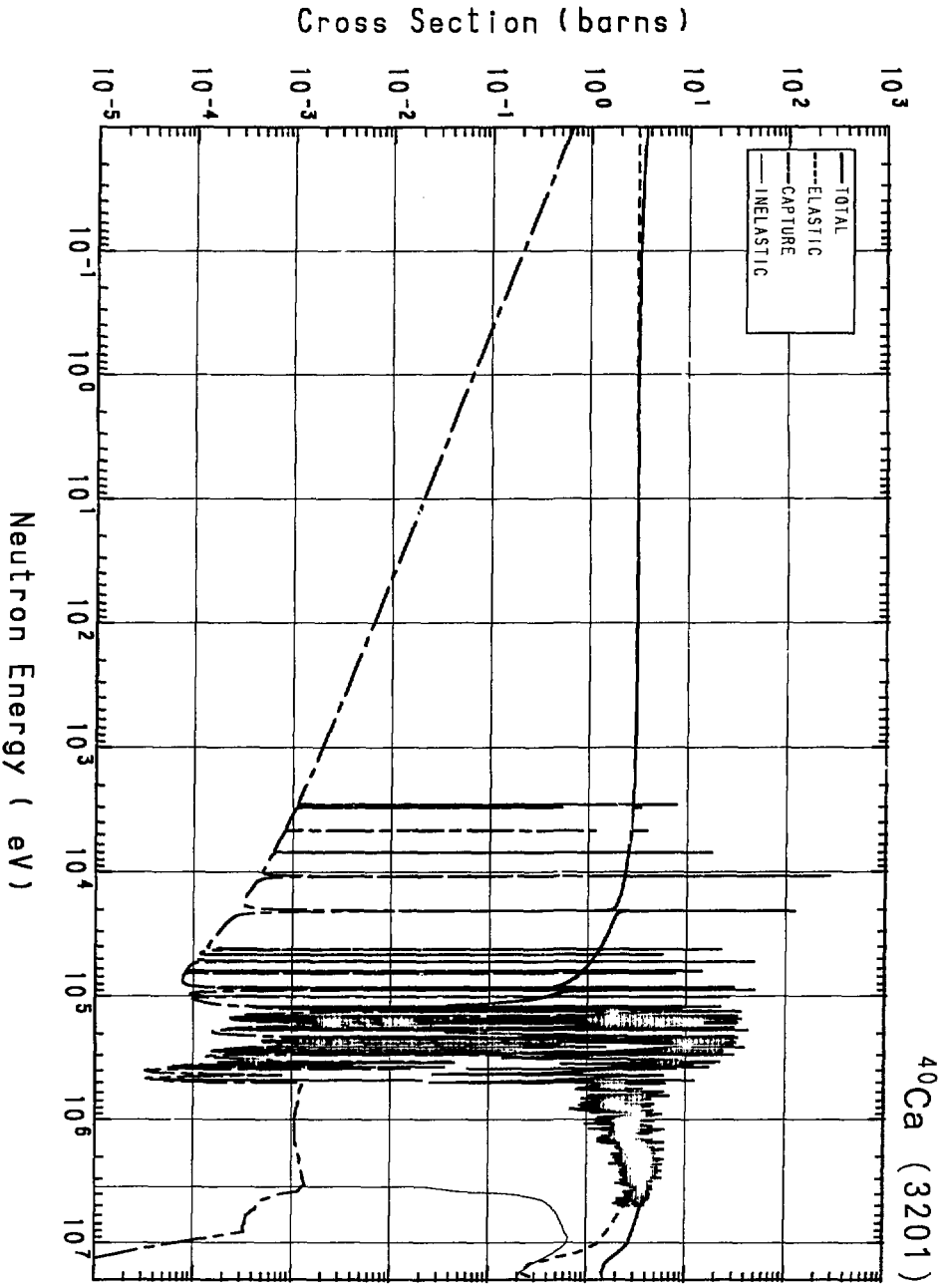

^{40}K (3192)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

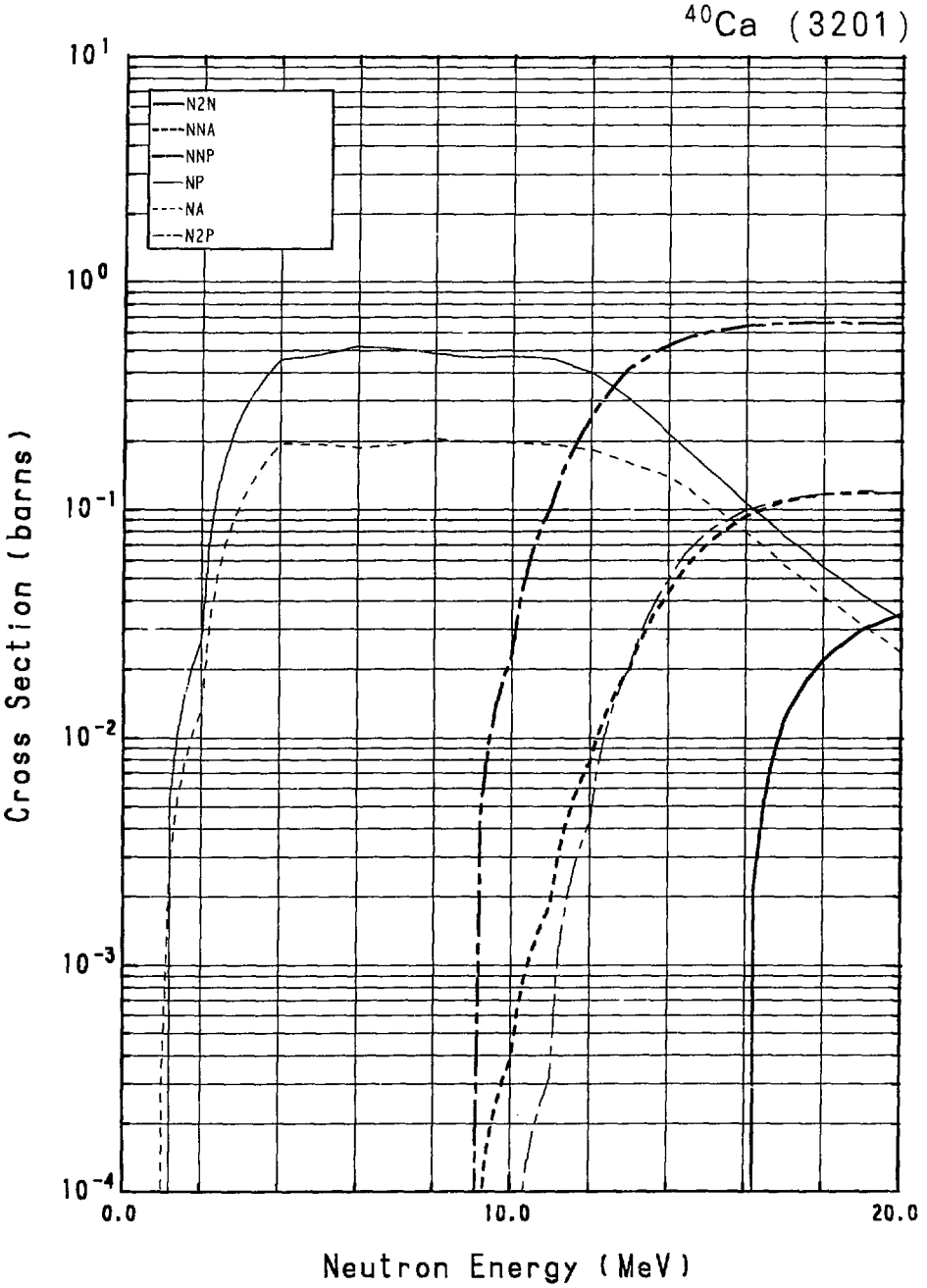

^{41}K (3193)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

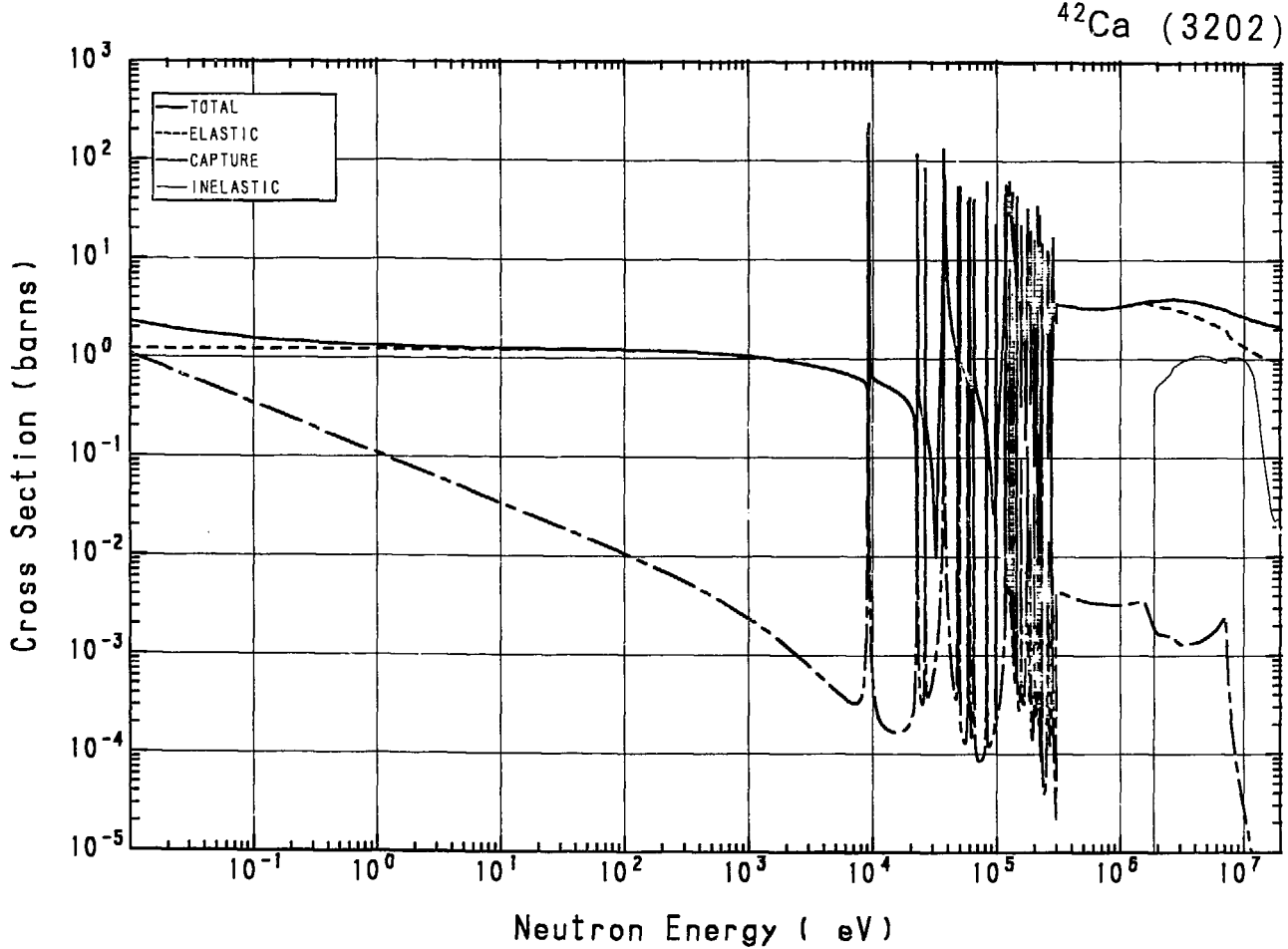

^{41}K (3193)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

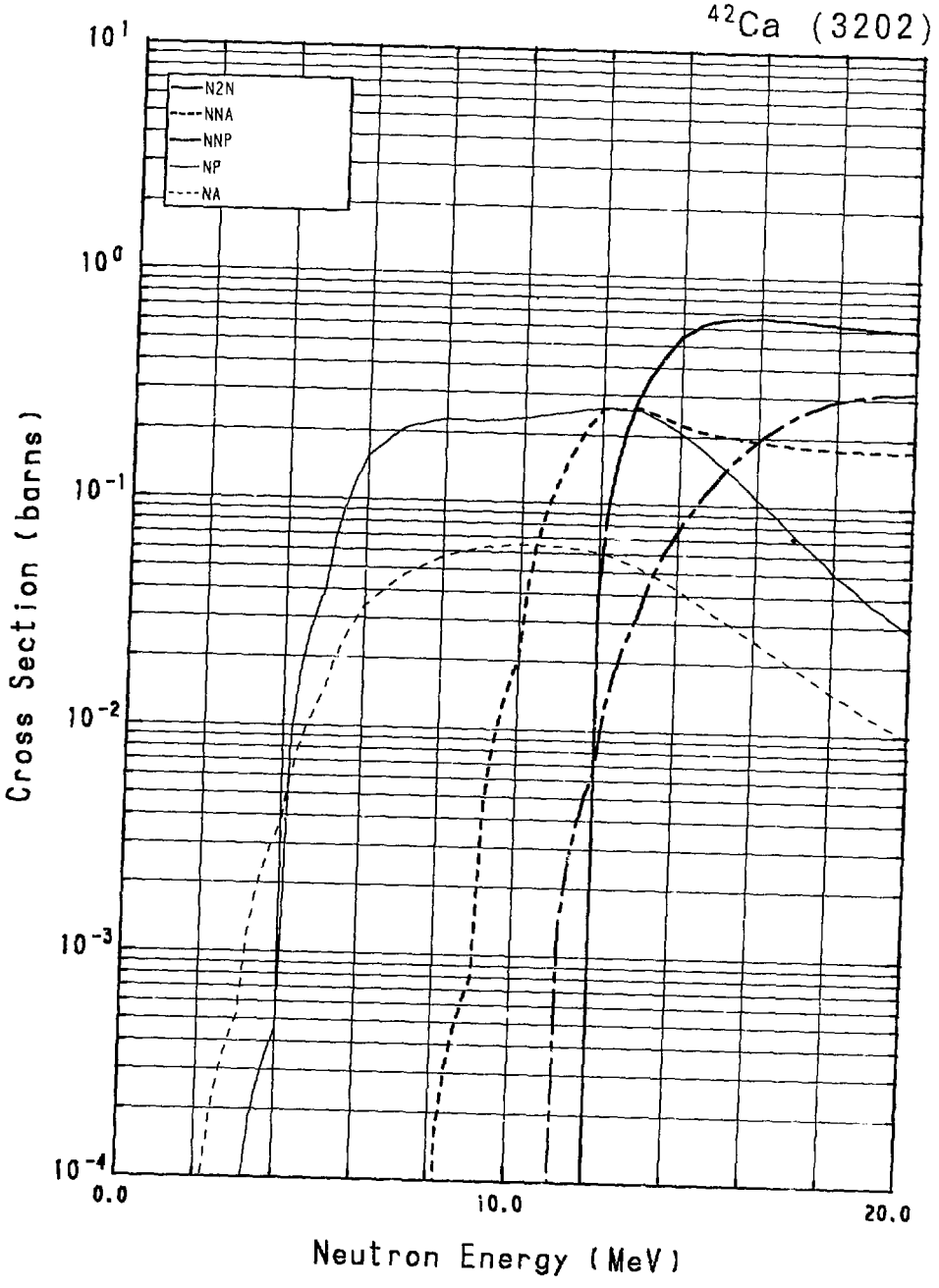

Ca (3200)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

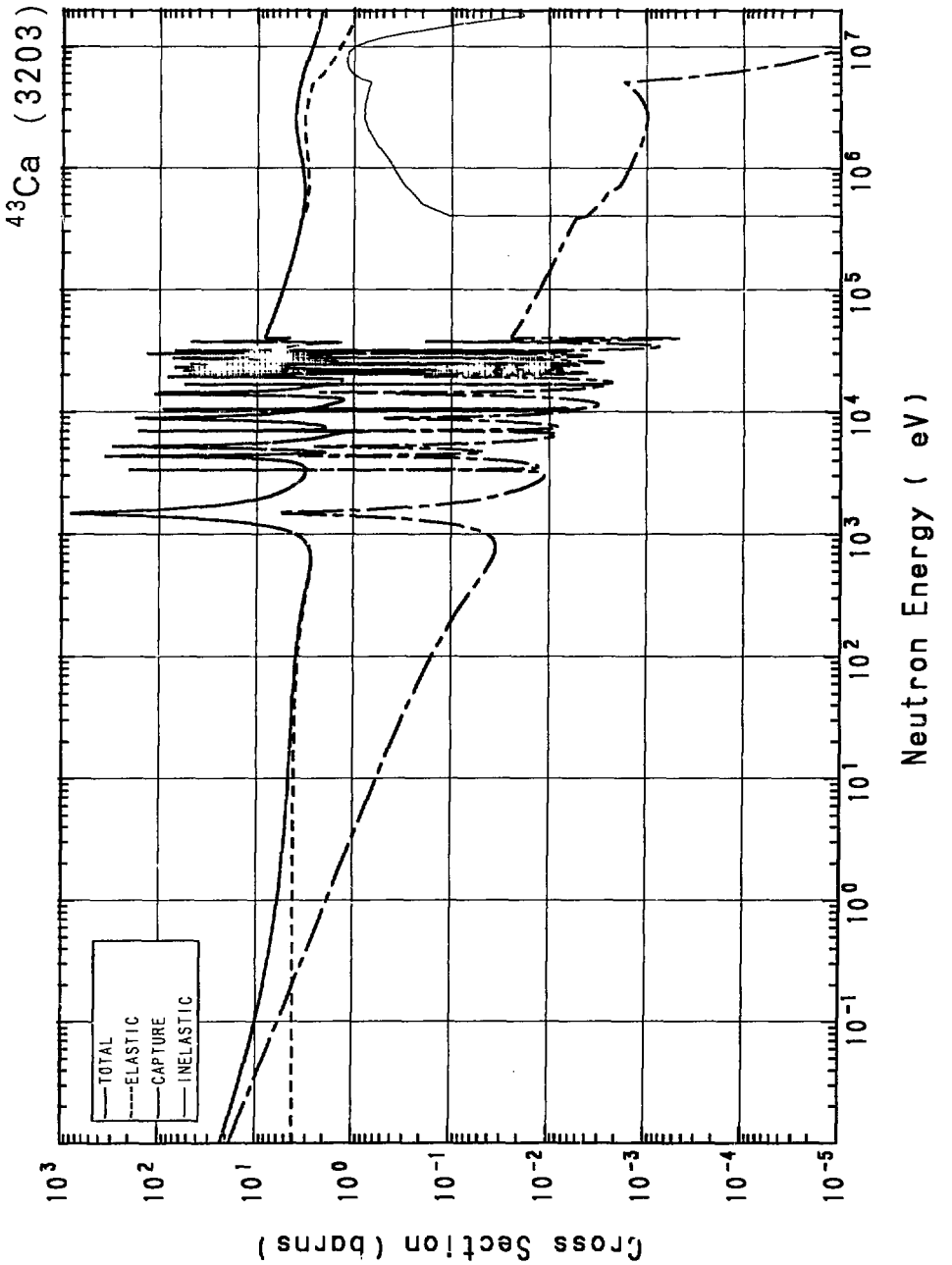

Ca (3200)
N2N
NNA
NNP
NP
NA
N2P
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

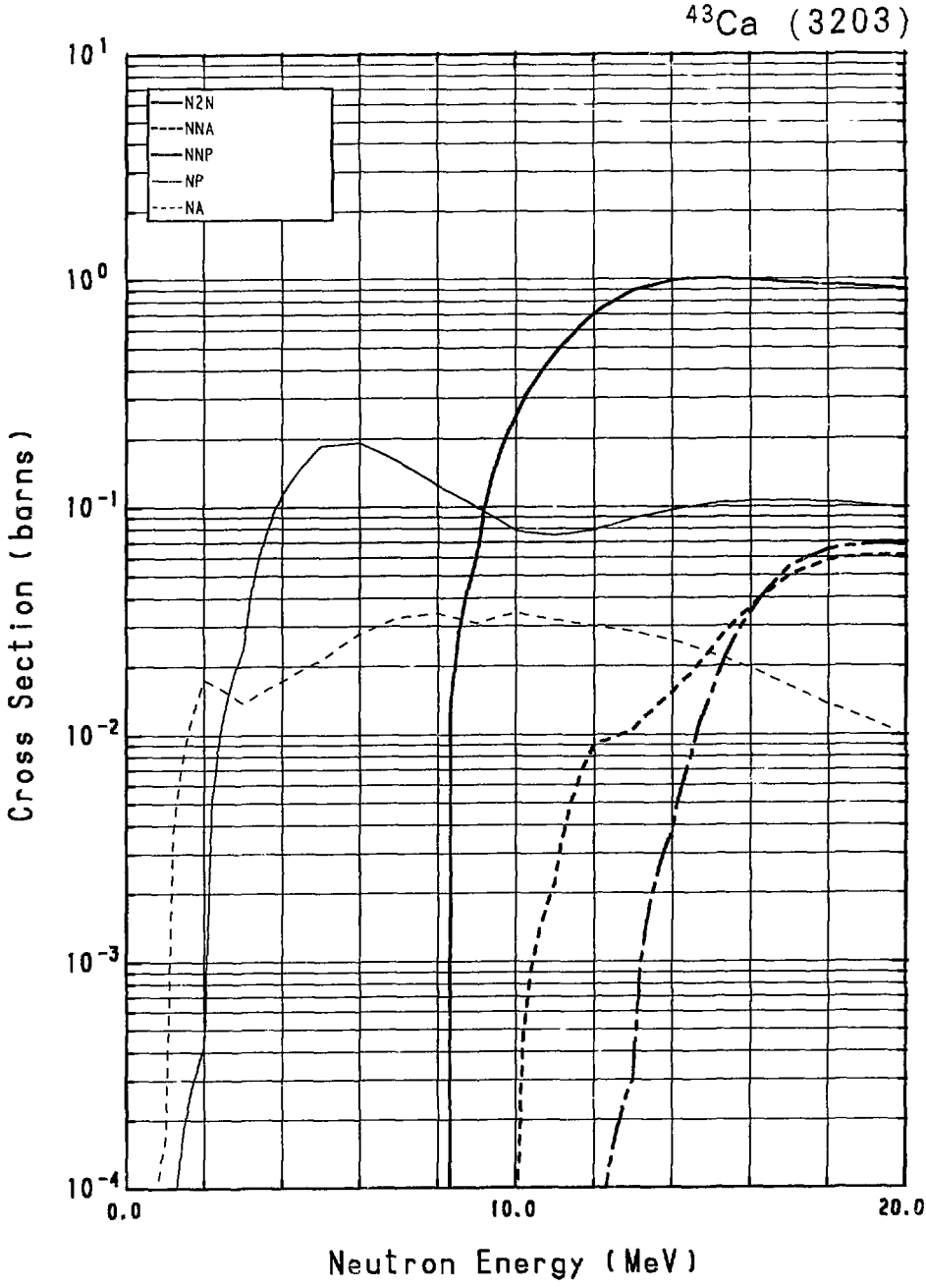

^{40}Ca (3201)
Cross Section (barns)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
TOTAL
ELASTIC
CAPTURE
INELASTIC
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}
Neutron Energy (eV)

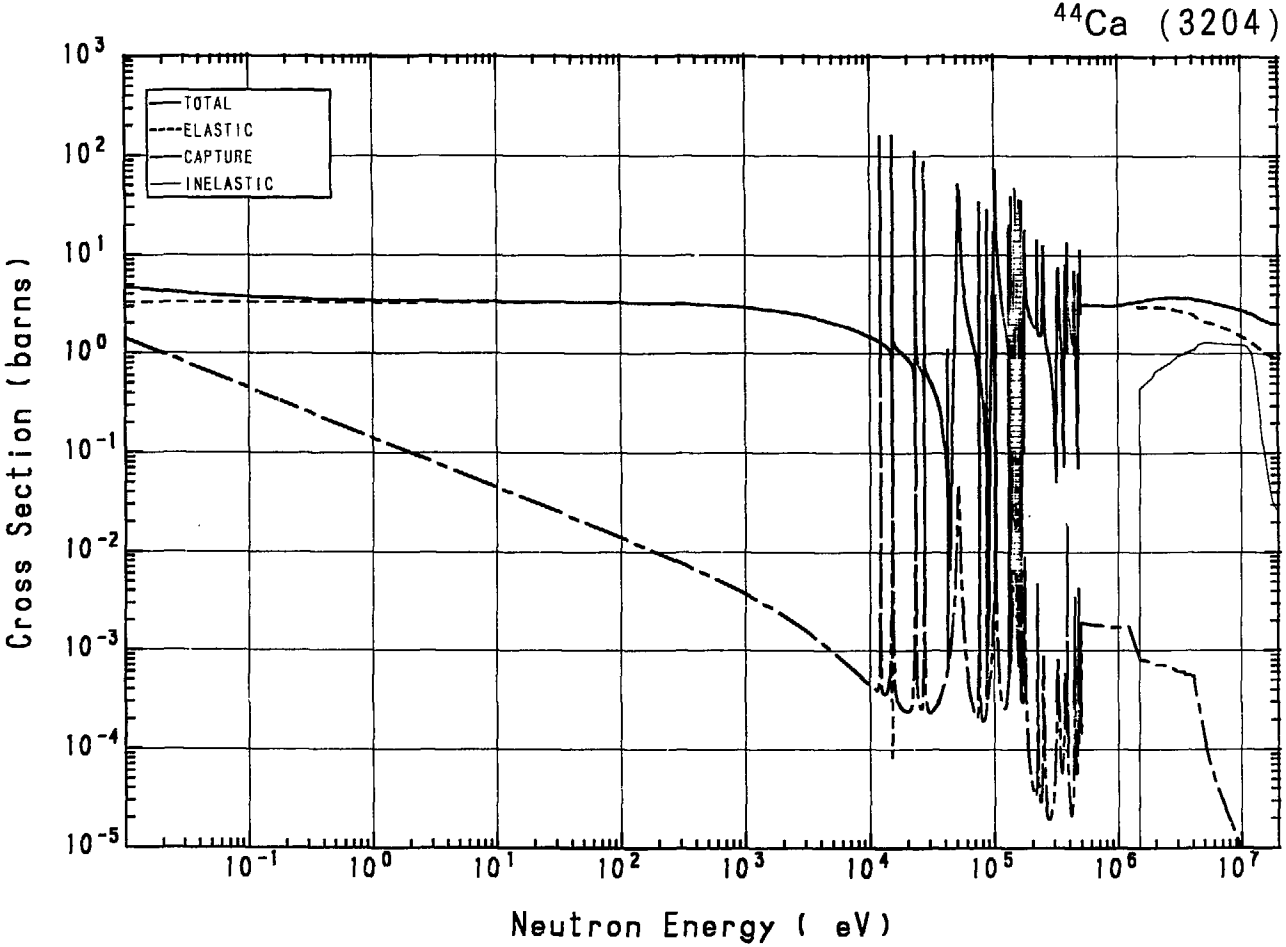

^{40}Ca (3201)
N2N
NNA
NNP
NP
NA
N2P
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

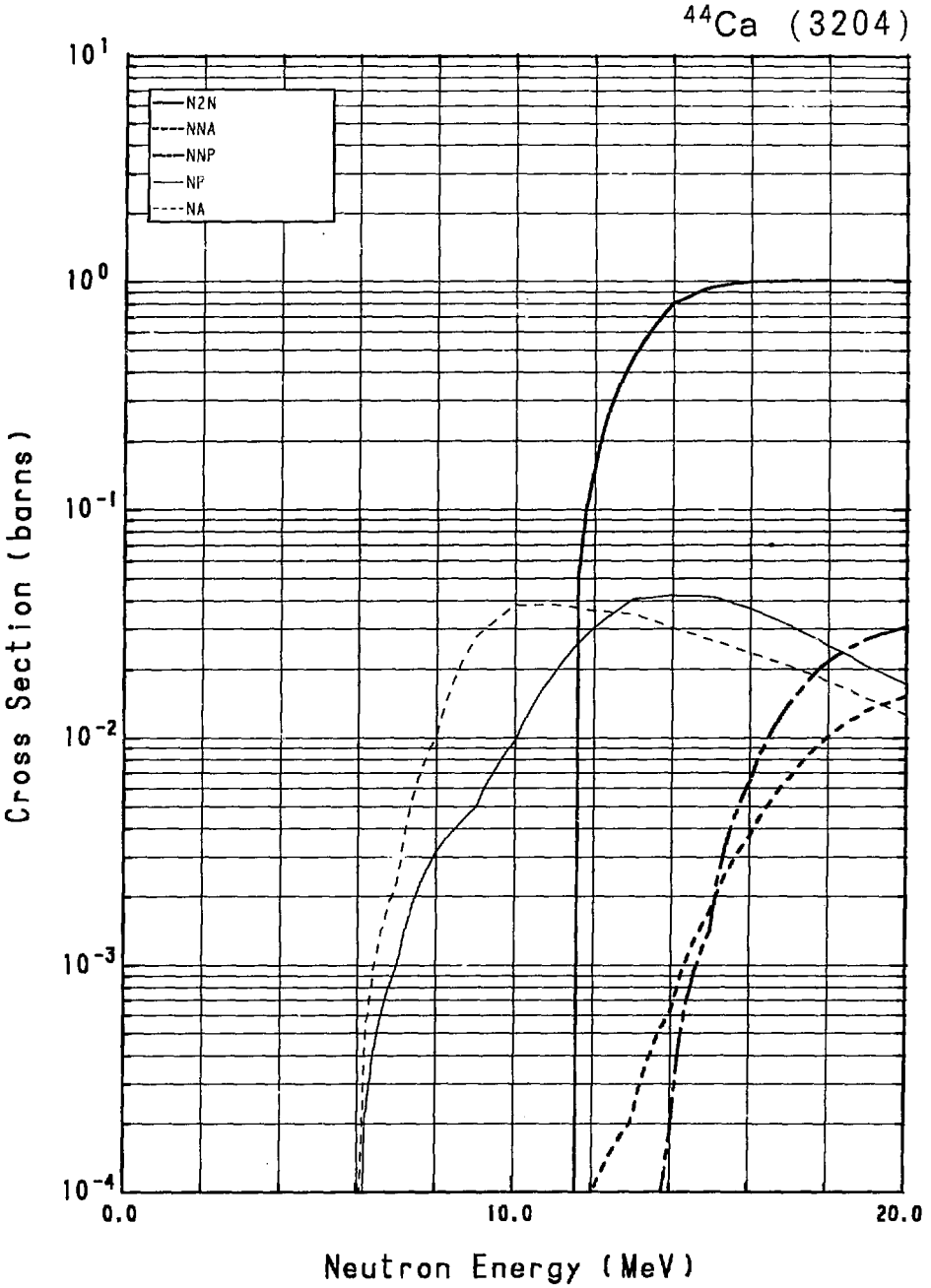

^{42}Ca (3202)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

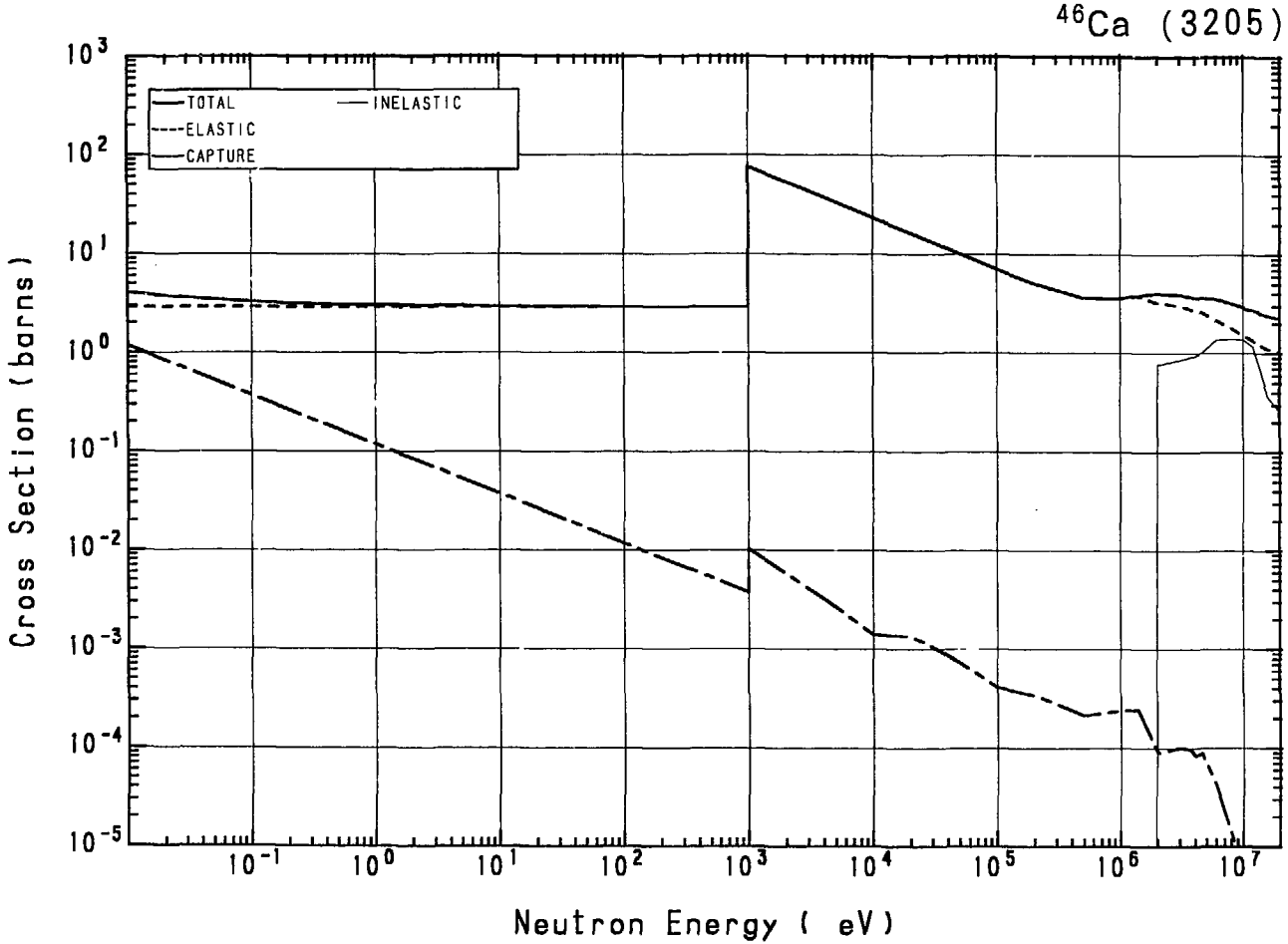

^{42}Ca (3202)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

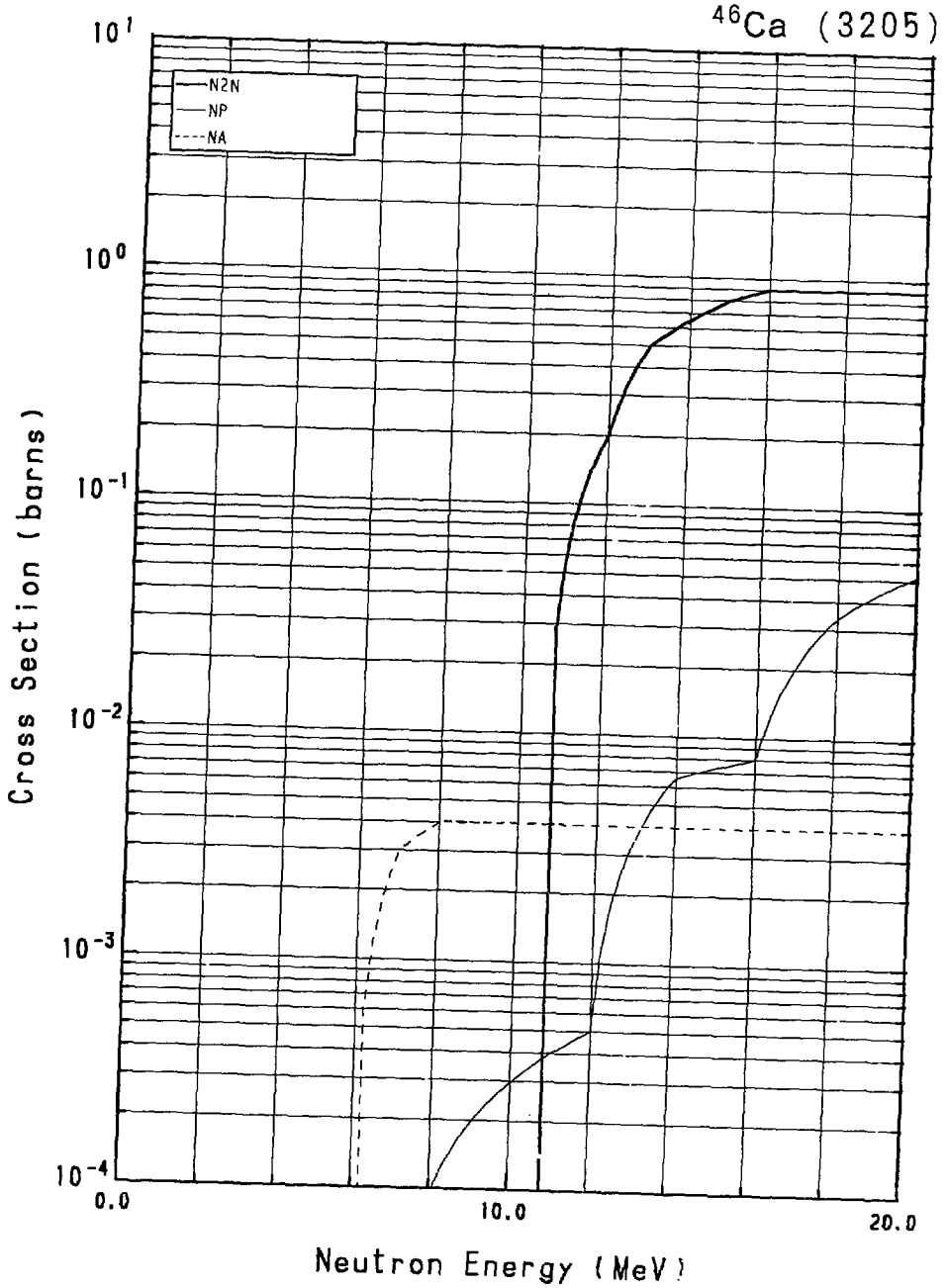

^{43}Ca (3203)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

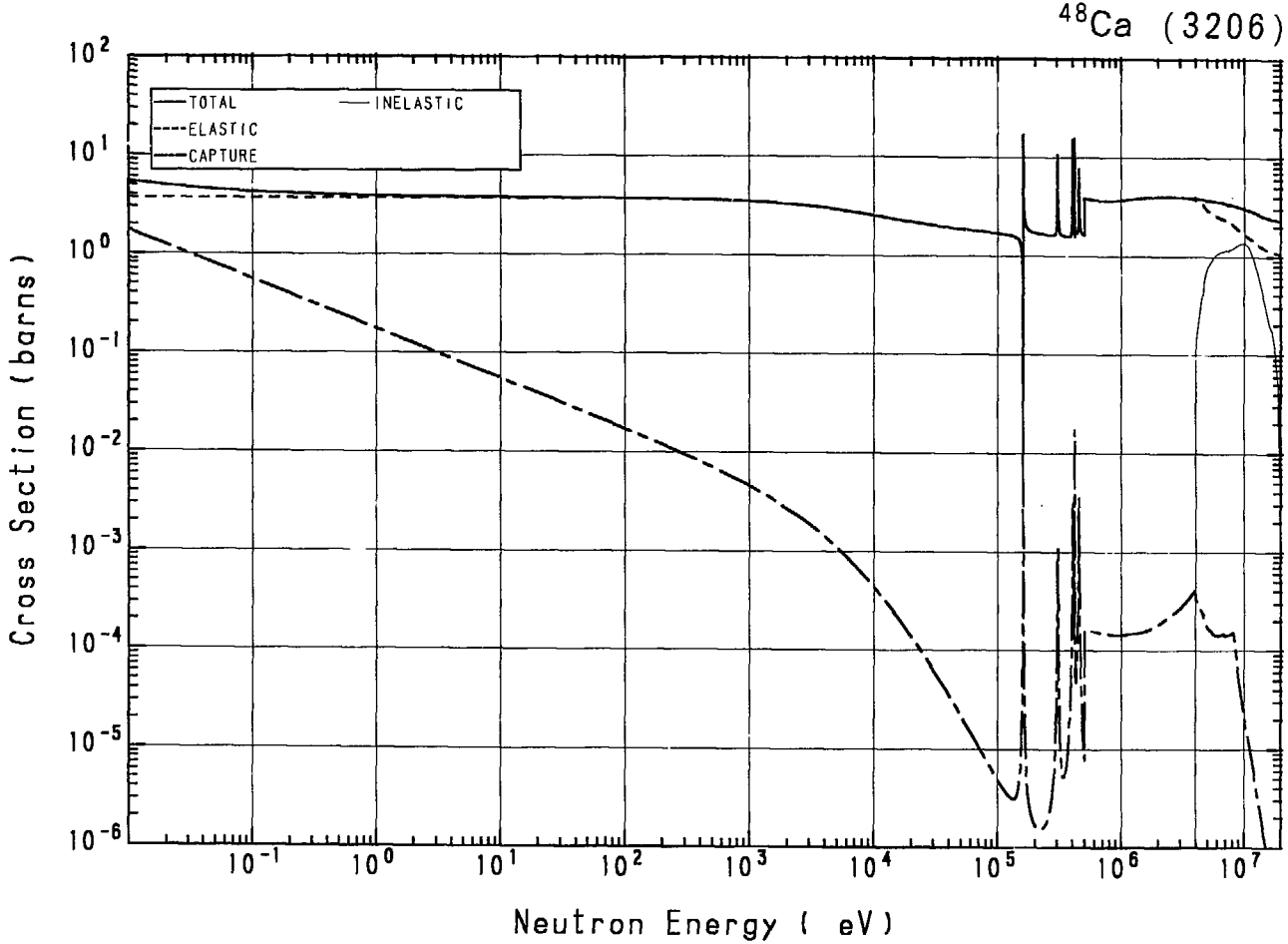

^{43}Ca (3203)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

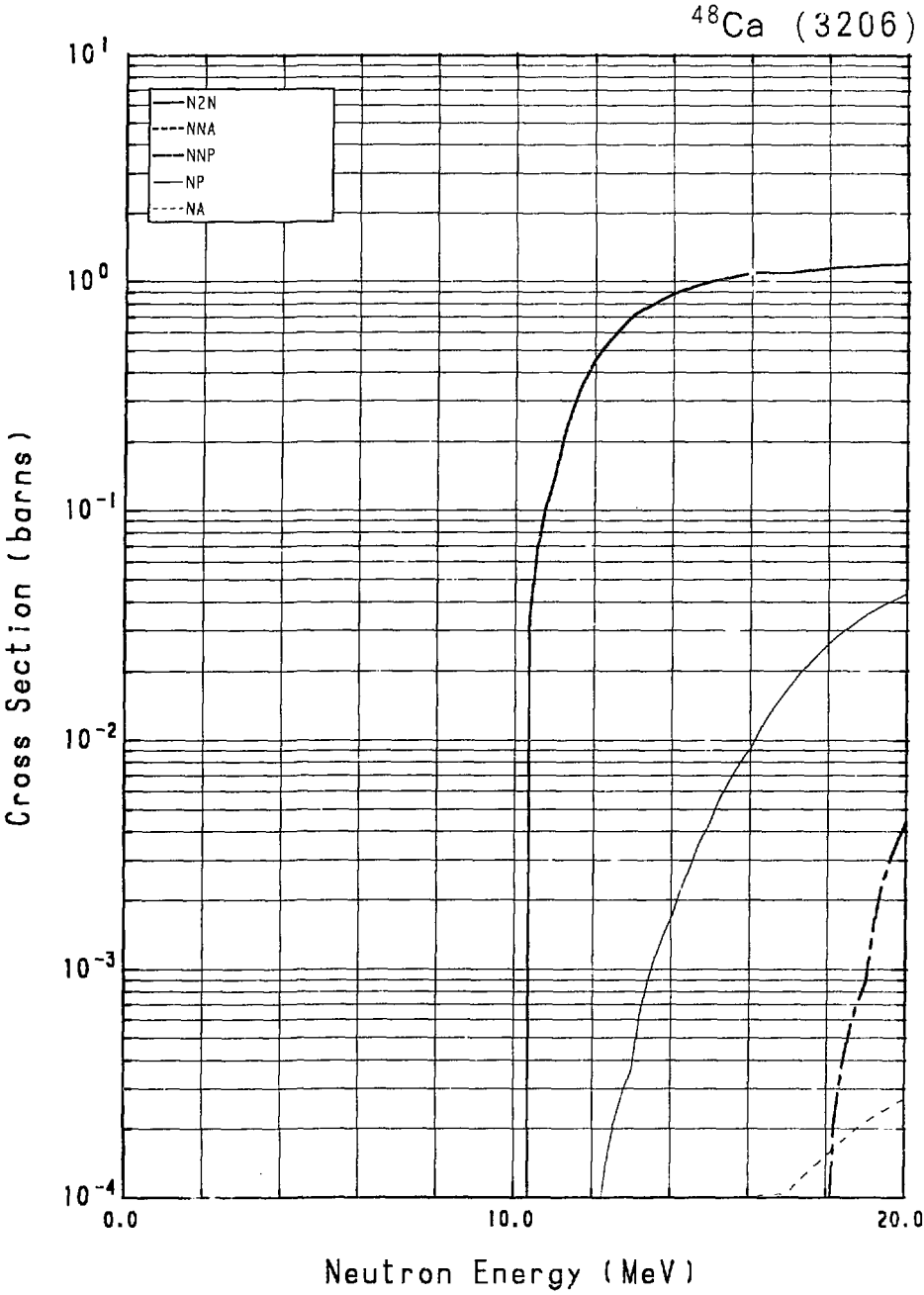

^{44}Ca (3204)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

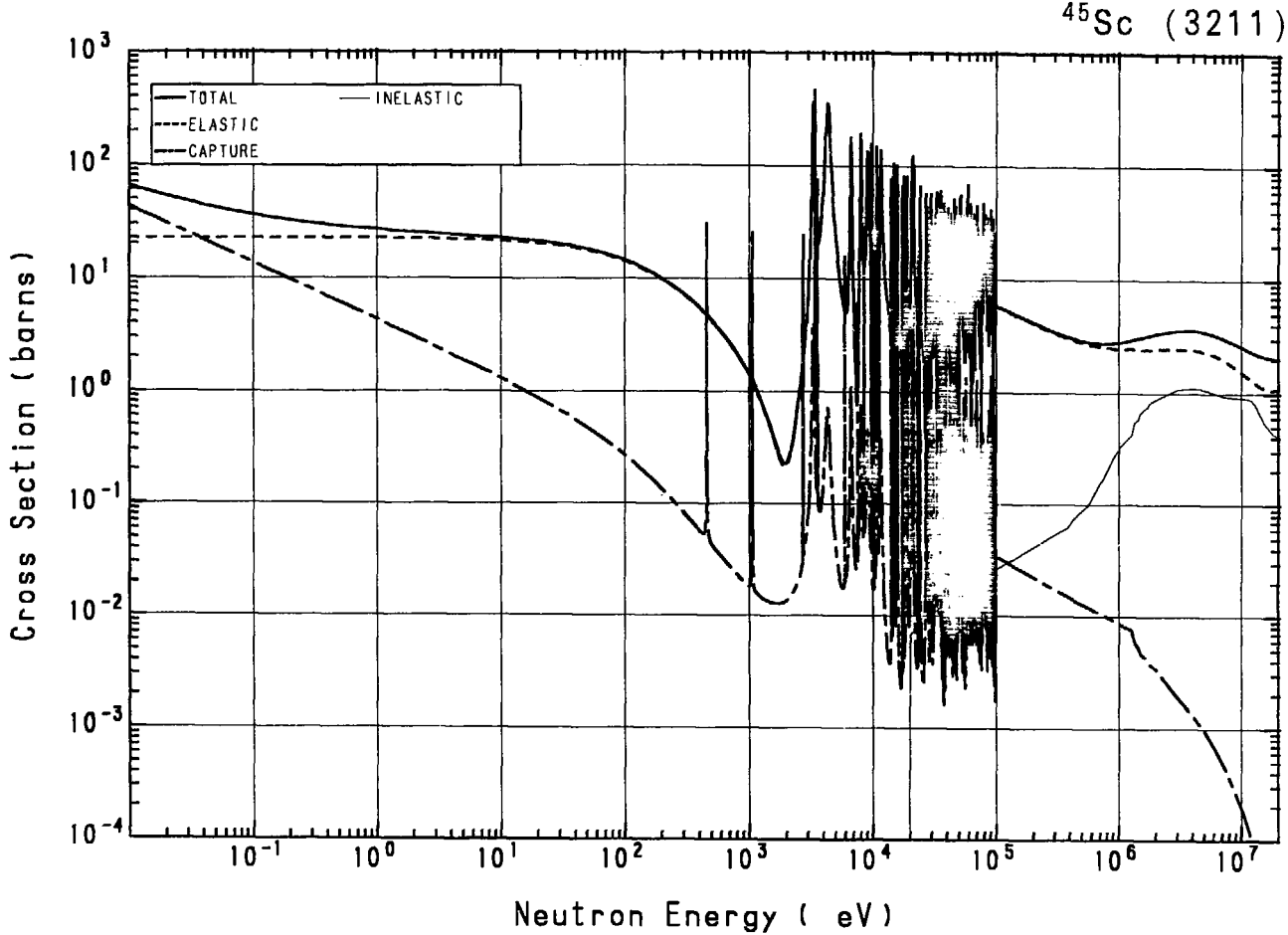

^{44}Ca (3204)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

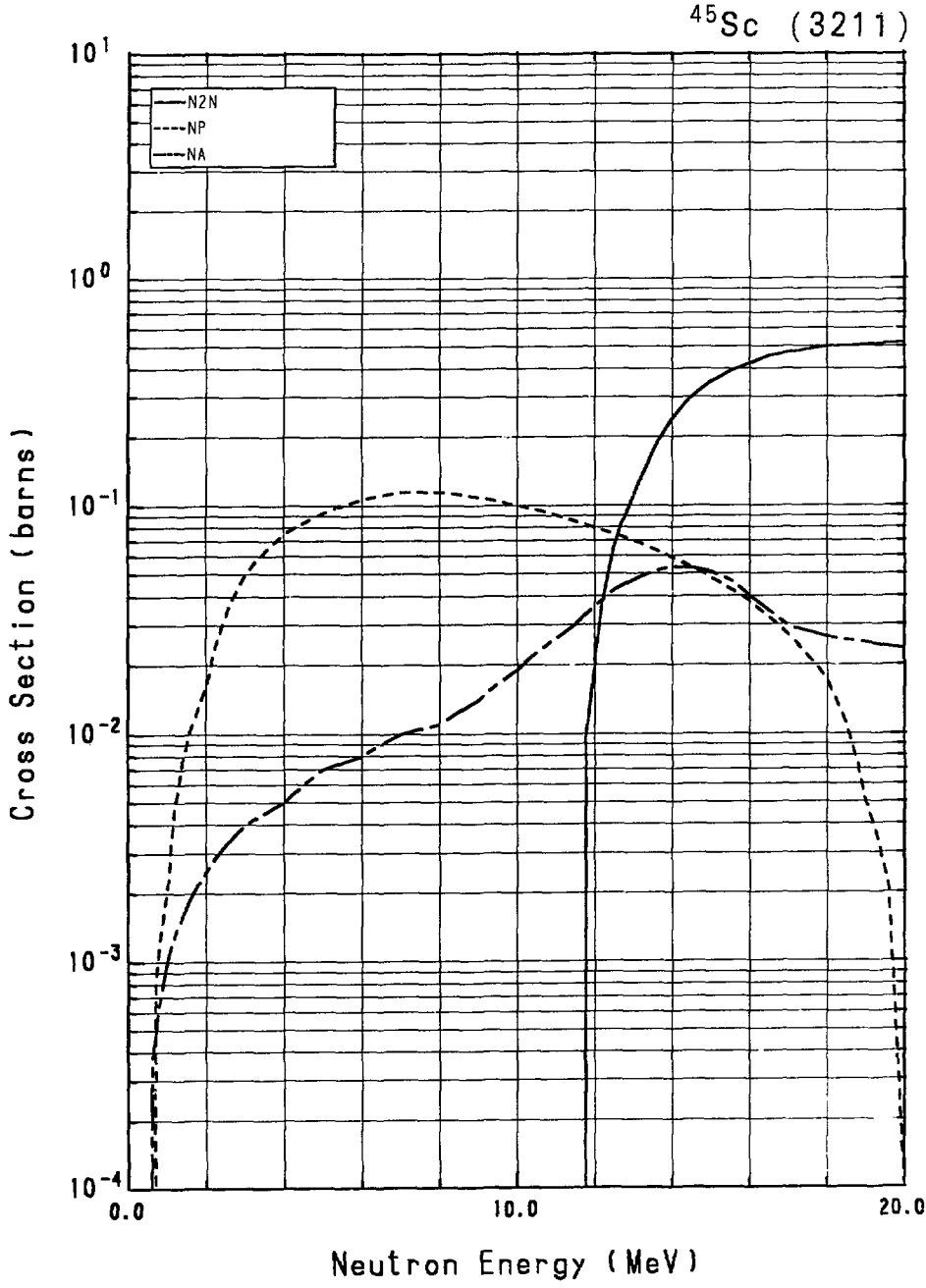

46Ca (3205)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

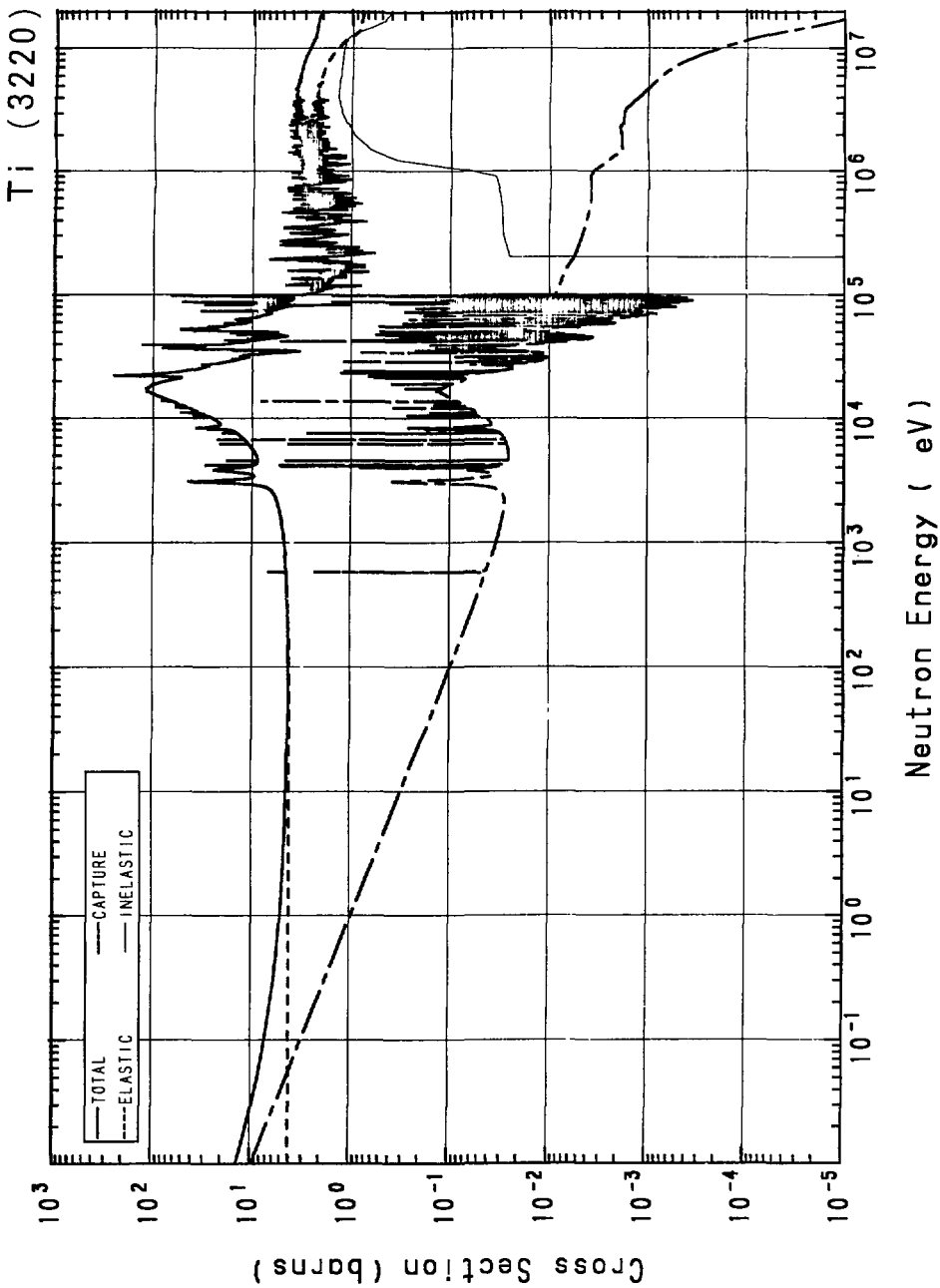

46Ca (3205)
N2N
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

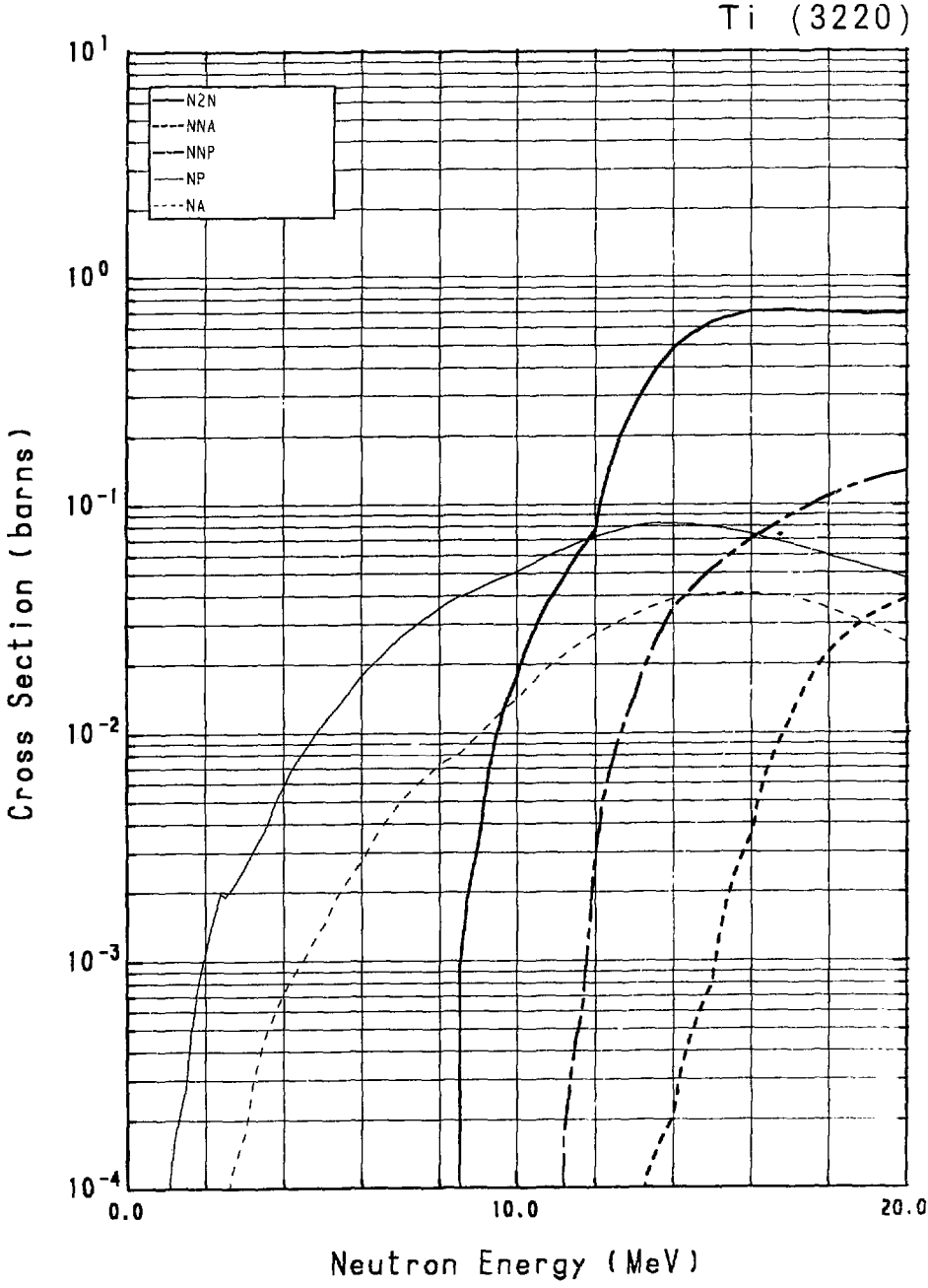

^{48}Ca (3206)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

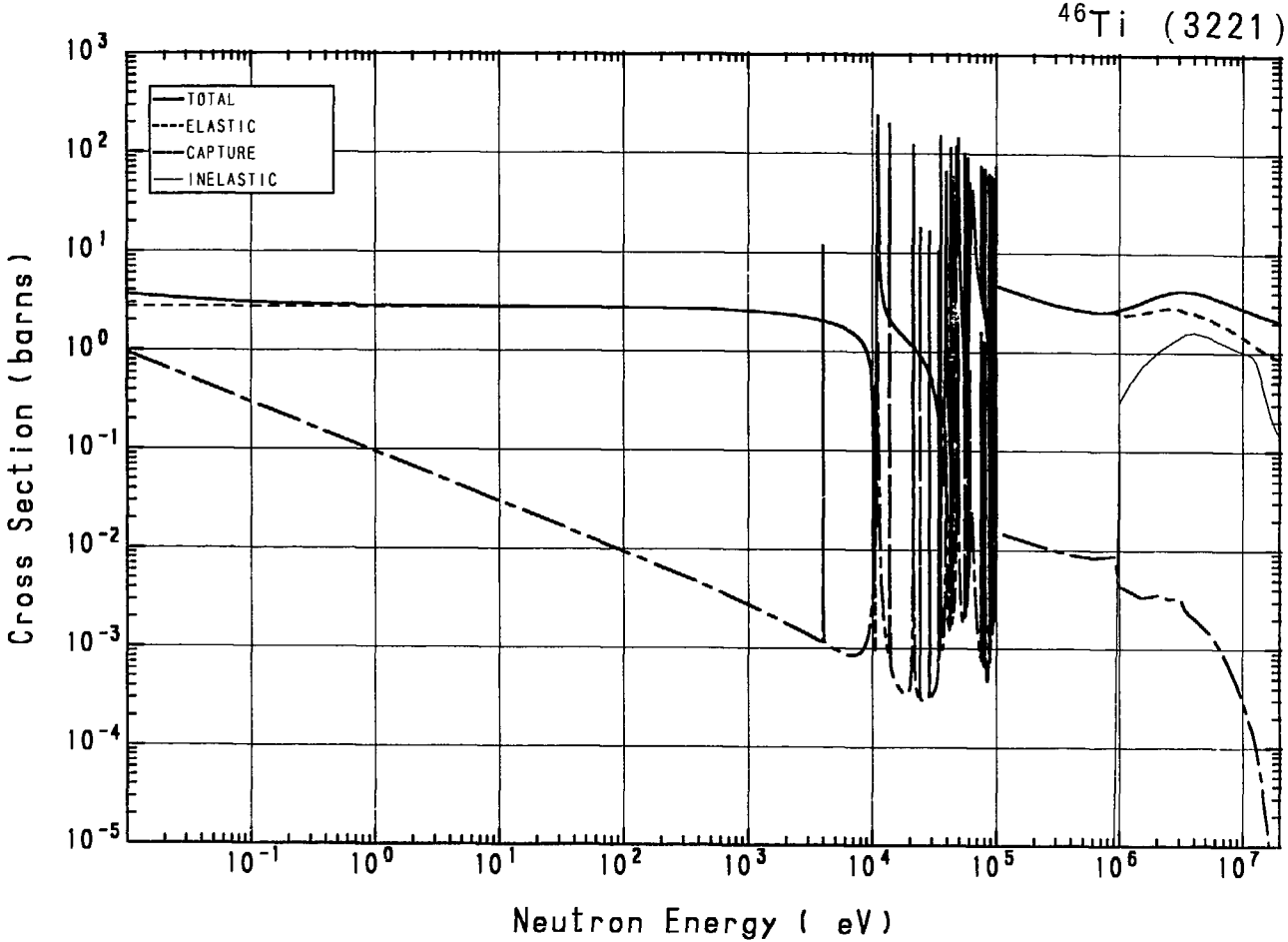

^{48}Ca (3206)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

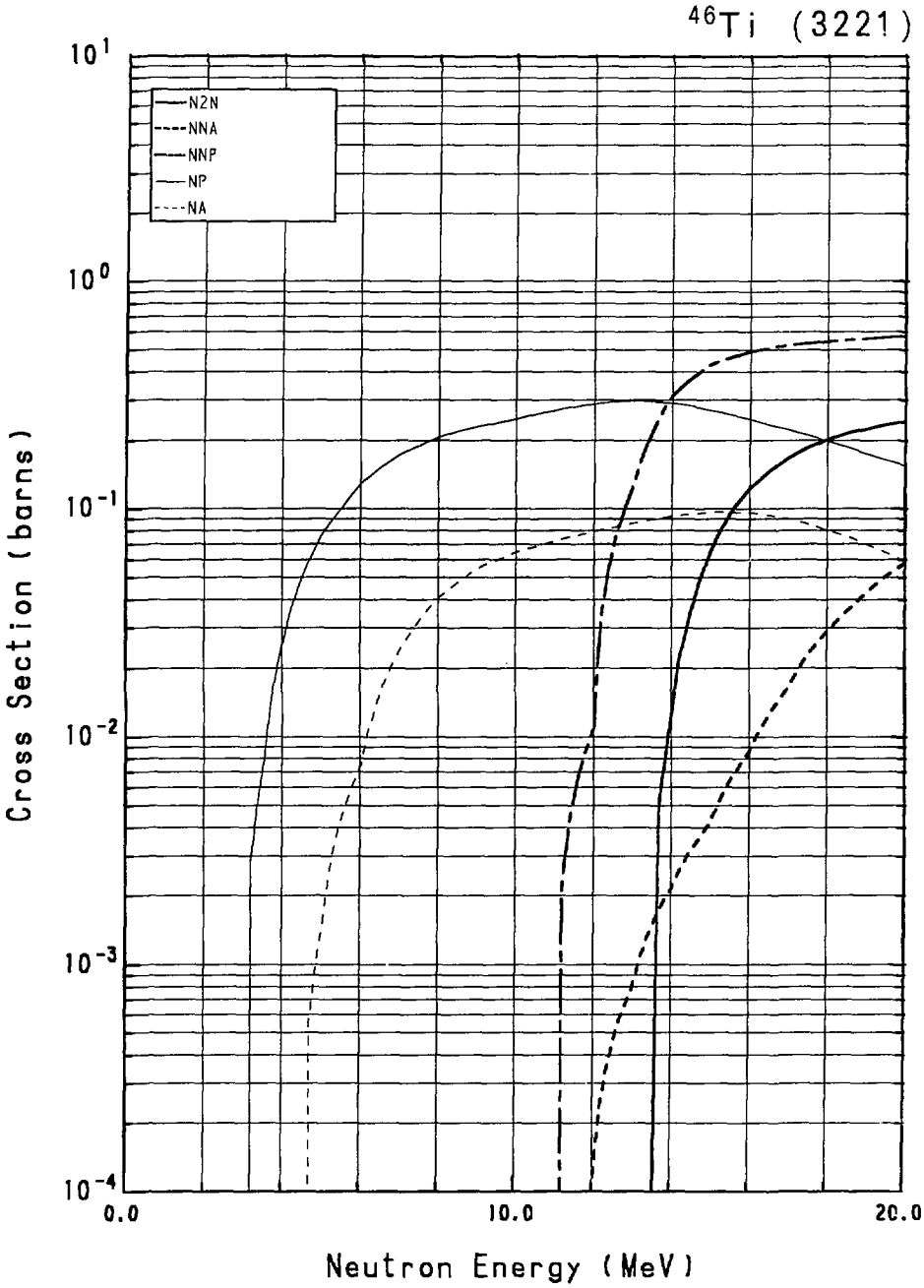

^{45}Sc (3211)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

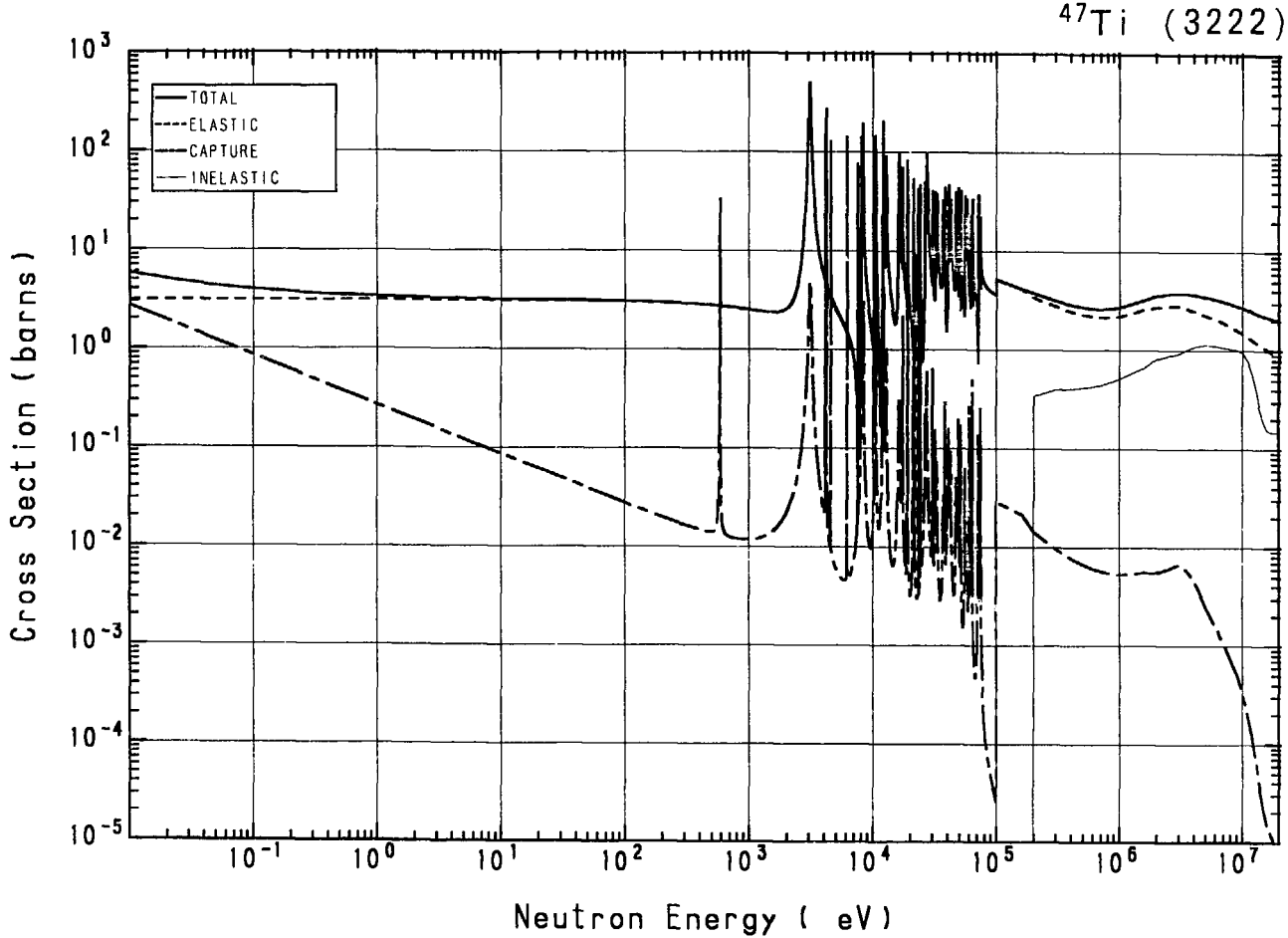

45Sc (3211)
N2N
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

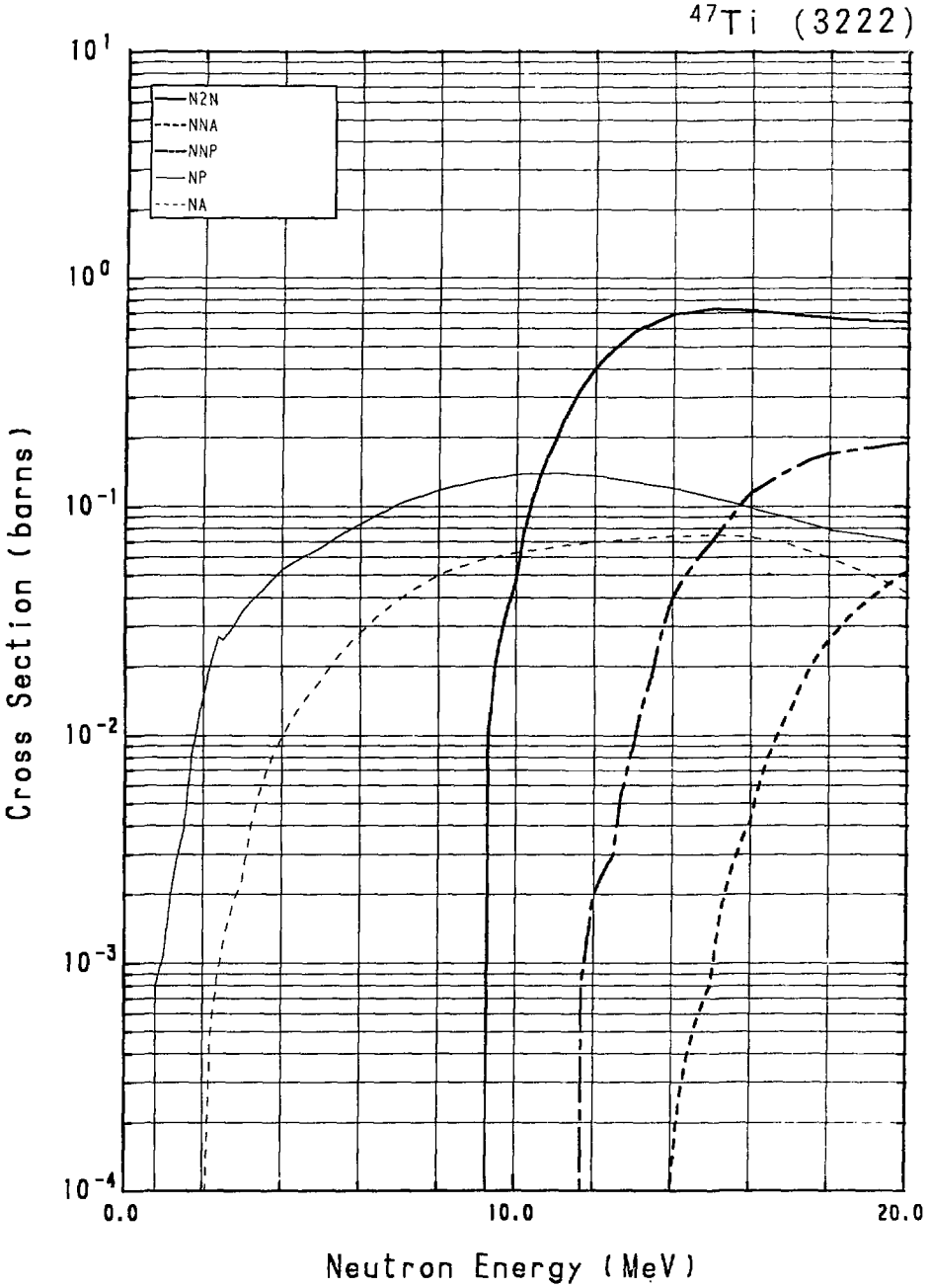

Ti (3220)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

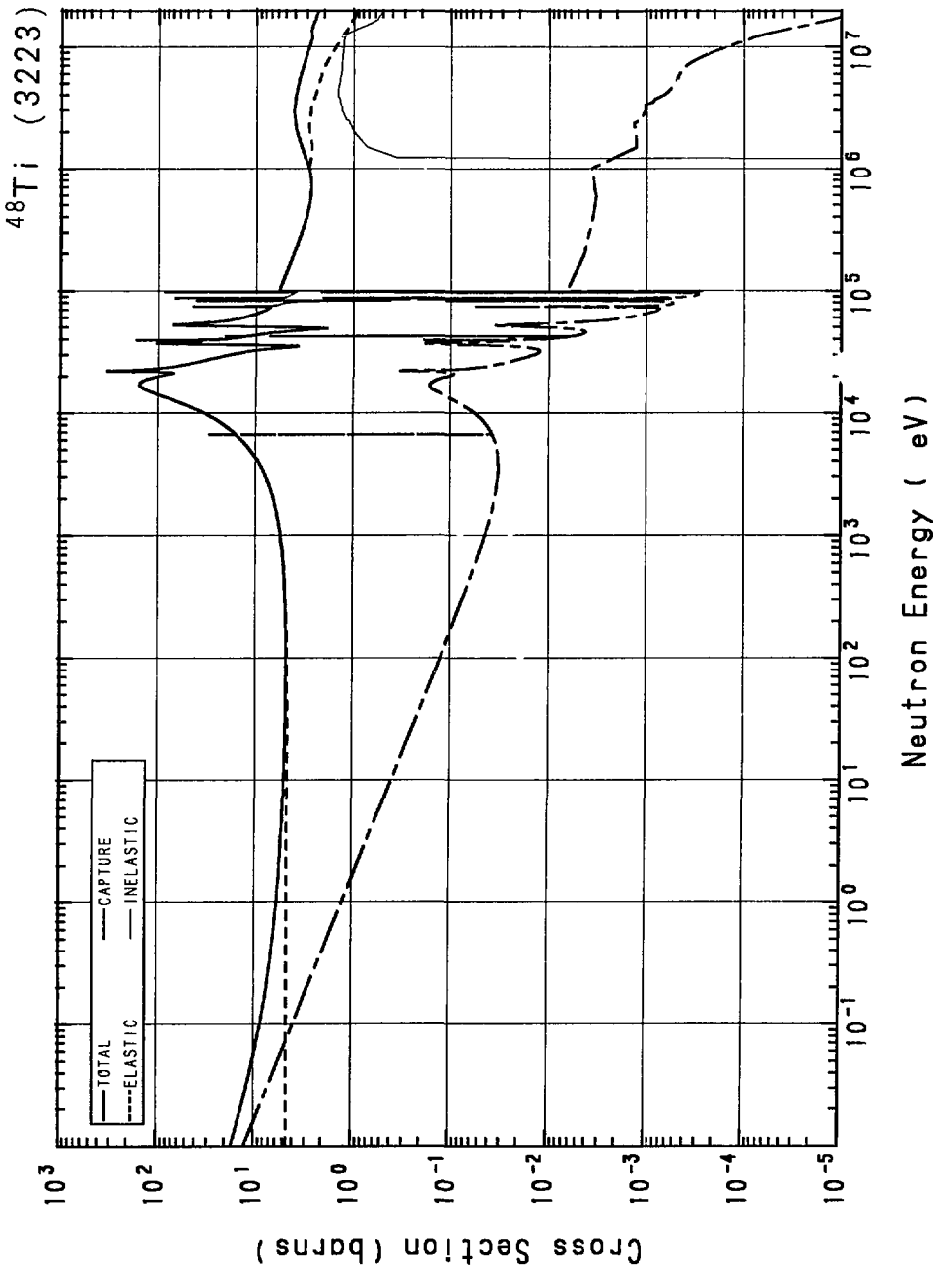

Ti (3220)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

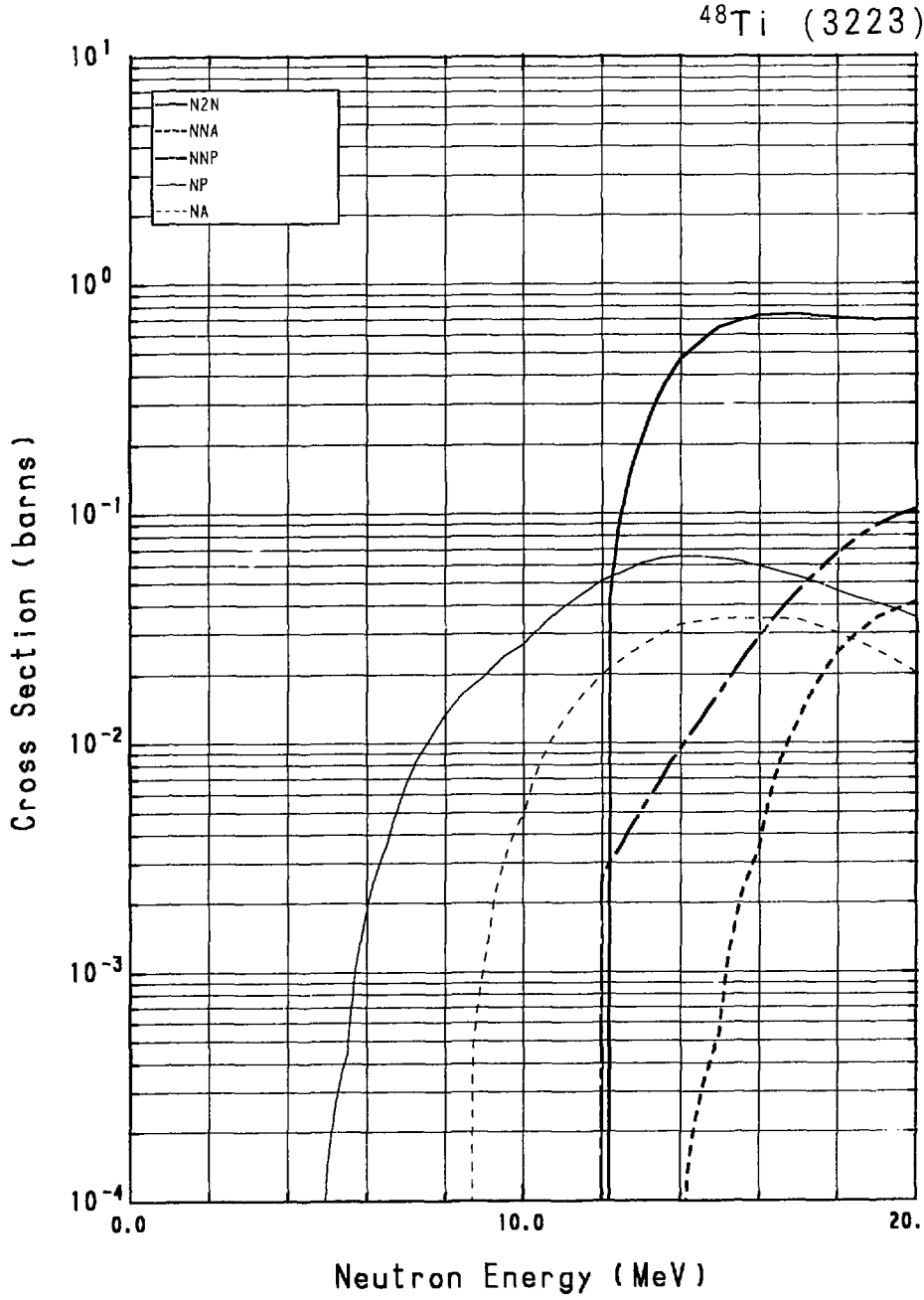

46Ti (3221)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

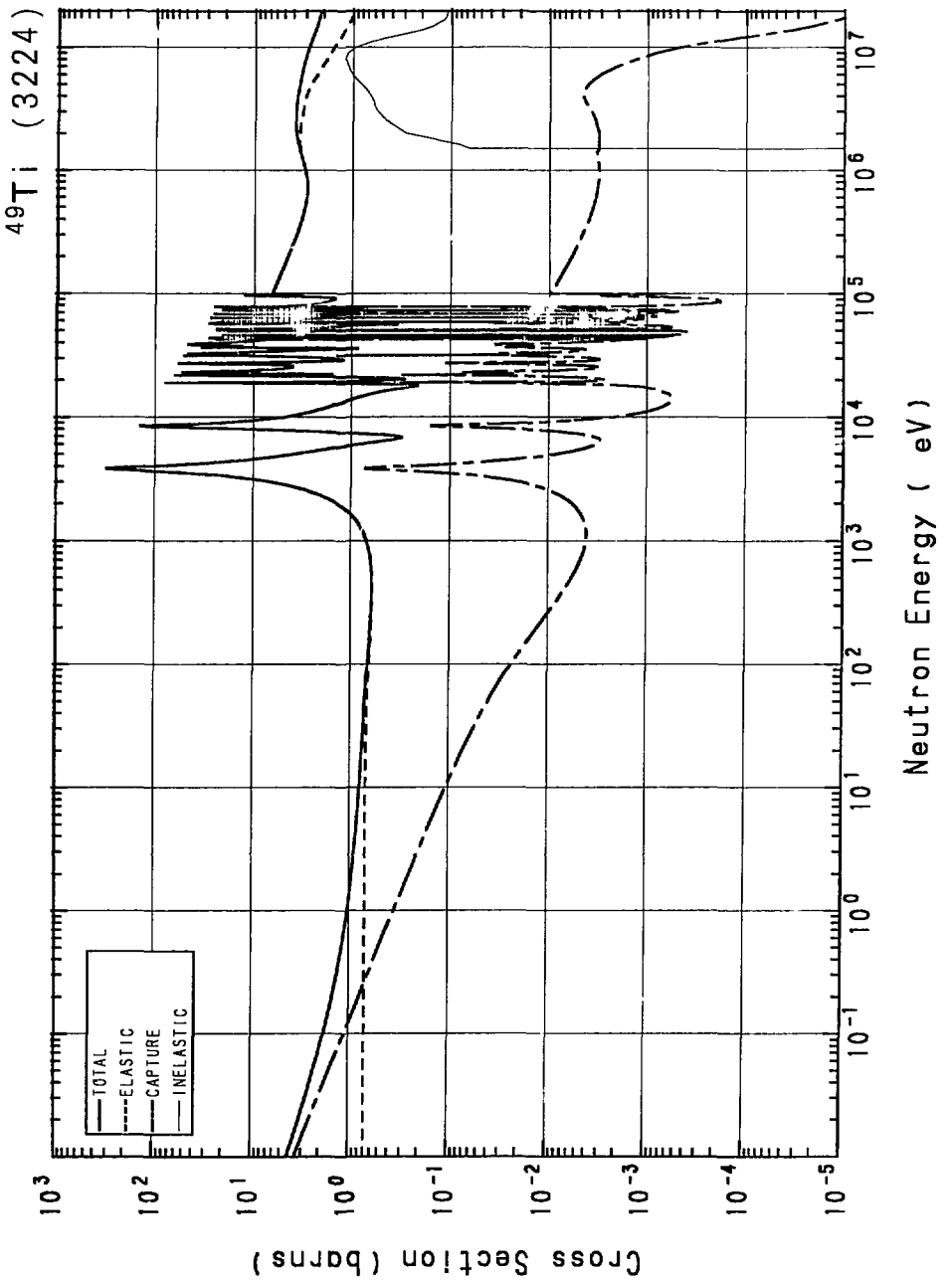

46Ti (3221)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

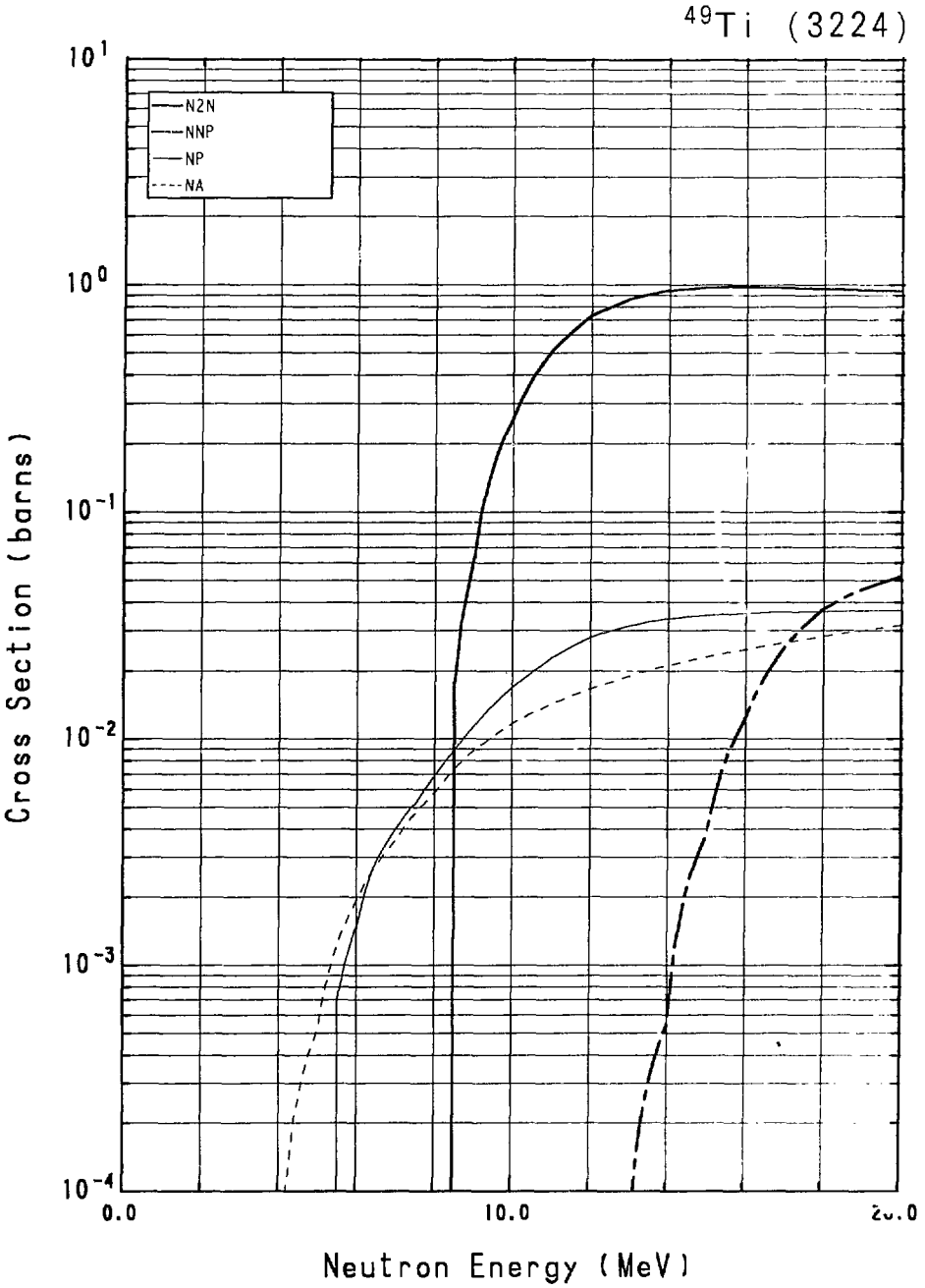

47Ti (3222)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

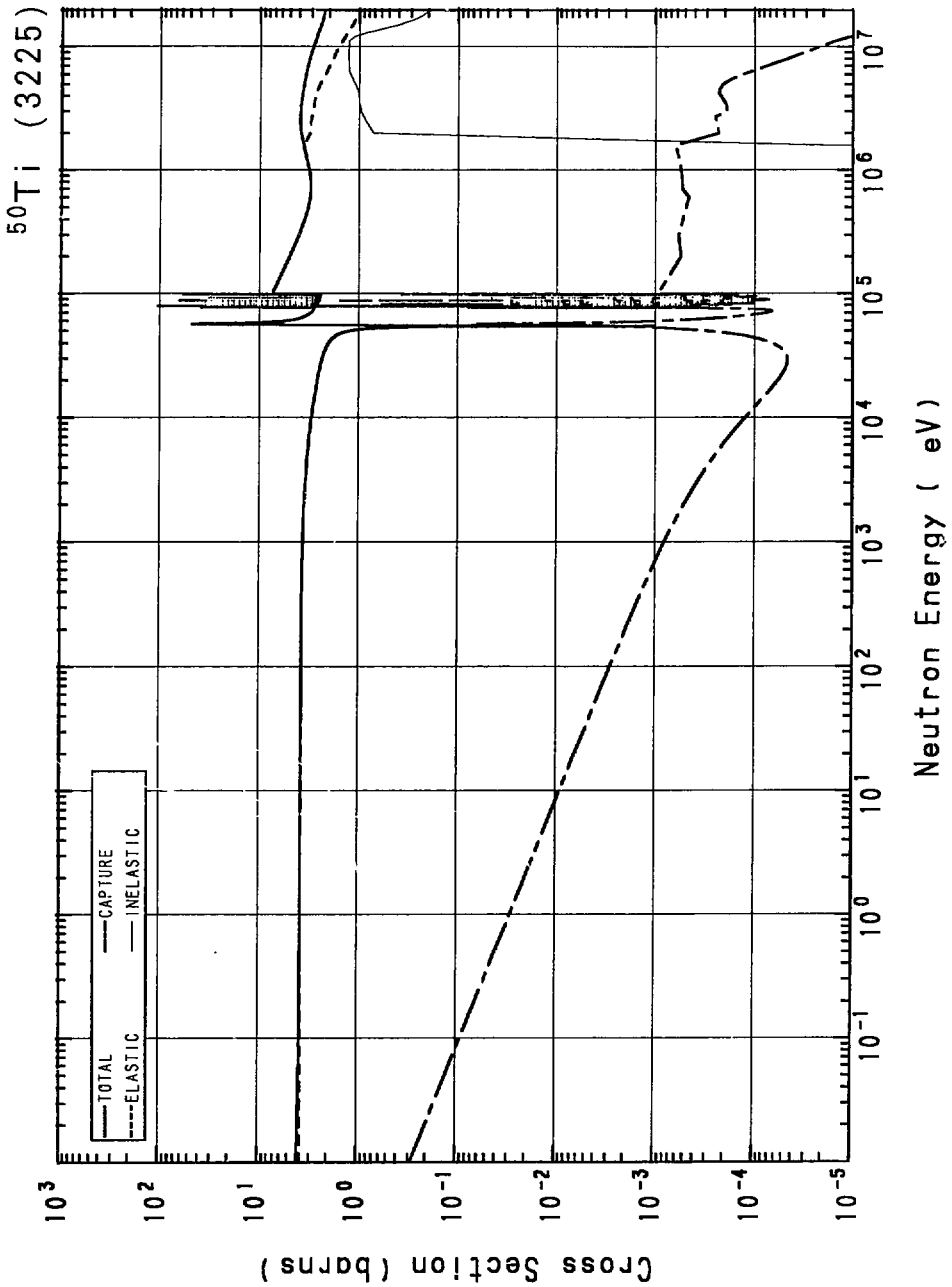

47Ti (3222)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

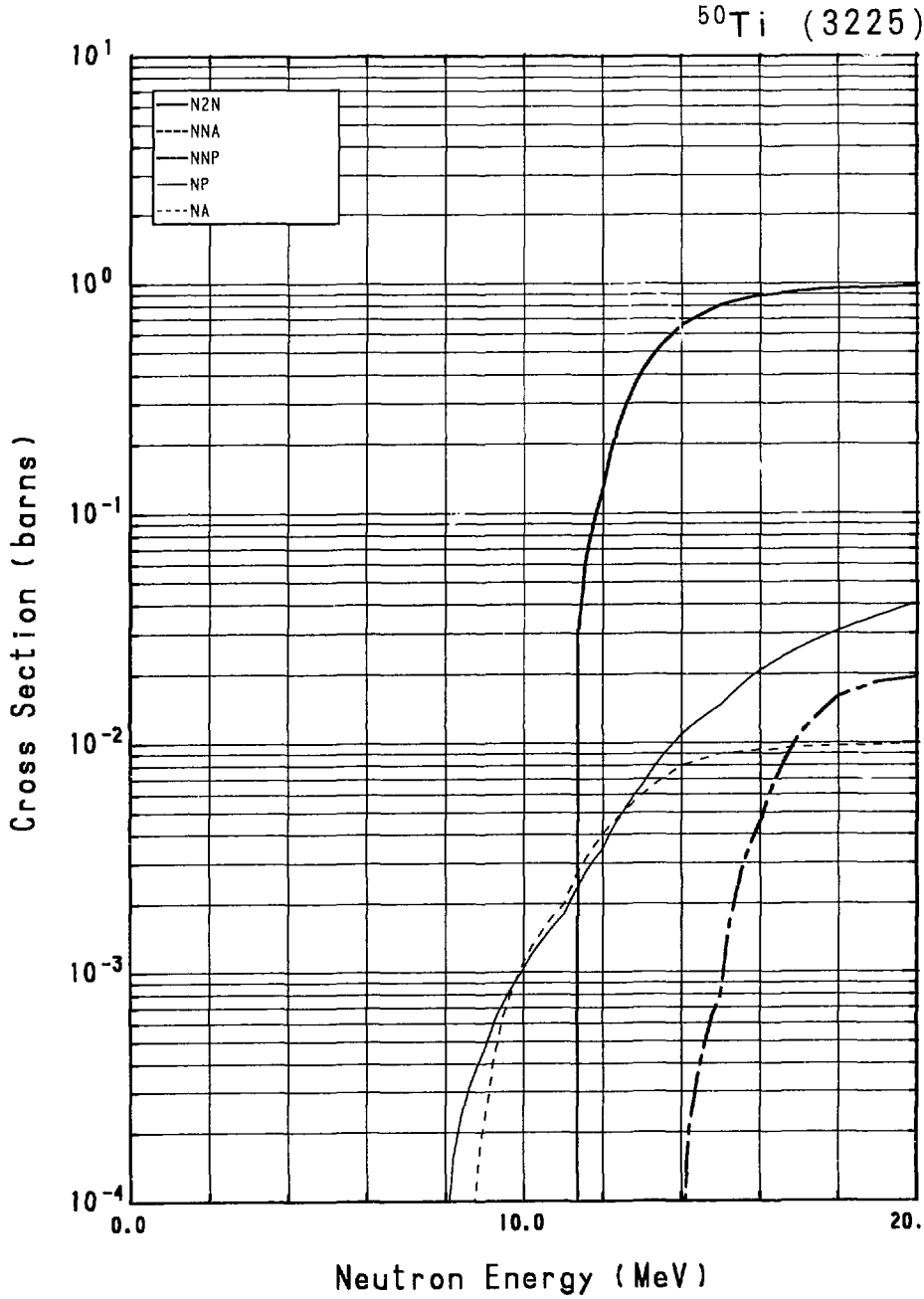

48Ti (3223)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

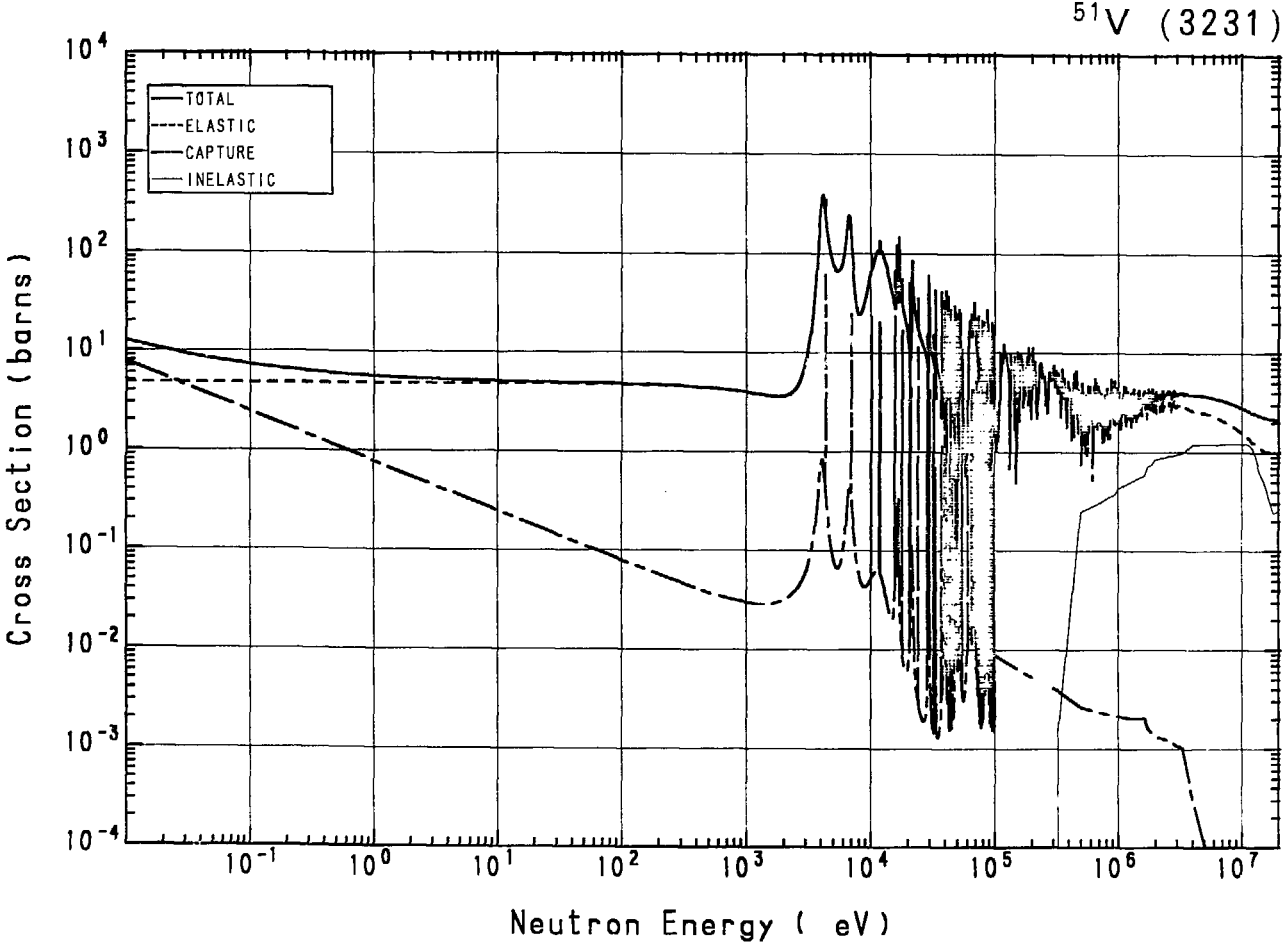

48Ti (3223)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

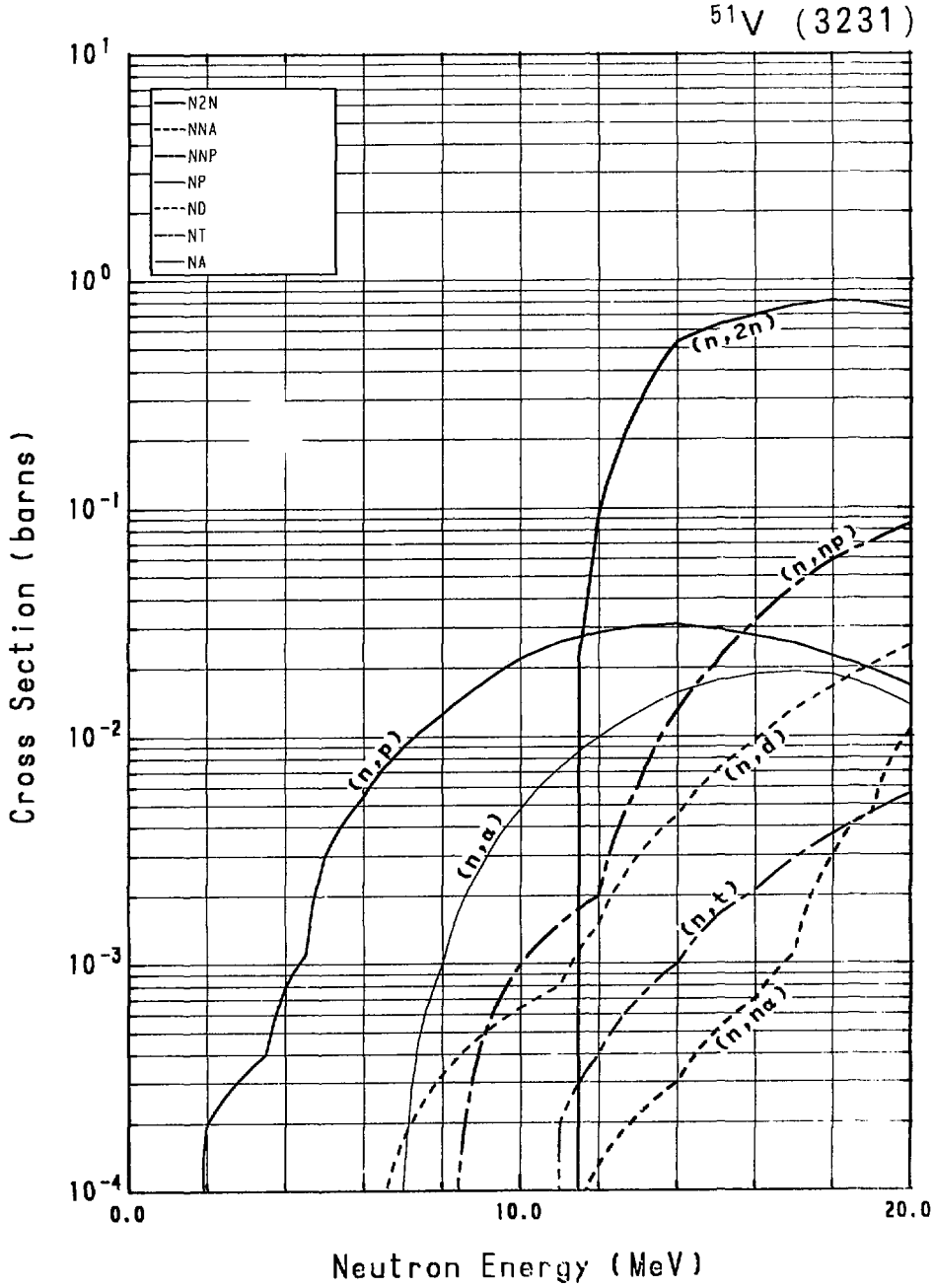

49Ti (3224)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

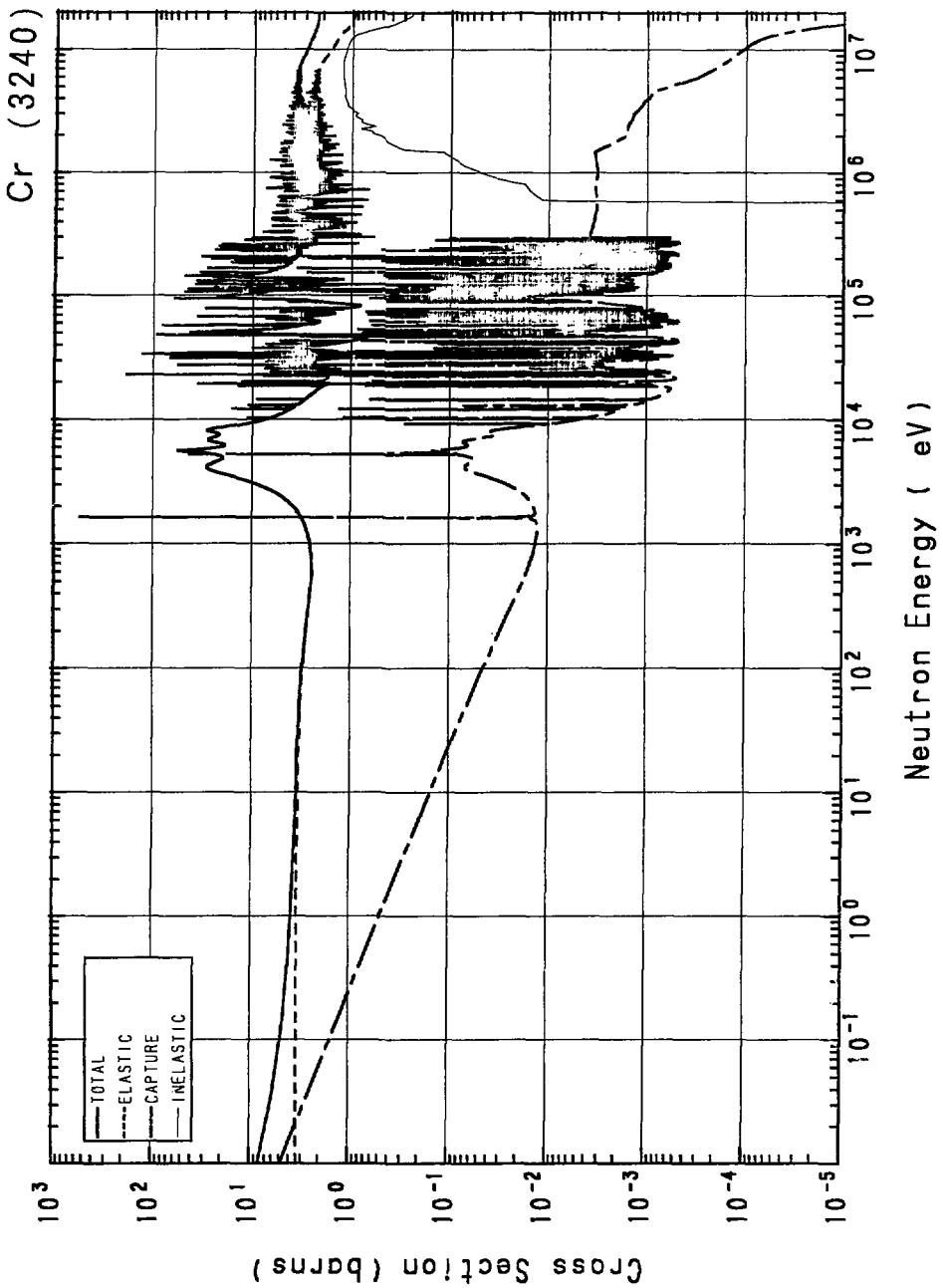

^{49}Ti (3224)
N2N
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

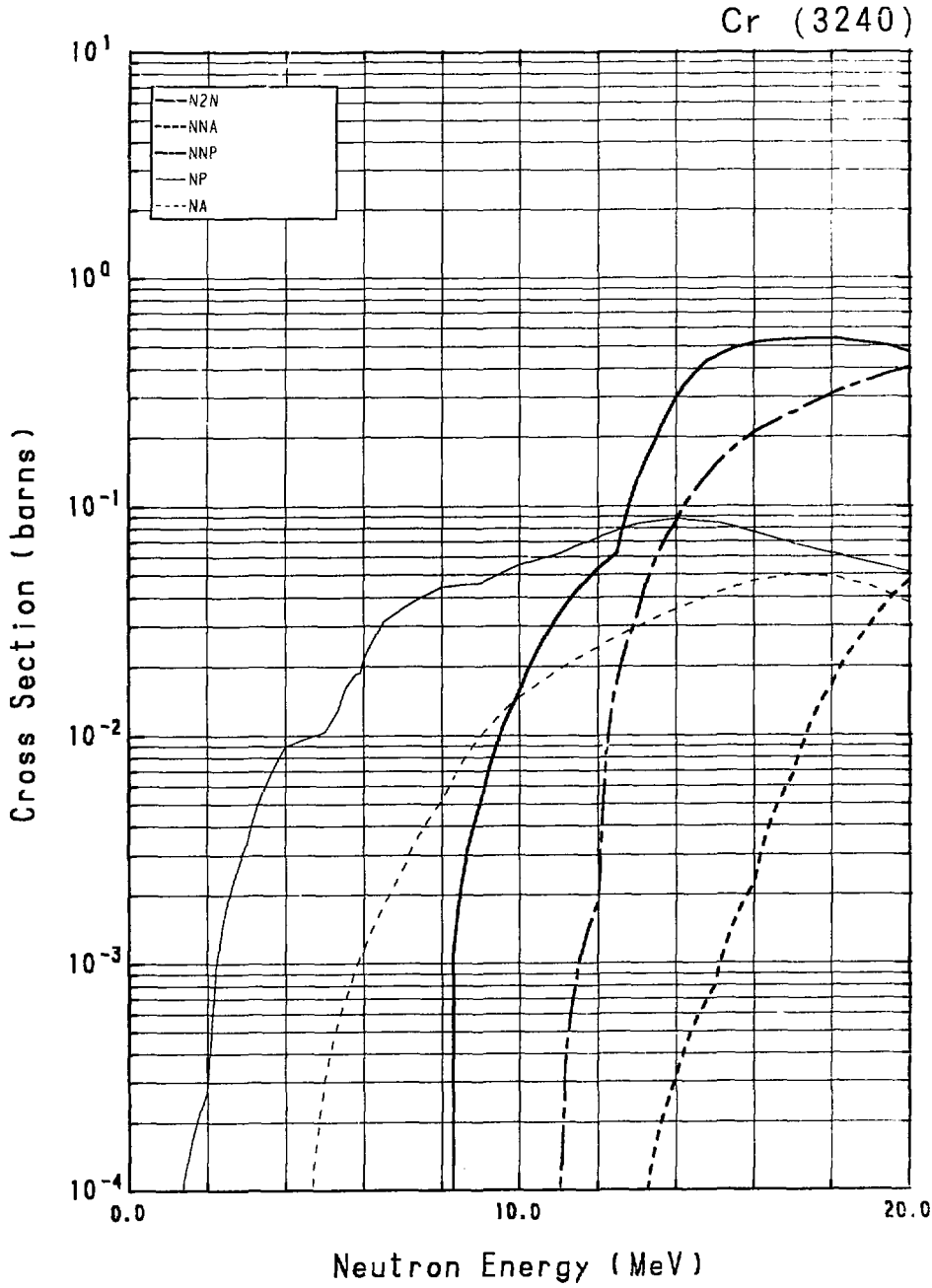

50Ti (3225)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

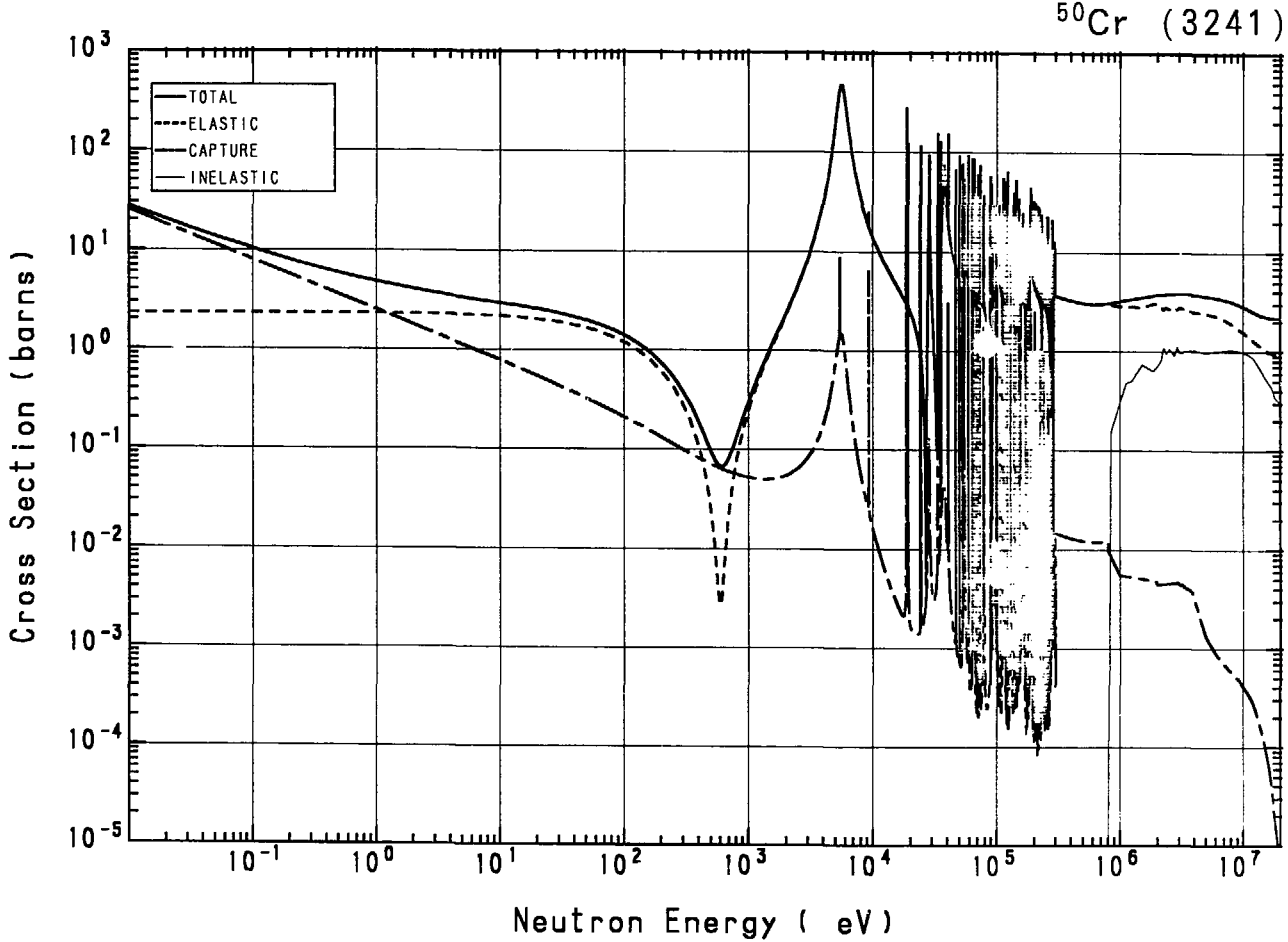

50Ti (3225)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

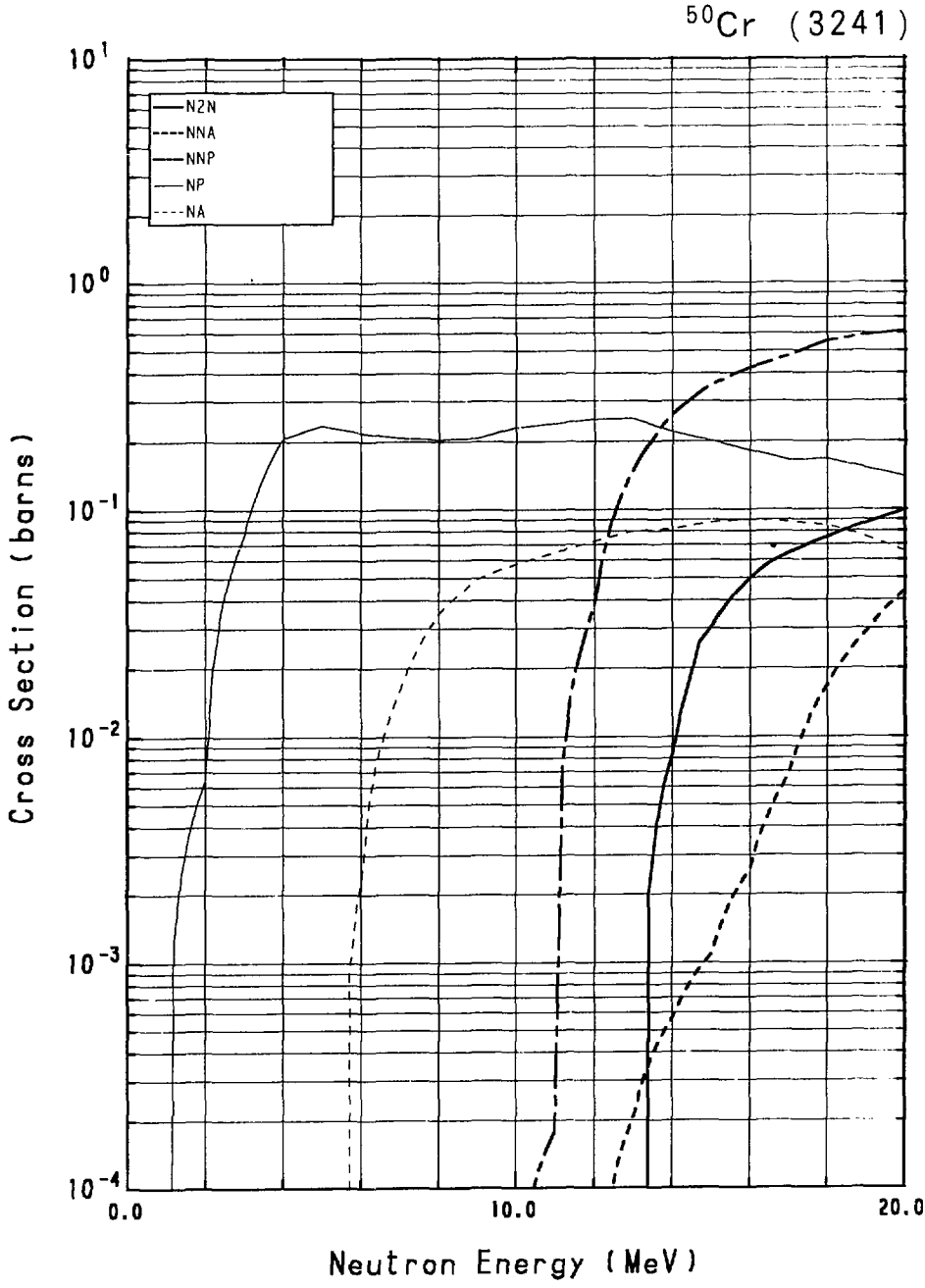

^{51}V (3231)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

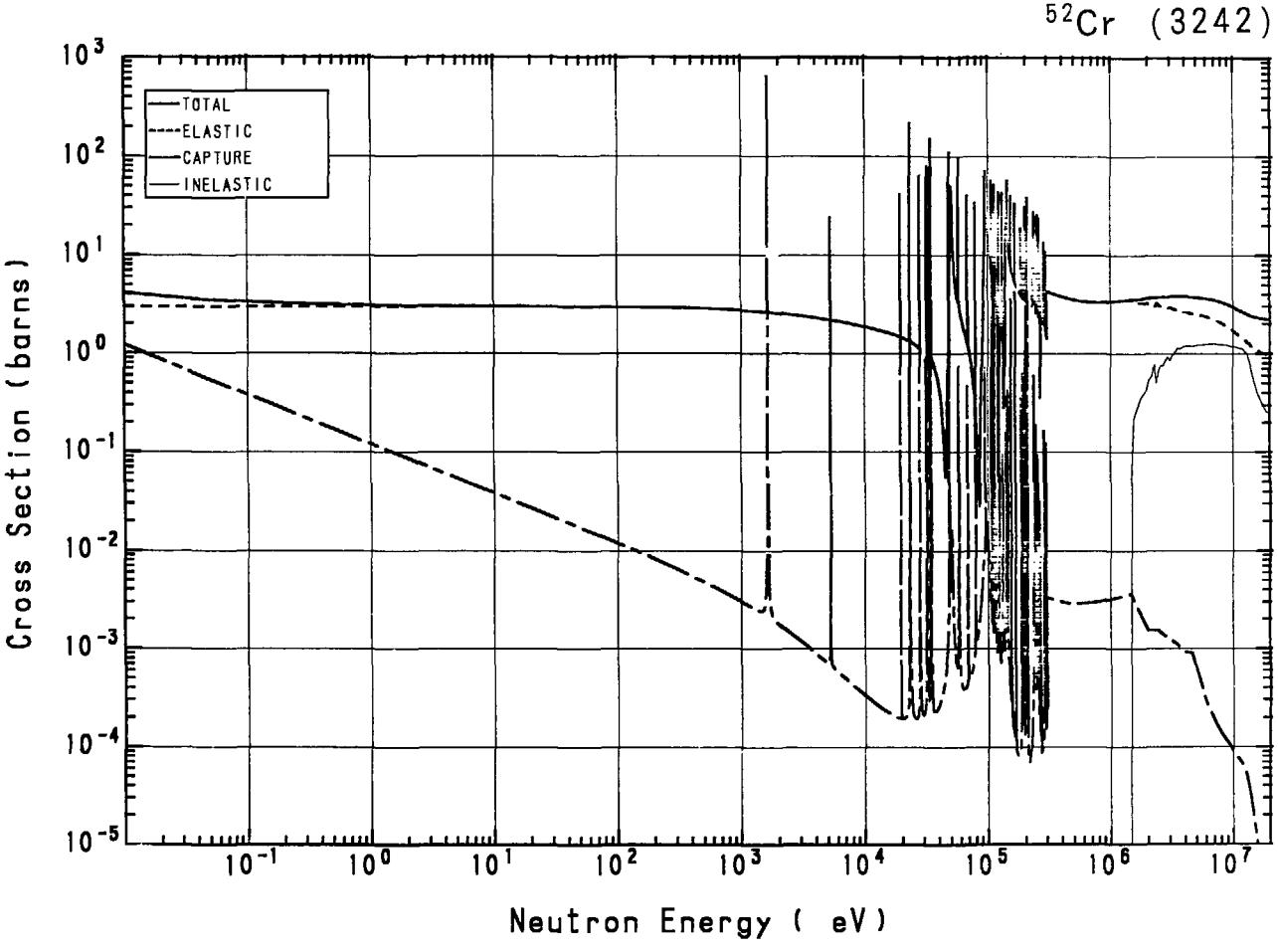

51V (3231)
N2N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)
0.0
10.0
20.0

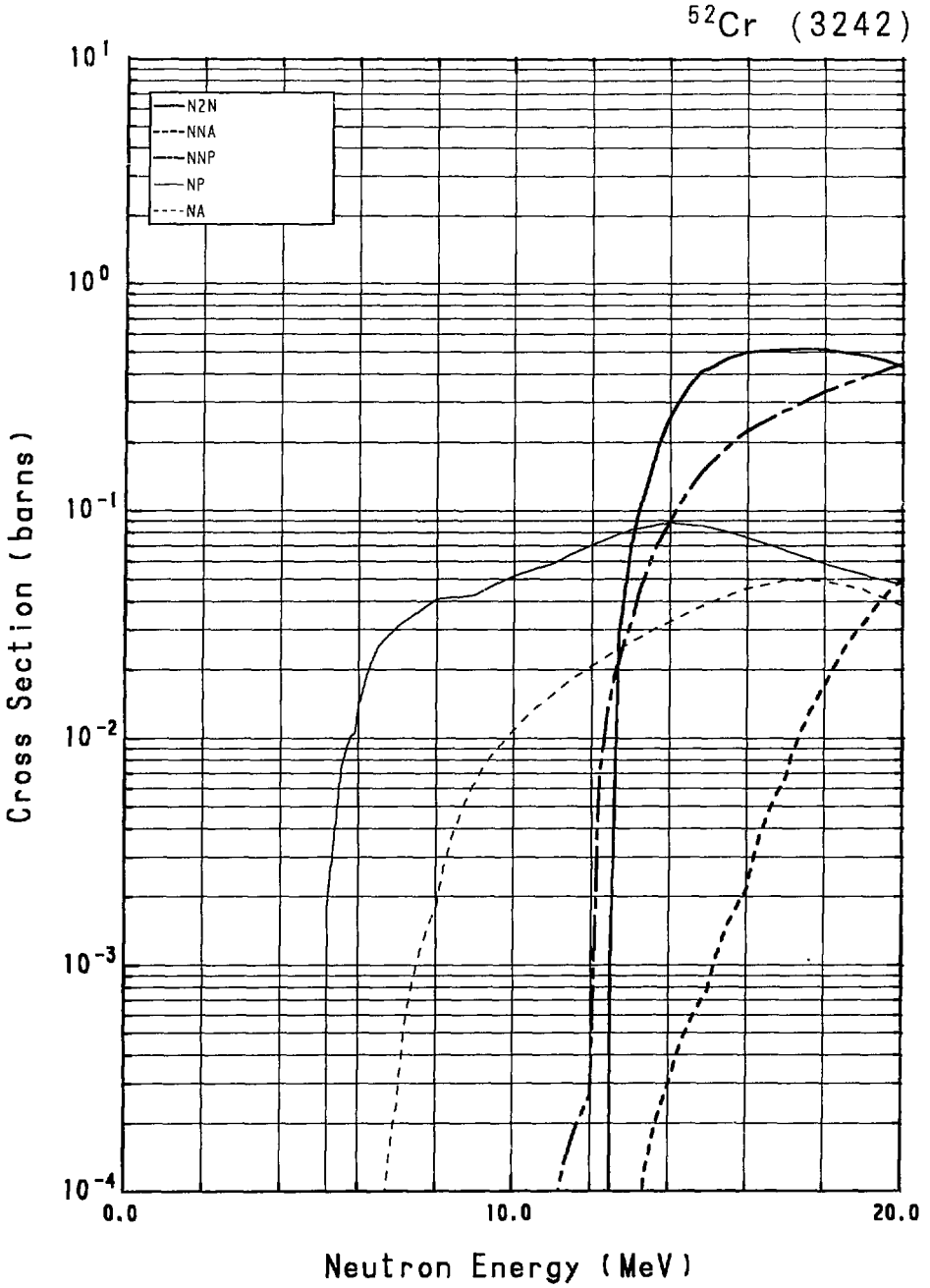

Cr (3240)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

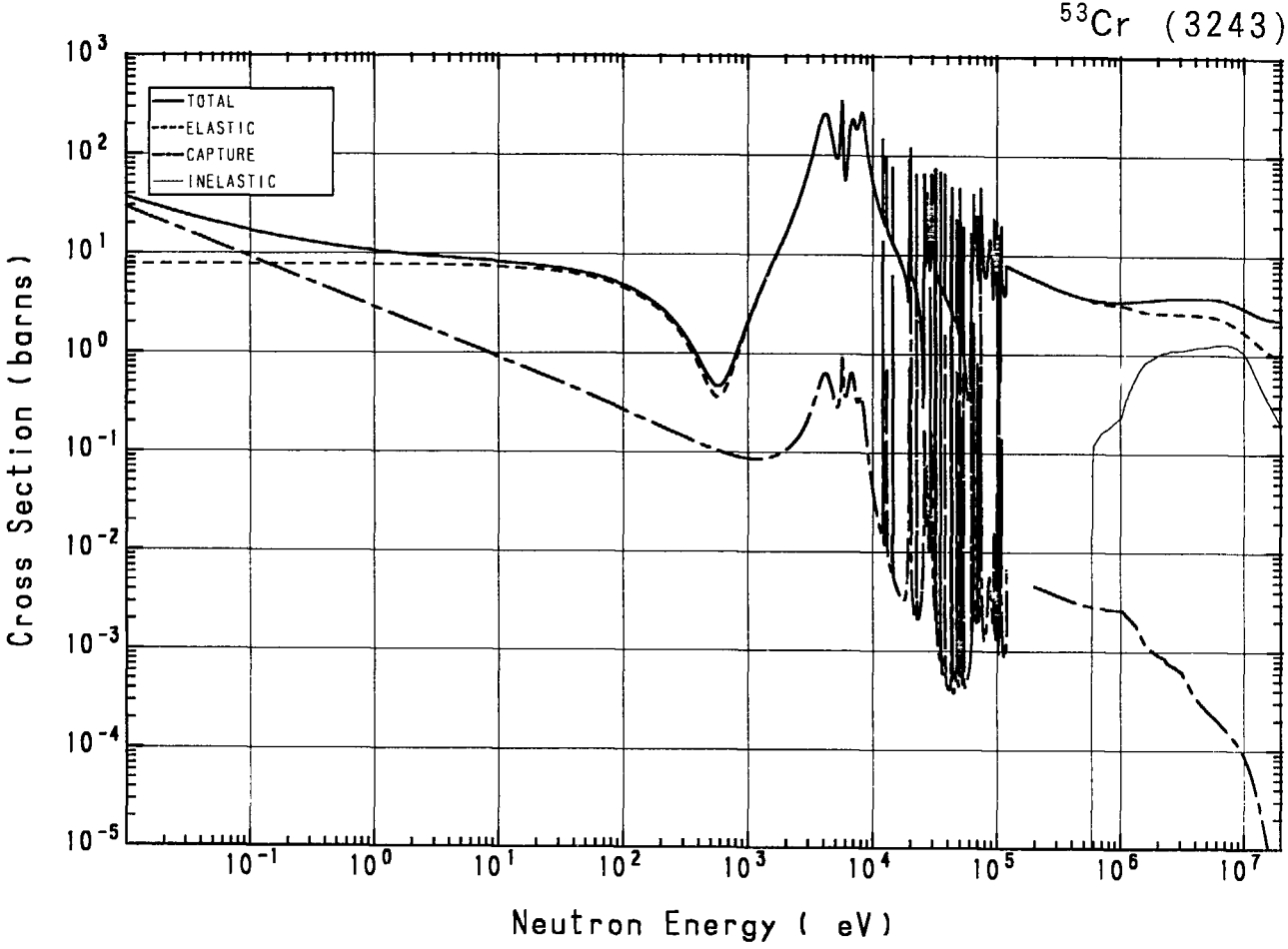

Cr (3240)
N2N
NNA
NNP
NP
NA
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

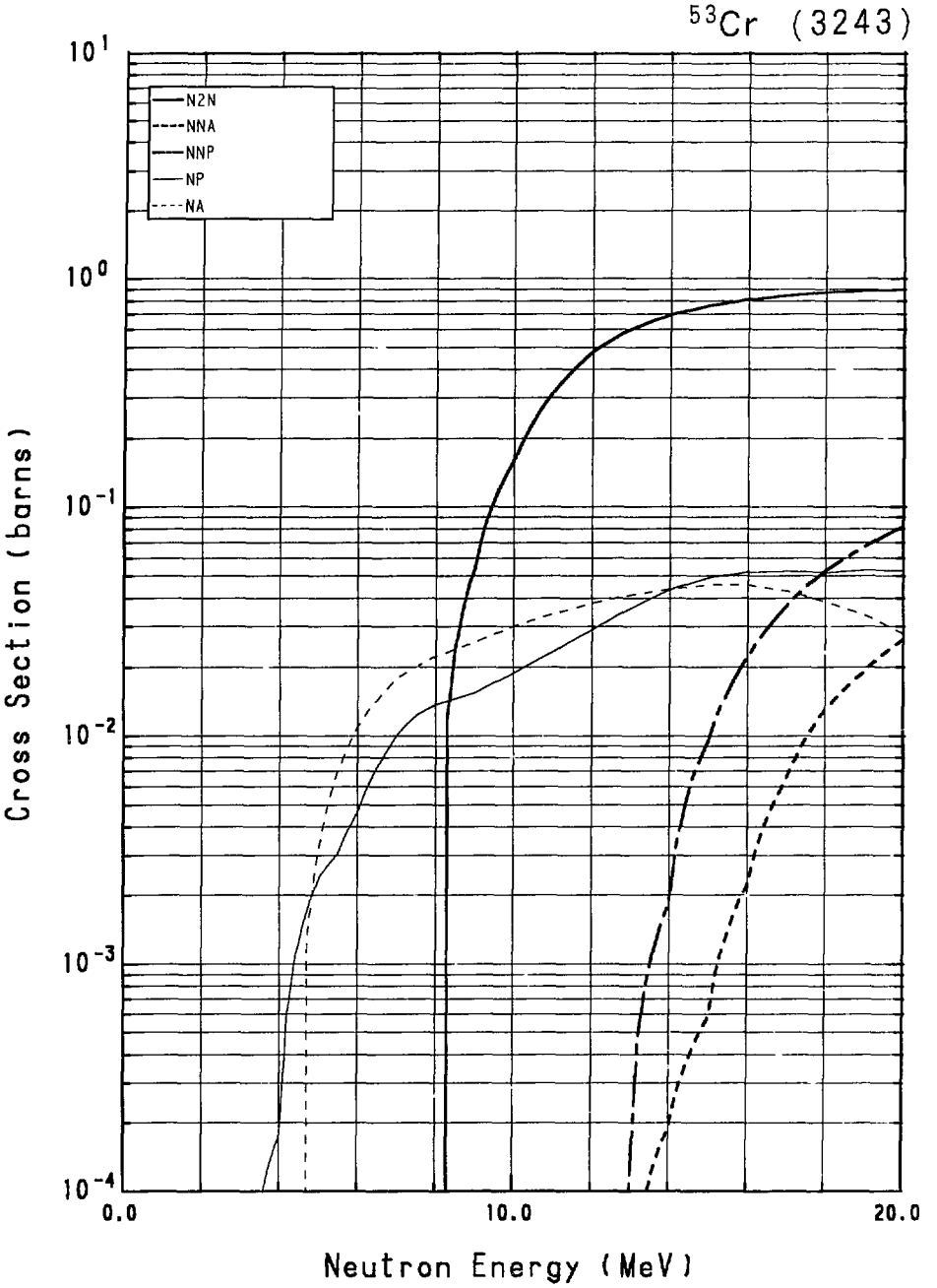

^{50}Cr (3241)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

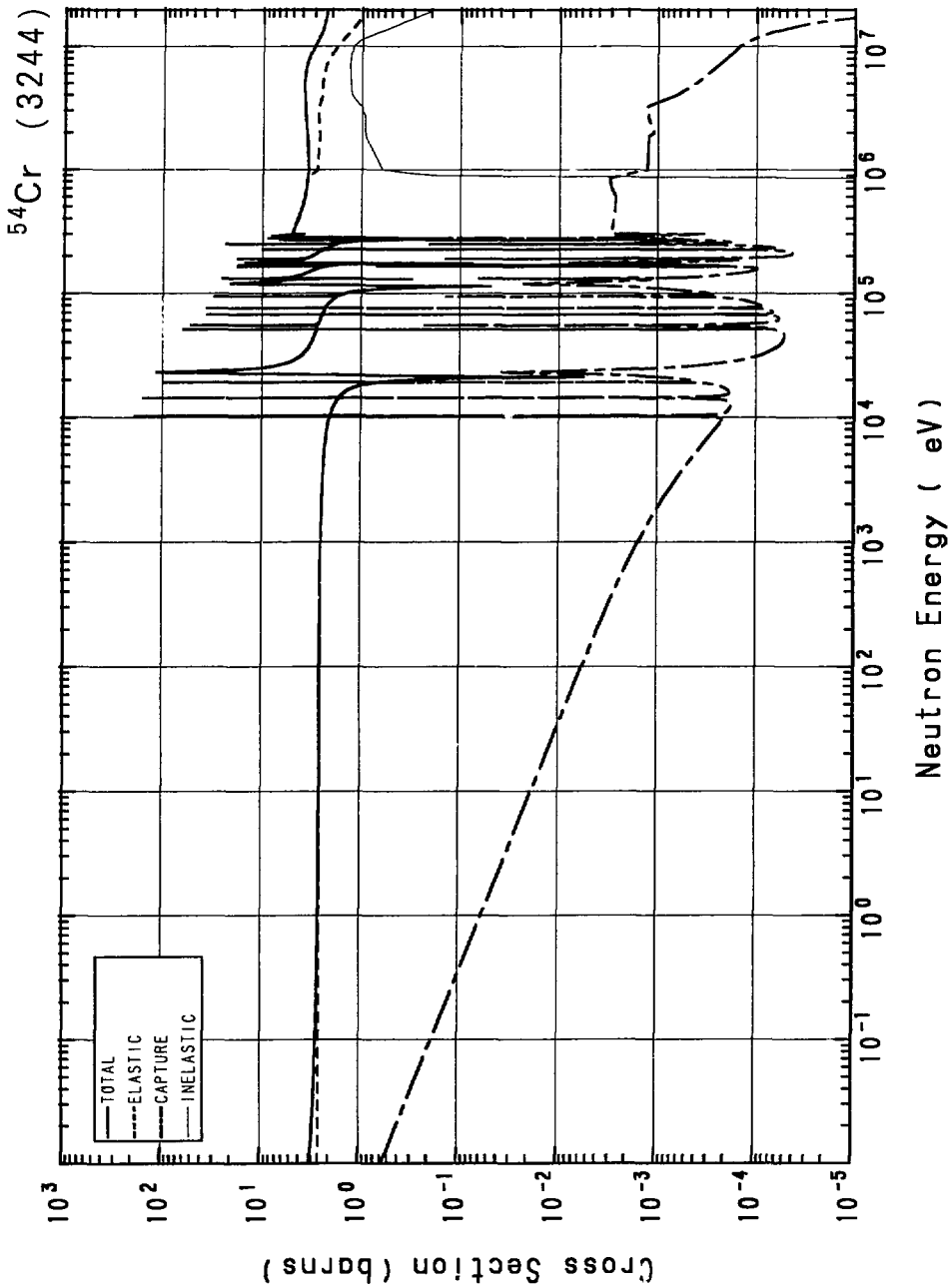

50Cr (3241)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

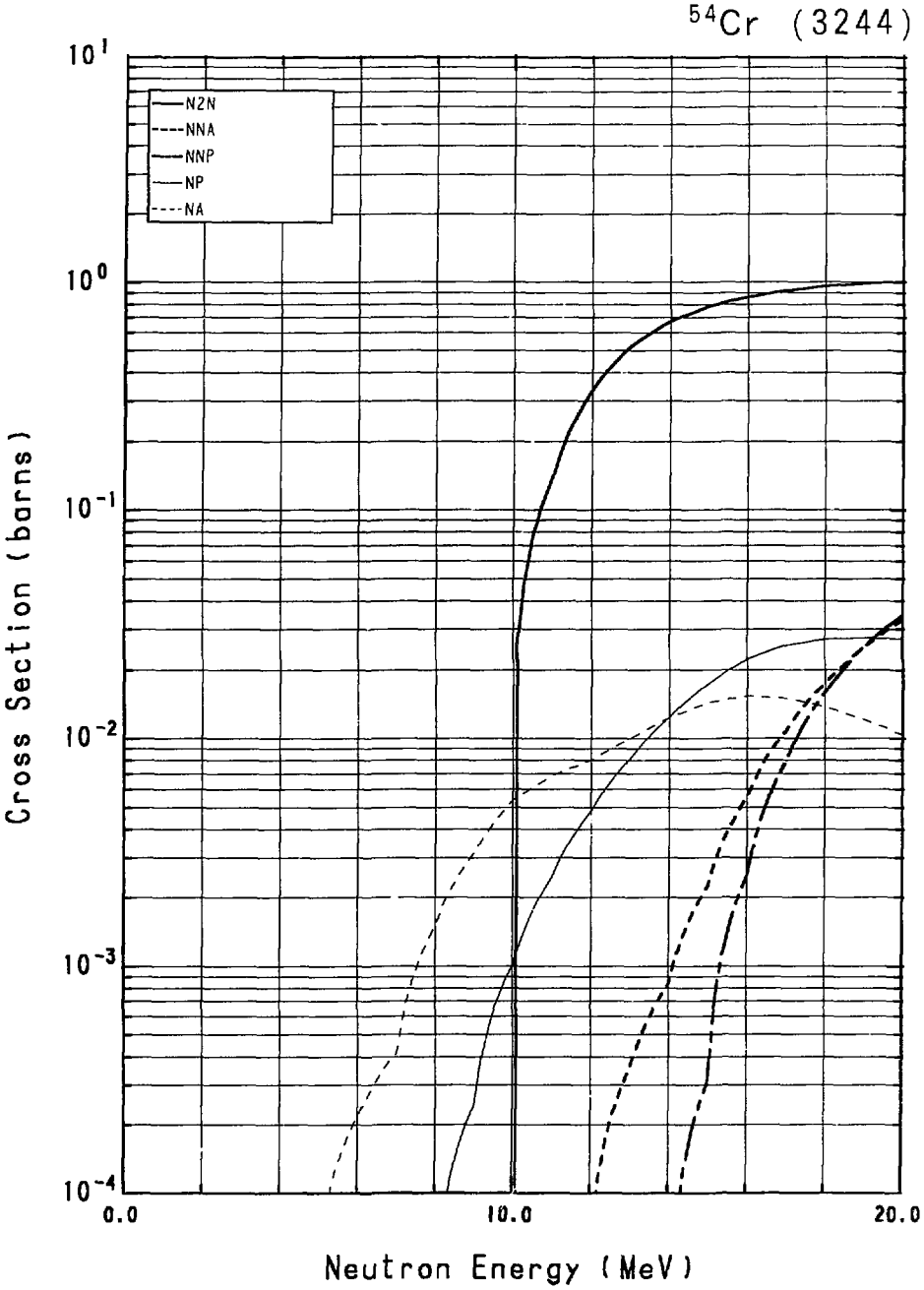

^{52}Cr (3242)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

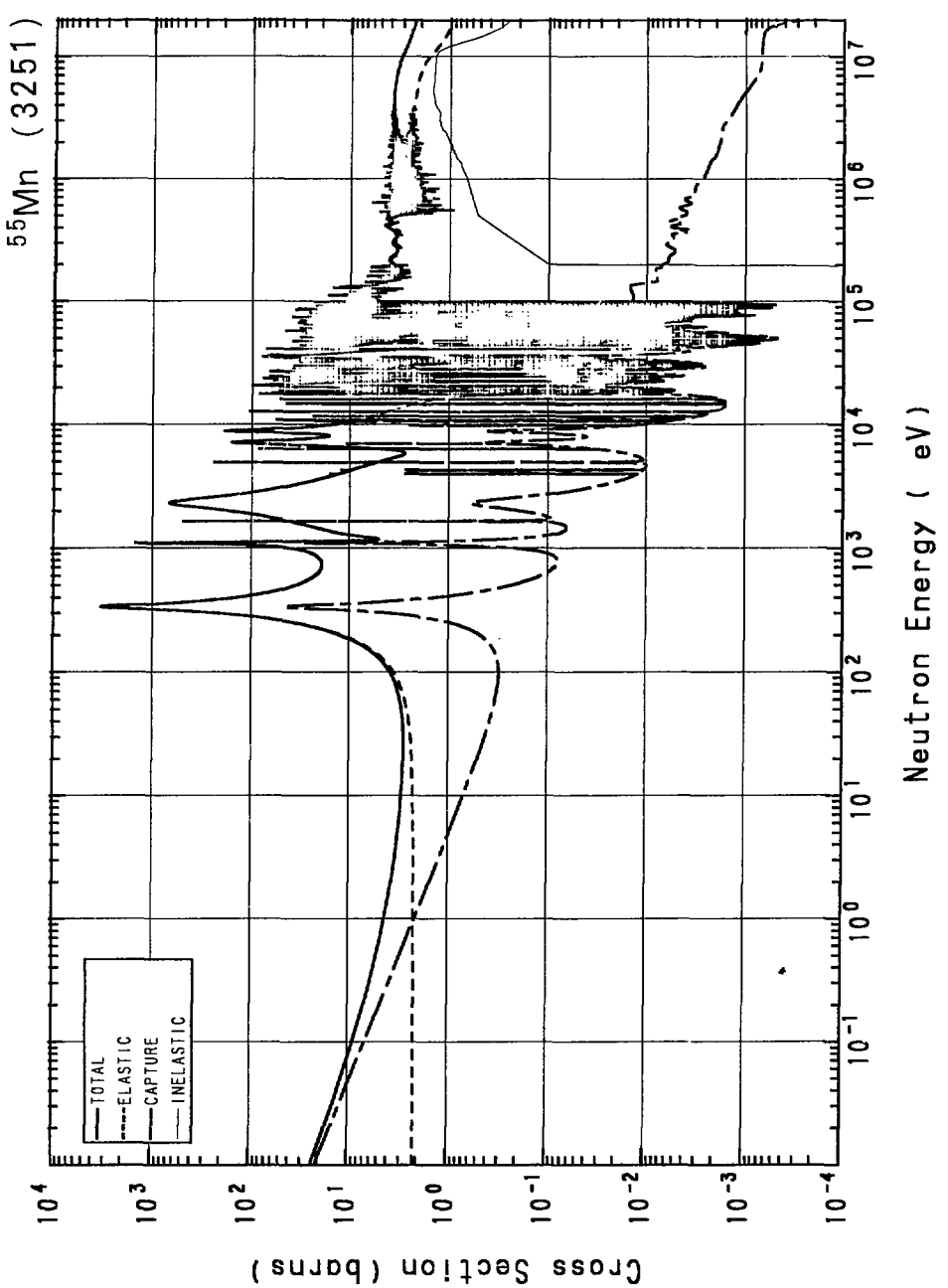

52Cr (3242)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

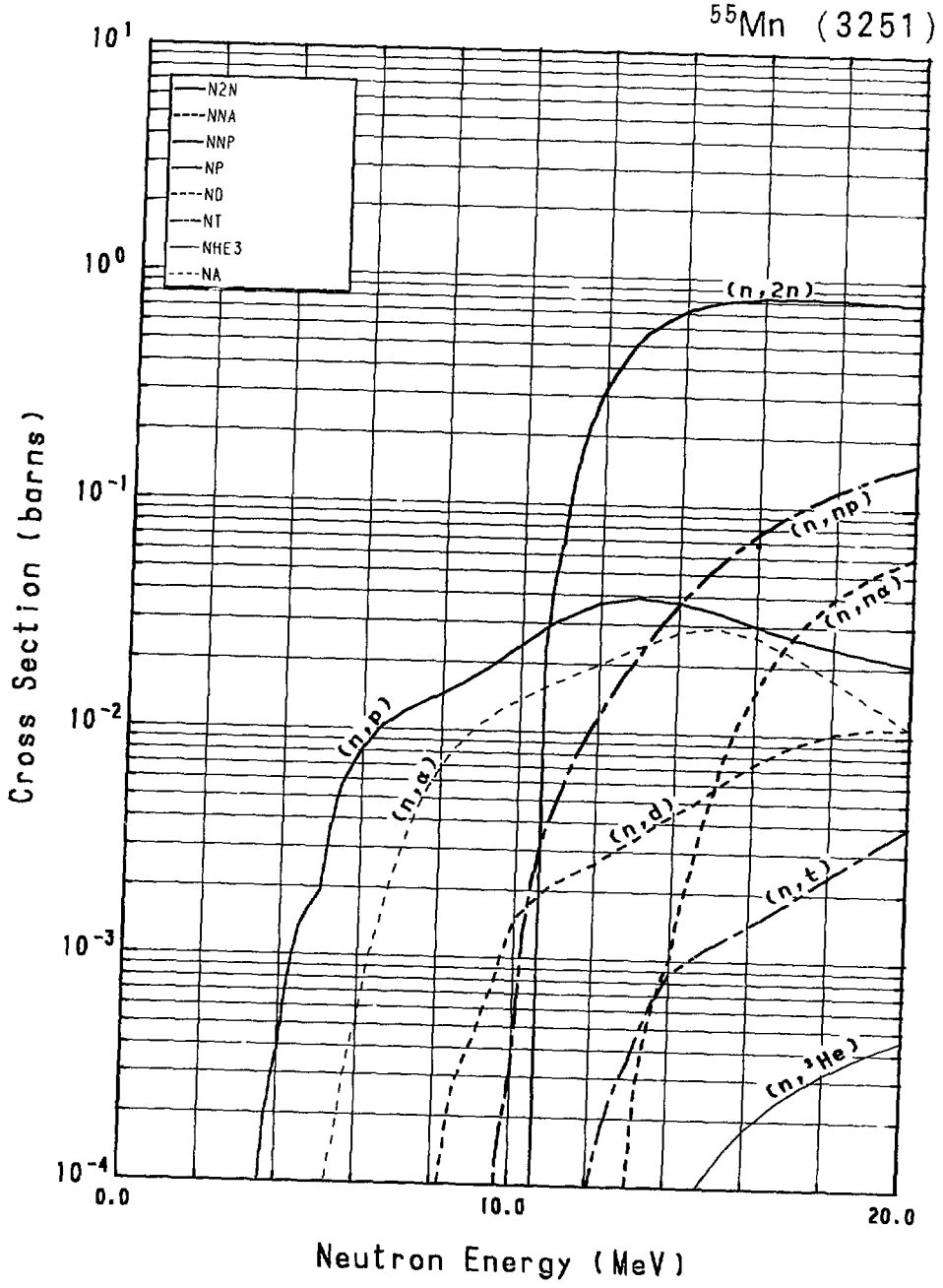

^{53}Cr (3243)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

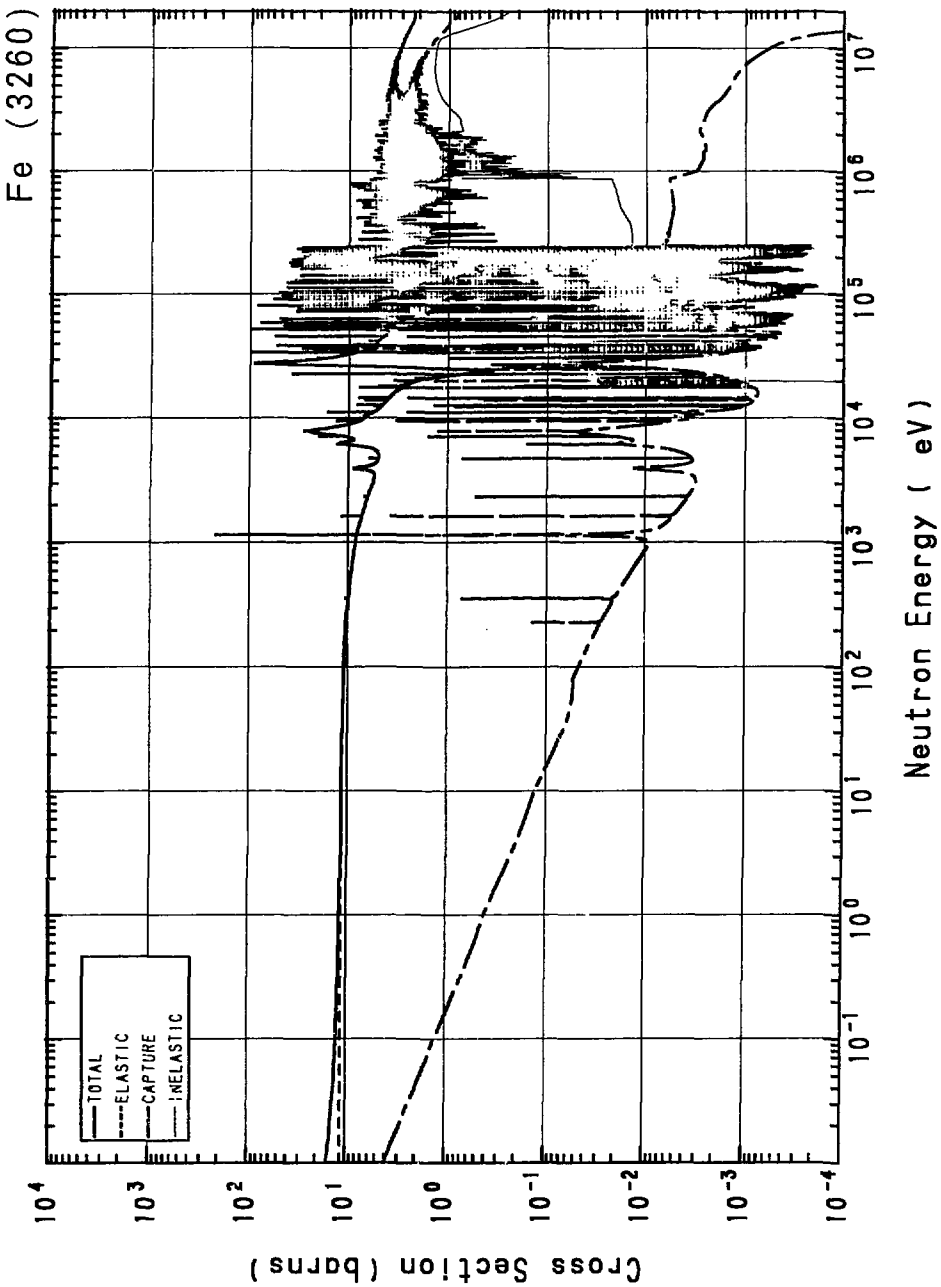

^{53}Cr (3243)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

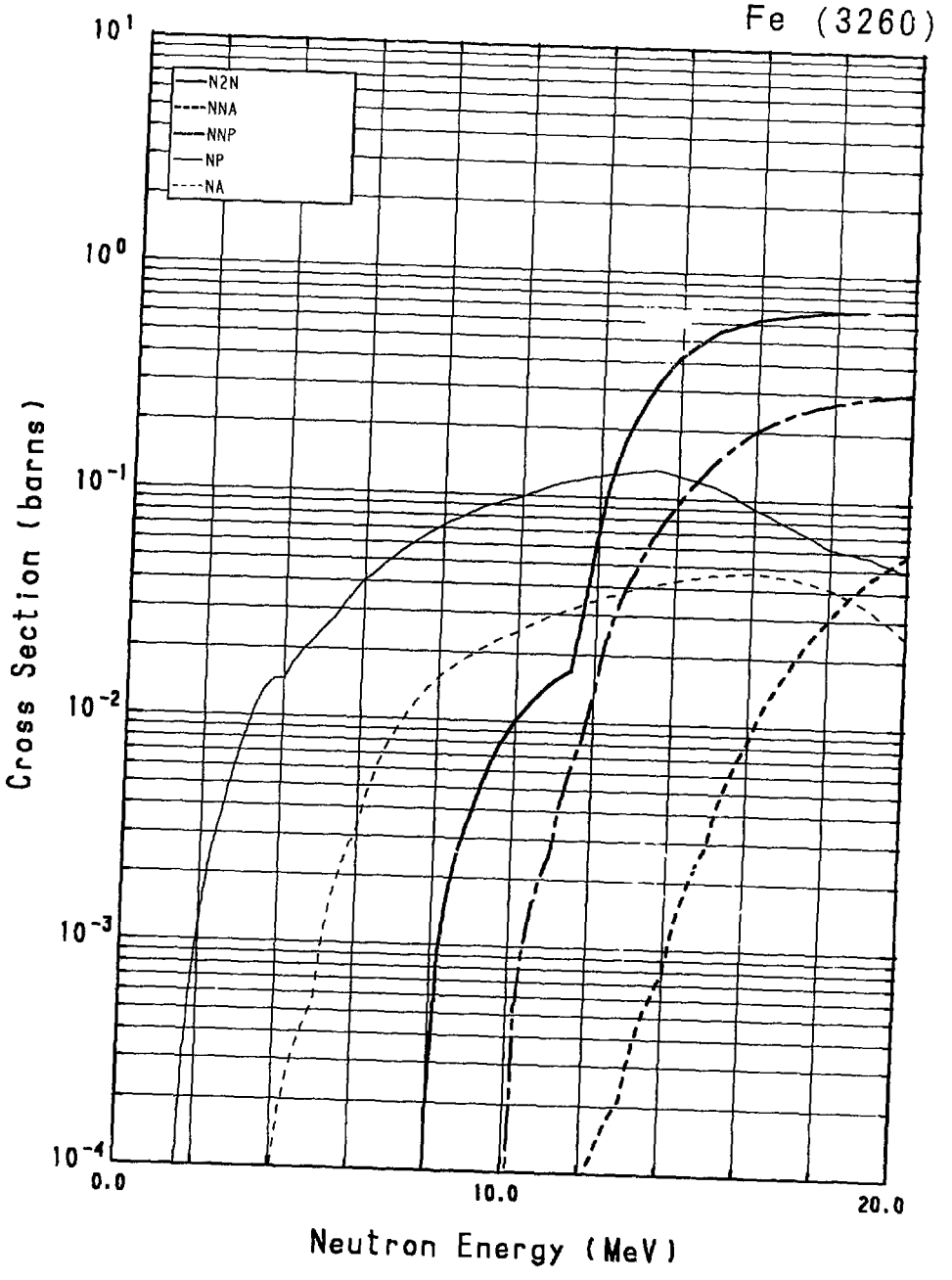

54Cr (3244)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

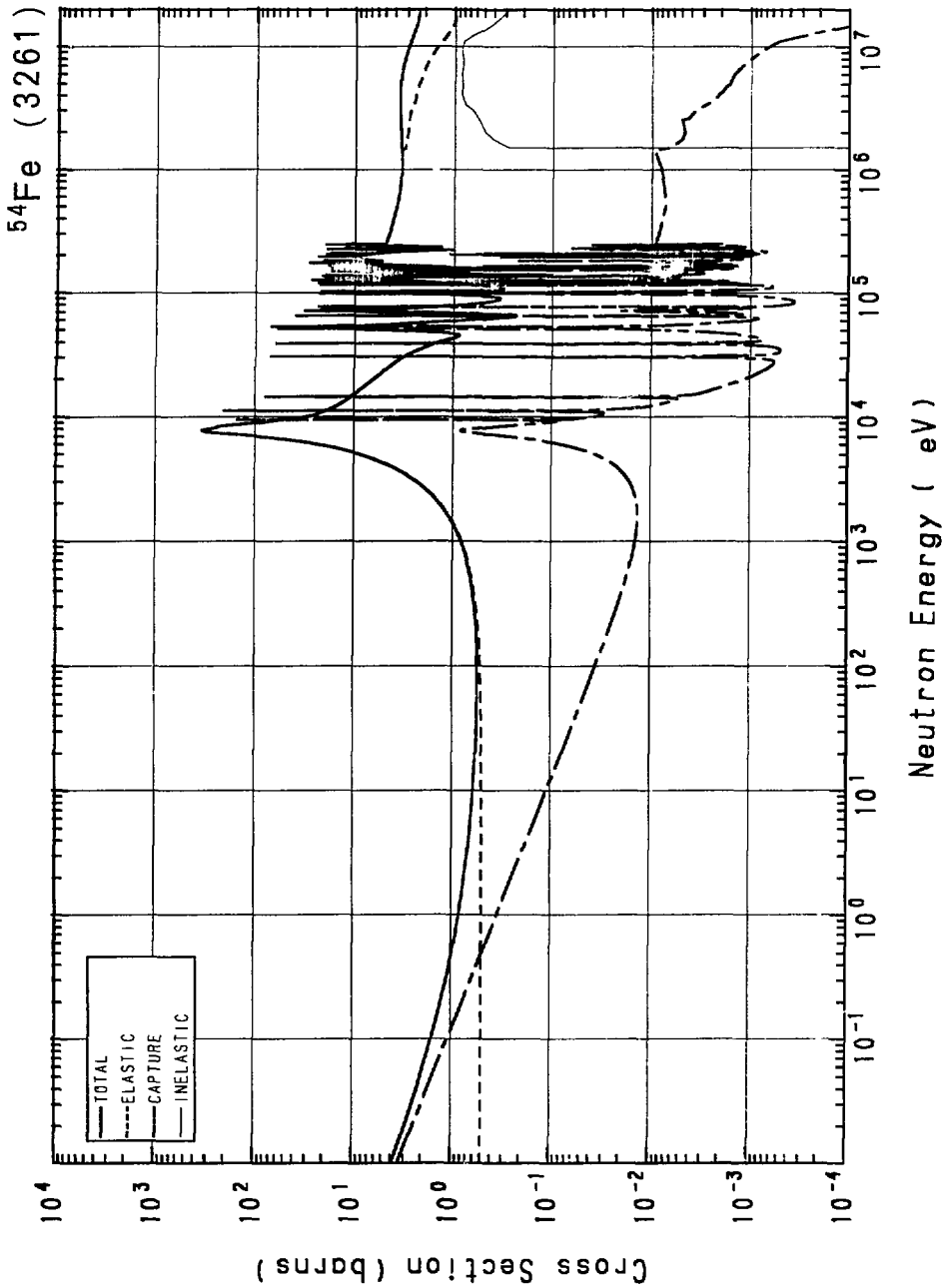

^{54}Cr (3244)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

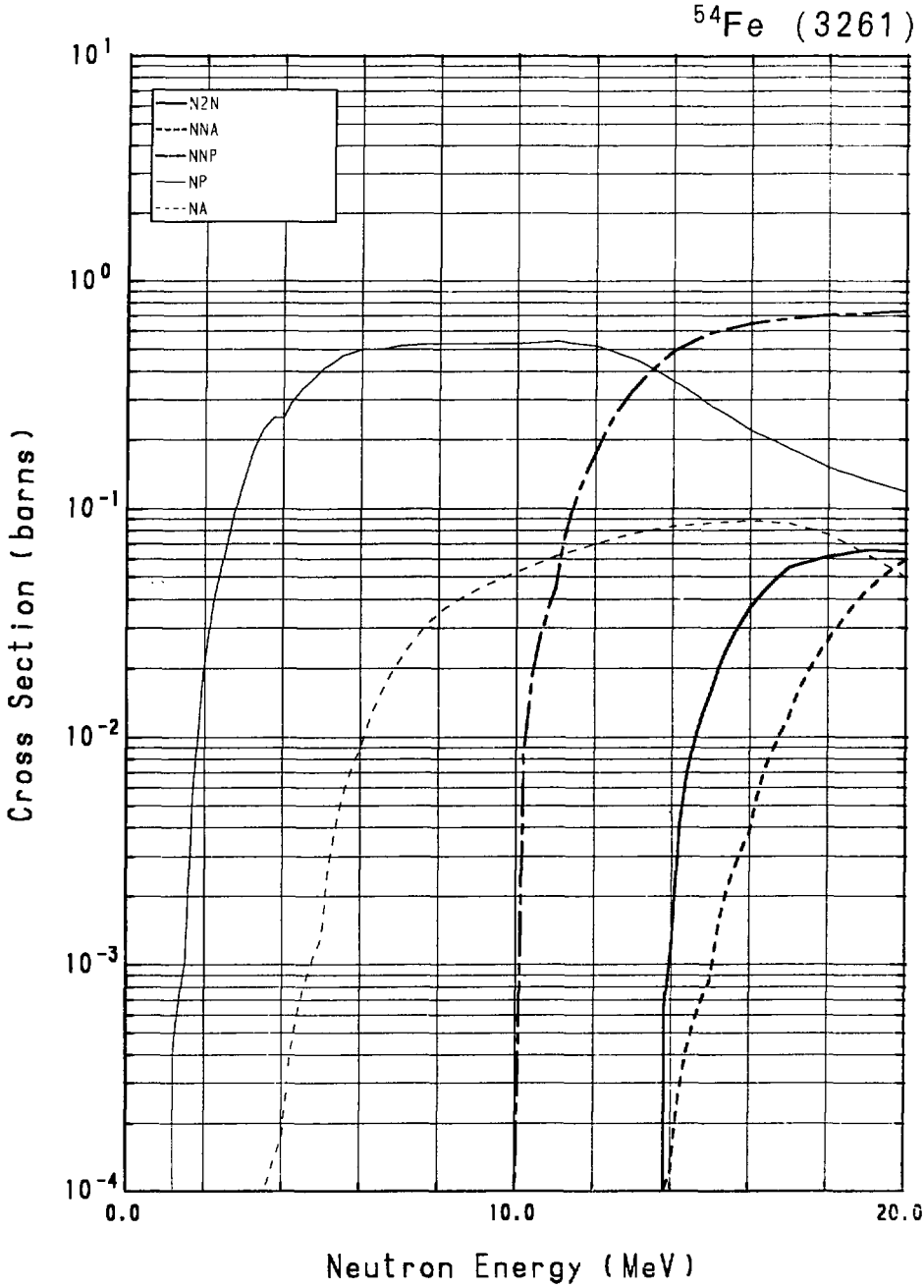

55Mn (3251)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

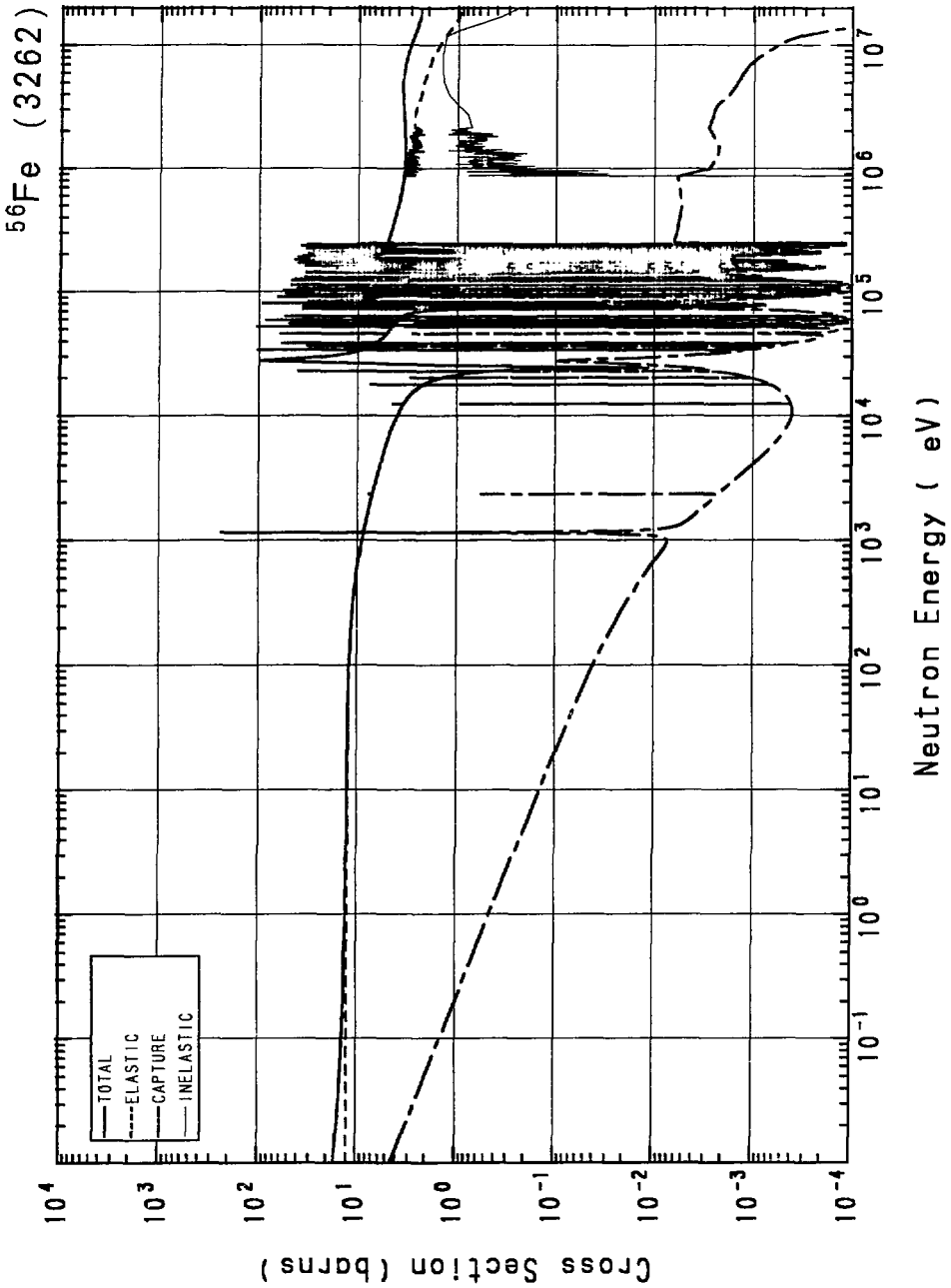

55Mn (3251)
N2N
NNA
NNP
NP
ND
NT
NHE3
NA
(n,2n)
(n,np)
(n,nα)
(n,p)
(n,α)
(n,d)
(n,t)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

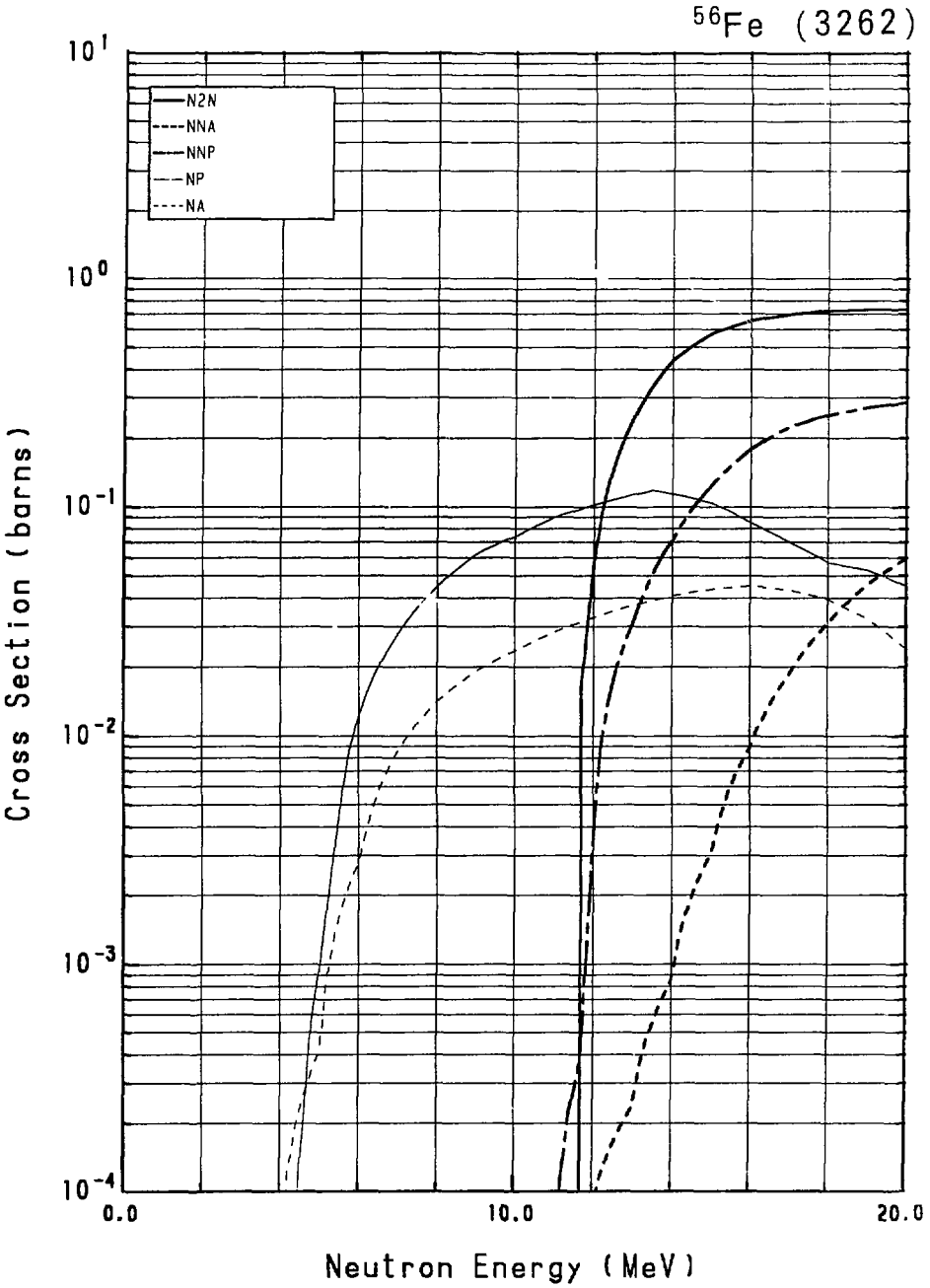

Fe (3260)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

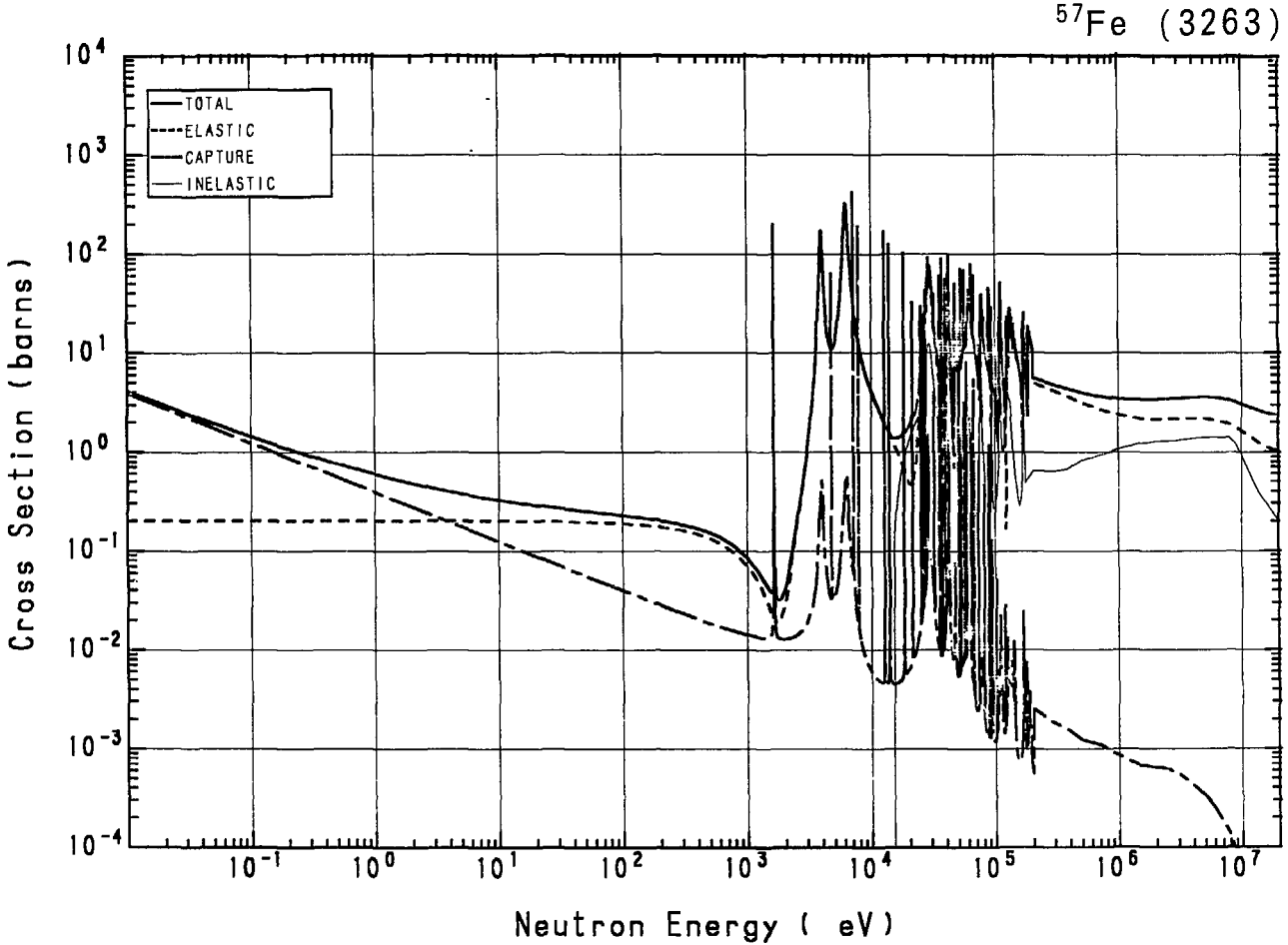

Fe (3260)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

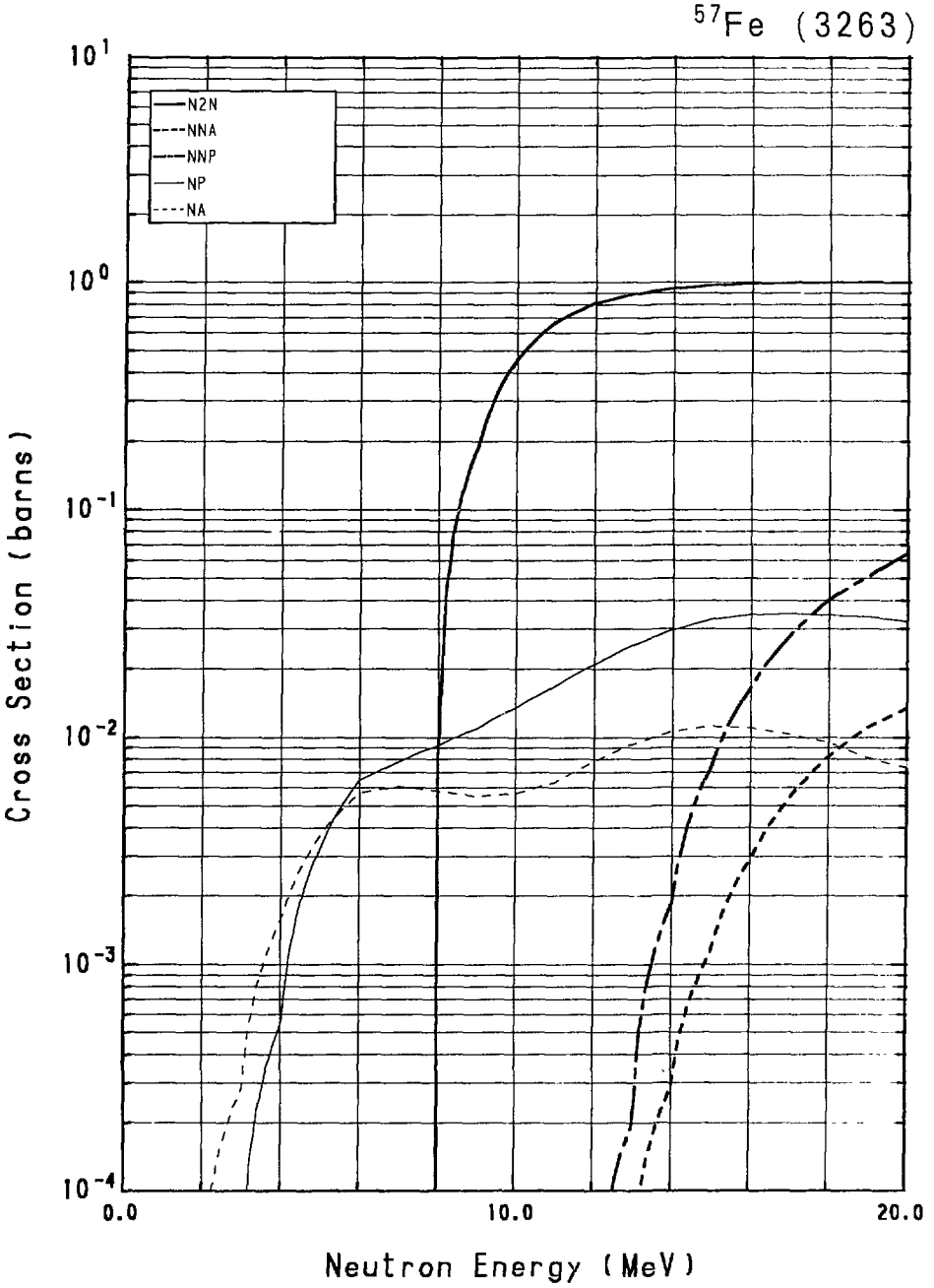

^{54}Fe (3261)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

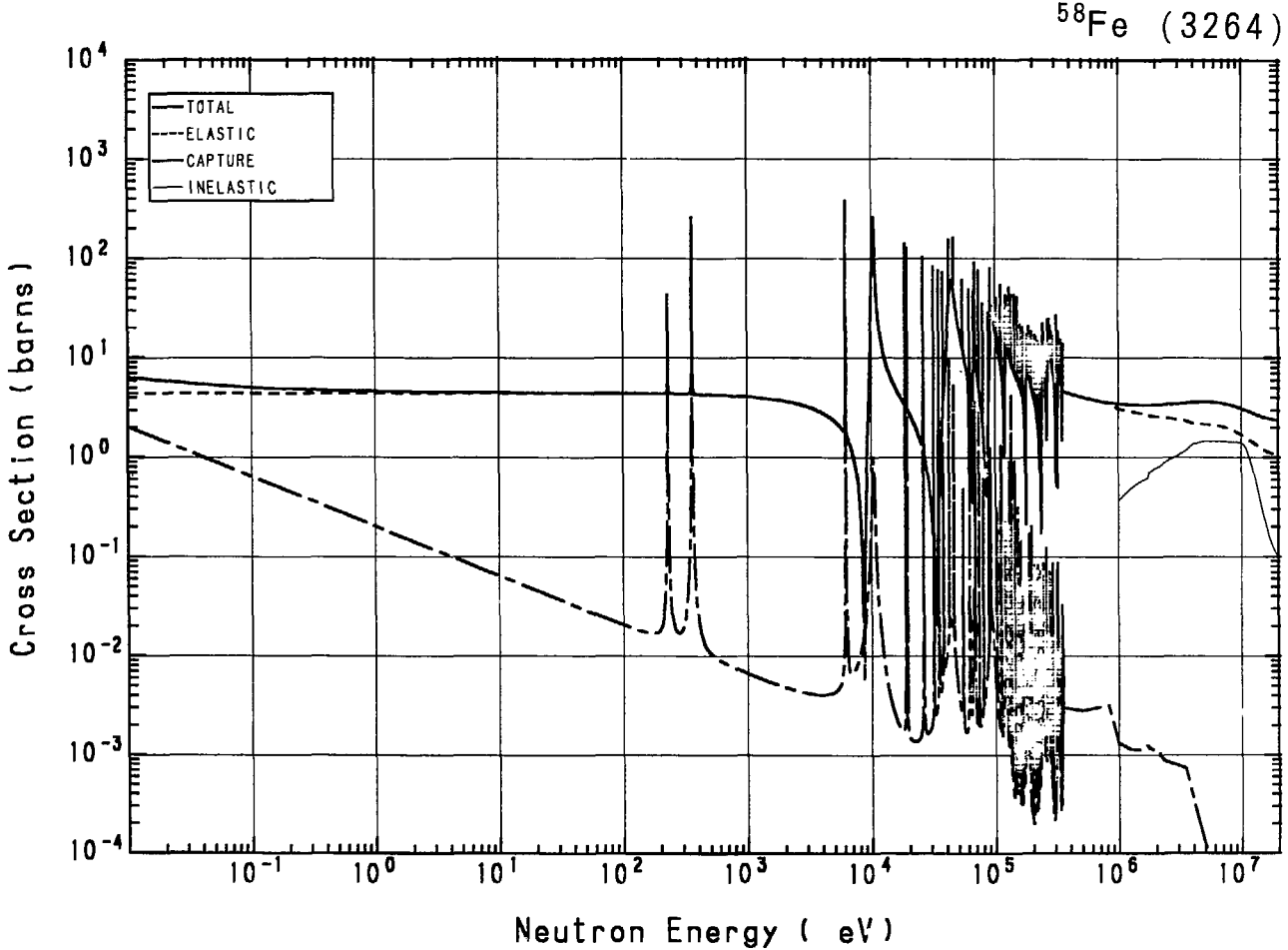

^{54}Fe (3261)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

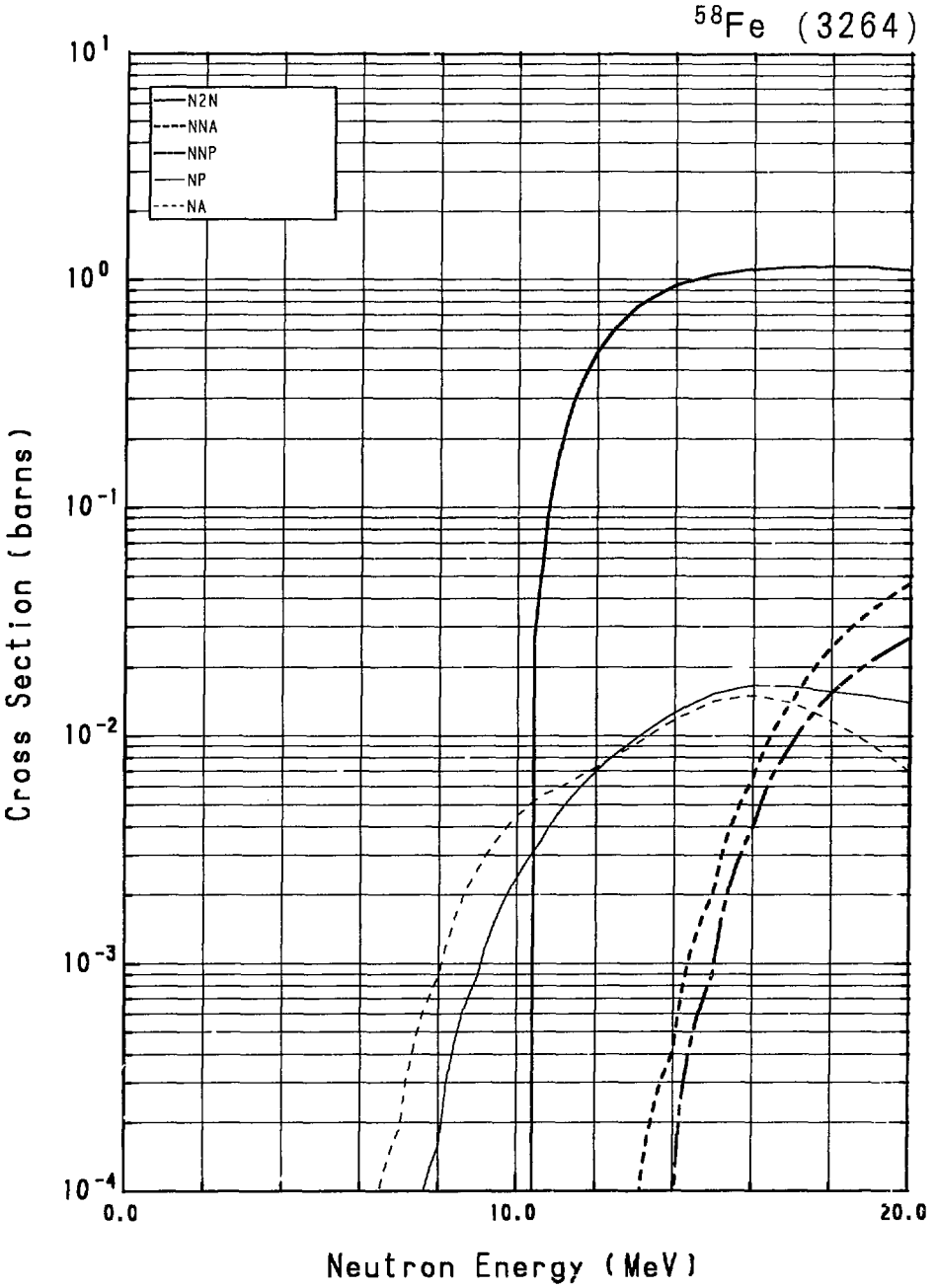

^{56}Fe (3262)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

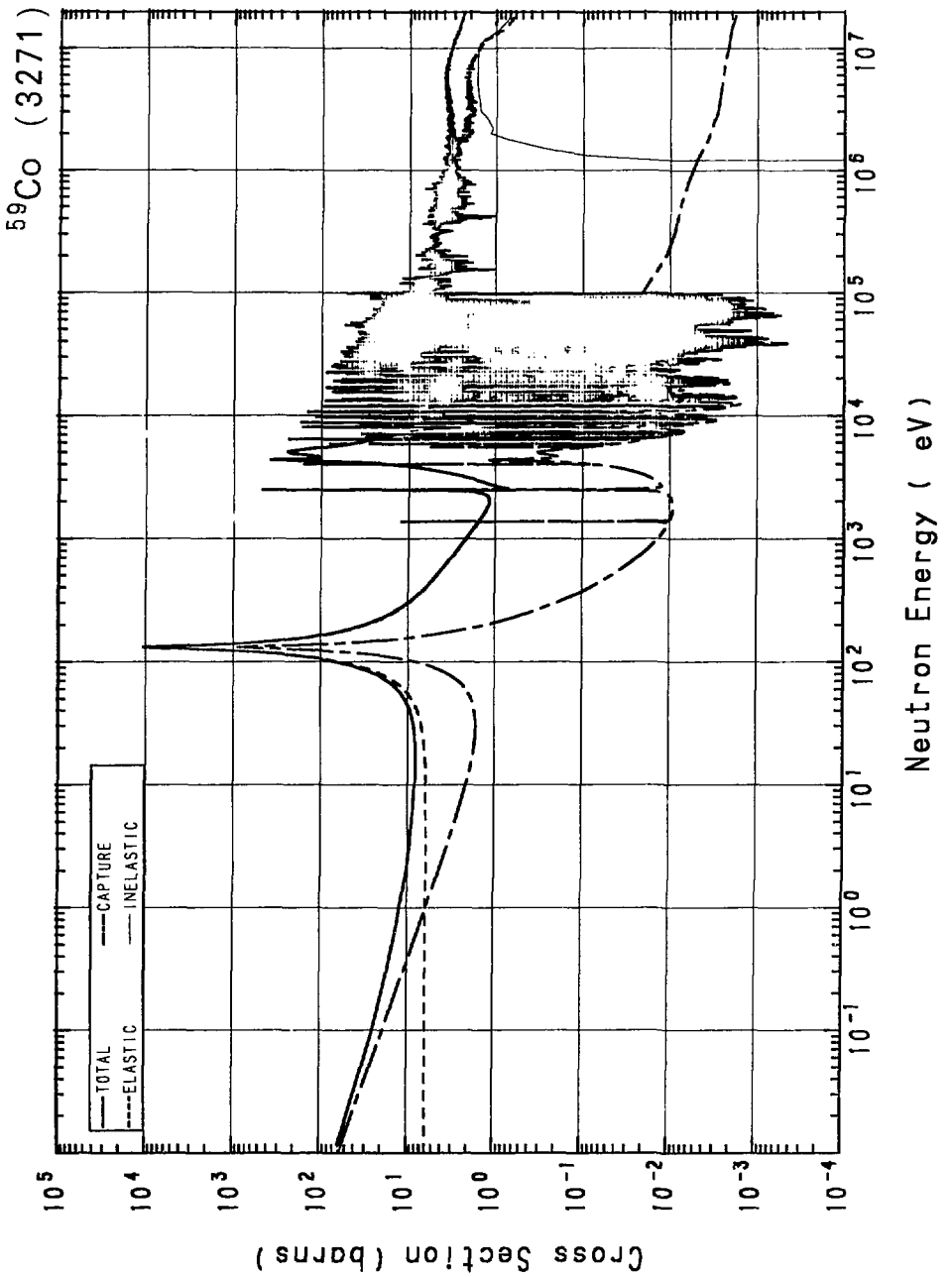

56Fe (3262)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

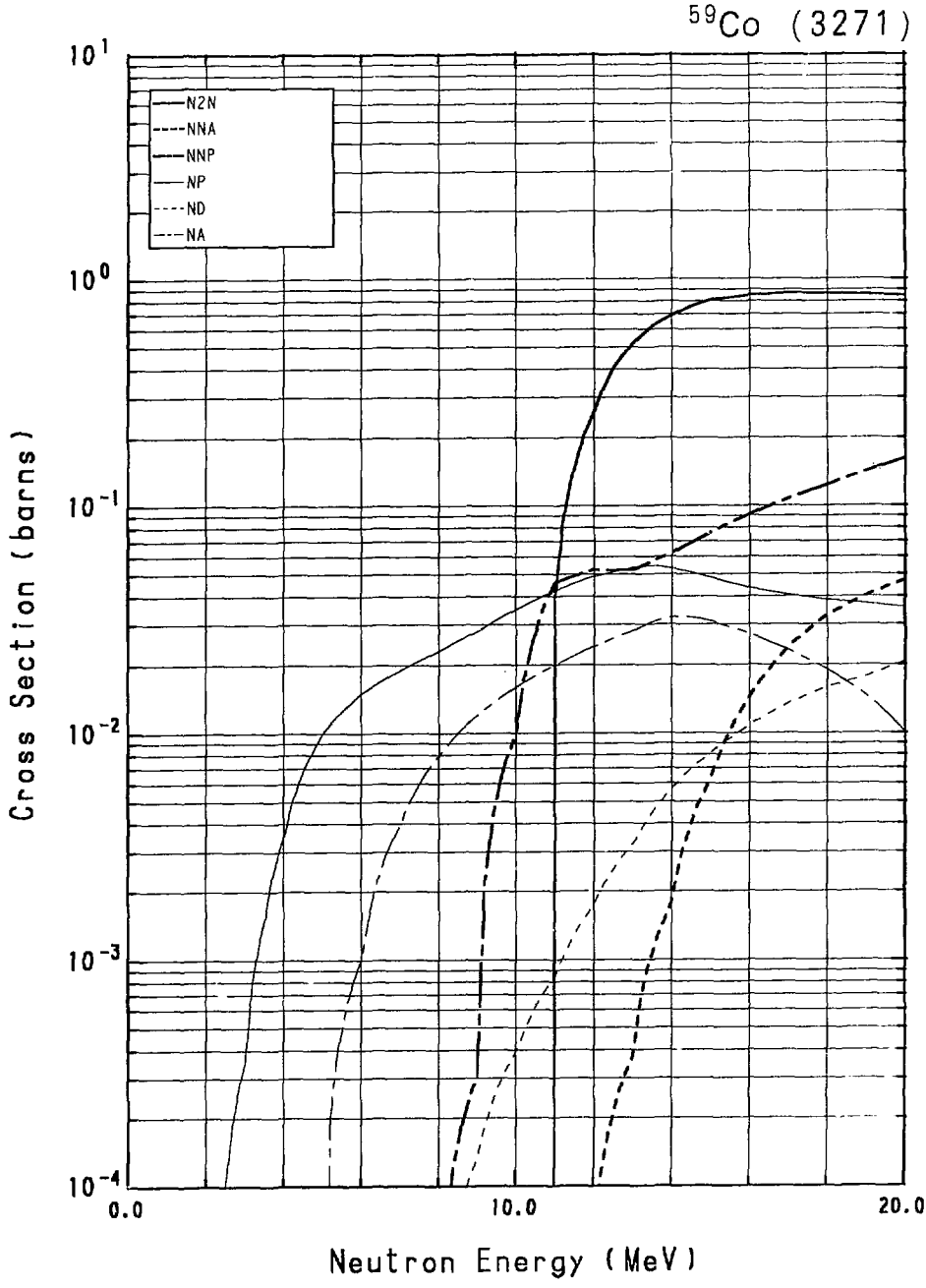

^{57}Fe (3263)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

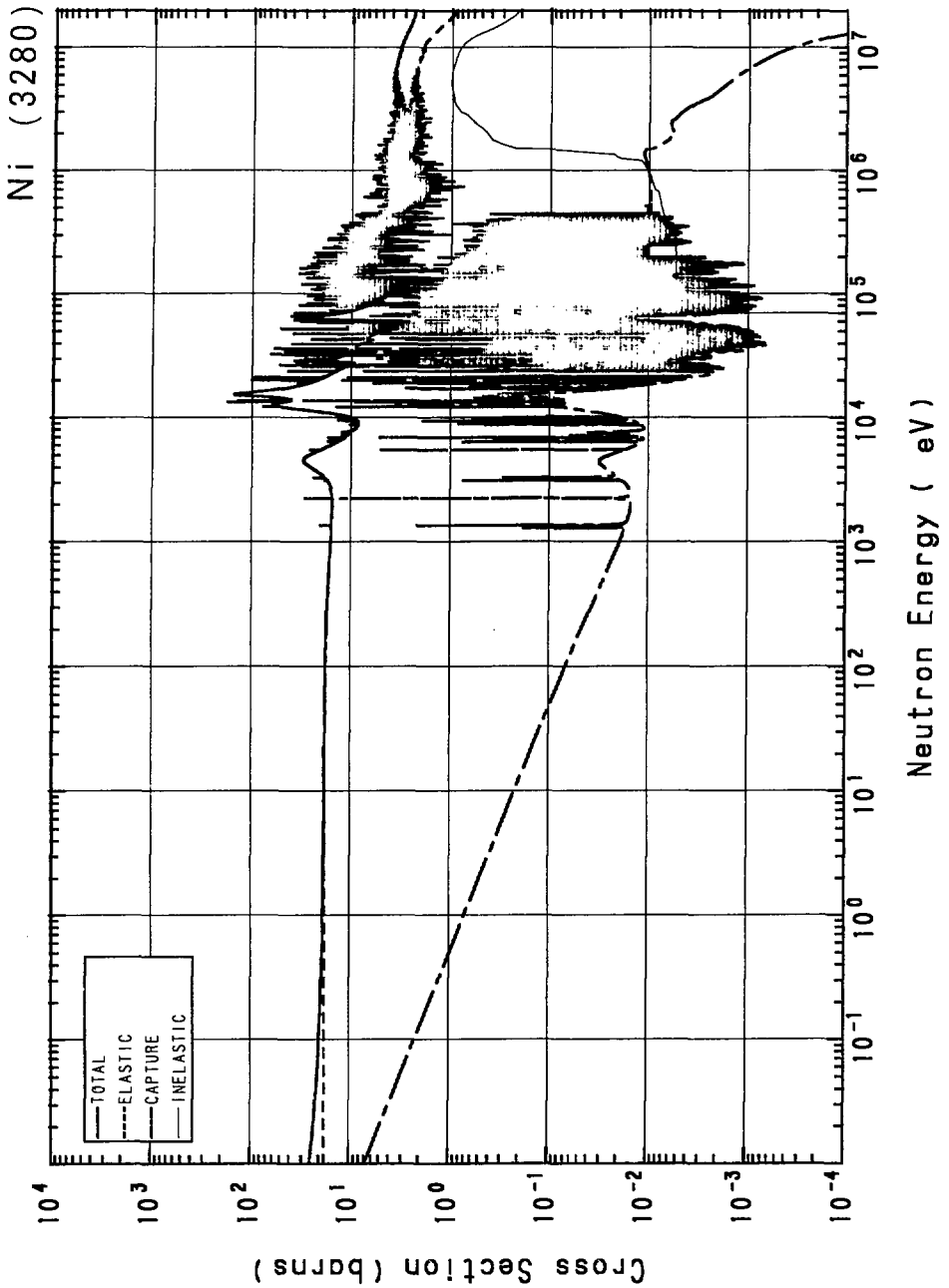

^{57}Fe (3263)
N2N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

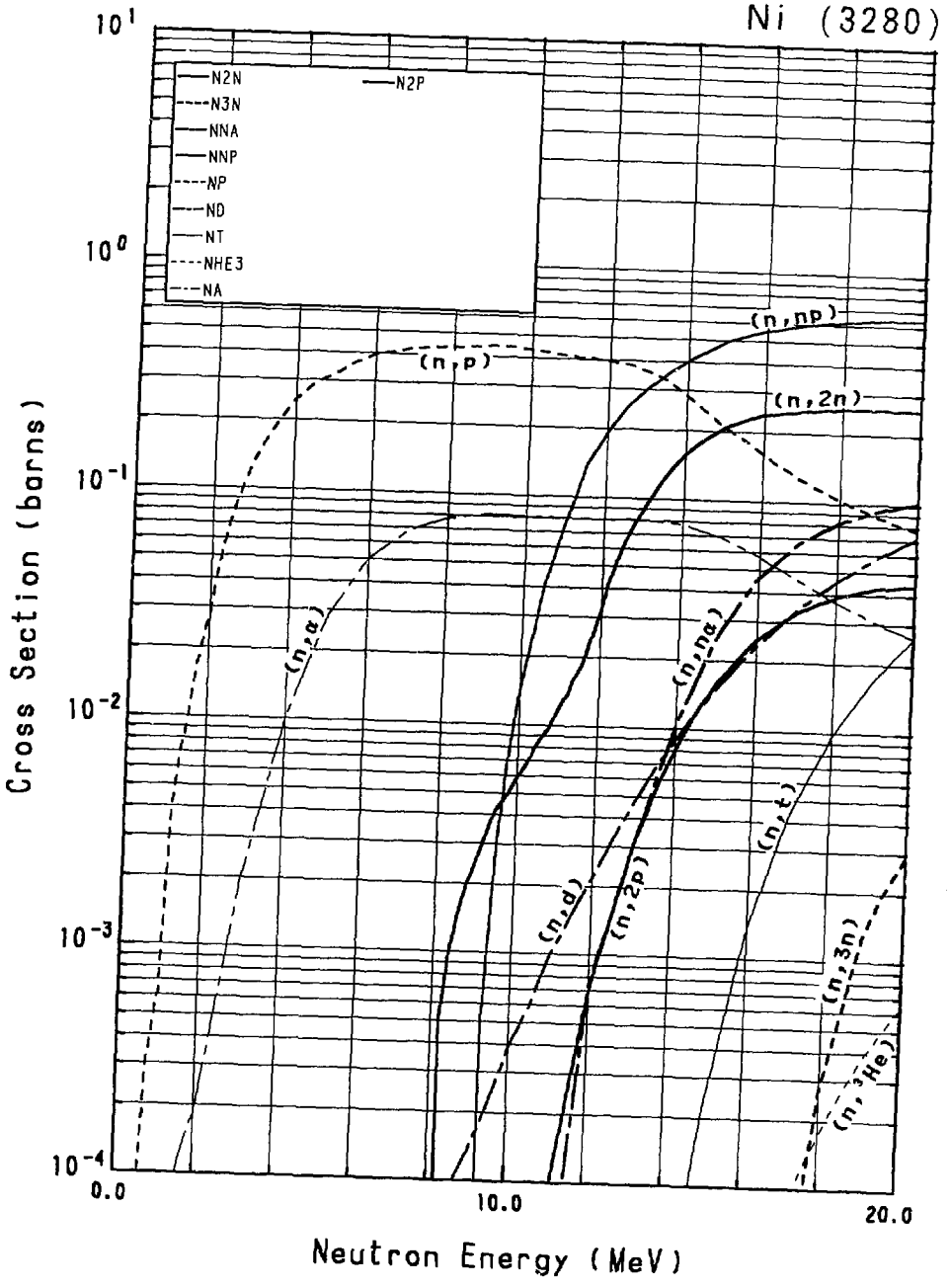

^{58}Fe (3264)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

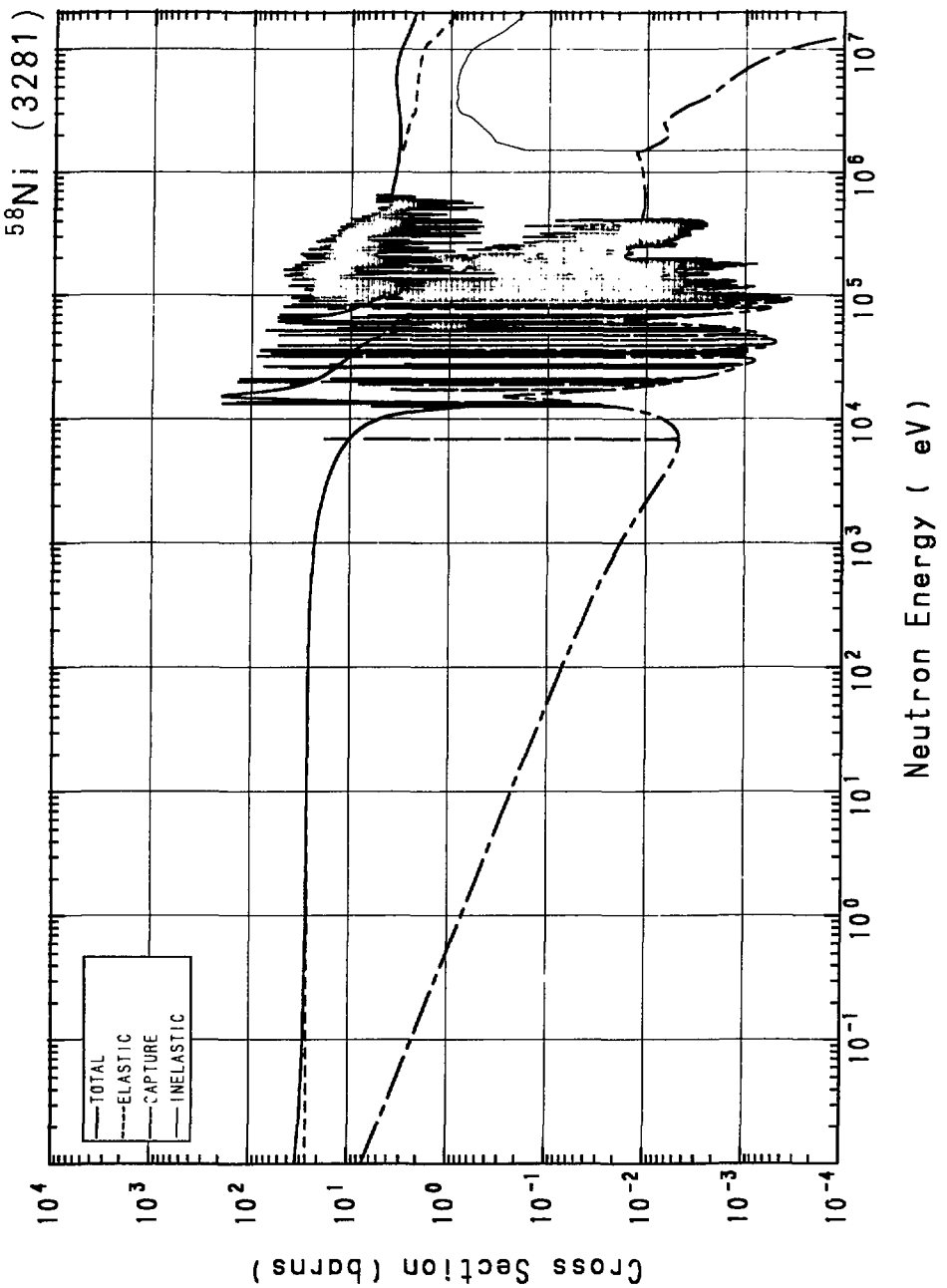

^{58}Fe (3264)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

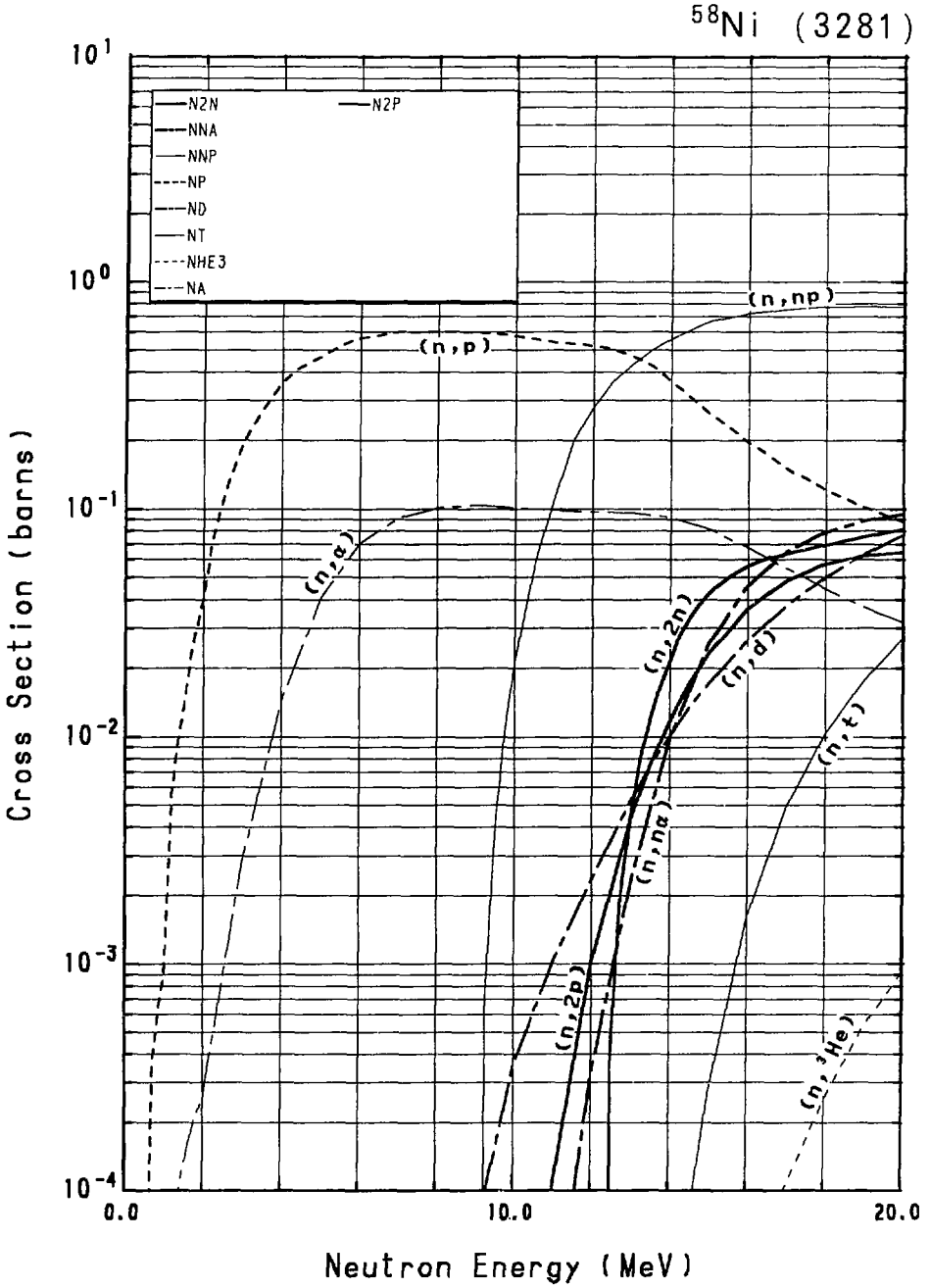

59Co (3271)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

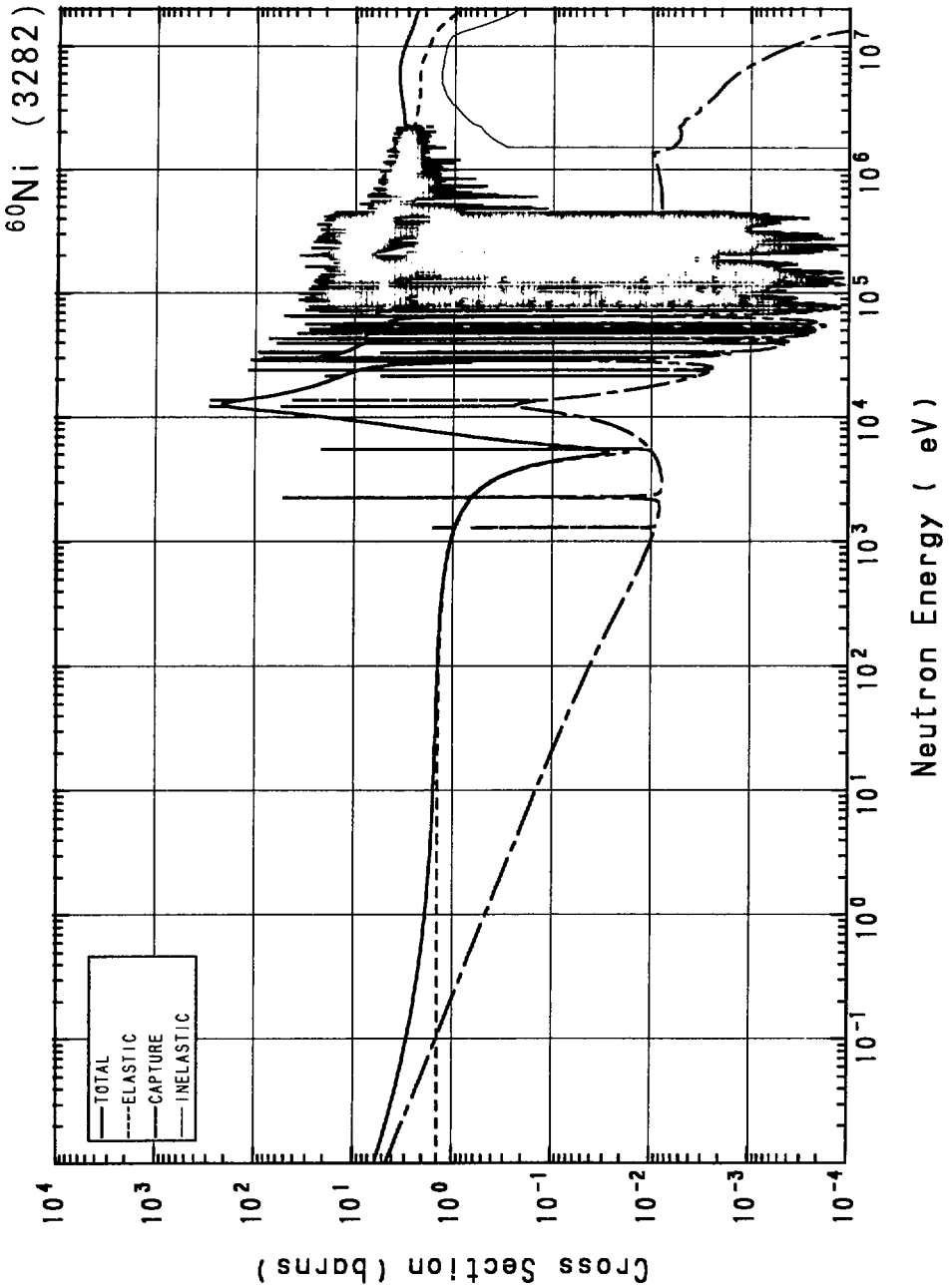

59Co (3271)
N2N
NNA
NNP
NP
ND
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

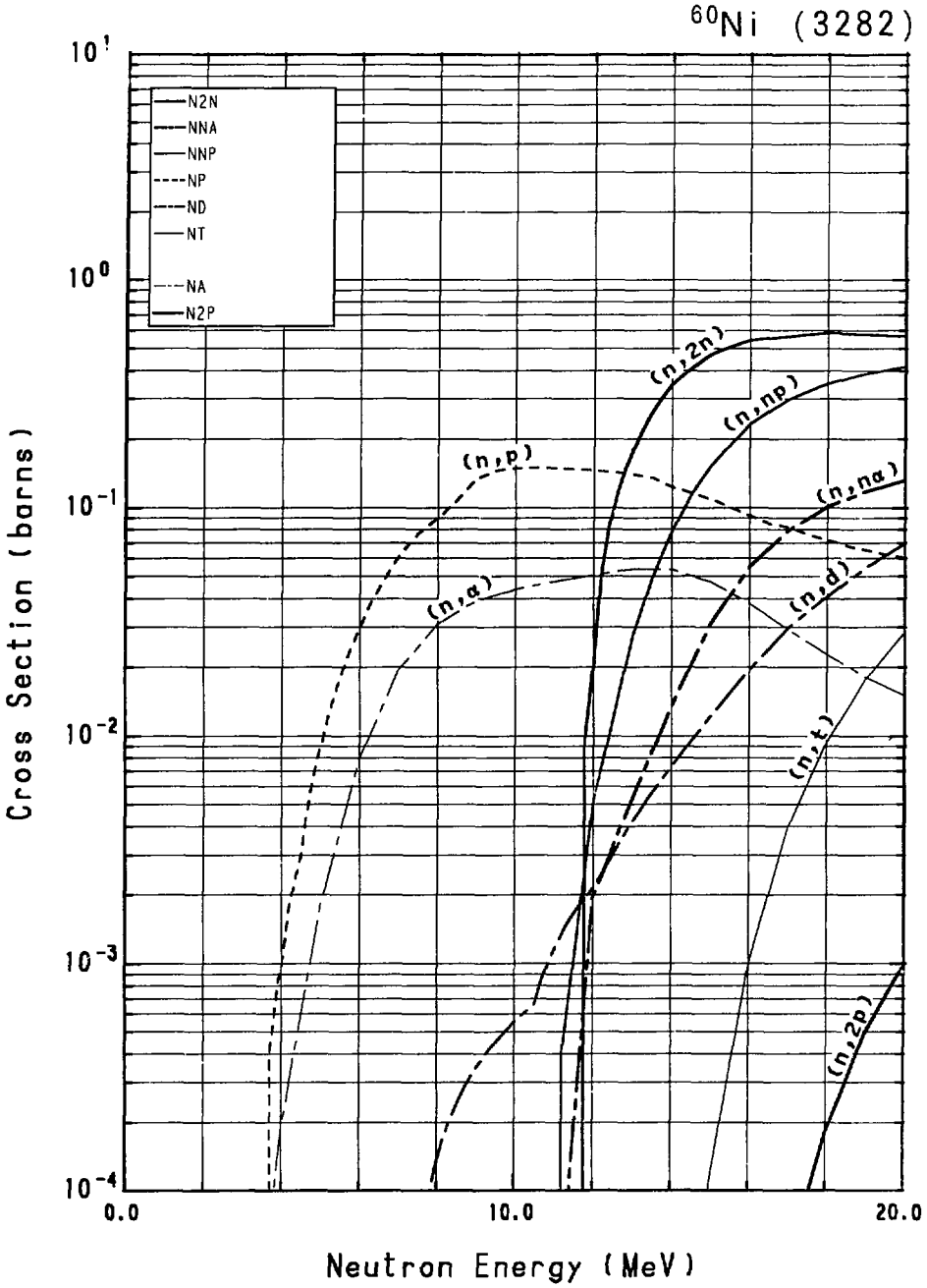

Ni (3280)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

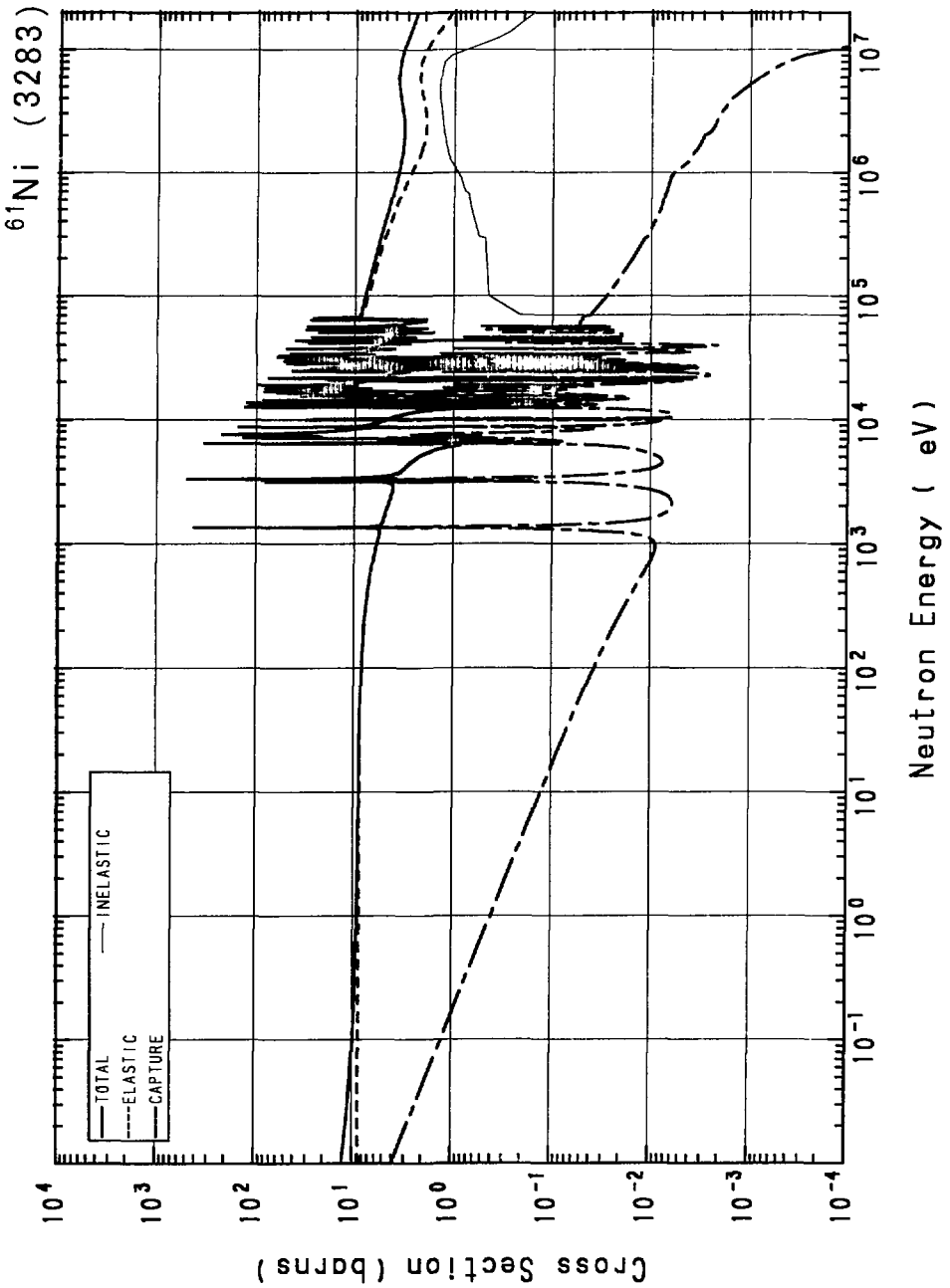

Ni (3280)
N2N
N2P
N3N
NNA
NNP
NP
ND
NT
NHE3
NA
(n,np)
(n,p)
(n,2n)
(n,α)
(n,nα)
(n,t)
(n,d)
(n,2p)
(n,3n)
(n,³He)
Cross Section (barns)
Neutron Energy (MeV)
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
0.0
10.0
20.0

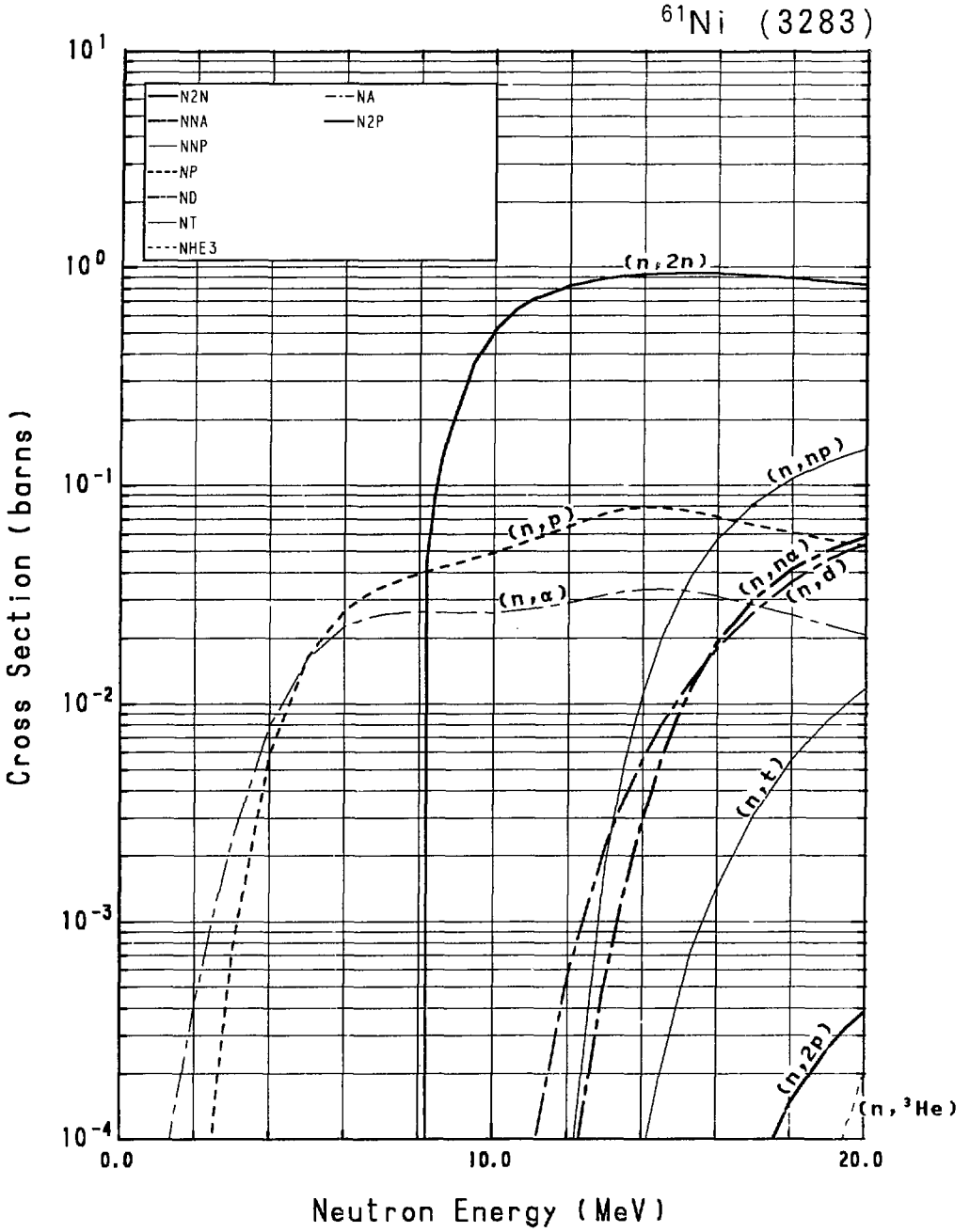

58Ni (3281)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

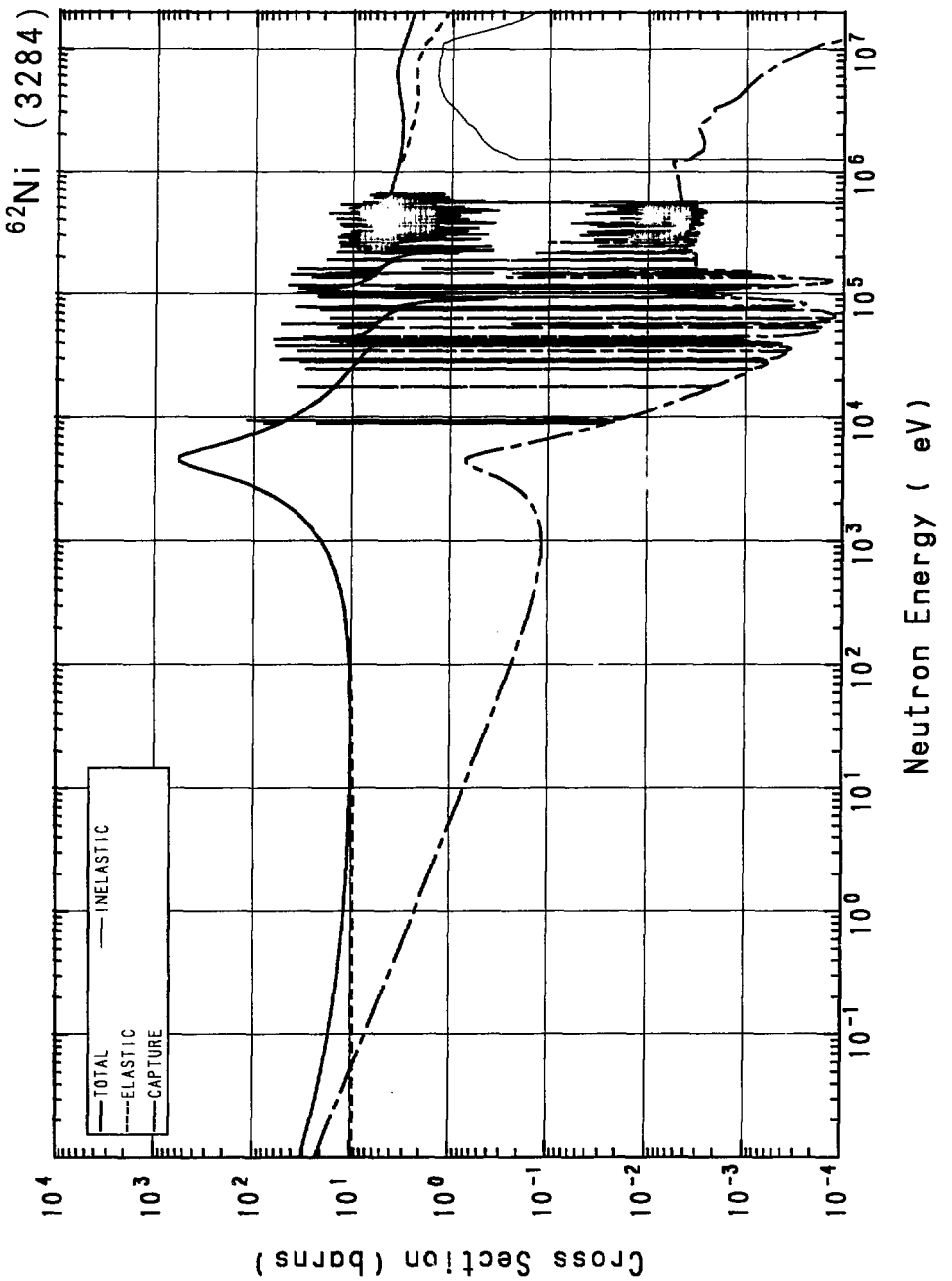

58Ni (3281)
N2N
N2P
NNA
NNP
NP
ND
NT
NHE3
NA
(n,np)
(n,p)
(n,α)
(n,2n)
(n,d)
(n,t)
(n,nα)
(n,2p)
(n,3He)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0
Cross Section (barns)
Neutron Energy (MeV)

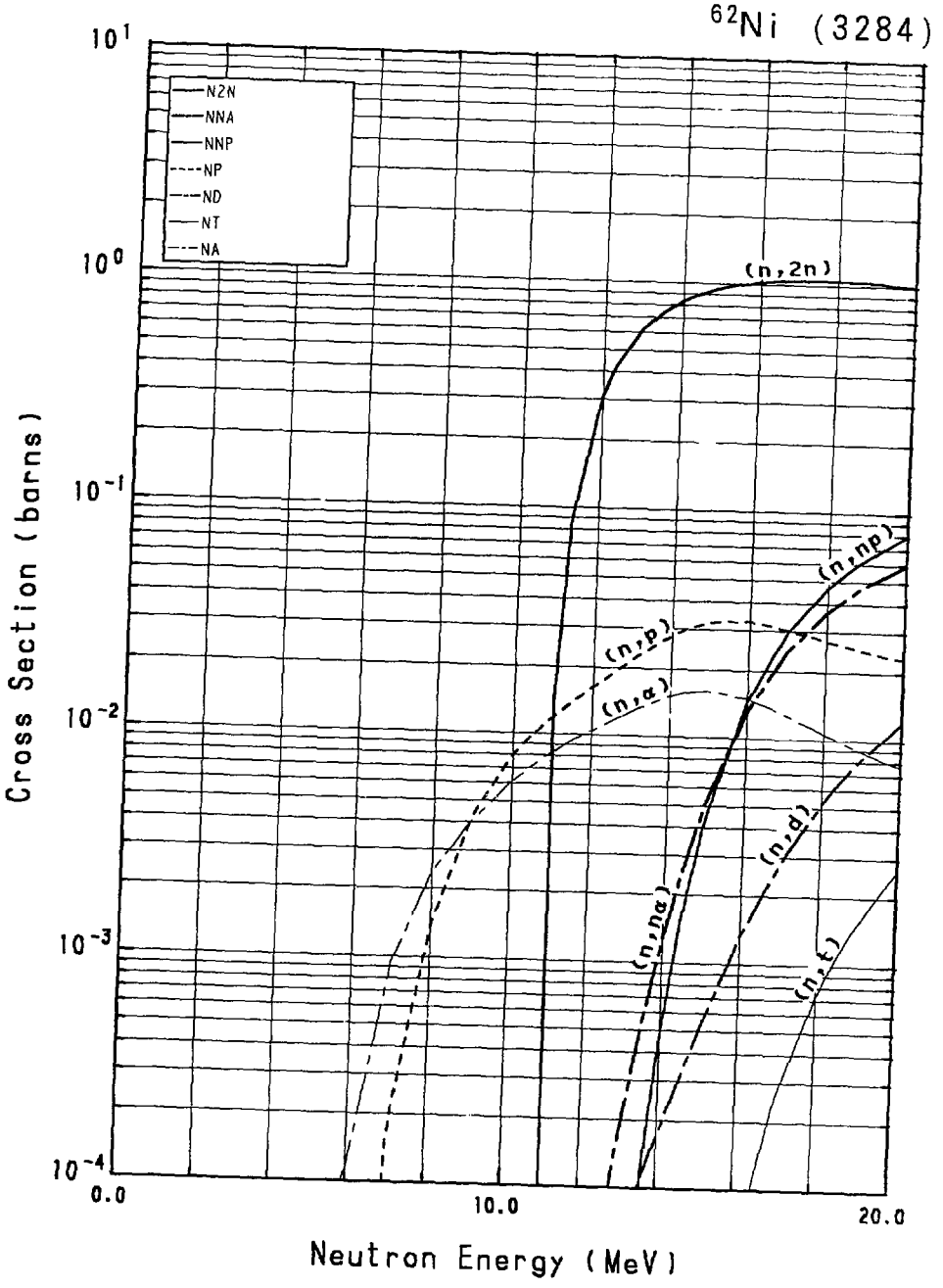

^{60}Ni (3282)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

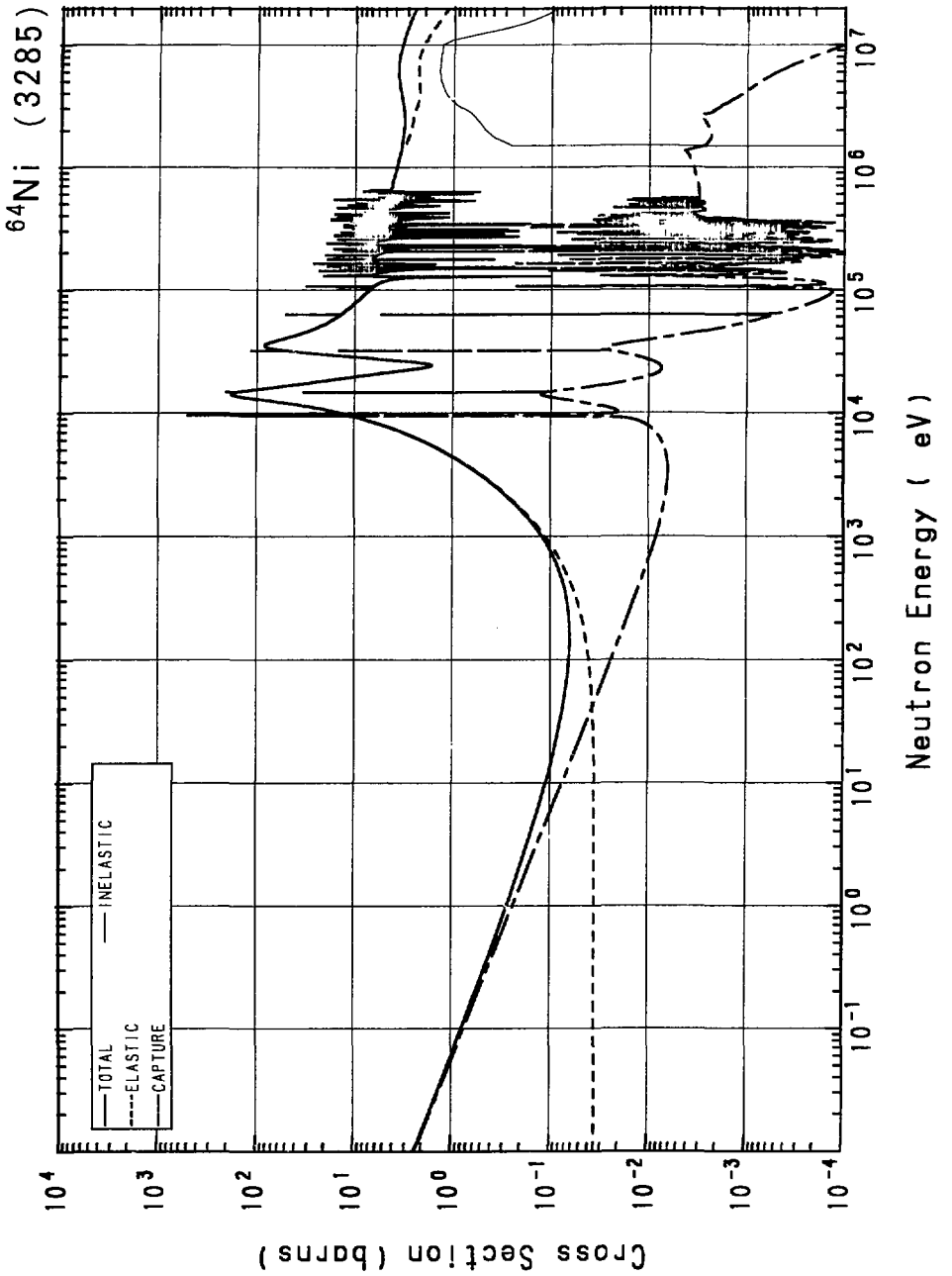

60Ni (3282)
N2N
NNA
NNP
NP
ND
NT
NA
N2P
(n,2n)
(n,np)
(n,p)
(n,nα)
(n,α)
(n,d)
(n,t)
(n,2p)
Cross Section (barns)
Neutron Energy (MeV)
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
0.0
10.0
20.0

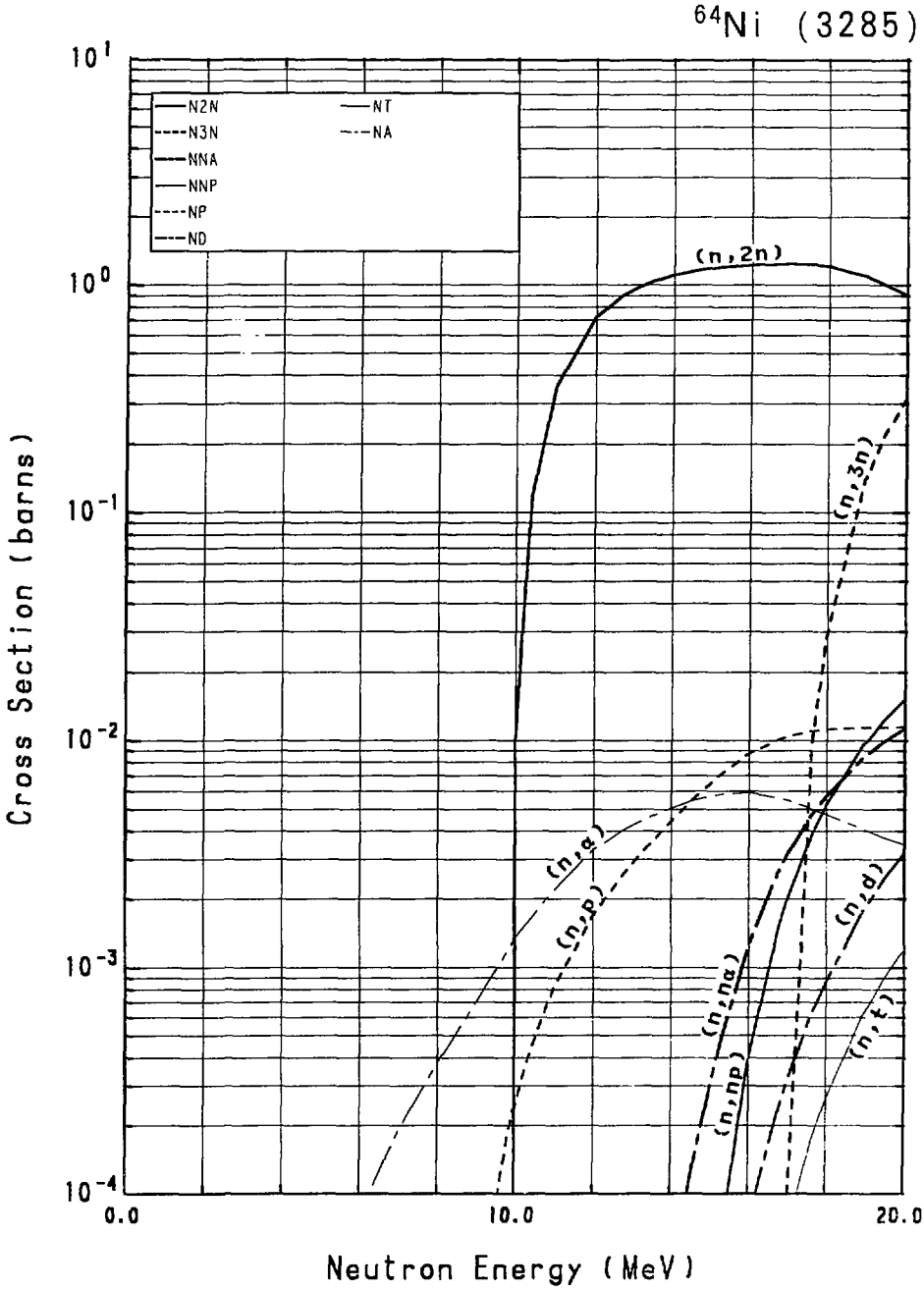

61Ni (3283)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

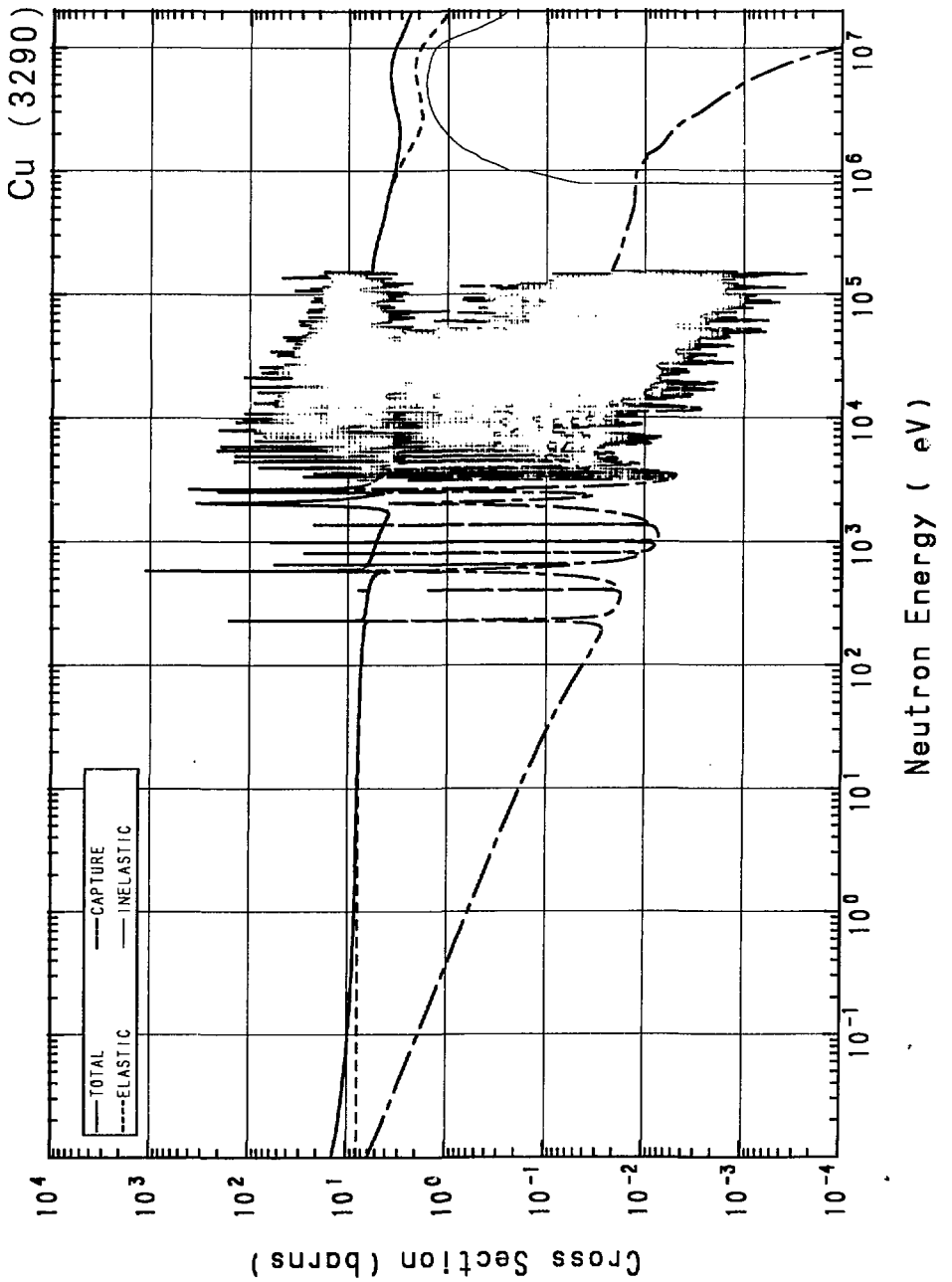

61Ni (3283)
N2N
NNA
NNP
NP
ND
NT
NHE3
NA
N2P
(n,2n)
(n,np)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,2p)
(n,³He)
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
0.0
10.0
20.0
Cross Section (barns)
Neutron Energy (MeV)

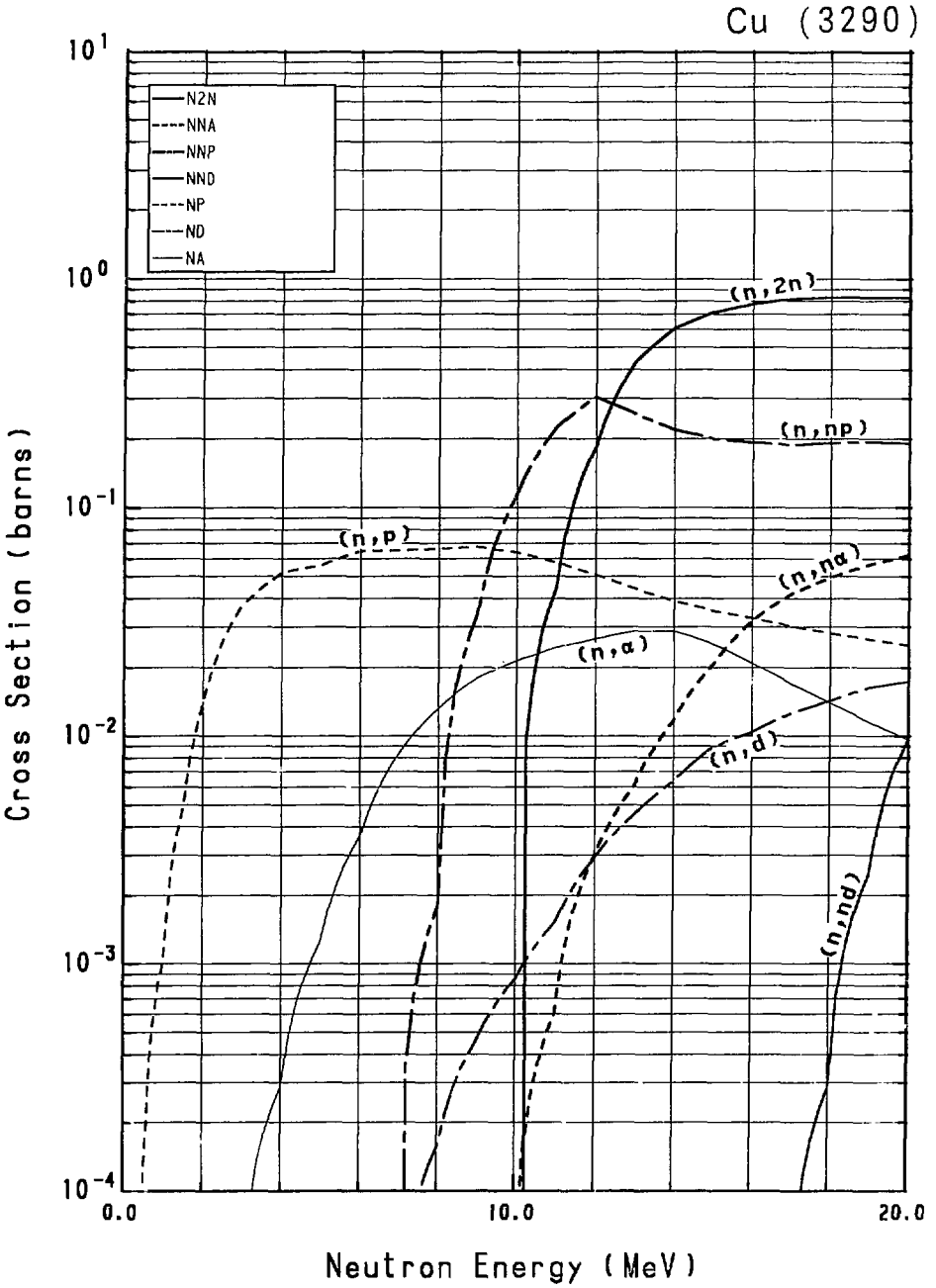

62Ni (3284)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

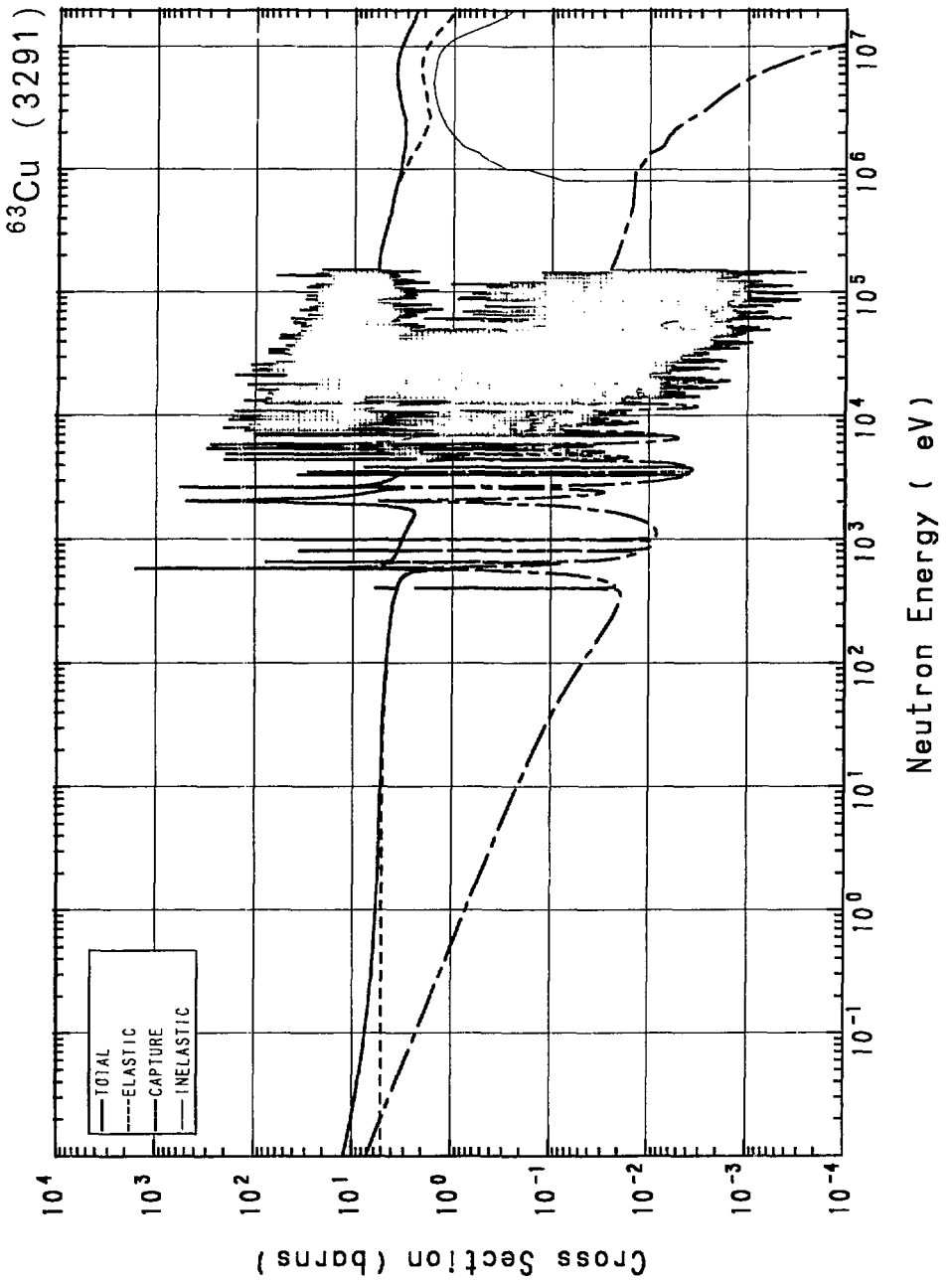

^{62}Ni (3284)
N2N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

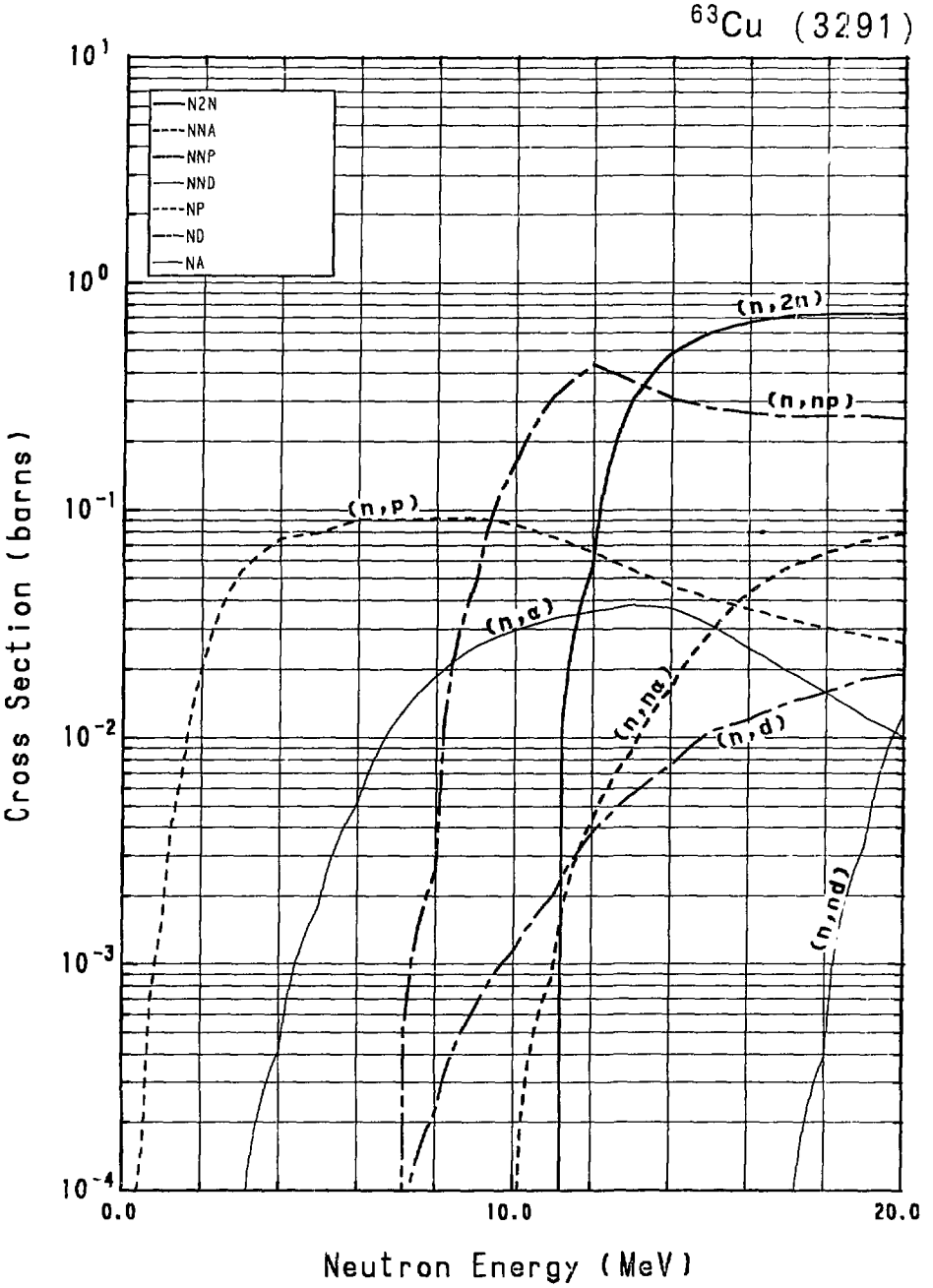

^{64}Ni (3285)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

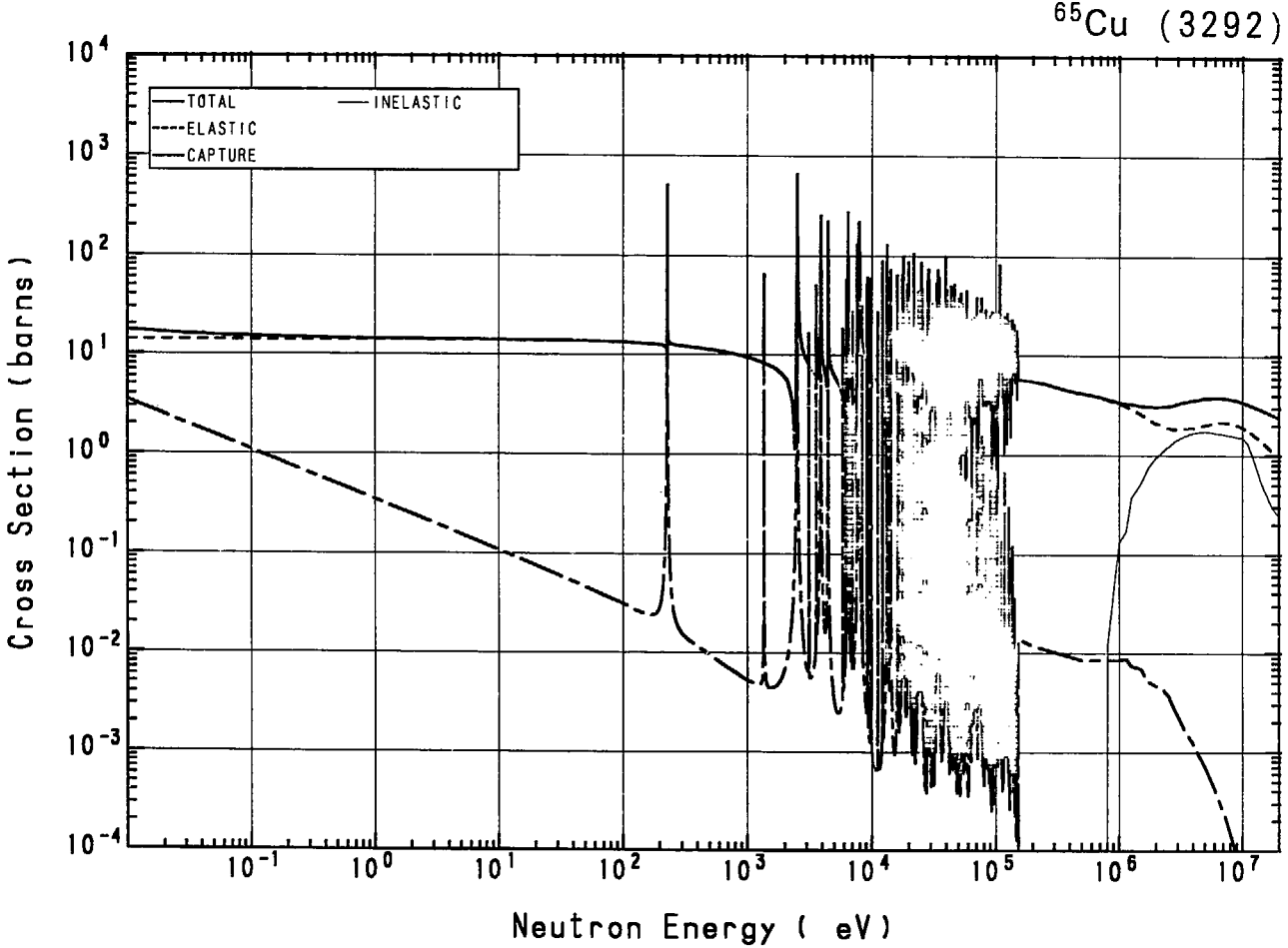

^{64}Ni (3285)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,α)
(n,p)
(n,nα)
(n,np)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

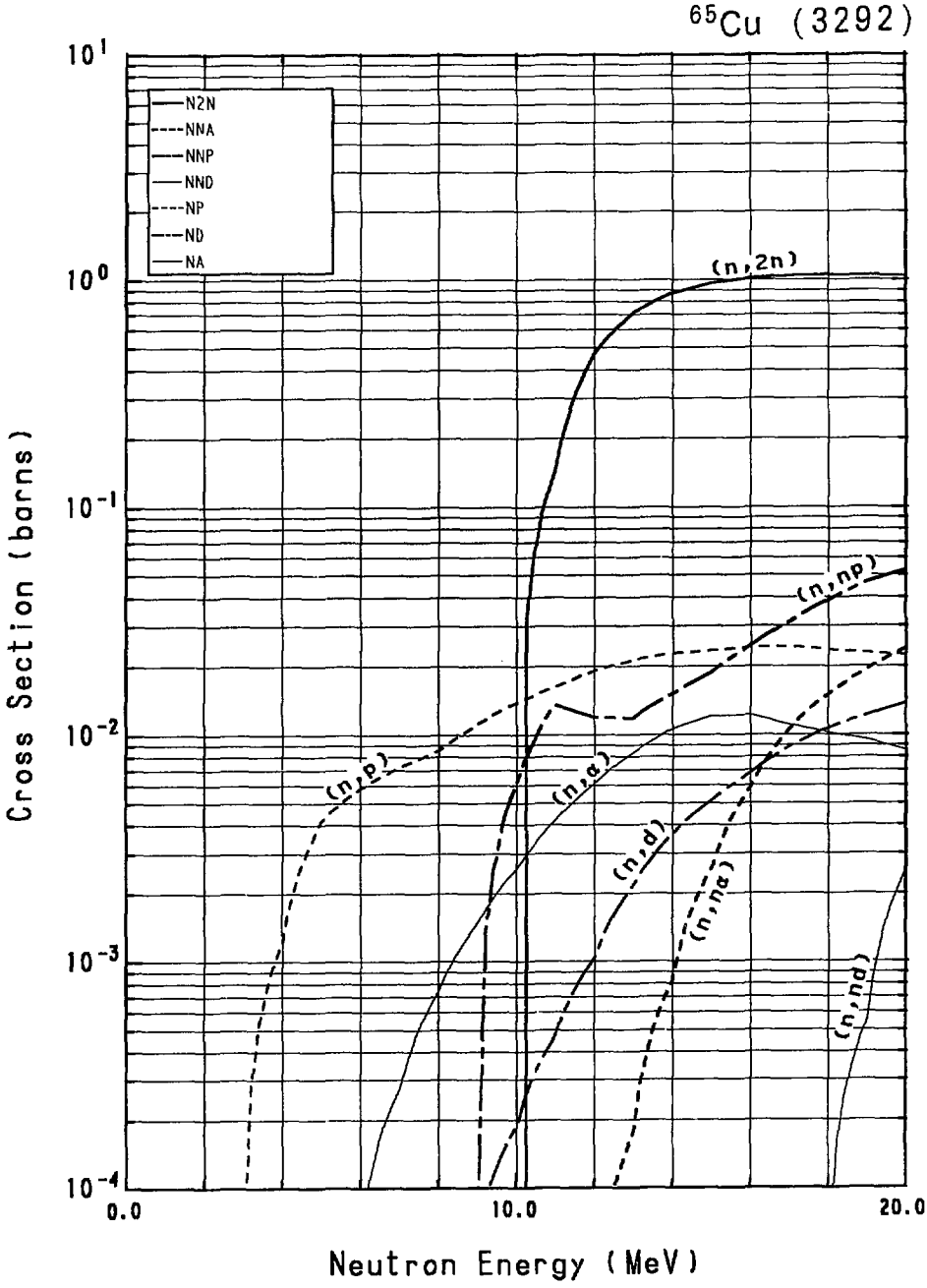

Cu (3290)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

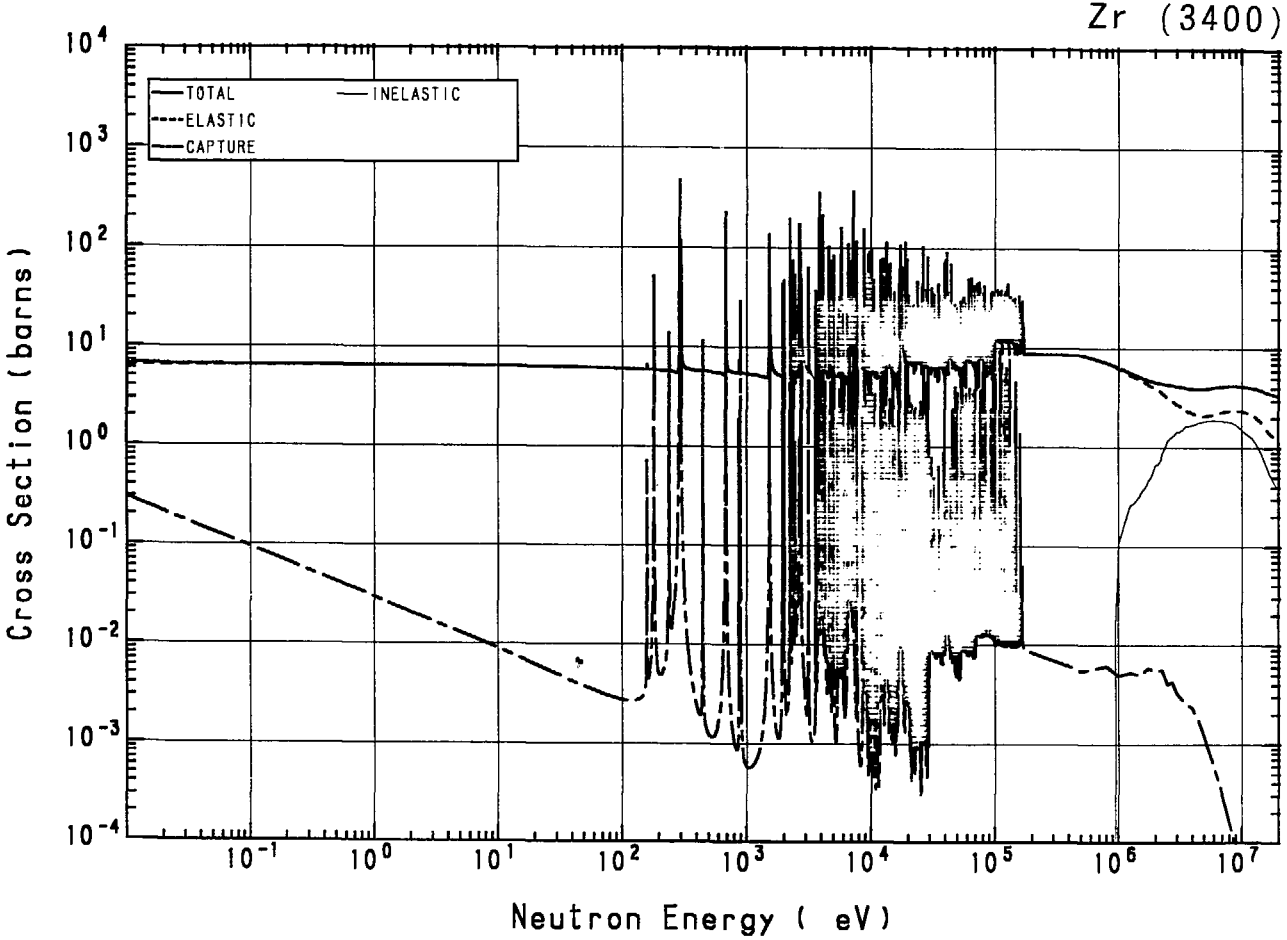

Cu (3290)
N2N
NNA
NNP
NND
NP
ND
NA
(n,2n)
(n,np)
(n,p)
(n,nα)
(n,α)
(n,d)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

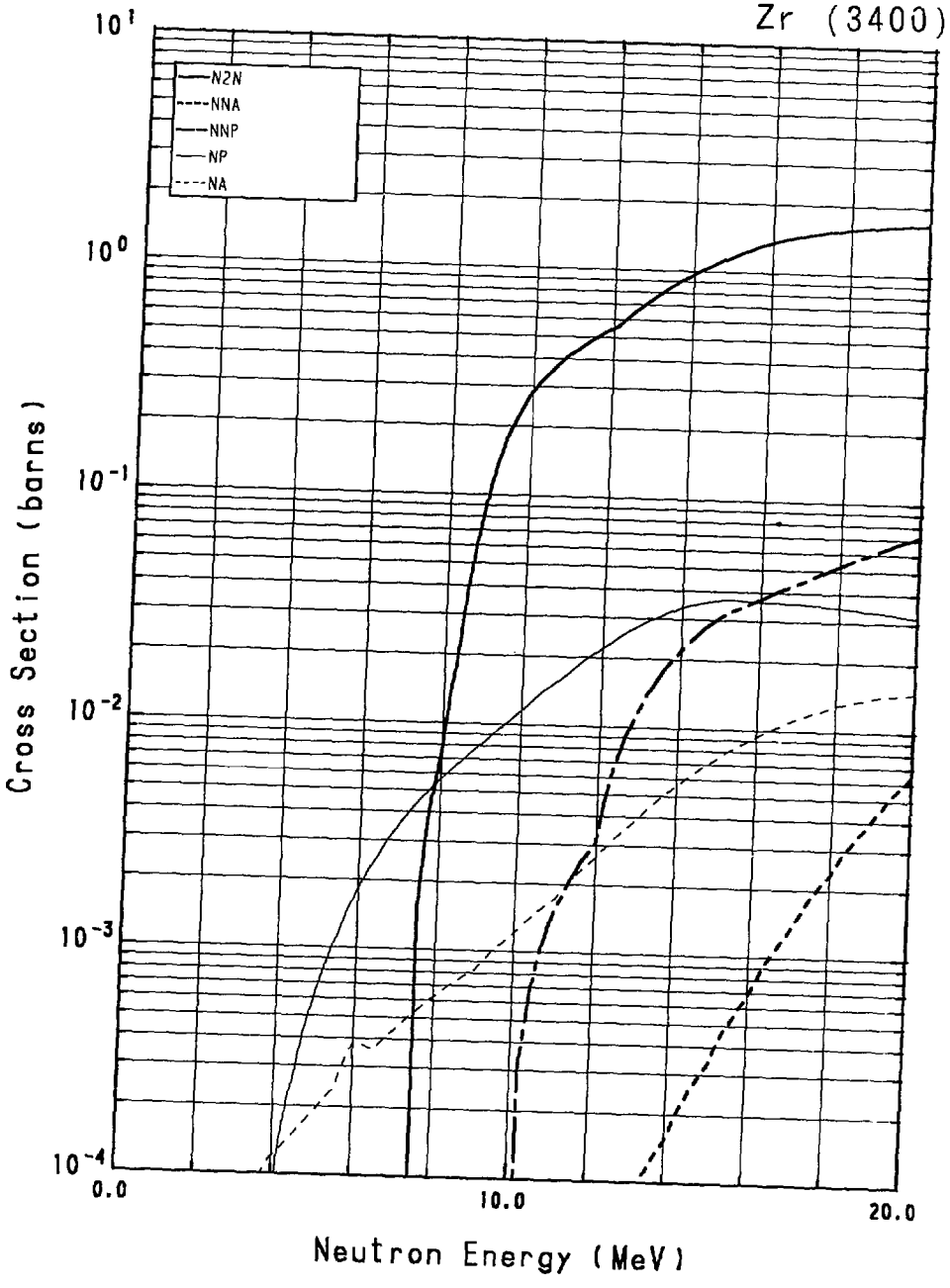

63Cu (3291)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

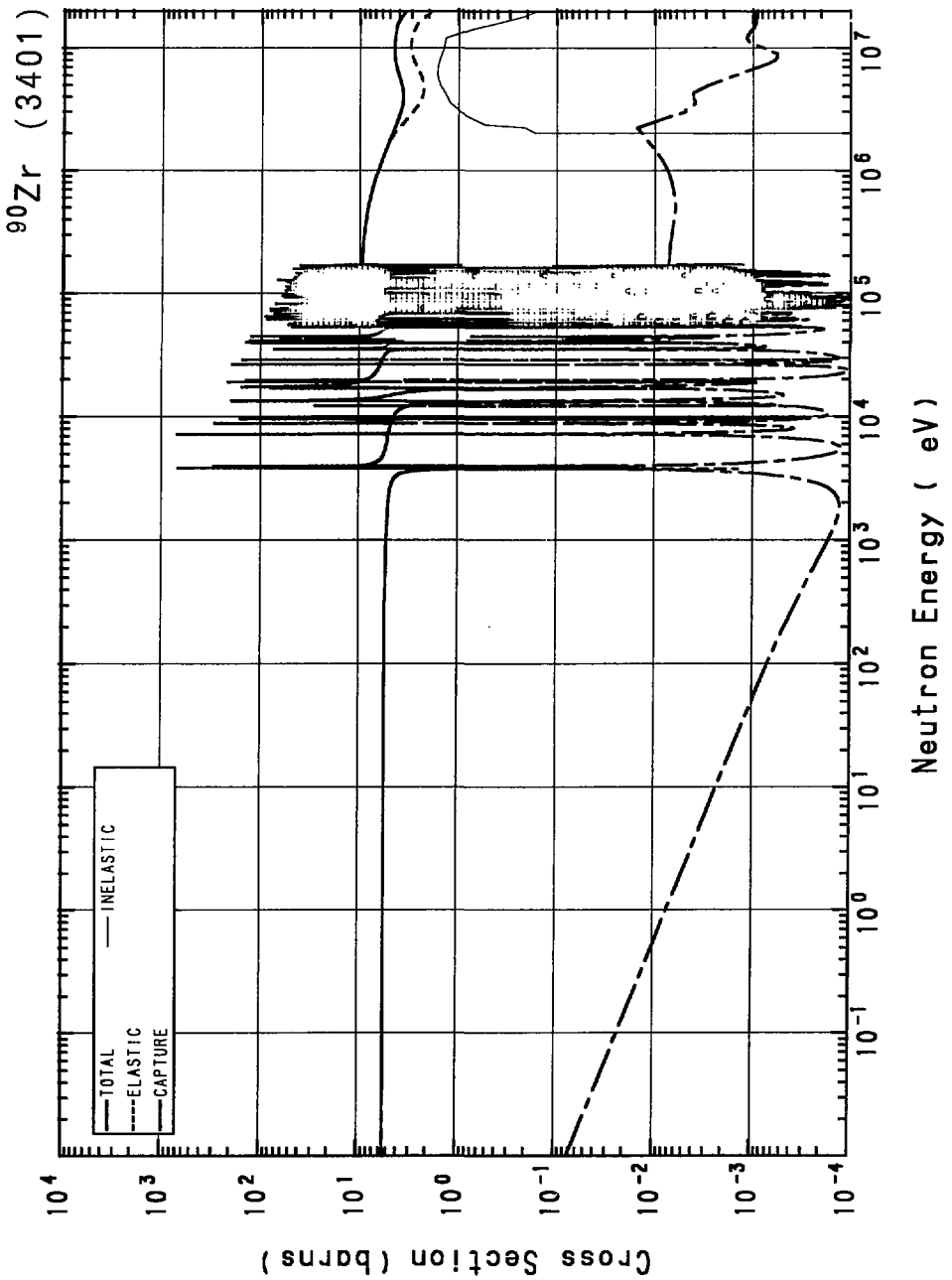

63Cu (3291)
N2N
NNA
NNP
NND
NP
ND
NA
(n,2n)
(n,np)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

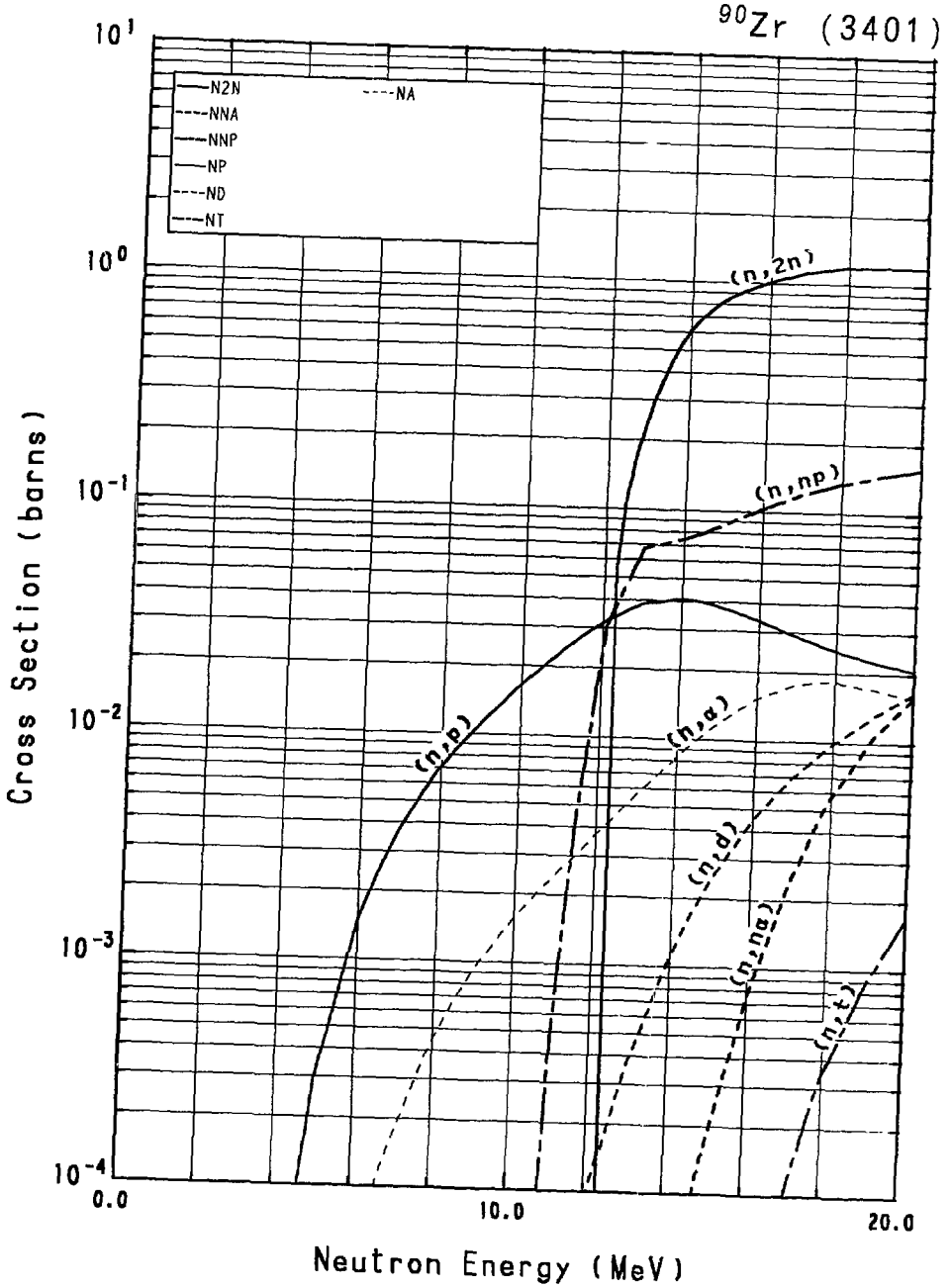

^{65}Cu (3292)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

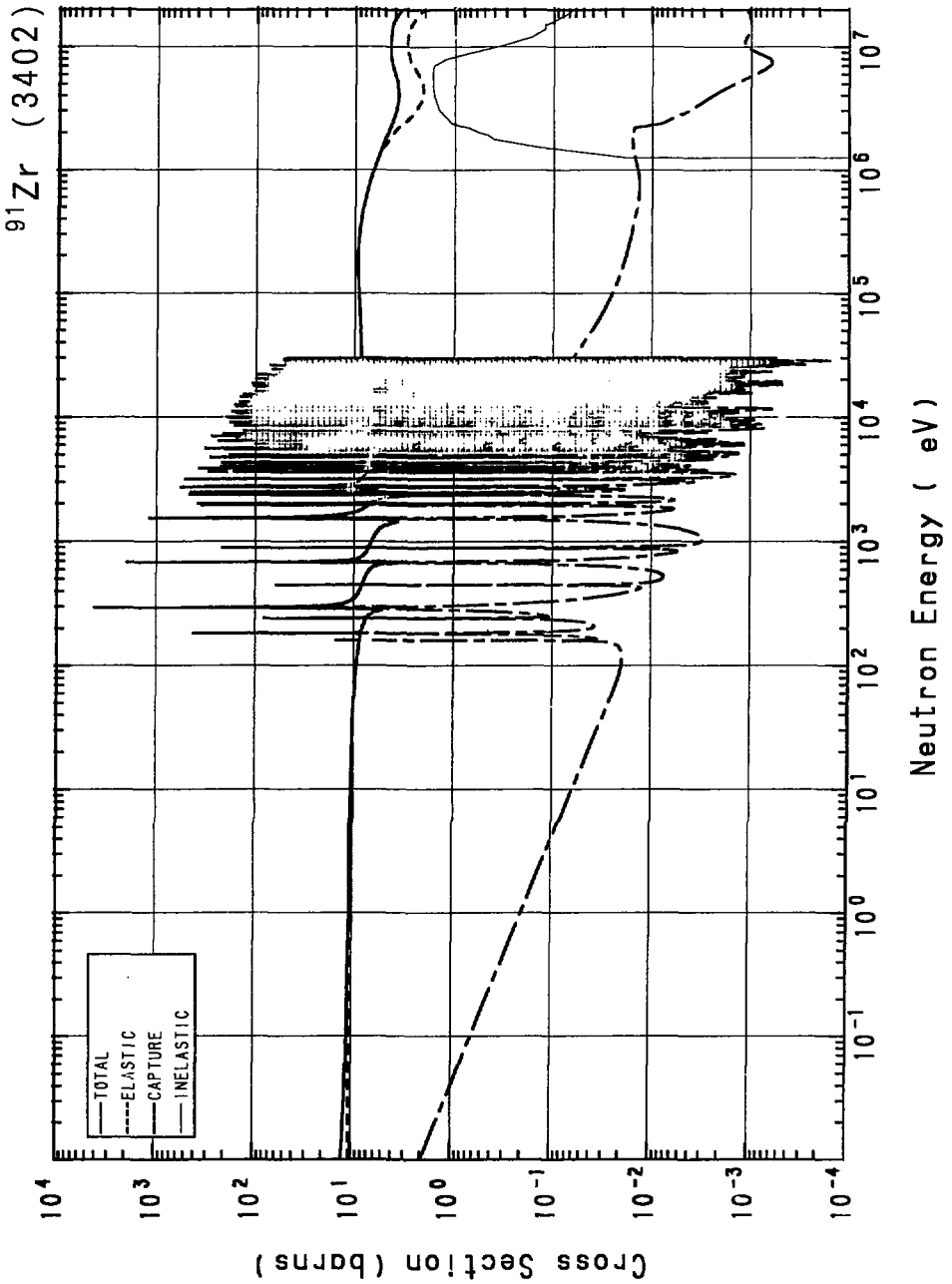

^{65}Cu (3292)
N2N
NNA
NNP
NND
NP
ND
NA
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

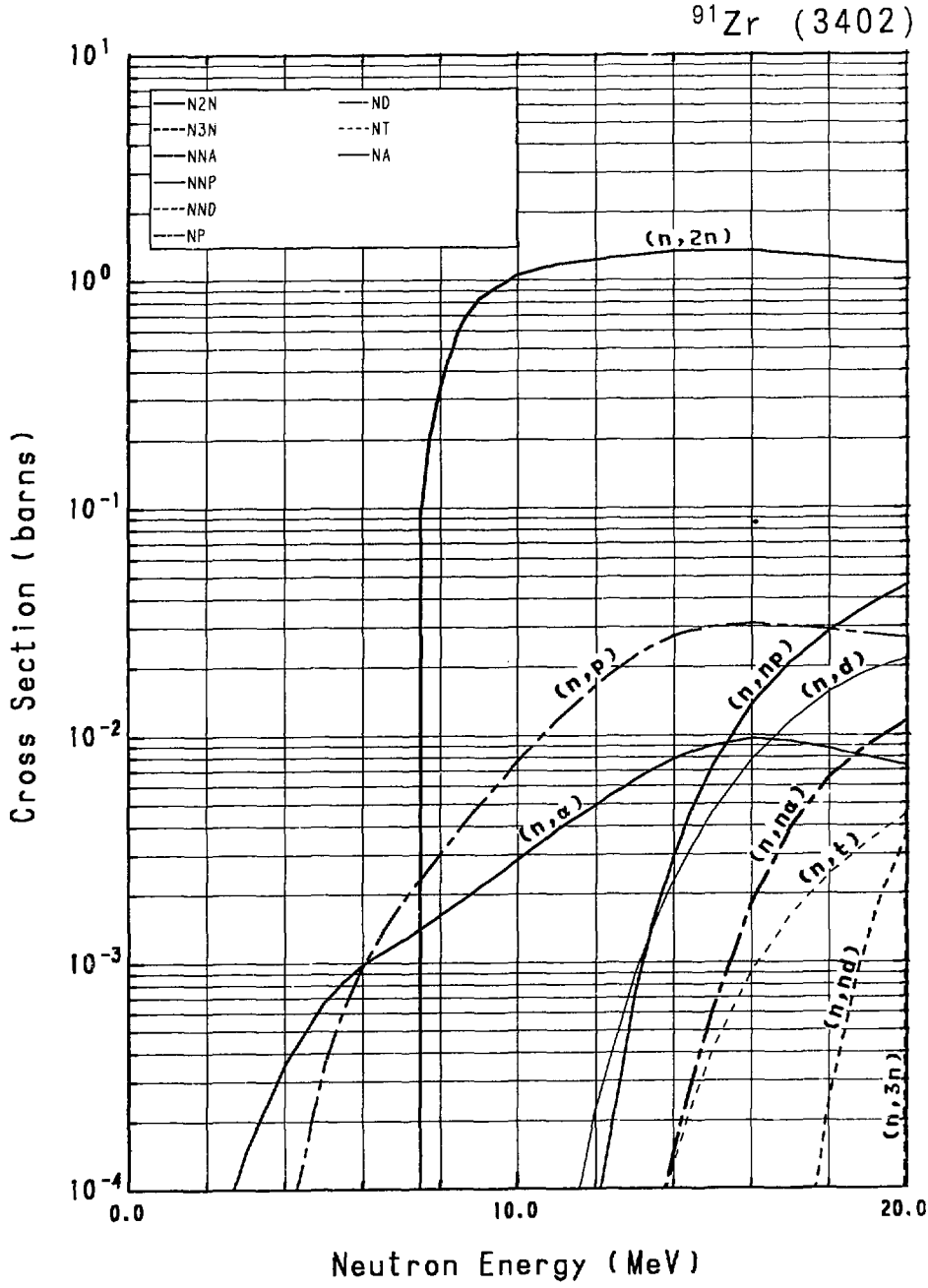

Zr (3400)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

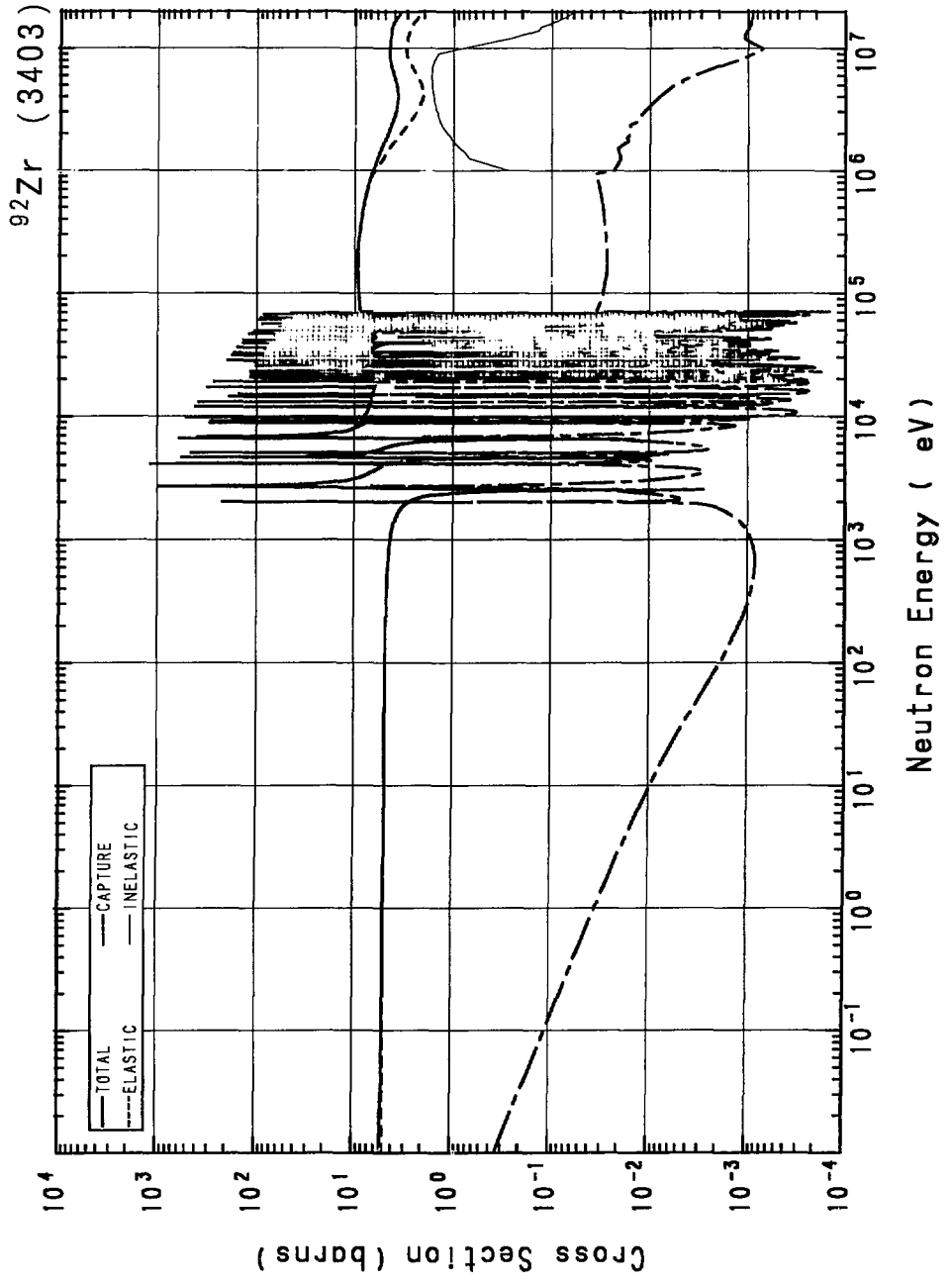

Zr (3400)
N2N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

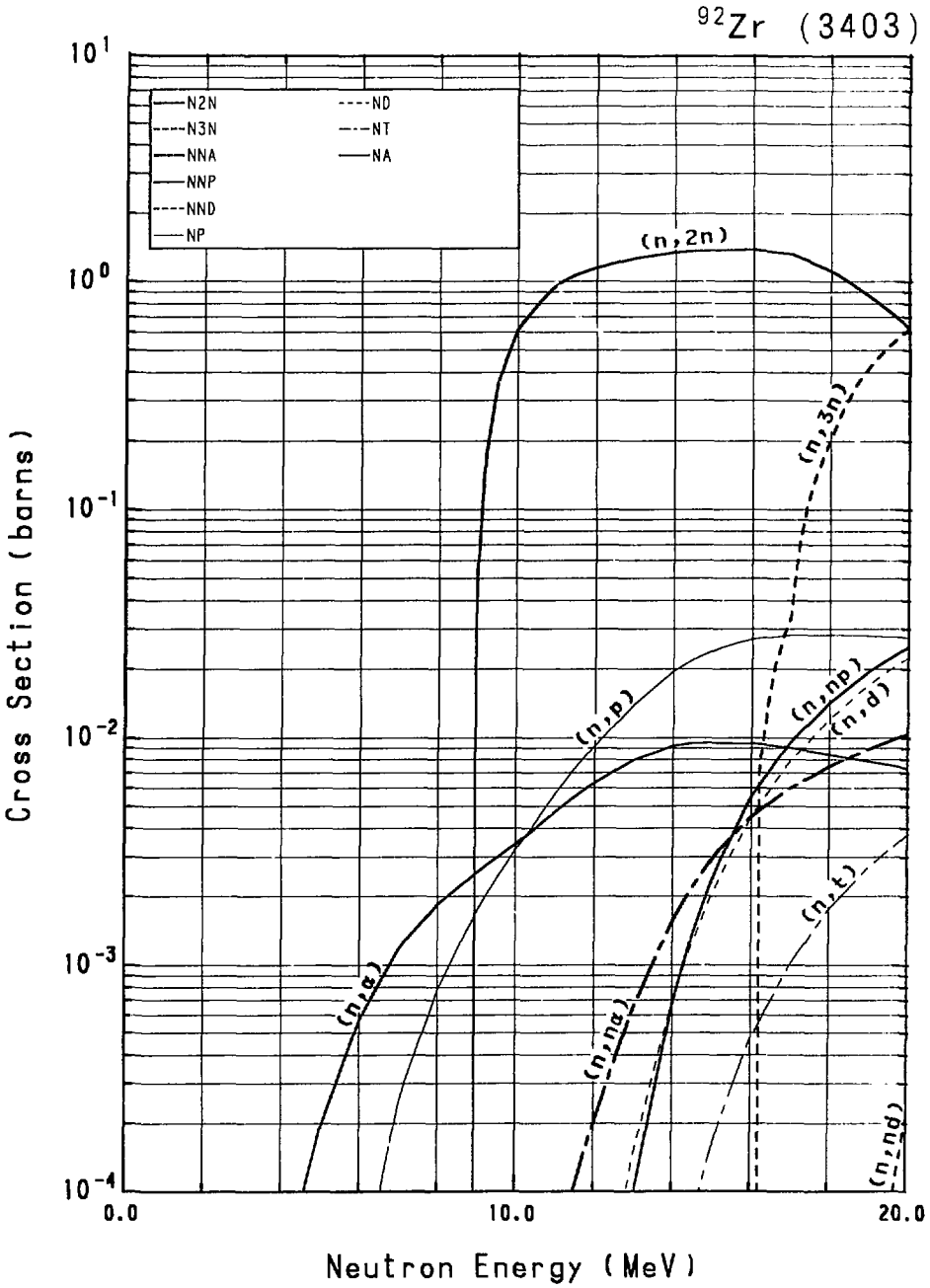

^{90}Zr (3401)
TOTAL
INELASTIC
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

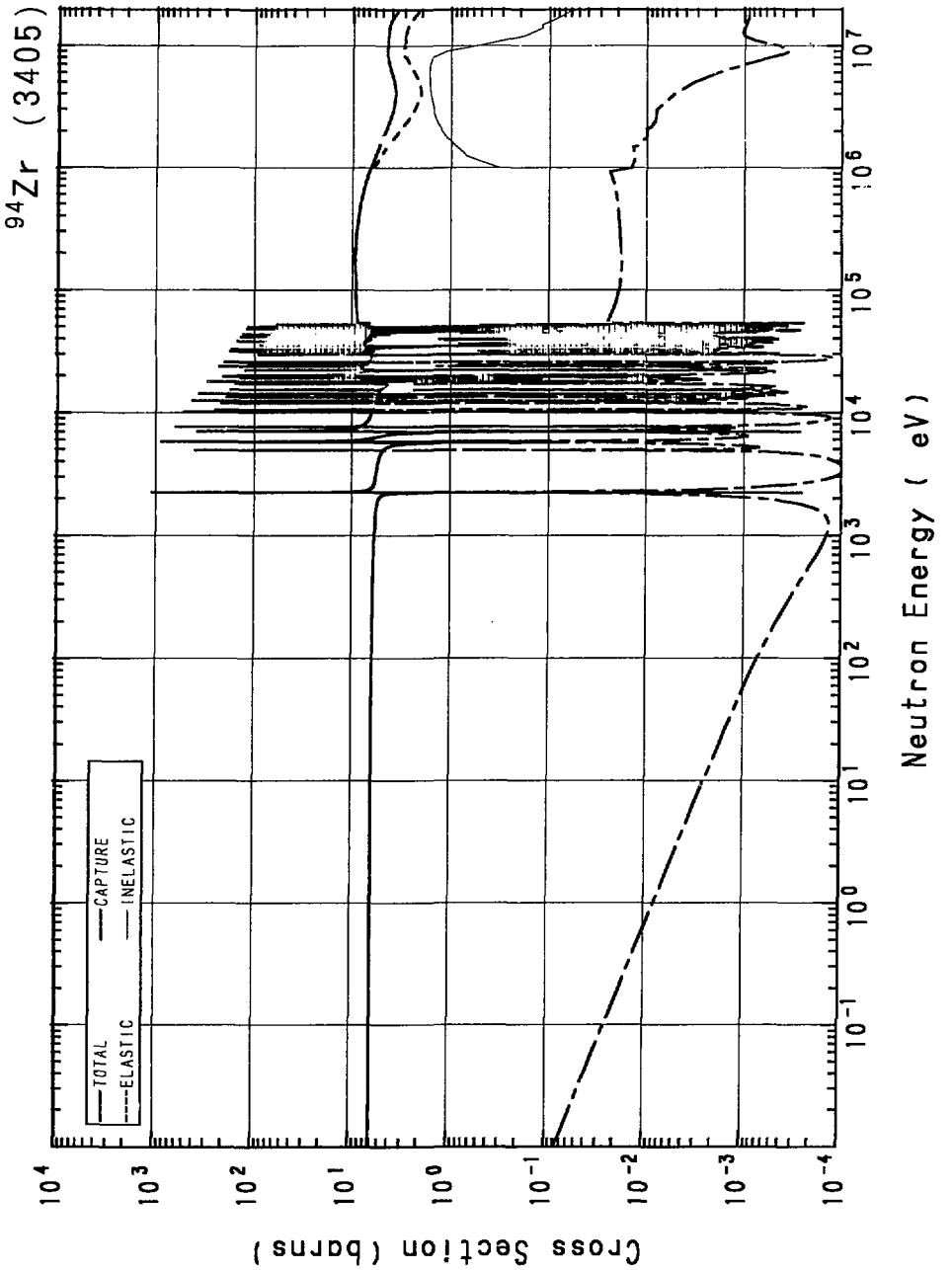

^{90}Zr (3401)
N2N
NA
NNA
NNP
NP
ND
NT
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

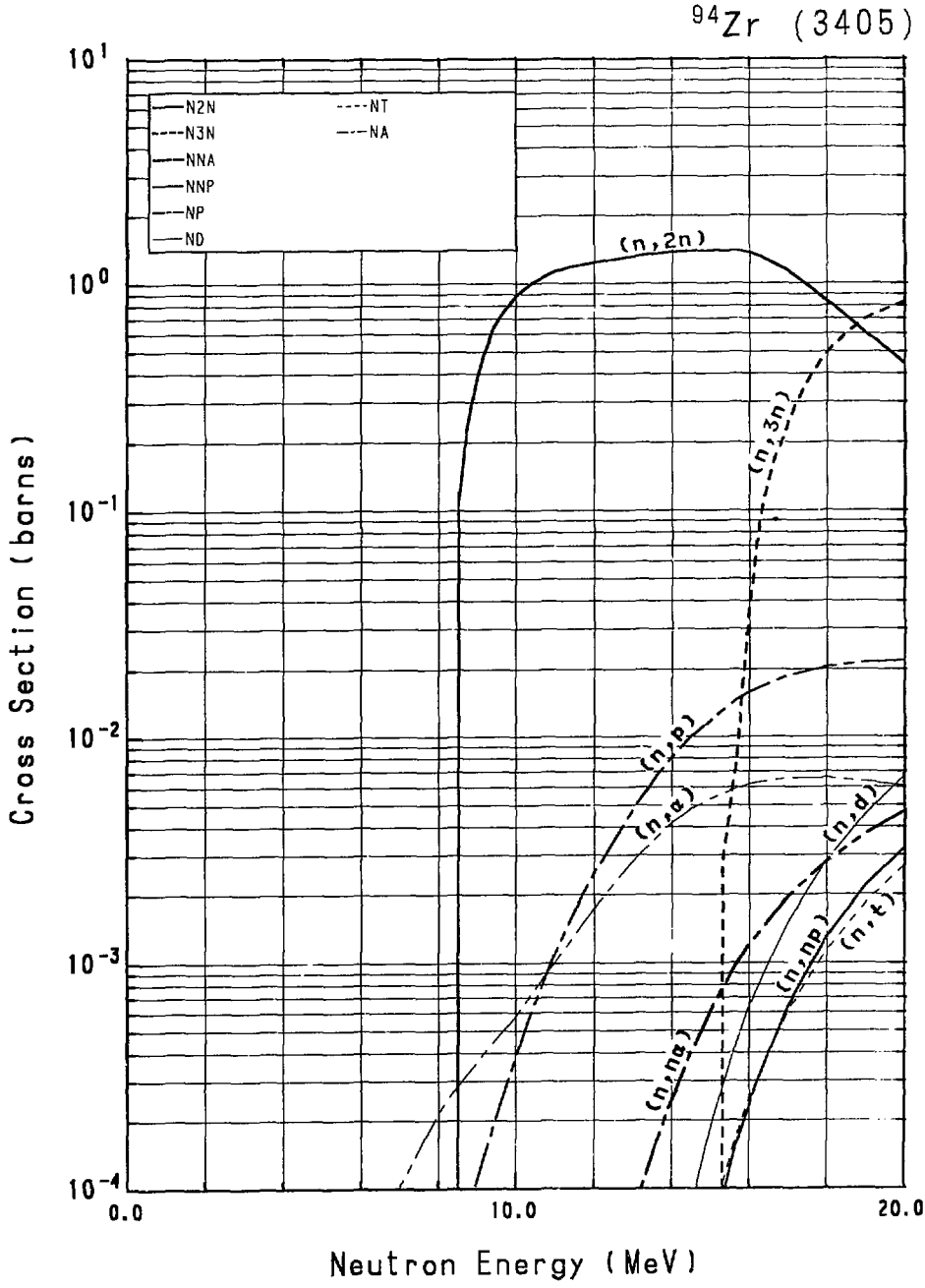

^{91}Zr (3402)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

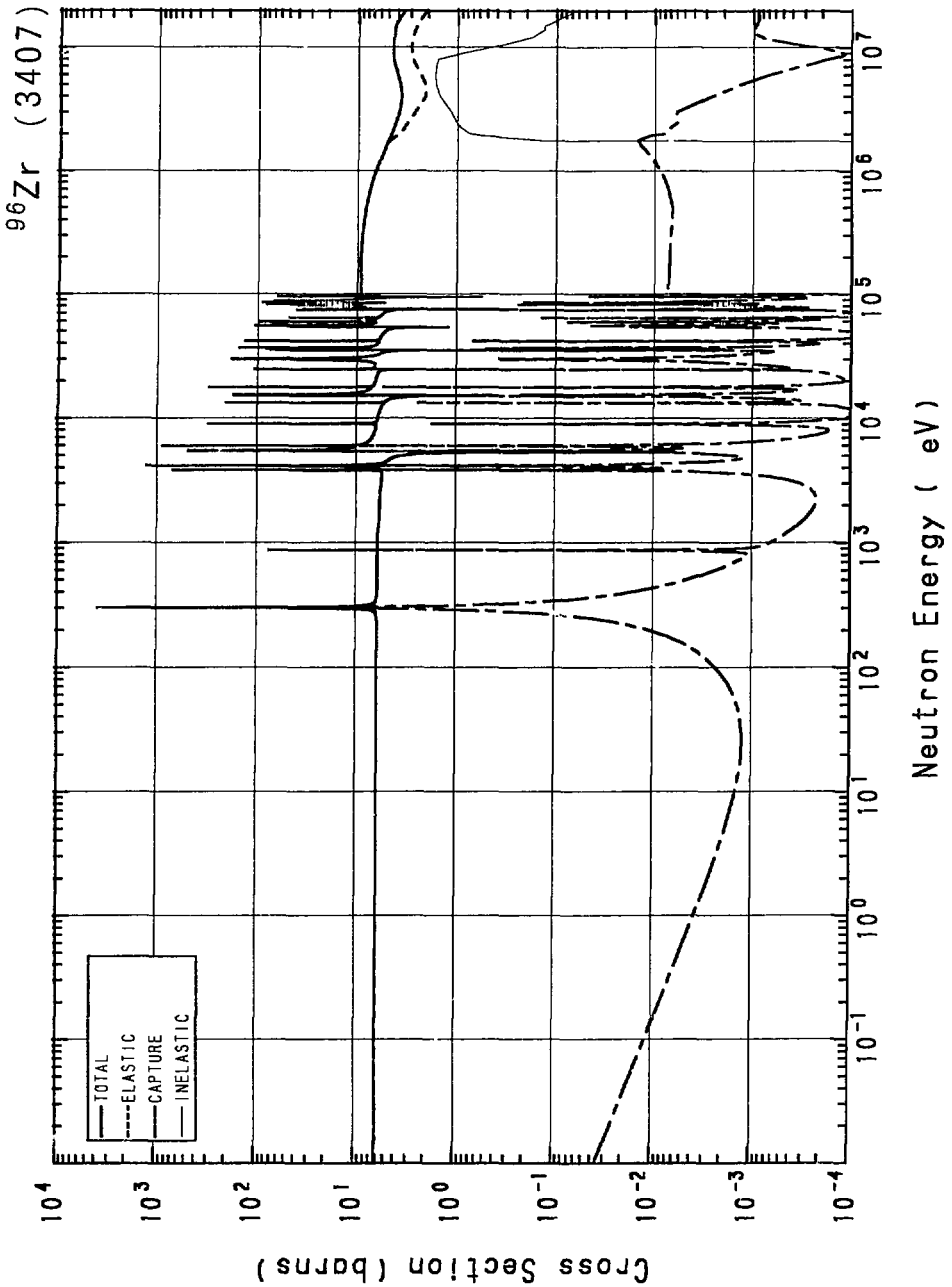

91Zr (3402)
N2N
N3N
NNA
NNP
NND
NP
ND
NT
NA
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,nd)
(n,3n)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

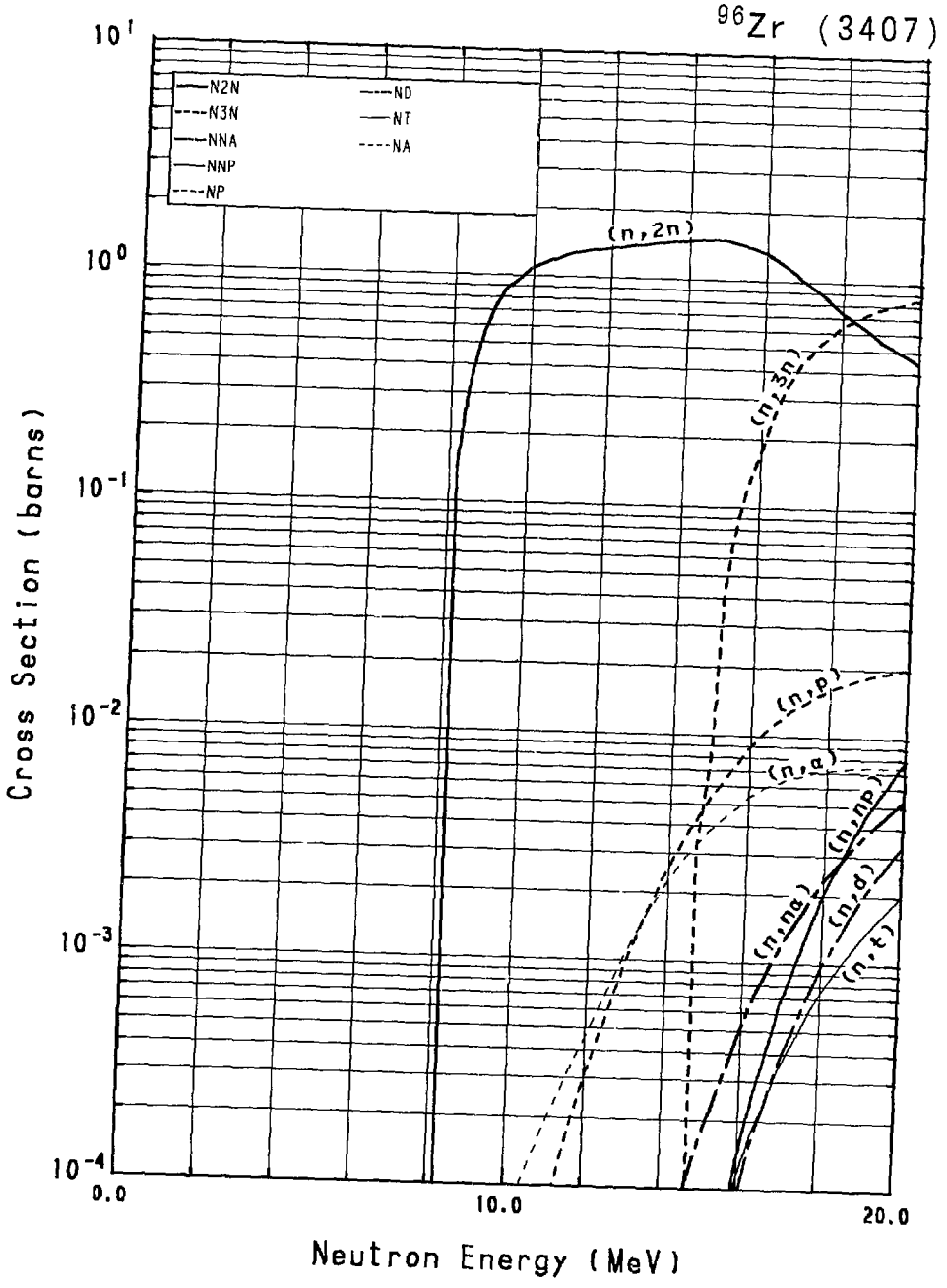

92Zr (3403)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

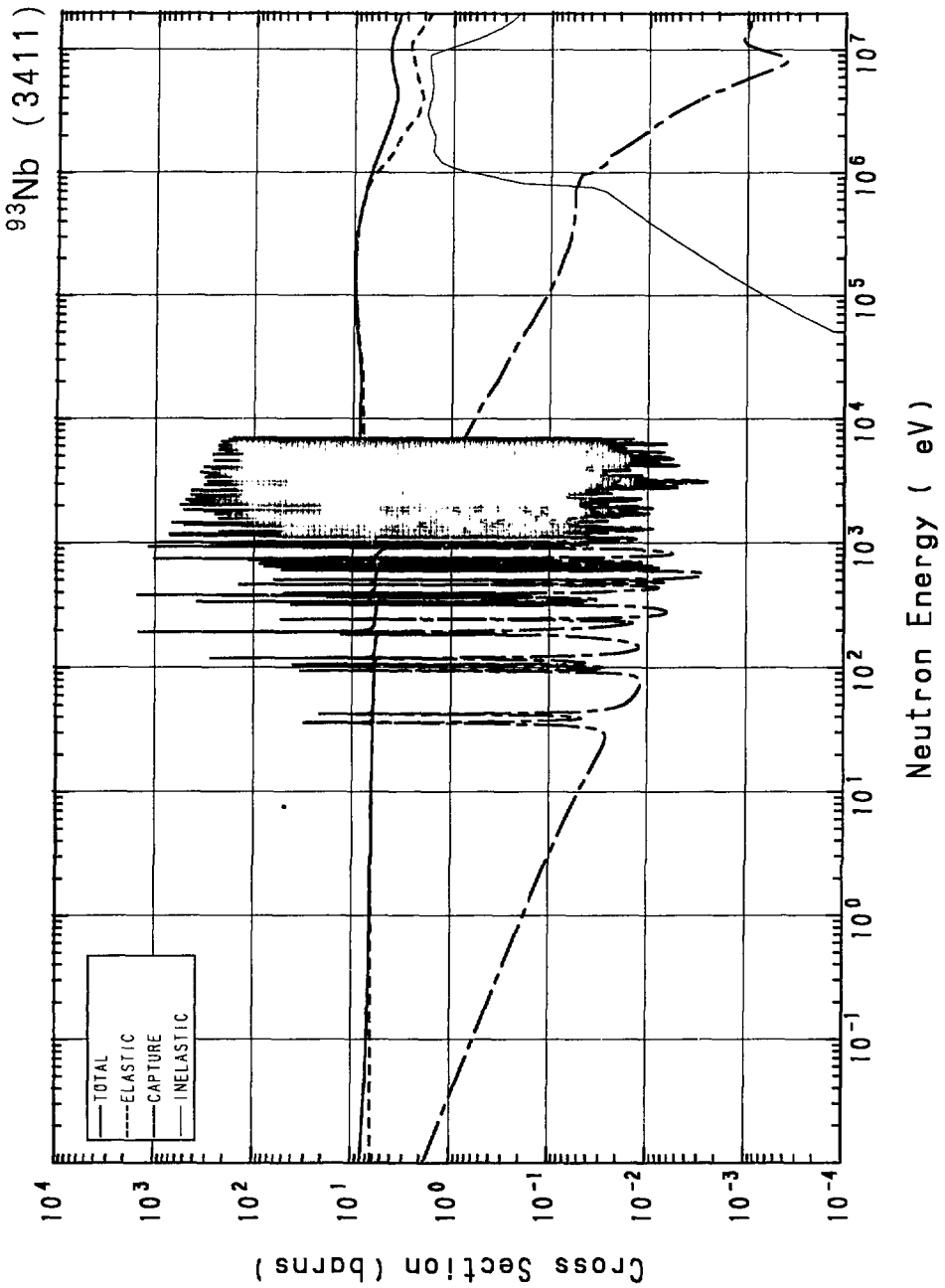

92Zr (3403)
N2N
N3N
NNA
NNP
NND
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,d)
(n,t)
(n,α)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

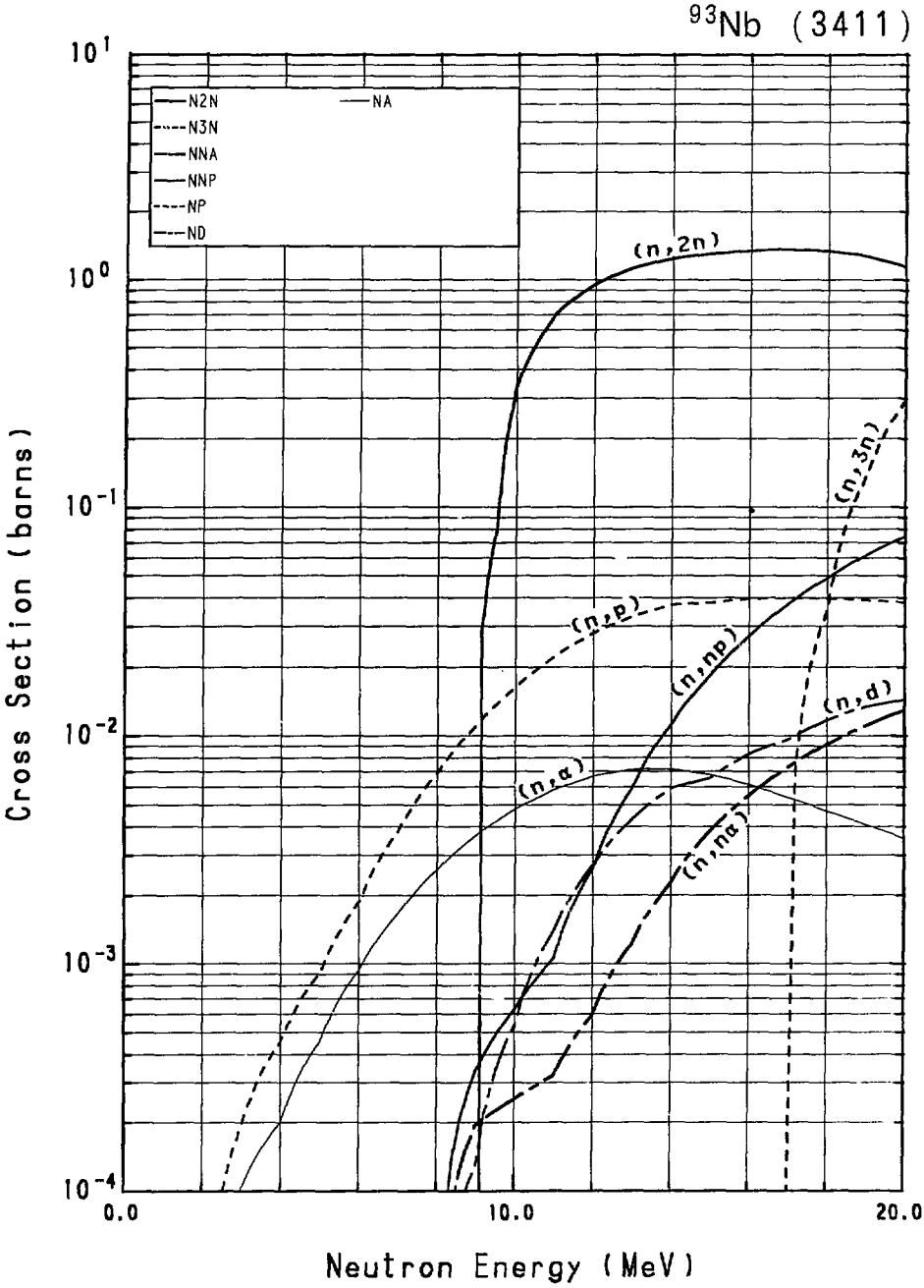

94Zr (3405)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

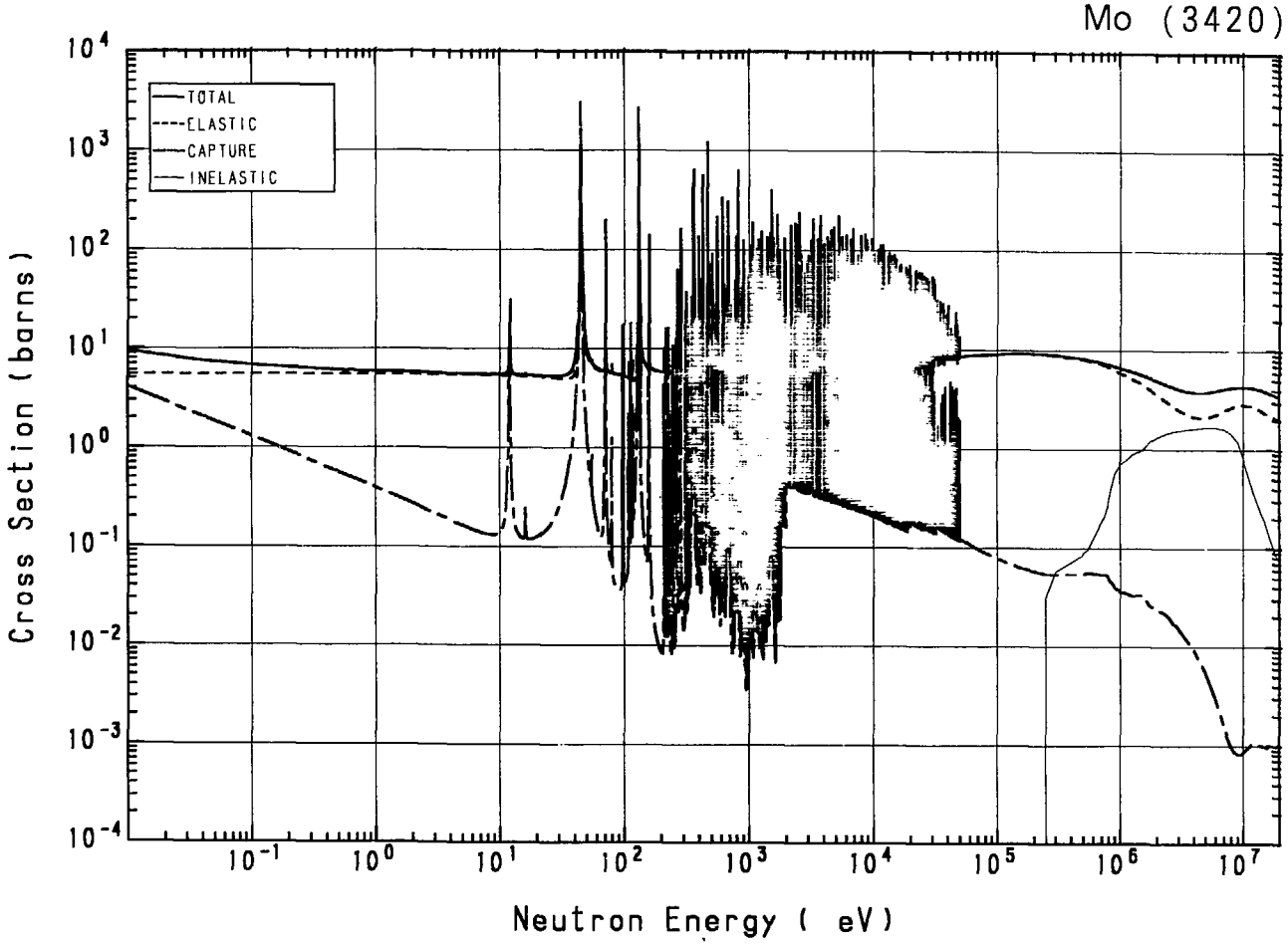

^{94}Zr (3405)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,nP)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)
0.0
10.0
20.0

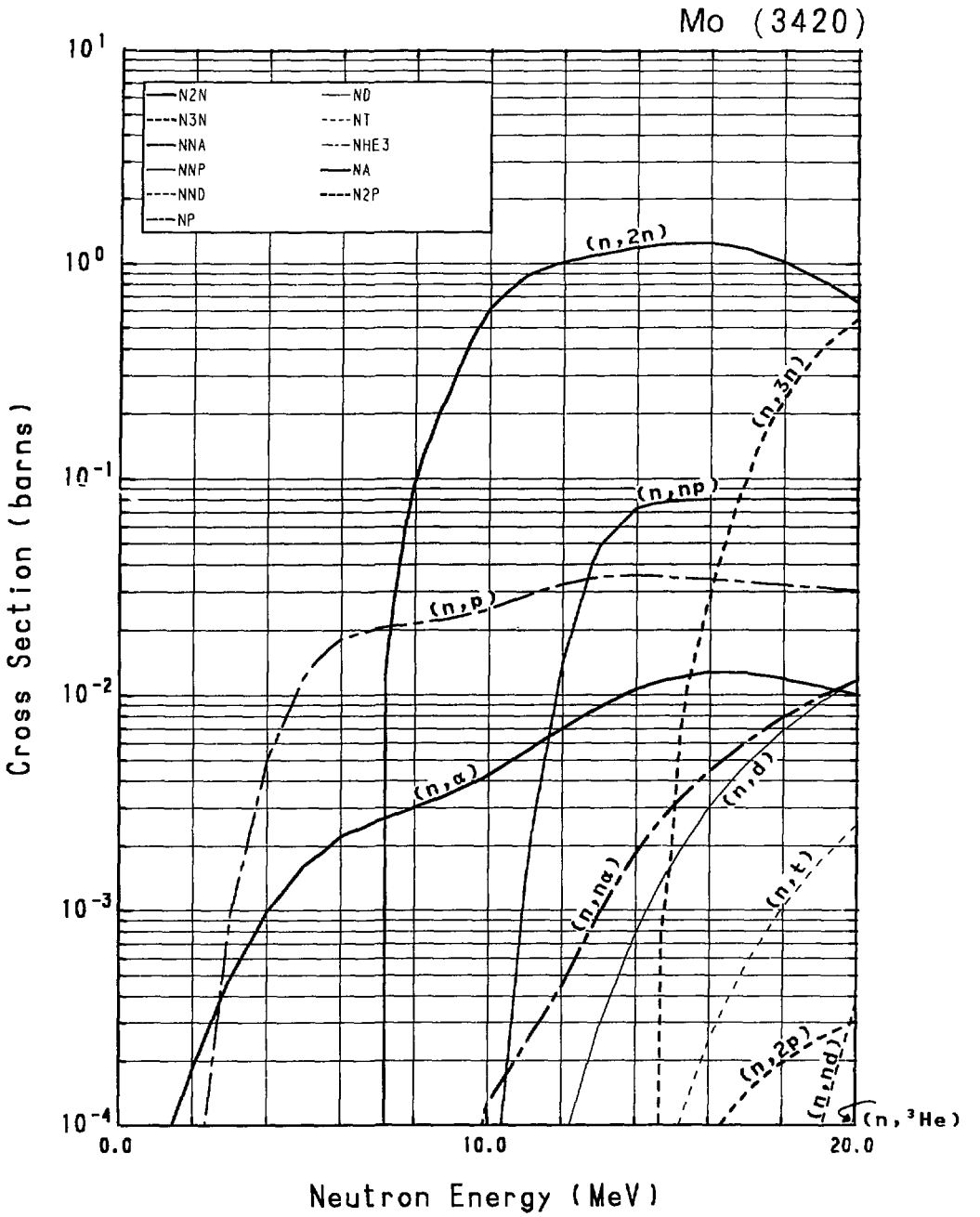

^{96}Zr (3407)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

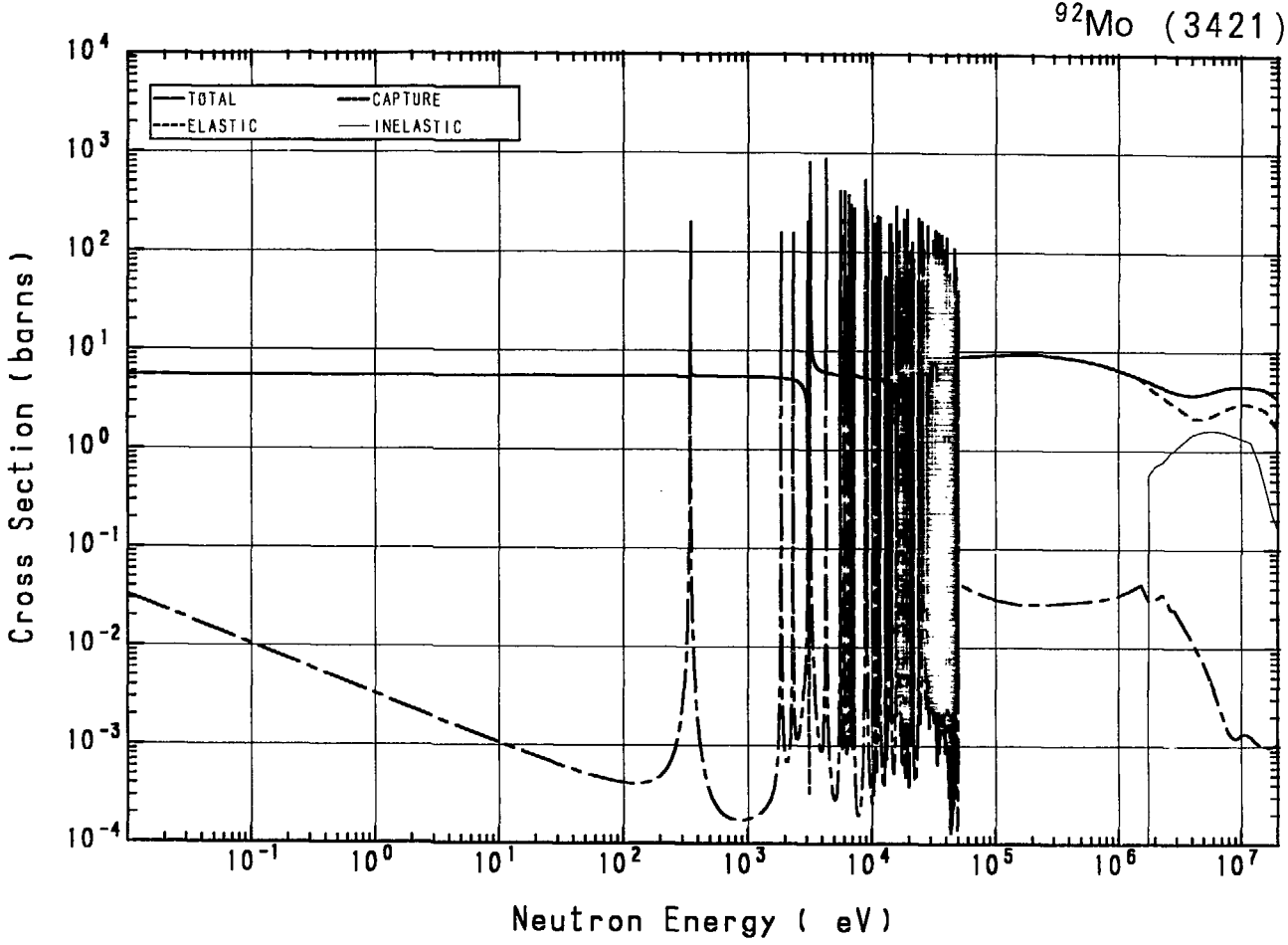

96Zr (3407)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

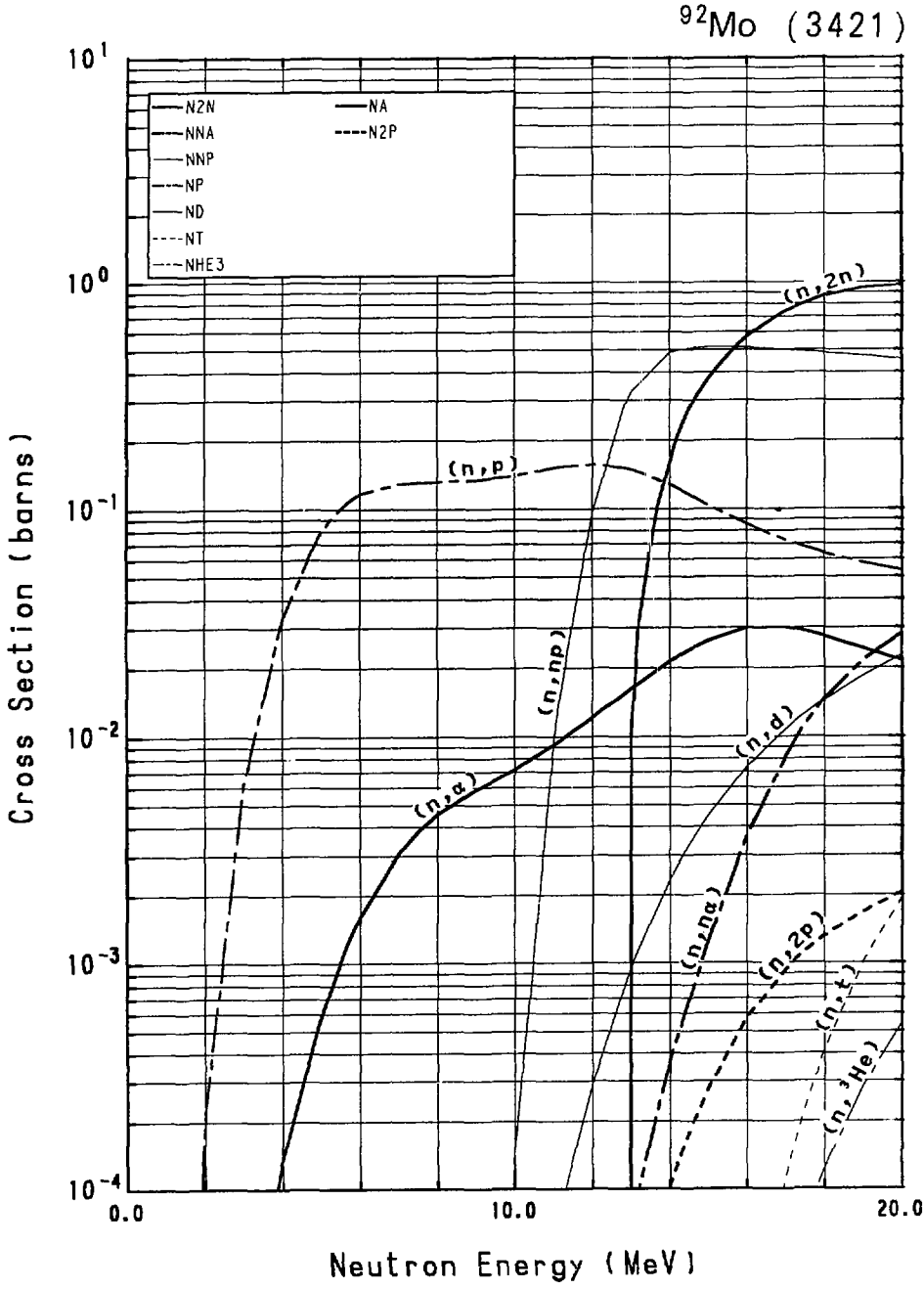

93Nb (3411)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

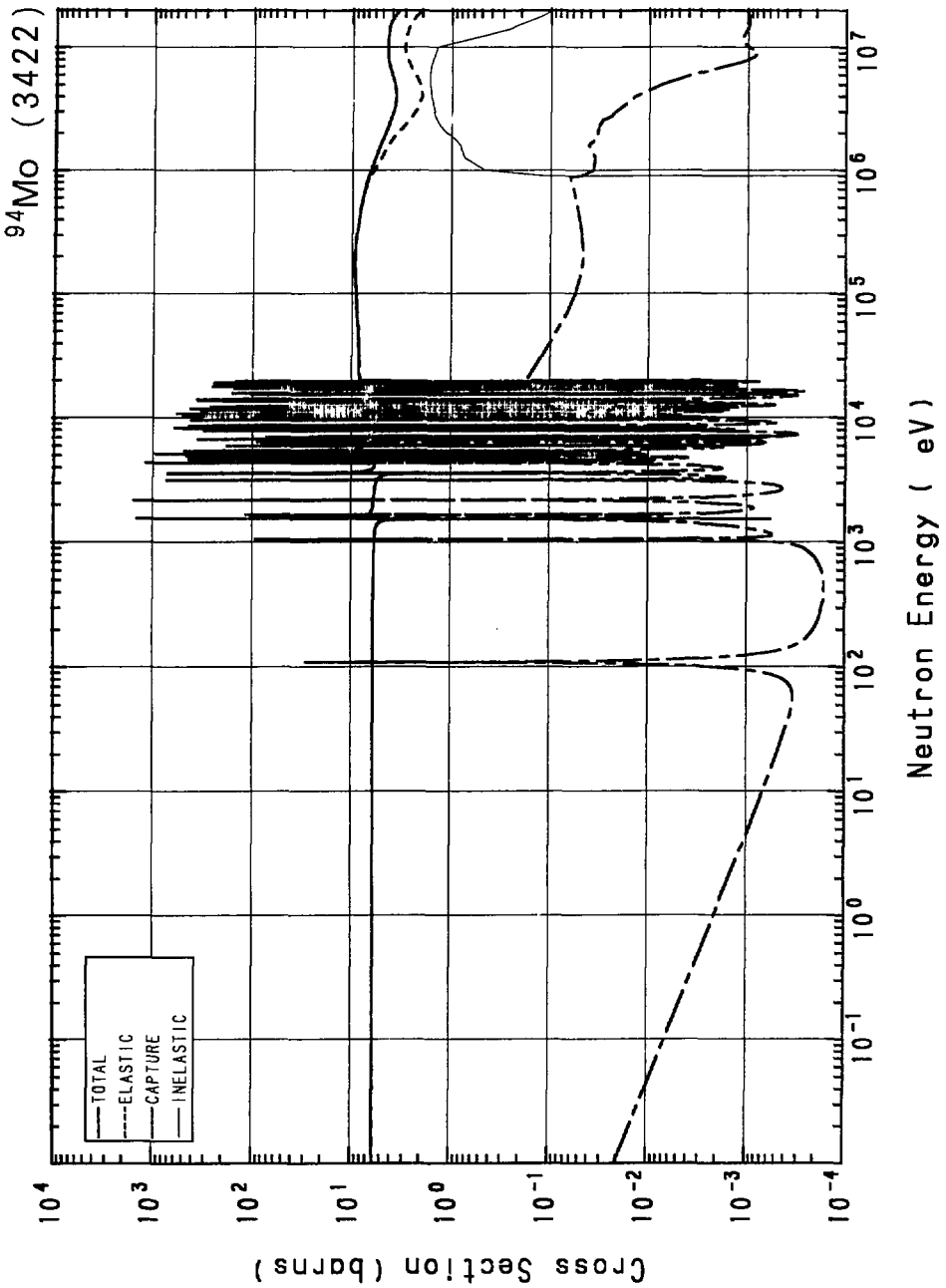

93Nb (3411)
N2N
N3N
NNA
NNP
NP
ND
NA
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,d)
(n,α)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

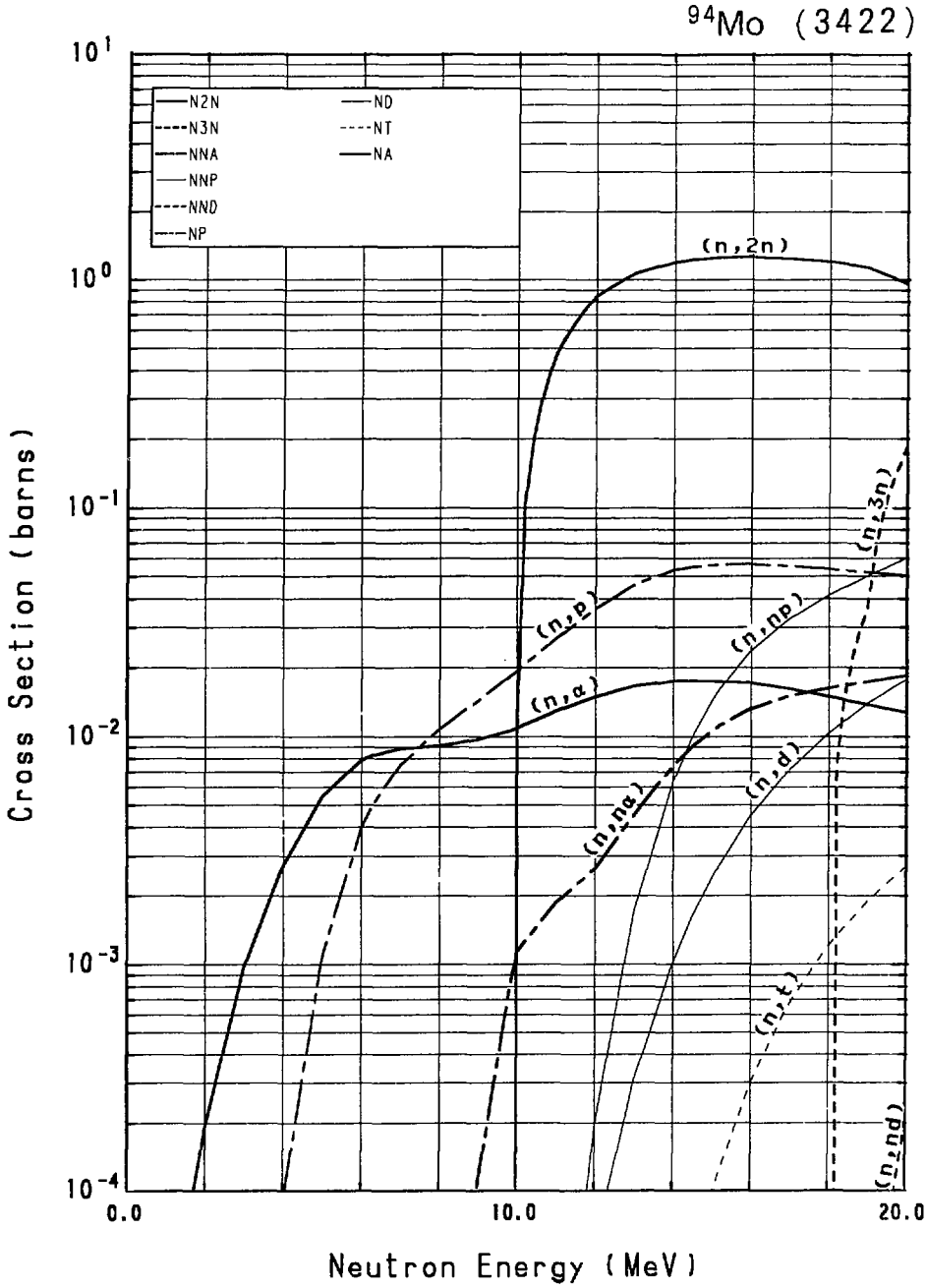

Mo (3420)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

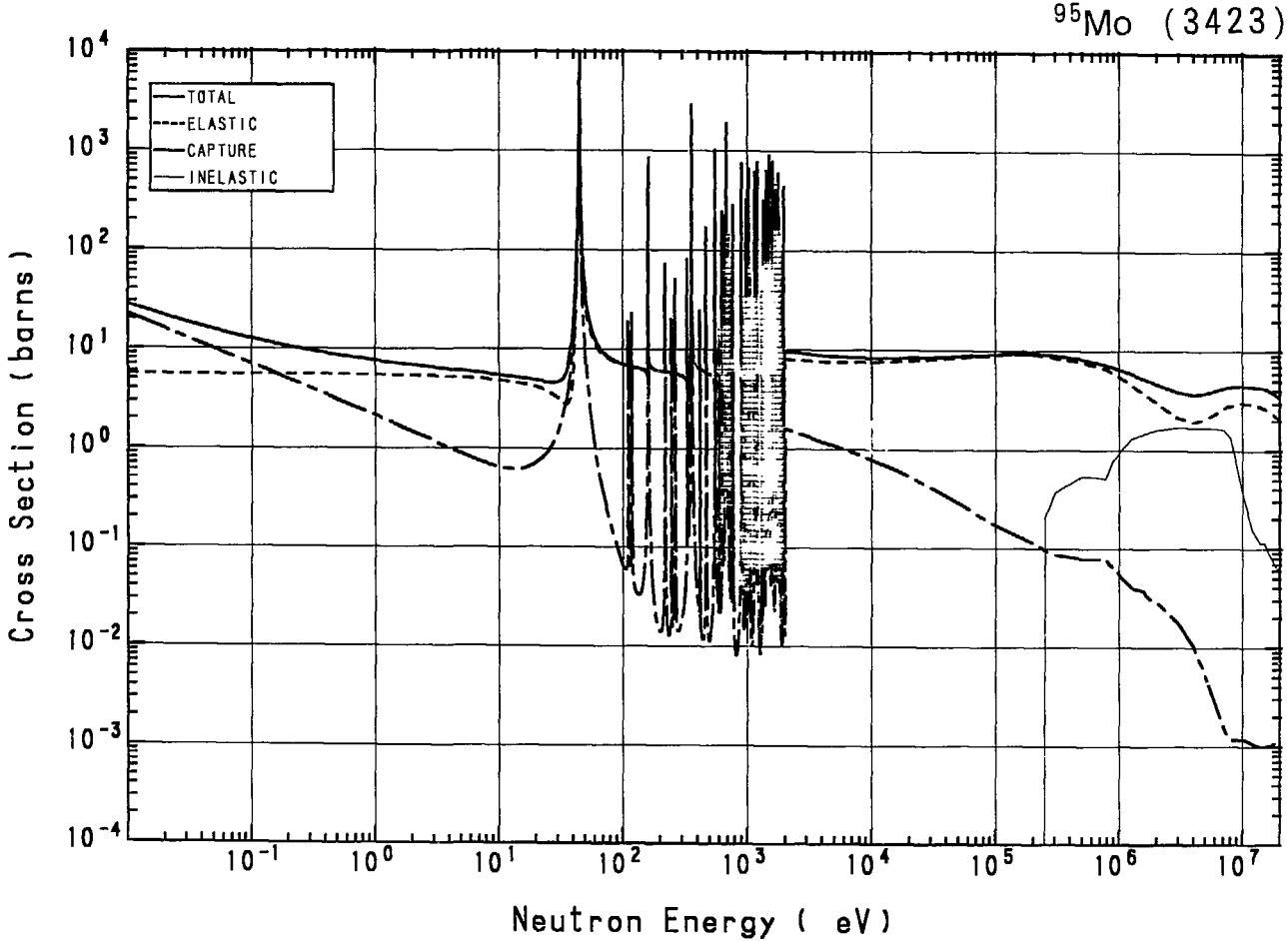

Mo (3420)
N2N
N3N
NNA
NNP
NND
NP
ND
NT
NHE3
NA
N2P
(n,2n)
(n,3n)
(n,np)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,2p)
(n,nd)
(n,³He)
Cross Section (barns)
Neutron Energy (MeV)
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
0.0
10.0
20.0

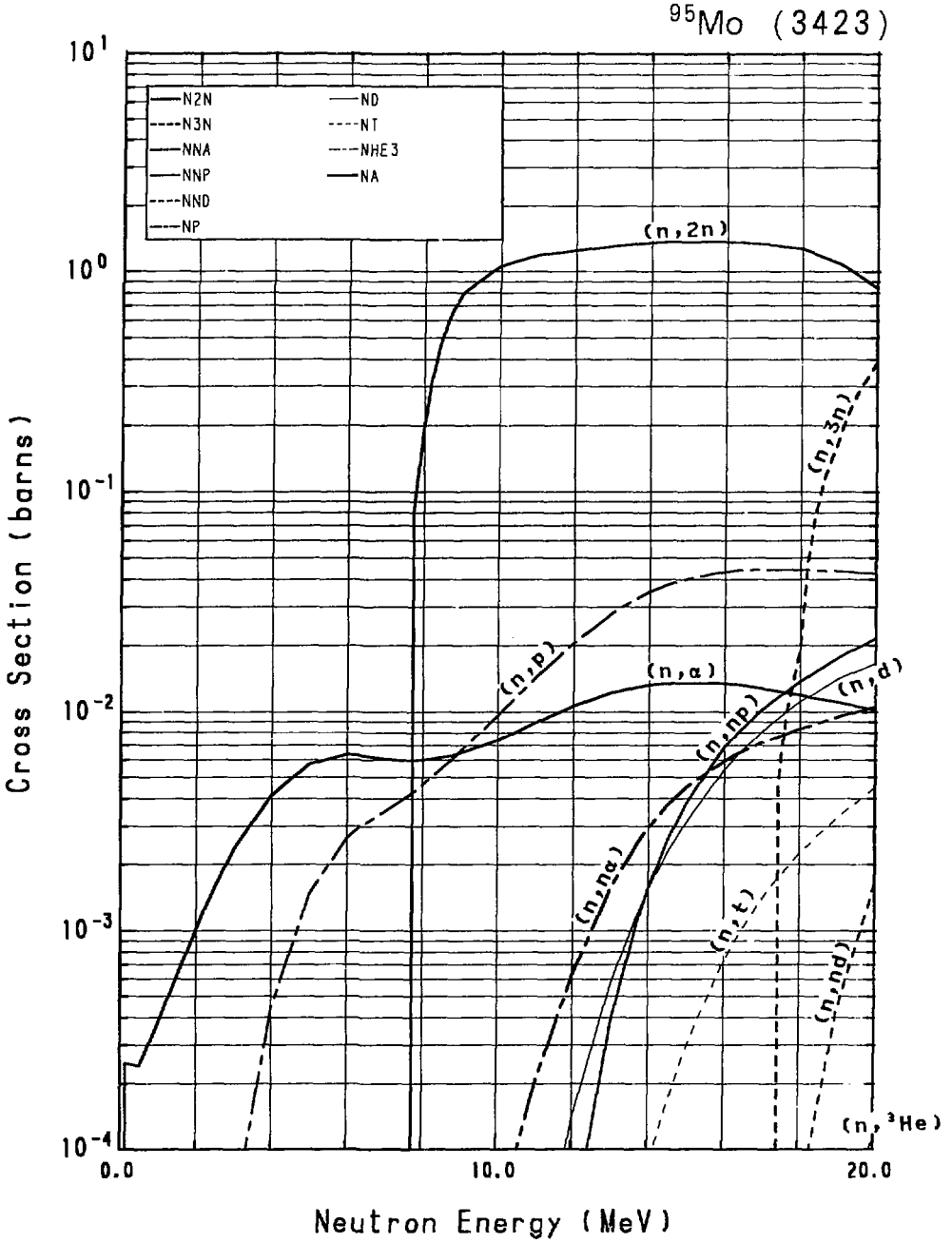

^{92}Mo (3421)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

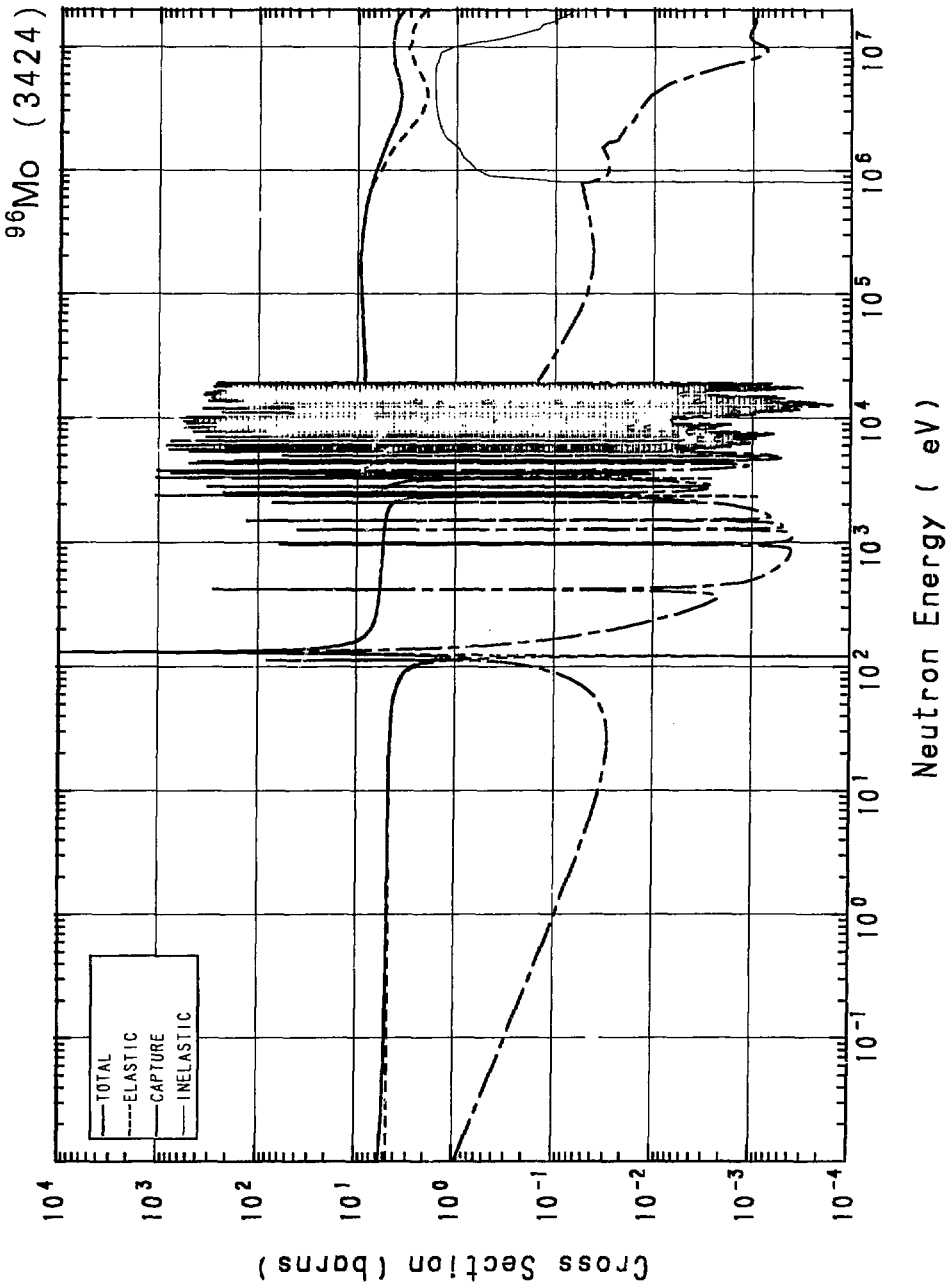

92Mo (3421)
N2N
NA
NNA
N2P
NNP
NP
ND
NT
NHE3
(n,2n)
(n,p)
(n,np)
(n,α)
(n,d)
(n,nα)
(n,2p)
(n,t)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

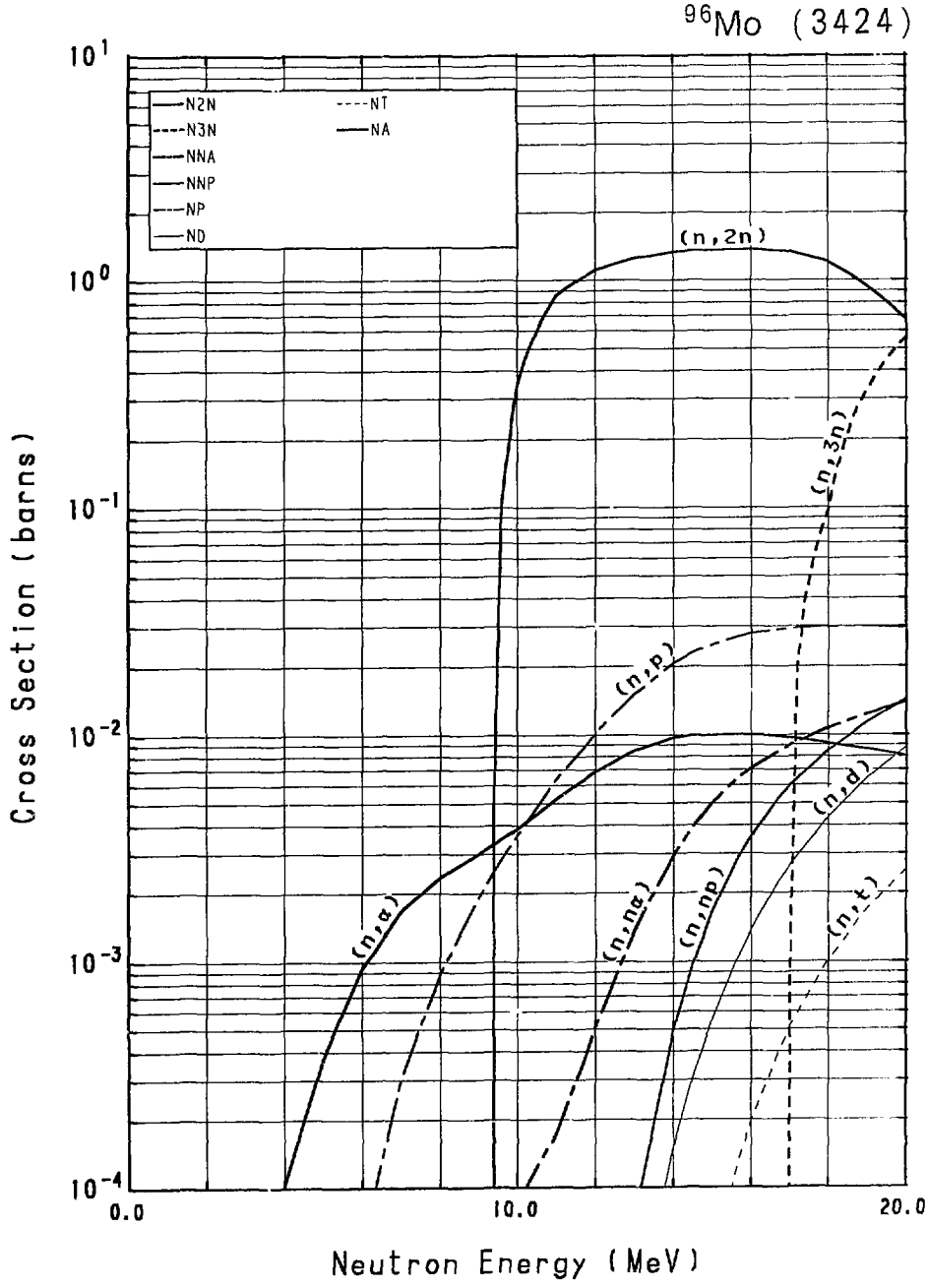

94Mo (3422)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

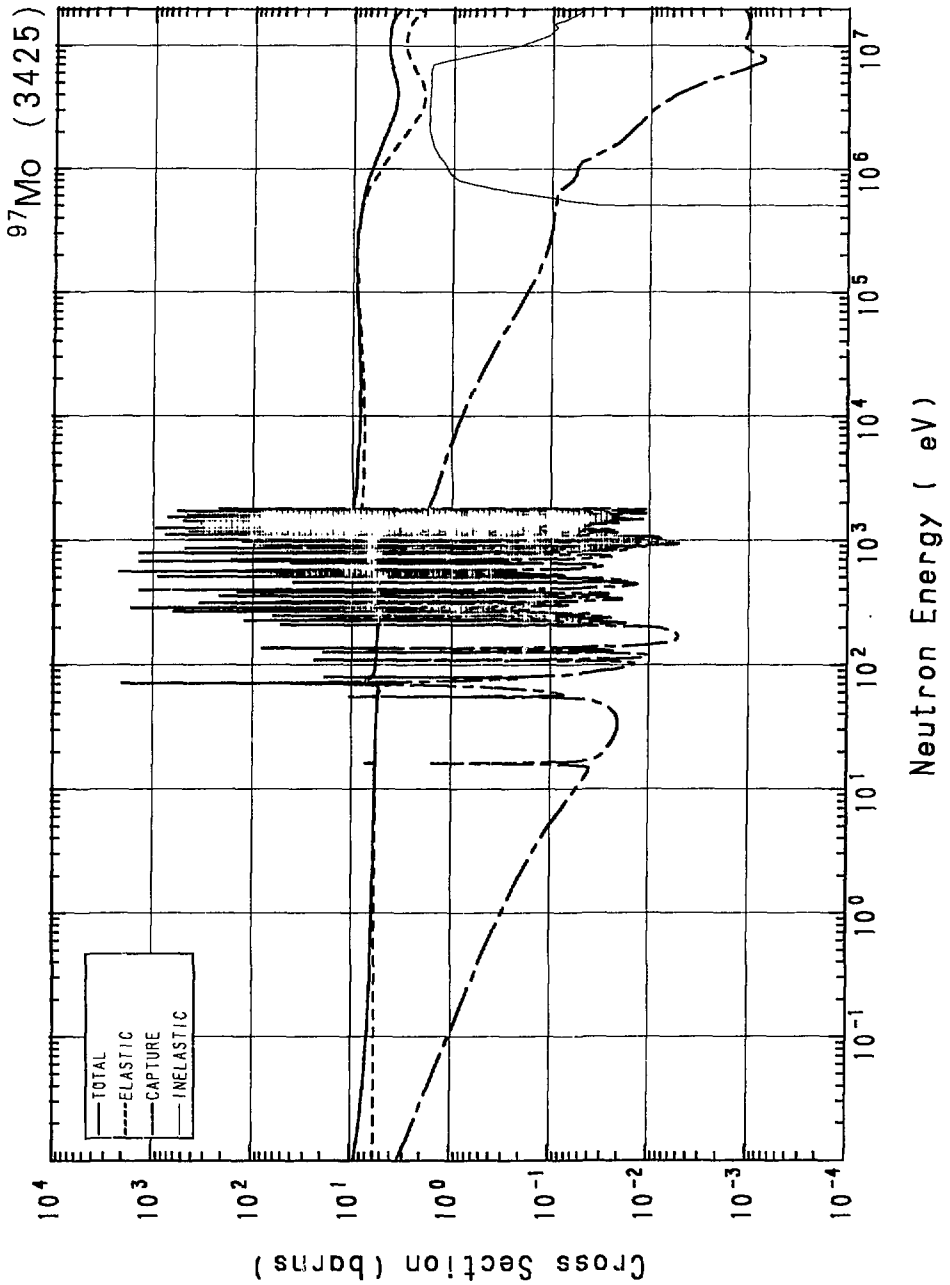

94Mo (3422)
N2N
N3N
NNA
NNP
NND
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

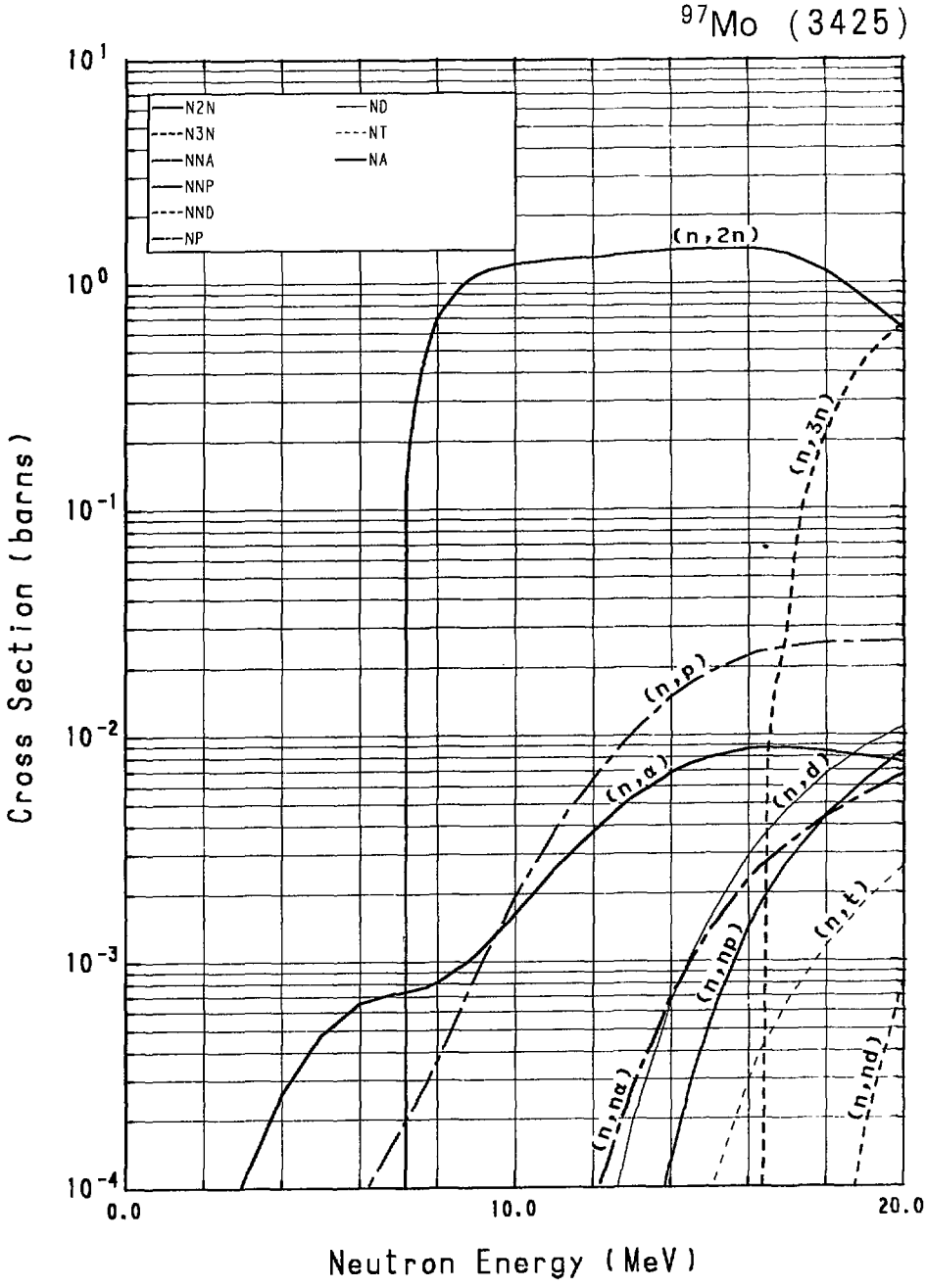

95Mo (3423)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

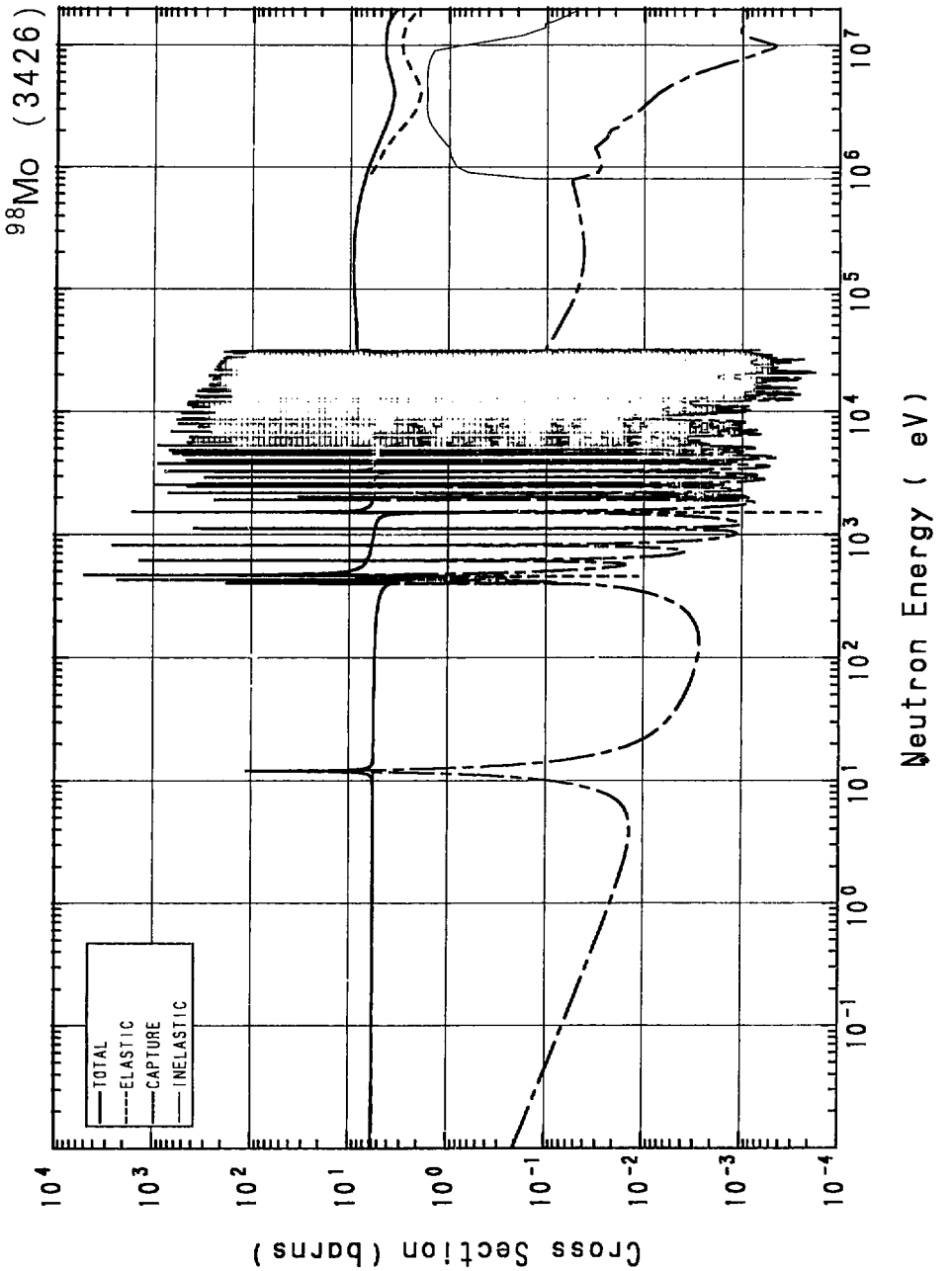

95Mo (3423)
N2N
N3N
NNA
NNP
NND
NP
ND
NT
NHE3
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,nd)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

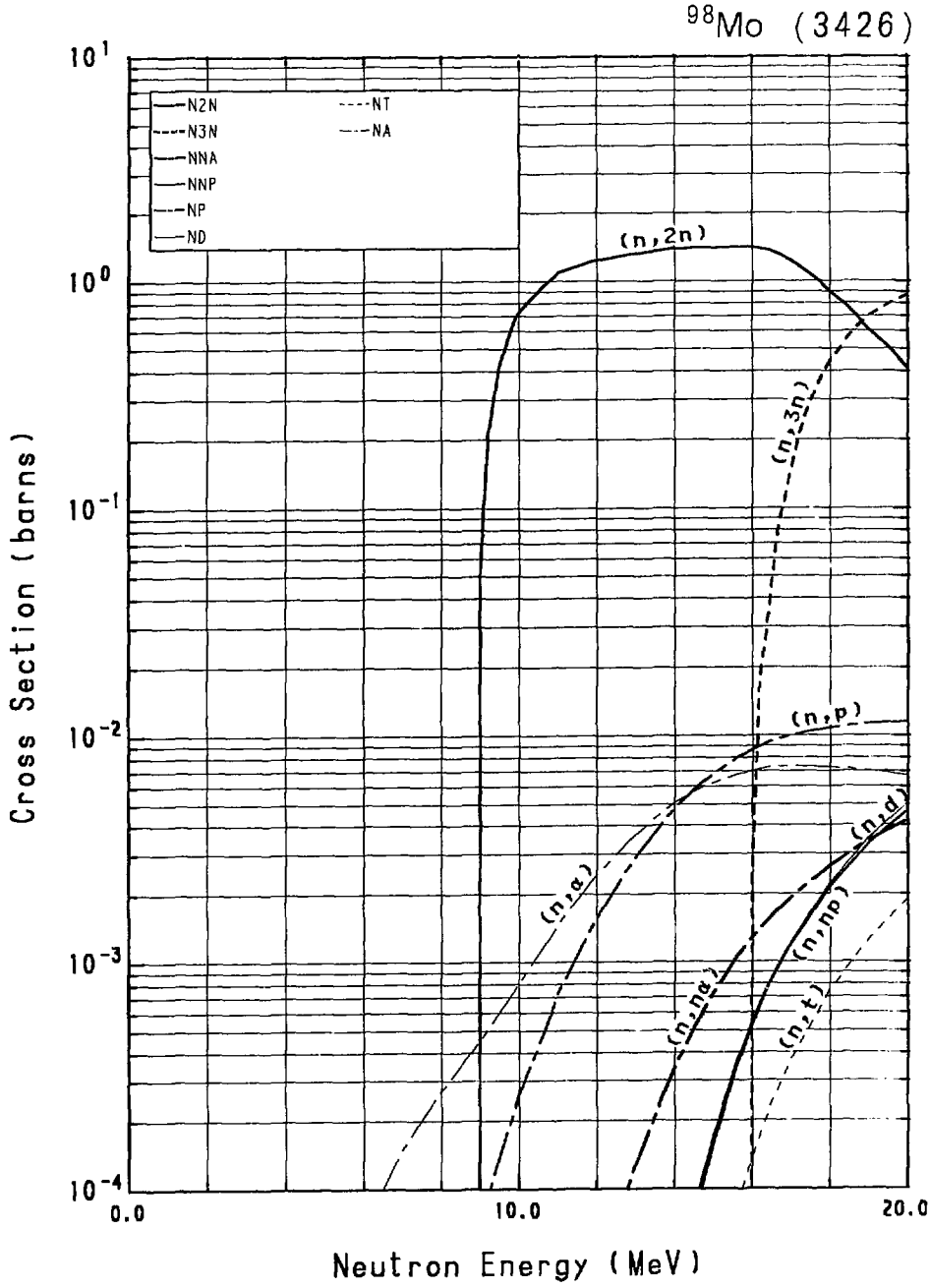

^{96}Mo (3424)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

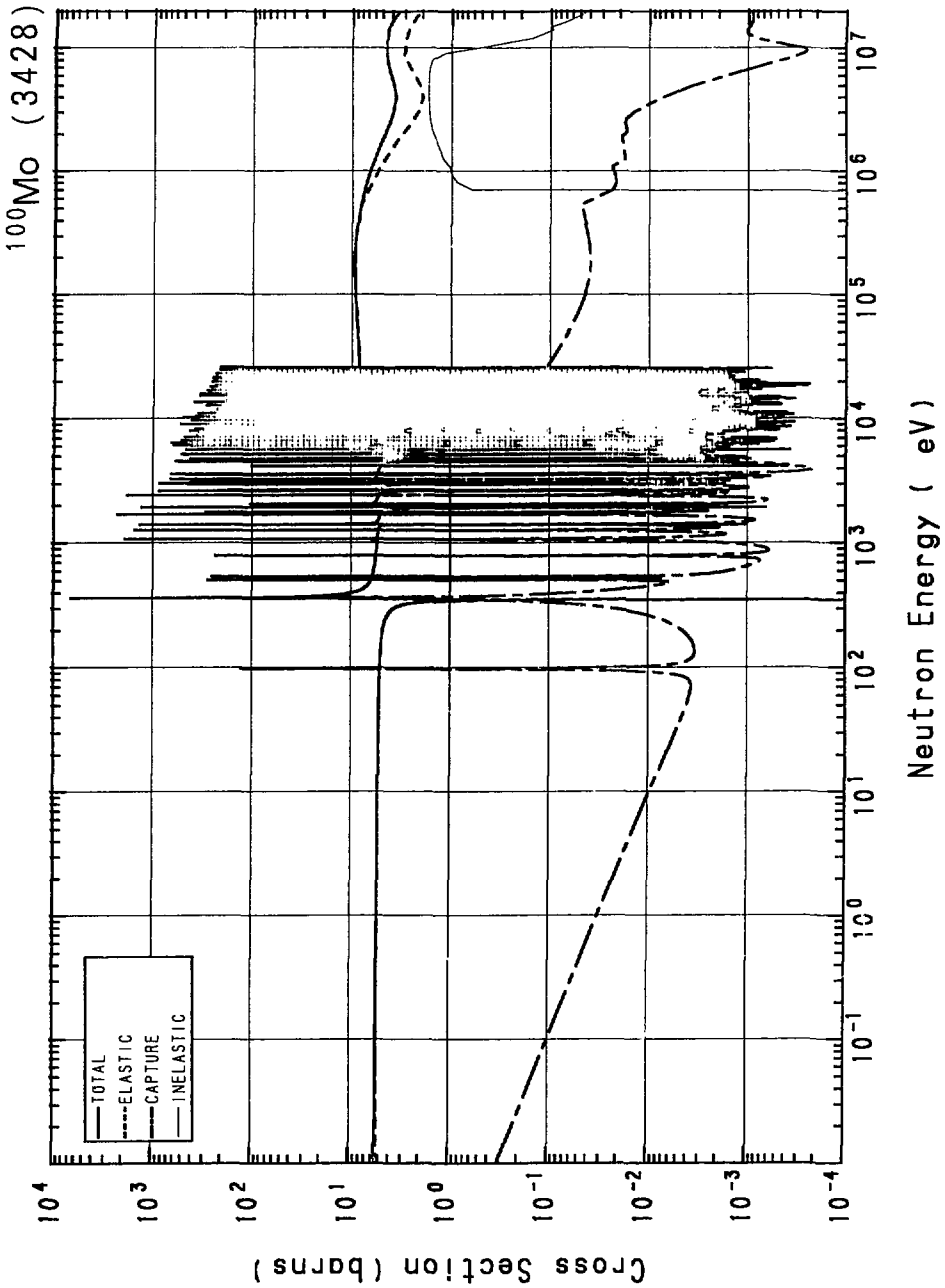

96Mo (3424)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

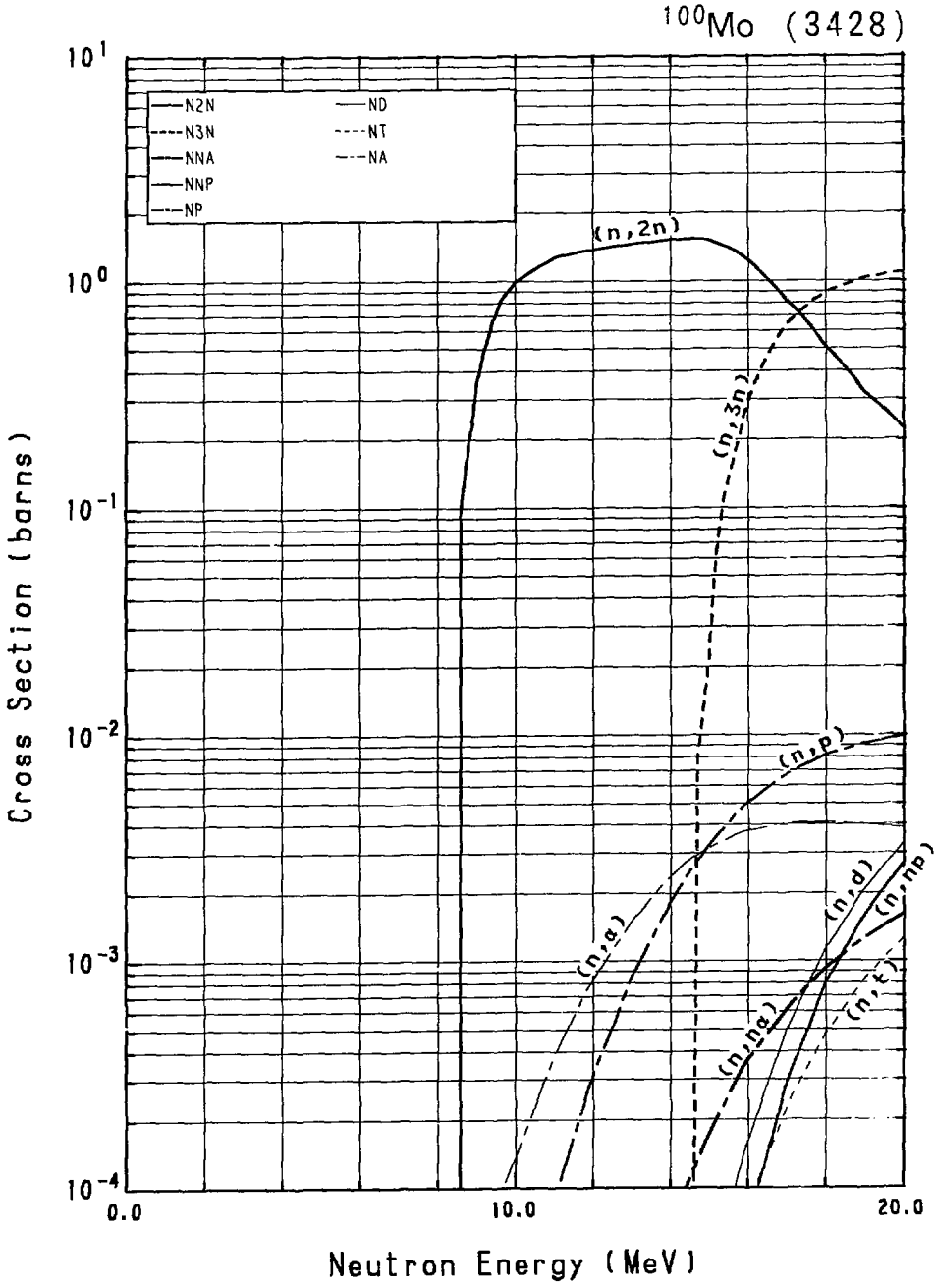

^{97}Mo (3425)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

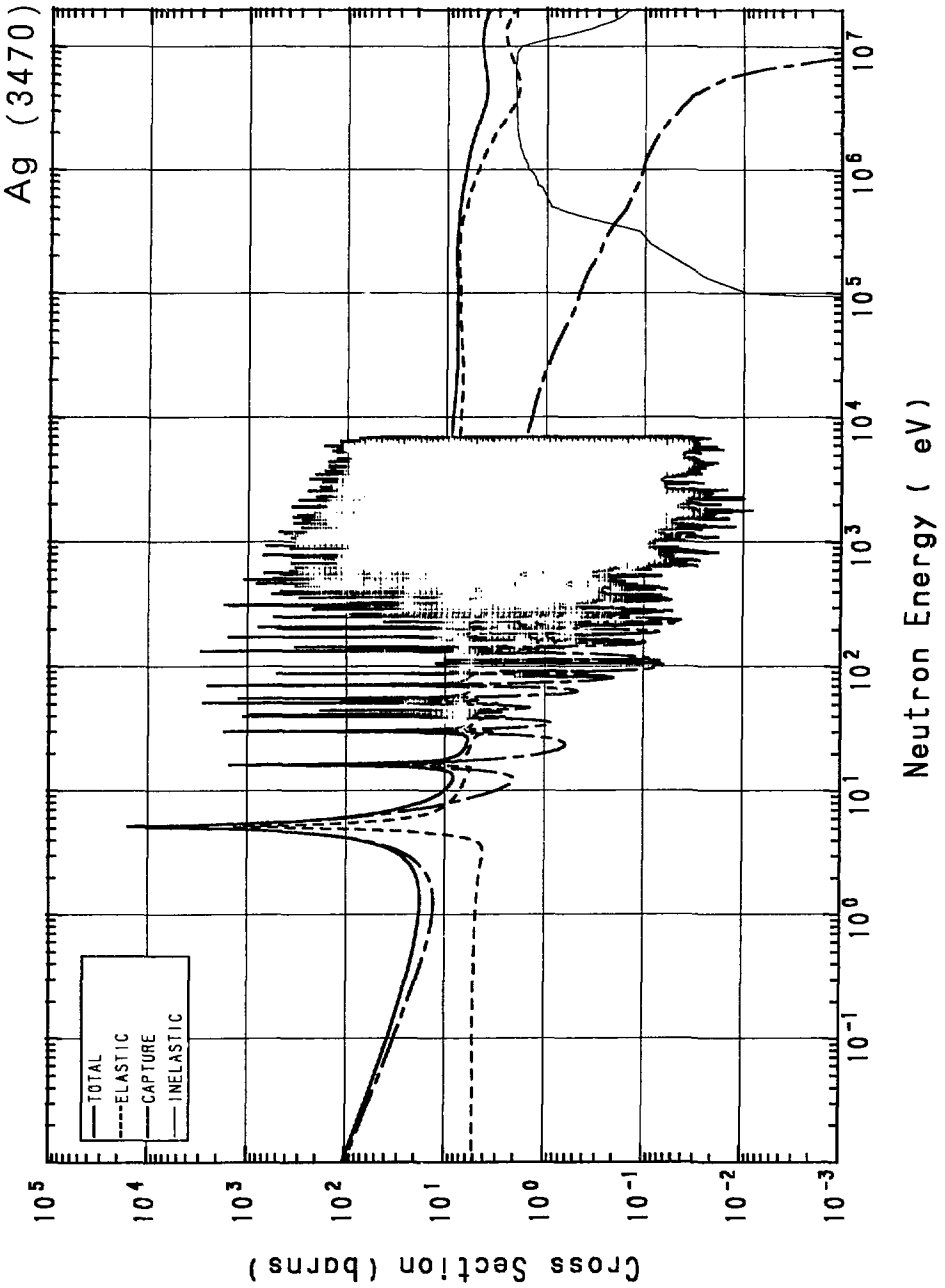

97Mo (3425)
N2N
N3N
NNA
NNP
NND
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,t)
(n,np)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

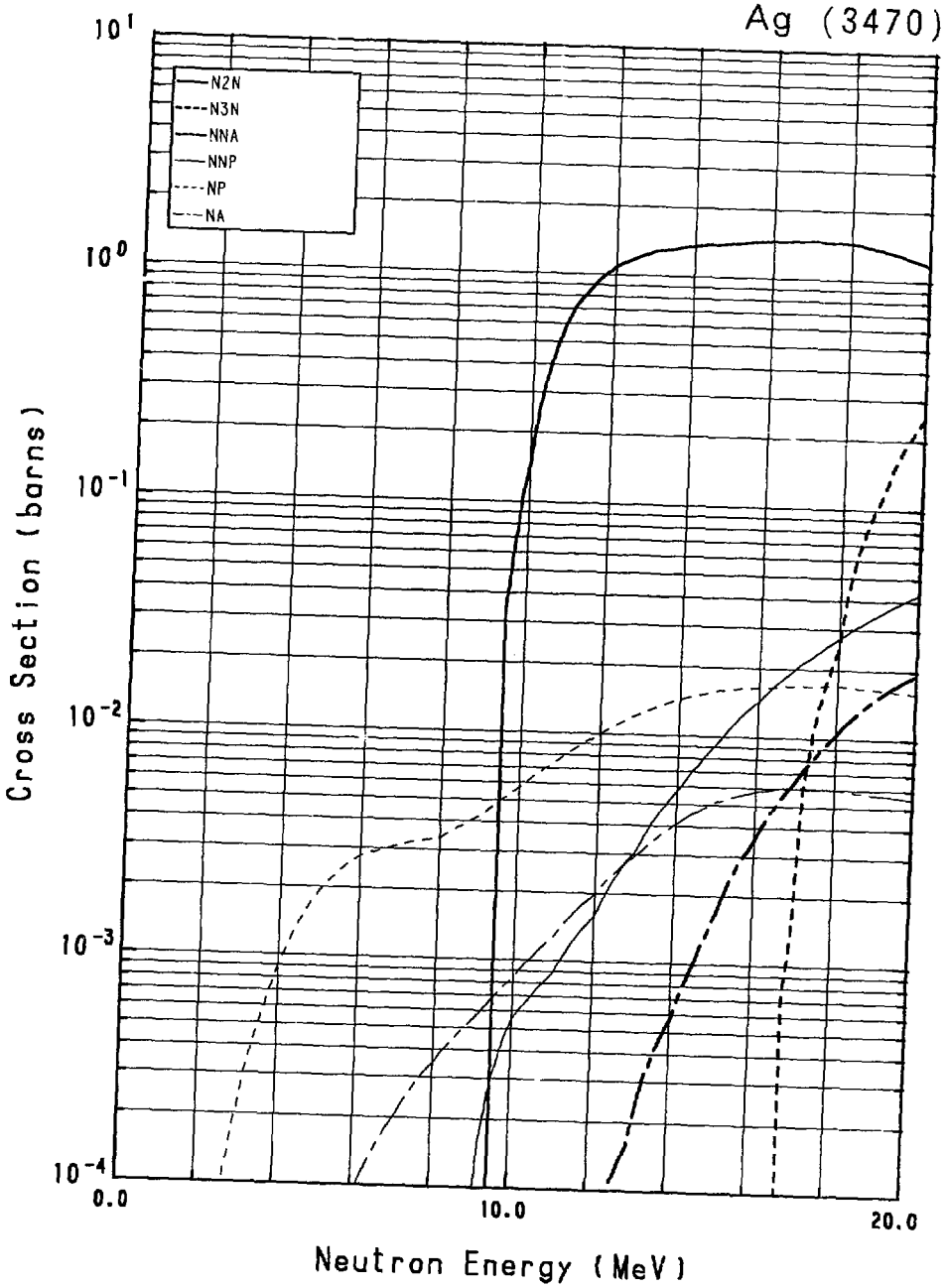

98Mo (3426)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

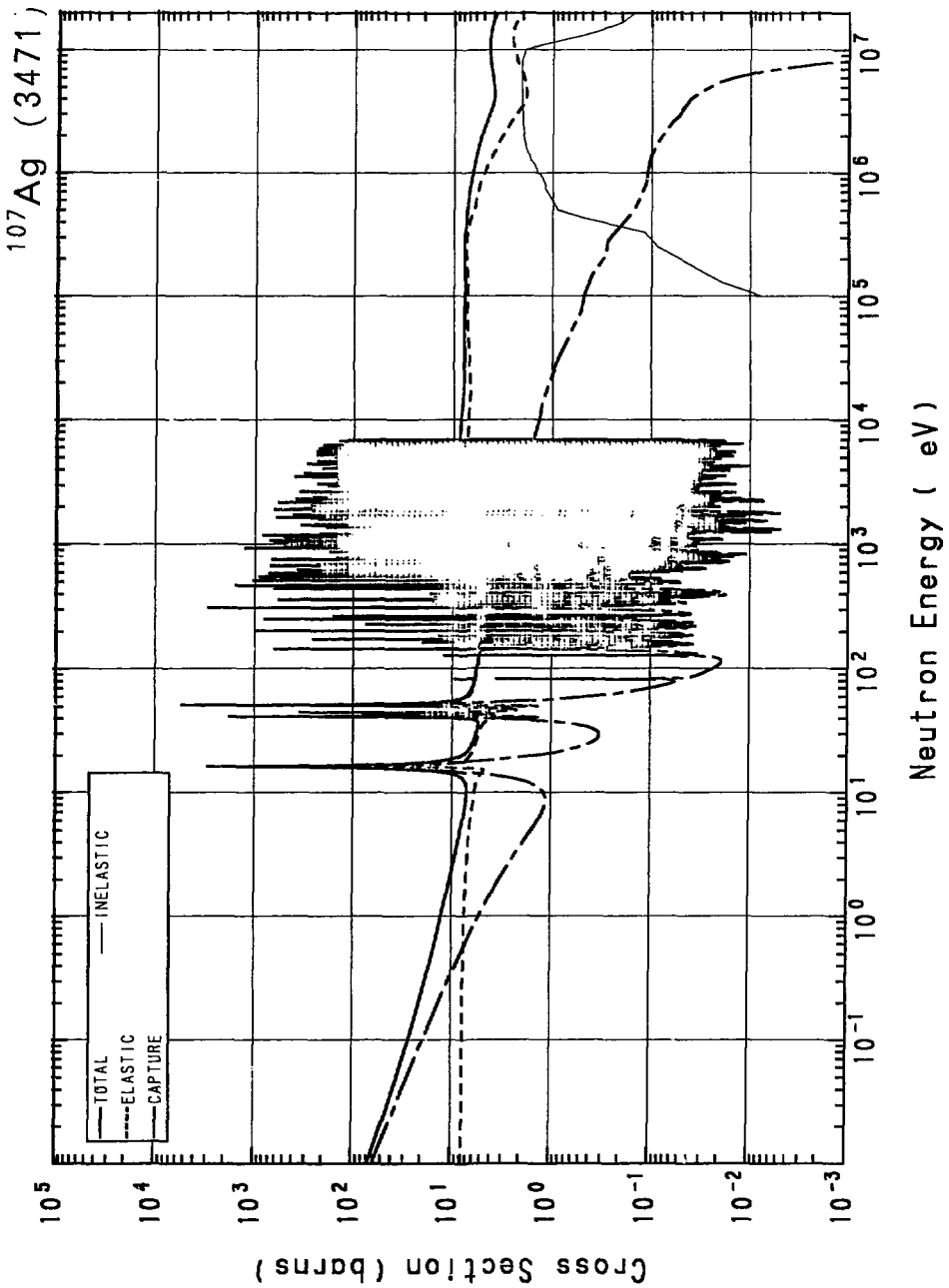

98Mo (3426)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,d)
(n,α)
(n,np)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

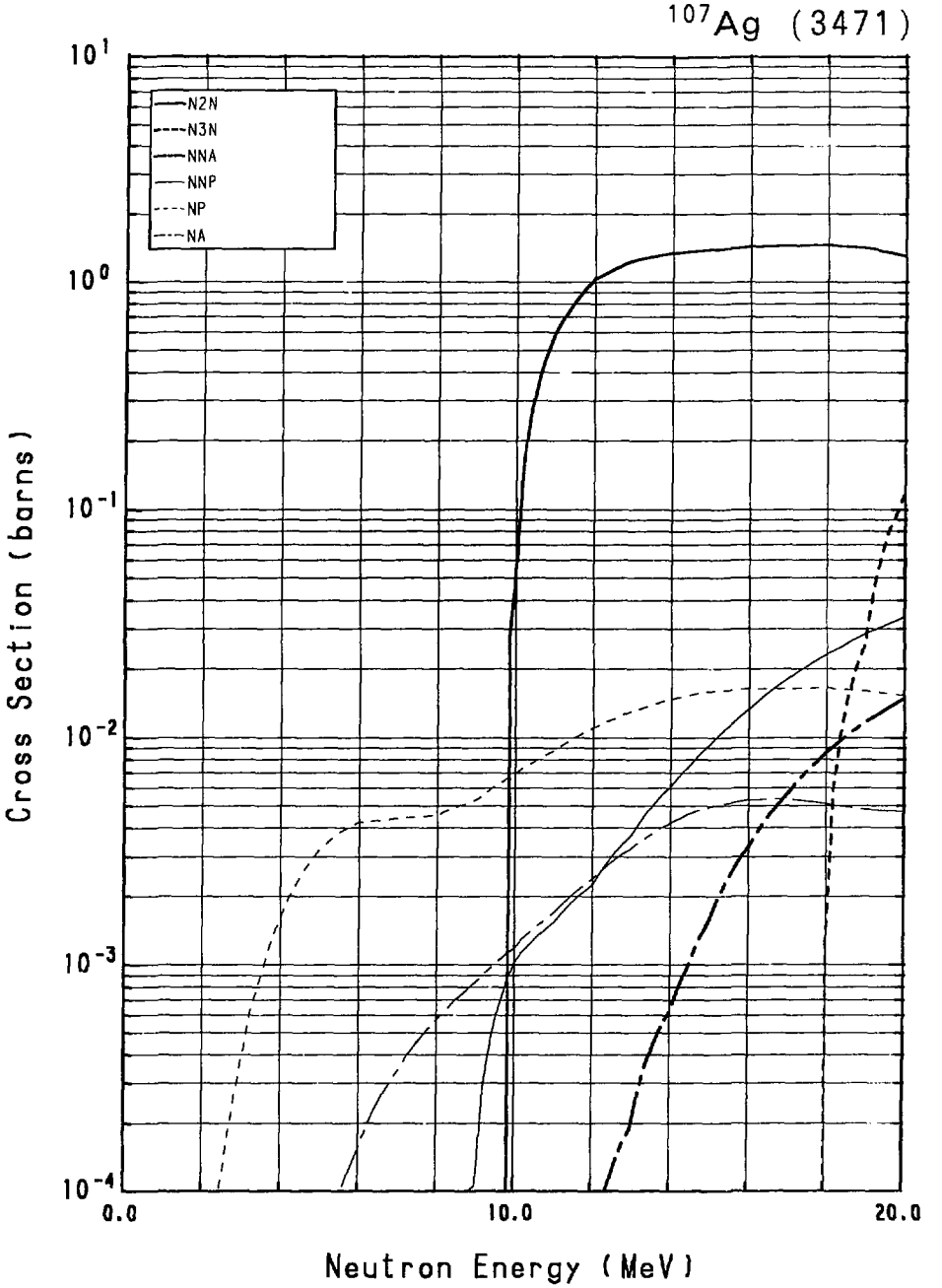

100Mo (3428)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

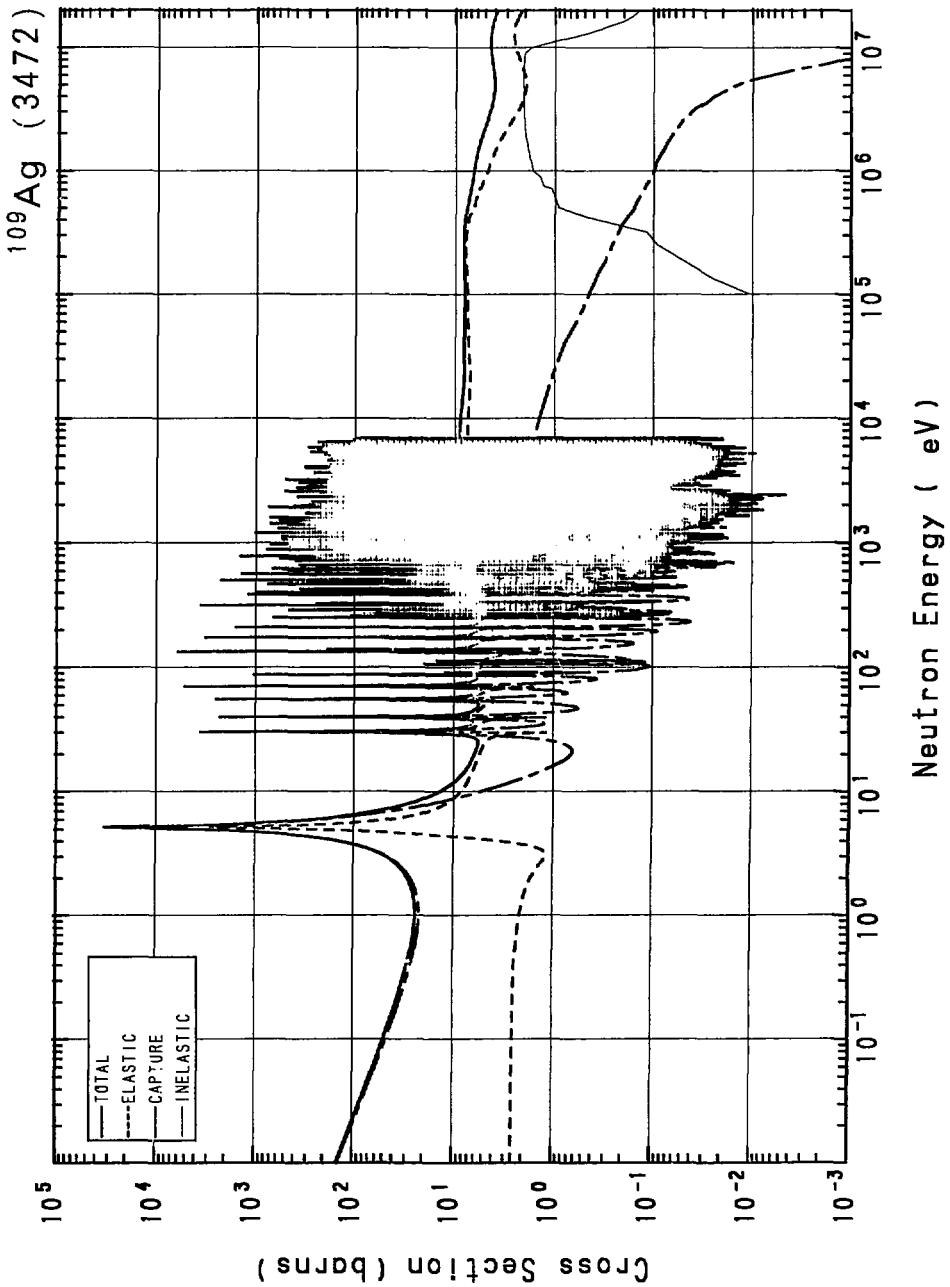

100Mo (3428)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

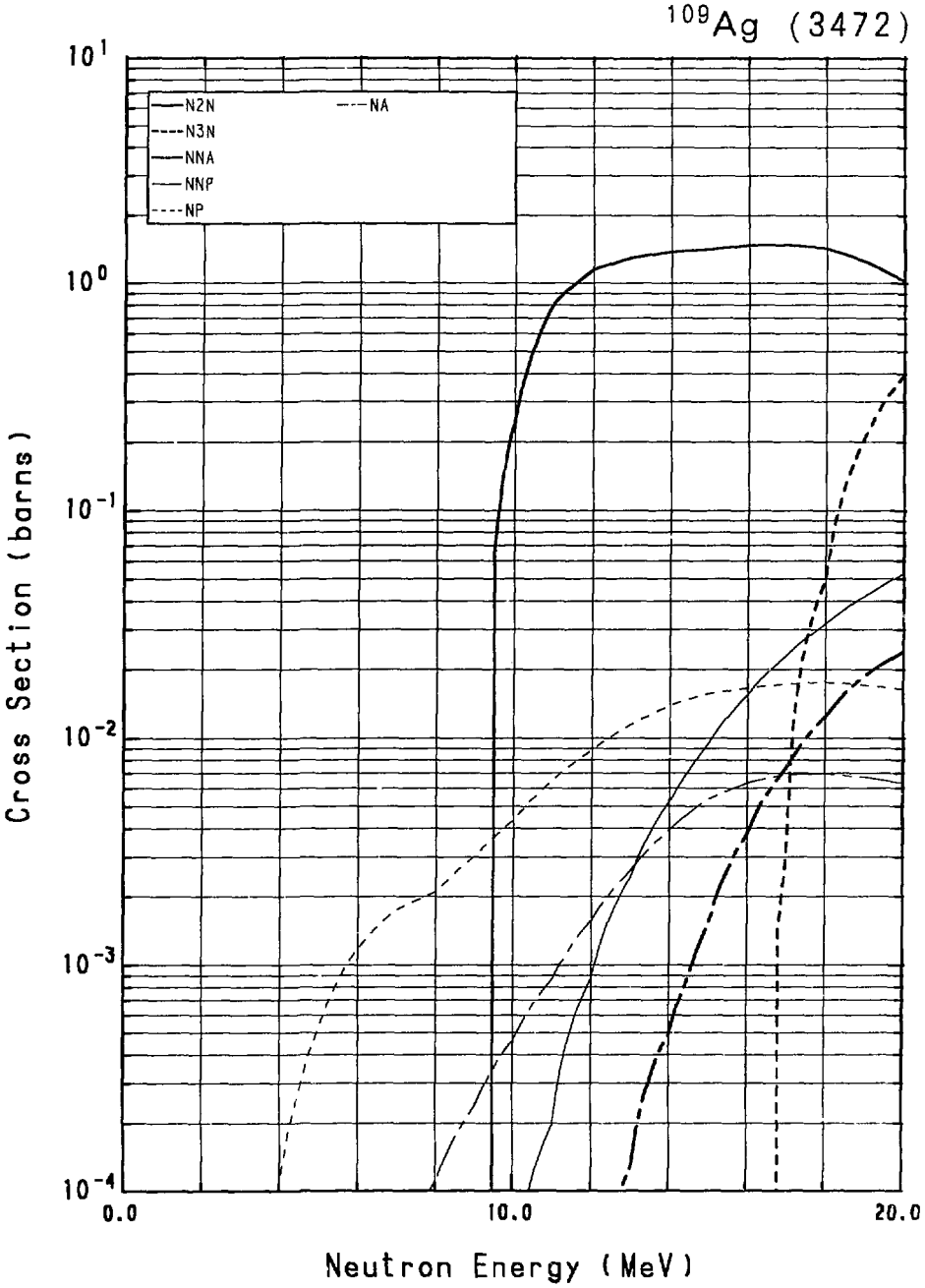

Ag (3470)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

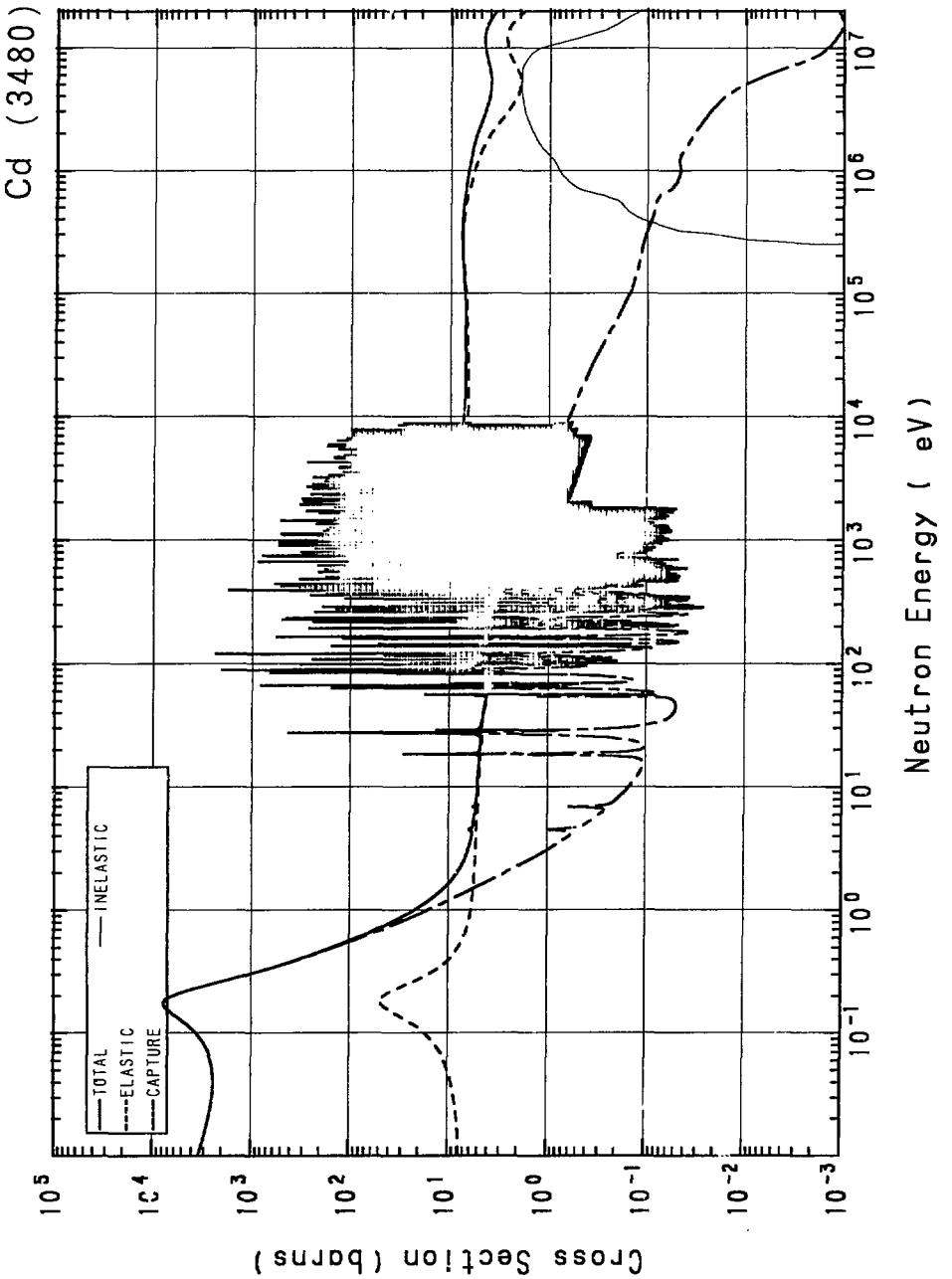

Ag (3470)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

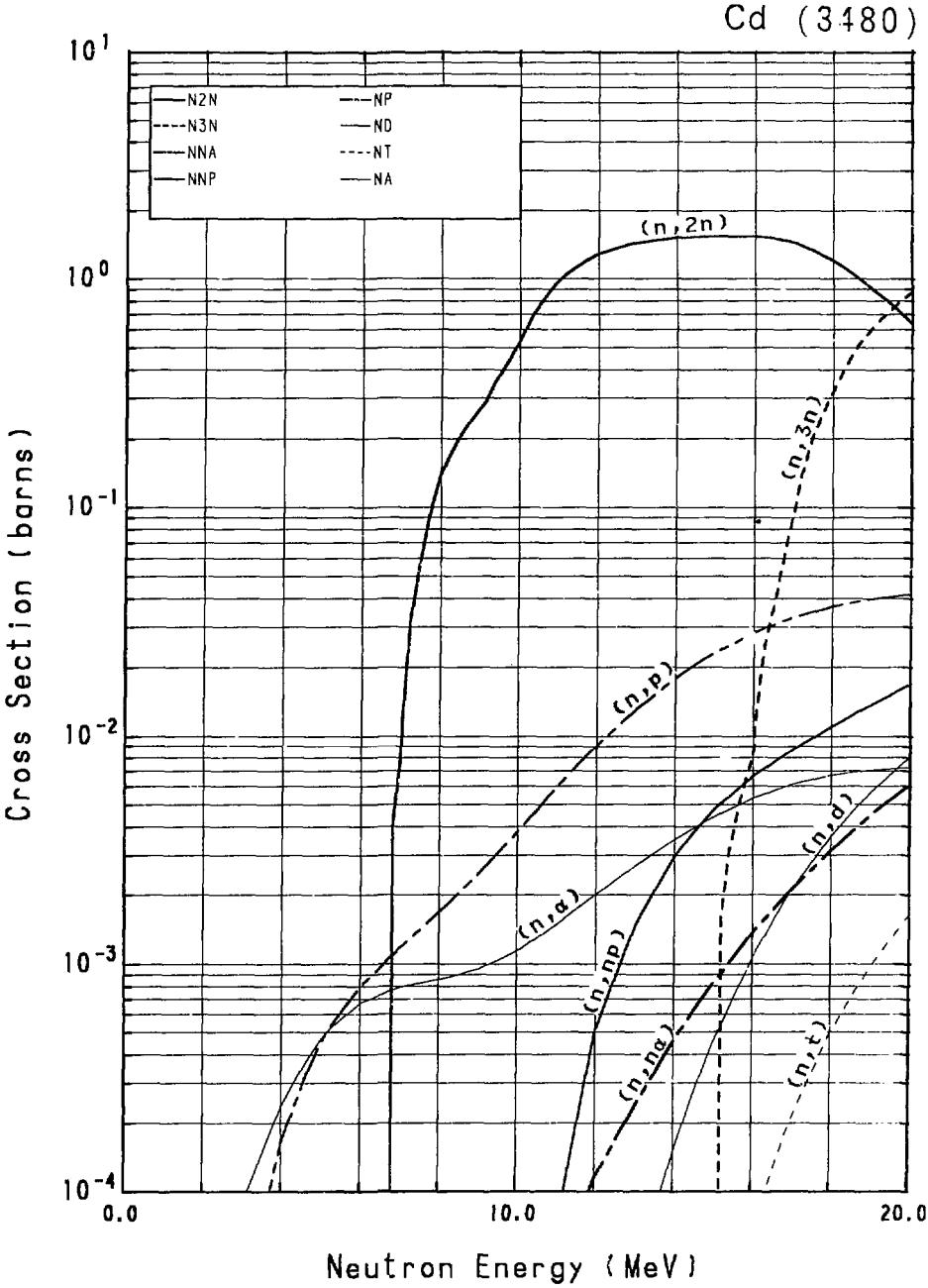

107Ag (3471)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

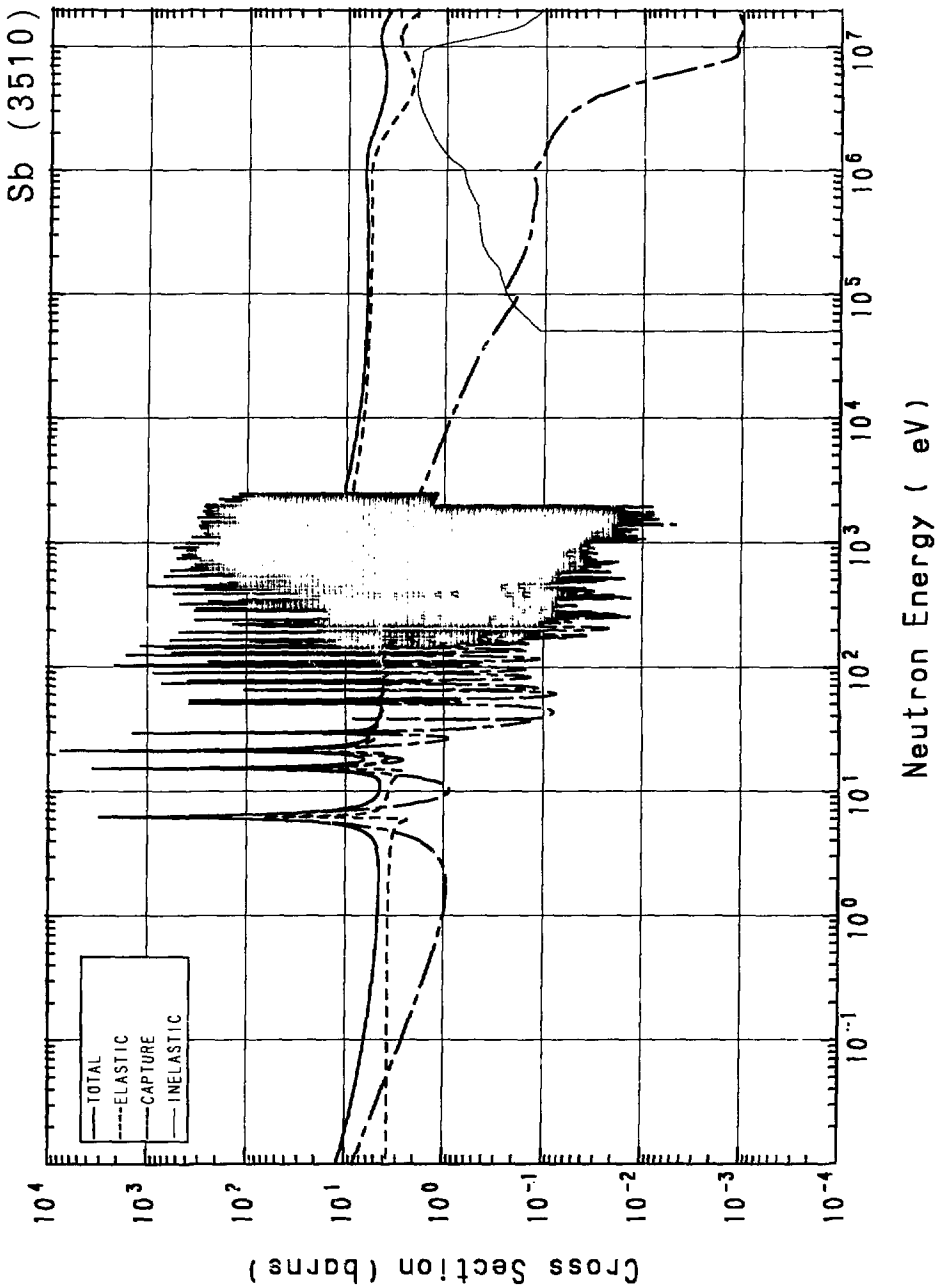

107Ag (3471)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

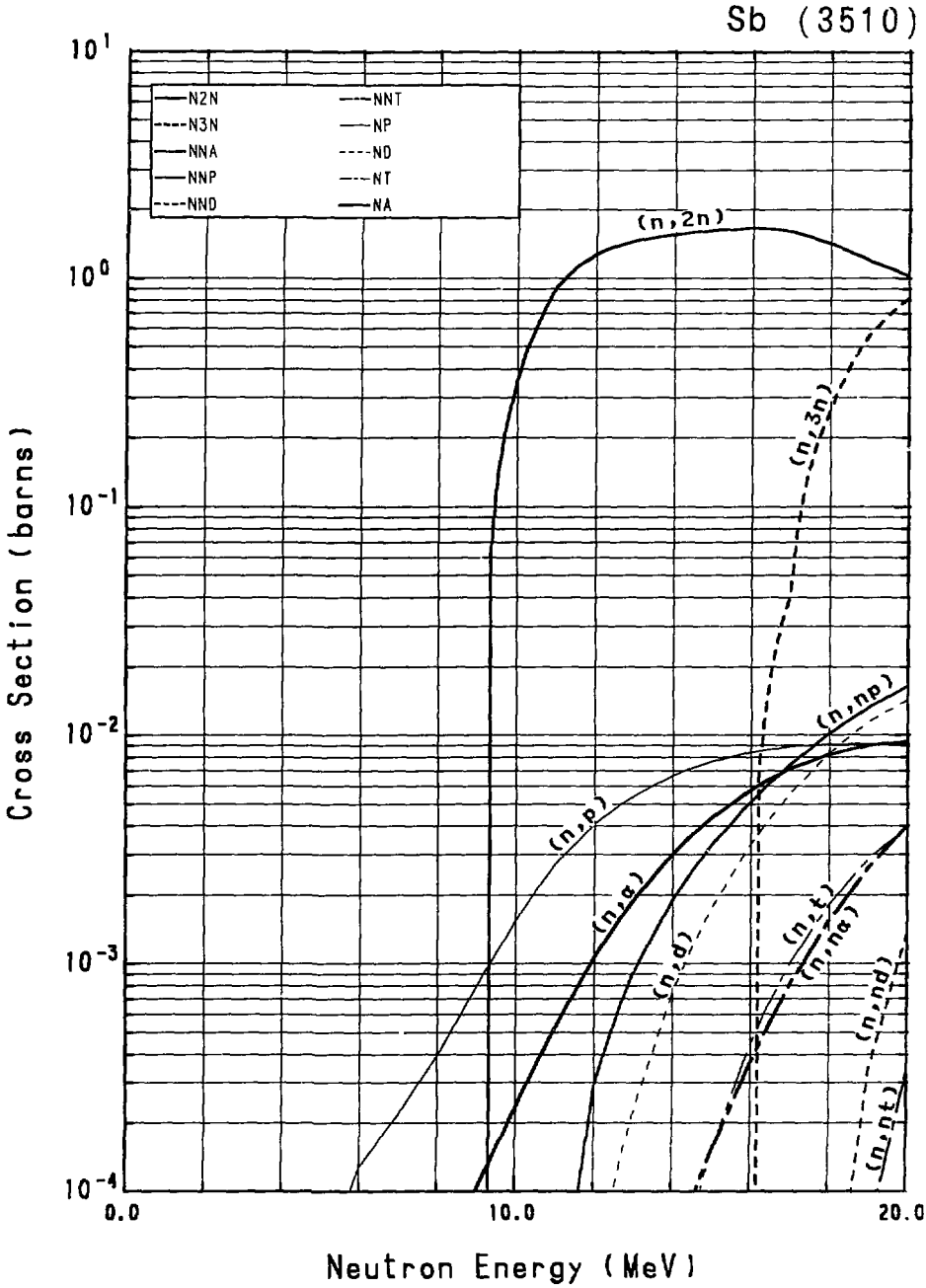

^{109}Ag (3472)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

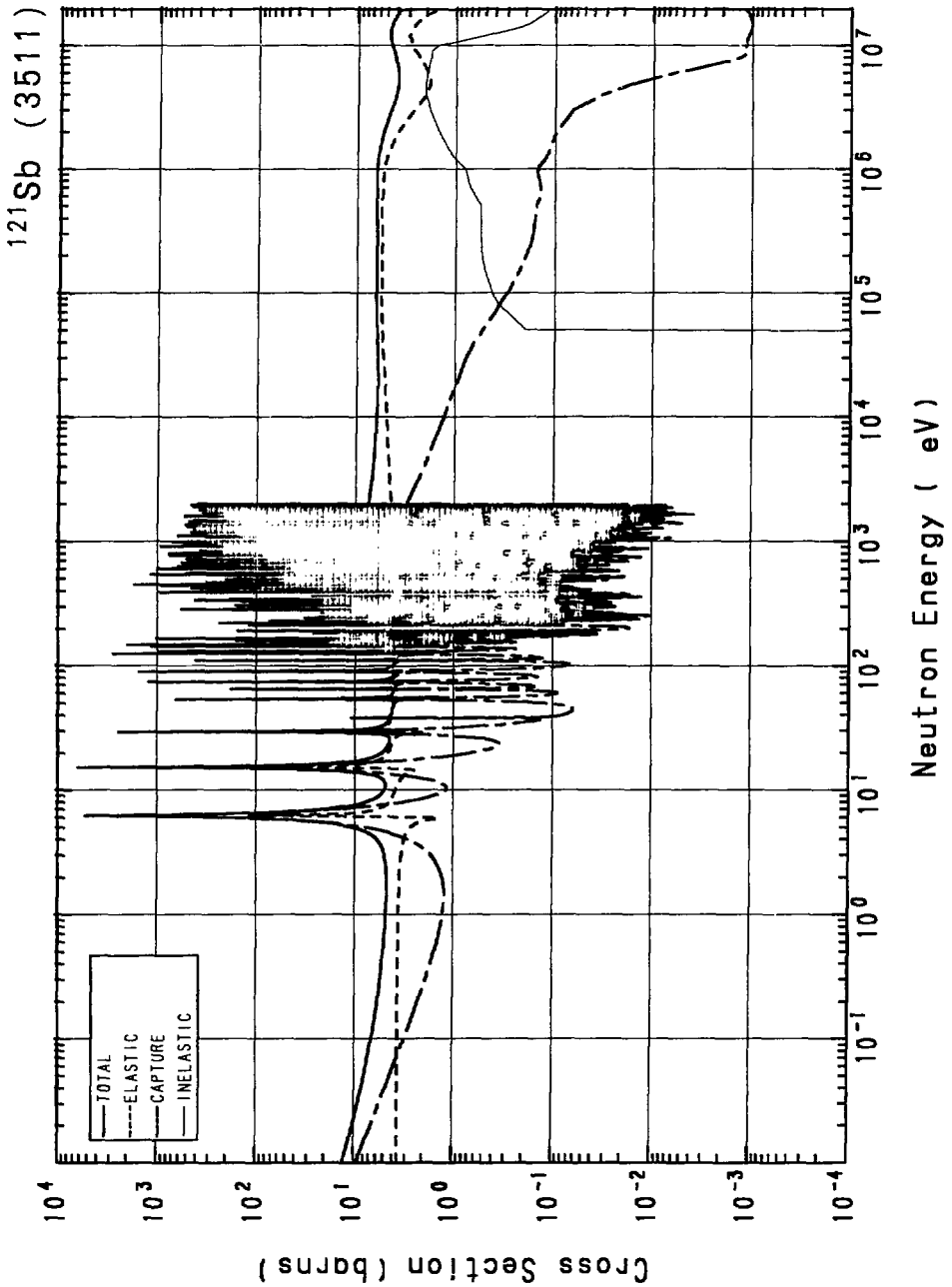

^{109}Ag (3472)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

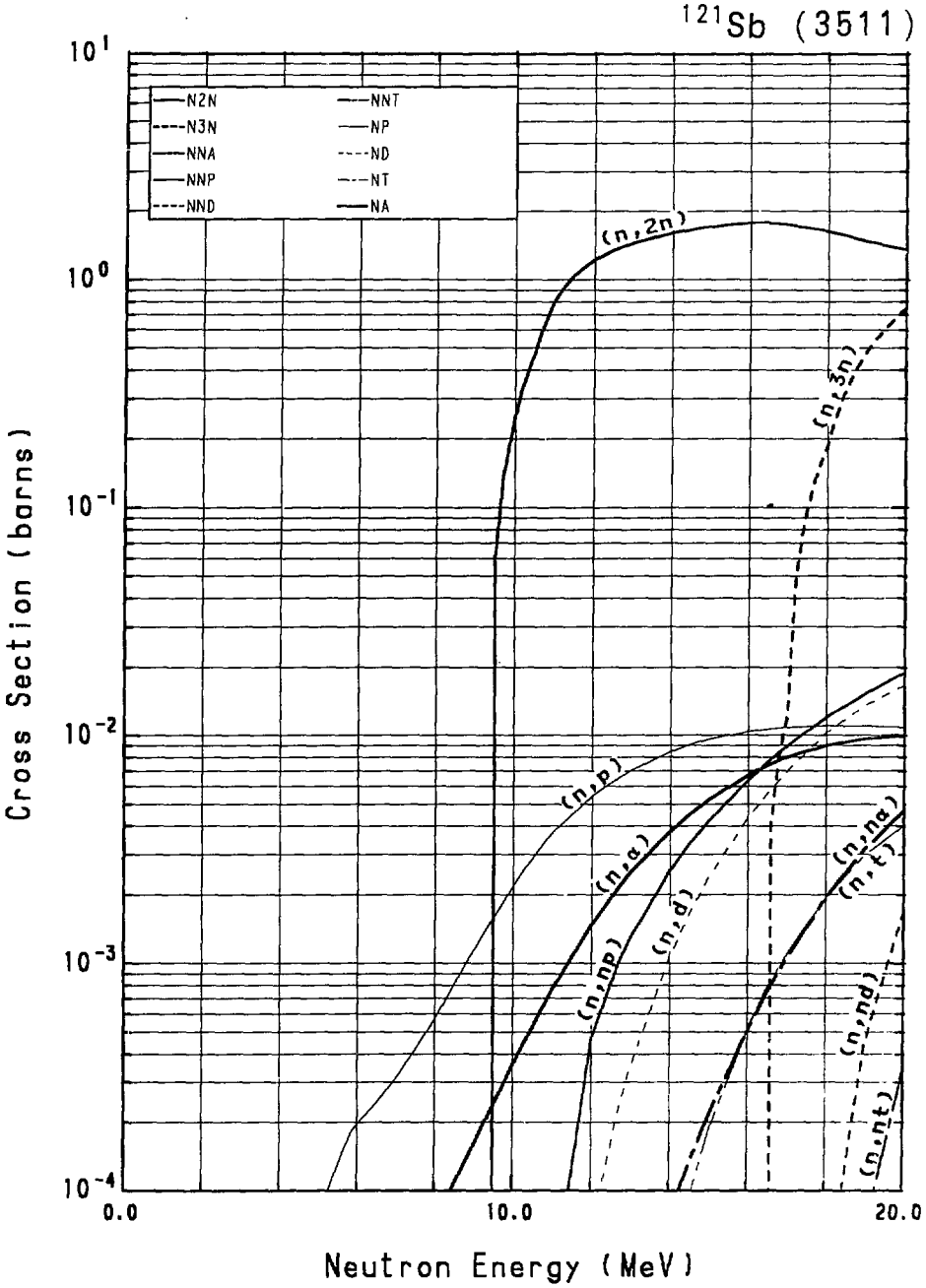

Cd (3480)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

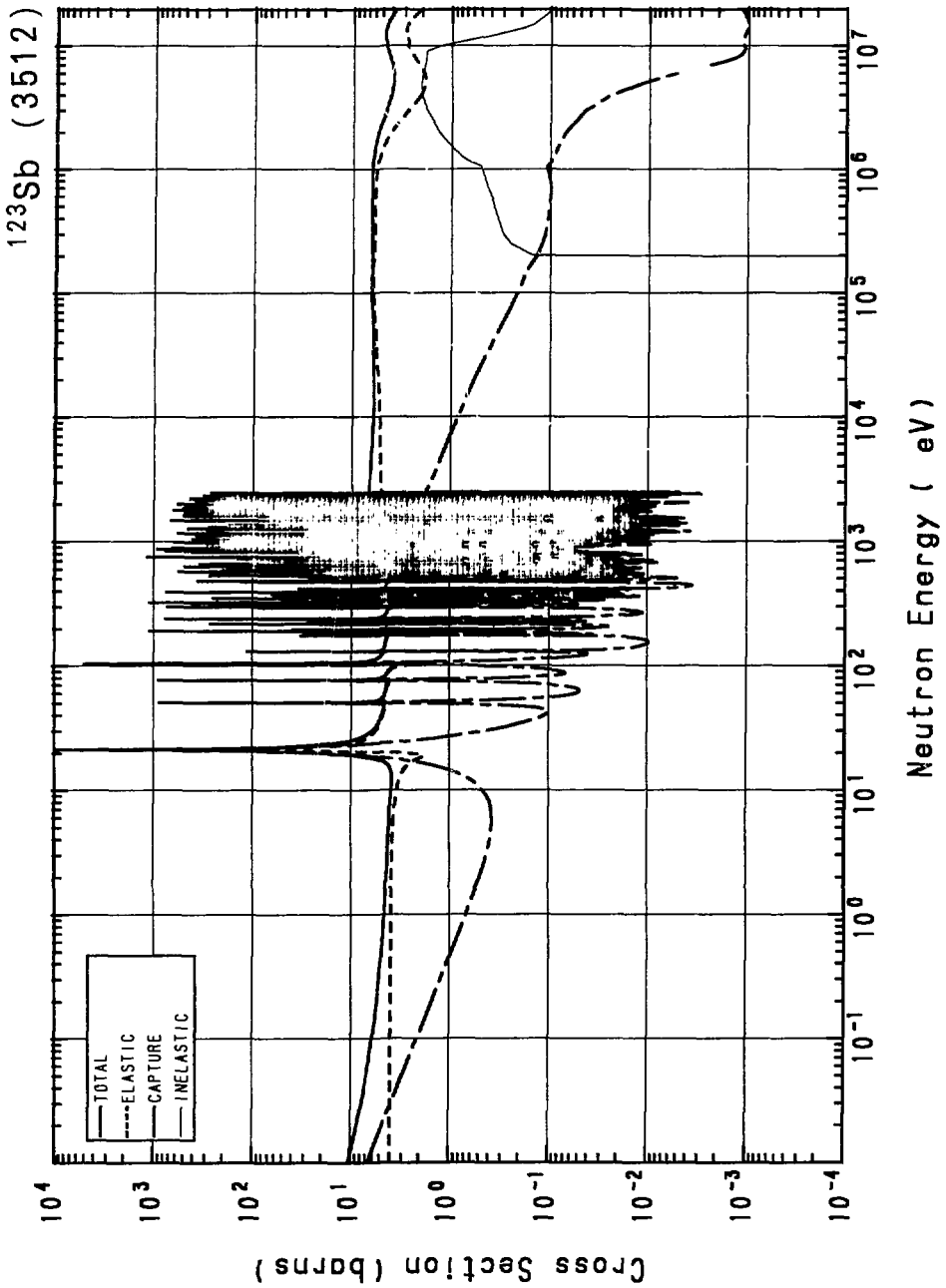

Cd (3480)
N2N
N3N
NNA
NNP
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

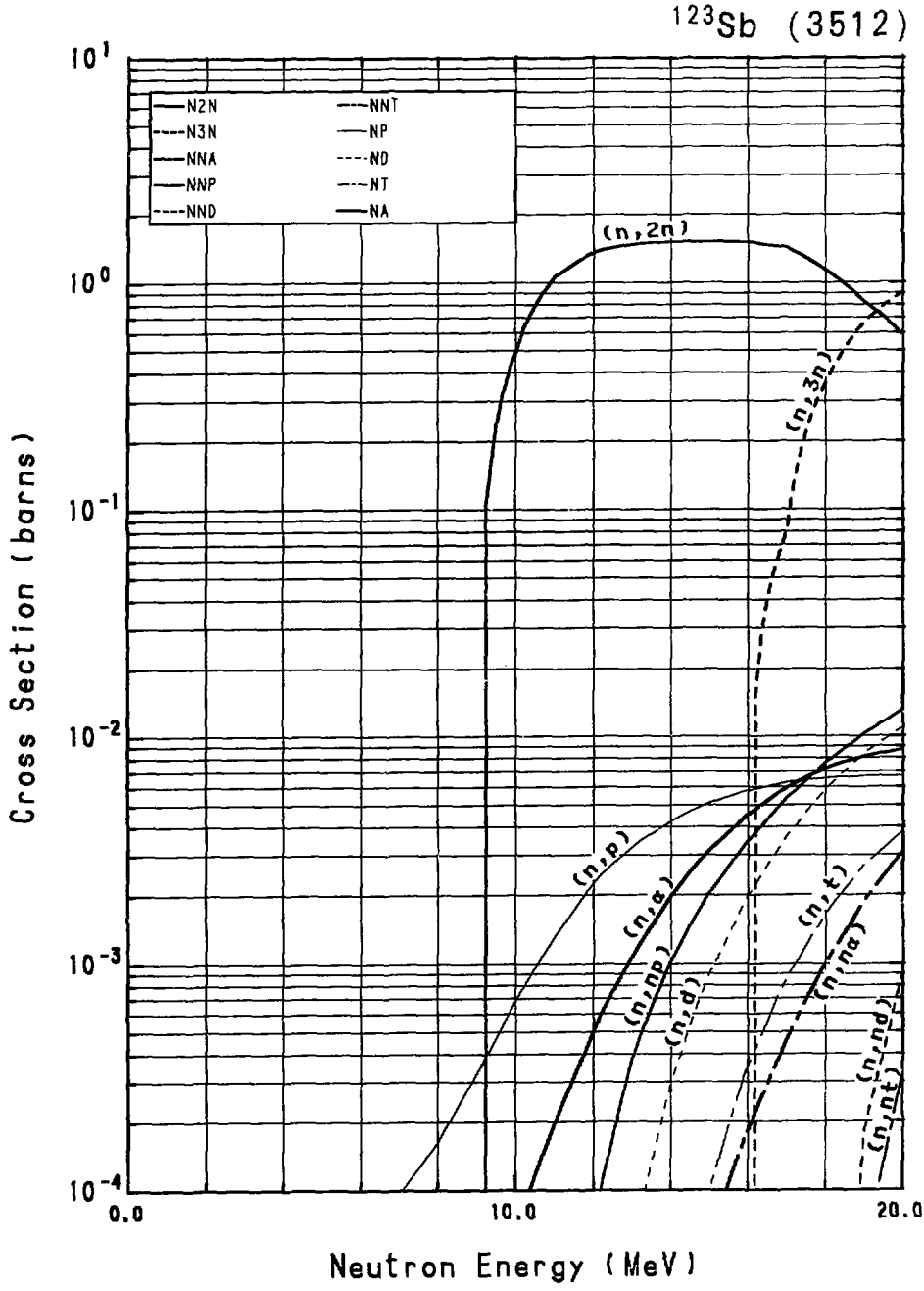

Sb (3510)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

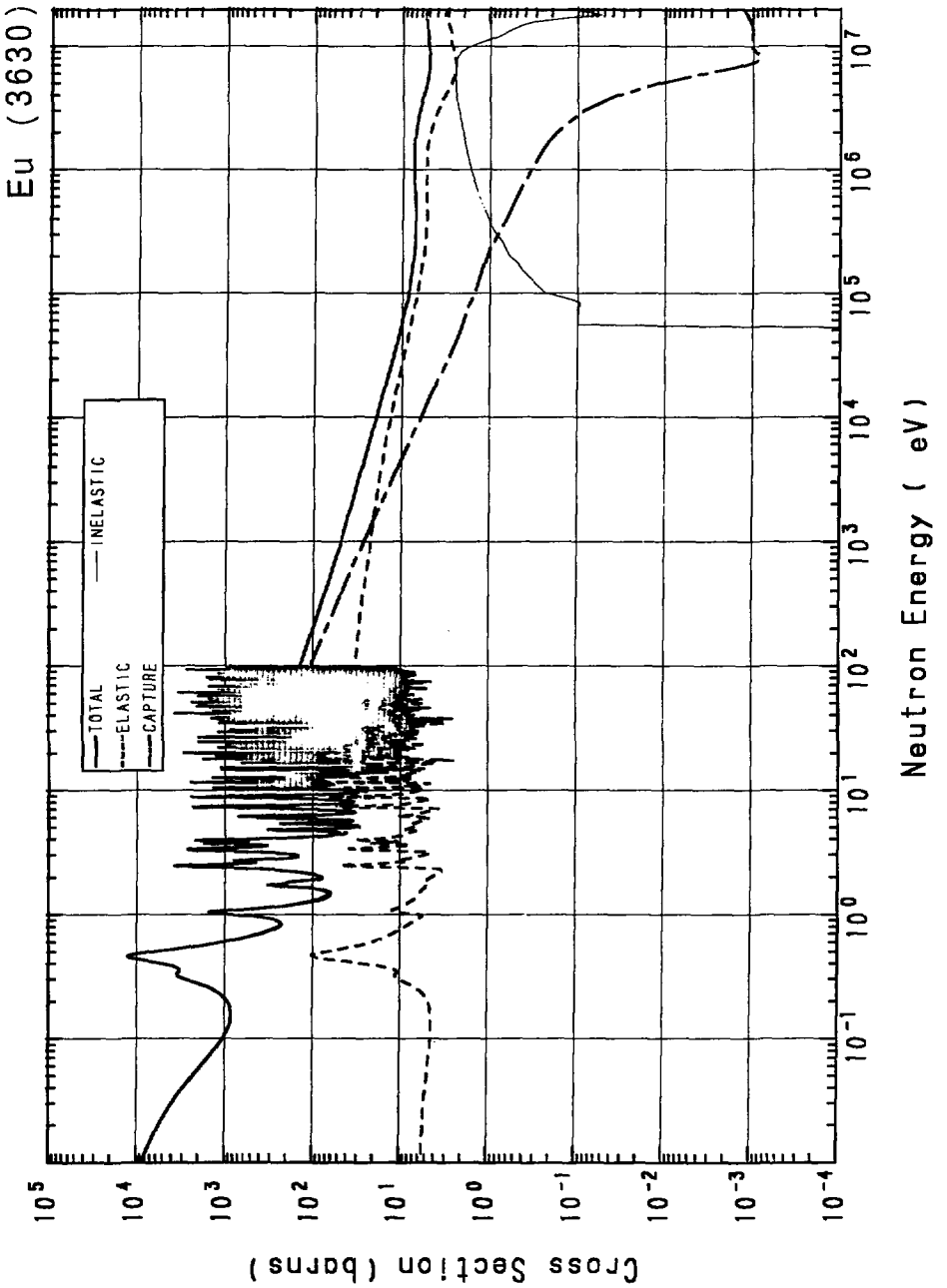

Sb (3510)
N2N
N3N
NNA
NNP
NND
NNT
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,t)
(n,nα)
(n,nd)
(n,nt)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

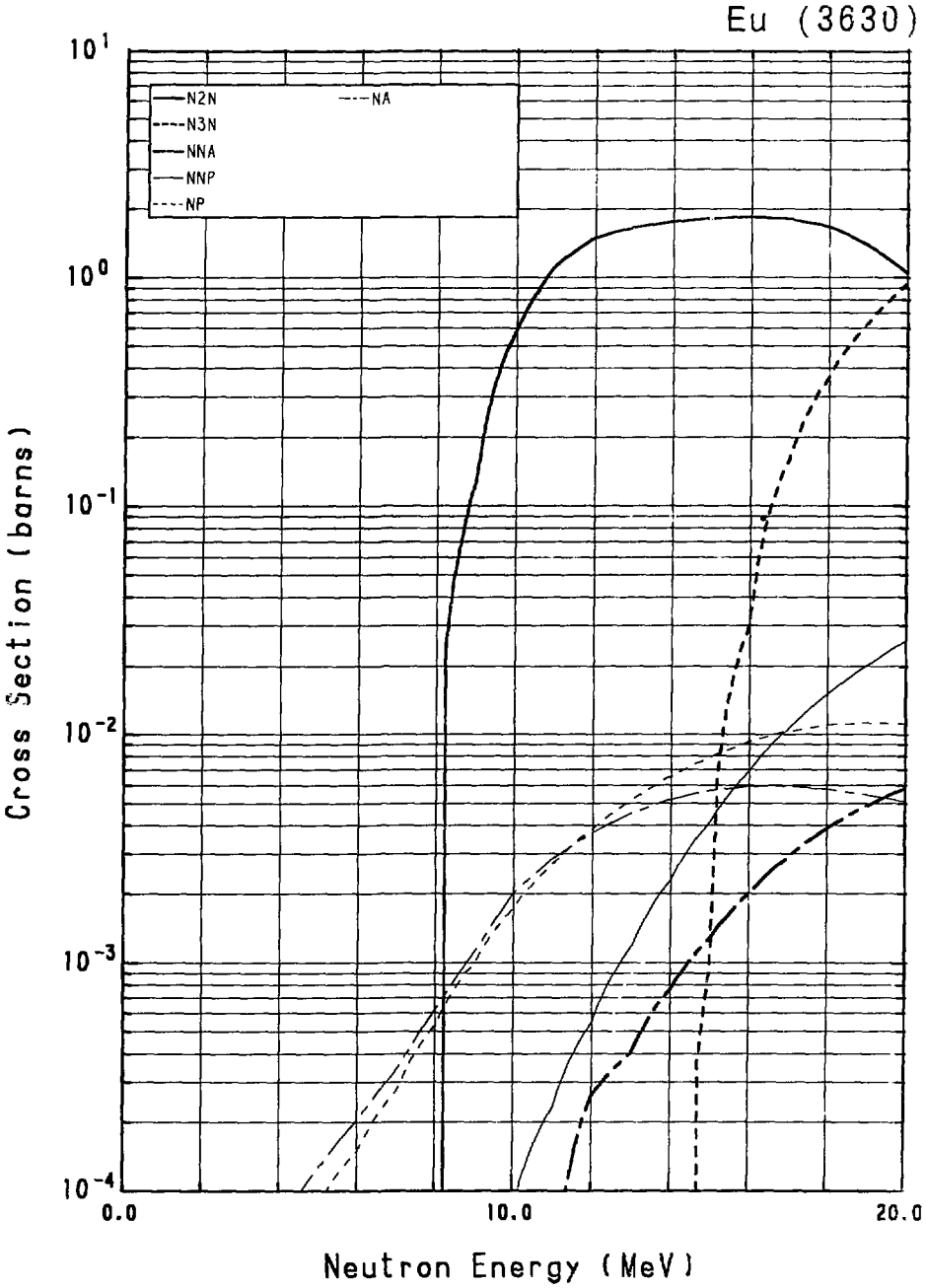

121Sb (3511)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

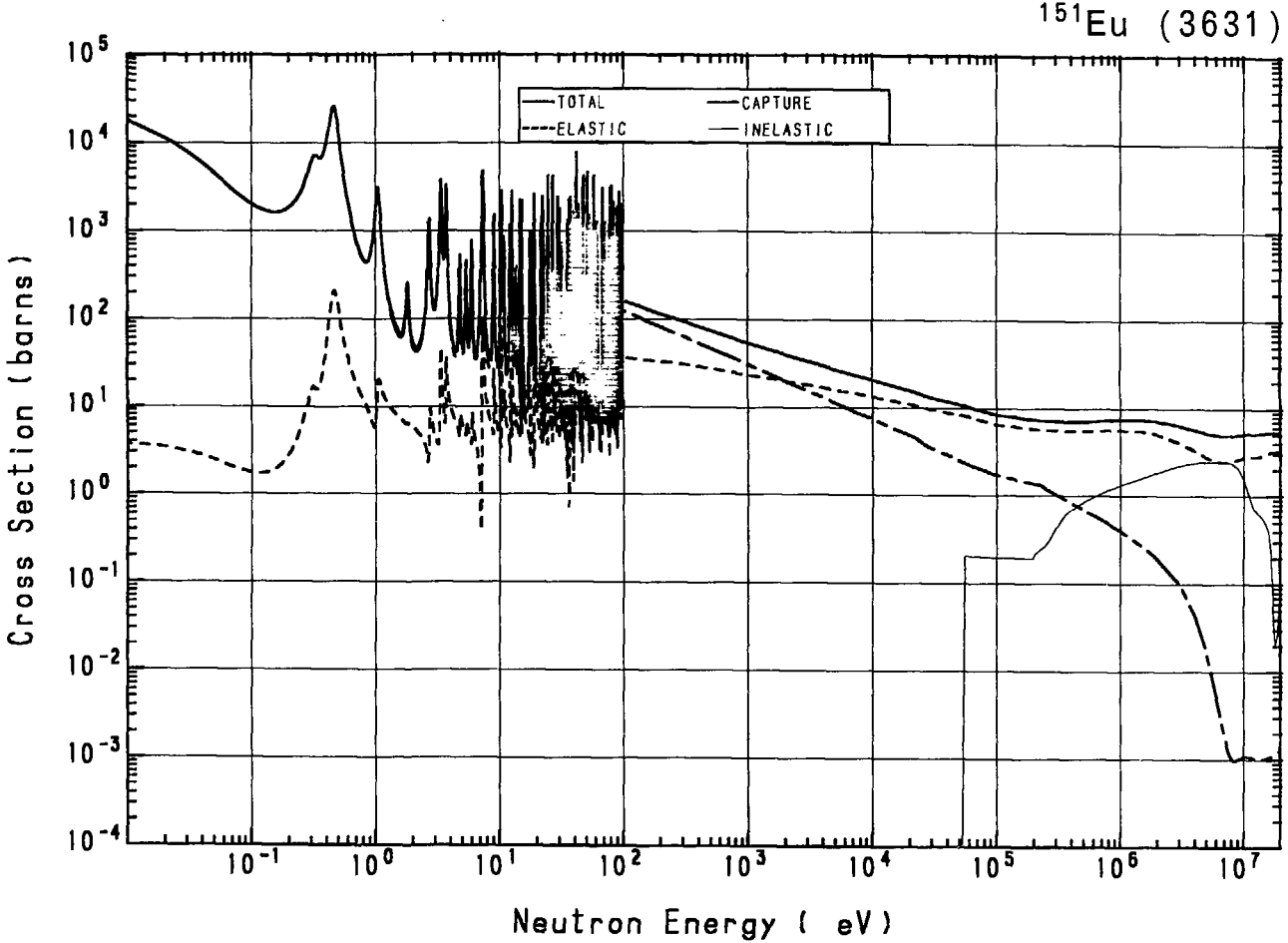

121Sb (3511)
N2N
N3N
NNA
NNP
NND
NNT
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,nd)
(n,nt)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

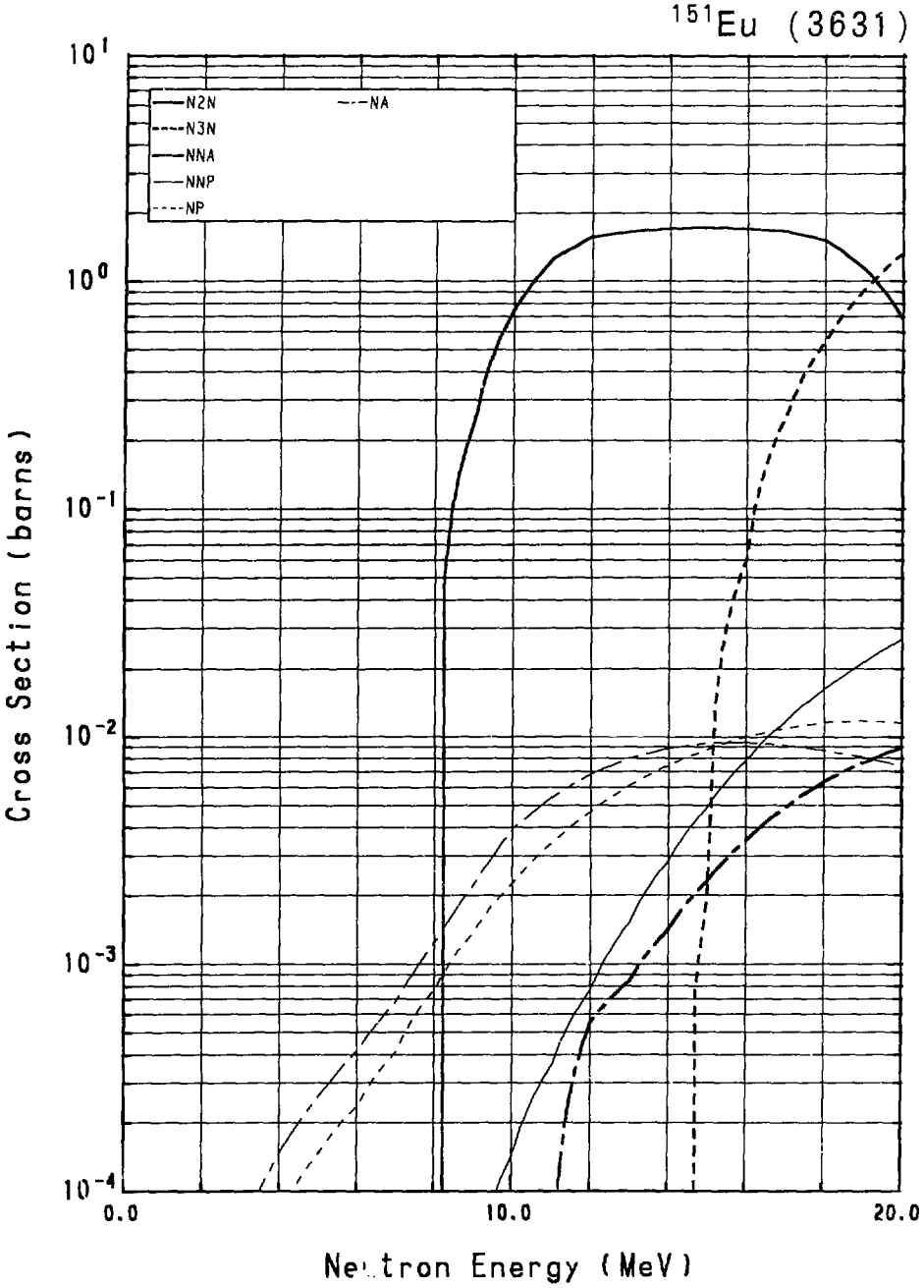

^{123}Sb (3512)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

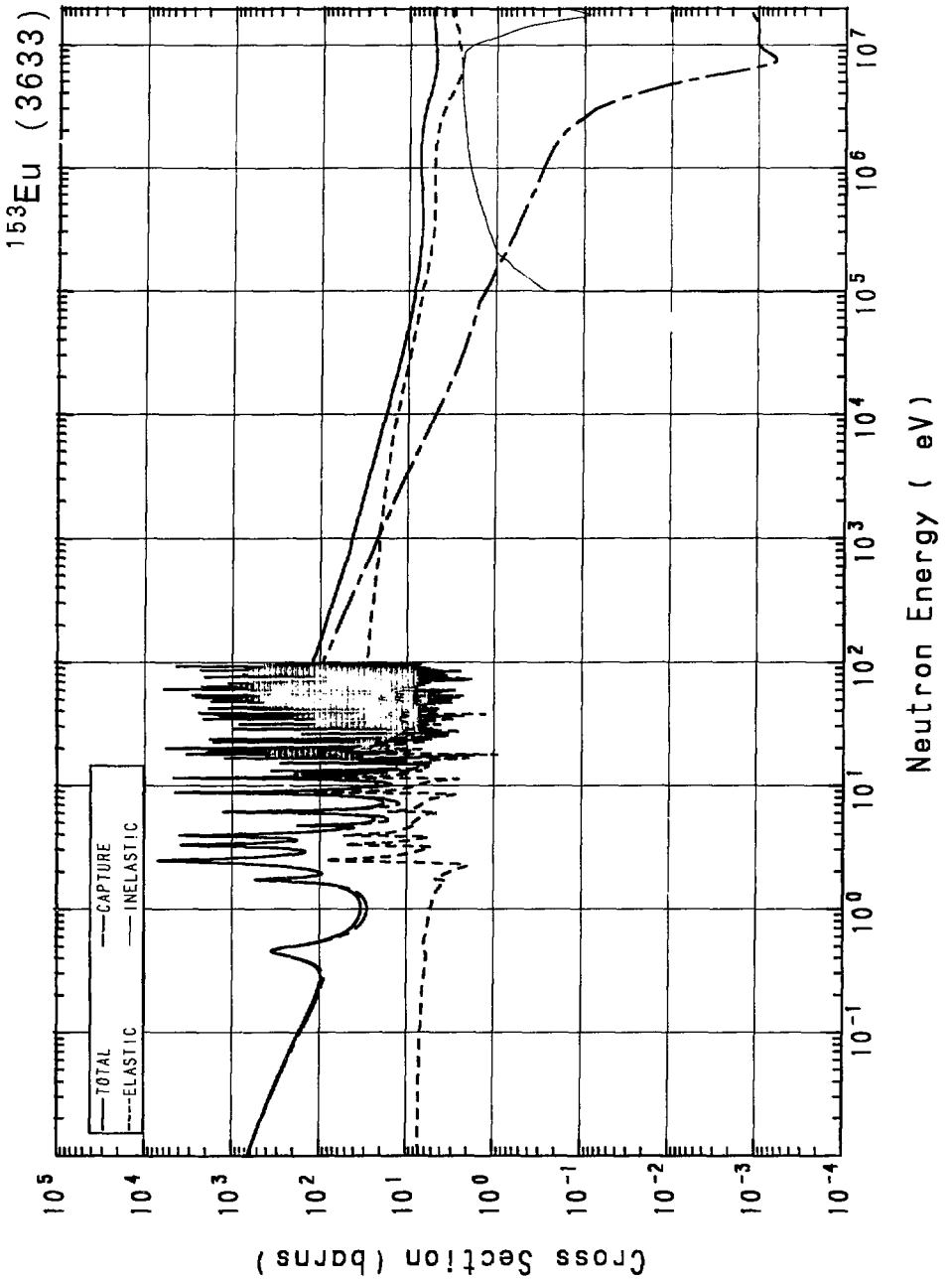

^{123}Sb (3512)
N2N
N3N
NNA
NNP
NND
NNT
NP
ND
NT
NA
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,t)
(n,nα)
(n,nd)
(n,nt)
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0.0
10.0
20.0

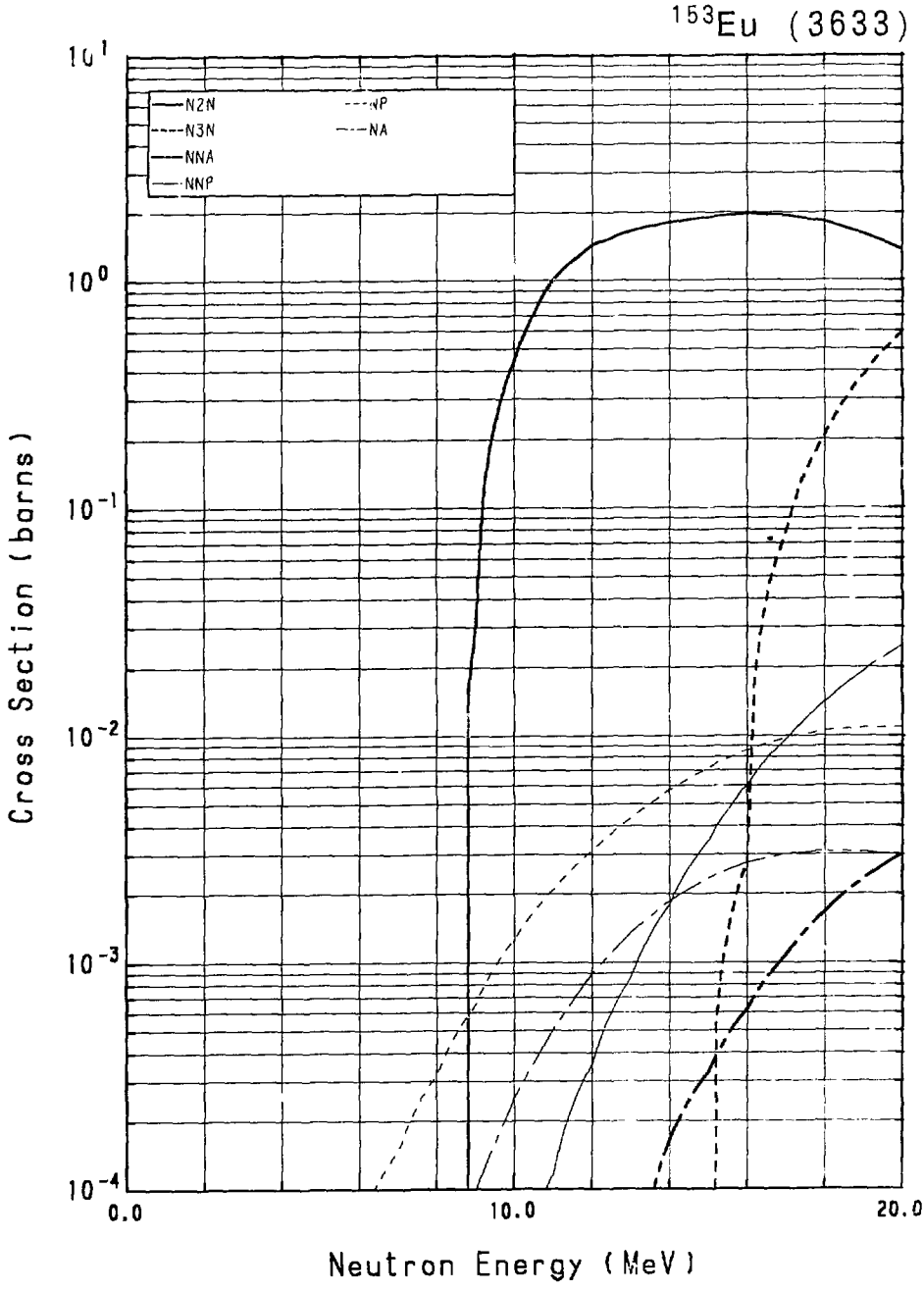

Eu (3630)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

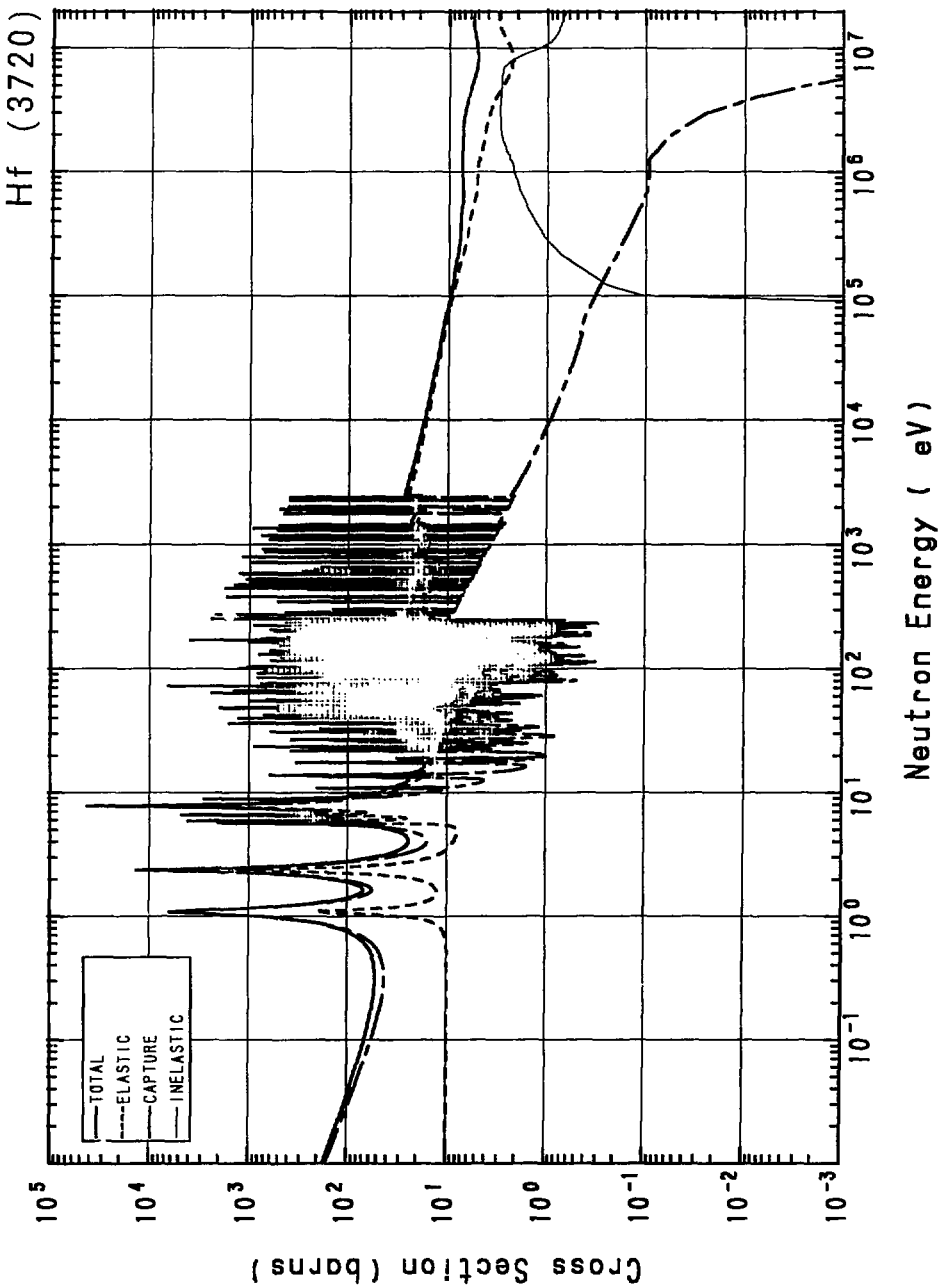

Eu (3630)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

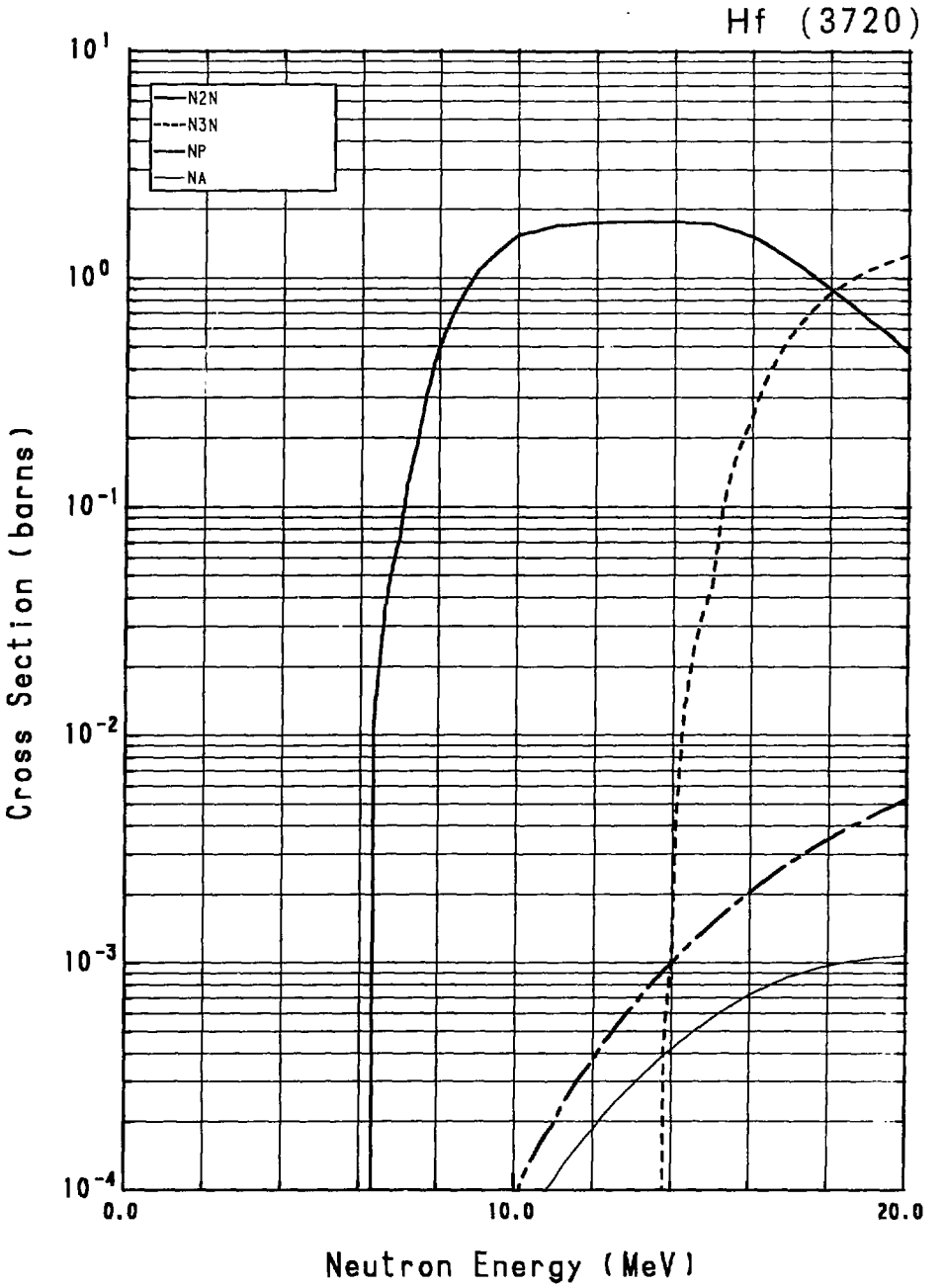

151Eu (3631)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

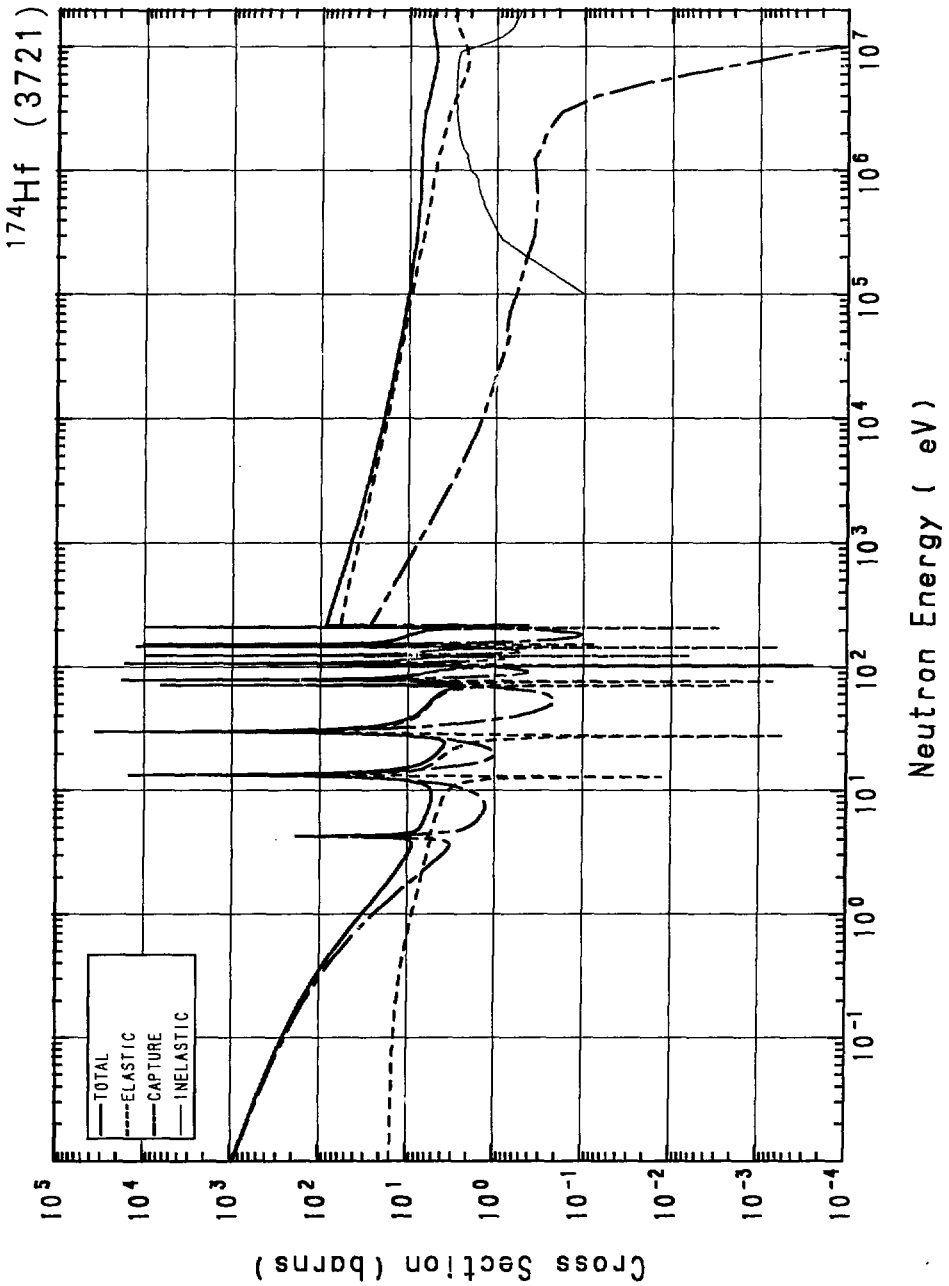

151Eu (3631)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

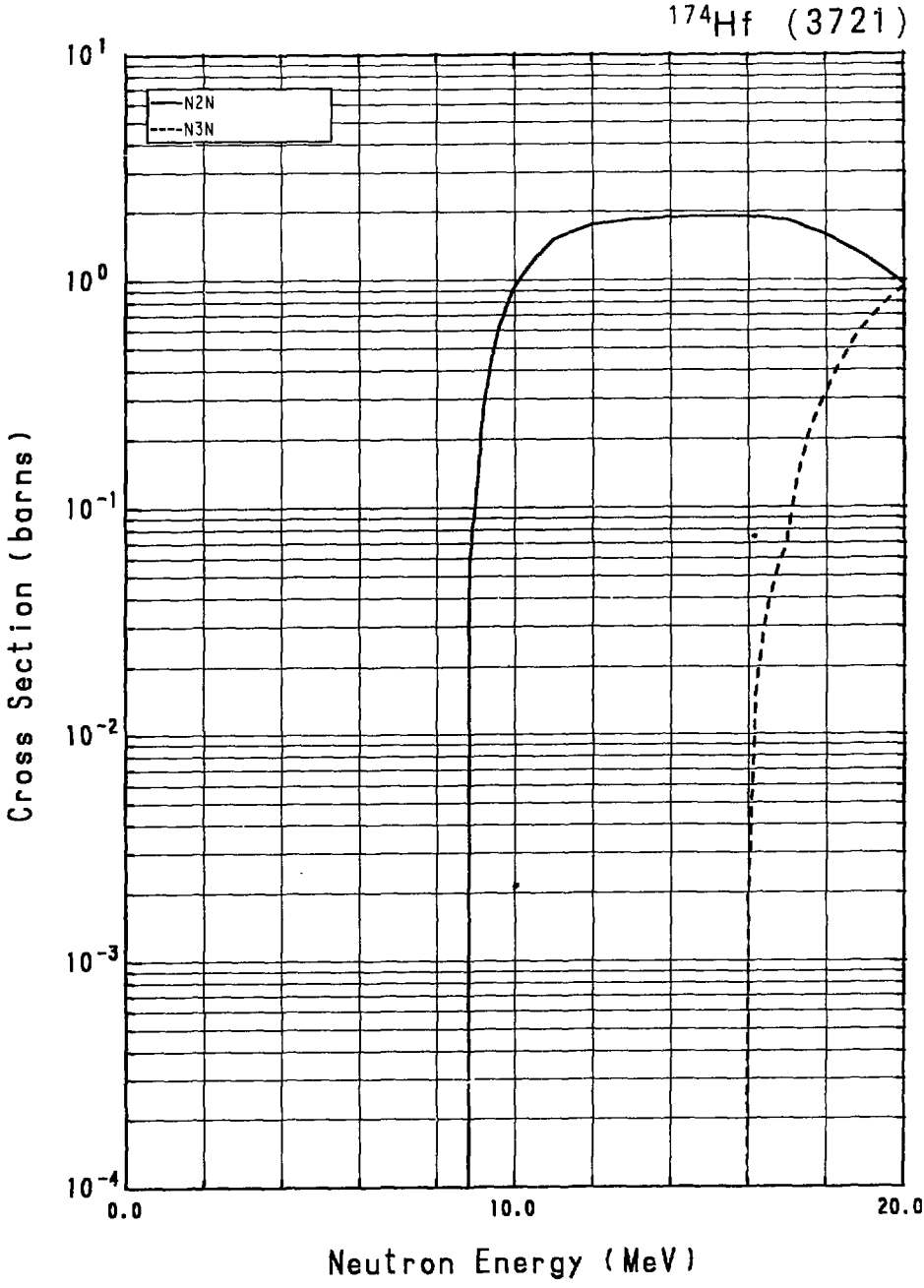

153Eu (3633)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

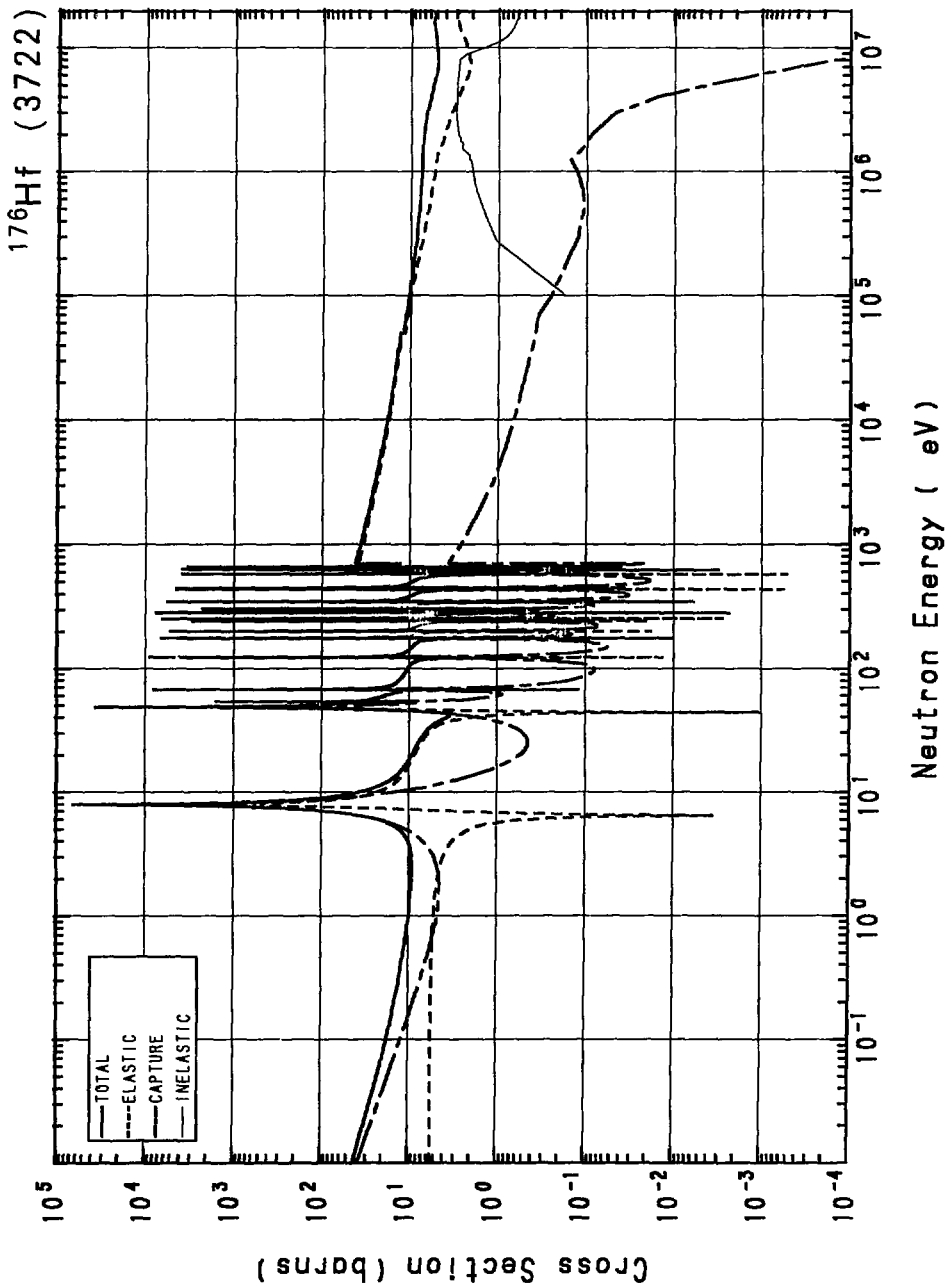

153Eu (3633)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

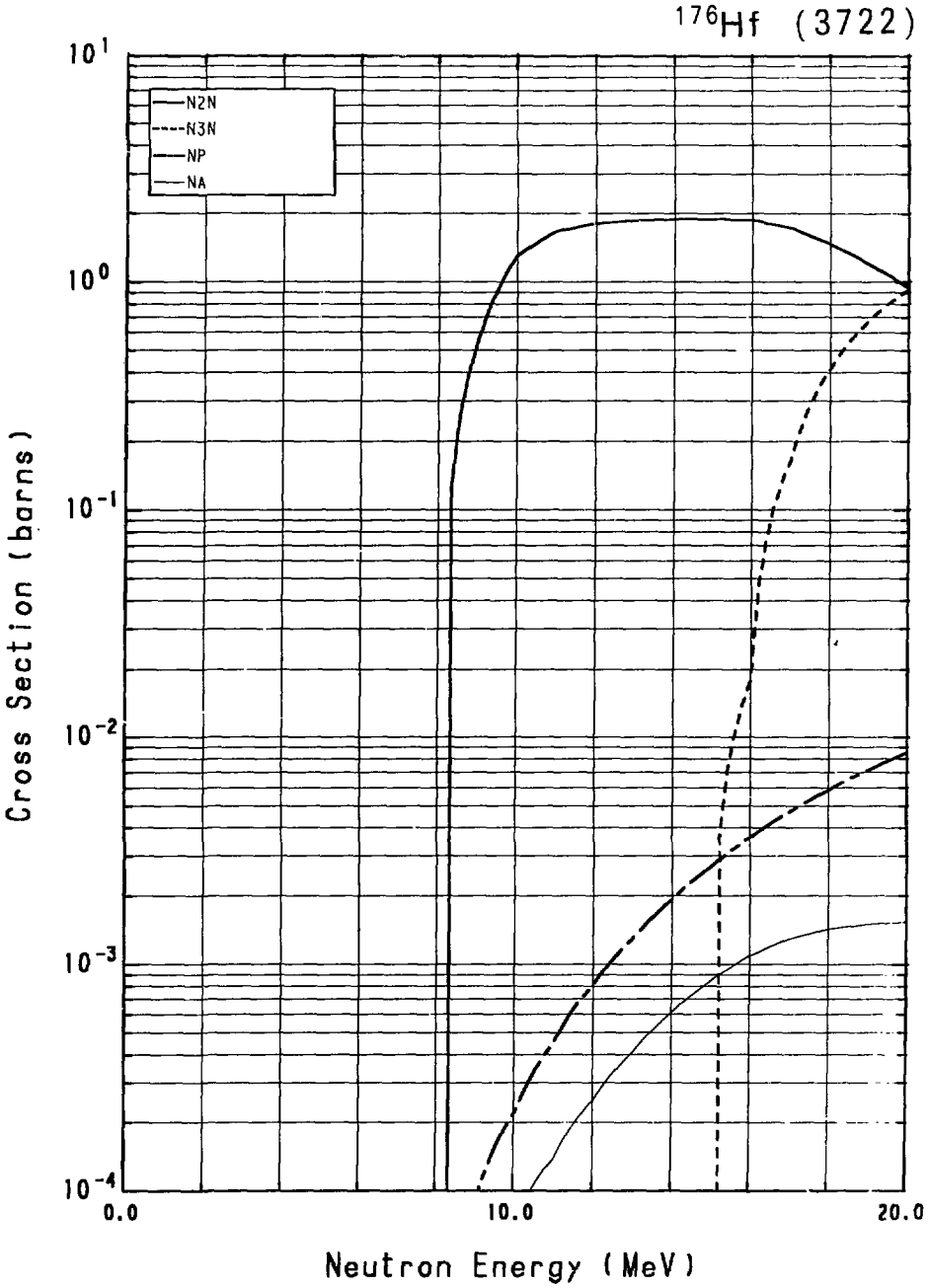

Hf (3720)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

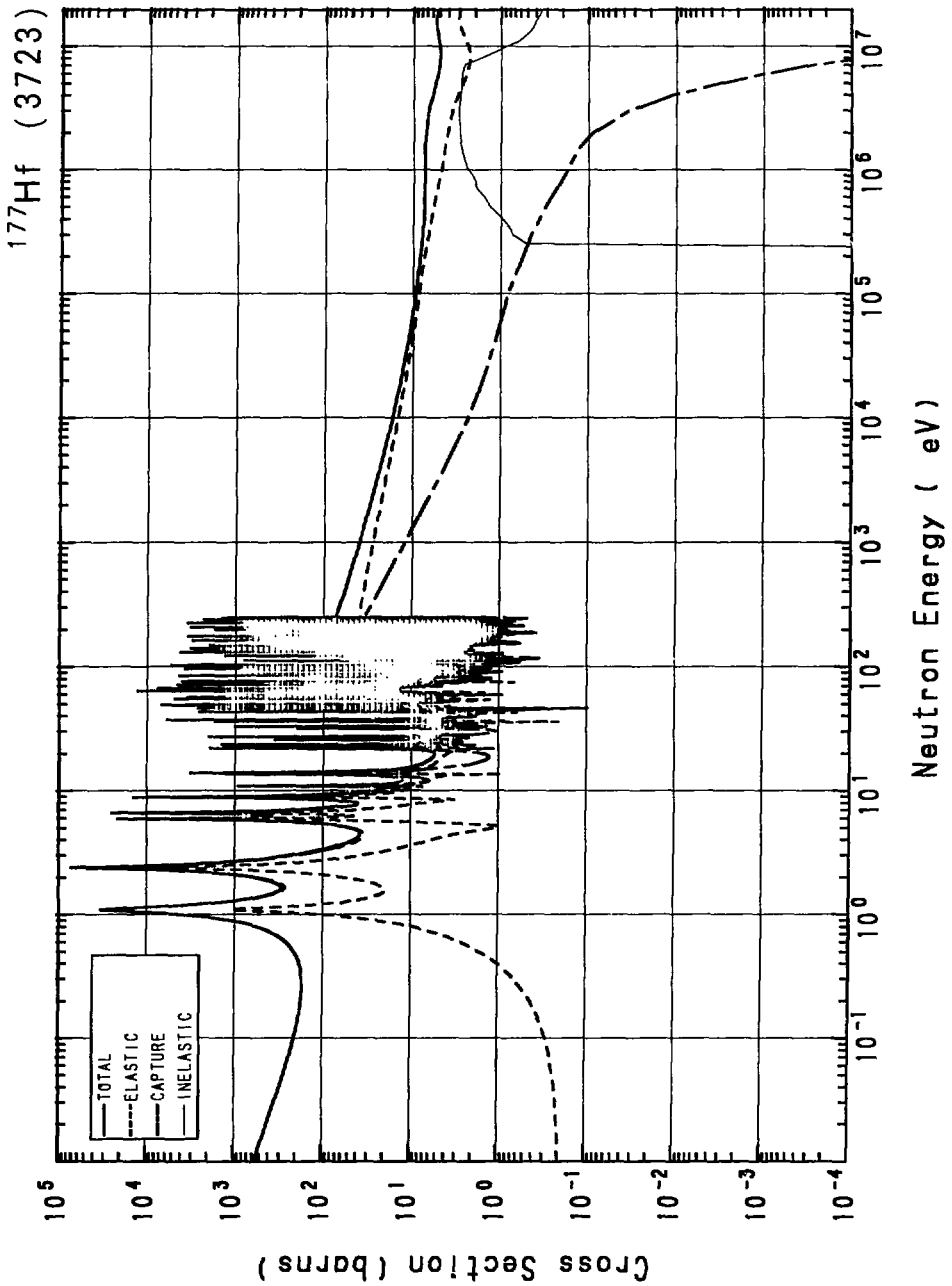

Hf (3720)
N2N
N3N
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

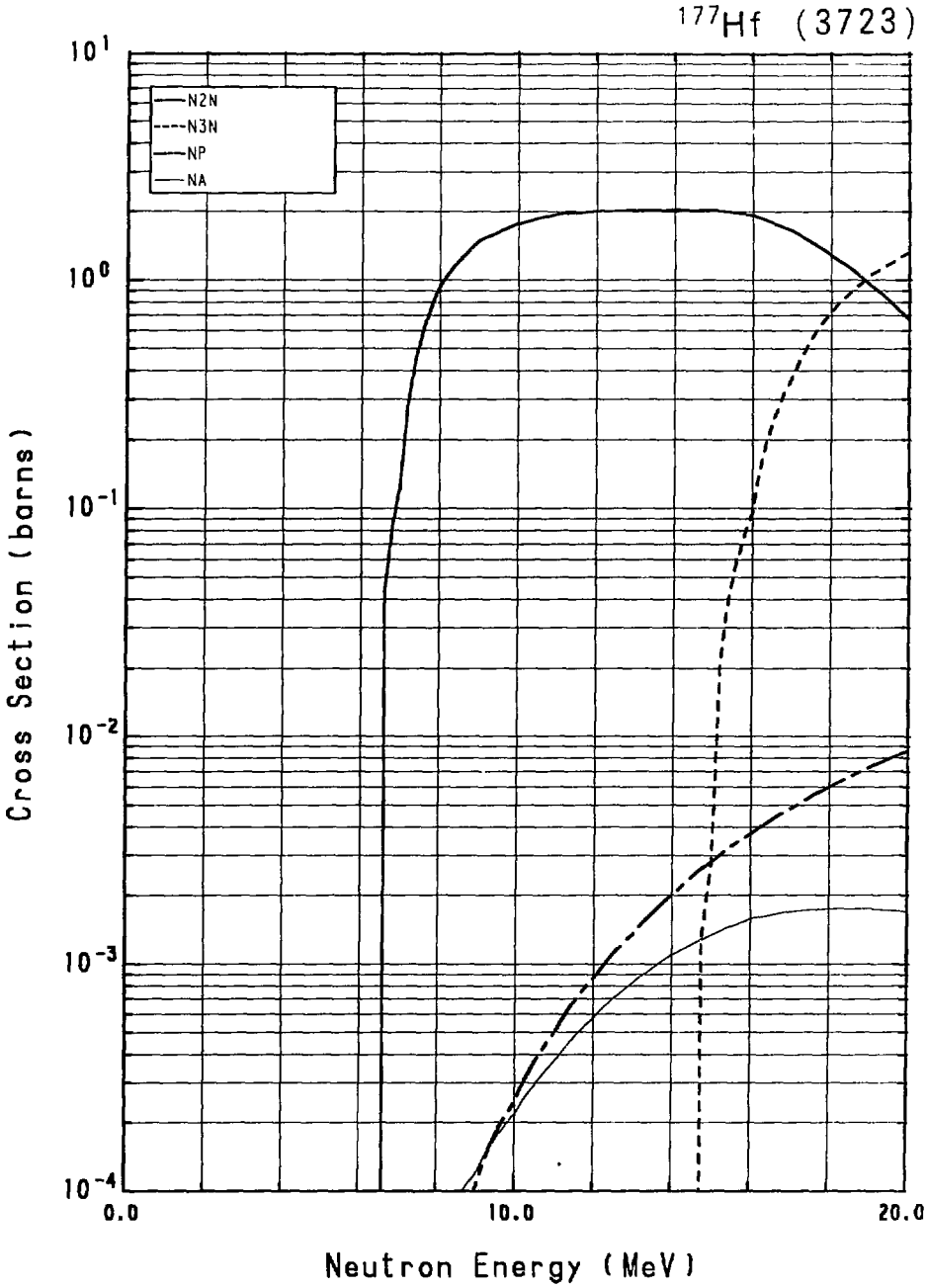

174Hf (3721)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

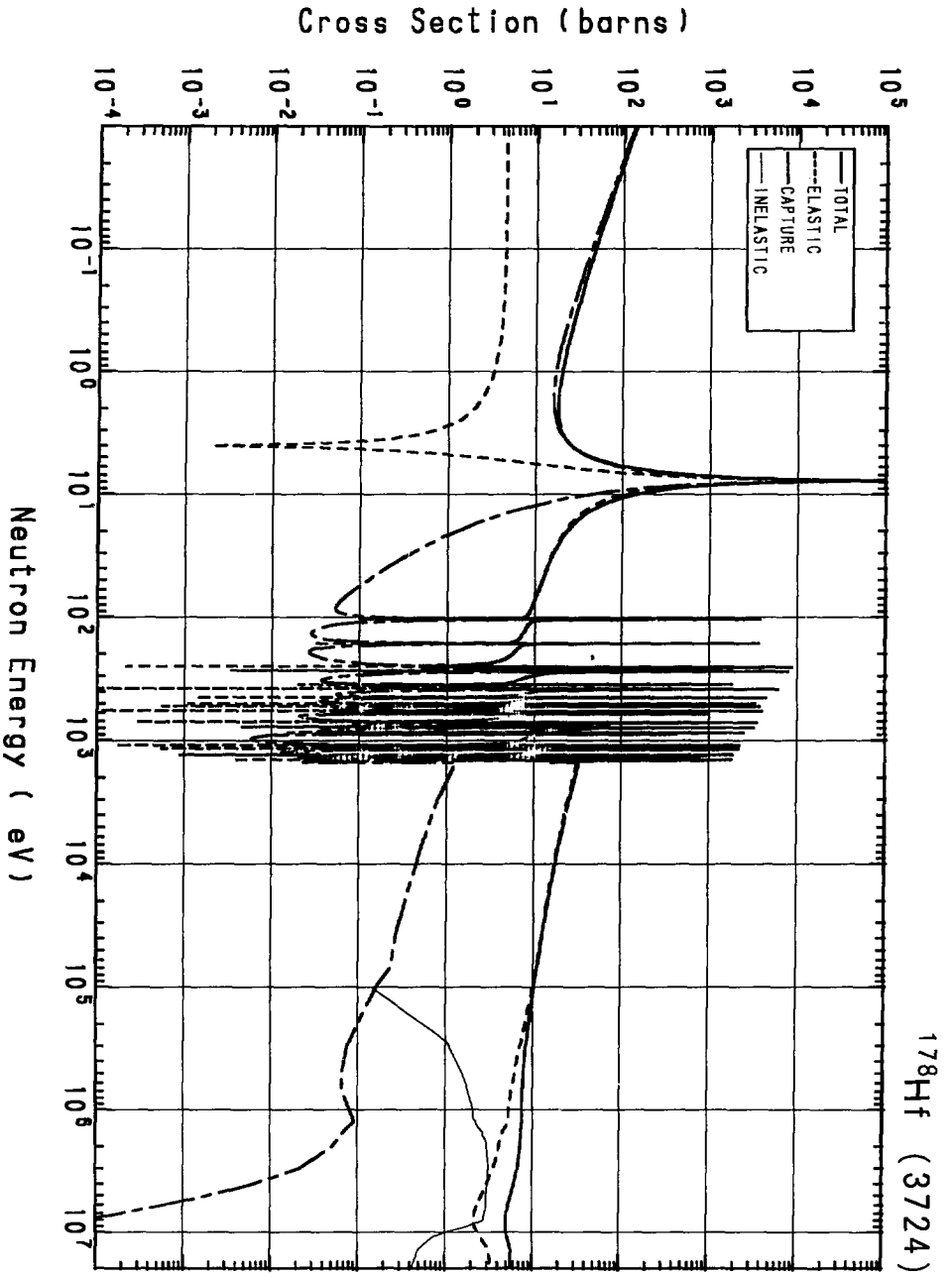

174Hf (3721)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

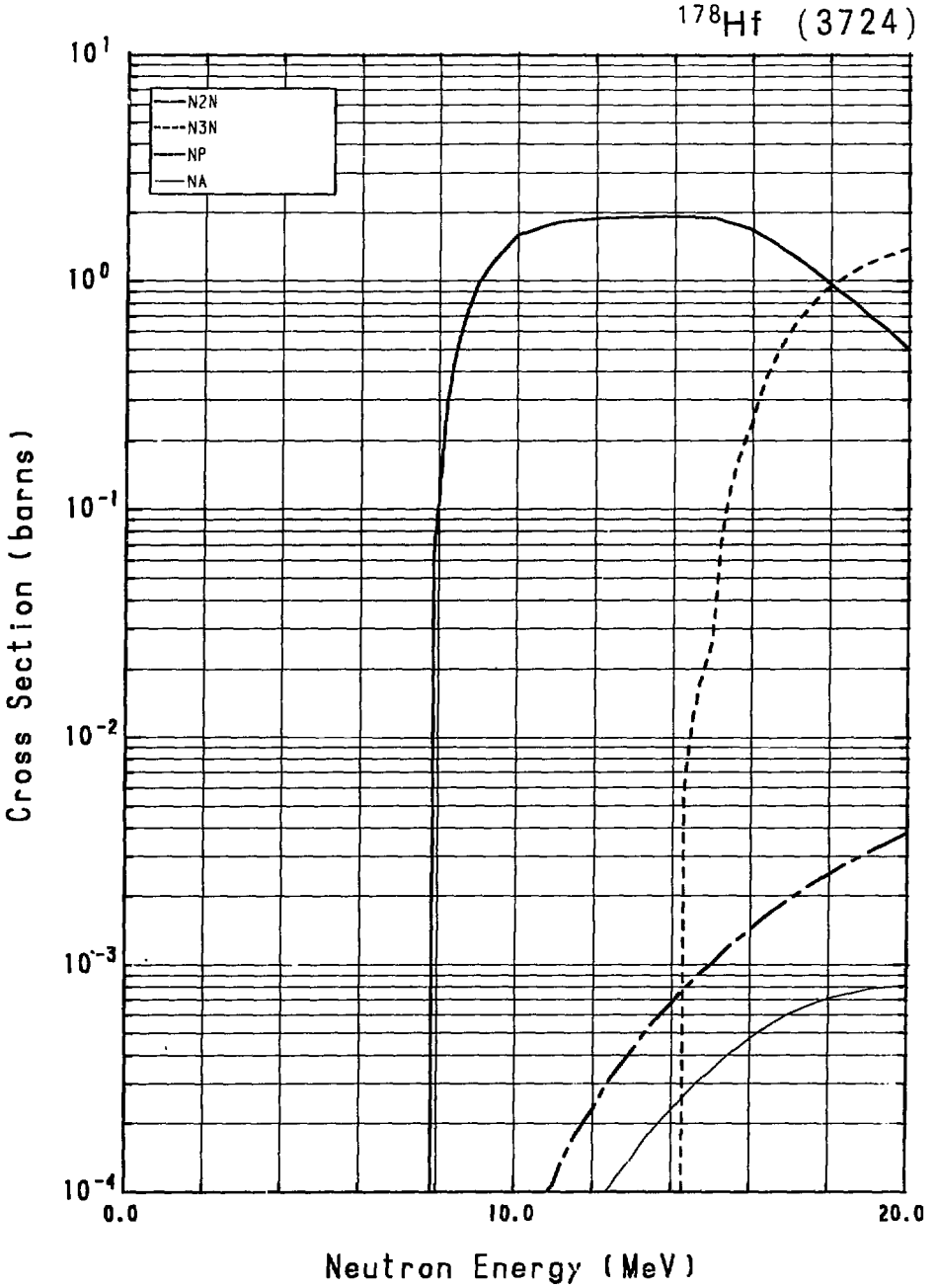

176Hf (3722)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

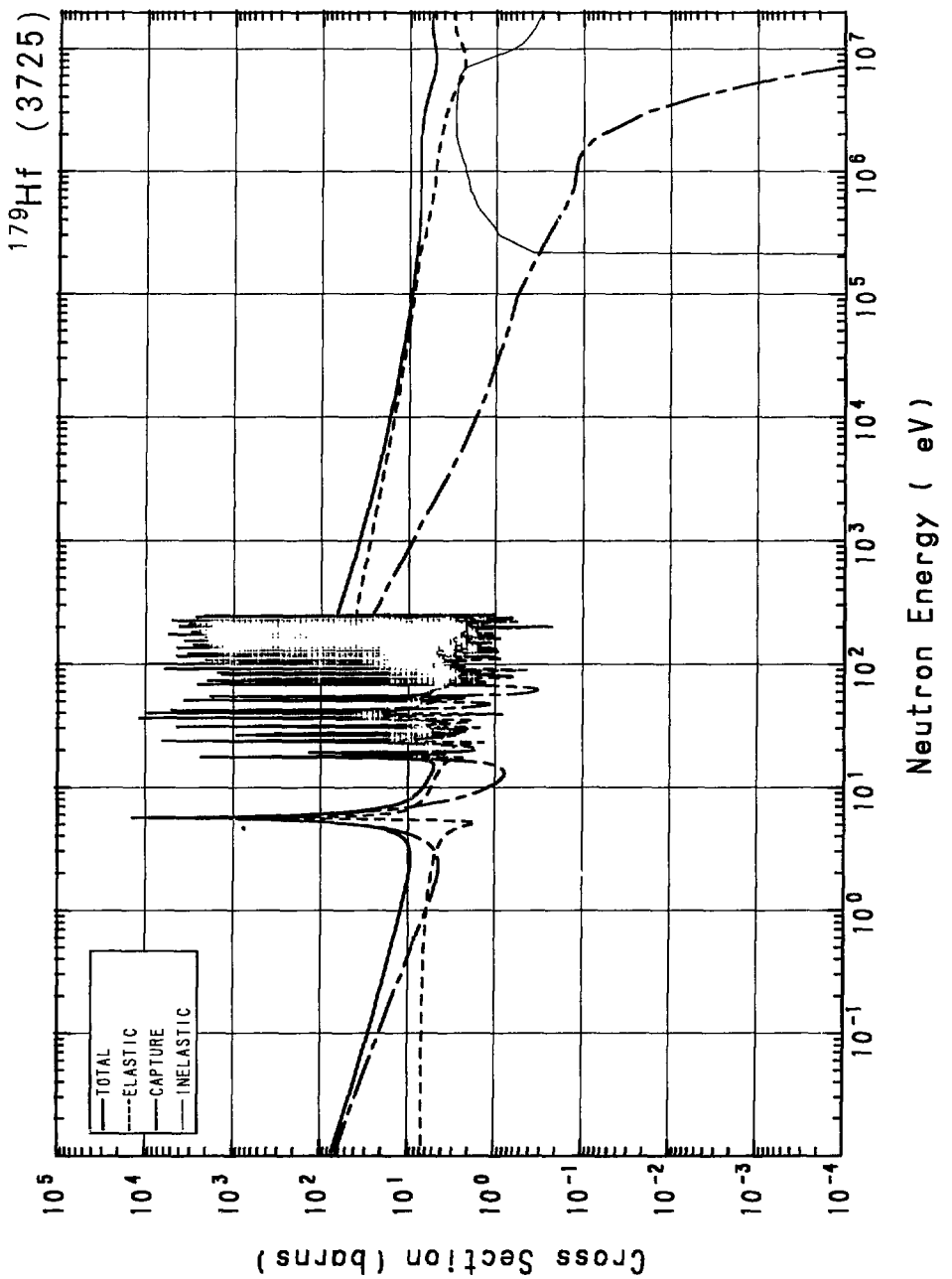

176Hf (3722)
N2N
N3N
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

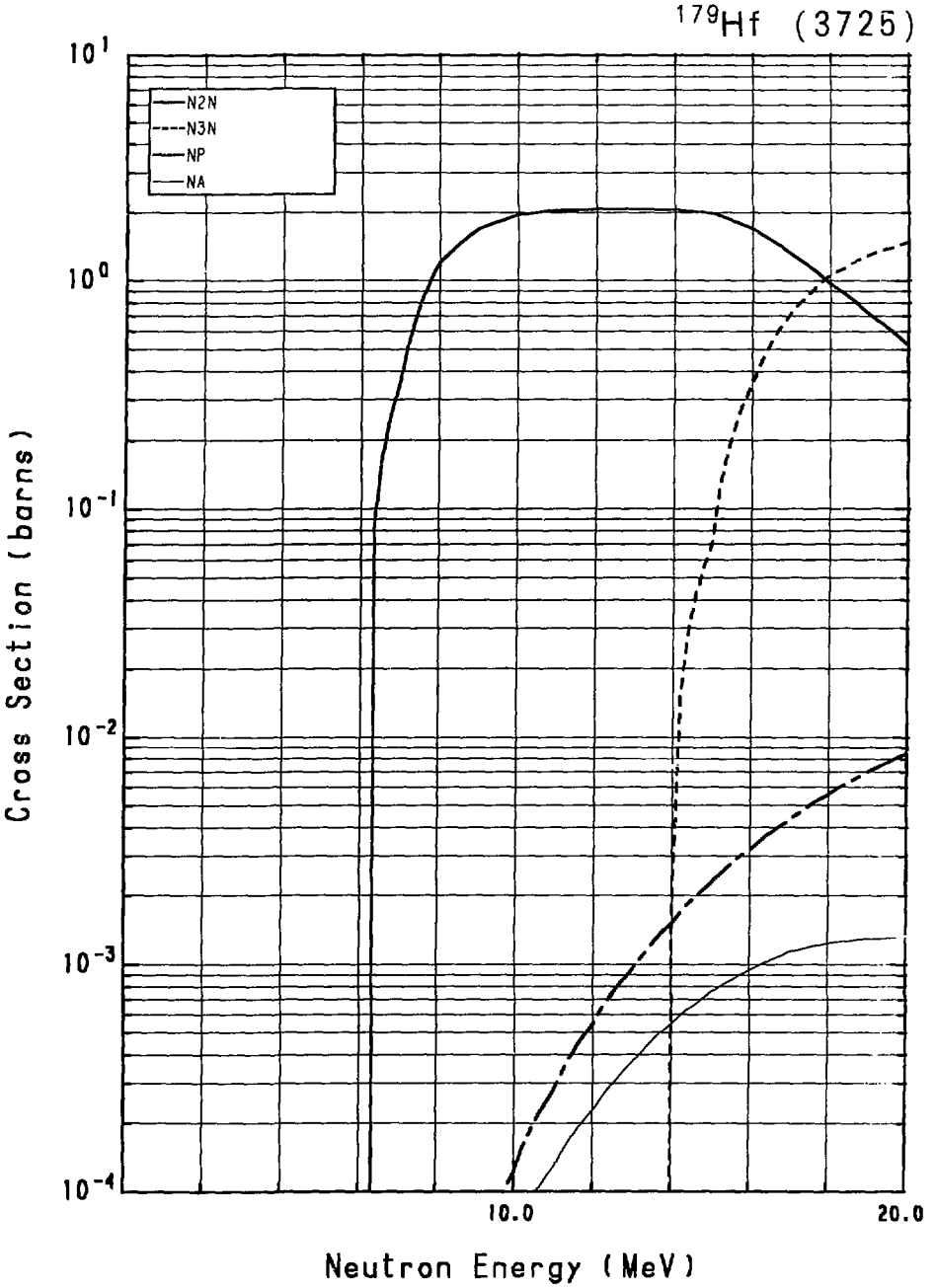

177Hf (3723)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

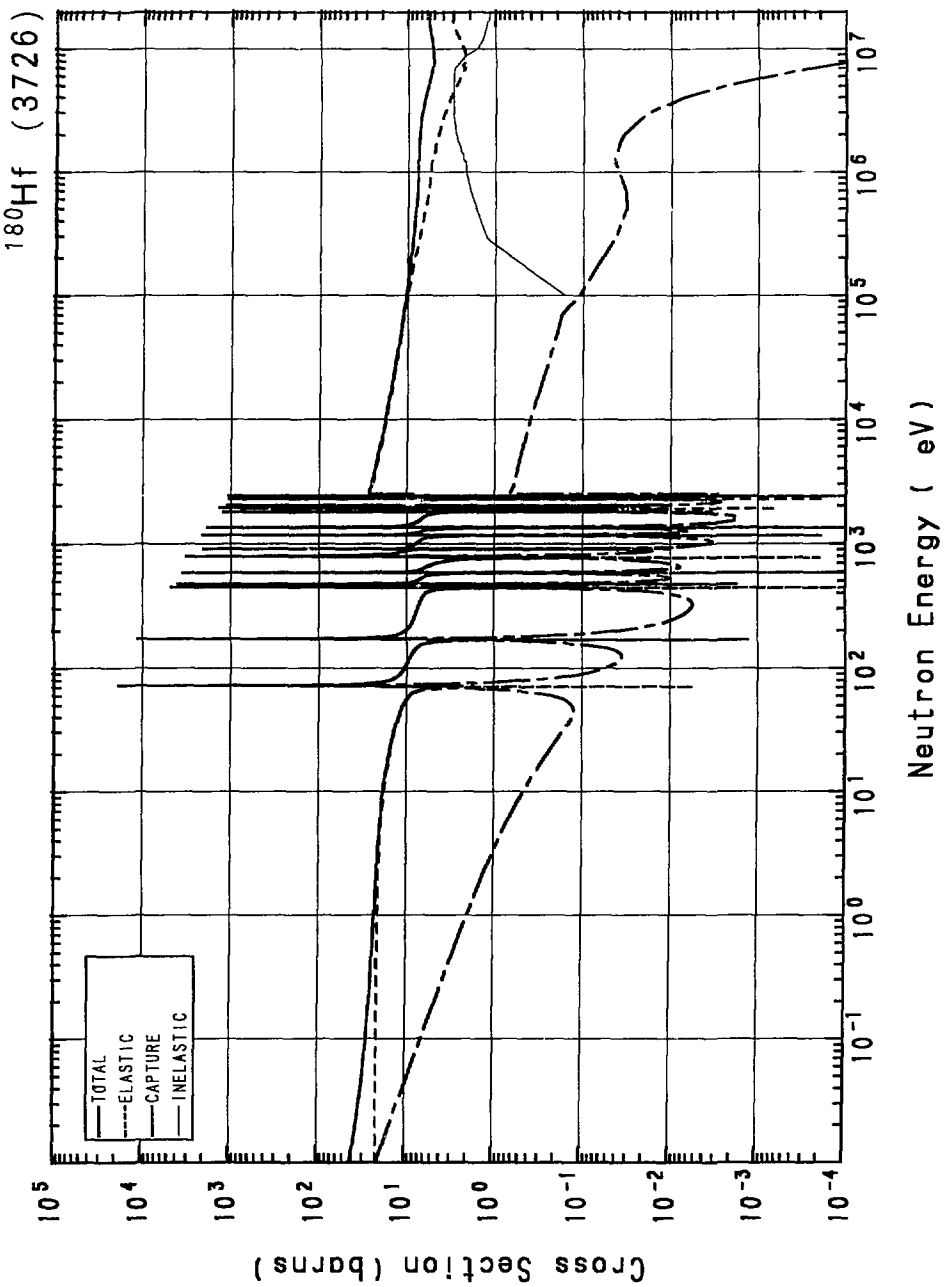

177Hf (3723)
N2N
N3N
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

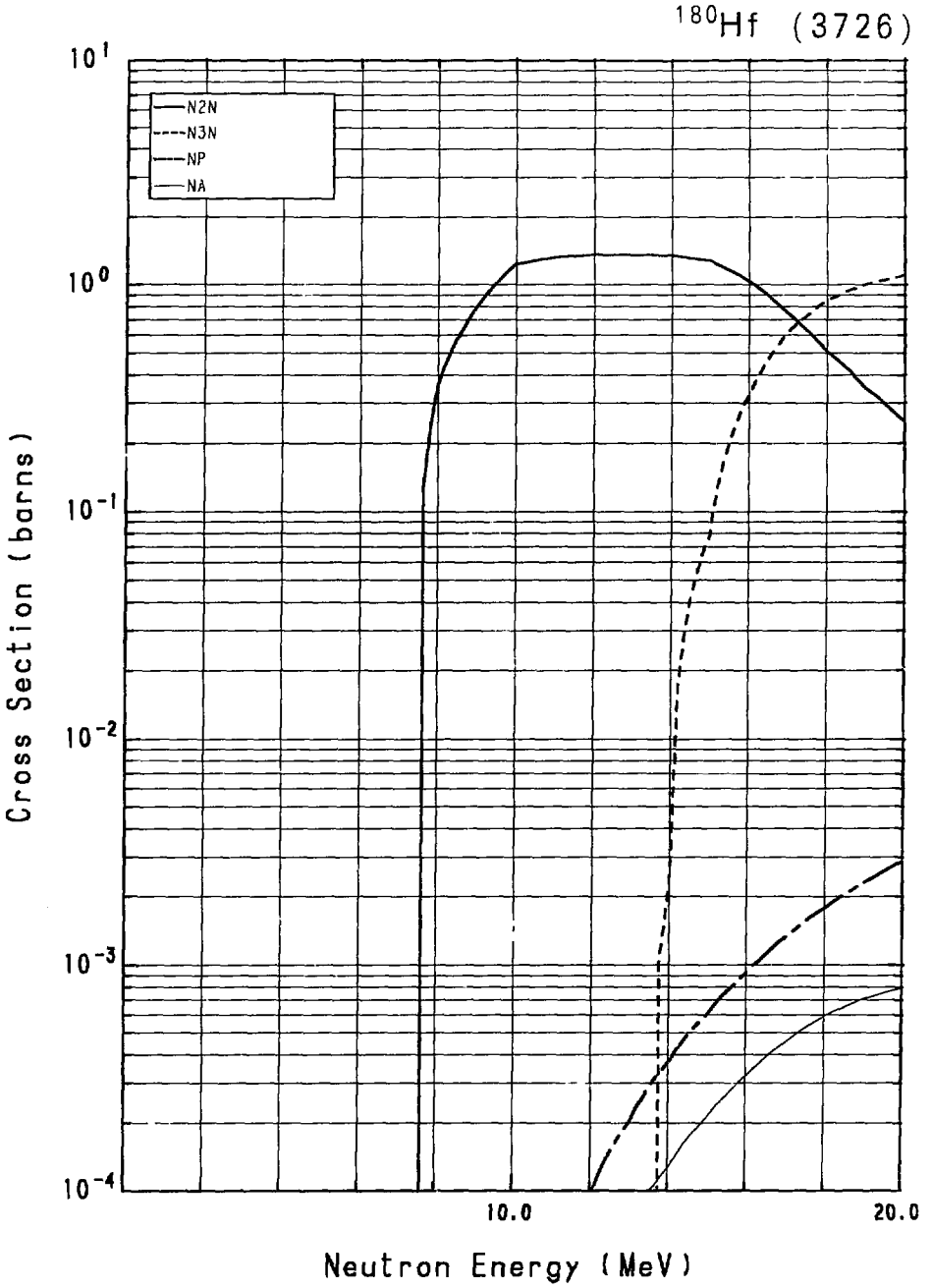

^{178}Hf (3724)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
CAPTURE
INELASTIC
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

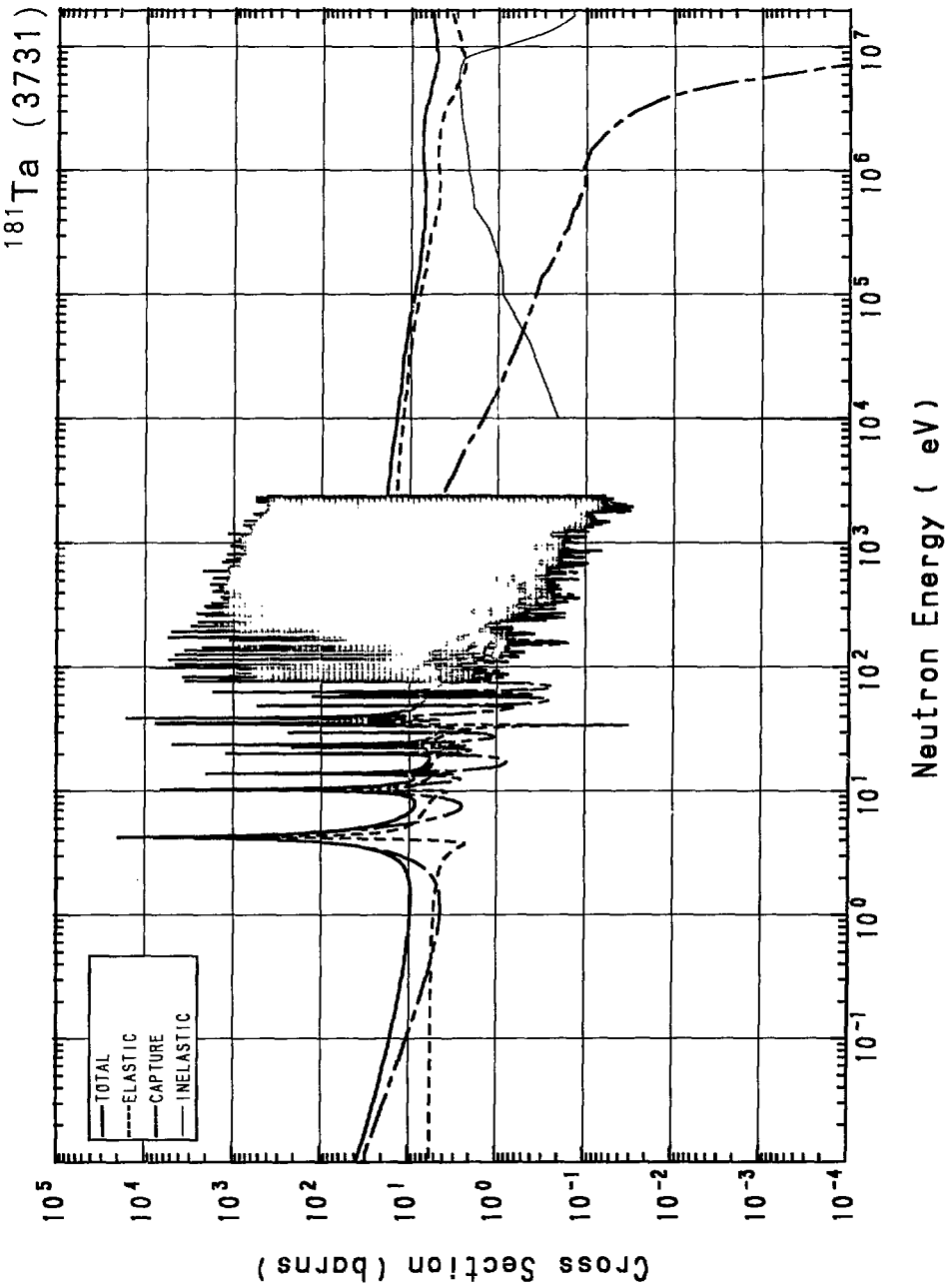

178Hf (3724)
N2N
N3N
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

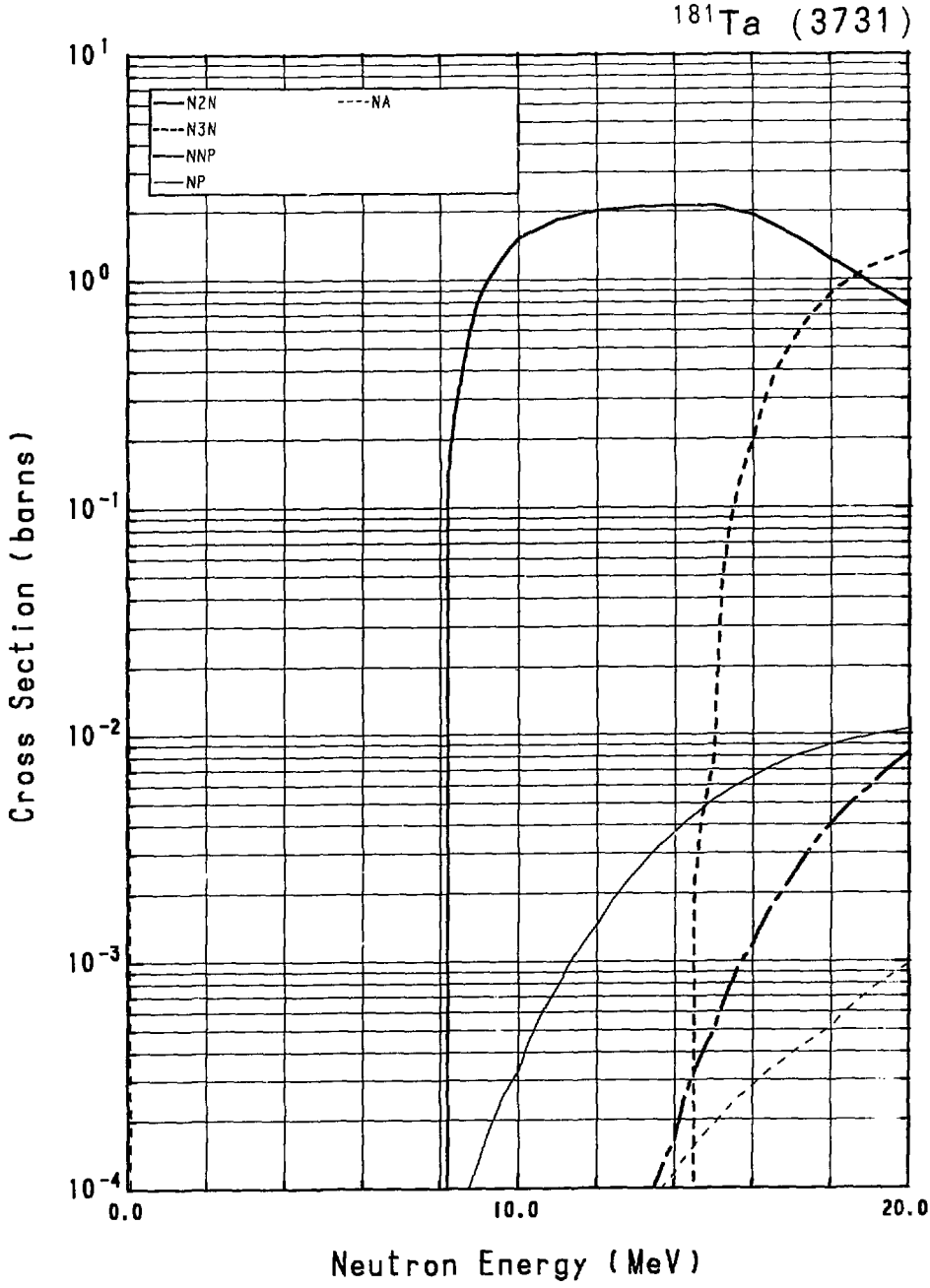

^{179}Hf (3725)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

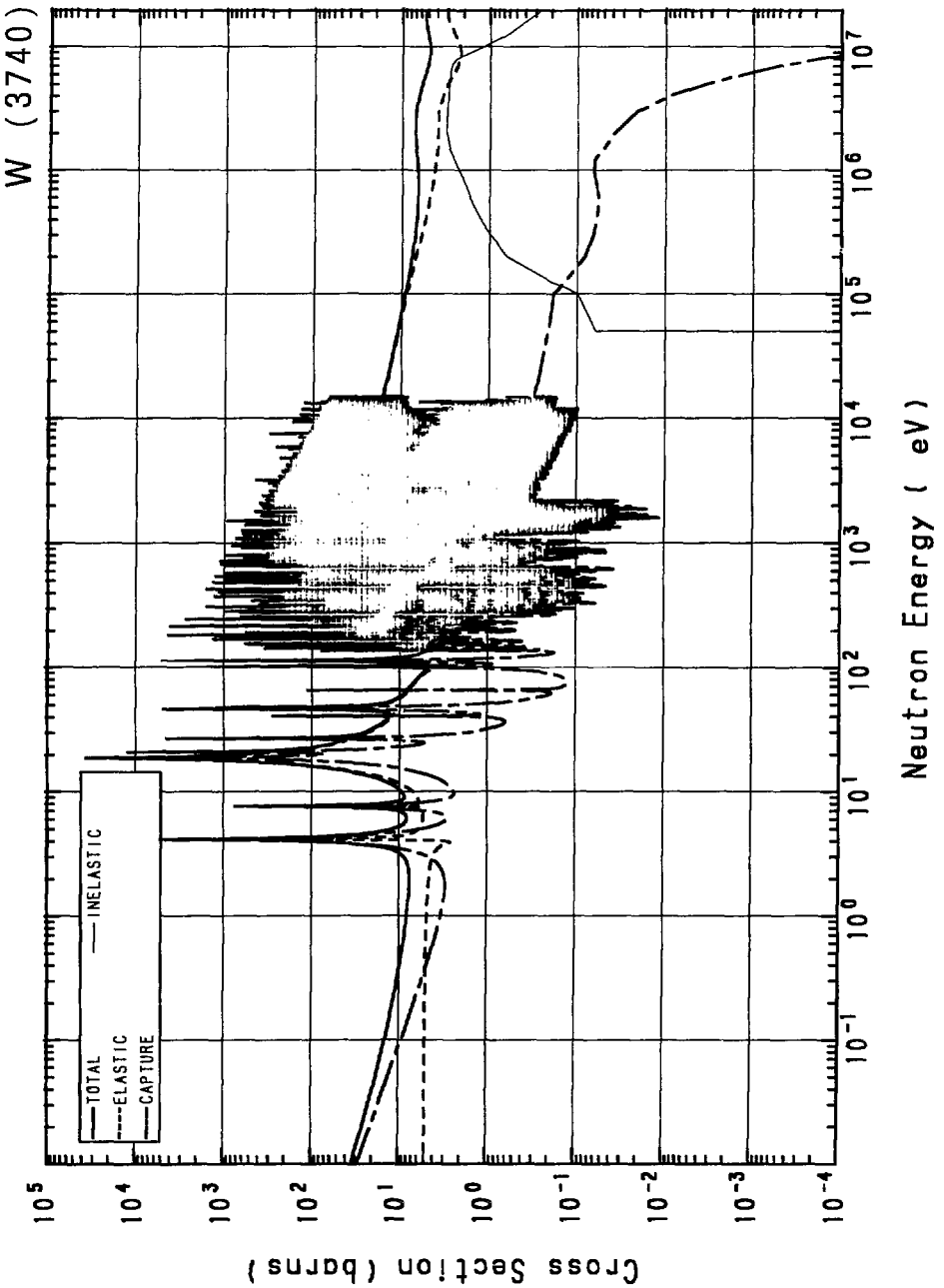

179Hf (3725)
N2N
N3N
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
10.0
20.0
Neutron Energy (MeV)

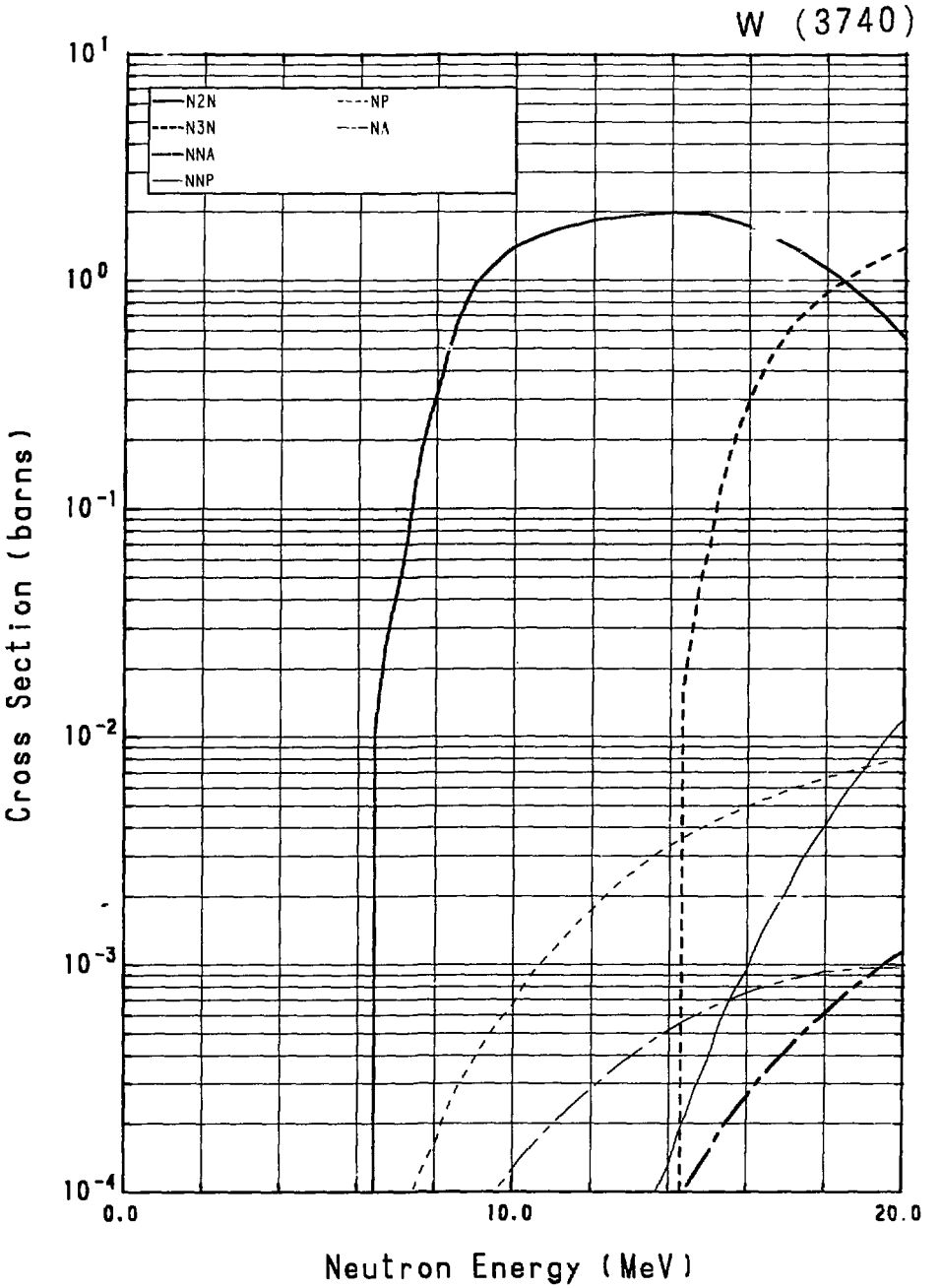

180Hf (3726)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

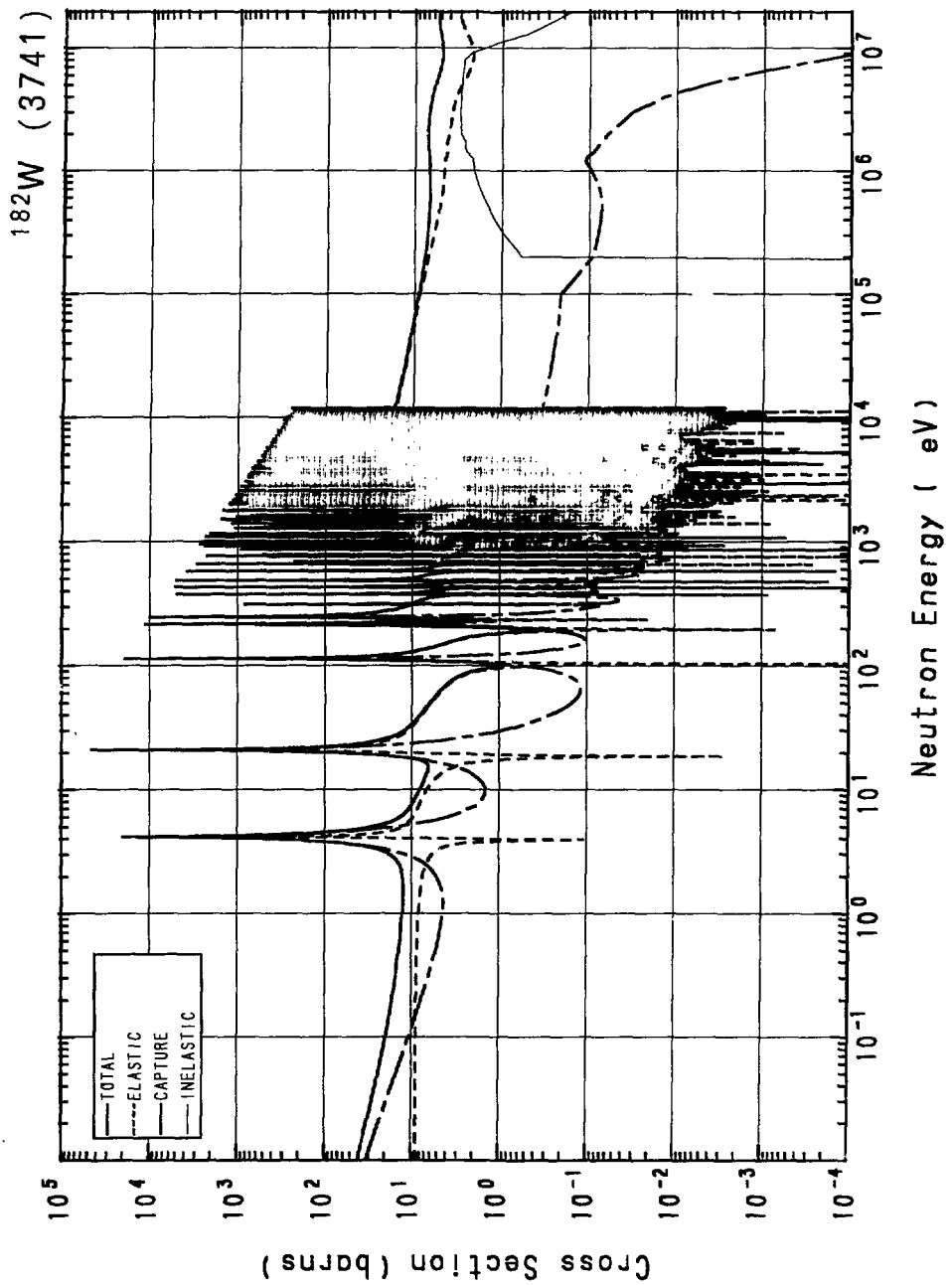

180Hf (3726)
N2N
N3N
NP
NA
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
Cross Section (barns)
10.0
20.0
Neutron Energy (MeV)

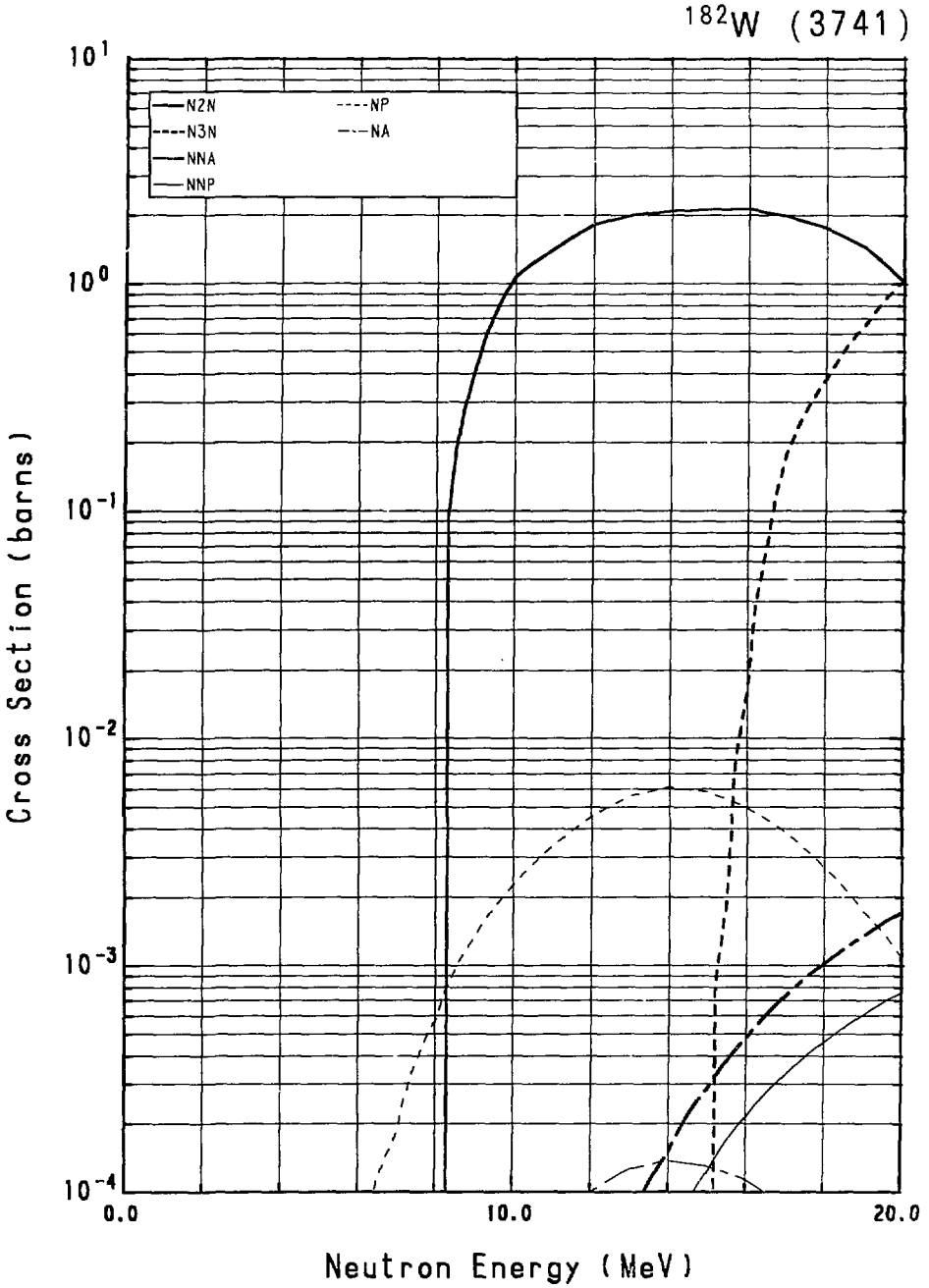

181Ta (3731)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

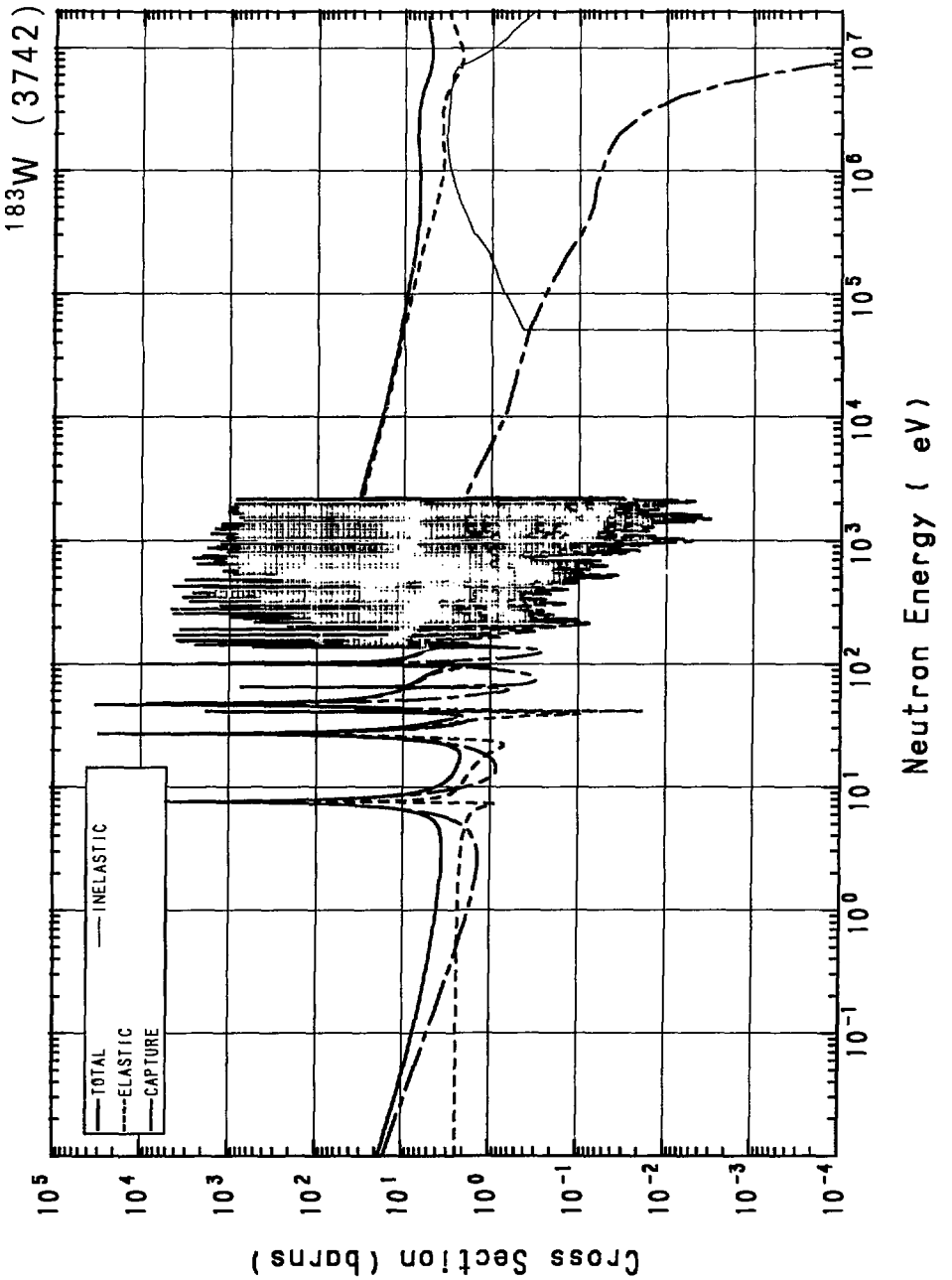

181Ta (3731)
N2N
N3N
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

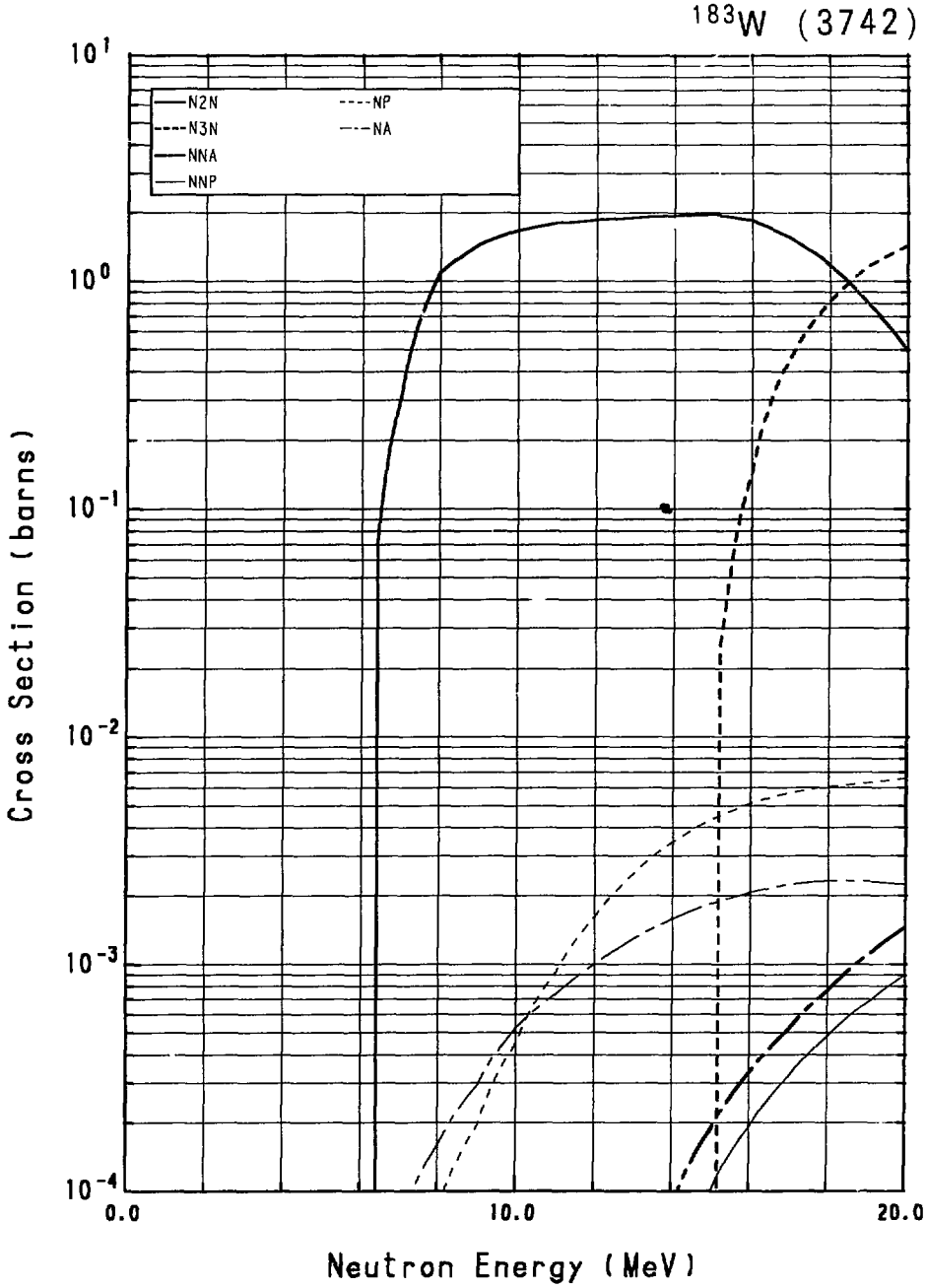

W (3740)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

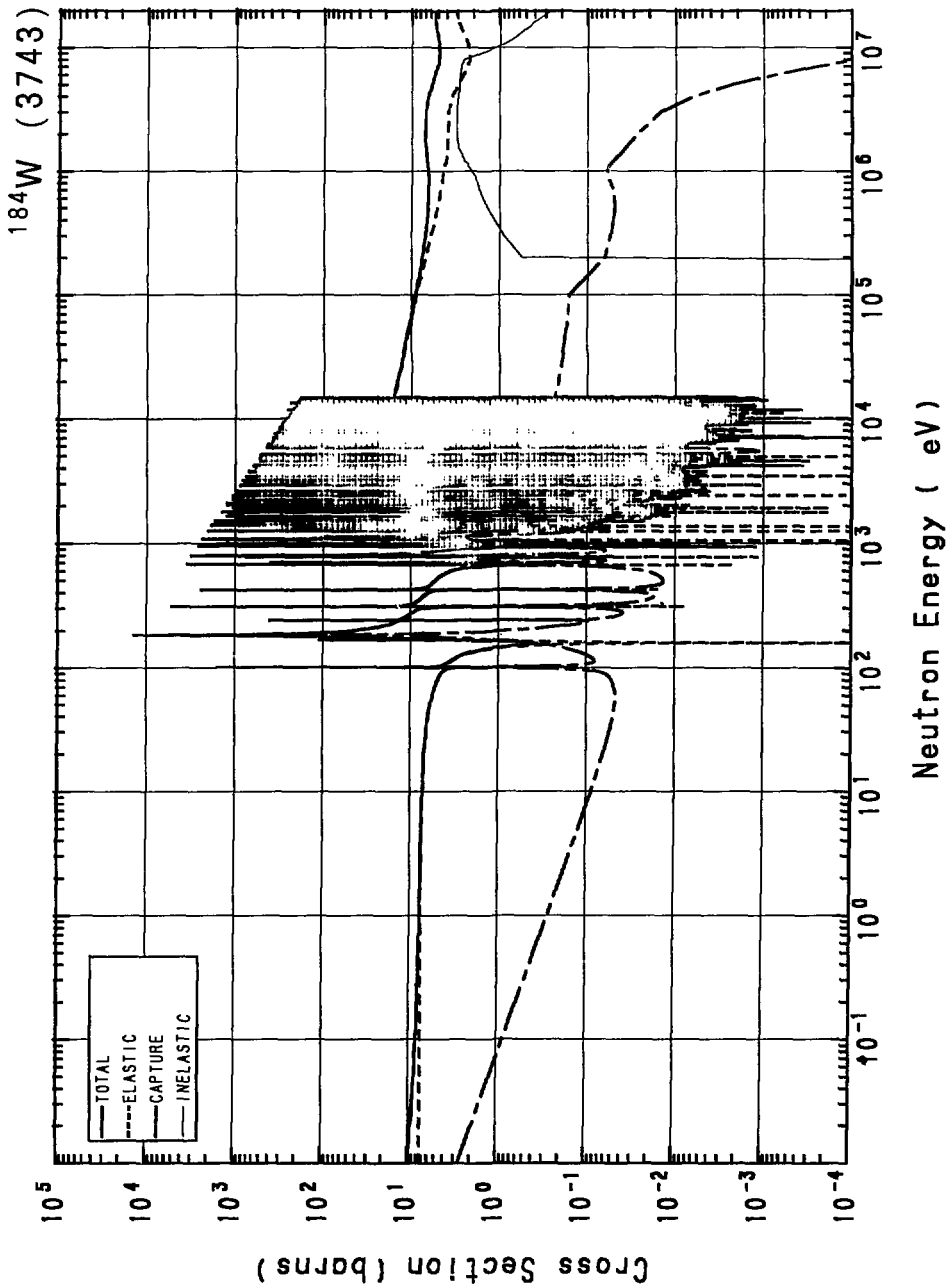

W (3740)
N2N
N3N
NNA
NNP
NP
NA
Cross Section (barns)
Neutron Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0

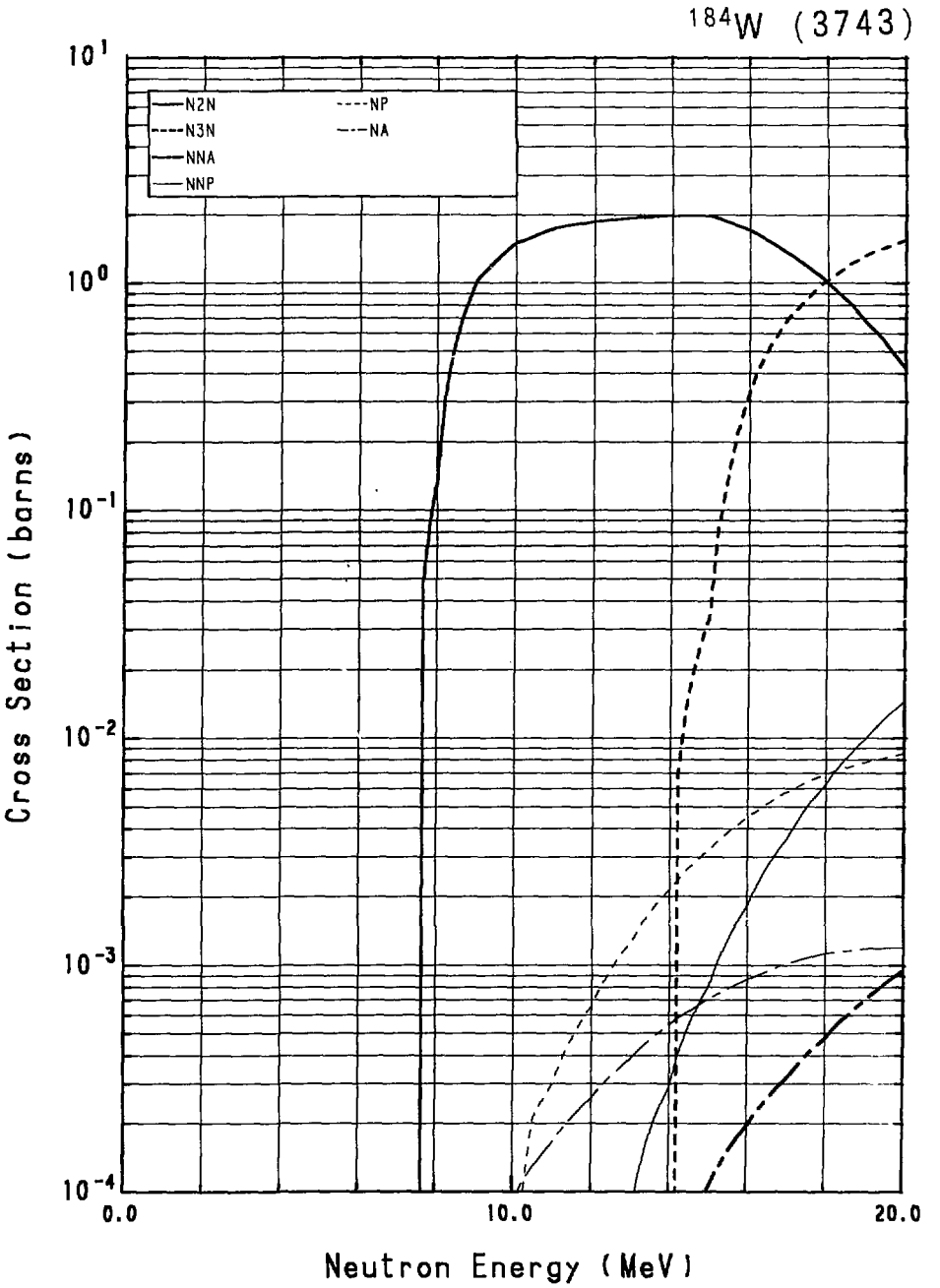

182W (3741)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

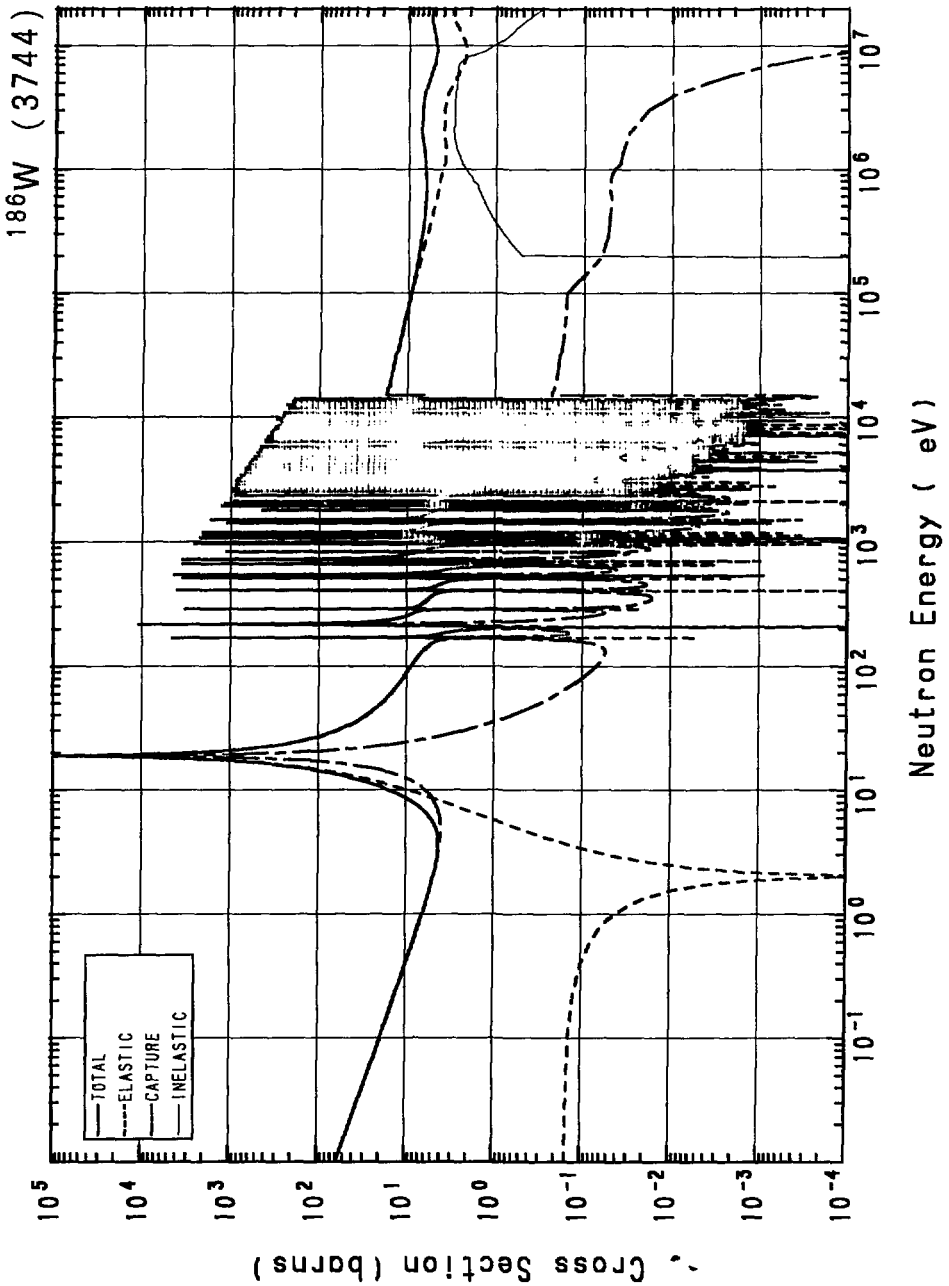

182W (3741)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

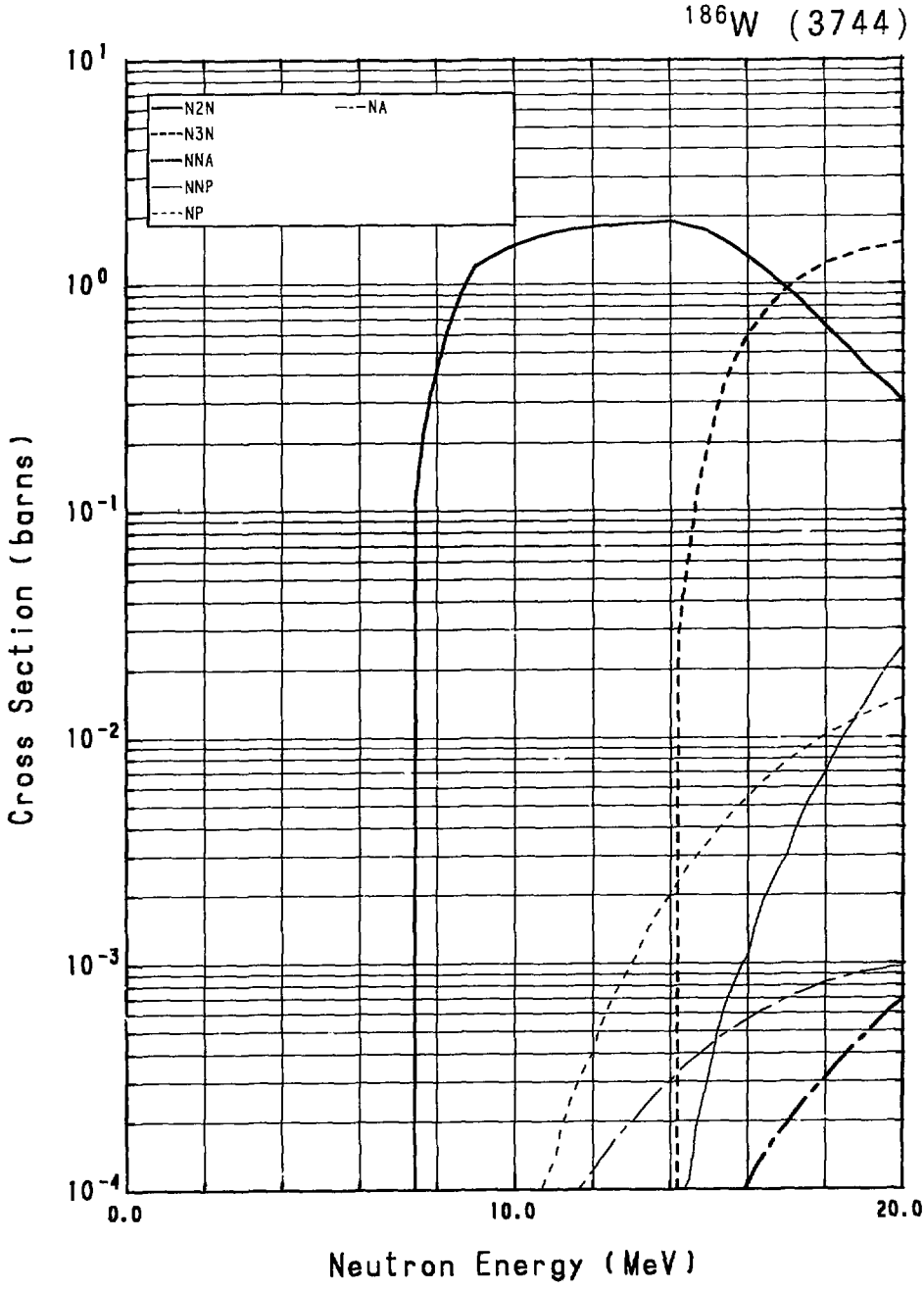

183W (3742)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

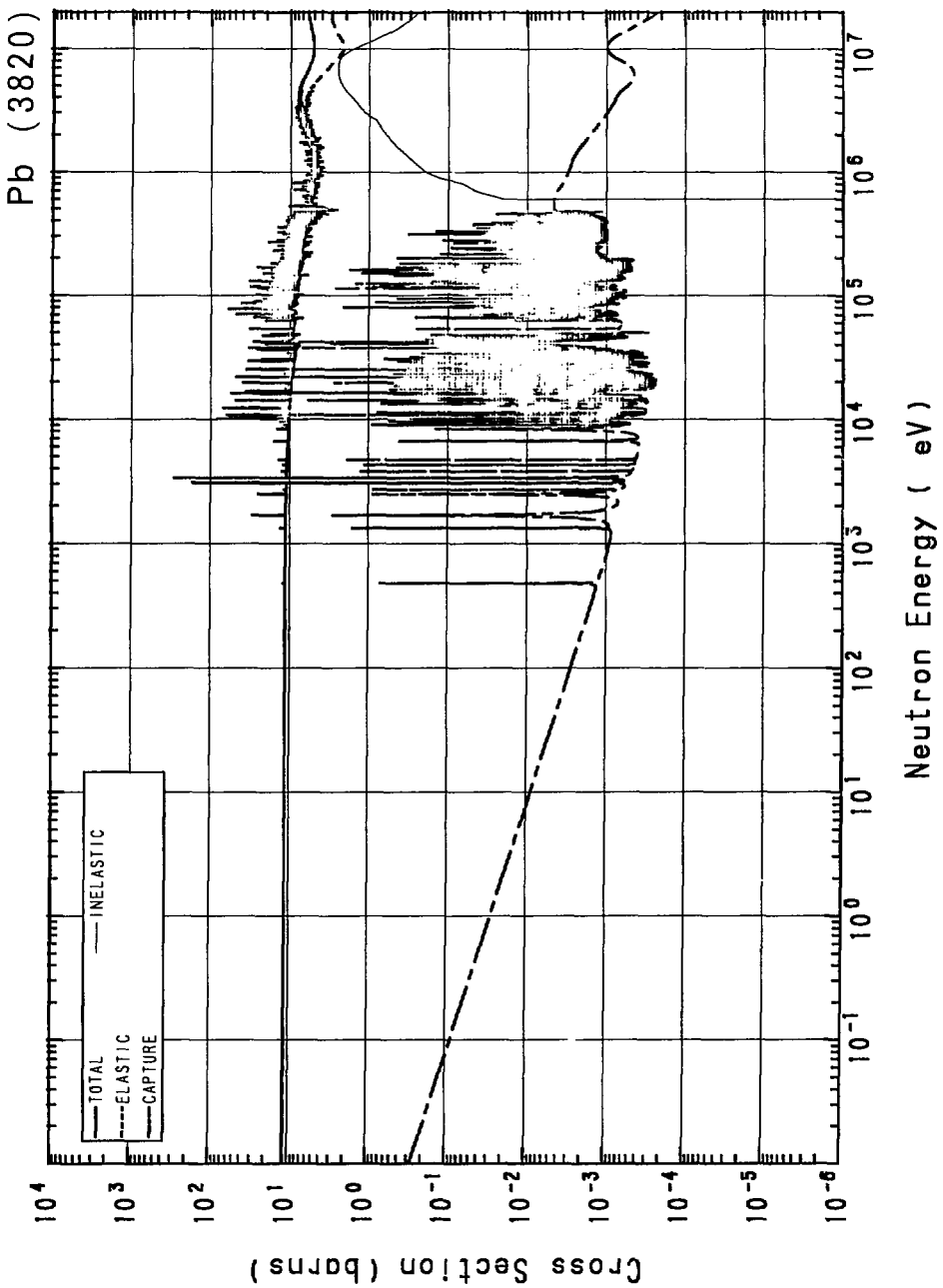

183W (3742)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

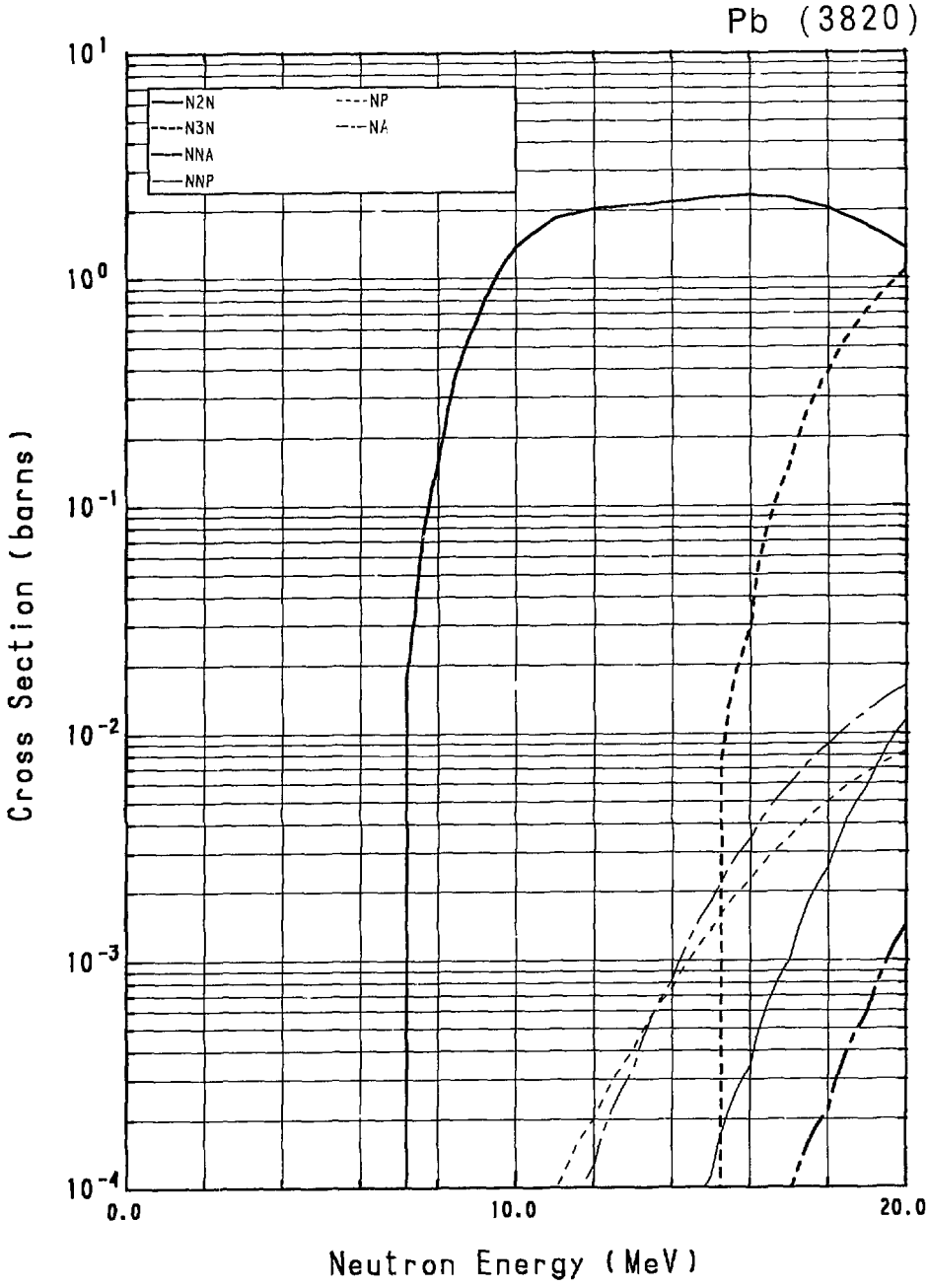

184W (3743)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

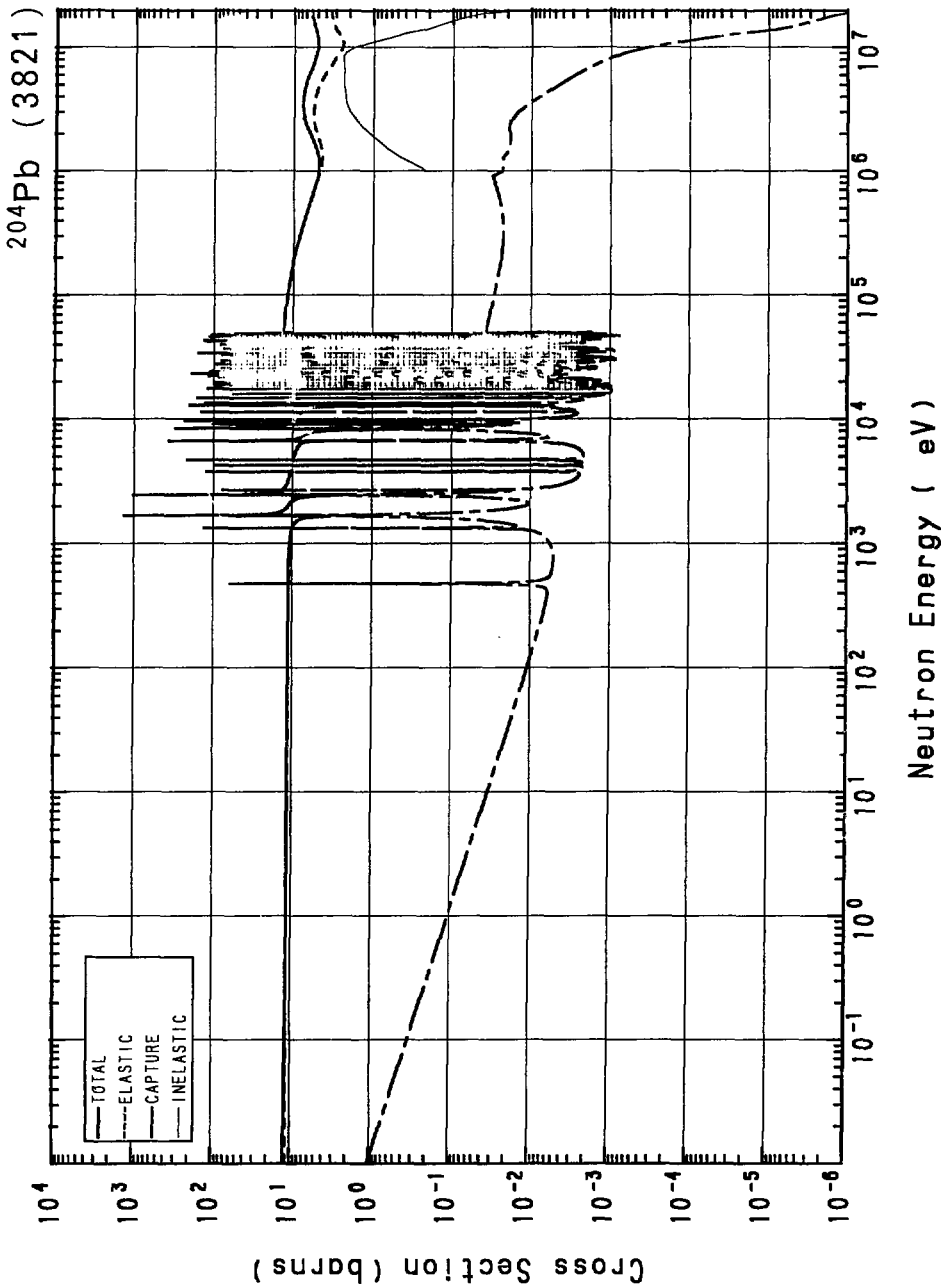

184W (3743)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

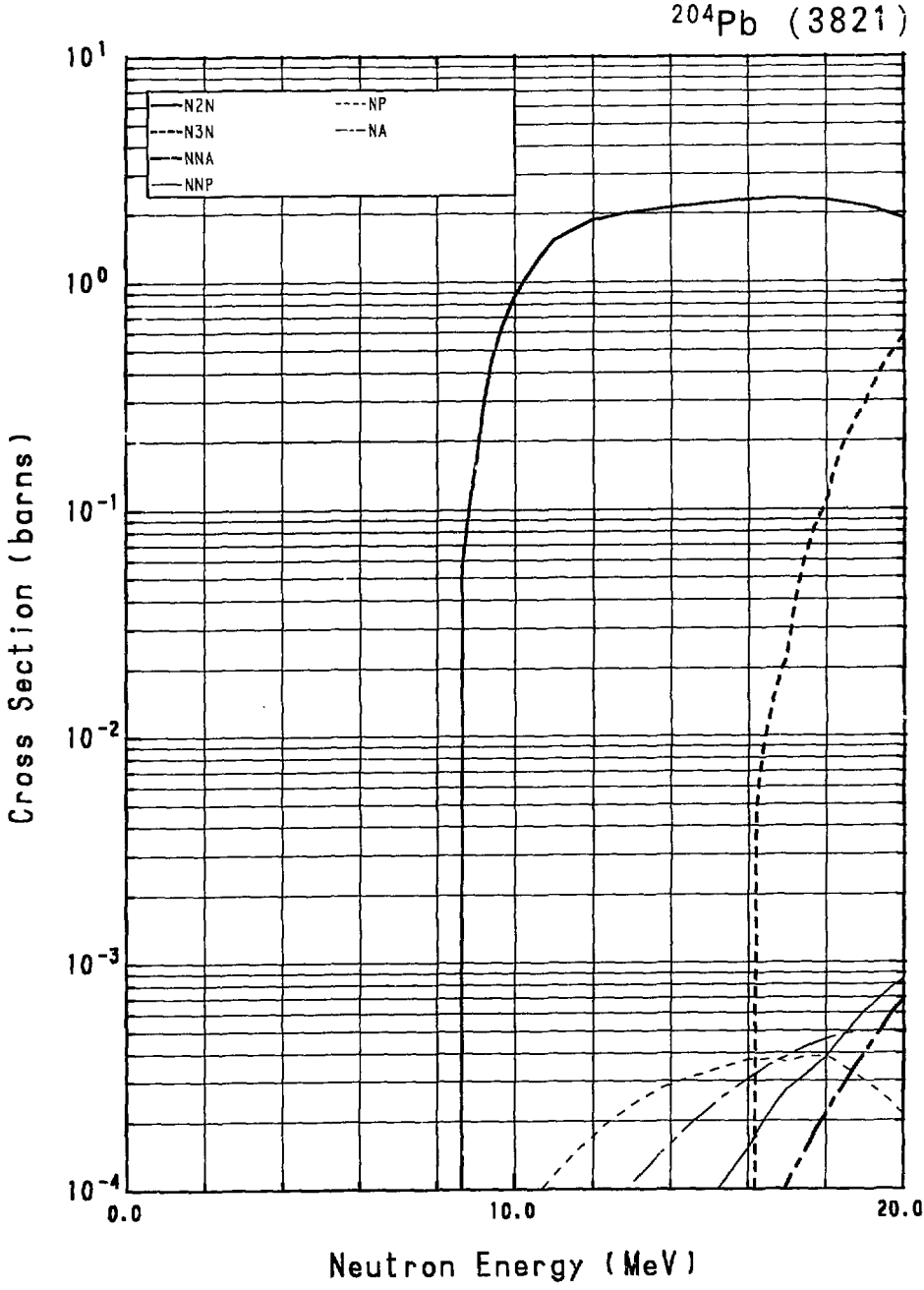

^{186}W (3744)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

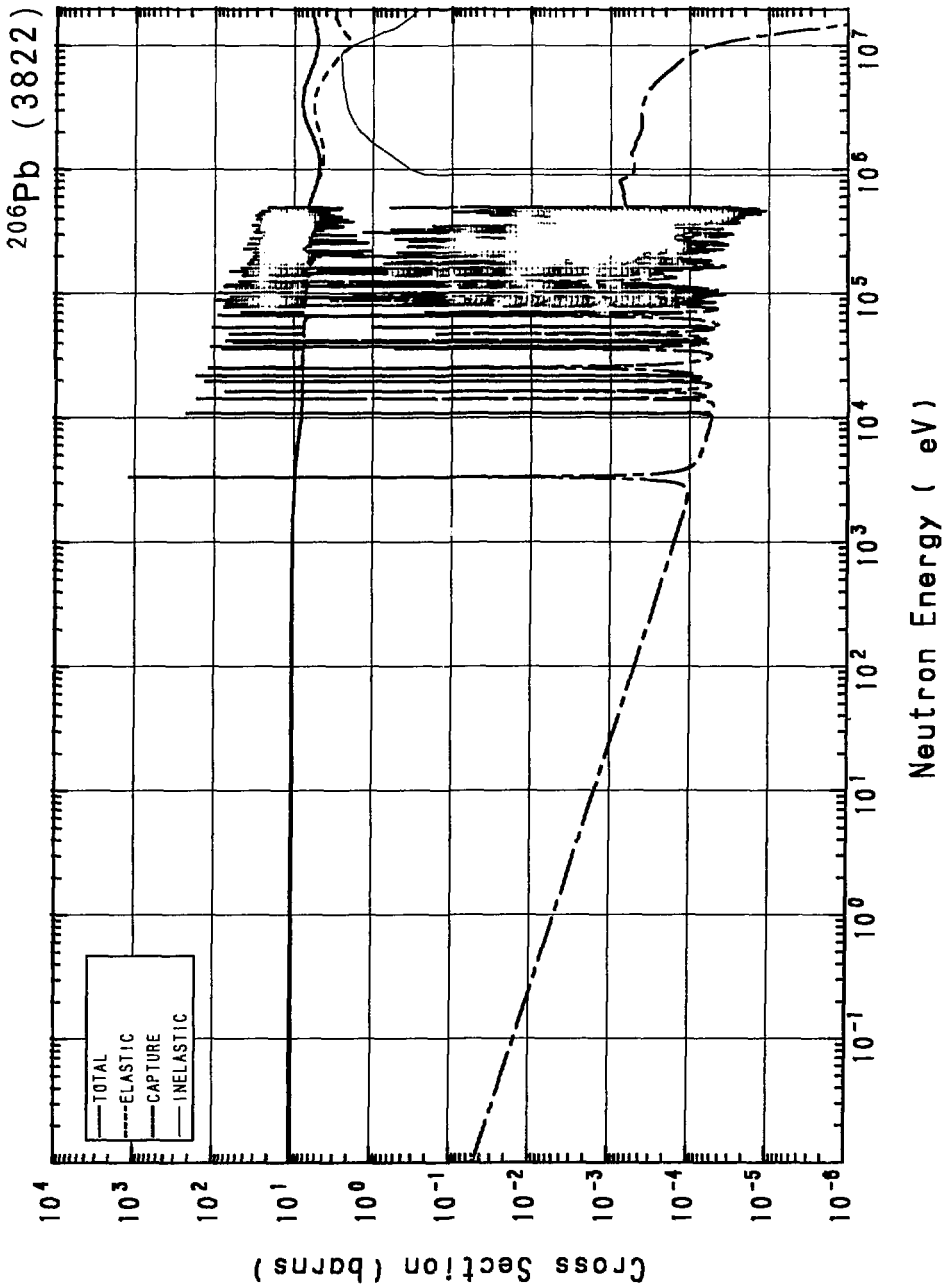

186W (3744)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

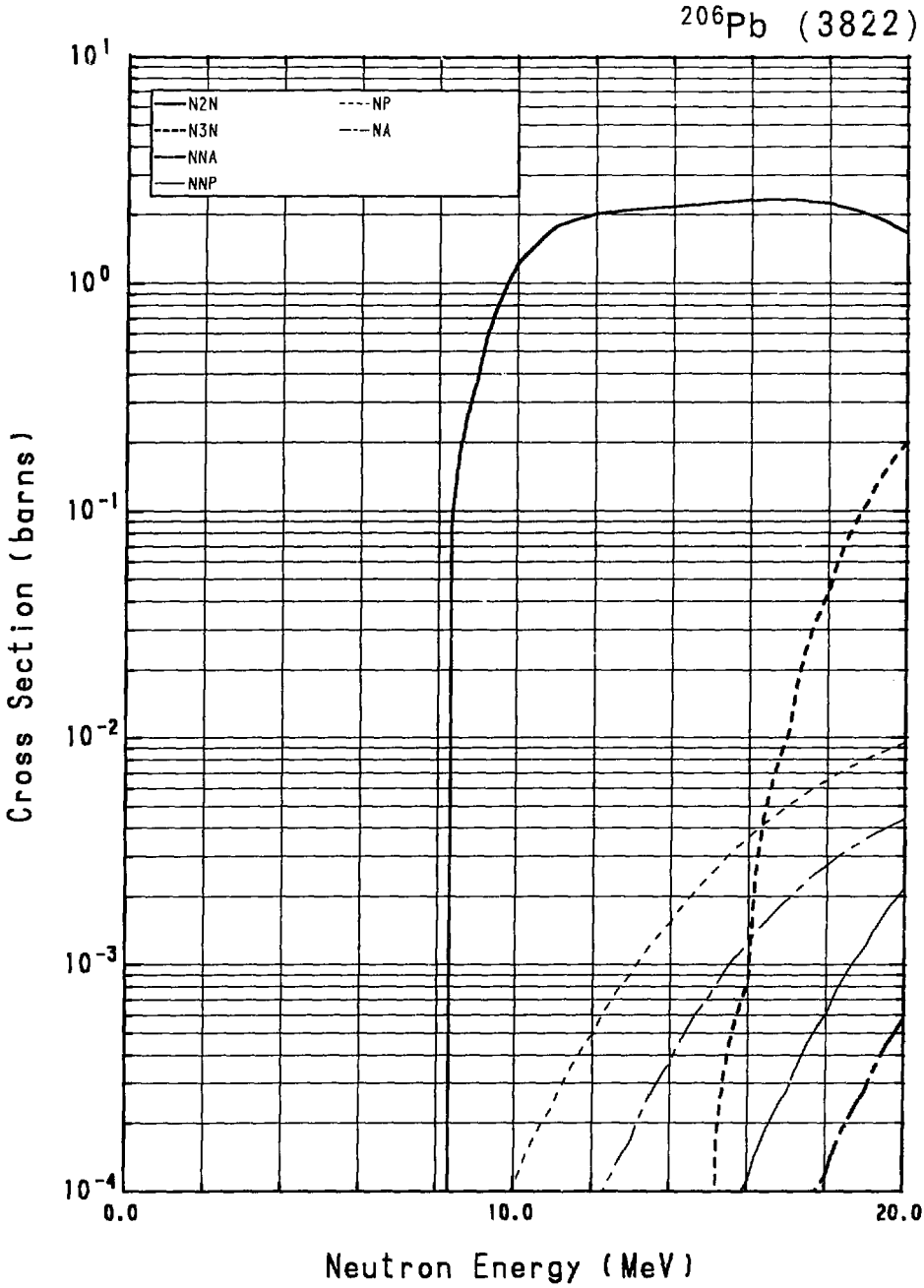

Pb (3820)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

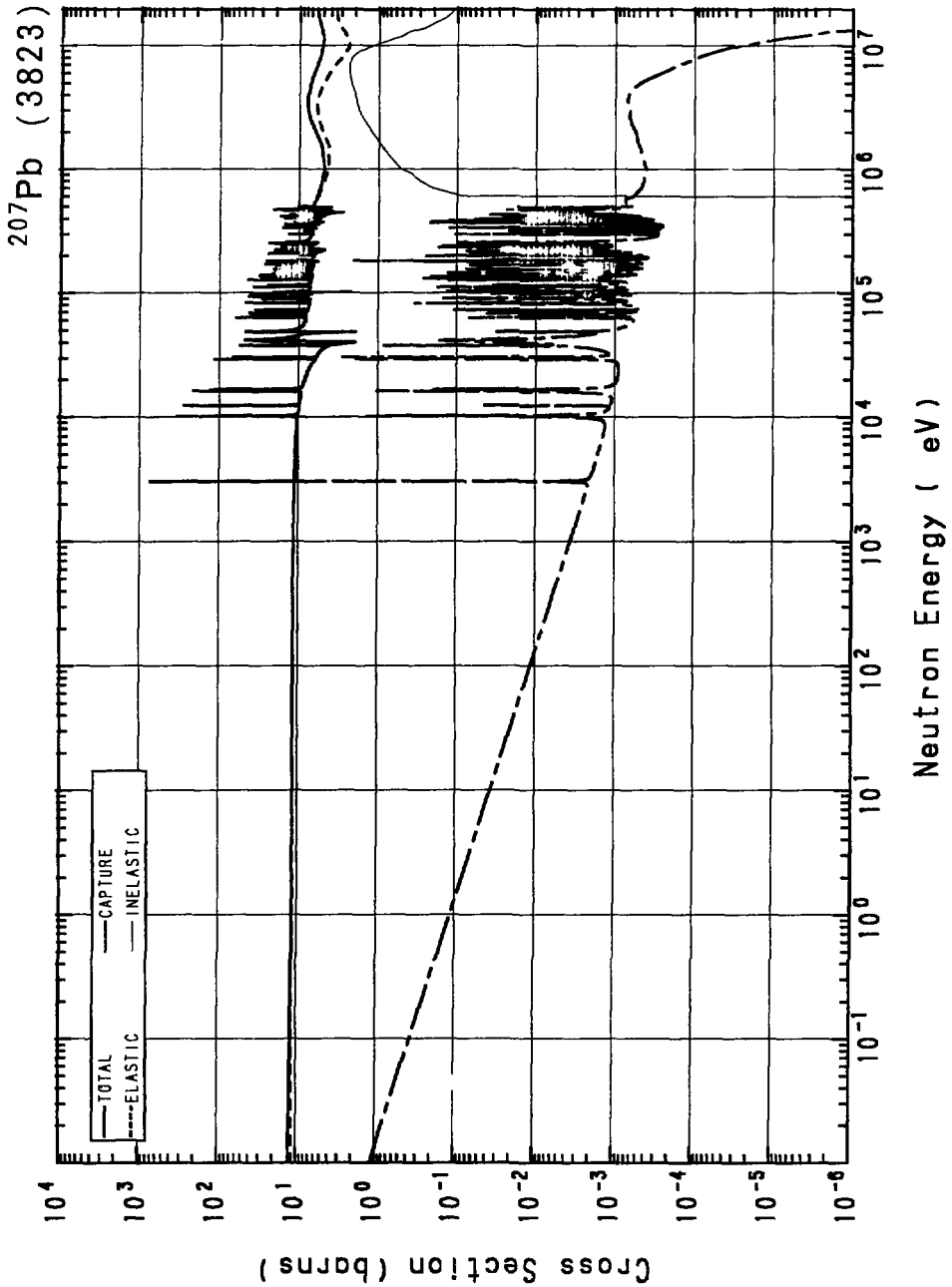

Pb (3820)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

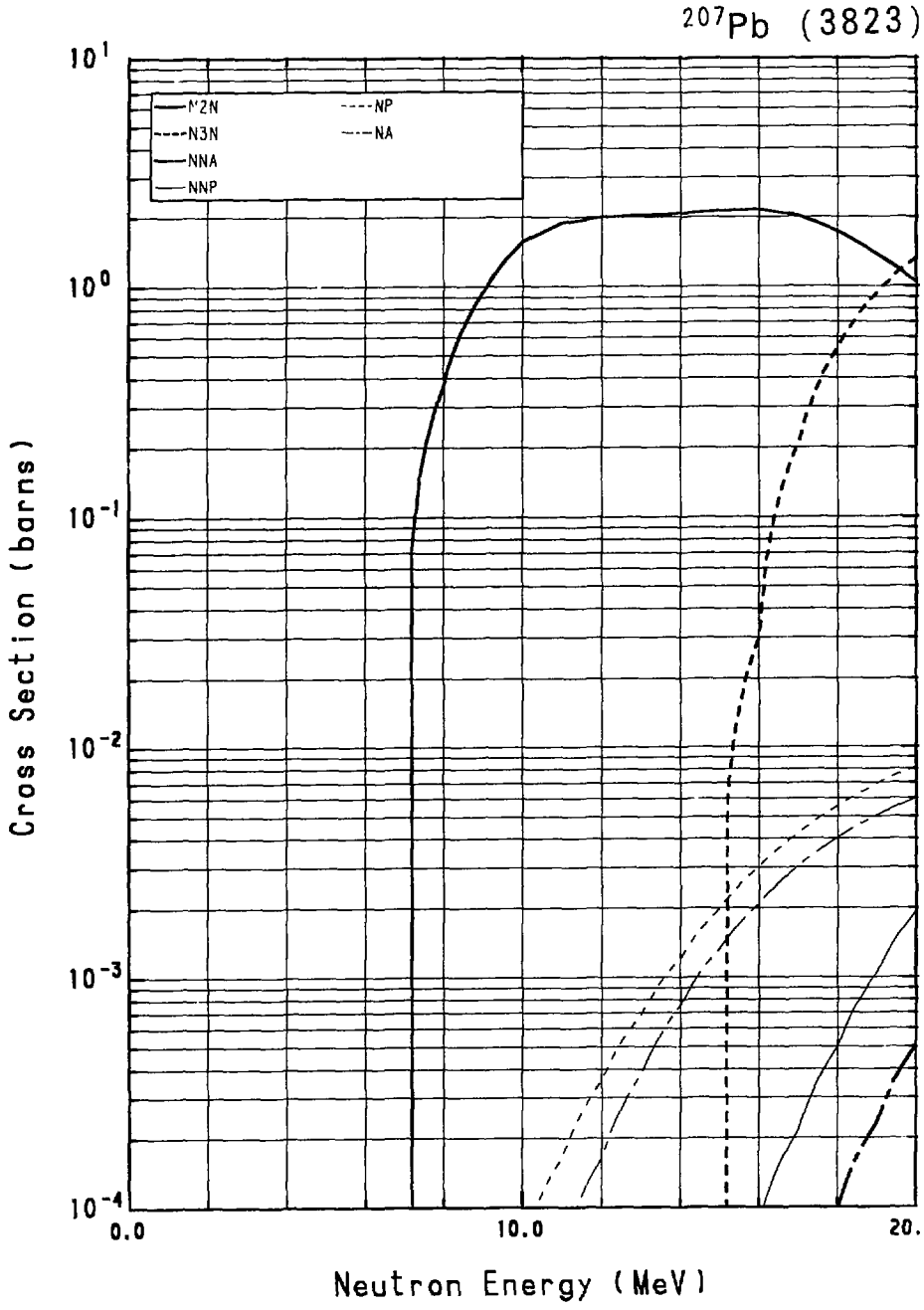

^{204}Pb (3821)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

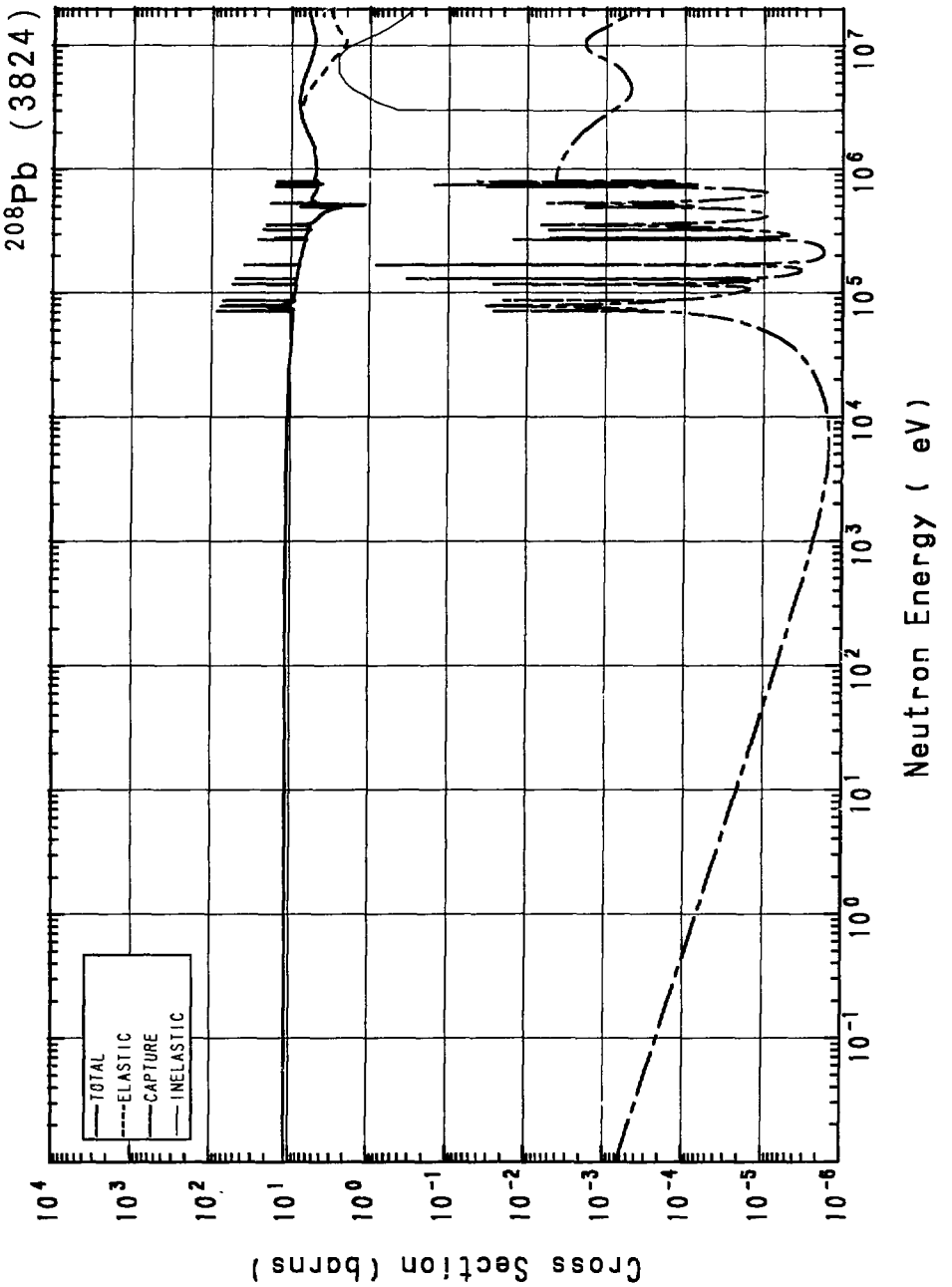

204Pb (3821)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

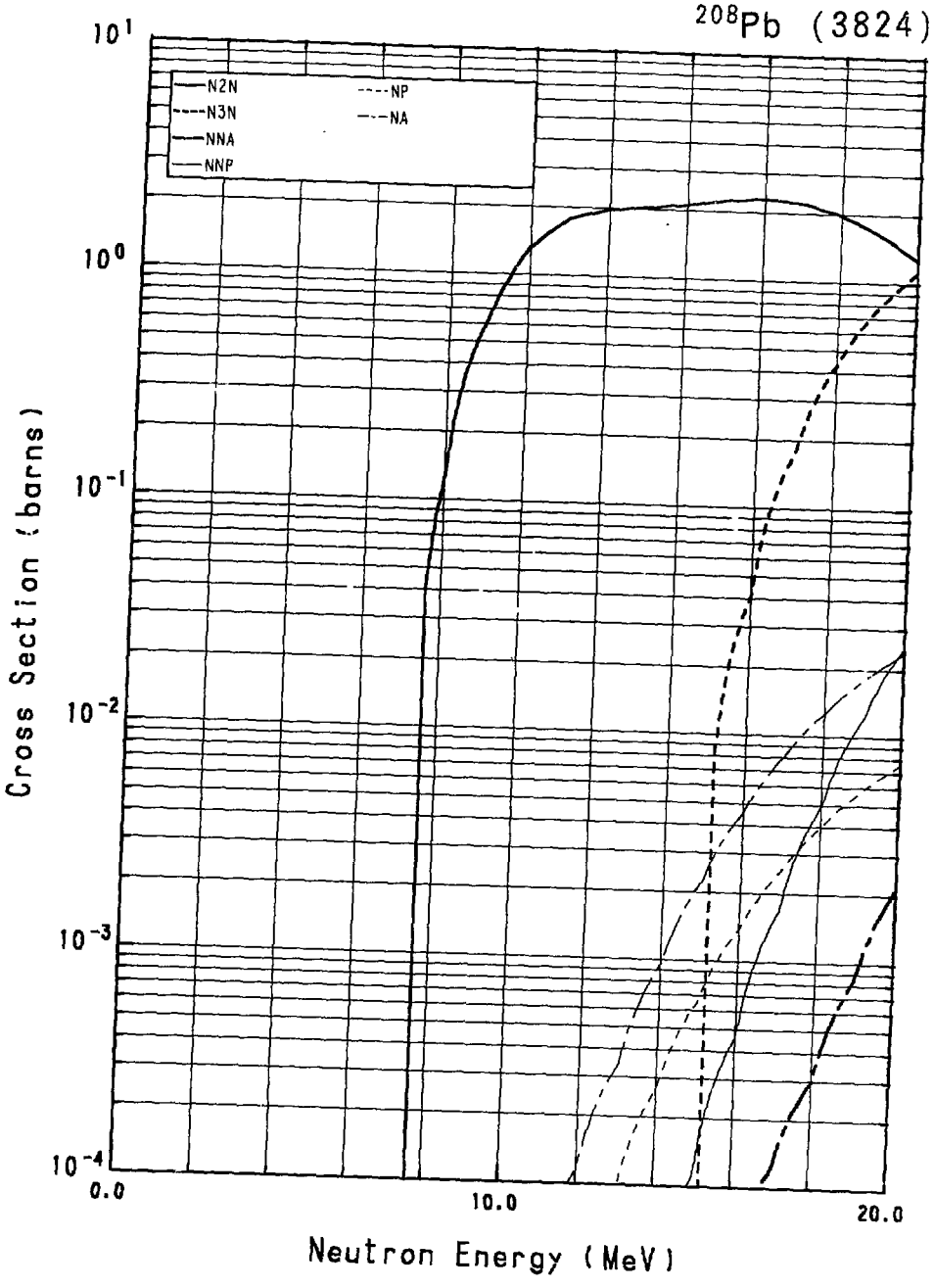

206Pb (3822)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

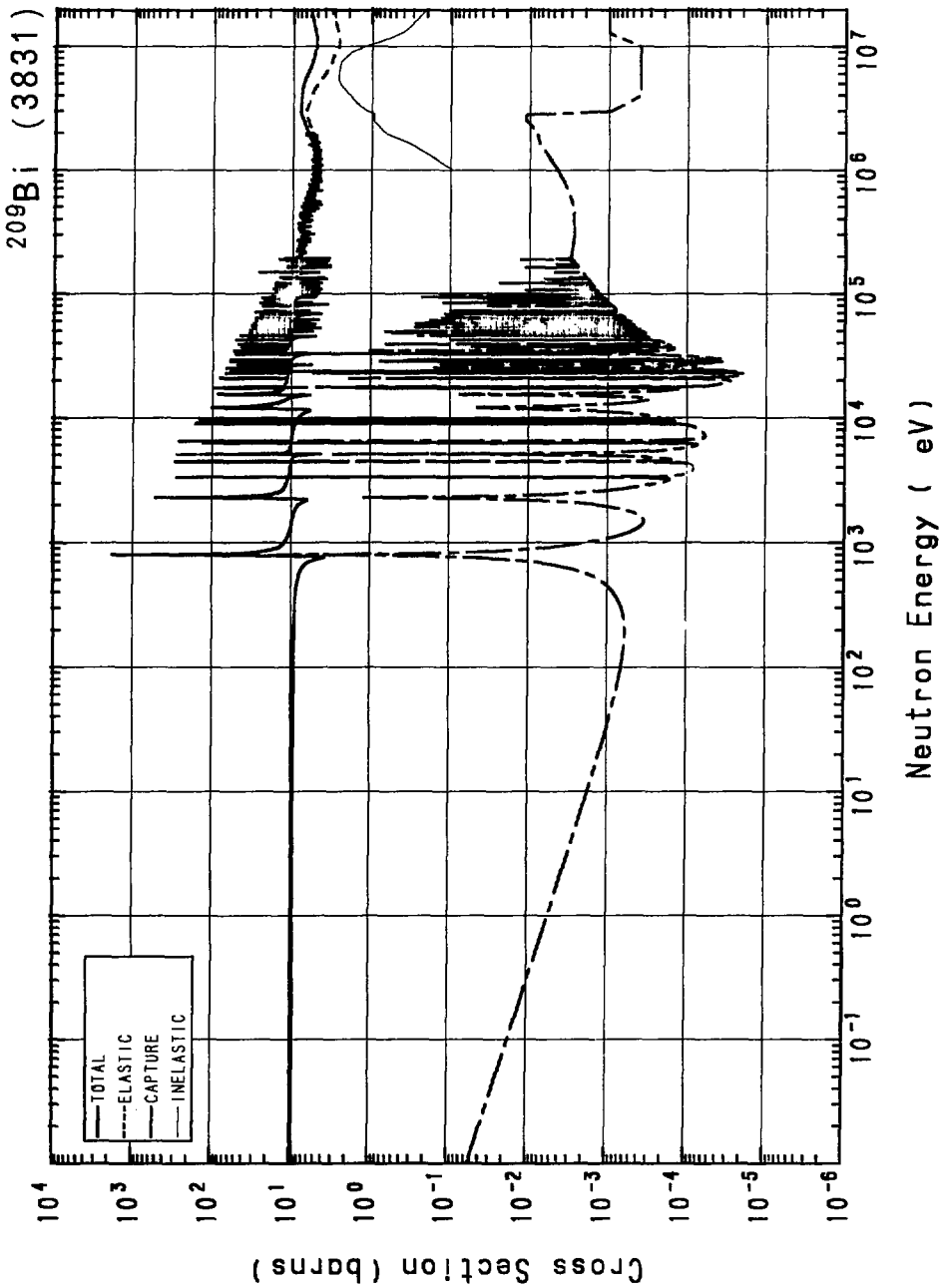

^{206}Pb (3822)
N2N
N3N
NNA
NNP
NP
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

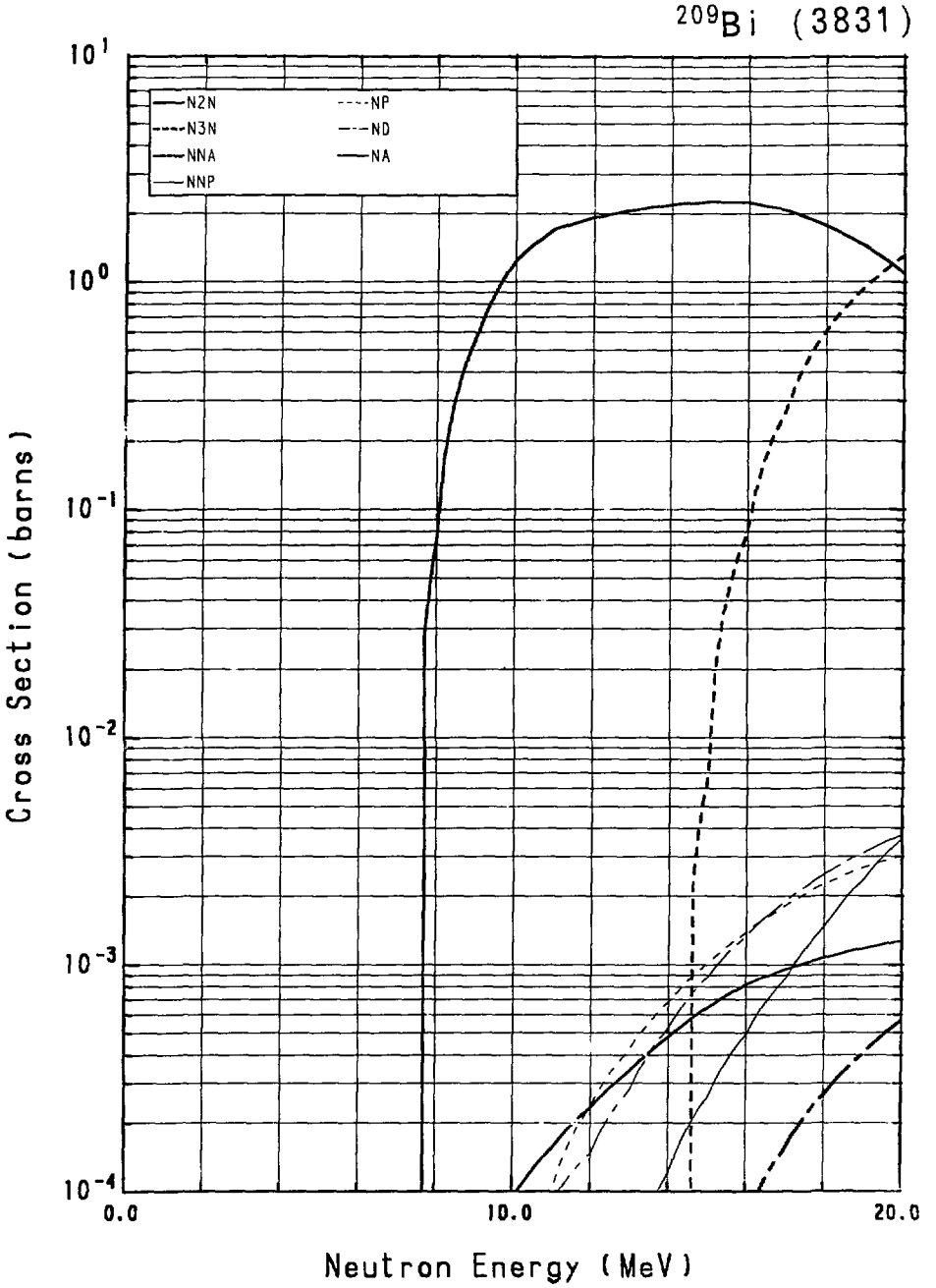

^{207}Pb (3823)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

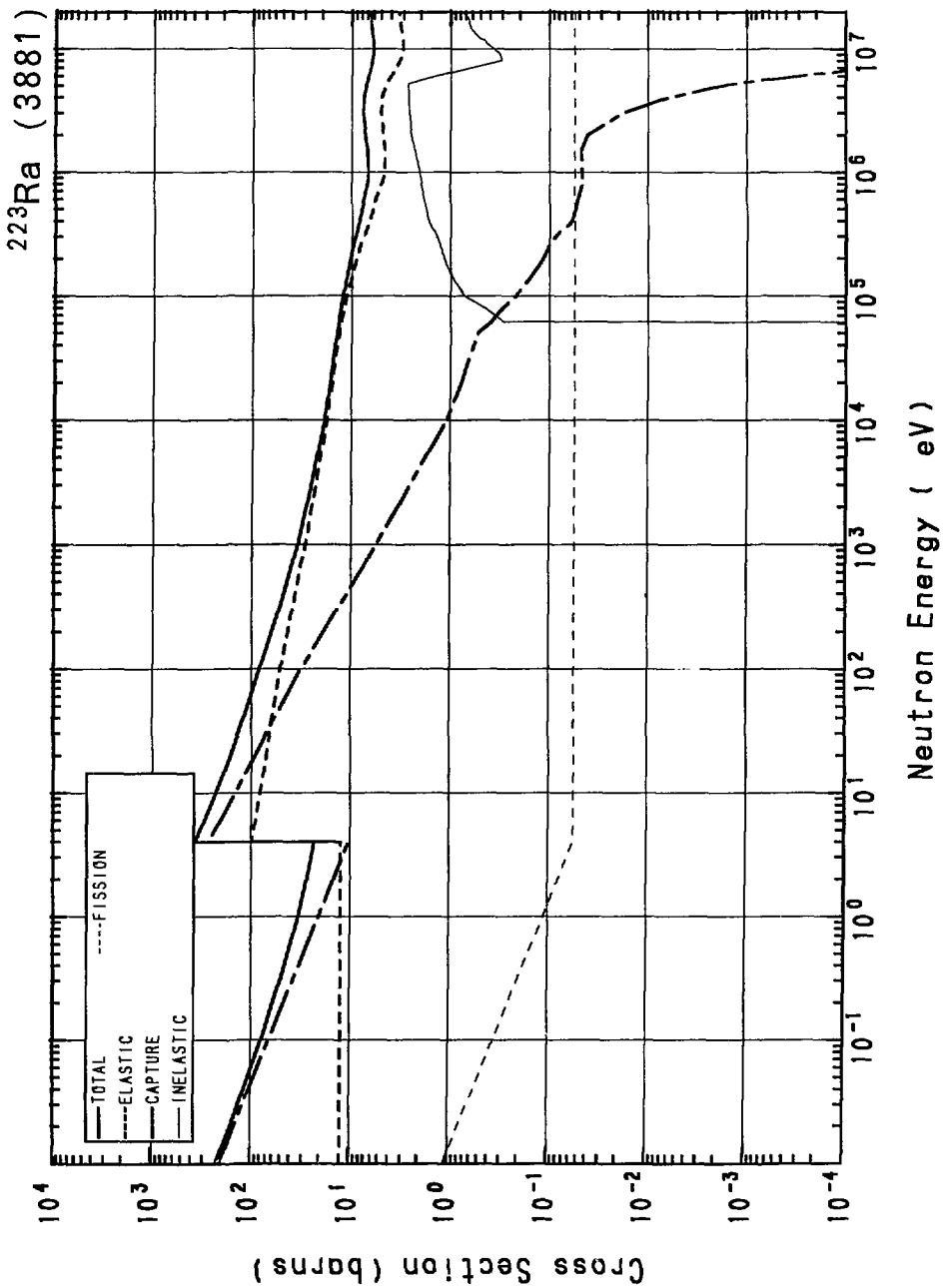

207Pb (3823)
N'2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

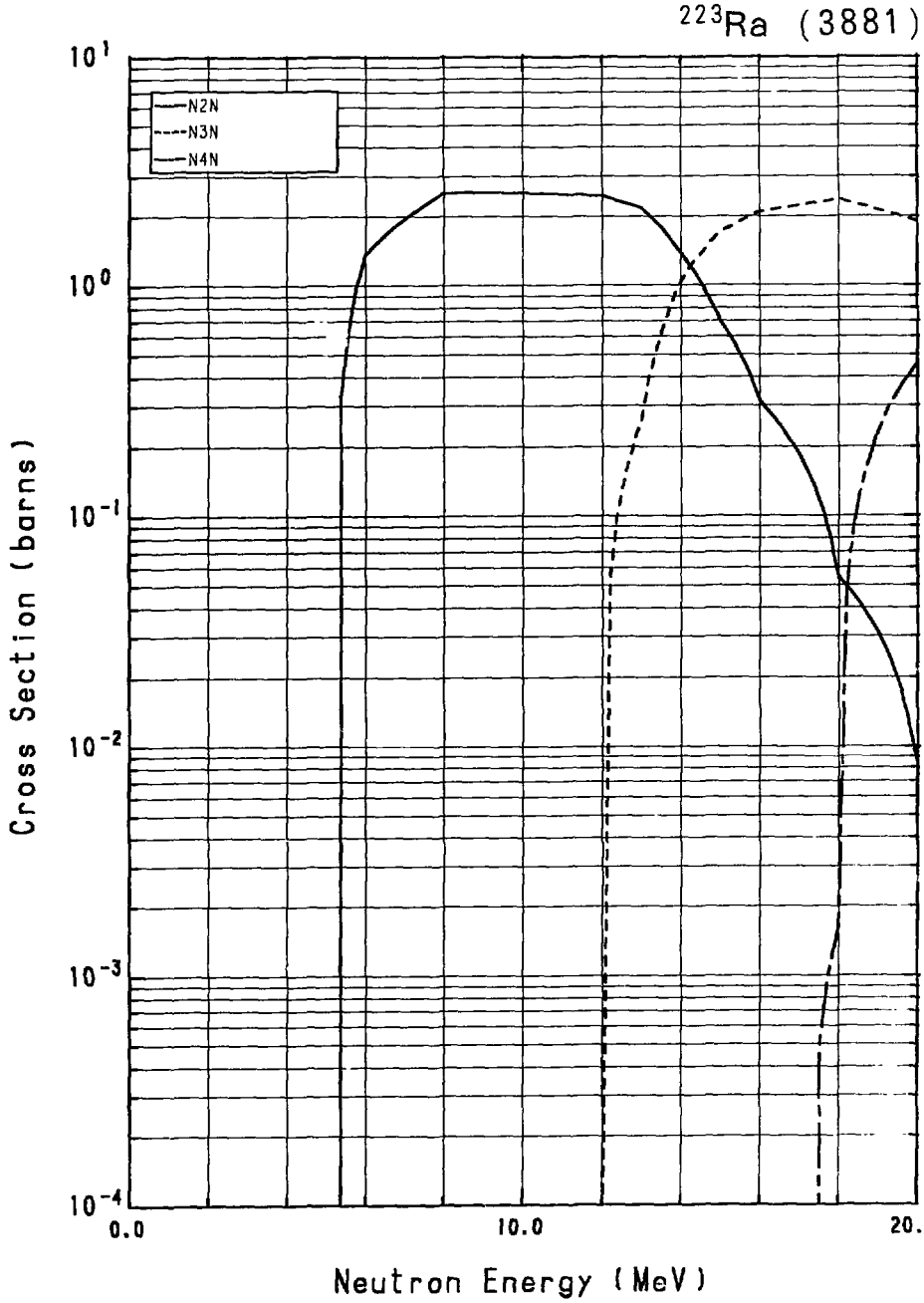

208Pb (3824)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

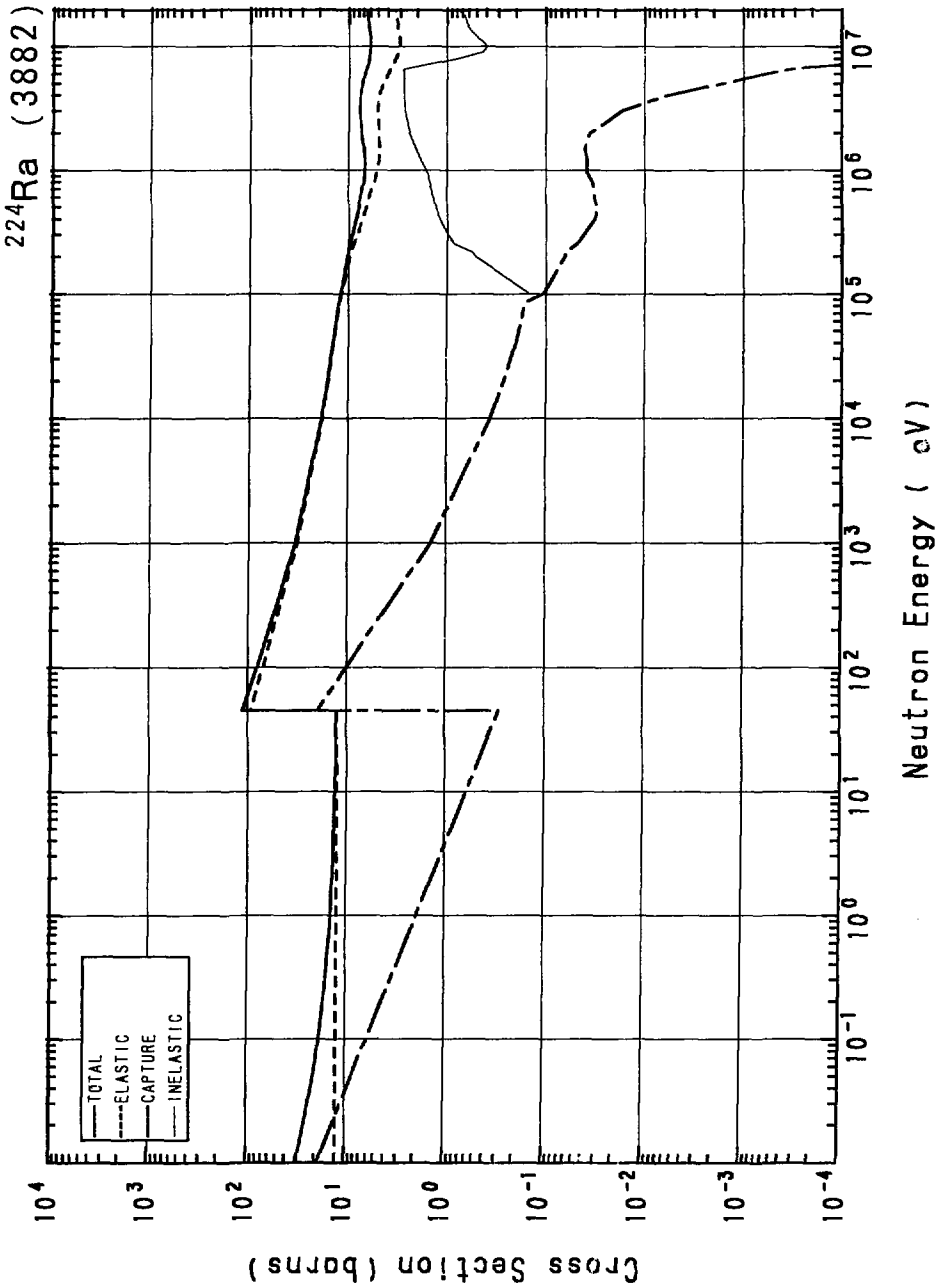

^{208}Pb (3824)
N2N
N3N
NNA
NNP
NP
NA
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

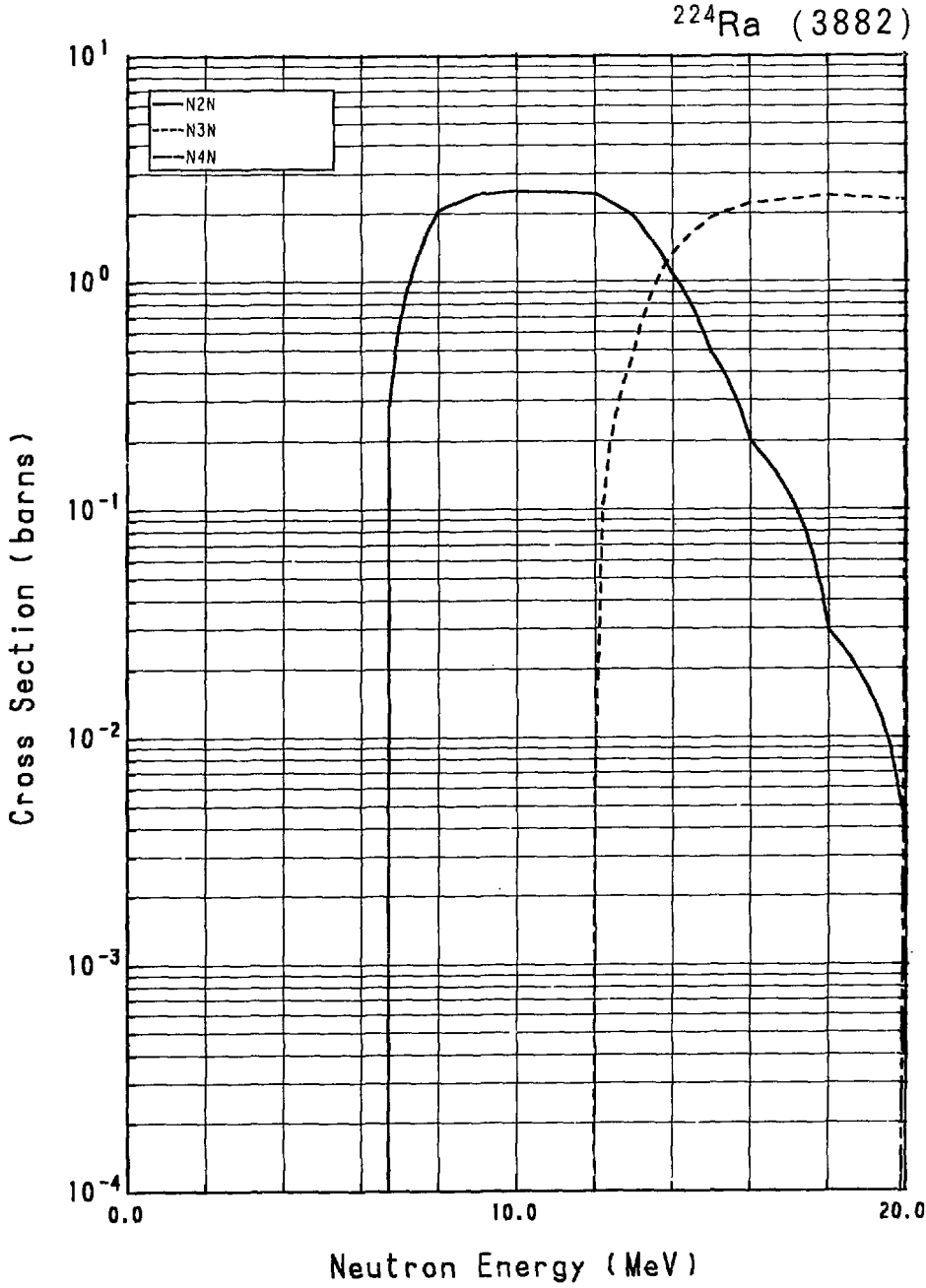

^{209}Bi (3831)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

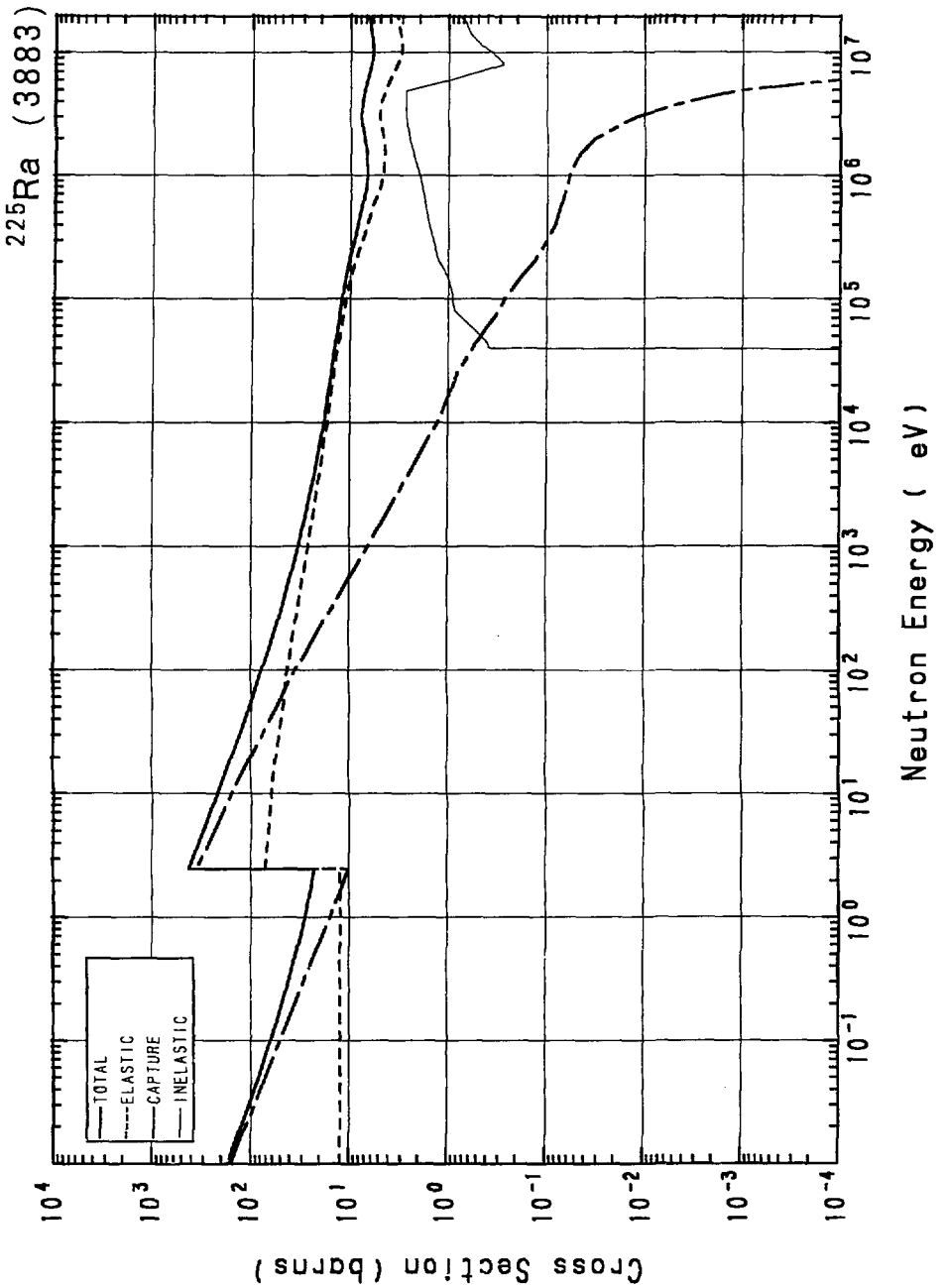

^{209}Bi (3831)
N2N
N3N
NNA
NNP
NP
ND
NA
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

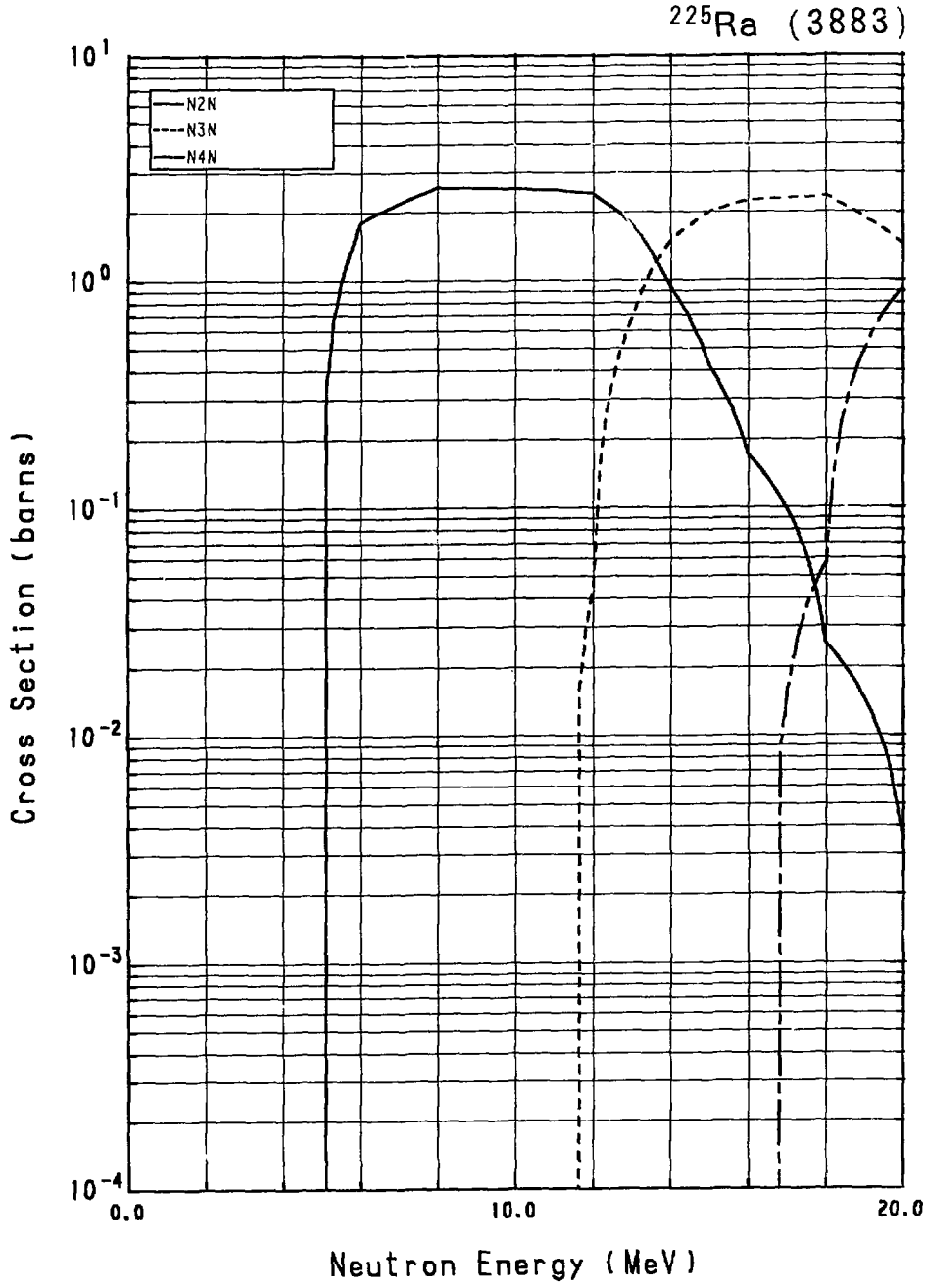

223Ra (3881)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

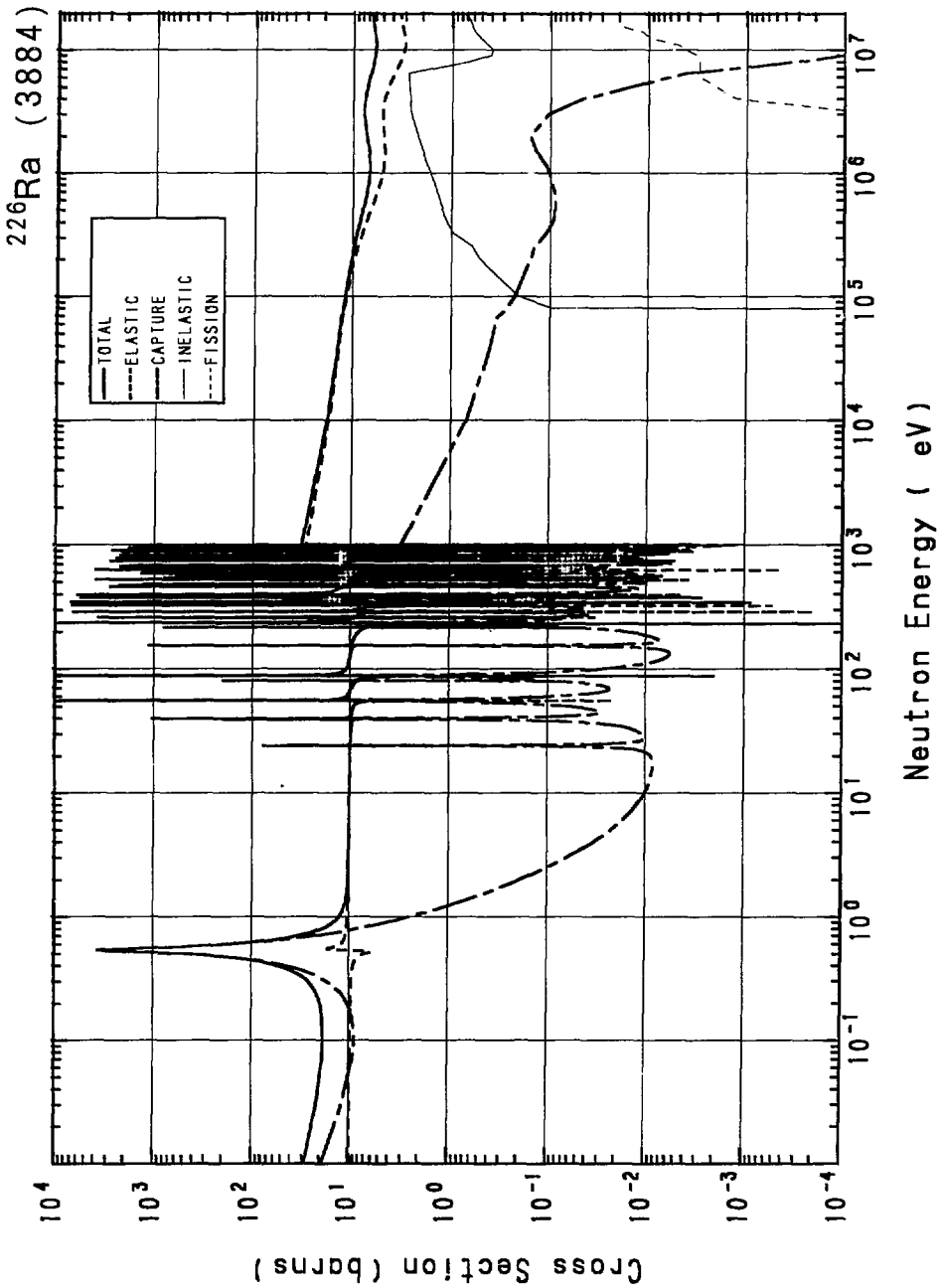

223Ra (3881)
N2N
N3N
N4N
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

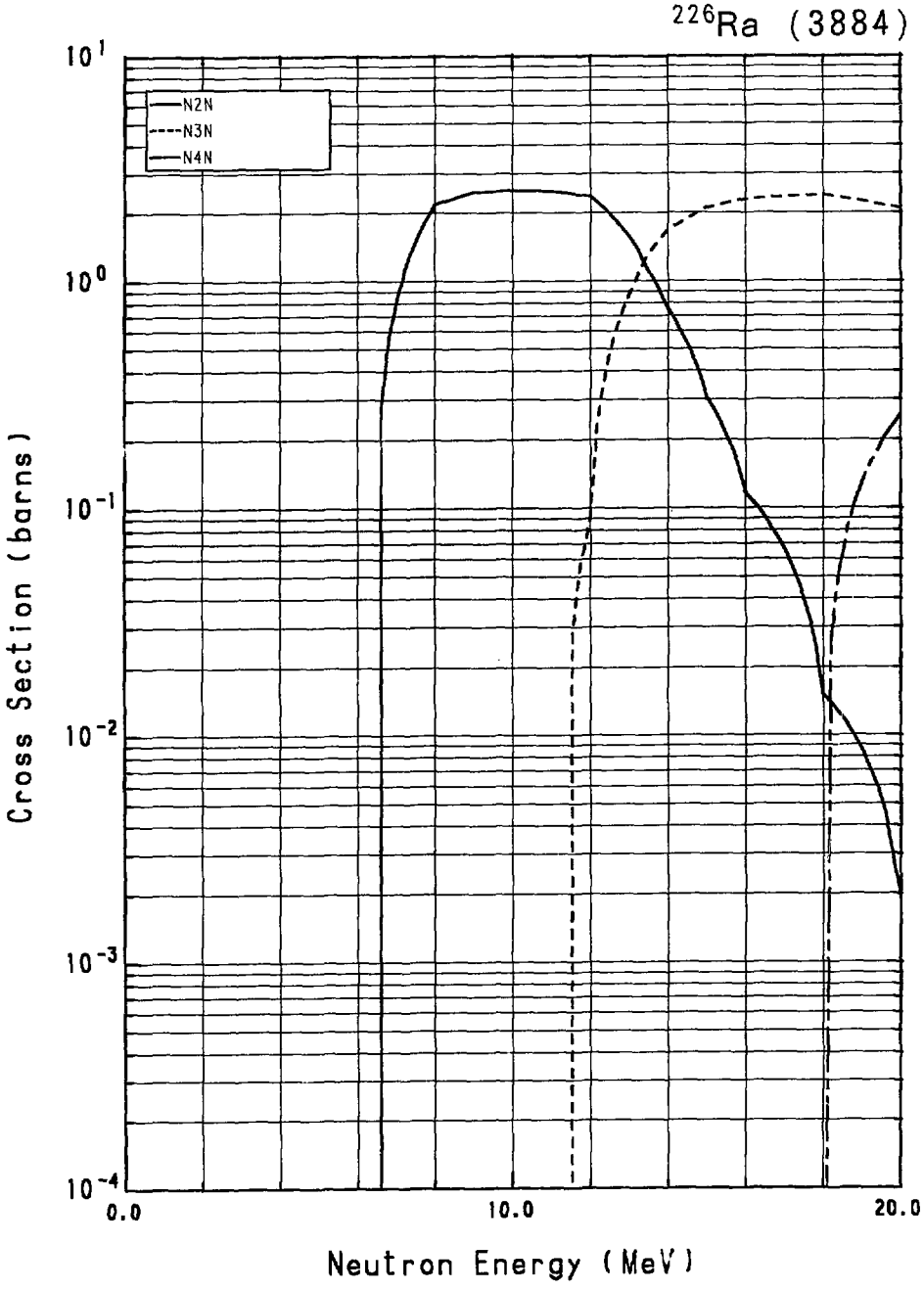

^{224}Ra (3882)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

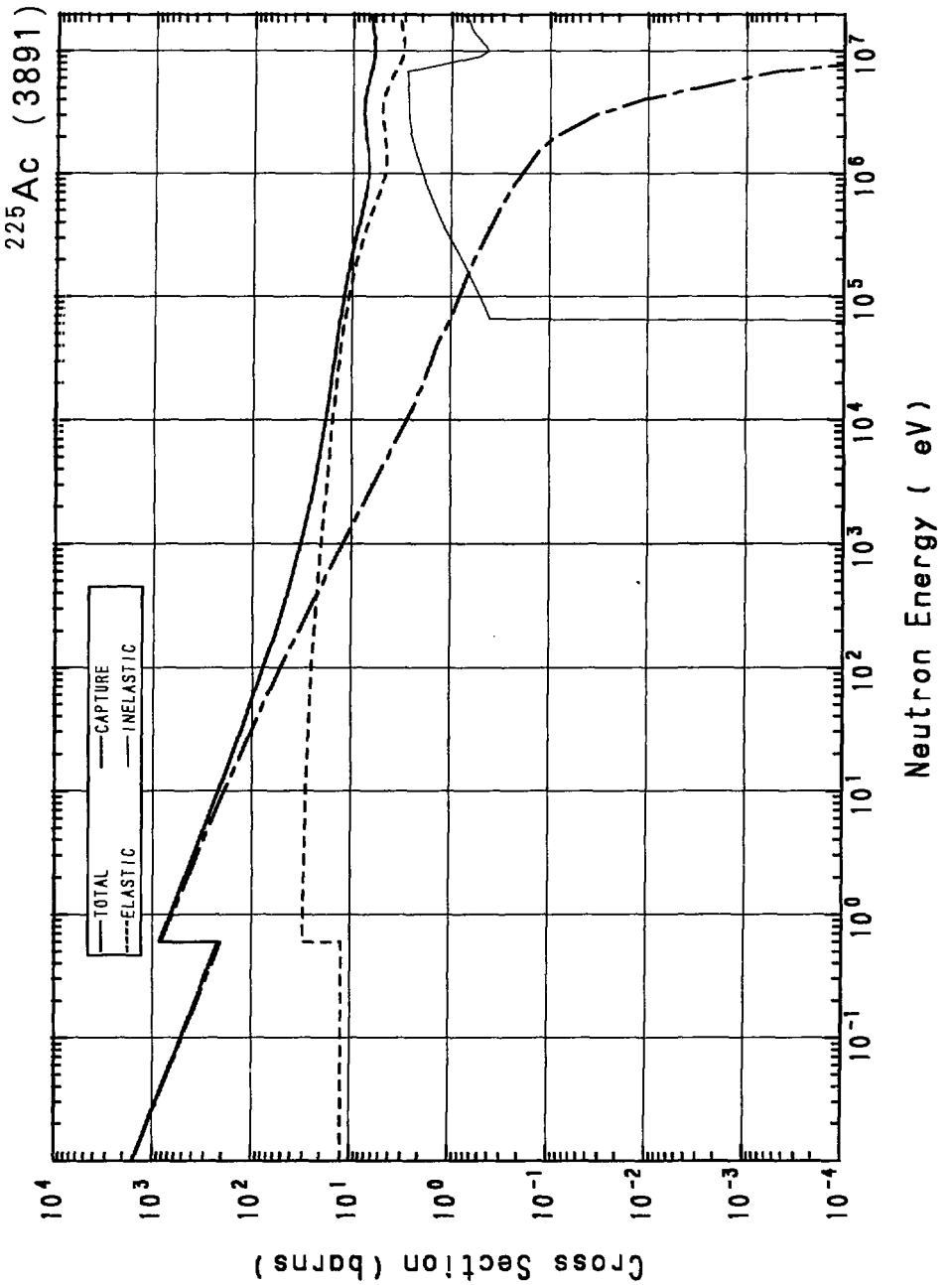

224Ra (3882)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

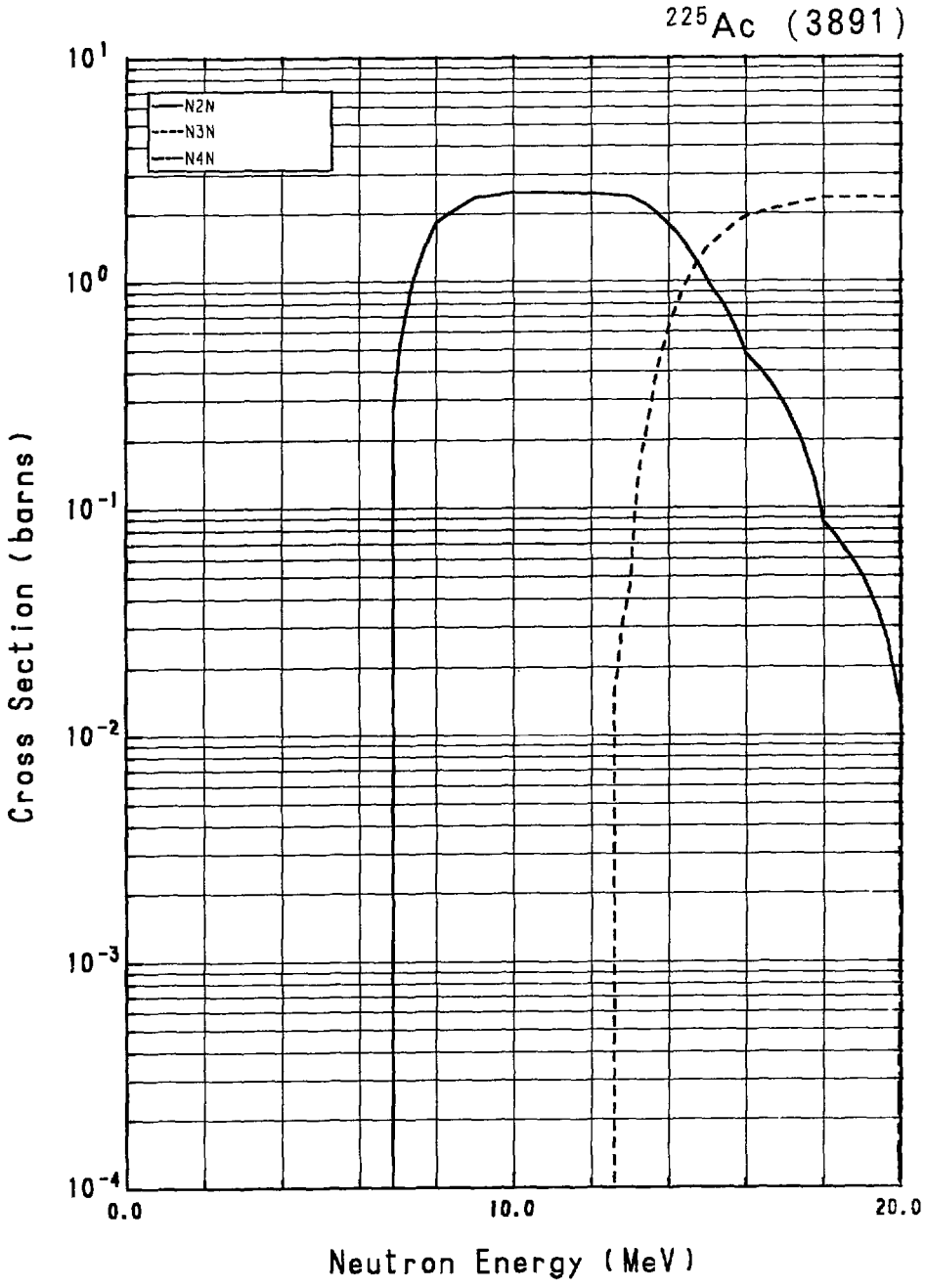

225Ra (3883)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

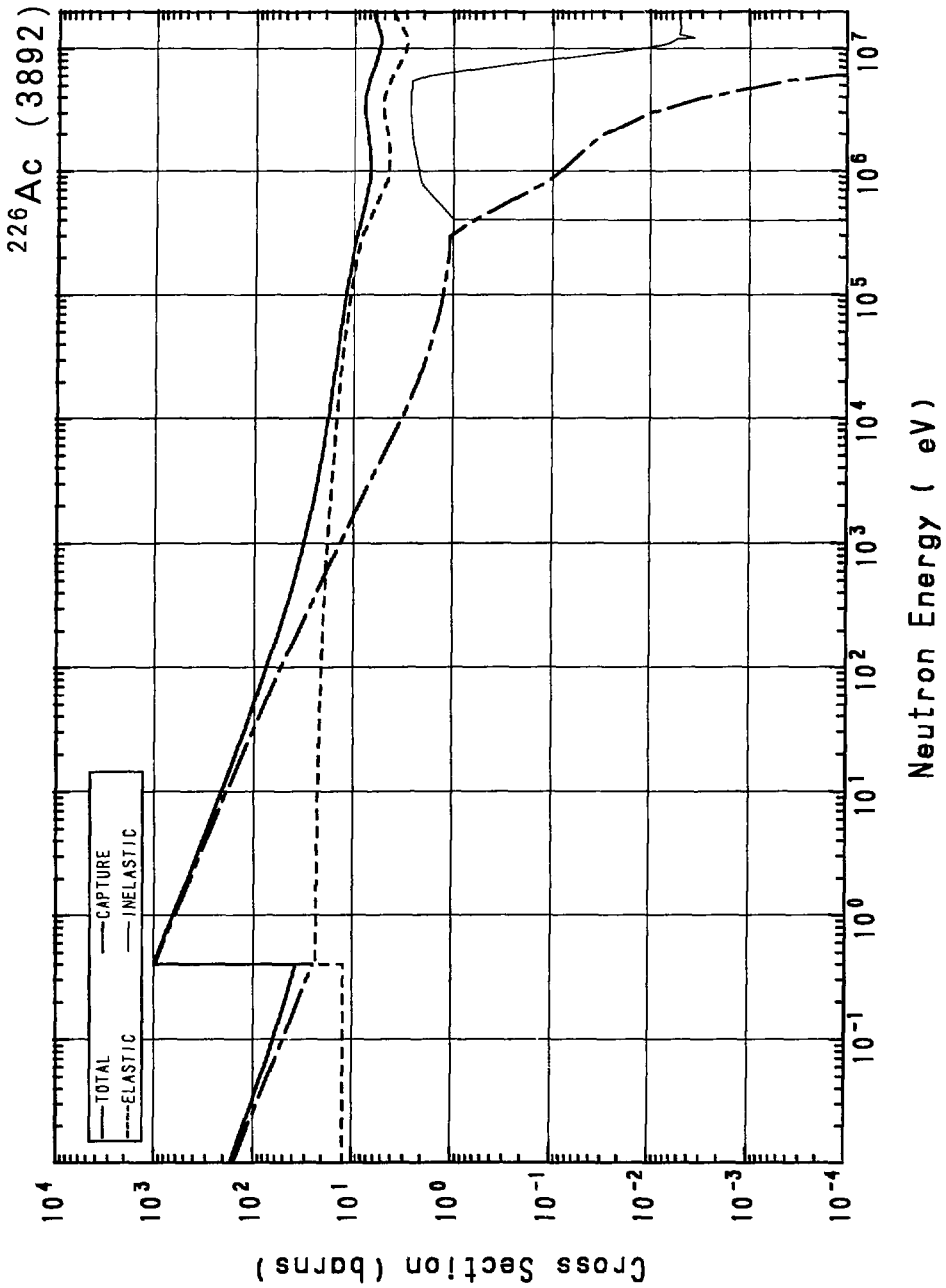

225Ra (3883)
N2N
N3N
N4N
Cross Section (barns)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0
Neutron Energy (MeV)

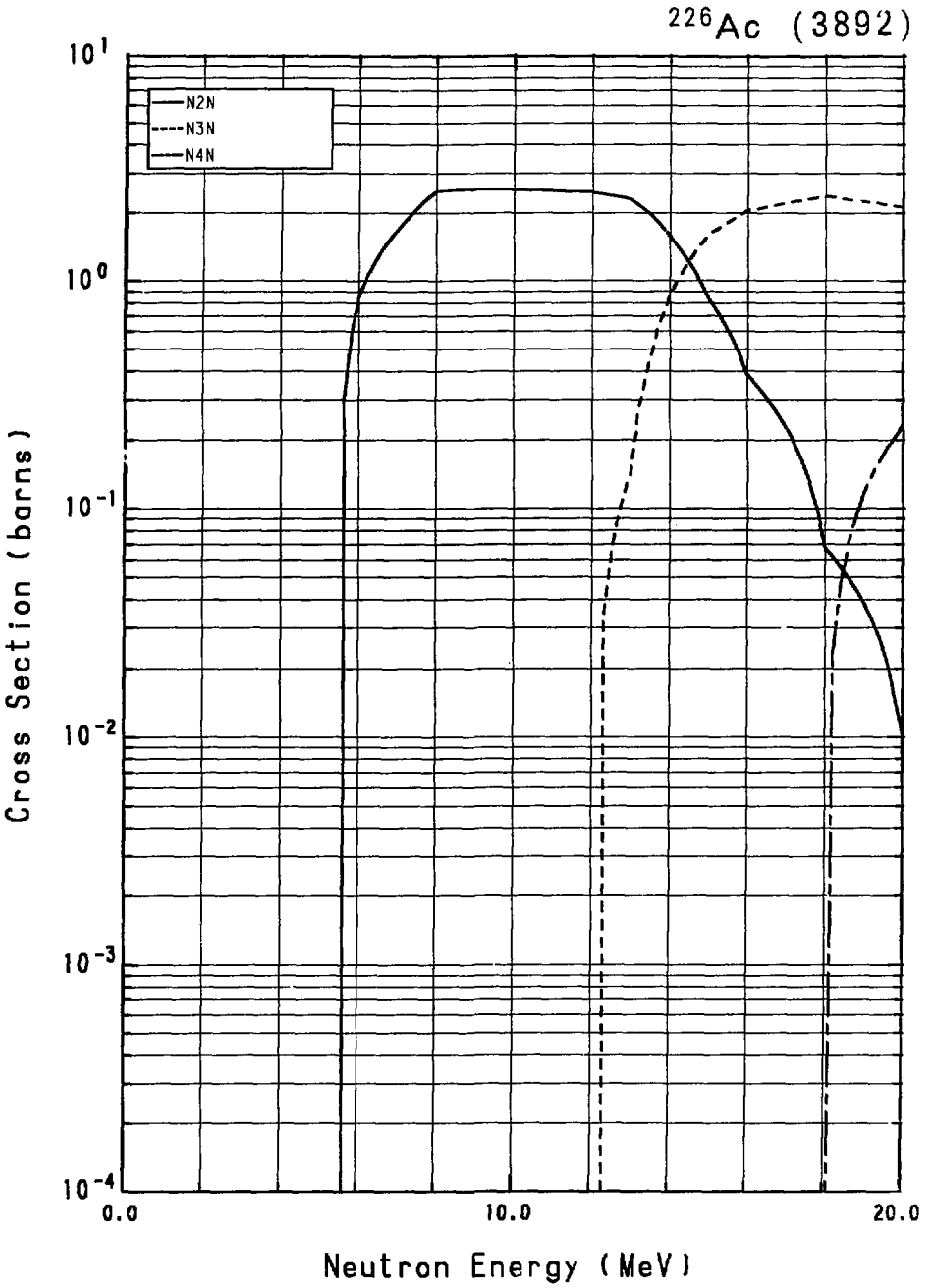

226Ra (3884)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

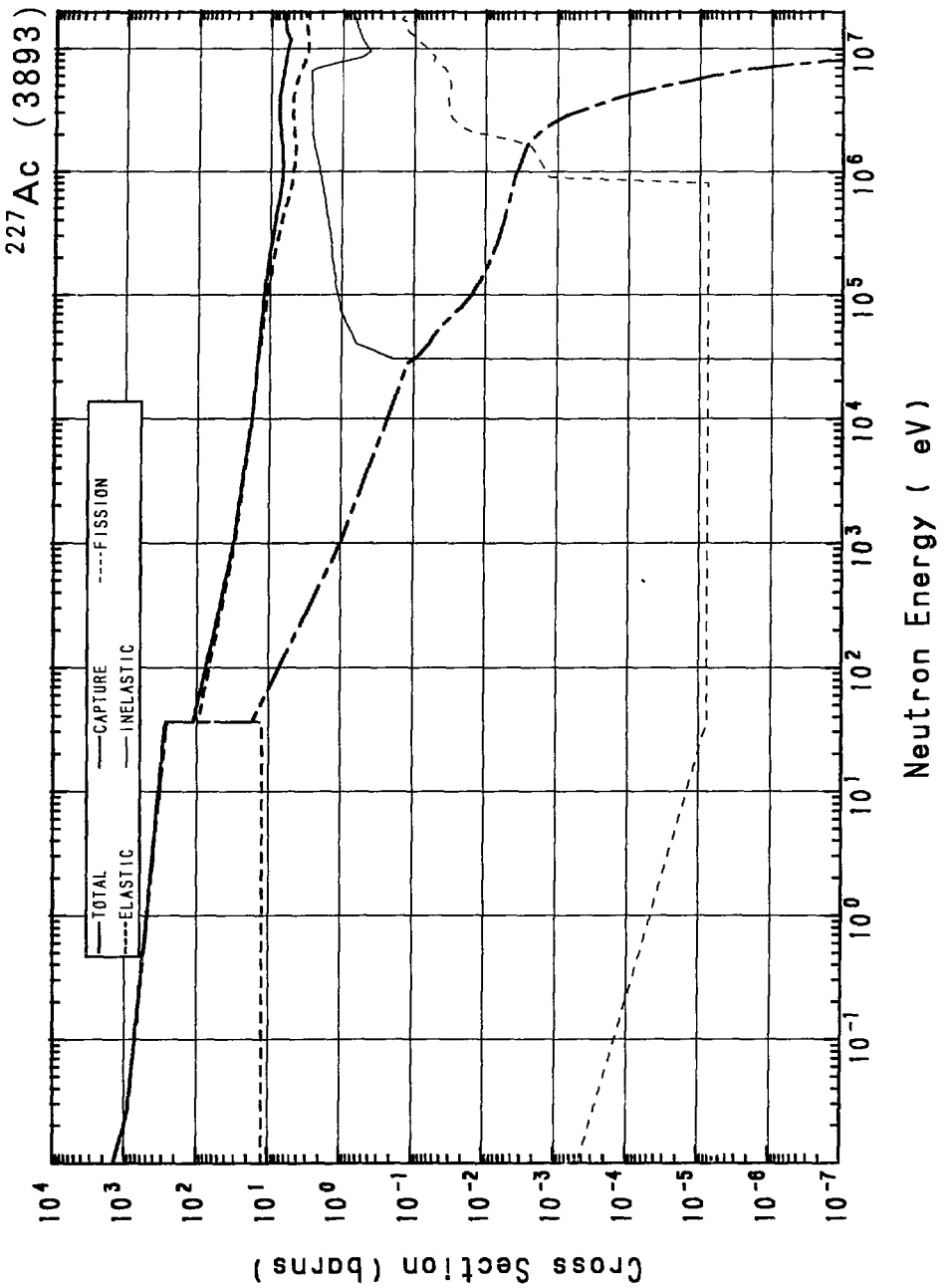

226Ra (3884)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

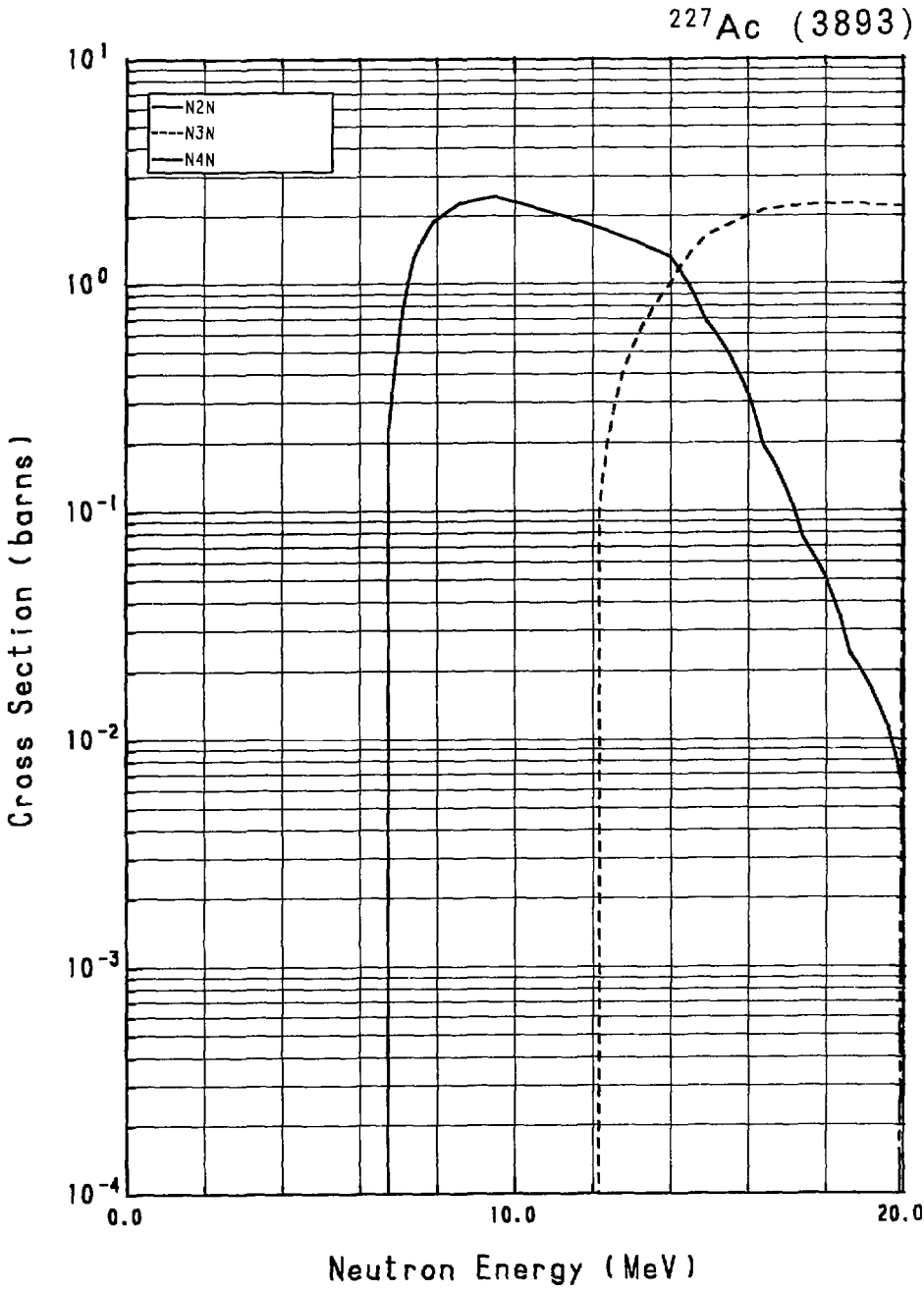

225Ac (3891)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

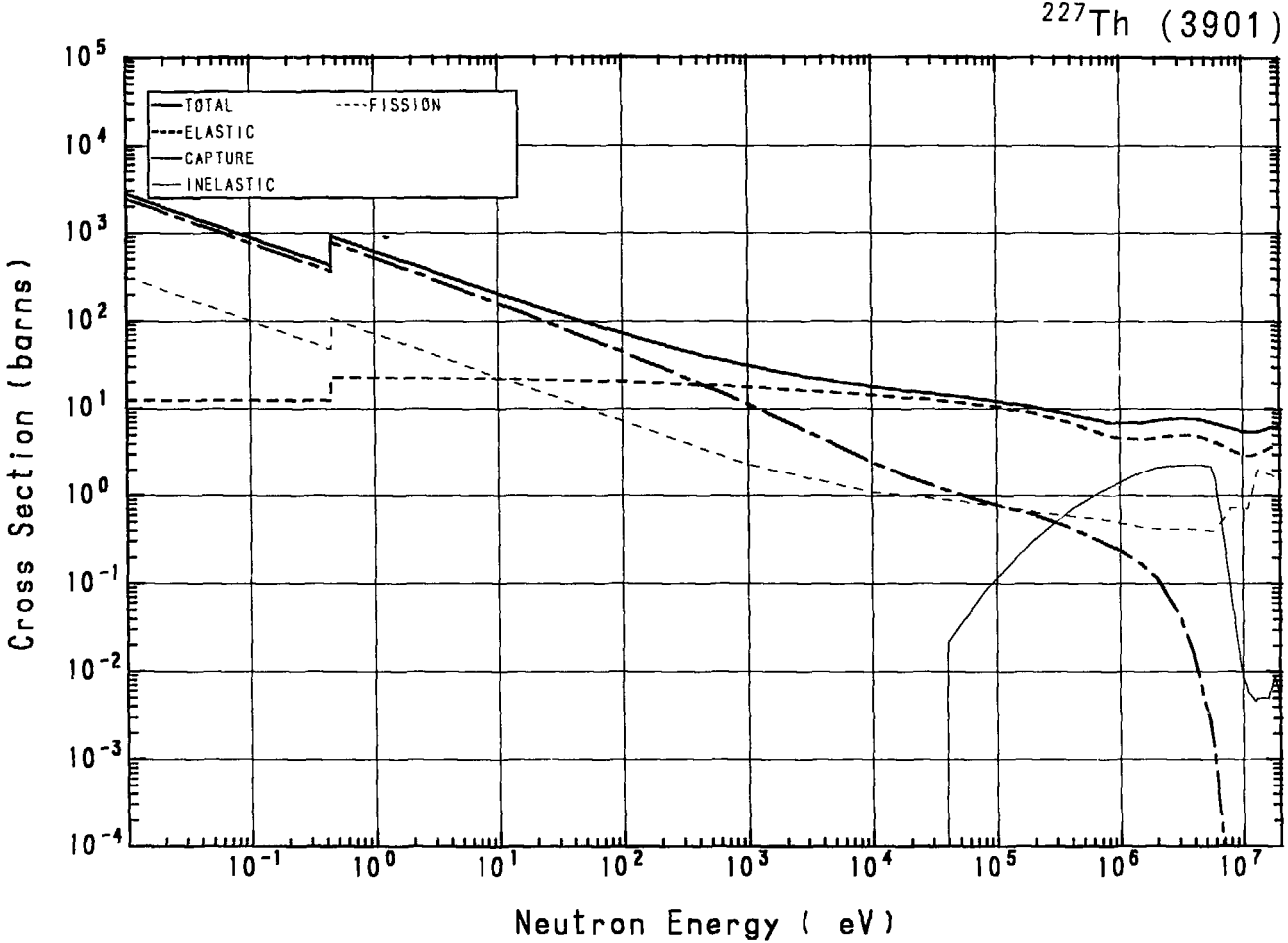

225Ac (3891)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

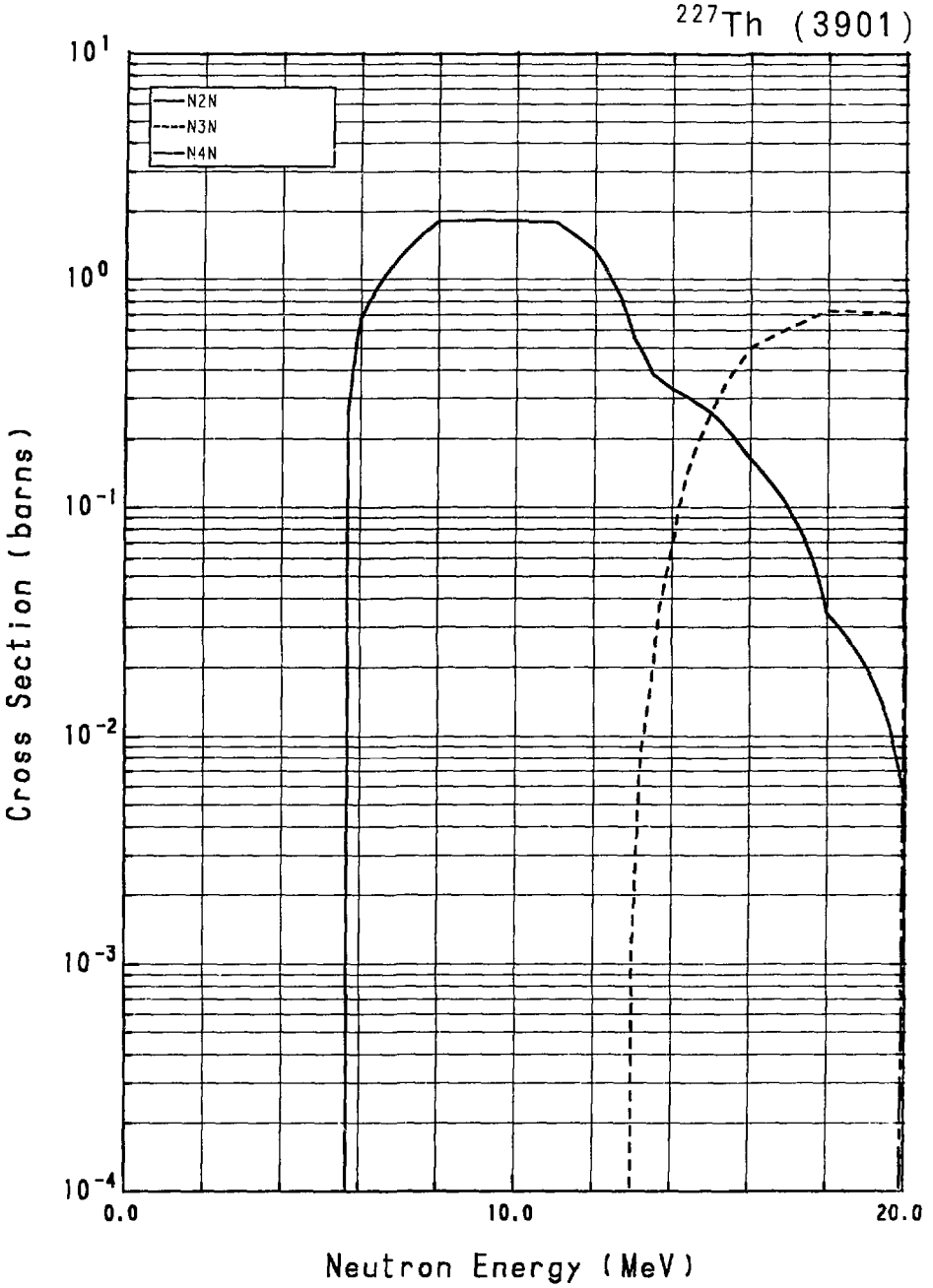

226Ac (3892)
TOTAL
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

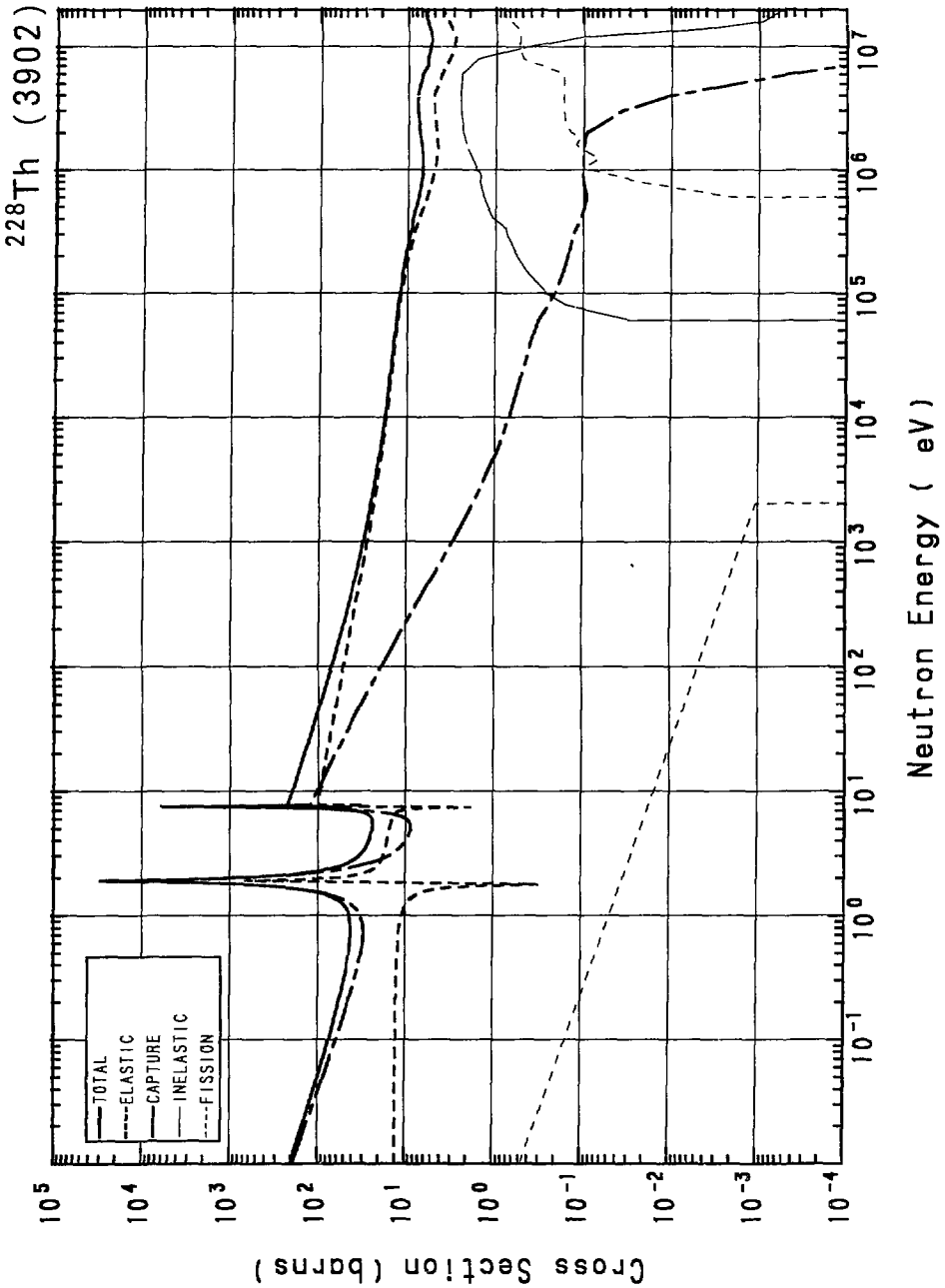

226Ac (3892)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

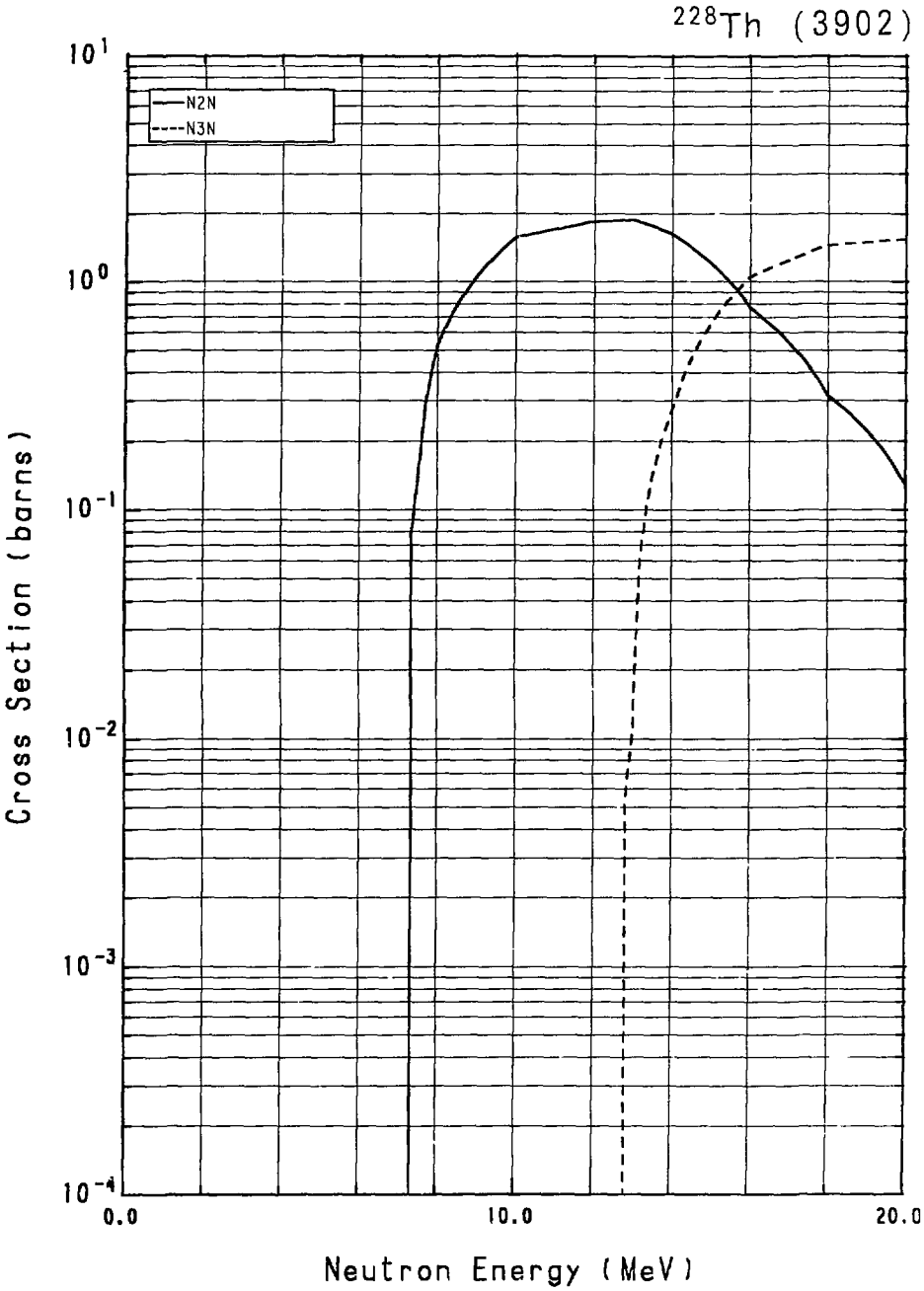

227Ac (3893)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

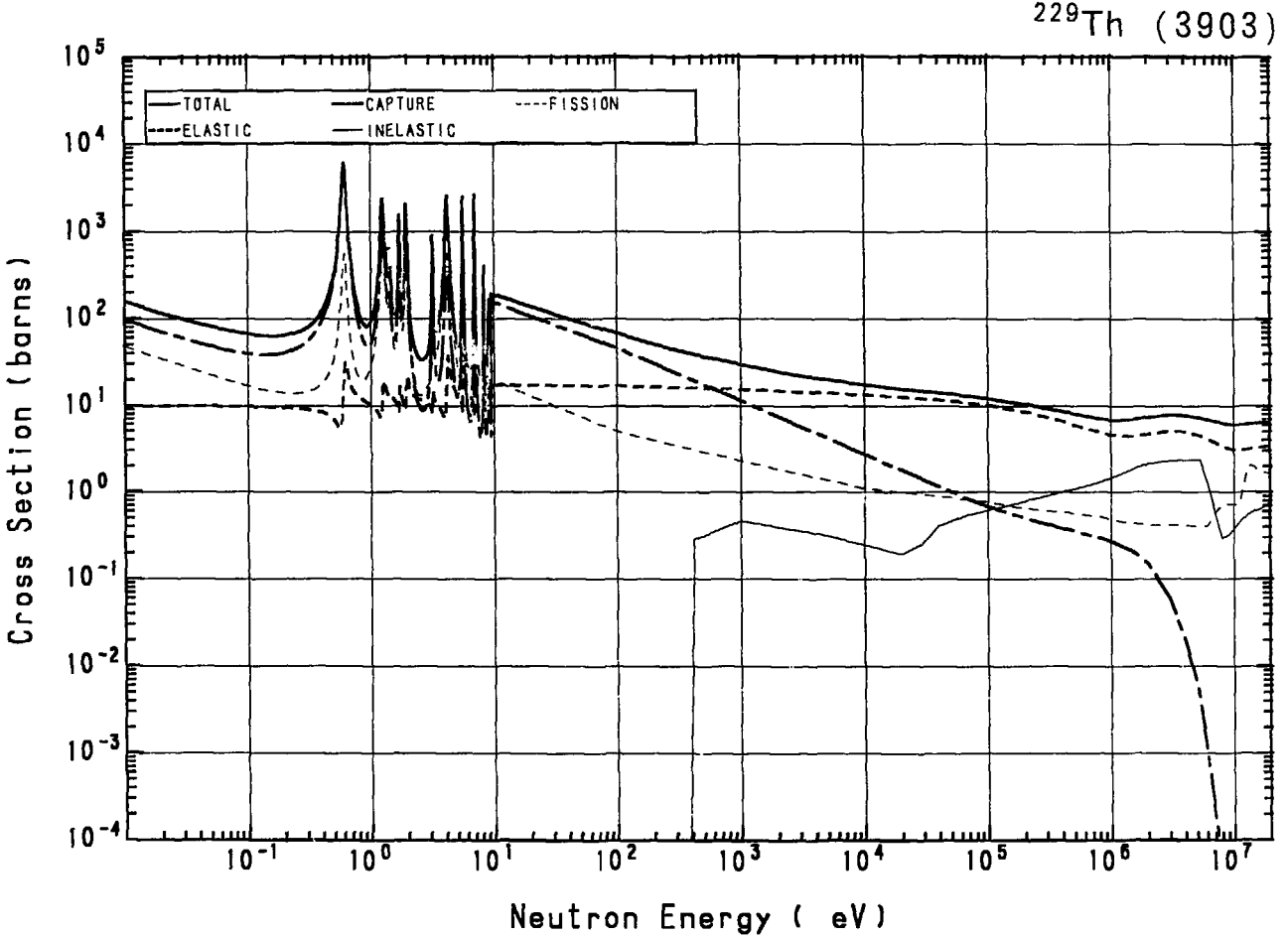

227Ac (3893)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

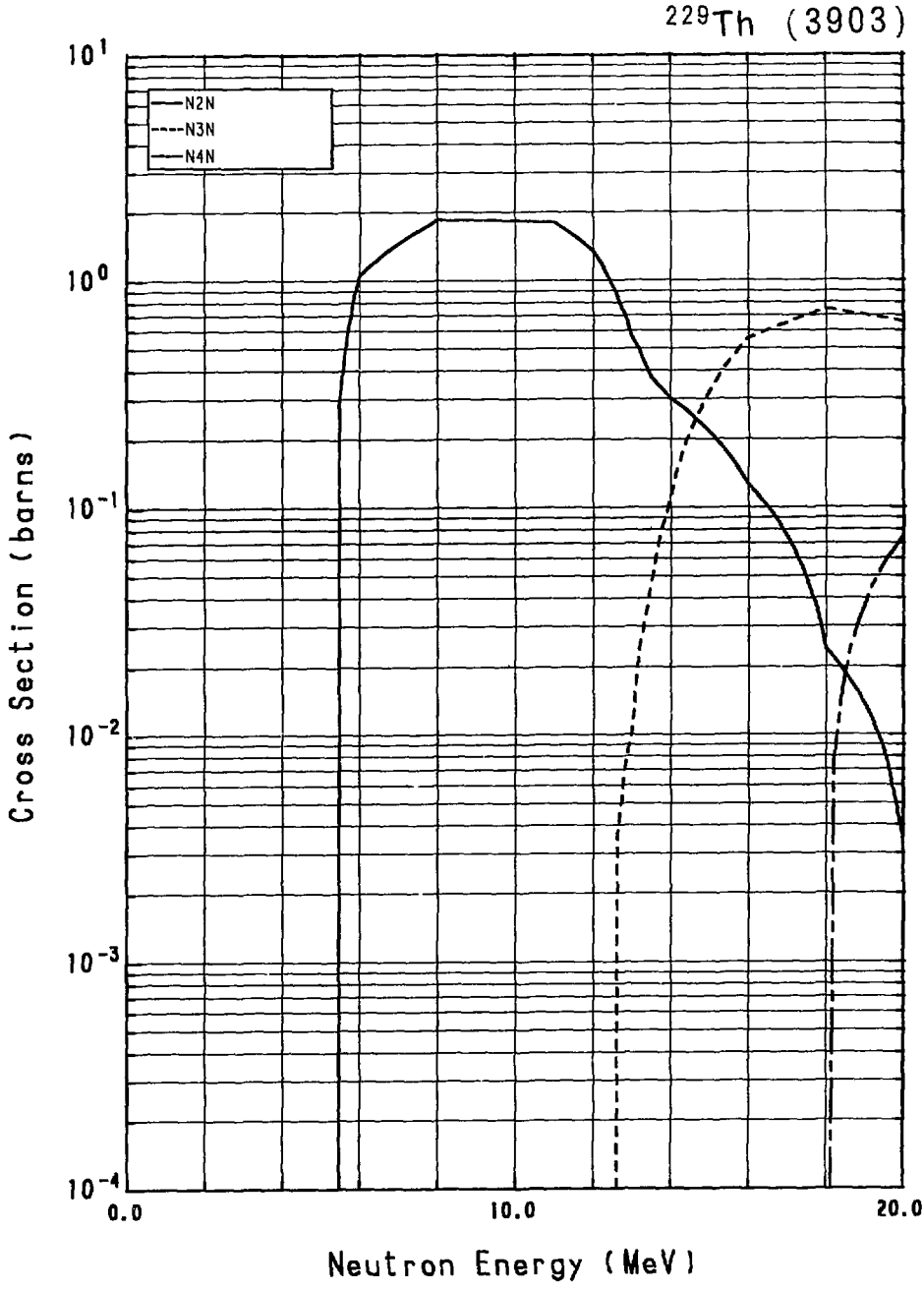

227Th (3901)
TOTAL
FISSION
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

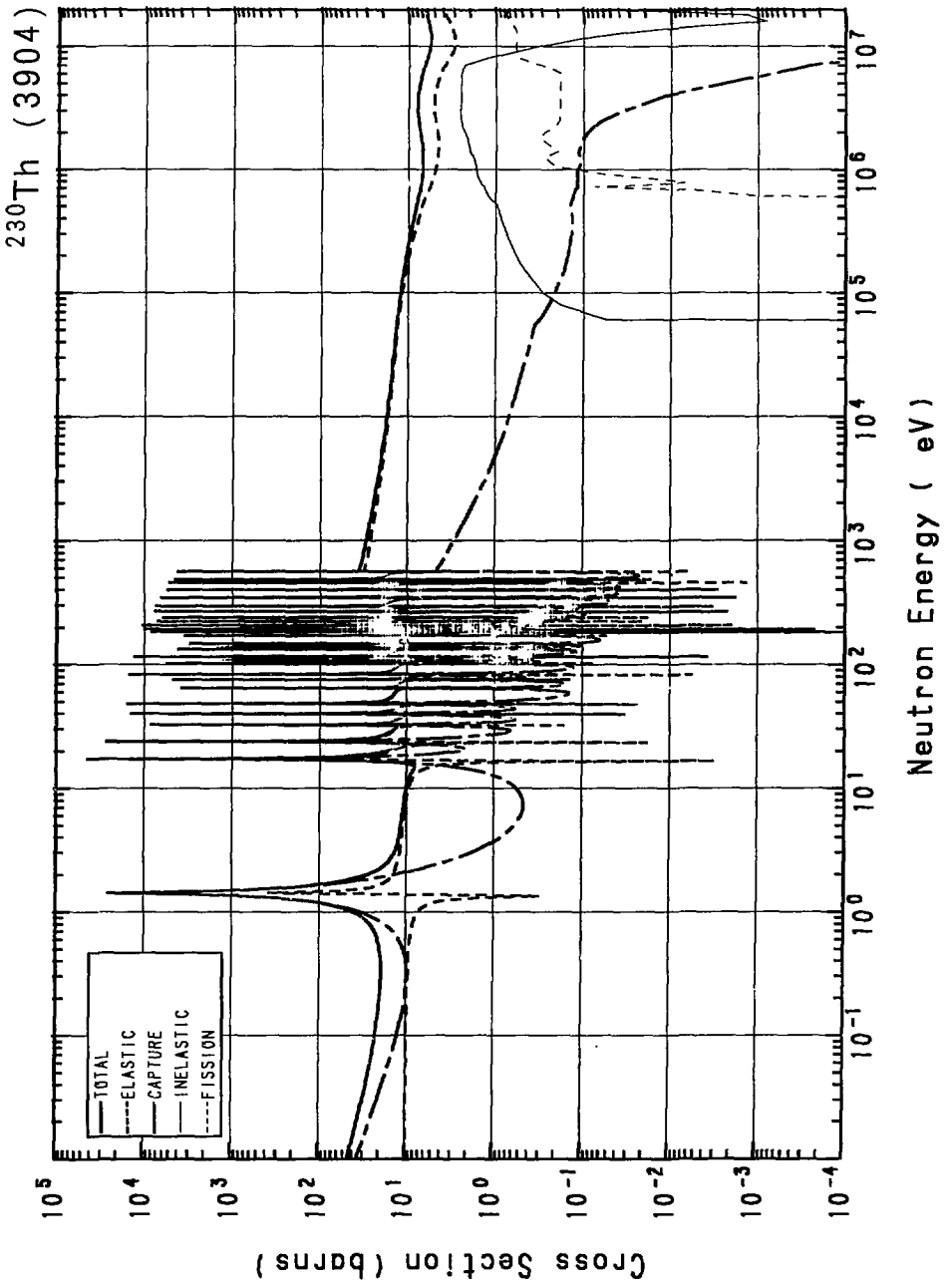

227Th (3901)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

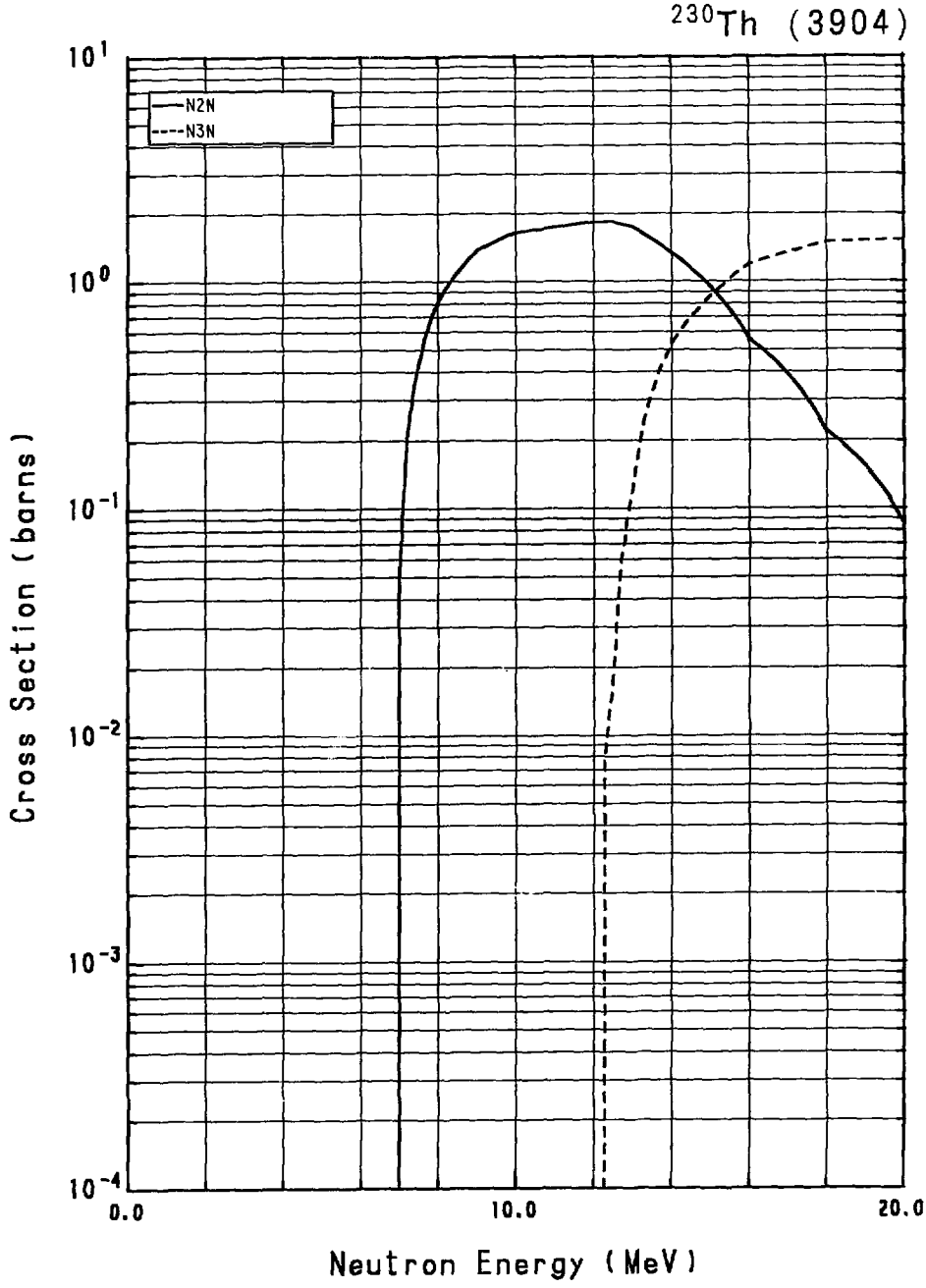

228Th (3902)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

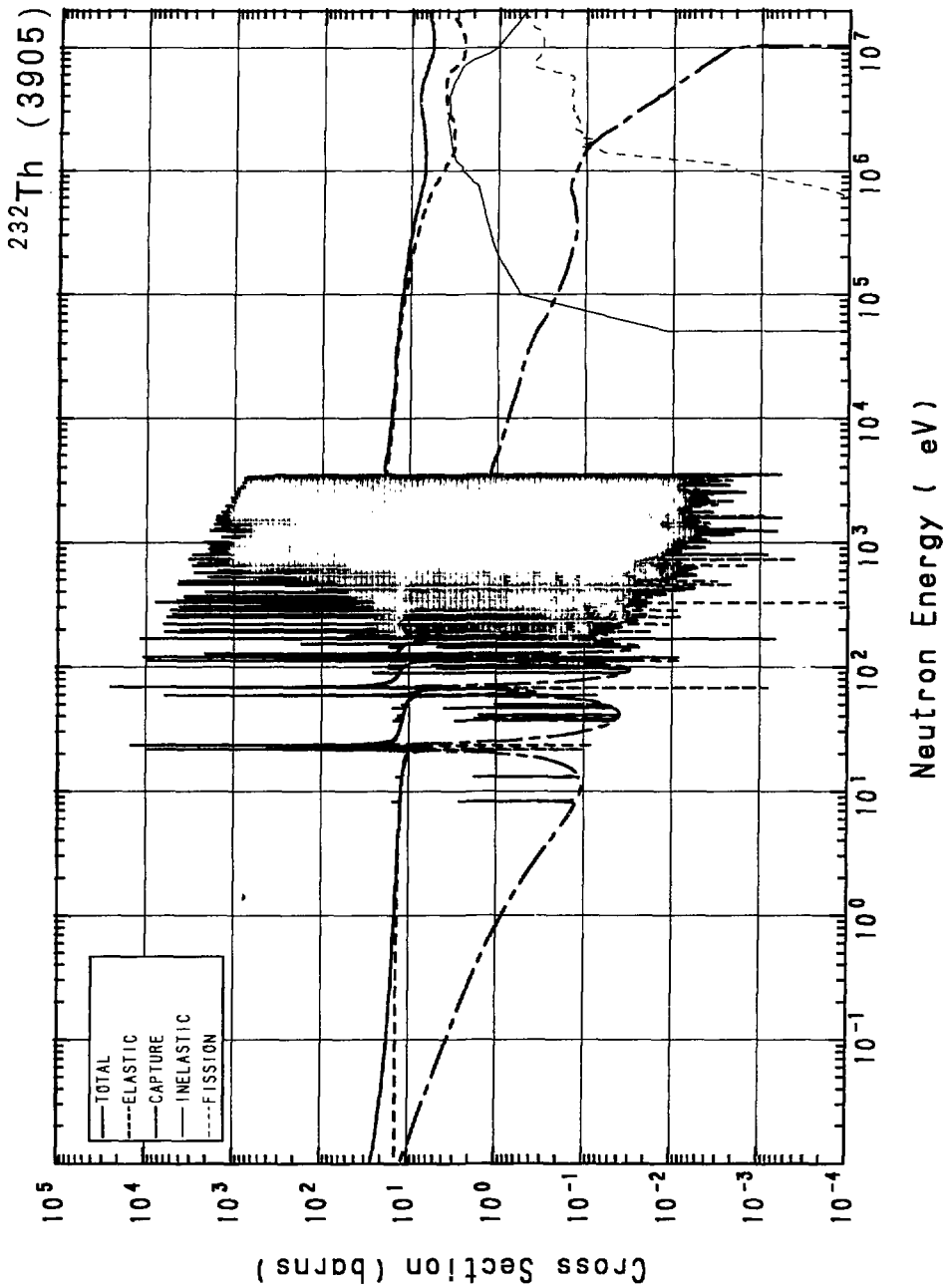

228Th (3902)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

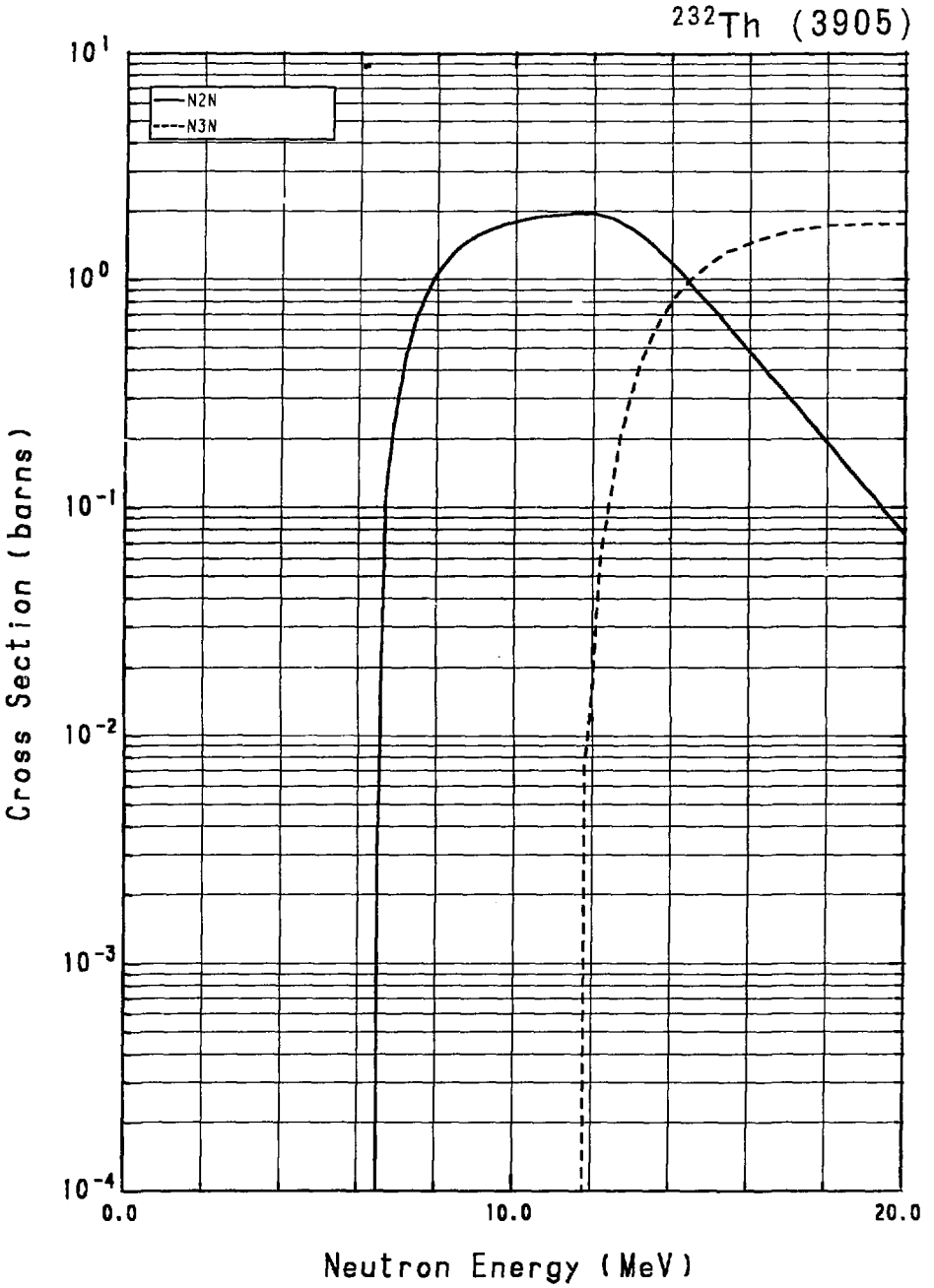

229Th (3903)
TOTAL
CAPTURE
FISSION
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

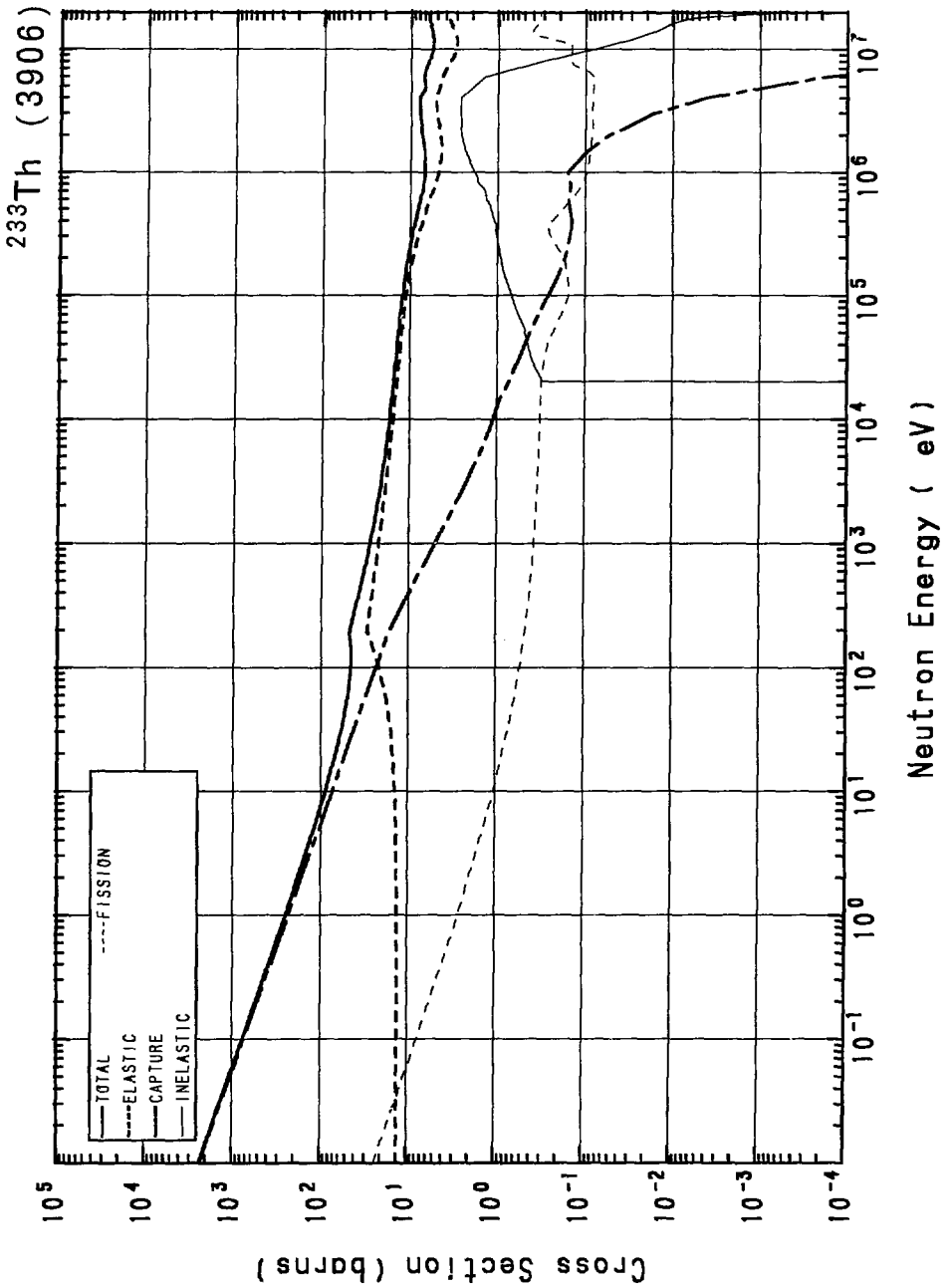

229Th (3903)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

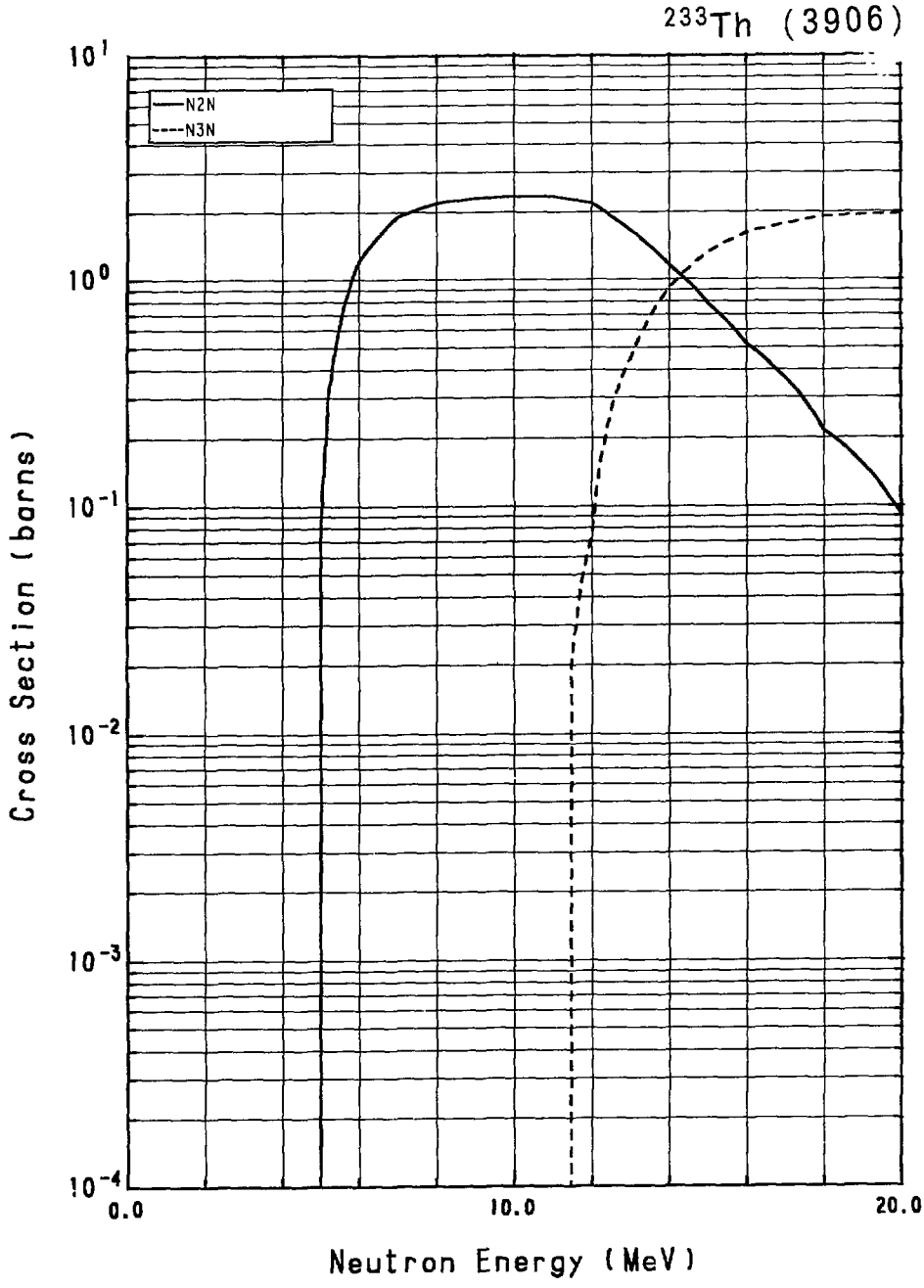

230Th (3904)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

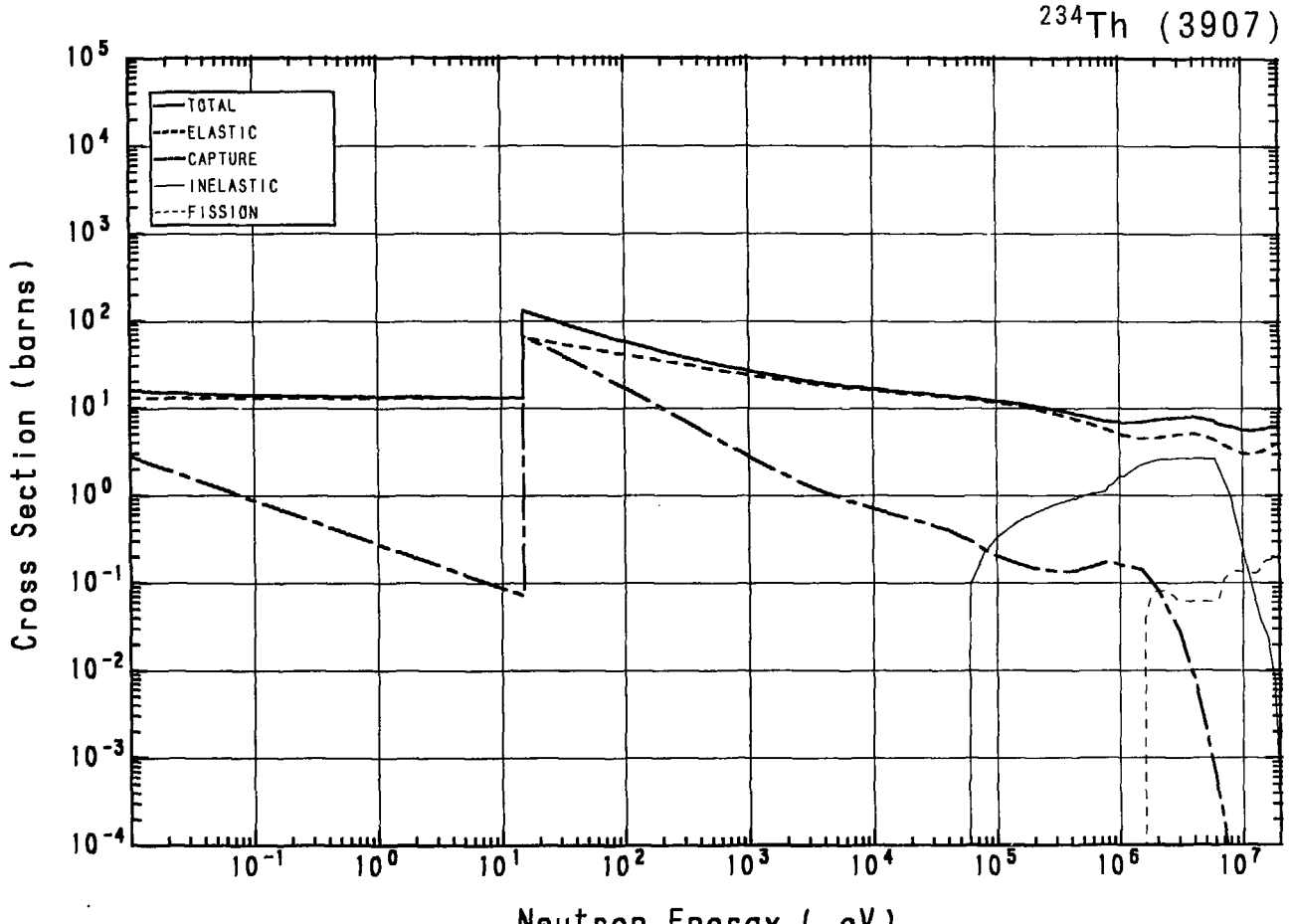

230Th (3904)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

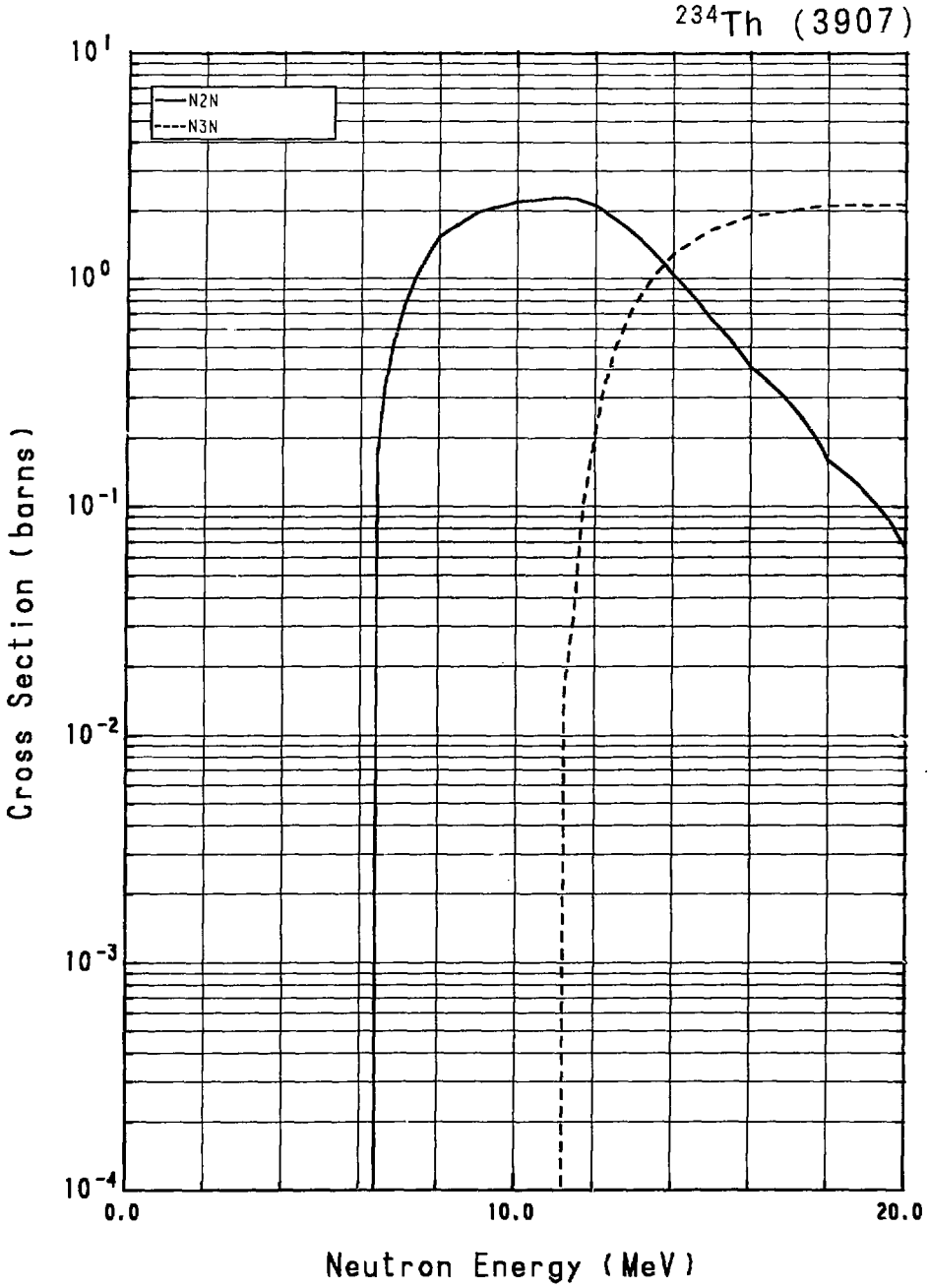

232Th (3905)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

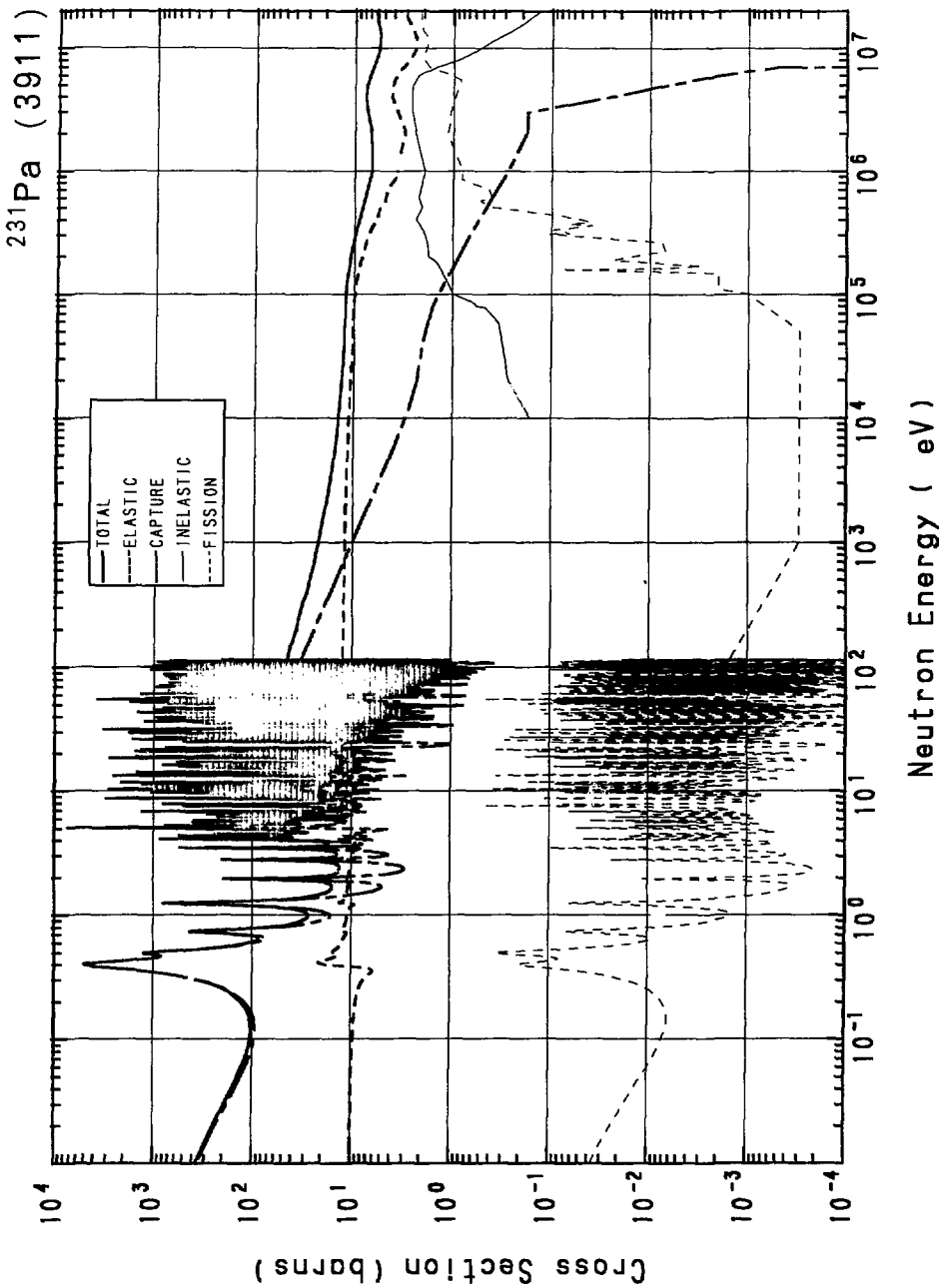

232Th (3905)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

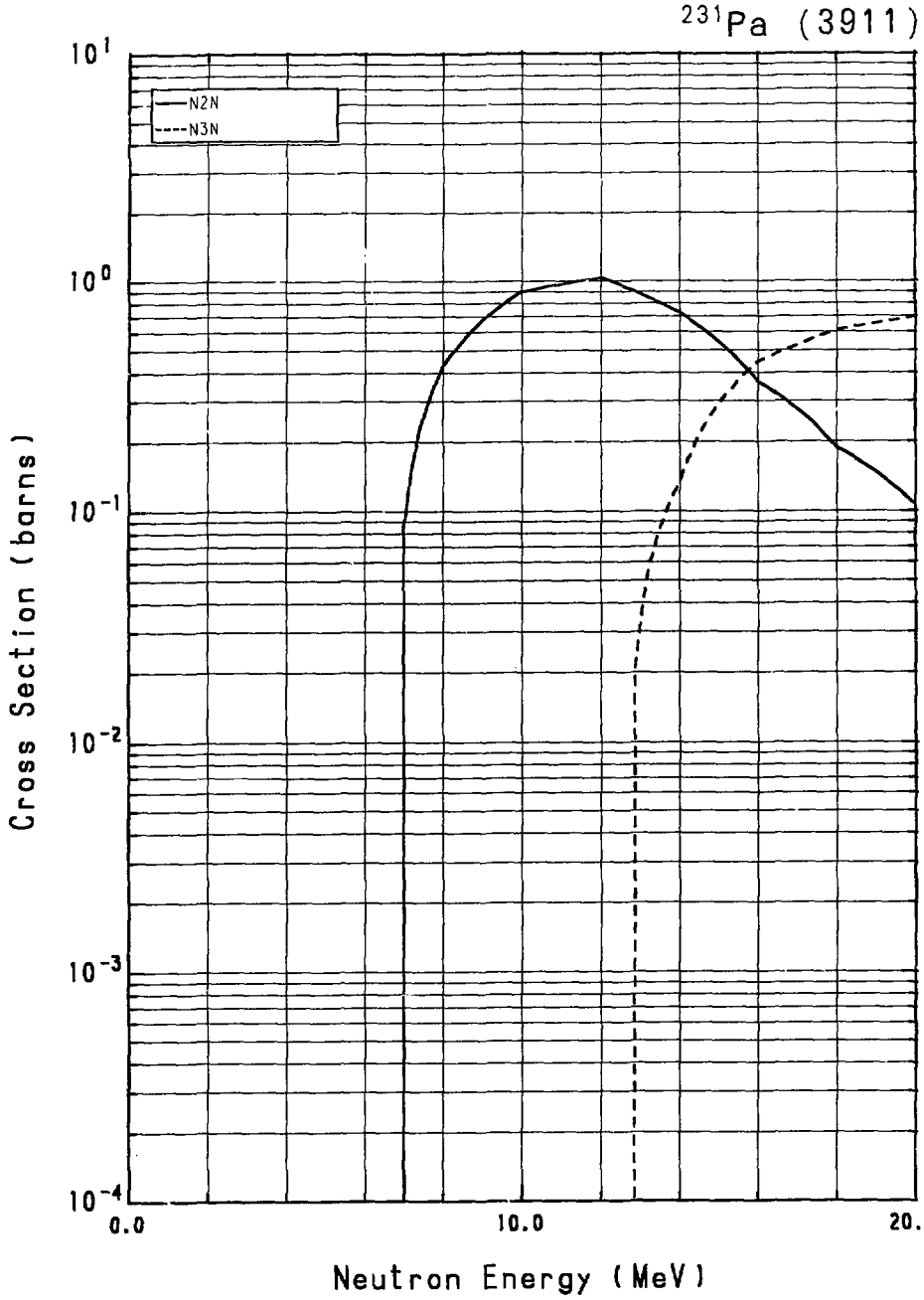

233Th (3906)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

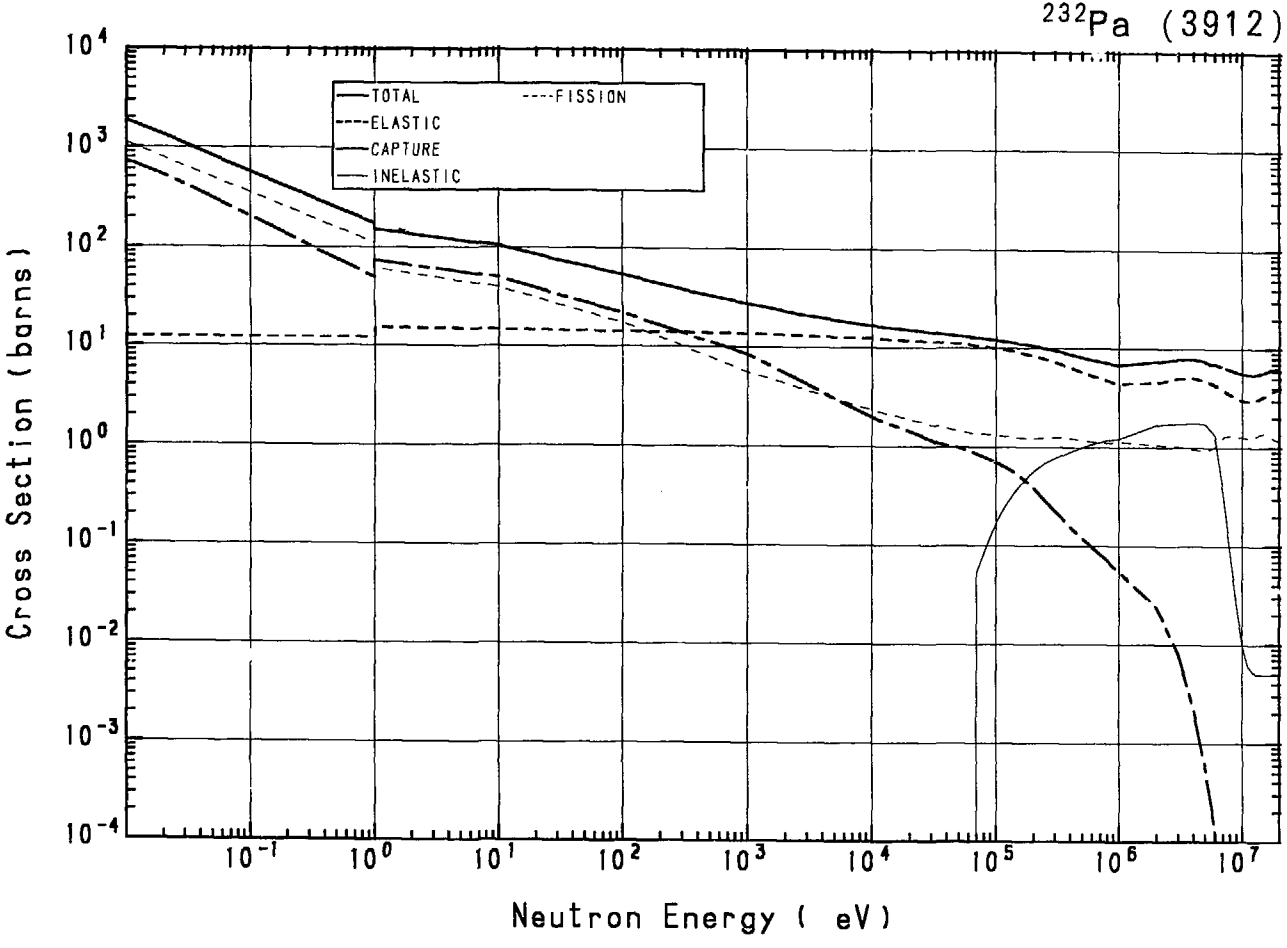

233Th (3906)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0
Cross Section (barns)
Neutron Energy (MeV)

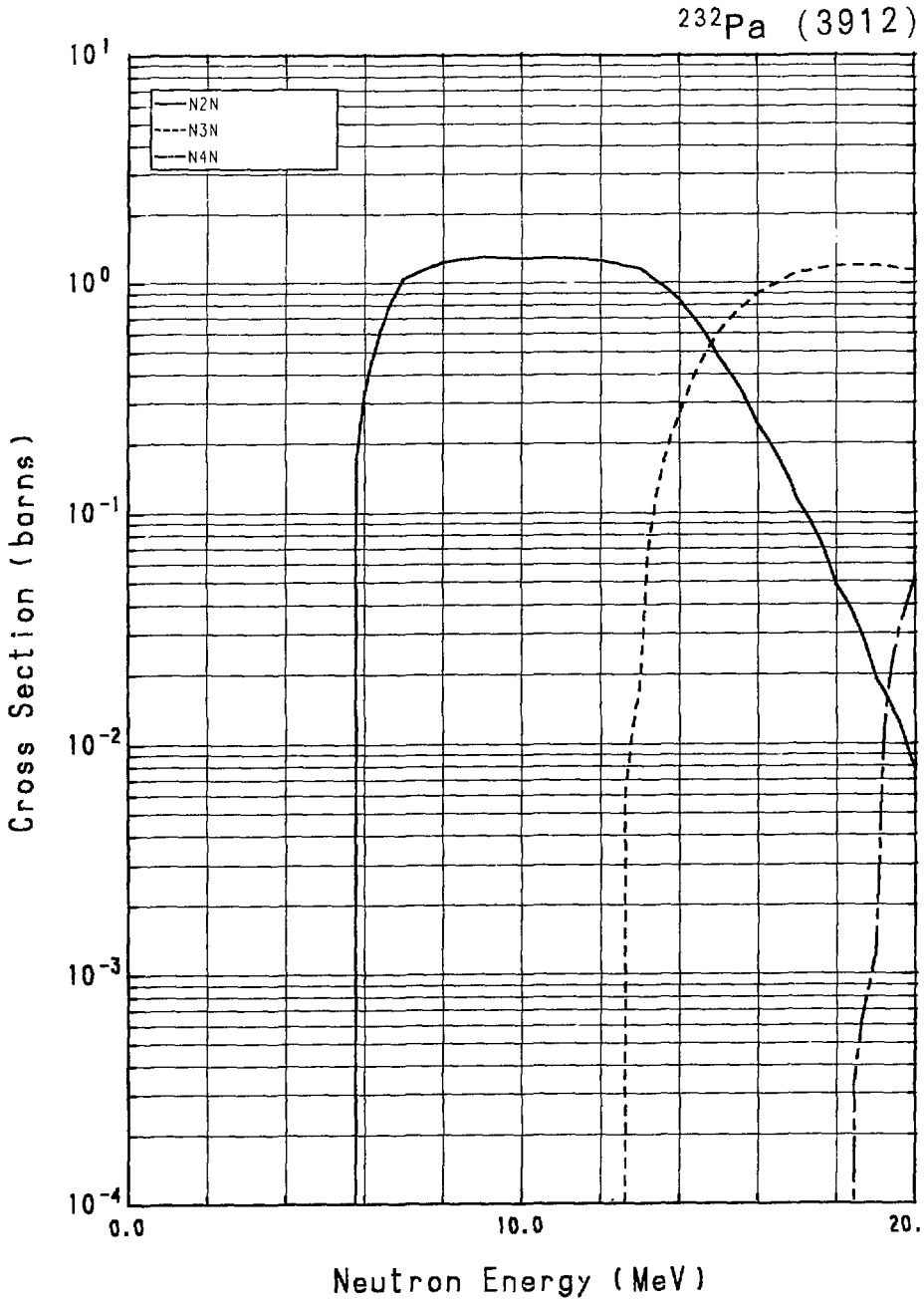

^{234}Th (3907)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

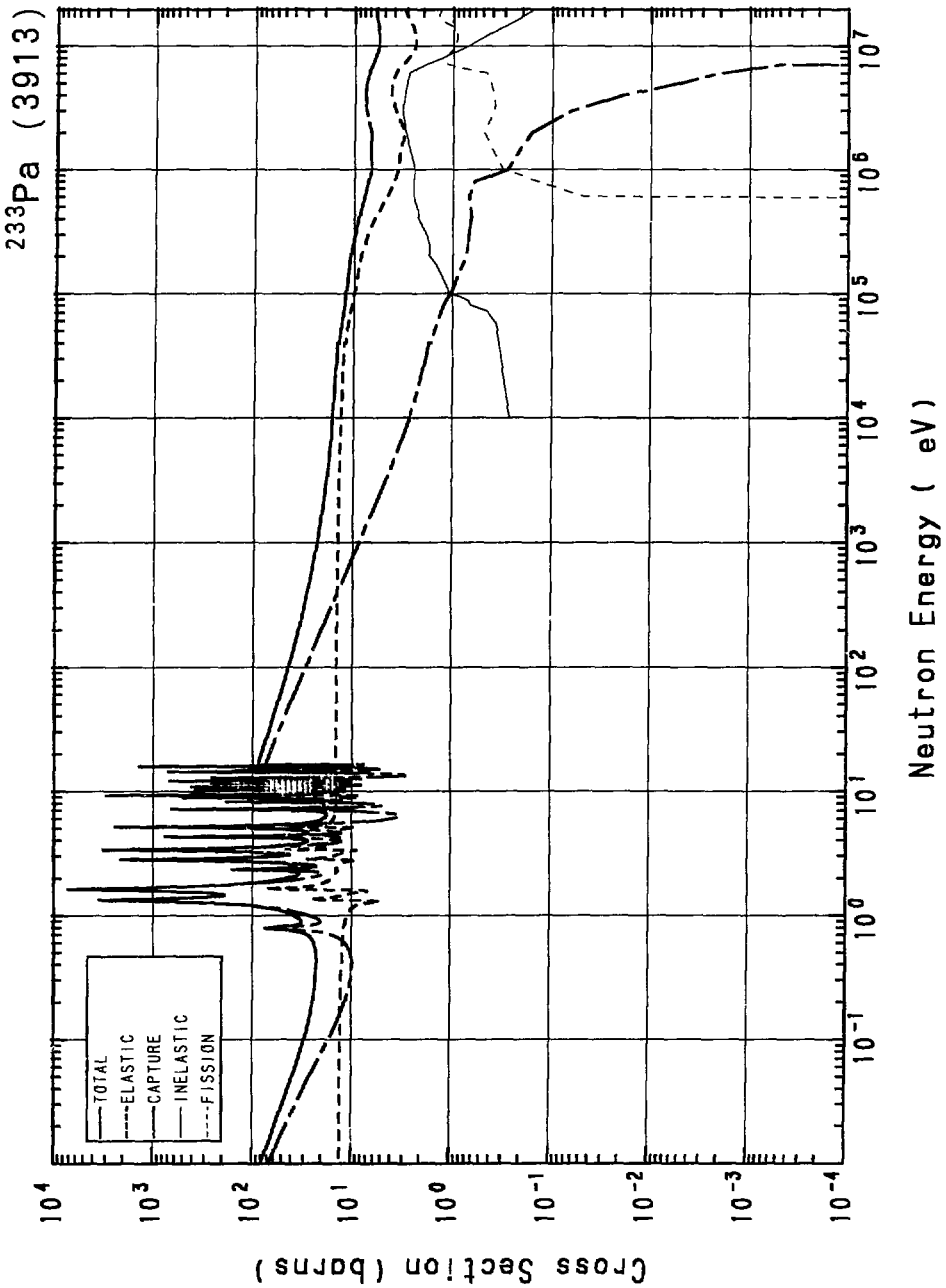

^{234}Th (3907)
N2N
N3N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

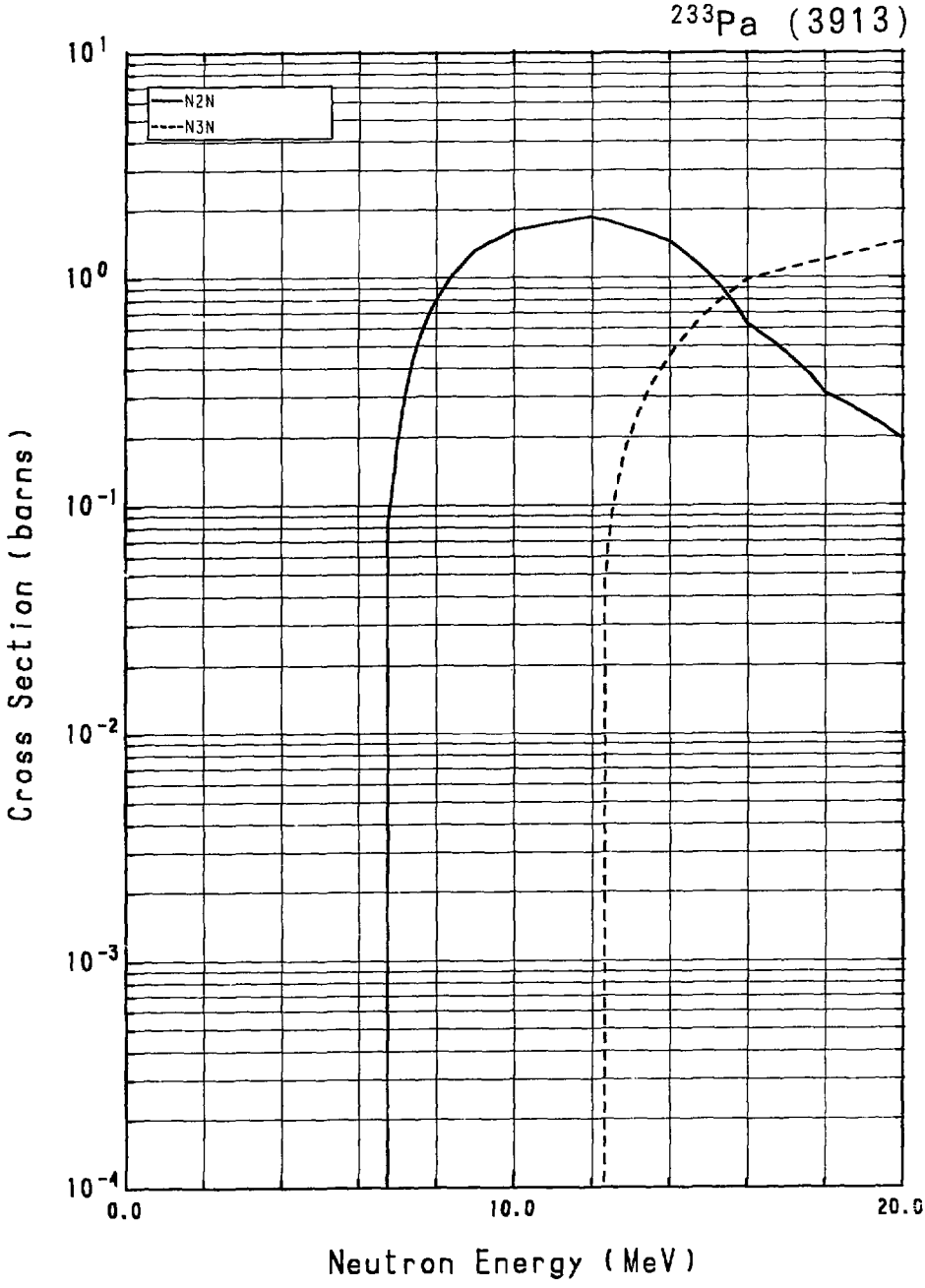

231Pa (3911)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

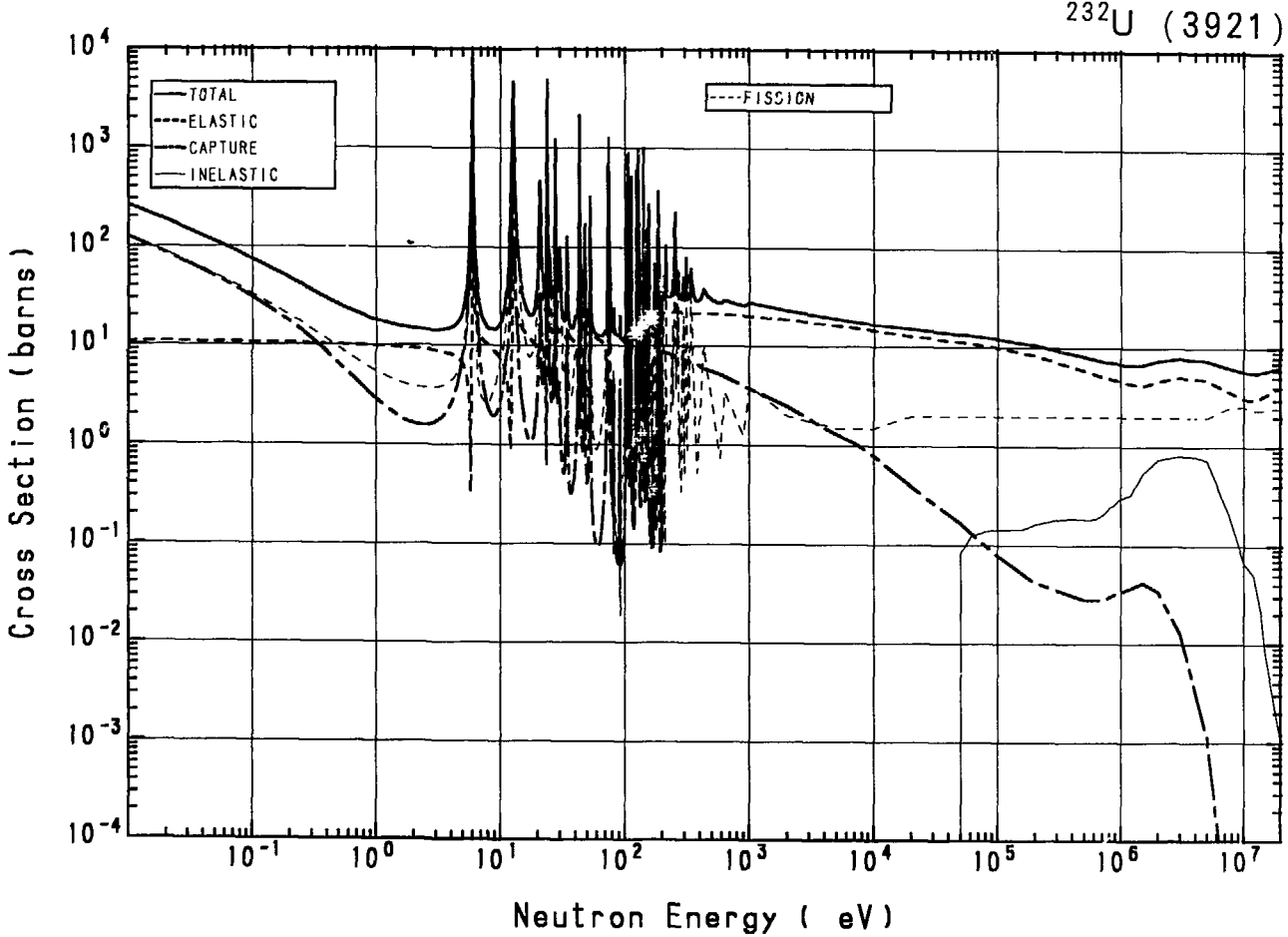

231Pa (3911)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

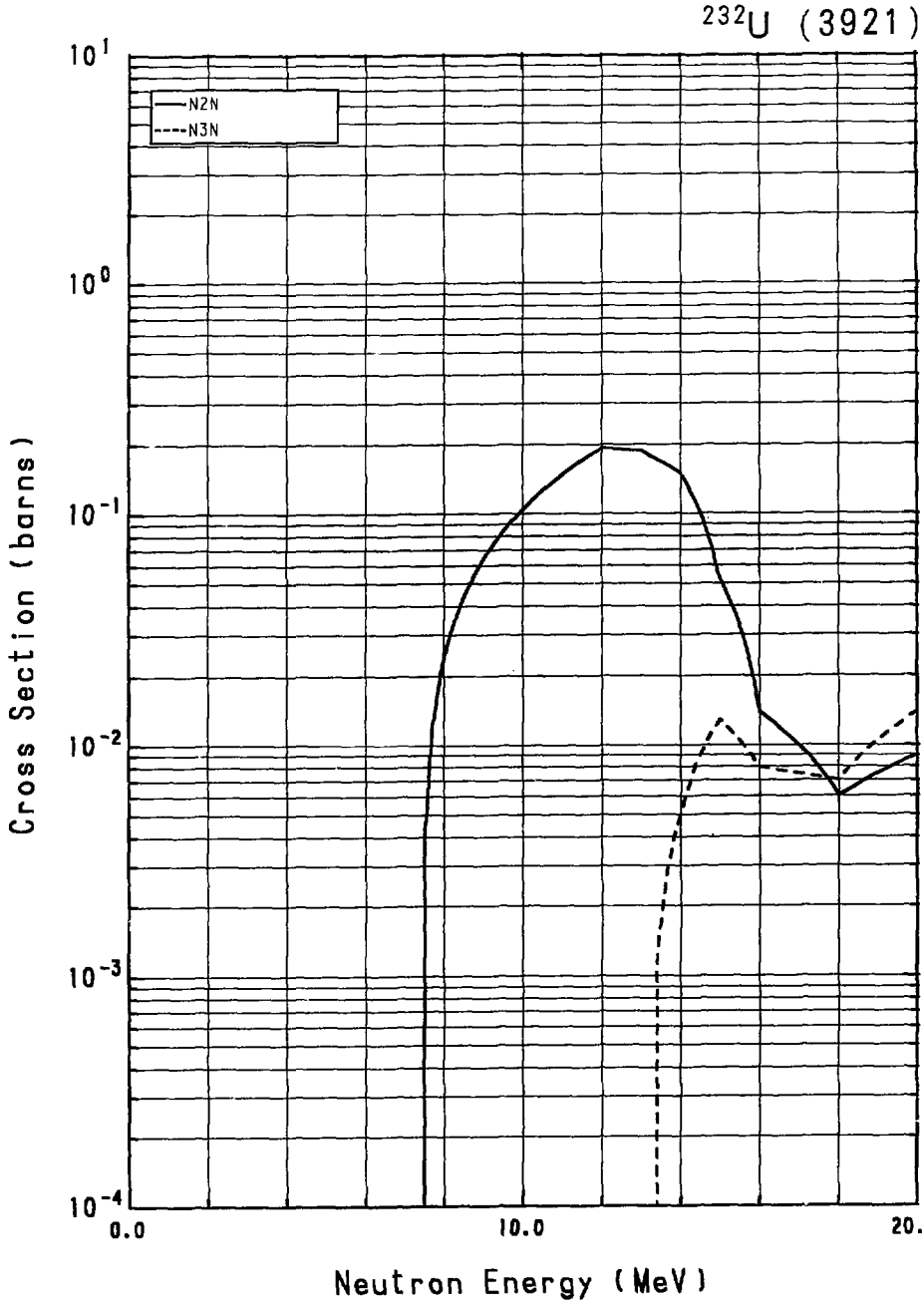

232Pa (3912)
TOTAL
FISSION
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

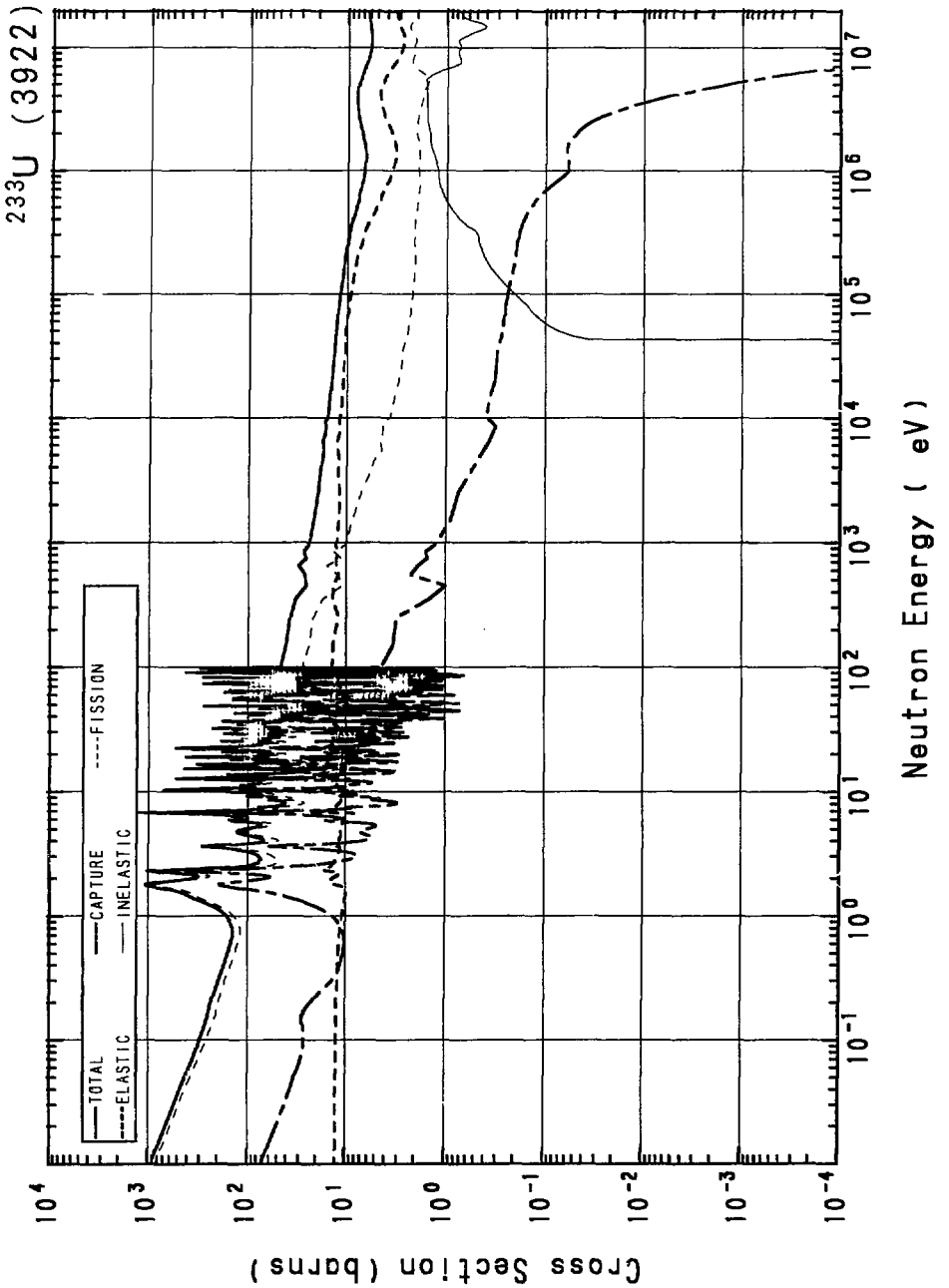

232Pa (3912)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

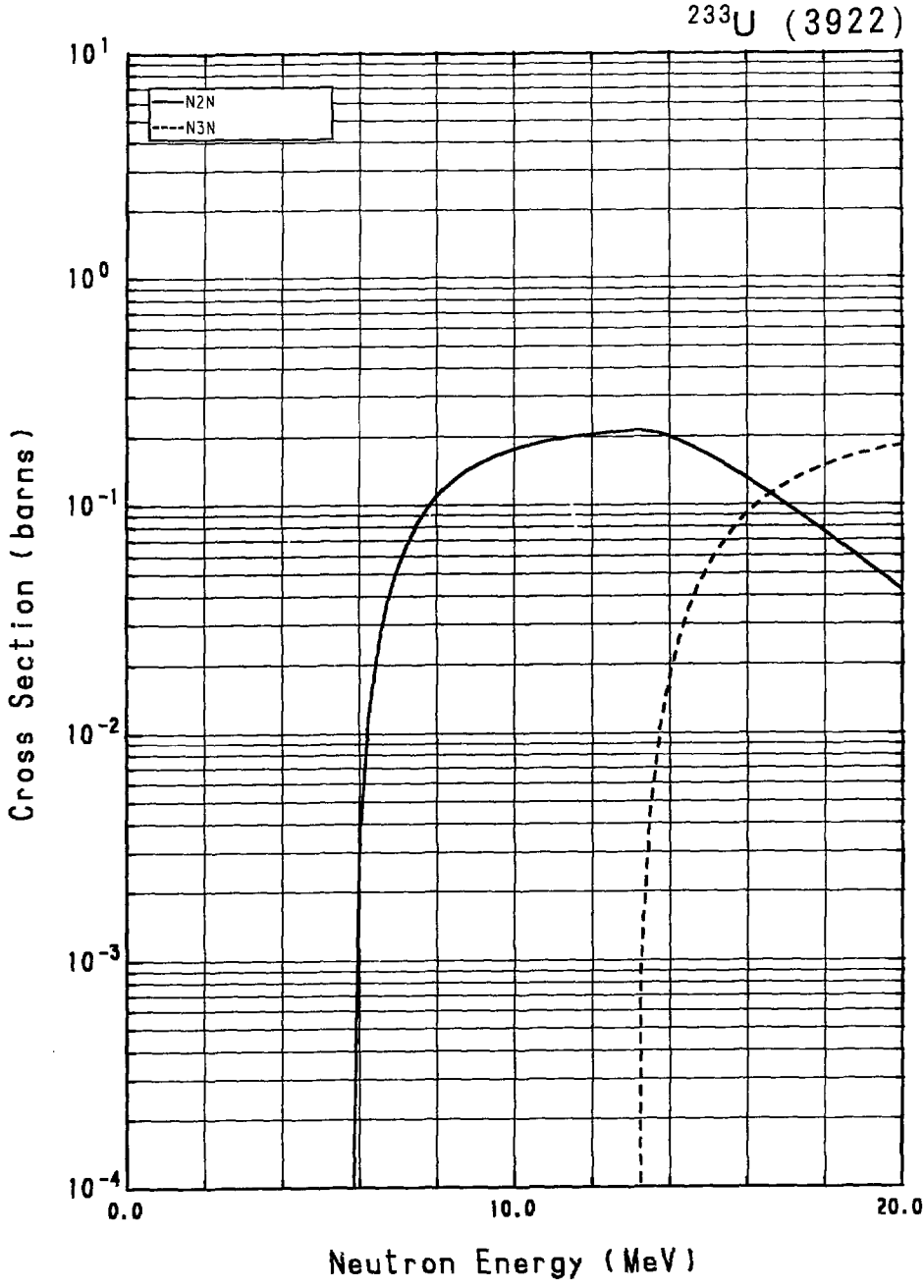

233Pa (3913)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

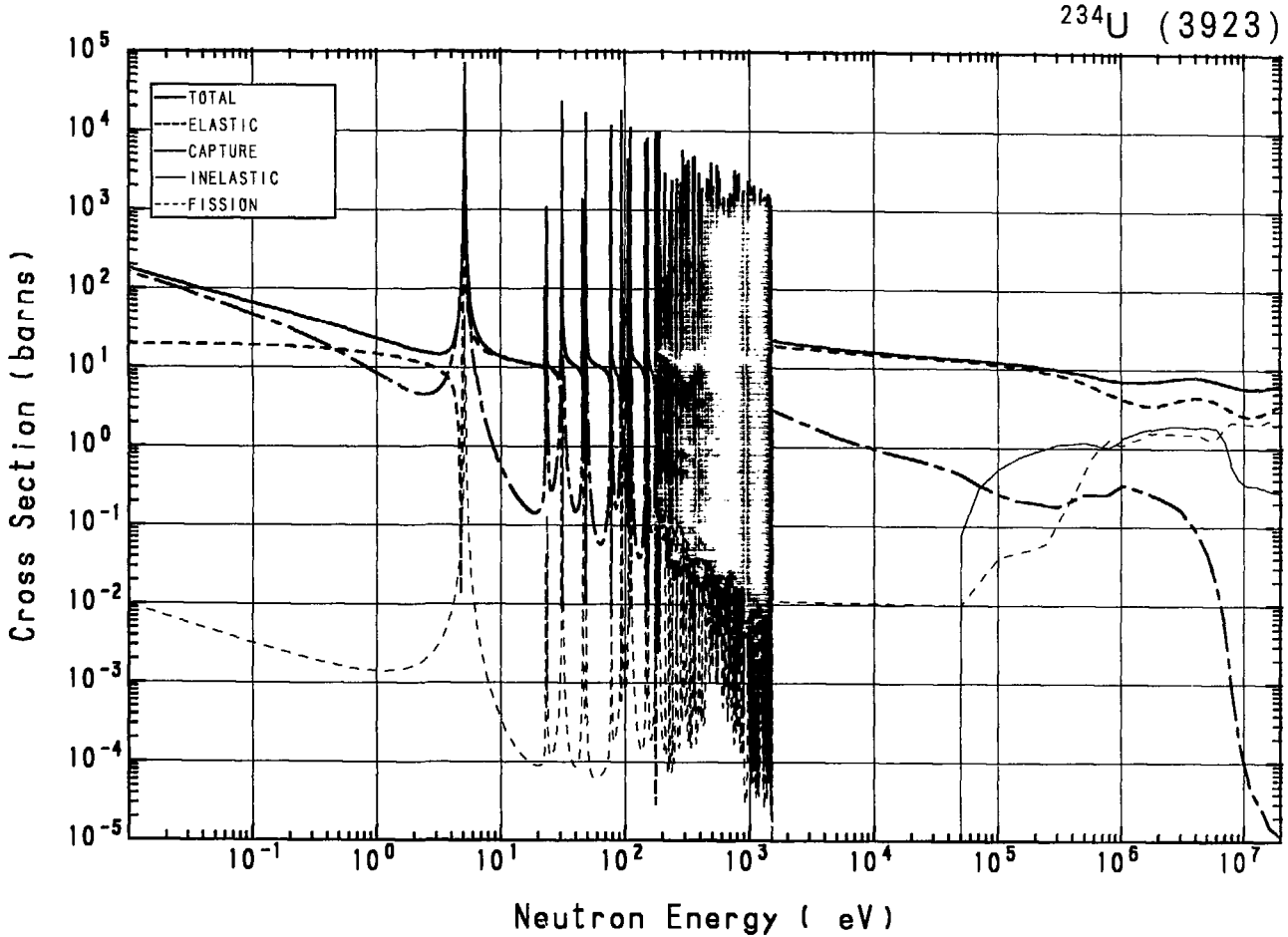

233Pa (3913)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

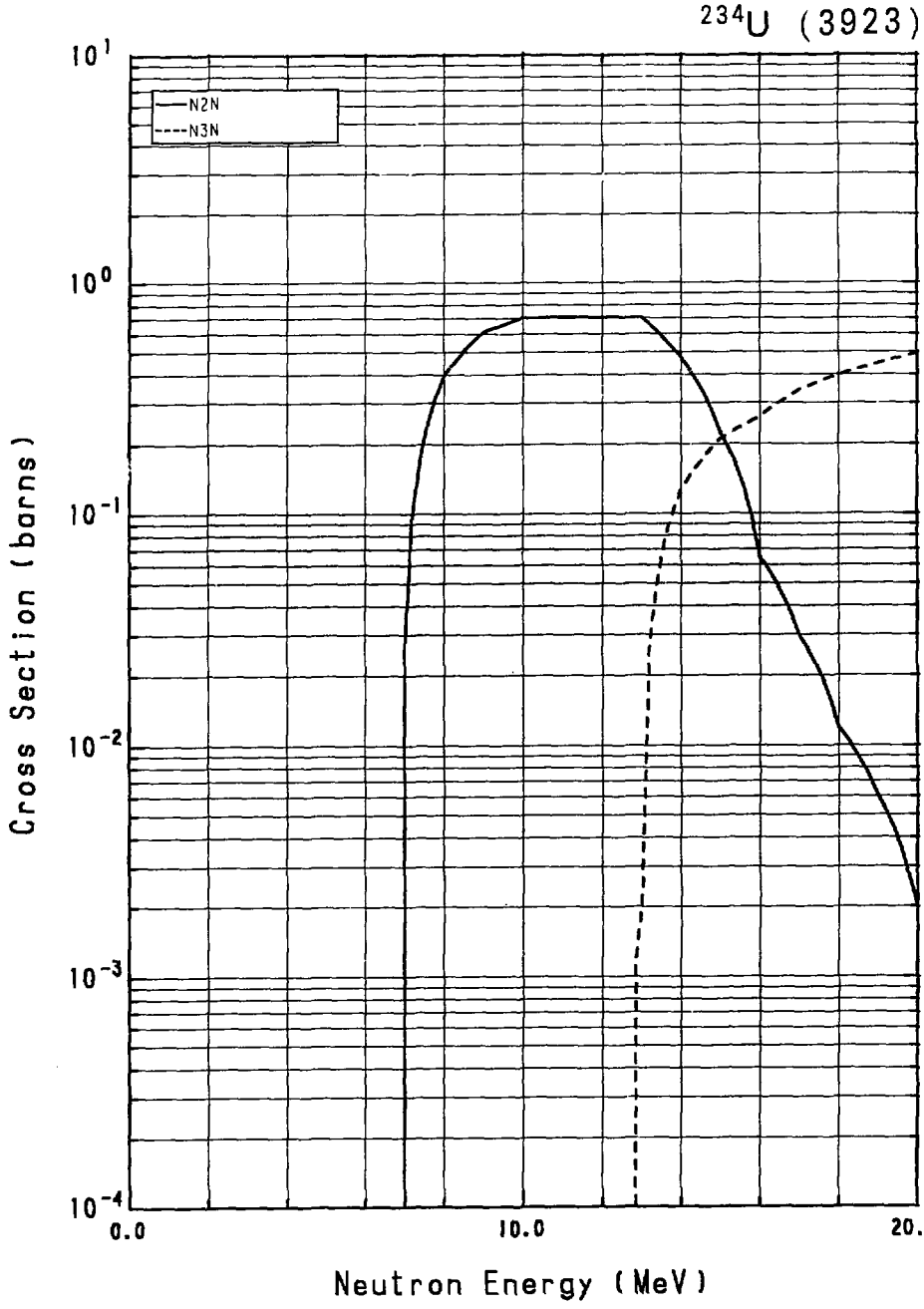

232U (3921)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

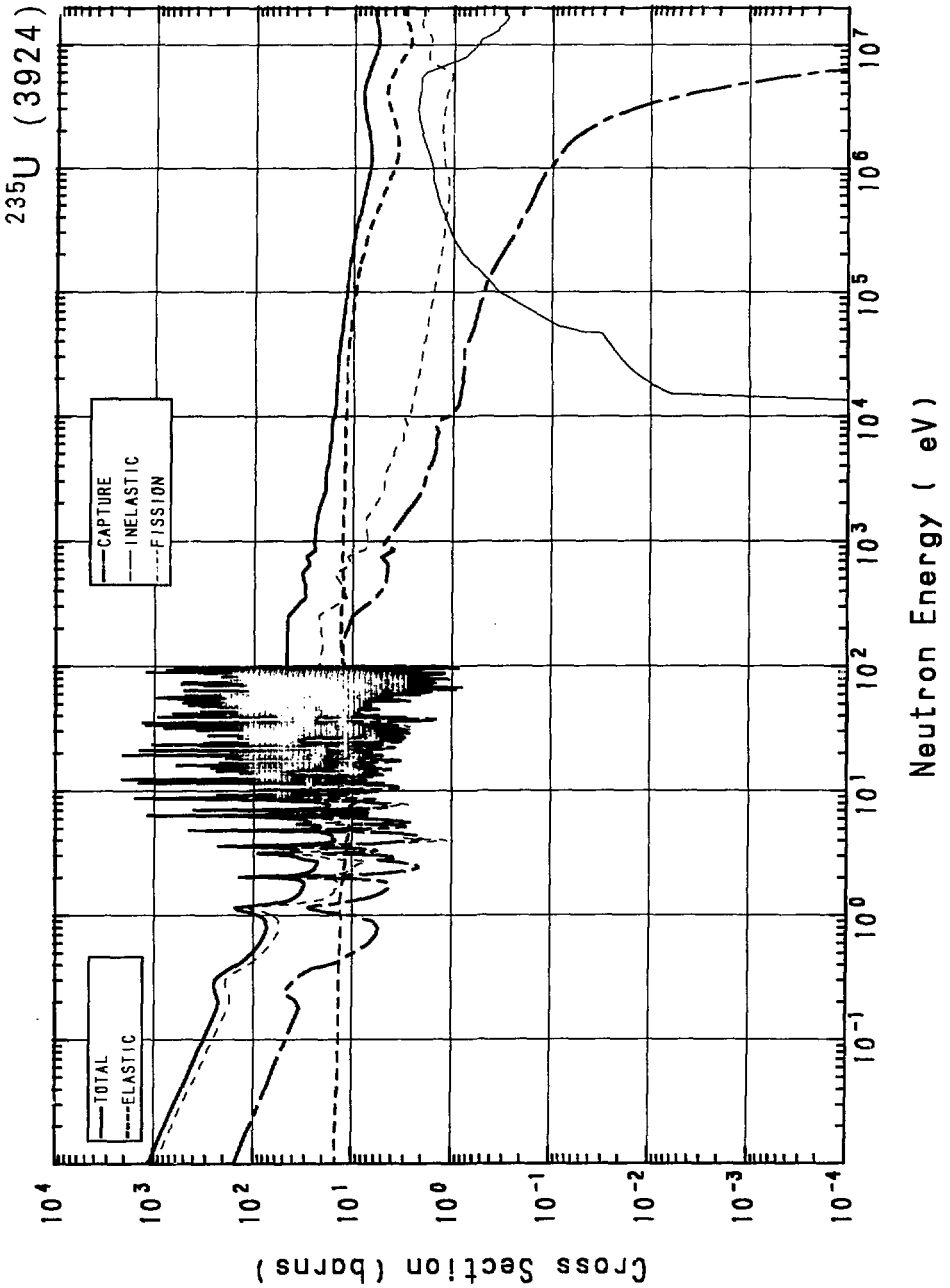

232U (3921)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

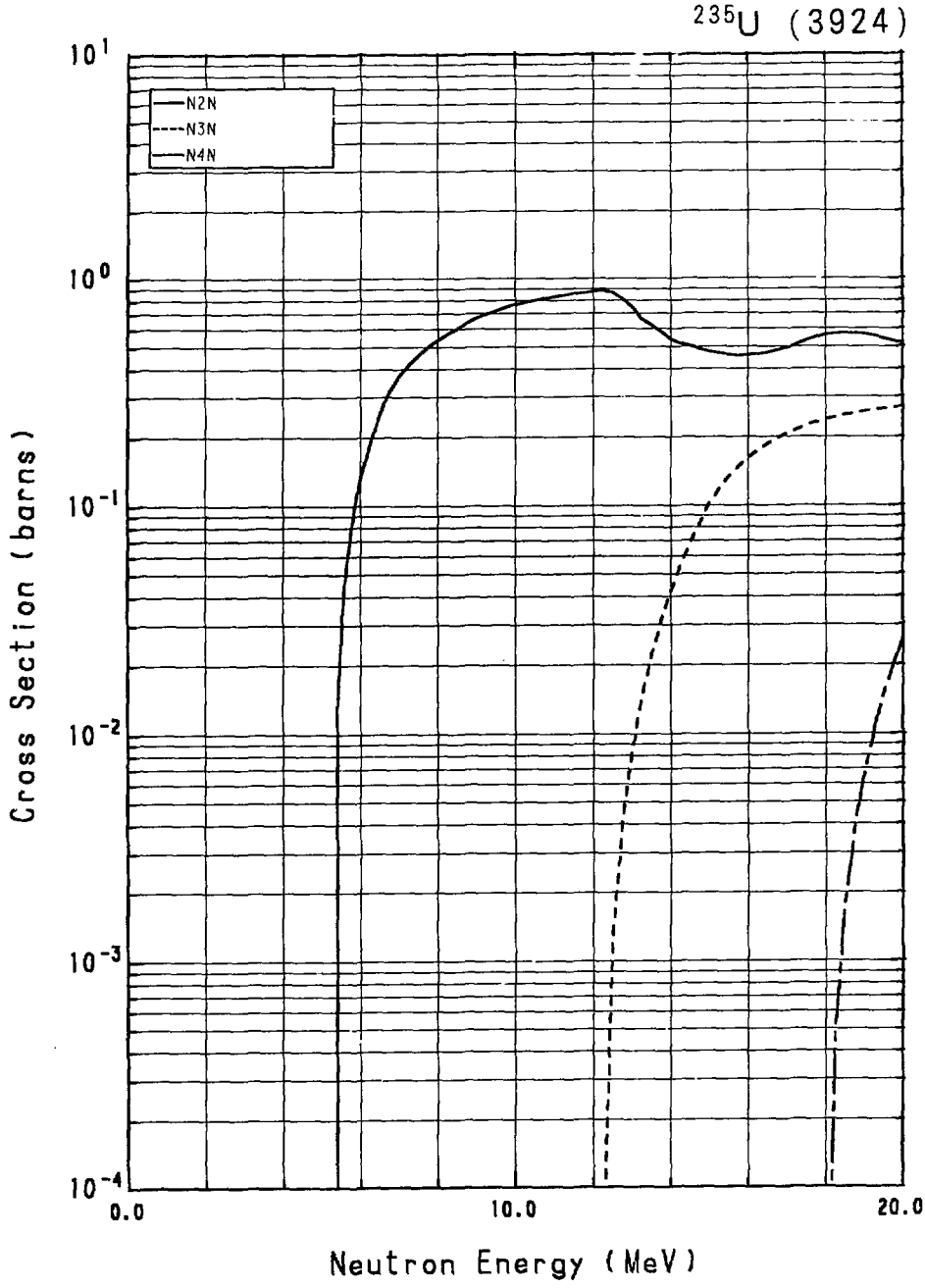

233U (3922)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

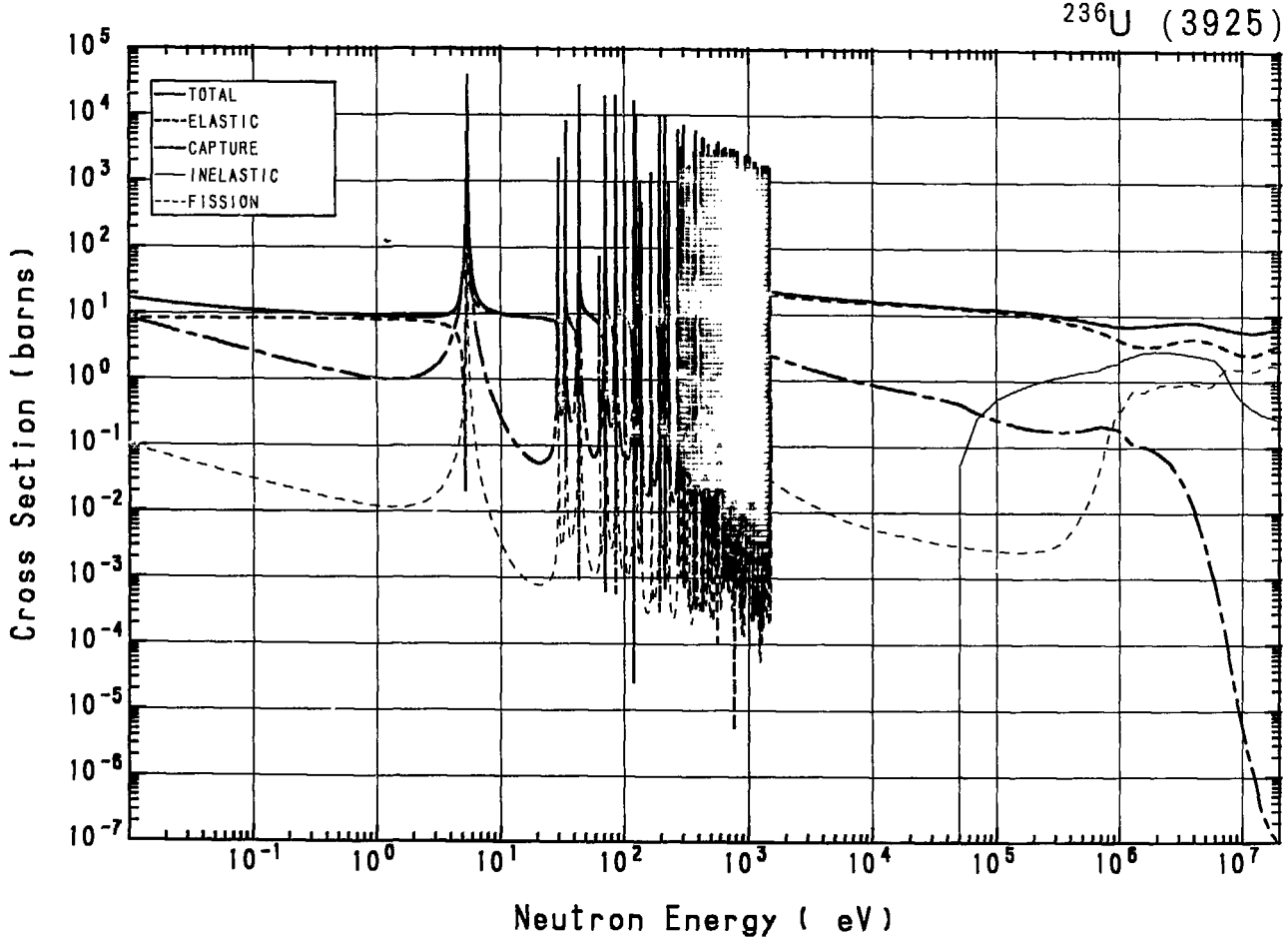

233U (3922)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

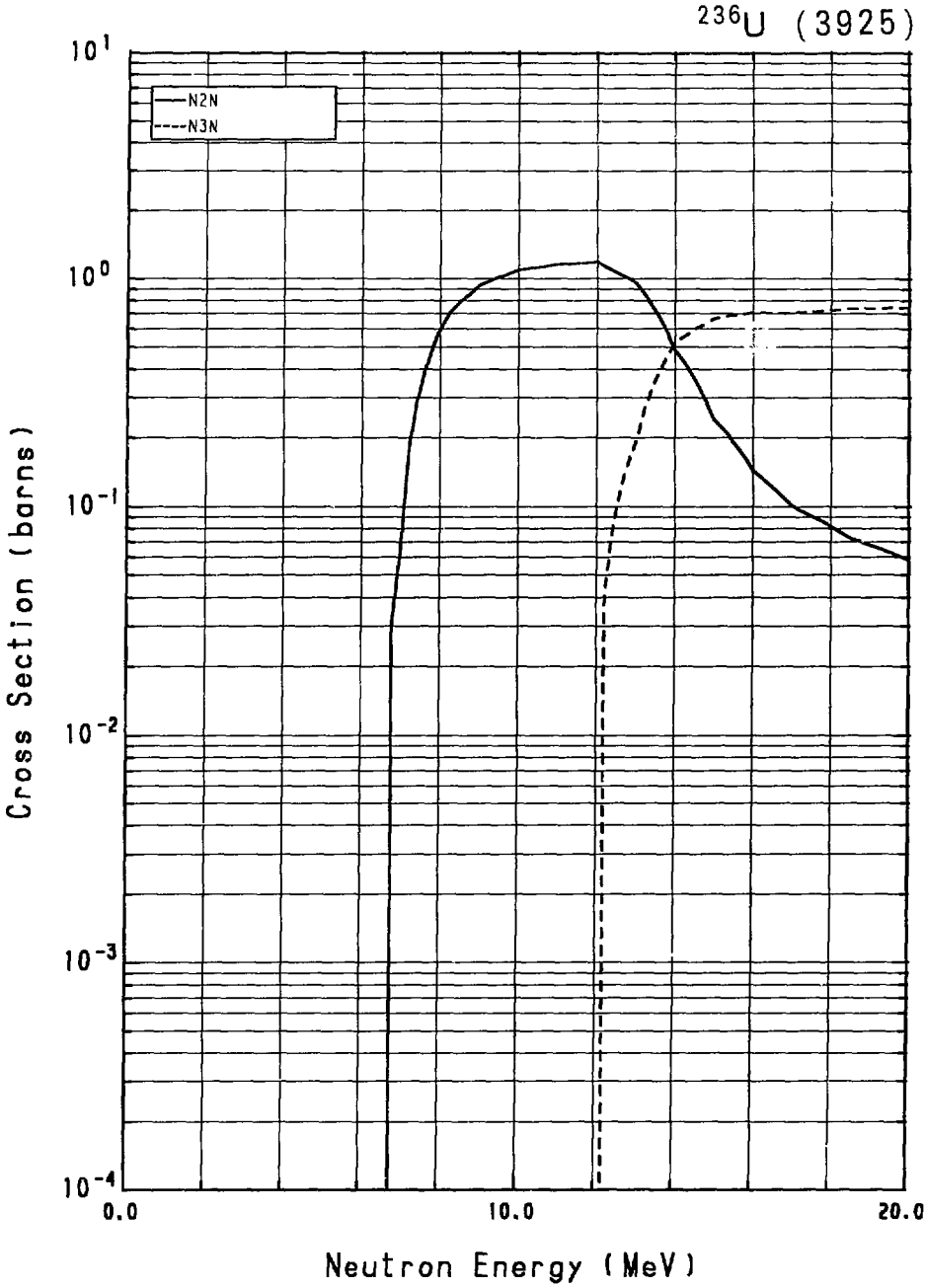

^{234}U (3923)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

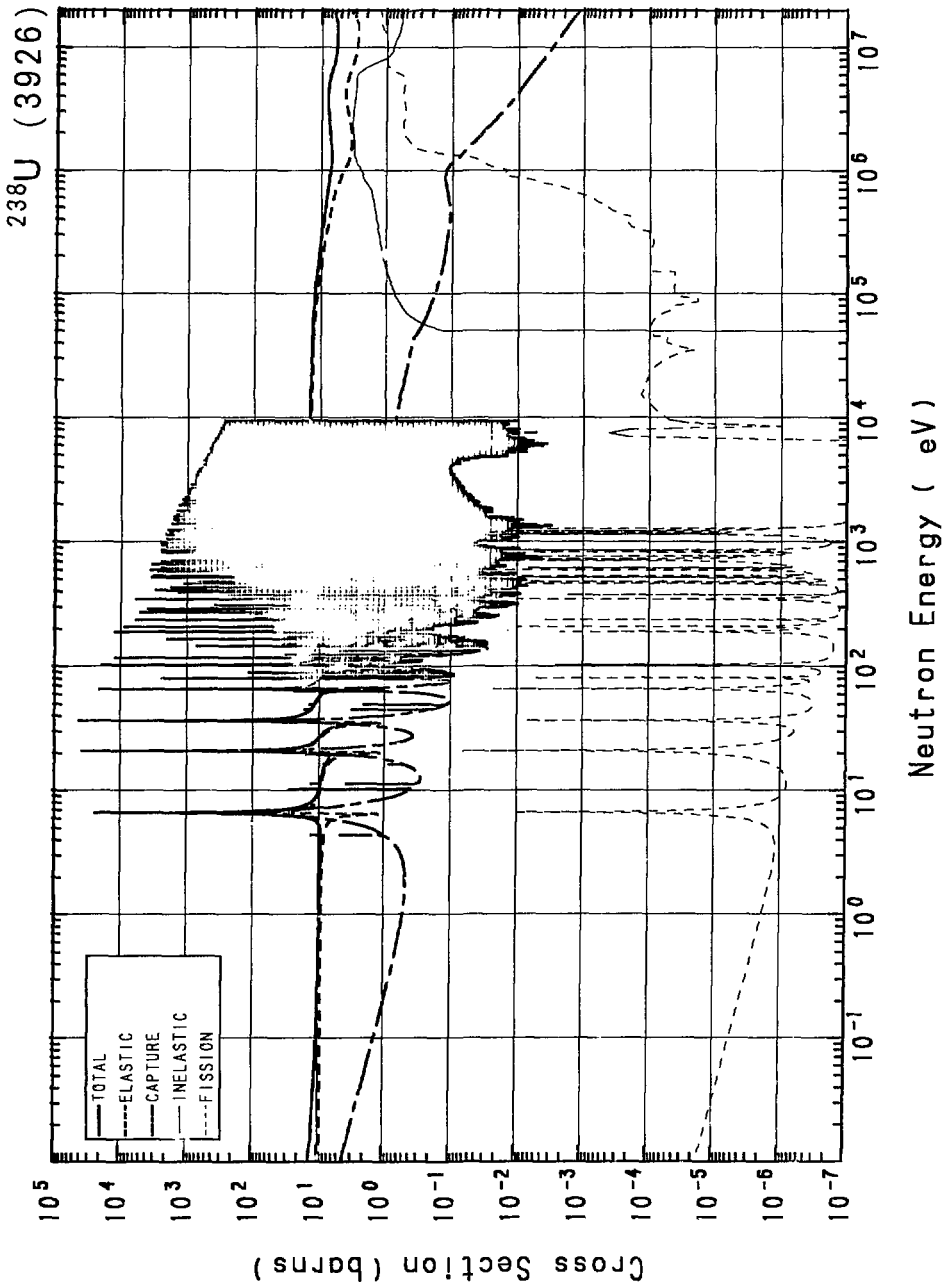

^{234}U (3923)
N2N
N3N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

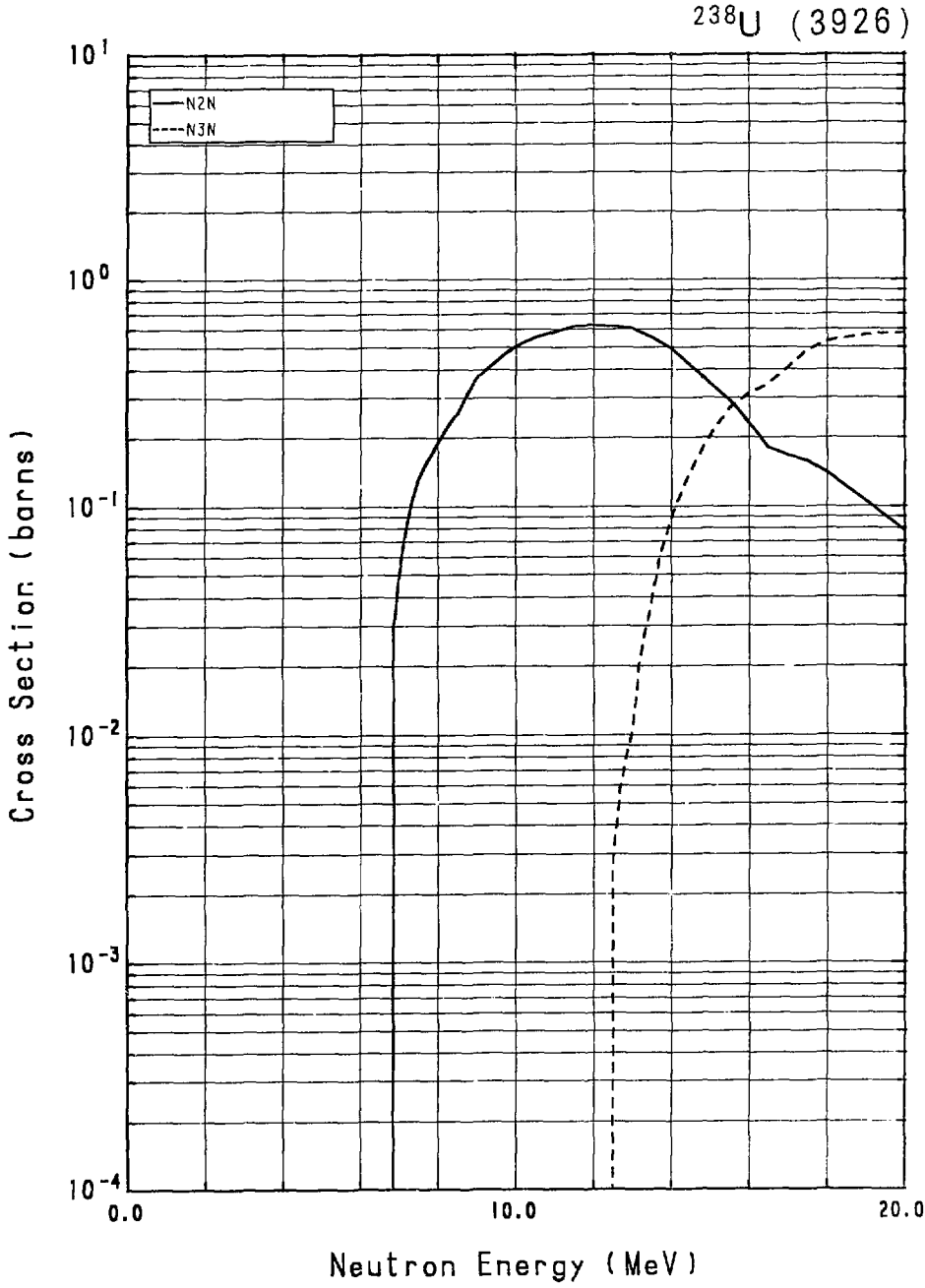

235U (3924)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

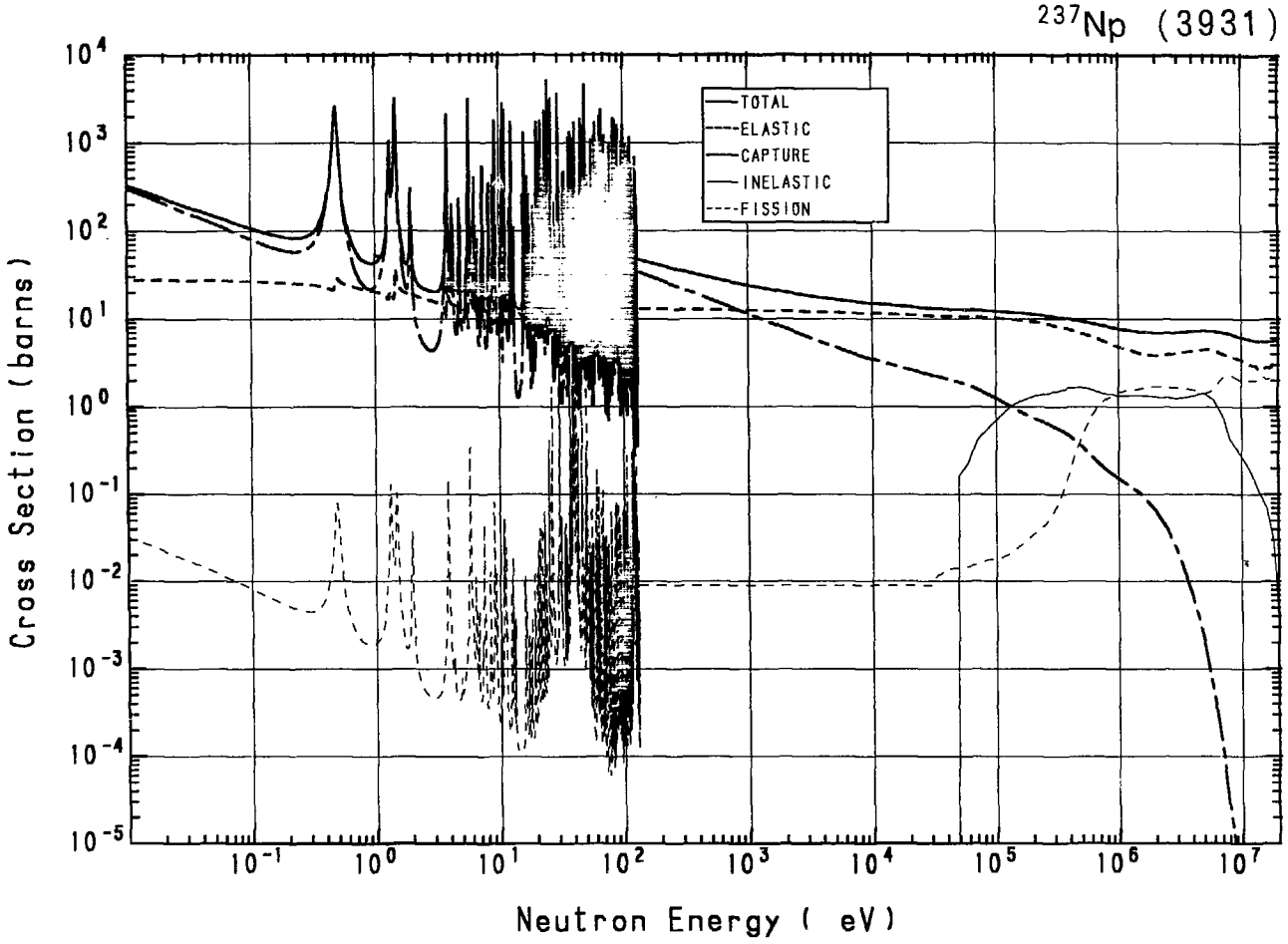

235U (3924)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

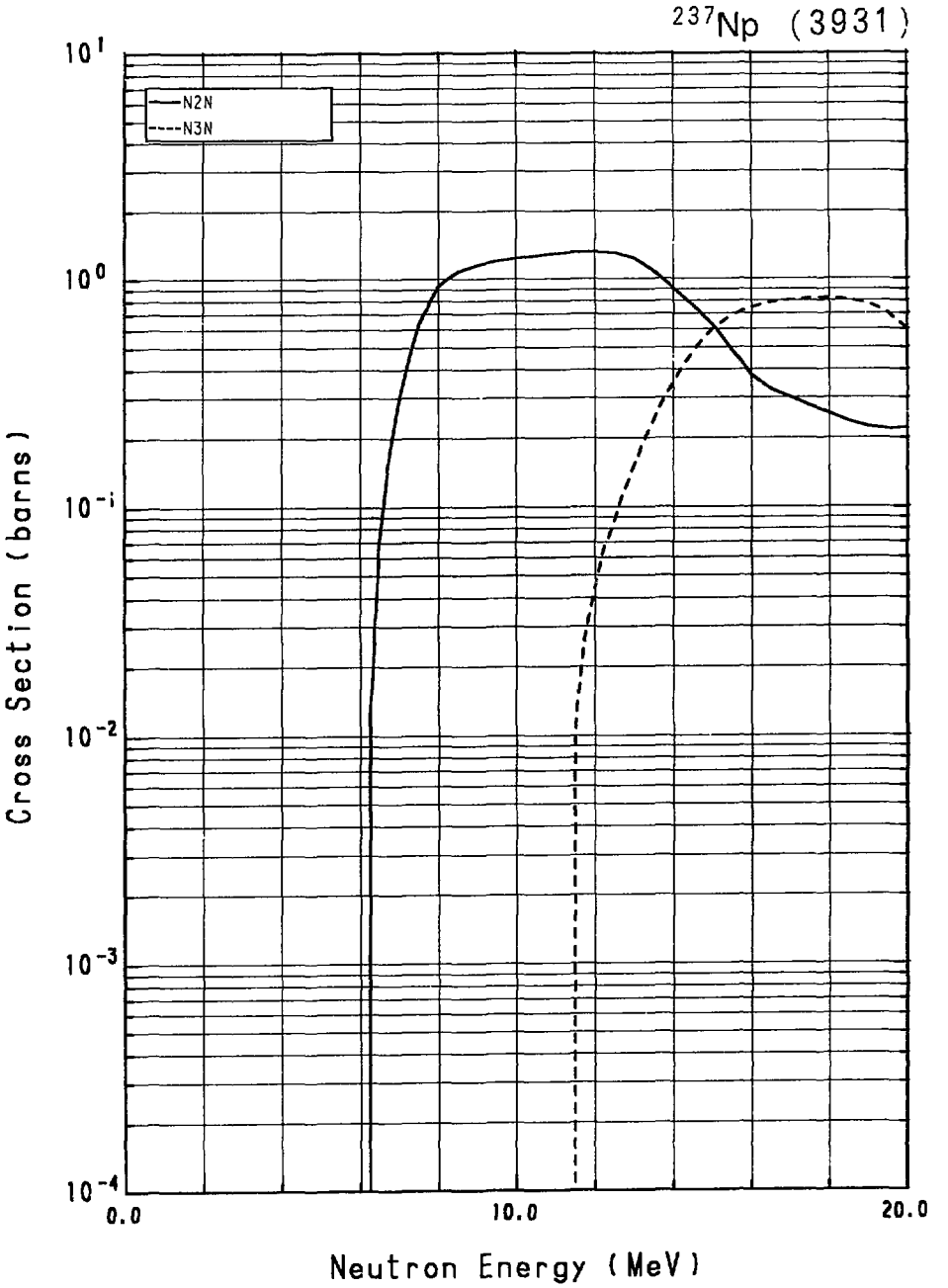

236U (3925)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-7
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

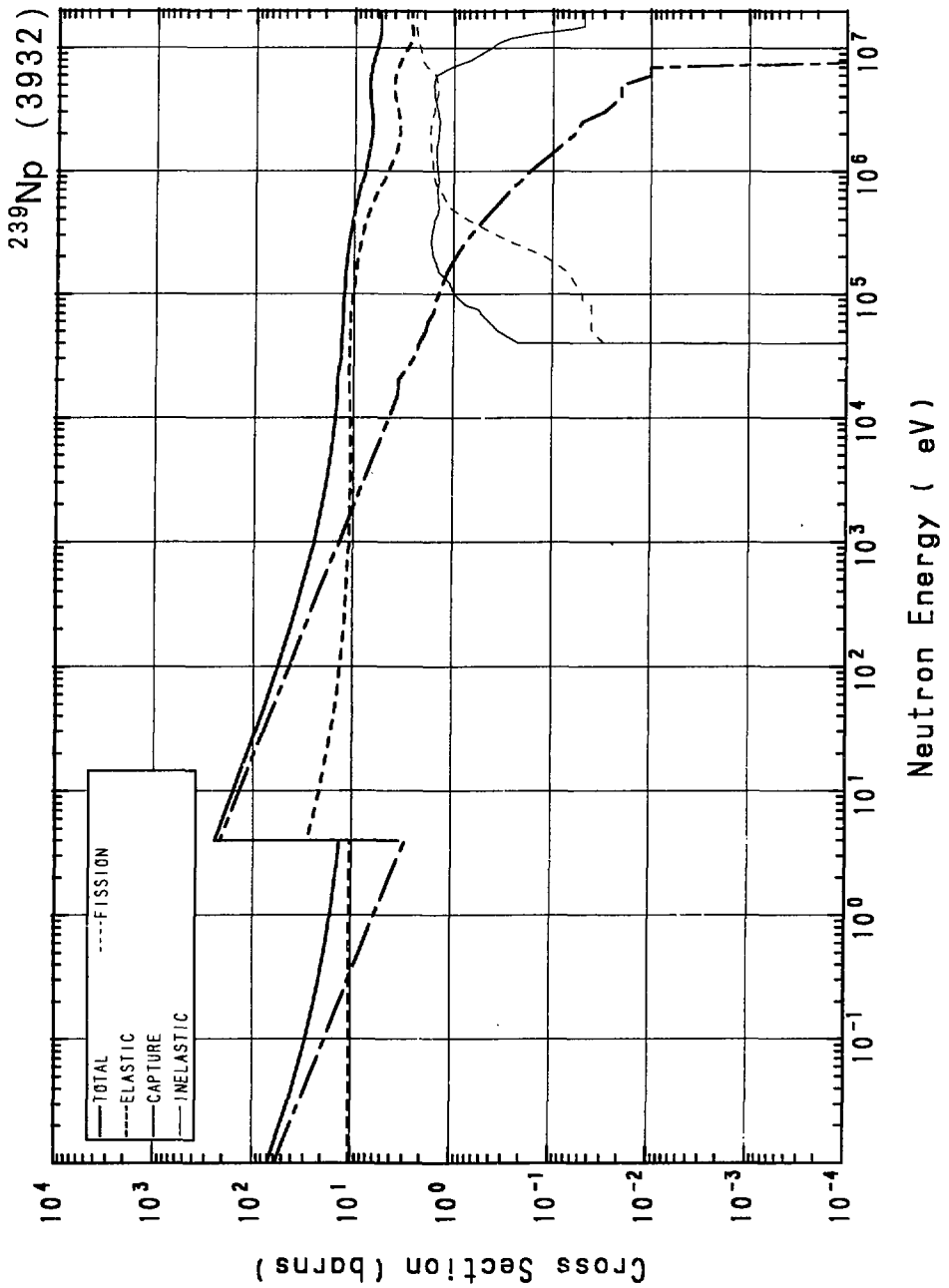

236U (3925)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

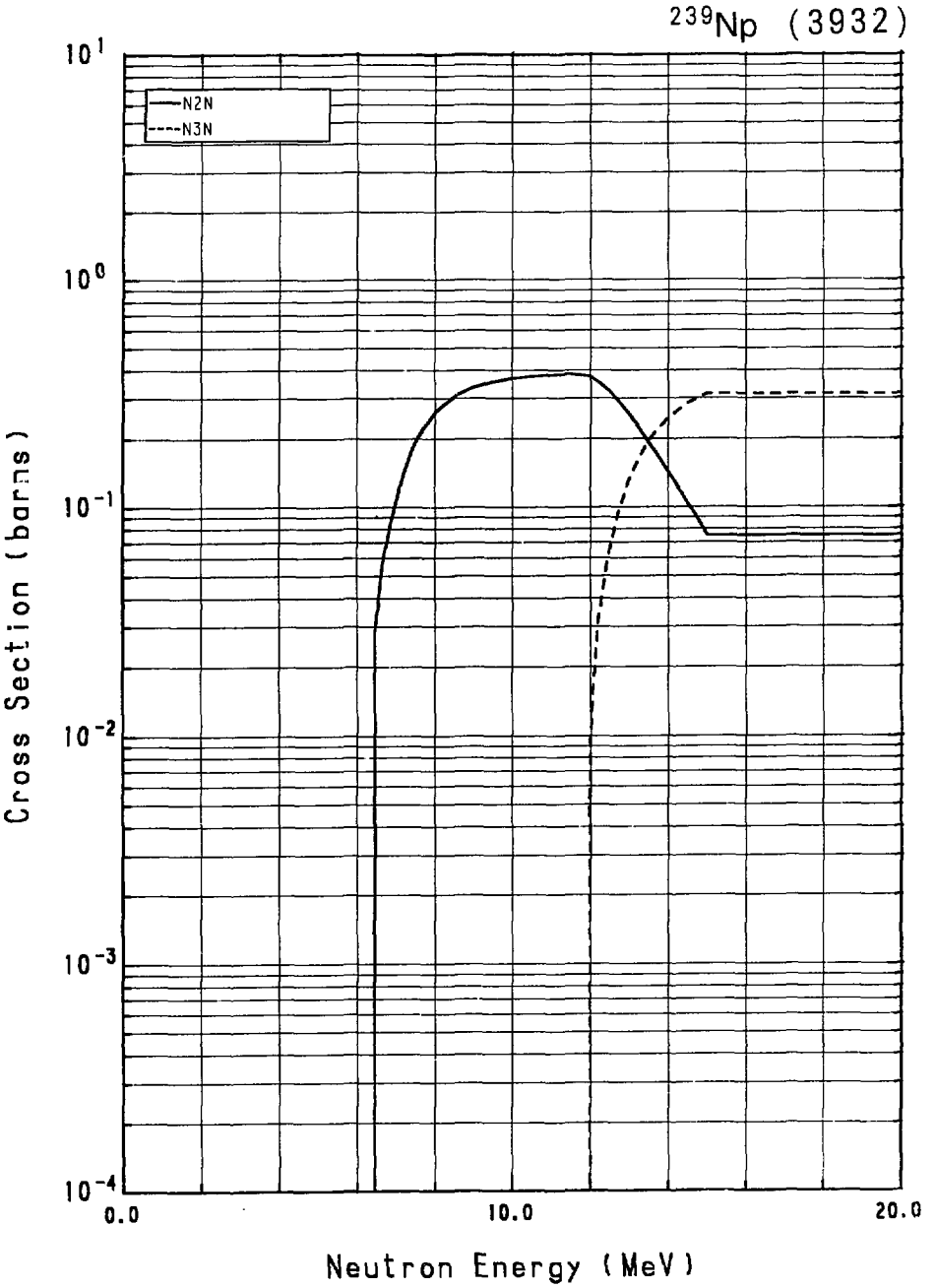

238U (3926)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-7
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

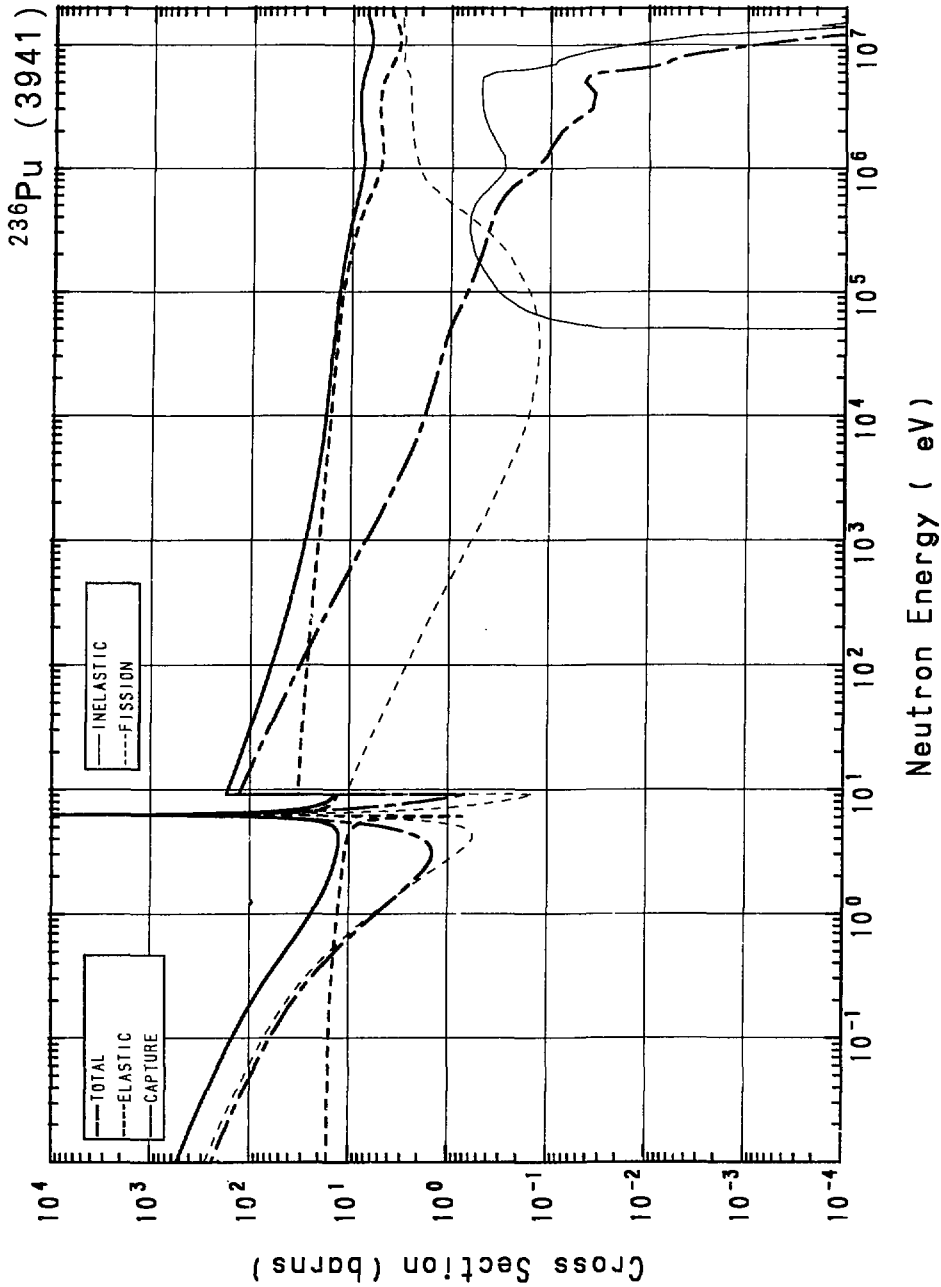

238U (3926)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

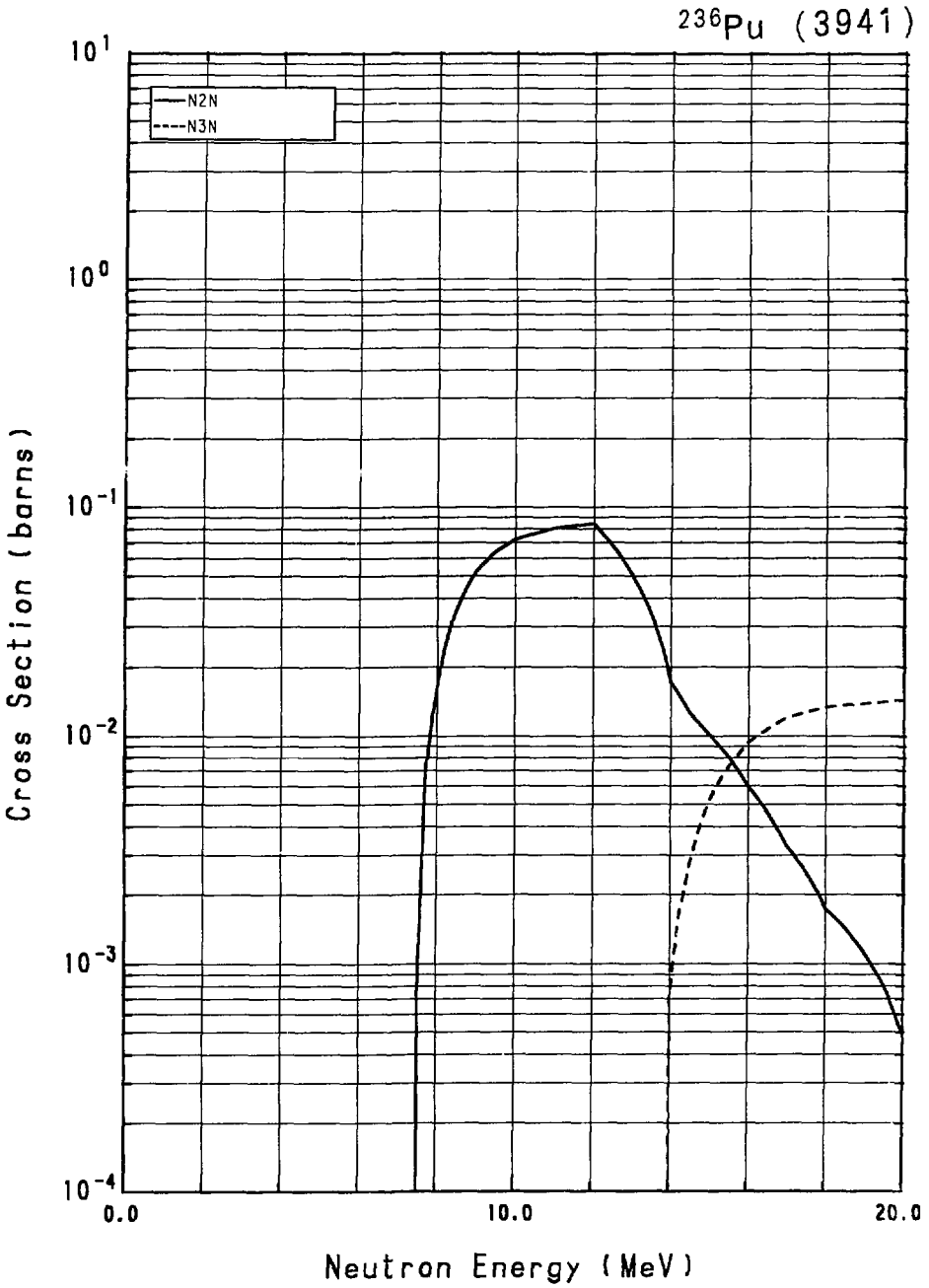

^{237}Np (3931)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

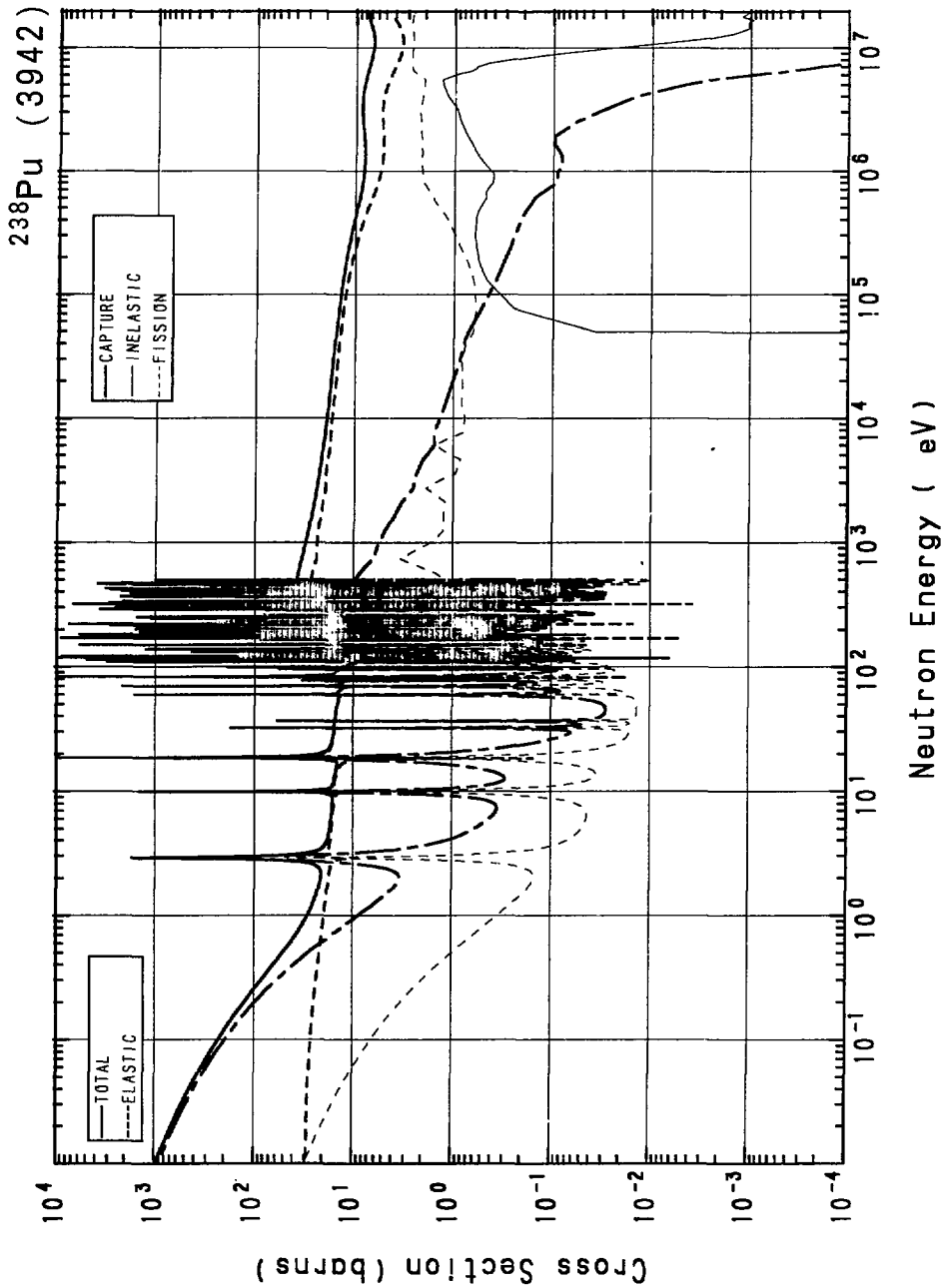

237Np (3931)
N2N
N3N
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

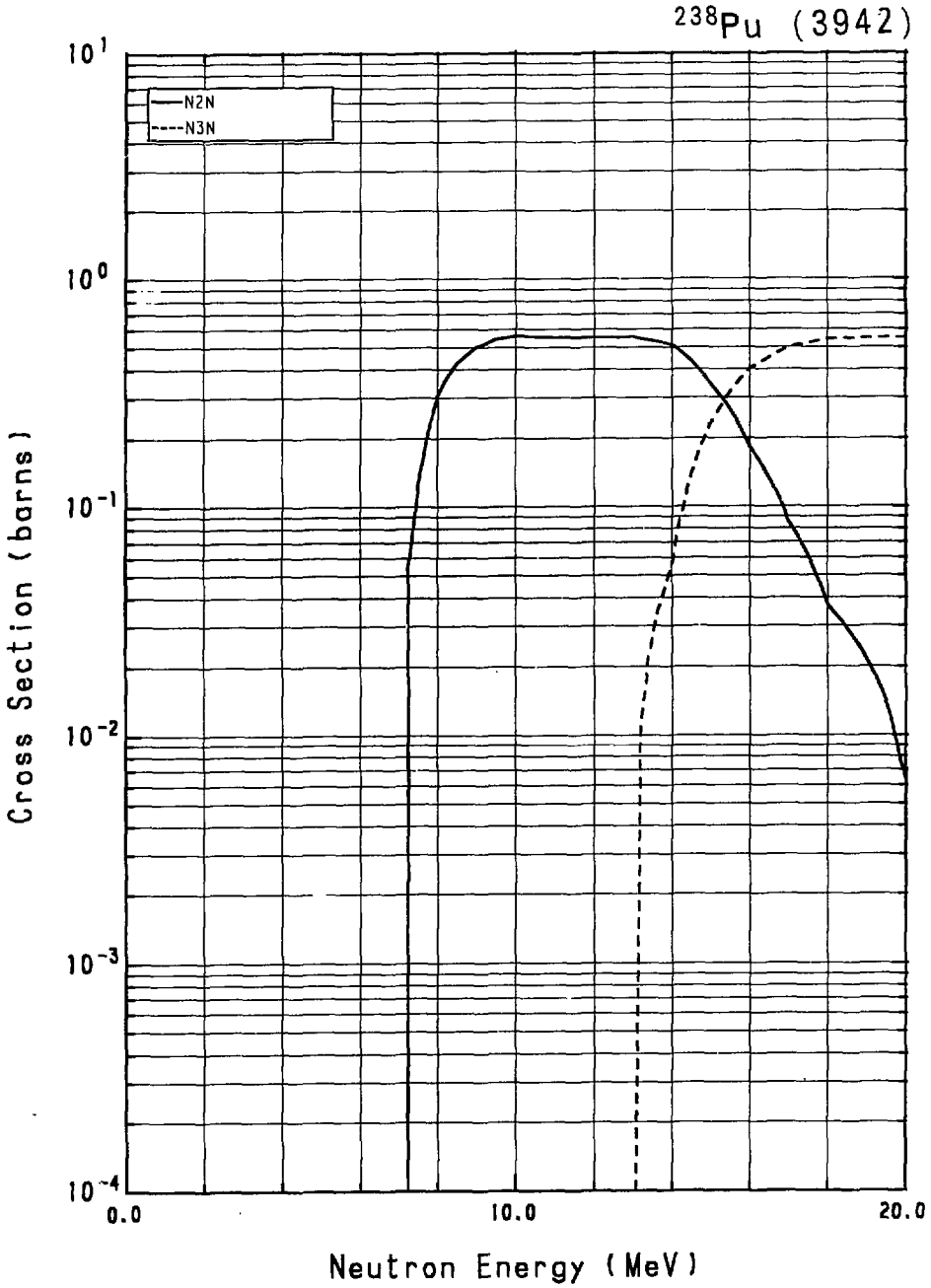

239Np (3932)
TOTAL
FISSION
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

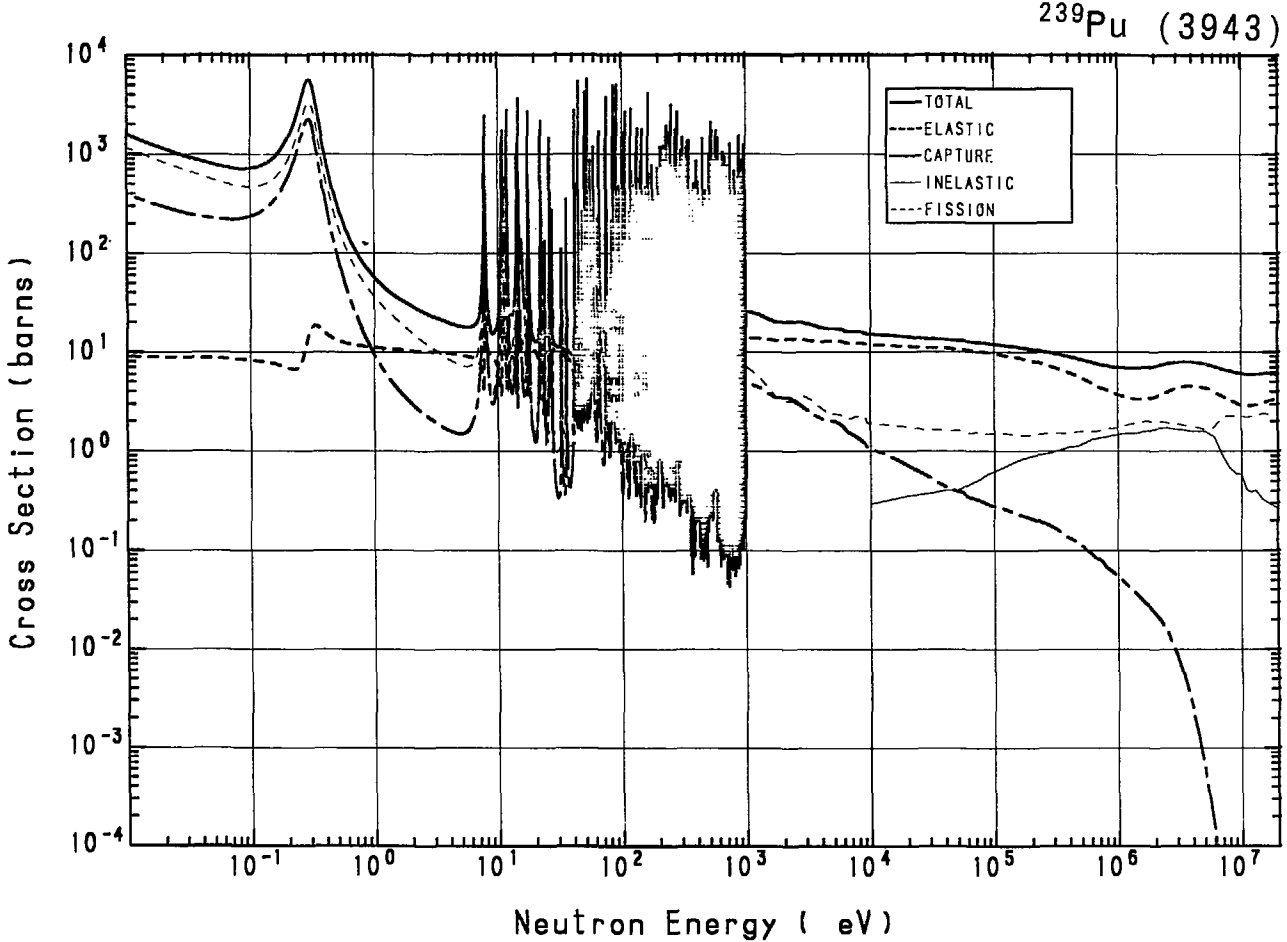

239Np (3932)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

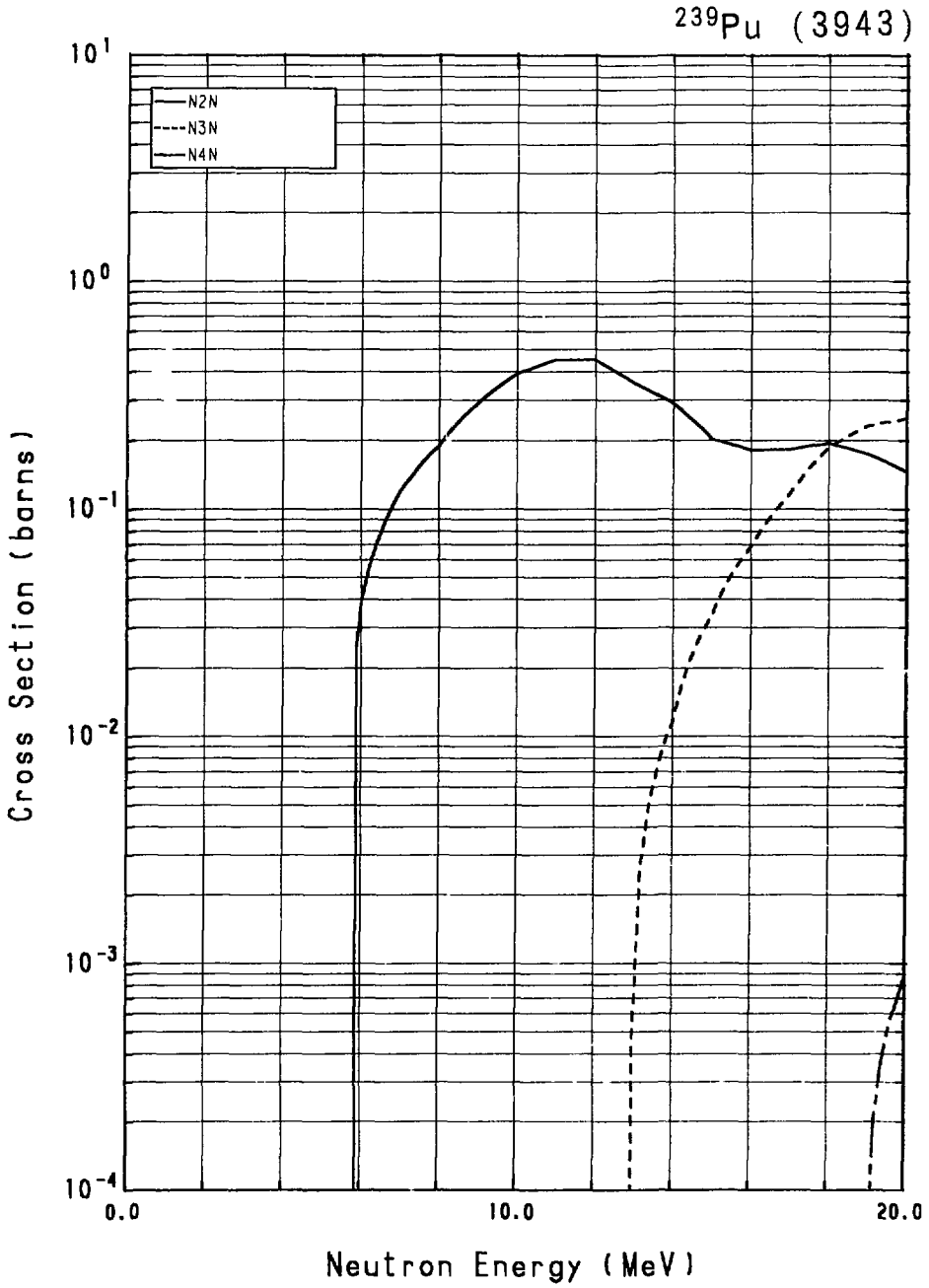

236Pu (3941)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

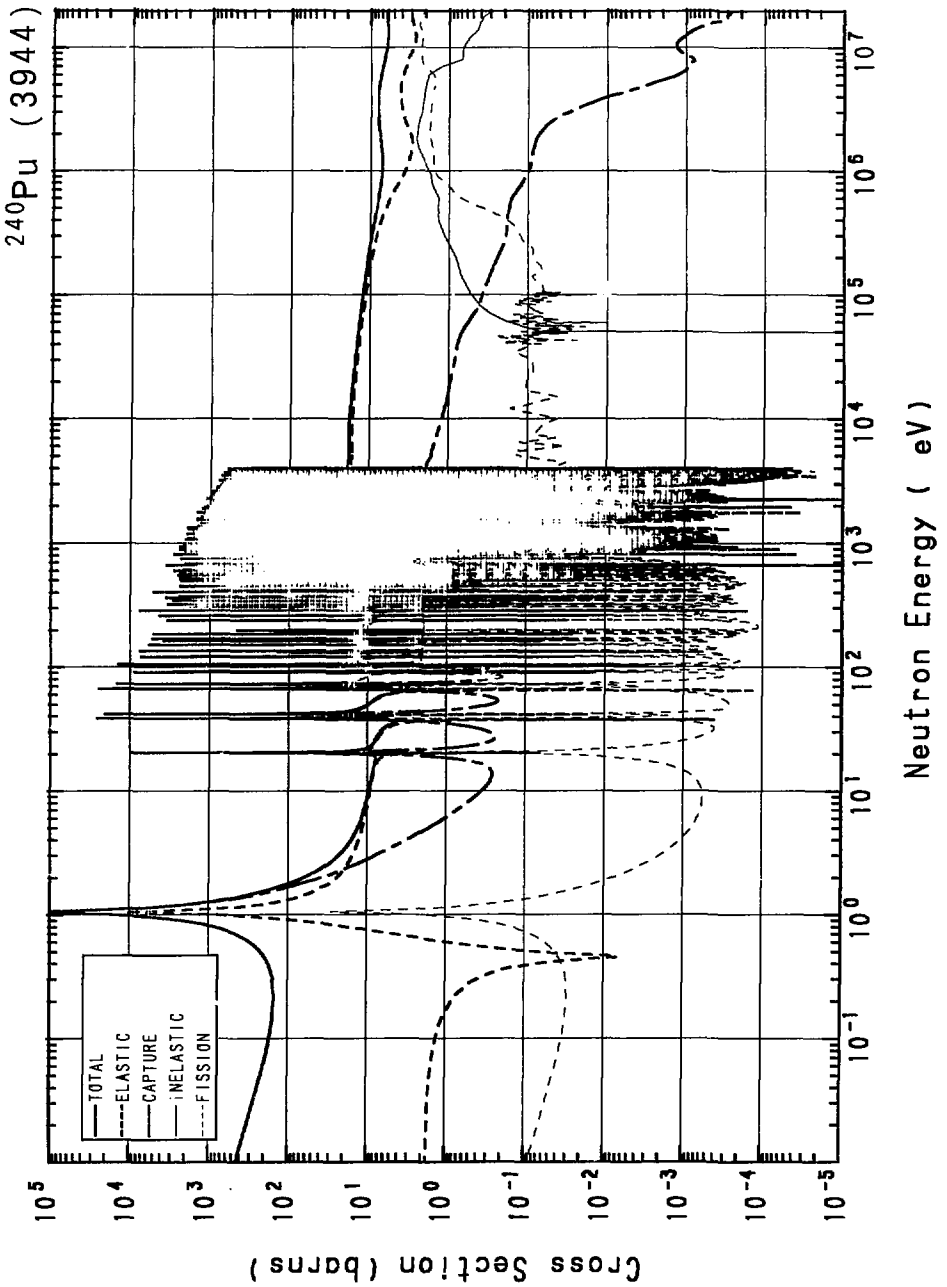

236Pu (3941)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

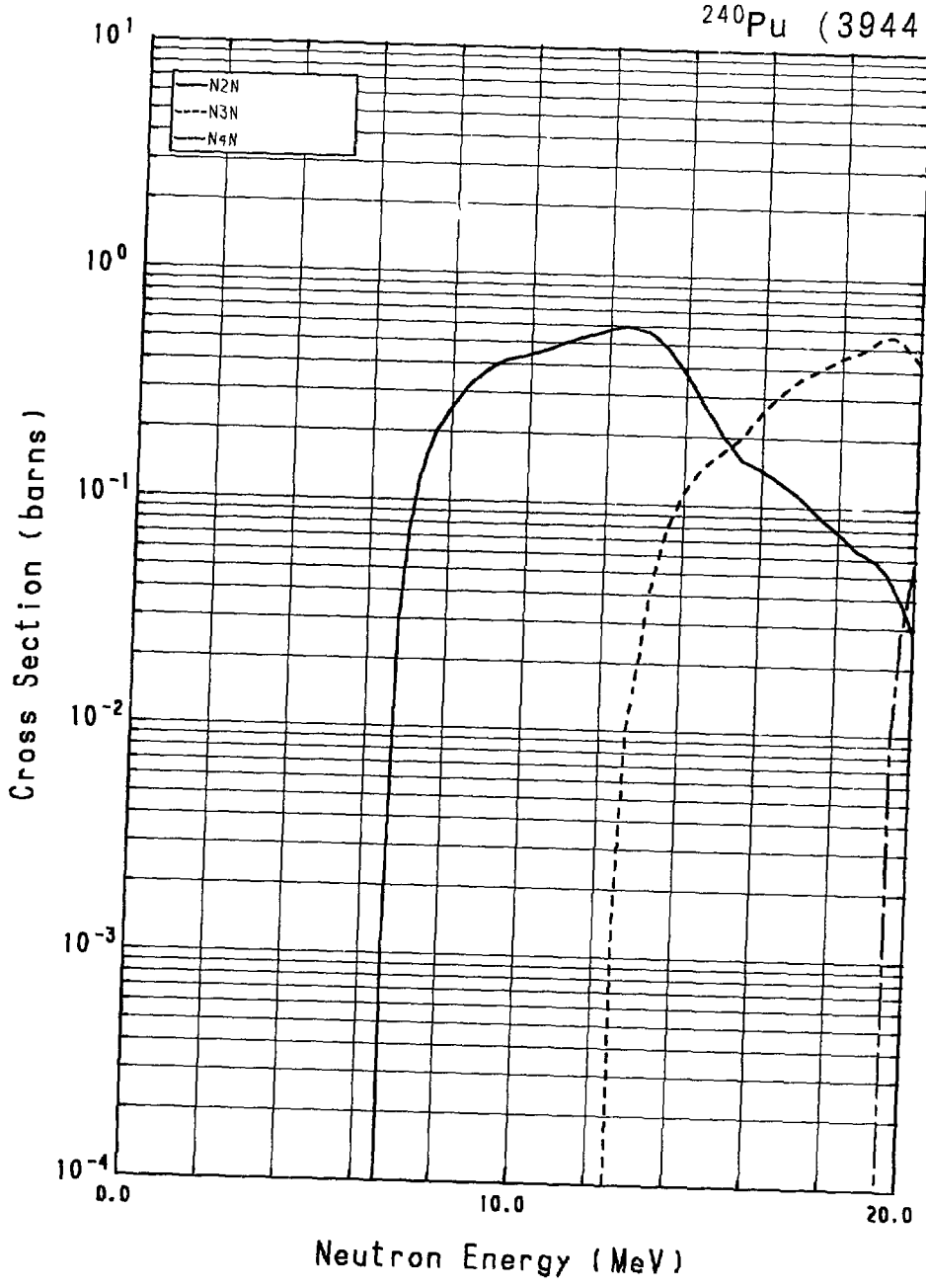

238Pu (3942)
CAPTURE
INELASTIC
FISSION
TOTAL
ELASTIC
Cross Section (barns)
Neutron Energy (eV)

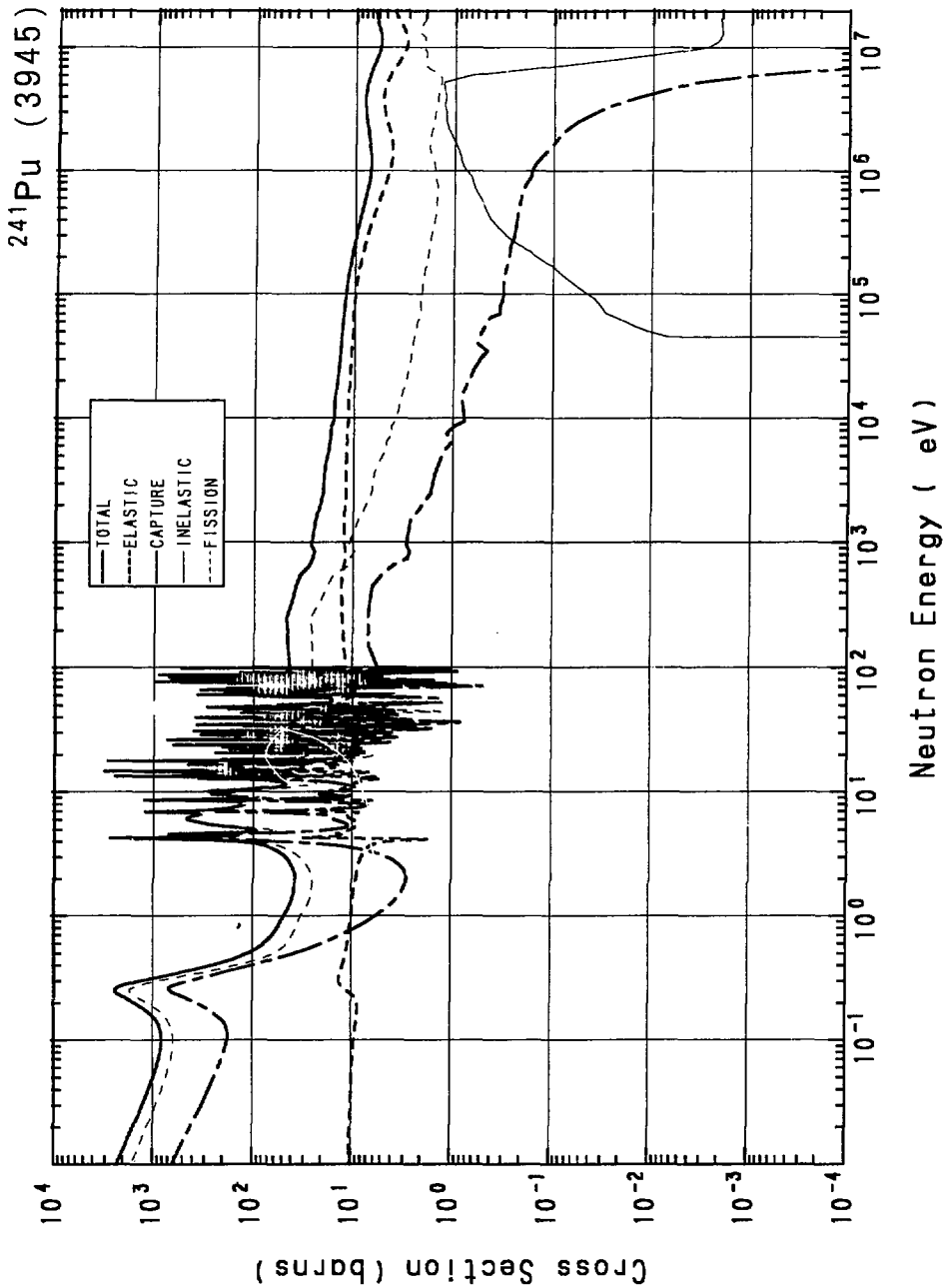

238Pu (3942)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

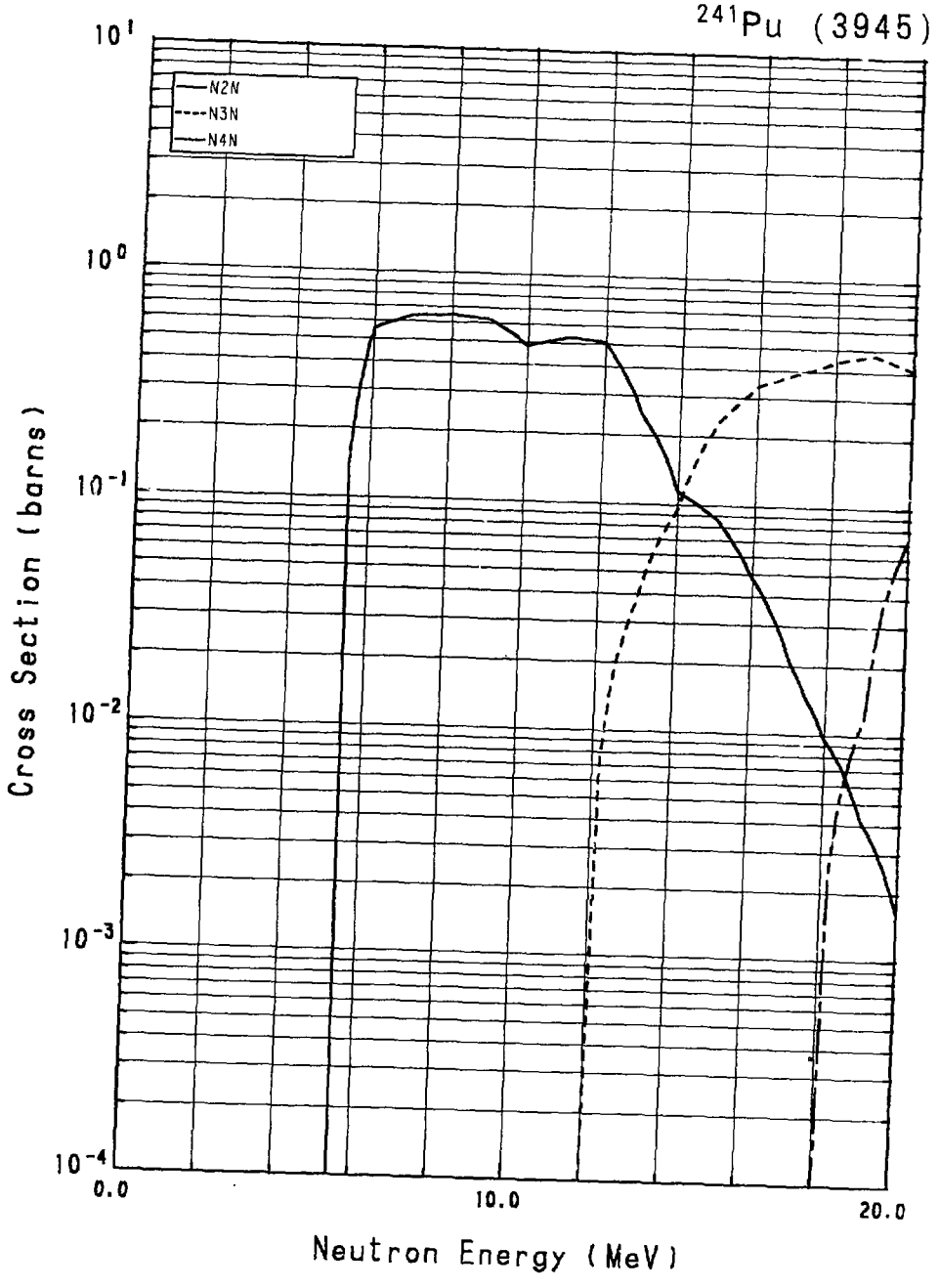

239Pu (3943)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

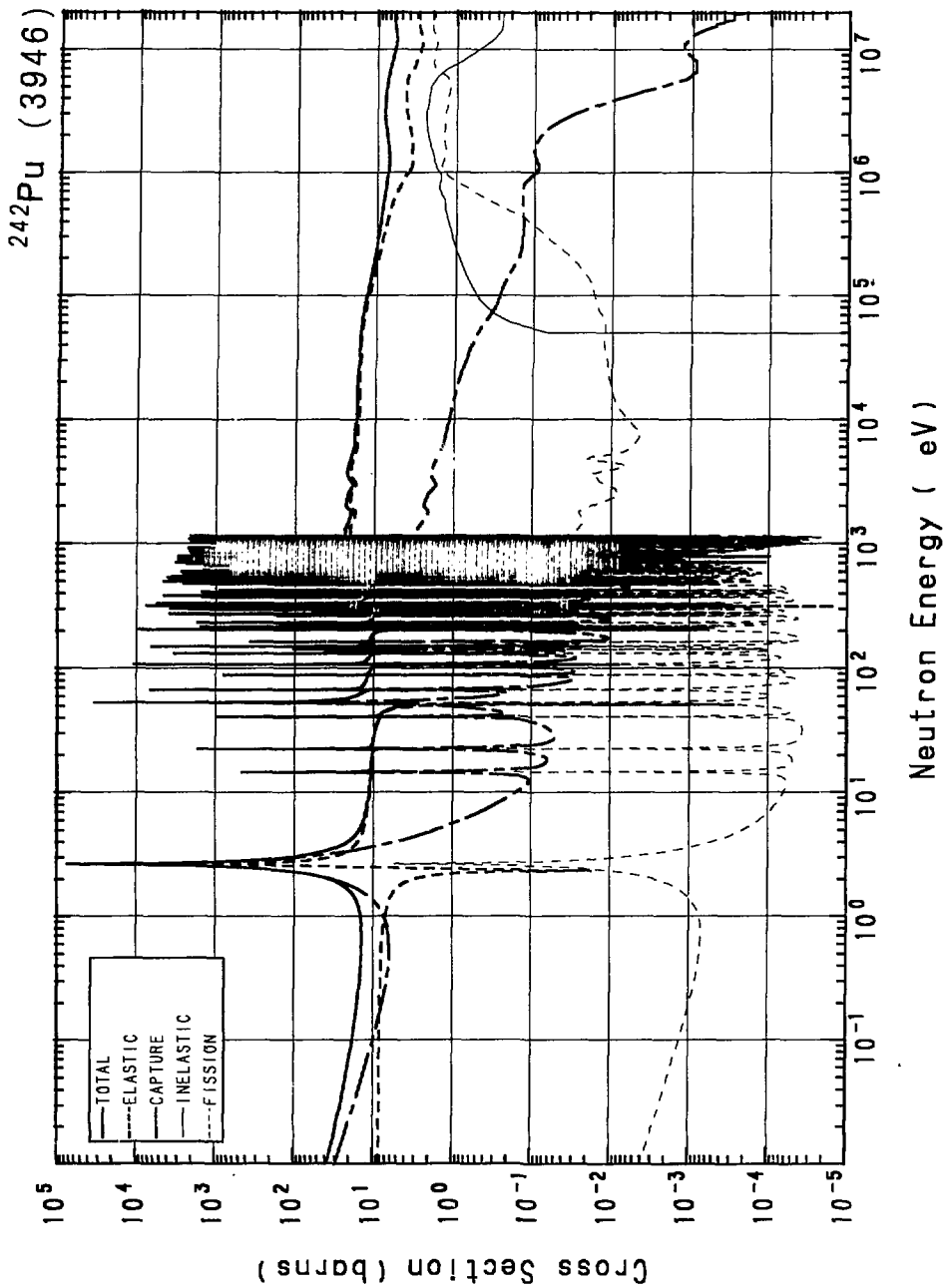

239Pu (3943)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

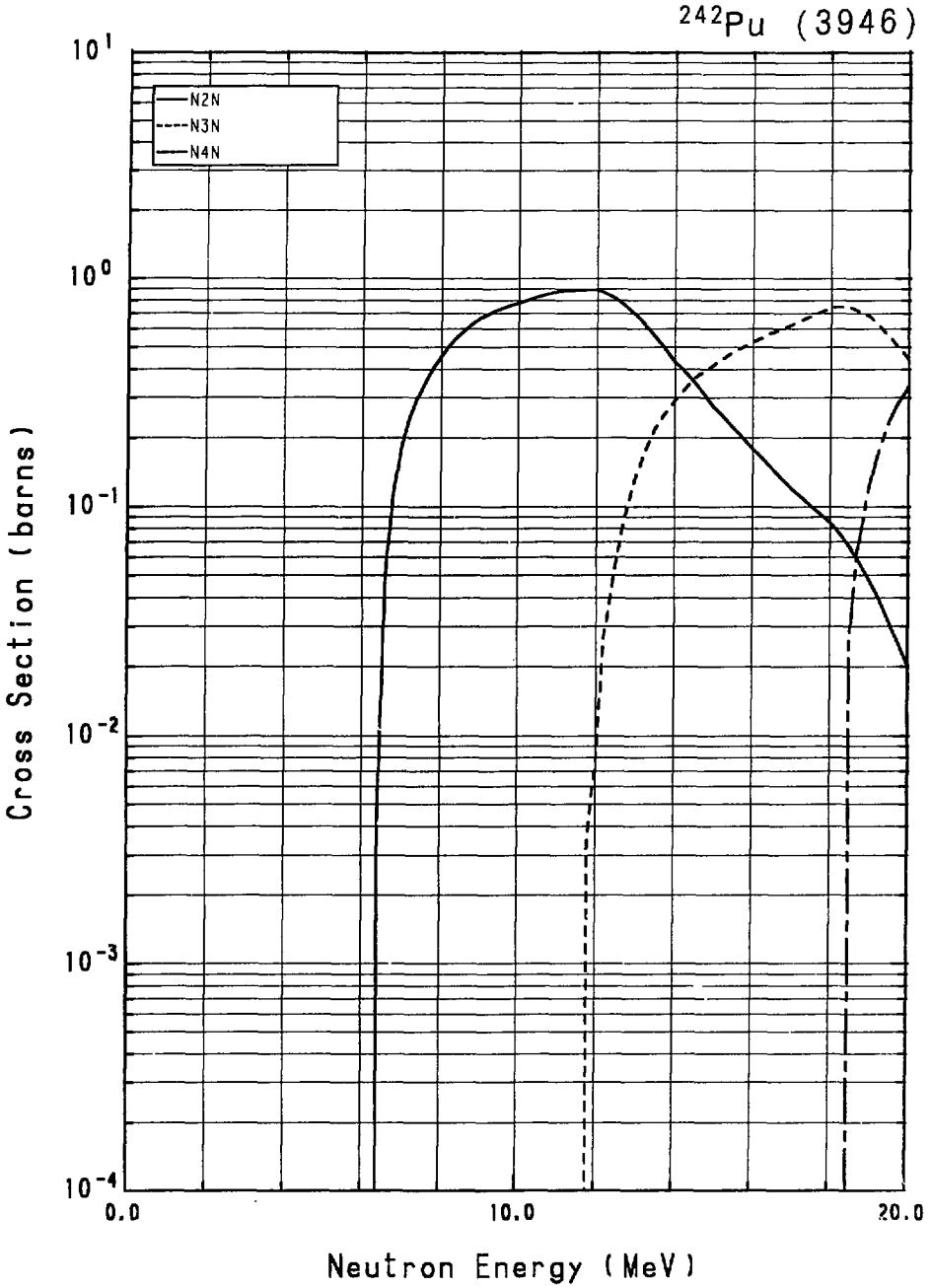

240Pu (3944)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

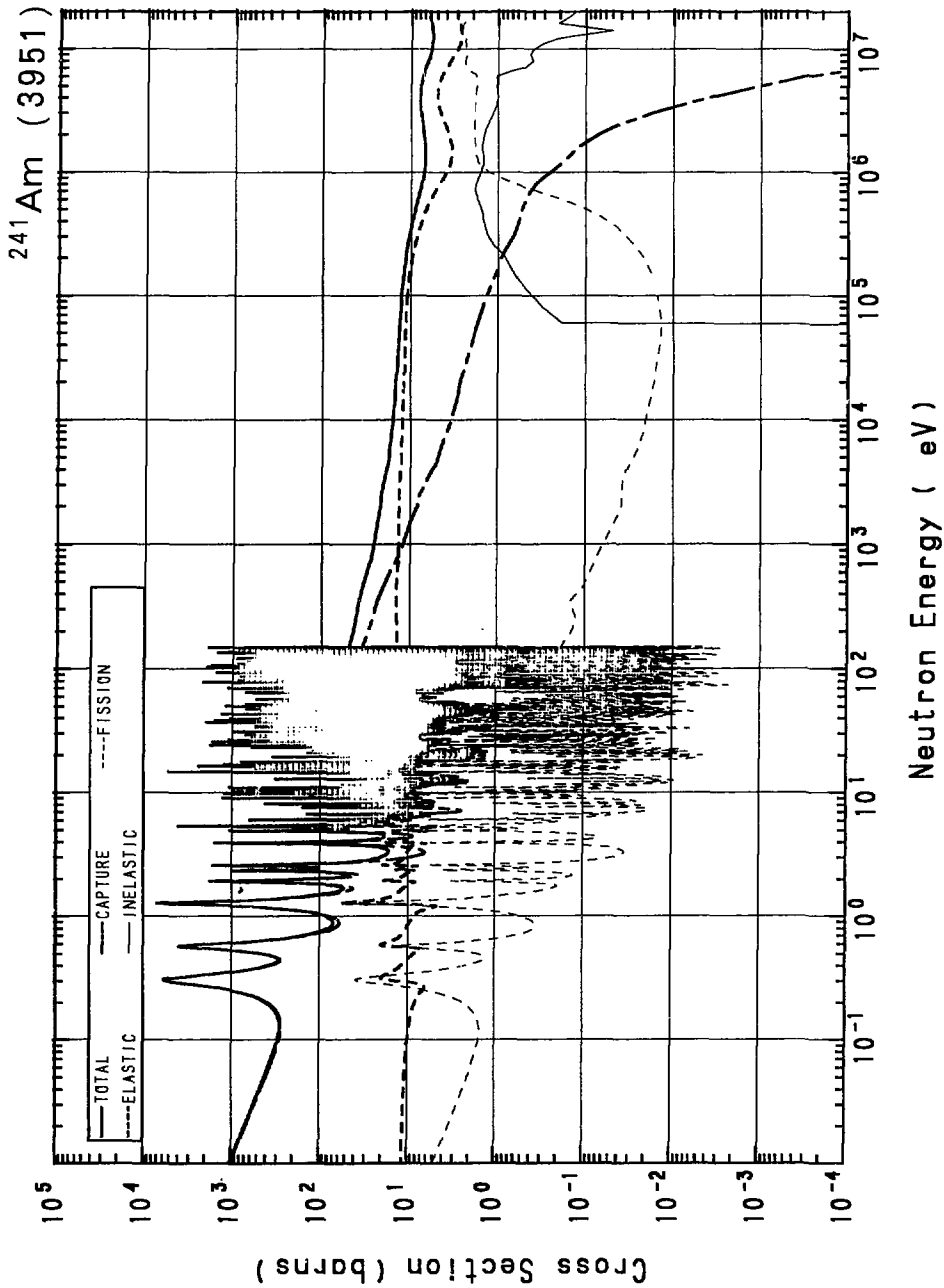

240Pu (3944)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

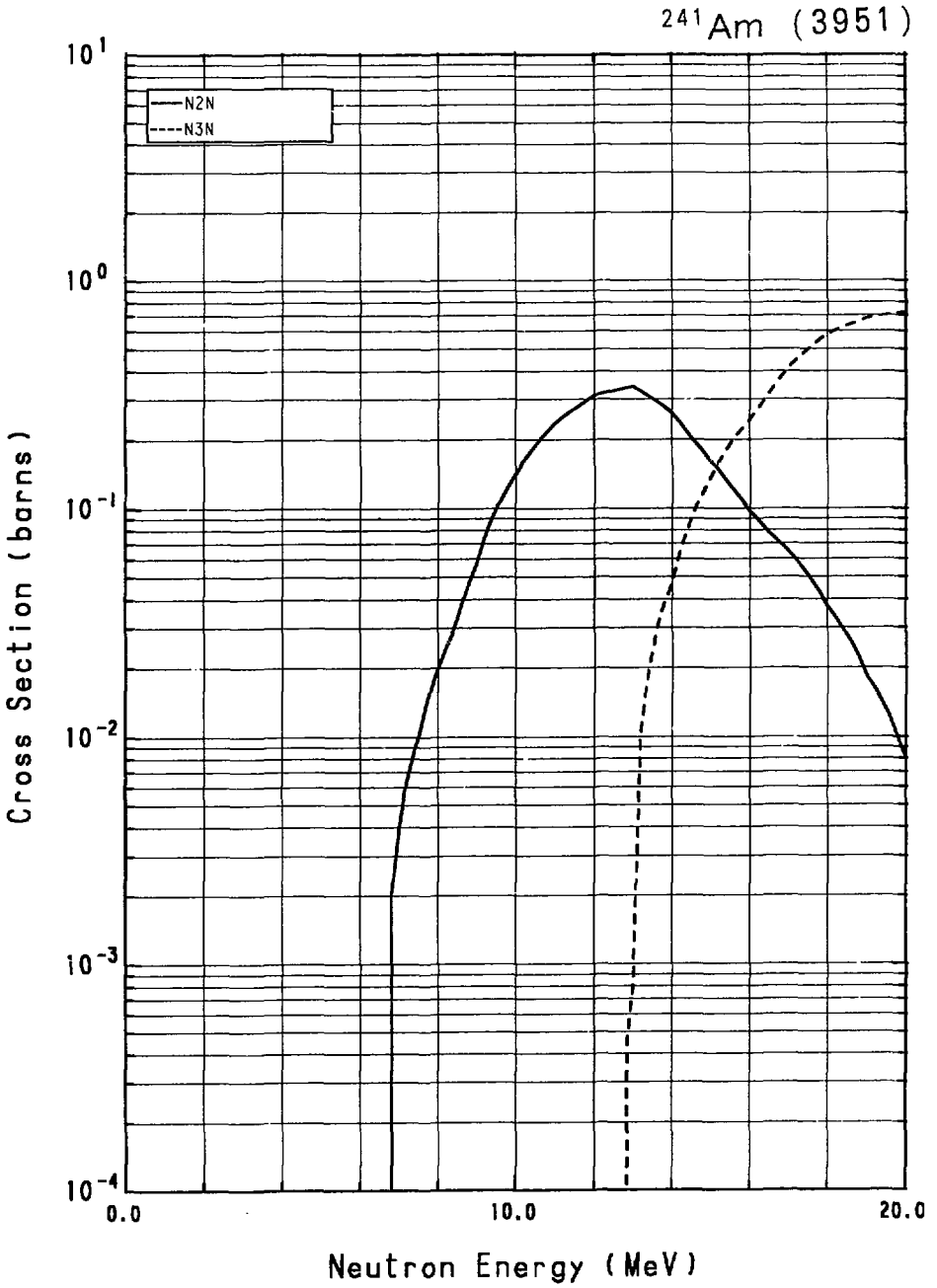

^{241}Pu (3945)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Neutron Energy (eV)
Cross Section (barns)
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}

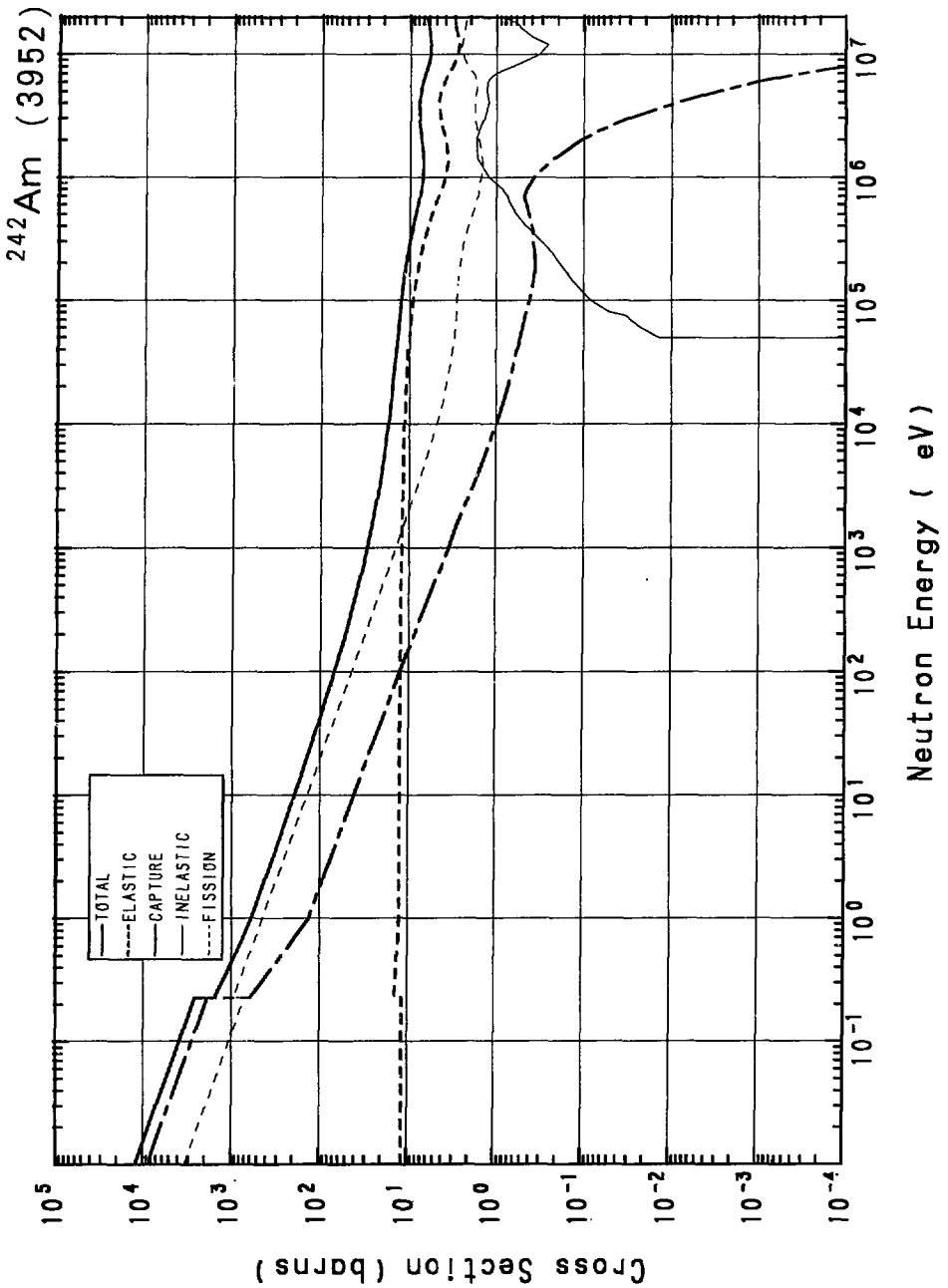

241Pu (3945)
N2N
N3N
N4N
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

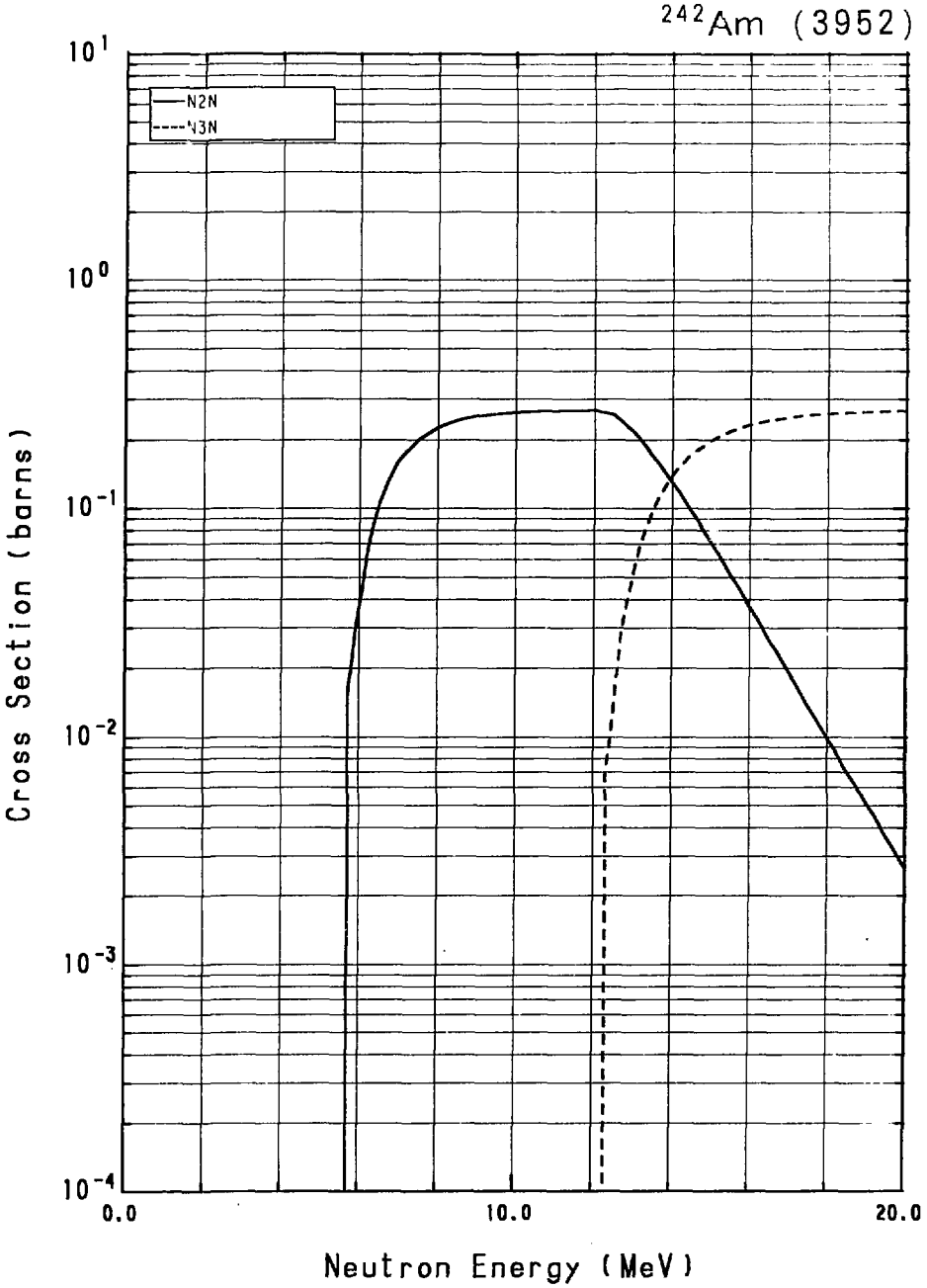

242Pu (3946)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

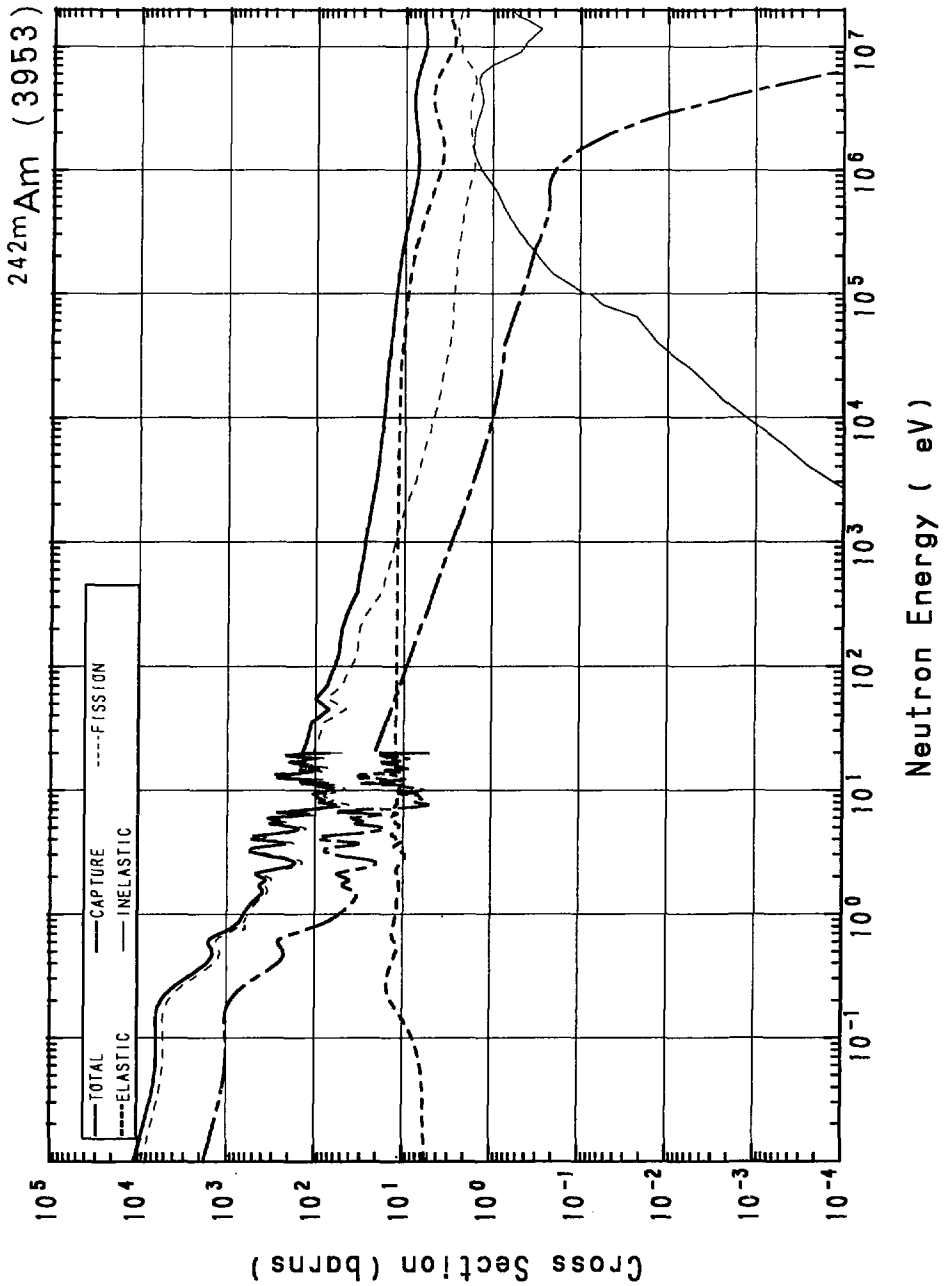

242Pu (3946)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

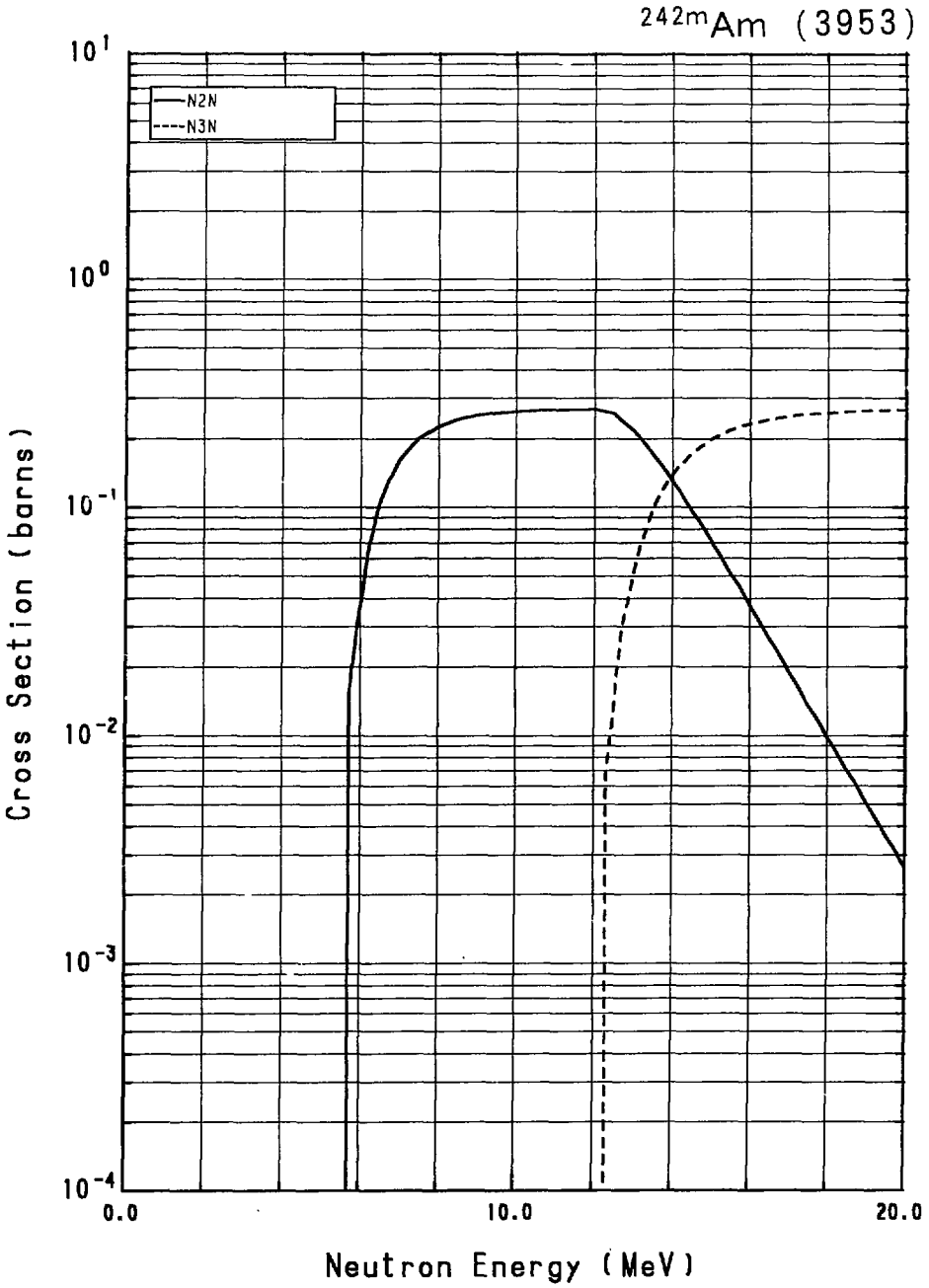

^{241}Am (3951)
TOTAL
CAPTURE
FISSION
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

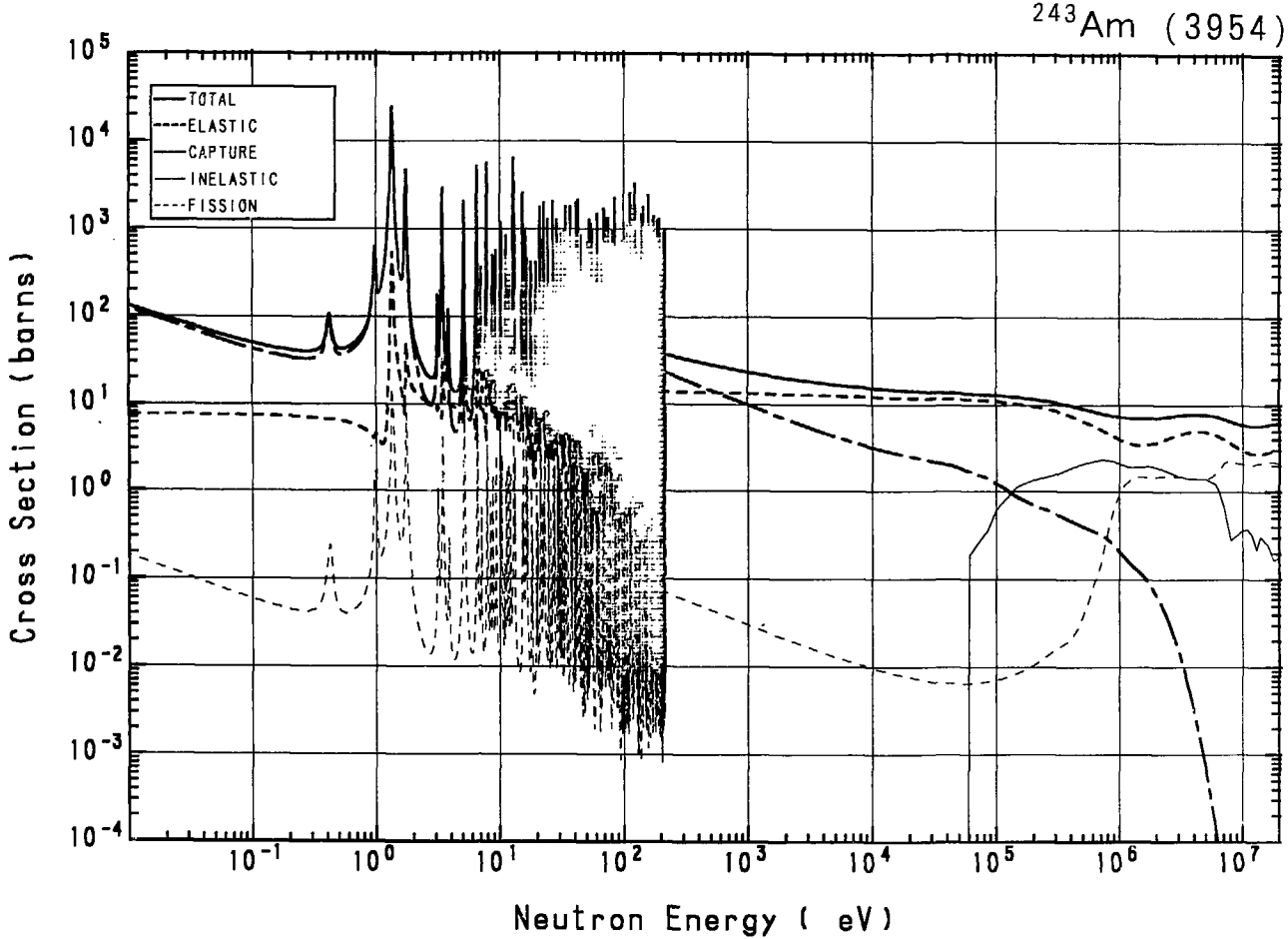

241Am (3951)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

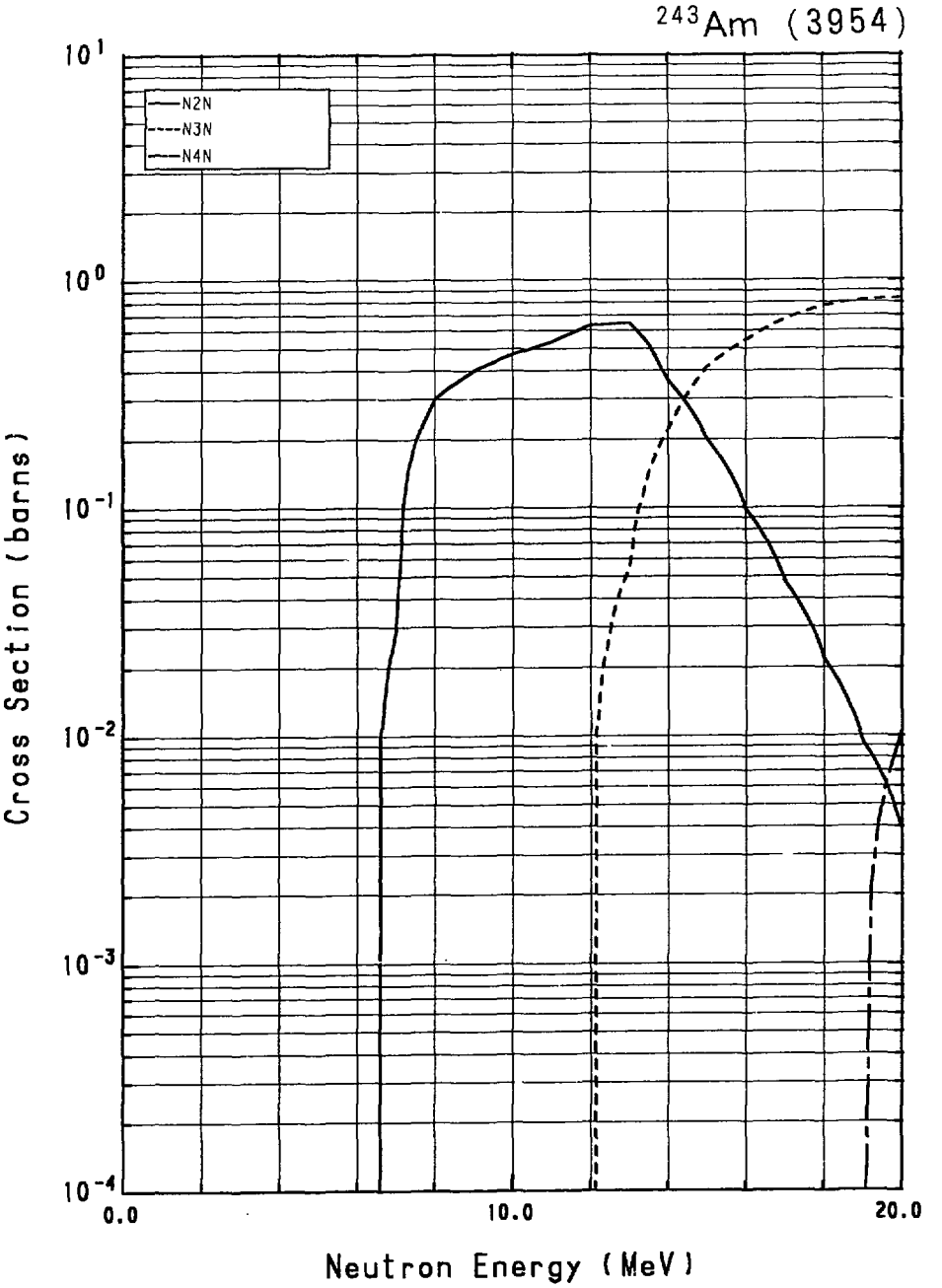

242Am (3952)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

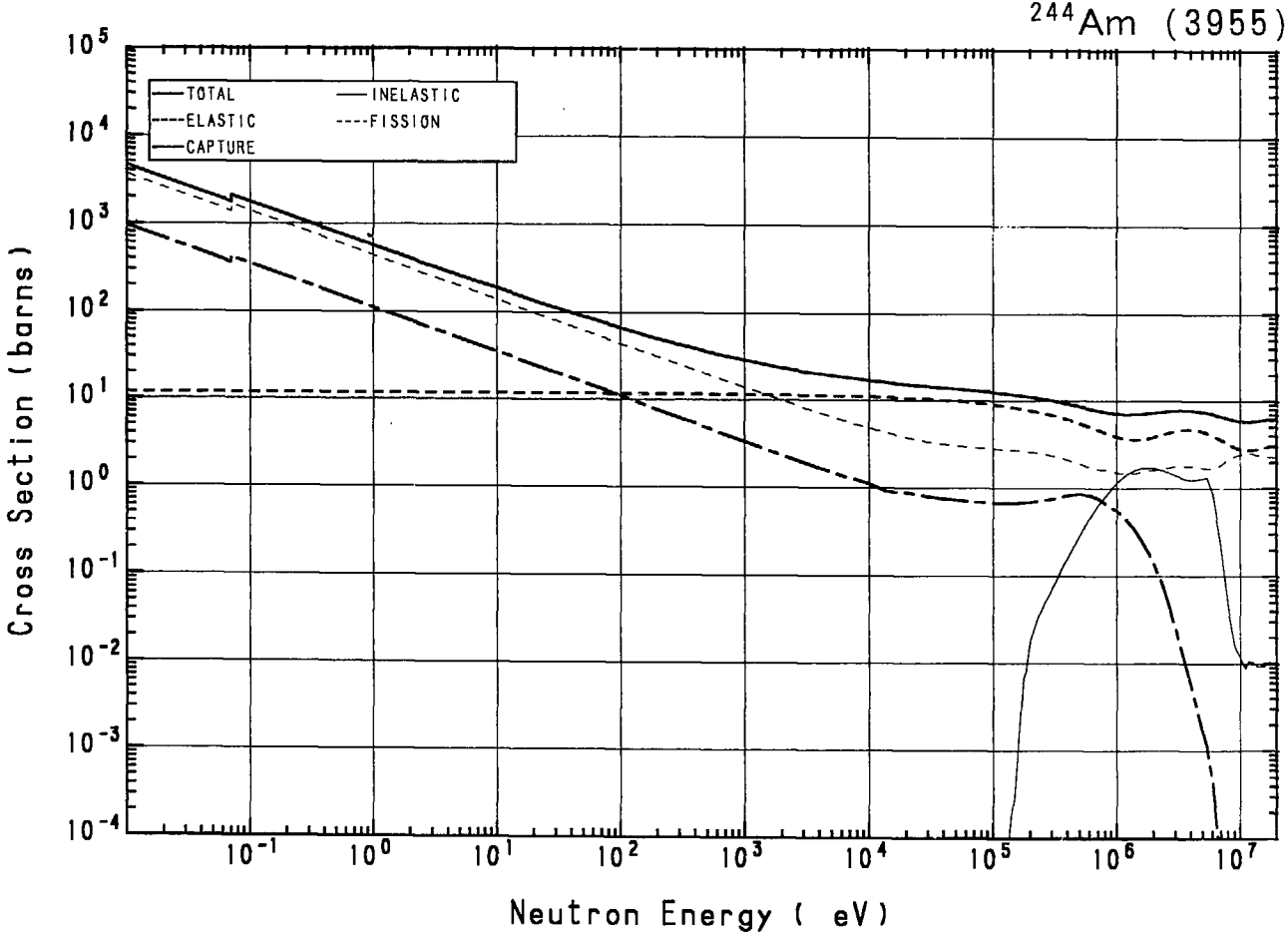

242Am (3952)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

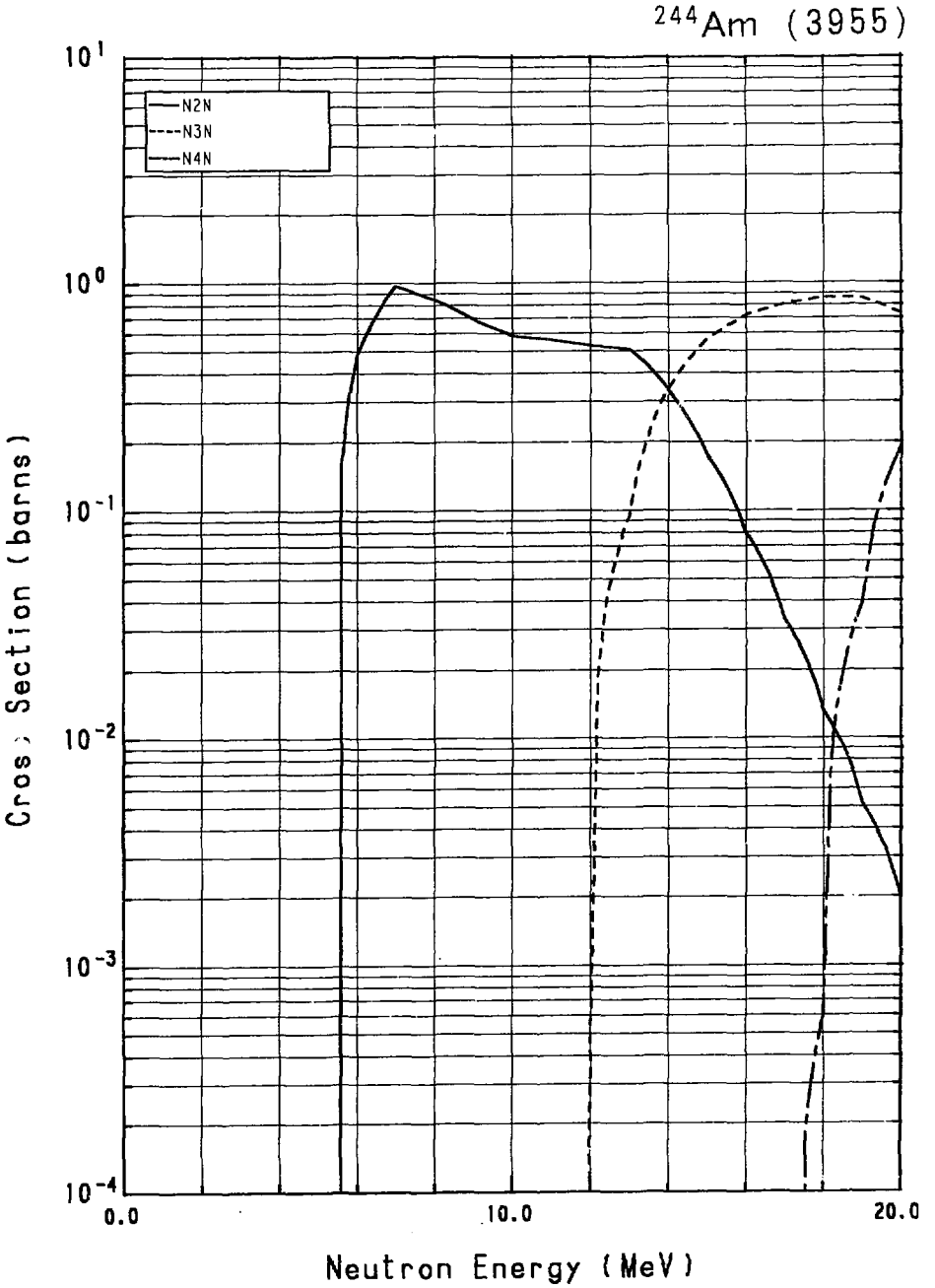

242mAm (3953)
TOTAL
CAPTURE
FISSION
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

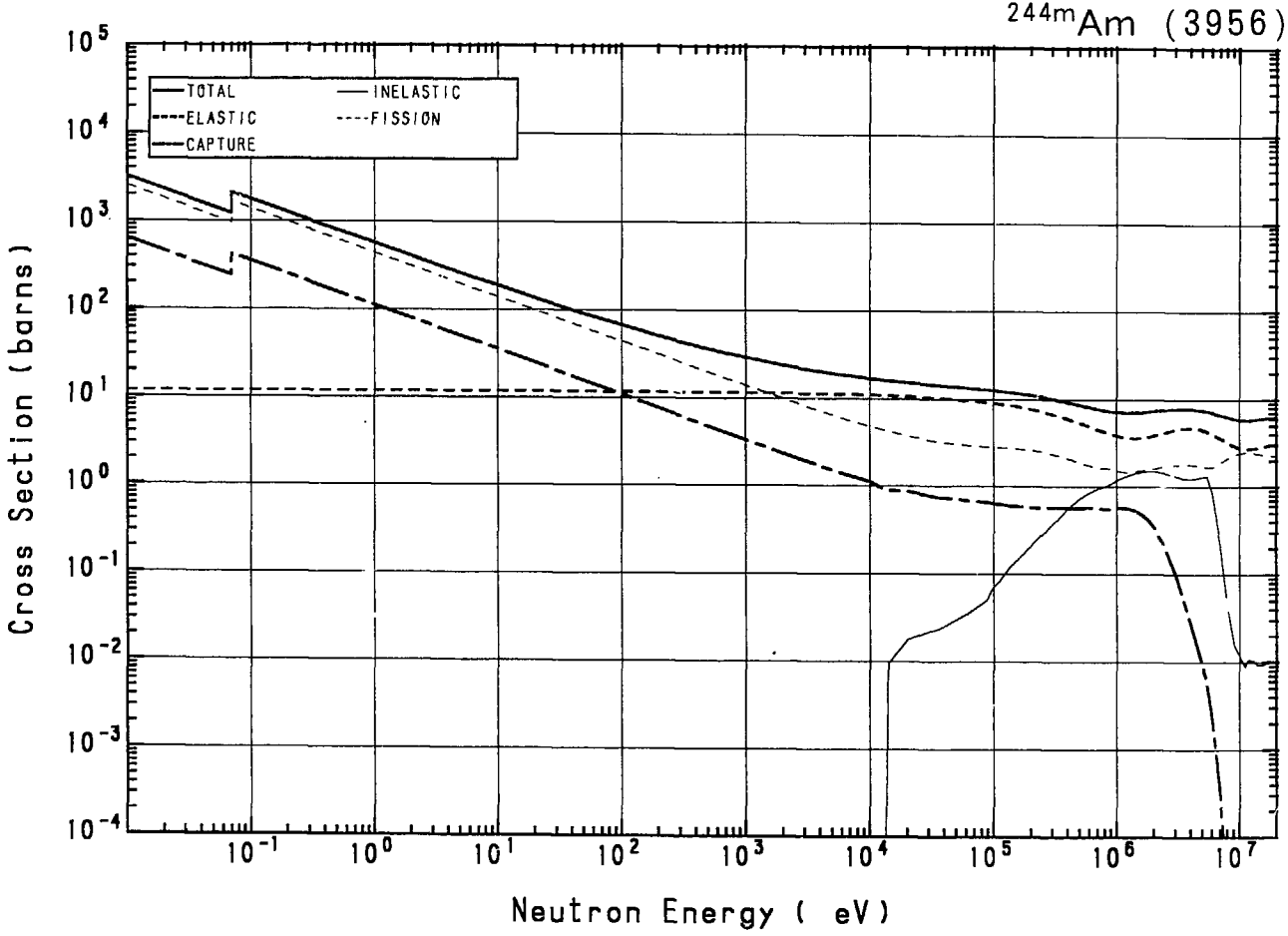

242mAm (3953)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

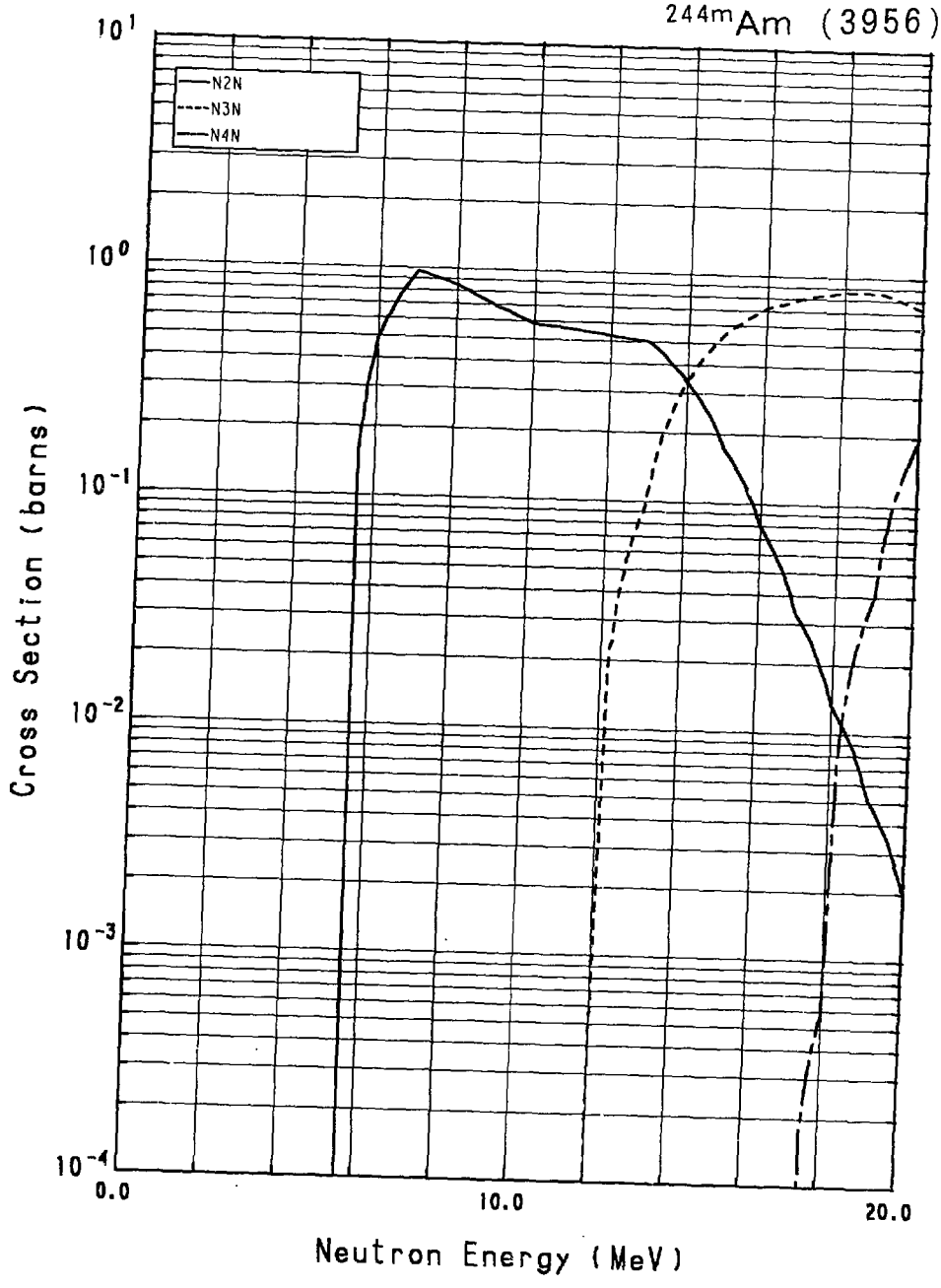

^{243}Am (3954)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

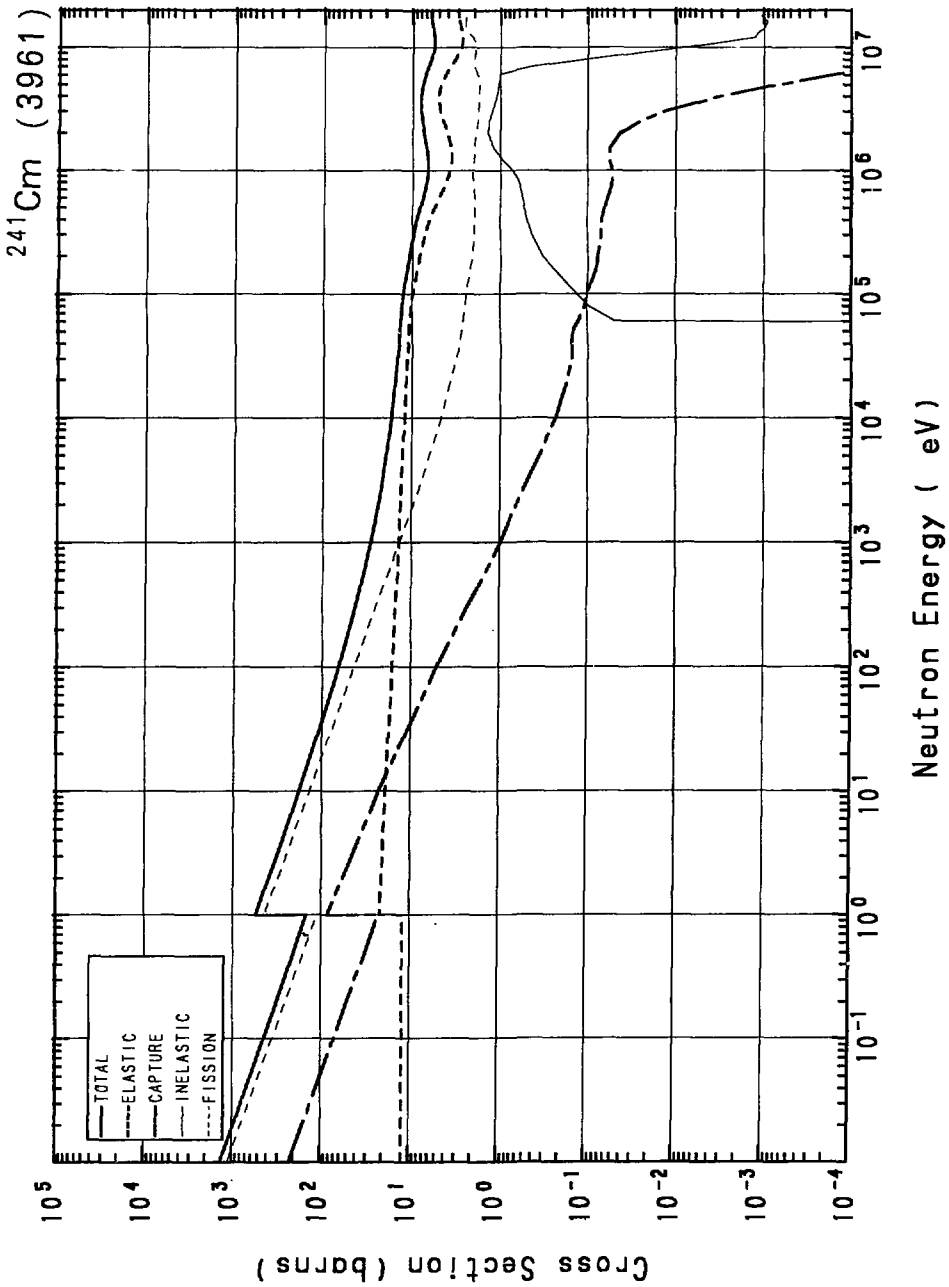

243Am (3954)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

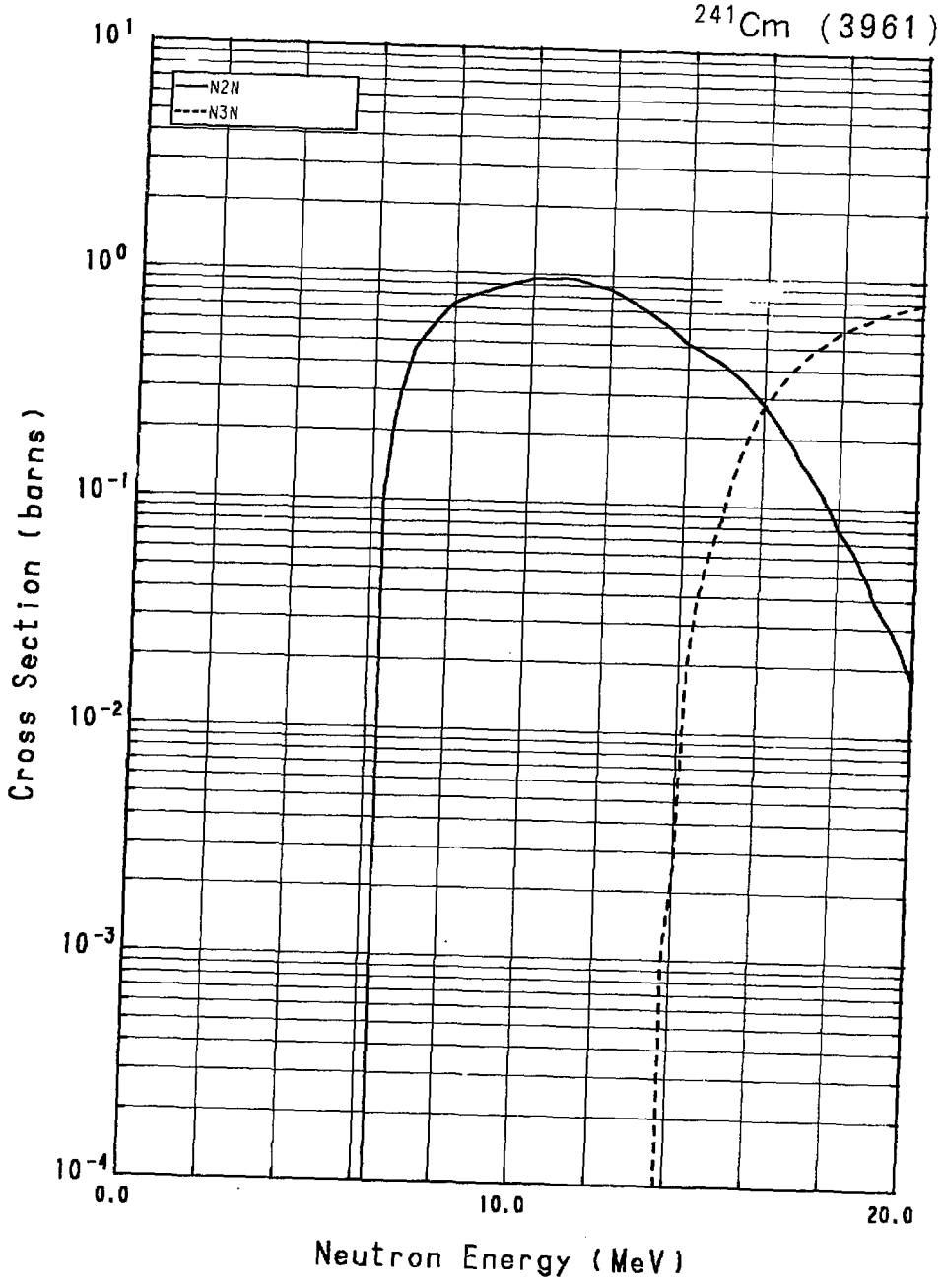

^{244}Am (3955)
TOTAL
INELASTIC
ELASTIC
FISSION
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

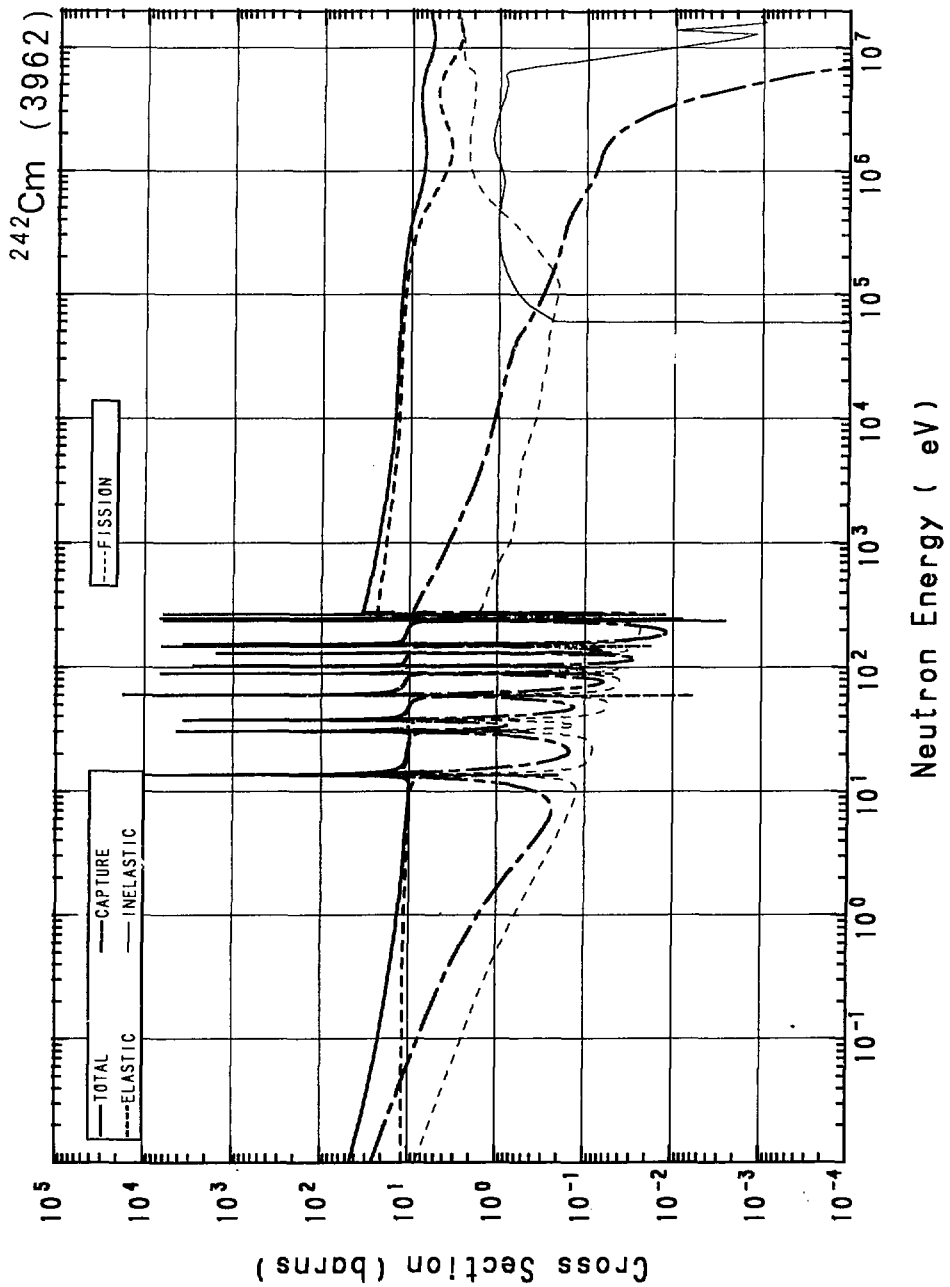

^{244}Am (3955)
N2N
N3N
N4N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

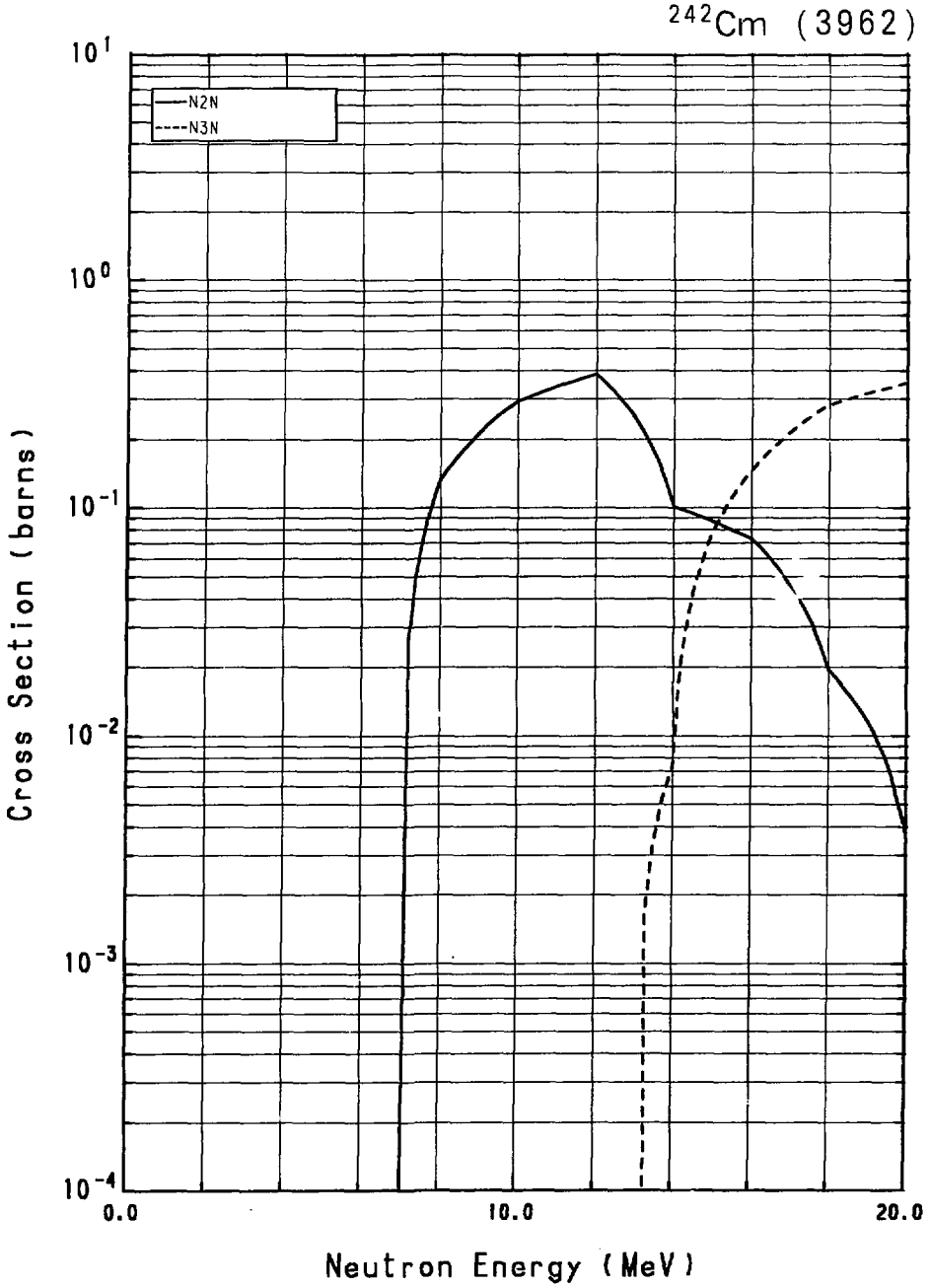

244mAm (3956)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

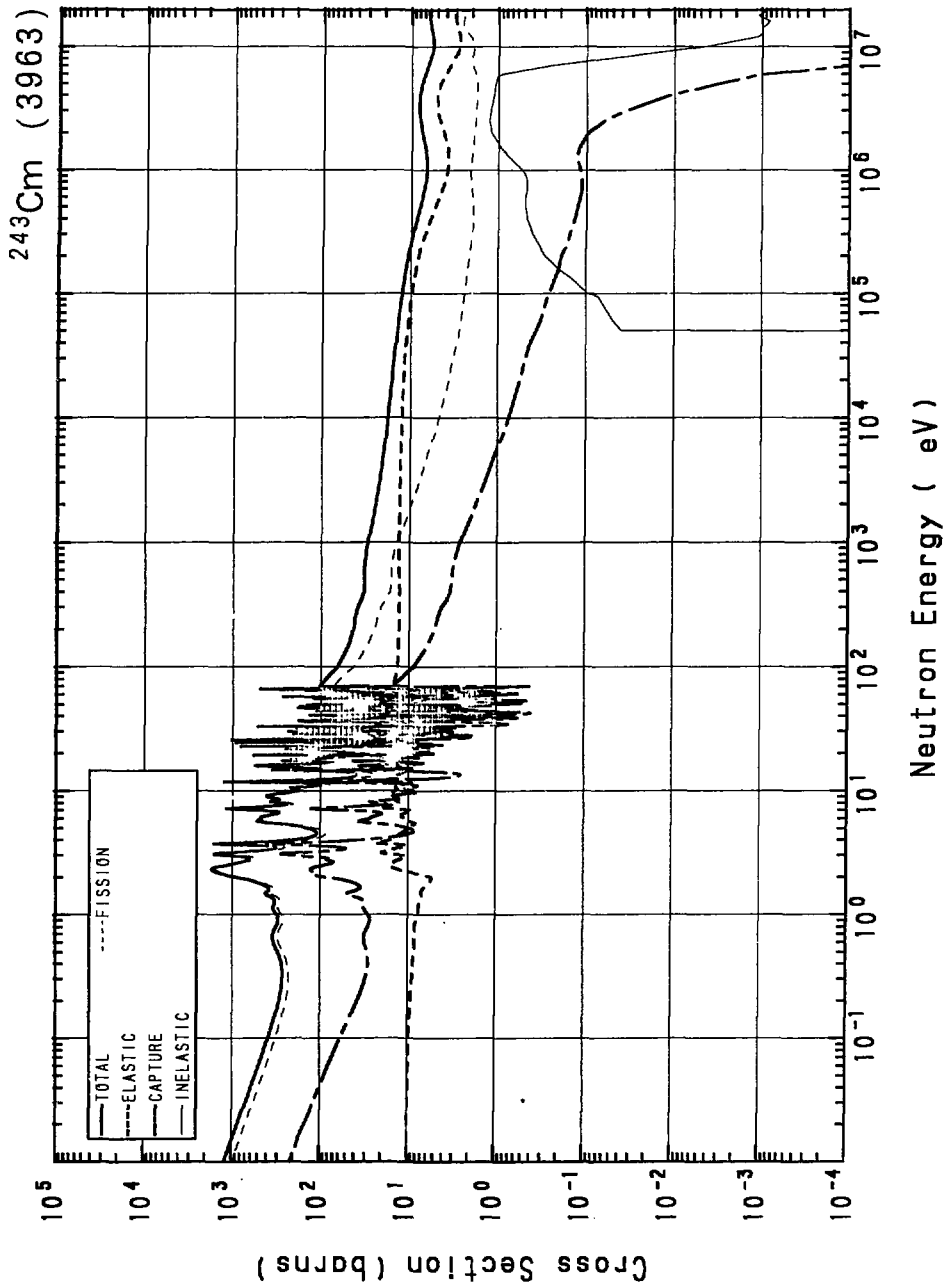

244mAm (3956)
N2N
N3N
N4N
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

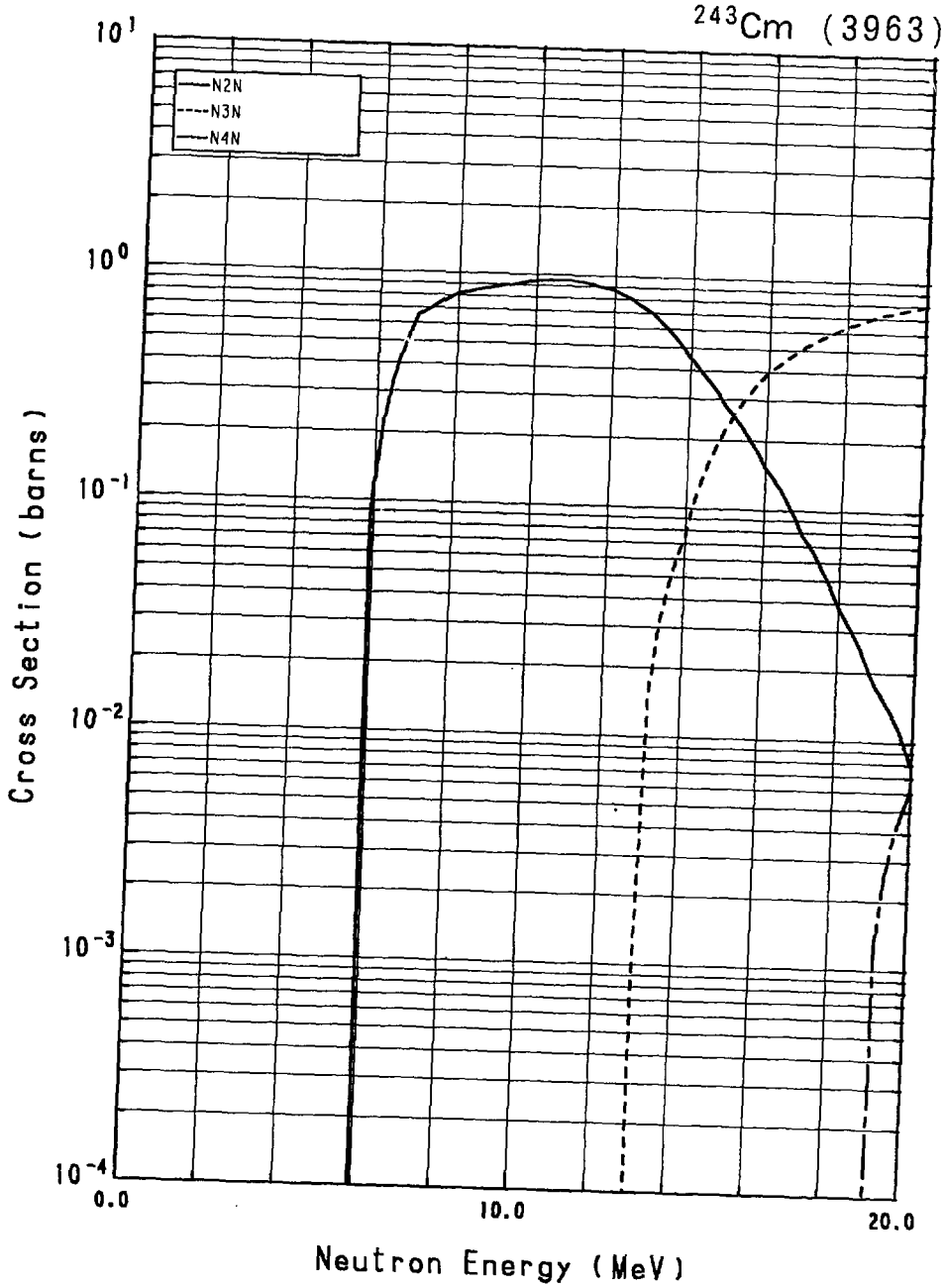

241Cm (3961)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

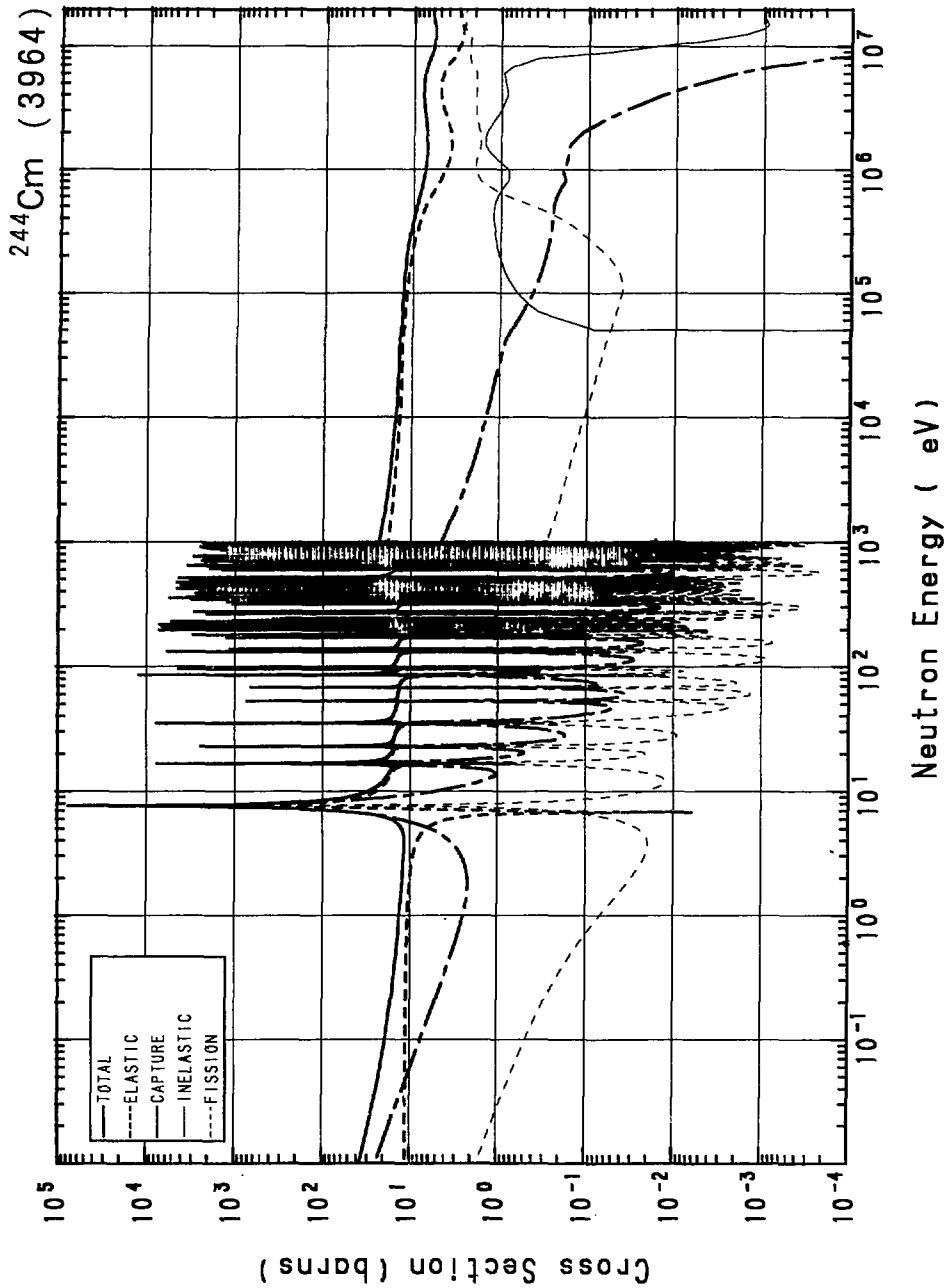

241Cm (3961)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

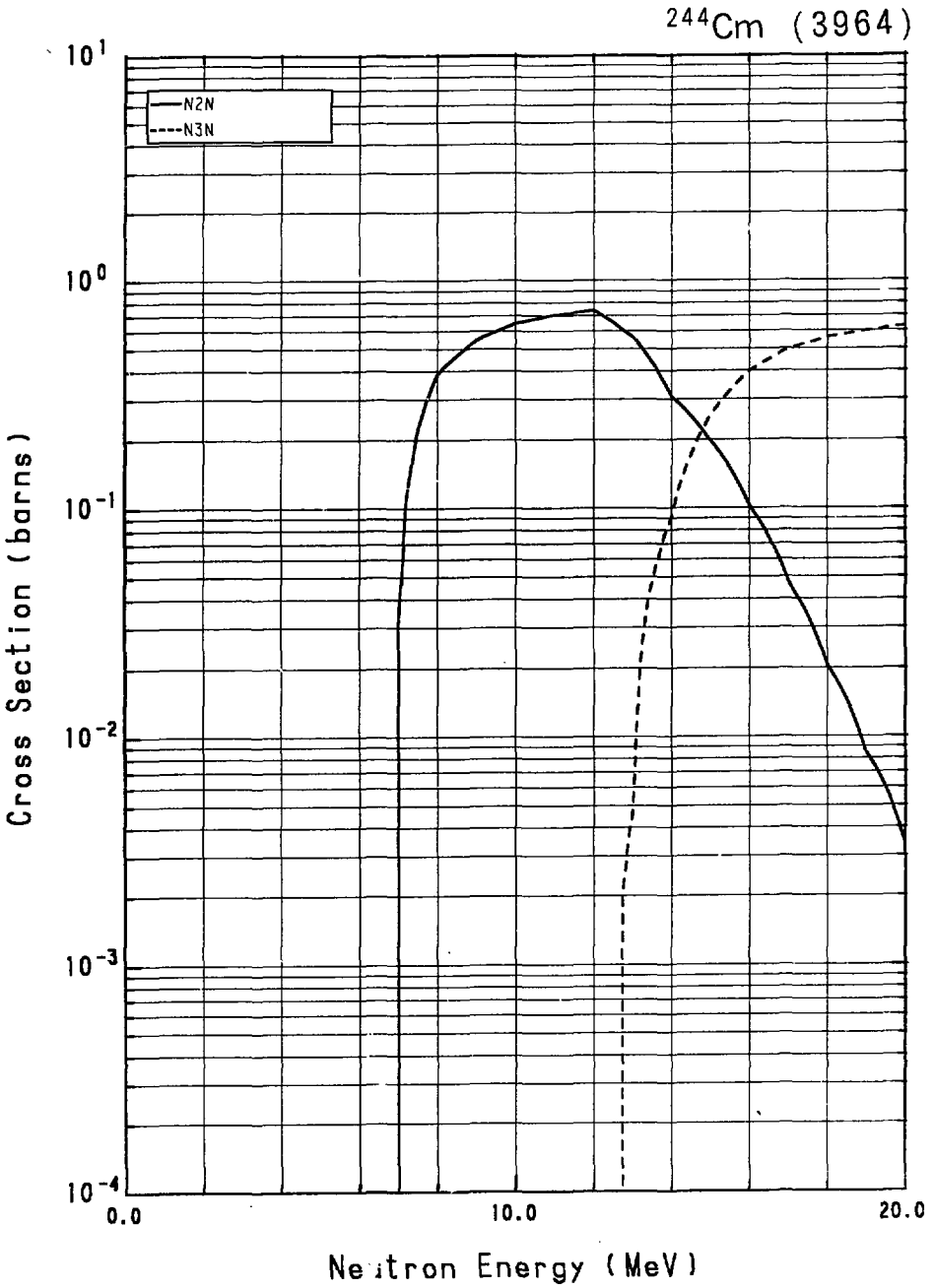

242Cm (3962)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

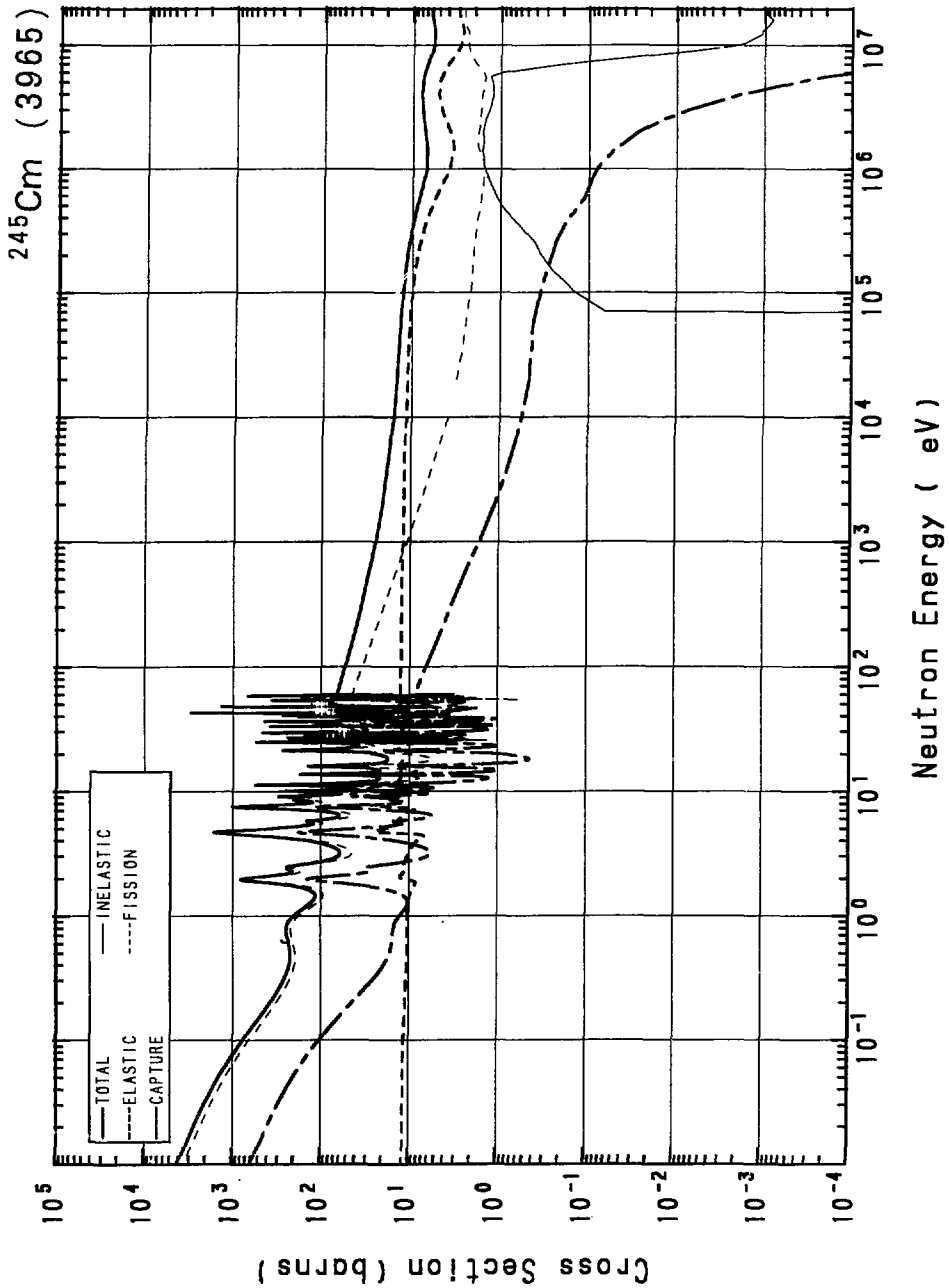

242Cm (3962)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

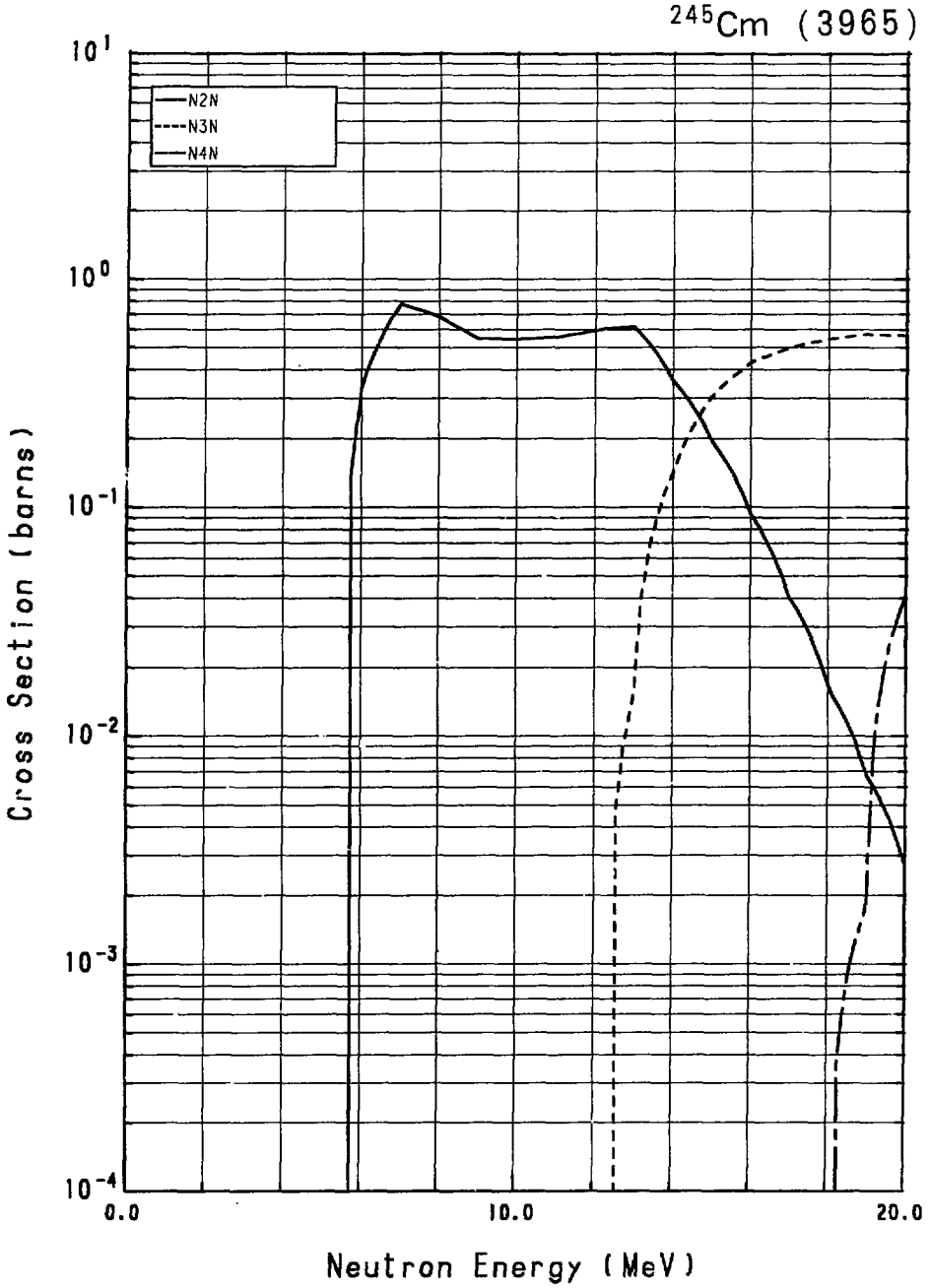

243Cm (3963)
TOTAL
FISSION
ELASTIC
CAPTURE
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

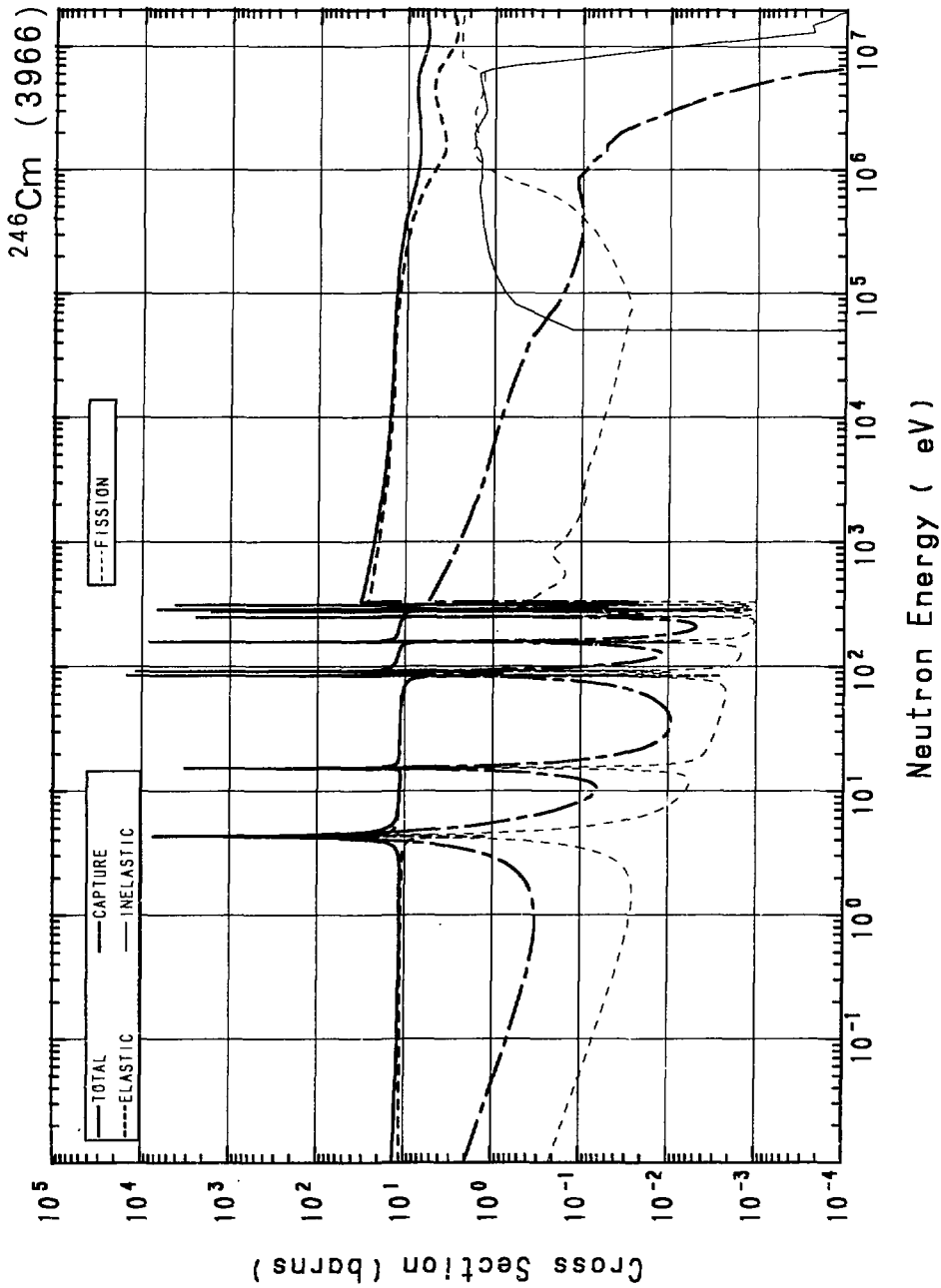

243Cm (3963)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

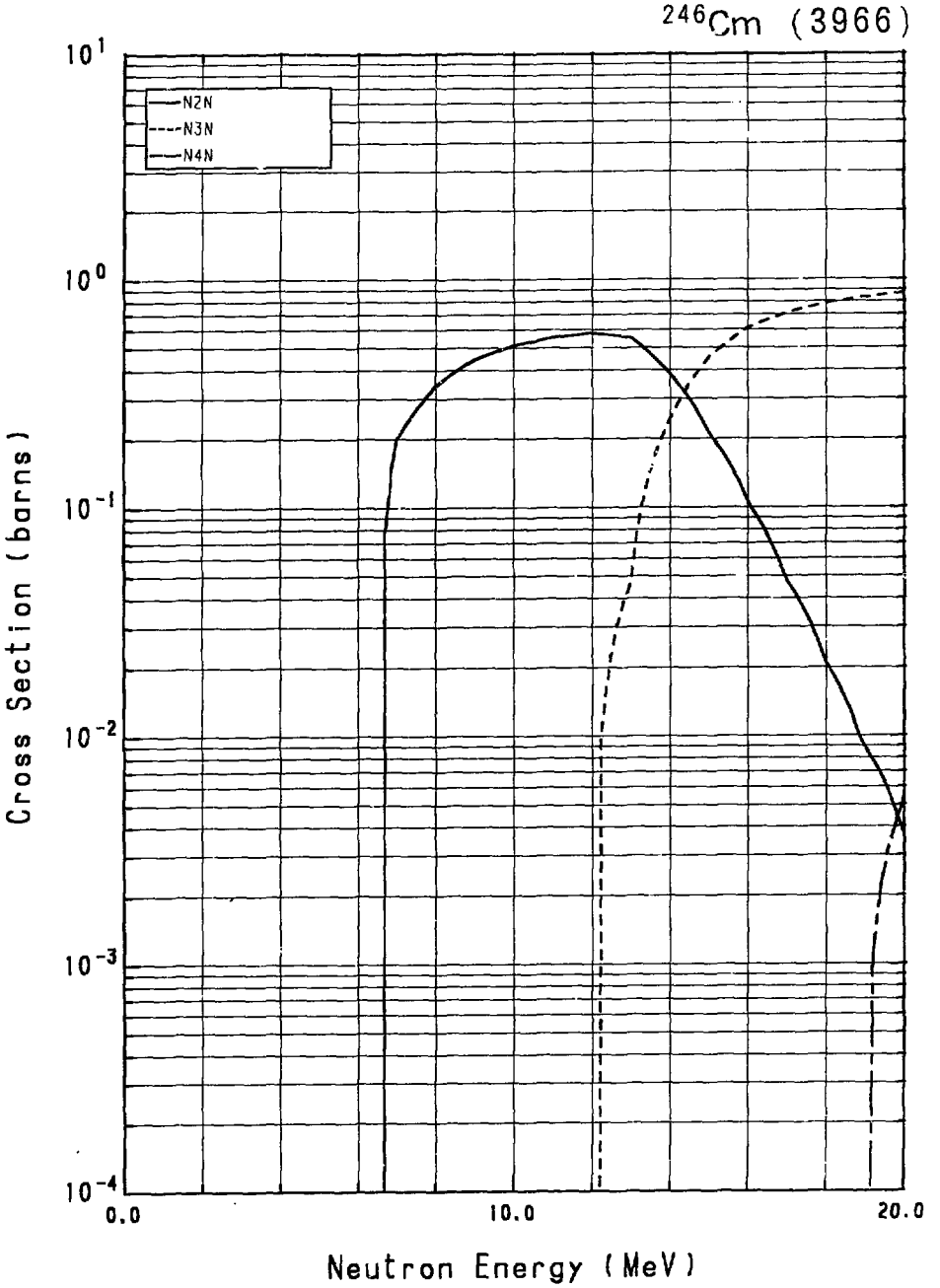

^{244}Cm (3964)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

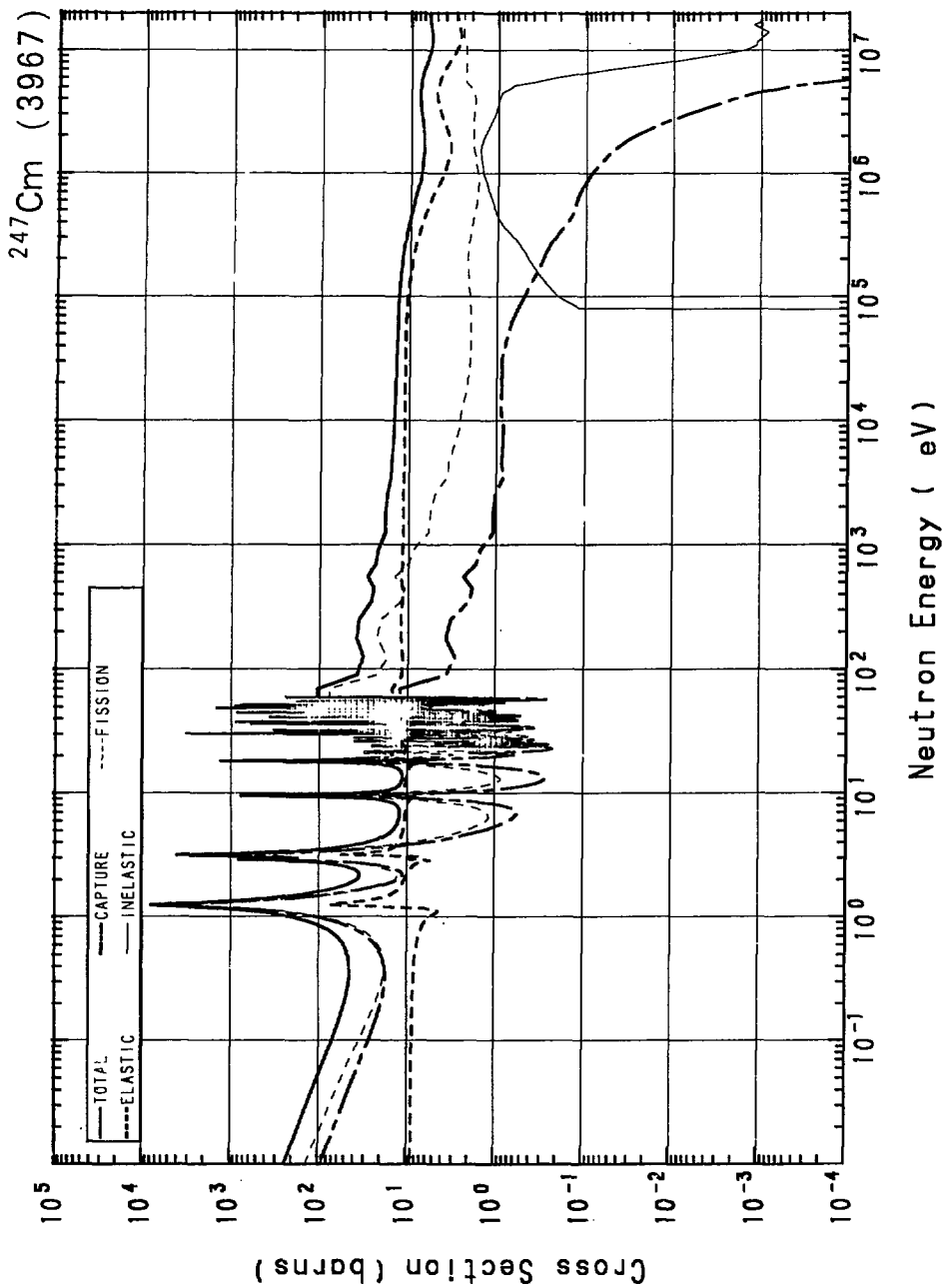

^{244}Cm (3964)
N2N
N3N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

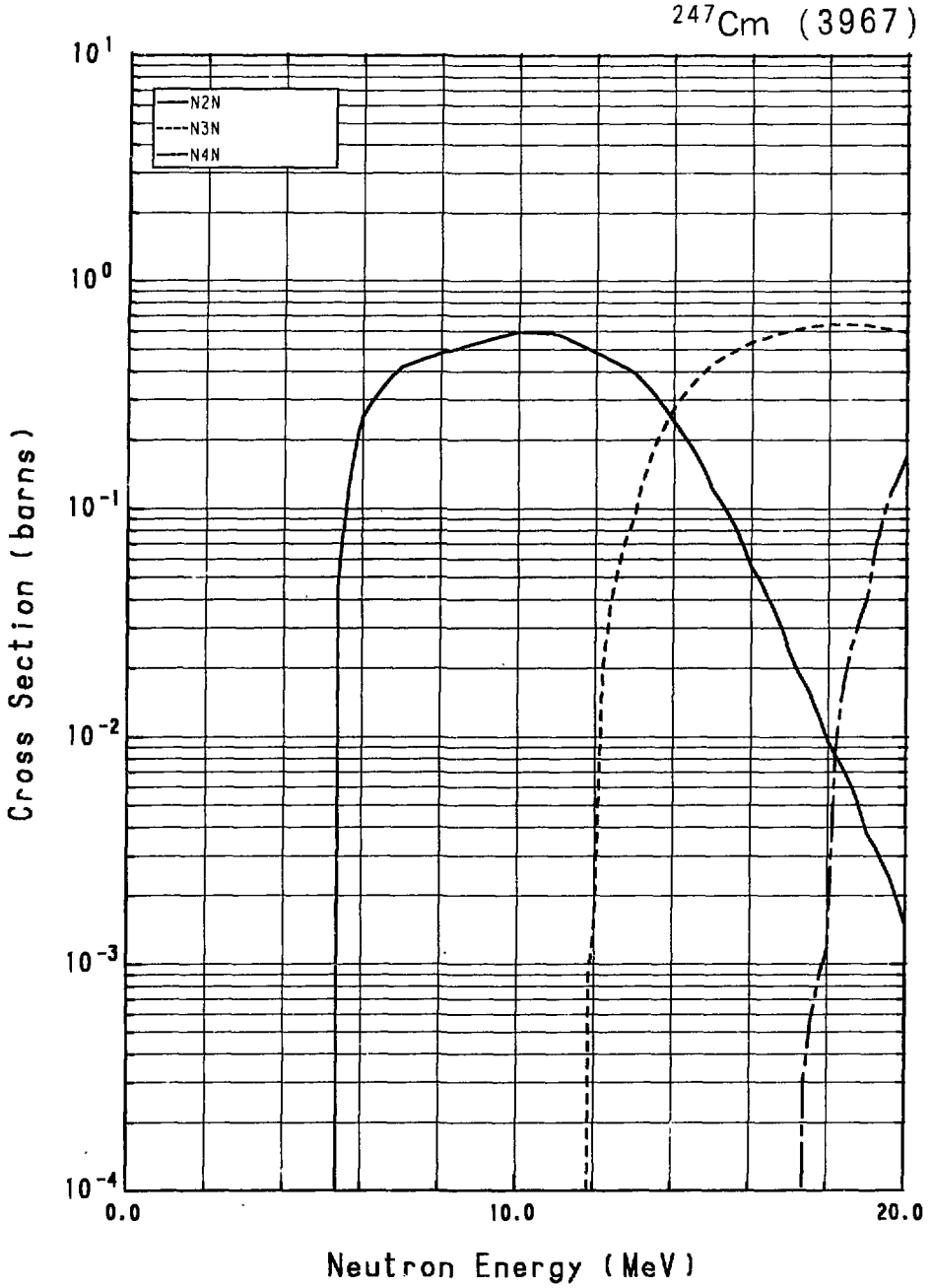

245Cm (3965)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

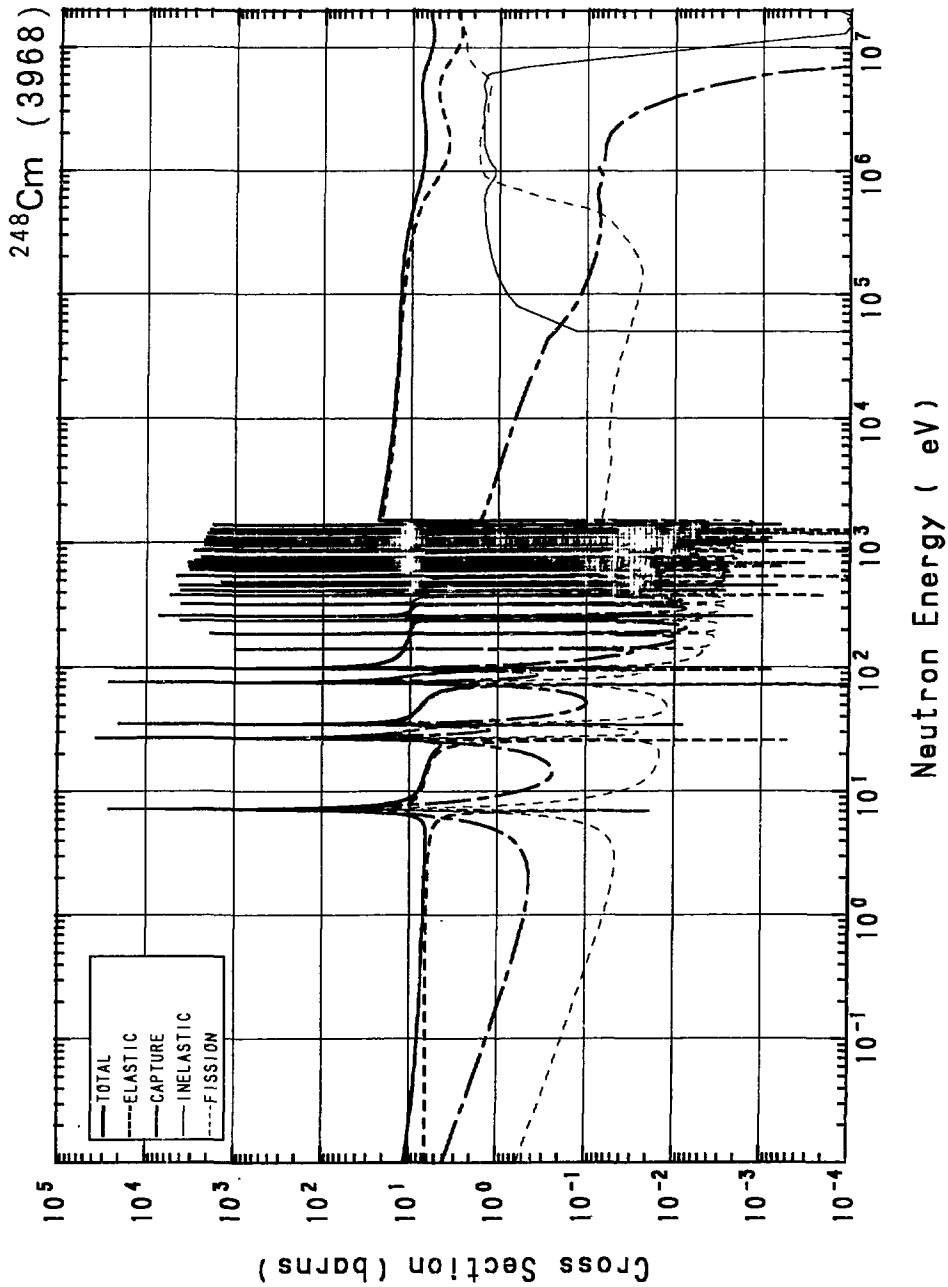

^{245}Cm (3965)
N2N
N3N
N4N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

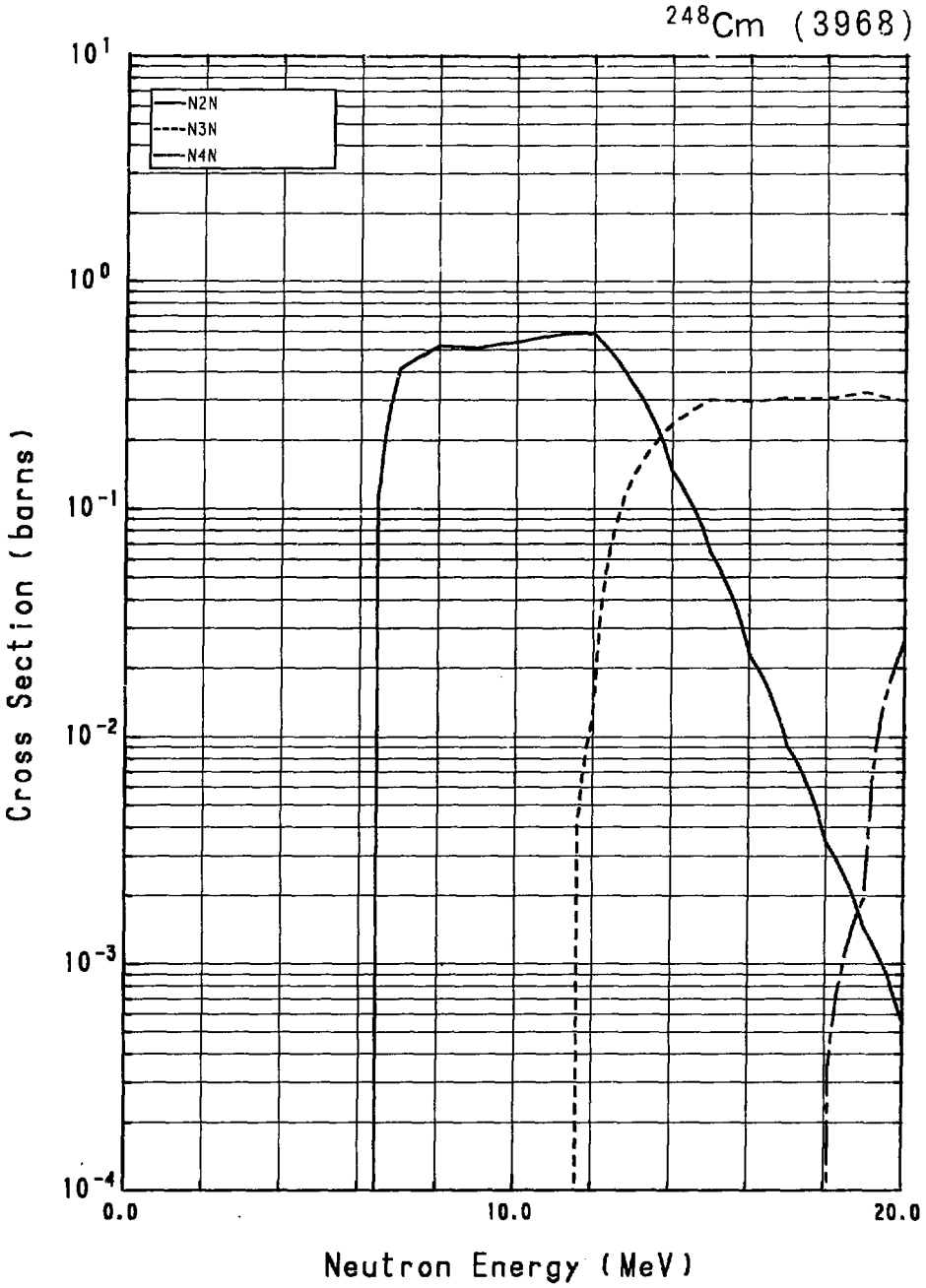

246Cm (3966)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

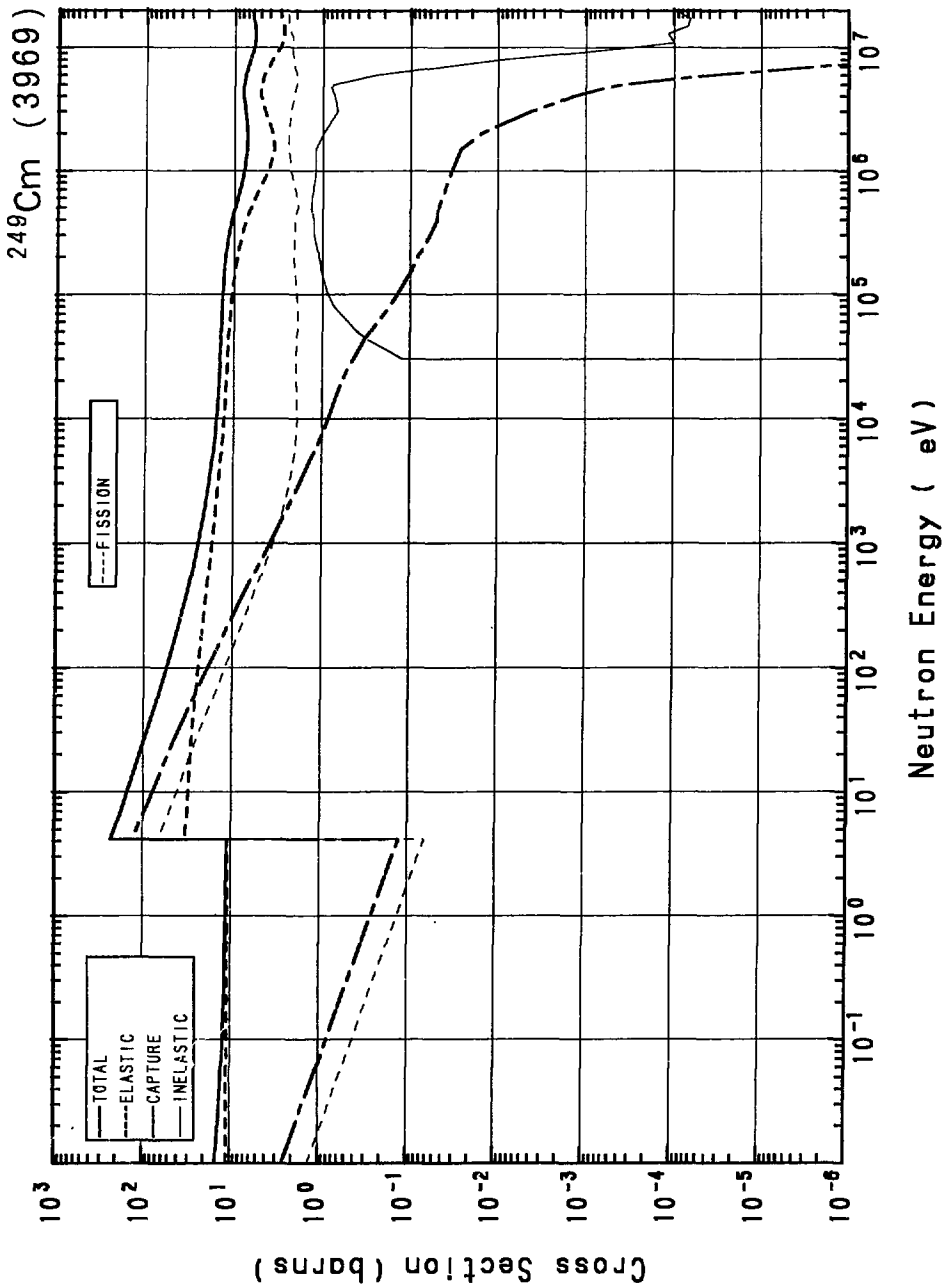

^{246}Cm (3966)
N2N
N3N
N4N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

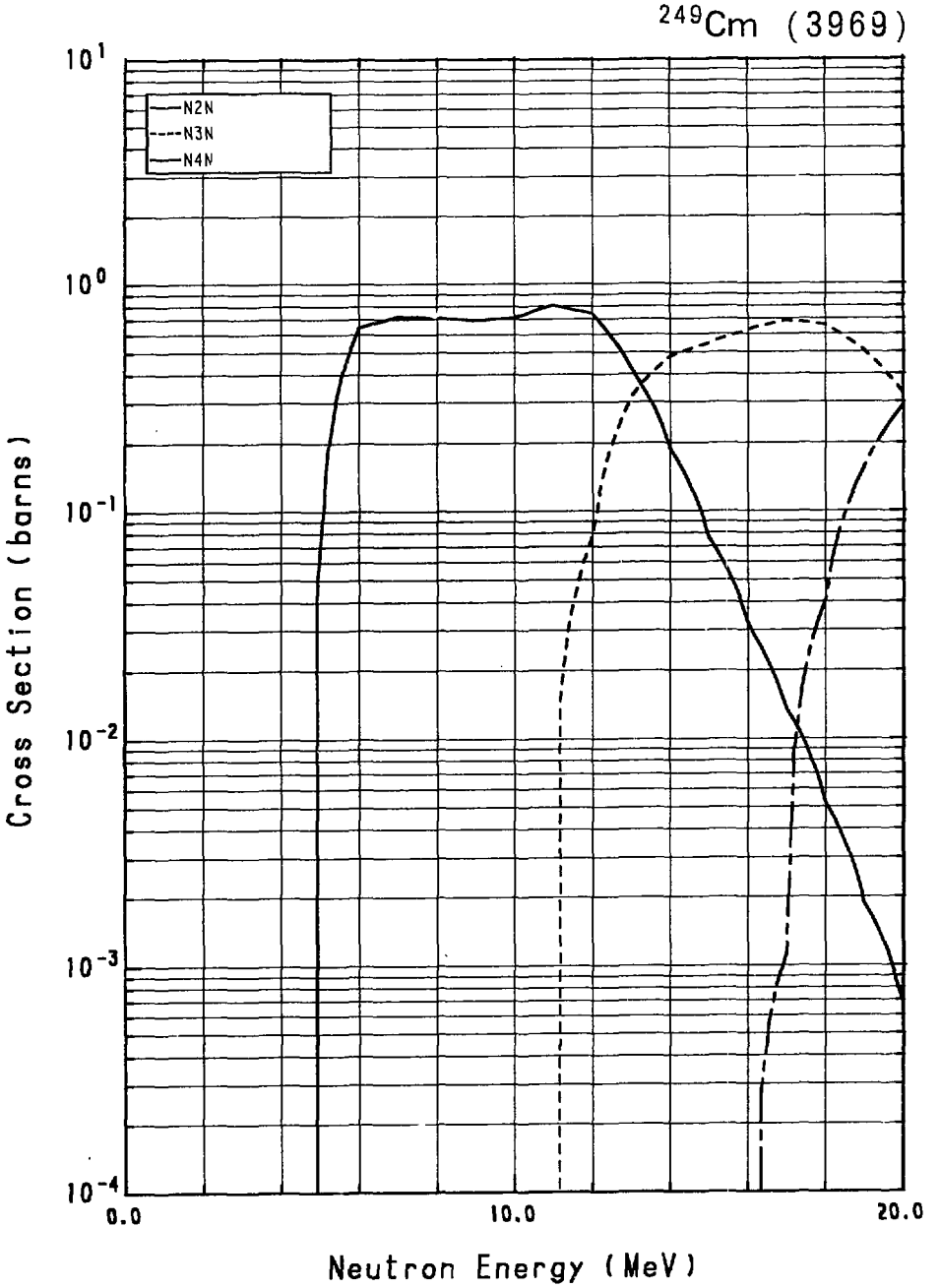

247Cm (3967)
TOTAL
CAPTURE
FISSION
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

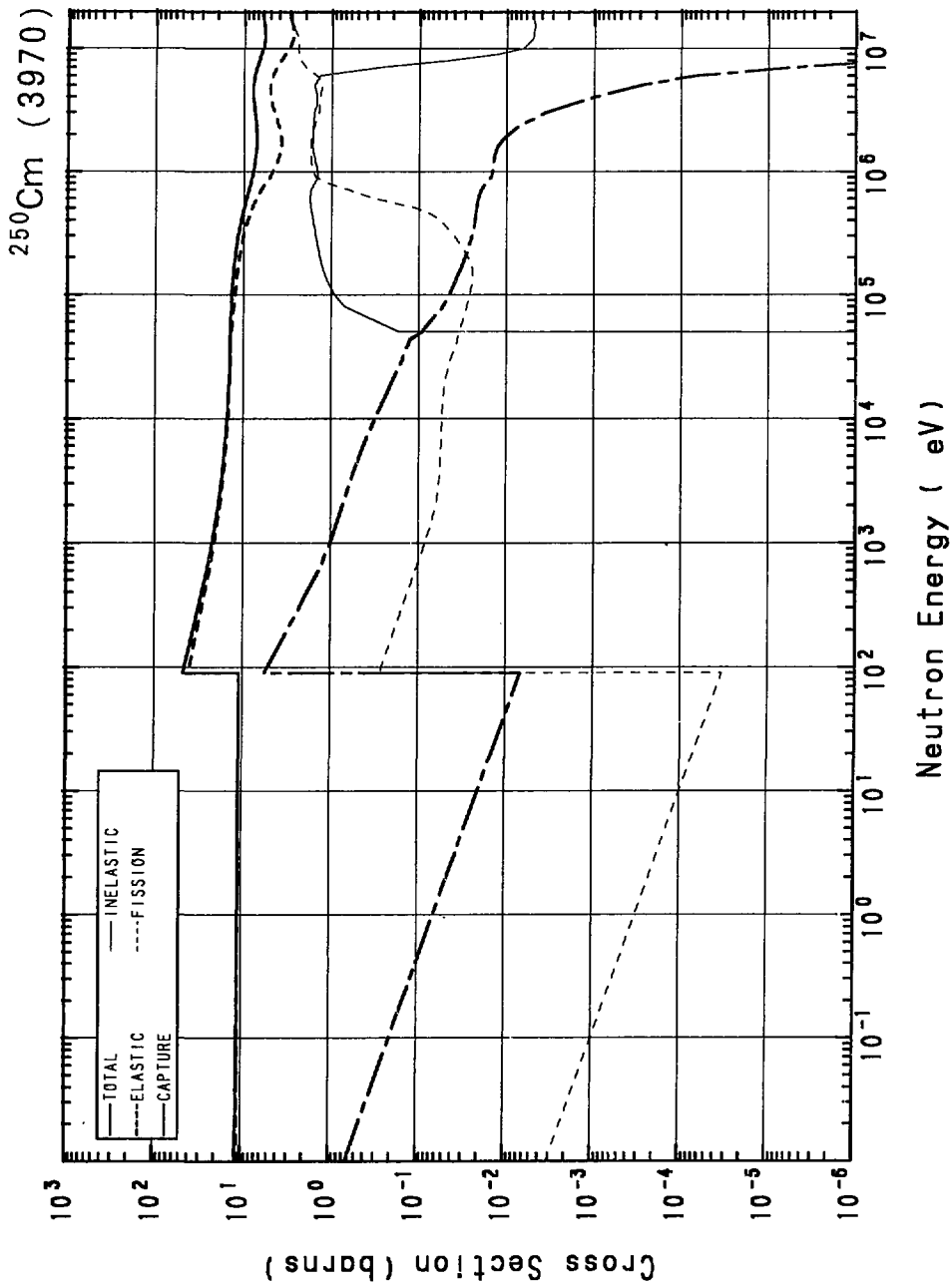

247Cm (3967)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
0.0
10.0
20.0
Cross Section (barns)
Neutron Energy (MeV)

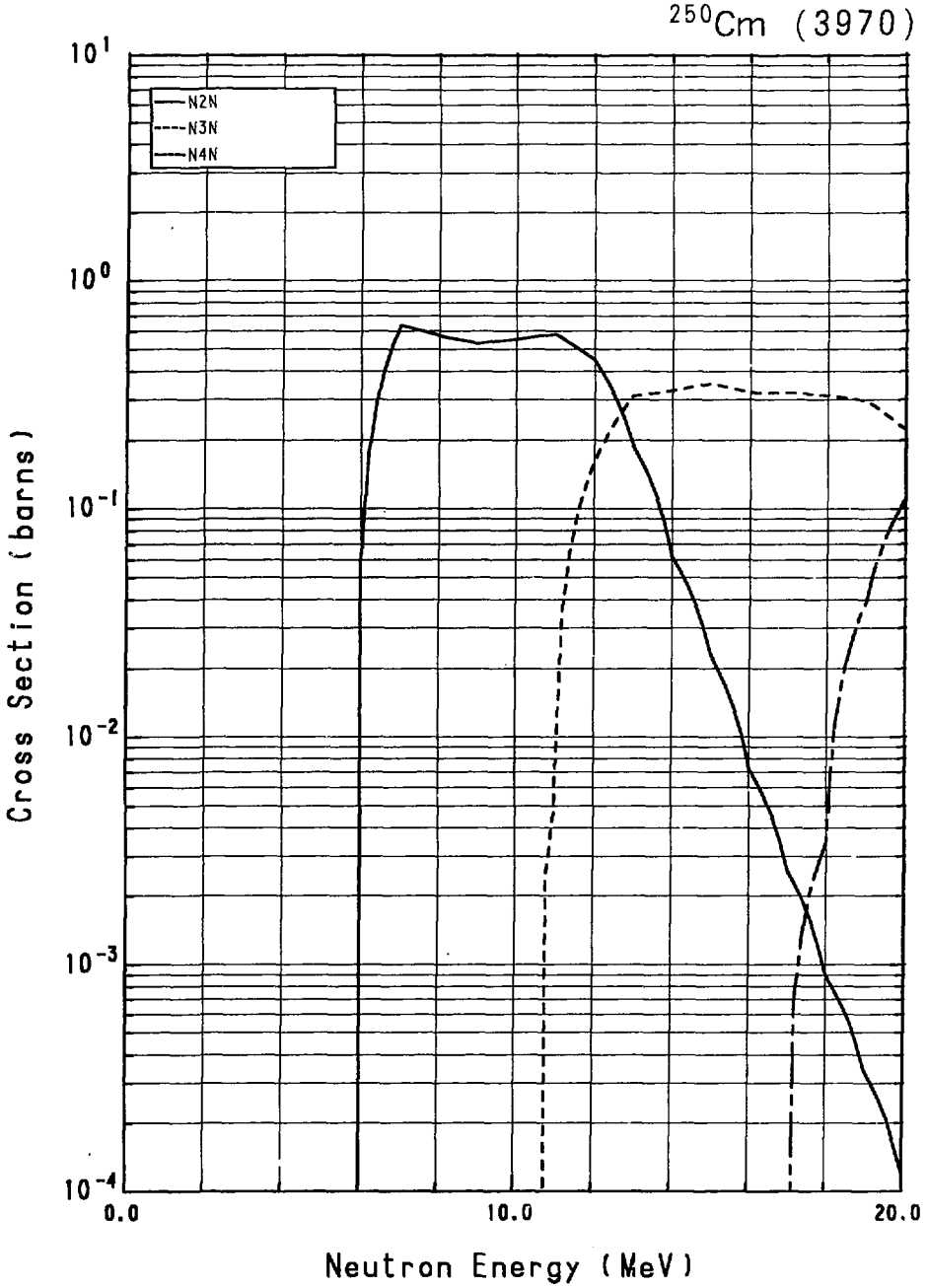

248Cm (3968)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

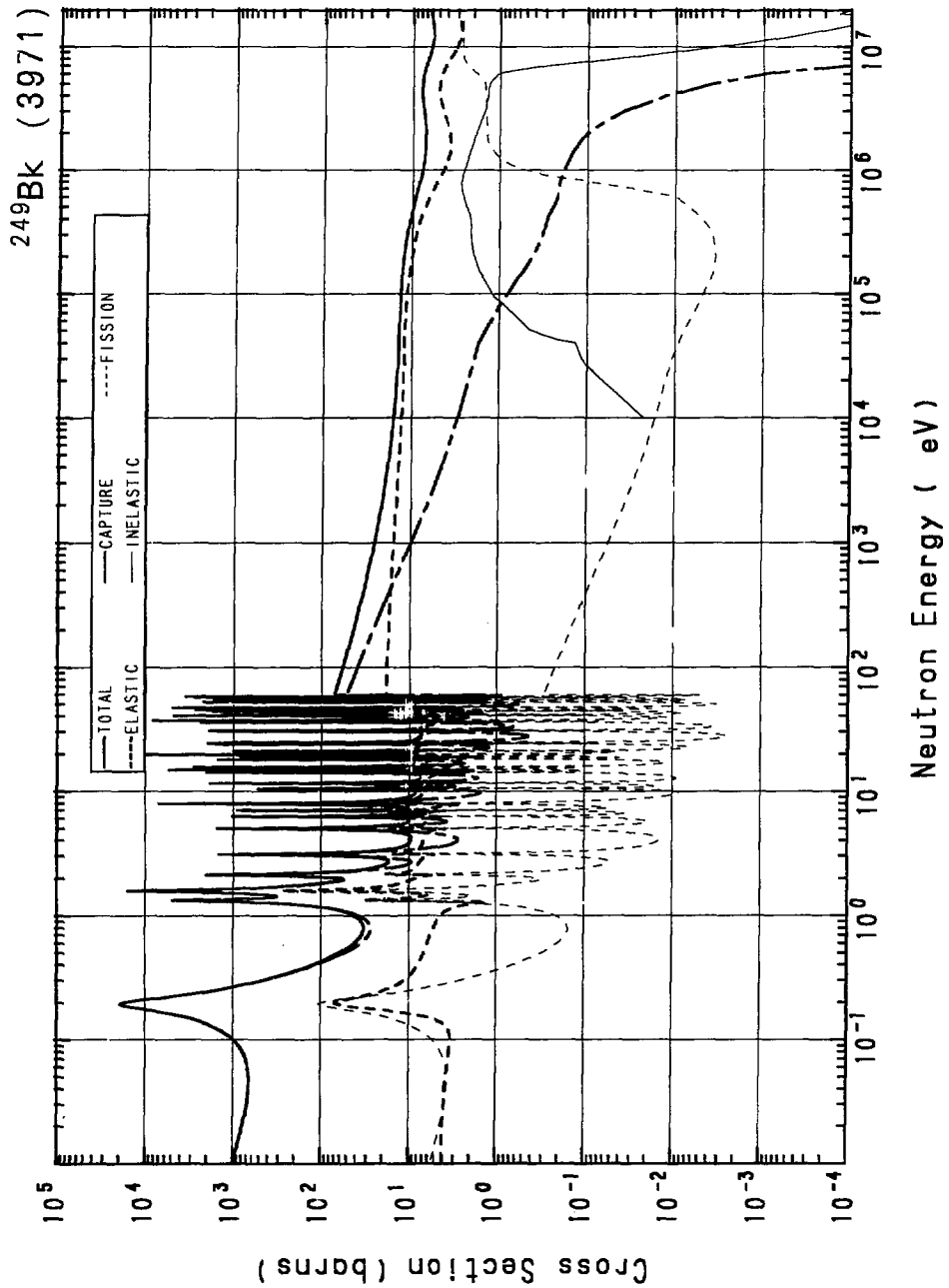

248Cm (3968)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

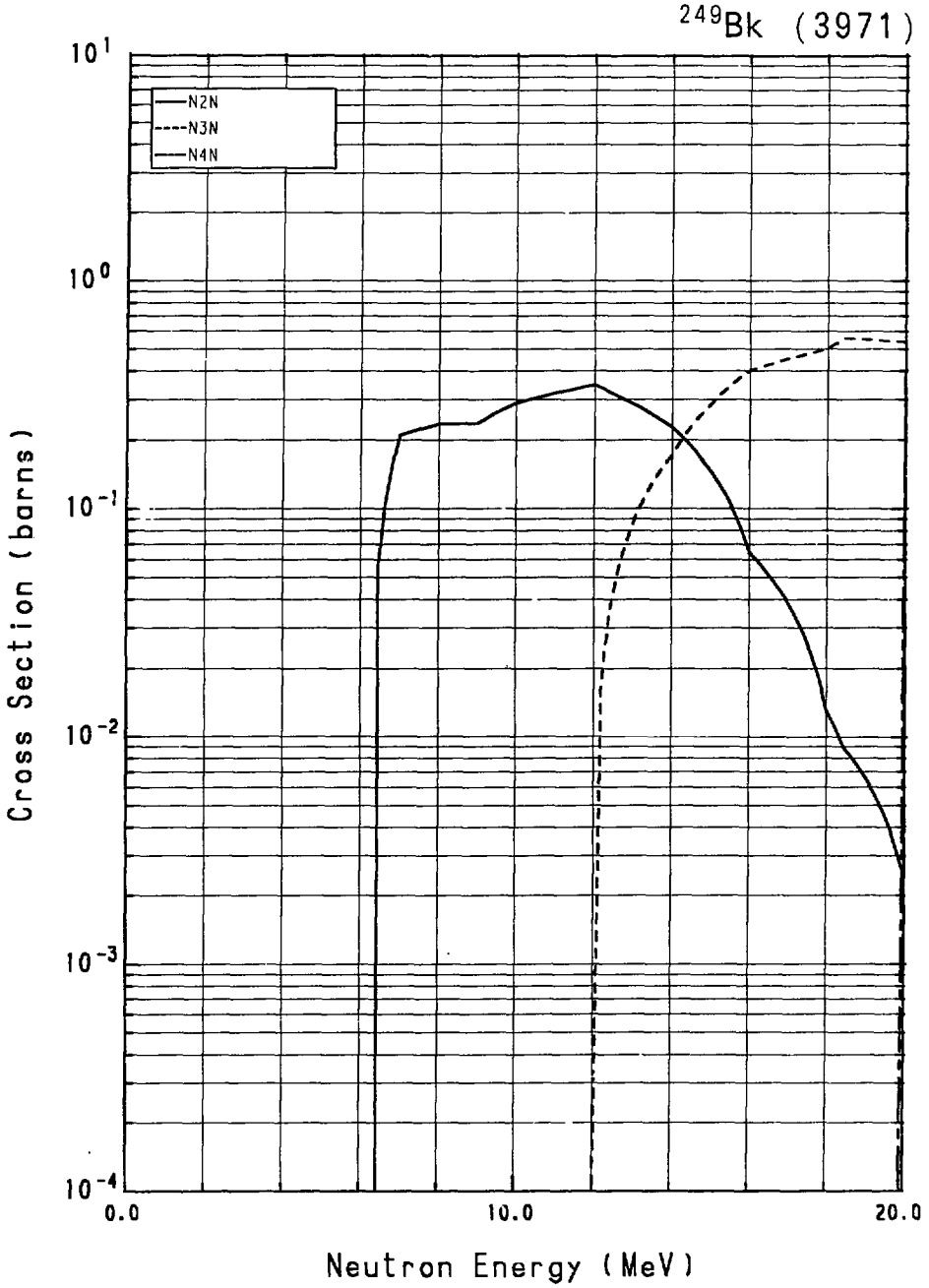

249Cm (3969)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

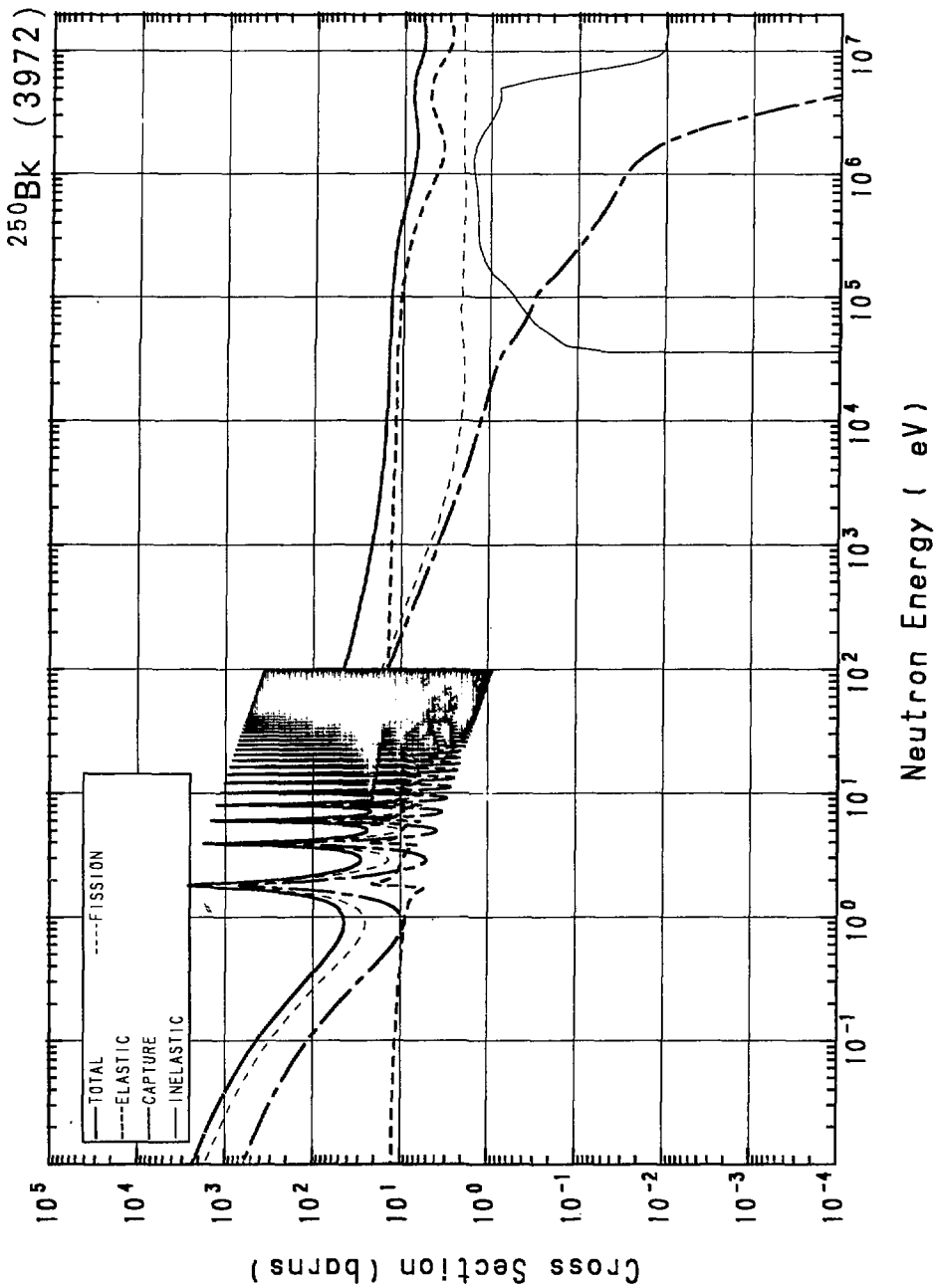

249Cm (3969)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

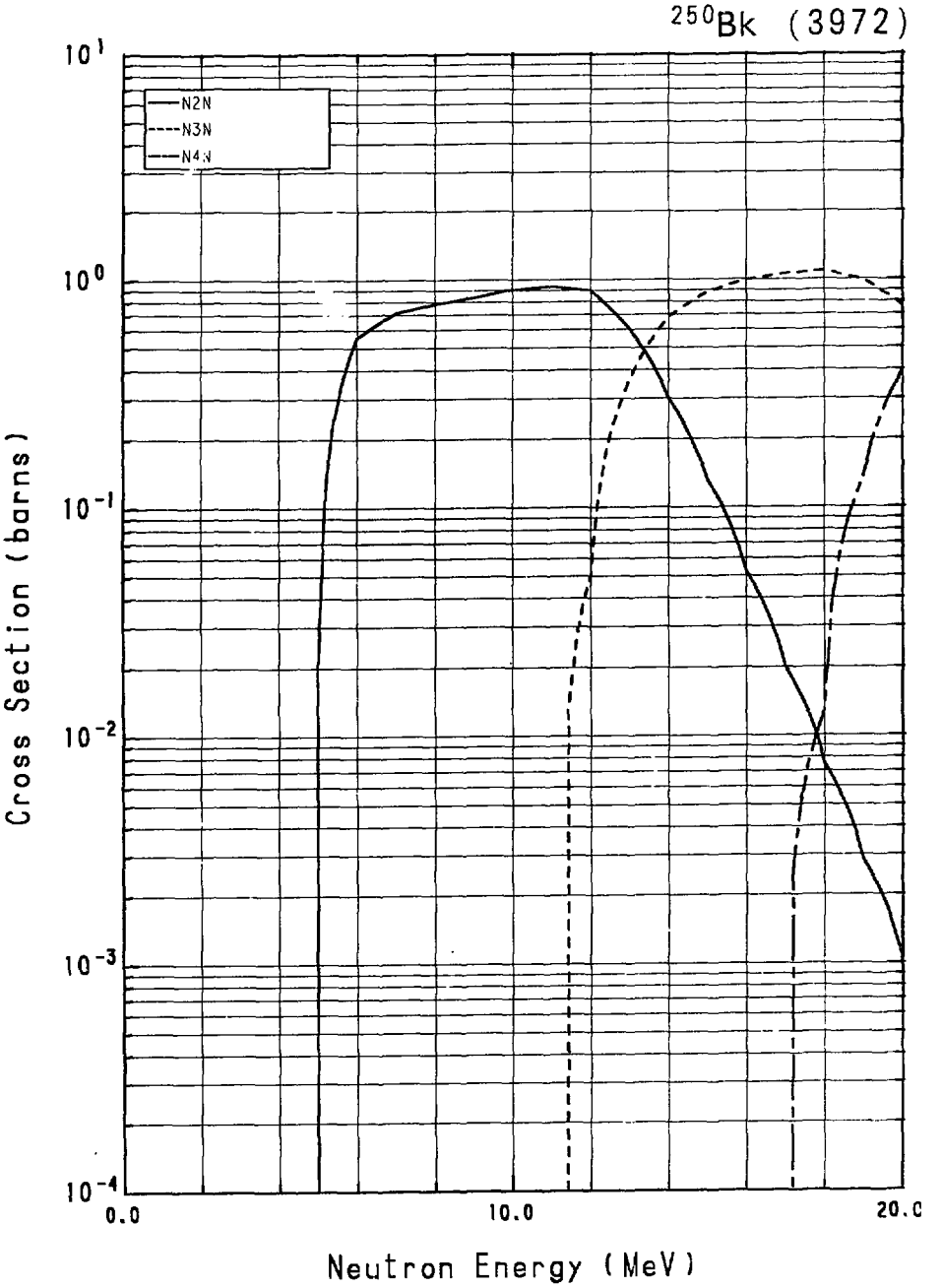

250Cm (3970)
TOTAL
INELASTIC
ELASTIC
FISSION
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

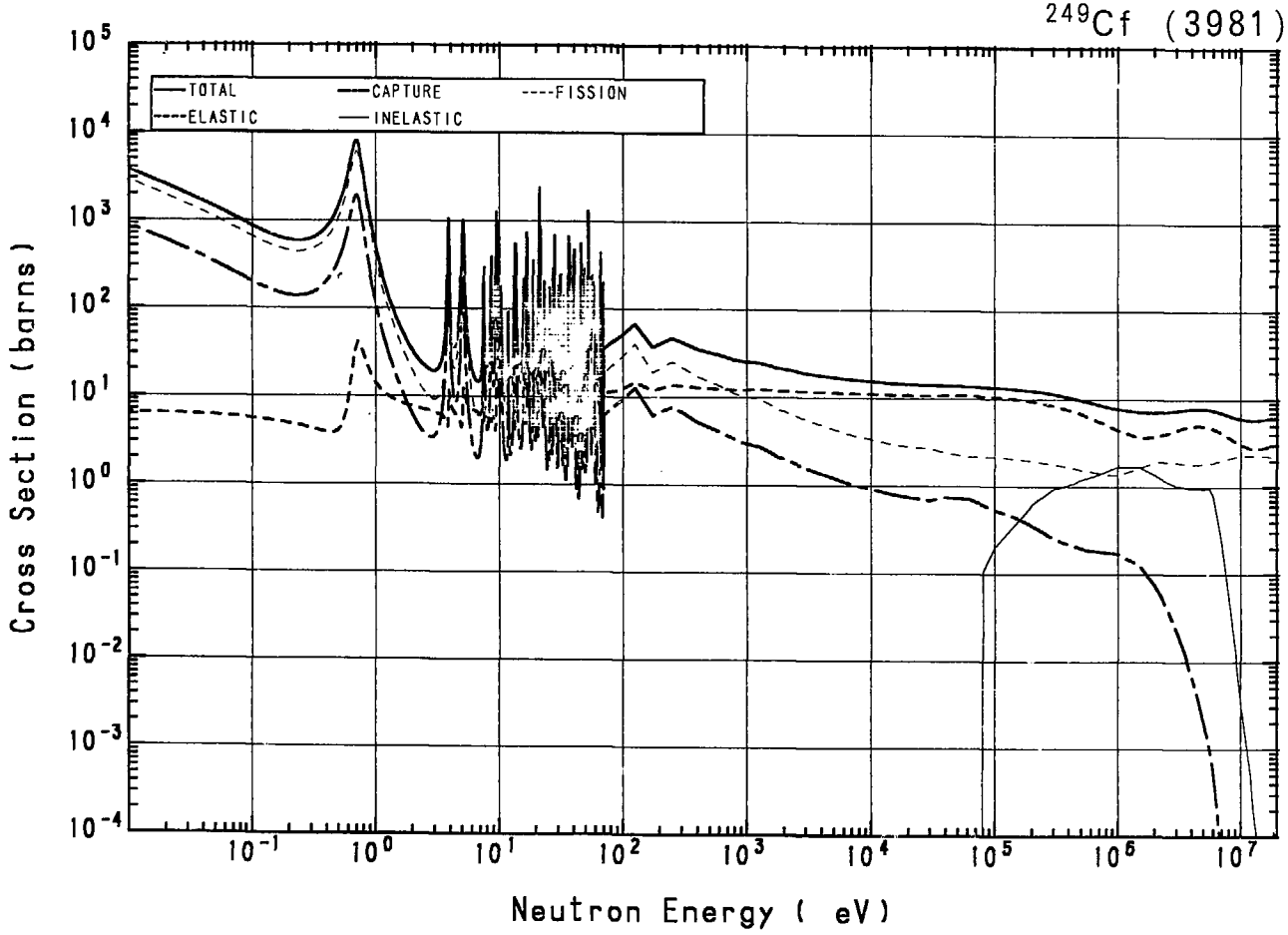

250Cm (3970)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

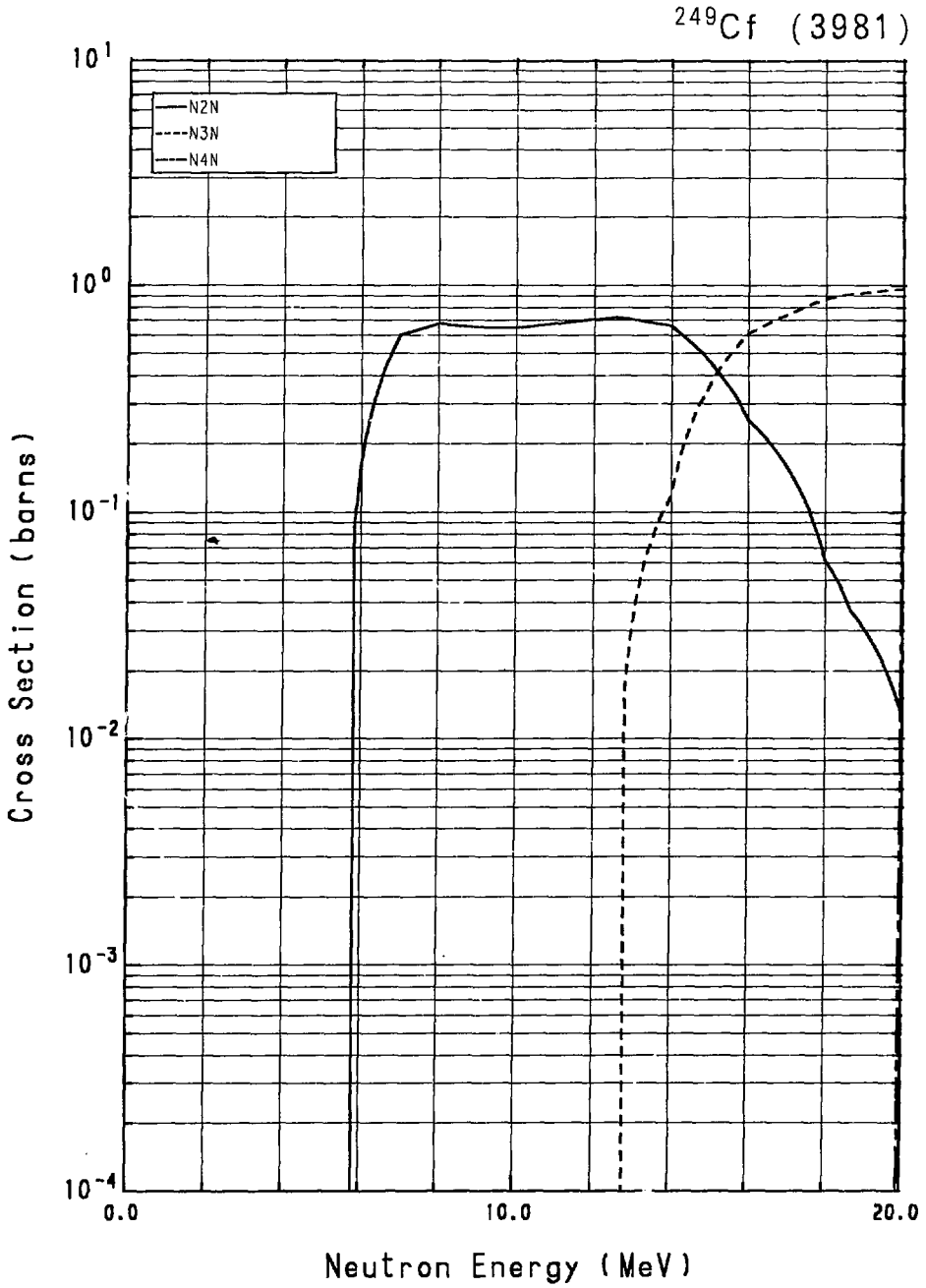

249Bk (3971)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

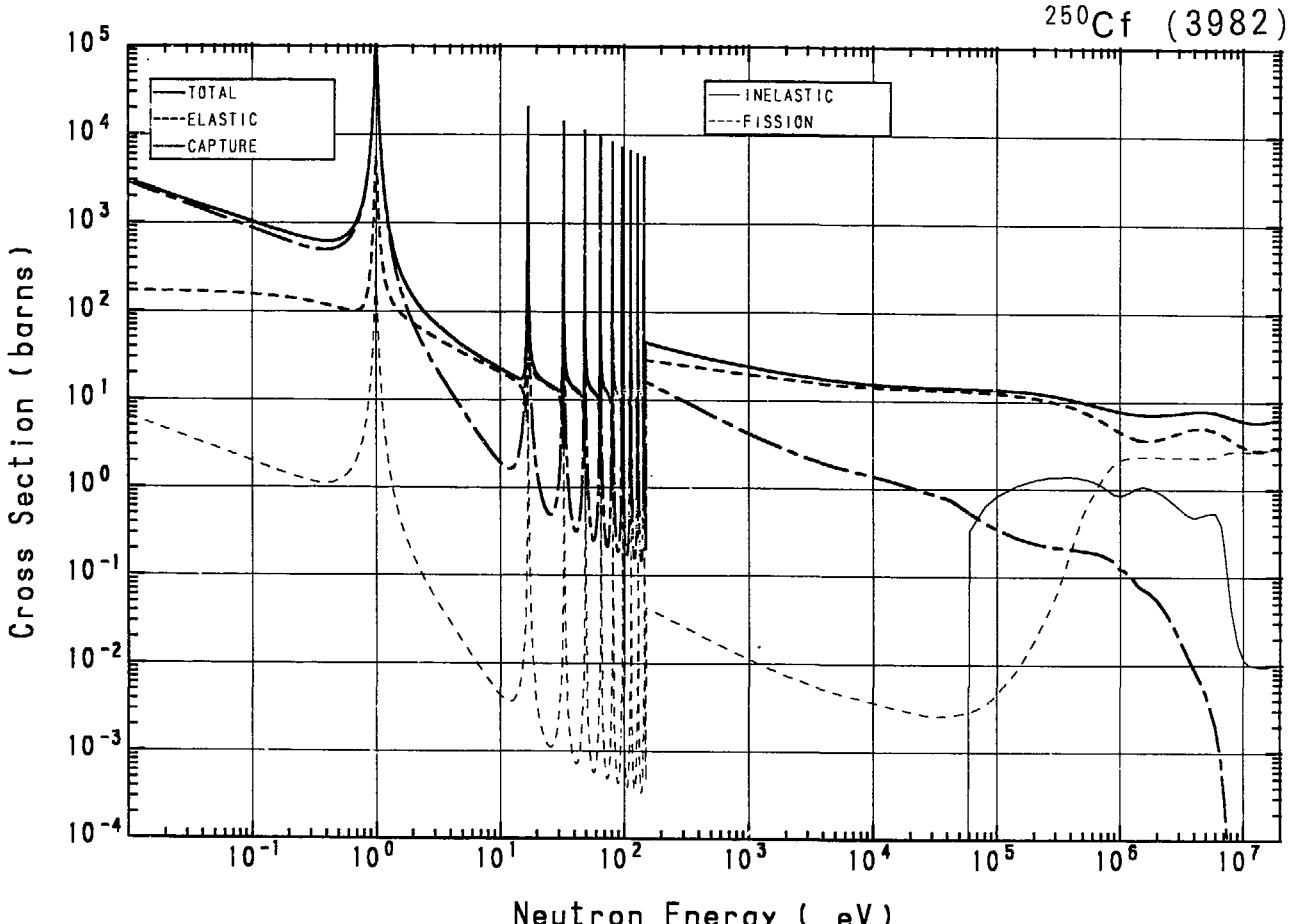

249Bk (3971)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

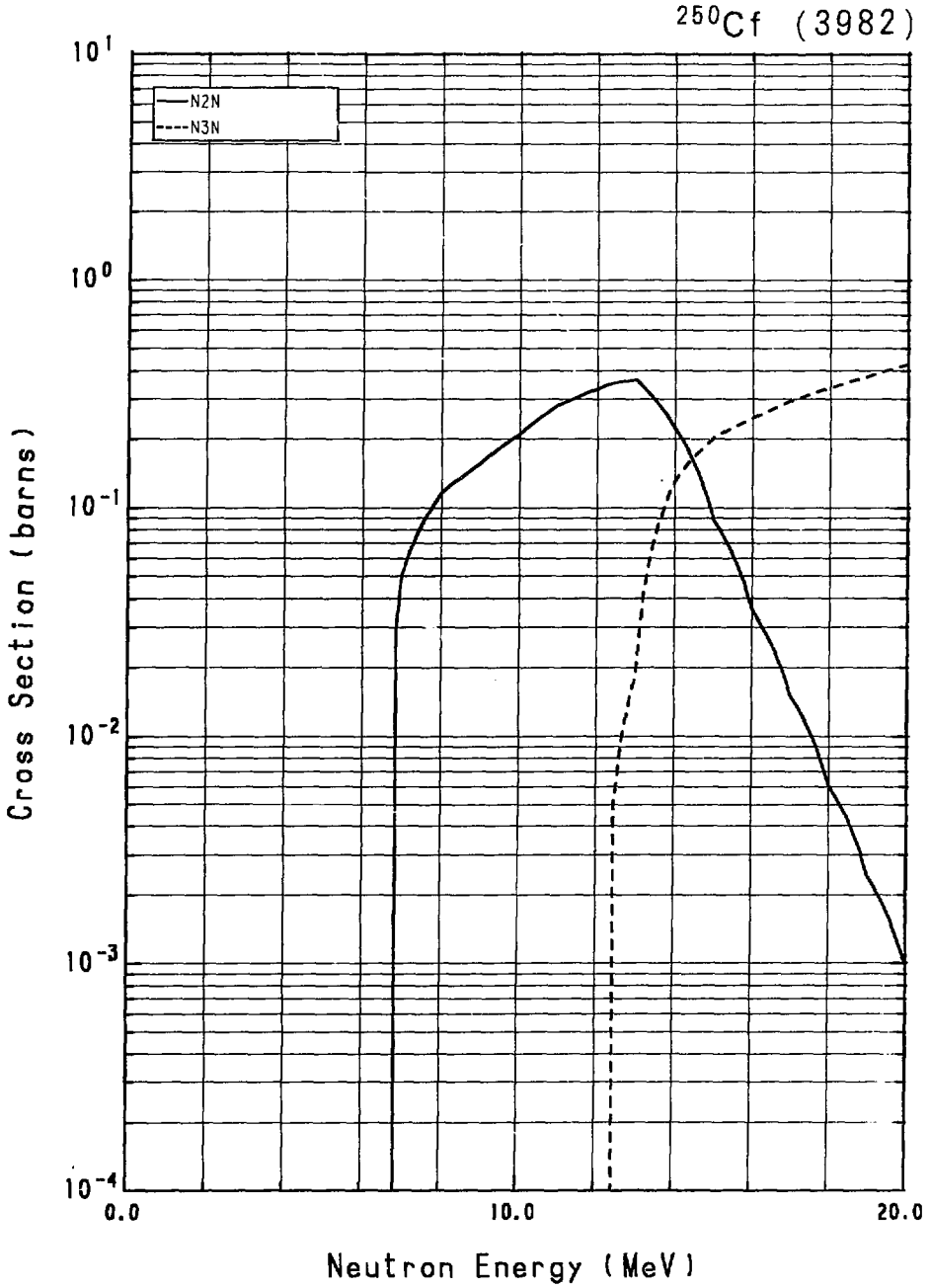

250Bk (3972)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

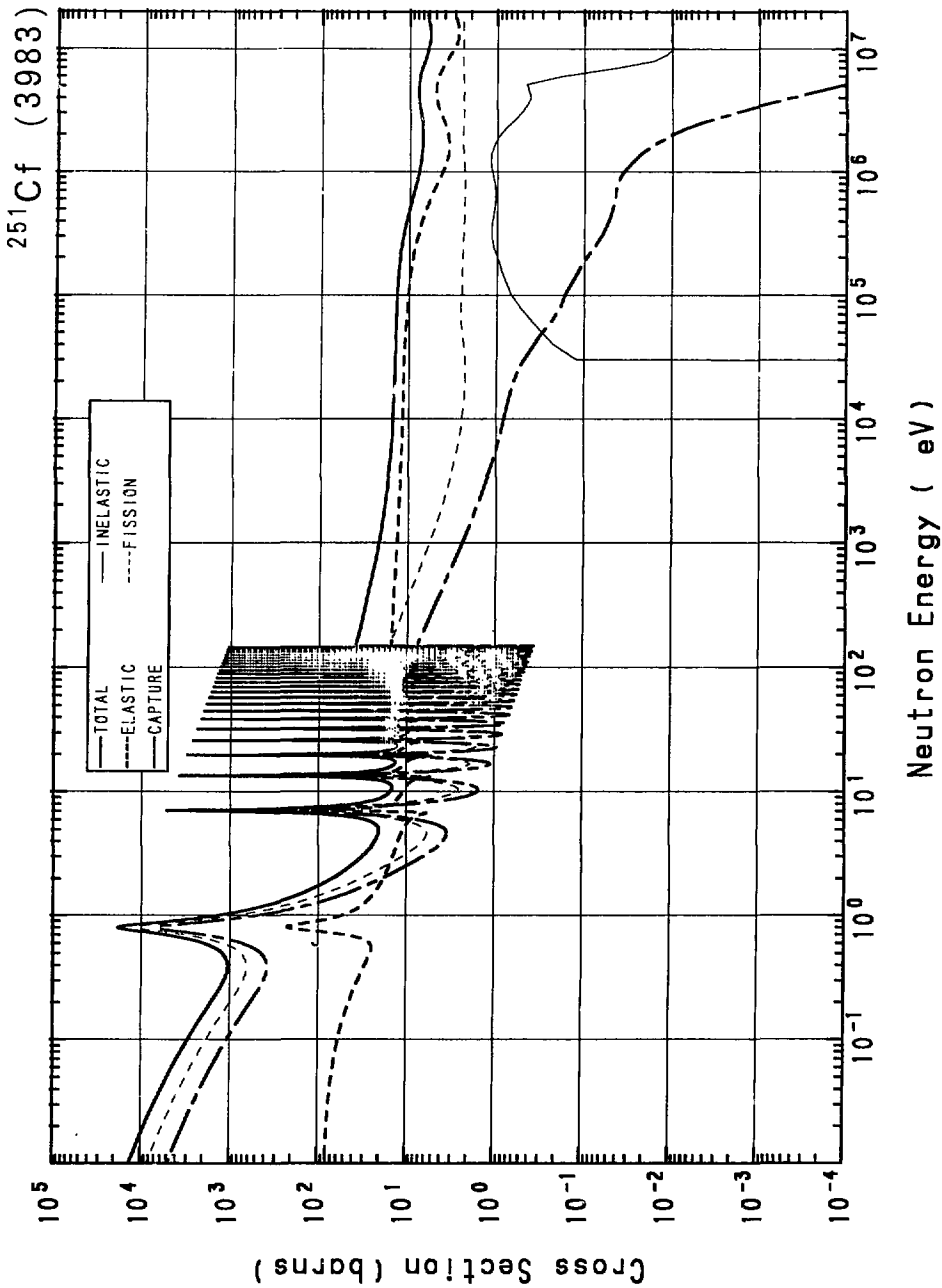

250Bk (3972)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

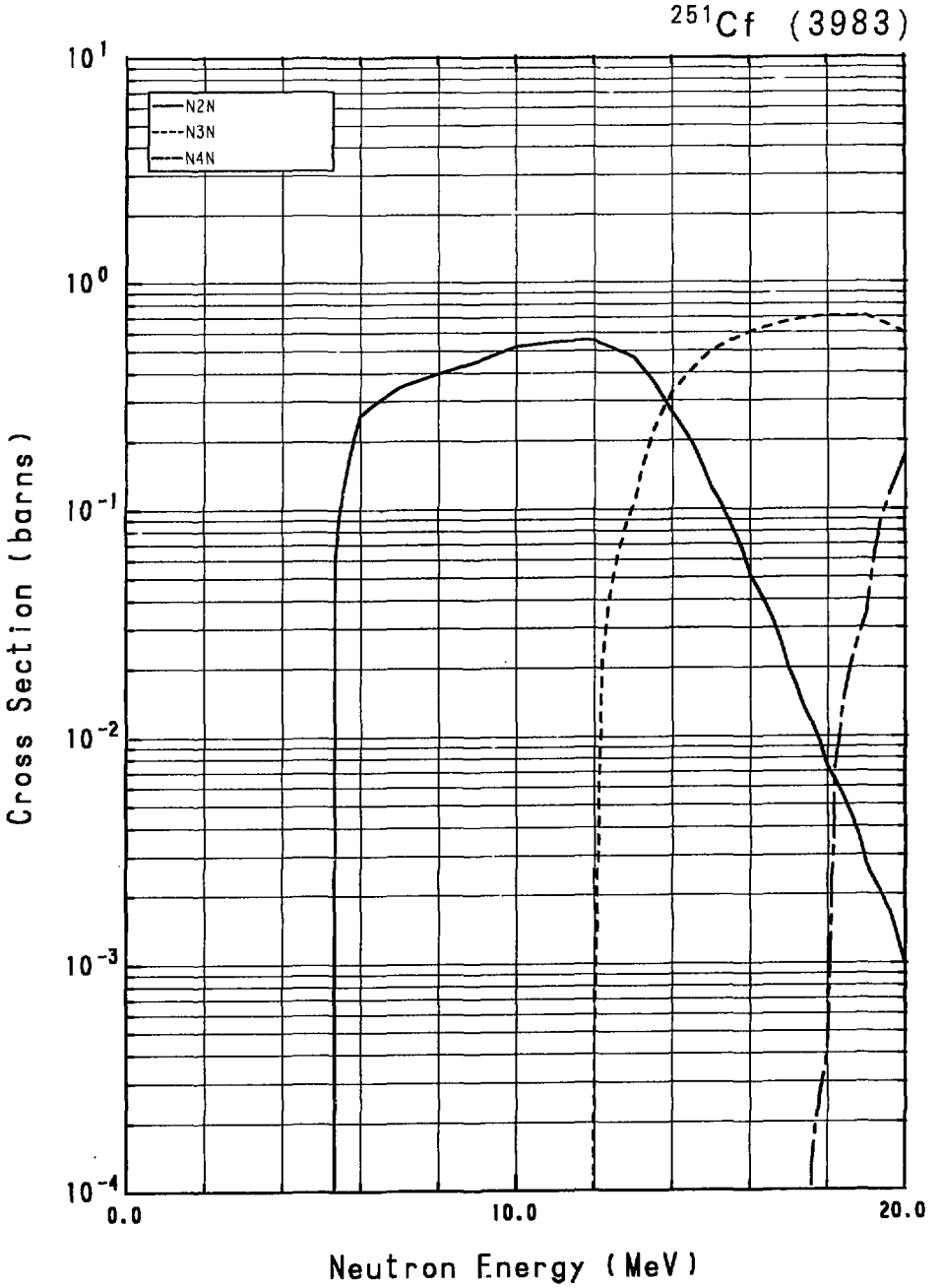

249Cf (3981)
TOTAL
CAPTURE
FISSION
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

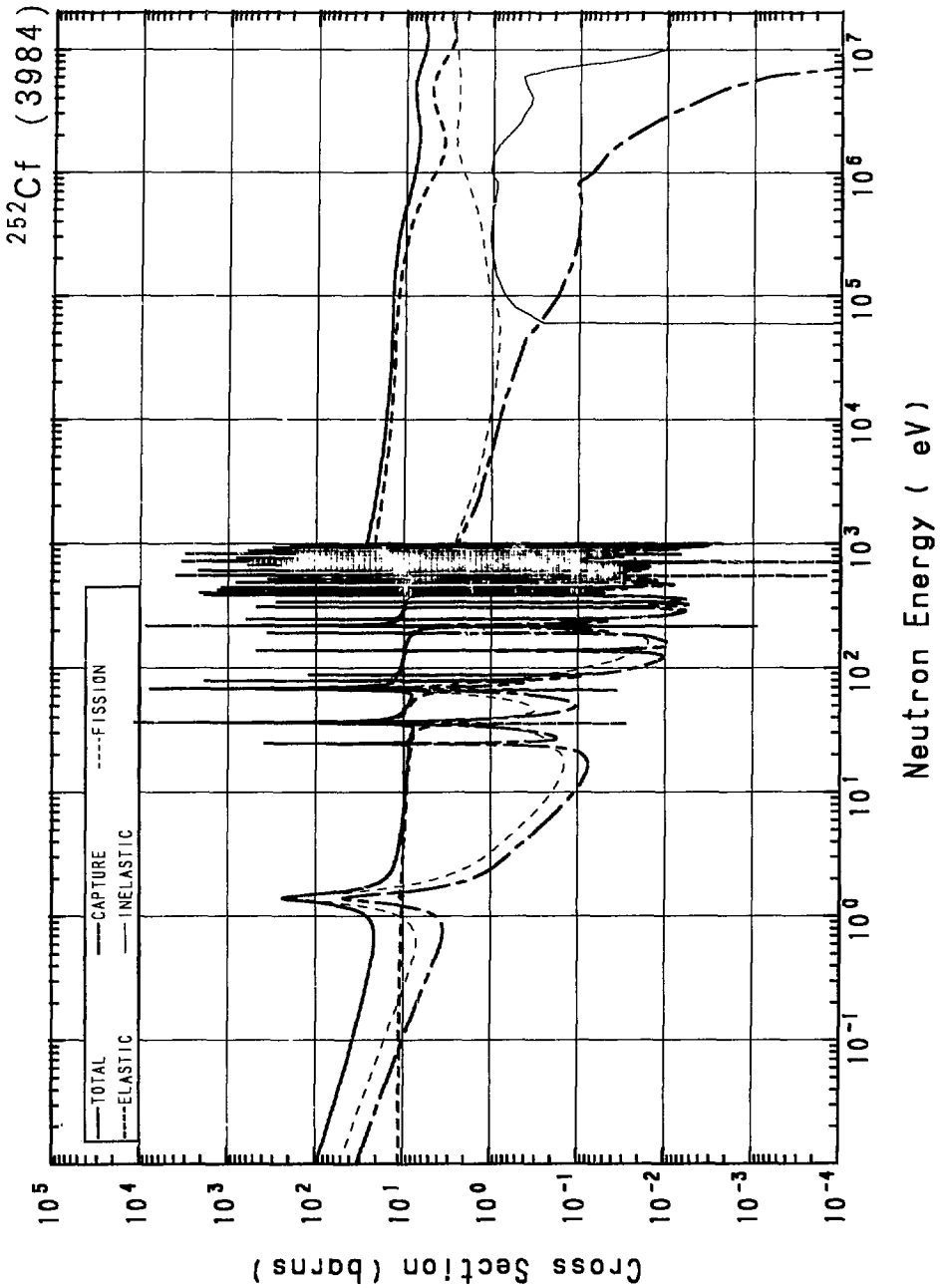

249Cf (3981)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

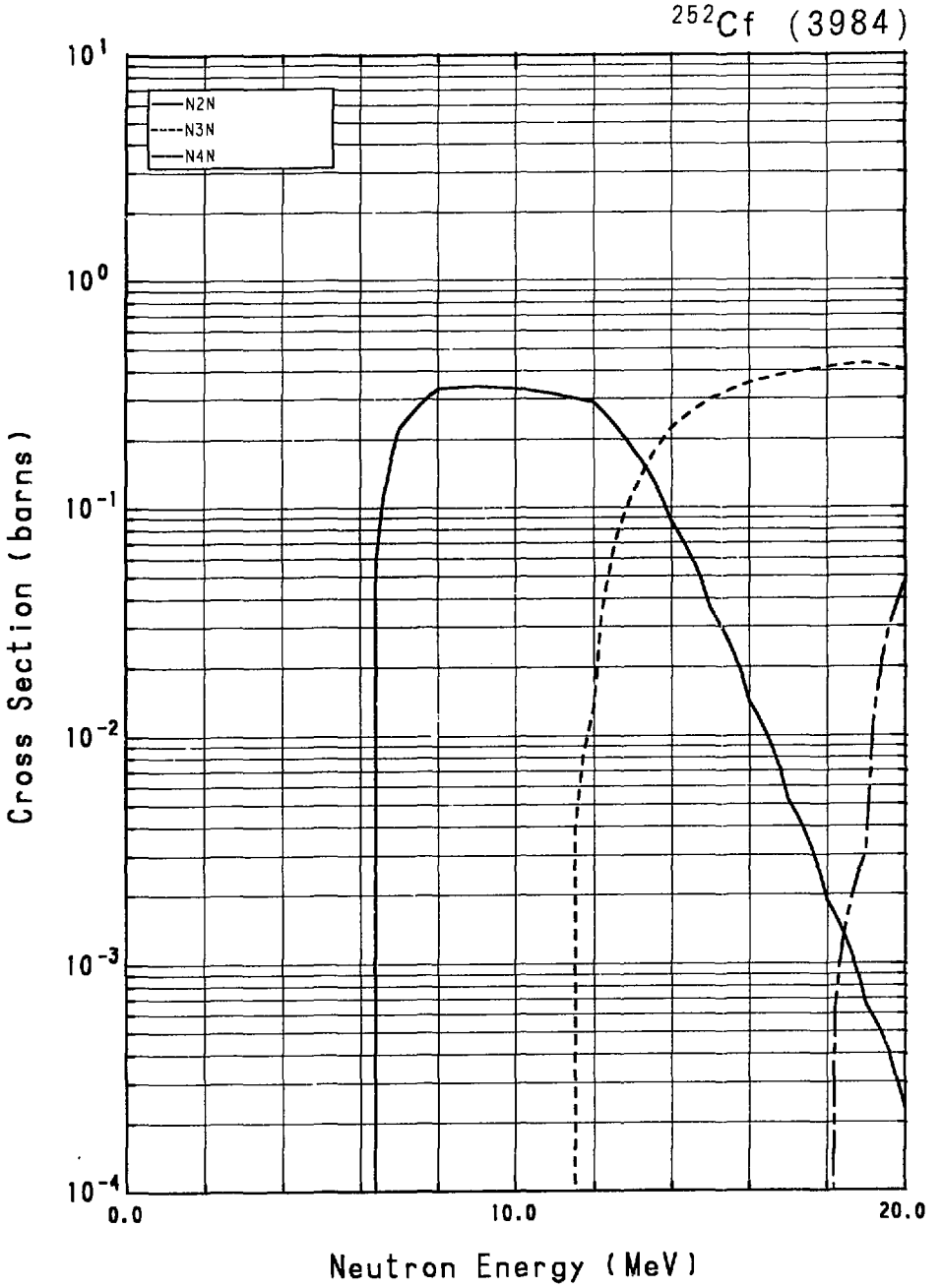

250Cf (3982)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

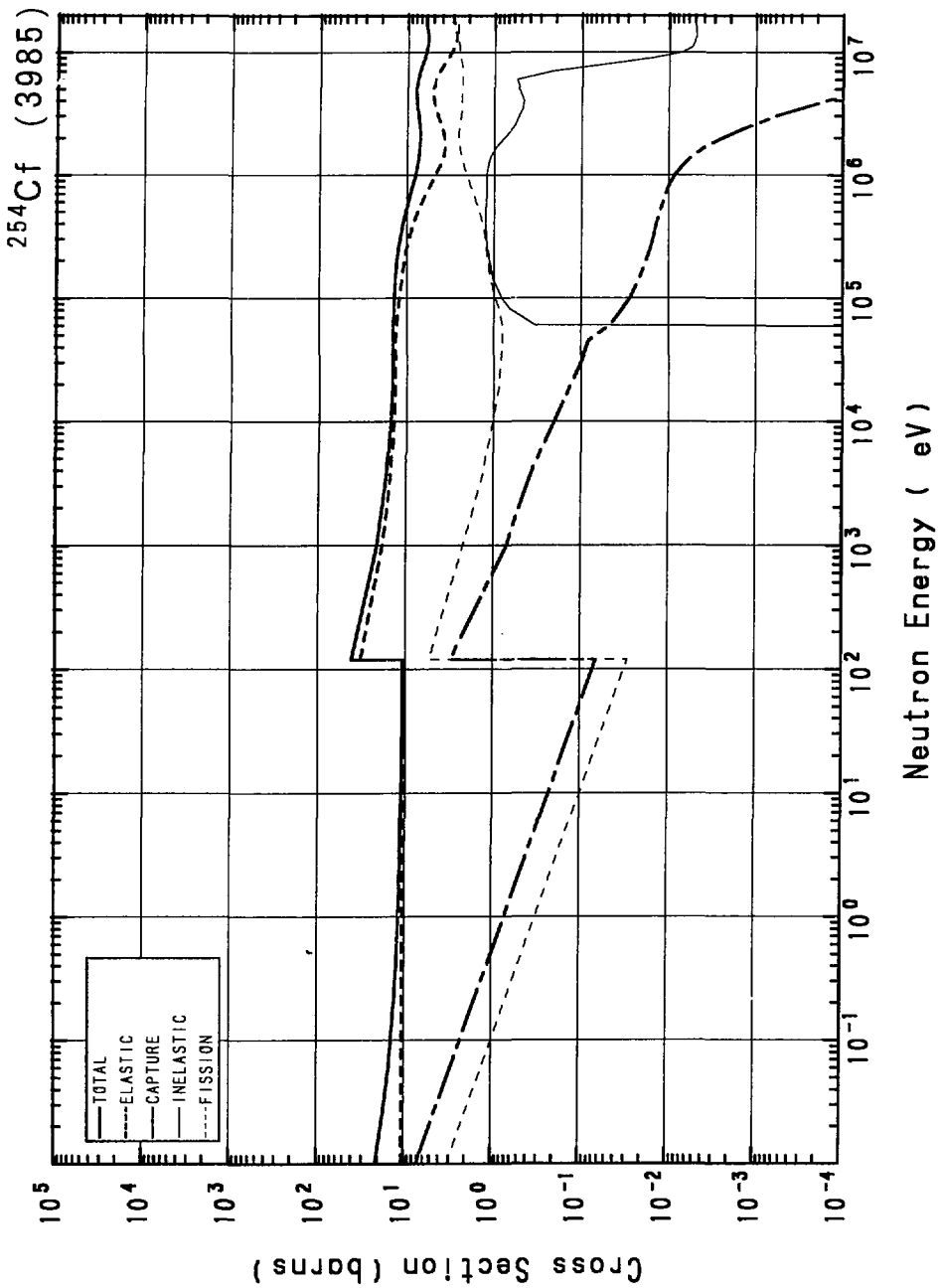

250Cf (3982)
N2N
N3N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

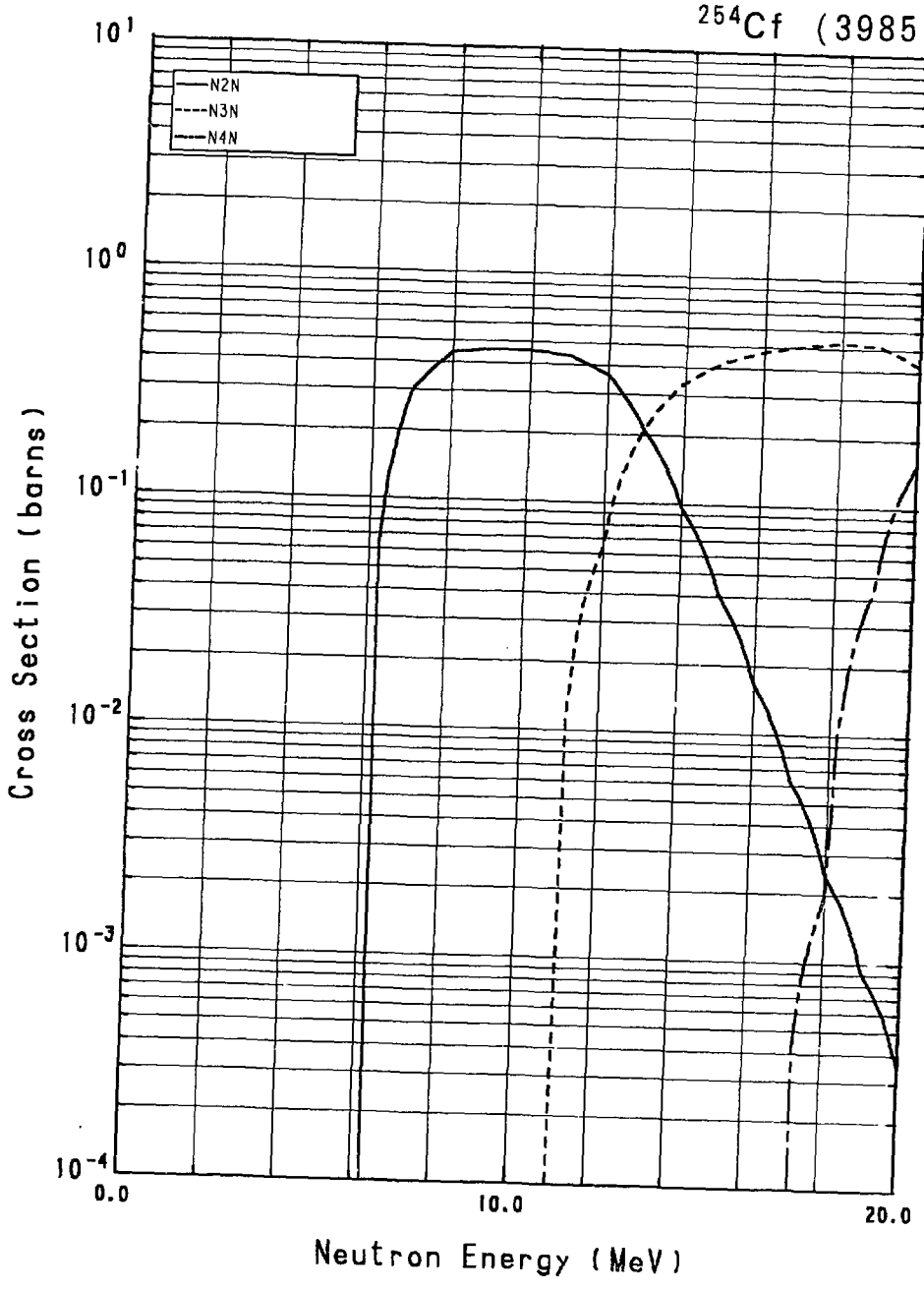

251Cf (3983)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

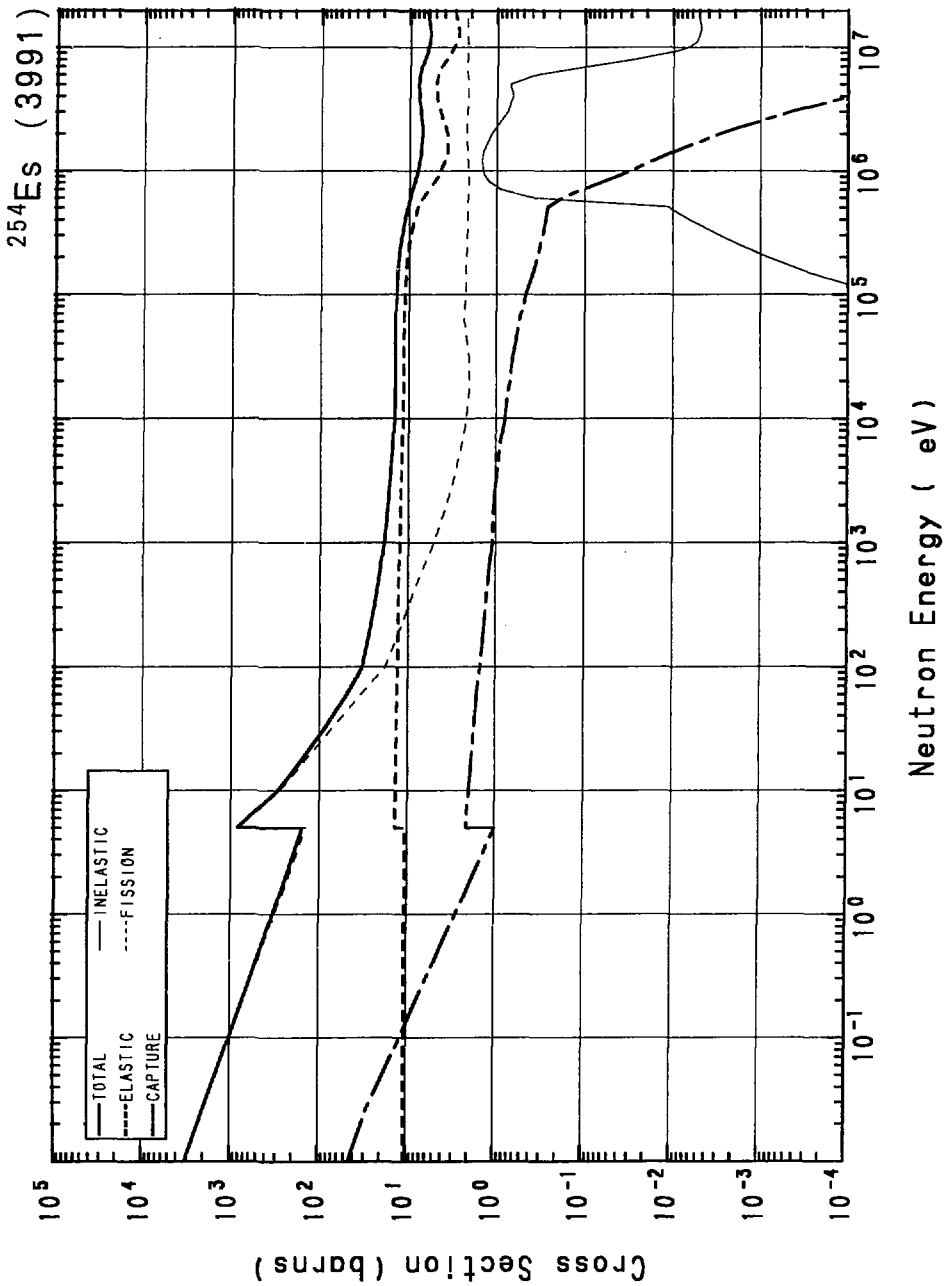

251Cf (3983)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

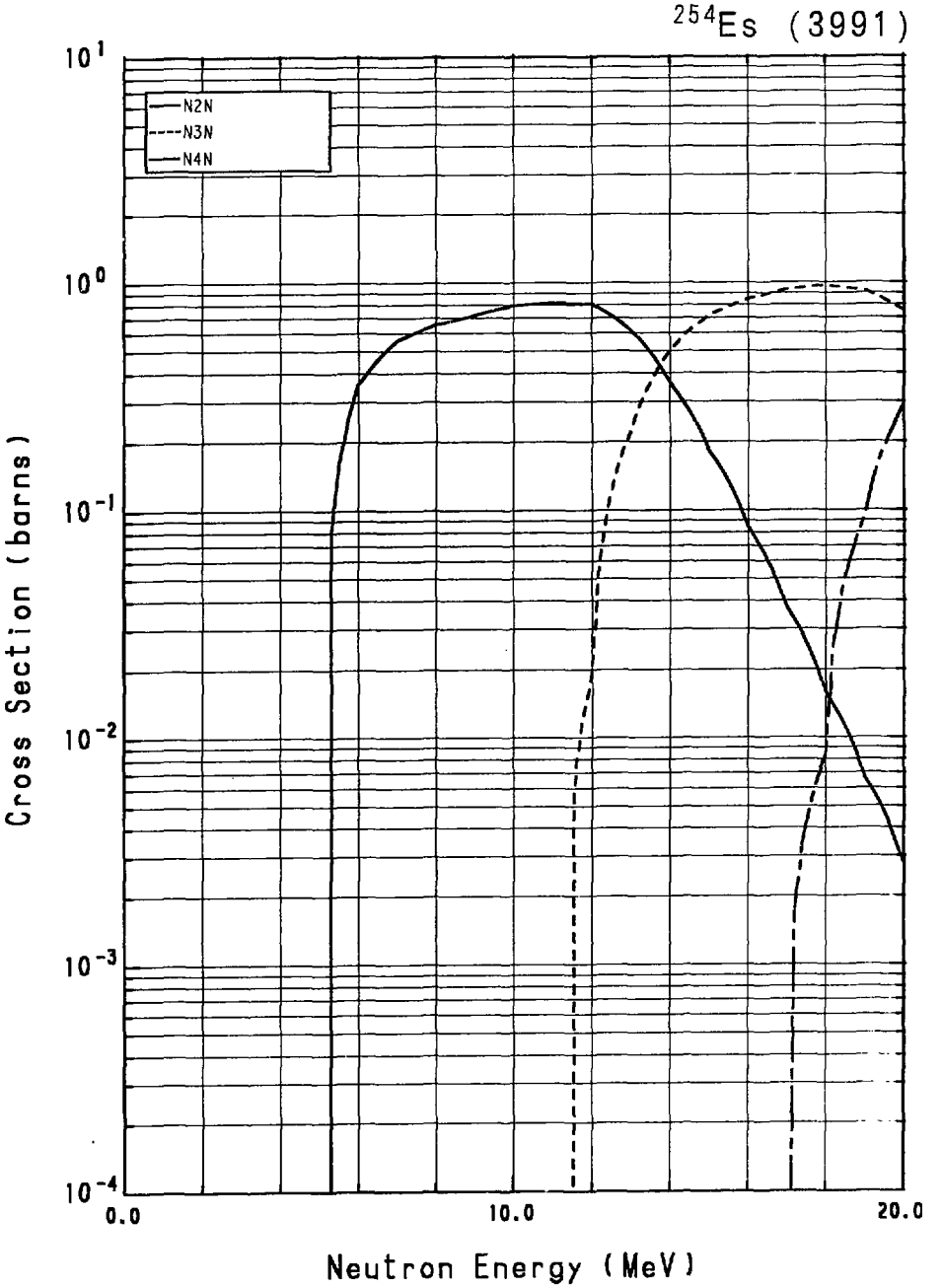

252Cf (3984)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

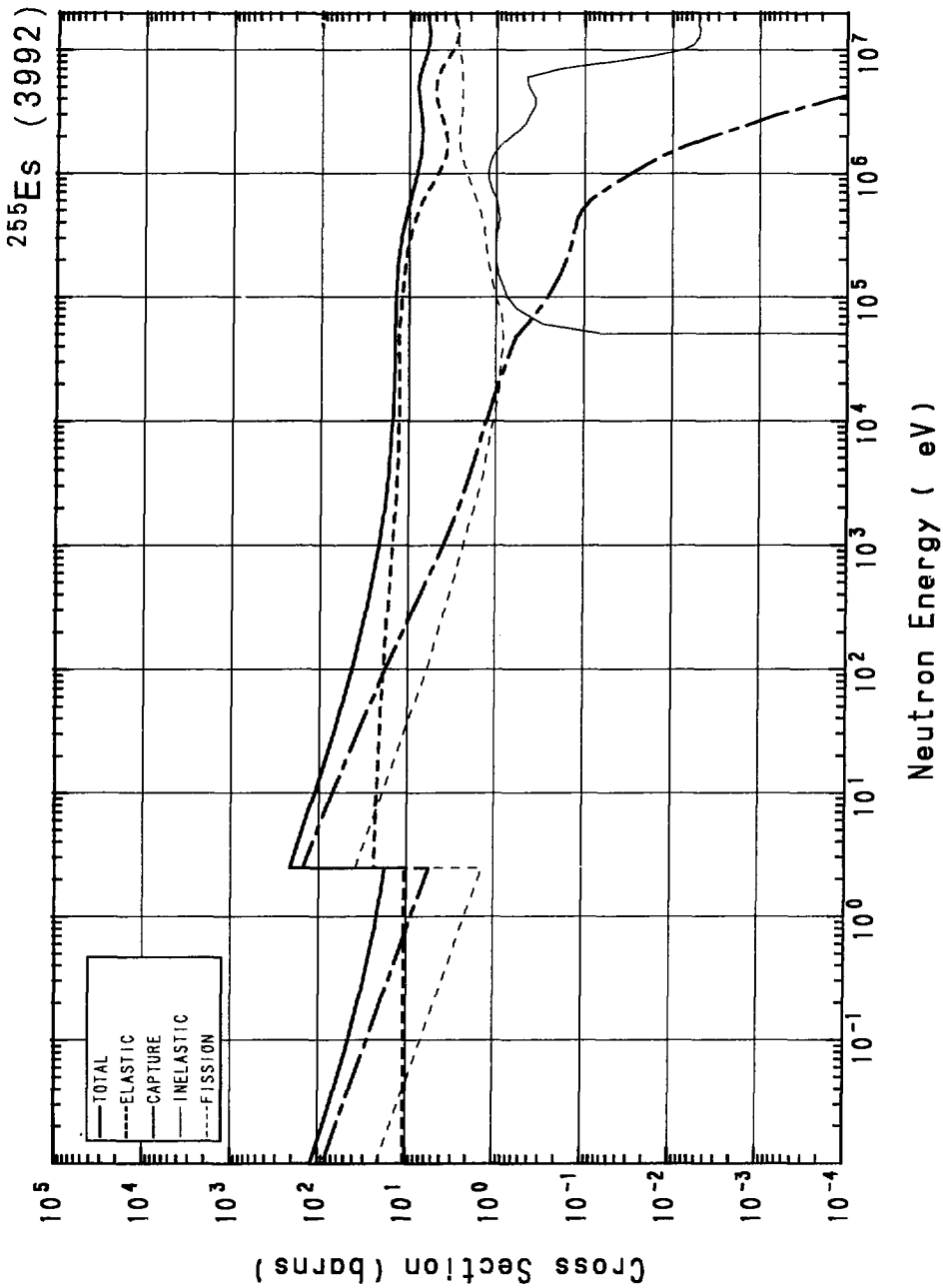

252Cf (3984)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

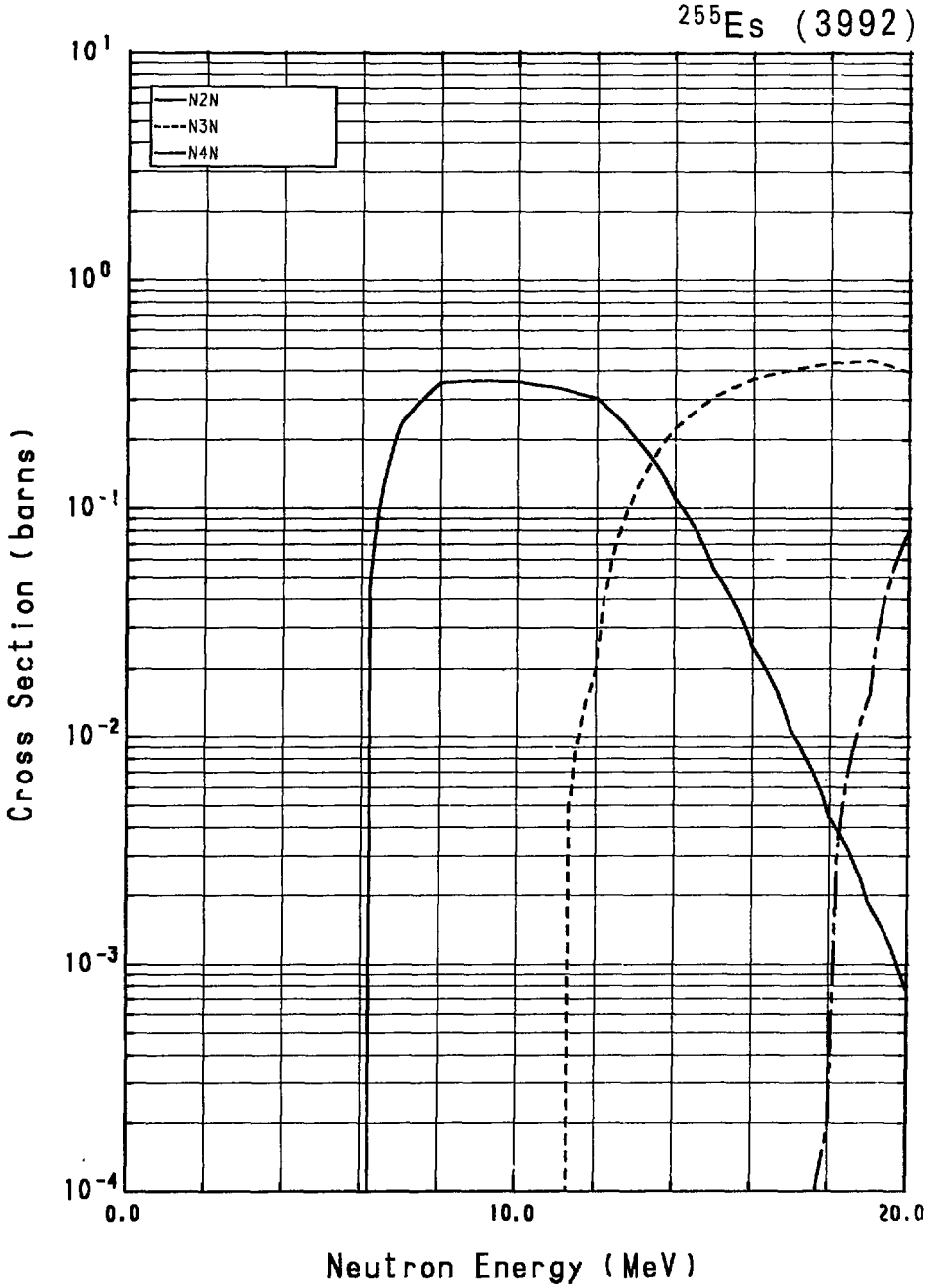

254Cf (3985)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

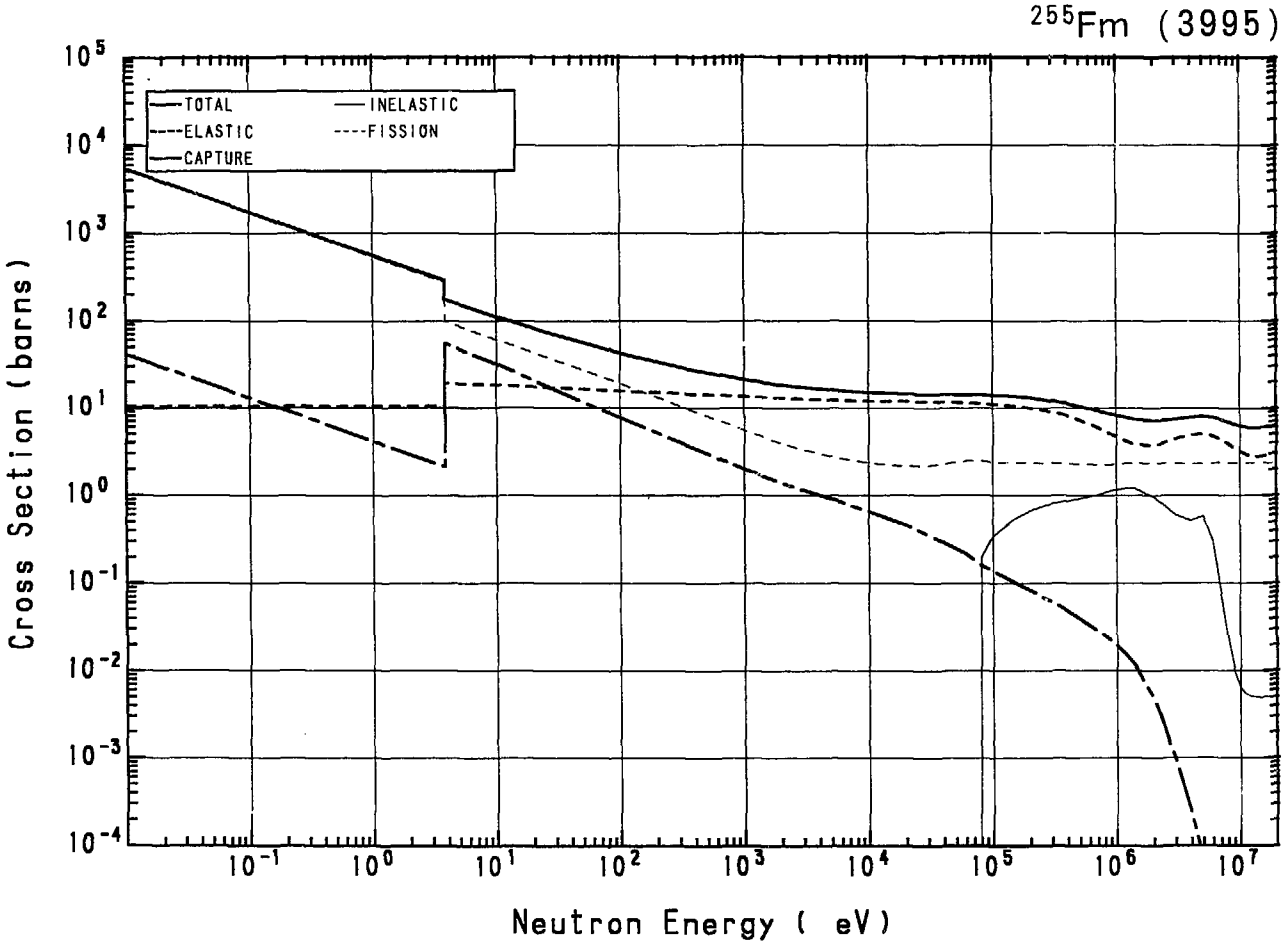

^{254}Cf (3985)
N2N
N3N
N4N
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

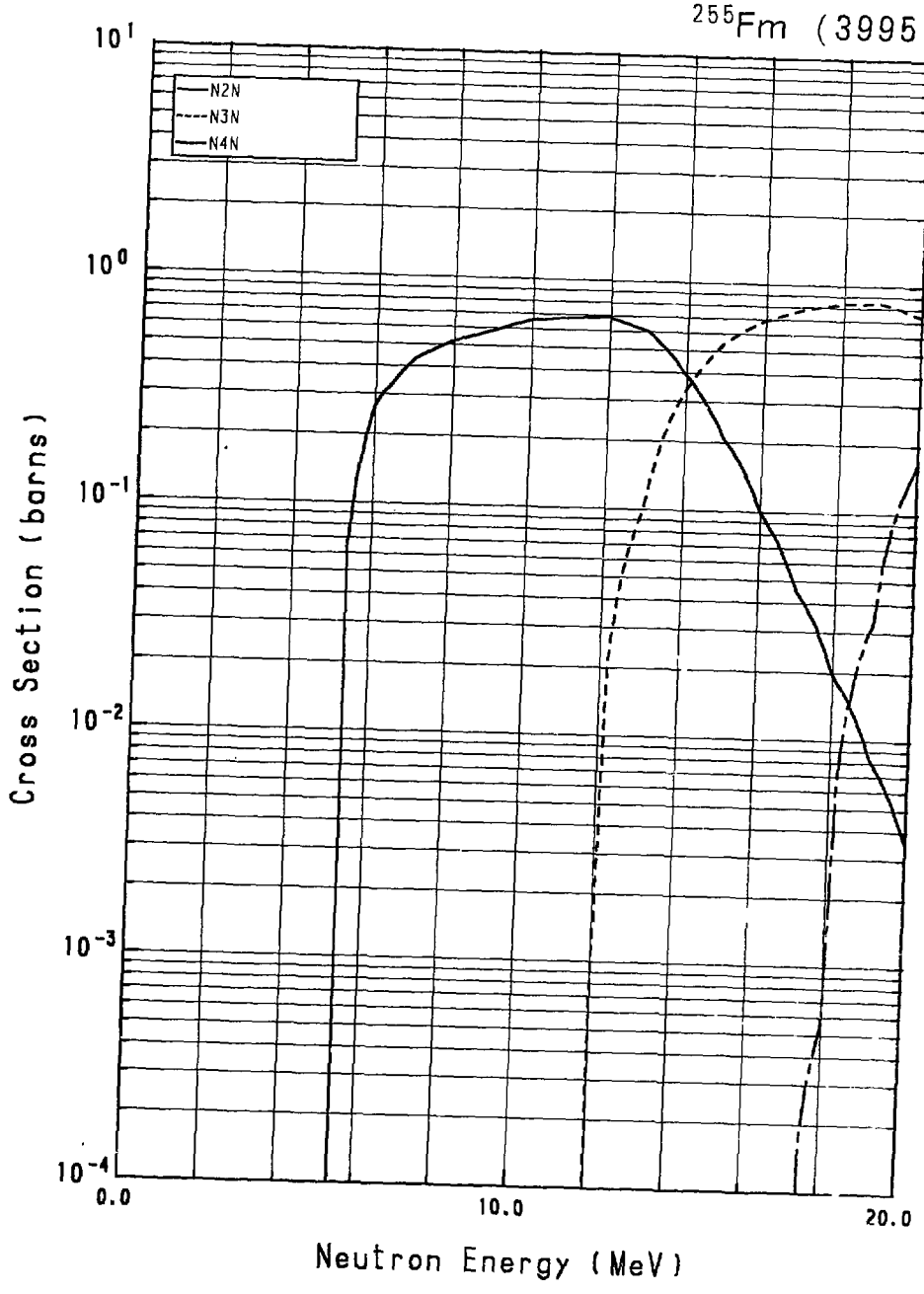

254Es (3991)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)

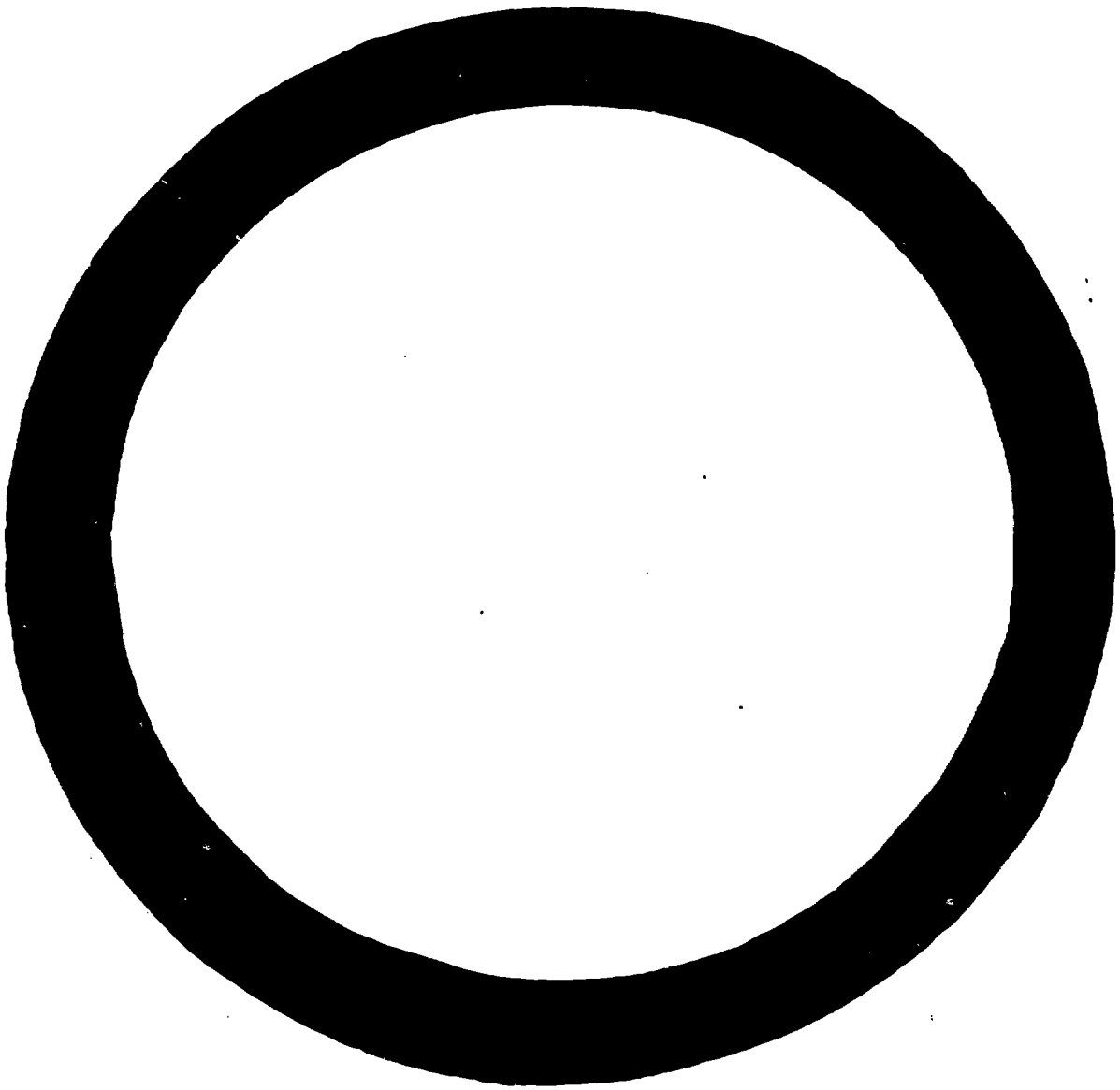

^{254}Es (3991)
N2N
N3N
N4N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)


255Es (3992)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

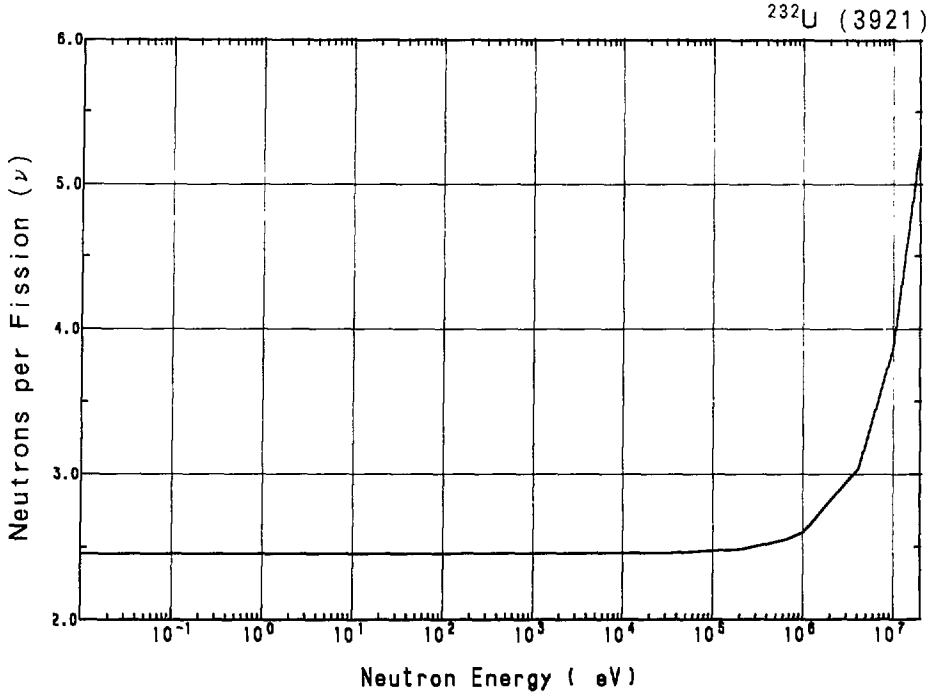

^{255}Es (3992)
N2N
N3N
N4N
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

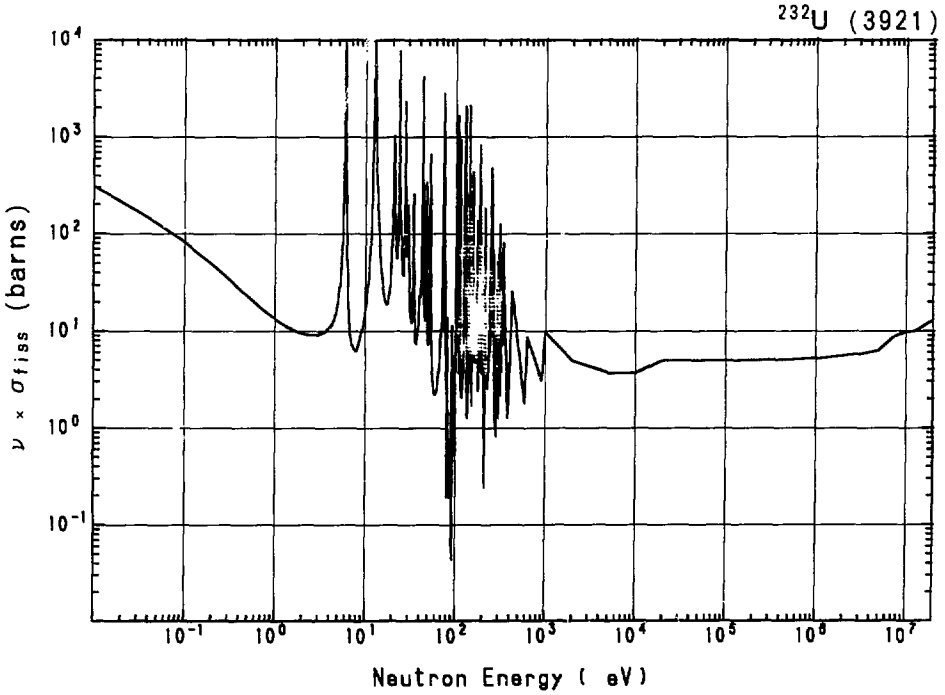

255Fm (3995)
TOTAL
ELASTIC
CAPTURE
INELASTIC
FISSION
Cross Section (barns)
Neutron Energy (eV)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

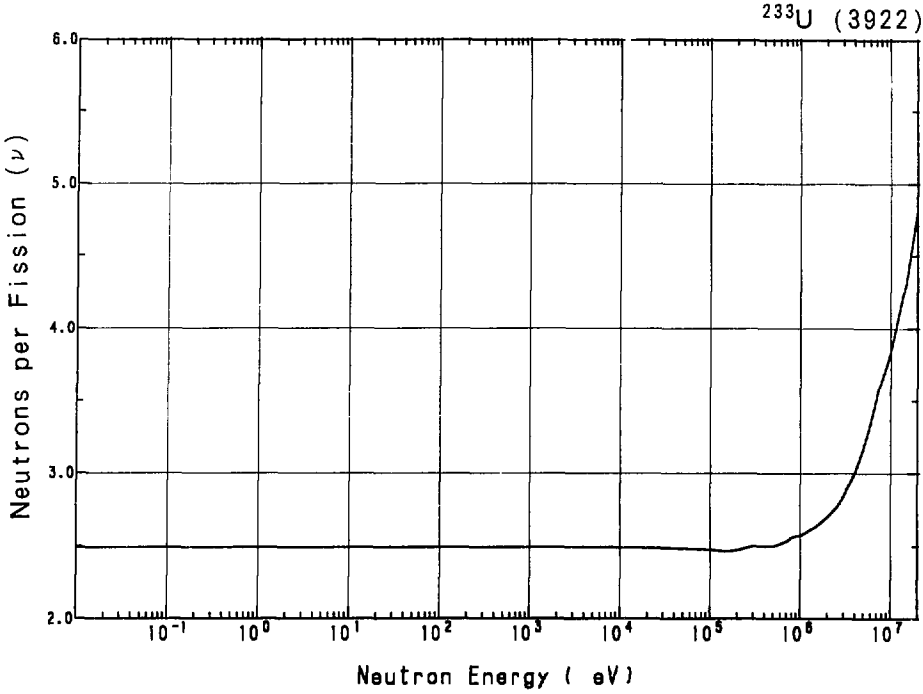

255Fm (3995)
N2N
N3N
N4N
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Cross Section (barns)
0.0
10.0
20.0
Neutron Energy (MeV)

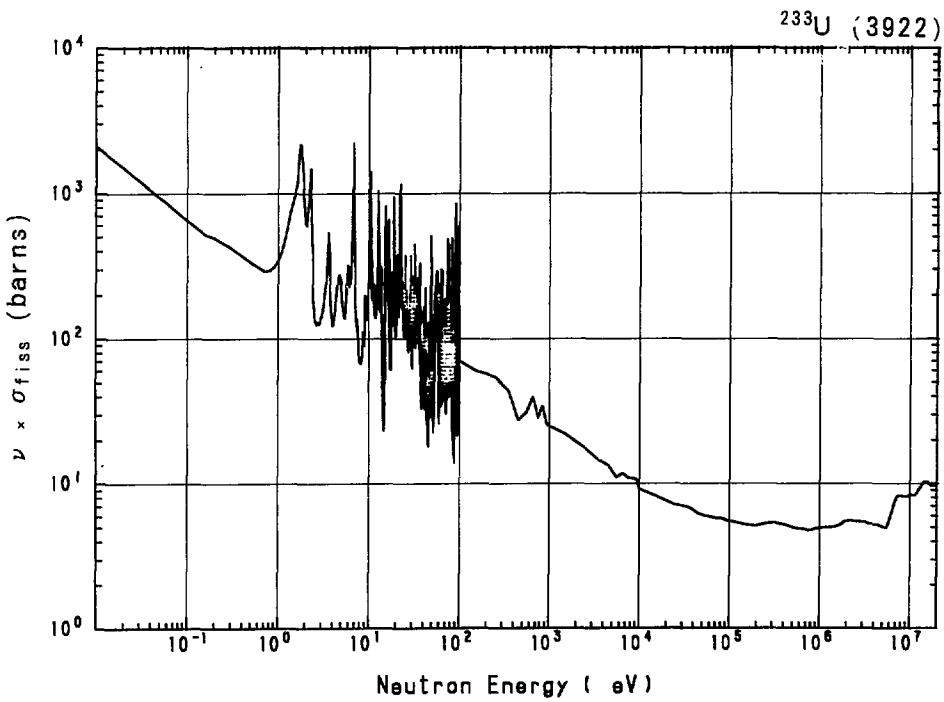


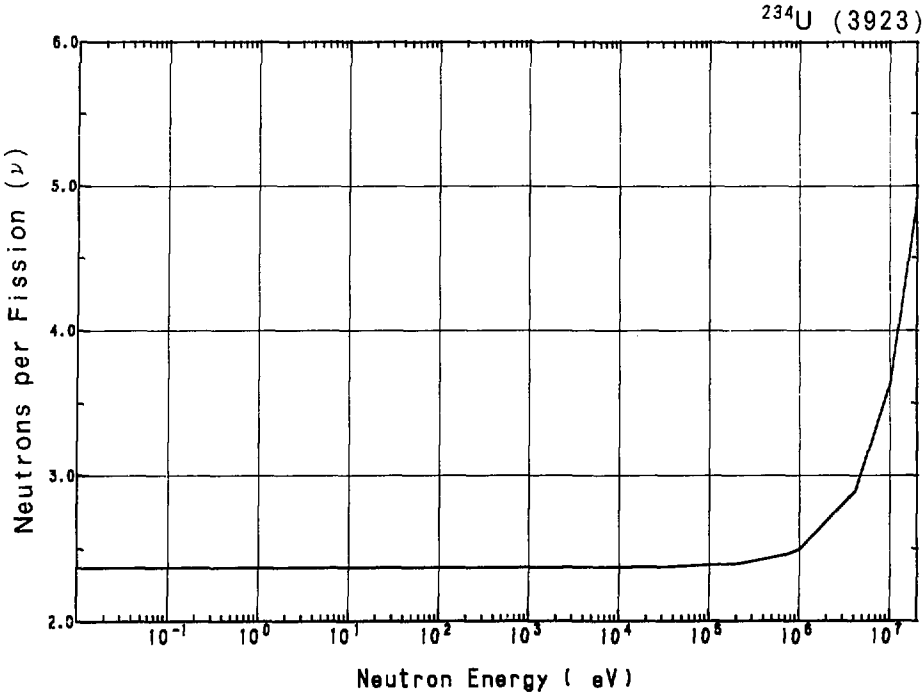
3. ν and ν × fission cross section

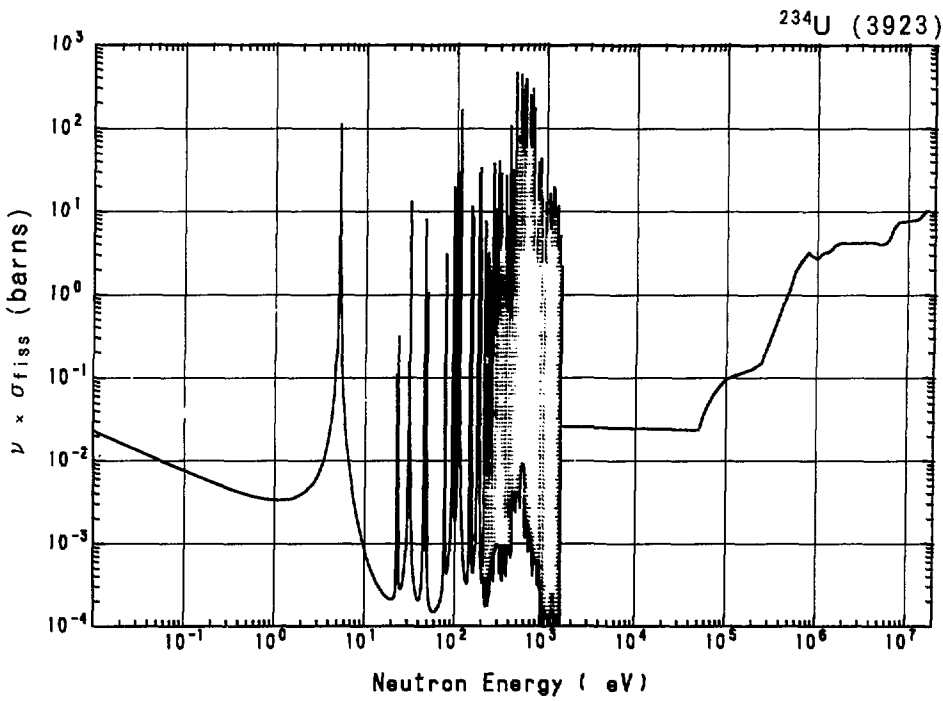

232U (3921)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7
Neutron Energy (eV)

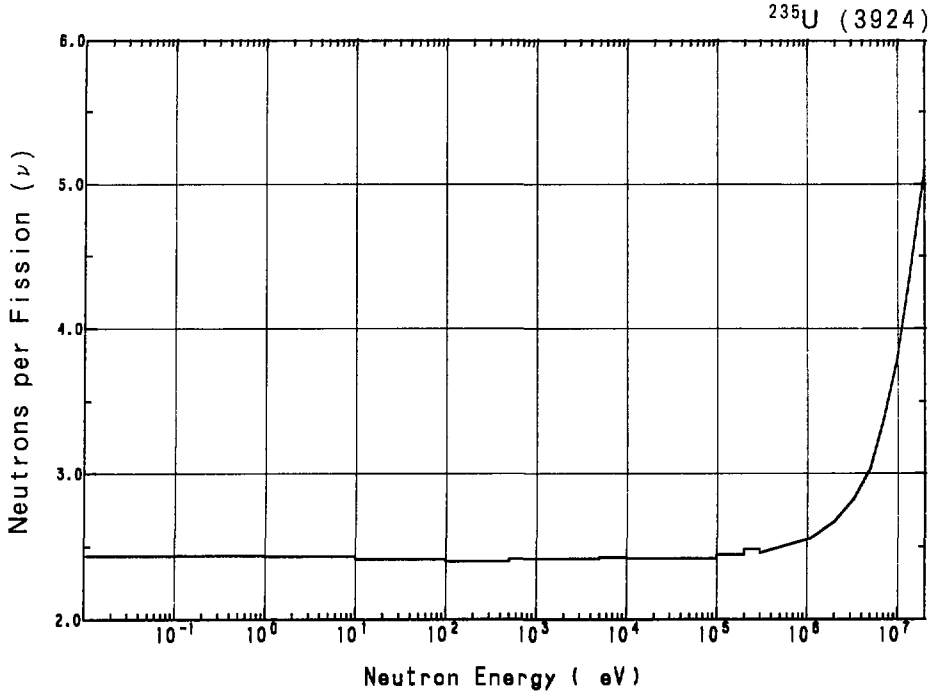

232U (3921)
ν × σfiss (barns)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7
Neutron Energy (eV)

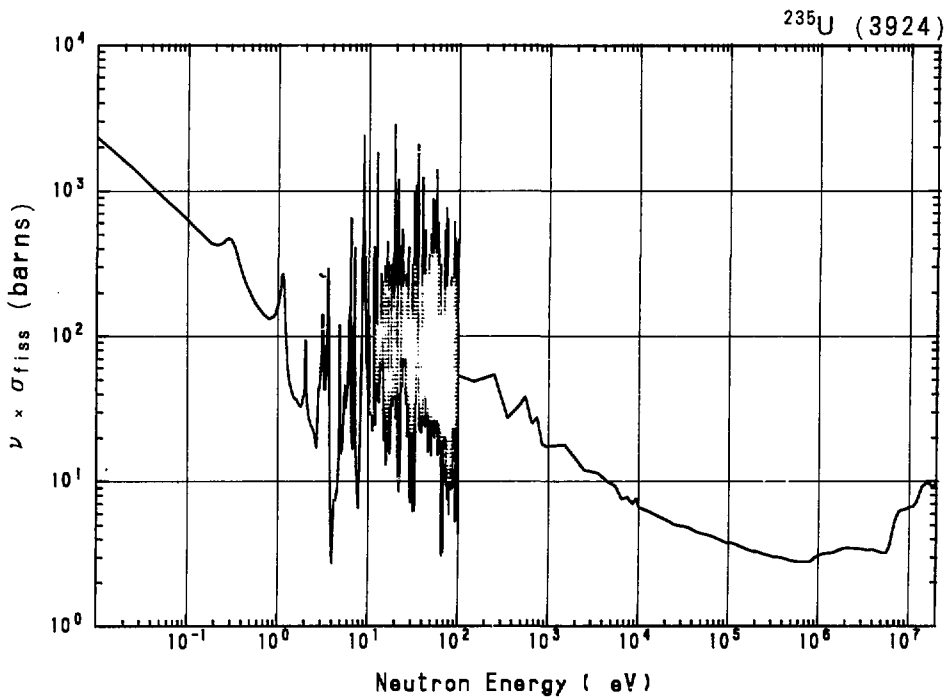

233U (3922)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

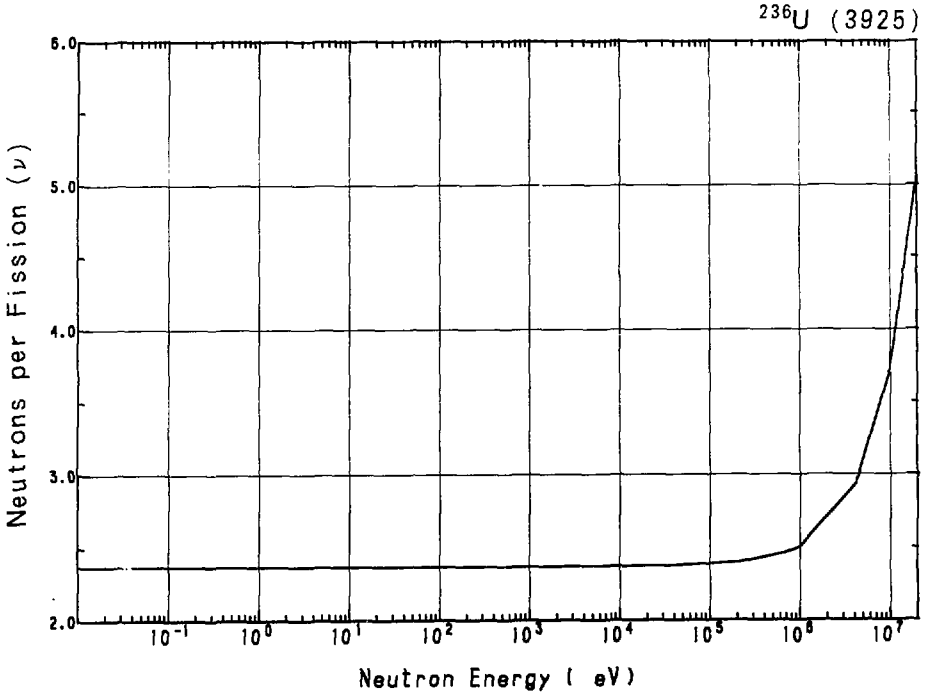

233U (3922)
ν × σfiss (barns)
104
103
102
101
100
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

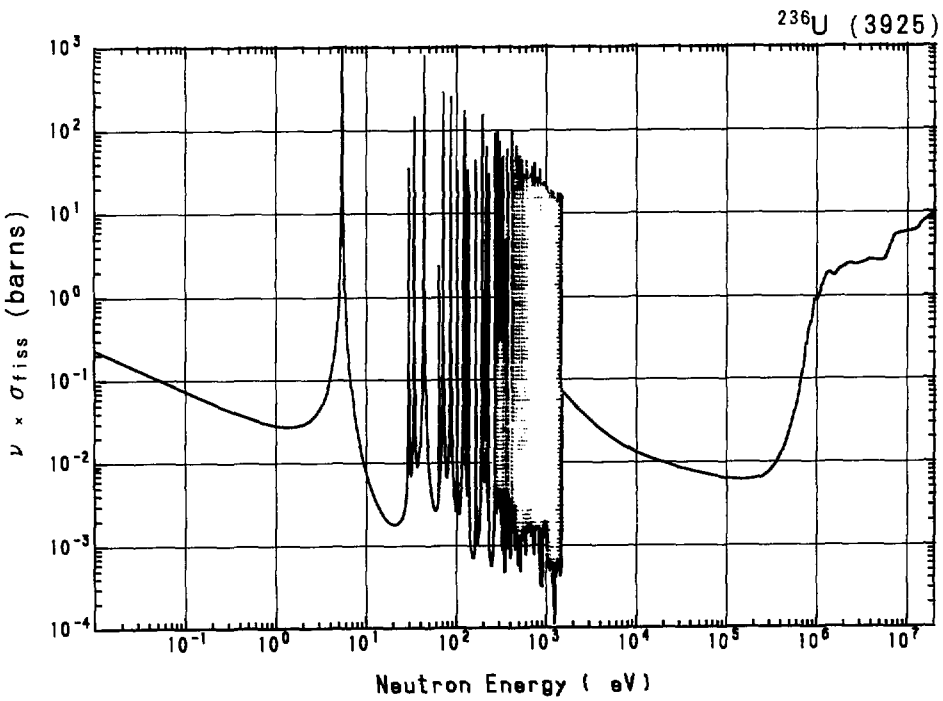

^{234}U (3923)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7}
Neutron Energy (eV)

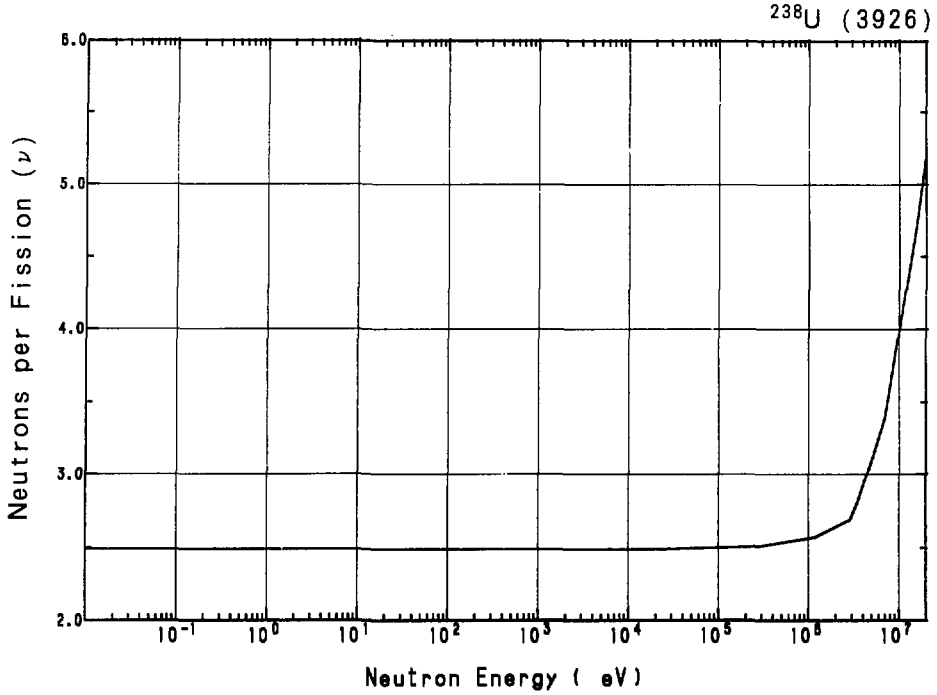

^{234}U (3923)
$\nu \times \sigma_{fiss}$ (barns)
10^{3} 10^{2} 10^{1} 10^{0} 10^{-1} 10^{-2} 10^{-3} 10^{-4}
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7}
Neutron Energy (eV)

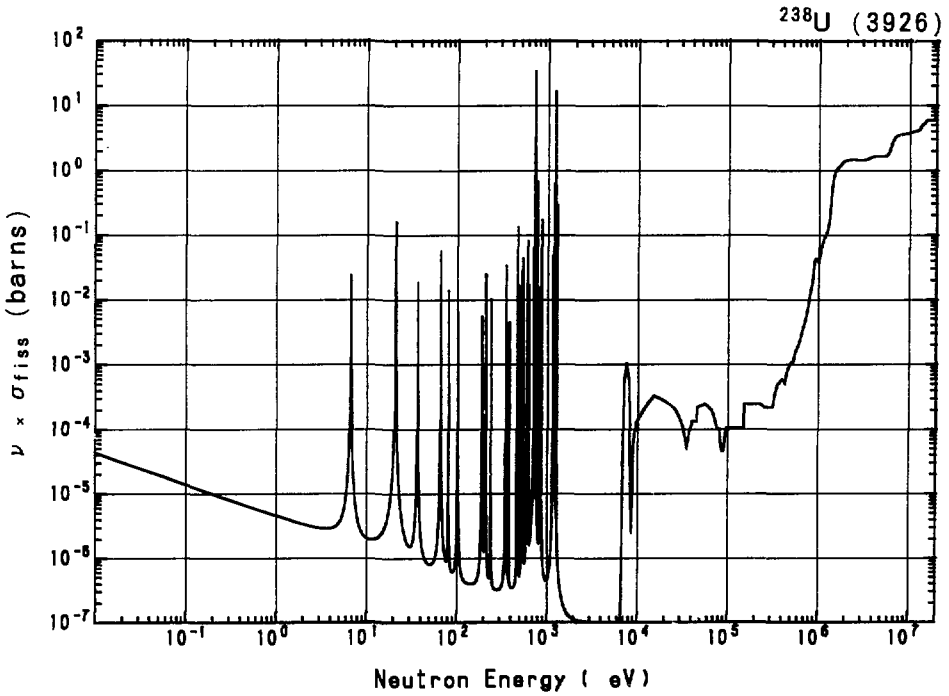

235U (3924)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

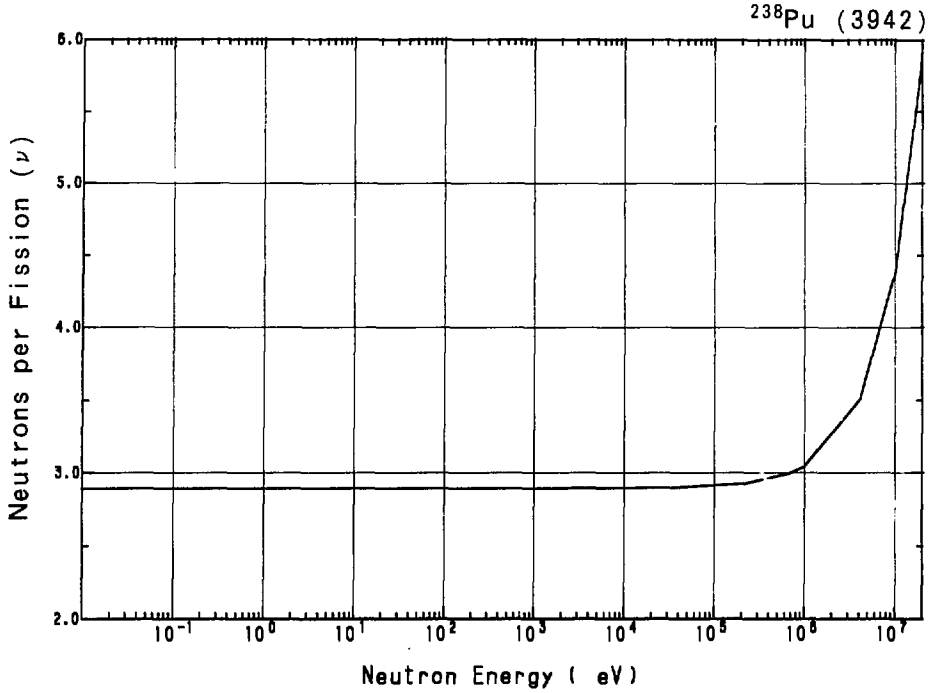

235U (3924)
ν × σfiss (barns)
104
103
102
101
100
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

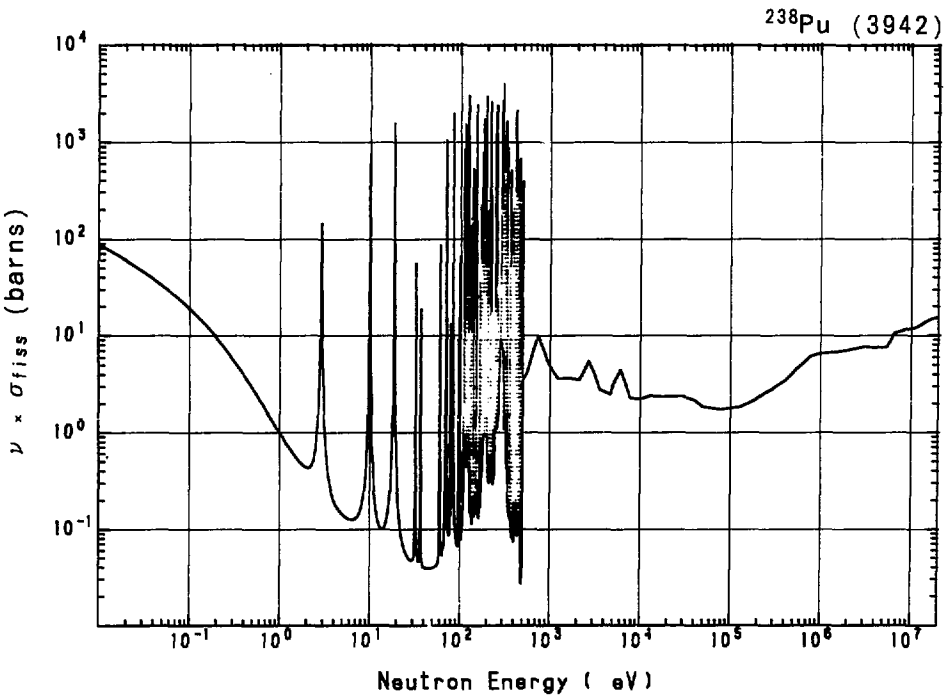

236U (3925)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

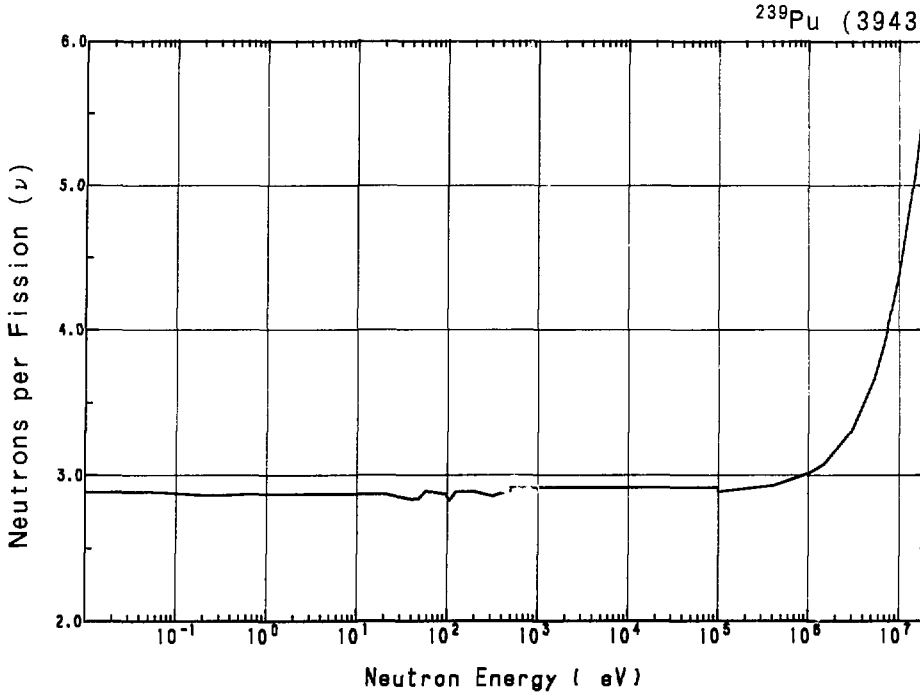

236U (3925)
ν × σfiss (barns)
103
102
101
100
10-1
10-2
10-3
10-4
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

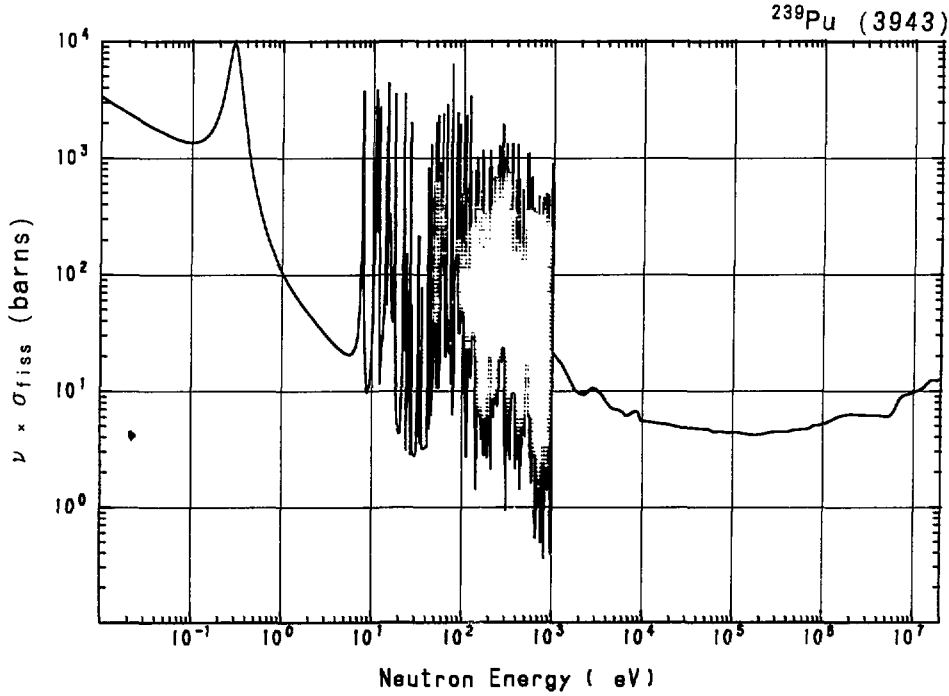

238U (3926)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

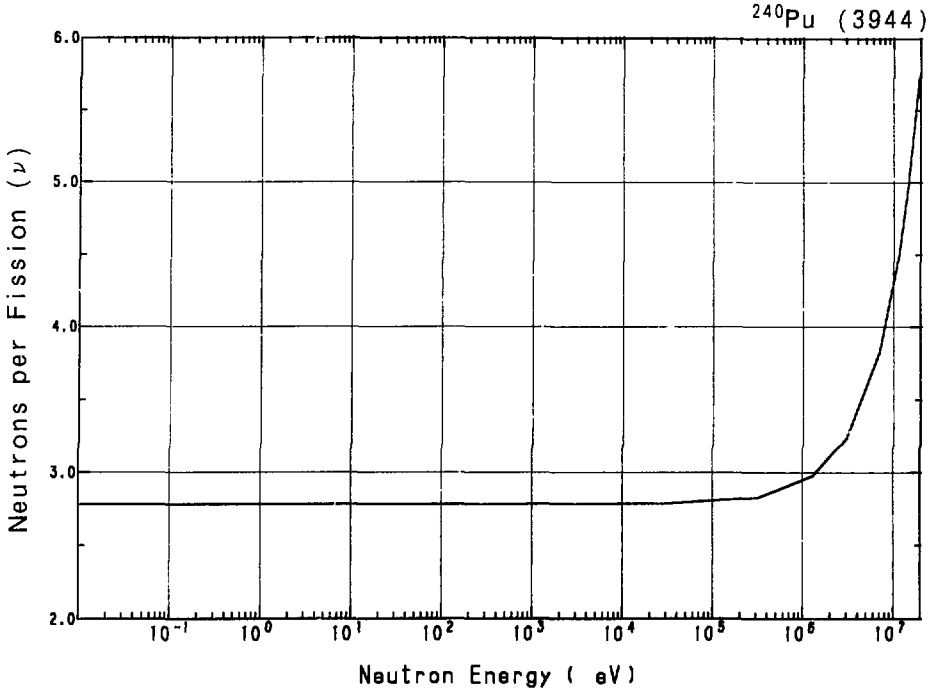

238U (3926)
ν × σfiss (barns)
102
101
100
10-1
10-2
10-3
10-4
10-5
10-6
10-7
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

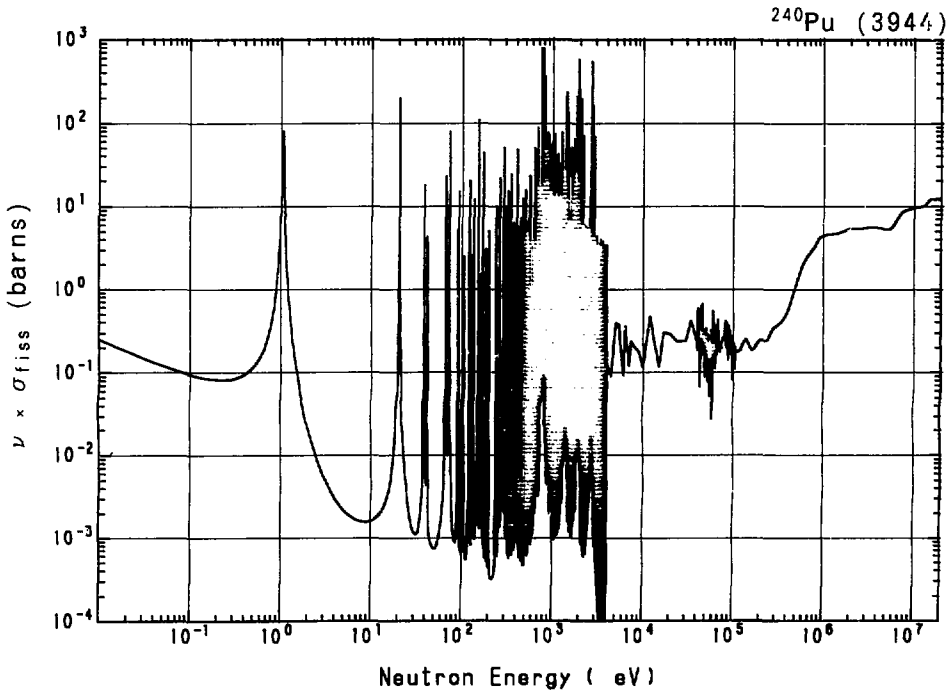

238Pu (3942)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10⁻¹
10⁰
10¹
10²
10³
10⁴
10⁵
10⁶
10⁷
Neutron Energy (eV)

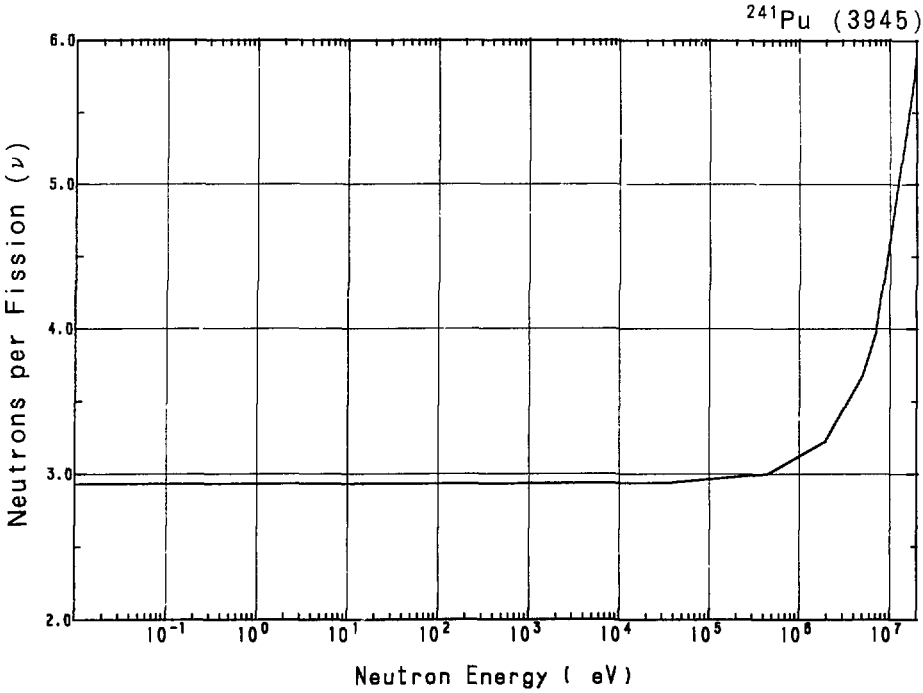

238Pu (3942)
ν × σfiss (barns)
10⁴
10³
10²
10¹
10⁰
10⁻¹
10⁻¹
10⁰
10¹
10²
10³
10⁴
10⁵
10⁶
10⁷
Neutron Energy (eV)

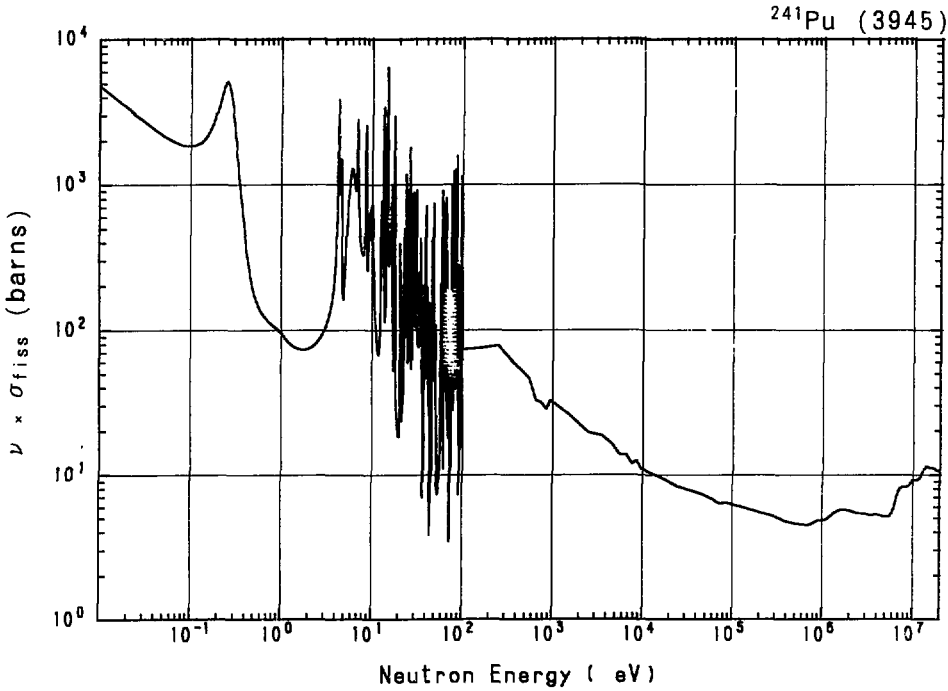

239Pu (3943)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10⁻¹
10⁰
10¹
10²
10³
10⁴
10⁵
10⁶
10⁷
Neutron Energy (eV)

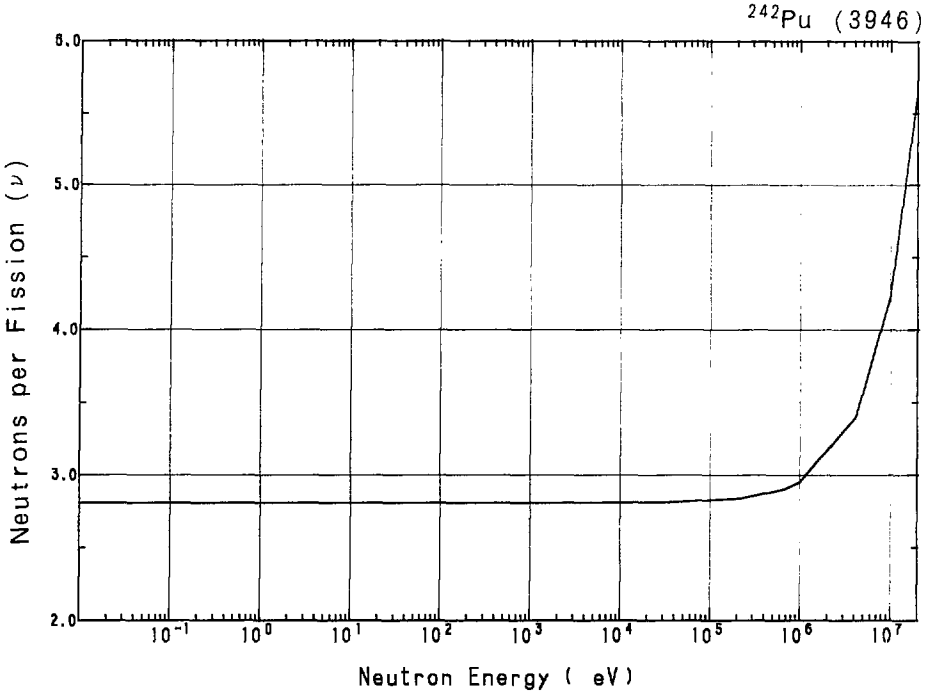

239Pu (3943)
ν × σfiss (barns)
10⁴
10³
10²
10¹
10⁰
10⁻¹
10⁰
10¹
10²
10³
10⁴
10⁵
10⁶
10⁷
Neutron Energy (eV)

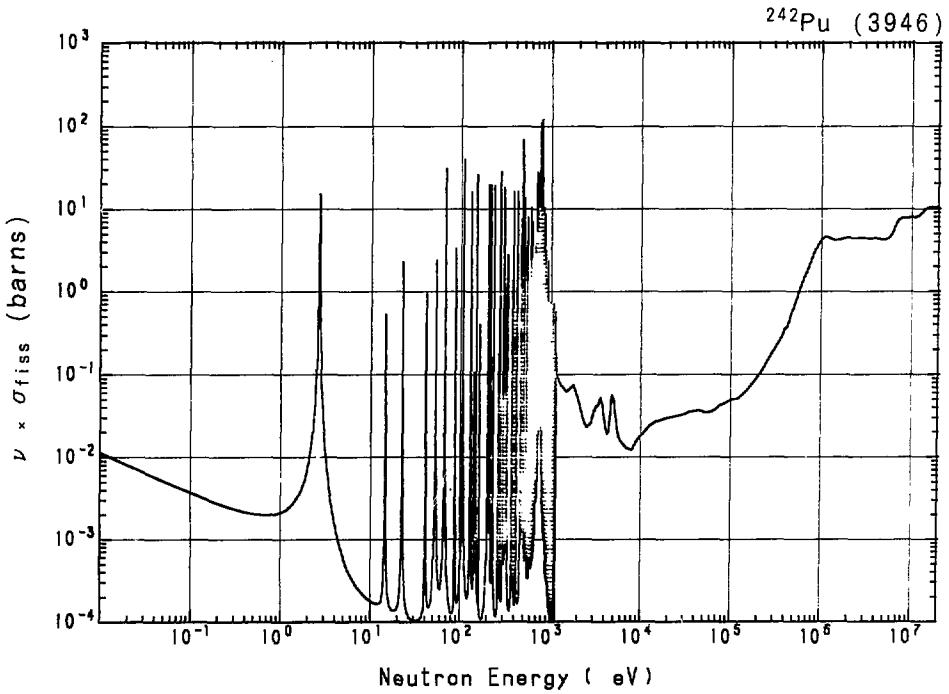

240Pu (3944)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10⁻¹
10⁰
10¹
10²
10³
10⁴
10⁵
10⁶
10⁷
Neutron Energy (eV)

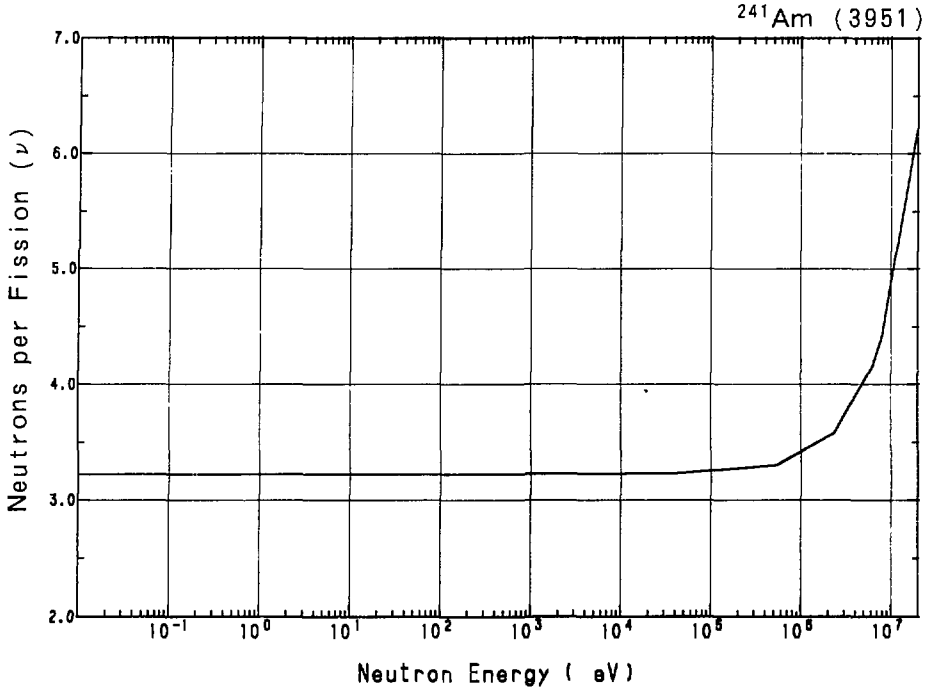

240Pu (3944)
ν × σfiss (barns)
10³
10²
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻¹
10⁰
10¹
10²
10³
10⁴
10⁵
10⁶
10⁷
Neutron Energy (eV)

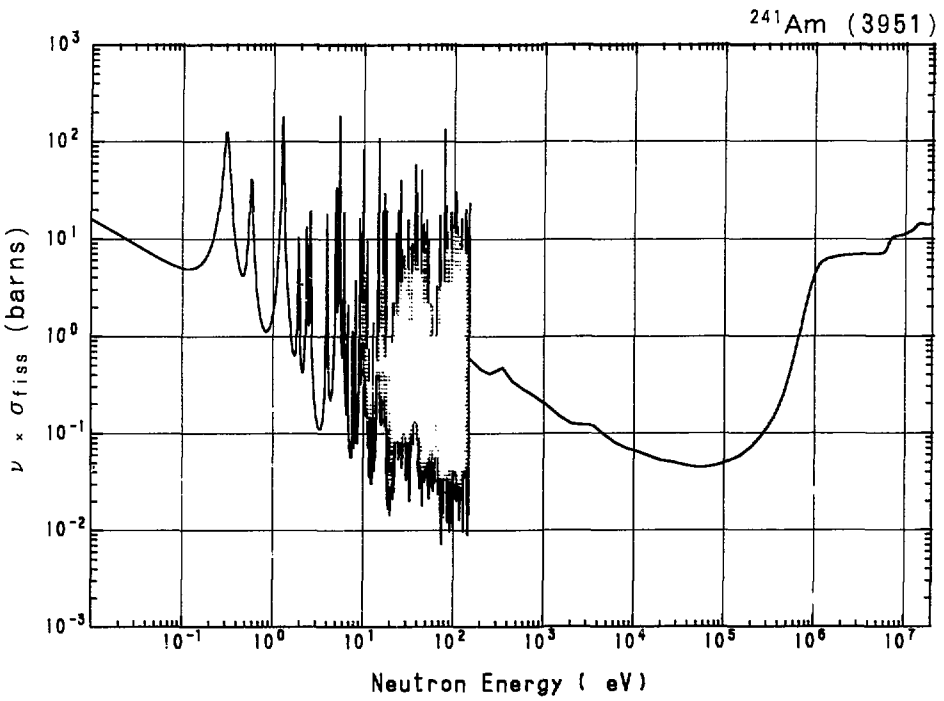

241Pu (3945)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

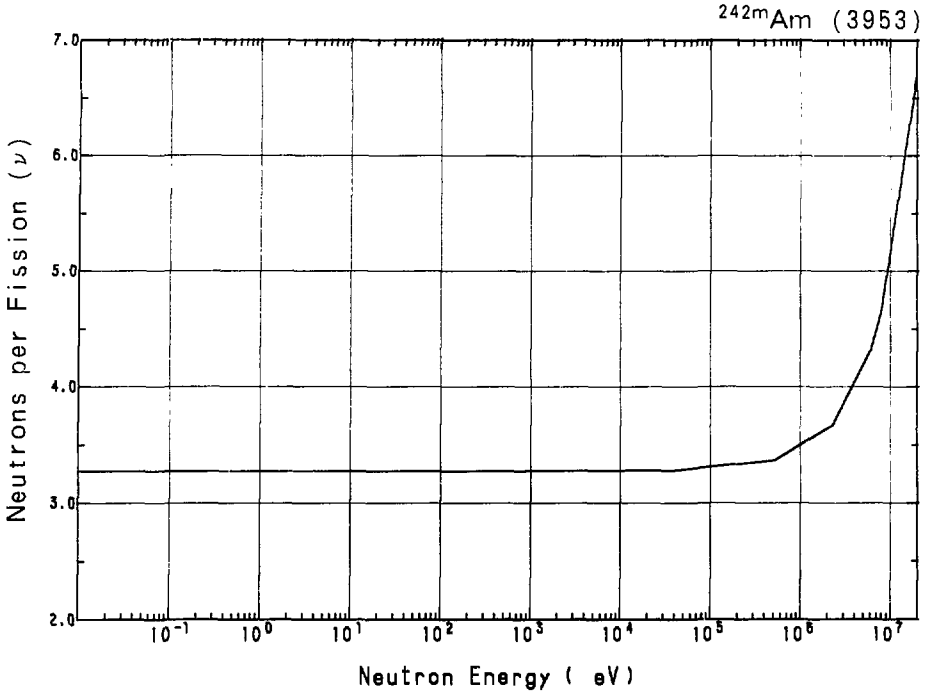

241Pu (3945)
ν × σfiss (barns)
104
103
102
101
100
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

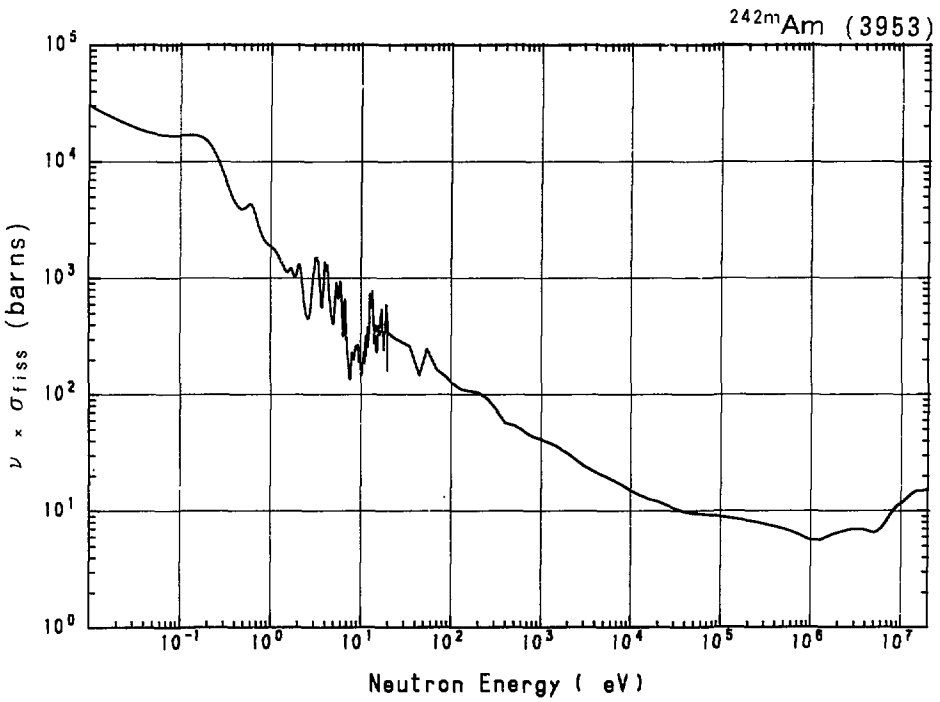

242Pu (3946)
Neutrons per Fission (ν)
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

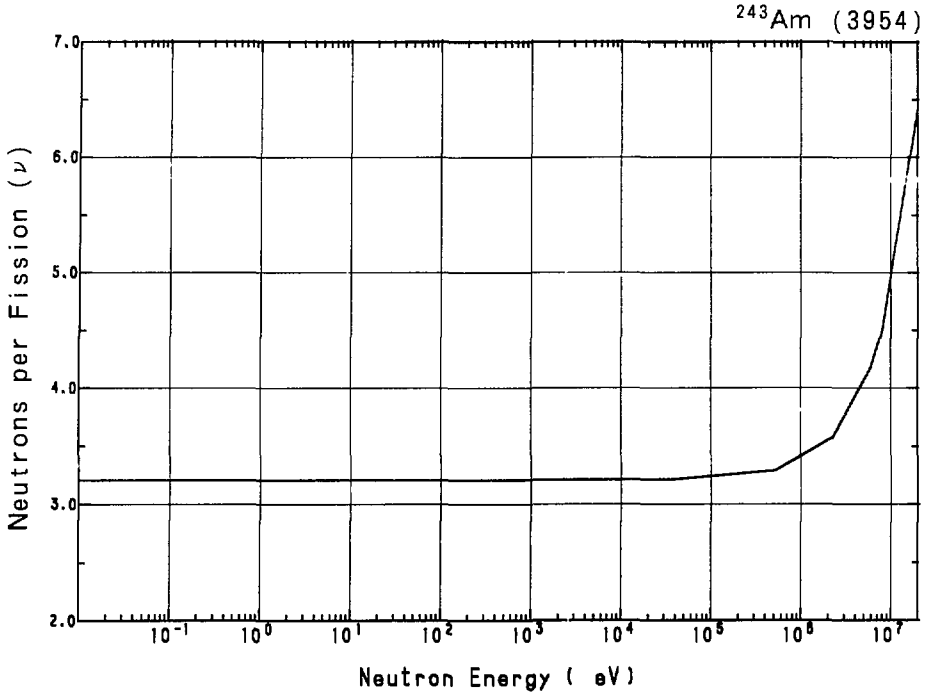

242Pu (3946)
ν × σfiss (barns)
103
102
101
100
10-1
10-2
10-3
10-4
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

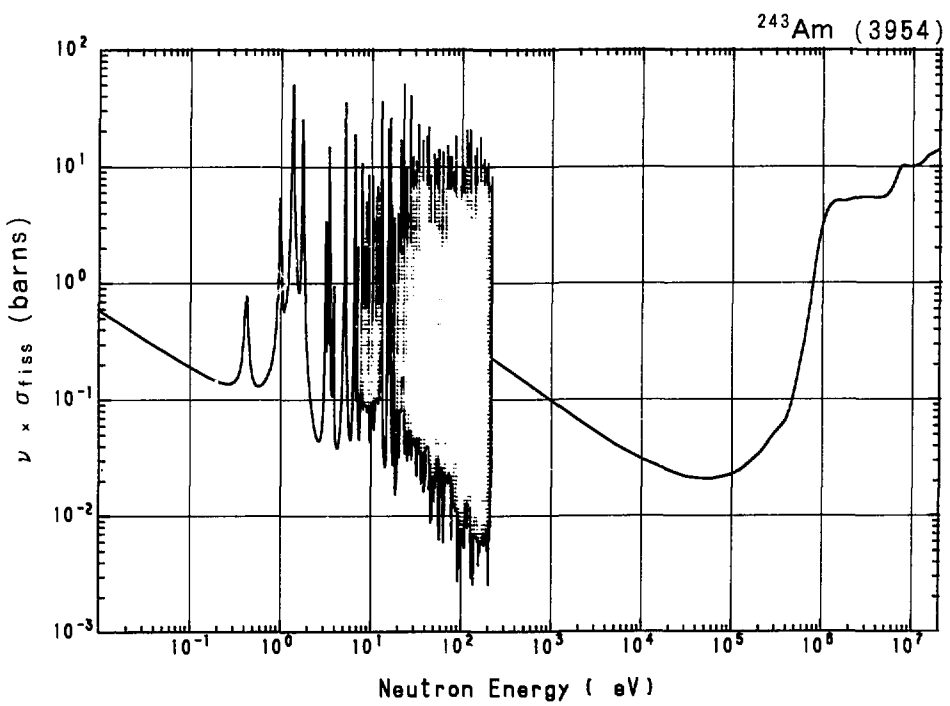

241Am (3951)
Neutrons per Fission (ν)
7.0
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

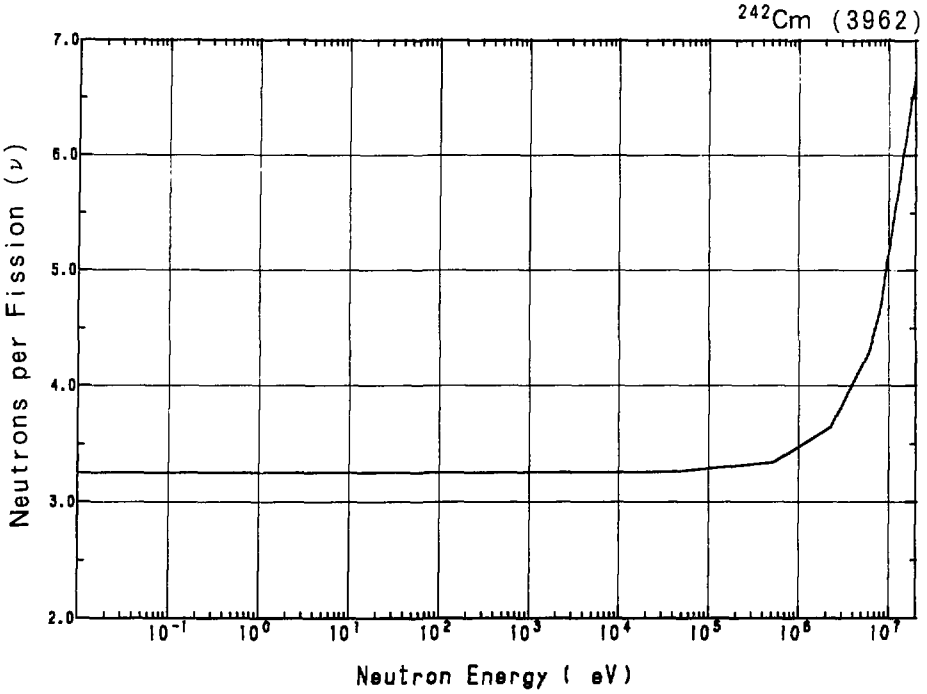

241Am (3951)
ν × σfiss (barns)
103
102
101
100
10-1
10-2
10-3
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

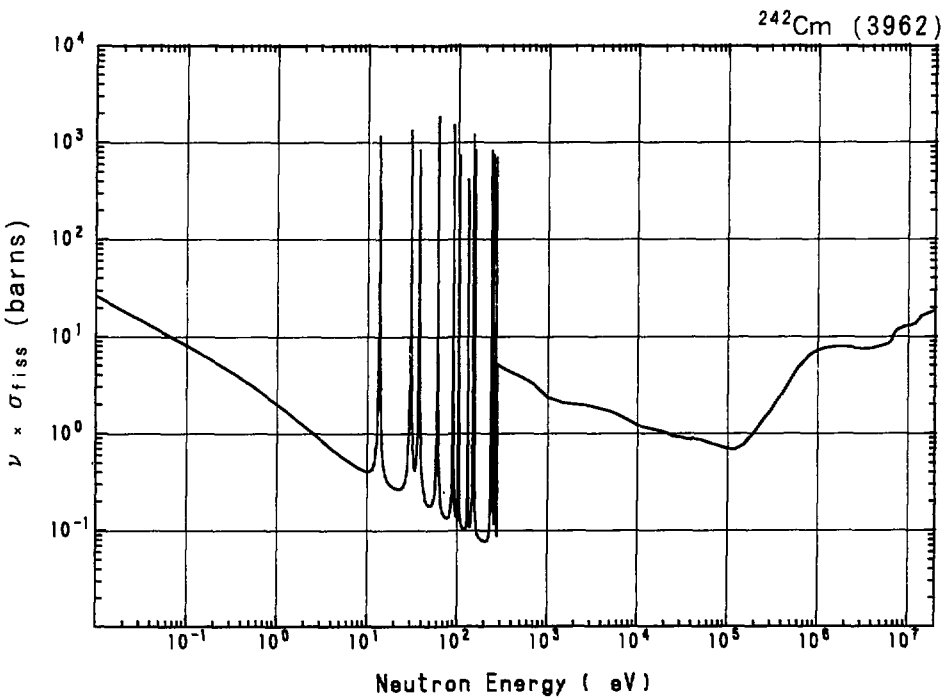

242mAm (3953)
Neutrons per Fission (ν)
7.0
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

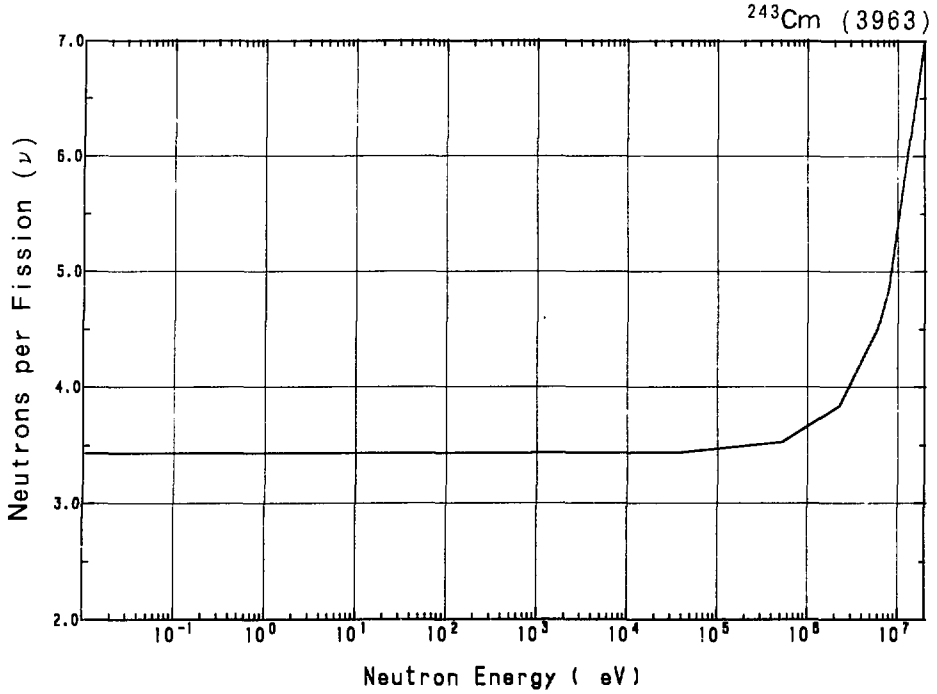

242mAm (3953)
ν × σfiss (barns)
105
104
103
102
101
100
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

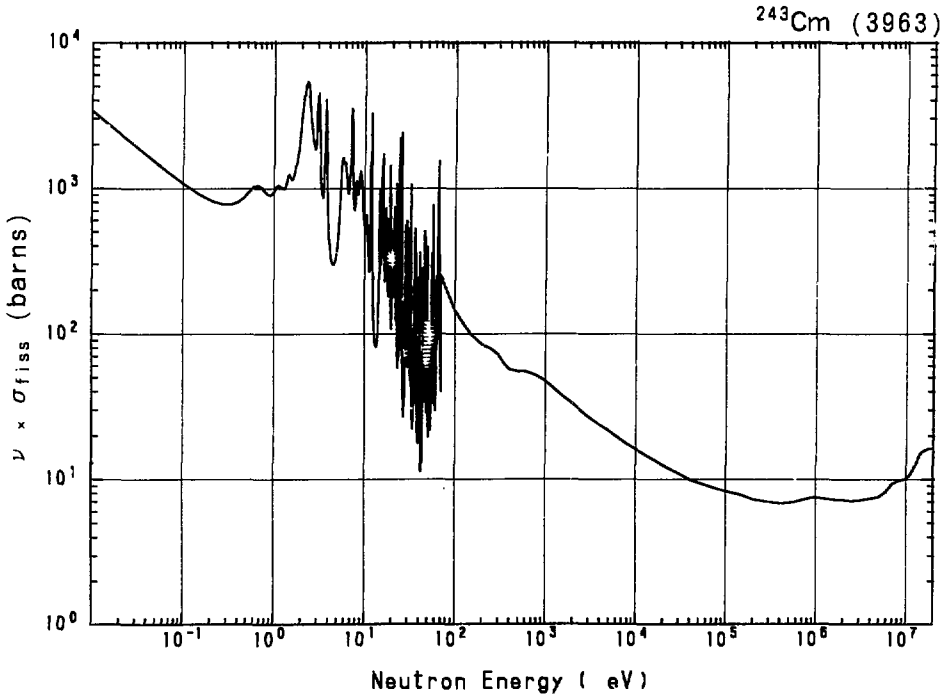

243Am (3954)
Neutrons per Fission (ν)
7.0
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

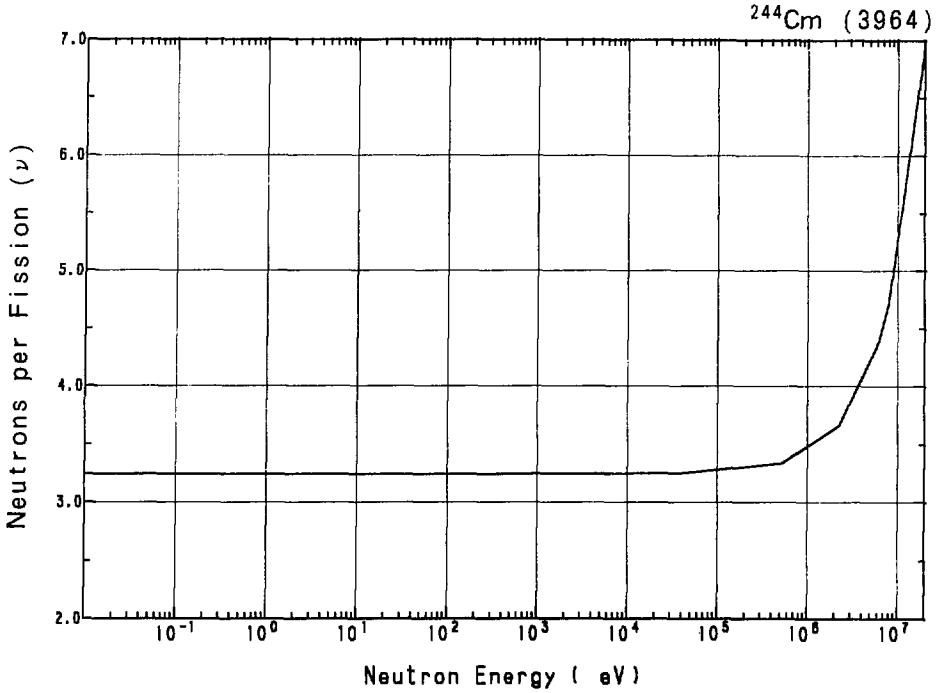

243Am (3954)
ν × σfiss (barns)
102
101
100
10-1
10-2
10-3
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)

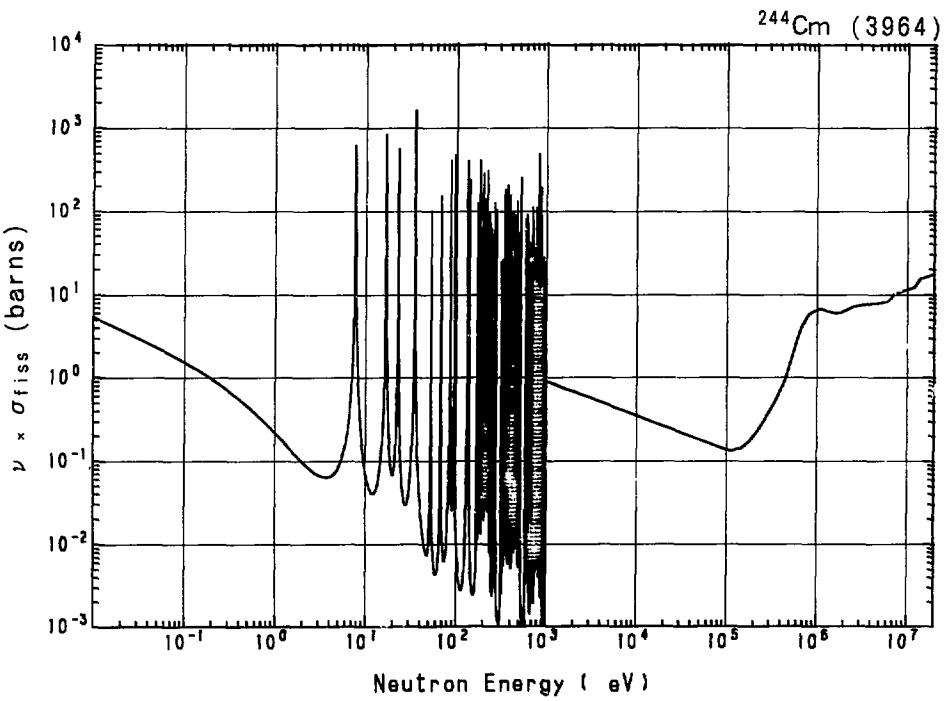

^{242}Cm (3962)
Neutrons per Fission (ν)
7.0
6.0
5.0
4.0
3.0
2.0
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}
Neutron Energy (eV)

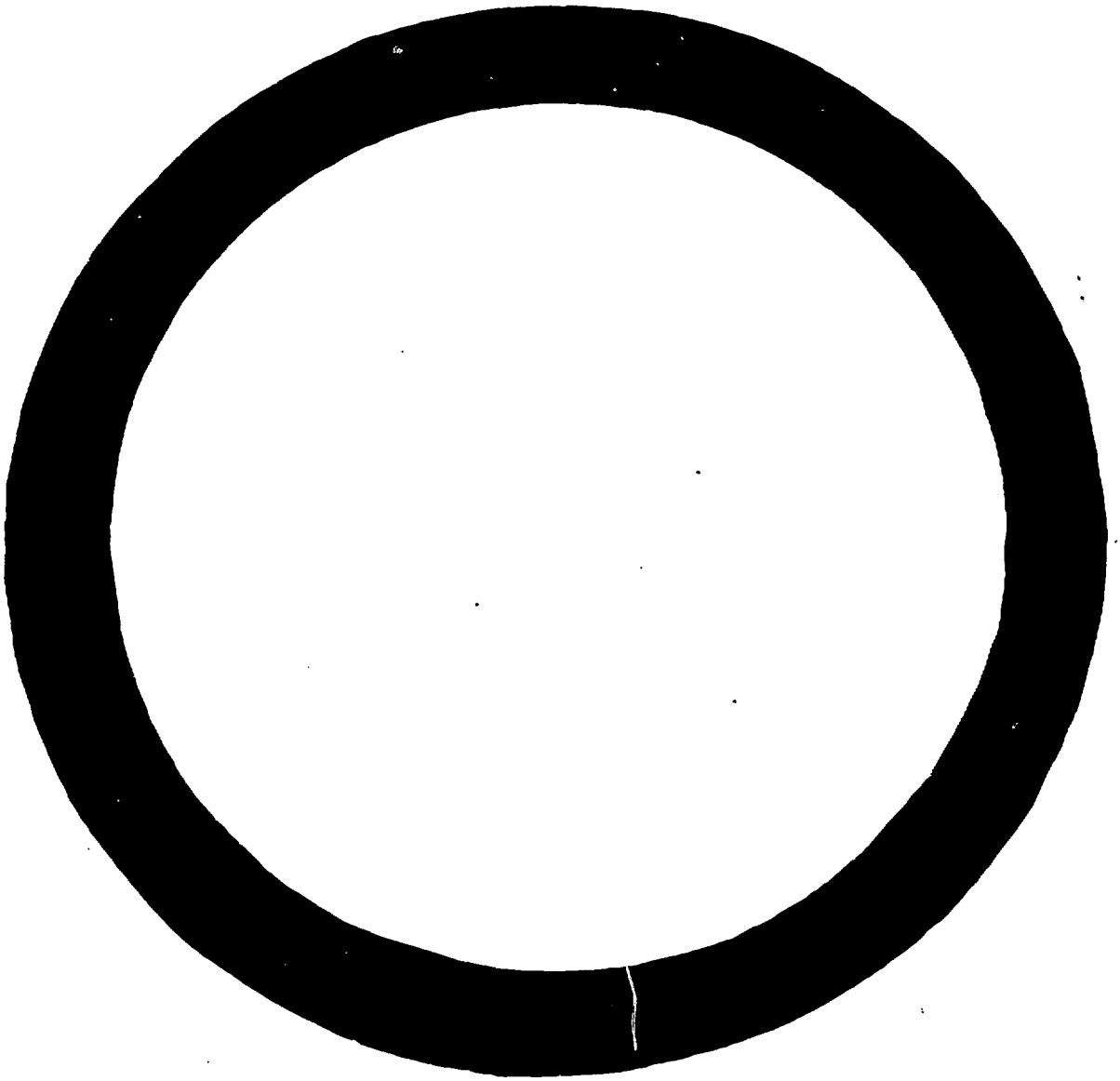

^{242}Cm (3962)
$\nu \times \sigma_{fiss}$ (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}
Neutron Energy (eV)


243Cm (3963)
Neutrons per Fission (ν)
7.0
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)


243Cm (3963)
ν × σfiss (barns)
104
103
102
101
100
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)


244Cm (3964)
Neutrons per Fission (ν)
7.0
6.0
5.0
4.0
3.0
2.0
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)


244Cm (3964)
ν × σfiss (barns)
104
103
102
101
100
10-1
10-2
10-3
10-1
100
101
102
103
104
105
106
107
Neutron Energy (eV)



4. Tables of Average Cross Sections

MATERIAL =3011

CROSS SECTION

^{1}H (3011)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.1510+ 1	2.0475+ 1		1.0298+ 0									6.7392- 1
1.0000- 2 ~ 2.0000- 2	2.0820+ 1	2.0475+ 1		4.3748- 1									6.7392- 1
2.0000- 2 ~ 4.0000- 2	2.0780+ 1	2.0475+ 1		3.0934- 1									6.7392- 1
4.0000- 2 ~ 7.0000- 2	2.0714+ 1	2.0475+ 1		2.2739- 1									6.7392- 1
7.0000- 2 ~ 1.0000- 1	2.0681+ 1	2.0475+ 1		1.8182- 1									6.7392- 1
1.0000- 1 ~ 2.0000- 1	2.0621+ 1	2.0475+ 1		1.3832- 1									6.7392- 1
2.0000- 1 ~ 4.0000- 1	2.0607+ 1	2.0475+ 1		8.7802- 2									6.7392- 1
4.0000- 1 ~ 7.0000- 1	2.0558+ 1	2.0475+ 1		7.1972- 2									6.7392- 1
7.0000- 1 ~-1.0000+ 0	2.0694+ 1	2.0475+ 1		6.7487- 2									6.7392- 1
1.0000+ 0 ~ 2.0000+ 0	2.0620+ 1	2.0475+ 1		4.3732- 2									6.7392- 1
2.0000+ 0 ~ 4.0000+ 0	2.0509+ 1	2.0475+ 1		3.0921- 2									6.7392- 1
4.0000+ 0 ~ 7.0000+ 0	2.0499+ 1	2.0472+ 1		2.2723- 2									6.7392- 1
7.0000+ 0 ~ 1.0000+ 1	2.0492+ 1	2.0472+ 1		1.8175- 2									6.7392- 1
1.0000+ 1 ~ 2.0000+ 1	2.0485+ 1	2.0471+ 1		1.3827- 2									6.7392- 1
2.0000+ 1 ~ 4.0000+ 1	2.0479+ 1	2.0468+ 1		9.7783- 3									6.7392- 1
4.0000+ 1 ~ 7.0000+ 1	2.0473+ 1	2.0468+ 1		7.1843- 3									6.7392- 1
7.0000+ 1 ~ 1.0000+ 2	2.0467+ 1	2.0462+ 1		5.7464- 3									6.7392- 1
1.0000+ 2 ~ 2.0000+ 2	2.0452+ 1	2.0447+ 1		4.3876- 3									6.7392- 1
2.0000+ 2 ~ 4.0000+ 2	2.0427+ 1	2.0423+ 1		3.0929- 3									6.7392- 1
4.0000+ 2 ~ 7.0000+ 2	2.0398+ 1	2.0395+ 1		2.2621- 3									6.7392- 1
7.0000+ 2 ~ 1.0000+ 3	2.0358+ 1	2.0364+ 1		1.8073- 3									6.7392- 1
1.0000+ 3 ~ 2.0000+ 3	2.0285+ 1	2.0284+ 1		1.3864- 3									6.7392- 1
2.0000+ 3 ~ 4.0000+ 3	2.0087+ 1	2.0086+ 1		9.8325- 4									6.7392- 1
4.0000+ 3 ~ 7.0000+ 3	1.9748+ 1	1.9747+ 1		7.0851- 4									6.7392- 1
7.0000+ 3 ~ 1.0000+ 4	1.9383+ 1	1.9382+ 1		5.4789- 4									6.7392- 1
1.0000+ 4 ~ 2.0000+ 4	1.8831+ 1	1.8830+ 1		3.8486- 4									6.7392- 1
2.0000+ 4 ~ 4.0000+ 4	1.7121+ 1	1.7121+ 1		2.5347- 4									6.7392- 1
4.0000+ 4 ~ 7.0000+ 4	1.5181+ 1	1.5181+ 1		1.6755- 4									6.7392- 1
7.0000+ 4 ~ 1.0000+ 5	1.3458+ 1	1.3458+ 1		1.2207- 4									6.7392- 1
1.0000+ 5 ~ 2.0000+ 5	1.0972+ 1	1.0972+ 1		8.1068- 5									6.7372- 1
2.0000+ 5 ~ 4.0000+ 5	8.0480+ 0	8.0480+ 0		4.9584- 5									6.7356- 1
4.0000+ 5 ~ 7.0000+ 5	5.9013+ 0	5.9012+ 0		3.7714- 5									6.7328- 1
7.0000+ 5 ~ 1.0000+ 6	4.8848+ 0	4.8848+ 0		3.4822- 5									6.7296- 1
1.0000+ 6 ~ 2.0000+ 6	3.4989+ 0	3.4989+ 0		3.4360- 5									6.7238- 1
2.0000+ 6 ~ 4.0000+ 6	2.3278+ 0	2.3278+ 0		3.5463- 5									6.7119- 1
4.0000+ 6 ~ 7.0000+ 6	1.5452+ 0	1.5451+ 0		3.5981- 5									6.6945- 1
7.0000+ 6 ~ 1.0000+ 7	1.0904+ 0	1.0903+ 0		3.3725- 5									6.6769- 1
1.0000+ 7 ~ 2.0000+ 7	8.6792- 1	8.6788- 1		2.9038- 5									6.6430- 1

MATERIAL =3012

CROSS SECTION

^{2}H (3012)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.3900+ 0	3.3883+ 0		1.6960- 3									3.3347- 1
1.0000- 2 ~ 2.0000- 2	3.3900+ 0	3.3893+ 0		7.2473- 4									3.3347- 1
2.0000- 2 ~ 4.0000- 2	3.3900+ 0	3.3895+ 0		5.1246- 4									3.3347- 1
4.0000- 2 ~ 7.0000- 2	3.3900+ 0	3.3896+ 0		3.7881- 4									3.3347- 1
7.0000- 2 ~ 1.0000- 1	3.3900+ 0	3.3897+ 0		3.0125- 4									3.3347- 1
1.0000- 1 ~ 2.0000- 1	3.3900+ 0	3.3898+ 0		2.2918- 4									3.3347- 1
2.0000- 1 ~ 4.0000- 1	3.3900+ 0	3.3898+ 0		1.6208- 4									3.3347- 1
4.0000- 1 ~ 7.0000- 1	3.3900+ 0	3.3898+ 0		1.1812- 4									3.3347- 1
7.0000- 1 ~ 1.0000+ 0	3.3900+ 0	3.3898+ 0		9.5289- 5									3.3347- 1
1.0000+ 0 ~ 2.0000+ 0	3.3900+ 0	3.3898+ 0		7.2481- 5									3.3347- 1
2.0000+ 0 ~ 4.0000+ 0	3.3900+ 0	3.3899+ 0		5.1258- 5									3.3347- 1
4.0000+ 0 ~ 7.0000+ 0	3.3900+ 0	3.3900+ 0		3.7878- 5									3.3347- 1
7.0000+ 0 ~ 1.0000+ 1	3.3900+ 0	3.3900+ 0		3.0144- 5									3.3348- 1
1.0000+ 1 ~ 2.0000+ 1	3.3900+ 0	3.3900+ 0		2.2945- 5									3.3348- 1
2.0000+ 1 ~ 4.0000+ 1	3.3900+ 0	3.3900+ 0		1.6242- 5									3.3345- 1
4.0000+ 1 ~ 7.0000+ 1	3.3900+ 0	3.3900+ 0		1.1963- 5									3.3343- 1
7.0000+ 1 ~ 1.0000+ 2	3.3900+ 0	3.3900+ 0		9.5866- 6									3.3340- 1
1.0000+ 2 ~ 2.0000+ 2	3.3885+ 0	3.3885+ 0		7.3252- 6									3.3335- 1
2.0000+ 2 ~ 4.0000+ 2	3.3875+ 0	3.3875+ 0		5.2318- 6									3.3323- 1
4.0000+ 2 ~ 7.0000+ 2	3.3857+ 0	3.3857+ 0		3.9104- 6									3.3303- 1
7.0000+ 2 ~ 1.0000+ 3	3.3843+ 0	3.3843+ 0		3.1919- 6									3.3278- 1
1.0000+ 3 ~ 2.0000+ 3	3.3828+ 0	3.3828+ 0		2.8312- 6									3.3227- 1
2.0000+ 3 ~ 4.0000+ 3	3.3806+ 0	3.3806+ 0		1.5618- 6									3.3107- 1
4.0000+ 3 ~ 7.0000+ 3	3.3788+ 0	3.3788+ 0		1.6469- 6									3.2908- 1
7.0000+ 3 ~ 1.0000+ 4	3.3785+ 0	3.3788+ 0		1.5198- 6									3.2669- 1
1.0000+ 4 ~ 2.0000+ 4	3.3673+ 0	3.3673+ 0		1.4783- 6									3.2157- 1
2.0000+ 4 ~ 4.0000+ 4	3.3482+ 0	3.3482+ 0		1.5730- 6									3.0093- 1
4.0000+ 4 ~ 7.0000+ 4	3.2809+ 0	3.2809+ 0		1.8128- 6									2.9115- 1
7.0000+ 4 ~ 1.0000+ 5	3.2188+ 0	3.2188+ 0		2.0868- 6									2.8084- 1
1.0000+ 5 ~ 2.0000+ 5	3.1217+ 0	3.1217+ 0		2.5885- 6									2.2808- 1
2.0000+ 5 ~ 4.0000+ 5	3.0184+ 0	3.0184+ 0		3.4877- 6									1.5480- 1
4.0000+ 5 ~ 7.0000+ 5	2.9742+ 0	2.9742+ 0		4.6497- 6									9.3774- 2
7.0000+ 5 ~ 1.0000+ 6	2.9174+ 0	2.9174+ 0		5.6186- 6									6.1760- 2
1.0000+ 6 ~ 2.0000+ 6	2.7292+ 0	2.7292+ 0		6.9778- 6									1.3605- 1
2.0000+ 6 ~ 4.0000+ 6	2.1718+ 0	2.1688+ 0		8.9808- 6		1.7331- 3							2.5251- 1
4.0000+ 6 ~ 7.0000+ 6	1.5529+ 0	1.5051+ 0		1.0286- 5		4.7748- 2							3.4518- 1
7.0000+ 6 ~ 1.0000+ 7	1.1811+ 0	1.0898+ 0		1.0511- 5		1.1121- 1							4.1638- 1
1.0000+ 7 ~ 2.0000+ 7	7.8718- 1	6.1527- 1		9.2473- 6		1.7185- 1							5.1330- 1

MATERIAL =3021 CROSS SECTION ^{3}He (3021)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.8496+ 4	3.1348+ 0						1.8433+ 4					2.2271- 1
1.0000- 2 ~ 2.0000- 2	7.0573+ 3	3.1347+ 0						7.0211+ 3					2.2271- 1
2.0000- 2 ~ 4.0000- 2	4.0887+ 3	3.1348+ 0						4.0642+ 3					2.2271- 1
4.0000- 2 ~ 7.0000- 2	3.5804+ 3	3.1344+ 0						3.5478+ 3					2.2271- 1
7.0000- 2 ~ 1.0000- 1	2.9309+ 3	3.1343+ 0						2.9177+ 3					2.2271- 1
1.0000- 1 ~ 2.0000- 1	2.2325+ 3	3.1341+ 0						2.2192+ 3					2.2271- 1
2.0000- 1 ~ 4.0000- 1	1.5782+ 3	3.1338+ 0						1.5686+ 3					2.2271- 1
4.0000- 1 ~ 7.0000- 1	1.1588+ 3	3.1333+ 0						1.1526+ 3					2.2271- 1
7.0000- 1 ~ 1.0000+ 0	9.2808+ 2	3.1328+ 0						9.2177+ 2					2.2271- 1
1.0000+ 0 ~ 2.0000+ 0	7.0718+ 2	3.1320+ 0						7.0085+ 2					2.2271- 1
2.0000+ 0 ~ 4.0000+ 0	5.0023+ 2	3.1309+ 0						4.9611+ 2					2.2271- 1
4.0000+ 0 ~ 7.0000+ 0	3.6770+ 2	3.1292+ 0						3.6365+ 2					2.2271- 1
7.0000+ 0 ~ 1.0000+ 1	2.9475+ 2	3.1271+ 0						2.9082+ 2					2.2271- 1
1.0000+ 1 ~ 2.0000+ 1	2.2493+ 2	3.1250+ 0						2.2089+ 2					2.2271- 1
2.0000+ 1 ~ 4.0000+ 1	1.5833+ 2	3.1218+ 0						1.5557+ 2					2.2271- 1
4.0000+ 1 ~ 7.0000+ 1	1.1746+ 2	3.1184+ 0						1.1402+ 2					2.2271- 1
7.0000+ 1 ~ 1.0000+ 2	9.4452+ 1	3.1098+ 0						9.1026+ 1					2.2271- 1
1.0000+ 2 ~ 2.0000+ 2	7.2289+ 1	3.1032+ 0						6.8841+ 1					2.2271- 1
2.0000+ 2 ~ 4.0000+ 2	5.1498+ 1	3.0928+ 0						4.8205+ 1					2.2271- 1
4.0000+ 2 ~ 7.0000+ 2	3.8298+ 1	3.0757+ 0						3.5118+ 1					2.2271- 1
7.0000+ 2 ~ 1.0000+ 3	3.1058+ 1	3.0560+ 0						2.7813+ 1					2.2271- 1
1.0000+ 3 ~ 2.0000+ 3	2.4072+ 1	3.0280+ 0						2.0981+ 1					2.2271- 1
2.0000+ 3 ~ 4.0000+ 3	1.7515+ 1	2.9798+ 0						1.4472+ 1					2.2271- 1
4.0000+ 3 ~ 7.0000+ 3	1.3271+ 1	2.9242+ 0						1.0319+ 1					2.2271- 1
7.0000+ 3 ~ 1.0000+ 4	1.0802+ 1	2.8731+ 0						8.0204+ 0					2.2271- 1
1.0000+ 4 ~ 2.0000+ 4	8.8437+ 0	2.7945+ 0						5.8214+ 0					2.2271- 1
2.0000+ 4 ~ 4.0000+ 4	6.4816+ 0	2.6597+ 0						3.8130+ 0					2.2271- 1
4.0000+ 4 ~ 7.0000+ 4	5.0767+ 0	2.5075+ 0						2.5886+ 0					2.2271- 1
7.0000+ 4 ~ 1.0000+ 5	4.2787+ 0	2.3798+ 0						1.8974+ 0					2.2271- 1
1.0000+ 5 ~ 2.0000+ 5	3.5437+ 0	2.2050+ 0						1.3386+ 0					2.2271- 1
2.0000+ 5 ~ 4.0000+ 5	3.0247+ 0	2.0130+ 0						1.0117+ 0					2.2271- 1
4.0000+ 5 ~ 7.0000+ 5	2.8809+ 0	1.8537+ 0						8.8722- 1					2.0049- 1
7.0000+ 5 ~ 1.0000+ 6	2.7647+ 0	1.9070+ 0						8.7767- 1					1.0608- 1
1.0000+ 6 ~ 2.0000+ 6	3.0669+ 0	2.1867+ 0						8.8014- 1					1.4583- 1
2.0000+ 6 ~ 4.0000+ 6	2.9151+ 0	2.2869+ 0						6.4833- 1					3.5257- 1
4.0000+ 6 ~ 7.0000+ 6	2.2542+ 0	1.9804+ 0						3.4878- 1		2.9008- 2			5.0223- 1
7.0000+ 6 ~ 1.0000+ 7	1.7180+ 0	1.4294+ 0						2.2186- 1		8.6758- 2			5.7604- 1
1.0000+ 7 ~ 2.0000+ 7	1.1339+ 0	8.2856- 1						1.3439- 1		7.0872- 2			6.5640- 1

MATERIAL =3022 CROSS SECTION ^{4}He (3022)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.5928- 1	7.5928- 1											1.6777- 1
1.0000- 2 ~ 2.0000- 2	7.5928- 1	7.5928- 1											1.6777- 1
2.0000- 2 ~ 4.0000- 2	7.5928- 1	7.5928- 1											1.6777- 1
4.0000- 2 ~ 7.0000- 2	7.5928- 1	7.5928- 1											1.6777- 1
7.0000- 2 ~ 1.0000- 1	7.5928- 1	7.5928- 1											1.6777- 1
1.0000- 1 ~ 2.0000- 1	7.5928- 1	7.5928- 1											1.6777- 1
2.0000- 1 ~ 4.0000- 1	7.5928- 1	7.5928- 1											1.6777- 1
4.0000- 1 ~ 7.0000- 1	7.5928- 1	7.5928- 1											1.6777- 1
7.0000- 1 ~ 1.0000+ 0	7.5928- 1	7.5928- 1											1.6777- 1
1.0000+ 0 ~ 2.0000+ 0	7.5928- 1	7.5928- 1											1.6777- 1
2.0000+ 0 ~ 4.0000+ 0	7.5928- 1	7.5928- 1											1.6778- 1
4.0000+ 0 ~ 7.0000+ 0	7.5928- 1	7.5928- 1											1.6778- 1
7.0000+ 0 ~ 1.0000+ 1	7.5928- 1	7.5928- 1											1.6776- 1
1.0000+ 1 ~ 2.0000+ 1	7.5928- 1	7.5928- 1											1.6776- 1
2.0000+ 1 ~ 4.0000+ 1	7.5928- 1	7.5928- 1											1.6773- 1
4.0000+ 1 ~ 7.0000+ 1	7.5925- 1	7.5925- 1											1.6770- 1
7.0000+ 1 ~ 1.0000+ 2	7.5925- 1	7.5925- 1											1.6767- 1
1.0000+ 2 ~ 2.0000+ 2	7.5925- 1	7.5925- 1											1.6759- 1
2.0000+ 2 ~ 4.0000+ 2	7.5924- 1	7.5924- 1											1.6741- 1
4.0000+ 2 ~ 7.0000+ 2	7.5922- 1	7.5922- 1											1.6712- 1
7.0000+ 2 ~ 1.0000+ 3	7.5921- 1	7.5921- 1											1.6677- 1
1.0000+ 3 ~ 2.0000+ 3	7.5917- 1	7.5917- 1											1.6600- 1
2.0000+ 3 ~ 4.0000+ 3	7.5911- 1	7.5911- 1											1.6423- 1
4.0000+ 3 ~ 7.0000+ 3	7.5898- 1	7.5898- 1											1.6126- 1
7.0000+ 3 ~ 1.0000+ 4	7.5888- 1	7.5888- 1											1.5769- 1
1.0000+ 4 ~ 2.0000+ 4	7.5872- 1	7.5872- 1											1.4888- 1
2.0000+ 4 ~ 4.0000+ 4	7.5871- 1	7.5871- 1											1.3182- 1
4.0000+ 4 ~ 7.0000+ 4	7.5894- 1	7.5894- 1											1.0043- 1
7.0000+ 4 ~ 1.0000+ 5	7.6364- 1	7.6364- 1											8.1988- 2
1.0000+ 5 ~ 2.0000+ 5	7.8308- 1	7.8308- 1											-2.320- 2
2.0000+ 5 ~ 4.0000+ 5	9.2410- 1	9.2410- 1											-1.938- 1
4.0000+ 5 ~ 7.0000+ 5	1.8148+ 0	1.8148+ 0											-2.429- 1
7.0000+ 5 ~ 1.0000+ 6	5.0243+ 0	5.0243+ 0											-1.787- 2
1.0000+ 6 ~ 2.0000+ 6	5.8782+ 0	5.8782+ 0											3.0563- 1
2.0000+ 6 ~ 4.0000+ 6	2.9286+ 0	2.9286+ 0											4.4888- 1
4.0000+ 6 ~ 7.0000+ 6	2.0841+ 0	2.0841+ 0											5.1239- 1
7.0000+ 6 ~ 1.0000+ 7	1.5895+ 0	1.5895+ 0											5.6152- 1
1.0000+ 7 ~ 2.0000+ 7	1.0175+ 0	1.0175+ 0											6.9362- 1

MATERIAL =3031 CROSS SECTION ^{6}Li(3031)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,T)		MU-BAR
1.0000- 6 ~ 1.0000- 2	2.8110+ 3	7.3493- 1		1.1666- 1							2.8997+ 3		1.1166- 1
1.0000- 2 ~ 2.0000- 2	1.2457+ 3	7.3493- 1		5.0712- 2							1.2391+ 3		1.1155- 1
2.0000- 2 ~ 4.0000- 2	8.8048+ 2	7.3493- 1		3.5858- 2							8.7615+ 2		1.1155- 1
4.0000- 2 ~ 7.0000- 2	6.4830+ 2	7.3493- 1		2.6354- 2							6.4389+ 2		1.1155- 1
7.0000- 2 ~ 1.0000- 1	5.1758+ 2	7.3492- 1		2.1076- 2							5.1503+ 2		1.1155- 1
1.0000- 1 ~ 2.0000- 1	3.9435+ 2	7.3492- 1		1.8039- 2							3.9181+ 2		1.1155- 1
2.0000- 1 ~ 4.0000- 1	2.7890+ 2	7.3492- 1		1.1337- 2							2.7705+ 2		1.1155- 1
4.0000- 1 ~ 7.0000- 1	2.0491+ 2	7.3491- 1		8.3315- 3							2.0360+ 2		1.1155- 1
7.0000- 1 ~ 1.0000+ 0	1.8416+ 2	7.3491- 1		6.6643- 3							1.8286+ 2		1.1155- 1
1.0000+ 0 ~ 2.0000+ 0	1.2519+ 2	7.3491- 1		5.0700- 3							1.2388+ 2		1.1155- 1
2.0000+ 0 ~ 4.0000+ 0	8.8888+ 1	7.3490- 1		3.5850- 3							8.7995+ 1		1.1155- 1
4.0000+ 0 ~ 7.0000+ 0	6.5208+ 1	7.3489- 1		2.6347- 3							6.4571+ 1		1.1155- 1
7.0000+ 0 ~ 1.0000+ 1	5.2401+ 1	7.3488- 1		2.1074- 3							5.1487+ 1		1.1154- 1
1.0000+ 1 ~ 2.0000+ 1	4.0079+ 1	7.3486- 1		1.8039- 3							3.9185+ 1		1.1154- 1
2.0000+ 1 ~ 4.0000+ 1	2.8695+ 1	7.3484- 1		1.1337- 3							2.7868+ 1		1.1153- 1
4.0000+ 1 ~ 7.0000+ 1	2.1158+ 1	7.3480- 1		8.3315- 4							2.0344+ 1		1.1151- 1
7.0000+ 1 ~ 1.0000+ 2	1.7082+ 1	7.3476- 1		6.6643- 4							1.6271+ 1		1.1149- 1
1.0000+ 2 ~ 2.0000+ 2	1.3169+ 1	7.3471- 1		5.0700- 4							1.2378+ 1		1.1146- 1
2.0000+ 2 ~ 4.0000+ 2	9.5190+ 0	7.3461- 1		3.5850- 4							8.7489+ 0		1.1135- 1
4.0000+ 2 ~ 7.0000+ 2	7.1908+ 0	7.3446- 1		2.6347- 4							6.4283+ 0		1.1118- 1
7.0000+ 2 ~ 1.0000+ 3	5.8832+ 0	7.3428- 1		2.1074- 4							5.1411+ 0		1.1087- 1
1.0000+ 3 ~ 2.0000+ 3	4.5884+ 0	7.3392- 1		1.8039- 4							3.9110+ 0		1.1033- 1
2.0000+ 3 ~ 4.0000+ 3	3.5084+ 0	7.3323- 1		1.1337- 4							2.7891+ 0		1.0950- 1
4.0000+ 3 ~ 7.0000+ 3	2.7746+ 0	7.3238- 1		8.3315- 5							2.0408+ 0		1.0777- 1
7.0000+ 3 ~ 1.0000+ 4	2.3721+ 0	7.3147- 1		6.6643- 5							1.6395+ 0		1.0567- 1
1.0000+ 4 ~ 2.0000+ 4	1.9985+ 0	7.3008- 1		5.0700- 5							1.2624+ 0		1.0095- 1
2.0000+ 4 ~ 4.0000+ 4	1.6624+ 0	7.2818- 1		3.5850- 5							9.2164- 1		8.8912- 2
4.0000+ 4 ~ 7.0000+ 4	1.4664+ 0	7.2583- 1		2.6347- 5							7.2662- 1		8.6459- 2
7.0000+ 4 ~ 1.0000+ 5	1.4392+ 0	7.2362- 1		2.1074- 5							6.6295- 1		3.6714- 2
1.0000+ 5 ~ 2.0000+ 5	2.8115+ 0	1.5722+ 0		1.8885- 5							1.0392+ 0		1.2313- 2
2.0000+ 5 ~ 4.0000+ 5	6.2778+ 0	4.5444+ 0		1.8072- 5							1.7335+ 0		1.7406- 1
4.0000+ 5 ~ 7.0000+ 5	1.8376+ 0	1.4477+ 0		1.7382- 5							3.8879- 1		2.4897- 1
7.0000+ 5 ~ 1.0000+ 6	1.4026+ 0	1.1136+ 0		1.6889- 5							2.5908- 1		2.9608- 1
1.0000+ 6 ~ 2.0000+ 6	1.2819+ 0	1.0848+ 0	2.2272- 3	2.1511- 5							2.3608- 1		2.1803- 1
2.0000+ 6 ~ 4.0000+ 6	1.8270+ 0	1.3956+ 0	2.8222- 1	3.5804- 5				7.1323- 3			1.5208- 1		2.4439- 1
4.0000+ 6 ~ 7.0000+ 6	2.0682+ 0	1.2933+ 0	6.8105- 1	5.8784- 5		1.8814- 4		2.4801- 2			7.8818- 2		2.4138- 1
7.0000+ 6 ~ 1.0000+ 7	1.8141+ 0	1.1188+ 0	6.2344- 1	7.1889- 5		1.5399- 2		1.3468- 2			4.3114- 2		8.7703- 1
1.0000+ 7 ~ 2.0000+ 7	1.3877+ 0	8.5433- 1	4.4088- 1	8.3588- 5		5.9822- 2		5.8468- 3			2.5750- 2		7.9874- 1

MATERIAL =3032 CROSS SECTION ^{7}Li(3032)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	T-PRODUC		MU-BAR
1.0000- 6 ~ 1.0000- 2	1.1252+ 0	9.8503- 1		1.4000- 1									9.5701- 2
1.0000- 2 ~ 2.0000- 2	1.0910+ 0	9.7107- 1		5.8823- 2									9.5701- 2
2.0000- 2 ~ 4.0000- 2	1.0133+ 0	9.7089- 1		4.2301- 2									9.5701- 2
4.0000- 2 ~ 7.0000- 2	1.0026+ 0	9.7168- 1		3.1088- 2									9.5701- 2
7.0000- 2 ~ 1.0000- 1	9.9658- 1	9.7067- 1		2.4867- 2									9.5701- 2
1.0000- 1 ~ 2.0000- 1	9.8020- 1	9.7125- 1		1.8918- 2									9.5701- 2
2.0000- 1 ~ 4.0000- 1	9.8848- 1	9.7209- 1		1.3377- 2									9.5701- 2
4.0000- 1 ~ 7.0000- 1	9.8133- 1	9.7148- 1		9.8308- 3									9.5701- 2
7.0000- 1 ~ 1.0000+ 0	9.7835- 1	9.7048- 1		7.8835- 3									9.5701- 2
1.0000+ 0 ~ 2.0000+ 0	9.7838- 1	9.7048- 1		5.8823- 3									9.5701- 2
2.0000+ 0 ~ 4.0000+ 0	9.7430- 1	9.7067- 1		4.2301- 3									9.5701- 2
4.0000+ 0 ~ 7.0000+ 0	9.7359- 1	9.7047- 1		3.1088- 3									9.5701- 2
7.0000+ 0 ~ 1.0000+ 1	9.7284- 1	9.7015- 1		2.4867- 3									9.5701- 2
1.0000+ 1 ~ 2.0000+ 1	9.7202- 1	9.7013- 1		1.8918- 3									9.5701- 2
2.0000+ 1 ~ 4.0000+ 1	9.7155- 1	9.7021- 1		1.3377- 3									9.5701- 2
4.0000+ 1 ~ 7.0000+ 1	9.7113- 1	9.7015- 1		9.8308- 4									9.5701- 2
7.0000+ 1 ~ 1.0000+ 2	9.7084- 1	9.7001- 1		7.8835- 4									9.5701- 2
1.0000+ 2 ~ 2.0000+ 2	9.7084- 1	9.7004- 1		5.8823- 4									9.5701- 2
2.0000+ 2 ~ 4.0000+ 2	9.7048- 1	9.7007- 1		4.2302- 4									9.5701- 2
4.0000+ 2 ~ 7.0000+ 2	9.7035- 1	9.7004- 1		3.1088- 4									9.5701- 2
7.0000+ 2 ~ 1.0000+ 3	9.7028- 1	9.7001- 1		2.4867- 4									9.5701- 2
1.0000+ 3 ~ 2.0000+ 3	9.7020- 1	9.7001- 1		1.8918- 4									9.5678- 2
2.0000+ 3 ~ 4.0000+ 3	9.7015- 1	9.7007- 1		1.3377- 4									9.8401- 2
4.0000+ 3 ~ 7.0000+ 3	9.7011- 1	9.7001- 1		9.8308- 5									9.7278- 2
7.0000+ 3 ~ 1.0000+ 4	9.7008- 1	9.7000- 1		7.8835- 5									9.8326- 2
1.0000+ 4 ~ 2.0000+ 4	9.7008- 1	9.7000- 1		5.8823- 5									1.0080- 1
2.0000+ 4 ~ 4.0000+ 4	9.7004- 1	9.7000- 1		4.2301- 5									1.0863- 1
4.0000+ 4 ~ 7.0000+ 4	9.7001- 1	9.8998- 1		3.1088- 5									1.1770- 1
7.0000+ 4 ~ 1.0000+ 5	9.7000- 1	9.8998- 1		2.4867- 5									1.3805- 1
1.0000+ 5 ~ 2.0000+ 5	1.0820+ 0	1.0820+ 0		1.8918- 5									1.9880- 1
2.0000+ 5 ~ 4.0000+ 5	3.8308+ 0	3.8308+ 0		1.3377- 5									4.7428- 2
4.0000+ 5 ~ 7.0000+ 5	1.0790+ 0	1.0814+ 0	1.7844- 2	9.8308- 6									-1.177- 2
7.0000+ 5 ~ 1.0000+ 6	1.3194+ 0	1.1671+ 0	1.2830- 1	7.8835- 6									4.7591- 2
1.0000+ 6 ~ 2.0000+ 6	1.6868+ 0	1.4781+ 0	2.0862- 1	5.8823- 6									1.2135- 1
2.0000+ 6 ~ 4.0000+ 6	2.0462+ 0	1.8148+ 0	2.3076- 1	4.2301- 6							4.3413- 3		2.1920- 1
4.0000+ 6 ~ 7.0000+ 6	2.2884+ 0	1.8603+ 0	4.3802- 1	3.1088- 6							2.2162- 1		3.8326- 1
7.0000+ 6 ~ 1.0000+ 7	1.8258+ 0	1.3202+ 0	5.0442- 1	2.4867- 6		6.6334- 4				8.6323- 4	3.6493- 1		5.7523- 1
1.0000+ 7 ~ 2.0000+ 7	1.4328+ 0	1.0287+ 0	3.3980- 1	1.8918- 6		5.7888- 2				8.6124- 3	2.7829- 1		7.4821- 1

MATERIAL =3041 CROSS SECTION

^{9}Be (3041)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,D)	(N,A)	(N,T)	(N,2NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.1748+ 0	6.1510+ 0		2.3436- 2									7.4439- 2
1.0000- 2 ~ 2.0000- 2	6.1611+ 0	6.1510+ 0		1.0014- 2									7.4439- 2
2.0000- 2 ~ 4.0000- 2	6.1581+ 0	6.1510+ 0		7.0813- 3									7.4439- 2
4.0000- 2 ~ 7.0000- 2	6.1562+ 0	6.1510+ 0		5.2041- 3									7.4439- 2
7.0000- 2 ~ 1.0000- 1	6.1552+ 0	6.1510+ 0		4.1627- 3									7.4439- 2
1.0000- 1 ~ 2.0000- 1	6.1542+ 0	6.1510+ 0		3.1668- 3									7.4439- 2
2.0000- 1 ~ 4.0000- 1	6.1532+ 0	6.1510+ 0		2.2393- 3									7.4439- 2
4.0000- 1 ~ 7.0000- 1	6.1528+ 0	6.1510+ 0		1.6457- 3									7.4439- 2
7.0000- 1 ~ 1.0000+ 0	6.1523+ 0	6.1510+ 0		1.3164- 3									7.4439- 2
1.0000+ 0 ~ 2.0000+ 0	6.1520+ 0	6.1510+ 0		1.0014- 3									7.4439- 2
2.0000+ 0 ~ 4.0000+ 0	6.1517+ 0	6.1510+ 0		7.0813- 4									7.4439- 2
4.0000+ 0 ~ 7.0000+ 0	6.1515+ 0	6.1510+ 0		5.2041- 4									7.4439- 2
7.0000+ 0 ~ 1.0000+ 1	6.1514+ 0	6.1510+ 0		4.1627- 4									7.4439- 2
1.0000+ 1 ~ 2.0000+ 1	6.1510+ 0	6.1507+ 0		3.1668- 4									7.4439- 2
2.0000+ 1 ~ 4.0000+ 1	6.1509+ 0	6.1507+ 0		2.2393- 4									7.4439- 2
4.0000+ 1 ~ 7.0000+ 1	6.1507+ 0	6.1505+ 0		1.6457- 4									7.4439- 2
7.0000+ 1 ~ 1.0000+ 2	6.1503+ 0	6.1502+ 0		1.3164- 4									7.4439- 2
1.0000+ 2 ~ 2.0000+ 2	6.1496+ 0	6.1496+ 0		1.0014- 4									7.4439- 2
2.0000+ 2 ~ 4.0000+ 2	6.1480+ 0	6.1479+ 0		7.0813- 5									7.4439- 2
4.0000+ 2 ~ 7.0000+ 2	6.1463+ 0	6.1462+ 0		5.2041- 5									7.4439- 2
7.0000+ 2 ~ 1.0000+ 3	6.1419+ 0	6.1419+ 0		4.1627- 5									7.4439- 2
1.0000+ 3 ~ 2.0000+ 3	6.1348+ 0	6.1348+ 0		3.1668- 5									7.4439- 2
2.0000+ 3 ~ 4.0000+ 3	6.1186+ 0	6.1186+ 0		2.2393- 5									7.4439- 2
4.0000+ 3 ~ 7.0000+ 3	6.0917+ 0	6.0917+ 0		1.6457- 5									7.4439- 2
7.0000+ 3 ~ 1.0000+ 4	6.0599+ 0	6.0599+ 0		1.3164- 5									7.4439- 2
1.0000+ 4 ~ 2.0000+ 4	5.9928+ 0	5.9928+ 0		1.0014- 5									7.4439- 2
2.0000+ 4 ~ 4.0000+ 4	5.8444+ 0	5.8444+ 0		7.0813- 6									7.4438- 2
4.0000+ 4 ~ 7.0000+ 4	5.6170+ 0	5.6170+ 0		5.2041- 6									8.4847- 2
7.0000+ 4 ~ 1.0000+ 5	5.3717+ 0	5.3717+ 0		4.1627- 6									8.0602- 2
1.0000+ 5 ~ 2.0000+ 5	4.9328+ 0	4.9328+ 0		3.1668- 6									8.8897- 2
2.0000+ 5 ~ 4.0000+ 5	4.2071+ 0	4.2071+ 0		2.2393- 6									1.0489- 1
4.0000+ 5 ~ 7.0000+ 5	4.0575+ 0	4.0575+ 0		1.6457- 6						5.5766- 7			1.0793- 1
7.0000+ 5 ~ 1.0000+ 6	3.4414+ 0	3.4413+ 0		1.3164- 6						1.1162- 4			1.9286- 1
1.0000+ 6 ~ 2.0000+ 6	2.2558+ 0	2.2381+ 0		1.0014- 6		1.3166- 4				1.7562- 2			2.4931- 1
2.0000+ 6 ~ 4.0000+ 6	2.6356+ 0	2.1700+ 0		7.0813- 7		1.1904- 1				8.6581- 2		6.9896- 3	3.3441- 1
4.0000+ 6 ~ 7.0000+ 6	1.8598+ 0	1.2509+ 0		5.2041- 7		2.2660- 1				5.5139- 2		3.2527- 2	5.5750- 1
7.0000+ 6 ~ 1.0000+ 7	1.7252+ 0	1.1284+ 0	3.6365- 3	4.1627- 7		2.6612- 1				2.9874- 2		2.7026- 2	6.7582- 1
1.0000+ 7 ~ 2.0000+ 7	1.4749+ 0	9.4288- 1	2.9817- 2	3.1668- 7		2.6783- 1		4.9128- 4	2.8407- 3	1.0581- 2	1.8485- 2	1.4394- 2	7.8404- 1

MATERIAL =3051 CROSS SECTION

^{10}B (3051)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,T2A)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.1877+ 4	2.1439+ 0		1.5416+ 0				9.2510- 3			1.1892+ 4	3.7004- 2	8.6927- 2
1.0000- 2 ~ 2.0000- 2	5.0767+ 3	2.1439+ 0		6.5865- 1				3.9531- 3			5.0580+ 3	1.5812- 2	8.6927- 2
2.0000- 2 ~ 4.0000- 2	3.5801+ 3	2.1438+ 0		4.6567- 1				2.7952- 3			3.6751+ 3	1.1181- 2	8.6927- 2
4.0000- 2 ~ 7.0000- 2	2.6390+ 3	2.1437+ 0		3.4238- 1				2.0543- 3			2.6272+ 3	8.2170- 3	8.6927- 2
7.0000- 2 ~ 1.0000- 1	2.1123+ 3	2.1437+ 0		2.7386- 1				1.6432- 3			2.1014+ 3	6.5727- 3	8.6927- 2
1.0000- 1 ~ 2.0000- 1	1.6047+ 3	2.1436+ 0		2.0835- 1				1.2501- 3			1.5982+ 3	5.0000- 3	8.6927- 2
2.0000- 1 ~ 4.0000- 1	1.1353+ 3	2.1436+ 0		1.4732- 1				8.8393- 4			1.1264+ 3	3.5357- 3	8.6927- 2
4.0000- 1 ~ 7.0000- 1	8.3453+ 2	2.1436+ 0		1.0627- 1				6.4961- 4			8.2957+ 2	2.5985- 3	8.6927- 2
7.0000- 1 ~ 1.0000+ 0	6.6761+ 2	2.1436+ 0		8.6803- 2				5.1962- 4			6.5330+ 2	2.0785- 3	8.6927- 2
1.0000+ 0 ~ 2.0000+ 0	5.0837+ 2	2.1435+ 0		6.5885- 2				3.9531- 4			5.0436+ 2	1.5812- 3	8.6927- 2
2.0000+ 0 ~ 4.0000+ 0	3.8981+ 2	2.1435+ 0		4.6567- 2				2.7952- 4			3.8644+ 2	1.1181- 3	8.6928- 2
4.0000+ 0 ~ 7.0000+ 0	2.6505+ 2	2.1431+ 0		3.4238- 2				2.0543- 4			2.6181+ 2	8.2170- 4	8.6928- 2
7.0000+ 0 ~ 1.0000+ 1	2.1207+ 2	2.1428+ 0		2.7386- 2				1.6432- 4			2.0934+ 2	6.5727- 4	8.6928- 2
1.0000+ 1 ~ 2.0000+ 1	1.5192+ 2	2.1421+ 0		2.0835- 2				1.2501- 4			1.5918+ 2	5.0000- 4	8.6928- 2
2.0000+ 1 ~ 4.0000+ 1	1.1505+ 2	2.1408+ 0		1.4732- 2				8.8393- 5			1.1249+ 2	3.5357- 4	8.6928- 2
4.0000+ 1 ~ 7.0000+ 1	8.5083+ 1	2.1381+ 0		1.0627- 2				6.4961- 5			8.2627+ 1	2.5985- 4	8.6929- 2
7.0000+ 1 ~ 1.0000+ 2	5.8493+ 1	2.1361+ 0		8.6803- 3				5.1962- 5			6.6065+ 1	2.0785- 4	8.6930- 2
1.0000+ 2 ~ 2.0000+ 2	5.2474+ 1	2.1327+ 0		6.5885- 3				3.9531- 5			5.0158+ 1	1.5812- 4	8.6932- 2
2.0000+ 2 ~ 4.0000+ 2	3.7809+ 1	2.1302+ 0		4.6566- 3				2.7952- 5			3.5340+ 1	1.1181- 4	8.6936- 2
4.0000+ 2 ~ 7.0000+ 2	2.8119+ 1	2.1281+ 0		3.4238- 3				2.0543- 5			2.5669+ 1	8.2170- 5	8.6943- 2
7.0000+ 2 ~ 1.0000+ 3	2.2848+ 1	2.1210+ 0		2.7386- 3				1.6432- 5			2.0660+ 1	6.5727- 5	8.6952- 2
1.0000+ 3 ~ 2.0000+ 3	1.7818+ 1	2.1194+ 0		2.0835- 3				1.2501- 5			1.5636+ 1	5.0000- 5	8.6971- 2
2.0000+ 3 ~ 4.0000+ 3	1.3137+ 1	2.1221+ 0		1.4732- 3				8.8393- 6			1.0971+ 1	3.5357- 5	8.7016- 2
4.0000+ 3 ~ 7.0000+ 3	1.0168+ 1	2.1319+ 0		1.0627- 3				6.4961- 6			8.0057+ 0	2.5985- 5	8.7092- 2
7.0000+ 3 ~ 1.0000+ 4	8.5173+ 0	2.1319+ 0		8.6803- 4				5.1961- 6			6.3719+ 0	2.0785- 5	8.7179- 2
1.0000+ 4 ~ 2.0000+ 4	7.0341+ 0	2.1592+ 0		6.5885- 4				3.9531- 6			4.8724+ 0	1.5812- 5	8.7371- 2
2.0000+ 4 ~ 4.0000+ 4	5.6646+ 0	2.2542+ 0		4.6567- 4				2.7952- 6			3.3998+ 0	1.1181- 5	8.7803- 2
4.0000+ 4 ~ 7.0000+ 4	5.0016+ 0	2.4437+ 0		3.4238- 4				2.0543- 6			2.5575+ 0	8.2170- 6	8.8505- 2
7.0000+ 4 ~ 1.0000+ 5	4.6241+ 0	2.6843+ 0		2.7386- 4				1.6432- 6			2.1395+ 0	6.5727- 6	8.9830- 2
1.0000+ 5 ~ 2.0000+ 5	4.8100+ 0	3.1704+ 0		2.0835- 4				1.5090- 6			1.8394+ 0	8.0359- 6	5.6547- 2
2.0000+ 5 ~ 4.0000+ 5	4.7786+ 0	3.7235+ 0		1.4732- 4				1.5090- 6			1.0612+ 0	3.7553- 3	7.2442- 2
4.0000+ 5 ~ 7.0000+ 5	4.1321+ 0	3.4815+ 0		1.0627- 4				1.5472- 5			6.5726- 1	1.3126- 2	1.2250- 1
7.0000+ 5 ~ 1.0000+ 6	3.0789+ 0	2.7341+ 0	1.4236- 2	8.6803- 5				1.5231- 3			3.0452- 1	2.4376- 2	1.1815- 1
1.0000+ 6 ~ 2.0000+ 6	2.2088+ 0	1.7140+ 0	7.2916- 2	5.5885- 5				1.2102- 2			3.6426- 1	4.5307- 2	1.8509- 1
2.0000+ 6 ~ 4.0000+ 6	1.9938+ 0	1.5480+ 0	1.0326- 1	4.6566- 5				2.4200- 2			2.5724- 1	8.1034- 2	2.2642- 1
4.0000+ 6 ~ 7.0000+ 6	1.8170+ 0	1.0720+ 0	1.7352- 1	3.4238- 5				4.9414- 2		1.3663- 2	1.2994- 1	1.8445- 1	4.3712- 1
7.0000+ 6 ~ 1.0000+ 7	1.5223+ 0	9.9732- 1	3.1473- 1	2.7386- 5		2.6174- 3		4.3072- 2		4.6236- 2	4.6507- 2	1.3262- 1	5.4141- 1
1.0000+ 7 ~ 2.0000+ 7	1.4853+ 0	9.7725- 1	2.4256- 1	2.0834- 5		2.6335- 2		4.2592- 2			4.6412- 2	4.1088- 2	8.7032- 2	7.4205- 1

MATERIAL =3052 CROSS SECTION ^{11}B (3052)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.0610+ 0	5.0453+ 0		1.5698- 2									6.0865- 2
1.0000- 2 ~ 2.0000- 2	5.0520+ 0	5.0453+ 0		6.7097- 3									6.0865- 2
2.0000- 2 ~ 4.0000- 2	5.0501+ 0	5.0453+ 0		4.7445- 3									6.0865- 2
4.0000- 2 ~ 7.0000- 2	5.0489+ 0	5.0453+ 0		3.4846- 3									6.0865- 2
7.0000- 2 ~ 1.0000- 1	5.0481+ 0	5.0453+ 0		2.7920- 3									6.0865- 2
1.0000- 1 ~ 2.0000- 1	5.0474+ 0	5.0453+ 0		2.1266- 3									6.0865- 2
2.0000- 1 ~ 4.0000- 1	5.0468+ 0	5.0453+ 0		1.6017- 3									6.0865- 2
4.0000- 1 ~ 7.0000- 1	5.0464+ 0	5.0453+ 0		1.1045- 3									6.0865- 2
7.0000- 1 ~ 1.0000+ 0	5.0462+ 0	5.0453+ 0		8.0317- 4									6.0865- 2
1.0000+ 0 ~ 2.0000+ 0	5.0460+ 0	5.0453+ 0		6.7312- 4									6.0865- 2
2.0000+ 0 ~ 4.0000+ 0	5.0458+ 0	5.0453+ 0		4.7874- 4									6.0865- 2
4.0000+ 0 ~ 7.0000+ 0	5.0455+ 0	5.0453+ 0		3.5117- 4									6.0865- 2
7.0000+ 0 ~ 1.0000+ 1	5.0455+ 0	5.0452+ 0		2.8161- 4									6.0865- 2
1.0000+ 1 ~ 2.0000+ 1	5.0454+ 0	5.0452+ 0		2.1485- 4									6.0868- 2
2.0000+ 1 ~ 4.0000+ 1	5.0452+ 0	5.0451+ 0		1.5251- 4									6.0868- 2
4.0000+ 1 ~ 7.0000+ 1	5.0450+ 0	5.0449+ 0		1.1267- 4									6.0870- 2
7.0000+ 1 ~ 1.0000+ 2	5.0449+ 0	5.0447+ 0		9.0700- 5									6.0873- 2
1.0000+ 2 ~ 2.0000+ 2	5.0442+ 0	5.0442+ 0		8.9564- 5									6.0878- 2
2.0000+ 2 ~ 4.0000+ 2	5.0431+ 0	5.0430+ 0		4.9907- 5									6.0892- 2
4.0000+ 2 ~ 7.0000+ 2	5.0412+ 0	5.0412+ 0		3.7521- 5									6.0915- 2
7.0000+ 2 ~ 1.0000+ 3	5.0389+ 0	5.0389+ 0		3.0302- 5									6.0942- 2
1.0000+ 3 ~ 2.0000+ 3	5.0340+ 0	5.0340+ 0		2.3844- 5									6.1000- 2
2.0000+ 3 ~ 4.0000+ 3	5.0227+ 0	5.0227+ 0		1.7404- 5									6.1134- 2
4.0000+ 3 ~ 7.0000+ 3	5.0040+ 0	5.0040+ 0		1.3402- 5									6.1356- 2
7.0000+ 3 ~ 1.0000+ 4	4.9818+ 0	4.9818+ 0		1.1174- 5									6.1620- 2
1.0000+ 4 ~ 2.0000+ 4	4.9347+ 0	4.9347+ 0		9.1629- 6									6.2178- 2
2.0000+ 4 ~ 4.0000+ 4	4.8539+ 0	4.8537+ 0		2.1993- 4									6.3411- 2
4.0000+ 4 ~ 7.0000+ 4	4.6866+ 0	4.6866+ 0		5.8457- 6									6.5207- 2
7.0000+ 4 ~ 1.0000+ 5	4.4862+ 0	4.4862+ 0		4.8944- 6									6.5907- 2
1.0000+ 5 ~ 2.0000+ 5	4.1501+ 0	4.1501+ 0		4.2129- 6									6.8755- 2
2.0000+ 5 ~ 4.0000+ 5	3.6077+ 0	3.6076+ 0		4.7801- 6									4.6894- 2
4.0000+ 5 ~ 7.0000+ 5	3.4502+ 0	3.4502+ 0		8.7077- 6									1.9044- 1
7.0000+ 5 ~ 1.0000+ 6	1.9358+ 0	1.9358+ 0		3.9417- 6									1.6079- 1
1.0000+ 6 ~ 2.0000+ 6	2.6372+ 0	2.6372+ 0		6.1817- 6									1.0800- 1
2.0000+ 6 ~ 4.0000+ 6	1.8066+ 0	1.7863+ 0	2.0490- 2	3.7436- 6									1.7635- 1
4.0000+ 6 ~ 7.0000+ 6	1.5984+ 0	1.3488+ 0	2.4981- 1	2.9438- 6									2.6639- 1
7.0000+ 6 ~ 1.0000+ 7	1.4408+ 0	1.0045+ 0	4.3038- 1	4.2347- 7						4.4548- 7	5.8956- 3	6.4135- 5	5.5527- 1
1.0000+ 7 ~ 2.0000+ 7	1.3518+ 0	7.9682- 1	2.5856- 1	0.0000+ 0		1.1389- 2		3.5544- 3	4.0564- 3	1.8809- 2	2.4812- 2	1.2545- 1	7.9201- 1

MATERIAL =3061 CROSS SECTION ^{12}C (3061)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.7509+ 0	4.7460+ 0		1.0865- 2									5.5603- 2
1.0000- 2 ~ 2.0000- 2	4.7509+ 0	4.7460+ 0		4.6515- 3									5.5603- 2
2.0000- 2 ~ 4.0000- 2	4.7495+ 0	4.7460+ 0		3.2891- 3									5.5603- 2
4.0000- 2 ~ 7.0000- 2	4.7488+ 0	4.7460+ 0		2.4172- 3									5.5603- 2
7.0000- 2 ~ 1.0000- 1	4.7481+ 0	4.7460+ 0		1.9335- 3									5.5603- 2
1.0000- 1 ~ 2.0000- 1	4.7477+ 0	4.7460+ 0		1.4709- 3									5.5603- 2
2.0000- 1 ~ 4.0000- 1	4.7476+ 0	4.7460+ 0		1.0401- 3									5.5603- 2
4.0000- 1 ~ 7.0000- 1	4.7472+ 0	4.7460+ 0		7.6438- 4									5.5603- 2
7.0000- 1 ~ 1.0000+ 0	4.7468+ 0	4.7460+ 0		6.114 - 4									5.5603- 2
1.0000+ 0 ~ 2.0000+ 0	4.7465+ 0	4.7460+ 0		4.6515- 4									5.5603- 2
2.0000+ 0 ~ 4.0000+ 0	4.7464+ 0	4.7460+ 0		3.2891- 4									5.5603- 2
4.0000+ 0 ~ 7.0000+ 0	4.7462+ 0	4.7460+ 0		2.4172- 4									5.5603- 2
7.0000+ 0 ~ 1.0000+ 1	4.7461+ 0	4.7459+ 0		1.9335- 4									5.5604- 2
1.0000+ 1 ~ 2.0000+ 1	4.7461+ 0	4.7459+ 0		1.4709- 4									5.5606- 2
2.0000+ 1 ~ 4.0000+ 1	4.7460+ 0	4.7458+ 0		1.0401- 4									5.5610- 2
4.0000+ 1 ~ 7.0000+ 1	4.7459+ 0	4.7458+ 0		7.6438- 5									5.5615- 2
7.0000+ 1 ~ 1.0000+ 2	4.7458+ 0	4.7457+ 0		6.1142- 5									5.5622- 2
1.0000+ 2 ~ 2.0000+ 2	4.7456+ 0	4.7455+ 0		4.6515- 5									5.5637- 2
2.0000+ 2 ~ 4.0000+ 2	4.7450+ 0	4.7449+ 0		3.2891- 5									5.5671- 2
4.0000+ 2 ~ 7.0000+ 2	4.7440+ 0	4.7440+ 0		2.4172- 5									5.5728- 2
7.0000+ 2 ~ 1.0000+ 3	4.7429+ 0	4.7429+ 0		1.9335- 5									5.5996- 2
1.0000+ 3 ~ 2.0000+ 3	4.7404+ 0	4.7404+ 0		1.4709- 5									5.6143- 2
2.0000+ 3 ~ 4.0000+ 3	4.7346+ 0	4.7346+ 0		1.0401- 5									5.6482- 2
4.0000+ 3 ~ 7.0000+ 3	4.7254+ 0	4.7254+ 0		7.6438- 6									5.7045- 2
7.0000+ 3 ~ 1.0000+ 4	4.7141+ 0	4.7141+ 0		6.1141- 6									5.7718- 2
1.0000+ 4 ~ 2.0000+ 4	4.6699+ 0	4.6699+ 0		4.6515- 6									5.9157- 2
2.0000+ 4 ~ 4.0000+ 4	4.6360+ 0	4.6350+ 0		3.2891- 6									6.2405- 2
4.0000+ 4 ~ 7.0000+ 4	4.5463+ 0	4.5463+ 0		2.4320- 6									6.7602- 2
7.0000+ 4 ~ 1.0000+ 5	4.4439+ 0	4.4439+ 0		2.0852- 6									7.3508- 2
1.0000+ 5 ~ 2.0000+ 5	4.2389+ 0	4.2389+ 0		1.9804- 6									8.4916- 2
2.0000+ 5 ~ 4.0000+ 5	3.8270+ 0	3.8270+ 0		2.3704- 6									1.0610- 1
4.0000+ 5 ~ 7.0000+ 5	3.2845+ 0	3.2845+ 0		3.4848- 6									1.2881- 1
7.0000+ 5 ~ 1.0000+ 6	2.7868+ 0	2.7868+ 0		4.9656- 6									1.4161- 1
1.0000+ 6 ~ 2.0000+ 6	2.0826+ 0	2.0826+ 0		8.1788- 6									1.2415- 1
2.0000+ 6 ~ 4.0000+ 6	2.0394+ 0	2.0394+ 0		1.3643- 5									3.7039- 2
4.0000+ 6 ~ 7.0000+ 6	1.2696+ 0	1.1630+ 0	1.2665- 1	2.9079- 6							7.4547- 5		3.0125- 1
7.0000+ 6 ~ 1.0000+ 7	1.3555+ 0	9.2262- 1	2.9657- 1	7.7603- 5							1.3637- 1		4.6068- 1
1.0000+ 7 ~ 2.0000+ 7	1.3894+ 0	8.8771- 1	4.1837- 1	1.3395- 4				6.5298- 3		1.1960- 2	6.4695- 2		6.5612- 1

MATERIAL =3071

CROSS SECTION

^{14}N (3071)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.5771+ 1	1.0007+ 1		2.3127- 1				5.4563+ 0					4.7880- 2
1.0000- 2 ~ 2.0000- 2	1.2510+ 1	1.0007+ 1		9.8827- 2				2.3515+ 0					4.7880- 2
2.0000- 2 ~ 4.0000- 2	1.1746+ 1	1.0003+ 1		6.8881- 2				1.6467+ 0					4.7880- 2
4.0000- 2 ~ 7.0000- 2	1.1302+ 1	9.9924+ 0		5.1358- 2				1.2115+ 0					4.7880- 2
7.0000- 2 ~ 1.0000- 1	1.1016+ 1	9.9851+ 0		4.1079- 2				9.6915- 1					4.7880- 2
1.0000- 1 ~ 2.0000- 1	1.0798+ 1	9.9793+ 0		3.1251- 2				7.3728- 1					4.7880- 2
2.0000- 1 ~ 4.0000- 1	1.0699+ 1	9.9740+ 0		2.2097- 2				5.2131- 1					4.7880- 2
4.0000- 1 ~ 7.0000- 1	1.0427+ 1	9.9669+ 0		1.8240- 2				3.8310- 1					4.7880- 2
7.0000- 1 ~ 1.0000+ 0	1.0304+ 1	9.9680+ 0		1.2990- 2				3.0643- 1					4.7880- 2
1.0000+ 0 ~ 2.0000+ 0	1.0150+ 1	9.9818+ 0		9.8823- 3				2.3312- 1					4.7880- 2
2.0000+ 0 ~ 4.0000+ 0	1.0129+ 1	9.9250+ 0		6.9879- 3				1.6485- 1					4.7880- 2
4.0000+ 0 ~ 7.0000+ 0	1.0102+ 1	9.9567+ 0		5.1354- 3				1.2116- 1					4.7880- 2
7.0000+ 0 ~ 1.0000+ 1	1.0087+ 1	9.9787+ 0		4.1078- 3				9.6914- 2					4.7880- 2
1.0000+ 1 ~ 2.0000+ 1	1.0055+ 1	9.9791+ 0		3.1251- 3				7.3728- 2					4.7880- 2
2.0000+ 1 ~ 4.0000+ 1	1.0008+ 1	9.9465+ 0		2.2097- 3				5.2131- 2					4.7880- 2
4.0000+ 1 ~ 7.0000+ 1	9.9872+ 0	9.9212+ 0		1.8240- 3				3.8310- 2					4.7880- 2
7.0000+ 1 ~ 1.0000+ 2	9.9376+ 0	9.9037+ 0		1.2990- 3				3.0643- 2					4.7880- 2
1.0000+ 2 ~ 2.0000+ 2	9.7640+ 0	9.7388+ 0		9.8823- 4				2.3312- 2					4.7880- 2
2.0000+ 2 ~ 4.0000+ 2	9.4714+ 0	9.4532+ 0		6.9879- 4				1.6485- 2					4.7880- 2
4.0000+ 2 ~ 7.0000+ 2	9.1826+ 0	9.1659+ 0		5.1354- 4				1.2116- 2					4.7880- 2
7.0000+ 2 ~ 1.0000+ 3	8.8620+ 0	8.8716+ 0		4.1078- 4				9.6914- 3					4.7880- 2
1.0000+ 3 ~ 2.0000+ 3	8.5519+ 0	8.5440+ 0		3.1251- 4				7.3728- 3					4.7815- 2
2.0000+ 3 ~ 4.0000+ 3	8.1917+ 0	8.1862+ 0		2.2097- 4				5.2131- 3					4.8021- 2
4.0000+ 3 ~ 7.0000+ 3	7.9458+ 0	7.9418+ 0		1.8240- 4				3.8310- 3					4.8197- 2
7.0000+ 3 ~ 1.0000+ 4	7.7507+ 0	7.7475+ 0		1.2990- 4				3.0643- 3					4.8408- 2
1.0000+ 4 ~ 2.0000+ 4	7.2169+ 0	7.2146+ 0		9.8824- 5				2.3108- 3					4.8875- 2
2.0000+ 4 ~ 4.0000+ 4	6.4789+ 0	6.4772+ 0		6.9880- 5				1.6025- 3					4.9955- 2
4.0000+ 4 ~ 7.0000+ 4	5.8671+ 0	5.8657+ 0		5.1358- 5				1.2076- 3					5.1788- 2
7.0000+ 4 ~ 1.0000+ 5	4.7408+ 0	4.7398+ 0		4.1079- 5				1.2247- 3					5.5934- 2
1.0000+ 5 ~ 2.0000+ 5	3.8603+ 0	3.8591+ 0		3.8301- 5				1.2120- 3					5.8632- 2
2.0000+ 5 ~ 4.0000+ 5	2.9076+ 0	2.8864+ 0		3.3870- 5				1.2122- 3			0.0000+ 0		4.7859- 2
4.0000+ 5 ~ 7.0000+ 5	2.2910+ 0	2.2389+ 0		3.1855- 5				1.1228- 2			0.0000+ 0		1.0077- 1
7.0000+ 5 ~ 1.0000+ 6	1.8073+ 0	1.5932+ 0		3.0472- 5				1.3636- 2			0.0000+ 0		1.0859- 1
1.0000+ 6 ~ 2.0000+ 6	2.0073+ 0	1.9484+ 0		3.0117- 5				3.3196- 2			2.5537- 2		1.3933- 1
2.0000+ 6 ~ 4.0000+ 6	1.5010+ 0	1.3408+ 0	5.0107- 3	3.8881- 5				5.0065- 2			2.0428- 1		1.7912- 1
4.0000+ 6 ~ 7.0000+ 6	1.3788+ 0	1.0230+ 0	1.0229- 1	4.8391- 5				3.4342- 2		1.6583- 3	2.0763- 1		2.0264- 1
7.0000+ 6 ~ 1.0000+ 7	1.2238+ 0	8.7909- 1	5.2382- 1	4.2414- 5				2.2691- 2	6.1849- 4	1.8624- 2	1.5711- 1		2.9774- 1
1.0000+ 7 ~ 2.0000+ 7	1.6360+ 0	7.8442- 1	4.7720- 1	3.0439- 6		6.5486- 3		1.8646- 2	4.0790- 2	3.3704- 2	8.4283- 2	1.0829- 2	5.3049- 1

MATERIAL =3072

CROSS SECTION

^{15}N (3072)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.5900+ 0	4.5899+ 0		7.5085- 5									4.4829- 2
1.0000- 2 ~ 2.0000- 2	4.5899+ 0	4.5899+ 0		3.2078- 6									4.4829- 2
2.0000- 2 ~ 4.0000- 2	4.5899+ 0	4.5899+ 0		2.2887- 6									4.4829- 2
4.0000- 2 ~ 7.0000- 2	4.5899+ 0	4.5899+ 0		1.6583- 6									4.4829- 2
7.0000- 2 ~ 1.0000- 1	4.5899+ 0	4.5899+ 0		1.3351- 6									4.4829- 2
1.0000- 1 ~ 2.0000- 1	4.5899+ 0	4.5899+ 0		1.0133- 6									4.4829- 2
2.0000- 1 ~ 4.0000- 1	4.5899+ 0	4.5899+ 0		7.1706- 8									4.4829- 2
4.0000- 1 ~ 7.0000- 1	4.5899+ 0	4.5899+ 0		5.2678- 8									4.4829- 2
7.0000- 1 ~ 1.0000+ 0	4.5899+ 0	4.5899+ 0		4.2206- 8									4.4829- 2
1.0000+ 0 ~ 2.0000+ 0	4.5899+ 0	4.5899+ 0		3.2081- 8									4.4829- 2
2.0000+ 0 ~ 4.0000+ 0	4.5899+ 0	4.5899+ 0		2.2868- 8									4.4829- 2
4.0000+ 0 ~ 7.0000+ 0	4.5899+ 0	4.5899+ 0		1.6675- 8									4.4829- 2
7.0000+ 0 ~ 1.0000+ 1	4.5899+ 0	4.5899+ 0		1.3324- 8									4.4829- 2
1.0000+ 1 ~ 2.0000+ 1	4.5899+ 0	4.5899+ 0		1.0145- 8									4.4829- 2
2.0000+ 1 ~ 4.0000+ 1	4.5898+ 0	4.5898+ 0		7.1741- 7									4.4829- 2
4.0000+ 1 ~ 7.0000+ 1	4.5897+ 0	4.5897+ 0		5.2747- 7									4.4829- 2
7.0000+ 1 ~ 1.0000+ 2	4.5896+ 0	4.5896+ 0		4.2192- 7									4.4829- 2
1.0000+ 2 ~ 2.0000+ 2	4.5893+ 0	4.5893+ 0		3.2101- 7									4.4829- 2
2.0000+ 2 ~ 4.0000+ 2	4.5887+ 0	4.5887+ 0		2.2710- 7									4.4829- 2
4.0000+ 2 ~ 7.0000+ 2	4.5877+ 0	4.5877+ 0		1.6591- 7									4.4829- 2
7.0000+ 2 ~ 1.0000+ 3	4.5866+ 0	4.5866+ 0		1.3390- 7									4.4829- 2
1.0000+ 3 ~ 2.0000+ 3	4.5840+ 0	4.5840+ 0		1.0198- 7									4.4826- 2
2.0000+ 3 ~ 4.0000+ 3	4.5781+ 0	4.5781+ 0		7.2483- 8									4.4821- 2
4.0000+ 3 ~ 7.0000+ 3	4.5684+ 0	4.5684+ 0		5.3745- 8									4.4817- 2
7.0000+ 3 ~ 1.0000+ 4	4.5568+ 0	4.5568+ 0		4.3387- 8									4.4814- 2
1.0000+ 4 ~ 2.0000+ 4	4.6319+ 0	4.5319+ 0		3.3758- 8									4.4812- 2
2.0000+ 4 ~ 4.0000+ 4	4.4781+ 0	4.4781+ 0		2.5100- 8									4.4812- 2
4.0000+ 4 ~ 7.0000+ 4	4.3874+ 0	4.3874+ 0		2.0055- 8									4.4812- 2
7.0000+ 4 ~ 1.0000+ 5	4.2874+ 0	4.2874+ 0		1.7701- 8									4.4812- 2
1.0000+ 5 ~ 2.0000+ 5	4.0950+ 0	4.0950+ 0		1.5542- 8									4.5580- 2
2.0000+ 5 ~ 4.0000+ 5	3.7319+ 0	3.7319+ 0		1.8802- 8									4.8904- 2
4.0000+ 5 ~ 7.0000+ 5	3.2914+ 0	3.2914+ 0		3.8457- 8									4.9037- 2
7.0000+ 5 ~ 1.0000+ 6	3.1312+ 0	3.1312+ 0		2.8071- 8									5.3146- 2
1.0000+ 6 ~ 2.0000+ 6	2.2273+ 0	2.2273+ 0		2.1522- 8									5.8269- 2
2.0000+ 6 ~ 4.0000+ 6	2.5800+ 0	2.5800+ 0		2.2813- 8									5.7502- 2
4.0000+ 6 ~ 7.0000+ 6	1.8693+ 0	1.8487+ 0	4.4830- 2	1.3840- 6									1.0243- 1
7.0000+ 6 ~ 1.0000+ 7	1.4665+ 0	1.1238+ 0	3.3832- 1	1.1995- 6				1.9718- 5		2.7921- 3	1.5775- 3		2.2743- 1
1.0000+ 7 ~ 2.0000+ 7	1.6428+ 0	1.1074+ 0	3.0108- 1	4.7800- 7		6.2808- 2		1.5069- 2	3.2548- 2	1.3299- 2	4.2727- 2	3.6409- 2	8.0295- 1

MATERIAL =3081 CROSS SECTION ^{16}O (3081)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.7808+ 0	3.7800+ 0		5.8597- 4									4.1884- 2
1.0000- 2 ~ 2.0000- 2	3.7802+ 0	3.7800+ 0		2.5037- 4									4.1884- 2
2.0000- 2 ~ 4.0000- 2	3.7802+ 0	3.7800+ 0		1.7704- 4									4.1884- 2
4.0000- 2 ~ 7.0000- 2	3.7801+ 0	3.7800+ 0		1.3015- 4									4.1884- 2
7.0000- 2 ~ 1.0000- 1	3.7801+ 0	3.7800+ 0		1.0411- 4									4.1884- 2
1.0000- 1 ~ 2.0000- 1	3.7801+ 0	3.7800+ 0		7.9219- 5									4.1884- 2
2.0000- 1 ~ 4.0000- 1	3.7801+ 0	3.7800+ 0		6.6024- 5									4.1884- 2
4.0000- 1 ~ 7.0000- 1	3.7800+ 0	3.7800+ 0		4.1180- 5									4.1884- 2
7.0000- 1 ~ 1.0000+ 0	3.7800+ 0	3.7800+ 0		3.2944- 5									4.1884- 2
1.0000+ 0 ~ 2.0000+ 0	3.7800+ 0	3.7800+ 0		2.5067- 5									4.1883- 2
2.0000+ 0 ~ 4.0000+ 0	3.7800+ 0	3.7800+ 0		1.7729- 5									4.1883- 2
4.0000+ 0 ~ 7.0000+ 0	3.7800+ 0	3.7800+ 0		1.3032- 5									4.1882- 2
7.0000+ 0 ~ 1.0000+ 1	3.7800+ 0	3.7800+ 0		1.0425- 5									4.1881- 2
1.0000+ 1 ~ 2.0000+ 1	3.7800+ 0	3.7800+ 0		7.9324- 6									4.1880- 2
2.0000+ 1 ~ 4.0000+ 1	3.7800+ 0	3.7800+ 0		6.6103- 6									4.1876- 2
4.0000+ 1 ~ 7.0000+ 1	3.7799+ 0	3.7799+ 0		4.1238- 6									4.1869- 2
7.0000+ 1 ~ 1.0000+ 2	3.7798+ 0	3.7798+ 0		3.2990- 6									4.1861- 2
1.0000+ 2 ~ 2.0000+ 2	3.7797+ 0	3.7797+ 0		2.5102- 6									4.1843- 2
2.0000+ 2 ~ 4.0000+ 2	3.7794+ 0	3.7794+ 0		1.7754- 6									4.1802- 2
4.0000+ 2 ~ 7.0000+ 2	3.7789+ 0	3.7789+ 0		1.3054- 6									4.1734- 2
7.0000+ 2 ~ 1.0000+ 3	3.7783+ 0	3.7783+ 0		1.0440- 6									4.1652- 2
1.0000+ 3 ~ 2.0000+ 3	3.7770+ 0	3.7770+ 0		7.9438- 7									4.1474- 2
2.0000+ 3 ~ 4.0000+ 3	3.7740+ 0	3.7740+ 0		5.6181- 7									4.1083- 2
4.0000+ 3 ~ 7.0000+ 3	3.7690+ 0	3.7690+ 0		4.1298- 7									4.0375- 2
7.0000+ 3 ~ 1.0000+ 4	3.7630+ 0	3.7630+ 0		3.3037- 7									3.9538- 2
1.0000+ 4 ~ 2.0000+ 4	3.7501+ 0	3.7501+ 0		2.5138- 7									3.7852- 2
2.0000+ 4 ~ 4.0000+ 4	3.7211+ 0	3.7211+ 0		1.7778- 7									3.3114- 2
4.0000+ 4 ~ 7.0000+ 4	3.6739+ 0	3.6739+ 0		1.3088- 7									2.5061- 2
7.0000+ 4 ~ 1.0000+ 5	3.6201+ 0	3.6201+ 0		1.0464- 7									1.4279- 2
1.0000+ 5 ~ 2.0000+ 5	3.5253+ 0	3.5253+ 0		7.8547- 8									-1.692- 2
2.0000+ 5 ~ 4.0000+ 5	3.8037+ 0	3.8037+ 0		5.6260- 8									-1.271- 1
4.0000+ 5 ~ 7.0000+ 5	5.4788+ 0	5.4788+ 0		4.1354- 8									2.8763- 1
7.0000+ 5 ~ 1.0000+ 6	3.5857+ 0	3.5857+ 0		3.3083- 8									8.3267- 2
1.0000+ 6 ~ 2.0000+ 6	2.7849+ 0	2.7849+ 0		2.5173- 8									9.8868- 2
2.0000+ 6 ~ 4.0000+ 6	1.8456+ 0	1.8446+ 0		1.7804- 8									1.4790- 1
4.0000+ 6 ~ 7.0000+ 6	1.2879+ 0	1.2149+ 0	1.9529- 2	1.3066- 8							1.3187- 3		5.8400- 2
7.0000+ 6 ~ 1.0000+ 7	1.2287+ 0	8.0069- 1	2.8364- 1	1.0469- 8							5.8157- 1		3.8157- 1
											1.4422- 1		3.9219- 1
1.0000+ 7 ~ 2.0000+ 7	1.6015+ 0	9.4653- 1	4.6542- 1	7.9859- 9		2.5772- 3		2.8461- 2	7.1068- 3	7.2324- 3	8.7540- 2	3.6785- 2	5.7918- 1

MATERIAL =3081 CROSS SECTION ^{19}F (3091)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.6723+ 0	3.6427+ 0		2.9814- 2									3.5395- 2
1.0000- 2 ~ 2.0000- 2	3.6663+ 0	3.6427+ 0		1.2655- 2									3.5395- 2
2.0000- 2 ~ 4.0000- 2	3.6616+ 0	3.6427+ 0		8.9409- 3									3.5395- 2
4.0000- 2 ~ 7.0000- 2	3.6493+ 0	3.6427+ 0		6.5787- 3									3.5395- 2
7.0000- 2 ~ 1.0000- 1	3.6480+ 0	3.6427+ 0		5.2689- 3									3.5395- 2
1.0000- 1 ~ 2.0000- 1	3.6467+ 0	3.6427+ 0		3.8970- 3									3.5395- 2
2.0000- 1 ~ 4.0000- 1	3.6468+ 0	3.6427+ 0		2.8298- 3									3.5396- 2
4.0000- 1 ~ 7.0000- 1	3.6448+ 0	3.6427+ 0		2.0791- 3									3.5396- 2
7.0000- 1 ~ 1.0000+ 0	3.6444+ 0	3.6427+ 0		1.6652- 3									3.5396- 2
1.0000+ 0 ~ 2.0000+ 0	3.6440+ 0	3.6427+ 0		1.2660- 3									3.5395- 2
2.0000+ 0 ~ 4.0000+ 0	3.6436+ 0	3.6427+ 0		8.9550- 4									3.5395- 2
4.0000+ 0 ~ 7.0000+ 0	3.6433+ 0	3.6427+ 0		6.5840- 4									3.5396- 2
7.0000+ 0 ~ 1.0000+ 1	3.6432+ 0	3.6427+ 0		5.2843- 4									3.5395- 2
1.0000+ 1 ~ 2.0000+ 1	3.6431+ 0	3.6428+ 0		4.0135- 4									3.5395- 2
2.0000+ 1 ~ 4.0000+ 1	3.6429+ 0	3.6428+ 0		2.8461- 4									3.5395- 2
4.0000+ 1 ~ 7.0000+ 1	3.6428+ 0	3.6428+ 0		2.1028- 4									3.5394- 2
7.0000+ 1 ~ 1.0000+ 2	3.6427+ 0	3.6425+ 0		1.6930- 4									3.5394- 2
1.0000+ 2 ~ 2.0000+ 2	3.6425+ 0	3.6424+ 0		1.3028- 4									3.5392- 2
2.0000+ 2 ~ 4.0000+ 2	3.6421+ 0	3.6420+ 0		9.4736- 5									3.5389- 2
4.0000+ 2 ~ 7.0000+ 2	3.6415+ 0	3.6415+ 0		7.2693- 5									3.5385- 2
7.0000+ 2 ~ 1.0000+ 3	3.6409+ 0	3.6408+ 0		6.1710- 5									3.5383- 2
1.0000+ 3 ~ 2.0000+ 3	3.6394+ 0	3.6394+ 0		5.2458- 5									3.5374- 2
2.0000+ 3 ~ 4.0000+ 3	3.6363+ 0	3.6362+ 0		4.7326- 5									3.5356- 2
4.0000+ 3 ~ 7.0000+ 3	3.6315+ 0	3.6314+ 0		5.0426- 5									3.5358- 2
7.0000+ 3 ~ 1.0000+ 4	3.6266+ 0	3.6265+ 0		8.1401- 5									3.5386- 2
1.0000+ 4 ~ 2.0000+ 4	3.6273+ 0	3.6272+ 0		1.4101- 4									3.5606- 2
2.0000+ 4 ~ 4.0000+ 4	7.0423+ 0	7.0283+ 0		1.4010- 2									3.6583- 2
4.0000+ 4 ~ 7.0000+ 4	8.9516+ 0	8.9480+ 0		3.6401- 3									3.8881- 2
7.0000+ 4 ~ 1.0000+ 5	1.0366+ 1	1.0365+ 1		2.9655- 3									4.4772- 2
1.0000+ 5 ~ 2.0000+ 5	5.8648+ 0	5.3045+ 0	5.5918- 1	9.2814- 4									6.0263- 2
2.0000+ 5 ~ 4.0000+ 5	7.8580+ 0	4.8205+ 0	3.0369+ 0	5.5893- 4									1.0426- 1
4.0000+ 5 ~ 7.0000+ 5	5.2702+ 0	2.8109+ 0	2.4598+ 0	3.3665- 4									1.8448- 1
7.0000+ 5 ~ 1.0000+ 6	4.1358+ 0	2.7073+ 0	1.4284+ 0	1.1949- 4									2.8543- 1
1.0000+ 5 ~ 2.0000+ 6	3.3541+ 0	2.2668+ 0	1.0871+ 0	8.2416- 5									3.7791- 1
2.0000+ 6 ~ 4.0000+ 6	2.4180+ 0	1.3340+ 0	1.0748+ 0	5.6238- 5							9.3434- 3		5.2250- 1
4.0000+ 6 ~ 7.0000+ 6	1.8081+ 0	7.7413- 1	8.7215- 1	4.1328- 5				1.2895- 2		8.3711- 4	1.3499- 1	1.3422- 2	6.5893- 1
7.0000+ 6 ~ 1.0000+ 7	1.7116+ 0	8.7807- 1	7.8134- 1	3.3057- 5				3.8131- 2	8.3880- 4	2.7906- 2	8.6706- 2	1.1627- 1	7.3652- 1
1.0000+ 7 ~ 2.0000+ 7	1.7730+ 0	8.7228- 1	4.7354- 1	2.5149- 5		4.9584- 2		1.6502- 2	7.0373- 2	3.9490- 2	2.3161- 2	2.1333- 1	8.5761- 1

MATERIAL =3111 CROSS SECTION ^{23}Na (3111)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.0679+ 0	3.0236+ 0		1.0443+ 0									2.9260- 2
1.0000- 2 ~ 2.0000- 2	3.7283+ 0	3.0236+ 0		7.0287- 1									2.9260- 2
2.0000- 2 ~ 4.0000- 2	3.6204+ 0	3.0236+ 0		4.8680- 1									2.9260- 2
4.0000- 2 ~ 7.0000- 2	3.5465+ 0	3.0236+ 0		3.0486- 1									2.9260- 2
7.0000- 2 ~ 1.0000- 1	3.3160+ 0	3.0236+ 0		2.9231- 1									2.9260- 2
1.0000- 1 ~ 2.0000- 1	3.2481+ 0	3.0237+ 0		2.2248- 1									2.9260- 2
2.0000- 1 ~ 4.0000- 1	3.1804+ 0	3.0237+ 0		1.5708- 1									2.9260- 2
4.0000- 1 ~ 7.0000- 1	3.1363+ 0	3.0236+ 0		1.1651- 1									2.9260- 2
7.0000- 1 ~ 1.0000+ 0	3.1162+ 0	3.0238+ 0		8.2338- 2									2.9260- 2
1.0000+ 0 ~ 2.0000+ 0	3.0844+ 0	3.0241+ 0		7.0330- 2									2.9250- 2
2.0000+ 0 ~ 4.0000+ 0	3.0743+ 0	3.0248+ 0		4.5796- 2									2.9250- 2
4.0000+ 0 ~ 7.0000+ 0	3.0619+ 0	3.0253+ 0		3.6664- 2									2.9250- 2
7.0000+ 0 ~ 1.0000+ 1	3.0658+ 0	3.0262+ 0		2.9408- 2									2.9250- 2
1.0000+ 1 ~ 2.0000+ 1	3.0607+ 0	3.0282+ 0		2.2454- 2									2.9250- 2
2.0000+ 1 ~ 4.0000+ 1	3.0493+ 0	3.0330+ 0		1.6041- 2									2.9249- 2
4.0000+ 1 ~ 7.0000+ 1	3.0633+ 0	3.0413+ 0		1.1868- 2									2.9249- 2
7.0000+ 1 ~ 1.0000+ 2	3.0617+ 0	3.0519+ 0		9.8130- 3									2.9249- 2
1.0000+ 2 ~ 2.0000+ 2	3.0858+ 0	3.0778+ 0		7.8081- 3									2.9246- 2
2.0000+ 2 ~ 4.0000+ 2	3.1801+ 0	3.1540+ 0		6.1732- 3									2.9242- 2
4.0000+ 2 ~ 7.0000+ 2	3.3658+ 0	3.3501+ 0		5.5735- 3									2.9238- 2
7.0000+ 2 ~ 1.0000+ 3	3.7684+ 0	3.7808+ 0		5.8004- 3									2.9235- 2
1.0000+ 3 ~ 2.0000+ 3	7.3618+ 0	7.3412+ 0		1.0729- 2									2.9212- 2
2.0000+ 3 ~ 4.0000+ 3	1.0890+ 2	1.0881+ 2		8.4848- 2									2.9174- 2
4.0000+ 3 ~ 7.0000+ 3	1.0778+ 1	1.0777+ 1		2.0314- 3									2.9140- 2
7.0000+ 3 ~ 1.0000+ 4	5.9696+ 0	5.9573+ 0		2.3671- 3									2.9115- 2
1.0000+ 4 ~ 2.0000+ 4	4.6187+ 0	4.6187+ 0		5.7369- 5									2.9149- 2
2.0000+ 4 ~ 4.0000+ 4	4.0276+ 0	4.0266+ 0		1.6122- 3									2.8977- 2
4.0000+ 4 ~ 7.0000+ 4	5.6425+ 0	5.6408+ 0		1.8340- 3									2.1186- 2
7.0000+ 4 ~ 1.0000+ 5	3.6314+ 0	3.6314+ 0		1.8649- 5									3.4281- 2
1.0000+ 5 ~ 2.0000+ 5	3.5723+ 0	3.5718+ 0		5.4229- 4									4.5884- 2
2.0000+ 5 ~ 4.0000+ 5	3.8602+ 0	3.8898+ 0		2.6898- 4									7.6529- 2
4.0000+ 5 ~ 7.0000+ 5	4.1238+ 0	3.9942+ 0	1.2813- 1	3.1016- 4									1.3877- 1
7.0000+ 5 ~ 1.0000+ 6	4.9842+ 0	4.8843+ 0	3.8972- 1	1.8404- 4									2.1263- 1
1.0000+ 6 ~ 2.0000+ 6	2.8903+ 0	2.3040+ 0	5.8412- 1	1.6808- 4									3.1483- 1
2.0000+ 6 ~ 4.0000+ 6	2.4388+ 0	1.7027+ 0	7.3607- 1	1.6380- 4				7.8407- 8					4.1707- 1
4.0000+ 6 ~ 7.0000+ 6	1.8602+ 0	1.0178+ 0	8.1806- 1	1.7884- 4				1.5488- 2			8.0848- 4		4.7326- 1
7.0000+ 6 ~ 1.0000+ 7	1.5665+ 0	8.4743- 1	8.0122- 1	2.0666- 4				5.4407- 2	5.6898- 4		5.1369- 2		5.4660- 1
1.0000+ 7 ~ 2.0000+ 7	1.7380+ 0	8.2068- 1	4.7767- 1	1.3476- 4		4.1878- 2		3.8782- 2	1.8851- 1		1.0592- 1	5.4498- 2	7.2763- 1

MATERIAL =3120 CROSS SECTION Mg (3120)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.7269+ 0	3.6320+ 0		1.9489- 1							0.0000+ 0		2.7372- 2
1.0000- 2 ~ 2.0000- 2	3.6153+ 0	3.6320+ 0		8.3282- 2							0.0000+ 0		2.7372- 2
2.0000- 2 ~ 4.0000- 2	3.6410+ 0	3.6320+ 0		5.8994- 2							0.0000+ 0		2.7372- 2
4.0000- 2 ~ 7.0000- 2	3.5763+ 0	3.6320+ 0		4.3238- 2							0.0000+ 0		2.7372- 2
7.0000- 2 ~ 1.0000- 1	3.6068+ 0	3.6320+ 0		3.4603- 2							0.0000+ 0		2.7372- 2
1.0000- 1 ~ 2.0000- 1	3.6684+ 0	3.6320+ 0		2.6380- 2							0.0000+ 0		2.7372- 2
2.0000- 1 ~ 4.0000- 1	3.6606+ 0	3.6320+ 0		1.8611- 2							0.0000+ 0		2.7372- 2
4.0000- 1 ~ 7.0000- 1	3.6467+ 0	3.6320+ 0		1.3868- 2							0.0000+ 0		2.7372- 2
7.0000- 1 ~ 1.0000+ 0	3.6430+ 0	3.6320+ 0		1.0838- 2							0.0000+ 0		2.7372- 2
1.0000+ 0 ~ 2.0000+ 0	3.6403+ 0	3.6320+ 0		8.3286- 3							0.0000+ 0		2.7372- 2
2.0000+ 0 ~ 4.0000+ 0	3.6378+ 0	3.6320+ 0		6.8938- 3							0.0000+ 0		2.7372- 2
4.0000+ 0 ~ 7.0000+ 0	3.6363+ 0	3.6320+ 0		4.3271- 3							0.0000+ 0		2.7372- 2
7.0000+ 0 ~ 1.0000+ 1	3.6364+ 0	3.6320+ 0		3.4868- 3							0.0000+ 0		2.7372- 2
1.0000+ 1 ~ 2.0000+ 1	3.6345+ 0	3.6319+ 0		2.6345- 3							0.0000+ 0		2.7372- 2
2.0000+ 1 ~ 4.0000+ 1	3.6337+ 0	3.6318+ 0		1.8832- 3							0.0000+ 0		2.7372- 2
4.0000+ 1 ~ 7.0000+ 1	3.6329+ 0	3.6318+ 0		1.3701- 3							0.0000+ 0		2.7372- 2
7.0000+ 1 ~ 1.0000+ 2	3.6324+ 0	3.6313+ 0		1.0849- 3							0.0000+ 0		2.7372- 2
1.0000+ 2 ~ 2.0000+ 2	3.6316+ 0	3.6308+ 0		8.3423- 4							0.0000+ 0		2.7372- 2
2.0000+ 2 ~ 4.0000+ 2	3.6301+ 0	3.6298+ 0		5.9057- 4							0.0000+ 0		2.7372- 2
4.0000+ 2 ~ 7.0000+ 2	3.6278+ 0	3.6274+ 0		4.3673- 4							0.0000+ 0		2.7372- 2
7.0000+ 2 ~ 1.0000+ 3	3.6253+ 0	3.6249+ 0		3.4944- 4							0.0000+ 0		2.7372- 2
1.0000+ 3 ~ 2.0000+ 3	3.6189+ 0	3.6187+ 0		2.6047- 4							0.0000+ 0		2.7362- 2
2.0000+ 3 ~ 4.0000+ 3	3.6084+ 0	3.6082+ 0		1.8503- 4							0.0000+ 0		2.7412- 2
4.0000+ 3 ~ 7.0000+ 3	3.4914+ 0	3.4912+ 0		1.3311- 4							0.0000+ 0		2.7478- 2
7.0000+ 3 ~ 1.0000+ 4	3.4787+ 0	3.4788+ 0		1.3861- 4							0.0000+ 0		2.7802- 2
1.0000+ 4 ~ 2.0000+ 4	4.2444+ 0	4.2438+ 0		8.2770- 4							0.0000+ 0		2.8072- 2
2.0000+ 4 ~ 4.0000+ 4	3.8436+ 0	3.8432+ 0		3.7808- 4							0.0000+ 0		2.9388- 2
4.0000+ 4 ~ 7.0000+ 4	3.8400+ 0	3.8397+ 0		3.2398- 3							0.0000+ 0		3.2830- 2
7.0000+ 4 ~ 1.0000+ 5	2.1813+ 1	2.1803+ 1		1.0615- 2							0.0000+ 0		3.7471- 2
1.0000+ 5 ~ 2.0000+ 5	4.4968+ 0	4.4961+ 0		8.2776- 4							0.0000+ 0		5.0637- 2
2.0000+ 5 ~ 4.0000+ 5	7.5979+ 0	7.5973+ 0		6.8145- 4							0.0000+ 0		8.5169- 2
4.0000+ 5 ~ 7.0000+ 5	6.8478+ 0	6.8468+ 0	4.2108- 4	6.5428- 4							0.0000+ 0		1.4372- 1
7.0000+ 5 ~ 1.0000+ 6	3.8883+ 0	3.8823+ 0	5.7637- 3	3.3242- 4							0.0000+ 0		2.0185- 1
1.0000+ 6 ~ 2.0000+ 6	2.9328+ 0	2.7891+ 0	1.6314- 1	2.5728- 4							7.9057- 5		2.8447- 1
2.0000+ 6 ~ 4.0000+ 6	2.2181+ 0	1.6364+ 0	8.8099- 1	1.3864- 4				1.0067- 5			1.6335- 3		3.9609- 1
4.0000+ 6 ~ 7.0000+ 6	1.8889+ 0	8.0804- 1	8.9887- 1	1.5149- 4				8.8179- 3			5.3848- 2		4.8744- 1
7.0000+ 6 ~ 1.0000+ 7	1.6831+ 0	6.4219- 1	8.5068- 1	1.4082- 4		6.8929- 3		8.8900- 2			2.0414- 1		5.5804- 1
1.0000+ 7 ~ 2.0000+ 7	1.7588+ 0	5.8942- 1	4.9887- 1	3.8702- 5		1.1870- 1		1.2789- 1	1.8588- 1		1.2800- 1	1.5338- 1	8.5532- 1

MATERIAL =3121 CROSS SECTION ^{24}Mg (3121)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.9041+ 0	3.7485+ 0		1.5562- 1									2.8036- 2
1.0000- 2 ~ 2.0000- 2	3.8150+ 0	3.7485+ 0		8.6502- 2									2.8036- 2
2.0000- 2 ~ 4.0000- 2	3.7855+ 0	3.7485+ 0		4.7018- 2									2.8036- 2
4.0000- 2 ~ 7.0000- 2	3.7850+ 0	3.7485+ 0		3.4540- 2									2.8036- 2
7.0000- 2 ~ 1.0000- 1	3.7782+ 0	3.7485+ 0		2.7863- 2									2.8036- 2
1.0000- 1 ~ 2.0000- 1	3.7695+ 0	3.7485+ 0		2.1014- 2									2.8036- 2
2.0000- 1 ~ 4.0000- 1	3.7634+ 0	3.7485+ 0		1.4882- 2									2.8036- 2
4.0000- 1 ~ 7.0000- 1	3.7594+ 0	3.7485+ 0		1.0930- 2									2.8036- 2
7.0000- 1 ~ 1.0000+ 0	3.7572+ 0	3.7485+ 0		8.7332- 3									2.8036- 2
1.0000+ 0 ~ 2.0000+ 0	3.7551+ 0	3.7485+ 0		6.6501- 3									2.8036- 2
2.0000+ 0 ~ 4.0000+ 0	3.7532+ 0	3.7485+ 0		4.7028- 3									2.8036- 2
4.0000+ 0 ~ 7.0000+ 0	3.7519+ 0	3.7485+ 0		3.4578- 3									2.8036- 2
7.0000+ 0 ~ 1.0000+ 1	3.7512+ 0	3.7485+ 0		2.7647- 3									2.8036- 2
1.0000+ 1 ~ 2.0000+ 1	3.7505+ 0	3.7434+ 0		2.1039- 3									2.8036- 2
2.0000+ 1 ~ 4.0000+ 1	3.7498+ 0	3.7464+ 0		1.4681- 3									2.8036- 2
4.0000+ 1 ~ 7.0000+ 1	3.7493+ 0	3.7462+ 0		1.0833- 3									2.8036- 2
7.0000+ 1 ~ 1.0000+ 2	3.7490+ 0	3.7481+ 0		8.7657- 4									2.8036- 2
1.0000+ 2 ~ 2.0000+ 2	3.7484+ 0	3.7478+ 0		6.6885- 4									2.8036- 2
2.0000+ 2 ~ 4.0000+ 2	3.7475+ 0	3.7470+ 0		4.7290- 4									2.8036- 2
4.0000+ 2 ~ 7.0000+ 2	3.7461+ 0	3.7458+ 0		3.4929- 4									2.8036- 2
7.0000+ 2 ~ 1.0000+ 3	3.7445+ 0	3.7443+ 0		2.8086- 4									2.8036- 2
1.0000+ 3 ~ 2.0000+ 3	3.7413+ 0	3.7411+ 0		2.1648- 4									2.8053- 2
2.0000+ 3 ~ 4.0000+ 3	3.7340+ 0	3.7339+ 0		1.5918- 4									2.8085- 2
4.0000+ 3 ~ 7.0000+ 3	3.7225+ 0	3.7224+ 0		1.2392- 4									2.8142- 2
7.0000+ 3 ~ 1.0000+ 4	3.7097+ 0	3.7096+ 0		1.0834- 4									2.8264- 2
1.0000+ 4 ~ 2.0000+ 4	3.6855+ 0	3.6854+ 0		1.0408- 4									2.8551- 2
2.0000+ 4 ~ 4.0000+ 4	3.6594+ 0	3.6593+ 0		1.5153- 4									3.0062- 2
4.0000+ 4 ~ 7.0000+ 4	4.3862+ 0	4.3816+ 0		9.5310- 3									3.3398- 2
7.0000+ 4 ~ 1.0000+ 5	2.8159+ 1	2.8167+ 1		1.1798- 2									3.8220- 2
1.0000+ 5 ~ 2.0000+ 5	4.9595+ 0	4.9578+ 0		7.5487- 4									5.1702- 2
2.0000+ 5 ~ 4.0000+ 5	8.6539+ 0	8.6531+ 0		7.2803- 4									6.6095- 2
4.0000+ 5 ~ 7.0000+ 5	8.1676+ 0	8.1669+ 0		7.2328- 4									1.4176- 1
7.0000+ 5 ~ 1.0000+ 6	3.6407+ 0	3.6403+ 0		3.3112- 4									1.9851- 1
1.0000+ 6 ~ 2.0000+ 6	3.0795+ 0	2.8988+ 0	1.7986- 1	3.4305- 4									2.8904- 1
2.0000+ 6 ~ 4.0000+ 6	2.4434+ 0	1.7303+ 0	7.1172- 1	1.3298- 4									3.8992- 1
4.0000+ 6 ~ 7.0000+ 6	2.0225+ 0	1.0880+ 0	9.9795- 1	1.8410- 4				9.0075- 3			5.0391- 2		4.7980- 1
7.0000+ 6 ~ 1.0000+ 7	1.8518+ 0	8.8418- 1	9.2687- 1	1.4777- 4				1.0793- 1			2.3029- 1		6.4902- 1
1.0000+ 7 ~ 2.0000+ 7	1.7987+ 0	5.9782- 1	5.1818- 1	4.5188- 5		7.2296- 3		1.5296- 1	2.0283- 1		1.3737- 1	1.8443- 1	8.5234- 1

MATERIAL =3122 CROSS SECTION ^{25}Mg (3122)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 6 ~ 1.0000- 2	3.1838+ 0	2.5847+ 0		5.8910- 1							0.0000+ 0		2.6913- 2
1.0000- 2 ~ 2.0000- 2	2.8465+ 0	2.5847+ 0		2.5175- 1							0.0000+ 0		2.6913- 2
2.0000- 2 ~ 4.0000- 2	2.7731+ 0	2.5847+ 0		1.7633- 1							0.0000+ 0		2.6913- 2
4.0000- 2 ~ 7.0000- 2	2.7254+ 0	2.5847+ 0		1.3070- 1							0.0000+ 0		2.6913- 2
7.0000- 2 ~ 1.0000- 1	2.6893+ 0	2.5847+ 0		1.0460- 1							0.0000+ 0		2.6913- 2
1.0000- 1 ~ 2.0000- 1	2.6744+ 0	2.5847+ 0		7.8663- 2							0.0000+ 0		2.6913- 2
2.0000- 1 ~ 4.0000- 1	2.6610+ 0	2.5847+ 0		5.7268- 2							0.0000+ 0		2.6913- 2
4.0000- 1 ~ 7.0000- 1	2.6361+ 0	2.5847+ 0		4.1375- 2							0.0000+ 0		2.6913- 2
7.0000- 1 ~ 1.0000+ 0	2.6278+ 0	2.5847+ 0		3.3084- 2							0.0000+ 0		2.6913- 2
1.0000+ 0 ~ 2.0000+ 0	2.6189+ 0	2.5847+ 0		2.5175- 2							0.0000+ 0		2.6913- 2
2.0000+ 0 ~ 4.0000+ 0	2.6124+ 0	2.5846+ 0		1.7603- 2							0.0000+ 0		2.6913- 2
4.0000+ 0 ~ 7.0000+ 0	2.6076+ 0	2.5846+ 0		1.3085- 2							0.0000+ 0		2.6913- 2
7.0000+ 0 ~ 1.0000+ 1	2.6049+ 0	2.5845+ 0		1.0475- 2							0.0000+ 0		2.6913- 2
1.0000+ 1 ~ 2.0000+ 1	2.6022+ 0	2.5943+ 0		7.8331- 3							0.0000+ 0		2.6913- 2
2.0000+ 1 ~ 4.0000+ 1	2.5994+ 0	2.5938+ 0		5.8314- 3							0.0000+ 0		2.6913- 2
4.0000+ 1 ~ 7.0000+ 1	2.5972+ 0	2.5930+ 0		4.1408- 3							0.0000+ 0		2.6913- 2
7.0000+ 1 ~ 1.0000+ 2	2.5954+ 0	2.5921+ 0		3.3086- 3							0.0000+ 0		2.6913- 2
1.0000+ 2 ~ 2.0000+ 2	2.5826+ 0	2.5801+ 0		2.5209- 3							0.0000+ 0		2.6915- 2
2.0000+ 2 ~ 4.0000+ 2	2.5673+ 0	2.5855+ 0		1.7841- 3							0.0000+ 0		2.6917- 2
4.0000+ 2 ~ 7.0000+ 2	2.5792+ 0	2.5778+ 0		1.3147- 3							0.0000+ 0		2.6920- 2
7.0000+ 2 ~ 1.0000+ 3	2.5700+ 0	2.5690+ 0		1.0536- 3							0.0000+ 0		2.6922- 2
1.0000+ 3 ~ 2.0000+ 3	2.5511+ 0	2.5504+ 0		8.0910- 4							0.0000+ 0		2.6950- 2
2.0000+ 3 ~ 4.0000+ 3	2.5117+ 0	2.5111+ 0		5.9050- 4							0.0000+ 0		2.7001- 2
4.0000+ 3 ~ 7.0000+ 3	2.4820+ 0	2.4815+ 0		4.7888- 4							0.0000+ 0		2.7082- 2
7.0000+ 3 ~ 1.0000+ 4	2.4482+ 0	2.4478+ 0		4.7901- 4							0.0000+ 0		2.7238- 2
1.0000+ 4 ~ 2.0000+ 4	1.0364+ 1	1.0358+ 1		5.4225- 4							0.0000+ 0		2.7943- 2
2.0000+ 4 ~ 4.0000+ 4	6.5806+ 0	6.5780+ 0		2.4640- 3							0.0000+ 0		2.9360- 2
4.0000+ 4 ~ 7.0000+ 4	2.0077+ 0	2.0032+ 0		4.4729- 3							0.0000+ 0		3.3108- 2
7.0000+ 4 ~ 1.0000+ 5	8.4525+ 0	8.4408+ 0		1.1882- 2							0.0000+ 0		3.8601- 2
1.0000+ 5 ~ 2.0000+ 5	3.0431+ 0	3.0429+ 0		2.5424- 4							0.0000+ 0		5.3371- 2
2.0000+ 5 ~ 4.0000+ 5	4.0075+ 0	4.0069+ 0		7.9859- 4							0.0000+ 0		8.9885- 2
4.0000+ 5 ~ 7.0000+ 5	3.8188+ 0	3.8141+ 0	4.2168- 3	4.8338- 4							0.0000+ 0		1.5023- 1
7.0000+ 5 ~ 1.0000+ 6	3.5447+ 0	3.5888+ 0	5.7537- 2	3.3500- 4							0.0000+ 0		2.1227- 1
1.0000+ 6 ~ 2.0000+ 6	3.1898+ 0	2.8199+ 0	2.4809- 1	2.3223- 4							7.9058- 4		3.0514- 1
2.0000+ 6 ~ 4.0000+ 6	2.6182+ 0	1.8472+ 0	8.5423- 1	1.2413- 4				1.0087- 4			1.5335- 2		4.4172- 1
4.0000+ 6 ~ 7.0000+ 6	2.0728+ 0	1.0894+ 0	8.3030- 1	8.8175- 5				1.7029- 2			1.4142- 1		5.9076- 1
7.0000+ 6 ~ 1.0000+ 7	1.5848+ 0	6.1312- 1	7.6084- 1	9.6920- 5		6.6929- 2		3.4869- 2			2.0648- 1		8.9743- 1
1.0000+ 7 ~ 2.0000+ 7	1.8241+ 0	8.9528- 1	2.5923- 1	1.0739- 5		6.1377- 1		3.9097- 2	4.7195- 2		1.1039- 1	5.8882- 2	8.5911- 1

MATERIAL =3123 CROSS SECTION ^{26}Mg (3123)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.9489+ 0	2.8305+ 0		1.1656- 1									2.5880- 2
1.0000- 2 ~ 2.0000- 2	2.8810+ 0	2.8303+ 0		5.0860- 2									2.5880- 2
2.0000- 2 ~ 4.0000- 2	2.8682+ 0	2.8303+ 0		3.5664- 2									2.5880- 2
4.0000- 2 ~ 7.0000- 2	2.8568+ 0	2.8303+ 0		2.8303- 2									2.5880- 2
7.0000- 2 ~ 1.0000- 1	2.8514+ 0	2.8303+ 0		2.1048- 2									2.5880- 2
1.0000- 1 ~ 2.0000- 1	2.8463+ 0	2.8303+ 0		1.6023- 2									2.5880- 2
2.0000- 1 ~ 4.0000- 1	2.8418+ 0	2.8303+ 0		1.1321- 2									2.5880- 2
4.0000- 1 ~ 7.0000- 1	2.8388+ 0	2.8303+ 0		8.3240- 3									2.5880- 2
7.0000- 1 ~ 1.0000+ 0	2.8370+ 0	2.8303+ 0		6.6690- 3									2.5880- 2
1.0000+ 0 ~ 2.0000+ 0	2.8354+ 0	2.8303+ 0		5.0868- 3									2.5880- 2
2.0000+ 0 ~ 4.0000+ 0	2.8339+ 0	2.8303+ 0		3.5828- 3									2.5880- 2
4.0000+ 0 ~ 7.0000+ 0	2.8329+ 0	2.8302+ 0		2.6502- 3									2.5880- 2
7.0000+ 0 ~ 1.0000+ 1	2.8323+ 0	2.8302+ 0		2.1072- 3									2.5880- 2
1.0000+ 1 ~ 2.0000+ 1	2.8317+ 0	2.8301+ 0		1.6013- 3									2.5880- 2
2.0000+ 1 ~ 4.0000+ 1	2.8311+ 0	2.8298+ 0		1.1318- 3									2.5880- 2
4.0000+ 1 ~ 7.0000+ 1	2.8305+ 0	2.8296+ 0		8.3067- 4									2.5880- 2
7.0000+ 1 ~ 1.0000+ 2	2.8299+ 0	2.8292+ 0		6.6300- 4									2.5880- 2
1.0000+ 2 ~ 2.0000+ 2	2.8289+ 0	2.8284+ 0		5.0344- 4									2.5880- 2
2.0000+ 2 ~ 4.0000+ 2	2.8289+ 0	2.8285+ 0		3.5377- 4									2.5878- 2
4.0000+ 2 ~ 7.0000+ 2	2.8257+ 0	2.8234+ 0		2.5735- 4									2.5879- 2
7.0000+ 2 ~ 1.0000+ 3	2.8198+ 0	2.8197+ 0		2.0338- 4									2.5878- 2
1.0000+ 3 ~ 2.0000+ 3	2.8120+ 0	2.8118+ 0		1.5086- 4									2.5889- 2
2.0000+ 3 ~ 4.0000+ 3	2.7948+ 0	2.7946+ 0		1.0042- 4									2.5937- 2
4.0000+ 3 ~ 7.0000+ 3	2.7680+ 0	2.7679+ 0		6.6992- 5									2.6007- 2
7.0000+ 3 ~ 1.0000+ 4	2.7392+ 0	2.7392+ 0		4.8051- 5									2.6157- 2
1.0000+ 4 ~ 2.0000+ 4	2.6875+ 0	2.6874+ 0		3.0108- 5									2.6894- 2
2.0000+ 4 ~ 4.0000+ 4	2.6011+ 0	2.6011+ 0		1.5162- 5									2.8329- 2
4.0000+ 4 ~ 7.0000+ 4	2.5128+ 0	2.5128+ 0		1.5384- 4									3.3228- 2
7.0000+ 4 ~ 1.0000+ 5	2.4637+ 0	2.4637+ 0		7.3867- 6									3.8642- 2
1.0000+ 5 ~ 2.0000+ 5	2.5087+ 0	2.5087+ 0		1.7714- 5									5.4508- 2
2.0000+ 5 ~ 4.0000+ 5	4.4211+ 0	4.4202+ 0		8.0898- 4									9.3517- 2
4.0000+ 5 ~ 7.0000+ 5	4.0880+ 0	4.0864+ 0		5.9823- 4									1.5708- 1
7.0000+ 5 ~ 1.0000+ 6	3.7481+ 0	3.7467+ 0		3.3928- 4									2.1791- 1
1.0000+ 6 ~ 2.0000+ 6	3.2825+ 0	3.2518+ 0	1.0335- 2	3.7934- 4									2.9084- 1
2.0000+ 6 ~ 4.0000+ 6	2.5915+ 0	2.1016+ 0	4.8884- 1	1.7274- 4									4.0794- 1
4.0000+ 6 ~ 7.0000+ 6	2.1221+ 0	1.1714+ 0	9.5005- 1	1.2029- 4									5.8317- 1
7.0000+ 6 ~ 1.0000+ 7	1.8198+ 0	8.1490- 1	1.0668+ 0	1.2861- 4				5.3031- 4			1.4367- 2		6.9899- 1
1.0000+ 7 ~ 2.0000+ 7	1.8494+ 0	5.9224- 1	5.7425- 1	2.8738- 5		4.6875- 1		2.8771- 2	9.8744- 3		5.8591- 2	1.6446- 2	8.5715- 1

MATERIAL =3131 CROSS SECTION ^{27}Al (3131)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.1273+ 0	1.4135+ 0		7.1378- 1									2.4795- 2
1.0000- 2 ~ 2.0000- 2	1.7188+ 0	1.4135+ 0		3.0537- 1									2.4795- 2
2.0000- 2 ~ 4.0000- 2	1.6288+ 0	1.4135+ 0		2.1508- 1									2.4795- 2
4.0000- 2 ~ 7.0000- 2	1.5683+ 0	1.4135+ 0		1.5573- 1									2.4795- 2
7.0000- 2 ~ 1.0000- 1	1.5368+ 0	1.4135+ 0		1.2352- 1									2.4795- 2
1.0000- 1 ~ 2.0000- 1	1.5080+ 0	1.4135+ 0		9.2457- 2									2.4795- 2
2.0000- 1 ~ 4.0000- 1	1.4778+ 0	1.4135+ 0		6.4309- 2									2.4795- 2
4.0000- 1 ~ 7.0000- 1	1.4801+ 0	1.4135+ 0		4.6608- 2									2.4795- 2
7.0000- 1 ~ 1.0000+ 0	1.4604+ 0	1.4135+ 0		3.6865- 2									2.4795- 2
1.0000+ 0 ~ 2.0000+ 0	1.4412+ 0	1.4135+ 0		2.7721- 2									2.4795- 2
2.0000+ 0 ~ 4.0000+ 0	1.4328+ 0	1.4135+ 0		1.9302- 2									2.4795- 2
4.0000+ 0 ~ 7.0000+ 0	1.4274+ 0	1.4134+ 0		1.4002- 2									2.4795- 2
7.0000+ 0 ~ 1.0000+ 1	1.4244+ 0	1.4134+ 0		1.1083- 2									2.4797- 2
1.0000+ 1 ~ 2.0000+ 1	1.4219+ 0	1.4132+ 0		8.3413- 3									2.4798- 2
2.0000+ 1 ~ 4.0000+ 1	1.4187+ 0	1.4129+ 0		5.8183- 3									2.4800- 2
4.0000+ 1 ~ 7.0000+ 1	1.4166+ 0	1.4124+ 0		4.2218- 3									2.4804- 2
7.0000+ 1 ~ 1.0000+ 2	1.4151+ 0	1.4118+ 0		3.3648- 3									2.4809- 2
1.0000+ 2 ~ 2.0000+ 2	1.4130+ 0	1.4104+ 0		2.5275- 3									2.4819- 2
2.0000+ 2 ~ 4.0000+ 2	1.4091+ 0	1.4079+ 0		1.7713- 3									2.4843- 2
4.0000+ 2 ~ 7.0000+ 2	1.4034+ 0	1.4021+ 0		1.2971- 3									2.4883- 2
7.0000+ 2 ~ 1.0000+ 3	1.3988+ 0	1.3958+ 0		1.0378- 3									2.4931- 2
1.0000+ 3 ~ 2.0000+ 3	1.3927+ 0	1.3919+ 0		8.2187- 4									2.5035- 2
2.0000+ 3 ~ 4.0000+ 3	1.3494+ 0	1.3487+ 0		6.5824- 4									2.5275- 2
4.0000+ 3 ~ 7.0000+ 3	1.2215+ 0	1.2786+ 0		4.3022- 4									2.5878- 2
7.0000+ 3 ~ 1.0000+ 4	1.2127+ 0	1.2122+ 0		5.4903- 4									2.6156- 2
1.0000+ 4 ~ 2.0000+ 4	8.8788- 1	8.8737- 1		5.0830- 4									2.7197- 2
2.0000+ 4 ~ 4.0000+ 4	7.0172+ 0	7.0115+ 0		5.8597- 3									2.9598- 2
4.0000+ 4 ~ 7.0000+ 4	6.6889+ 0	6.6882+ 0		6.3388- 4									3.3600- 2
7.0000+ 4 ~ 1.0000+ 5	6.3594+ 0	6.3574+ 0		1.9116- 3									3.8403- 2
1.0000+ 5 ~ 2.0000+ 5	6.7072+ 0	6.7051+ 0		2.0833- 3									5.4350- 2
2.0000+ 5 ~ 4.0000+ 5	4.0868+ 0	4.0854+ 0		1.1749- 3									1.0192- 1
4.0000+ 5 ~ 7.0000+ 5	3.9818+ 0	3.9811+ 0		8.5417- 4									1.8737- 1
7.0000+ 5 ~ 1.0000+ 6	3.7557+ 0	3.7474+ 0	7.4779- 3	7.5259- 4									2.8797- 1
1.0000+ 6 ~ 2.0000+ 6	3.1239+ 0	2.9351+ 0	1.8821- 1	5.2675- 4				4.7108-16					4.0240- 1
2.0000+ 6 ~ 4.0000+ 6	2.7424+ 0	2.2288+ 0	5.1073- 1	4.4048- 4				2.2709- 3			1.5871-14		5.1442- 1
4.0000+ 6 ~ 7.0000+ 6	2.1313+ 0	1.2788+ 0	8.1258- 1	3.1813- 4				3.7203- 2			2.4127- 3		5.7340- 1
7.0000+ 6 ~ 1.0000+ 7	1.7883+ 0	8.3844- 1	7.8158- 1	2.6848- 4				9.3652- 2	1.0656- 3		6.2317- 2		6.1890- 1
1.0000+ 7 ~ 2.0000+ 7	1.7388+ 0	7.7439- 1	4.2834- 1	2.8282- 4		9.1180- 2		7.1407- 2	2.3637- 1		9.2798- 2	4.5758- 2	7.1914- 1

MATERIAL =3140 CROSS SECTION **Si (3140)**

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.7018+ 0	2.1721+ 0		5.2984- 1									2.3831- 2
1.0000- 2 ~ 2.0000- 2	2.3984+ 0	2.1721+ 0		2.2634- 1									
2.0000- 2 ~ 4.0000- 2	2.3323+ 0	2.1721+ 0		1.6026- 1									2.3831- 2
4.0000- 2 ~ 7.0000- 2	2.2898+ 0	2.1721+ 0		1.1763- 1									2.3831- 2
7.0000- 2 ~ 1.0000- 1	2.2662+ 0	2.1721+ 0		9.4046- 2									2.3831- 2
													2.3831- 2
1.0000- 1 ~ 2.0000- 1	2.2437+ 0	2.1721+ 0		7.1647- 2									
2.0000- 1 ~ 4.0000- 1	2.2227+ 0	2.1721+ 0		5.0619- 2									2.3831- 2
4.0000- 1 ~ 7.0000- 1	2.2063+ 0	2.1721+ 0		3.7234- 2									2.3831- 2
7.0000- 1 ~ 1.0000+ 0	2.2019+ 0	2.1721+ 0		2.9785- 2									2.3831- 2
													2.3831- 2
1.0000+ 0 ~ 2.0000+ 0	2.1947+ 0	2.1721+ 0		2.2667- 2									
2.0000+ 0 ~ 4.0000+ 0	2.1881+ 0	2.1720+ 0		1.6033- 2									2.3832- 2
4.0000+ 0 ~ 7.0000+ 0	2.1838+ 0	2.1720+ 0		1.1775- 2									2.3832- 2
7.0000+ 0 ~ 1.0000+ 1	2.1814+ 0	2.1720+ 0		9.4387- 3									2.3833- 2
													2.3833- 2
1.0000+ 1 ~ 2.0000+ 1	2.1791+ 0	2.1718+ 0		7.1748- 3									
2.0000+ 1 ~ 4.0000+ 1	2.1768+ 0	2.1716+ 0		5.0750- 3									2.3835- 2
4.0000+ 1 ~ 7.0000+ 1	2.1752+ 0	2.1715+ 0		3.7314- 3									2.3839- 2
7.0000+ 1 ~ 1.0000+ 2	2.1741+ 0	2.1712+ 0		2.9625- 3									2.3845- 2
													2.3854- 2
1.0000+ 2 ~ 2.0000+ 2	2.1727+ 0	2.1705+ 0		2.2721- 3									
2.0000+ 2 ~ 4.0000+ 2	2.1704+ 0	2.1688+ 0		1.6086- 3									2.3872- 2
4.0000+ 2 ~ 7.0000+ 2	2.1678+ 0	2.1681+ 0		1.1855- 3									2.3913- 2
7.0000+ 2 ~ 1.0000+ 3	2.1638+ 0	2.1625+ 0		9.5119- 4									2.3961- 2
													2.4083- 2
1.0000+ 3 ~ 2.0000+ 3	2.1588+ 0	2.1580+ 0		7.7082- 4									
2.0000+ 3 ~ 4.0000+ 3	2.2598+ 0	2.2589+ 0		1.9803- 2									2.4240- 2
4.0000+ 3 ~ 7.0000+ 3	2.1675+ 0	2.1625+ 0		5.1997- 3									2.4649- 2
7.0000+ 3 ~ 1.0000+ 4	2.0790+ 0	2.0787+ 0		3.0171- 4									2.5331- 2
													2.6149- 2
1.0000+ 4 ~ 2.0000+ 4	2.0090+ 0	2.0080+ 0		9.8850- 4									
2.0000+ 4 ~ 4.0000+ 4	1.7877+ 0	1.7864+ 0		1.2315- 3									2.7921- 2
4.0000+ 4 ~ 7.0000+ 4	1.2587+ 0	1.2558+ 0		1.8082- 3									3.2512- 2
7.0000+ 4 ~ 1.0000+ 5	1.5805+ 0	1.5802+ 0		2.8443- 4							3.8711-13		3.8829- 2
											1.1013-12		4.7010- 2
1.0000+ 5 ~ 2.0000+ 5	4.1459+ 0	4.1450+ 0		8.3614- 4									
2.0000+ 5 ~ 4.0000+ 5	4.8373+ 0	4.8370+ 0		3.2408- 4							2.8921-12		6.6153- 2
4.0000+ 5 ~ 7.0000+ 5	3.3776+ 0	3.3771+ 0		4.4182- 4							6.3632-12		1.2681- 1
7.0000+ 5 ~ 1.0000+ 6	4.0868+ 0	4.0857+ 0		7.1099- 4							1.2462-11		2.3138- 1
											1.9824-11		3.4698- 1
1.0000+ 6 ~ 2.0000+ 6	3.3177+ 0	3.2952+ 0	2.2087- 2	4.7538- 4									
2.0000+ 6 ~ 4.0000+ 6	2.5272+ 0	2.0504+ 0	4.7802- 1	5.6835- 4							9.6384- 7		4.4071- 1
4.0000+ 6 ~ 7.0000+ 6	2.2234+ 0	1.5192+ 0	6.2598- 1	8.8837- 4				1.5081- 5			2.1006- 4		6.2596- 1
7.0000+ 6 ~ 1.0000+ 7	1.9687+ 0	9.7452- 1	8.0613- 1	8.8560- 4		3.9685- 4		5.6060- 2			1.8620- 2		5.7209- 1
								2.3840- 1			1.4871- 1		8.4692- 1
1.0000+ 7 ~ 2.0000+ 7	1.7872+ 0	8.1108- 1	3.7440- 1	8.0278- 4		2.7730- 2		2.0178- 1	1.5451- 1		1.8882- 1	5.8202- 2	7.4519- 1

MATERIAL =3141 CROSS SECTION **^{28}Si (3141)**

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.0958+ 0	2.1487+ 0		5.4712- 1									2.3924- 2
1.0000- 2 ~ 2.0000- 2	2.3824+ 0	2.1487+ 0		2.3371- 1									
2.0000- 2 ~ 4.0000- 2	2.3140+ 0	2.1487+ 0		1.6538- 1									2.3924- 2
4.0000- 2 ~ 7.0000- 2	2.2703+ 0	2.1487+ 0		1.2181- 1									2.3924- 2
7.0000- 2 ~ 1.0000- 1	2.2458+ 0	2.1487+ 0		9.7134- 2									2.3924- 2
													2.3924- 2
1.0000- 1 ~ 2.0000- 1	2.2225+ 0	2.1487+ 0		7.3846- 2									
2.0000- 1 ~ 4.0000- 1	2.2008+ 0	2.1487+ 0		5.2187- 2									2.3924- 2
4.0000- 1 ~ 7.0000- 1	2.1870+ 0	2.1487+ 0		3.8378- 2									2.3924- 2
7.0000- 1 ~ 1.0000+ 0	2.1784+ 0	2.1487+ 0		3.0718- 2									2.3924- 2
													2.3924- 2
1.0000+ 0 ~ 2.0000+ 0	2.1720+ 0	2.1487+ 0		2.3361- 2									
2.0000+ 0 ~ 4.0000+ 0	2.1652+ 0	2.1487+ 0		1.6516- 2									2.3926- 2
4.0000+ 0 ~ 7.0000+ 0	2.1608+ 0	2.1486+ 0		1.2133- 2									2.3925- 2
7.0000+ 0 ~ 1.0000+ 1	2.1583+ 0	2.1486+ 0		9.6998- 3									2.3926- 2
1.0000+ 1 ~ 2.0000+ 1	2.1559+ 0	2.1485+ 0		7.3614- 3									2.3927- 2
2.0000+ 1 ~ 4.0000+ 1	2.1538+ 0	2.1484+ 0		5.2190- 3									2.3931- 2
4.0000+ 1 ~ 7.0000+ 1	2.1519+ 0	2.1481+ 0		3.8586- 3									2.3936- 2
7.0000+ 1 ~ 1.0000+ 2	2.1509+ 0	2.1478+ 0		3.0544- 3									2.3943- 2
1.0000+ 2 ~ 2.0000+ 2	2.1486+ 0	2.1472+ 0		2.3338- 3									2.3957- 2
2.0000+ 2 ~ 4.0000+ 2	2.1473+ 0	2.1458+ 0		1.6510- 3									2.3980- 2
4.0000+ 2 ~ 7.0000+ 2	2.1443+ 0	2.1431+ 0		1.2148- 3									2.4044- 2
7.0000+ 2 ~ 1.0000+ 3	2.1410+ 0	2.1400+ 0		9.7317- 4									2.4109- 2
1.0000+ 3 ~ 2.0000+ 3	2.1341+ 0	2.1333+ 0		7.3688- 4									2.4251- 2
2.0000+ 3 ~ 4.0000+ 3	2.1182+ 0	2.1177+ 0		5.1782- 4									2.4577- 2
4.0000+ 3 ~ 7.0000+ 3	2.0914+ 0	2.0910+ 0		3.8035- 4									2.5121- 2
7.0000+ 3 ~ 1.0000+ 4	2.0583+ 0	2.0580+ 0		3.0818- 4									2.5774- 2
1.0000+ 4 ~ 2.0000+ 4	1.9805+ 0	1.9803+ 0		2.5585- 4									2.7188- 2
2.0000+ 4 ~ 4.0000+ 4	1.7448+ 0	1.7442+ 0		5.8030- 4									3.0451- 2
4.0000+ 4 ~ 7.0000+ 4	3.3388+ 0	3.3345+ 0		4.1119- 3									3.5891- 2
7.0000+ 4 ~ 1.0000+ 5	1.5504+ 0	1.5501+ 0		2.9729- 4									4.2418- 2
1.0000+ 5 ~ 2.0000+ 5	4.2847+ 0	4.2839+ 0		7.8734- 4									5.2468- 2
2.0000+ 5 ~ 4.0000+ 5	5.1871+ 0	5.1868+ 0		3.1452- 4									1.1900- 1
4.0000+ 5 ~ 7.0000+ 5	3.5019+ 0	3.5015+ 0		4.3714- 4									2.1874- 1
7.0000+ 5 ~ 1.0000+ 6	4.2588+ 0	4.2591+ 0		8.8300- 4									3.3234- 1
1.0000+ 6 ~ 2.0000+ 6	3.4898+ 0	3.4828+ 0	1.6528- 2	4.8310- 4									4.3364- 1
2.0000+ 6 ~ 4.0000+ 6	2.5272+ 0	2.0538+ 0	4.7293- 1	5.9363- 4							1.5493- 6		5.2435- 1
4.0000+ 6 ~ 7.0000+ 6	2.2234+ 0	1.5358+ 0	6.0979- 1	7.7761- 4				5.9914- 2			1.7973- 2		5.8810- 1
7.0000+ 6 ~ 1.0000+ 7	1.9687+ 0	8.8419- 1	5.7807- 1	8.1819- 4				2.5434- 1			1.5353- 1		8.4458- 1
1.0000+ 7 ~ 2.0000+ 7	1.7895+ 0	8.0484- 1	3.7041- 1	8.2139- 4		2.7954- 4		2.1387- 1	1.8472- 1		1.7398- 1	8.0873- 2	7.4542- 1

MATERIAL =3142 CROSS SECTION ^{29}Si (3142)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.1568+ 0	2.8428+ 0		3.1365- 1									2.3094- 2
1.0000- 2 ~ 2.0000- 2	2.9770+ 0	2.8428+ 0		1.3412- 1									2.3094- 2
2.0000- 2 ~ 4.0000- 2	2.9379+ 0	2.8428+ 0		8.4984- 2									2.3094- 2
4.0000- 2 ~ 7.0000- 2	2.9130+ 0	2.8428+ 0		7.0057- 2									2.3094- 2
7.0000- 2 ~ 1.0000- 1	2.8991+ 0	2.8428+ 0		5.6147- 2									2.3094- 2
1.0000- 1 ~ 2.0000- 1	2.8657+ 0	2.8428+ 0		4.2780- 2									2.3094- 2
2.0000- 1 ~ 4.0000- 1	2.8753+ 0	2.8428+ 0		3.0988- 2									2.3094- 2
4.0000- 1 ~ 7.0000- 1	2.8653+ 0	2.8428+ 0		2.2409- 2									2.3094- 2
7.0000- 1 ~ 1.0000+ 0	2.8609+ 0	2.8428+ 0		1.7883- 2									2.3094- 2
1.0000+ 0 ~ 2.0000+ 0	2.8588+ 0	2.8428+ 0		1.3717- 2									2.3094- 2
2.0000+ 0 ~ 4.0000+ 0	2.8828+ 0	2.8428+ 0		9.7389- 3									2.3094- 2
4.0000+ 0 ~ 7.0000+ 0	2.8499+ 0	2.8427+ 0		7.1884- 3									2.3095- 2
7.0000+ 0 ~ 1.0000+ 1	2.8484+ 0	2.8427+ 0		5.7569- 3									2.3096- 2
1.0000+ 1 ~ 2.0000+ 1	2.8489+ 0	2.8425+ 0		4.3986- 3									2.3097- 2
2.0000+ 1 ~ 4.0000+ 1	2.8451+ 0	2.8420+ 0		3.1207- 3									2.3101- 2
4.0000+ 1 ~ 7.0000+ 1	2.8435+ 0	2.8412+ 0		2.3012- 3									2.3107- 2
7.0000+ 1 ~ 1.0000+ 2	2.8421+ 0	2.8403+ 0		1.8413- 3									2.3114- 2
1.0000+ 2 ~ 2.0000+ 2	2.8397+ 0	2.8383+ 0		1.4030- 3									2.3130- 2
2.0000+ 2 ~ 4.0000+ 2	2.8348+ 0	2.8338+ 0		9.8028- 4									2.3187- 2
4.0000+ 2 ~ 7.0000+ 2	2.8270+ 0	2.8263+ 0		7.2285- 4									2.3229- 2
7.0000+ 2 ~ 1.0000+ 3	2.8181+ 0	2.8175+ 0		5.7305- 4									2.3302- 2
1.0000+ 3 ~ 2.0000+ 3	2.7986+ 0	2.7981+ 0		4.3847- 4									2.3462- 2
2.0000+ 3 ~ 4.0000+ 3	2.7598+ 0	2.7594+ 0		3.1773- 4									2.3830- 2
4.0000+ 3 ~ 7.0000+ 3	2.7012+ 0	2.7010+ 0		2.3881- 4									2.4443- 2
7.0000+ 3 ~ 1.0000+ 4	2.6408+ 0	2.6408+ 0		1.9163- 4									2.5180- 2
1.0000+ 4 ~ 2.0000+ 4	2.6624+ 0	2.6666+ 0		1.5480- 2									2.6775- 2
2.0000+ 4 ~ 4.0000+ 4	2.8151+ 0	2.8000+ 0		1.5164- 2									3.0456- 2
4.0000+ 4 ~ 7.0000+ 4	2.2571+ 0	2.2570+ 0		1.4775- 4							7.8610-12		3.8591- 2
7.0000+ 4 ~ 1.0000+ 5	2.1861+ 0	2.1860+ 0		9.7199- 5							2.3583-11		4.3853- 2
1.0000+ 5 ~ 2.0000+ 5	4.7290+ 0	4.7284+ 0		6.1383- 4							5.7847-11		5.5955- 2
2.0000+ 5 ~ 4.0000+ 5	4.8184+ 0	4.8180+ 0		4.8094- 4							1.3628-10		1.2584- 1
4.0000+ 5 ~ 7.0000+ 5	4.8281+ 0	4.8277+ 0		3.8180- 4							2.6727-10		2.2881- 1
7.0000+ 5 ~ 1.0000+ 6	4.5869+ 0	4.5868+ 0		3.5199- 4							4.2449-10		3.4316- 1
1.0000+ 6 ~ 2.0000+ 6	3.0064+ 0	3.7290+ 0	1.4712- 1	2.6378- 4							2.0639- 5		4.4898- 1
2.0000+ 6 ~ 4.0000+ 6	2.8187+ 0	2.2788+ 0	6.3225- 1	1.3529- 4				3.2315- 4			4.4880- 3		5.5555- 1
4.0000+ 6 ~ 7.0000+ 6	2.1865+ 0	1.2442+ 0	8.7117- 1	1.0904- 4				2.8801- 2			8.5246- 2		6.3248- 1
7.0000+ 6 ~ 1.0000+ 7	1.8616+ 0	7.3440- 1	8.8088- 1	1.5134- 4		8.4978- 3		8.1487- 2			1.4512- 1		6.8321- 1
1.0000+ 7 ~ 2.0000+ 7	1.7506+ 0	7.8537- 1	3.2753- 1	3.0439- 4		3.4439- 1		8.5204- 2	4.9984- 2		1.3871- 1	3.8939- 2	7.4107- 1

MATERIAL =3143 CROSS SECTION ^{30}Si (3143)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.8246+ 0	2.4908+ 0		3.3280- 1									2.2300- 2
1.0000- 2 ~ 2.0000- 2	2.6334+ 0	2.4908+ 0		1.4222- 1									2.2300- 2
2.0000- 2 ~ 4.0000- 2	2.5923+ 0	2.4908+ 0		1.0087- 1									2.2300- 2
4.0000- 2 ~ 7.0000- 2	2.5687+ 0	2.4908+ 0		7.4782- 2									2.2300- 2
7.0000- 2 ~ 1.0000- 1	2.5614+ 0	2.4908+ 0		6.0288- 2									2.2300- 2
1.0000- 1 ~ 2.0000- 1	2.5378+ 0	2.4908+ 0		4.8347- 2									2.2300- 2
2.0000- 1 ~ 4.0000- 1	2.5344+ 0	2.4908+ 0		3.3132- 2									2.2301- 2
4.0000- 1 ~ 7.0000- 1	2.5187+ 0	2.4908+ 0		2.4828- 2									2.2301- 2
7.0000- 1 ~ 1.0000+ 0	2.5110+ 0	2.4908+ 0		1.8866- 2									2.2301- 2
1.0000+ 0 ~ 2.0000+ 0	2.5063+ 0	2.4908+ 0		1.6251- 2									2.2301- 2
2.0000+ 0 ~ 4.0000+ 0	2.5019+ 0	2.4908+ 0		1.0919- 2									2.2301- 2
4.0000+ 0 ~ 7.3000+ 0	2.4990+ 0	2.4908+ 0		8.1085- 3									2.2302- 2
7.0000+ 0 ~ 1.0000+ 1	2.4974+ 0	2.4908+ 0		6.5528- 3									2.2303- 2
1.0000+ 1 ~ 2.0000+ 1	2.4958+ 0	2.4907+ 0		5.0326- 3									2.2305- 2
2.0000+ 1 ~ 4.0000+ 1	2.4944+ 0	2.4907+ 0		3.8104- 3									2.2309- 2
4.0000+ 1 ~ 7.0000+ 1	2.4934+ 0	2.4908+ 0		2.8928- 3									2.2315- 2
7.0000+ 1 ~ 1.0000+ 2	2.4928+ 0	2.4908+ 0		2.1791- 3									2.2324- 2
1.0000+ 2 ~ 2.0000+ 2	2.4921+ 0	2.4904+ 0		1.6922- 3									2.2341- 2
2.0000+ 2 ~ 4.0000+ 2	2.4913+ 0	2.4901+ 0		1.2481- 3									2.2382- 2
4.0000+ 2 ~ 7.0000+ 2	2.4905+ 0	2.4895+ 0		9.8971- 4									2.2451- 2
7.0000+ 2 ~ 1.0000+ 3	2.4900+ 0	2.4890+ 0		8.0824- 4									2.2533- 2
1.0000+ 3 ~ 2.0000+ 3	2.4978+ 0	2.4893+ 0		2.2942- 3									2.2710- 2
2.0000+ 3 ~ 4.0000+ 3	7.3183+ 0	6.6932+ 0		6.2283- 4									2.3120- 2
4.0000+ 3 ~ 7.0000+ 3	3.8341+ 0	3.7778+ 0		1.5609- 1									2.3804- 2
7.0000+ 3 ~ 1.0000+ 4	2.4792+ 0	2.4728+ 0		3.4883- 4									2.4624- 2
1.0000+ 4 ~ 2.0000+ 4	2.4555+ 0	2.4552+ 0		2.4303- 4									2.8400- 2
2.0000+ 4 ~ 4.0000+ 4	2.4128+ 0	2.4127+ 0		1.8468- 4									3.0500- 2
4.0000+ 4 ~ 7.0000+ 4	2.3268+ 0	2.3264+ 0		1.7459- 4									3.7334- 2
7.0000+ 4 ~ 1.0000+ 5	2.1808+ 0	2.1808+ 0		1.7838- 4									4.5534- 2
1.0000+ 5 ~ 2.0000+ 5	3.5222+ 0	3.5195+ 0		2.8693- 3									5.9474- 2
2.0000+ 5 ~ 4.0000+ 5	3.4895+ 0	3.4881+ 0		3.8457- 4									1.3219- 1
4.0000+ 5 ~ 7.0000+ 5	4.2733+ 0	4.2727+ 0		8.5238- 4									2.3723- 1
7.0000+ 5 ~ 1.0000+ 6	4.7310+ 0	4.7303+ 0		8.3891- 4									3.5035- 1
1.0000+ 6 ~ 2.0000+ 6	3.9828+ 0	3.9821+ 0		6.9871- 4									4.3478- 1
2.0000+ 6 ~ 4.0000+ 6	2.9987+ 0	2.6803+ 0	3.3807- 1	4.6572- 4									5.2496- 1
4.0000+ 6 ~ 7.0000+ 6	2.2478+ 0	1.4116+ 0	8.3553- 1	3.2395- 4							8.3885- 6		8.2485- 1
7.0000+ 6 ~ 1.0000+ 7	1.8958+ 0	7.9562- 1	1.0874+ 0	2.8858- 4				8.0367- 4			1.0642- 2		6.6558- 1
1.0000+ 7 ~ 2.0000+ 7	1.7737+ 0	7.4888- 1	5.8454- 1	4.9887- 4		3.8748- 1		1.7838- 2	8.1968- 3		5.4392- 2	1.3892- 2	7.4240- 1

MATERIAL =3151 CROSS SECTION ^{31}P (3151)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.6482+ 0	3.1340+ 0		5.1424- 1									2.1700- 2
1.0000- 2 ~ 2.0000- 2	3.3638+ 0	3.1340+ 0		2.1975- 1									2.1700- 2
2.0000- 2 ~ 4.0000- 2	3.2984+ 0	3.1340+ 0		1.6539- 1									2.1700- 2
4.0000- 2 ~ 7.0000- 2	3.2485+ 0	3.1340+ 0		1.1426- 1									2.1700- 2
7.0000- 2 ~ 1.0000- 1	3.2254+ 0	3.1340+ 0		9.1451- 2									2.1700- 2
1.0000- 1 ~ 2.0000- 1	3.2034+ 0	3.1340+ 0		6.9419- 2									2.1700- 2
2.0000- 1 ~ 4.0000- 1	3.1831+ 0	3.1340+ 0		4.9125- 2									2.1700- 2
4.0000- 1 ~ 7.0000- 1	3.1700+ 0	3.1340+ 0		3.8077- 2									2.1700- 2
7.0000- 1 ~ 1.0000+ 0	3.1629+ 0	3.1340+ 0		2.8901- 2									2.1700- 2
1.0000+ 0 ~ 2.0000+ 0	3.1559+ 0	3.1339+ 0		2.1988- 2									2.1700- 2
2.0000+ 0 ~ 4.0000+ 0	3.1483+ 0	3.1338+ 0		1.6528- 2									2.1700- 2
4.0000+ 0 ~ 7.0000+ 0	3.1451+ 0	3.1336+ 0		1.1400- 2									2.1700- 2
7.0000+ 0 ~ 1.0000+ 1	3.1428+ 0	3.1335+ 0		9.1000- 3									2.1700- 2
1.0000+ 1 ~ 2.0000+ 1	3.1388+ 0	3.1330+ 0		8.9150- 3									2.1700- 2
2.0000+ 1 ~ 4.0000+ 1	3.1365+ 0	3.1321+ 0		4.8657- 3									2.1700- 2
4.0000+ 1 ~ 7.0000+ 1	3.1340+ 0	3.1305+ 0		3.5478- 3									2.1700- 2
7.0000+ 1 ~ 1.0000+ 2	3.1314+ 0	3.1286+ 0		2.8117- 3									2.1700- 2
1.0000+ 2 ~ 2.0000+ 2	3.1288+ 0	3.1246+ 0		2.0937- 3									2.1700- 2
2.0000+ 2 ~ 4.0000+ 2	3.1170+ 0	3.1164+ 0		1.4118- 3									2.1700- 2
4.0000+ 2 ~ 7.0000+ 2	3.1028+ 0	3.1017+ 0		9.5640- 4									2.1700- 2
7.0000+ 2 ~ 1.0000+ 3	3.0871+ 0	3.0864+ 0		7.0002- 4									2.1700- 2
1.0000+ 3 ~ 2.0000+ 3	3.0698+ 0	3.0692+ 0		4.4992- 4									2.1700- 2
2.0000+ 3 ~ 4.0000+ 3	3.0094+ 0	3.0091+ 0		2.2262- 4									2.1700- 2
4.0000+ 3 ~ 7.0000+ 3	2.9581+ 0	2.9580+ 0		1.0091- 4									2.1700- 2
7.0000+ 3 ~ 1.0000+ 4	2.9158+ 0	2.9155+ 0		5.0508- 5									2.1700- 2
1.0000+ 4 ~ 2.0000+ 4	2.8073+ 0	2.8073+ 0		2.0205- 5									2.1700- 2
2.0000+ 4 ~ 4.0000+ 4	2.8148+ 0	2.8128+ 0		2.2780- 3									2.1700- 2
4.0000+ 4 ~ 7.0000+ 4	2.7892+ 0	2.7842+ 0		2.2072- 6									2.1700- 2
7.0000+ 4 ~ 1.0000+ 5	2.7117+ 0	2.7034+ 0		2.3399- 3									2.1700- 2
1.0000+ 5 ~ 2.0000+ 5	2.7117+ 0	2.7093+ 0		2.3861- 3									4.4843- 2
2.0000+ 5 ~ 4.0000+ 5	2.6134+ 0	2.6128+ 0		6.1268- 4									1.1427- 1
4.0000+ 5 ~ 7.0000+ 5	4.8178+ 0	4.8168+ 0		1.0509- 3									2.3197- 1
7.0000+ 5 ~ 1.0000+ 8	6.3239+ 0	6.3239+ 0		1.5508- 3				7.7468- 8					3.2188- 1
1.0000+ 6 ~ 2.0000+ 6	4.9869+ 0	4.7148+ 0	2.6818- 1	1.2271- 3				3.0966- 9					4.1520- 1
2.0000+ 6 ~ 4.0000+ 6	3.3665+ 0	2.7408+ 0	5.3778- 1	7.1542- 4				8.5998- 2			2.5481- 6		4.8288- 1
4.0000+ 6 ~ 7.0000+ 6	2.3144+ 0	1.5120+ 0	8.4741- 1	5.8947- 4				1.3043- 1			2.2989- 2		4.3884- 1
7.0000+ 6 ~ 1.0000+ 7	1.8771+ 0	1.0658+ 0	5.0005- 1	1.7476- 4				1.2930- 1	7.7962- 2		1.0298- 1		3.4428- 1
1.0000+ 7 ~ 2.0000+ 7	1.8690+ 0	1.1583+ 0	1.0846- 1	2.1175- 5		3.7178- 2		1.4841- 1	2.7863- 1		1.0088- 1	4.1132- 2	4.9815- 1

MATERIAL =3160 CROSS SECTION S (3160)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.8228+ 0	1.0244+ 0		1.8903+ 0				1.2089- 5			7.9159- 3		2.1000- 2
1.0000- 2 ~ 2.0000- 2	1.7119+ 0	1.0244+ 0		8.7861- 1				1.2089- 5			7.9159- 3		2.1000- 2
2.0000- 2 ~ 4.0000- 2	1.5128+ 0	1.0244+ 0		4.9057- 1				1.2089- 5			7.9159- 3		2.1000- 2
4.0000- 2 ~ 7.0000- 2	1.3968+ 0	1.0244+ 0		3.5335- 1				1.2089- 5			7.9159- 3		2.1000- 2
7.0000- 2 ~ 1.0000- 1	1.3161+ 0	1.0244+ 0		2.6203- 1				1.2089- 5			7.9159- 3		2.1000- 2
1.0000- 1 ~ 2.0000- 1	1.2470+ 0	1.0244+ 0		2.1488- 1				1.2089- 5			7.9159- 3		2.1000- 2
2.0000- 1 ~ 4.0000- 1	1.1842+ 0	1.0244+ 0		1.6193- 1				1.2089- 5			7.9159- 3		2.1000- 2
4.0000- 1 ~ 7.0000- 1	1.1498+ 0	1.0244+ 0		1.1158- 1				1.2089- 5			7.9159- 3		2.1000- 2
7.0000- 1 ~ 1.0000+ 0	1.1217+ 0	1.0243+ 0		8.9397- 2				1.2089- 5			7.9159- 3		2.1000- 2
1.0000+ 0 ~ 2.0000+ 0	1.1002+ 0	1.0243+ 0		8.7953- 2				1.2089- 5			7.9159- 3		2.1000- 2
2.0000+ 0 ~ 4.0000+ 0	1.0803+ 0	1.0243+ 0		4.8043- 2				1.2089- 5			7.9159- 3		2.1000- 2
4.0000+ 0 ~ 7.0000+ 0	1.0675+ 0	1.0243+ 0		3.5263- 2				1.2089- 5			7.9159- 3		2.1000- 2
7.0000+ 0 ~ 1.0000+ 1	1.0603+ 0	1.0242+ 0		2.8190- 2				1.2089- 5			7.9159- 3		2.1000- 2
1.0000+ 1 ~ 2.0000+ 1	1.0538+ 0	1.0241+ 0		2.1447- 2				1.2089- 5			7.9159- 3		2.1000- 2
2.0000+ 1 ~ 4.0000+ 1	1.0468+ 0	1.0235+ 0		1.5135- 2				1.2089- 5			7.9159- 3		2.1000- 2
4.0000+ 1 ~ 7.0000+ 1	1.0424+ 0	1.0234+ 0		1.1089- 2				1.2089- 5			7.9159- 3		2.1000- 2
7.0000+ 1 ~ 1.0000+ 2	1.0397+ 0	1.0229+ 0		8.8401- 3				1.2089- 5			7.9159- 3		2.1000- 2
1.0000+ 2 ~ 2.0000+ 2	1.0364+ 0	1.0218+ 0		6.6827- 3				1.2089- 5			7.9159- 3		2.1000- 2
2.0000+ 2 ~ 4.0000+ 2	1.0319+ 0	1.0184+ 0		4.8200- 3				1.2089- 5			7.9159- 3		2.1000- 2
4.0000+ 2 ~ 7.0000+ 2	1.0266+ 0	1.0169+ 0		3.2855- 3				1.2089- 5			7.9159- 3		2.1000- 2
7.0000+ 2 ~ 1.0000+ 3	1.0211+ 0	1.0108+ 0		2.5572- 3				1.2089- 5			7.9159- 3		2.1000- 2
1.0000+ 3 ~ 2.0000+ 3	1.0107+ 0	1.0010+ 0		1.7853- 3				1.2089- 5			7.9159- 3		2.1000- 2
2.0000+ 3 ~ 4.0000+ 3	9.8989- 1	9.8065- 1		1.0074- 3				1.2089- 5			7.9159- 3		2.1000- 2
4.0000+ 3 ~ 7.0000+ 3	9.5908- 1	9.5043- 1		6.8885- 4				1.2089- 5			7.9159- 3		2.1000- 2
7.0000+ 3 ~ 1.0000+ 4	9.2588- 1	9.1748- 1		4.8983- 4				1.2089- 5			7.9159- 3		2.1000- 2
1.0000+ 4 ~ 2.0000+ 4	8.8033- 1	8.5188- 1		4.0748- 4				1.2089- 5			7.9159- 3		2.1004- 2
2.0000+ 4 ~ 4.0000+ 4	1.1283+ 0	1.1105+ 0		7.0288- 3				1.2089- 5			7.9159- 3		2.1002- 2
4.0000+ 4 ~ 7.0000+ 4	3.8071- 1	3.3779- 1		5.0287- 4				1.2089- 5			7.9159- 3		2.1001- 2
7.0000+ 4 ~ 1.0000+ 5	3.2137+ 0	3.2012+ 0		4.5559- 3				1.2089- 5			7.9159- 3		2.1001- 2
1.0000+ 5 ~ 2.0000+ 5	7.3238+ 0	7.3132+ 0		2.8155- 3				1.2089- 5			7.9159- 3		2.1000- 2
2.0000+ 5 ~ 4.0000+ 5	2.7610+ 0	2.7414+ 0		1.8866- 3				1.9569- 5			7.9182- 3		3.9148- 2
4.0000+ 5 ~ 7.0000+ 5	2.1917+ 0	2.1728+ 0		7.8898- 4				7.0490- 5			7.9432- 3		1.5852- 1
7.0000+ 5 ~ 1.0000+ 8	2.4330+ 0	2.4238+ 0	1.4864- 4	8.7598- 4				1.8244- 4			8.0175- 3		2.8472- 1
1.0000+ 6 ~ 2.0000+ 6	2.8091+ 0	2.5772+ 0	1.4003- 3	3.1540- 4				3.0474- 9			2.8715- 2		3.4927- 1
2.0000+ 6 ~ 4.0000+ 6	2.9418+ 0	2.4088+ 0	2.4288- 1	1.8882- 4				1.3827- 1			1.5380- 1		3.8788- 1
4.0000+ 6 ~ 7.0000+ 6	2.0311+ 0	1.1131+ 0	5.6899- 1	7.6481- 5				2.9206- 1			2.2880- 1		3.1131- 1
7.0000+ 6 ~ 1.0000+ 7	1.8211+ 0	8.5048- 1	4.3190- 1	5.2720- 5		6.4494- 5		3.4822- 1	2.0770- 5		1.8913- 1	5.2723- 3	3.0872- 1
1.0000+ 7 ~ 2.0000+ 7	1.8154+ 0	8.4032- 1	3.8824- 1	4.8084- 6		9.3260- 3		2.1204- 1	6.0515- 2		1.5420- 1	7.3733- 2	5.9338- 1

CROSS SECTION

^{32}S (3161)

MATERIAL =3161

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.6049+ 0	9.6348- 1		1.6345+ 0							7.0000- 3		2.1000- 2
1.0000- 2 ~ 2.0000- 2	1.8869+ 0	9.6348- 1		6.9847- 1							7.0000- 3		2.1000- 2
2.0000- 2 ~ 4.0000- 2	1.4646+ 0	9.6348- 1		4.8412- 1							7.0000- 3		2.1000- 2
4.0000- 2 ~ 7.0000- 2	1.3339+ 0	9.6348- 1		3.6340- 1							7.0000- 3		2.1000- 2
7.0000- 2 ~ 1.0000- 1	1.2610+ 0	9.6348- 1		2.9066- 1							7.0000- 3		2.1000- 2
1.0000- 1 ~ 2.0000- 1	1.1911+ 0	9.6348- 1		2.2070- 1							7.0000- 3		2.1000- 2
2.0000- 1 ~ 4.0000- 1	1.1286+ 0	9.6348- 1		1.5808- 1							7.0000- 3		2.1000- 2
4.0000- 1 ~ 7.0000- 1	1.0852+ 0	9.6348- 1		1.1475- 1							7.0000- 3		2.1000- 2
7.0000- 1 ~ 1.0000+ 0	1.0623+ 0	9.6348- 1		9.1651- 2							7.0000- 3		2.1000- 2
1.0000+ 0 ~ 2.0000+ 0	1.0403+ 0	9.6344- 1		6.8898- 2							7.0000- 3		2.1000- 2
2.0000+ 0 ~ 4.0000+ 0	1.0188+ 0	9.6342- 1		4.5378- 2							7.0000- 3		2.1000- 2
4.0000+ 0 ~ 7.0000+ 0	1.0087+ 0	9.6338- 1		3.6287- 2							7.0000- 3		2.1000- 2
7.0000+ 0 ~ 1.0000+ 1	9.9932- 1	9.6334- 1		2.6978- 2							7.0000- 3		2.1000- 2
1.0000+ 1 ~ 2.0000+ 1	9.9290- 1	9.6328- 1		2.2046- 2							7.0000- 3		2.1000- 2
2.0000+ 1 ~ 4.0000+ 1	9.8561- 1	9.6308- 1		1.5558- 2							7.0000- 3		2.1000- 2
4.0000+ 1 ~ 7.0000+ 1	9.8112- 1	9.6272- 1		1.1401- 2							7.0000- 3		2.1000- 2
7.0000+ 1 ~ 1.0000+ 2	9.7839- 1	9.6232- 1		9.0709- 3							7.0000- 3		2.1000- 2
1.0000+ 2 ~ 2.0000+ 2	9.7590- 1	9.6148- 1		6.8487- 3							7.0000- 3		2.1000- 2
2.0000+ 2 ~ 4.0000+ 2	9.7123- 1	9.5948- 1		4.7508- 3							7.0000- 3		2.1000- 2
4.0000+ 2 ~ 7.0000+ 2	9.6882- 1	9.5823- 1		3.3831- 3							7.0000- 3		2.1000- 2
7.0000+ 2 ~ 1.0000+ 3	9.6203- 1	9.5242- 1		2.6121- 3							7.0000- 3		2.1000- 2
1.0000+ 3 ~ 2.0000+ 3	9.5328- 1	9.4448- 1		1.8804- 3							7.0000- 3		2.1000- 2
2.0000+ 3 ~ 4.0000+ 3	9.3619- 1	9.2704- 1		1.1443- 3							7.0000- 3		2.1000- 2
4.0000+ 3 ~ 7.0000+ 3	9.0780- 1	9.0008- 1		7.1589- 4							7.0000- 3		2.1000- 2
7.0000+ 3 ~ 1.0000+ 4	8.7881- 1	8.6940- 1		5.0901- 4							7.0000- 3		2.1000- 2
1.0000+ 4 ~ 2.0000+ 4	8.1138- 1	8.0400- 1		3.8429- 4							7.0000- 3		2.1000- 2
2.0000+ 4 ~ 4.0000+ 4	1.0880+ 0	1.0818+ 0		7.3798- 3							7.0000- 3		2.1000- 2
4.0000+ 4 ~ 7.0000+ 4	2.8023- 1	2.6795- 1		5.2755- 3							7.0000- 3		2.1000- 2
7.0000+ 4 ~ 1.0000+ 5	3.2552+ 0	3.2835+ 0		4.7867- 3							7.0000- 3		2.1000- 2
1.0000+ 5 ~ 2.0000+ 5	7.6243+ 0	7.5143+ 0		2.9317- 3							7.0000- 3		2.1000- 2
2.0000+ 5 ~ 4.0000+ 5	2.7872+ 0	2.7785+ 0		1.7548- 3							7.0000- 3		2.1000- 2
4.0000+ 5 ~ 7.0000+ 5	2.2656+ 0	2.2578+ 0		6.1995- 4							7.0000- 3		6.1995- 2
7.0000+ 5 ~ 1.0000+ 6	2.5598+ 0	2.5509+ 0		9.1978- 4				4.7728- 7			7.0000- 3		2.0259- 1
1.0000+ 6 ~ 2.0000+ 6	2.9678+ 0	2.9277+ 0		3.2488- 4				2.7834- 3			2.8558- 2		3.2845- 1
2.0000+ 6 ~ 4.0000+ 6	2.9329+ 0	2.3987+ 0	2.3214- 1	1.6477- 4				1.4187- 1			1.8035- 1		3.8614- 1
4.0000+ 6 ~ 7.0000+ 6	2.0270+ 0	1.1028+ 0	3.8217- 1	7.7862- 5				3.0628- 1			3.3985- 1		3.0920- 1
7.0000+ 6 ~ 1.0000+ 7	1.8185+ 0	8.4108- 1	4.1658- 1	3.2633- 5				3.6133- 1	3.0283- 5		1.8407- 1	3.4208- 3	3.0803- 1
1.0000+ 7 ~ 2.0000+ 7	2.0639+ 0	1.1780+ 0	3.7857- 1	4.8040- 6		4.6824- 4		2.1659- 1	6.2600- 2		1.5825- 1	7.1271- 2	5.9384- 1

CROSS SECTION

^{33}S (3162)

MATERIAL =3162

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.0878+ 0	2.8446+ 0		1.0832+ 0				1.8119- 3			1.6862- 1		2.1000- 2
1.0000- 2 ~ 2.0000- 2	3.4778+ 0	2.8444+ 0		4.8288- 1				1.8119- 3			1.6862- 1		2.1000- 2
2.0000- 2 ~ 4.0000- 2	3.3420+ 0	2.8444+ 0		3.2732- 1				1.8119- 3			1.6862- 1		2.1000- 2
4.0000- 2 ~ 7.0000- 2	3.2653+ 0	2.8444+ 0		2.4088- 1				1.8119- 3			1.6862- 1		2.1000- 2
7.0000- 2 ~ 1.0000- 1	3.2073+ 0	2.8444+ 0		1.9264- 1				1.8119- 3			1.6862- 1		2.1000- 2
1.0000- 1 ~ 2.0000- 1	3.1609+ 0	2.8444+ 0		1.4822- 1				1.8119- 3			1.6862- 1		2.1000- 2
2.0000- 1 ~ 4.0000- 1	3.1191+ 0	2.8444+ 0		1.0348- 1				1.8119- 3			1.6862- 1		2.1000- 2
4.0000- 1 ~ 7.0000- 1	3.0906+ 0	2.8443+ 0		7.6888- 2				1.8119- 3			1.6862- 1		2.1000- 2
7.0000- 1 ~ 1.0000+ 0	3.0764+ 0	2.8443+ 0		6.0878- 2				1.8119- 3			1.6862- 1		2.1000- 2
1.0000+ 0 ~ 2.0000+ 0	3.0607+ 0	2.8442+ 0		4.8286- 2				1.8119- 3			1.6862- 1		2.1000- 2
2.0000+ 0 ~ 4.0000+ 0	3.0468+ 0	2.8438+ 0		3.2657- 2				1.8119- 3			1.6862- 1		2.1000- 2
4.0000+ 0 ~ 7.0000+ 0	3.0378+ 0	2.8434+ 0		2.4034- 2				1.8119- 3			1.6862- 1		2.1000- 2
7.0000+ 0 ~ 1.0000+ 1	3.0322+ 0	2.8428+ 0		1.8157- 2				1.8119- 3			1.6862- 1		2.1000- 2
1.0000+ 1 ~ 2.0000+ 1	3.0284+ 0	2.8418+ 0		1.4550- 2				1.8119- 3			1.6862- 1		2.1000- 2
2.0000+ 1 ~ 4.0000+ 1	3.0192+ 0	2.8397+ 0		1.0227- 2				1.8119- 3			1.6862- 1		2.1000- 2
4.0000+ 1 ~ 7.0000+ 1	3.0116+ 0	2.8340+ 0		7.4435- 3				1.8119- 3			1.6862- 1		2.1000- 2
7.0000+ 1 ~ 1.0000+ 2	3.0044+ 0	2.8283+ 0		5.8864- 3				1.8119- 3			1.6862- 1		2.1000- 2
1.0000+ 2 ~ 2.0000+ 2	2.9909+ 0	2.8183+ 0		4.3647- 3				1.8119- 3			1.6862- 1		2.1000- 2
2.0000+ 2 ~ 4.0000+ 2	2.9627+ 0	2.7898+ 0		2.8185- 3				1.8119- 3			1.6862- 1		2.1000- 2
4.0000+ 2 ~ 7.0000+ 2	2.9198+ 0	2.7478+ 0		1.8532- 3				1.8119- 3			1.6862- 1		2.1000- 2
7.0000+ 2 ~ 1.0000+ 3	2.8729+ 0	2.7013+ 0		1.4072- 3				1.8119- 3			1.6862- 1		2.1000- 2
1.0000+ 3 ~ 2.0000+ 3	2.7888+ 0	2.6144+ 0		0.8559- 4				1.8119- 3			1.6862- 1		2.1000- 2
2.0000+ 3 ~ 4.0000+ 3	2.6310+ 0	2.4804+ 0		4.3745- 4				1.8119- 3			1.6862- 1		2.1000- 2
4.0000+ 3 ~ 7.0000+ 3	2.4573+ 0	2.2989+ 0		1.8685- 4				1.8119- 3			1.6862- 1		2.1000- 2
7.0000+ 3 ~ 1.0000+ 4	2.3165+ 0	2.1451+ 0		1.0960- 4				1.8119- 3			1.6862- 1		2.1000- 2
1.0000+ 4 ~ 2.0000+ 4	2.3631+ 0	2.1850+ 0		7.8481- 3				1.8119- 3			1.6862- 1		2.1000- 2
2.0000+ 4 ~ 4.0000+ 4	2.1993+ 0	2.0287+ 0		2.2988- 3				1.8119- 3			1.6862- 1		2.1000- 2
4.0000+ 4 ~ 7.0000+ 4	2.0888+ 0	2.4877+ 0		1.8888- 3				1.8119- 3			1.6862- 1		2.1000- 2
7.0000+ 4 ~ 1.0000+ 5	2.5300+ 0	2.3590+ 0		7.8730- 4				1.8119- 3			1.6862- 1		2.1000- 2
1.0000+ 5 ~ 2.0000+ 5	2.1481+ 0	1.9777+ 0		1.4583- 4				1.8119- 3			1.6862- 1		1.8604- 2
2.0000+ 5 ~ 4.0000+ 5	4.9691+ 0	4.7671+ 0		3.4900- 4				2.5092- 3			1.6693- 1		3.7517- 2
4.0000+ 5 ~ 7.0000+ 5	6.2118+ 0	6.0281+ 0		3.2756- 4				9.3986- 3			1.7226- 1		1.4885- 1
7.0000+ 5 ~ 1.0000+ 6	5.8258+ 0	5.5988+ 0	1.8819- 2	2.4848- 4				2.4284- 2			1.6217- 1		2.5482- 1
1.0000+ 6 ~ 2.0000+ 6	4.5984+ 0	4.1583+ 0	1.8871- 1	2.0159- 4				5.6221- 2			1.9764- 1		3.8038- 1
2.0000+ 6 ~ 4.0000+ 6	3.0362+ 0	2.3208+ 0	4.3529- 1	1.0112- 4				6.7503- 2			1.9149- 1		4.3409- 1
4.0000+ 6 ~ 7.0000+ 6	2.0777+ 0	1.2293+ 0	5.7888- 1	2.6347- 5				1.0830- 1			1.8873- 1		3.4629- 1
7.0000+ 6 ~ 1.0000+ 7	1.8424+ 0	9.8878- 1	5.3118- 1	1.0422- 5		8.5862- 3		1.5429- 1	2.2158- 7		1.4904- 1	2.8478- 3	3.1588- 1
1.0000+ 7 ~ 2.0000+ 7	2.0878+ 0	1.3413+ 0	1.0053- 1	1.2241- 6		1.2760- 1		2.1498- 1	5.0285- 2		1.3822- 1	9.5822- 2	5.8812- 1

MATERIAL =3163 CROSS SECTION ^{34}S (3163)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.7693+ 0	2.0774+ 0		6.9191- 1									1.9800- 2
1.0000- 2 ~ 2.0000- 2	2.3731+ 0	2.0774+ 0		2.9568- 1									1.9800- 2
2.0000- 2 ~ 4.0000- 2	2.2986+ 0	2.0774+ 0		2.0916- 1									1.9800- 2
4.0000- 2 ~ 7.0000- 2	2.2512+ 0	2.0774+ 0		1.5381- 1									1.9800- 2
7.0000- 2 ~ 1.0000- 1	2.2004+ 0	2.0774+ 0		1.2303- 1									1.9800- 2
1.0000- 1 ~ 2.0000- 1	2.1708+ 0	2.0774+ 0		9.3408- 2									1.9800- 2
2.0000- 1 ~ 4.0000- 1	2.1496+ 0	2.0774+ 0		6.8079- 2									1.9800- 2
4.0000- 1 ~ 7.0000- 1	2.1260+ 0	2.0774+ 0		4.8587- 2									1.9800- 2
7.0000- 1 ~ 1.0000+ 0	2.1163+ 0	2.0774+ 0		3.8886- 2									1.9800- 2
1.0000+ 0 ~ 2.0000+ 0	2.1069+ 0	2.0773+ 0		2.9562- 2									1.9800- 2
2.0000+ 0 ~ 4.0000+ 0	2.0991+ 0	2.0772+ 0		2.0699- 2									1.9800- 2
4.0000+ 0 ~ 7.0000+ 0	2.0924+ 0	2.0771+ 0		1.5357- 2									1.9800- 2
7.0000+ 0 ~ 1.0000+ 1	2.0891+ 0	2.0789+ 0		1.2260- 2									1.9800- 2
1.0000+ 1 ~ 2.0000+ 1	2.0958+ 0	2.0784+ 0		9.3240- 3									1.9800- 2
2.0000+ 1 ~ 4.0000+ 1	2.0820+ 0	2.0755+ 0		6.5740- 3									1.9800- 2
4.0000+ 1 ~ 7.0000+ 1	2.0787+ 0	2.0738+ 0		4.8101- 3									1.9800- 2
7.0000+ 1 ~ 1.0000+ 2	2.0757+ 0	2.0719+ 0		3.8214- 3									1.9800- 2
1.0000+ 2 ~ 2.0000+ 2	2.0708+ 0	2.0679+ 0		2.8733- 3									1.9800- 2
2.0000+ 2 ~ 4.0000+ 2	2.0604+ 0	2.0584+ 0		1.9750- 3									1.9800- 2
4.0000+ 2 ~ 7.0000+ 2	2.0448+ 0	2.0435+ 0		1.3841- 3									1.9800- 2
7.0000+ 2 ~ 1.0000+ 3	2.0275+ 0	2.0265+ 0		1.0490- 3									1.9800- 2
1.0000+ 3 ~ 2.0000+ 3	1.9836+ 0	1.9831+ 0		7.1342- 4									1.9800- 2
2.0000+ 3 ~ 4.0000+ 3	1.9300+ 0	1.9298+ 0		3.8941- 4									1.9800- 2
4.0000+ 3 ~ 7.0000+ 3	1.8517+ 0	1.8514+ 0		2.0887- 4									1.9800- 2
7.0000+ 3 ~ 1.0000+ 4	1.7853+ 0	1.7852+ 0		1.1757- 4									1.9800- 2
1.0000+ 4 ~ 2.0000+ 4	1.6995+ 0	1.6995+ 0		5.2930- 5									1.9800- 2
2.0000+ 4 ~ 4.0000+ 4	1.5008+ 0	1.5008+ 0		1.4788- 5									1.9800- 2
4.0000+ 4 ~ 7.0000+ 4	1.5239+ 0	1.5239+ 0		8.8353- 6									1.9800- 2
7.0000+ 4 ~ 1.0000+ 5	1.4877+ 0	1.4877+ 0		8.8887- 6									1.9800- 2
1.0000+ 5 ~ 2.0000+ 5	1.5353+ 0	1.5346+ 0		6.8035- 4									1.9800- 2
2.0000+ 5 ~ 4.0000+ 5	2.2855+ 0	2.2950+ 0		4.5288- 4									8.2707- 2
4.0000+ 5 ~ 7.0000+ 5	5.4855+ 0	5.4850+ 0		4.4367- 4									1.8880- 1
7.0000+ 5 ~ 1.0000+ 6	6.0708+ 0	6.0708+ 0		2.4849- 4									2.8721- 1
1.0000+ 6 ~ 2.0000+ 6	4.7510+ 0	4.7507+ 0		2.8878- 4									3.5509- 1
2.0000+ 6 ~ 4.0000+ 6	3.1191+ 0	2.6867+ 0	4.5102- 1	1.8292- 4							4.1191- 5		4.0785- 1
4.0000+ 6 ~ 7.0000+ 6	2.1145+ 0	1.3228+ 0	7.4954- 1	1.0585- 4				6.1676- 3			3.8657- 2		3.4308- 1
7.0000+ 6 ~ 1.0000+ 7	1.8742+ 0	1.0336+ 0	7.1346- 1	3.8580- 5				4.1038- 2			8.5809- 2	4.8818- 5	3.1612- 1
1.0000+ 7 ~ 2.0000+ 7	2.0695+ 0	1.3365+ 0	2.2870- 1	5.5383- 6		1.8800- 1		1.0980- 1	1.5539- 2		8.6582- 2	1.2554- 1	5.8130- 1

MATERIAL =3164 CROSS SECTION ^{36}S (3164)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.6329+ 0	1.0000+ 0		3.6577- 1									2.1000- 2
1.0000- 2 ~ 2.0000- 2	1.2845+ 0	1.0000+ 0		1.8710- 1									2.1000- 2
2.0000- 2 ~ 4.0000- 2	1.1538+ 0	1.0000+ 0		1.4192- 1									2.1000- 2
4.0000- 2 ~ 7.0000- 2	1.1408+ 0	1.0000+ 0		1.1188- 1									2.1000- 2
7.0000- 2 ~ 1.0000- 1	1.1352+ 0	1.0000+ 0		9.3976- 2									2.1000- 2
1.0000- 1 ~ 2.0000- 1	1.1284+ 0	1.0000+ 0		7.5972- 2									2.1000- 2
2.0000- 1 ~ 4.0000- 1	1.1200+ 0	1.0000+ 0		5.7848- 2									2.1000- 2
4.0000- 1 ~ 7.0000- 1	1.1128+ 0	1.0000+ 0		4.5820- 2									2.1000- 2
7.0000- 1 ~ 1.0000+ 0	1.1074+ 0	1.0000+ 0		3.8541- 2									2.1000- 2
1.0000+ 0 ~ 2.0000+ 0	1.1008+ 0	1.0000+ 0		3.0994- 2									2.1000- 2
2.0000+ 0 ~ 4.0000+ 0	1.0928+ 0	1.0000+ 0		2.3672- 2									2.1000- 2
4.0000+ 0 ~ 7.0000+ 0	1.0854+ 0	1.0000+ 0		1.8638- 2									2.1000- 2
7.0000+ 0 ~ 1.0000+ 1	1.0802+ 0	1.0000+ 0		1.5671- 2									2.1000- 2
1.0000+ 1 ~ 2.0000+ 1	1.0738+ 0	1.0000+ 0		1.2861- 2									2.1000- 2
2.0000+ 1 ~ 4.0000+ 1	1.0658+ 0	1.0000+ 0		9.6702- 3									2.1000- 2
4.0000+ 1 ~ 7.0000+ 1	1.0668+ 0	1.0000+ 0		7.8128- 3									2.1000- 2
7.0000+ 1 ~ 1.0000+ 2	1.0538+ 0	1.0000+ 0		6.4015- 3									2.1000- 2
1.0000+ 2 ~ 2.0000+ 2	1.0475+ 0	1.0000+ 0		5.1721- 3									2.1000- 2
2.0000+ 2 ~ 4.0000+ 2	1.0397+ 0	1.0000+ 0		3.9503- 3									2.1000- 2
4.0000+ 2 ~ 7.0000+ 2	1.0329+ 0	1.0000+ 0		3.1098- 3									2.1000- 2
7.0000+ 2 ~ 1.0000+ 3	1.0280+ 0	1.0000+ 0		2.8150- 3									2.1000- 2
1.0000+ 3 ~ 2.0000+ 3	1.0219+ 0	1.0000+ 0		2.1128- 3									2.1000- 2
2.0000+ 3 ~ 4.0000+ 3	1.0149+ 0	1.0000+ 0		1.8137- 3									2.1000- 2
4.0000+ 3 ~ 7.0000+ 3	1.0076+ 0	1.0000+ 0		1.2704- 3									2.1000- 2
7.0000+ 3 ~ 1.0000+ 4	1.0028+ 0	1.0000+ 0		1.0882- 3									2.1000- 2
1.0000+ 4 ~ 2.0000+ 4	1.1867+ 0	1.1656+ 0		8.6573- 4									2.1000- 2
2.0000+ 4 ~ 4.0000+ 4	1.5276+ 0	1.5264+ 0		6.4317- 4									2.1000- 2
4.0000+ 4 ~ 7.0000+ 4	1.9366+ 0	1.9353+ 0		4.9914- 4									2.1000- 2
7.0000+ 4 ~ 1.0000+ 5	2.2978+ 0	2.2965+ 0		4.1538- 4									2.1000- 2
1.0000+ 5 ~ 2.0000+ 5	2.8683+ 0	2.8551+ 0		3.3142- 4									2.1000- 2
2.0000+ 5 ~ 4.0000+ 5	3.7400+ 0	3.7389+ 0		2.4810- 4									2.1000- 2
4.0000+ 5 ~ 7.0000+ 5	4.7413+ 0	4.7408+ 0		1.9332- 4									7.4708- 2
7.0000+ 5 ~ 1.0000+ 6	5.8257+ 0	5.8254+ 0		1.8088- 4									2.6925- 1
1.0000+ 6 ~ 2.0000+ 6	4.9519+ 0	4.9517+ 0		2.0822- 4									3.7899- 1
2.0000+ 6 ~ 4.0000+ 6	3.2477+ 0	3.1318+ 0	1.1473- 1	3.8352- 4									3.8148- 1
4.0000+ 6 ~ 7.0000+ 6	2.2303+ 0	1.5024+ 0	7.2254- 1	1.5987- 4							8.7662- 5		3.5981- 1
7.0000+ 6 ~ 1.0000+ 7	1.9430+ 0	1.0853+ 0	8.7254- 1	4.7561- 5				6.8911- 7			5.0479- 3		3.3183- 1
1.0000+ 7 ~ 2.0000+ 7	2.0810+ 0	1.3279+ 0	2.2727- 1	4.530[illegible]- 6		4.9476- 1		2.7563- 3	1.3869- 3		1.1337- 2	1.4292- 2	5.6959- 1

MATERIAL =3190 CROSS SECTION K (3190)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.4740+ 0	2.0959+ 0		8.3868+ 0				1.9065- 9			7.3237- 9		1.6800- 2
1.0000- 2 ~ 2.0000- 2	4.8230+ 0	2.0959+ 0		2.7216+ 0				7.0306- 4			4.7382- 3		1.6800- 2
2.0000- 2 ~ 4.0000- 2	4.0273+ 0	2.0959+ 0		1.9271+ 0				4.7315- 4			3.9660- 3		1.6800- 2
4.0000- 2 ~ 7.0000- 2	3.5126+ 0	2.0959+ 0		1.4131+ 0				3.2781- 4			3.1828- 3		1.6800- 2
7.0000- 2 ~ 1.0000- 1	3.2294+ 0	2.0958+ 0		1.1305+ 0				2.5099- 4			2.7814- 3		1.6800- 2
1.0000- 1 ~ 2.0000- 1	2.8689+ 0	2.0958+ 0		8.8090- 1				1.9124- 4			2.3174- 3		1.6800- 2
2.0000- 1 ~ 4.0000- 1	2.7068+ 0	2.0957+ 0		6.0814- 1				1.1993- 4			1.9677- 3		1.6800- 2
4.0000- 1 ~ 7.0000- 1	2.5443+ 0	2.0955+ 0		4.4718- 1				8.2529- 5			1.5269- 3		1.6800- 2
7.0000- 1 ~ 1.0000+ 0	2.4544+ 0	2.0953+ 0		3.5767- 1				6.3495- 5			1.3247- 3		1.6800- 2
1.0000+ 0 ~ 2.0000+ 0	2.3680+ 0	2.0848+ 0		2.7202- 1				4.5850- 5			1.1117- 3		1.6800- 2
2.0000+ 0 ~ 4.0000+ 0	2.2870+ 0	2.0839+ 0		1.9222- 1				3.0314- 5			9.9119- 4		1.6800- 2
4.0000+ 0 ~ 7.0000+ 0	2.2338+ 0	2.0820+ 0		1.4097- 1				2.0979- 5			7.5248- 4		1.6800- 2
7.0000+ 0 ~ 1.0000+ 1	2.2034+ 0	2.0699+ 0		1.1282- 1				1.6063- 5			6.3661- 4		1.6800- 2
1.0000+ 1 ~ 2.0000+ 1	2.1714+ 0	2.0854+ 0		8.5495- 2				1.1589- 5			5.3333- 4		1.6800- 2
2.0000+ 1 ~ 4.0000+ 1	2.1355+ 0	2.0750+ 0		6.0043- 2				7.6888- 6			4.2753- 4		1.6800- 2
4.0000+ 1 ~ 7.0000+ 1	2.1018+ 0	2.0579+ 0		4.3525- 2				5.3072- 6			3.5139- 4		1.6800- 2
7.0000+ 1 ~ 1.0000+ 2	2.0723+ 0	2.0377+ 0		3.4381- 2				4.0636- 6			3.0487- 4		1.6800- 2
1.0000+ 2 ~ 2.0000+ 2	2.0210+ 0	1.9853+ 0		2.6451- 2				2.9348- 6			2.5595- 4		1.6800- 2
2.0000+ 2 ~ 4.0000+ 2	1.9211+ 0	1.9040+ 0		1.8864- 2				1.9500- 6			2.0510- 4		1.6800- 2
4.0000+ 2 ~ 7.0000+ 2	1.7800+ 0	1.7888+ 0		1.1197- 2				1.4363- 6			1.6850- 4		1.6788- 2
7.0000+ 2 ~ 1.0000+ 3	1.6303+ 0	1.6260+ 0		8.1519- 3				1.4040- 6			1.4833- 4		1.6731- 2
1.0000+ 3 ~ 2.0000+ 3	1.4144+ 0	1.3903+ 0		3.4063- 2				1.4040- 6			1.2286- 4		1.6607- 2
2.0000+ 3 ~ 4.0000+ 3	1.2204+ 0	1.1376+ 0		8.2794- 2				1.4040- 6			9.8558- 5		1.6798- 2
4.0000+ 3 ~ 7.0000+ 3	1.3932+ 0	1.3808+ 0		1.2318- 2				1.4040- 6			8.1052- 5		1.6813- 2
7.0000+ 3 ~ 1.0000+ 4	4.2999+ 0	4.1298+ 0		1.8985- 1				1.4040- 6			7.0352- 5		1.6779- 2
1.0000+ 4 ~ 2.0000+ 4	6.2077- 1	7.8288- 1		3.7828- 2				1.4040- 6			5.9071- 5		2.7763- 2
2.0000+ 4 ~ 4.0000+ 4	9.8888- 1	9.8438- 1	1.9155- 6	1.4420- 2				1.4040- 6			4.7508- 5		4.8404- 2
4.0000+ 4 ~ 7.0000+ 4	2.7840+ 0	2.7808+ 0	1.5094- 6	1.3338- 2				1.4040- 6			3.8608- 5		7.8858- 2
7.0000+ 4 ~ 1.0000+ 5	1.2755+ 0	1.2684+ 0	2.0791- 5	8.0840- 3				1.4040- 6			3.5240- 5		1.1238- 1
1.0000+ 5 ~ 2.0000+ 5	1.5258+ 0	1.5208+ 0	2.5224- 5	4.9795- 3				1.4040- 6			3.0755- 5		1.6684- 1
2.0000+ 5 ~ 4.0000+ 5	2.2388+ 0	2.2346+ 0	2.6716- 5	4.0987- 3				1.4040- 6			2.8922- 5		2.4084- 1
4.0000+ 5 ~ 7.0000+ 5	2.6052+ 0	2.6019+ 0	2.9813- 5	3.2561- 3				1.4040- 6			3.0700- 5		2.9730- 1
7.0000+ 5 ~ 1.0000+ 6	2.7908+ 0	2.7777+ 0	3.1682- 5	2.9807- 3				1.4040- 6			3.1738- 5		3.1188- 1
1.0000+ 6 ~ 2.0000+ 6	3.3415+ 0	3.2782+ 0	1.4427- 2	2.8181- 3				4.4869- 2			1.2481- 3		3.0444- 1
2.0000+ 6 ~ 4.0000+ 6	3.9818+ 0	3.8623+ 0	1.4265- 1	2.4073- 3				2.2044- 1			5.3801- 2		4.3485- 1
4.0000+ 6 ~ 7.0000+ 6	3.4674+ 0	2.4827+ 0	4.1578- 1	7.7772- 4				3.0482- 1	8.5045- 6		2.5155- 1	1.8862-10	6.1698- 1
7.0000+ 6 ~ 1.0000+ 7	2.8491+ 0	1.8724+ 0	3.8883- 1	2.4361- 4		5.9836- 6		3.3687- 1	7.2197- 2		2.7883- 1	2.4679- 3	5.8884- 1
1.0000+ 7 ~ 2.0000+ 7	2.0590+ 0	1.1398+ 0	5.5840- 2	1.8894- 5		1.4200- 2		3.8197- 1	1.8287- 1		2.2947- 1	7.5542- 2	4.8583- 1

MATERIAL =3191 CROSS SECTION ^{39}K (3191)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.5817+ 0	2.0821+ 0		8.4918+ 0				0.0000+ 0			7.7801- 9		1.7300- 2
1.0000- 2 ~ 2.0000- 2	4.8413+ 0	2.0821+ 0		2.7742+ 0				0.0000+ 0			5.0251- 3		1.7300- 2
2.0000- 2 ~ 4.0000- 2	4.0305+ 0	2.0821+ 0		1.9643+ 0				0.0000+ 0			4.0999- 3		1.7300- 2
4.0000- 2 ~ 7.0000- 2	3.5068+ 0	2.0821+ 0		1.4403+ 0				0.0000+ 0			3.3704- 3		1.7300- 2
7.0000- 2 ~ 1.0000- 1	3.2173+ 0	2.0821+ 0		1.1523+ 0				0.0000+ 0			2.9220- 3		1.7300- 2
1.0000- 1 ~ 2.0000- 1	2.8421+ 0	2.0820+ 0		8.7780- 1				0.0000+ 0			2.4500- 3		1.7300- 2
2.0000- 1 ~ 4.0000- 1	2.6897+ 0	2.0819+ 0		6.1887- 1				0.0000+ 0			1.9818- 3		1.7300- 2
4.0000- 1 ~ 7.0000- 1	2.5191+ 0	2.0817+ 0		4.4578- 1				0.0000+ 0			1.5108- 3		1.7300- 2
7.0000- 1 ~ 1.0000+ 0	2.4276+ 0	2.0816+ 0		3.6467- 1				0.0000+ 0			1.3985- 3		1.7300- 2
1.0000+ 0 ~ 2.0000+ 0	2.3395+ 0	2.0811+ 0		2.7726- 1				0.0000+ 0			1.1709- 3		1.7300- 2
2.0000+ 0 ~ 4.0000+ 0	2.2589+ 0	2.0800+ 0		1.9693- 1				0.0000+ 0			9.3768- 4		1.7300- 2
4.0000+ 0 ~ 7.0000+ 0	2.2027+ 0	2.0762+ 0		1.4388- 1				0.0000+ 0			7.6984- 4		1.7300- 2
7.0000+ 0 ~ 1.0000+ 1	2.1717+ 0	2.0561+ 0		1.1489- 1				0.0000+ 0			6.5743- 4		1.7300- 2
1.0000+ 1 ~ 2.0000+ 1	2.1392+ 0	2.0515+ 0		8.7128- 2				0.0000+ 0			5.5952- 4		1.7300- 2
2.0000+ 1 ~ 4.0000+ 1	2.1026+ 0	2.0410+ 0		6.1174- 2				0.0000+ 0			4.4810- 4		1.7300- 2
4.0000+ 1 ~ 7.0000+ 1	2.0684+ 0	2.0237+ 0		4.4429- 2				0.0000+ 0			3.6793- 4		1.7300- 2
7.0000+ 1 ~ 1.0000+ 2	2.0386+ 0	2.0033+ 0		3.4998- 2				0.0000+ 0			3.1698- 4		1.7300- 2
1.0000+ 2 ~ 2.0000+ 2	1.9867+ 0	1.9804+ 0		2.5882- 2				0.0000+ 0			2.5748- 4		1.7300- 2
2.0000+ 2 ~ 4.0000+ 2	1.8880+ 0	1.8887+ 0		1.7126- 2				0.0000+ 0			2.1416- 4		1.7300- 2
4.0000+ 2 ~ 7.0000+ 2	1.7445+ 0	1.7330+ 0		1.1303- 2				0.0000+ 0			1.7584- 4		1.7300- 2
7.0000+ 2 ~ 1.0000+ 3	1.6014+ 0	1.5931+ 0		8.1738- 3				0.0000+ 0			1.5245- 4		1.7300- 2
1.0000+ 3 ~ 2.0000+ 3	1.3958+ 0	1.3817+ 0		3.3639- 2				0.0000+ 0			1.2782- 4		1.7300- 2
2.0000+ 3 ~ 4.0000+ 3	1.0643+ 0	1.0200+ 0		3.4208- 2				0.0000+ 0			1.0235- 4		1.7300- 2
4.0000+ 3 ~ 7.0000+ 3	8.9488- 1	8.9352- 1		1.2880- 2				0.0000+ 0			8.4040- 5		1.7300- 2
7.0000+ 3 ~ 1.0000+ 4	4.5158+ 0	4.3346+ 0		1.9100- 1				0.0000+ 0			7.2880- 5		1.7300- 2
1.0000+ 4 ~ 2.0000+ 4	8.4099- 1	8.0474- 1		3.8191- 2				0.0000+ 0			5.1091- 5		1.7300- 2
2.0000+ 4 ~ 4.0000+ 4	8.3488- 1	8.2218- 1		1.2325- 2				0.0000+ 0			4.8918- 5		1.7300- 2
4.0000+ 4 ~ 7.0000+ 4	2.8480+ 0	2.8344+ 0		1.3581- 2				0.0000+ 0			4.0185- 5		1.7300- 2
7.0000+ 4 ~ 1.0000+ 5	1.2079+ 0	1.2020+ 0		5.8770- 3				0.0000+ 0			3.4822- 5		1.7300- 2
1.0000+ 5 ~ 2.0000+ 5	1.5079+ 0	1.5028+ 0		4.4627- 3				0.0000+ 0			2.9197- 5		1.1908- 1
2.0000+ 5 ~ 4.0000+ 5	2.2846+ 0	2.2808+ 0		3.5883- 3				0.0000+ 0			2.6408- 5		2.4342- 1
4.0000+ 5 ~ 7.0000+ 5	2.6285+ 0	2.6258+ 0		2.9351- 3				0.0000+ 0			2.6408- 5		3.0045- 1
7.0000+ 5 ~ 1.0000+ 6	2.8027+ 0	2.8001+ 0		2.3987- 3				0.0000+ 0			2.6408- 5		3.1583- 1
1.0000+ 6 ~ 2.0000+ 6	3.3471+ 0	3.2848+ 0		2.8808- 3				4.7893- 2			1.9254- 3		3.0697- 1
2.0000+ 6 ~ 4.0000+ 6	3.8741+ 0	3.5927+ 0	9.5188- 2	2.4059- 3				2.3822- 1			5.7438- 2		4.3164- 1
4.0000+ 6 ~ 7.0000+ 6	3.4489+ 0	2.4707+ 0	3.7880- 1	7.7589- 4				3.2584- 1	9.1837- 6		2.6905- 1		5.1434- 1
7.0000+ 6 ~ 1.0000+ 7	2.8409+ 0	1.8488+ 0	5.6128- 1	2.3788- 4				3.5775- 1	7.6688- 2		2.9553- 1	1.8424- 5	5.8635- 1
1.0000+ 7 ~ 2.0000+ 7	2.0635+ 0	1.0976+ 0	4.9382- 2	1.5548- 5		1.3158- 2		3.8424- 1	1.9273- 1		2.4395- 1	7.2358- 2	4.8412- 1

MATERIAL =3192 CROSS SECTION ^{40}K (3192)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.1100+ 2	1.0000+ 0		9.2511+ 1				1.8285- 1			8.1213- 1		1.5800- 2
1.0000- 2 ~ 2.0000- 2	4.7192+ 1	1.0000+ 0		3.9531+ 1				6.0159+ 0			4.3999- 1		1.6800- 2
2.0000- 2 ~ 4.0000- 2	3.3413+ 1	1.0000+ 0		2.7962+ 1				4.0440+ 0			3.7693- 1		1.6800- 2
4.0000- 2 ~ 7.0000- 2	2.4720+ 1	1.0000+ 0		2.0543+ 1				2.8018+ 0			3.2733- 1		1.6800- 2
7.0000- 2 ~ 1.0000- 1	1.9086+ 1	1.0000+ 0		1.8432+ 1				2.1482+ 0			2.8549- 1		1.6800- 2
1.0000- 1 ~ 2.0000- 1	1.5357+ 1	1.0000+ 0		1.2501+ 1				1.6491+ 0			2.6030- 1		1.6800- 2
2.0000- 1 ~ 4.0000- 1	1.1107+ 1	1.0000+ 0		8.8393+ 0				1.0242+ 0			2.2191- 1		1.6800- 2
4.0000- 1 ~ 7.0000- 1	8.4412+ 0	1.0000+ 0		6.4981+ 0				7.0879- 1			1.9285- 1		1.6800- 2
7.0000- 1 ~ 1.0000+ 0	6.9340+ 0	1.0000+ 0		5.1981+ 0				5.4269- 1			1.7391- 1		1.6800- 2
1.0000+ 0 ~ 2.0000+ 0	5.5290+ 0	1.0000+ 0		3.9531+ 0				3.9188- 1			1.5920- 1		1.6800- 2
2.0000+ 0 ~ 4.0000+ 0	4.2029+ 0	1.0000+ 0		2.7962+ 0				2.6910- 1			1.9060- 1		1.6800- 2
4.0000+ 0 ~ 7.0000+ 0	3.3529+ 0	1.0000+ 0		2.0543+ 0				1.7831- 1			1.1338- 1		1.6800- 2
7.0000+ 0 ~ 1.0000+ 1	2.8898+ 0	1.0000+ 0		1.8432+ 0				1.3729- 1			1.0235- 1		1.6800- 2
1.0000+ 1 ~ 2.0000+ 1	2.4444+ 0	1.0000+ 0		1.2501+ 0				9.8137- 2			9.0159- 2		1.5800- 2
2.0000+ 1 ~ 4.0000+ 1	2.0309+ 0	1.0000+ 0		8.8393- 1				6.5546- 2			7.8885- 2		1.5800- 2
4.0000+ 1 ~ 7.0000+ 1	1.7853+ 0	1.0000+ 0		6.4981- 1				4.5360- 2			6.6730- 2		1.5800- 2
7.0000+ 1 ~ 1.0000+ 2	1.5168+ 0	1.0000+ 0		5.1981- 1				3.4731- 2			6.0236- 2		1.5800- 2
1.0000+ 2 ~ 2.0000+ 2	1.4776+ 0	1.0000+ 0		3.9531- 1				2.5079- 2			5.3065- 2		1.6800- 2
2.0000+ 2 ~ 4.0000+ 2	1.3514+ 0	1.0000+ 0		2.7962- 1				1.8562- 2			4.5238- 2		1.6800- 2
4.0000+ 2 ~ 7.0000+ 2	1.2706+ 0	1.0180+ 0		2.0459- 1				1.2298- 2			3.9231- 2		1.6800- 2
7.0000+ 2 ~ 1.0000+ 3	1.2990+ 0	1.0818+ 0		1.8117- 1				1.2000- 2			3.5260- 2		1.6800- 2
1.0000+ 3 ~ 2.0000+ 3	1.3424+ 0	1.1755+ 0		1.2017- 1				1.2000- 2			3.0920- 2		1.6800- 2
2.0000+ 3 ~ 4.0000+ 3	1.4285+ 0	1.3038+ 0		8.2810- 2				1.2000- 2			2.6190- 2		1.6800- 2
4.0000+ 3 ~ 7.0000+ 3	1.5291+ 0	1.4285+ 0		5.8470- 2				1.2000- 2			2.2808- 2		1.6800- 2
7.0000+ 3 ~ 1.0000+ 4	1.6182+ 0	1.5260+ 0		4.6777- 2				1.2000- 2			2.0322- 2		1.6800- 2
1.0000+ 4 ~ 2.0000+ 4	1.7329+ 0	1.6562+ 0		3.4880- 2				1.2000- 2			1.7811- 2		2.7610- 2
2.0000+ 4 ~ 4.0000+ 4	1.8591+ 0	1.7889+ 0	1.6372- 2	2.3078- 2				1.2000- 2			1.5939- 2		4.8505- 2
4.0000+ 4 ~ 7.0000+ 4	1.9115+ 0	1.8384+ 0	1.2900- 1	1.2048- 2				1.2000- 2			1.8228- 2		7.8214- 2
7.0000+ 4 ~ 1.0000+ 5	1.8041+ 0	1.5832+ 0	1.7770- 1	8.0019- 3				1.2000- 2			2.3070- 2		1.1239- 1
1.0000+ 5 ~ 2.0000+ 5	1.6703+ 0	1.5084+ 0	2.1559- 1	5.3118- 3				1.2000- 2			2.9096- 2		1.7098- 1
2.0000+ 5 ~ 4.0000+ 5	2.0380+ 0	1.7384+ 0	2.4543- 1	3.3038- 3				1.2000- 2			3.8784- 2		2.5215- 1
4.0000+ 5 ~ 7.0000+ 5	2.3122+ 0	1.9844+ 0	2.6311- 1	2.3072- 3				1.2000- 2			4.9942- 2		3.0778- 1
7.0000+ 5 ~ 1.0000+ 6	2.6212+ 0	2.2777+ 0	2.8978- 1	1.8278- 3				1.2000- 2			5.9928- 2		3.1886- 1
1.0000+ 6 ~ 2.0000+ 6	3.2928+ 0	2.7658+ 0	4.0916- 1	1.0914- 3				2.3186- 2			1.0289- 1		3.2976- 1
2.0000+ 6 ~ 4.0000+ 6	4.0148+ 0	3.2155+ 0	5.8341- 1	7.6512- 4				4.1110- 2			1.6934- 1		4.7185- 1
4.0000+ 6 ~ 7.0000+ 6	3.5165+ 0	2.5297+ 0	7.6747- 1	3.5627- 4				4.6202- 2			1.4789- 1		8.3938- 1
7.0000+ 6 ~ 1.0000+ 7	2.3994+ 0	1.7879+ 0	5.5493- 1	1.1185- 4		5.1141- 2		6.1521- 2	1.6598- 2		1.2261- 1	4.5169- 4	6.0299- 1
1.0000+ 7 ~ 2.0000+ 7	2.0940+ 0	1.2934+ 0	9.5058- 2	8.0418- 5		2.0544- 1		1.1520- 1	1.2885- 1		1.3542- 1	1.2060- 1	4.9253- 1

MATERIAL =3193 CROSS SECTION ^{41}K (3193)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.0614+ 0	2.5663+ 0		4.5151+ 0									1.6400- 2
1.0000- 2 ~ 2.0000- 2	4.4957+ 0	2.5682+ 0		1.9295+ 0									1.6400- 2
2.0000- 2 ~ 4.0000- 2	3.9317+ 0	2.5682+ 0		1.3655+ 0									1.6400- 2
4.0000- 2 ~ 7.0000- 2	3.5708+ 0	2.5682+ 0		1.0044+ 0									1.6400- 2
7.0000- 2 ~ 1.0000- 1	3.3682+ 0	2.5682+ 0		8.0196- 1									1.6400- 2
1.0000- 1 ~ 2.0000- 1	3.1782+ 0	2.5682+ 0		6.1002- 1									1.6400- 2
2.0000- 1 ~ 4.0000- 1	2.9972+ 0	2.5681+ 0		4.3110- 1									1.6400- 2
4.0000- 1 ~ 7.0000- 1	2.8830+ 0	2.5659+ 0		3.1703- 1									1.6400- 2
7.0000- 1 ~ 1.0000+ 0	2.8195+ 0	2.5659+ 0		2.5380- 1									1.6400- 2
1.0000+ 0 ~ 2.0000+ 0	2.7583+ 0	2.5654+ 0		1.9291- 1									1.6400- 2
2.0000+ 0 ~ 4.0000+ 0	2.7008+ 0	2.5645+ 0		1.3638- 1									1.6400- 2
4.0000+ 0 ~ 7.0000+ 0	2.6631+ 0	2.5630+ 0		1.0018- 1									1.6400- 2
7.0000+ 0 ~ 1.0000+ 1	2.6413+ 0	2.5612+ 0		8.0093- 2									1.6400- 2
1.0000+ 1 ~ 2.0000+ 1	2.6162+ 0	2.5579+ 0		6.0887- 2									1.6400- 2
2.0000+ 1 ~ 4.0000+ 1	2.5913+ 0	2.5484+ 0		4.2831- 2									1.6400- 2
4.0000+ 1 ~ 7.0000+ 1	2.5661+ 0	2.5337+ 0		3.1424- 2									1.6400- 2
7.0000+ 1 ~ 1.0000+ 2	2.5411+ 0	2.5181+ 0		2.4976- 2									1.6400- 2
1.0000+ 2 ~ 2.0000+ 2	2.4978+ 0	2.4787+ 0		1.8838- 2									1.6400- 2
2.0000+ 2 ~ 4.0000+ 2	2.4063+ 0	2.3963+ 0		1.3088- 2									1.6400- 2
4.0000+ 2 ~ 7.0000+ 2	2.2728+ 0	2.2632+ 0		9.4225- 3									1.6400- 2
7.0000+ 2 ~ 1.0000+ 3	2.1197+ 0	2.1121+ 0		7.5873- 3									1.6400- 2
1.0000+ 3 ~ 2.0000+ 3	1.8769+ 0	1.8419+ 0		3.7110- 2									1.6400- 2
2.0000+ 3 ~ 4.0000+ 3	3.5232+ 0	2.7672+ 0		7.5804- 1									1.6400- 2
4.0000+ 3 ~ 7.0000+ 3	1.1066+ 1	1.0901+ 1		1.6510- 1									1.6400- 2
7.0000+ 3 ~ 1.0000+ 4	1.2870+ 0	1.2853+ 0		1.8778- 3									1.6400- 2
1.0000+ 4 ~ 2.0000+ 4	3.3101+ 0	3.2498+ 0		6.0450- 2									1.6400- 2
2.0000+ 4 ~ 4.0000+ 4	3.2725+ 0	3.2291+ 0		4.3415- 2									1.6400- 2
4.0000+ 4 ~ 7.0000+ 4	2.0647+ 0	2.0448+ 0		1.9443- 3									1.9778- 2
7.0000+ 4 ~ 1.0000+ 5	2.2126+ 0	2.2040+ 0		8.6503- 3									5.0364- 2
1.0000+ 5 ~ 2.0000+ 5	1.7832+ 0	1.7713+ 0		1.1862- 2							2.2897-12		1.2432- 1
2.0000+ 5 ~ 4.0000+ 5	1.8830+ 0	1.8717+ 0		1.1200- 2							1.1578-11		1.9165- 1
4.0000+ 5 ~ 7.0000+ 5	2.1393+ 0	2.1302+ 0		9.0909- 3							2.7185-11		2.3931- 1
7.0000+ 5 ~ 1.0000+ 6	2.4789+ 0	2.4698+ 0		8.4521- 3							4.5869-11		2.4798- 1
1.0000+ 6 ~ 2.0000+ 6	3.2833+ 0	3.0449+ 0	2.1380- 1	6.4825- 3				3.8818- 5			7.3918- 7		2.8295- 1
2.0000+ 6 ~ 4.0000+ 6	4.0858+ 0	3.2947+ 0	7.9984- 1	2.3911- 3				2.1964- 3			2.8510- 4		4.8102- 1
4.0000+ 6 ~ 7.0000+ 6	3.8017+ 0	2.8458+ 0	9.2998- 1	6.0842- 4				1.3969- 2			9.2490- 3	2.7759- 9	6.4998- 1
7.0000+ 6 ~ 1.0000+ 7	2.7635+ 0	1.8681+ 0	7.6708- 1	3.2115- 4				3.0152- 2	1.0319- 2		1.7988- 2	3.8265- 2	8.1154- 1
1.0000+ 7 ~ 2.0000+ 7	2.1348+ 0	1.7186+ 0	1.4228- 1	3.5523- 5		2.8338- 2		5.3870- 2	4.3308- 2		2.6915- 2	1.1981- 1	5.0080- 1

MATERIAL =3200

CROSS SECTION

Ca (3200)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.3678+ 0	3.0195+ 0		1.3485+ 0							0.0000+ 0		
1.0000- 2 ~ 2.0000- 2	3.5955+ 0	3.0193+ 0		5.7626- 1							0.0000+ 0		
2.0000- 2 ~ 4.0000- 2	3.4267+ 0	3.0193+ 0		4.0743- 1							0.0000+ 0		
4.0000- 2 ~ 7.0000- 2	3.3186+ 0	3.0193+ 0		2.9926- 1							0.0000+ 0		
7.0000- 2 ~ 1.0000- 1	3.2590+ 0	3.0193+ 0		2.3971- 1							0.0000+ 0		
1.0000- 1 ~ 2.0000- 1	3.2014+ 0	3.0193+ 0		1.8209- 1							0.0000+ 0		
2.0000- 1 ~ 4.0000- 1	3.1480+ 0	3.0193+ 0		1.2678- 1							0.0000+ 0		
4.0000- 1 ~ 7.0000- 1	3.1139+ 0	3.0192+ 0		9.4710- 2							0.0000+ 0		
7.0000- 1 ~ 1.0000+ 0	3.0849+ 0	3.0192+ 0		7.5687- 2							0.0000+ 0		
1.0000+ 0 ~ 2.0000+ 0	3.0788+ 0	3.0191+ 0		5.7615- 2							0.0000+ 0		
2.0000+ 0 ~ 4.0000+ 0	3.0587+ 0	3.0150+ 0		4.0735- 2							0.0000+ 0		
4.0000+ 0 ~ 7.0000+ 0	3.0487+ 0	3.0188+ 0		2.9942- 2							0.0000+ 0		
7.0000+ 0 ~ 1.0000+ 1	3.0424+ 0	3.0185+ 0		2.3936- 2							0.0000+ 0		
1.0000+ 1 ~ 2.0000+ 1	3.0381+ 0	3.0178+ 0		1.8199- 2							0.0000+ 0		
2.0000+ 1 ~ 4.0000+ 1	3.0294+ 0	3.0166+ 0		1.2649- 2							0.0000+ 0		
4.0000+ 1 ~ 7.0000+ 1	3.0237+ 0	3.0143+ 0		9.4126- 3							0.0000+ 0		
7.0000+ 1 ~ 1.0000+ 2	3.0191+ 0	3.0115+ 0		7.5220- 3							0.0000+ 0		
1.0000+ 2 ~ 2.0000+ 2	3.0115+ 0	3.0059+ 0		5.8855- 3							0.0000+ 0		
2.0000+ 2 ~ 4.0000+ 2	2.9968+ 0	2.9928+ 0		3.8760- 3							0.0000+ 0		
4.0000+ 2 ~ 7.0000+ 2	2.9747+ 0	2.9718+ 0		2.8605- 3							0.0000+ 0		
7.0000+ 2 ~ 1.0000+ 3	2.9504+ 0	2.9481+ 0		2.2778- 3							0.0000+ 0		
1.0000+ 3 ~ 2.0000+ 3	3.0083+ 0	3.0058+ 0		2.5004- 3							0.0000+ 0		
2.0000+ 3 ~ 4.0000+ 3	2.7910+ 0	2.7882+ 0		2.7740- 3							0.0000+ 0		
4.0000+ 3 ~ 7.0000+ 3	2.8547+ 0	2.8505+ 0		4.1209- 3							0.0000+ 0		
7.0000+ 3 ~ 1.0000+ 4	2.4722+ 0	2.4706+ 0		1.5337- 3							0.0000+ 0		
1.0000+ 4 ~ 2.0000+ 4	2.1420+ 0	2.1292+ 0		1.2834- 2							0.0000+ 0		
2.0000+ 4 ~ 4.0000+ 4	1.7282+ 0	1.7214+ 0		6.7840- 3							0.0000+ 0		
4.0000+ 4 ~ 7.0000+ 4	1.1784+ 0	1.1766+ 0		3.7308- 3							0.0000+ 0		
7.0000+ 4 ~ 1.0000+ 5	1.0235+ 0	1.0215+ 0		2.0464- 3							0.0000+ 0		4.6946- 2
1.0000+ 5 ~ 2.0000+ 5	1.7665+ 0	1.7691+ 0		3.4075- 3							3.0170- 9		7.4072- 2
2.0000+ 5 ~ 4.0000+ 5	3.8316+ 0	3.8324+ 0	8.4316- 6	2.1358- 3							1.2068- 8		1.2861- 1
4.0000+ 5 ~ 7.0000+ 5	2.0315+ 0	2.0303+ 0	2.9438- 4	8.9218- 4							4.9628- 8		2.0124- 1
7.0000+ 5 ~ 1.0000+ 6	2.1987+ 0	2.1950+ 0	4.7504- 4	1.1348- 3				0.0000+ 0			4.9838- 5		2.3939- 1
1.0000+ 6 ~ 2.0000+ 6	2.7012+ 0	2.6721+ 0	8.4733- 3	1.1108- 3				1.2963- 2			8.5865- 3		2.7850- 1
2.0000+ 6 ~ 4.0000+ 6	3.5189+ 0	3.1297+ 0	4.1198- 2	1.2200- 3				2.4404- 1			1.0285- 1		4.2655- 1
4.0000+ 6 ~ 7.0000+ 6	3.3089+ 0	2.1678+ 0	4.7201- 1	4.2810- 4				4.9064- 1			1.9604- 1		6.6159- 1
7.0000+ 6 ~ 1.0000+ 7	2.7935+ 0	1.4867+ 0	8.4088- 1	2.2680- 4		8.1633- 5		4.6782- 1	3.7410- 3		1.8416- 1	8.6289- 5	7.3012- 1
1.0000+ 7 ~ 2.0000+ 7	2.1937+ 0	8.1505- 1	3.3781- 1	1.1897- 5		2.7779- 2		2.0168- 1	4.7592- 1		1.0788- 1	8.3810- 2	7.2243- 1

MATERIAL =3201

CROSS SECTION

^{40}Ca (3201)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.2850+ 0	3.0220+ 0		1.2610+ 0							0.0000+ 0		1.6826- 2
1.0000- 2 ~ 2.0000- 2	3.5609+ 0	3.0220+ 0		5.3887- 1							0.0000+ 0		1.6826- 2
2.0000- 2 ~ 4.0000- 2	3.4030+ 0	3.0220+ 0		3.8089- 1							0.0000+ 0		1.6826- 2
4.0000- 2 ~ 7.0000- 2	3.3019+ 0	3.0220+ 0		2.7987- 1							0.0000+ 0		1.6826- 2
7.0000- 2 ~ 1.0000- 1	3.2482+ 0	3.0220+ 0		2.2416- 1							0.0000+ 0		1.6826- 2
1.0000- 1 ~ 2.0000- 1	3.1923+ 0	3.0220+ 0		1.7028- 1							0.0000+ 0		1.6828- 2
2.0000- 1 ~ 4.0000- 1	3.1424+ 0	3.0220+ 0		1.2043- 1							0.0000+ 0		1.6829- 2
4.0000- 1 ~ 7.0000- 1	3.1105+ 0	3.0220+ 0		8.8588- 2							0.0000+ 0		1.6829- 2
7.0000- 1 ~ 1.0000+ 0	3.0827+ 0	3.0219+ 0		7.0762- 2							0.0000+ 0		1.6829- 2
1.0000+ 0 ~ 2.0000+ 0	3.0758+ 0	3.0219+ 0		5.3829- 2							0.0000+ 0		1.6829- 2
2.0000+ 0 ~ 4.0000+ 0	3.0699+ 0	3.0218+ 0		3.8102- 2							0.0000+ 0		1.6829- 2
4.0000+ 0 ~ 7.0000+ 0	3.0498+ 0	3.0216+ 0		2.8011- 2							0.0000+ 0		1.6829- 2
7.0000+ 0 ~ 1.0000+ 1	3.0437+ 0	3.0213+ 0		2.2386- 2							0.0000+ 0		1.6829- 2
1.0000+ 1 ~ 2.0000+ 1	3.0379+ 0	3.0209+ 0		1.7036- 2							0.0000+ 0		1.6829- 2
2.0000+ 1 ~ 4.0000+ 1	3.0317+ 0	3.0197+ 0		1.2041- 2							0.0000+ 0		1.6830- 2
4.0000+ 1 ~ 7.0000+ 1	3.0266+ 0	3.0176+ 0		8.8351- 3							0.0000+ 0		1.6830- 2
7.0000+ 1 ~ 1.0000+ 2	3.0226+ 0	3.0155+ 0		7.0732- 3							0.0000+ 0		1.6830- 2
1.0000+ 2 ~ 2.0000+ 2	3.0159+ 0	3.0105+ 0		5.3848- 3							0.0000+ 0		1.6844- 2
2.0000+ 2 ~ 4.0000+ 2	3.0029+ 0	2.9892+ 0		3.7759- 3							0.0000+ 0		1.6869- 2
4.0000+ 2 ~ 7.0000+ 2	2.9831+ 0	2.9803+ 0		2.7542- 3							0.0000+ 0		1.6892- 2
7.0000+ 2 ~ 1.0000+ 3	2.9602+ 0	2.9580+ 0		2.1793- 3							0.0000+ 0		1.6908- 2
1.0000+ 3 ~ 2.0000+ 3	2.9124+ 0	2.9107+ 0		1.6278- 3							0.0000+ 0		1.7119- 2
2.0000+ 3 ~ 4.0000+ 3	2.8089+ 0	2.8063+ 0		2.6497- 3							0.0000+ 0		1.7486- 2
4.0000+ 3 ~ 7.0000+ 3	2.6491+ 0	2.6453+ 0		3.8310- 3							0.0000+ 0		1.8026- 2
7.0000+ 3 ~ 1.0000+ 4	2.4703+ 0	2.4697+ 0		5.8019- 4							0.0000+ 0		1.8997- 2
1.0000+ 4 ~ 2.0000+ 4	2.1594+ 0	2.1488+ 0		1.2744- 2							0.0000+ 0		2.2607- 2
2.0000+ 4 ~ 4.0000+ 4	1.7158+ 0	1.7092+ 0		6.6542- 3							0.0000+ 0		2.9381- 2
4.0000+ 4 ~ 7.0000+ 4	1.0850+ 0	1.0813+ 0		3.6895- 3							0.0000+ 0		4.3541- 2
7.0000+ 4 ~ 1.0000+ 5	1.0157+ 0	1.0137+ 0		1.9900- 3							0.0000+ 0		6.1013- 2
1.0000+ 5 ~ 2.0000+ 5	1.5489+ 0	1.5464+ 0		3.3861- 3							0.0000+ 0		9.6079- 2
2.0000+ 5 ~ 4.0000+ 5	3.8744+ 0	3.8722+ 0		2.1892- 3							0.0000+ 0		1.5590- 1
4.0000+ 5 ~ 7.0000+ 5	2.0860+ 0	2.0872+ 0		8.6408- 4							0.0000+ 0		2.1331- 1
7.0000+ 5 ~ 1.0000+ 6	2.2860+ 0	2.2848+ 0		1.1085- 3				0.0000+ 0			5.1240- 5		2.4299- 1
1.0000+ 6 ~ 2.0000+ 6	2.7885+ 0	2.7852+ 0		1.0898- 3				1.3981- 2			6.7641- 3		2.7995- 1
2.0000+ 6 ~ 4.0000+ 6	3.6299+ 0	3.2551+ 0	1.8045- 2	1.2334- 3				2.5169- 1			1.0597- 1		4.2548- 1
4.0000+ 6 ~ 7.0000+ 6	3.4113+ 0	2.2743+ 0	4.4879- 1	4.2865- 4				4.9510- 1			1.9171- 1		6.6038- 1
7.0000+ 6 ~ 1.0000+ 7	2.8778+ 0	1.5704+ 0	8.2297- 1	2.3084- 4				4.8083- 1	3.8590- 3		1.9945- 1	8.4731- 5	7.2824- 1
1.0000+ 7 ~ 2.0000+ 7	1.7720+ 0	4.9075- 1	3.3880- 1	1.2198- 5		8.1019- 3		2.0820- 1	4.8974- 1		1.1022- 1	8.4203- 2	7.1888- 1

MATERIAL =3202

CROSS SECTION

^{42}Ca (3202)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.3363+ 0	1.2218+ 0		2.1135+ 0							0.0000+ 0		1.6027- 2
1.0000- 2 ~ 2.0000- 2	2.1250+ 0	1.2218+ 0		9.0317- 1							0.0000+ 0		1.6027- 2
2.0000- 2 ~ 4.0000- 2	1.8015+ 0	1.2218+ 0		6.3982- 1							0.0000+ 0		1.6027- 2
4.0000- 2 ~ 7.0000- 2	1.5908+ 0	1.2218+ 0		4.6891- 1							0.0000+ 0		1.6027- 2
7.0000- 2 ~ 1.0000- 1	1.5870+ 0	1.2218+ 0		3.7516- 1							0.0000+ 0		1.6027- 2
1.0000- 1 ~ 2.0000- 1	1.5078+ 0	1.2218+ 0		2.8579- 1							0.0000+ 0		1.6028- 2
2.0000- 1 ~ 4.0000- 1	1.4298+ 0	1.2218+ 0		2.0180- 1							0.0000+ 0		1.6028- 2
4.0000- 1 ~ 7.0000- 1	1.3701+ 0	1.2217+ 0		1.4841- 1							0.0000+ 0		1.6028- 2
7.0000- 1 ~ 1.0000+ 0	1.3403+ 0	1.2217+ 0		1.1863- 1							0.0000+ 0		1.6028- 2
1.0000+ 0 ~ 2.0000+ 0	1.3118+ 0	1.2215+ 0		9.0271- 2							0.0000+ 0		1.6028- 2
2.0000+ 0 ~ 4.0000+ 0	1.2880+ 0	1.2213+ 0		6.3794- 2							0.0000+ 0		1.6028- 2
4.0000+ 0 ~ 7.0000+ 0	1.2675+ 0	1.2207+ 0		4.6727- 2							0.0000+ 0		1.6028- 2
7.0000+ 0 ~ 1.0000+ 1	1.2578+ 0	1.2201+ 0		3.7454- 2							0.0000+ 0		1.6028- 2
1.0000+ 1 ~ 2.0000+ 1	1.2472+ 0	1.2188+ 0		2.8389- 2							0.0000+ 0		1.6028- 2
2.0000+ 1 ~ 4.0000+ 1	1.2357+ 0	1.2157+ 0		1.9349- 2							0.0000+ 0		1.6028- 2
4.0000+ 1 ~ 7.0000+ 1	1.2262+ 0	1.2107+ 0		1.4512- 2							0.0000+ 0		1.6028- 2
7.0000+ 1 ~ 1.0000+ 2	1.2182+ 0	1.2047+ 0		1.1446- 2							0.0000+ 0		1.6028- 2
1.0000+ 2 ~ 2.0000+ 2	1.2008+ 0	1.1922+ 0		8.4848- 3							0.0000+ 0		1.6039- 2
2.0000+ 2 ~ 4.0000+ 2	1.1703+ 0	1.1648+ 0		5.6838- 3							0.0000+ 0		1.6057- 2
4.0000+ 2 ~ 7.0000+ 2	1.1286+ 0	1.1272+ 0		3.7792- 3							0.0000+ 0		1.6074- 2
7.0000+ 2 ~ 1.0000+ 3	1.0809+ 0	1.0782+ 0		2.7110- 3							0.0000+ 0		1.6086- 2
1.0000+ 3 ~ 2.0000+ 3	1.0011+ 0	8.8943- 1		1.8987- 3							0.0000+ 0		1.6240- 2
2.0000+ 3 ~ 4.0000+ 3	8.7085- 1	8.7001- 1		8.3361- 4							0.0000+ 0		1.6508- 2
4.0000+ 3 ~ 7.0000+ 3	7.3187- 1	7.3148- 1		4.1399- 4							0.0000+ 0		1.6904- 2
7.0000+ 3 ~ 1.0000+ 4	1.2303+ 0	1.0928+ 0		1.3785- 1							0.0000+ 0		1.7621- 2
1.0000+ 4 ~ 2.0000+ 4	4.7681- 1	4.7681- 1		1.9700- 4							0.0000+ 0		1.8875- 2
2.0000+ 4 ~ 4.0000+ 4	5.3088+ 0	6.2698+ 0		1.0859- 2							0.0000+ 0		2.5903- 2
4.0000+ 4 ~ 7.0000+ 4	1.2900+ 0	1.1927+ 0		7.9272- 3							0.0000+ 0		3.7392- 2
7.0000+ 4 ~ 1.0000+ 5	1.9531- 1	1.9161- 1		3.7966- 3							0.0000+ 0		5.1333- 2
1.0000+ 5 ~ 2.0000+ 5	8.5715+ 0	8.5668+ 0		4.7457- 3							0.0000+ 0		8.0771- 2
2.0000+ 5 ~ 4.0000+ 5	3.3847+ 0	3.3818+ 0		2.8172- 3							0.0000+ 0		1.3278- 1
4.0000+ 5 ~ 7.0000+ 5	3.2736+ 0	3.2701+ 0		3.5113- 3							0.0000+ 0		1.8318- 1
7.0000+ 5 ~ 1.0000+ 6	3.3019+ 0	3.2988+ 0		2.5503- 3							0.0000+ 0		2.0992- 1
1.0000+ 6 ~ 2.0000+ 6	3.7024+ 0	3.5876+ 0	1.3120- 1	2.9366- 3							0.0000+ 0		2.8571- 1
2.0000+ 6 ~ 4.0000+ 6	3.9682+ 0	3.0778+ 0	8.7740- 1	1.4198- 3							1.1905- 3		4.6714- 1
4.0000+ 6 ~ 7.0000+ 6	3.4633+ 0	2.3058+ 0	1.0307+ 0	1.7181- 3				1.1449- 4			2.4469- 2		6.5747- 1
7.0000+ 6 ~ 1.0000+ 7	2.8980+ 0	1.6768+ 0	1.0958+ 0	4.1124- 4				1.0020- 1			5.8576- 2	3.6384- 3	7.5794- 1
1.0000+ 7 ~ 2.0000+ 7	2.3308+ 0	1.0789+ 0	2.8297- 1	4.0081- 6		4.4292- 1		1.2261- 1	1.4614- 1		3.6248- 2	1.9143- 1	7.3182- 1

MATERIAL =3203

CROSS SECTION

^{43}Ca (3203)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 6 ~ 1.0000- 2	4.0262+ 1	4.1808+ 0		3.6092+ 1							0.0000+ 0		1.5854- 2
1.0000- 2 ~ 2.0000- 2	1.9684+ 1	4.1808+ 0		1.5423+ 1							0.0000+ 0		1.5854- 2
2.0000- 2 ~ 4.0000- 2	1.5094+ 1	4.1805+ 0		1.0804+ 1							0.0000+ 0		1.5854- 2
4.0000- 2 ~ 7.0000- 2	1.2170+ 1	4.1803+ 0		8.0094+ 0							0.0000+ 0		1.5854- 2
7.0000- 2 ~ 1.0000- 1	1.0675+ 1	4.1802+ 0		6.4148+ 0							0.0000+ 0		1.5854- 2
1.0000- 1 ~ 2.0000- 1	9.0322+ 0	4.1599+ 0		4.8723+ 0							0.0000+ 0		1.5854- 2
2.0000- 1 ~ 4.0000- 1	7.8044+ 0	4.1692+ 0		3.4482+ 0							0.0000+ 0		1.5854- 2
4.0000- 1 ~ 7.0000- 1	6.8907+ 0	4.1882+ 0		2.5328+ 0							0.0000+ 0		1.5854- 2
7.0000- 1 ~ 1.0000+ 0	6.1781+ 0	4.1847+ 0		2.0324+ 0							0.0000+ 0		1.5854- 2
1.0000+ 0 ~ 2.0000+ 0	5.6820+ 0	4.1537+ 0		1.5383+ 0							0.0000+ 0		1.5855- 2
2.0000+ 0 ~ 4.0000+ 0	5.2318+ 0	4.1468+ 0		1.0851+ 0							0.0000+ 0		1.5855- 2
4.0000+ 0 ~ 7.0000+ 0	4.9298+ 0	4.1353+ 0		7.9434- 1							0.0000+ 0		1.5855- 2
7.0000+ 0 ~ 1.0000+ 1	4.7535+ 0	4.1218+ 0		6.3190- 1							0.0000+ 0		1.5855- 2
1.0000+ 1 ~ 2.0000+ 1	4.5881+ 0	4.0824+ 0		4.7561- 1							0.0000+ 0		1.5855- 2
2.0000+ 1 ~ 4.0000+ 1	4.3549+ 0	4.0268+ 0		3.2809- 1							0.0000+ 0		1.5855- 2
4.0000+ 1 ~ 7.0000+ 1	4.1539+ 0	3.9227+ 0		2.3119- 1							0.0000+ 0		1.5855- 2
7.0000+ 1 ~ 1.0000+ 2	3.9823+ 0	3.8057+ 0		1.7858- 1							0.0000+ 0		1.5855- 2
1.0000+ 2 ~ 2.0000+ 2	3.7034+ 0	3.6814+ 0		1.2198- 1							0.0000+ 0		1.5864- 2
2.0000+ 2 ~ 4.0000+ 2	3.2517+ 0	3.1804+ 0		7.1381- 2							0.0000+ 0		1.5861- 2
4.0000+ 2 ~ 7.0000+ 2	2.8604+ 0	2.8179+ 0		4.2537- 2							0.0000+ 0		1.5895- 2
7.0000+ 2 ~ 1.0000+ 3	3.1868+ 0	3.1301+ 0		3.6428- 2							0.0000+ 0		1.5706- 2
1.0000+ 3 ~ 2.0000+ 3	8.4387+ 1	8.5787+ 1		6.2858- 1							0.0000+ 0		1.5843- 2
2.0000+ 3 ~ 4.0000+ 3	4.2430+ 0	4.1235+ 0		1.1948- 1							0.0000+ 0		1.6081- 2
4.0000+ 3 ~ 7.0000+ 3	2.5868+ 1	2.5583+ 1		2.8270- 1							0.0000+ 0		1.6432- 2
7.0000+ 3 ~ 1.0000+ 4	2.2831+ 1	2.2588+ 1		8.4522- 2							0.0000+ 0		1.7066- 2
1.0000+ 4 ~ 2.0000+ 4	1.0087+ 1	1.0016+ 1		5.1792- 2							0.0000+ 0		1.8684- 2
2.0000+ 4 ~ 4.0000+ 4	1.0008+ 1	9.9888+ 0		3.6309- 2							0.0000+ 0		2.4425- 2
4.0000+ 4 ~ 7.0000+ 4	7.1787+ 0	7.1591+ 0		1.9514- 2							0.0000+ 0		3.4738- 2
7.0000+ 4 ~ 1.0000+ 5	5.8910+ 0	5.8788+ 0		1.4185- 2							0.0000+ 0		4.7324- 2
1.0000+ 5 ~ 2.0000+ 5	4.7205+ 0	4.7107+ 0		9.8217- 3							2.2348- 6		7.4267- 2
2.0000+ 5 ~ 4.0000+ 5	3.7297+ 0	3.7216+ 0	4.9358- 3	8.2677- 3							6.9392- 5		1.2254- 1
4.0000+ 5 ~ 7.0000+ 5	3.3119+ 0	3.0905+ 0	2.1813- 1	2.8883- 3							3.6752- 5		1.8038- 1
7.0000+ 5 ~ 1.0000+ 6	3.3244+ 0	2.9708+ 0	3.5188- 1	1.6875- 3							1.2093- 4		2.1524- 1
1.0000+ 6 ~ 2.0000+ 6	3.7369+ 0	3.1603+ 0	5.8558- 1	1.2138- 3				1.9803- 4			8.8584- 3		2.8642- 1
2.0000+ 6 ~ 4.0000+ 6	3.9694+ 0	3.1407+ 0	7.7118- 1	1.0497- 3				4.0423- 2			1.5805- 2		4.7472- 1
4.0000+ 6 ~ 7.0000+ 6	3.5084+ 0	2.4041+ 0	9.0378- 1	7.3885- 4				1.7098- 1			2.4720- 2		6.5969- 1
7.0000+ 6 ~ 1.0000+ 7	2.9600+ 0	1.8028+ 0	1.1468+ 0	2.0189- 5				1.1381- 1			3.2907- 2	7.8431- 5	7.7046- 1
1.0000+ 7 ~ 2.0000+ 7	2.3764+ 0	1.1087+ 0	2.4341- 1	8.0322- 7		6.0588- 2		9.4933- 2	2.7538- 2		2.2205- 2	2.9682- 2	7.3749- 1

MATERIAL =3204

CROSS SECTION

^{44}Ca (3204)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.0000+ 0	3.3199+ 0		2.7480+ 0									1.5299- 2
1.0000- 2 ~ 2.0000- 2	4.4845+ 0	3.3199+ 0		1.1746+ 0									1.5299- 2
2.0000- 2 ~ 4.0000- 2	4.1504+ 0	3.3199+ 0		8.3059- 1									1.5299- 2
4.0000- 2 ~ 7.0000- 2	3.8302+ 0	3.3199+ 0		5.1039- 1									1.5299- 2
7.0000- 2 ~ 1.0000- 1	3.5083+ 0	3.3197+ 0		4.8880- 1									1.5299- 2
1.0000- 1 ~ 2.0000- 1	3.9810+ 0	3.3197+ 0		3.7124- 1									1.5299- 2
2.0000- 1 ~ 4.0000- 1	3.5292+ 0	3.3197+ 0		2.0255- 1									1.5299- 2
4.0000- 1 ~ 7.0000- 1	3.5124+ 0	3.3196+ 0		1.8300- 1									1.5299- 2
7.0000- 1 ~ 1.0000+ 0	3.4737+ 0	3.3194+ 0		1.5430- 1									1.5299- 2
1.0000+ 0 ~ 2.0000+ 0	3.4366+ 0	3.3192+ 0		1.1744- 1									1.5299- 2
2.0000+ 0 ~ 4.0000+ 0	3.4016+ 0	3.3189+ 0		8.3026- 2									1.5299- 2
4.0000+ 0 ~ 7.0000+ 0	3.3786+ 0	3.3175+ 0		6.1016- 2									1.5299- 2
7.0000+ 0 ~ 1.0000+ 1	3.3650+ 0	3.3183+ 0		4.6719- 2									1.5299- 2
1.0000+ 1 ~ 2.0000+ 1	3.3506+ 0	3.3158+ 0		3.7048- 2									1.5299- 2
2.0000+ 1 ~ 4.0000+ 1	3.3335+ 0	3.3074+ 0		2.6125- 2									1.5299- 2
4.0000+ 1 ~ 7.0000+ 1	3.3163+ 0	3.2871+ 0		1.8111- 2									1.6300- 2
7.0000+ 1 ~ 1.0000+ 2	3.3001+ 0	3.2649+ 0		1.5214- 2									1.6300- 2
1.0000+ 2 ~ 2.0000+ 2	3.2703+ 0	3.2588+ 0		1.1494- 2									1.5308- 2
2.0000+ 2 ~ 4.0000+ 2	3.2080+ 0	3.2002+ 0		7.8712- 3									1.5318- 2
4.0000+ 2 ~ 7.0000+ 2	3.1128+ 0	3.1071+ 0		5.5358- 3									1.5328- 2
7.0000+ 2 ~ 1.0000+ 3	3.0063+ 0	3.0021+ 0		4.1975- 3									1.5336- 2
1.0000+ 3 ~ 2.0000+ 3	2.8030+ 0	2.8002+ 0		2.8022- 3									1.5494- 2
2.0000+ 3 ~ 4.0000+ 3	2.4278+ 0	2.4282+ 0		1.5469- 3									1.5604- 2
4.0000+ 3 ~ 7.0000+ 3	1.9844+ 0	1.9835+ 0		8.9780- 4									1.5855- 2
7.0000+ 3 ~ 1.0000+ 4	1.6198+ 0	1.6192+ 0		5.4942- 4									1.6312- 2
1.0000+ 4 ~ 2.0000+ 4	1.3151+ 0	1.2969+ 0		1.8280- 2									1.7630- 2
2.0000+ 4 ~ 4.0000+ 4	8.5501- 1	8.4650- 1		8.5101- 3									2.1699- 2
4.0000+ 4 ~ 7.0000+ 4	8.0097+ 0	8.0048+ 0		4.9201- 3									2.9430- 2
7.0000+ 4 ~ 1.0000+ 5	1.2678+ 0	1.2549+ 0		3.5103- 3									3.8993- 2
1.0000+ 5 ~ 2.0000+ 5	4.0698+ 0	4.0660+ 0		3.0878- 3									5.0284- 2
2.0000+ 5 ~ 4.0000+ 5	2.2921+ 0	2.2919+ 0		1.8544- 4									9.9797- 2
4.0000+ 5 ~ 7.0000+ 5	2.0555+ 0	2.0542+ 0		1.3169- 3									1.3946- 1
7.0000+ 5 ~ 1.0000+ 6	3.0740+ 0	3.0722+ 0		1.7418- 3									1.8300- 1
1.0000+ 6 ~ 2.0000+ 6	3.4030+ 0	3.0720+ 0	3.2968- 1	1.1075- 3									2.4004- 1
2.0000+ 6 ~ 4.0000+ 6	3.0799+ 0	2.7719+ 0	3.0824- 1	8.3187- 4									4.7309- 1
4.0000+ 6 ~ 7.0000+ 6	3.3659+ 0	2.1001+ 0	1.2648+ 0	1.7835- 4				1.7135- 4			4.0345- 4		7.2654- 1
7.0000+ 6 ~ 1.0000+ 7	2.0635+ 0	1.8909+ 0	1.2482+ 0	1.7027- 6				4.[illegible]33- 3			1.9604- 2		8.0048- 1
1.0000+ 7 ~ 2.0000+ 7	2.2966+ 0	1.1190+ 0	4.1850- 1	1.5212- 6		6.8839- 1		3.0220- 2	8.6405- 3		2.6910- 2	4.4054- 3	7.7537- 1

MATERIAL =3205

CROSS SECTION

^{46}Ca (3205)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.1290+ 0	2.9009+ 0		2.2819+ 0									1.4847- 2
1.0000- 2 ~ 2.0000- 2	3.8831+ 0	2.9000+ 0		9.7609- 1									1.4850- 2
2.0000- 2 ~ 4.0000- 2	3.4088+ 0	2.9000+ 0		5.0848- 1									1.4852- 2
4.0000- 2 ~ 7.0000- 2	3.4204+ 0	2.9000+ 0		5.0471- 1									1.4855- 2
7.0000- 2 ~ 1.0000- 1	3.3100+ 0	2.9000+ 0		4.0531- 1									1.4854- 2
1.0000- 1 ~ 2.0000- 1	3.2148+ 0	2.9003+ 0		3.0835- 1									1.4855- 2
2.0000- 1 ~ 4.0000- 1	3.1237+ 0	2.9000+ 0		2.1803- 1									1.4857- 2
4.0000- 1 ~ 7.0000- 1	3.0542+ 0	2.9000+ 0		1.6023- 1									1.4858- 2
7.0000- 1 ~ 1.0000+ 0	3.0321+ 0	2.9000+ 0		1.2817- 1									1.4859- 2
1.0000+ 0 ~ 2.0000+ 0	3.0152+ 0	2.9000+ 0		8.7489- 2									1.4861- 2
2.0000+ 0 ~ 4.0000+ 0	2.9999+ 0	2.9000+ 0		6.8930- 2									1.4862- 2
4.0000+ 0 ~ 7.0000+ 0	2.9775+ 0	2.9000+ 0		5.0850- 2									1.4864- 2
7.0000+ 0 ~ 1.0000+ 1	2.9508+ 0	2.9000+ 0		4.0510- 2									1.4865- 2
1.0000+ 1 ~ 2.0000+ 1	2.9266+ 0	2.9000+ 0		3.0820- 2									1.4868- 2
2.0000+ 1 ~ 4.0000+ 1	2.9316+ 0	2.9000+ 0		2.1797- 2									1.4866- 2
4.0000+ 1 ~ 7.0000+ 1	2.9245+ 0	2.9000+ 0		1.6021- 2									1.4869- 2
7.0000+ 1 ~ 1.0000+ 2	2.9180+ 0	2.9000+ 0		1.2816- 2									1.4870- 2
1.0000+ 2 ~ 2.0000+ 2	2.9113+ 0	2.9000+ 0		8.7498- 3									1.4871- 2
2.0000+ 2 ~ 4.0000+ 2	2.9100+ 0	2.9000+ 0		6.8530- 3									1.4873- 2
4.0000+ 2 ~ 7.0000+ 2	2.9077+ 0	2.9000+ 0		5.0850- 3									1.4874- 2
7.0000+ 2 ~ 1.0000+ 3	2.9061+ 0	2.9000+ 0		4.0510- 3									1.4875- 2
1.0000+ 3 ~ 2.0000+ 3	8.2127+ 1	8.2520+ 1		7.5171- 3									1.4778- 2
2.0000+ 3 ~ 4.0000+ 3	4.3923+ 1	4.3920+ 1		4.3075- 3									1.4958- 2
4.0000+ 3 ~ 7.0000+ 3	3.2073+ 1	3.2070+ 1		2.4854- 3									1.5222- 2
7.0000+ 3 ~ 1.0000+ 4	2.6490+ 1	2.6488+ 1		1.6460- 3									1.5704- 2
1.0000+ 4 ~ 2.0000+ 4	1.9214+ 1	1.9213+ 1		1.3755- 3									1.7087- 2
2.0000+ 4 ~ 4.0000+ 4	1.3406+ 1	1.3406+ 1		1.0824- 3									2.0745- 2
4.0000+ 4 ~ 7.0000+ 4	9.7315+ 0	9.7308+ 0		6.7957- 4									2.6413- 2
7.0000+ 4 ~ 1.0000+ 5	7.7263+ 0	7.7248+ 0		4.7598- 4									3.7955- 2
1.0000+ 5 ~ 2.0000+ 5	5.8831+ 0	5.8827+ 0		3.8812- 4									5.0014- 2
2.0000+ 5 ~ 4.0000+ 5	4.3830+ 0	4.3827+ 0		2.7901- 4									9.7393- 2
4.0000+ 5 ~ 7.0000+ 5	3.8414+ 0	3.8412+ 0		2.2150- 4									1.3407- 1
7.0000+ 5 ~ 1.0000+ 6	3.5897+ 0	3.5896+ 0		2.5169- 4									1.5035- 1
1.0000+ 6 ~ 2.0000+ 6	3.8210+ 0	3.5843+ 0	2.5782- 1	1.8458- 4									2.4513- 1
2.0000+ 6 ~ 4.0000+ 6	3.0874+ 0	3.0017+ 0	8.5482- 1	8.5119- 5									4.9148- 1
4.0000+ 6 ~ 7.0000+ 6	3.4445+ 0	2.3178+ 0	1.2222+ 0	5.5721- 5							5.0000- 4		7.0061- 1
7.0000+ 6 ~ 1.0000+ 7	3.1428+ 0	1.7968+ 0	1.4016+ 0	1.2488- 5				1.4308- 4			3.8333- 3		7.8623- 1
1.0000+ 7 ~ 2.0000+ 7	2.5037+ 0	1.1971+ 0	8.6481- 1	1.3388- 6		8.2371- 1		1.5050- 2			4.0000- 3		7.5394- 1

MATERIAL =3206 CROSS SECTION ^{48}Ca (3206)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.0879+ 0	3.7169+ 0		3.3813+ 0									1.4023- 2
1.0000- 2 ~ 2.0000- 2	5.1815+ 0	3.7168+ 0		1.4450+ 0									1.4023- 2
2.0000- 2 ~ 4.0000- 2	4.7405+ 0	3.7168+ 0		1.0238+ 0									1.4023- 2
4.0000- 2 ~ 7.0000- 2	4.4887+ 0	3.7168+ 0		7.5015- 1									1.4023- 2
7.0000- 2 ~ 1.0000- 1	4.3173+ 0	3.7165+ 0		6.0078- 1									1.4023- 2
1.0000- 1 ~ 2.0000- 1	4.1736+ 0	3.7165+ 0		4.5737- 1									1.4023- 2
2.0000- 1 ~ 4.0000- 1	4.0284+ 0	3.7165+ 0		3.2295- 1									1.4023- 2
4.0000- 1 ~ 7.0000- 1	3.8638+ 0	3.7165+ 0		2.3738- 1									1.4023- 2
7.0000- 1 ~ 1.0000+ 0	3.8060+ 0	3.7163+ 0		1.8989- 1									1.4023- 2
1.0000+ 0 ~ 2.0000+ 0	3.8406+ 0	3.7162+ 0		1.4444- 1									1.4023- 2
2.0000+ 0 ~ 4.0000+ 0	3.8178+ 0	3.7162+ 0		1.0211- 1									1.4023- 2
4.0000+ 0 ~ 7.0000+ 0	3.7902+ 0	3.7162+ 0		7.5028- 2									1.4023- 2
7.0000+ 0 ~ 1.0000+ 1	3.7744+ 0	3.7144+ 0		6.0016- 2									1.4023- 2
1.0000+ 1 ~ 2.0000+ 1	3.7583+ 0	3.7127+ 0		4.5570- 2									1.4023- 2
2.0000+ 1 ~ 4.0000+ 1	3.7410+ 0	3.7092+ 0		3.2129- 2									1.4023- 2
4.0000+ 1 ~ 7.0000+ 1	3.7281+ 0	3.7028+ 0		2.3492- 2									1.4023- 2
7.0000+ 1 ~ 1.0000+ 2	3.7137+ 0	3.6950+ 0		1.8877- 2									1.4023- 2
1.0000+ 2 ~ 2.0000+ 2	3.6828+ 0	3.6788+ 0		1.4038- 2									1.4030- 2
2.0000+ 2 ~ 4.0000+ 2	3.6521+ 0	3.6424+ 0		9.6488- 3									1.4049- 2
4.0000+ 2 ~ 7.0000+ 2	3.6312+ 0	3.5848+ 0		6.7829- 3									1.4054- 2
7.0000+ 2 ~ 1.0000+ 3	3.5239+ 0	3.5188+ 0		5.1033- 3									1.4062- 2
1.0000+ 3 ~ 2.0000+ 3	3.3852+ 0	3.3817+ 0		3.4789- 3									1.4182- 2
2.0000+ 3 ~ 4.0000+ 3	3.1555+ 0	3.1539+ 0		1.6412- 3									1.4338- 2
4.0000+ 3 ~ 7.0000+ 3	2.8883+ 0	2.8883+ 0		1.0058- 3									1.4595- 2
7.0000+ 3 ~ 1.0000+ 4	2.6360+ 0	2.6354+ 0		6.6176- 4									1.5058- 2
1.0000+ 4 ~ 2.0000+ 4	2.3481+ 0	2.3478+ 0		2.4832- 4									1.6813- 2
2.0000+ 4 ~ 4.0000+ 4	2.0457+ 0	2.0456+ 0		7.0270- 5									2.0130- 2
4.0000+ 4 ~ 7.0000+ 4	1.8496+ 0	1.8496+ 0		1.9365- 5									2.7385- 2
7.0000+ 4 ~ 1.0000+ 5	1.7374+ 0	1.7374+ 0		7.1281- 6									3.6805- 2
1.0000+ 5 ~ 2.0000+ 5	1.7988+ 0	1.7988+ 0		4.1901- 5									5.5958- 2
2.0000+ 5 ~ 4.0000+ 5	1.8708+ 0	1.8708+ 0		4.7884- 5									8.9285- 2
4.0000+ 5 ~ 7.0000+ 5	1.9639+ 0	1.9639+ 0		2.5332- 4									1.2052- 1
7.0000+ 5 ~ 1.0000+ 6	1.8633+ 0	1.8631+ 0		1.4502- 4									1.4221- 1
1.0000+ 6 ~ 2.0000+ 6	1.8987+ 0	1.8986+ 0		1.6854- 4									2.1448- 1
2.0000+ 6 ~ 4.0000+ 6	1.9754+ 0	1.9721+ 0	2.9713- 3	2.8049- 4									3.8574- 1
4.0000+ 6 ~ 7.0000+ 6	1.8930+ 0	2.8607+ 0	8.3118- 1	1.8124- 4									5.9244- 1
7.0000+ 6 ~ 1.0000+ 7	1.2832+ 0	1.8928+ 0	1.2718+ 0	9.4717- 5									7.3610- 1
1.0000+ 7 ~ 2.0000+ 7	2.5874+ 0	1.2828+ 0	4.8197- 1	3.4177- 6		8.3019- 1		1.1811- 2	3.1517- 4		7.7758- 5	3.6816- 6	7.8099- 1

MATERIAL =3211 CROSS SECTION ^{45}Sc (3211)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.0864+ 2	2.2534+ 1		8.4007+ 1				0.0000+ 0					1.4826- 2
1.0000- 2 ~ 2.0000- 2	5.8430+ 1	2.2533+ 1		3.5897+ 1				0.0000+ 0					1.4826- 2
2.0000- 2 ~ 4.0000- 2	4.7820+ 1	2.2531+ 1		2.5289+ 1				0.0000+ 0					1.4826- 2
4.0000- 2 ~ 7.0000- 2	4.1138+ 1	2.2529+ 1		1.8605+ 1				0.0000+ 0					1.4826- 2
7.0000- 2 ~ 1.0000- 1	3.7468+ 1	2.2524+ 1		1.4932+ 1				0.0000+ 0					1.4826- 2
1.0000- 1 ~ 2.0000- 1	3.3848+ 1	2.2518+ 1		1.1332+ 1				0.0000+ 0					1.4826- 2
2.0000- 1 ~ 4.0000- 1	3.0808+ 1	2.2498+ 1		8.0104+ 0				0.0000+ 0					1.4826- 2
4.0000- 1 ~ 7.0000- 1	2.8347+ 1	2.2488+ 1		5.9781+ 0				0.0000+ 0					1.4826- 2
7.0000- 1 ~ 1.0000+ 0	2.7132+ 1	2.2432+ 1		4.7000+ 0				0.0000+ 0					1.4826- 2
1.0000+ 0 ~ 2.0000+ 0	2.6816+ 1	2.2364+ 1		3.6808+ 0				0.0000+ 0					1.4826- 2
2.0000+ 0 ~ 4.0000+ 0	2.4873+ 1	2.2178+ 1		2.4978+ 0				0.0000+ 0					1.4826- 2
4.0000+ 0 ~ 7.0000+ 0	2.3[illegible]4+ 1	2.1804+ 1		1.8110+ 0				0.0000+ 0					1.4826- 2
7.0000+ 0 ~ 1.0000+ 1	2.2964+ 1	2.1542+ 1		1.4226+ 0				0.0000+ 0					1.4826- 2
1.0000+ 1 ~ 2.0000+ 1	2.1882+ 1	2.0634+ 1		1.0478+ 0				0.0000+ 0					1.4826- 2
2.0000+ 1 ~ 4.0000+ 1	2.0226+ 1	1.8341+ 1		8.8886- 1				0.0000+ 0					1.4826- 2
4.0000+ 1 ~ 7.0000+ 1	1.7865+ 1	1.7208+ 1		4.4713- 1				0.0000+ 0					1.4826- 2
7.0000+ 1 ~ 1.0000+ 2	1.5408+ 1	1.5088+ 1		3.1286- 1				0.0000+ 0					1.4826- 2
1.0000+ 2 ~ 2.0000+ 2	1.1991+ 1	1.1908+ 1		1.8827- 1				0.0000+ 0					1.4829- 2
2.0000+ 2 ~ 4.0000+ 2	7.4418+ 0	7.3548+ 0		8.7007- 2				0.0000+ 0					1.4836- 2
4.0000+ 2 ~ 7.0000+ 2	3.9018+ 0	3.8758+ 0		1.0827- 1				0.0000+ 0					1.4849- 2
7.0000+ 2 ~ 1.0000+ 3	1.8839+ 0	1.8719+ 0		2.2008- 2				0.0000+ 0					1.4864- 2
1.0000+ 3 ~ 2.0000+ 3	8.8831- 1	8.8838- 1		3.2848- 2				0.0000+ 0					1.4840- 2
2.0000+ 3 ~ 4.0000+ 3	2.8638+ 1	2.8205+ 1		3.3110- 1				0.0000+ 0					1.5145- 2
4.0000+ 3 ~ 7.0000+ 3	8.3823+ 1	8.3744+ 1		1.7889- 1				0.0000+ 0					1.5468- 2
7.0000+ 3 ~ 1.0000+ 4	3.3687+ 1	3.3422+ 1		1.6463- 1				0.0000+ 0					1.5699- 2
1.0000+ 4 ~ 2.0000+ 4	1.1597+ 1	1.1472+ 1	2.8203- 3	1.2298- 1				0.0000+ 0					1.7129- 2
2.0000+ 4 ~ 4.0000+ 4	1.0193+ 1	1.0121+ 1	1.0287- 2	8.1878- 2				0.0000+ 0					2.0804- 2
4.0000+ 4 ~ 7.0000+ 4	8.0729+ 0	8.0065+ 0	1.7291- 2	4.9084- 2				0.0000+ 0					2.8051- 2
7.0000+ 4 ~ 1.0000+ 5	1.0868+ 1	1.0812+ 1	2.3874- 2	3.3351- 2				0.0000+ 0					3.7627- 2
1.0000+ 5 ~ 2.0000+ 5	4.8381+ 0	4.7725+ 0	3.4184- 2	2.7377- 2				0.0000+ 0					5.8883- 2
2.0000+ 5 ~ 4.0000+ 5	3.5124+ 0	3.4986+ 0	5.3845- 2	1.7987- 2				0.0000+ 0					1.0266- 1
4.0000+ 5 ~ 7.0000+ 5	2.8824+ 0	2.7425+ 0	1.0809- 1	1.2485- 2				2.6867- 4			2.4285- 4		1.5210- 1
7.0000+ 5 ~ 1.0000+ 6	2.7450+ 0	2.4981+ 0	2.3587- 1	9.8815- 3				1.4000- 3			7.4752- 4		1.8830- 1
1.0000+ 6 ~ 2.0000+ 6	3.0878+ 0	2.4274+ 0	6.2398- 1	5.4864- 3				8.0000- 3			1.7500- 3		2.7213- 1
2.0000+ 6 ~ 4.0000+ 6	3.5299+ 0	2.4358+ 0	1.0384+ 0	2.0696- 3				4.7750- 2			3.8750- 3		5.1348- 1
4.0000+ 6 ~ 7.0000+ 6	3.3823+ 0	2.2334+ 0	1.0428+ 0	8.6059- 4				9.8333- 2			7.5000- 3		6.9952- 1
7.0000+ 6 ~ 1.0000+ 7	2.8242+ 0	1.7888+ 0	9.3328- 1	3.2326- 4				1.1050- 1			1.3167- 2		7.2686- 1
1.0000+ 7 ~ 2.0000+ 7	2.1904+ 0	1.1882+ 0	8.3177- 1	5.3608- 5		2.8817- 1		4.8505- 2			3.5720- 2		8.3938- 1

MATERIAL =3220 — CROSS SECTION — Ti (3220)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.2838+ 1	4.0872+ 0		1.9850+ 1				0.0000+ 0			0.0000+ 0		
1.0000- 2 ~ 2.0000- 2	1.2143+ 1	4.0872+ 0		8.0556+ 0				0.0000+ 0			0.0000+ 0		
2.0000- 2 ~ 4.0000- 2	9.7926+ 0	4.0872+ 0		5.7057+ 0				0.0000+ 0			0.0000+ 0		
4.0000- 2 ~ 7.0000- 2	8.2894+ 0	4.0872+ 0		4.1825+ 0				0.0000+ 0			0.0000+ 0		
7.0000- 2 ~ 1.0000- 1	7.4338+ 0	4.0872+ 0		3.3465+ 0				0.0000+ 0			0.0000+ 0		
1.0000- 1 ~ 2.0000- 1	6.6366+ 0	4.0872+ 0		2.5494+ 0				0.0000+ 0			0.0000+ 0		
2.0000- 1 ~ 4.0000- 1	5.8874+ 0	4.0872+ 0		1.8001+ 0				0.0000+ 0			0.0000+ 0		
4.0000- 1 ~ 7.0000- 1	5.4114+ 0	4.0872+ 0		1.3240+ 0				0.0000+ 0			0.0000+ 0		
7.0000- 1 ~ 1.0000+ 0	5.1458+ 0	4.0872+ 0		1.0582+ 0				0.0000+ 0			0.0000+ 0		
1.0000+ 0 ~ 2.0000+ 0	4.8835+ 0	4.0872+ 0		8.0581- 1				0.0000+ 0			0.0000+ 0		
2.0000+ 0 ~ 4.0000+ 0	4.6892+ 0	4.0888+ 0		6.0538- 1				0.0000+ 0			0.0000+ 0		
4.0000+ 0 ~ 7.0000+ 0	4.5081+ 0	4.0897+ 0		4.1845- 1				0.0000+ 0			0.0000+ 0		
7.0000+ 0 ~ 1.0000+ 1	4.4283+ 0	4.0911+ 0		3.3528- 1				0.0000+ 0			0.0000+ 0		
1.0000+ 1 ~ 2.0000+ 1	4.3489+ 0	4.0940+ 0		2.5483- 1				0.0000+ 0			0.0000+ 0		
2.0000+ 1 ~ 4.0000+ 1	4.2812+ 0	4.1010+ 0		1.8020- 1				0.0000+ 0			0.0000+ 0		
4.0000+ 1 ~ 7.0000+ 1	4.2464+ 0	4.1128+ 0		1.3364- 1				0.0000+ 0			0.0000+ 0		
7.0000+ 1 ~ 1.0000+ 2	4.2332+ 0	4.1271+ 0		1.0812- 1				0.0000+ 0			0.0000+ 0		
1.0000+ 2 ~ 2.0000+ 2	4.2204+ 0	4.1582+ 0		8.1182- 2				0.0000+ 0			0.0000+ 0		
2.0000+ 2 ~ 4.0000+ 2	4.2943+ 0	4.2368+ 0		5.8156- 2				0.0000+ 0			0.0000+ 0		
4.0000+ 2 ~ 7.0000+ 2	4.4289+ 0	4.3749+ 0		5.1979- 2				0.0000+ 0			0.0000+ 0		
7.0000+ 2 ~ 1.0000+ 3	4.5810+ 0	4.5847+ 0		3.6334- 2				0.0000+ 0			0.0000+ 0		
1.0000+ 3 ~ 2.0000+ 3	5.0470+ 0	5.0168+ 0		3.0158- 2				0.0000+ 0			0.0000+ 0		
2.0000+ 3 ~ 4.0000+ 3	1.2312+ 1	1.2248+ 1		6.3885- 2				0.0000+ 0			0.0000+ 0		
4.0000+ 3 ~ 7.0000+ 3	1.0312+ 1	1.0260+ 1		3.7895- 2				0.0000+ 0			0.0000+ 0		
7.0000+ 3 ~ 1.0000+ 4	2.0396+ 1	2.0344+ 1		5.0298- 2				0.0000+ 0			0.0000+ 0		
1.0000+ 4 ~ 2.0000+ 4	7.8804+ 1	7.8704+ 1		1.0008- 1				0.0000+ 0			0.0000+ 0		
2.0000+ 4 ~ 4.0000+ 4	3.7527+ 1	3.7484+ 1		4.2772- 2				0.0000+ 0			0.0000+ 0		
4.0000+ 4 ~ 7.0000+ 4	1.9908+ 1	1.9900+ 1		8.4818- 3				0.0000+ 0			0.0000+ 0		
7.0000+ 4 ~ 1.0000+ 5	5.8624+ 0	5.8557+ 0		6.6805- 3				0.0000+ 0			0.0000+ 0		
1.0000+ 5 ~ 2.0000+ 5	2.2592+ 0	2.2478+ 0	4.7282- 3	8.9245- 3				0.0000+ 0			0.0000+ 0		4.8355- 2
2.0000+ 5 ~ 4.0000+ 5	2.2336+ 0	2.2004+ 0	2.8408- 2	4.6803- 3				0.0000+ 0			0.0000+ 0		8.0967- 2
4.0000+ 5 ~ 7.0000+ 5	2.3370+ 0	2.3021+ 0	3.1108- 2	3.8828- 3				0.0000+ 0			0.0000+ 0		1.1450- 1
7.0000+ 5 ~ 1.0000+ 6	2.8311+ 0	2.5882+ 0	9.6028- 2	3.8109- 3				5.5947- 5			0.0000+ 0		1.3087- 1
1.0000+ 6 ~ 2.0000+ 6	2.8414+ 0	2.2578+ 0	5.8118- 1	2.1749- 3				4.3253- 4			1.2573- 5		2.0982- 1
2.0000+ 6 ~ 4.0000+ 6	3.4874+ 0	2.2570+ 0	1.2056+ 0	1.9654- 3				2.9358- 3			2.6731- 4		4.8158- 1
4.0000+ 6 ~ 7.0000+ 6	3.4532+ 0	2.0969+ 0	1.3563+ 0	8.1339- 4				1.4829- 2			2.3252- 3		7.0489- 1
7.0000+ 6 ~ 1.0000+ 7	2.9841+ 0	1.6859+ 0	1.2988+ 0	3.4474- 4				3.8141- 2			6.8222- 3		8.0855- 1
1.0000+ 7 ~ 2.0000+ 7	2.3118+ 0	9.3254- 1	7.4854- 1	4.6848- 5		3.8303- 3		4.8612- 1			8.7928- 2	5.8740- 2	3.2527- 2	9.0129- 3	8.5089- 1

MATERIAL =3221 — CROSS SECTION — ^{46}Ti (3221)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.5812+ 0	2.7489+ 0		1.8442+ 0									1.4634- 2
1.0000- 2 ~ 2.0000- 2	9.5360+ 0	2.7489+ 0		7.8610- 1									1.4634- 2
2.0000- 2 ~ 4.0000- 2	3.3248+ 0	2.7489+ 0		5.6788- 1									1.4634- 2
4.0000- 2 ~ 7.0000- 2	3.1871+ 0	2.7489+ 0		4.0119- 1									1.4634- 2
7.0000- 2 ~ 1.0000- 1	3.0748+ 0	2.7489+ 0		3.2763- 1									1.4634- 2
1.0000- 1 ~ 2.0000- 1	2.9860+ 0	2.7489+ 0		2.4814- 1									1.4634- 2
2.0000- 1 ~ 4.0000- 1	2.9230+ 0	2.7489+ 0		1.7806- 1									1.4634- 2
4.0000- 1 ~ 7.0000- 1	2.8783+ 0	2.7489+ 0		1.2860- 1									1.4634- 2
7.0000- 1 ~ 1.0000+ 0	2.8604+ 0	2.7489+ 0		1.0365- 1									1.4634- 2
1.0000+ 0 ~ 2.0000+ 0	2.8264+ 0	2.7486+ 0		7.8803- 2									1.4634- 2
2.0000+ 0 ~ 4.0000+ 0	2.8020+ 0	2.7489+ 0		5.5719- 2									1.4634- 2
4.0000+ 0 ~ 7.0000+ 0	2.7867+ 0	2.7489+ 0		4.0838- 2									1.4634- 2
7.0000+ 0 ~ 1.0000+ 1	2.7779+ 0	2.7452+ 0		3.2728- 2									1.4634- 2
1.0000+ 1 ~ 2.0000+ 1	2.7587+ 0	2.7438+ 0		2.4880- 2									1.4634- 2
2.0000+ 1 ~ 4.0000+ 1	2.7582+ 0	2.7407+ 0		1.7575- 2									1.4634- 2
4.0000+ 1 ~ 7.0000+ 1	2.7483+ 0	2.7354+ 0		1.2889- 2									1.4635- 2
7.0000+ 1 ~ 1.0000+ 2	2.7384+ 0	2.7292+ 0		1.0268- 2									1.4635- 2
1.0000+ 2 ~ 2.0000+ 2	2.7296+ 0	2.7167+ 0		7.7710- 3									1.4678- 2
2.0000+ 2 ~ 4.0000+ 2	2.8004+ 0	2.6860+ 0		5.4195- 3									1.4754- 2
4.0000+ 2 ~ 7.0000+ 2	2.8388+ 0	2.6349+ 0		3.8844- 3									1.4822- 2
7.0000+ 2 ~ 1.0000+ 3	2.8795+ 0	2.5784+ 0		3.0348- 3									1.4871- 2
1.0000+ 3 ~ 2.0000+ 3	2.4851+ 0	2.4889+ 0		2.1908- 3									1.4932- 2
2.0000+ 3 ~ 4.0000+ 3	2.2036+ 0	2.1992+ 0		4.3659- 3									1.5008- 2
4.0000+ 3 ~ 7.0000+ 3	1.7958+ 0	1.7844+ 0		9.1512- 3									1.5192- 2
7.0000+ 3 ~ 1.0000+ 4	1.1238+ 0	1.1225+ 0		1.2295- 3									1.5839- 2
1.0000+ 4 ~ 2.0000+ 4	5.1061+ 0	5.0767+ 0		2.8418- 2									1.6948- 2
2.0000+ 4 ~ 4.0000+ 4	2.0441+ 0	2.0289+ 0		1.4732- 2									2.0557- 2
4.0000+ 4 ~ 7.0000+ 4	1.1041+ 1	1.1018+ 1		2.3893- 2									2.8357- 2
7.0000+ 4 ~ 1.0000+ 5	4.2202+ 0	4.2059+ 0		1.6950- 2									3.8307- 2
1.0000+ 5 ~ 2.0000+ 5	4.0131+ 0	4.0001+ 0		1.3034- 2							0.0000+ 0		5.0708- 2
2.0000+ 5 ~ 4.0000+ 5	3.0588+ 0	3.0498+ 0		8.8831- 3							0.0000+ 0		1.0234- 1
4.0000+ 5 ~ 7.0000+ 5	2.6158+ 0	2.6070+ 0		8.5471- 3							0.0000+ 0		1.4840- 1
7.0000+ 5 ~ 1.0000+ 6	2.5870+ 0	2.5302+ 0	4.9504- 2	7.8567- 3							0.0000+ 0		1.7235- 1
1.0000+ 6 ~ 2.0000+ 6	3.2139+ 0	2.5147+ 0	8.9981- 1	3.8278- 3							0.0000+ 0		2.3954- 1
2.0000+ 6 ~ 4.0000+ 6	4.0813+ 0	2.6962+ 0	1.3856+ 0	2.9131- 3				4.8750- 3			0.0000+ 0		4.6281- 1
4.0000+ 6 ~ 7.0000+ 6	3.7084+ 0	2.1706+ 0	1.4286+ 0	1.4085- 3				1.0063- 1			6.7071- 3		7.1372- 1
7.0000+ 6 ~ 1.0000+ 7	3.0854+ 0	1.6854+ 0	1.1286+ 0	8.4288- 4				2.1692- 1			4.8450- 2		8.1045- 1
1.0000+ 7 ~ 2.0000+ 7	2.3468+ 0	1.0819+ 0	5.2191- 1	8.9519- 5		9.1322- 2		2.4605- 1	3.2935- 1		8.2441- 2	1.3278- 2	8.1325- 1

CROSS SECTION

^{47}Ti (3222)

MATERIAL =3222

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.3807+ 0	3.0952+ 0		5.2856+ 0				0.0000+ 0			0.0000+ 0		1.4323- 2
1.0000- 2 ~ 2.0000- 2	5.3453+ 0	3.0951+ 0		2.2502+ 0				0.0000+ 0			0.0000+ 0		1.4323- 2
2.0000- 2 ~ 4.0000- 2	4.6888+ 0	3.0951+ 0		1.5936+ 0				0.0000+ 0			0.0000+ 0		1.4323- 2
4.0000- 2 ~ 7.0000- 2	4.2634+ 0	3.0951+ 0		1.1683+ 0				0.0000+ 0			0.0000+ 0		1.4323- 2
7.0000- 2 ~ 1.0000- 1	4.0299+ 0	3.0951+ 0		9.3480- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
1.0000- 1 ~ 2.0000- 1	3.8072+ 0	3.0951+ 0		7.1219- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
2.0000- 1 ~ 4.0000- 1	3.6978+ 0	3.0949+ 0		6.0284- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
4.0000- 1 ~ 7.0000- 1	3.4648+ 0	3.0948+ 0		3.6996+ 1				0.0000+ 0			0.0000+ 0		1.4323- 2
7.0000- 1 ~ 1.0000+ 0	3.3802+ 0	3.0948+ 0		2.8581- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
1.0000+ 0 ~ 2.0000+ 0	3.3192+ 0	3.0941+ 0		2.2507- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
2.0000+ 0 ~ 4.0000+ 0	3.2522+ 0	3.0930+ 0		1.5918- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
4.0000+ 0 ~ 7.0000+ 0	3.2092+ 0	3.0912+ 0		1.1695- 1				0.0000+ 0			0.0000+ 0		1.4323- 2
7.0000+ 0 ~ 1.0000+ 1	3.1828+ 0	3.0891+ 0		9.3726- 2				0.0000+ 0			0.0000+ 0		1.4323- 2
1.0000+ 1 ~ 2.0000+ 1	3.1558+ 0	3.0846+ 0		7.1288- 2				0.0000+ 0			0.0000+ 0		1.4323- 2
2.0000+ 1 ~ 4.0000+ 1	3.1243+ 0	3.0758+ 0		5.0496- 2				0.0000+ 0			0.0000+ 0		1.4323- 2
4.0000+ 1 ~ 7.0000+ 1	3.0835+ 0	3.0552+ 0		3.7237- 2				0.0000+ 0			0.0000+ 0		1.4323- 2
7.0000+ 1 ~ 1.0000+ 2	3.0652+ 0	3.0354+ 0		2.8886- 2				0.0000+ 0			0.0000+ 0		1.4323- 2
1.0000+ 2 ~ 2.0000+ 2	3.0140+ 0	2.9910+ 0		2.2980- 2				0.0000+ 0			0.0000+ 0		1.4359- 2
2.0000+ 2 ~ 4.0000+ 2	2.9098+ 0	2.8929+ 0		1.8721- 2				0.0000+ 0			0.0000+ 0		1.4425- 2
4.0000+ 2 ~ 7.0000+ 2	2.8681+ 0	2.7430+ 0		1.2517- 1				0.0000+ 0			0.0000+ 0		1.4482- 2
7.0000+ 2 ~ 1.0000+ 3	2.5942+ 0	2.5829+ 0		1.1847- 2				0.0000+ 0			0.0000+ 0		1.4524- 2
1.0000+ 3 ~ 2.0000+ 3	2.4908+ 0	2.4195+ 0		1.4584- 2				0.0000+ 0			0.0000+ 0		1.4577- 2
2.0000+ 3 ~ 4.0000+ 3	4.8318+ 1	4.7871+ 1		4.4689- 1				0.0000+ 0			0.0000+ 0		1.4642- 2
4.0000+ 3 ~ 7.0000+ 3	2.8108+ 0	2.5071+ 0		1.0352- 1				0.0000+ 0			0.0000+ 0		1.4799- 2
7.0000+ 3 ~ 1.0000+ 4	1.3722+ 1	1.3522+ 1		2.0003- 1				0.0000+ 0			0.0000+ 0		1.5181- 2
1.0000+ 4 ~ 2.0000+ 4	1.3112+ 1	1.2980+ 1		1.3151- 1				0.0000+ 0			0.0000+ 0		1.6299- 2
2.0000+ 4 ~ 4.0000+ 4	1.0081+ 1	1.0022+ 1		5.8276- 2				0.0000+ 0			0.0000+ 0		1.9990- 2
4.0000+ 4 ~ 7.0000+ 4	1.0612+ 1	1.0491+ 1		2.0284- 2				0.0000+ 0			0.0000+ 0		2.8088- 2
7.0000+ 4 ~ 1.0000+ 5	5.0835+ 0	5.0793+ 0		4.1872- 3				0.0000+ 0			0.0000+ 0		3.4658- 2
1.0000+ 5 ~ 2.0000+ 5	4.3688+ 0	4.2870+ 0	8.4784- 2	2.1828- 2				0.0000+ 0			0.0000+ 0		5.4071- 2
2.0000+ 5 ~ 4.0000+ 5	3.2350+ 0	2.9321+ 0	3.0018- 1	1.0073- 2				0.0000+ 0			0.0000+ 0		1.0207- 1
4.0000+ 5 ~ 7.0000+ 5	2.7011+ 0	2.2884+ 0	4.2809- 1	6.4668- 3				0.0000+ 0			0.0000+ 0		1.5156- 1
7.0000+ 5 ~ 1.0000+ 6	2.8637+ 0	2.1881+ 0	4.8147- 1	6.4640- 3				7.5667- 4			0.0000+ 0		1.7782- 1
1.0000+ 6 ~ 2.0000+ 6	3.1884+ 0	2.4948+ 0	6.8468- 1	5.4820- 3				5.9250- 3			1.7223- 5		2.3167- 1
2.0000+ 6 ~ 4.0000+ 6	3.7282+ 0	2.7281+ 0	9.5323- 1	5.8101- 3				3.4875- 2			3.8817- 3		4.6236- 1
4.0000+ 6 ~ 7.0000+ 6	3.4004+ 0	2.1804+ 0	1.1181+ 0	2.2877- 3				7.5917- 2			2.3432- 2		7.1663- 1
7.0000+ 6 ~ 1.0000+ 7	2.9128+ 0	1.6992+ 0	1.0289+ 0	8.4516- 4		7.2696- 3		1.2275- 1			5.2960- 2		6.1119- 1
1.0000+ 7 ~ 2.0000+ 7	2.2937+ 0	1.1175+ 0	9.4121- 1	8.7329- 5		5.6821- 1		1.0763- 1	8.2150- 2		8.5920- 2	1.0859- 2	8.4728- 1

CROSS SECTION

^{48}Ti (3223)

MATERIAL =3223

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.0883+ 1	4.8118+ 0		2.4271+ 1									1.4025- 2
1.0000- 2 ~ 2.0000- 2	1.4983+ 1	4.8118+ 0		1.0372+ 1									1.4025- 2
2.0000- 2 ~ 4.0000- 2	1.1848+ 1	4.8118+ 0		7.3342+ 0									1.4025- 2
4.0000- 2 ~ 7.0000- 2	1.0004+ 1	4.8118+ 0		5.5923+ 0									1.4025- 2
7.0000- 2 ~ 1.0000- 1	8.9281+ 0	4.8117+ 0		4.3164+ 0									1.4025- 2
1.0000- 1 ~ 2.0000- 1	7.8883+ 0	4.8117+ 0		3.2766+ 0									1.4025- 2
2.0000- 1 ~ 4.0000- 1	6.9307+ 0	4.8118+ 0		2.3189+ 0									1.4025- 2
4.0000- 1 ~ 7.0000- 1	6.3152+ 0	4.8120+ 0		1.7031+ 0									1.4025- 2
7.0000- 1 ~ 1.0000+ 0	5.8788+ 0	4.8122+ 0		1.3646+ 0									1.4025- 2
1.0000+ 0 ~ 2.0000+ 0	5.6602+ 0	4.8127+ 0		1.0374+ 0									1.4025- 2
2.0000+ 0 ~ 4.0000+ 0	5.3478+ 0	4.8138+ 0		7.3374- 1									1.4025- 2
4.0000+ 0 ~ 7.0000+ 0	5.1552+ 0	4.8158+ 0		5.3938- 1									1.4025- 2
7.0000+ 0 ~ 1.0000+ 1	5.0492+ 0	4.8181+ 0		4.3112- 1									1.4025- 2
1.0000+ 1 ~ 2.0000+ 1	4.9517+ 0	4.8231+ 0		3.2861- 1									1.4025- 2
2.0000+ 1 ~ 4.0000+ 1	4.8874+ 0	4.8348+ 0		2.3287- 1									1.4025- 2
4.0000+ 1 ~ 7.0000+ 1	4.8287+ 0	4.8542+ 0		1.7153- 1									1.4025- 2
7.0000+ 1 ~ 1.0000+ 2	4.8154+ 0	4.8777+ 0		1.3778- 1									1.4025- 2
1.0000+ 2 ~ 2.0000+ 2	4.8344+ 0	4.7280+ 0		1.0543- 1									1.4056- 2
2.0000+ 2 ~ 4.0000+ 2	4.8258+ 0	4.8500+ 0		7.5771- 2									1.4111- 2
4.0000+ 2 ~ 7.0000+ 2	5.1168+ 0	5.0598+ 0		5.7202- 2									1.4160- 2
7.0000+ 2 ~ 1.0000+ 3	5.3720+ 0	5.3246+ 0		4.7419- 2									1.4195- 2
1.0000+ 3 ~ 2.0000+ 3	6.0018+ 0	5.8831+ 0		3.6797- 2									1.4239- 2
2.0000+ 3 ~ 4.0000+ 3	7.8573+ 0	7.5243+ 0		3.3006- 2									1.4295- 2
4.0000+ 3 ~ 7.0000+ 3	1.2714+ 1	1.2873+ 1		3.9573- 2									1.4427- 2
7.0000+ 3 ~ 1.0000+ 4	2.4156+ 1	2.4110+ 1		4.8173- 2									1.4751- 2
1.0000+ 4 ~ 2.0000+ 4	1.0180+ 2	1.0198+ 2		1.1984- 1									1.5702- 2
2.0000+ 4 ~ 4.0000+ 4	4.8482+ 1	4.8481+ 1		5.0863- 2									1.8339- 2
4.0000+ 4 ~ 7.0000+ 4	1.5814+ 1	1.5807+ 1		6.2047- 3									2.4069- 2
7.0000+ 4 ~ 1.0000+ 5	8.1716+ 0	8.1658+ 0		6.0296- 3									3.1408- 2
1.0000+ 5 ~ 2.0000+ 5	4.8083+ 0	4.8011+ 0		5.2062- 3									4.8018- 2
2.0000+ 5 ~ 4.0000+ 5	3.4835+ 0	3.4597+ 0		3.8718- 3									7.9540- 2
4.0000+ 5 ~ 7.0000+ 5	2.8281+ 0	2.6247+ 0		2.3724- 3									1.1178- 1
7.0000+ 5 ~ 1.0000+ 6	2.7839+ 0	2.7608+ 0		3.4808- 3									1.2717- 1
1.0000+ 6 ~ 2.0000+ 6	3.3788+ 0	2.7508+ 0	6.2887- 1	1.7218- 3									2.1105- 1
2.0000+ 6 ~ 4.0000+ 6	4.0052+ 0	2.7224+ 0	1.2818+ 0	1.0450- 3									4.6927- 1
4.0000+ 6 ~ 7.0000+ 6	3.5972+ 0	2.1989+ 0	1.3992+ 0	4.9488- 4				1.5892- 3			0.0000+ 0		7.1212- 1
7.0000+ 6 ~ 1.0000+ 7	3.0870+ 0	1.7567+ 0	1.3131+ 0	2.8189- 4				1.8758- 2			1.1083- 3		8.0863- 1
1.0000+ 7 ~ 2.0000+ 7	2.5844+ 0	1.1523+ 0	8.5834- 1	4.2975- 5		4.5652- 1		5.1050- 2	3.1488- 2		2.8400- 2	9.6979- 3	8.5102- 1

MATERIAL =3224 CROSS SECTION ^{49}Ti (3224)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.5429+ 0	5.9194- 1		8.8510+ 0							0.0000+ 0		1.3738- 2
1.0000- 2 ~ 2.0000- 2	3.8195+ 0	8.9185- 1		2.9276+ 0							0.0000+ 0		1.3738- 2
2.0000- 2 ~ 4.0000- 2	2.7827+ 0	8.9192- 1		2.0708+ 0							0.0000+ 0		1.3738- 2
4.0000- 2 ~ 7.0000- 2	2.2146+ 0	8.8191- 1		1.8227+ 0							0.0000+ 0		1.3738- 2
7.0000- 2 ~ 1.0000- 1	1.8085+ 0	8.8188- 1		1.2178+ 0							0.0000+ 0		1.3738- 2
1.0000- 1 ~ 2.0000- 1	1.4182+ 0	8.8184- 1		9.2433- 1							0.0000+ 0		1.3738- 2
2.0000- 1 ~ 4.0000- 1	1.3480+ 0	8.8178- 1		8.8592- 1							0.0000+ 0		1.3738- 2
4.0000- 1 ~ 7.0000- 1	1.1712+ 0	8.8158- 1		4.7870- 1							0.0000+ 0		1.3738- 2
7.0000- 1 ~ 1.0000+ 0	1.0748+ 0	8.8134- 1		3.8344- 1							0.0000+ 0		1.3738- 2
1.0000+ 0 ~ 2.0000+ 0	8.8151- 1	6.9087- 1		2.9064- 1							0.0000+ 0		1.3738- 2
2.0000+ 0 ~ 4.0000+ 0	8.9394- 1	6.8981- 1		2.0405- 1							0.0000+ 0		1.3738- 2
4.0000+ 0 ~ 7.0000+ 0	8.9824- 1	6.8807- 1		1.4817- 1							0.0000+ 0		1.3738- 2
7.0000+ 0 ~ 1.0000+ 1	8.0266- 1	6.8803- 1		1.1862- 1							0.0000+ 0		1.3738- 2
1.0000+ 1 ~ 2.0000+ 1	7.8789- 1	6.8178- 1		8.6210- 2							0.0000+ 0		1.3738- 2
2.0000+ 1 ~ 4.0000+ 1	7.2981- 1	6.7276- 1		5.7044- 2							0.0000+ 0		1.3738- 2
4.0000+ 1 ~ 7.0000+ 1	6.8762- 1	6.5977- 1		3.7751- 2							0.0000+ 0		1.3738- 2
7.0000+ 1 ~ 1.0000+ 2	6.7384- 1	6.4888- 1		2.6988- 2							0.0000+ 0		1.3738- 2
1.0000+ 2 ~ 2.0000+ 2	6.4440- 1	6.2728- 1		1.7114- 2							0.0000+ 0		1.3786- 2
2.0000+ 2 ~ 4.0000+ 2	6.1483- 1	6.0571- 1		9.1217- 3							0.0000+ 0		1.3816- 2
4.0000+ 2 ~ 7.0000+ 2	6.1358- 1	6.0811- 1		5.4725- 3							0.0000+ 0		1.3861- 2
7.0000+ 2 ~ 1.0000+ 3	6.6353- 1	6.4925- 1		4.2841- 3							0.0000+ 0		1.3893- 2
1.0000+ 3 ~ 2.0000+ 3	9.4069- 1	9.3821- 1		4.4857- 3							0.0000+ 0		1.3953- 2
2.0000+ 3 ~ 4.0000+ 3	4.7840+ 1	4.7724+ 1		1.1578- 1							0.0000+ 0		1.3983- 2
4.0000+ 3 ~ 7.0000+ 3	7.9585+ 0	7.9581+ 0		1.8407- 2							0.0000+ 0		1.4103- 2
7.0000+ 3 ~ 1.0000+ 4	2.4740+ 1	2.4713+ 1		2.7234- 2							0.0000+ 0		1.4398- 2
1.0000+ 4 ~ 2.0000+ 4	2.2182+ 0	2.2117+ 0		6.4780- 3							0.0000+ 0		1.5251- 2
2.0000+ 4 ~ 4.0000+ 4	1.4128+ 1	1.4108+ 1		2.1702- 2							0.0000+ 0		1.7814- 2
4.0000+ 4 ~ 7.0000+ 4	6.3918+ 0	6.3848+ 0		6.3726- 3							0.0000+ 0		2.2721- 2
7.0000+ 4 ~ 1.0000+ 5	3.8603+ 0	3.8472+ 0		3.0324- 3							0.0000+ 0		2.9237- 2
1.0000+ 5 ~ 2.0000+ 5	5.3404+ 0	5.3350+ 0		7.3622- 3							0.0000+ 0		4.3837- 2
2.0000+ 5 ~ 4.0000+ 5	3.7533+ 0	3.7486+ 0		4.6880- 3							0.0000+ 0		7.1083- 2
4.0000+ 5 ~ 7.0000+ 5	2.9988+ 0	2.9964+ 0		3.4771- 3							0.0000+ 0		9.7980- 2
7.0000+ 5 ~ 1.0000+ 6	2.9108+ 0	2.8078+ 0		3.1363- 3							0.0000+ 0		1.1194- 1
1.0000+ 6 ~ 2.0000+ 6	3.4115+ 0	3.3313+ 0	7.7098- 2	3.1526- 3							0.0000+ 0		1.7272- 1
2.0000+ 6 ~ 4.0000+ 6	3.7703+ 0	3.2371+ 0	5.2936- 1	3.7804- 3				0.0000+ 0			0.0000+ 0		3.9817- 1
4.0000+ 6 ~ 7.0000+ 6	3.4288+ 0	2.4899+ 0	9.2033- 1	3.4734- 3				1.1308- 3			1.4182- 3		6.3289- 1
7.0000+ 6 ~ 1.0000+ 7	2.9653+ 0	1.7638+ 0	1.1312+ 0	1.1013- 3		5.9987- 2		9.4603- 3			7.4212- 3		8.0014- 1
1.0000+ 7 ~ 2.0000+ 7	2.3006+ 0	1.1877+ 0	2.7956- 1	7.6028- 5		8.5103- 1		3.2370- 2	1.5151- 2		2.2597- 2		8.5437- 1

MATERIAL =3225 CROSS SECTION ^{50}Ti (3225)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.2578+ 0	3.7061+ 0		5.5289- 1									1.3464- 2
1.0000- 2 ~ 2.0000- 2	3.9413+ 0	3.7061+ 0		2.3818- 1									1.3464- 2
2.0000- 2 ~ 4.0000- 2	3.8721+ 0	3.7061+ 0		1.6703- 1									1.3464- 2
4.0000- 2 ~ 7.0000- 2	3.8279+ 0	3.7061+ 0		1.2282- 1									1.3464- 2
7.0000- 2 ~ 1.0000- 1	3.8034+ 0	3.7061+ 0		9.8502- 2									1.3464- 2
1.0000- 1 ~ 2.0000- 1	3.7787+ 0	3.7061+ 0		7.4802- 2									1.3464- 2
2.0000- 1 ~ 4.0000- 1	3.7578+ 0	3.7061+ 0		5.2768- 2									1.3464- 2
4.0000- 1 ~ 7.0000- 1	3.7438+ 0	3.7060+ 0		3.8781- 2									1.3464- 2
7.0000- 1 ~ 1.0000+ 0	3.7381+ 0	3.7060+ 0		3.1073- 2									1.3464- 2
1.0000+ 0 ~ 2.0000+ 0	3.7286+ 0	3.7048+ 0		2.3817- 2									1.3484- 2
2.0000+ 0 ~ 4.0000+ 0	3.7214+ 0	3.7047+ 0		1.6896- 2									1.3484- 2
4.0000+ 0 ~ 7.0000+ 0	3.7187+ 0	3.7044+ 0		1.2288- 2									1.3484- 2
7.0000+ 0 ~ 1.0000+ 1	3.7138+ 0	3.7041+ 0		9.8013- 3									1.3484- 2
1.0000+ 1 ~ 2.0000+ 1	3.7107+ 0	3.7039+ 0		7.4869- 3									1.3484- 2
2.0000+ 1 ~ 4.0000+ 1	3.7087+ 0	3.7035+ 0		5.2842- 3									1.3484- 2
4.0000+ 1 ~ 7.0000+ 1	3.7023+ 0	3.6986+ 0		3.8692- 3									1.3484- 2
7.0000+ 1 ~ 1.0000+ 2	3.6990+ 0	3.6949+ 0		3.0773- 3									1.3484- 2
1.0000+ 2 ~ 2.0000+ 2	3.6896+ 0	3.6872+ 0		2.3239- 3									1.3490- 2
2.0000+ 2 ~ 4.0000+ 2	3.6712+ 0	3.6898+ 0		1.6168- 3									1.3537- 2
4.0000+ 2 ~ 7.0000+ 2	3.6422+ 0	3.6110+ 0		1.1653- 3									1.3576- 2
7.0000+ 2 ~ 1.0000+ 3	3.6089+ 0	3.6079+ 0		8.8687- 4									1.3608- 2
1.0000+ 3 ~ 2.0000+ 3	3.5412+ 0	3.5408+ 0		8.3889- 4									1.3545- 2
2.0000+ 3 ~ 4.0000+ 3	3.4033+ 0	3.4028+ 0		3.8191- 4									1.3591- 2
4.0000+ 3 ~ 7.0000+ 3	3.2156+ 0	3.2153+ 0		2.3278- 4									1.3803- 2
7.0000+ 3 ~ 1.0000+ 4	3.0376+ 0	3.0374+ 0		1.4930- 4									1.4075- 2
1.0000+ 4 ~ 2.0000+ 4	2.7858+ 0	2.7855+ 0		8.2743- 5									1.4859- 2
2.0000+ 4 ~ 4.0000+ 4	2.3228+ 0	2.3224+ 0		5.1180- 5									1.7193- 2
4.0000+ 4 ~ 7.0000+ 4	4.2730+ 0	4.2703+ 0		2.7848- 3									2.1759- 2
7.0000+ 4 ~ 1.0000+ 5	3.4699+ 0	3.4629+ 0		7.0464- 3									2.7692- 2
1.0000+ 5 ~ 2.0000+ 5	5.9662+ 0	5.8555+ 0		7.0498- 4									4.0795- 2
2.0000+ 5 ~ 4.0000+ 5	4.0996+ 0	4.0979+ 0		5.6080- 4									5.4559- 2
4.0000+ 5 ~ 7.0000+ 5	3.2120+ 0	3.2115+ 0		4.9198- 4									6.8717- 2
7.0000+ 5 ~ 1.0000+ 6	3.0890+ 0	3.0885+ 0		5.4002- 4									9.9684- 2
1.0000+ 6 ~ 2.0000+ 6	3.5340+ 0	3.3778+ 0	1.5396- 1	5.0418- 4									1.7531- 1
2.0000+ 6 ~ 4.0000+ 6	3.8872+ 0	2.8408+ 0	9.2615- 1	2.1835- 4									4.3474- 1
4.0000+ 6 ~ 7.0000+ 6	3.5215+ 0	2.3540+ 0	1.1670- 0	1.4518- 4							0.0000+ 0		6.6572- 1
7.0000+ 6 ~ 1.0000+ 7	3.0682+ 0	1.7907+ 0	1.2967+ 0	4.1183- 5				3.5001- 4			2.4417- 4		8.0896- 1
1.0000+ 7 ~ 2.0000+ 7	2.4802+ 0	1.2242+ 0	8.0238- 1	5.3238- 6		6.2245- 1		1.7175- 2	6.0238- 3		7.2910- 3	1.8887- 5	8.5795- 1

MATERIAL =3231

CROSS SECTION

^{51}V (3231)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.0003+ 1	4.8311+ 0		1.5171+ 1									1.3039- 2
1.0000- 2 ~ 2.0000- 2	1.1314+ 1	4.8311+ 0		6.4834+ 0									1.3039- 2
2.0000- 2 ~ 4.0000- 2	9.4191+ 0	4.8311+ 0		4.5880+ 0									1.3039- 2
4.0000- 2 ~ 7.0000- 2	8.2067+ 0	4.8311+ 0		3.3748+ 0									1.3039- 2
7.0000- 2 ~ 1.0000- 1	7.5262+ 0	4.8310+ 0		2.6952+ 0									1.3039- 2
1.0000- 1 ~ 2.0000- 1	6.8808+ 0	4.8310+ 0		2.0498+ 0									1.3039- 2
2.0000- 1 ~ 4.0000- 1	6.2786+ 0	4.8308+ 0		1.4487+ 0									1.3039- 2
4.0000- 1 ~ 7.0000- 1	5.8981+ 0	4.8308+ 0		1.0656+ 0									1.3039- 2
7.0000- 1 ~ 1.0000+ 0	5.6832+ 0	4.8303+ 0		8.5259- 1									1.3039- 2
1.0000+ 0 ~ 2.0000+ 0	5.4781+ 0	4.8298+ 0		6.4848- 1									1.3039- 2
2.0000+ 0 ~ 4.0000+ 0	5.2908+ 0	4.8281+ 0		4.5868- 1									1.3039- 2
4.0000+ 0 ~ 7.0000+ 0	5.1828+ 0	4.8257+ 0		3.3714- 1									1.3039- 2
7.0000+ 0 ~ 1.0000+ 1	5.1224+ 0	4.8227+ 0		2.6972- 1									1.3039- 2
1.0000+ 1 ~ 2.0000+ 1	5.1217+ 0	4.8183+ 0		2.0339- 1									1.3039- 2
2.0000+ 1 ~ 4.0000+ 1	4.9470+ 0	4.8015+ 0		1.4546- 1									1.3039- 2
4.0000+ 1 ~ 7.0000+ 1	4.8542+ 0	4.7769+ 0		1.0725- 1									1.3039- 2
7.0000+ 1 ~ 1.0000+ 2	4.8337+ 0	4.7477+ 0		8.5985- 2									1.3039- 2
1.0000+ 2 ~ 2.0000+ 2	4.7512+ 0	4.8952+ 0		8.8014- 2									1.3041- 2
2.0000+ 2 ~ 4.0000+ 2	4.5925+ 0	4.5449+ 0		4.7693- 2									1.3045- 2
4.0000+ 2 ~ 7.0000+ 2	4.3602+ 0	4.3235+ 0		3.6640- 2									1.3053- 2
7.0000+ 2 ~ 1.0000+ 3	4.1123+ 0	4.0809+ 0		3.1368- 2									1.3062- 2
1.0000+ 3 ~ 2.0000+ 3	3.7460+ 0	3.7187+ 0		2.9388- 2									1.3107- 2
2.0000+ 3 ~ 4.0000+ 3	2.9808+ 1	2.9897- 1		1.1898- 1									1.3228- 2
4.0000+ 3 ~ 7.0000+ 3	1.4920+ 2	1.4892+ 2		2.7830- 1									1.3430- 2
7.0000+ 3 ~ 1.0000+ 4	4.4482+ 1	4.4379+ 1		8.9753- 2									1.3672- 2
1.0000+ 4 ~ 2.0000+ 4	6.0439+ 1	8.0374+ 1		6.4463- 2									1.4397- 2
2.0000+ 4 ~ 4.0000+ 4	1.3502+ 1	1.3478+ 1		2.3872- 2									1.6439- 2
4.0000+ 4 ~ 7.0000+ 4	9.0039+ 0	8.8828+ 0		1.2087- 2									2.0324- 2
7.0000+ 4 ~ 1.0000+ 5	8.5217+ 0	8.3088+ 0		1.2075- 2									2.5174- 2
1.0000+ 5 ~ 2.0000+ 5	8.3221+ 0	8.3150+ 0		7.0905- 3									3.4621- 2
2.0000+ 5 ~ 4.0000+ 5	5.1188+ 0	5.0909+ 0	2.2498- 2	4.2277- 3									5.0445- 2
4.0000+ 5 ~ 7.0000+ 5	3.2927+ 0	3.0448+ 0	2.4614- 1	2.4580- 3									8.4735- 2
7.0000+ 5 ~ 1.0000+ 6	3.1138+ 0	2.7804+ 0	3.5097- 1	2.2281- 3									8.2076- 2
1.0000+ 6 ~ 2.0000+ 6	3.4703+ 0	2.8738+ 0	5.9457- 1	1.6858- 3				2.9200- 5					1.9082- 1
2.0000+ 6 ~ 4.0000+ 6	3.8738+ 0	2.8877+ 0	9.7452- 1	1.0135- 3				3.7500- 4			1.8461- 5		4.8533- 1
4.0000+ 6 ~ 7.0000+ 6	3.8193+ 0	2.4069+ 0	1.2085+ 0	1.1579- 4				4.3333- 3		2.9557- 5	6.9418- 5		7.1580- 1
7.0000+ 6 ~ 1.0000+ 7	3.0816+ 0	1.8451+ 0	1.2167+ 0	3.7784- 5				1.5000- 2	2.8817- 4	4.0456- 4	2.0500- 3		7.5818- 1
1.0000+ 7 ~ 2.0000+ 7	2.3458+ 0	1.1334+ 0	8.3427- 1	2.2088- 5		4.9548- 1		2.5075- 2	2.9350- 2	8.9221- 3	1.4515- 2	1.8276- 3	7.3105- 1

MATERIAL =3240

CROSS SECTION

Cr (3240)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.2883+ 1	3.3785+ 0		9.5032+ 0							0.0000+ 0		1.2946- 2
1.0000- 2 ~ 2.0000- 2	7.4406+ 0	3.3785+ 0		4.0610+ 0							0.0000+ 0		1.2946- 2
2.0000- 2 ~ 4.0000- 2	6.2509+ 0	3.3784+ 0		2.8715+ 0							0.0000+ 0		1.2946- 2
4.0000- 2 ~ 7.0000- 2	5.4902+ 0	3.3793+ 0		2.1109+ 0							0.0000+ 0		1.2946- 2
7.0000- 2 ~ 1.0000- 1	5.0687+ 0	3.3792+ 0		1.6895+ 0							0.0000+ 0		1.2946- 2
1.0000- 1 ~ 2.0000- 1	4.6816+ 0	3.3789+ 0		1.2929+ 0							0.0000+ 0		1.2946- 2
2.0000- 1 ~ 4.0000- 1	4.2858+ 0	3.3782+ 0		9.0788- 1							0.0000+ 0		1.2946- 2
4.0000- 1 ~ 7.0000- 1	4.0438+ 0	3.3771+ 0		6.6652- 1							0.0000+ 0		1.2946- 2
7.0000- 1 ~ 1.0000+ 0	3.9093+ 0	3.3757+ 0		5.3360- 1							0.0000+ 0		1.2946- 2
1.0000+ 0 ~ 2.0000+ 0	3.7782+ 0	3.3727+ 0		4.0550- 1							0.0000+ 0		1.2946- 2
2.0000+ 0 ~ 4.0000+ 0	3.6523+ 0	3.3589+ 0		2.9339- 1							0.0000+ 0		1.2946- 2
4.0000+ 0 ~ 7.0000+ 0	3.5847+ 0	3.3548+ 0		2.0993- 1							0.0000+ 0		1.2946- 2
7.0000+ 0 ~ 1.0000+ 1	3.5087+ 0	3.3415+ 0		1.6719- 1							0.0000+ 0		1.2946- 2
1.0000+ 1 ~ 2.0000+ 1	3.4400+ 0	3.3134+ 0		1.2655- 1							0.0000+ 0		1.2946- 2
2.0000+ 1 ~ 4.0000+ 1	3.3402+ 0	3.2819+ 0		8.8258- 2							0.0000+ 0		1.2946- 2
4.0000+ 1 ~ 7.0000+ 1	3.2219+ 0	3.1564+ 0		6.3505- 2							0.0000+ 0		1.2946- 2
7.0000+ 1 ~ 1.0000+ 2	3.1067+ 0	3.0590+ 0		4.9858- 2							0.0000+ 0		1.2946- 2
1.0000+ 2 ~ 2.0000+ 2	2.9243+ 0	2.8881+ 0		3.6278- 2							0.0000+ 0		1.2951- 2
2.0000+ 2 ~ 4.0000+ 2	2.6614+ 0	2.6373+ 0		2.4078- 2							0.0000+ 0		1.2959- 2
4.0000+ 2 ~ 7.0000+ 2	2.4912+ 0	2.4742+ 0		1.7035- 2							0.0000+ 0		1.2967- 2
7.0000+ 2 ~ 1.0000+ 3	2.5054+ 0	2.4915+ 0		1.3884- 2							0.0000+ 0		1.2972- 2
1.0000+ 3 ~ 2.0000+ 3	3.2202+ 0	3.0801+ 0		1.4011- 1							0.0000+ 0		1.3038- 2
2.0000+ 3 ~ 4.0000+ 3	1.1369+ 1	1.1358+ 1		3.0767- 2							0.0000+ 0		1.3152- 2
4.0000+ 3 ~ 7.0000+ 3	2.8297+ 1	2.8218+ 1		7.8399- 2							0.0000+ 0		1.3318- 2
7.0000+ 3 ~ 1.0000+ 4	1.8903+ 1	1.8877+ 1		2.6442- 2							0.0000+ 0		1.3614- 2
1.0000+ 4 ~ 2.0000+ 4	3.3513+ 0	3.3458+ 0		5.6904- 3							0.0000+ 0		1.4448- 2
2.0000+ 4 ~ 4.0000+ 4	2.7189+ 0	2.7094+ 0		1.5480- 2							0.0000+ 0		1.7083- 2
4.0000+ 4 ~ 7.0000+ 4	5.3807+ 0	5.3742+ 0		6.5265- 3							0.0000+ 0		2.1301- 2
7.0000+ 4 ~ 1.0000+ 5	5.4809+ 0	5.4540+ 0		6.8823- 3							0.0000+ 0		2.6896- 2
1.0000+ 5 ~ 2.0000+ 5	6.5108+ 0	6.5037+ 0		3.6868- 3							0.0000+ 0		3.8720- 2
2.0000+ 5 ~ 4.0000+ 5	3.1388+ 0	3.1332+ 0		3.4333- 3				1.3802- 9			0.0000+ 0		5.9347- 2
4.0000+ 5 ~ 7.0000+ 5	3.1583+ 0	3.1470+ 0	5.0018- 3	3.3117- 3				8.2017- 9			0.0000+ 0		8.1834- 2
7.0000+ 5 ~ 1.0000+ 6	2.8790+ 0	2.8474+ 0	2.8388- 2	3.2723- 3				1.8738- 8			0.0000+ 0		1.1004- 1
1.0000+ 6 ~ 2.0000+ 6	3.0384+ 0	2.7807+ 0	2.5578- 1	2.7823- 3				1.3815- 4			7.8167-11		2.4364- 1
2.0000+ 6 ~ 4.0000+ 6	3.5357+ 0	2.6022+ 0	9.2811- 1	1.3429- 3				3.9802- 3			1.2357- 9		5.6972- 1
4.0000+ 6 ~ 7.0000+ 6	3.6843+ 0	2.3480+ 0	1.2266+ 0	5.1487- 4				1.8738- 2			8.7081- 4		7.3325- 1
7.0000+ 6 ~ 1.0000+ 7	3.2152+ 0	1.8362+ 0	1.2214+ 0	1.1476- 4		4.1803- 3		4.5458- 2	5.0249- 8		7.9518- 3	7.3862-10	7.9709- 1
1.0000+ 7 ~ 2.0000+ 7	2.4422+ 0	1.2060+ 0	8.2931- 1	3.5185- 5		3.3181- 1		7.0896- 2	1.6065- 1		3.6847- 2	8.0933- 3	7.9853- 1

MATERIAL =3241 CROSS SECTION ^{50}Cr (3241)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.1598+ 1	2.3186+ 0		4.9279+ 1							0.0000+ 0		1.3463- 2
1.0000- 2 ~ 2.0000- 2	2.3375+ 1	2.3186+ 0		2.1059+ 1							0.0000+ 0		1.3463- 2
2.0000- 2 ~ 4.0000- 2	1.7204+ 1	2.3182+ 0		1.4885+ 1							0.0000+ 0		1.3463- 2
4.0000- 2 ~ 7.0000- 2	1.3249+ 1	2.3159+ 0		1.0933+ 1							0.0000+ 0		1.3463- 2
7.0000- 2 ~ 1.0000- 1	1.1074+ 1	2.3154+ 0		8.7586+ 0							0.0000+ 0		1.3463- 2
1.0000- 1 ~ 2.0000- 1	8.9785+ 0	2.3144+ 0		6.6651+ 0							0.0000+ 0		1.3463- 2
2.0000- 1 ~ 4.0000- 1	7.0162+ 0	2.3121+ 0		4.7041+ 0							0.0000+ 0		1.3463- 2
4.0000- 1 ~ 7.0000- 1	5.7845+ 0	2.3083+ 0		3.4563+ 0							0.0000+ 0		1.3463- 2
7.0000- 1 ~ 1.0000+ 0	5.0843+ 0	2.3038+ 0		2.7805+ 0							0.0000+ 0		1.3463- 2
1.0000+ 0 ~ 2.0000+ 0	4.3928+ 0	2.2940+ 0		2.0988+ 0							0.0000+ 0		1.3463- 2
2.0000+ 0 ~ 4.0000+ 0	3.7509+ 0	2.2718+ 0		1.4793+ 0							0.0000+ 0		1.3463- 2
4.0000+ 0 ~ 7.0000+ 0	3.3163+ 0	2.2347+ 0		1.0816+ 0							0.0000+ 0		1.3463- 2
7.0000+ 0 ~ 1.0000+ 1	3.0513+ 0	2.1913+ 0		8.8007- 1							0.0000+ 0		1.3463- 2
1.0000+ 1 ~ 2.0000+ 1	2.7457+ 0	2.1005+ 0		6.4517- 1							0.0000+ 0		1.3463- 2
2.0000+ 1 ~ 4.0000+ 1	2.3487+ 0	1.9080+ 0		4.4272- 1							0.0000+ 0		1.3463- 2
4.0000+ 1 ~ 7.0000+ 1	1.9315+ 0	1.6214+ 0		3.1011- 1							0.0000+ 0		1.3463- 2
7.0000+ 1 ~ 1.0000+ 2	1.5708+ 0	1.3347+ 0		2.3619- 1							0.0000+ 0		1.3463- 2
1.0000+ 2 ~ 2.0000+ 2	1.0454+ 0	8.8097- 1		1.6438- 1							0.0000+ 0		1.3468- 2
2.0000+ 2 ~ 4.0000+ 2	4.1103- 1	3.0949- 1		1.0154- 1							0.0000+ 0		1.3477- 2
4.0000+ 2 ~ 7.0000+ 2	9.4816- 2	2.8725- 2		6.8091- 2							0.0000+ 0		1.3484- 2
7.0000+ 2 ~ 1.0000+ 3	1.7140- 1	1.1563- 1		5.4767- 2							0.0000+ 0		1.3490- 2
1.0000+ 3 ~ 2.0000+ 3	1.1348+ 0	1.0638+ 0		5.0635- 2							0.0000+ 0		1.3557- 2
2.0000+ 3 ~ 4.0000+ 3	1.0634+ 1	1.0543+ 1		9.1578- 2							0.0000+ 0		1.3675- 2
4.0000+ 3 ~ 7.0000+ 3	2.0509- 2	2.0442+ 2		6.6811- 1							0.0000+ 0		1.3847- 2
7.0000+ 3 ~ 1.0000+ 4	3.1893+ 1	3.1758+ 1		8.4555- 2							0.0000+ 0		1.4157- 2
1.0000+ 4 ~ 2.0000+ 4	8.2053+ 0	8.1785+ 0		2.8775- 2							0.0000+ 0		1.5043- 2
2.0000+ 4 ~ 4.0000+ 4	1.3148+ 1	1.3114+ 1		3.3611- 2							0.0000+ 0		1.7925- 2
4.0000+ 4 ~ 7.0000+ 4	7.8837+ 0	7.8817+ 0		2.2073- 2							0.0000+ 0		2.2659- 2
7.0000+ 4 ~ 1.0000+ 5	5.2139+ 0	5.2013+ 0		1.2630- 2							0.0000+ 0		2.9123- 2
1.0000+ 5 ~ 2.0000+ 5	4.8824+ 0	4.8712+ 0		1.1159- 2							0.0000+ 0		4.3643- 2
2.0000+ 5 ~ 4.0000+ 5	3.7074+ 0	3.6975+ 0		9.8603- 3				3.1304- 8			0.0000+ 0		7.0833- 2
4.0000+ 5 ~ 7.0000+ 5	3.0752+ 0	3.0631+ 0		1.2106- 2				1.8876- 7			0.0000+ 0		1.0034- 1
7.0000+ 5 ~ 1.0000+ 6	3.1035+ 0	2.9571+ 0	1.3828- 1	8.8748- 3				3.8519- 7			0.0000+ 0		1.3905- 1
1.0000+ 6 ~ 2.0000+ 6	3.5088+ 0	2.8883+ 0	5.1124- 1	5.1002- 3				3.1798- 3			0.0000+ 0		2.8911- 1
2.0000+ 6 ~ 4.0000+ 6	3.8150+ 0	2.7267+ 0	9.9212- 1	4.2877- 3				9.1593- 2			0.0000+ 0		5.4286- 1
4.0000+ 6 ~ 7.0000+ 6	3.5921+ 0	2.3572+ 0	1.0107+ 0	1.3229- 3				2.1943- 1			3.2417- 3		7.3669- 1
7.0000+ 6 ~ 1.0000+ 7	3.1348+ 0	1.8480+ 0	1.0356+ 0	5.4838- 4				2.0349- 1	1.1565- 6		4.0458- 2	3.3305-12	7.9066- 1
1.0000+ 7 ~ 2.0000+ 7	2.3700+ 0	1.1270+ 0	6.0369- 1	1.4302- 4		3.8470- 2		2.0090- 1	3.1504- 1		7.8600- 2	7.8813- 3	7.9264- 1

MATERIAL =3242 CROSS SECTION ^{52}Cr (3242)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.3233+ 0	2.9593+ 0		2.3641+ 0									1.2946- 2
1.0000- 2 ~ 2.0000- 2	3.9695+ 0	2.9593+ 0		1.0103+ 0									1.2946- 2
2.0000- 2 ~ 4.0000- 2	3.6738+ 0	2.9593+ 0		7.1434- 1									1.2946- 2
4.0000- 2 ~ 7.0000- 2	3.4844+ 0	2.9593+ 0		5.2514- 1									1.2946- 2
7.0000- 2 ~ 1.0000- 1	3.3786+ 0	2.9593+ 0		4.2032- 1									1.2946- 2
1.0000- 1 ~ 2.0000- 1	3.2784+ 0	2.9592+ 0		3.1918- 1									1.2946- 2
2.0000- 1 ~ 4.0000- 1	3.1850+ 0	2.9592+ 0		2.2588- 1									1.2946- 2
4.0000- 1 ~ 7.0000- 1	3.1250+ 0	2.9591+ 0		1.6588- 1									1.2946- 2
7.0000- 1 ~ 1.0000+ 0	3.0919+ 0	2.9590+ 0		1.3203- 1									1.2946- 2
1.0000+ 0 ~ 2.0000+ 0	3.0599+ 0	2.9588+ 0		1.0099- 1									1.2946- 2
2.0000+ 0 ~ 4.0000+ 0	3.0289+ 0	2.9585+ 0		7.1388- 2									1.2946- 2
4.0000+ 0 ~ 7.0000+ 0	3.0103+ 0	2.9578+ 0		5.2438- 2									1.2946- 2
7.0000+ 0 ~ 1.0000+ 1	2.9989+ 0	2.9570+ 0		4.1858- 2									1.2946- 2
1.0000+ 1 ~ 2.0000+ 1	2.9872+ 0	2.9563+ 0		3.1825- 2									1.2946- 2
2.0000+ 1 ~ 4.0000+ 1	2.9738+ 0	2.9514+ 0		2.2419- 2									1.2946- 2
4.0000+ 1 ~ 7.0000+ 1	2.9613+ 0	2.9449+ 0		1.6377- 2									1.2946- 2
7.0000+ 1 ~ 1.0000+ 2	2.9502+ 0	2.9372+ 0		1.3009- 2									1.2946- 2
1.0000+ 2 ~ 2.0000+ 2	2.9304+ 0	2.9207+ 0		9.7325- 3									1.2951- 2
2.0000+ 2 ~ 4.0000+ 2	2.8906+ 0	2.8839+ 0		6.6353- 3									1.2959- 2
4.0000+ 2 ~ 7.0000+ 2	2.8307+ 0	2.8281+ 0		4.5917- 3									1.2967- 2
7.0000+ 2 ~ 1.0000+ 3	2.7853+ 0	2.7819+ 0		3.4343- 3									1.2972- 2
1.0000+ 3 ~ 2.0000+ 3	2.8308+ 0	2.8787+ 0		1.5416- 1									1.3038- 2
2.0000+ 3 ~ 4.0000+ 3	2.4225+ 0	2.4212+ 0		1.2497- 3									1.3152- 2
4.0000+ 3 ~ 7.0000+ 3	2.1703+ 0	2.1682+ 0		4.0815- 3									1.3318- 2
7.0000+ 3 ~ 1.0000+ 4	1.9537+ 0	1.9533+ 0		3.9799- 4									1.3614- 2
1.0000+ 4 ~ 2.0000+ 4	1.8431+ 0	1.8425+ 0		6.1333- 4									1.4448- 2
2.0000+ 4 ~ 4.0000+ 4	1.2888+ 0	1.2747+ 0		1.3982- 2									1.7083- 2
4.0000+ 4 ~ 7.0000+ 4	5.3499+ 0	5.3443+ 0		5.5832- 3									2.1301- 2
7.0000+ 4 ~ 1.0000+ 5	5.0304+ 0	5.0238+ 0		6.8054- 3									2.6896- 2
1.0000+ 5 ~ 2.0000+ 5	6.8715+ 0	6.8648+ 0		6.9280- 3									3.8720- 2
2.0000+ 5 ~ 4.0000+ 5	3.8293+ 0	3.8259+ 0		3.3253- 3									5.9347- 2
4.0000+ 5 ~ 7.0000+ 5	3.4847+ 0	3.4819+ 0		2.9218- 3									8.1834- 2
7.0000+ 5 ~ 1.0000+ 6	3.3367+ 0	3.3326+ 0		3.0859- 3									1.1004- 1
1.0000+ 6 ~ 2.0000+ 6	3.5410+ 0	3.3675+ 0	1.7061- 1	2.8464- 3									2.4364- 1
2.0000+ 6 ~ 4.0000+ 6	3.7909+ 0	2.8897+ 0	9.9993- 1	1.2794- 3							0.0000+ 0		5.6972- 1
4.0000+ 6 ~ 7.0000+ 6	3.6791+ 0	2.4356+ 0	1.2320+ 0	6.0740- 4				1.0046- 2			2.0000- 5		7.3325- 1
7.0000+ 6 ~ 1.0000+ 7	3.2413+ 0	1.9850+ 0	1.2298+ 0	1.2850- 4				4.1724- 2			4.6034- 3	1.7042-12	7.9709- 1
1.0000+ 7 ~ 2.0000+ 7	2.4384+ 0	1.2030+ 0	8.5093- 1	3.0472- 5		2.9788- 1		6.6686- 2	1.7257- 1		3.4875- 2	8.4073- 3	7.9853- 1

MATERIAL =3243 CROSS SECTION ^{53}Cr (3243)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.4138+ 1	7.7603+ 0		5.6357+ 1							0.0000+ 0		1.2702- 2
1.0000- 2 ~ 2.0000- 2	3.1683+ 1	7.7799+ 0		2.4083+ 1							0.0000+ 0		1.2702- 2
2.0000- 2 ~ 4.0000- 2	2.4817+ 1	7.7793+ 0		1.7037+ 1							0.0000+ 0		1.2702- 2
4.0000- 2 ~ 7.0000- 2	2.0308+ 1	7.7783+ 0		1.2530+ 1							0.0000+ 0		1.2702- 2
7.0000- 2 ~ 1.0000- 1	1.7795+ 1	7.7772+ 0		1.0018+ 1							0.0000+ 0		1.2702- 2
1.0000- 1 ~ 2.0000- 1	1.5384+ 1	7.7747+ 0		7.6091+ 0							0.0000+ 0		1.2702- 2
2.0000- 1 ~ 4.0000- 1	1.3149+ 1	7.7684+ 0		5.3805+ 0							0.0000+ 0		1.2702- 2
4.0000- 1 ~ 7.0000- 1	1.1715+ 1	7.7592+ 0		3.9554+ 0							0.0000+ 0		1.2702- 2
7.0000- 1 ~ 1.0000+ 0	1.0913+ 1	7.7478+ 0		3.1652+ 0							0.0000+ 0		1.2702- 2
1.0000+ 0 ~ 2.0000+ 0	1.0128+ 1	7.7228+ 0		2.4056+ 0							0.0000+ 0		1.2702- 2
2.0000+ 0 ~ 4.0000+ 0	9.3640+ 0	7.6850+ 0		1.6990+ 0							0.0000+ 0		1.2702- 2
4.0000+ 0 ~ 7.0000+ 0	8.8164+ 0	7.5698+ 0		1.2465+ 0							0.0000+ 0		1.2702- 2
7.0000+ 0 ~ 1.0000+ 1	8.4504+ 0	7.4570+ 0		9.9340- 1							0.0000+ 0		1.2702- 2
1.0000+ 1 ~ 2.0000+ 1	7.9711+ 0	7.2105+ 0		7.5261- 1							0.0000+ 0		1.2702- 2
2.0000+ 1 ~ 4.0000+ 1	7.2210+ 0	6.6948+ 0		5.2620- 1							0.0000+ 0		1.2702- 2
4.0000+ 1 ~ 7.0000+ 1	6.2782+ 0	5.8982+ 0		3.8009- 1							0.0000+ 0		1.2702- 2
7.0000+ 1 ~ 1.0000+ 2	5.3479+ 0	5.0501+ 0		2.9775- 1							0.0000+ 0		1.2702- 2
1.0000+ 2 ~ 2.0000+ 2	3.8197+ 0	3.8004+ 0		2.1927- 1							0.0000+ 0		1.2707- 2
2.0000+ 2 ~ 4.0000+ 2	1.6934+ 0	1.5460+ 0		1.4740- 1							0.0000+ 0		1.2716- 2
4.0000+ 2 ~ 7.0000+ 2	5.8472- 1	4.5801- 1		1.0672- 1							0.0000+ 0		1.2724- 2
7.0000+ 2 ~ 1.0000+ 3	1.2475+ 0	1.1574+ 0		9.0108- 2							0.0000+ 0		1.2730- 2
1.0000+ 3 ~ 2.0000+ 3	7.7725+ 0	7.6813+ 0		9.1165- 2							0.0000+ 0		1.2799- 2
2.0000+ 3 ~ 4.0000+ 3	9.2651+ 1	9.2561+ 1		2.7070- 1							0.0000+ 0		1.2920- 2
4.0000+ 3 ~ 7.0000+ 3	1.6306+ 2	1.6257+ 2		4.8912- 1							0.0000+ 0		1.3065- 2
7.0000+ 3 ~ 1.0000+ 4	1.6863+ 2	1.6840+ 2		2.3465- 1							0.0000+ 0		1.3406- 2
1.0000+ 4 ~ 2.0000+ 4	1.7586+ 1	1.7530+ 1		3.7415- 2							0.0000+ 0		1.4274- 2
2.0000+ 4 ~ 4.0000+ 4	9.1196+ 0	9.0958+ 0		2.3804- 2							0.0000+ 0		1.6975- 2
4.0000+ 4 ~ 7.0000+ 4	5.1455+ 0	5.1368+ 0		8.7874- 3							0.0000+ 0		2.1246- 2
7.0000+ 4 ~ 1.0000+ 5	1.0153+ 1	1.0147+ 1		6.2366- 3							0.0000+ 0		2.6833- 2
1.0000+ 5 ~ 2.0000+ 5	6.9847+ 0	6.3591+ 0		5.6208- 3							0.0000+ 0		3.8309- 2
2.0000+ 5 ~ 4.0000+ 5	4.7510+ 0	4.7473+ 0		3.7373- 3							0.0000+ 0		5.7567- 2
4.0000+ 5 ~ 7.0000+ 5	3.6810+ 0	3.6252+ 0	5.2648- 2	2.6750- 3							0.0000+ 0		7.9641- 2
7.0000+ 5 ~ 1.0000+ 6	3.4317+ 0	3.2313+ 0	1.9703- 1	2.6376- 3							0.0000+ 0		1.1228- 1
1.0000+ 6 ~ 2.0000+ 6	3.5337+ 0	2.6210+ 0	7.0907- 1	1.5141- 3							0.0000+ 0		2.5815- 1
2.0000+ 6 ~ 4.0000+ 6	3.7137+ 0	2.5932+ 0	1.1198+ 0	6.1559- 4				4.3202- 5			0.0000+ 0		5.4917- 1
4.0000+ 6 ~ 7.0000+ 6	3.5885+ 0	2.4320+ 0	1.2447+ 0	2.3305- 4				3.9729- 3			7.4567- 3		7.2980- 1
7.0000+ 6 ~ 1.0000+ 7	3.2825+ 0	1.9854+ 0	1.2148+ 0	1.2463- 4		4.3737- 2		1.4626- 2			2.3868- 2	4.2130-10	7.9911- 1
1.0000+ 7 ~ 2.0000+ 7	2.4702+ 0	1.2082+ 0	4.6938- 1	2.3811- 5		8.8187- 1		4.2620- 2	2.3123- 2		3.9327- 2	5.4770- 3	8.0144- 1

MATERIAL =3244 CROSS SECTION ^{54}Cr (3244)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.8700+ 0	2.5425+ 0		1.1277+ 0									1.2487- 2
1.0000- 2 ~ 2.0000- 2	3.0242+ 0	2.5423+ 0		4.8190- 1									1.2487- 2
2.0000- 2 ~ 4.0000- 2	2.9838+ 0	2.5423+ 0		3.4070- 1									1.2487- 2
4.0000- 2 ~ 7.0000- 2	2.7925+ 0	2.5423+ 0		2.5018- 1									1.2487- 2
7.0000- 2 ~ 1.0000- 1	2.7427+ 0	2.5423+ 0		2.0040- 1									1.2487- 2
1.0000- 1 ~ 2.0000- 1	2.6949+ 0	2.5423+ 0		1.5254- 1									1.2487- 2
2.0000- 1 ~ 4.0000- 1	2.6600+ 0	2.5423+ 0		1.0771- 1									1.2487- 2
4.0000- 1 ~ 7.0000- 1	2.6215+ 0	2.5423+ 0		7.9167- 2									1.2487- 2
7.0000- 1 ~ 1.0000+ 0	2.6058+ 0	2.5423+ 0		6.3263- 2									1.2487- 2
1.0000+ 0 ~ 2.0000+ 0	2.5904+ 0	2.5423+ 0		4.8171- 2									1.2487- 2
2.0000+ 0 ~ 4.0000+ 0	2.5763+ 0	2.5422+ 0		3.4056- 2									1.2487- 2
4.0000+ 0 ~ 7.0000+ 0	2.5671+ 0	2.5421+ 0		2.5027- 2									1.2487- 2
7.0000+ 0 ~ 1.0000+ 1	2.5619+ 0	2.5419+ 0		2.0022- 2									1.2487- 2
1.0000+ 1 ~ 2.0000+ 1	2.5568+ 0	2.5418+ 0		1.5203- 2									1.2487- 2
2.0000+ 1 ~ 4.0000+ 1	2.5518+ 0	2.5408+ 0		1.0722- 2									1.2487- 2
4.0000+ 1 ~ 7.0000+ 1	2.5475+ 0	2.5398+ 0		7.8415- 3									1.2487- 2
7.0000+ 1 ~ 1.0000+ 2	2.5444+ 0	2.5382+ 0		6.2427- 3									1.2487- 2
1.0000+ 2 ~ 2.0000+ 2	2.5397+ 0	2.5350+ 0		4.6965- 3									1.2472- 2
2.0000+ 2 ~ 4.0000+ 2	2.5309+ 0	2.5277+ 0		3.2374- 3									1.2482- 2
4.0000+ 2 ~ 7.0000+ 2	2.5180+ 0	2.5157+ 0		2.2814- 3									1.2491- 2
7.0000+ 2 ~ 1.0000+ 3	2.5033+ 0	2.5018+ 0		1.7337- 3									1.2497- 2
1.0000+ 3 ~ 2.0000+ 3	2.4729+ 0	2.4717+ 0		1.1978- 3									1.2573- 2
2.0000+ 3 ~ 4.0000+ 3	2.4054+ 0	2.4047+ 0		6.9328- 4									1.2704- 2
4.0000+ 3 ~ 7.0000+ 3	2.2921+ 0	2.2917+ 0		3.4730- 4									1.2893- 2
7.0000+ 3 ~ 1.0000+ 4	2.1395+ 0	2.1392+ 0		2.4937- 4									1.3277- 2
1.0000+ 4 ~ 2.0000+ 4	1.5440+ 0	1.5289+ 0		1.5733- 2									1.4151- 2
2.0000+ 4 ~ 4.0000+ 4	8.5024+ 0	8.5007+ 0		1.7372- 3									1.6986- 2
4.0000+ 4 ~ 7.0000+ 4	2.8913+ 0	2.8890+ 0		2.3095- 3									2.1419- 2
7.0000+ 4 ~ 1.0000+ 5	2.1505+ 0	2.1490+ 0		1.4997- 3									2.7147- 2
1.0000+ 5 ~ 2.0000+ 5	4.3027+ 0	4.3000+ 0		2.7076- 3									3.8628- 2
2.0000+ 5 ~ 4.0000+ 5	3.8797+ 0	3.8770+ 0		2.6875- 3									5.7422- 2
4.0000+ 5 ~ 7.0000+ 5	3.8868+ 0	3.8840+ 0		2.7347- 3									7.7138- 2
7.0000+ 5 ~ 1.0000+ 6	3.5090+ 0	3.3467+ 0	1.5898- 1	2.5128- 3									1.0997- 1
1.0000+ 6 ~ 2.0000+ 6	3.5365+ 0	2.7345+ 0	7.9825- 1	1.2498- 3							3.3052- 9		2.6660- 1
2.0000+ 6 ~ 4.0000+ 6	3.7143+ 0	2.6766+ 0	1.0398+ 0	1.1005- 3							5.2249- 8		5.2685- 1
4.0000+ 6 ~ 7.0000+ 6	3.7427+ 0	2.4330+ 0	1.3091+ 0	3.8094- 4				5.5296- 9			1.6031- 4		7.3243- 1
7.0000+ 6 ~ 1.0000+ 7	3.3251+ 0	2.0328+ 0	1.2891+ 0	1.8958- 4		2.0368- 4		2.5911- 4			2.5177- 3	2.9384- 8	8.0231- 1
1.0000+ 7 ~ 2.0000+ 7	2.5084+ 0	1.2401+ 0	5.5287- 1	4.9268- 5		6.7092- 1		1.6207- 2	8.8922- 3		1.1583- 2	7.8712- 3	8.0445- 1

CROSS SECTION

MATERIAL =3251

^{55}Mn (3251)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.3689+ 1	2.1668+ 0		4.1502+ 1									1.2099- 2
1.0000- 2 ~ 2.0000- 2	1.9903+ 1	2.1667+ 0		1.7738+ 1									1.2099- 2
2.0000- 2 ~ 4.0000- 2	1.4707+ 1	2.1668+ 0		1.2540+ 1									1.2099- 2
4.0000- 2 ~ 7.0000- 2	1.1376+ 1	2.1669+ 0		9.2068+ 0									1.2099- 2
7.0000- 2 ~ 1.0000- 1	9.5454+ 0	2.1671+ 0		7.3783+ 0									1.2099- 2
1.0000- 1 ~ 2.0000- 1	7.7837+ 0	2.1674+ 0		5.6163+ 0									1.2099- 2
2.0000- 1 ~ 4.0000- 1	6.1353+ 0	2.1682+ 0		3.9671+ 0									1.2099- 2
4.0000- 1 ~ 7.0000- 1	5.0872+ 0	2.1698+ 0		2.9178+ 0									1.2099- 2
7.0000- 1 ~ 1.0000+ 0	4.5048+ 0	2.1712+ 0		2.3338+ 0									1.2099- 2
1.0000+ 0 ~ 2.0000+ 0	3.9542+ 0	2.1748+ 0		1.7794+ 0									1.2099- 2
2.0000+ 0 ~ 4.0000+ 0	3.4460+ 0	2.1837+ 0		1.2626+ 0									1.2099- 2
4.0000+ 0 ~ 7.0000+ 0	3.1319+ 0	2.1977+ 0		9.3407- 1									1.2099- 2
7.0000+ 0 ~ 1.0000+ 1	2.9692+ 0	2.2158+ 0		7.5332- 1									1.2099- 2
1.0000+ 1 ~ 2.0000+ 1	2.8410+ 0	2.2590+ 0		5.8193- 1									1.2099- 2
2.0000+ 1 ~ 4.0000+ 1	2.8077+ 0	2.3789+ 0		4.2881- 1									1.2099- 2
4.0000+ 1 ~ 7.0000+ 1	2.9995+ 0	2.6578+ 0		3.4153- 1									1.2099- 2
7.0000+ 1 ~ 1.0000+ 2	3.4908+ 0	3.1818+ 0		3.0901- 1									1.2100- 2
1.0000+ 2 ~ 2.0000+ 2	4.7365+ 0	4.3820+ 0		3.5444- 1									1.2100- 2
2.0000+ 2 ~ 4.0000+ 2	5.2752+ 0	5.2009+ 0		7.4248+ 0									1.2101- 2
4.0000+ 2 ~ 7.0000+ 2	3.7579+ 1	3.7316+ 1		2.6415- 1									1.2102- 2
7.0000+ 2 ~ 1.0000+ 3	2.3475+ 1	2.3374+ 1		1.0138- 1									1.2104- 2
1.0000+ 3 ~ 2.0000+ 3	7.8565+ 1	7.4882+ 1		9.3348- 1									1.2108- 2
2.0000+ 3 ~ 4.0000+ 3	1.7080+ 2	1.7065+ 2		1.4739- 1									1.2117- 2
4.0000+ 3 ~ 7.0000+ 3	1.1174+ 1	1.1068+ 1		8.8272- 2									1.2132- 2
7.0000+ 3 ~ 1.0000+ 4	5.8577+ 1	5.8452+ 1		1.2478- 1									1.2150- 2
1.0000+ 4 ~ 2.0000+ 4	4.7260+ 0	4.6895+ 0		3.6447- 2									1.2038- 2
2.0000+ 4 ~ 4.0000+ 4	1.7408+ 1	1.7378+ 1		3.2123- 2									1.4873- 2
4.0000+ 4 ~ 7.0000+ 4	8.3887+ 0	8.3899+ 0		1.0117- 2									1.8266- 2
7.0000+ 4 ~ 1.0000+ 5	7.3805+ 0	7.3861+ 0		1.4321- 2									2.2337- 2
1.0000+ 5 ~ 2.0000+ 5	5.5687+ 0	5.5203+ 0	3.8160- 2	1.0327- 2									3.9475- 2
2.0000+ 5 ~ 4.0000+ 5	3.6757+ 0	3.4286+ 0	2.4147- 1	5.4585- 3									9.3501- 2
4.0000+ 5 ~ 7.0000+ 5	3.5715+ 0	3.0483+ 0	5.2082- 1	4.3827- 3							7.3335-10		1.7511- 1
7.0000+ 5 ~ 1.0000+ 6	3.1787+ 0	2.5451+ 0	6.3040- 1	3.1828- 3							2.2844- 8		2.2284- 1
1.0000+ 6 ~ 2.0000+ 6	3.4443+ 0	2.5913+ 0	8.5030- 1	2.1471- 3				7.2584-10			9.2154- 8		3.1447- 1
2.0000+ 6 ~ 4.0000+ 6	3.6798+ 0	2.4265+ 0	1.2495+ 0	1.5473- 3				6.3551- 5			2.5210- 7		5.4024- 1
4.0000+ 6 ~ 7.0000+ 6	3.8428+ 0	2.1823+ 0	1.4731+ 0	9.8045- 4				5.8198- 3			5.6311- 4		7.5081- 1
7.0000+ 6 ~ 1.0000+ 7	3.2851+ 0	1.5267+ 0	1.4299+ 0	7.0396- 4				1.6721- 2	2.9706- 5	3.7117- 4	8.6666- 3	2.4858- 7	8.4051- 1
1.0000+ 7 ~ 2.0000+ 7	2.5504+ 0	1.1667+ 0	6.2741- 1	6.0114- 4		6.1605- 1		3.0393- 2	5.3605- 2	5.1775- 3	2.1013- 2	1.7029- 2	8.3006- 1

CROSS SECTION

MATERIAL =3260

Fe (3260)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.8059+ 1	1.1354+ 1		7.6980+ 0				0.0000+ 0			3.7509-21		1.1899- 2
1.0000- 2 ~ 2.0000- 2	1.4734+ 1	1.1361+ 1		3.3712+ 0				0.0000+ 0			1.1258-20		1.1899- 2
2.0000- 2 ~ 4.0000- 2	1.3745+ 1	1.1360+ 1		2.3828+ 0				0.0000+ 0			2.2520-20		1.1899- 2
4.0000- 2 ~ 7.0000- 2	1.3098+ 1	1.1360+ 1		1.7360+ 0				0.0000+ 0			4.1294-20		1.1899- 2
7.0000- 2 ~ 1.0000- 1	1.2781+ 1	1.1360+ 1		1.4004+ 0				0.0000+ 0			6.3821-20		1.1899- 2
1.0000- 1 ~ 2.0000- 1	1.2412+ 1	1.1360+ 1		1.0516+ 0				0.0000+ 0			1.1263-19		1.1899- 2
2.0000- 1 ~ 4.0000- 1	1.2098+ 1	1.1359+ 1		7.2712- 1				0.0000+ 0			2.2527-19		1.1899- 2
4.0000- 1 ~ 7.0000- 1	1.1893+ 1	1.1358+ 1		5.3489- 1				0.0000+ 0			4.1300-19		1.1899- 2
7.0000- 1 ~ 1.0000+ 0	1.1795+ 1	1.1358+ 1		4.3841- 1				0.0000+ 0			6.3828-19		1.1899- 2
1.0000+ 0 ~ 2.0000+ 0	1.1685+ 1	1.1353+ 1		3.3259- 1				0.0000+ 0			1.1264-18		1.1899- 2
2.0000+ 0 ~ 4.0000+ 0	1.1574+ 1	1.1348+ 1		2.2945- 1				0.0000+ 0			2.2528-18		1.1899- 2
4.0000+ 0 ~ 7.0000+ 0	1.1501+ 1	1.1332+ 1		1.8846- 1				0.0000+ 0			4.1301-18		1.1899- 2
7.0000+ 0 ~ 1.0000+ 1	1.1464+ 1	1.1317+ 1		1.3724- 1				0.0000+ 0			6.3829-18		1.1899- 2
1.0000+ 1 ~ 2.0000+ 1	1.1386+ 1	1.1283+ 1		1.0246- 1				0.0000+ 0			1.1264-17		1.1899- 2
2.0000+ 1 ~ 4.0000+ 1	1.1277+ 1	1.1208+ 1		6.9494- 2				0.0000+ 0			2.2528-17		1.1899- 2
4.0000+ 1 ~ 7.0000+ 1	1.1140+ 1	1.1085+ 1		5.4984- 2				0.0000+ 0			4.1301-17		1.1899- 2
7.0000+ 1 ~ 1.0000+ 2	1.0994+ 1	1.0943+ 1		5.0865- 2				0.0000+ 0			6.3829-17		1.1899- 2
1.0000+ 2 ~ 2.0000+ 2	1.0893+ 1	1.0858+ 1		3.7388- 2				0.0000+ 0			1.1264-16		1.1903- 2
2.0000+ 2 ~ 4.0000+ 2	1.0104+ 1	1.0077+ 1		2.7540- 2				0.0000+ 0			2.2528-16		1.1913- 2
4.0000+ 2 ~ 7.0000+ 2	9.3328+ 0	9.3180+ 0		1.4828- 2				0.0000+ 0			4.1301-16		1.1930- 2
7.0000+ 2 ~ 1.0000+ 3	8.6534+ 0	8.6432+ 0		1.0205- 2				0.0000+ 0			6.3829-16		1.1950- 2
1.0000+ 3 ~ 2.0000+ 3	7.6875+ 0	7.5002+ 0		1.9705- 1				0.0000+ 0			1.1264-15		1.2048- 2
2.0000+ 3 ~ 4.0000+ 3	6.1043+ 0	6.0957+ 0		8.6740- 3				0.0000+ 0			2.2528-15		1.2311- 2
4.0000+ 3 ~ 7.0000+ 3	7.1024+ 0	7.0933+ 0		9.1042- 3				0.0000+ 0			4.1301-15		1.2749- 2
7.0000+ 3 ~ 1.0000+ 4	1.3580+ 1	1.3530+ 1		2.9729- 2				0.0000+ 0			6.3829-15		1.3274- 2
1.0000+ 4 ~ 2.0000+ 4	3.9857+ 0	3.9793+ 0	8.4583- 3	7.9588- 3				0.0000+ 0			1.1264-14		1.4818- 2
2.0000+ 4 ~ 4.0000+ 4	1.3348+ 1	1.3297+ 1	2.8070- 2	2.0858- 2				0.0000+ 0			2.2528-14		1.9123- 2
4.0000+ 4 ~ 7.0000+ 4	4.0668+ 0	4.0244+ 0	2.2411- 2	2.7265- 3				0.0000+ 0			4.1301-14		2.2771- 2
7.0000+ 4 ~ 1.0000+ 5	5.5848+ 0	5.5313+ 0	1.6327- 2	1.5163- 2				0.0000+ 0			6.3829-14		3.7529- 2
1.0000+ 5 ~ 2.0000+ 5	4.2444+ 0	4.2211+ 0	1.4971- 2	8.3558- 3				0.0000+ 0			1.1264-13		5.8591- 2
2.0000+ 5 ~ 4.0000+ 5	3.1214+ 0	3.1007+ 0	1.4288- 2	8.3930- 3				0.0000+ 0			2.2528-13		9.7984- 2
4.0000+ 5 ~ 7.0000+ 5	2.8597+ 0	2.8158+ 0	1.8867- 2	5.4290- 3				0.0000+ 0			5.5992- 9		1.3924- 1
7.0000+ 5 ~ 1.0000+ 6	2.8607+ 0	2.7031+ 0	1.4259- 1	5.0402- 3				0.0000+ 0			2.9919- 8		1.7483- 1
1.0000+ 6 ~ 2.0000+ 6	2.8617+ 0	2.2162+ 0	6.4055- 1	2.6821- 3				2.7841- 4			4.5516- 7		2.7937- 1
2.0000+ 6 ~ 4.0000+ 6	3.4062+ 0	2.4710+ 0	9.2464- 1	2.4069- 3				6.1493- 3			2.7388- 5		4.8984- 1
4.0000+ 6 ~ 7.0000+ 6	3.8384+ 0	2.2472+ 0	1.3859+ 0	1.3842- 3				3.3171- 2			2.8568- 3		7.1423- 1
7.0000+ 6 ~ 1.0000+ 7	3.3015+ 0	1.8188+ 0	1.3827+ 0	8.0568- 4		3.1042- 3		7.9173- 2	7.9283- 7		1.7726- 2	4.8520-11	8.0930- 1
1.0000+ 7 ~ 2.0000+ 7	2.5256+ 0	1.0987+ 0	6.9565- 1	1.4120- 4		4.3475- 1		9.5957- 2	1.4698- 1		3.8729- 2	1.3422- 2	8.0352- 1

MATERIAL =3261 CROSS SECTION ^{54}Fe (3261)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.1543+ 0	4.9293- 1		6.8714+ 0				0.0000+ 0			2.4448-20		1.2326- 2
1.0000- 2 ~ 2.0000- 2	3.3498+ 0	4.9293- 1		2.8510+ 0				0.0000+ 0			7.3367-20		1.2325- 2
2.0000- 2 ~ 4.0000- 2	2.5097+ 0	4.9294- 1		2.0167+ 0				0.0000+ 0			1.4578-19		1.2326- 2
4.0000- 2 ~ 7.0000- 2	1.9781+ 0	4.9294- 1		1.4832+ 0				0.0000+ 0			2.5914-19		1.2326- 2
7.0000- 2 ~ 1.0000- 1	1.6791+ 0	4.9295- 1		1.1862+ 0				0.0000+ 0			4.1598-19		1.2326- 2
1.0000- 1 ~ 2.0000- 1	1.3937+ 0	4.9298- 1		9.0077- 1				0.0000+ 0			7.3412-19		1.2326- 2
2.0000- 1 ~ 4.0000- 1	1.1302+ 0	4.9300- 1		6.3717- 1				0.0000+ 0			1.4593-18		1.2326- 2
4.0000- 1 ~ 7.0000- 1	9.8151- 1	4.9306- 1		4.8845- 1				0.0000+ 0			2.5919-18		1.2326- 2
7.0000- 1 ~ 1.0000+ 0	8.8818- 1	4.9313- 1		3.7504- 1				0.0000+ 0			4.1602-18		1.2326- 2
1.0000+ 0 ~ 2.0000+ 0	7.7850- 1	4.9329- 1		2.8522- 1				0.0000+ 0			7.3418-18		1.2326- 2
2.0000+ 0 ~ 4.0000+ 0	6.9641- 1	4.9365- 1		2.0276- 1				0.0000+ 0			1.4683-17		1.2326- 2
4.0000+ 0 ~ 7.0000+ 0	6.4267- 1	4.9424- 1		1.4842- 1				0.0000+ 0			2.6919-17		1.2326- 2
7.0000+ 0 ~ 1.0000+ 1	6.1382- 1	4.9499- 1		1.1883- 1				0.0000+ 0			4.1603-17		1.2326- 2
1.0000+ 1 ~ 2.0000+ 1	5.8702- 1	4.9863- 1		9.0487- 2				0.0000+ 0			7.3416-17		1.2325- 2
2.0000+ 1 ~ 4.0000+ 1	5.8437- 1	5.0016- 1		6.4215- 2				0.0000+ 0			1.4683-16		1.2325- 2
4.0000+ 1 ~ 7.0000+ 1	5.5377- 1	5.0828- 1		4.7509- 2				0.0000+ 0			2.6919-16		1.2326- 2
7.0000+ 1 ~ 1.0000+ 2	5.5192- 1	5.1388- 1		3.8242- 2				0.0000+ 0			4.1603-16		1.2326- 2
1.0000+ 2 ~ 2.0000+ 2	5.5875- 1	5.3018- 1		2.9586- 2				0.0000+ 0			7.3416-16		1.2330- 2
2.0000+ 2 ~ 4.0000+ 2	5.9205- 1	5.7038- 1		2.1696- 2				0.0000+ 0			1.4683-15		1.2340- 2
4.0000+ 2 ~ 7.0000+ 2	6.6123- 1	6.4423- 1		1.7008- 2				0.0000+ 0			2.6919-15		1.2356- 2
7.0000+ 2 ~ 1.0000+ 3	7.8087- 1	7.4589- 1		1.4776- 2				0.0000+ 0			4.1603-15		1.2375- 2
1.0000+ 3 ~ 2.0000+ 3	1.0940+ 0	1.0404+ 0		1.3555- 2				0.0000+ 0			7.3416-15		1.2471- 2
2.0000+ 3 ~ 4.0000+ 3	2.4309+ 0	2.4143+ 0		1.6595- 2				0.0000+ 0			1.4683-14		1.2727- 2
4.0000+ 3 ~ 7.0000+ 3	2.2645+ 1	2.2571+ 1		7.4013- 2				0.0000+ 0			2.6919-14		1.3154- 2
7.0000+ 3 ~ 1.0000+ 4	1.6368+ 2	1.6323+ 2		4.5316- 1				0.0000+ 0			4.1603-14		1.3858- 2
1.0000+ 4 ~ 2.0000+ 4	1.2224+ 1	1.2119+ 1		1.0457- 1				0.0000+ 0			7.3416-14		1.5185- 2
2.0000+ 4 ~ 4.0000+ 4	3.5846+ 0	3.5691+ 0		2.5429- 2				0.0000+ 0			1.4683-13		1.9456- 2
4.0000+ 4 ~ 7.0000+ 4	4.7084+ 0	4.6875+ 0		2.1082- 2				0.0000+ 0			2.6919-13		2.7564- 2
7.0000+ 4 ~ 1.0000+ 5	3.2717+ 0	3.2629+ 0		8.7984- 3				0.0000+ 0			4.1603-13		3.8087- 2
1.0000+ 5 ~ 2.0000+ 5	5.7746+ 0	5.7618+ 0		1.2785- 2				0.0000+ 0			7.3416-13		5.9738- 2
2.0000+ 5 ~ 4.0000+ 5	4.5081+ 0	4.5005+ 0		7.5859- 3				0.0000+ 0			1.4683-12		1.0060- 1
4.0000+ 5 ~ 7.0000+ 5	3.7288+ 0	3.7215+ 0		7.3741- 3				0.0000+ 0			2.6919-12		1.4351- 1
7.0000+ 5 ~ 1.0000+ 6	3.4444+ 0	3.4368+ 0		7.7251- 3				0.0000+ 0			4.1603-12		1.7551- 1
1.0000+ 6 ~ 2.0000+ 6	3.4242+ 0	3.2031+ 0	2.0811- 1	8.9278- 3				4.8000- 3			2.0447- 8		2.5975- 1
2.0000+ 6 ~ 4.0000+ 6	3.5305+ 0	2.7180+ 0	8.7024- 1	3.5981- 3				1.4044- 1			4.6889- 5		4.0747- 1
4.0000+ 6 ~ 7.0000+ 6	3.4727+ 0	2.1880+ 0	8.4184- 1	1.5897- 3				4.3425- 1			7.0927- 3		7.1089- 1
7.0000+ 6 ~ 1.0000+ 7	3.1253+ 0	1.7153+ 0	8.4093- 1	9.2417- 4				5.2825- 1	1.3669- 5		3.8872- 2	1.6283-13	8.0257- 1
1.0000+ 7 ~ 2.0000+ 7	2.4841+ 0	1.1000+ 0	4.8837- 1	1.7071- 4		2.8775- 2		3.1500- 1	4.7681- 1		7.4282- 2	1.1661- 2	7.9804- 1

MATERIAL =3262 CROSS SECTION ^{56}Fe (3262)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.1163+ 1	1.2459+ 1		8.7033+ 0							2.3794-21		1.1880- 2
1.0000- 2 ~ 2.0000- 2	1.6178+ 1	1.2459+ 1		3.7192+ 0							7.1405-21		1.1880- 2
2.0000- 2 ~ 4.0000- 2	1.5093+ 1	1.2459+ 1		2.5340+ 0							1.4288-20		1.1880- 2
4.0000- 2 ~ 7.0000- 2	1.4390+ 1	1.2459+ 1		1.9309+ 0							2.8194-20		1.1880- 2
7.0000- 2 ~ 1.0000- 1	1.4004+ 1	1.2459+ 1		1.5448+ 0							4.0485-20		1.1880- 2
1.0000- 1 ~ 2.0000- 1	1.3635+ 1	1.2459+ 1		1.1766+ 0							7.1448-20		1.1880- 2
2.0000- 1 ~ 4.0000- 1	1.3289+ 1	1.2459+ 1		8.3068- 1							1.4290-19		1.1880- 2
4.0000- 1 ~ 7.0000- 1	1.3067+ 1	1.2459+ 1		6.1097- 1							2.5199-19		1.1880- 2
7.0000- 1 ~ 1.0000+ 0	1.2943+ 1	1.2459+ 1		4.8828- 1							4.0489-19		1.1880- 2
1.0000+ 0 ~ 2.0000+ 0	1.2822+ 1	1.2451+ 1		3.7144- 1							7.1452-19		1.1880- 2
2.0000+ 0 ~ 4.0000+ 0	1.2704+ 1	1.2442+ 1		2.6229- 1							1.4290-18		1.1880- 2
4.0000+ 0 ~ 7.0000+ 0	1.2620+ 1	1.2429+ 1		1.9191- 1							2.6199-18		1.1880- 2
7.0000+ 0 ~ 1.0000+ 1	1.2564+ 1	1.2411+ 1		1.5353- 1							4.0490-18		1.1880- 2
1.0000+ 1 ~ 2.0000+ 1	1.2480+ 1	1.2374+ 1		1.1599- 1							7.1452-18		1.1880- 2
2.0000+ 1 ~ 4.0000+ 1	1.2371+ 1	1.2290+ 1		8.0875- 2							1.4290-17		1.1880- 2
4.0000+ 1 ~ 7.0000+ 1	1.2212+ 1	1.2154+ 1		5.8079- 2							2.6199-17		1.1880- 2
7.0000+ 1 ~ 1.0000+ 2	1.2041+ 1	1.1998+ 1		4.5102- 2							4.0490-17		1.1880- 2
1.0000+ 2 ~ 2.0000+ 2	1.1708+ 1	1.1673+ 1		3.3470- 2							7.1452-17		1.1883- 2
2.0000+ 2 ~ 4.0000+ 2	1.1034+ 1	1.1014+ 1		2.0220- 2							1.4290-16		1.1894- 2
4.0000+ 2 ~ 7.0000+ 2	1.0129+ 1	1.0117+ 1		1.2250- 2							2.6199-16		1.1911- 2
7.0000+ 2 ~ 1.0000+ 3	9.2848+ 0	9.2764+ 0		8.1862- 3							4.0490-16		1.1931- 2
1.0000+ 3 ~ 2.0000+ 3	8.2868+ 0	8.0771+ 0		2.0972- 1							7.1452-16		1.2029- 2
2.0000+ 3 ~ 4.0000+ 3	6.6228+ 0	6.6208+ 0		2.0403- 3							1.4290-15		1.2292- 2
4.0000+ 3 ~ 7.0000+ 3	5.3158+ 0	5.3148+ 0		7.0956- 4							2.6199-15		1.2731- 2
7.0000+ 3 ~ 1.0000+ 4	4.3790+ 0	4.3788+ 0		4.4858- 4							4.0490-15		1.3257- 2
1.0000+ 4 ~ 2.0000+ 4	2.8202+ 0	2.8191+ 0		1.0701- 3							7.1452-15		1.4797- 2
2.0000+ 4 ~ 4.0000+ 4	1.3885+ 1	1.3846+ 1		1.1808- 2							1.4290-14		1.9090- 2
4.0000+ 4 ~ 7.0000+ 4	4.4178+ 0	4.4091+ 0		6.7138- 3							2.6199-14		2.7213- 2
7.0000+ 4 ~ 1.0000+ 5	8.7295+ 0	8.7077+ 0		1.5811- 2							4.0490-14		3.7438- 2
1.0000+ 5 ~ 2.0000+ 5	5.0170+ 0	5.0088+ 0		8.2095- 3							7.1452-14		5.8405- 2
2.0000+ 5 ~ 4.0000+ 5	4.6760+ 0	4.6695+ 0		6.4387- 3							1.4290-13		9.7555- 2
4.0000+ 5 ~ 7.0000+ 5	3.8550+ 0	3.8498+ 0		5.4068- 3							2.8199-13		1.3835- 1
7.0000+ 5 ~ 1.0000+ 6	3.5040+ 0	3.3677+ 0	1.3091- 1	4.9808- 3							4.0490-13		1.7352- 1
1.0000+ 6 ~ 2.0000+ 6	3.4154+ 0	2.7576+ 0	6.5448- 1	2.4380- 3							8.0468- 9		2.7935- 1
2.0000+ 6 ~ 4.0000+ 6	3.5083+ 0	2.5677+ 0	9.3817- 1	2.3753- 3				7.7500- 7			1.3455- 5		4.8520- 1
4.0000+ 6 ~ 7.0000+ 6	3.6325+ 0	2.1295+ 0	1.3905+ 0	1.3792- 3				6.5942- 3			2.5123- 3		7.1363- 1
7.0000+ 6 ~ 1.0000+ 7	3.2225+ 0	1.7310+ 0	1.4214+ 0	8.1708- 4				5.2887- 2			1.8467- 2	2.2882-11	8.0943- 1
1.0000+ 7 ~ 2.0000+ 7	2.5652+ 0	1.1341+ 0	7.1786- 1	1.4285- 4		4.4806- 1		8.5000- 2	1.2968- 1		3.8780- 2	1.3778- 2	8.0374- 1

MATERIAL =3263

CROSS SECTION

^{57}Fe (3263)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.6217+ 0	2.0211- 1		7.6195+ 0							0.0000+ 0		1.1668- 2
1.0000- 2 ~ 2.0000- 2	3.4582+ 0	2.0211- 1		3.2551+ 0							0.0000+ 0		1.1668- 2
2.0000- 2 ~ 4.0000- 2	2.5065+ 0	2.0210- 1		2.3024+ 0							0.0000+ 0		1.1668- 2
4.0000- 2 ~ 7.0000- 2	1.8959+ 0	2.0210- 1		1.6926+ 0							0.0000+ 0		1.1668- 2
7.0000- 2 ~ 1.0000- 1	1.5563+ 0	2.0210- 1		1.3548+ 0							0.0000+ 0		1.1668- 2
1.0000- 1 ~ 2.0000- 1	1.2312+ 0	2.0209- 1		1.0288+ 0							0.0000+ 0		1.1668- 2
2.0000- 1 ~ 4.0000- 1	9.2982- 1	2.0207- 1		7.2800- 1							0.0000+ 0		1.1668- 2
4.0000- 1 ~ 7.0000- 1	7.3696- 1	2.0203- 1		5.3475- 1							0.0000+ 0		1.1668- 2
7.0000- 1 ~ 1.0000+ 0	6.3030- 1	2.0199- 1		4.2818- 1							0.0000+ 0		1.1668- 2
1.0000+ 0 ~ 2.0000+ 0	5.2758- 1	2.0190- 1		3.2567- 1							0.0000+ 0		1.1668- 2
2.0000+ 0 ~ 4.0000+ 0	4.3203- 1	2.0189- 1		2.3034- 1							0.0000+ 0		1.1668- 2
4.0000+ 0 ~ 7.0000+ 0	3.7054- 1	2.0134- 1		1.6934- 1							0.0000+ 0		1.1668- 2
7.0000+ 0 ~ 1.0000+ 1	3.3633- 1	2.0092- 1		1.3533- 1							0.0000+ 0		1.1668- 2
1.0000+ 1 ~ 2.0000+ 1	3.0312- 1	2.0001- 1		1.0313- 1							0.0000+ 0		1.1668- 2
2.0000+ 1 ~ 4.0000+ 1	2.7094- 1	1.9791- 1		7.3039- 2							0.0000+ 0		1.1668- 2
4.0000+ 1 ~ 7.0000+ 1	2.4825- 1	1.9441- 1		5.3874- 2							0.0000+ 0		1.1668- 2
7.0000+ 1 ~ 1.0000+ 2	2.3341- 1	1.9022- 1		4.3243- 2							0.0000+ 0		1.1668- 2
1.0000+ 2 ~ 2.0000+ 2	2.1426- 1	1.8118- 1		3.3101- 2							0.0000+ 0		1.1671- 2
2.0000+ 2 ~ 4.0000+ 2	1.8425- 1	1.6043- 1		2.3815- 2							0.0000+ 0		1.1682- 2
4.0000+ 2 ~ 7.0000+ 2	1.4479- 1	1.2672- 1		1.8063- 2							0.0000+ 0		1.1700- 2
7.0000+ 2 ~ 1.0000+ 3	1.0376- 1	8.8635- 2		1.5123- 2							0.0000+ 0		1.1721- 2
1.0000+ 3 ~ 2.0000+ 3	1.9522- 1	5.7688- 2		1.3754- 1							0.0000+ 0		1.1821- 2
2.0000+ 3 ~ 4.0000+ 3	1.5604+ 1	1.6536+ 1		8.7475- 2							0.0000+ 0		1.2090- 2
4.0000+ 3 ~ 7.0000+ 3	7.9193+ 1	7.9025+ 1		1.6826- 1							0.0000+ 0		1.2538- 2
7.0000+ 3 ~ 1.0000+ 4	1.2090+ 1	1.1958+ 1		1.3201- 1							0.0000+ 0		1.3075- 2
1.0000+ 4 ~ 2.0000+ 4	2.0908+ 0	1.7107+ 0	3.4888- 1	3.3473- 2							0.0000+ 0		1.4724- 2
2.0000+ 4 ~ 4.0000+ 4	1.7752+ 1	1.3207+ 1	4.5044+ 0	4.0881- 2							0.0000+ 0		1.9816- 2
4.0000+ 4 ~ 7.0000+ 4	1.7908+ 1	1.5983+ 1	1.9048+ 0	2.0525- 2							0.0000+ 0		2.8933- 2
7.0000+ 4 ~ 1.0000+ 5	1.0311+ 1	9.2988+ 0	1.0051+ 0	8.1485- 3							0.0000+ 0		4.0282- 2
1.0000+ 5 ~ 2.0000+ 5	1.1473+ 1	1.0139+ 1	1.3918+ 0	3.3529- 3							0.0000+ 0		6.4107- 2
2.0000+ 5 ~ 4.0000+ 5	4.8240+ 0	4.1707+ 0	6.4984- 1	1.7772- 3							0.0000+ 0		1.1139- 1
4.0000+ 5 ~ 7.0000+ 5	3.9079+ 0	3.0543+ 0	8.4853- 1	1.2210- 3							2.5903- 7		1.7355- 1
7.0000+ 5 ~ 1.0000+ 6	3.5401+ 0	2.5272+ 0	1.0097+ 0	9.5776- 4							1.3599- 6		2.3136- 1
1.0000+ 6 ~ 2.0000+ 6	3.4044+ 0	2.1995+ 0	1.2042+ 0	7.0243- 4				3.7036- 7			2.0378- 5		3.5707- 1
2.0000+ 6 ~ 4.0000+ 6	3.4892+ 0	2.1597+ 0	1.3263+ 0	5.1746- 4				1.4774- 4			5.4723- 4		5.7878- 1
4.0000+ 6 ~ 7.0000+ 6	3.5562+ 0	2.1329+ 0	1.4138+ 0	2.9237- 4				4.6349- 3			4.4225- 3		7.4558- 1
7.0000+ 6 ~ 1.0000+ 7	3.2885+ 0	1.8413+ 0	1.2880+ 0	1.0937- 4		1.4110- 1		1.0311- 2			5.7183- 3	2.5969-10	8.1910- 1
1.0000+ 7 ~ 2.0000+ 7	2.6016+ 0	1.2404+ 0	3.9910- 1	1.0633- 5		9.0287- 1		2.8759- 2	1.7746- 2		9.0903- 3	3.5737- 3	8.0734- 1

MATERIAL =3264

CROSS SECTION

^{58}Fe (3264)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.3884+ 0	4.4327+ 0		3.9557+ 0									1.1464- 2
1.0000- 2 ~ 2.0000- 2	6.1145+ 0	4.4327+ 0		1.6819+ 0									1.1464- 2
2.0000- 2 ~ 4.0000- 2	5.6223+ 0	4.4327+ 0		1.1896+ 0									1.1464- 2
4.0000- 2 ~ 7.0000- 2	5.3075+ 0	4.4328+ 0		8.7485- 1									1.1464- 2
7.0000- 2 ~ 1.0000- 1	5.1325+ 0	4.4326+ 0		6.9988- 1									1.1464- 2
1.0000- 1 ~ 2.0000- 1	4.9639+ 0	4.4328+ 0		5.3132- 1									1.1464- 2
2.0000- 1 ~ 4.0000- 1	4.8086+ 0	4.4326+ 0		3.7691- 1									1.1464- 2
4.0000- 1 ~ 7.0000- 1	4.7087+ 0	4.4325+ 0		2.7628- 1									1.1464- 2
7.0000- 1 ~ 1.0000+ 0	4.6538+ 0	4.4324+ 0		2.2126- 1									1.1464- 2
1.0000+ 0 ~ 2.0000+ 0	4.6003+ 0	4.4321+ 0		1.6822- 1									1.1464- 2
2.0000+ 0 ~ 4.0000+ 0	4.5508+ 0	4.4318+ 0		1.1894- 1									1.1464- 2
4.0000+ 0 ~ 7.0000+ 0	4.5181+ 0	4.4306+ 0		8.7482- 2									1.1464- 2
7.0000+ 0 ~ 1.0000+ 1	4.4994+ 0	4.4295+ 0		6.9901- 2									1.1464- 2
1.0000+ 1 ~ 2.0000+ 1	4.4803+ 0	4.4270+ 0		5.3259- 2									1.1464- 2
2.0000+ 1 ~ 4.0000+ 1	4.4591+ 0	4.4214+ 0		3.7719- 2									1.1464- 2
4.0000+ 1 ~ 7.0000+ 1	4.4399+ 0	4.4120+ 0		2.7830- 2									1.1464- 2
7.0000+ 1 ~ 1.0000+ 2	4.4232+ 0	4.4008+ 0		2.2387- 2									1.1464- 2
1.0000+ 2 ~ 2.0000+ 2	4.3844+ 0	4.3764+ 0		1.8039- 2									1.1467- 2
2.0000+ 2 ~ 4.0000+ 2	4.3510+ 0	4.3624+ 0		1.3878- 2									1.1478- 2
4.0000+ 2 ~ 7.0000+ 2	4.2389+ 0	4.2281+ 0		1.0780- 2									1.1496- 2
7.0000+ 2 ~ 1.0000+ 3	4.1200+ 0	4.1127+ 0		7.2831- 3									1.1518- 2
1.0000+ 3 ~ 2.0000+ 3	3.8698+ 0	3.8841+ 0		5.5858- 3									1.1819- 2
2.0000+ 3 ~ 4.0000+ 3	3.2659+ 0	3.2516+ 0		4.2831- 3									1.1890- 2
4.0000+ 3 ~ 7.0000+ 3	2.9883+ 0	2.8433+ 0		3.2295- 3									1.2341- 2
7.0000+ 3 ~ 1.0000+ 4	2.7278+ 0	2.6942+ 0		3.3578- 2									1.2883- 2
1.0000+ 4 ~ 2.0000+ 4	2.0100+ 1	2.0033+ 1		8.6580- 2									1.4449- 2
2.0000+ 4 ~ 4.0000+ 4	2.3684+ 0	2.3478+ 0		1.6972- 2									1.8769- 2
4.0000+ 4 ~ 7.0000+ 4	2.0795+ 1	2.0788+ 1		2.6992- 2									2.8865- 2
7.0000+ 4 ~ 1.0000+ 5	1.0728+ .	1.0708+ 1		1.7793- 2									3.6945- 2
1.0000+ 5 ~ 2.0000+ 5	8.1847+ 0	8.1770+ 0		7.7665- 3									5.7427- 2
2.0000+ 5 ~ 4.0000+ 5	8.1128+ 0	8.1097+ 0		3.1199- 3									9.5411- 2
4.0000+ 5 ~ 7.0000+ 5	3.9638+ 0	3.9609+ 0		2.9011- 3									1.3491- 1
7.0000+ 5 ~ 1.0000+ 6	3.5819+ 0	3.4450+ 0	1.1128- 1	2.3110- 3									1.7119- 1
1.0000+ 6 ~ 2.0000+ 6	3.3969+ 0	2.8169+ 0	5.7849- 1	1.1724- 3							2.3331-14		2.7804- 1
2.0000+ 6 ~ 4.0000+ 6	3.4775+ 0	2.4222+ 0	1.0543+ 0	7.5087- 4							1.0166- 9		5.1497- 1
4.0000+ 6 ~ 7.0000+ 6	3.5849+ 0	2.1400+ 0	1.4447+ 0	1.1939- 4				1.8057- 6			3.8144- 5		7.4692- 1
7.0000+ 6 ~ 1.0000+ 7	3.3118+ 0	1.8779+ 0	1.4311+ 0	3.1390- 5				7.4900- 4			1.9500- 3	7.7110- 9	8.2207- 1
1.0000+ 7 ~ 2.0000+ 7	2.6370+ 0	1.2776+ 0	4.7428- 1	5.4532- 6		8.4557- 1		1.2108- 2	6.4392- 3		1.0366- 2	1.0809- 2	8.3893- 1

MATERIAL =3271 CROSS SECTION ^{59}Co (3271)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.2103+ 2	8.0177+ 0		1.1501+ 2							0.0000+ 0		1.1253- 2
1.0000- 2 ~ 2.0000- 2	5.5171+ 1	5.0177+ 0		5.9154+ 1							0.0000+ 0		1.1253- 2
2.0000- 2 ~ 4.0000- 2	4.0815+ 1	5.0178+ 0		3.4797+ 1							0.0000+ 0		1.1253- 2
4.0000- 2 ~ 7.0000- 2	3.1550+ 1	5.0179+ 0		2.5532+ 1							0.0000+ 0		1.1253- 2
7.0000- 2 ~ 1.0000- 1	2.6458+ 1	5.0181+ 0		2.0440+ 1							0.0000+ 0		1.1253- 2
1.0000- 1 ~ 2.0000- 1	2.1585+ 1	5.0184+ 0		1.5566+ 1							0.0000+ 0		1.1253- 2
2.0000- 1 ~ 4.0000- 1	1.7037+ 1	5.0192+ 0		1.1017+ 1							0.0000+ 0		1.1253- 2
4.0000- 1 ~ 7.0000- 1	1.4144+ 1	5.0205+ 0		8.1293+ 0							0.0000+ 0		1.1253- 2
7.0000- 1 ~ 1.0000+ 0	1.2548+ 1	5.0224+ 0		6.5255+ 0							0.0000+ 0		1.1253- 2
1.0000+ 0 ~ 2.0000+ 0	1.1022+ 1	5.0266+ 0		4.9955+ 0							0.0000+ 0		1.1253- 2
2.0000+ 0 ~ 4.0000+ 0	9.8295+ 0	5.0381+ 0		3.9914+ 0							0.0000+ 0		1.1254- 2
4.0000+ 0 ~ 7.0000+ 0	8.7781+ 0	5.0833+ 0		2.7148+ 0							0.0000+ 0		1.1254- 2
7.0000+ 0 ~ 1.0000+ 1	8.3577+ 0	5.1038+ 0		2.2539+ 0							0.0000+ 0		1.1255- 2
1.0000+ 1 ~ 2.0000+ 1	8.1028+ 0	6.2434+ 0		1.6595+ 0							0.0000+ 0		1.1257- 2
2.0000+ 1 ~ 4.0000+ 1	8.5547+ 0	6.9174+ 0		1.6473+ 0							0.0000+ 0		1.1261- 2
4.0000+ 1 ~ 7.0000+ 1	1.2248+ 1	1.0222+ 1		2.0254+ 0							0.0000+ 0		1.1267- 2
7.0000+ 1 ~ 1.0000+ 2	3.3224+ 1	2.8819+ 1		4.4048+ 0							0.0000+ 0		1.1274- 2
1.0000+ 2 ~ 2.0000+ 2	9.0017+ 2	8.2591+ 2		7.4596+ 1							0.0000+ 0		1.1291- 2
2.0000+ 2 ~ 4.0000+ 2	1.2250+ 1	1.1938+ 1		3.1413+ 1							0.0000+ 0		1.1328- 2
4.0000+ 2 ~ 7.0000+ 2	4.3492+ 0	4.3068+ 0		4.2402- 2							0.0000+ 0		1.1391- 2
7.0000+ 2 ~ 1.0000+ 3	2.6078+ 0	2.5901+ 0		1.7711- 2							0.0000+ 0		1.1465- 2
1.0000+ 3 ~ 2.0000+ 3	1.5045+ 0	1.4887+ 0		1.7830- 2							0.0000+ 0		1.1629- 2
2.0000+ 3 ~ 4.0000+ 3	4.8745+ 0	4.8139+ 0		6.0586- 2							0.0000+ 0		1.2004- 2
4.0000+ 3 ~ 7.0000+ 3	9.5173+ 1	9.4986+ 1		2.0714- 1							0.0000+ 0		1.2530- 2
7.0000+ 3 ~ 1.0000+ 4	1.1880+ 1	1.1790+ 1		9.0555- 2							0.0000+ 0		1.3381- 2
1.0000+ 4 ~ 2.0000+ 4	8.0095+ 0	7.9541+ 0		5.5478- 2							0.0000+ 0		1.5009- 2
2.0000+ 4 ~ 4.0000+ 4	1.5531+ 1	1.5491+ 1		3.9175- 2							0.0000+ 0		1.8764- 2
4.0000+ 4 ~ 7.0000+ 4	8.1386+ 0	8.1113+ 0		2.7387- 2							0.0000+ 0		2.5024- 2
7.0000+ 4 ~ 1.0000+ 5	6.6033+ 0	6.5876+ 0		1.5680- 2							0.0000+ 0		3.2535- 2
1.0000+ 5 ~ 2.0000+ 5	5.2844+ 0	5.2685+ 0		1.5898- 2							0.0000+ 0		4.8809- 2
2.0000+ 5 ~ 4.0000+ 5	4.8178+ 0	4.8084+ 0		9.2060- 3							0.0000+ 0		7.8470- 2
4.0000+ 5 ~ 7.0000+ 5	3.9299+ 0	3.9224+ 0		7.4611- 3							0.0000+ 0		1.1070- 1
7.0000+ 5 ~ 1.0000+ 6	3.4677+ 0	3.4615+ 0		6.1380- 3				4.0701- 8			0.0000+ 0		1.3718- 1
1.0000+ 6 ~ 2.0000+ 6	3.2655+ 0	2.8730+ 0	3.8808- 1	4.3906- 3				4.1314- 5			0.0000+ 0		2.4378- 1
2.0000+ 6 ~ 4.0000+ 6	3.4653+ 0	2.0480+ 0	1.4054+ 0	3.0313- 3				9.3383- 4			0.0000+ 0		5.1297- 1
4.0000+ 6 ~ 7.0000+ 6	3.7444+ 0	2.0816+ 0	1.6489+ 0	2.6186- 3				1.2083- 2		3.8093- 8	1.0000- 3		8.9981- 1
7.0000+ 6 ~ 1.0000+ 7	3.4419+ 0	1.7780+ 0	1.6237+ 0	2.3084- 3				2.6000- 2	1.7684- 3	1.1171- 4	1.0000- 2	7.0421- 9	7.7756- 1
1.0000+ 7 ~ 2.0000+ 7	2.6762+ 0	8.9428- 1	9.8863- 1	1.9877- 3		6.1880- 1		4.4222- 2	8.3821- 2	8.8164- 3	2.3309- 2	1.4330- 2	7.4367- 1

MATERIAL =3280 CROSS SECTION Ni (3280)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.1421+ 1	1.7859+ 1		1.3562+ 1				2.5576-14			1.2014-15		1.1314- 2
1.0000- 2 ~ 2.0000- 2	2.3654+ 1	1.7859+ 1		5.7956+ 0				7.6752-14			3.6054-15		1.1314- 2
2.0000- 2 ~ 4.0000- 2	2.1958+ 1	1.7859+ 1		4.0974+ 0				1.5356-13			7.2132-15		1.1314- 2
4.0000- 2 ~ 7.0000- 2	2.0867+ 1	1.7859+ 1		3.0087+ 0				2.8156-13			1.3226-14		1.1314- 2
7.0000- 2 ~ 1.0000- 1	2.0269+ 1	1.7858+ 1		2.4102+ 0				4.3517-13			2.0442-14		1.1314- 2
1.0000- 1 ~ 2.0000- 1	1.9893+ 1	1.7858+ 1		1.8345+ 0				7.6798-13			3.6075-14		1.1314- 2
2.0000- 1 ~ 4.0000- 1	1.9153+ 1	1.7858+ 1		1.2853+ 0				1.5360-12			7.2153-14		1.1314- 2
4.0000- 1 ~ 7.0000- 1	1.8809+ 1	1.7857+ 1		9.5200- 1				2.8161-12			1.3226-13		1.1314- 2
7.0000- 1 ~ 1.0000+ 0	1.8617+ 1	1.7856+ 1		7.6072- 1				4.3521-12			2.0444-13		1.1314- 2
1.0000+ 0 ~ 2.0000+ 0	1.8433+ 1	1.7854+ 1		5.7916- 1				7.6803-12			3.6078-13		1.1314- 2
2.0000+ 0 ~ 4.0000+ 0	1.8259+ 1	1.7850+ 1		4.0933- 1				1.5361-11			7.2155-13		1.1314- 2
4.0000+ 0 ~ 7.0000+ 0	1.8143+ 1	1.7843+ 1		3.0065- 1				2.8161-11			1.3228-12		1.1314- 2
7.0000+ 0 ~ 1.0000+ 1	1.8074+ 1	1.7834+ 1		2.4041- 1				4.3522-11			2.0444-12		1.1314- 2
1.0000+ 1 ~ 2.0000+ 1	1.7998+ 1	1.7815+ 1		1.8233- 1				7.6803-11			3.6078-12		1.1314- 2
2.0000+ 1 ~ 4.0000+ 1	1.7901+ 1	1.7773+ 1		1.2826- 1				1.5361-10			7.2156-12		1.1314- 2
4.0000+ 1 ~ 7.0000+ 1	1.7795+ 1	1.7702+ 1		9.3438- 2				2.8161-10			1.3228-11		1.1314- 2
7.0000+ 1 ~ 1.0000+ 2	1.7692+ 1	1.7618+ 1		7.4100- 2				4.3522-10			2.0444-11		1.1314- 2
1.0000+ 2 ~ 2.0000+ 2	1.7498+ 1	1.7441+ 1		5.5411- 2				7.6804-10			3.6078-11		1.1318- 2
2.0000+ 2 ~ 4.0000+ 2	1.7091+ 1	1.7059+ 1		3.7971- 2				1.5361- 9			7.2156-11		1.1329- 2
4.0000+ 2 ~ 7.0000+ 2	1.6496+ 1	1.6472+ 1		2.4693- 2				2.8181- 9			1.3228-10		1.1349- 2
7.0000+ 2 ~ 1.0000+ 3	1.5982+ 1	1.5941+ 1		2.1020- 2				4.3522- 9			2.0444-10		1.1372- 2
1.0000+ 3 ~ 2.0000+ 3	1.5445+ 1	1.5421+ 1		2.3722- 2				7.6804- 9			3.6078-10		1.1476- 2
2.0000+ 3 ~ 4.0000+ 3	1.8070+ 1	1.8034+ 1		3.5705- 2				1.5361- 8			7.2156-10		1.1754- 2
4.0000+ 3 ~ 7.0000+ 3	2.1008+ 1	2.0980+ 1		2.7758- 2				2.8161- 8			1.3228- 9		1.2217- 2
7.0000+ 3 ~ 1.0000+ 4	9.5454+ 0	9.5229+ 0		2.2557- 2				4.3522- 8			2.0444- 9		1.2773- 2
1.0000+ 4 ~ 2.0000+ 4	5.1176+ 1	5.1085+ 1		9.1724- 2				7.6804- 8			3.6078- 9		1.4345- 2
2.0000+ 4 ~ 4.0000+ 4	1.3824+ 1	1.3585+ 1		3.9266- 2				1.5361- 7			7.2156- 9		1.8614- 2
4.0000+ 4 ~ 7.0000+ 4	1.0051+ 1	1.0029+ 1	5.7852- 5	2.1992- 2				2.8161- 7			1.3228- 8		2.6502- 2
7.0000+ 4 ~ 1.0000+ 5	7.1523+ 0	7.1334+ 0	3.7888- 3	1.5142- 2				4.3522- 7			2.0444- 8		3.6280- 2
1.0000+ 5 ~ 2.0000+ 5	6.5008+ 0	6.4770+ 0	5.1607- 3	1.8818- 2				7.6804- 7			3.6078- 8		5.5090- 2
2.0000+ 5 ~ 4.0000+ 5	5.9716+ 0	5.9531+ 0	8.0137- 3	1.2492- 2				1.5361- 6			7.2156- 8		9.3241- 2
4.0000+ 5 ~ 7.0000+ 5	3.7310+ 0	3.7135+ 0	7.8178- 3	9.7332- 3				8.4057- 6			1.4650- 7		1.3315- 1
7.0000+ 5 ~ 1.0000+ 6	3.1815+ 0	3.1616+ 0	9.5728- 3	9.9316- 3				4.3087- 6			3.3357- 7		1.6402- 1
1.0000+ 6 ~ 2.0000+ 6	3.2314+ 0	3.0188+ 0	1.9455- 1	6.8188- 3				1.1555- 2			9.0858- 5		2.4168- 1
2.0000+ 6 ~ 4.0000+ 6	3.3526+ 0	2.4495+ 0	7.8304- 1	4.5377- 3				1.3232- 1			2.8406- 3		4.5778- 1
4.0000+ 6 ~ 7.0000+ 6	3.7069+ 0	2.3081+ 0	1.0062+ 0	1.5494- 3				3.5262- 1			3.8179- 2	4.1773-25	7.0908- 1
7.0000+ 6 ~ 1.0000+ 7	3.4885+ 0	2.0725+ 0	8.9777- 1	6.1363- 4		1.8141- 3		4.3644- 1	1.4104- 3	1.0885- 4	7.7824- 2	1.1220-13	8.1237- 1
1.0000+ 7 ~ 2.0000+ 7	2.7183+ 0	1.3348+ 0	4.1544- 1	7.8950- 5		1.6368- 1	2.8146- 4	2.3909- 1	4.1992- 1	2.2702- 2	6.1073- 2	3.7575- 2	8.1350- 1

MATERIAL =3281 CROSS SECTION ^{58}Ni (3281)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.0166+ 1	2.8251+ 1		1.3935+ 1				3.7462-14			0.0000+ 0		1.1453- 2
1.0000- 2 ~ 2.0000- 2	3.2206+ 1	2.8251+ 1		5.9650+ 0				1.1242-13			0.0000+ 0		1.1453- 2
2.0000- 2 ~ 4.0000- 2	3.0482+ 1	2.8251+ 1		4.2112+ 0				2.2492-13			0.0000+ 0		1.1453- 2
4.0000- 2 ~ 7.0000- 2	2.9347+ 1	2.8251+ 1		3.0954+ 0				4.1242-13			0.0000+ 0		1.1453- 2
7.0000- 2 ~ 1.0000- 1	2.8729+ 1	2.8251+ 1		2.4786+ 0				6.3742-13			0.0000+ 0		1.1453- 2
1.0000- 1 ~ 2.0000- 1	2.8131+ 1	2.8250+ 1		1.4809+ 0				1.1249-12			0.0000+ 0		1.1453- 2
2.0000- 1 ~ 4.0000- 1	2.7581+ 1	2.8260+ 1		1.3312+ 0				2.2499-12			0.0000+ 0		1.1453- 2
4.0000- 1 ~ 7.0000- 1	2.7228+ 1	2.8249+ 1		9.7765- 1				4.1249-12			0.0000+ 0		1.1453- 2
7.0000- 1 ~ 1.0000+ 0	2.7031+ 1	2.8247+ 1		7.9335- 1				6.3749-12			0.0000+ 0		1.1453- 2
1.0000+ 0 ~ 2.0000+ 0	2.6840+ 1	2.8246+ 1		5.9533- 1				1.1250-11			0.0000+ 0		1.1453- 2
2.0000+ 0 ~ 4.0000+ 0	2.6659+ 1	2.8238+ 1		4.2082- 1				2.2500-11			0.0000+ 0		1.1453- 2
4.0000+ 0 ~ 7.0000+ 0	2.6536+ 1	2.8227+ 1		3.0905- 1				4.1250-11			0.0000+ 0		1.1453- 2
7.0000+ 0 ~ 1.0000+ 1	2.6480+ 1	2.8214+ 1		2.4680- 1				6.3750-11			0.0000+ 0		1.1453- 2
1.0000+ 1 ~ 2.0000+ 1	2.6373+ 1	2.8185+ 1		1.8769- 1				1.1250-10			0.0000+ 0		1.1453- 2
2.0000+ 1 ~ 4.0000+ 1	2.6261+ 1	2.8119+ 1		1.3214- 1				2.2500-10			0.0000+ 0		1.1453- 2
4.0000+ 1 ~ 7.0000+ 1	2.6107+ 1	2.8010+ 1		9.6516- 2				4.1250-10			0.0000+ 0		1.1453- 2
7.0000+ 1 ~ 1.0000+ 2	2.5958+ 1	2.5801+ 1		7.8845- 2				6.3750-10			0.0000+ 0		1.1453- 2
1.0000+ 2 ~ 2.0000+ 2	2.5863+ 1	2.5605+ 1		5.7347- 2				1.1250- 9			0.0000+ 0		1.1467- 2
2.0000+ 2 ~ 4.0000+ 2	2.5030+ 1	2.4991+ 1		3.9056- 2				2.2500- 9			0.0000+ 0		1.1476- 2
4.0000+ 2 ~ 7.0000+ 2	2.4052+ 1	2.4025+ 1		2.7044- 2				4.1250- 9			0.0000+ 0		1.1497- 2
7.0000+ 2 ~ 1.0000+ 3	2.2971+ 1	2.2951+ 1		2.0210- 2				6.3750- 9			0.0000+ 0		1.1520- 2
1.0000+ 3 ~ 2.0000+ 3	2.0933+ 1	2.0820+ 1		1.3615- 2				1.1250- 8			0.0000+ 0		1.1621- 2
2.0000+ 3 ~ 4.0000+ 3	1.7186+ 1	1.7178+ 1		7.7767- 3				2.2500- 8			0.0000+ 0		1.1893- 2
4.0000+ 3 ~ 7.0000+ 3	1.2464+ 1	1.2475+ 1		5.0113- 3				4.1250- 8			0.0000+ 0		1.2345- 2
7.0000+ 3 ~ 1.0000+ 4	7.5975+ 0	7.5922+ 0		3.2851- 3				6.3750- 8			0.0000+ 0		1.2898- 2
1.0000+ 4 ~ 2.0000+ 4	4.4638+ 1	4.4540+ 1		9.8013- 2				1.1250- 7			0.0000+ 0		1.4430- 2
2.0000+ 4 ~ 4.0000+ 4	1.3043+ 1	1.2997+ 1		4.5123- 2				2.2500- 7			0.0000+ 0		1.8630- 2
4.0000+ 4 ~ 7.0000+ 4	1.1237+ 1	1.1212+ 1		2.4625- 2				4.1250- 7			0.0000+ 0		2.6409- 2
7.0000+ 4 ~ 1.0000+ 5	9.9761+ 0	9.9599+ 0		1.5281- 2				6.3750- 7			0.0000+ 0		3.6053- 2
1.0000+ 5 ~ 2.0000+ 5	7.1497+ 0	7.1280+ 0		2.1736- 2				1.1250- 6			0.0000+ 0		5.5587- 2
2.0000+ 5 ~ 4.0000+ 5	5.3923+ 0	5.3805+ 0		1.1355- 2				2.2500- 6			0.0000+ 0		9.2098- 2
4.0000+ 5 ~ 7.0000+ 5	3.6200+ 0	3.6095+ 0		1.0391- 2				4.1312- 4			0.0000+ 0		1.3103- 1
7.0000+ 5 ~ 1.0000+ 6	3.7028+ 0	3.6910+ 0		1.0939- 2				6.3112- 4			0.0000+ 0		1.8131- 1
1.0000+ 6 ~ 2.0000+ 6	3.3445+ 0	3.1587+ 0	1.8093- 1	9.9045- 3				1.6925- 2			1.3000- 4		2.3960- 1
2.0000+ 6 ~ 4.0000+ 6	3.3603+ 0	2.4524+ 0	8.9488- 1	5.0889- 3				1.9375- 1			4.0999- 3		4.5660- 1
4.0000+ 6 ~ 7.0000+ 6	3.5697+ 0	2.1824+ 0	8.4432- 1	1.5886- 3				5.0750- 1			5.3237- 2		7.1262- 1
7.0000+ 6 ~ 1.0000+ 7	3.3980+ 0	1.9921+ 0	7.0448- 1	8.2517- 4				5.9625- 1	2.0659- 3	6.5310- 5	1.0038- 1	0.0000+ 0	8.1275- 1
1.0000+ 7 ~ 2.0000+ 7	2.6371+ 0	1.2701+ 0	3.0845- 1	7.6159- 5		3.7354- 2		3.0638- 1	5.4691- 1	2.5019- 2	7.3402- 2	3.6077- 2	8.1091- 1

MATERIAL =3282 CROSS SECTION ^{60}Ni (3282)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.0389+ 1	1.4164+ 0		8.9731+ 0							0.0000+ 0		1.1075- 2
1.0000- 2 ~ 2.0000- 2	5.2509+ 0	1.4164+ 0		3.8346+ 0							0.0000+ 0		1.1075- 2
2.0000- 2 ~ 4.0000- 2	4.1273+ 0	1.4164+ 0		2.7109+ 0							0.0000+ 0		1.1075- 2
4.0000- 2 ~ 7.0000- 2	3.4070+ 0	1.4164+ 0		1.9906+ 0							0.0000+ 0		1.1075- 2
7.0000- 2 ~ 1.0000- 1	3.0109+ 0	1.4164+ 0		1.5945+ 0							0.0000+ 0		1.1075- 2
1.0000- 1 ~ 2.0000- 1	2.8299+ 0	1.4164+ 0		1.2136+ 0							0.0000+ 0		1.1075- 2
2.0000- 1 ~ 4.0000- 1	2.2791+ 0	1.4163+ 0		8.6876- 1							0.0000+ 0		1.1075- 2
4.0000- 1 ~ 7.0000- 1	2.0467+ 0	1.4162+ 0		6.2954- 1							0.0000+ 0		1.1075- 2
7.0000- 1 ~ 1.0000+ 0	1.9169+ 0	1.4160+ 0		5.0290- 1							0.0000+ 0		1.1075- 2
1.0000+ 0 ~ 2.0000+ 0	1.7984+ 0	1.4158+ 0		3.8264- 1							0.0000+ 0		1.1075- 2
2.0000+ 0 ~ 4.0000+ 0	1.6882+ 0	1.4151+ 0		2.7005- 1							0.0000+ 0		1.1075- 2
4.0000+ 0 ~ 7.0000+ 0	1.6118+ 0	1.4140+ 0		1.9708- 1							0.0000+ 0		1.1075- 2
7.0000+ 0 ~ 1.0000+ 1	1.5705+ 0	1.4127+ 0		1.5776- 1							0.0000+ 0		1.1075- 2
1.0000+ 1 ~ 2.0000+ 1	1.5288+ 0	1.4089+ 0		1.1894- 1							0.0000+ 0		1.1075- 2
2.0000+ 1 ~ 4.0000+ 1	1.4859+ 0	1.4034+ 0		8.2686- 2							0.0000+ 0		1.1075- 2
4.0000+ 1 ~ 7.0000+ 1	1.4516+ 0	1.3927+ 0		6.8898- 2							0.0000+ 0		1.1075- 2
7.0000+ 1 ~ 1.0000+ 2	1.4258+ 0	1.3801+ 0		4.5644- 2							0.0000+ 0		1.1075- 2
1.0000+ 2 ~ 2.0000+ 2	1.3885+ 0	1.3537+ 0		3.2622- 2							0.0000+ 0		1.1079- 2
2.0000+ 2 ~ 4.0000+ 2	1.3168+ 0	1.2955+ 0		2.1091- 2							0.0000+ 0		1.1092- 2
4.0000+ 2 ~ 7.0000+ 2	1.2179+ 0	1.2038+ 0		1.4259- 2							0.0000+ 0		1.1112- 2
7.0000+ 2 ~ 1.0000+ 3	1.1093+ 0	1.0982+ 0		1.1046- 2							0.0000+ 0		1.1137- 2
1.0000+ 3 ~ 2.0000+ 3	8.3030- 1	8.8098- 1		9.7431- 3							0.0000+ 0		1.1248- 2
2.0000+ 3 ~ 4.0000+ 3	4.8407- 1	4.2882- 1		5.5457- 2							0.0000+ 0		1.1535- 2
4.0000+ 3 ~ 7.0000+ 3	1.7041- 1	1.4897- 1		2.1538- 2							0.0000+ 0		1.2018- 2
7.0000+ 3 ~ 1.0000+ 4	5.7120+ 0	5.6854+ 0		2.6801- 2							0.0000+ 0		1.2596- 2
1.0000+ 4 ~ 2.0000+ 4	7.3315+ 1	7.3228+ 1		8.8484- 2							0.0000+ 0		1.4220- 2
2.0000+ 4 ~ 4.0000+ 4	1.5241+ 1	1.5215+ 1		2.8033- 2							0.0000+ 0		1.8605- 2
4.0000+ 4 ~ 7.0000+ 4	7.0964+ 0	7.0768+ 0		1.8586- 2							0.0000+ 0		2.6663- 2
7.0000+ 4 ~ 1.0000+ 5	5.2602+ 0	5.2445+ 0		1.5721- 2							0.0000+ 0		3.6613- 2
1.0000+ 5 ~ 2.0000+ 5	4.6324+ 0	4.6199+ 0		1.2528- 2							0.0000+ 0		5.6758- 2
2.0000+ 5 ~ 4.0000+ 5	5.1693+ 0	5.1580+ 0		1.0302- 2							0.0000+ 0		9.4638- 2
4.0000+ 5 ~ 7.0000+ 5	3.5385+ 0	3.5285+ 0		8.0668- 3							0.0000+ 0		1.3559- 1
7.0000+ 5 ~ 1.0000+ 6	3.2819+ 0	3.2735+ 0		8.3835- 3							0.0000+ 0		1.6682- 1
1.0000+ 6 ~ 2.0000+ 6	3.0847+ 0	2.8630+ 0	2.2520- 1	7.1155- 3							0.0000+ 0		2.4216- 1
2.0000+ 6 ~ 4.0000+ 6	3.2830+ 0	2.3920+ 0	8.9740- 1	3.6162- 3				1.2375- 4			2.8611- 5		4.5519- 1
4.0000+ 6 ~ 7.0000+ 6	3.8024+ 0	2.2397+ 0	1.3324+ 0	1.5976- 3				2.2688- 2			5.9578- 3		7.0074- 1
7.0000+ 6 ~ 1.0000+ 7	3.4483+ 0	2.0287+ 0	1.2748+ 0	8.4540- 4				1.1033- 1		2.4534- 4	3.3852- 2	0.0000+ 0	8.1155- 1
1.0000+ 7 ~ 2.0000+ 7	2.7231+ 0	1.3477+ 0	8.2563- 1	9.4699- 5		3.5722- 1		1.0827- 1	1.7290- 1	2.0448- 2	3.8985- 2	4.6547- 2	8.1752- 1

MATERIAL =3283

CROSS SECTION

^{61}Ni (3283)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.6494+ 1	8.7308+ 0		7.7630+ 0							1.0832-13		1.0890- 2
1.0000- 2 ~ 2.0000- 2	1.2048+ 1	8.7307+ 0		3.3174+ 0							3.1908-13		1.0890- 2
2.0000- 2 ~ 4.0000- 2	1.1076+ 1	8.7308+ 0		2.3468+ 0							6.3833-13		1.0890- 2
4.0000- 2 ~ 7.0000- 2	1.0463+ 1	8.7308+ 0		1.7223+ 0							1.1704-12		1.0890- 2
7.0000- 2 ~ 1.0000- 1	1.0110+ 1	8.7304+ 0		1.3799+ 0							1.8090-12		1.0890- 2
1.0000- 1 ~ 2.0000- 1	9.7602+ 0	8.7301+ 0		1.0501+ 0							3.1925-12		1.0890- 2
2.0000- 1 ~ 4.0000- 1	9.4707+ 0	8.7284+ 0		7.4134- 1							6.3852-12		1.0890- 2
4.0000- 1 ~ 7.0000- 1	9.2730+ 0	8.7282+ 0		5.4485- 1							1.1708-11		1.0890- 2
7.0000- 1 ~ 1.0000+ 0	9.1821+ 0	8.7288+ 0		4.3537- 1							1.8092-11		1.0890- 2
1.0000+ 0 ~ 2.0000+ 0	9.0550+ 0	8.7237+ 0		3.3129- 1							3.1927-11		1.0890- 2
2.0000+ 0 ~ 4.0000+ 0	8.9508+ 0	8.7188+ 0		2.3399- 1							6.3854-11		1.0890- 2
4.0000+ 0 ~ 7.0000+ 0	8.8764+ 0	8.7048+ 0		1.7167- 1							1.1707-10		1.0890- 2
7.0000+ 0 ~ 1.0000+ 1	8.8277+ 0	8.5908+ 0		1.3707- 1							1.8092-10		1.0890- 2
1.0000+ 1 ~ 2.0000+ 1	8.7640+ 0	8.6803+ 0		1.0388- 1							3.1927-10		1.0890- 2
2.0000+ 1 ~ 4.0000+ 1	8.6637+ 0	8.5913+ 0		7.2426- 2							6.3854-10		1.0891- 2
4.0000+ 1 ~ 7.0000+ 1	8.5313+ 0	8.4792+ 0		5.2127- 2							1.1707- 9		1.0892- 2
7.0000+ 1 ~ 1.0000+ 2	8.3902+ 0	8.3494+ 0		4.0803- 2							1.8092- 9		1.0893- 2
1.0000+ 2 ~ 2.0000+ 2	8.1158+ 0	8.0862+ 0		2.9821- 2							3.1927- 8		1.0897- 2
2.0000+ 2 ~ 4.0000+ 2	7.5710+ 0	7.5520+ 0		1.8993- 2							6.3854- 8		1.0910- 2
4.0000+ 2 ~ 7.0000+ 2	6.6446+ 0	6.6321+ 0		1.2329- 2							1.1707- 8		1.0931- 2
7.0000+ 2 ~ 1.0000+ 3	5.1698+ 0	5.1604+ 0		9.3451- 3							1.8092- 8		1.0957- 2
1.0000+ 3 ~ 2.0000+ 3	8.8000+ 0	5.8559+ 0		8.4414- 1							3.1927- 8		1.1070- 2
2.0000+ 3 ~ 4.0000+ 3	1.1158+ 1	1.0742+ 1		4.2552- 1							6.3854- 8		1.1372- 2
4.0000+ 3 ~ 7.0000+ 3	3.4688+ 0	3.2245+ 0		2.4229- 1							1.1707- 7		1.1875- 2
7.0000+ 3 ~ 1.0000+ 4	2.9844+ 1	2.9285+ 1		5.7909- 1							1.8092- 7		1.2480- 2
1.0000+ 4 ~ 2.0000+ 4	1.8338+ 1	1.6138+ 1		2.0014- 1							3.1927- 7		1.4160- 2
2.0000+ 4 ~ 4.0000+ 4	9.8338+ 0	9.7470+ 0		8.8934- 2							6.3854- 7		1.8570- 2
4.0000+ 4 ~ 7.0000+ 4	8.8000+ 0	8.7384+ 0	5.2714- 3	5.8356- 2							1.1707- 6		2.5936- 2
7.0000+ 4 ~ 1.0000+ 5	8.2815+ 0	7.8828+ 0	3.3830- 1	3.3827- 2							1.8092- 6		3.8275- 2
1.0000+ 5 ~ 2.0000+ 5	6.9285+ 0	6.4513+ 0	4.5870- 1	2.0290- 2							3.1927- 6		6.1069- 2
2.0000+ 5 ~ 4.0000+ 5	5.5065+ 0	4.8824+ 0	8.3222- 1	1.1511- 2							6.3854- 6		1.0830- 1
4.0000+ 5 ~ 7.0000+ 5	4.4592+ 0	3.7723+ 0	5.7862- 1	7.8890- 3				1.8382-20			1.2944- 5		1.6278- 1
7.0000+ 5 ~ 1.0000+ 6	3.8583+ 0	3.0064+ 0	8.4724- 1	6.6252- 3				1.2905-19			2.9482- 5		2.1705- 1
1.0000+ 6 ~ 2.0000+ 6	3.3724+ 0	2.2182+ 0	1.1498+ 0	5.6012- 3				1.7838- 8			1.8972- 4		3.4214- 1
2.0000+ 6 ~ 4.0000+ 6	3.3102+ 0	1.8823+ 0	1.3414+ 0	2.0150- 3				1.3142- 3			2.8699- 3		5.5015- 1
4.0000+ 6 ~ 7.0000+ 6	3.8104+ 0	2.1850+ 0	1.3652+ 0	9.8173- 4				2.0673- 2			1.6312- 2	3.6987-23	7.2953- 1
7.0000+ 6 ~ 1.0000+ 7	3.4716+ 0	2.1029+ 0	1.1379+ 0	3.6381- 4		1.5990- 1		4.1868- 2		9.3301- 8	2.6180- 2	8.2570-12	8.1450- 1
1.0000+ 7 ~ 2.0000+ 7	2.7683+ 0	1.4220+ 0	3.0826- 1	2.7320- 5		8.5826- 1		6.5674- 2	4.8822- 2	1.7158- 2	2.8587- 2	1.8132- 2	8.2088- 1

MATERIAL =3284

CROSS SECTION

^{62}Ni (3284)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.3441+ 1	9.5048+ 0		4.3938+ 1									1.0712- 2
1.0000- 2 ~ 2.0000- 2	2.8280+ 1	9.5049+ 0		1.8778+ 1									1.0712- 2
2.0000- 2 ~ 4.0000- 2	2.2792+ 1	9.5050+ 0		1.3287+ 1									1.0712- 2
4.0000- 2 ~ 7.0000- 2	1.9278+ 1	9.5052+ 0		9.7730+ 0									1.0712- 2
7.0000- 2 ~ 1.0000- 1	1.7310+ 1	9.5054+ 0		7.8051+ 0									1.0712- 2
1.0000- 1 ~ 2.0000- 1	1.5452+ 1	9.5058+ 0		6.9980+ 0									1.0712- 2
2.0000- 1 ~ 4.0000- 1	1.3702+ 1	9.5068+ 0		4.1868+ 0									1.0712- 2
4.0000- 1 ~ 7.0000- 1	1.2584+ 1	9.5084+ 0		3.0860+ 0									1.0712- 2
7.0000- 1 ~ 1.0000+ 0	1.1981+ 1	9.5105+ 0		2.4707+ 0									1.0712- 2
1.0000+ 0 ~ 2.0000+ 0	1.1394+ 1	9.5148+ 0		1.8708+ 0									1.0712- 2
2.0000+ 0 ~ 4.0000+ 0	1.0884+ 1	9.5248+ 0		1.3636+ 0									1.0712- 2
4.0000+ 0 ~ 7.0000+ 0	1.0519+ 1	9.5415+ 0		9.7788- 1									1.0712- 2
7.0000+ 0 ~ 1.0000+ 1	1.0346+ 1	9.5616+ 0		7.8316- 1									1.0712- 2
1.0000+ 1 ~ 2.0000+ 1	1.0203+ 1	9.6054+ 0		5.8761- 1									1.0712- 2
2.0000+ 1 ~ 4.0000+ 1	1.0133+ 1	9.7078+ 0		4.2515- 1									1.0712- 2
4.0000+ 1 ~ 7.0000+ 1	1.0197+ 1	9.8808+ 0		3.1586- 1									1.0713- 2
7.0000+ 1 ~ 1.0000+ 2	1.0349+ 1	1.0094+ 1		2.5558- 1									1.0714- 2
1.0000+ 2 ~ 2.0000+ 2	1.0778+ 1	1.0578+ 1		1.8888- 1									1.0719- 2
2.0000+ 2 ~ 4.0000+ 2	1.1968+ 1	1.1815+ 1		1.5097- 1									1.0732- 2
4.0000+ 2 ~ 7.0000+ 2	1.4422+ 1	1.4298+ 1		1.2458- 1									1.0754- 2
7.0000+ 2 ~ 1.0000+ 3	1.8264+ 1	1.8138+ 1		1.1573- 1									1.0780- 2
1.0000+ 3 ~ 2.0000+ 3	3.2030+ 1	3.1894+ 1		1.2870- 1									1.0895- 2
2.0000+ 3 ~ 4.0000+ 3	1.8868+ 2	1.8835+ 2		3.0730- 1									1.1204- 2
4.0000+ 3 ~ 7.0000+ 3	3.4568+ 2	3.4523+ 2		3.6784- 1									1.1717- 2
7.0000+ 3 ~ 1.0000+ 4	8.8242+ 1	8.8158+ 1		8.4121- 2									1.2334- 2
1.0000+ 4 ~ 2.0000+ 4	2.1824+ 1	2.1818+ 1		7.8983- 3									1.4043- 2
2.0000+ 4 ~ 4.0000+ 4	8.7023+ 0	8.6882+ 0		1.4122- 2									1.8822- 2
4.0000+ 4 ~ 7.0000+ 4	6.9711+ 0	6.9660+ 0		5.1274- 3									2.5990- 2
7.0000+ 4 ~ 1.0000+ 5	4.4640+ 0	4.4575+ 0		6.5259- 3									3.7300- 2
1.0000+ 5 ~ 2.0000+ 5	7.5101+ 0	7.5034+ 0		6.6872- 3									5.6232- 2
2.0000+ 5 ~ 4.0000+ 5	4.1884+ 0	4.1832+ 0		5.1843- 3									9.7965- 2
4.0000+ 5 ~ 7.0000+ 5	4.2423+ 0	4.2378+ 0		4.5873- 3									1.4171- 1
7.0000+ 5 ~ 1.0000+ 6	3.9118+ 0	3.9088+ 0		4.9116- 3							0.0000+ 0		1.7465- 1
1.0000+ 6 ~ 2.0000+ 6	3.3900+ 0	3.0734+ 0	3.1992- 1	3.4484- 3							0.0000+ 0		2.5345- 1
2.0000+ 6 ~ 4.0000+ 6	3.2970+ 0	2.4100+ 0	8.8612- 1	2.1803- 3							0.0000+ 0		4.4728- 1
4.0000+ 6 ~ 7.0000+ 6	3.6134+ 0	2.2838+ 0	1.3497+ 0	8.4037- 4				7.2322- 6			1.4913- 4		7.0074- 1
7.0000+ 6 ~ 1.0000+ 7	3.4874+ 0	2.1809+ 0	1.3294+ 0	3.5330- 4				3.0541- 3		1.3782-17	3.2526- 3	5.2031-13	8.1114- 1
1.0000+ 7 ~ 2.0000+ 7	2.8152+ 0	1.4818+ 0	5.3010- 1	4.8982- 5		7.3897- 1		2.4106- 2	1.9657- 2	2.3948- 3	1.1729- 2	1.5691- 2	8.2408- 1

CROSS SECTION

^{64}Ni (3285)

MATERIAL =3285

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.8144+ 0	3.4637- 2		4.5798+ 0									1.0371- 2
1.0000- 2 ~ 2.0000- 2	1.9817+ 0	3.4638- 2		1.9571+ 0									1.0371- 2
2.0000- 2 ~ 4.0000- 2	1.4219+ 0	3.4638- 2		1.3863+ 0									1.0371- 2
4.0000- 2 ~ 7.0000- 2	1.0507+ 0	3.4640- 2		1.0161+ 0									1.0371- 2
7.0000- 2 ~ 1.0000- 1	8.4780- 1	3.4641- 2		8.1318- 1									1.0371- 2
1.0000- 1 ~ 2.0000- 1	6.5412- 1	3.4645- 2		6.1947- 1									1.0371- 2
2.0000- 1 ~ 4.0000- 1	4.7201- 1	3.4653- 2		4.3735- 1									1.0371- 2
4.0000- 1 ~ 7.0000- 1	3.5834- 1	3.4668- 2		3.2187- 1									1.0371- 2
7.0000- 1 ~ 1.0000+ 0	2.9174- 1	3.4681- 2		2.5708- 1									1.0371- 2
1.0000+ 0 ~ 2.0000+ 0	2.3048- 1	3.4715- 2		1.9574- 1									1.0371- 2
2.0000+ 0 ~ 4.0000+ 0	1.7324- 1	3.4794- 2		1.3844- 1									1.0371- 2
4.0000+ 0 ~ 7.0000+ 0	1.3687- 1	3.4928- 2		1.0174- 1									1.0371- 2
7.0000+ 0 ~ 1.0000+ 1	1.1859- 1	3.5085- 2		8.1507- 2									1.0371- 2
1.0000+ 1 ~ 2.0000+ 1	9.7432- 2	3.5431- 2		6.2001- 2									1.0371- 2
2.0000+ 1 ~ 4.0000+ 1	8.0152- 2	3.6239- 2		4.3912- 2									1.0371- 2
4.0000+ 1 ~ 7.0000+ 1	6.9983- 2	3.7812- 2		3.2371- 2									1.0372- 2
7.0000+ 1 ~ 1.0000+ 2	6.5249- 2	3.9302- 2		2.5948- 2									1.0373- 2
1.0000+ 2 ~ 2.0000+ 2	6.3042- 2	4.3148- 2		1.9894- 2									1.0378- 2
2.0000+ 2 ~ 4.0000+ 2	6.7227- 2	5.2926- 2		1.4302- 2									1.0393- 2
4.0000+ 2 ~ 7.0000+ 2	8.2776- 2	7.1967- 2		1.0817- 2									1.0416- 2
7.0000+ 2 ~ 1.0000+ 3	1.0661- 1	9.7859- 2		8.9520- 3									1.0445- 2
1.0000+ 3 ~ 2.0000+ 3	1.6343- 1	1.7607- 1		7.3562- 3									1.0568- 2
2.0000+ 3 ~ 4.0000+ 3	4.9892- 1	4.9058- 1		8.3552- 3									1.0895- 2
4.0000+ 3 ~ 7.0000+ 3	1.8027+ 0	1.7958+ 0		7.1943- 3									1.1441- 2
7.0000+ 3 ~ 1.0000+ 4	9.2585+ 0	8.9959+ 0		2.6259- 1									1.2086- 2
1.0000+ 4 ~ 2.0000+ 4	6.5919+ 1	6.5863+ 1		5.5302- 2									1.3893- 2
2.0000+ 4 ~ 4.0000+ 4	3.5242+ 1	3.5222+ 1		1.9506- 2									1.8673- 2
4.0000+ 4 ~ 7.0000+ 4	2.1813+ 1	2.1810+ 1		3.5920- 3									2.7373- 2
7.0000+ 4 ~ 1.0000+ 5	9.0678+ 0	9.0678+ 0		1.8739- 4									3.8090- 2
1.0000+ 5 ~ 2.0000+ 5	6.7862+ 0	6.7825+ 0		3.6560- 3									5.9954- 2
2.0000+ 5 ~ 4.0000+ 5	4.9892+ 0	4.9860+ 0		3.1546- 3									1.0197- 1
4.0000+ 5 ~ 7.0000+ 5	4.1832+ 0	4.1798+ 0		3.5855- 3									1.4918- 1
7.0000+ 5 ~ 1.0000+ 6	4.0177+ 0	4.0144+ 0		3.3258- 3									1.8433- 1
1.0000+ 6 ~ 2.0000+ 6	3.4203+ 0	3.2118+ 0	2.0585- 1	3.0711- 3									2.5107- 1
2.0000+ 6 ~ 4.0000+ 6	3.2758+ 0	2.4513+ 0	8.2265- 1	2.0209- 3									4.2728- 1
4.0000+ 6 ~ 7.0000+ 6	3.8193+ 0	2.2828+ 0	1.3562+ 0	6.3076- 4				2.2259-29			6.7833- 5		6.9435- 1
7.0000+ 6 ~ 1.0000+ 7	3.8508+ 0	2.2001+ 0	1.3498+ 0	1.8717- 4		3.1275- 4		3.5474- 5			5.9587- 4	3.3808-18	8.1111- 1
1.0000+ 7 ~ 2.0000+ 7	2.9112+ 0	1.5338+ 0	3.7883- 1	1.5358- 5		9.5159- 1	3.0990- 2	8.3895- 3	2.4404- 3	4.5321- 4	4.3083- 3	2.4321- 3	8.3032- 1

CROSS SECTION

Cu (3290)

MATERIAL =3290

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.9583+ 1	7.8681+ 0		1.1715+ 1				0.0000+ 0			0.0000+ 0		1.0434- 2
1.0000- 2 ~ 2.0000- 2	1.2874+ 1	7.8680+ 0		5.0058+ 0				0.0000+ 0			0.0000+ 0		1.0434- 2
2.0000- 2 ~ 4.0000- 2	1.1408+ 1	7.8679+ 0		3.5408+ 0				0.0000+ 0			0.0000+ 0		1.0434- 2
4.0000- 2 ~ 7.0000- 2	1.0471+ 1	7.8677+ 0		2.6034+ 0				0.0000+ 0			0.0000+ 0		1.0434- 2
7.0000- 2 ~ 1.0000- 1	9.9488+ 0	7.8675+ 0		2.0824+ 0				0.0000+ 0			0.0000+ 0		1.0434- 2
1.0000- 1 ~ 2.0000- 1	9.4475+ 0	7.8670+ 0		1.5804+ 0				0.0000+ 0			0.0000+ 0		1.0434- 2
2.0000- 1 ~ 4.0000- 1	8.9833+ 0	7.8660+ 0		1.1174+ 0				0.0000+ 0			0.0000+ 0		1.0434- 2
4.0000- 1 ~ 7.0000- 1	8.6844+ 0	7.8642+ 0		8.2026- 1				0.0000+ 0			0.0000+ 0		1.0434- 2
7.0000- 1 ~ 1.0000+ 0	8.5180+ 0	7.8620+ 0		6.5598- 1				0.0000+ 0			0.0000+ 0		1.0434- 2
1.0000+ 0 ~ 2.0000+ 0	8.3546+ 0	7.8573+ 0		4.8729- 1				0.0000+ 0			0.0000+ 0		1.0434- 2
2.0000+ 0 ~ 4.0000+ 0	8.1953+ 0	7.8468+ 0		3.4851- 1				0.0000+ 0			0.0000+ 0		1.0434- 2
4.0000+ 0 ~ 7.0000+ 0	8.0829+ 0	7.8290+ 0		2.5394- 1				0.0000+ 0			0.0000+ 0		1.0434- 2
7.0000+ 0 ~ 1.0000+ 1	8.0082+ 0	7.8081+ 0		2.0014- 1				0.0000+ 0			0.0000+ 0		1.0435- 2
1.0000+ 1 ~ 2.0000+ 1	7.8123+ 0	7.7640+ 0		1.4838- 1				0.0000+ 0			0.0000+ 0		1.0435- 2
2.0000+ 1 ~ 4.0000+ 1	7.7880+ 0	7.6871+ 0		8.8858- 2				0.0000+ 0			0.0000+ 0		1.0435- 2
4.0000+ 1 ~ 7.0000+ 1	7.5345+ 0	7.6182+ 0		8.8342- 2				0.0000+ 0			0.0000+ 0		1.0437- 2
7.0000+ 1 ~ 1.0000+ 2	7.4037+ 0	7.3654+ 0		4.8295- 2				0.0000+ 0			0.0000+ 0		1.0438- 2
1.0000+ 2 ~ 2.0000+ 2	7.0758+ 0	7.0432+ 0		3.2350- 2				0.0000+ 0			0.0000+ 0		1.0441- 2
2.0000+ 2 ~ 4.0000+ 2	6.8322+ 0	6.5202+ 0		3.1195- 1				0.0000+ 0			0.0000+ 0		1.0447- 2
4.0000+ 2 ~ 7.0000+ 2	1.2200+ 1	9.3013+ 0		2.8987+ 0				0.0000+ 0			0.0000+ 0		1.0458- 2
7.0000+ 2 ~ 1.0000+ 3	5.5883+ 0	5.4825+ 0		1.1376- 1				0.0000+ 0			0.0000+ 0		1.0471- 2
1.0000+ 3 ~ 2.0000+ 3	8.3638+ 0	8.3060+ 0		5.7848- 2				0.0000+ 0			0.0000+ 0		1.0514- 2
2.0000+ 3 ~ 4.0000+ 3	2.0634+ 1	2.0238+ 1		3.9768- 1				0.0000+ 0			0.0000+ 0		1.0655- 2
4.0000+ 3 ~ 7.0000+ 3	1.1400+ 1	1.1138+ 1		2.6223- 1				0.0000+ 0			0.0000+ 0		1.0938- 2
7.0000+ 3 ~ 1.0000+ 4	1.9937+ 1	1.9888+ 1		2.4909- 1				0.0000+ 0			0.0000+ 0		1.1349- 2
1.0000+ 4 ~ 2.0000+ 4	1.0151+ 1	1.0088+ 1		8.2439- 2				5.6251- 8			0.0000+ 0		1.2439- 2
2.0000+ 4 ~ 4.0000+ 4	9.4052+ 0	9.3449+ 0		5.0293- 2				2.2500- 7			0.0000+ 0		1.6576- 2
4.0000+ 4 ~ 7.0000+ 4	7.2478+ 0	7.2241+ 0		2.3802- 2				5.0628- 7			0.0000+ 0		2.1473- 2
7.0000+ 4 ~ 1.0000+ 5	7.4302+ 0	7.4303+ 0		8.8832- 3				8.4377- 7			0.0000+ 0		2.9343- 2
1.0000+ 5 ~ 2.0000+ 5	7.5100+ 0	7.4875+ 0		1.2428- 2				1.4198- 5			2.5542-14		4.6876- 2
2.0000+ 5 ~ 4.0000+ 5	4.9533+ 0	4.9372+ 0		1.6005- 2				5.3754- 5			8.6782-14		8.0502- 2
4.0000+ 5 ~ 7.0000+ 5	4.1355+ 0	4.1220+ 0	3.0911- 4	1.3020- 2				2.2380- 4			1.9418-13		1.2713- 1
7.0000+ 5 ~ 1.0000+ 6	3.8182+ 0	3.8239- 2	8.9239- 2	1.2439- 2				7.4544- 4			3.2066-13		1.6239- 1
1.0000+ 6 ~ 2.0000+ 6	3.1912+ 0	2.5093+ 0	6.6827- 1	8.0245- 3				6.1328- 3		1.1588-13	3.2233- 7		2.3182- 1
2.0000+ 6 ~ 4.0000+ 6	3.3113+ 0	1.8729+ 0	1.4000+ 0	3.1017- 3				3.5376- 2			8.4533- 5		4.5058- 1
4.0000+ 6 ~ 7.0000+ 6	3.7570+ 0	2.0858+ 0	1.6276+ 0	9.0398- 4				5.9757- 2	1.0951-10	4.6847- 3	3.0839- 3	1.8183- 9	7.2273- 1
7.0000+ 6 ~ 1.0000+ 7	3.8126+ 0	2.0355+ 0	1.4843+ 0	2.3595- 4				6.5964- 2	3.0858- 2	3.5154- 4	1.5397- 2	4.7999- 8	8.3992- 1
1.0000+ 7 ~ 2.0000+ 7	2.7941+ 0	1.3355+ 0	5.8521- 1	1.8108- 5		5.6591- 1		3.8905- 2	2.1251- 1	8.6878- 3	2.1300- 2	2.6287- 2	8.4741- 1

MATERIAL =3291 CROSS SECTION ^{63}Cu (3291)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.9048+ 1	5.1023+ 0		1.3946+ 1				0.0000+ 0			0.0000+ 0		1.0538- 2
1.0000- 2 ~ 2.0000- 2	1.1081+ 1	5.1022+ 0		5.9591+ 0				0.0000+ 0			0.0000+ 0		1.0538- 2
2.0000- 2 ~ 4.0000- 2	9.3163+ 0	5.1021+ 0		4.2132+ 0				0.0000+ 0			0.0000+ 0		1.0538- 2
4.0000- 2 ~ 7.0000- 2	8.1987+ 0	5.1019+ 0		3.0968+ 0				0.0000+ 0			0.0000+ 0		1.0538- 2
7.0000- 2 ~ 1.0000- 1	7.5799+ 0	5.1017+ 0		2.4782+ 0				0.0000+ 0			0.0000+ 0		1.0538- 2
1.0000- 1 ~ 2.0000- 1	6.9829+ 0	5.1013+ 0		1.8815+ 0				0.0000+ 0			0.0000+ 0		1.0538- 2
2.0000- 1 ~ 4.0000- 1	6.4305+ 0	5.1002+ 0		1.3303+ 0				0.0000+ 0			0.0000+ 0		1.0538- 2
4.0000- 1 ~ 7.0000- 1	5.8743+ 0	5.0984+ 0		9.7590- 1				0.0000+ 0			0.0000+ 0		1.0538- 2
7.0000- 1 ~ 1.0000+ 0	5.6764+ 0	5.0953+ 0		7.8091- 1				0.0000+ 0			0.0000+ 0		1.0538- 2
1.0000+ 0 ~ 2.0000+ 0	5.6631+ 0	5.0918+ 0		5.8132- 1				0.0000+ 0			0.0000+ 0		1.0538- 2
2.0000+ 0 ~ 4.0000+ 0	5.4983+ 0	5.0814+ 0		4.1494- 1				0.0000+ 0			0.0000+ 0		1.0538- 2
4.0000+ 0 ~ 7.0000+ 0	5.3654+ 0	5.0643+ 0		3.0110- 1				0.0000+ 0			0.0000+ 0		1.0539- 2
7.0000+ 0 ~ 1.0000+ 1	5.2809+ 0	5.0441+ 0		2.3680- 1				0.0000+ 0			0.0000+ 0		1.0539- 2
1.0000+ 1 ~ 2.0000+ 1	5.1758+ 0	5.0019+ 0		1.7484- 1				0.0000+ 0			0.0000+ 0		1.0539- 2
2.0000+ 1 ~ 4.0000+ 1	5.0264+ 0	4.9110+ 0		1.1541- 1				0.0000+ 0			0.0000+ 0		1.0547- 2
4.0000+ 1 ~ 7.0000+ 1	4.8520+ 0	4.7757+ 0		7.6291- 2				0.0000+ 0			0.0000+ 0		1.0541- 2
7.0000+ 1 ~ 1.0000+ 2	4.6861+ 0	4.6335+ 0		5.4579- 2				0.0000+ 0			0.0000+ 0		1.0542- 2
1.0000+ 2 ~ 2.0000+ 2	4.4179+ 0	4.3827+ 0		3.5110- 2				0.0000+ 0			0.0000+ 0		1.0546- 2
2.0000+ 2 ~ 4.0000+ 2	3.9403+ 0	3.9187+ 0		2.1605- 2				0.0000+ 0			0.0000+ 0		1.0553- 2
4.0000+ 2 ~ 7.0000+ 2	1.2664+ 1	8.4978+ 0		4.1662+ 0				0.0000+ 0			0.0000+ 0		1.0565- 2
7.0000+ 2 ~ 1.0000+ 3	3.6538+ 0	3.4918+ 0		1.6175- 1				0.0000+ 0			0.0000+ 0		1.0580- 2
1.0000+ 3 ~ 2.0000+ 3	5.6854+ 0	5.6166+ 0		6.8780- 2				0.0000+ 0			0.0000+ 0		1.0629- 2
2.0000+ 3 ~ 4.0000+ 3	2.0764+ 1	2.0330+ 1		4.3433- 1				0.0000+ 0			0.0000+ 0		1.0787- 2
4.0000+ 3 ~ 7.0000+ 3	1.1760+ 1	1.1426+ 1		3.2363- 1				0.0000+ 0			0.0000+ 0		1.1102- 2
7.0000+ 3 ~ 1.0000+ 4	2.0135+ 1	1.9823+ 1		3.1218- 1				0.0000+ 0			0.0000+ 0		1.1558- 2
1.0000+ 4 ~ 2.0000+ 4	1.0208+ 1	1.0108+ 1		1.0109- 1				8.1323- 8			0.0000+ 0		1.2758- 2
2.0000+ 4 ~ 4.0000+ 4	9.6920+ 0	9.6219+ 0		7.0048- 2				3.2529- 7			0.0000+ 0		1.6101- 2
4.0000+ 4 ~ 7.0000+ 4	7.8171+ 0	7.5920+ 0		2.5047- 2				7.3191- 7			0.0000+ 0		2.2588- 2
7.0000+ 4 ~ 1.0000+ 5	7.4302+ 0	7.4213+ 0		8.9376- 3				1.2196- 6			0.0000+ 0		3.1110- 2
1.0000+ 5 ~ 2.0000+ 5	7.2072+ 0	7.1927+ 0		1.4350- 2				2.0526- 5			0.0000+ 0		5.0148- 2
2.0000+ 5 ~ 4.0000+ 5	4.2533+ 0	4.9347+ 0		1.8526- 2				7.7713- 5			0.0000+ 0		8.7201- 2
4.0000+ 5 ~ 7.0000+ 5	4.1355+ 0	4.1198+ 0	4.3921- 4	1.4973- 2				3.2356- 4			0.0000+ 0		1.4040- 1
7.0000+ 5 ~ 1.0000+ 6	3.8184+ 0	3.4986+ 0	1.0864- 1	1.4181- 2				1.0777- 3			0.0000+ 0		1.8195- 1
1.0000+ 6 ~ 2.0000+ 6	3.1906+ 0	2.4526+ 0	7.2179- 1	8.6550- 3				8.6663- 3			4.6600- 7		2.6101- 1
2.0000+ 6 ~ 4.0000+ 6	3.3119+ 0	1.8589+ 0	1.3987+ 0	3.3051- 3				5.0997- 2		1.8759-13	1.2219- 4		4.7453- 1
4.0000+ 6 ~ 7.0000+ 6	3.7501+ 0	2.0677+ 0	1.5925+ 0	1.0370- 3				8.4275- 2	1.5832-10	8.7657- 6	4.4278- 3	2.6231- 9	7.2708- 1
7.0000+ 6 ~ 1.0000+ 7	3.5971+ 0	2.0219+ 0	1.4177+ 0	2.8329- 4				9.0872- 2	4.4141- 2	4.8441- 4	2.1717- 2	6.9375- 6	8.4015- 1
1.0000+ 7 ~ 2.0000+ 7	2.7720+ 0	1.3205+ 0	5.6938- 1	2.2262- 5		4.8774- 1		4.6622- 2	2.9543- 1	9.9791- 3	2.6791- 2	3.3573- 2	8.4744- 1

MATERIAL =3292 CROSS SECTION ^{65}Cu (3292)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.0783+ 1	1.4073+ 1		8.7098+ 0									1.0208- 2
1.0000- 2 ~ 2.0000- 2	1.6941+ 1	1.4073+ 1		2.8673+ 0									1.0208- 2
2.0000- 2 ~ 4.0000- 2	1.6101+ 1	1.4073+ 1		2.0281+ 0									1.0208- 2
4.0000- 2 ~ 7.0000- 2	1.5564+ 1	1.4073+ 1		1.4914+ 0									1.0208- 2
7.0000- 2 ~ 1.0000- 1	1.5268+ 1	1.4073+ 1		1.1931+ 0									1.0208- 2
1.0000- 1 ~ 2.0000- 1	1.4978+ 1	1.4072+ 1		9.0584- 1									1.0208- 2
2.0000- 1 ~ 4.0000- 1	1.4712+ 1	1.4071+ 1		6.4081- 1									1.0208- 2
4.0000- 1 ~ 7.0000- 1	1.4540+ 1	1.4069+ 1		4.7068- 1									1.0208- 2
7.0000- 1 ~ 1.0000+ 0	1.4444+ 1	1.4067+ 1		3.7678- 1									1.0208- 2
1.0000+ 0 ~ 2.0000+ 0	1.4348+ 1	1.4062+ 1		2.8620- 1									1.0208- 2
2.0000+ 0 ~ 4.0000+ 0	1.4253+ 1	1.4051+ 1		2.0200- 1									1.0208- 2
4.0000+ 0 ~ 7.0000+ 0	1.4180+ 1	1.4032+ 1		1.4602- 1									1.0208- 2
7.0000+ 0 ~ 1.0000+ 1	1.4127+ 1	1.4009+ 1		1.1776- 1									1.0208- 2
1.0000+ 1 ~ 2.0000+ 1	1.4050+ 1	1.3961+ 1		8.8970- 2									1.0208- 2
2.0000+ 1 ~ 4.0000+ 1	1.3912+ 1	1.3851+ 1		6.1774- 2									1.0209- 2
4.0000+ 1 ~ 7.0000+ 1	1.3715+ 1	1.3671+ 1		4.4129- 2									1.0209- 2
7.0000+ 1 ~ 1.0000+ 2	1.3496+ 1	1.3452+ 1		3.4194- 2									1.0210- 2
1.0000+ 2 ~ 2.0000+ 2	1.3039+ 1	1.3013+ 1		2.6188- 2									1.0212- 2
2.0000+ 2 ~ 4.0000+ 2	1.3921+ 1	1.2357+ 1		9.8341- 1									1.0216- 2
4.0000+ 2 ~ 7.0000+ 2	1.1114+ 1	1.1105+ 1		8.9337- 3									1.0223- 2
7.0000+ 2 ~ 1.0000+ 3	9.9577+ 0	9.9518+ 0		6.0914- 3									1.0232- 2
1.0000+ 3 ~ 2.0000+ 3	7.8795+ 0	7.8417+ 0		3.7780- 2									1.0261- 2
2.0000+ 3 ~ 4.0000+ 3	2.0328+ 1	2.0010+ 1		3.1577- 1									1.0360- 2
4.0000+ 3 ~ 7.0000+ 3	1.0615+ 1	1.0491+ 1		1.2442- 1									1.0662- 2
7.0000+ 3 ~ 1.0000+ 4	1.9491+ 1	1.9384+ 1		1.0736- 1									1.0864- 2
1.0000+ 4 ~ 2.0000+ 4	1.0028+ 1	9.9852+ 0		4.0576- 2									1.1692- 2
2.0000+ 4 ~ 4.0000+ 4	8.7828+ 0	8.7242+ 0		3.8367- 2									1.4159- 2
4.0000+ 4 ~ 7.0000+ 4	6.4224+ 0	6.4014+ 0		2.1001- 2									1.6875- 2
7.0000+ 4 ~ 1.0000+ 5	7.4691+ 0	7.4503+ 0		8.6972- 3							2.5522-15		2.5264- 2
1.0000+ 5 ~ 2.0000+ 5	8.1898+ 0	8.1807+ 0		8.1170- 3							8.2847-14		3.9437- 2
2.0000+ 5 ~ 4.0000+ 5	4.9533+ 0	4.8430+ 0		1.0344- 2							2.8797-13		6.5546- 2
4.0000+ 5 ~ 7.0000+ 5	4.1355+ 0	4.1268+ 0		8.8376- 3							6.2985-13		9.7808- 2
7.0000+ 5 ~ 1.0000+ 6	3.6598+ 0	3.6584+ 0	5.0091- 2	8.5301- 3							1.0401-12		1.1976- 1
1.0000+ 6 ~ 2.0000+ 6	3.1906+ 0	2.6367+ 0	5.4825- 1	8.6084- 3				8.3761-10			1.9290-12		1.7043- 1
2.0000+ 6 ~ 4.0000+ 6	3.3127+ 0	1.9071+ 0	1.4028+ 0	2.8438- 3				3.2918- 4			5.3055- 8		3.9839- 1
4.0000+ 6 ~ 7.0000+ 6	3.7728+ 0	2.0814+ 0	1.7061+ 0	8.0501- 4				4.7494- 3		1.5858- 8	6.8685- 5	6.1130-12	7.1290- 1
7.0000+ 6 ~ 1.0000+ 7	3.6471+ 0	2.0658+ 0	1.5888+ 0	1.2970- 4				1.3081- 2	1.0542- 3	5.3435- 5	1.2174- 3	3.8092- 9	8.3940- 1
1.0000+ 7 ~ 2.0000+ 7	2.8436+ 0	1.3893+ 0	5.2073- 1	8.7767- 6		7.8616- 1		2.1590- 2	2.4220- 2	5.7899- 8	8.9801- 3	6.6331- 3	8.4735- 1

MATERIAL =3400 CROSS SECTION **Zr (3400)**

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.0045+ 0	6.4301+ 0		5.7436- 1							0.0000+ 0		7.4795- 3
1.0000- 2 ~ 2.0000- 2	6.6755+ 0	6.4300+ 0		2.4544- 1							0.0000+ 0		7.4795- 3
2.0000- 2 ~ 4.0000- 2	6.6038+ 0	6.4298+ 0		1.7393- 1							1.6972-15		7.4795- 3
4.0000- 2 ~ 7.0000- 2	6.5571+ 0	6.4297+ 0		1.2740- 1							9.3305-15		7.4795- 3
7.0000- 2 ~ 1.0000- 1	6.5316+ 0	6.4295+ 0		1.0203- 1							1.8755-14		7.4795- 3
1.0000- 1 ~ 2.0000- 1	6.5087+ 0	6.4291+ 0		7.7851- 2							3.9175-14		7.4795- 3
2.0000- 1 ~ 4.0000- 1	6.4828+ 0	6.4280+ 0		5.4800- 2							8.6300-14		7.4795- 3
4.0000- 1 ~ 7.0000- 1	6.4665+ 0	6.4263+ 0		4.0241- 2							1.6484-13		7.4795- 3
7.0000- 1 ~ 1.0000+ 0	6.4563+ 0	6.4242+ 0		3.2119- 2							2.5909-13		7.4795- 3
1.0000+ 0 ~ 2.0000+ 0	6.4442+ 0	6.4198+ 0		2.4401- 2							4.8329-13		7.4795- 3
2.0000+ 0 ~ 4.0000+ 0	6.4269+ 0	6.4097+ 0		1.7159- 2							9.3463-13		7.4796- 3
4.0000+ 0 ~ 7.0000+ 0	6.4060+ 0	6.3935+ 0		1.2503- 2							1.7719-12		7.4797- 3
7.0000+ 0 ~ 1.0000+ 1	6.3868+ 0	6.3751+ 0		9.9088- 3							2.6624-12		7.4798- 3
1.0000+ 1 ~ 2.0000+ 1	6.3458+ 0	6.3385+ 0		7.3943- 3							4.7044-12		7.4802- 3
2.0000+ 1 ~ 4.0000+ 1	6.2714+ 0	6.2663+ 0		5.0521- 3							9.4168-12		7.4813- 3
4.0000+ 1 ~ 7.0000+ 1	6.1746+ 0	6.1709+ 0		3.6142- 3							1.7271-11		7.4838- 3
7.0000+ 1 ~ 1.0000+ 2	6.0838+ 0	6.0809+ 0		2.9232- 3							2.8698-11		7.4864- 3
1.0000+ 2 ~ 2.0000+ 2	5.0698+ 0	5.9351+ 0		1.3447- 1							4.7118-11		7.4949- 3
2.0000+ 2 ~ 4.0000+ 2	5.2140+ 0	5.8330+ 0		8.8409- 1							9.4241-11		7.5180- 3
4.0000+ 2 ~ 7.0000+ 2	5.7168+ 0	5.6670+ 0		1.4984- 1							1.7276-10		7.5660- 3
7.0000+ 2 ~ 1.0000+ 3	5.5949+ 0	5.5622+ 0		3.2636- 2							2.6703-10		7.6278- 3
1.0000+ 3 ~ 2.0000+ 3	5.8242+ 0	5.5857+ 0		5.6525- 2							4.7129-10		7.8246- 3
2.0000+ 3 ~ 4.0000+ 3	1.2471+ 1	1.2348+ 1		1.2276- 1							9.4247-10		8.3456- 3
4.0000+ 3 ~ 7.0000+ 3	1.0495+ 1	1.0342+ 1		1.0371- 1							1.7279- 9		9.4363- 3
7.0000+ 3 ~ 1.0000+ 4	9.2156+ 0	9.1171+ 0		9.8557- 2							2.6703- 9		1.0875- 2
1.0000+ 4 ~ 2.0000+ 4	1.0637+ 1	1.0780+ 1		4.7171- 2							4.7124- 9		1.4724- 2
2.0000+ 4 ~ 4.0000+ 4	8.2183+ 0	8.1898+ 0		2.8617- 2							9.4248- 9		2.5568- 2
4.0000+ 4 ~ 7.0000+ 4	9.9509+ 0	9.9281+ 0		2.2763- 2							1.7279- 8		4.8002- 2
7.0000+ 4 ~ 1.0000+ 5	9.0623+ 0	9.0649+ 0		1.7553- 2							2.6704- 8		7.0555- 2
1.0000+ 5 ~ 2.0000+ 5	1.1699+ 1	1.1686+ 1		1.3606- 2							4.7124- 8		1.2375- 1
2.0000+ 5 ~ 4.0000+ 5	8.8283+ 0	8.8207+ 0		7.6027- 3							9.4248- 8		2.2121- 1
4.0000+ 5 ~ 7.0000+ 5	8.2441+ 0	8.2385+ 0		5.7133- 3							1.8279- 7		3.6773- 1
7.0000+ 5 ~ 1.0000+ 6	7.0001+ 0	6.9927+ 0	1.1738- 2	5.6941- 3							1.1308- 6		5.8773- 1
1.0000+ 6 ~ 2.0000+ 6	5.2701+ 0	4.9070+ 0	3.5778- 1	5.3151- 3				3.0980- 7			9.8817- 6		3.8534- 1
2.0000+ 6 ~ 4.0000+ 6	4.1963+ 0	2.8612+ 0	1.3404+ 0	3.8386- 3				1.2781- 5			8.0517- 5		4.0798- 1
4.0000+ 6 ~ 7.0000+ 6	3.9984+ 0	2.1498+ 0	1.3480+ 0	1.0114- 3				1.3921- 3			2.8603- 4	0.0000+ 0	5.8989- 1
7.0000+ 6 ~ 1.0000+ 7	4.1917+ 0	2.3471- 0	1.7550+ 0	1.3591- 4		8.1012- 2		9.7025- 4			7.5967- 4	9.5508- 7	7.8720- 1
1.0000+ 7 ~ 2.0000+ 7	3.7455+ 0	1.7317+ 0	8.5032- 1	1.0120- 5		1.0842+ 0		3.0020- 2	3.0347- 2		7.7158- 3	1.2124- 3	8.1944- 1

MATERIAL =3401 CROSS SECTION **^{90}Zr (3401)**

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.8066+ 0	5.4648+ 0		1.4188- 1							0.0000+ 0		7.4795- 3
1.0000- 2 ~ 2.0000- 2	5.5254+ 0	5.4648+ 0		6.0622- 2							0.0000+ 0		7.4795- 3
2.0000- 2 ~ 4.0000- 2	5.5077+ 0	5.4648+ 0		4.2890- 2							0.0000+ 0		7.4795- 3
4.0000- 2 ~ 7.0000- 2	5.4963+ 0	5.4648+ 0		3.1643- 2							0.0000+ 0		7.4795- 3
7.0000- 2 ~ 1.0000- 1	5.4900+ 0	5.4648+ 0		2.5214- 2							0.0000+ 0		7.4795- 3
1.0000- 1 ~ 2.0000- 1	5.4839+ 0	5.4647+ 0		1.9167- 2							0.0000+ 0		7.4795- 3
2.0000- 1 ~ 4.0000- 1	5.4782+ 0	5.4647+ 0		1.3544- 2							0.0000+ 0		7.4795- 3
4.0000- 1 ~ 7.0000- 1	5.4748+ 0	5.4647+ 0		9.9587- 3							0.0000+ 0		7.4795- 3
7.0000- 1 ~ 1.0000+ 0	5.4725+ 0	5.4646+ 0		7.9694- 3							0.0000+ 0		7.4795- 3
1.0000+ 0 ~ 2.0000+ 0	5.4705+ 0	5.4644+ 0		6.0880- 3							0.0000+ 0		7.4795- 3
2.0000+ 0 ~ 4.0000+ 0	5.4683+ 0	5.4640+ 0		4.2808- 3							0.0000+ 0		7.4796- 3
4.0000+ 0 ~ 7.0000+ 0	5.4666+ 0	5.4634+ 0		3.1429- 3							0.0000+ 0		7.4797- 3
7.0000+ 0 ~ 1.0000+ 1	5.4652+ 0	5.4627+ 0		2.5074- 3							0.0000+ 0		7.4798- 3
1.0000+ 1 ~ 2.0000+ 1	5.4630+ 0	5.4611+ 0		1.9029- 3							0.0000+ 0		7.4803- 3
2.0000+ 1 ~ 4.0000+ 1	5.4587+ 0	5.4574+ 0		1.3357- 3							0.0000+ 0		7.4814- 3
4.0000+ 1 ~ 7.0000+ 1	5.4522+ 0	5.4513+ 0		9.7007- 4							0.0000+ 0		7.4845- 3
7.0000+ 1 ~ 1.0000+ 2	5.4447+ 0	5.4440+ 0		7.8361- 4							0.0000+ 0		7.4869- 3
1.0000+ 2 ~ 2.0000+ 2	5.4292+ 0	5.4288+ 0		5.8498- 4							0.0000+ 0		7.4975- 3
2.0000+ 2 ~ 4.0000+ 2	5.3947+ 0	5.3944+ 0		3.7563- 4							0.0000+ 0		7.5221- 3
4.0000+ 2 ~ 7.0000+ 2	5.3405+ 0	5.3403+ 0		2.5343- 4							0.0000+ 0		7.5757- 3
7.0000+ 2 ~ 1.0000+ 3	5.2783+ 0	5.2781+ 0		1.8828- 4							0.0000+ 0		7.6415- 3
1.0000+ 3 ~ 2.0000+ 3	5.1402+ 0	5.1401+ 0		1.4041- 4							0.0000+ 0		7.8248- 3
2.0000+ 3 ~ 4.0000+ 3	9.7529+ 0	9.7155+ 0		3.7417- 2							0.0000+ 0		8.3456- 3
4.0000+ 3 ~ 7.0000+ 3	5.7168+ 0	5.6889+ 0		5.1753- 2							0.0000+ 0		9.4363- 3
7.0000+ 3 ~ 1.0000+ 4	8.7432+ 0	8.6377+ 0		1.0550- 1							0.0000+ 0		1.0875- 2
1.0000+ 4 ~ 2.0000+ 4	1.1737+ 1	1.1707+ 1		3.0457- 2							0.0000+ 0		1.4724- 2
2.0000+ 4 ~ 4.0000+ 4	8.2121+ 0	8.1981+ 0		1.4042- 2							0.0000+ 0		2.5360- 2
4.0000+ 4 ~ 7.0000+ 4	9.7819+ 0	9.7807+ 0		1.2143- 2							0.0000+ 0		4.5578- 2
7.0000+ 4 ~ 1.0000+ 5	8.0717+ 0	8.0610+ 0		1.0709- 2							0.0000+ 0		7.0038- 2
1.0000+ 5 ~ 2.0000+ 5	8.7275+ 0	8.7188+ 0		1.0701- 2							0.0000+ 0		1.2345- 1
2.0000+ 5 ~ 4.0000+ 5	8.8867+ 0	8.8800+ 0		6.7363- 3							1.0316-18		2.2082- 1
4.0000+ 5 ~ 7.0000+ 5	9.0472+ 0	9.0409+ 0		6.3108- 3							5.0675-18		3.1626- 1
7.0000+ 5 ~ 1.0000+ 6	7.0021+ 0	6.9953+ 0		6.8599- 3							3.4338-15		3.8656- 1
1.0000+ 6 ~ 2.0000+ 6	5.4702+ 0	5.4409+ 0	1.8473- 2	1.0530- 2				1.1090-20			1.0998-12		3.6178- 1
2.0000+ 6 ~ 4.0000+ 6	3.8720+ 0	3.0852+ 0	8.7746- 1	5.8468- 7				8.8468- 7			3.2675- 8		3.7447- 1
4.0000+ 6 ~ 7.0000+ 6	3.8229+ 0	2.3652+ 0	1.5543+ 0	2.2871- 3				1.1189- 3		3.5532-20	3.6522- 5		5.7763- 1
7.0000+ 6 ~ 1.0300+ 7	4.4223+ 0	2.8915+ 0	1.5199+ 0	6.4838- 4				9.3952- 3	1.0475- 9	2.2785- 7	7.2952- 4	5.1238-14	7.6727- 1
1.0000+ 7 ~ 2.0000+ 7	4.1229+ 0	2.5093+ 0	8.8531- 1	9.9005- 4		8.8455- 1		3.0062- 2	8.2690- 2	4.8104- 3	1.0857- 2	2.5601- 3	8.2158- 1

MATERIAL =3402

CROSS SECTION

^{91}Zr (3402)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.4446+ 1	1.0586+ 1		3.8601+ 0							0.0000+ 0		7.3972- 3
1.0000- 2 ~ 2.0000- 2	1.2238+ 1	1.0586+ 1		1.6495+ 0							0.0000+ 0		7.3972- 3
2.0000- 2 ~ 4.0000- 2	1.1765+ 1	1.0586+ 1		1.1188+ 0							0.0000+ 0		7.3972- 3
4.0000- 2 ~ 7.0000- 2	1.1442+ 1	1.0586+ 1		8.5830- 1							0.0000+ 0		7.3972- 3
7.0000- 2 ~ 1.0000- 1	1.1271+ 1	1.0586+ 1		6.6584- 1							0.0000+ 0		7.3972- 3
1.0000- 1 ~ 2.0000- 1	1.1108+ 1	1.0584+ 1		5.2202- 1							0.0000+ 0		7.3972- 3
2.0000- 1 ~ 4.0000- 1	1.0960+ 1	1.0582+ 1		3.6652- 1							0.0000+ 0		7.3972- 3
4.0000- 1 ~ 7.0000- 1	1.0849+ 1	1.0578+ 1		2.7075- 1							0.0000+ 0		7.3972- 3
7.0000- 1 ~ 1.0000+ 0	1.0790+ 1	1.0574+ 1		2.1626- 1							0.0000+ 0		7.3972- 3
1.0000+ 0 ~ 2.0000+ 0	1.0729+ 1	1.0586+ 1		1.6451- 1							0.0000+ 0		7.3972- 3
2.0000+ 0 ~ 4.0000+ 0	1.0660+ 1	1.0545+ 1		1.1504- 1							0.0000+ 0		7.3973- 3
4.0000+ 0 ~ 7.0000+ 0	1.0595+ 1	1.0508+ 1		8.4982- 2							0.0000+ 0		7.3975- 3
7.0000+ 0 ~ 1.0000+ 1	1.0534+ 1	1.0468+ 1		6.7878- 2							0.0000+ 0		7.3978- 3
1.0000+ 1 ~ 2.0000+ 1	1.0428+ 1	1.0377+ 1		5.0881- 2							0.0000+ 0		7.3983- 3
2.0000+ 1 ~ 4.0000+ 1	1.0214+ 1	1.0179+ 1		3.5443- 2							0.0000+ 0		7.3997- 3
4.0000+ 1 ~ 7.0000+ 1	9.8912+ 0	9.8855+ 0		2.5723- 2							0.0000+ 0		7.4035- 3
7.0000+ 1 ~ 1.0000+ 2	9.5325+ 0	9.5115+ 0		2.1019- 2							0.0000+ 0		7.4066- 3
1.0000+ 2 ~ 2.0000+ 2	10.0009 0	8.8068+ 0		1.1938+ 0							0.0000+ 0		7.4201- 3
2.0000+ 2 ~ 4.0000+ 2	3.4884+ 1	2.9239+ 1		5.7444+ 0							0.0000+ 0		7.4508- 3
4.0000+ 2 ~ 7.0000+ 2	1.7262+ 1	1.6930+ 1		1.3325+ 0							0.0000+ 0		7.5300- 3
7.0000+ 2 ~ 1.0000+ 3	7.9787+ 0	7.7028+ 0		2.7578- 1							0.0000+ 0		7.5950- 3
1.0000+ 3 ~ 2.0000+ 3	1.8011+ 1	1.6499+ 1		8.1709- 1							0.0000+ 0		7.8018- 3
2.0000+ 3 ~ 4.0000+ 3	1.5124+ 1	1.5828+ 1		4.9561- 1							0.0000+ 0		8.3858- 3
4.0000+ 3 ~ 7.0000+ 3	9.8254+ 0	9.8942+ 0		2.3216- 1							0.0000+ 0		9.5094- 3
7.0000+ 3 ~ 1.0000+ 4	9.9527+ 0	9.7221+ 0		2.3058- 1							0.0000+ 0		1.0996- 2
1.0000+ 4 ~ 2.0000+ 4	8.8714+ 0	8.6626+ 0		1.1888- 1							0.0000+ 0		1.4917- 2
2.0000+ 4 ~ 4.0000+ 4	8.8044+ 0	8.5369+ 0		8.7514- 2							0.0000+ 0		2.5865- 2
4.0000+ 4 ~ 7.0000+ 4	8.7811+ 0	8.7428+ 0		3.8542- 2							0.0000+ 0		4.8002- 2
7.0000+ 4 ~ 1.0000+ 5	9.0383+ 0	8.0113+ 0		2.8019- 2							0.0000+ 0		7.0555- 2
1.0000+ 5 ~ 2.0000+ 5	9.2543+ 0	8.2339+ 0		2.0863- 2							2.8509- 7		1.2412- 1
2.0000+ 5 ~ 4.0000+ 5	8.9885+ 0	8.8723+ 0		1.6216- 2							1.1403- 6		2.2155- 1
4.0000+ 5 ~ 7.0000+ 5	8.0487+ 0	8.0348+ 0		1.3921- 2							2.7292- 6		3.1700- 1
7.0000+ 5 ~ 1.0000+ 6	7.0038+ 0	8.8901+ 0		1.3627- 2							5.8890- 6		3.6730- 1
1.0000+ 6 ~ 2.0000+ 6	5.4718+ 0	5.2513+ 0	2.0329- 1	1.6400- 2				3.1371-12			2.0422- 5		3.7651- 1
2.0000+ 6 ~ 4.0000+ 6	3.9888+ 0	2.8889+ 0	1.3092+ 0	6.8013- 3				8.2281- 6			1.6001- 4		4.3789- 1
4.0000+ 6 ~ 7.0000+ 6	3.8277+ 0	2.2597+ 0	1.6551+ 0	1.2890- 3				7.1869- 4			8.1884- 4	6.4733-19	6.0200- 1
7.0000+ 6 ~ 1.0000+ 7	4.4212+ 0	2.9001+ 0	9.5824- 1	7.6940- 4		5.6472- 1		4.1868- 3	9.8613-14	1.1508- 7	1.9195- 3	1.4130-11	7.6748- 1
1.0000+ 7 ~ 2.0000+ 7	4.1231+ 0	2.8626+ 0	1.3696- 1	1.0434- 3		1.2887+ 0	1.1311- 4	2.4337- 2	1.3279- 2	7.2318- 3	7.2891- 3	2.7395- 3	8.2159- 1

MATERIAL =3403

CROSS SECTION

^{92}Zr (3403)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.6428+ 0	4.8884+ 0		8.7536- 1							0.0000+ 0		7.3167- 3
1.0000- 2 ~ 2.0000- 2	5.1571+ 0	4.8884+ 0		2.6771- 1							0.0000+ 0		7.3167- 3
2.0000- 2 ~ 4.0000- 2	5.0728+ 0	4.8884+ 0		2.0366- 1							0.0000+ 0		7.3167- 3
4.0000- 2 ~ 7.0000- 2	5.0180+ 0	4.8883+ 0		1.4987- 1							0.0000+ 0		7.3167- 3
7.0000- 2 ~ 1.0000- 1	4.9888+ 0	4.8883+ 0		1.1848- 1							0.0000+ 0		7.3167- 3
1.0000- 1 ~ 2.0000- 1	4.9600+ 0	4.8897+ 0		9.0788- 2							0.0000+ 0		7.3167- 3
2.0000- 1 ~ 4.0000- 1	4.8331+ 0	4.8880+ 0		8.4034- 2							0.0000+ 0		7.3167- 3
4.0000- 1 ~ 7.0000- 1	4.9157+ 0	4.8887+ 0		4.6933- 2							0.0000+ 0		7.3167- 3
7.0000- 1 ~ 1.0000+ 0	4.9058+ 0	4.8884+ 0		3.7418- 2							0.0000+ 0		7.3167- 3
1.0000+ 0 ~ 2.0000+ 0	4.8958+ 0	4.8878+ 0		2.8203- 2							0.0000+ 0		7.3167- 3
2.0000+ 0 ~ 4.0000+ 0	4.8853+ 0	4.8853+ 0		1.9585- 2							0.0000+ 0		7.3168- 3
4.0000+ 0 ~ 7.0000+ 0	4.8788+ 0	4.8829+ 0		1.3924- 2							0.0000+ 0		7.3170- 3
7.0000+ 0 ~ 1.0000+ 1	4.8703+ 0	4.8595+ 0		1.0758- 2							0.0000+ 0		7.3171- 3
1.0000+ 1 ~ 2.0000+ 1	4.8605+ 0	4.8528+ 0		7.8395- 3							0.0000+ 0		7.3177- 3
2.0000+ 1 ~ 4.0000+ 1	4.8438+ 0	4.8391+ 0		4.7592- 3							0.0000+ 0		7.3191- 3
4.0000+ 1 ~ 7.0000+ 1	4.8230+ 0	4.8201+ 0		2.9920- 3							0.0000+ 0		7.3228- 3
7.0000+ 1 ~ 1.0000+ 2	4.8028+ 0	4.8007+ 0		2.1382- 3							0.0000+ 0		7.3255- 3
1.0000+ 2 ~ 2.0000+ 2	4.7870+ 0	4.7865+ 0		1.4898- 3							0.0000+ 0		7.3383- 3
2.0000+ 2 ~ 4.0000+ 2	4.6938+ 0	4.6927+ 0		1.0159- 3							0.0000+ 0		7.3672- 3
4.0000+ 2 ~ 7.0000+ 2	4.5884+ 0	4.5876+ 0		8.5080- 4							0.0000+ 0		7.4411- 3
7.0000+ 2 ~ 1.0000+ 3	4.3923+ 0	4.3915+ 0		8.5648- 4							0.0000+ 0		7.5019- 3
1.0000+ 3 ~ 2.0000+ 3	3.7278+ 0	3.7258+ 0		1.9508- 3							0.0000+ 0		7.6968- 3
2.0000+ 3 ~ 4.0000+ 3	2.4358+ 1	2.4178+ 1		1.7842- 1							0.0000+ 0		8.2360- 3
4.0000+ 3 ~ 7.0000+ 3	2.4584+ 1	2.4112+ 1		4.4197- 1							0.0000+ 0		9.3493- 3
7.0000+ 3 ~ 1.0000+ 4	1.2725+ 1	1.2668+ 1		6.7147- 2							0.0000+ 0		1.0810- 2
1.0000+ 4 ~ 2.0000+ 4	8.1936+ 0	8.1468+ 0		4.5021- 2							0.0000+ 0		1.4698- 2
2.0000+ 4 ~ 4.0000+ 4	9.8477+ 0	9.8039+ 0		4.4088- 2							0.0000+ 0		2.5407- 2
4.0000+ 4 ~ 7.0000+ 4	1.0819+ 1	1.0794+ 1		2.4539- 2							0.0000+ 0		4.5722- 2
7.0000+ 4 ~ 1.0000+ 5	8.9337+ 0	8.9028+ 0		3.0929- 2							0.0000+ 0		7.0278- 2
1.0000+ 5 ~ 2.0000+ 5	9.2549+ 0	9.2271+ 0		2.7774- 2							8.8402-12		1.2390- 1
2.0000+ 5 ~ 4.0000+ 5	8.9883+ 0	8.9802+ 0		2.0138- 2							3.5381-11		2.2156- 1
4.0000+ 5 ~ 7.0000+ 5	8.0484+ 0	8.0177+ 0		3.0628- 2							1.1227-10		3.1740- 1
7.0000+ 5 ~ 1.0000+ 6	7.0038+ 0	8.9452+ 0	2.5280- 2	3.2904- 2							8.7037-10		3.6959- 1
1.0000+ 6 ~ 2.0000+ 6	5.4717+ 0	4.8248+ 0	8.2360- 1	1.9284- 2							3.6879- 6		4.2635- 1
2.0000+ 6 ~ 4.0000+ 6	3.9805+ 0	2.5032+ 0	1.4840+ 0	1.1814- 2				5.4638-14			8.6687- 6	5.4629-19	4.5802- 1
4.0000+ 6 ~ 7.0000+ 6	3.9274+ 0	2.2672+ 0	1.8549+ 0	4.6687- 3				3.8656- 5			4.2738- 4	2.3177-11	6.0239- 1
7.0000+ 6 ~ 1.0000+ 7	4.4213+ 0	2.8930+ 0	1.4073+ 0	1.1530- 3		1.1573- 1		1.3634- 3		1.4031- 9	2.2167- 3	4.4123- 6	7.6741- 1
1.0000+ 7 ~ 2.0000+ 7	4.1228+ 0	2.8352+ 0	2.0112- 1	9.5787- 4		1.1434+ 0	9.7346- 2	1.9929- 2	6.3498- 3	5.4982- 3	7.7910- 3	3.7202- 3	8.2157- 1

MATERIAL =3405 CROSS SECTION ^{94}Zr (3405)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.3081+ 0	6.1520+ 0		1.5413- 1							0.0000+ 0		7.1608- 3
1.0000- 2 ~ 2.0000- 2	6.2178+ 0	6.1520+ 0		6.5865- 2							0.0000+ 0		7.1608- 3
2.0000- 2 ~ 4.0000- 2	6.1966+ 0	6.1520+ 0		4.6840- 2							0.0000+ 0		7.1608- 3
4.0000- 2 ~ 7.0000- 2	6.1862+ 0	6.1520+ 0		3.4196- 2							0.0000+ 0		7.1608- 3
7.0000- 2 ~ 1.0000- 1	6.1793+ 0	6.1519+ 0		2.7357- 2							0.0000+ 0		7.1608- 3
1.0000- 1 ~ 2.0000- 1	6.1728+ 0	6.1519+ 0		2.0837- 2							0.0000+ 0		7.1608- 3
2.0000- 1 ~ 4.0000- 1	6.1666+ 0	6.1519+ 0		1.4714- 2							0.0000+ 0		7.1608- 3
4.0000- 1 ~ 7.0000- 1	6.1626+ 0	6.1518+ 0		1.0818- 2							0.0000+ 0		7.1608- 3
7.0000- 1 ~ 1.0000+ 0	6.1603+ 0	6.1518+ 0		8.8490- 3							0.0000+ 0		7.1608- 3
1.0000+ 0 ~ 2.0000+ 0	6.1580+ 0	6.1514+ 0		6.6764- 3							0.0000+ 0		7.1608- 3
2.0000+ 0 ~ 4.0000+ 0	6.1554+ 0	6.1508+ 0		4.5424- 3							0.0000+ 0		7.1609- 3
4.0000+ 0 ~ 7.0000+ 0	6.1532+ 0	6.1498+ 0		3.3989- 3							0.0000+ 0		7.1610- 3
7.0000+ 0 ~ 1.0000+ 1	6.1513+ 0	6.1488+ 0		2.7145- 3							0.0000+ 0		7.1612- 3
1.0000+ 1 ~ 2.0000+ 1	6.1461+ 0	6.1461+ 0		2.0461- 3							0.0000+ 0		7.1617- 3
2.0000+ 1 ~ 4.0000+ 1	6.1416+ 0	6.1402+ 0		1.4242- 3							0.0000+ 0		7.1630- 3
4.0000+ 1 ~ 7.0000+ 1	6.1317+ 0	6.1307+ 0		1.0182- 3							0.0000+ 0		7.1664- 3
7.0000+ 1 ~ 1.0000+ 2	6.1203+ 0	6.1198+ 0		7.8735- 4							0.0000+ 0		7.1693- 3
1.0000+ 2 ~ 2.0000+ 2	6.0972+ 0	6.0968+ 0		5.6294- 4							0.0000+ 0		7.1816- 3
2.0000+ 2 ~ 4.0000+ 2	6.0465+ 0	6.0461+ 0		3.4696- 4							0.0000+ 0		7.2097- 3
4.0000+ 2 ~ 7.0000+ 2	5.9770+ 0	5.9768+ 0		2.1748- 4							0.0000+ 0		7.2618- 3
7.0000+ 2 ~ 1.0000+ 3	5.8993+ 0	5.8992+ 0		1.5894- 4							0.0000+ 0		7.3411- 3
1.0000+ 3 ~ 2.0000+ 3	5.8819+ 0	5.8817+ 0		2.0936- 4							0.0000+ 0		7.5339- 3
2.0000+ 3 ~ 4.0000+ 3	6.8102+ 0	6.7280+ 0		8.2207- 2							0.0000+ 0		8.0725- 3
4.0000+ 3 ~ 7.0000+ 3	9.0750+ 0	8.9468+ 0		1.2841- 1							0.0000+ 0		9.1880- 3
7.0000+ 3 ~ 1.0000+ 4	1.2158+ 1	1.2112+ 1		4.4832- 2							0.0000+ 0		1.0655- 2
1.0000+ 4 ~ 2.0000+ 4	1.1852+ 1	1.1788+ 1		6.3848- 2							0.0000+ 0		1.4551- 2
2.0000+ 4 ~ 4.0000+ 4	1.1113+ 1	1.1092+ 1		2.1280- 2							0.0000+ 0		2.5313- 2
4.0000+ 4 ~ 7.0000+ 4	9.9776+ 0	9.9571+ 0		2.0454- 2							0.0000+ 0		4.5895- 2
7.0000+ 4 ~ 1.0000+ 5	9.0463+ 0	9.0262+ 0		2.0131- 2							0.0000+ 0		7.0312- 2
1.0000+ 5 ~ 2.0000+ 5	9.2568+ 0	9.2385+ 0		1.8272- 2							5.2728-15		1.2400- 1
2.0000+ 5 ~ 4.0000+ 5	8.9657+ 0	8.9710+ 0		1.8712- 2							2.5091-15		2.2161- 1
4.0000+ 5 ~ 7.0000+ 5	8.0498+ 0	8.0298+ 0		1.9987- 2							8.1795-15		3.1721- 1
7.0000+ 5 ~ 1.0000+ 6	7.0061+ 0	6.9423+ 0	4.0586- 2	2.1338- 2							5.2671-14		3.7006- 1
1.0000+ 6 ~ 2.0000+ 6	5.4732+ 0	4.5803+ 0	8.7680- 1	1.2081- 2							9.5239-12		4.3318- 1
2.0000+ 6 ~ 4.0000+ 6	3.9884+ 0	2.4825+ 0	1.4952+ 0	7.4419- 3							7.1457- 8		4.6363- 1
4.0000+ 6 ~ 7.0000+ 6	3.5268+ 0	2.2811+ 0	1.8628+ 0	2.6849- 3				1.2774- 7			2.6390- 5	1.5892-13	6.0376- 1
7.0000+ 6 ~ 1.0000+ 7	4.4197+ 0	2.9018+ 0	1.2547+ 0	5.1841- 4		2.6178- 1		9.4238- 5		1.8643-13	3.0139- 4	3.5899- 8	7.6743- 1
1.0000+ 7 ~ 2.0000+ 7	4.1231+ 0	2.6502+ 0	1.5409- 1	9.0981- 4		1.1100+ 0	1.8808- 1	1.1582- 2	5.8726- 4	1.2825- 3	4.3931- 3	1.2640- 3	8.2157- 1

MATERIAL =3407 CROSS SECTION ^{96}Zr (3407)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.2016+ 0	8.1310+ 0		7.0522- 2							0.0000+ 0		7.0113- 3
1.0000- 2 ~ 2.0000- 2	8.1611+ 0	8.1310+ 0		3.0145- 2							0.0000+ 0		7.0113- 3
2.0000- 2 ~ 4.0000- 2	8.1524+ 0	8.1310+ 0		2.1382- 2							0.0000+ 0		7.0113- 3
4.0000- 2 ~ 7.0000- 2	8.1487+ 0	8.1310+ 0		1.5885- 2							0.0000+ 0		7.0113- 3
7.0000- 2 ~ 1.0000- 1	8.1436+ 0	8.1310+ 0		1.2547- 2							0.0000+ 0		7.0113- 3
1.0000- 1 ~ 2.0000- 1	8.1408+ 0	8.1310+ 0		9.6713- 3							0.0000+ 0		7.0113- 3
2.0000- 1 ~ 4.0000- 1	8.1377+ 0	8.1310+ 0		6.7607- 3							0.0000+ 0		7.0113- 3
4.0000- 1 ~ 7.0000- 1	8.1359+ 0	8.1309+ 0		5.0156- 3							0.0000+ 0		7.0113- 3
7.0000- 1 ~ 1.0000+ 0	8.1349+ 0	8.1308+ 0		4.0363- 3							0.0000+ 0		7.0113- 3
1.0000+ 0 ~ 2.0000+ 0	8.1338+ 0	8.1307+ 0		3.1164- 3							0.0000+ 0		7.0113- 3
2.0000+ 0 ~ 4.0000+ 0	8.1327+ 0	8.1305+ 0		2.2608- 3							0.0000+ 0		7.0114- 3
4.0000+ 0 ~ 7.0000+ 0	8.1318+ 0	8.1300+ 0		1.7726- 3							0.0000+ 0		7.0115- 3
7.0000+ 0 ~ 1.0000+ 1	8.1309+ 0	8.1294+ 0		1.5168- 3							0.0000+ 0		7.0118- 3
1.0000+ 1 ~ 2.0000+ 1	8.1295+ 0	8.1282+ 0		1.3187- 3							0.0000+ 0		7.0121- 3
2.0000+ 1 ~ 4.0000+ 1	8.1267+ 0	8.1255+ 0		1.2554- 3							0.0000+ 0		7.0133- 3
4.0000+ 1 ~ 7.0000+ 1	8.1224+ 0	8.1209+ 0		1.4571- 3							0.0000+ 0		7.0165- 3
7.0000+ 1 ~ 1.0000+ 2	8.1178+ 0	8.1156+ 0		1.9548- 3							0.0000+ 0		7.0191- 3
1.0000+ 2 ~ 2.0000+ 2	8.1106+ 0	8.1054+ 0		5.1858- 3							0.0000+ 0		7.0301- 3
2.0000+ 2 ~ 4.0000+ 2	2.1305+ 1	1.2765+ 1		8.5427- 3							0.0000+ 0		7.0558- 3
4.0000+ 2 ~ 7.0000+ 2	8.0471+ 0	8.0425+ 0		4.5216- 3							0.0000+ 0		7.1243- 3
7.0000+ 2 ~ 1.0000+ 3	8.0634+ 0	5.8913+ 0		8.2050- 2							0.0000+ 0		7.1607- 3
1.0000+ 3 ~ 2.0000+ 3	5.8653+ 0	5.8648+ 0		3.4859- 4							0.0000+ 0		7.3708- 3
2.0000+ 3 ~ 4.0000+ 3	7.7409+ 0	7.7148+ 0		2.6095- 2							0.0000+ 0		7.9082- 3
4.0000+ 3 ~ 7.0000+ 3	1.0923+ 1	1.0790+ 1		1.3350- 1							0.0000+ 0		9.0271- 3
7.0000+ 3 ~ 1.0000+ 4	7.8602+ 0	7.8512+ 0		8.9858- 2							0.0000+ 0		1.0498- 2
1.0000+ 4 ~ 2.0000+ 4	8.6023+ 0	8.5781+ 0		2.4228- 2							0.0000+ 0		1.4416- 2
2.0000+ 4 ~ 4.0000+ 4	1.1363+ 1	1.1351+ 1		1.2124- 2							0.0000+ 0		2.5200- 2
4.0000+ 4 ~ 7.0000+ 4	9.3728+ 0	9.3892+ 0		3.3490- 3							0.0000+ 0		4.[illegible]26- 2
7.0000+ 4 ~ 1.0000+ 5	1.5871+ 1	1.5668+ 1		3.0857- 3							0.0000+ 0		7.0[illegible]- 2
1.0000+ 5 ~ 2.0000+ 5	9.2588+ 0	9.2497+ 0		7.1329- 3							3.4828-21		1.2399- 1
2.0000+ 5 ~ 4.0000+ 5	8.9694+ 0	8.9825+ 0		8.8438- 3							1.3931-20		2.2149- 1
4.0000+ 5 ~ 7.0000+ 5	8.0492+ 0	8.0424+ 0		6.8223- 3							4.8059-20		3.1883- 1
7.0000+ 5 ~ 1.0000+ 6	7.0048+ 0	6.9989+ 0		7.8945- 3							3.6719-19		3.6696- 1
1.0000+ 6 ~ 2.0000+ 6	5.4731+ 0	5.3408+ 0	1.1948- 1	1.1774- 2							1.2470-18		3.7019- 1
2.0000+ 6 ~ 4.0000+ 6	3.8867+ 0	2.7877+ 0	1.1874+ 0	5.2554- 3							1.4262-11		4.1597- 1
4.0000+ 6 ~ 7.0000+ 6	3.9262+ 0	2.2837+ 0	1.8410+ 0	1.1300- 3				3.7575-20			4.3024- 7	8.8148-18	5.9802- 1
7.0000+ 6 ~ 1.0000+ 7	4.4195+ 0	2.8488+ 0	1.1471+ 0	1.8095- 4		4.2075- 1		9.1351- 6			2.3560- 5	4.4299-11	7.5747- 1
1.0000+ 7 ~ 2.0000+ 7	4.1231+ 0	2.5679+ 0	1.5006- 1	8.2919- 4		1.1437+ 0	2.4602- 1	7.5568- 3	1.0757- 3	4.8991- 4	3.7877- 3	1.0437- 3	8.2156- 1

MATERIAL =3411 CROSS SECTION ^{93}Nb (3411)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	9.8679+ 0	6.3229+ 0		3.5451+ 0				0.0000+ 0			0.0000+ 0		7.0713- 3
1.0000- 2 ~ 2.0000- 2	7.8480+ 0	6.3229+ 0		1.6252+ 0				0.0000+ 0			0.0000+ 0		7.0713- 3
2.0000- 2 ~ 4.0000- 2	7.4012+ 0	6.3227+ 0		1.0785+ 0				0.0000+ 0			0.0000+ 0		7.0713- 3
4.0000- 2 ~ 7.0000- 2	7.1128+ 0	6.3225+ 0		7.8031- 1				0.0000+ 0			0.0000+ 0		7.0713- 3
7.0000- 2 ~ 1.0000- 1	6.9643+ 0	6.3223+ 0		6.3200- 1				0.0000+ 0			0.0000+ 0		7.0713- 3
1.0000- 1 ~ 2.0000- 1	6.8025+ 0	6.3218+ 0		4.8096- 1				0.0000+ 0			0.0000+ 0		7.0713- 3
2.0000- 1 ~ 4.0000- 1	6.6687+ 0	6.3209+ 0		3.3882- 1				0.0000+ 0			0.0000+ 0		7.0713- 3
4.0000- 1 ~ 7.0000- 1	6.5673+ 0	6.3191+ 0		2.4819- 1				0.0000+ 0			0.0000+ 0		7.0713- 3
7.0000- 1 ~ 1.0000+ 0	6.5145+ 0	6.3171+ 0		1.9744- 1				0.0000+ 0			0.0000+ 0		7.0713- 3
1.0000+ 0 ~ 2.0000+ 0	6.4815+ 0	6.3128+ 0		1.4877- 1				0.0000+ 0			0.0000+ 0		7.0711- 3
2.0000+ 0 ~ 4.0000+ 0	6.4057+ 0	6.3029+ 0		1.0277- 1				0.0000+ 0			0.0000+ 0		7.0704- 3
4.0000+ 0 ~ 7.0000+ 0	6.3696+ 0	6.2870+ 0		7.2629- 2				0.0000+ 0			0.0000+ 0		7.0693- 3
7.0000+ 0 ~ 1.0000+ 1	6.3248+ 0	6.2688+ 0		5.5886- 2				0.0000+ 0			0.0000+ 0		7.0679- 3
1.0000+ 1 ~ 2.0000+ 1	6.2713+ 0	6.2324+ 0		3.8941- 2				0.0000+ 0			0.0000+ 0		7.0543- 3
2.0000+ 1 ~ 4.0000+ 1	6.4983+ 0	6.1601+ 0		3.3624- 1				0.0000+ 0			0.0000+ 0		7.0553- 3
4.0000+ 1 ~ 7.0000+ 1	6.2150+ 0	6.0621+ 0		1.5297- 1				0.0000+ 0			0.0000+ 0		7.0404- 3
7.0000+ 1 ~ 1.0000+ 2	6.2110+ 0	5.9578+ 0		2.5336- 1				0.0000+ 0			0.0000+ 0		7.0226- 3
1.0000+ 2 ~ 2.0000+ 2	1.0867+ 1	6.6057+ 0		4.2816+ 0				0.0000+ 0			0.0000+ 0		6.9723- 3
2.0000+ 2 ~ 4.0000+ 2	9.4872+ 0	6.9870+ 0		2.5002+ 0				0.0000+ 0			0.0000+ 0		6.8481- 3
4.0000+ 2 ~ 7.0000+ 2	6.1283+ 0	6.7129+ 0		4.1337- 1				0.0000+ 0			0.0000+ 0		6.6413- 3
7.0000+ 2 ~ 1.0000+ 3	1.0812+ 1	6.7206+ 0		1.7916+ 0				0.0000+ 0			0.0000+ 0		6.3931- 3
1.0000+ 3 ~ 2.0000+ 3	1.1171+ 1	9.2522+ 0		1.9188+ 0				2.7198-13			0.0000+ 0		5.8401- 3
2.0000+ 3 ~ 4.0000+ 3	1.1383+ 1	1.0010+ 1		1.3527+ 0				1.1481-12			0.0000+ 0		4.6084- 3
4.0000+ 3 ~ 7.0000+ 3	1.1641+ 1	1.0861+ 1		8.8023- 1				3.0500-12			0.0000+ 0		2.9587- 3
7.0000+ 3 ~ 1.0000+ 4	8.4870+ 0	7.8089+ 0		5.8005- 1				5.4045-12			0.0000+ 0		1.0451- 3
1.0000+ 4 ~ 2.0000+ 4	8.3907+ 0	7.9370+ 0		4.5373- 1				8.4725-12			0.0000+ 0		-8.849- 4
2.0000+ 4 ~ 4.0000+ 4	9.5643+ 0	9.2784+ 0	1.7335- 5	2.7582- 1				9.2620-12			0.0000+ 0		-2.862- 3
4.0000+ 4 ~ 7.0000+ 4	9.1864+ 0	9.0116+ 0	1.8288- 4	1.7368- 1				3.5471-11			3.0099- 8		2.6133- 3
7.0000+ 4 ~ 1.0000+ 5	9.4965+ 0	9.3729+ 0	4.9874- 4	1.2304- 1				9.7207-11			1.5802- 7		1.8690- 2
1.0000+ 5 ~ 2.0000+ 5	9.6552+ 0	9.5668+ 0	1.7704- 3	8.5571- 2				2.6480-10			2.7981- 7		5.8033- 2
2.0000+ 5 ~ 4.0000+ 5	9.3458+ 0	9.2780+ 0	8.4916- 3	8.3194- 2				1.1963- 9			6.9283- 7		1.8152- 1
4.0000+ 5 ~ 7.0000+ 5	9.2016+ 0	8.1300+ 0	1.8844- 2	5.8514- 2				1.2388- 7			1.9864- 6		3.0388- 1
7.0000+ 5 ~ 1.0000+ 6	7.1313+ 0	6.7848+ 0	2.9821- 1	5.2410- 7				5.2410- 7			3.3053- 5		3.8011- 1
1.0000+ 6 ~ 2.0000+ 6	5.8603+ 0	4.2303+ 0	1.4289+ 0	2.1781- 2				1.1852- 5			9.6723- 6		4.5563- 1
2.0000+ 6 ~ 4.0000+ 6	4.1217+ 0	2.4413+ 0	1.7437+ 0	8.2779- 3				2.1557- 4			1.0202- 4	0.0000+ 0	4.6048- 1
4.0000+ 6 ~ 7.0000+ 6	3.9348+ 0	2.2594+ 0	1.6714+ 0	1.3716- 3				1.8404- 3	1.3874-12	7.3256- 9	7.7552- 4	2.2626- 8	5.6714- 1
7.0000+ 6 ~ 1.0000+ 7	4.2894+ 0	2.5770+ 0	1.6556+ 0	4.8756- 4		4.2832- 2		9.3670- 3	2.1837- 4	1.3821- 4	3.1605- 3	1.1174- 4	7.5080- 1
1.0000+ 7 ~ 2.0000+ 7	3.8850+ 0	2.1855+ 0	4.4549- 1	9.7519- 4		1.1430+ 0	3.1938- 2	3.4434- 2	2.5209- 2	7.1482- 3	5.8057- 3	4.7848- 3	8.5823- 1

MATERIAL =3420 CROSS SECTION Mo (3420)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.3462+ 1	6.4837+ 0		7.8984+ 0				0.0000+ 0			0.0000+ 0		6.8415- 3
1.0000- 2 ~ 2.0000- 2	8.8889+ 0	6.4836+ 0		3.4184+ 0				0.0000+ 0			0.0000+ 0		6.8415- 3
2.0000- 2 ~ 4.0000- 2	7.8972+ 0	6.4832+ 0		2.4140+ 0				0.0000+ 0			0.0000+ 0		6.8415- 3
4.0000- 2 ~ 7.0000- 2	7.2591+ 0	6.4828+ 0		1.7723+ 0				0.0000+ 0			0.0000+ 0		6.8415- 3
7.0000- 2 ~ 1.0000- 1	6.8990+ 0	6.4823+ 0		1.4167+ 0				0.0000+ 0			0.0000+ 0		6.8415- 3
1.0000- 1 ~ 2.0000- 1	6.5647+ 0	6.4812+ 0		1.0734+ 0				0.0000+ 0			0.0000+ 0		6.8415- 3
2.0000- 1 ~ 4.0000- 1	6.2338+ 0	6.4786+ 0		7.6471- 1				0.0000+ 0			0.0000+ 0		6.8416- 3
4.0000- 1 ~ 7.0000- 1	6.0296+ 0	6.4743+ 0		5.4622- 1				0.0000+ 0			0.0000+ 0		6.8415- 3
7.0000- 1 ~ 1.0000+ 0	5.9036+ 0	6.4693+ 0		4.3422- 1				0.0000+ 0			0.0000+ 0		6.8416- 3
1.0000+ 0 ~ 2.0000+ 0	5.7823+ 0	5.4587+ 0		3.2359- 1				0.0000+ 0			0.0000+ 0		6.8416- 3
2.0000+ 0 ~ 4.0000+ 0	5.6888+ 0	5.4358+ 0		2.2092- 1				0.0000+ 0			0.0000+ 0		6.8415- 3
4.0000+ 0 ~ 7.0000+ 0	5.5570+ 0	5.3998+ 0		1.5716- 1				0.0000+ 0			0.0000+ 0		6.8416- 3
7.0000+ 0 ~ 1.0000+ 1	5.4922+ 0	5.3595+ 0		1.3265- 1				0.0000+ 0			0.0000+ 0		6.8420- 3
1.0000+ 1 ~ 2.0000+ 1	5.8880+ 0	5.2741+ 0		6.8990- 1				0.0000+ 0			0.0000+ 0		6.8428- 3
2.0000+ 1 ~ 4.0000+ 1	5.4731+ 0	5.1174+ 0		4.0187- 1				0.0000+ 0			0.0000+ 0		6.8441- 3
4.0000+ 1 ~ 7.0000+ 1	6.0258+ 1	3.5801+ 1		2.4454+ 1				0.0000+ 0			0.0000+ 0		6.8474- 3
7.0000+ 1 ~ 1.0000+ 2	7.1259+ 0	5.7488+ 0		1.3782+ 0				0.0000+ 0			0.0000+ 0		6.8514- 3
1.0000+ 2 ~ 2.0000+ 2	2.3613+ 1	1.9623+ 1		3.9883+ 0				0.0000+ 0			0.0000+ 0		6.8628- 3
2.0000+ 2 ~ 4.0000+ 2	1.1288+ 1	9.8484+ 0		1.4392+ 0				0.0000+ 0			0.0000+ 0		6.8777- 3
4.0000+ 2 ~ 7.0000+ 2	1.6193+ 1	1.3042+ 1		2.1513+ 0				0.0000+ 0			0.0000+ 0		6.9561- 3
7.0000+ 2 ~ 1.0000+ 3	7.2308+ 0	6.4874+ 0		7.4344- 1				0.0000+ 0			0.0000+ 0		7.0345- 3
1.0000+ 3 ~ 2.0000+ 3	9.9904+ 0	9.2603+ 0		7.3015- 1				0.0000+ 0			0.0000+ 0		7.2407- 3
2.0000+ 3 ~ 4.0000+ 3	1.0488+ 1	9.8776+ 0		5.7140- 1				0.0000+ 0			0.0000+ 0		7.8100- 3
4.0000+ 3 ~ 7.0000+ 3	8.8727+ 0	8.4834+ 0		4.8828- 1				0.0000+ 0			0.0000+ 0		8.9500- 3
7.0000+ 3 ~ 1.0000+ 4	9.5620+ 0	8.1822+ 0		3.7982- 1				0.0000+ 0			0.0000+ 0		1.0499- 2
1.0000+ 4 ~ 2.0000+ 4	8.8679+ 0	8.5947+ 0		2.8315- 1				0.0000+ 0			0.0000+ 0		1.4433- 2
2.0000+ 4 ~ 4.0000+ 4	8.8883+ 0	8.3881+ 0		1.8023- 1				0.0000+ 0			0.0000+ 0		2.5033- 2
4.0000+ 4 ~ 7.0000+ 4	8.7404+ 0	8.6238+ 0		1.1201- 1				0.0000+ 0			0.0000+ 0		4.4993- 2
7.0000+ 4 ~ 1.0000+ 5	9.0611+ 0	8.9848+ 0		9.8109- 2				0.0000+ 0			0.0000+ 0		7.0952- 2
1.0000+ 5 ~ 2.0000+ 5	9.2573+ 0	9.1822+ 0		6.4880- 2				1.5264-15			3.0841- 5		1.2343- 1
2.0000+ 5 ~ 4.0000+ 5	8.9830+ 0	8.8802+ 0	4.0202- 2	5.4481- 2				8.1055-15			3.9229- 5		2.2163- 1
4.0000+ 5 ~ 7.0000+ 5	8.1038+ 0	7.9360+ 0	1.1972- 1	5.4792- 2				2.2218-13			4.1524- 5		3.2143- 1
7.0000+ 5 ~ 1.0000+ 6	7.1146+ 0	6.6368+ 0	4.3248- 1	4.5231- 2				3.3448-10			5.4207- 5		3.9370- 1
1.0000+ 6 ~ 2.0000+ 6	5.7488+ 0	4.8900+ 0	1.0279+ 0	3.0747- 2				3.4405- 6			1.1161- 4		4.4838- 1
2.0000+ 6 ~ 4.0000+ 6	4.2431+ 0	2.6772+ 0	1.5479+ 0	1.8029- 2				1.3494- 3			5.0834- 4	2.5490-17	4.7450- 1
4.0000+ 6 ~ 7.0000+ 6	3.8058+ 0	2.2235+ 0	1.8827+ 0	4.5182- 3				1.4275- 2		6.9339-14	1.0833- 3	4.0071-10	6.0410- 1
7.0000+ 6 ~ 1.0000+ 7	4.2652+ 0	2.7247+ 0	1.2930+ 0	9.8210- 4		2.2078- 1		2.2294- 2	7.0473- 7	2.3245- 7	3.3174- 3	2.0098- 5	7.8652- 1
1.0000+ 7 ~ 2.0000+ 7	3.9378+ 0	2.4293+ 0	2.5959- 1	9.8581- 4		1.0368+ 0	1.0303- 1	3.2578- 2	5.7327- 2	3.2288- 3	9.9345- 3	4.0553- 3	8.2338- 1

MATERIAL =3421

CROSS SECTION

^{92}Mo (3421)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.8096+ 0	5.5452+ 0		8.4216- 2				0.0000+ 0			0.0000+ 0		7.3168- 3
1.0000- 2 ~ 2.0000- 2	5.6727+ 0	5.5452+ 0		2.7442- 2				0.0000+ 0			0.0000+ 0		7.3168- 3
2.0000- 2 ~ 4.0000- 2	5.5848+ 0	5.5452+ 0		1.3402- 2				0.0000+ 0			0.0000+ 0		7.3168- 3
4.0000- 2 ~ 7.0000- 2	5.5586+ 0	5.5452+ 0		1.4250- 2				0.0000+ 0			0.0000+ 0		7.3166- 3
7.0000- 2 ~ 1.0000- 1	5.5567+ 0	5.5452+ 0		1.1417- 2				0.0000+ 0			0.0000+ 0		7.3165- 3
1.0000- 1 ~ 2.0000- 1	5.5539+ 0	5.5452+ 0		8.8908- 3				0.0000+ 0			0.0000+ 0		7.3168- 3
2.0000- 1 ~ 4.0000- 1	5.5513+ 0	5.5452+ 0		8.1388- 3				0.0000+ 0			0.0000+ 0		7.3168- 3
4.0000- 1 ~ 7.0000- 1	5.5497+ 0	5.5452+ 0		4.5139- 3				0.0000+ 0			0.0000+ 0		7.3166- 3
7.0000- 1 ~ 1.0000+ 0	5.5488+ 0	5.5452+ 0		3.8089- 3				0.0000+ 0			0.0000+ 0		7.3168- 3
1.0000+ 0 ~ 2.0000+ 0	5.5479+ 0	5.5451+ 0		2.7608- 3				0.0000+ 0			0.0000+ 0		7.3168- 3
2.0000+ 0 ~ 4.0000+ 0	5.5469+ 0	5.5450+ 0		1.8601- 3				0.0000+ 0			0.0000+ 0		7.3167- 3
4.0000+ 0 ~ 7.0000+ 0	5.5462+ 0	5.5447+ 0		1.4386- 3				0.0000+ 0			0.0000+ 0		7.3168- 3
7.0000+ 0 ~ 1.0000+ 1	5.5456+ 0	5.5444+ 0		1.1684- 3				0.0000+ 0			0.0000+ 0		7.3170- 3
1.0000+ 1 ~ 2.0000+ 1	5.5447+ 0	5.5438+ 0		8.8079- 4				0.0000+ 0			0.0000+ 0		7.3178- 3
2.0000+ 1 ~ 4.0000+ 1	5.5430+ 0	5.5424+ 0		6.4788- 4				0.0000+ 0			0.0000+ 0		7.3189- 3
4.0000+ 1 ~ 7.0000+ 1	5.5404+ 0	5.5398+ 0		5.2185- 4				0.0000+ 0			0.0000+ 0		7.3225- 3
7.0000+ 1 ~ 1.0000+ 2	5.5372+ 0	5.5368+ 0		4.3442- 4				0.0000+ 0			0.0000+ 0		7.3254- 3
1.0000+ 2 ~ 2.0000+ 2	5.5295+ 0	5.5291+ 0		4.2575- 4				0.0000+ 0			0.0000+ 0		7.3382- 3
2.0000+ 2 ~ 4.0000+ 2	5.5213+ 0	5.5272+ 0		4.8410- 1				0.0000+ 0			0.0000+ 0		7.3672- 3
4.0000+ 2 ~ 7.0000+ 2	5.5101+ 0	5.5098+ 0		3.7457- 4				0.0000+ 0			0.0000+ 0		7.4414- 3
7.0000+ 2 ~ 1.0000+ 3	5.4881+ 0	5.4880+ 0		1.7572- 4				0.0000+ 0			0.0000+ 0		7.5023- 3
1.0000+ 3 ~ 2.0000+ 3	5.4587+ 0	5.4582+ 0		1.0180- 1				0.0000+ 0			0.0000+ 0		7.8974- 3
2.0000+ 3 ~ 4.0000+ 3	1.0673+ 1	1.0448+ 1		2.2343- 1				0.0000+ 0			0.0000+ 0		8.2376- 3
4.0000+ 3 ~ 7.0000+ 3	8.9811+ 0	8.3839+ 0		2.4715- 1				0.0000+ 0			0.0000+ 0		9.3517- 3
7.0000+ 3 ~ 1.0000+ 4	8.8008+ 0	8.5480+ 0		1.4279- 1				0.0000+ 0			0.0000+ 0		1.0813- 2
1.0000+ 4 ~ 2.0000+ 4	8.8862+ 0	8.8142+ 0		8.2072- 2				0.0000+ 0			0.0000+ 0		1.4702- 2
2.0000+ 4 ~ 4.0000+ 4	8.8458+ 0	8.4882+ 0		7.8754- 2				0.0000+ 0			0.0000+ 0		2.5412- 2
4.0000+ 4 ~ 7.0000+ 4	8.8078+ 0	8.4842+ 0		4.3703- 2				0.0000+ 0			0.0000+ 0		4.5728- 2
7.0000+ 4 ~ 1.0000+ 5	9.0828+ 0	8.0294+ 0		3.3185- 2				0.0000+ 0			0.0000+ 0		7.0264- 2
1.0000+ 5 ~ 2.0000+ 5	9.2549+ 0	9.2266+ 0		2.8229- 2				1.0285-14			2.8368-11		1.2351- 1
2.0000+ 5 ~ 4.0000+ 5	8.9863+ 0	8.9807+ 0		2.8104- 2				4.1142-14			1.0548-10		2.2155- 1
4.0000+ 5 ~ 7.0000+ 5	8.0484+ 0	8.0181+ 0		2.8893- 2				1.4972-12			3.3428-10		3.1735- 1
7.0000+ 5 ~ 1.0000+ 6	7.0034+ 0	6.8713+ 0		3.2043- 2				2.2538- 9			1.9850- 9		3.8798- 1
1.0000+ 6 ~ 2.0000+ 6	5.4715+ 0	5.2080+ 0	2.2280- 1	3.6022- 2				2.3143- 5			1.3025- 7		3.7998- 1
2.0000+ 6 ~ 4.0000+ 6	3.9649+ 0	2.8773+ 0	1.0753+ 0	2.2488- 2				8.9909- 3			3.0282- 5		4.0357- 1
4.0000+ 6 ~ 7.0000+ 6	3.8274+ 0	2.2674+ 0	1.5703+ 0	8.7063- 3				9.2189- 2		4.8724-13	1.2063- 4	5.0883-19	5.9328- 1
7.0000+ 6 ~ 1.0000+ 7	4.4213+ 0	2.8198+ 0	1.4816+ 0	1.4042- 3				1.3367- 1	4.7489- 6	1.4775- 5	5.1146- 3	1.2546-11	7.2546- 1
1.0000+ 7 ~ 2.0000+ 7	4.1228+ 0	2.5310+ 0	8.7253- 1	1.0813- 3		4.1498- 1		1.0632- 1	3.5944- 1	8.9989- 3	2.1189- 2	5.2813- 3	8.2157- 1

MATERIAL =3422

CROSS SECTION

^{94}Mo (3422)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.0396+ 0	8.9996+ 0		4.0666- 2							0.0000+ 0		7.1809- 3
1.0000- 2 ~ 2.0000- 2	8.0183+ 0	8.9996+ 0		1.7336- 2							0.0000+ 0		7.1809- 3
2.0000- 2 ~ 4.0000- 2	8.0103+ 0	8.9996+ 0		1.2280- 2							0.0000+ 0		7.1809- 3
4.0000- 2 ~ 7.0000- 2	8.0073+ 0	8.9978+ 0		9.0161- 3							0.0000+ 0		7.1809- 3
7.0000- 2 ~ 1.0000- 1	8.0062+ 0	8.9978+ 0		7.2161- 3							0.0000+ 0		7.1809- 3
1.0000- 1 ~ 2.0000- 1	8.0034+ 0	8.9978+ 0		5.4788- 3							0.0000+ 0		7.1809- 3
2.0000- 1 ~ 4.0000- 1	8.0019+ 0	8.9978+ 0		3.8771- 3							0.0000+ 0		7.1808- 3
4.0000- 1 ~ 7.0000- 1	8.0007+ 0	8.9978+ 0		2.5488- 3							0.0000+ 0		7.1809- 3
7.0000- 1 ~ 1.0000+ 0	8.0002+ 0	8.9979+ 0		2.2859- 3							0.0000+ 0		7.1809- 3
1.0000+ 0 ~ 2.0000+ 0	8.9996+ 0	8.9978+ 0		1.7378- 3							0.0000+ 0		7.1809- 3
2.0000+ 0 ~ 4.0000+ 0	8.9989+ 0	8.9977+ 0		1.2318- 3							0.0000+ 0		7.1810- 3
4.0000+ 0 ~ 7.0000+ 0	8.9983+ 0	8.9974+ 0		8.0908- 4							0.0000+ 0		7.1812- 3
7.0000+ 0 ~ 1.0000+ 1	8.9978+ 0	8.9971+ 0		7.3048- 4							0.0000+ 0		7.1814- 3
1.0000+ 1 ~ 2.0000+ 1	8.9970+ 0	8.9965+ 0		5.8287- 4							0.0000+ 0		7.1820- 3
2.0000+ 1 ~ 4.0000+ 1	8.9964+ 0	8.9950+ 0		4.1332- 4							0.0000+ 0		7.1836- 3
4.0000+ 1 ~ 7.0000+ 1	8.9928+ 0	8.9924+ 0		3.4817- 4							0.0000+ 0		7.1875- 3
7.0000+ 1 ~ 1.0000+ 2	8.9901+ 0	8.9894+ 0		7.0878- 4							0.0000+ 0		7.1707- 3
1.0000+ 2 ~ 2.0000+ 2	8.0438+ 0	8.9824+ 0		8.1457- 2							0.0000+ 0		7.1846- 3
2.0000+ 2 ~ 4.0000+ 2	8.9860+ 0	8.9848+ 0		1.1768- 4							0.0000+ 0		7.2156- 3
4.0000+ 2 ~ 7.0000+ 2	8.9298+ 0	8.9298+ 0		1.7129- 4							0.0000+ 0		7.2948- 3
7.0000+ 2 ~ 1.0000+ 3	8.8701+ 0	8.8699+ 0		2.8885- 4							0.0000+ 0		7.3599- 3
1.0000+ 3 ~ 2.0000+ 3	7.9988+ 0	7.9988+ 0		3.9107- 1							0.0000+ 0		7.5665- 3
2.0000+ 3 ~ 4.0000+ 3	8.0748+ 0	7.5897+ 0		4.8090- 1							0.0000+ 0		8.1271- 3
4.0000+ 3 ~ 7.0000+ 3	1.4038+ 1	1.9681+ 1		5.4987- 1							0.0000+ 0		9.2712- 3
7.0000+ 3 ~ 1.0000+ 4	7.3898+ 0	7.1786+ 0		2.2178- 1							0.0000+ 0		1.0782- 2
1.0000+ 4 ~ 2.0000+ 4	1.0081+ 1	9.9995+ 0		1.6494- 1							0.0000+ 0		1.4704- 2
2.0000+ 4 ~ 4.0000+ 4	8.4824+ 0	8.3836+ 0		1.2992- 1							0.0000+ 0		2.5507- 2
4.0000+ 4 ~ 7.0000+ 4	8.7869+ 0	8.6848+ 0		8.1482- 2							0.0000+ 0		4.5938- 2
7.0000+ 4 ~ 1.0000+ 5	8.0276+ 0	8.9676+ 0		5.6828- 2							0.0000+ 0		7.0597- 2
1.0000+ 5 ~ 2.0000+ 5	8.2688+ 0	8.2077+ 0		4.9016- 2							2.9163- 7		1.2439- 1
2.0000+ 5 ~ 4.0000+ 5	8.8987+ 0	8.8417+ 0		4.7964- 2							1.1681- 6		2.2234- 1
4.0000+ 5 ~ 7.0000+ 5	8.0496+ 0	7.9898+ 0		5.4478- 2							2.9129- 6		3.1856- 1
7.0000+ 5 ~ 1.0000+ 6	7.0081+ 0	6.8484+ 0	1.0066- 1	5.4517- 2							8.0741- 6		3.7540- 1
1.0000+ 6 ~ 2.0000+ 6	5.4727+ 0	4.8248+ 0	8.0864- 1	3.6844- 2				6.0196-17			7.3081- 5		4.2727- 1
2.0000+ 6 ~ 4.0000+ 6	3.9963+ 0	2.4852+ 0	1.4683+ 0	2.3108- 2				8.2458- 6			1.0949- 3	1.6007-18	4.6245- 1
4.0000+ 6 ~ 7.0000+ 6	3.8266+ 0	2.2492+ 0	1.6621+ 0	8.0966- 3				2.7968- 3		2.1730-22	8.3459- 3	2.5724- 9	5.0528- 1
7.0000+ 6 ~ 1.0000+ 7	4.4203+ 0	2.8743+ 0	1.5219+ 0	1.0161- 3		3.7948- 4		1.2938- 2	4.9629-12	3.2386- 8	9.5881- 3	1.8708- 4	7.8760- 1
1.0000+ 7 ~ 2.0000+ 7	4.1231+ 0	2.8205+ 0	3.8936- 1	1.0112- 3		1.0204+ 0	1.2957- 2	4.7069- 2	1.9945- 2	4.8187- 3	1.5339- 2	9.8693- 3	8.2157- 1

MATERIAL =3423 CROSS SECTION ^{95}Mo (3423)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.8908+ 1	5.5875+ 0		4.3341+ 1							0.0000+ 0		7.0854- 3
1.0000- 2 ~ 2.0000- 2	2.4079+ 1	5.5688+ 0		1.8512+ 1							0.0000+ 0		7.0854- 3
2.0000- 2 ~ 4.0000- 2	1.8845+ 1	5.5863+ 0		1.3080+ 1							0.0000+ 0		7.0854- 3
4.0000- 2 ~ 7.0000- 2	1.5151+ 1	5.5830+ 0		9.5877+ 0							0.0000+ 0		7.0854- 3
7.0000- 2 ~ 1.0000- 1	1.2238+ 1	5.5803+ 0		7.3778+ 0							0.0000+ 0		7.0854- 3
1.0000- 1 ~ 2.0000- 1	1.1371+ 1	5.5545+ 0		5.8163+ 0							0.0000+ 0		7.0854- 3
2.0000- 1 ~ 4.0000- 1	8.8300+ 0	5.5411+ 0		4.0888+ 0							0.0000+ 0		7.0854- 3
4.0000- 1 ~ 7.0000- 1	8.4968+ 0	5.5192+ 0		2.9774+ 0							0.0000+ 0		7.0854- 3
7.0000- 1 ~ 1.0000+ 0	7.8450+ 0	5.4833+ 0		2.3517+ 0							0.0000+ 0		7.0854- 3
1.0000+ 0 ~ 2.0000+ 0	7.1925+ 0	5.4388+ 0		1.7535+ 0							0.0000+ 0		7.0855- 3
2.0000+ 0 ~ 4.0000+ 0	6.5146+ 0	5.3206+ 0		1.1941+ 0							0.0000+ 0		7.0858- 3
4.0000+ 0 ~ 7.0000+ 0	5.8801+ 0	5.1385+ 0		8.5158- 1							0.0000+ 0		7.0862- 3
7.0000+ 0 ~ 1.0000+ 1	5.2216+ 0	4.8348+ 0		5.8711- 1							0.0000+ 0		7.0865- 3
1.0000+ 1 ~ 2.0000+ 1	5.1358+ 0	4.4978+ 0		6.3818- 1							0.0000+ 0		7.0877- 3
2.0000+ 1 ~ 4.0000+ 1	5.8318+ 0	3.4973+ 0		2.4645+ 0							0.0000+ 0		7.0903- 3
4.0000+ 1 ~ 7.0000+ 1	3.5058+ 2	1.9721+ 2		1.5337+ 2							0.0000+ 0		7.0961- 3
7.0000+ 1 ~ 1.0000+ 2	7.8398+ 0	7.6907+ 0		1.4916- 1							0.0000+ 0		7.1008- 3
1.0000+ 2 ~ 2.0000+ 2	8.8115+ 0	8.5404+ 0		2.0711+ 0							0.0000+ 0		7.1187- 3
2.0000+ 2 ~ 4.0000+ 2	1.5790+ 1	1.2232+ 1		3.5488+ 0							0.0000+ 0		7.1575- 3
4.0000+ 2 ~ 7.0000+ 2	1.8253+ 1	1.3444+ 1		2.8088+ 0							0.0000+ 0		7.2520- 3
7.0000+ 2 ~ 1.0000+ 3	9.0886+ 0	7.8000+ 0		1.4884+ 0							0.0000+ 0		7.3294- 3
1.0000+ 3 ~ 2.0000+ 3	1.4917+ 1	1.2988+ 1		1.8511+ 0							0.0000+ 0		7.5872- 3
2.0000+ 3 ~ 4.0000+ 3	9.1681+ 0	7.7900+ 0		1.3781+ 0							0.0000+ 0		8.2031- 3
4.0000+ 3 ~ 7.0000+ 3	8.8228+ 0	7.5688+ 0		1.0638+ 0							0.0000+ 0		9.4650- 3
7.0000+ 3 ~ 1.0000+ 4	8.4100+ 0	7.5496+ 0		8.8138- 1							0.0000+ 0		1.1075- 2
1.0000+ 4 ~ 2.0000+ 4	8.3413+ 0	7.8891+ 0		6.5219- 1							0.0000+ 0		1.5215- 2
2.0000+ 4 ~ 4.0000+ 4	8.4871+ 0	8.0467+ 0		4.2058- 1							0.0000+ 0		2.8309- 2
4.0000+ 4 ~ 7.0000+ 4	8.7529+ 0	8.4829+ 0		2.6944- 1							0.0000+ 0		4.7011- 2
7.0000+ 4 ~ 1.0000+ 5	9.0169+ 0	8.8227+ 0		1.9415- 1							0.0000+ 0		7.1858- 2
1.0000+ 5 ~ 2.0000+ 5	9.2580+ 0	9.1193+ 0		1.3611- 1							1.9212- 4		1.2584- 1
2.0000+ 5 ~ 4.0000+ 5	9.9895+ 0	8.5887+ 0	3.0714- 1	9.1090- 2				0.0000+ 0			2.4601- 4		2.3247- 1
4.0000+ 5 ~ 7.0000+ 5	9.0498+ 0	7.4419+ 0	5.2681- 1	7.8249- 2				3.2291-18			2.5739- 4		3.4239- 1
7.0000+ 5 ~ 1.0000+ 6	7.0069+ 0	6.2381+ 0	8.8571- 1	8.9138- 2				1.6853-15			3.3264- 4		4.1218- 1
1.0000+ 6 ~ 2.0000+ 6	5.4744+ 0	4.0284+ 0	1.4088+ 0	3.7570- 2				2.0998- 8			8.4875- 4		4.9284- 1
2.0000+ 6 ~ 4.0000+ 6	3.2950+ 0	2.2820+ 0	1.0128+ 0	1.8001- 2				9.3838- 5			2.4012- 3	6.0988-17	5.0532- 1
4.0000+ 6 ~ 7.0000+ 6	3.8205+ 0	2.2320+ 0	1.5821+ 0	4.4598- 3				1.9965- 3			5.7345- 3	9.6248-10	6.1011- 1
7.0000+ 6 ~ 1.0000+ 7	4.4200+ 0	2.0834+ 0	1.0189+ 0	1.2444- 3		4.8281- 1		5.0869- 3	1.6230-13	5.9041- 8	6.3800- 3	7.0594- 6	7.6762- 1
1.0000+ 7 ~ 2.0000+ 7	4.1230+ 0	2.6385+ 0	1.2861- 1	1.0625- 3		1.2543+ 0	3.8017- 2	3.3379- 2	6.4290- 3	5.2031- 3	1.1705- 2	4.5946- 3	8.2156- 1

MATERIAL =3424 CROSS SECTION ^{96}Mo (3424)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.6686+ 0	4.7278+ 0		1.6418+ 0							0.0000+ 0		7.0116- 3
1.0000- 2 ~ 2.0000- 2	5.6141+ 0	4.7268+ 0		7.8721- 1							0.0000+ 0		7.0116- 3
2.0000- 2 ~ 4.0000- 2	5.2037+ 0	4.7268+ 0		5.4808- 1							0.0000+ 0		7.0116- 3
4.0000- 2 ~ 7.0000- 2	5.1384+ 0	4.7267+ 0		4.0868- 1							0.0000+ 0		7.0116- 3
7.0000- 2 ~ 1.0000- 1	5.0646+ 0	4.7266+ 0		3.2784- 1							0.0000+ 0		7.0116- 3
1.0000- 1 ~ 2.0000- 1	4.9753+ 0	4.7261+ 0		2.4915- 1							0.0000+ 0		7.0116- 3
2.0000- 1 ~ 4.0000- 1	4.8019+ 0	4.7262+ 0		1.7666- 1							0.0000+ 0		7.0116- 3
4.0000- 1 ~ 7.0000- 1	4.5640+ 0	4.7237+ 0		1.3030- 1							0.0000+ 0		7.0116- 3
7.0000- 1 ~ 1.0000+ 0	4.2287+ 0	4.7219+ 0		1.0483- 1							0.0000+ 0		7.0116- 3
1.0000+ 0 ~ 2.0000+ 0	4.7964+ 0	4.7178+ 0		8.0432- 2							0.0000+ 0		7.0116- 3
2.0000+ 0 ~ 4.0000+ 0	4.7888+ 0	4.7086+ 0		5.8139- 2							0.0000+ 0		7.0117- 3
4.0000+ 0 ~ 7.0000+ 0	4.7370+ 0	4.6927+ 0		4.4378- 2							0.0000+ 0		7.0119- 3
7.0000+ 0 ~ 1.0000+ 1	4.7089+ 0	4.6727+ 0		3.7182- 2							0.0000+ 0		7.0120- 3
1.0000+ 1 ~ 2.0000+ 1	4.6871+ 0	4.6267+ 0		3.1368- 2							0.0000+ 0		7.0127- 3
2.0000+ 1 ~ 4.0000+ 1	4.5234+ 0	4.4944+ 0		2.9070- 2							0.0000+ 0		7.0142- 3
4.0000+ 1 ~ 7.0000+ 1	4.2039+ 0	4.1857+ 0		3.8140- 2							0.0000+ 0		7.0181- 3
7.0000+ 1 ~ 1.0000+ 2	3.4421+ 0	3.3639+ 0		8.8261- 2							0.0000+ 0		7.0213- 3
1.0000+ 2 ~ 2.0000+ 2	1.0988+ 2	8.8713+ 1		2.1151- 1							0.0000+ 0		7.0350- 3
2.0000+ 2 ~ 4.0000+ 2	8.2453+ 0	8.2389+ 0		5.9780- 3							0.0000+ 0		7.0660- 3
4.0000+ 2 ~ 7.0000+ 2	5.8871+ 0	5.8941+ 0		1.9302- 1							0.0000+ 0		7.1451- 3
7.0000+ 2 ~ 1.0000+ 3	5.8202+ 0	5.4810+ 0		3.9147- 2							0.0000+ 0		7.2100- 3
1.0000+ 3 ~ 2.0000+ 3	9.0981+ 0	8.0618+ 0		3.4183- 2							0.0000+ 0		7.4155- 3
2.0000+ 3 ~ 4.0000+ 3	1.0888+ 1	1.0548+ 1		4.4189- 1							0.0000+ 0		7.9778- 3
4.0000+ 3 ~ 7.0000+ 3	9.2851+ 0	8.6278+ 0		2.8751- 1							0.0000+ 0		9.1245- 3
7.0000+ 3 ~ 1.0000+ 4	1.0944+ 1	1.0672+ 1		3.1188- 1							0.0000+ 0		1.0819- 2
1.0000+ 4 ~ 2.0000+ 4	9.2208+ 0	9.0588+ 0		1.8397- 1							0.0000+ 0		1.4574- 2
2.0000+ 4 ~ 4.0000+ 4	8.8083+ 0	8.3958+ 0		1.0845- 1							0.0000+ 0		2.5408- 2
4.0000+ 4 ~ 7.0000+ 4	8.7860+ 0	8.7268+ 0		8.9361- 2							0.0000+ 0		4.5868- 2
7.0000+ 4 ~ 1.0000+ 5	9.0614+ 0	8.8092+ 0		5.2196- 2							0.0000+ 0		7.0594- 2
1.0000+ 5 ~ 2.0000+ 5	9.2568+ 0	9.2138+ 0		4.2938- 2							2.3977-10		1.2444- 1
2.0000+ 5 ~ 4.0000+ 5	9.9994+ 0	9.5484+ 0		4.2987- 2							9.5909-10		2.2238- 1
4.0000+ 5 ~ 7.0000+ 5	8.0492+ 0	8.0000+ 0		4.9068- 2							2.8438- 9		3.1850- 1
7.0000+ 5 ~ 1.0000+ 6	7.0082+ 0	6.8844+ 0	2.7872- 1	3.9780- 2							1.3761- 8		3.8525- 1
1.0000+ 6 ~ 2.0000+ 6	5.4740+ 0	4.4310+ 0	1.0192+ 0	2.8030- 2							3.0830- 7		4.4792- 1
2.0000+ 6 ~ 4.0000+ 6	3.9971+ 0	2.3839+ 0	1.5971+ 0	1.4888- 2				7.3777-11			2.8673- 5	8.4521-10	4.8229- 1
4.0000+ 6 ~ 7.0000+ 6	3.9282+ 0	2.2172+ 0	1.6729+ 0	6.6301- 3				5.8453- 5			9.9886- 4	5.0596-11	6.0705- 1
7.0000+ 6 ~ 1.0000+ 7	4.4198+ 0	2.8120+ 0	1.4697+ 0	1.0039- 3		3.2802- 2		1.5365- 3	1.5869-21	3.8945-10	2.7029- 3	2.0311- 5	7.6751- 1
1.0000+ 7 ~ 2.0000+ 7	4.1230+ 0	2.6383+ 0	2.4083- 1	9.7188- 4		1.1301+ 0	7.0766- 2	2.1050- 2	3.8277- 3	1.9685- 3	8.3935- 3	5.5831- 3	8.2156- 1

MATERIAL =3425

CROSS SECTION

^{97}Mo (3425)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2n)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.2388+ 1	5.8589+ 0		6.5109+ 0							0.0000+ 0		6.9391- 3
1.0000- 2 ~ 2.0000- 2	8.6363+ 0	5.8568+ 0		2.7796+ 0							0.0000+ 0		6.9391- 3
2.0000- 2 ~ 4.0000- 2	7.8213+ 0	5.8565+ 0		1.9648+ 0							0.0000+ 0		6.9391- 3
4.0000- 2 ~ 7.0000- 2	7.2882+ 0	5.8581+ 0		1.4420+ 0							0.0000+ 0		6.9391- 3
7.0000- 2 ~ 1.0000- 1	7.0036+ 0	5.8567+ 0		1.1480+ 0							0.0000+ 0		6.9391- 3
1.0000- 1 ~ 2.0000- 1	8.7234+ 0	5.8547+ 0		8.6870- 1							0.0000+ 0		6.9391- 3
2.0000- 1 ~ 4.0000- 1	8.4586+ 0	5.8524+ 0		6.0802- 1							0.0000+ 0		6.9391- 3
4.0000- 1 ~ 7.0000- 1	8.2849+ 0	5.8487+ 0		4.3817- 1							0.0000+ 0		6.9391- 3
7.0000- 1 ~ 1.0000+ 0	8.1848+ 0	5.8444+ 0		3.4039- 1							0.0000+ 0		6.9391- 3
1.0000+ 0 ~ 2.0000+ 0	8.0813+ 0	5.8354+ 0		2.4585- 1							0.0000+ 0		6.9393- 3
2.0000+ 0 ~ 4.0000+ 0	8.0714+ 0	5.8184+ 0		1.8489- 1							0.0000+ 0		6.9395- 3
4.0000+ 0 ~ 7.0000+ 0	8.0864+ 0	5.7881+ 0		9.6241- 2							0.0000+ 0		6.9400- 3
7.0000+ 0 ~ 1.0000+ 1	8.0259+ 0	5.7816+ 0		6.4474- 2							0.0000+ 0		6.9403- 3
1.0000+ 1 ~ 2.0000+ 1	8.7884+ 0	5.7162+ 0		7.1235- 2							0.0000+ 0		6.9415- 3
2.0000+ 1 ~ 4.0000+ 1	8.6552+ 0	5.6329+ 0		2.2322- 2							0.0000+ 0		6.9441- 3
4.0000+ 1 ~ 7.0000+ 1	5.8957+ 0	5.2653+ 0		4.1185- 1							0.0000+ 0		6.9500- 3
7.0000+ 1 ~ 1.0000+ 2	2.1517+ 1	8.0377+ 0		1.3479+ 1							0.0000+ 0		6.9548- 3
1.0000+ 2 ~ 2.0000+ 2	5.8371+ 0	5.5829+ 0		2.5481- 1							0.0000+ 0		6.9730- 3
2.0000+ 2 ~ 4.0000+ 2	1.2222+ 1	7.4683+ 0		4.7541+ 0							0.0000+ 0		7.0124- 3
4.0000+ 2 ~ 7.0000+ 2	1.8310+ 1	1.4028+ 1		4.2805+ 0							0.0000+ 0		7.1080- 3
7.0000+ 2 ~ 1.0000+ 3	1.0422+ 1	8.7881+ 0		1.6538+ 0							0.0000+ 0		7.1653- 3
1.0000+ 3 ~ 2.0000+ 3	1.1951+ 1	8.3645+ 0		2.0081+ 0							0.0000+ 0		7.4287- 3
2.0000+ 3 ~ 4.0000+ 3	9.1747+ 0	7.8027+ 0		1.3720+ 0							0.0000+ 0		8.0631- 3
4.0000+ 3 ~ 7.0000+ 3	8.6454+ 0	7.5910+ 0		1.0544+ 0							0.0000+ 0		9.3421- 3
7.0000+ 3 ~ 1.0000+ 4	8.4358+ 0	7.6738+ 0		6.6198- 1							0.0000+ 0		1.0985- 2
1.0000+ 4 ~ 2.0000+ 4	8.3628+ 0	7.7093+ 0		6.4348- 1							0.0000+ 0		1.5132- 2
2.0000+ 4 ~ 4.0000+ 4	8.4868+ 0	8.0782+ 0		4.1774- 1							0.0000+ 0		2.5282- 2
4.0000+ 4 ~ 7.0000+ 4	8.7840+ 0	8.6256+ 0		1.5526- 1							0.0000+ 0		4.7084- 2
7.0000+ 4 ~ 1.0000+ 5	9.0821+ 0	9.0888+ 0		1.8548- 1							0.0000+ 0		7.1985- 2
1.0000+ 5 ~ 2.0000+ 5	9.2563+ 0	9.1207+ 0		1.3669- 1							2.9844- 7		1.2607- 1
2.0000+ 5 ~ 4.0000+ 5	8.9931+ 0	8.8911+ 0		1.0194- 1							1.1938- 6		2.2433- 1
4.0000+ 5 ~ 7.0000+ 5	8.0696+ 0	7.8162+ 0	1.5048- 1	9.0212- 2							2.5431- 6		3.2805- 1
7.0000+ 5 ~ 1.0000+ 6	7.0067+ 0	6.0241+ 0	9.1905- 1	6.1809- 2							3.9992- 6		4.2751- 1
1.0000+ 6 ~ 2.0000+ 6	6.4781+ 0	3.8247+ 0	1.5205+ 0	2.8777- 2				2.3494-17			1.3841- 5		5.0805- 1
2.0000+ 6 ~ 4.0000+ 6	3.9969+ 0	2.2279+ 0	1.7538+ 0	9.7360- 3				2.5928- 7			1.1464- 4	1.2066-18	5.1700- 1
4.0000+ 6 ~ 7.0000+ 6	3.8257+ 0	2.2301+ 0	1.5923+ 0	2.4289- 3				6.1822- 5			5.3721- 4	9.7977-12	5.2000- 1
7.0000+ 6 ~ 1.0000+ 7	4.4191+ 0	2.8803+ 0	7.2469- 1	8.7389- 4		8.0981- 1		7.3470- 4	7.8158-21	1.7228- 9	1.0118- 3	2.8516- 7	5.6760- 1
1.0000+ 7 ~ 2.0000+ 7	4.1234+ 0	2.8534+ 0	9.4133- 2	1.0529- 3		1.2421+ 0	1.0167- 1	1.8601- 2	1.9463- 3	3.0781- 3	6.4984- 3	2.1036- 3	8.2156- 1

MATERIAL =3426

CROSS SECTION

^{98}Mo (3426)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.0438+ 0	5.8418+ 0		4.0187- 1							0.0000+ 0		6.8683- 3
1.0000- 2 ~ 2.0000- 2	5.8137+ 0	5.8419+ 0		1.7181- 1							0.0000+ 0		6.8683- 3
2.0000- 2 ~ 4.0000- 2	5.7834+ 0	5.8419+ 0		1.2154- 1							0.0000+ 0		6.8683- 3
4.0000- 2 ~ 7.0000- 2	5.7912+ 0	5.8418+ 0		8.8413- 2							0.0000+ 0		6.8683- 3
7.0000- 2 ~ 1.0000- 1	5.7134+ 0	5.8418+ 0		7.1651- 2							0.0000+ 0		6.8683- 3
1.0000- 1 ~ 2.0000- 1	5.8883+ 0	5.8417+ 0		5.4674- 2							0.0000+ 0		6.8683- 3
2.0000- 1 ~ 4.0000- 1	5.8803+ 0	5.8416+ 0		3.8930- 2							0.0000+ 0		6.8683- 3
4.0000- 1 ~ 7.0000- 1	5.8700+ 0	5.8412+ 0		2.8943- 2							0.0000+ 0		6.8683- 3
7.0000- 1 ~ 1.0000+ 0	5.8842+ 0	5.8407+ 0		2.3390- 2							0.0000+ 0		6.8683- 3
1.0000+ 0 ~ 2.0000+ 0	5.8583+ 0	5.8398+ 0		1.8412- 2							0.0000+ 0		6.8683- 3
2.0000+ 0 ~ 4.0000+ 0	5.8572+ 0	5.8378+ 0		1.4554- 2							0.0000+ 0		6.8684- 3
4.0000+ 0 ~ 7.0000+ 0	5.8498+ 0	5.8345+ 0		1.5382- 2							0.0000+ 0		6.8686- 3
7.0000+ 0 ~ 1.0000+ 1	5.8893+ 0	5.8304+ 0		3.7944- 2							0.0000+ 0		6.8688- 3
1.0000+ 1 ~ 2.0000+ 1	7.8082+ 0	5.8220+ 0		1.9862+ 0							0.0000+ 0		6.8694- 3
2.0000+ 1 ~ 4.0000+ 1	5.8073+ 0	5.8007+ 0		6.5859- 3							0.0000+ 0		6.8710- 3
4.0000+ 1 ~ 7.0000+ 1	5.5498+ 0	5.5049+ 0		3.6458- 3							0.0000+ 0		6.8749- 3
7.0000+ 1 ~ 1.0000+ 2	5.5228+ 0	5.5197+ 0		2.9458- 3							0.0000+ 0		6.8781- 3
1.0000+ 2 ~ 2.0000+ 2	5.4084+ 0	5.4084+ 0		2.7898- 3							0.0000+ 0		6.8920- 3
2.0000+ 2 ~ 4.0000+ 2	4.8696+ 0	4.8576+ 0		1.0175- 2							0.0000+ 0		6.9234- 3
4.0000+ 2 ~ 7.0000+ 2	3.2840+ 1	2.7495+ 1		5.1454+ 0							0.0000+ 0		7.0034- 3
7.0000+ 2 ~ 1.0000+ 3	8.1711+ 0	8.7784+ 0		1.3927+ 0							0.0000+ 0		7.0891- 3
1.0000+ 3 ~ 2.0000+ 3	9.2218+ 0	8.8204+ 0		3.0090- 1							0.0000+ 0		7.2789- 3
2.0000+ 3 ~ 4.0000+ 3	7.7478+ 0	7.3797+ 0		3.6787- 1							0.0000+ 0		7.8445- 3
4.0000+ 3 ~ 7.0000+ 3	8.8094+ 0	8.1701+ 0		3.3828- 1							0.0000+ 0		9.0007- 3
7.0000+ 3 ~ 1.0000+ 4	1.2558+ 1	1.2368+ 1		2.0122- 1							0.0000+ 0		1.0506- 2
1.0000+ 4 ~ 2.0000+ 4	8.6361+ 0	8.4048+ 0		1.3164- 1							0.0000+ 0		1.4484- 2
2.0000+ 4 ~ 4.0000+ 4	7.7835+ 0	7.6888+ 0		9.3881- 2							0.0000+ 0		2.5368- 2
4.0000+ 4 ~ 7.0000+ 4	8.7910+ 0	8.7213+ 0		6.9840- 2							0.0000+ 0		4.5815- 2
7.0000+ 4 ~ 1.0000+ 5	9.0615+ 0	9.0080+ 0		5.2488- 2							0.0000+ 0		7.0686- 2
1.0000+ 5 ~ 2.0000+ 5	9.2587+ 0	9.2155+ 0		4.3215- 2							4.8511-13		1.2482- 1
2.0000+ 5 ~ 4.0000+ 5	8.9908+ 0	8.9473+ 0		4.3571- 2							1.6804-12		2.2283- 1
4.0000+ 5 ~ 7.0000+ 5	8.0504+ 0	8.0004+ 0		4.9851- 2							5.7036-12		3.1873- 1
7.0000+ 5 ~ 1.0000+ 6	7.0098+ 0	6.5848+ 0	5.8687- 1	4.0438- 2							3.0608-11		3.9312- 1
1.0000+ 6 ~ 2.0000+ 6	5.4745+ 0	4.3482+ 0	1.0988+ 0	2.7588- 2							2.0412- 9		4.5526- 1
2.0000+ 6 ~ 4.0000+ 6	3.8987+ 0	2.3288+ 0	1.4463+ 0	1.2284- 2				9.7698- 8			8.1549- 7	1.5430-20	4.9354- 1
4.0000+ 6 ~ 7.0000+ 6	3.9254+ 0	2.2383+ 0	1.6825+ 0	3.8977- 3				6.2415- 5		2.1511-12	5.1071- 5	6.1757-13	5.0906- 1
7.0000+ 6 ~ 1.0000+ 7	4.4188+ 0	2.8877+ 0	1.3892+ 0	7.8388- 4		1.4009- 1					3.9222- 4	2.4480- 7	7.6754- 1
1.0000+ 7 ~ 2.0000+ 7	4.1232+ 0	2.8519+ 0	1.8001- 1	8.9743- 4		1.1290+ 0	1.7181- 1	8.3229- 3	9.5347- 4	1.0049- 3	5.1218- 3	1.2517- 3	8.2155- 1

CROSS SECTION

^{100}Mo (3428)

MATERIAL =3428

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.9183+ 0	5.3004+ 0		6.1594- 1							0.0000+ 0		6.7307- 3
1.0000- 2 ~ 2.0000- 2	5.5895+ 0	5.3003+ 0		2.8320- 1							0.0000+ 0		6.7307- 3
2.0000- 2 ~ 4.0000- 2	5.4864+ 0	5.3003+ 0		1.8608- 1							0.0000+ 0		6.7307- 3
4.0000- 2 ~ 7.0000- 2	5.4510+ 0	5.3002+ 0		1.3576- 1							0.0000+ 0		6.7307- 3
7.0000- 2 ~ 1.0000- 1	5.4098+ 0	5.3001+ 0		1.0944- 1							0.0000+ 0		6.7307- 3
1.0000- 1 ~ 2.0000- 1	5.3831+ 0	5.3000+ 0		8.3124- 2							0.0000+ 0		6.7307- 3
2.0000- 1 ~ 4.0000- 1	5.3683+ 0	5.2998+ 0		5.9758- 2							0.0000+ 0		6.7307- 3
4.0000- 1 ~ 7.0000- 1	5.3420+ 0	5.2989+ 0		4.3130- 2							0.0000+ 0		6.7307- 3
7.0000- 1 ~ 1.0000+ 0	5.3325+ 0	5.2981+ 0		3.4451- 2							0.0000+ 0		6.7307- 3
1.0000+ 0 ~ 2.0000+ 0	5.3225+ 0	5.2968+ 0		2.8142- 2							0.0000+ 0		6.7307- 3
2.0000+ 0 ~ 4.0000+ 0	5.3157+ 0	5.2923+ 0		1.6398- 2							0.0000+ 0		6.7308- 3
4.0000+ 0 ~ 7.0000+ 0	5.2990+ 0	5.2857+ 0		1.3382- 2							0.0000+ 0		6.7310- 3
7.0000+ 0 ~ 1.0000+ 1	5.2694+ 0	5.2778+ 0		1.0647- 2							0.0000+ 0		6.7311- 3
1.0000+ 1 ~ 2.0000+ 1	5.2620+ 0	5.2612+ 0		7.2658- 3							0.0000+ 0		6.7318- 3
2.0000+ 1 ~ 4.0000+ 1	5.2298+ 0	5.2242+ 0		5.3850- 3							0.0000+ 0		6.7333- 3
4.0000+ 1 ~ 7.0000+ 1	5.1657+ 0	5.1847+ 0		3.3745- 3							0.0000+ 0		6.7372- 3
7.0000+ 1 ~ 1.0000+ 2	5.0098+ 0	5.0945+ 0		3.1508- 1							0.0000+ 0		6.7405- 3
1.0000+ 2 ~ 2.0000+ 2	4.9109+ 0	4.9081+ 0		4.2196- 3							0.0000+ 0		6.7543- 3
2.0000+ 2 ~ 4.0000+ 2	4.1012+ 1	3.7402+ 1		3.8099+ 0							0.0000+ 0		6.7858- 3
4.0000+ 2 ~ 7.0000+ 2	6.8001+ 0	6.3758+ 0		2.2430- 1							0.0000+ 0		6.8550- 3
7.0000+ 2 ~ 1.0000+ 3	5.5801+ 0	5.5638+ 0		9.6319- 2							0.0000+ 0		6.9318- 3
1.0000+ 3 ~ 2.0000+ 3	9.4184+ 0	8.3881+ 0		1.0209+ 0							0.0000+ 0		7.1402- 3
2.0000+ 3 ~ 4.0000+ 3	7.0669+ 0	7.4762+ 0		3.8203- 1							0.0000+ 0		7.7100- 3
4.0000+ 3 ~ 7.0000+ 3	9.4382+ 0	9.2303+ 0		2.0779- 1							0.0000+ 0		8.8709- 3
7.0000+ 3 ~ 1.0000+ 4	9.0635+ 0	8.8712+ 0		1.8637- 1							0.0000+ 0		1.0983- 2
1.0000+ 4 ~ 2.0000+ 4	8.9628+ 0	8.8371+ 0		1.1587- 1							0.0000+ 0		1.4375- 2
2.0000+ 4 ~ 4.0000+ 4	9.3638+ 0	9.2817+ 0		9.2039- 2							0.0000+ 0		2.5292- 2
4.0000+ 4 ~ 7.0000+ 4	8.7713+ 0	8.7088+ 0		6.2387- 2							0.0000+ 0		4.5893- 2
7.0000+ 4 ~ 1.0000+ 5	9.0675+ 0	9.0084+ 0		4.7887- 2							0.0000+ 0		7.0713- 2
1.0000+ 5 ~ 2.0000+ 5	9.2582+ 0	9.2190+ 0		4.0207- 2							1.0882-15		1.2471- 1
2.0000+ 5 ~ 4.0000+ 5	8.9909+ 0	8.9494+ 0		4.1378- 2							4.3957-15		2.2278- 1
4.0000+ 5 ~ 7.0000+ 5	8.0678+ 0	7.8372+ 0	1.7310- 1	3.9757- 2							1.3404-14		3.2759- 1
7.0000+ 5 ~ 1.0000+ 6	7.0084+ 0	6.0893+ 0	8.8327- 1	2.2258- 2							7.0700-14		4.2207- 1
1.0000+ 6 ~ 2.0000+ 6	5.4780+ 0	4.1472+ 0	1.3081+ 0	1.9027- 2							5.6297-12		4.7775- 1
2.0000+ 6 ~ 4.0000+ 6	3.9882+ 0	3.3137+ 0	1.6681+ 0	1.3537- 2							1.2211- 8	2.3172-20	4.9599- 1
4.0000+ 6 ~ 7.0000+ 6	3.9246+ 0	2.2321+ 0	1.6889+ 0	2.9676- 3				9.2208-12			1.9097- 8	2.1015-13	6.1048- 1
7.0000+ 6 ~ 1.0000+ 7	4.4179+ 0	2.4820+ 0	1.2672+ 0	4.0126- 4		2.6897- 1		2.3358- 6		1.1068-20	4.1580- 5	2.8446- 8	7.6768- 1
1.0000+ 7 ~ 2.0000+ 7	4.1231+ 0	2.5744+ 0	1.3054- 1	8.4752- 4		1.0882+ 0	3.4072- 1	4.0198- 3	3.9882- 4	5.3977- 4	2.6148- 3	4.1973- 4	8.2154- 1

CROSS SECTION

Ag (3470)

MATERIAL =3470

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 6 ~ 1.0000- 2	2.0117+ 2	6.1918+ 0		1.8597+ 2				0.0000+ 0			0.0000+ 0		6.0800- 3
1.0000- 2 ~ 2.0000- 2	8.9131+ 0	6.1865+ 0		8.3842+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
2.0000- 2 ~ 4.0000- 2	6.4713+ 1	5.1838+ 0		5.8530+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
4.0000- 2 ~ 7.0000- 2	4.9120+ 1	5.1763+ 0		4.3844+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
7.0000- 2 ~ 1.0000- 1	4.0699+ 1	5.1654+ 0		3.6433+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
1.0000- 1 ~ 2.0000- 1	3.2487+ 1	5.1440+ 0		2.7343+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
2.0000- 1 ~ 4.0000- 1	2.6069+ 1	5.0842+ 0		1.9888+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
4.0000- 1 ~ 7.0000- 1	2.0689+ 1	5.0109+ 0		1.5679+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
7.0000- 1 ~ 1.0000+ 0	1.8625+ 1	4.9079+ 0		1.3717+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
1.0000+ 0 ~ 2.0000+ 0	1.8052+ 1	4.8787+ 0		1.3375+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
2.0000+ 0 ~ 4.0000+ 0	3.2903+ 1	4.3239+ 0		2.7980+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
4.0000+ 0 ~ 7.0000+ 0	1.1964+ 3	1.0811+ 2		1.0873+ 3				0.0000+ 0			0.0000+ 0		6.0800- 3
7.0000+ 0 ~ 1.0000+ 1	1.6703+ 1	8.8348+ 0		8.0881+ 0				0.0000+ 0			0.0000+ 0		6.0800- 3
1.0000+ 1 ~ 2.0000+ 1	4.5842+ 1	8.8744+ 0		3.8967+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
2.0000+ 1 ~ 4.0000+ 1	2.5707+ 1	8.0720+ 0		1.9635+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
4.0000+ 1 ~ 7.0000+ 1	5.4261+ 1	1.1576+ 1		4.2675+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
7.0000+ 1 ~ 1.0000+ 2	2.7833+ 1	9.5400+ 0		1.8285+ 1				0.0000+ 0			0.0000+ 0		6.0800- 3
1.0000+ 2 ~ 2.0000+ 2	2.0320+ 1	1.0472+ 1		8.8470+ 0				0.0000+ 0			0.0000+ 0		6.0800- 3
2.0000+ 2 ~ 4.0000+ 2	1.8728+ 1	9.4337+ 0		7.2928+ 0				0.0000+ 0			0.0000+ 0		6.0800- 3
4.0000+ 2 ~ 7.0000+ 2	1.6849+ 1	1.0841+ 1		1.3878+ 0				0.0000+ 0			0.0000+ 0		6.0800- 3
7.0000+ 2 ~ 1.0000+ 3	1.1787+ 1	2.3207+ 0		3.4862+ 0				0.0000+ 0			0.0000+ 0		6.0800- 3
1.0000+ 3 ~ 2.0000+ 3	1.7418+ 1	9.2375+ 0		2.2782+ 0				0.0000+ 0			0.0000+ 0		6.8903- 3
2.0000+ 3 ~ 4.0000+ 3	9.4388+ 0	7.7348+ 0		1.7054+ 0				0.0000+ 0			0.0000+ 0		8.5811- 3
4.0000+ 3 ~ 7.0000+ 3	9.6382+ 0	9.1145+ 0		1.4828+ 0				0.0000+ 0			0.0000+ 0		1.1732- 2
7.0000+ 3 ~ 1.0000+ 4	8.7047+ 0	7.2389+ 0		1.4684+ 0				0.0000+ 0			0.0000+ 0		1.5514- 2
1.0000+ 4 ~ 2.0000+ 4	8.1873+ 0	6.9898+ 0		1.2175+ 0				0.0000+ 0			0.0000+ 0		2.3708- 2
2.0000+ 4 ~ 4.0000+ 4	7.8848+ 0	6.9721+ 0		9.1274+ 1				0.0000+ 0			0.0000+ 0		4.2616- 2
4.0000+ 4 ~ 7.0000+ 4	7.9008+ 0	7.2603+ 0		6.4047+ 1				0.0000+ 0			0.0000+ 0		7.4130- 2
7.0000+ 4 ~ 1.0000+ 5	5.8876+ 0	5.3214+ 0	1.3687- 3	3.8482+ 1				0.0000+ 0			0.0000+ 0		1.1195- 1
1.0000+ 5 ~ 2.0000+ 5	7.0808+ 0	7.4498+ 0	3.3859- 2	3.7710- 1				0.0000+ 0			0.0000+ 0		1.7811- 1
2.0000+ 5 ~ 4.0000+ 5	7.0849+ 0	7.4543+ 0	1.5581- 1	2.4602- 1				1.8590-10			0.0000+ 0		2.7835- 1
4.0000+ 5 ~ 7.0000+ 5	7.3228+ 0	8.2838+ 0	8.7888- 1	1.8031- 1				9.8488- 9			0.0000+ 0		3.9358- 1
7.0000+ 5 ~ 1.0000+ 6	6.9898+ 0	9.2730+ 0	1.3137+ 0	1.1282- 1				9.4945- 9			0.0000+ 0		4.7823- 1
1.0000+ 6 ~ 2.0000+ 6	6.8120+ 0	3.9212+ 0	1.8033+ 0	8.7431- 2				2.1827- 5			1.7340- 9		5.6798- 1
2.0000+ 6 ~ 4.0000+ 6	4.4989+ 0	2.4227+ 0	2.0268+ 0	4.8888- 2				2.9332- 4			7.5293- 7	3.2773- 8	5.5075- 1
4.0000+ 6 ~ 7.0000+ 6	4.0613+ 0	1.9592+ 0	2.0744+ 0	1.8413- 2				2.2489- 3	3.5997- 5		6.8404- 5	3.5498- 7	7.0407- 1
7.0000+ 6 ~ 1.0000+ 7	4.3198+ 0	2.3080+ 0	1.9928+ 0	1.1100- 3		1.5884- 2		4.0058- 3	1.2572- 4		4.7187- 4	7.9663- 7	8.0581- 1
1.0000+ 7 ~ 2.0000+ 7	4.1749+ 0	2.4107+ 0	4.7731- 1	5.7143- 5		1.2238+ 0	2.6483- 2	1.3772- 2	1.3971- 2		4.2321- 3	4.7412- 3	8.7290- 1

MATERIAL =3471

CROSS SECTION

^{107}Ag (3471)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 1.0000- 2	1.2751+ 2	7.8745+ 0		1.1993+ 2				0.0000+ 0			0.0000+ 0		0.1166- 3
1.0000- 2 ~ 2.0000- 2	5.8829+ 1	7.8714+ 0		5.1158+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
2.0000- 2 ~ 4.0000- 2	4.3790+ 1	7.8887+ 0		3.6124+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
4.0000- 2 ~ 7.0000- 2	3.4081+ 1	7.8888+ 0		2.6392+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
7.0000- 2 ~ 1.0000- 1	2.8669+ 1	7.8496+ 0		2.1020+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
1.0000- 1 ~ 2.0000- 1	2.3487+ 1	7.8297+ 0		1.5857+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
2.0000- 1 ~ 4.0000- 1	1.8619+ 1	7.8847+ 0		1.0938+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
4.0000- 1 ~ 7.0000- 1	1.6252+ 1	7.8128+ 0		7.7398+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
7.0000- 1 ~ 1.0000+ 0	1.3358+ 1	7.4288+ 0		5.9261+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
1.0000+ 0 ~ 2.0000+ 0	1.1390+ 1	7.2858+ 0		4.1248+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
2.0000+ 0 ~ 4.0000+ 0	9.3965+ 0	6.9445+ 0		2.4522+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
4.0000+ 0 ~ 7.0000+ 0	7.9970+ 0	6.3225+ 0		1.4748+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
7.0000+ 0 ~ 1.0000+ 1	7.2518+ 0	5.1088+ 0		1.1428+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
1.0000+ 1 ~ 2.0000+ 1	8.0668+ 1	1.1128+ 1		6.9739+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
2.0000+ 1 ~ 4.0000+ 1	6.0218+ 0	5.3438+ 0		6.7794- 1				0.0000+ 0			0.0000+ 0		5.1166- 3
4.0000+ 1 ~ 7.0000+ 1	6.5675+ 1	1.2802+ 1		5.3072+ 1				0.0000+ 0			0.0000+ 0		5.1166- 3
7.0000+ 1 ~ 1.0000+ 2	5.8566+ 0	5.7051+ 0		7.0425- 1				0.0000+ 0			0.0000+ 0		5.1166- 3
1.0000+ 2 ~ 2.0000+ 2	7.4387+ 0	5.5113+ 0		1.9284+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
2.0000+ 2 ~ 4.0000+ 2	1.4082+ 1	8.1151+ 0		5.9469+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
4.0000+ 2 ~ 7.0000+ 2	1.5288+ 1	9.6854+ 0		5.8010+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
7.0000+ 2 ~ 1.0000+ 3	1.0869+ 1	7.8257+ 0		3.0439+ 0				0.0000+ 0			0.0000+ 0		5.1166- 3
1.0000+ 3 ~ 2.0000+ 3	9.8418+ 0	7.6854+ 0		1.5562+ 0				0.0000+ 0			0.0000+ 0		9.7469- 3
2.0000+ 3 ~ 4.0000+ 3	8.9963+ 0	7.3898+ 0		1.5865+ 0				0.0000+ 0			0.0000+ 0		8.6377- 3
4.0000+ 3 ~ 7.0000+ 3	9.2753+ 0	7.3037+ 0		1.9552+ 0				0.0000+ 0			0.0000+ 0		1.1785- 2
7.0000+ 3 ~ 1.0000+ 4	8.5243+ 0	7.0656+ 0		1.4387+ 0				0.0000+ 0			0.0000+ 0		1.5871- 2
1.0000+ 4 ~ 2.0000+ 4	8.0317+ 0	6.8217+ 0		1.2100+ 0				0.0000+ 0			0.0000+ 0		2.3764- 2
2.0000+ 4 ~ 4.0000+ 4	7.7818+ 0	6.8828+ 0		8.9848- 1				0.0000+ 0			0.0000+ 0		4.2872- 2
4.0000+ 4 ~ 7.0000+ 4	7.7550+ 0	7.1281+ 0		6.2691- 1				0.0000+ 0			0.0000+ 0		7.4188- 2
7.0000+ 4 ~ 1.0000+ 5	7.8798+ 0	7.1950+ 0	7.8818- 4	4.8381- 1				0.0000+ 0			0.0000+ 0		1.1200- 1
1.0000+ 5 ~ 2.0000+ 5	7.8933+ 0	7.2899+ 0	3.2190- 2	3.9229- 1				0.0000+ 0			0.0000+ 0		1.7455- 1
2.0000+ 5 ~ 4.0000+ 5	7.6728+ 0	7.2744+ 0	1.4831- 1	2.5223- 1				0.0000+ 0			0.0000+ 0		2.7437- 1
4.0000+ 5 ~ 7.0000+ 5	7.1894+ 0	6.7114+ 0	8.8011- 1	1.4793- 1				0.0000+ 0			0.0000+ 0		3.9014- 1
7.0000+ 5 ~ 1.0000+ 6	6.6959+ 0	5.3398+ 0	1.2418+ 0	1.1460- 1				0.0000+ 0			0.0000+ 0		4.6923- 1
1.0000+ 6 ~ 2.0000+ 6	5.7703+ 0	3.8188+ 0	1.7589+ 0	9.4518- 2				4.1690- 6			2.2585- 9		5.6090- 1
2.0000+ 6 ~ 4.0000+ 6	4.4638+ 0	2.3093+ 0	2.0190+ 0	5.6070- 2				5.4585- 4			1.4442- 6	4.5131- 6	5.4666- 1
4.0000+ 6 ~ 7.0000+ 6	3.9951+ 0	1.9131+ 0	2.0672+ 0	2.1100- 2				3.5220- 3	7.5134- 6		1.2264- 4	3.6058- 7	7.0440- 1
7.0000+ 6 ~ 1.0000+ 7	4.2973+ 0	2.2898+ 0	1.9970+ 0	1.2787- 3		3.0508- 3		5.1920- 3	2.3737- 4		7.2518- 4	7.5589- 7	8.0976- 1
1.0000+ 7 ~ 2.0000+ 7	4.1411+ 0	2.3839+ 0	5.0379- 1	8.5711- 5		1.2108+ 0	8.5389- 3	1.3989- 2	1.2345- 2		4.0114- 3	3.9046- 3	8.7294- 1

MATERIAL =3472

CROSS SECTION

^{109}Ag (3472)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.8034+ 2	2.8196+ 0		2.7782+ 2							7.0225-18		8.0002- 3
1.0000- 2 ~ 2.0000- 2	1.2176+ 2	2.8180+ 0		1.1923+ 2							2.1075-17		8.0002- 3
2.0000- 2 ~ 4.0000- 2	8.7279+ 1	2.8108+ 0		8.4768+ 1							4.2169-17		8.0002- 3
4.0000- 2 ~ 7.0000- 2	6.8342+ 1	2.8021+ 0		6.2840+ 1							7.7311-17		8.0002- 3
7.0000- 2 ~ 1.0000- 1	5.3418+ 1	2.4918+ 0		5.0928+ 1							1.1949-16		8.0002- 3
1.0000- 1 ~ 2.0000- 1	4.2178+ 1	2.4884+ 0		3.9710+ 1							2.1067-16		8.0002- 3
2.0000- 1 ~ 4.0000- 1	3.2149+ 1	2.2134+ 0		2.9759+ 1							4.2178-16		8.0002- 3
4.0000- 1 ~ 7.0000- 1	2.6849+ 1	2.3170+ 0		2.4228+ 1							7.7324-16		8.0002- 3
7.0000- 1 ~ 1.0000+ 0	2.4311+ 1	2.1934+ 0		2.2117+ 1							1.1950-15		8.0002- 3
1.0000+ 0 ~ 2.0000+ 0	2.6216+ 1	1.8888+ 0		2.3525+ 1							2.1089-15		8.0002- 3
2.0000+ 0 ~ 4.0000+ 0	5.8868+ 1	1.4890+ 0		5.8380+ 1							4.2177-15		8.0002- 3
4.0000+ 0 ~ 7.0000+ 0	2.4739+ 3	2.1745+ 0		2.2558+ 3							7.7325-15		8.0002- 3
7.0000+ 0 ~ 1.0000+ 1	2.6887+ 1	1.3844+ 1		1.6533+ 1							1.1950-14		8.0002- 3
1.0000+ 1 ~ 2.0000+ 1	8.1059+ 0	8.4484+ 0		1.8629+ 0							2.1089-14		8.0002- 3
2.0000+ 1 ~ 4.0000+ 1	4.8892+ 1	8.8881+ 0		4.0038+ 1							4.2177-14		8.0002- 3
4.0000+ 1 ~ 7.0000+ 1	4.1948+ 1	1.0471+ 1		3.1474+ 1							7.7325-14		8.0002- 3
7.0000+ 1 ~ 1.0000+ 2	5.1487+ 1	1.3599+ 1		3.7888+ 1							1.1950-13		8.0002- 3
1.0000+ 2 ~ 2.0000+ 2	3.4181+ 1	1.5811+ 1		1.8370+ 1							2.1089-13		8.0002- 3
2.0000+ 2 ~ 4.0000+ 2	1.8698+ 1	1.0883+ 1		8.7416+ 0							4.2177-13		8.0002- 3
4.0000+ 2 ~ 7.0000+ 2	1.8629+ 1	1.2188+ 1		6.4810+ 0							7.7325-13		8.0002- 3
7.0000+ 2 ~ 1.0000+ 3	1.2891+ 1	9.0682+ 0		3.8217+ 0							1.1950-12		8.0002- 3
1.0000+ 3 ~ 2.0000+ 3	1.1488+ 1	8.8340+ 0		2.8229+ 0							2.1089-12		8.8558- 3
2.0000+ 3 ~ 4.0000+ 3	9.8273+ 0	8.0845+ 0		1.8328+ 0							4.2177-12		8.8217- 3
4.0000+ 3 ~ 7.0000+ 3	1.0032+ 1	8.5310+ 0		1.5014+ 0							7.7325-12		1.1898- 2
7.0000+ 3 ~ 1.0000+ 4	9.6890+ 0	7.4028+ 0		1.4962+ 0							1.1950-11		1.5831- 2
1.0000+ 4 ~ 2.0000+ 4	8.3847+ 0	7.1282+ 0		1.2565+ 0							2.1089-11		2.4350- 2
2.0000+ 4 ~ 4.0000+ 4	8.0168+ 0	7.1068+ 0		9.1894- 1							4.2177-11		4.4011- 2
4.0000+ 4 ~ 7.0000+ 4	8.0877+ 0	7.4027+ 0		6.6509- 1							7.7325-11		7.8779- 2
7.0000+ 4 ~ 1.0000+ 5	7.8867+ 0	7.5027+ 0	1.9903- 3	4.8395- 1							1.1950-10		1.1810- 1
1.0000+ 5 ~ 2.0000+ 5	8.0411+ 0	7.8447+ 0	5.8686- 2	3.8076- 1							2.1089-10		1.8018- 1
2.0000+ 5 ~ 4.0000+ 5	8.0608+ 0	7.8478+ 0	1.6861- 1	2.3726- 1				3.8588-10			4.2177-10		2.8243- 1
4.0000+ 5 ~ 7.0000+ 5	7.4858+ 0	6.4288+ 0	8.7710- 1	1.8291- 1				8.1948- 9			7.7325-10		3.9715- 1
7.0000+ 5 ~ 1.0000+ 6	6.7038+ 0	5.2014+ 0	1.3912+ 0	1.1092- 1				1.9714- 8			1.1950- 9		4.8620- 1
1.0000+ 6 ~ 2.0000+ 6	5.8688+ 0	3.8288+ 0	1.8811+ 0	7.8903- 2				4.4673- 6			2.1089- 9		5.7558- 1
2.0000+ 6 ~ 4.0000+ 6	4.5363+ 0	2.4694+ 0	2.0348+ 0	4.1778- 2				2.1510- 5			8.9204- 9	1.8395- 8	5.5505- 1
4.0000+ 6 ~ 7.0000+ 6	4.1117+ 0	2.0068+ 0	2.0928+ 0	1.1399- 2				8.7926- 4	1.0124- 8		1.0024- 5	3.4898- 7	7.0371- 1
7.0000+ 6 ~ 1.0000+ 7	4.3433+ 0	2.3214+ 0	1.9983+ 0	9.2061- 4		2.8888- 2		2.7285- 3	5.5410- 6		1.9924- 4	6.2971- 7	9.0480- 1
1.0000+ 7 ~ 2.0000+ 7	4.2114+ 0	2.4597+ 0	4.4880- 1	4.7819- 5		1.2377+ 0	4.5797- 2	1.3538- 2	1.5720- 2		4.4698- 3	5.6417- 3	8.7289- 1

MATERIAL =3480 CROSS SECTION

Cd (3480)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.1602+ 3	7.4194+ 0		8.1728+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
1.0000- 2 ~ 2.0000- 2	2.9788+ 3	7.8043+ 0		2.9710+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
2.0000- 2 ~ 4.0000- 2	2.4955+ 3	8.5438+ 0		2.4670+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
4.0000- 2 ~ 7.0000- 2	2.6223+ 3	1.0339+ 1		2.5119+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
7.0000- 2 ~ 1.0000- 1	3.1269+ 3	1.4305+ 1		3.1128+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
1.0000- 1 ~ 2.0000- 1	5.2068+ 3	3.8116+ 1		5.1705+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
2.0000- 1 ~ 4.0000- 1	1.7916+ 3	1.6827+ 1		1.7718+ 3				0.0000+ 0			0.0000+ 0		5.8121- 3
4.0000- 1 ~ 7.0000- 1	1.3471+ 2	7.5718+ 0		1.2713+ 2				0.0000+ 0			0.0000+ 0		5.8121- 3
7.0000- 1 ~ 1.0000+ 0	3.4212+ 1	6.1884+ 0		2.8046+ 1				0.0000+ 0			0.0000+ 0		5.8121- 3
1.0000+ 0 ~ 2.0000+ 0	1.2284+ 1	5.8120+ 0		6.6723+ 0				0.0000+ 0			0.0000+ 0		5.8121- 3
2.0000+ 0 ~ 4.0000+ 0	6.5461+ 0	5.3138+ 0		1.2321+ 0				0.0000+ 0			0.0000+ 0		5.8121- 3
4.0000+ 0 ~ 7.0000+ 0	5.5718+ 0	5.1321+ 0		4.1952- 1				0.0000+ 0			0.0000+ 0		5.8127- 3
7.0000+ 0 ~ 1.0000+ 1	5.2306+ 0	5.0368+ 0		1.9187- 1				0.0000+ 0			0.0000+ 0		5.8135- 3
1.0000+ 1 ~ 2.0000+ 1	5.3123+ 0	4.8595+ 0		4.5574- 1				0.0000+ 0			0.0000+ 0		5.8154- 3
2.0000+ 1 ~ 4.0000+ 1	7.3148+ 0	4.7117+ 0		3.2029+ 0				0.0000+ 0			0.0000+ 0		5.8203- 3
4.0000+ 1 ~ 7.0000+ 1	8.5974+ 0	4.4025+ 0		4.1949+ 0				0.0000+ 0			0.0000+ 0		5.8311- 3
7.0000+ 1 ~ 1.0000+ 2	3.5917+ 1	1.8775+ 1		1.7142+ 1				0.0000+ 0			0.0000+ 0		5.8445- 3
1.0000+ 2 ~ 2.0000+ 2	1.3420+ 1	7.5460+ 0		5.9740+ 0				0.0000+ 0			0.0000+ 0		5.8838- 3
2.0000+ 2 ~ 4.0000+ 2	1.9075+ 1	1.5285+ 1		3.7525+ 0				0.0000+ 0			0.0000+ 0		5.9861- 3
4.0000+ 2 ~ 7.0000+ 2	9.8197+ 0	8.9491+ 0		1.8706+ 0				0.0000+ 0			0.0000+ 0		6.2144- 3
7.0000+ 2 ~ 1.0000+ 3	1.1864+ 1	9.4430+ 0		2.2206+ 0				0.0000+ 0			0.0000+ 0		6.4945- 3
1.0000+ 3 ~ 2.0000+ 3	9.7281+ 0	8.5988+ 0		1.1273+ 0				0.0000+ 0			0.0000+ 0		7.2248- 3
2.0000+ 3 ~ 4.0000+ 3	8.9048+ 0	7.8200+ 0		9.8455- 1				0.0000+ 0			0.0000+ 0		9.1157- 3
4.0000+ 3 ~ 7.0000+ 3	8.5919+ 0	6.8425+ 0		7.4935- 1				0.0000+ 0			0.0000+ 0		1.2841- 2
7.0000+ 3 ~ 1.0000+ 4	7.1836+ 0	6.5515+ 0		6.4197- 1				0.0000+ 0			0.0000+ 0		1.7515- 2
1.0000+ 4 ~ 2.0000+ 4	7.1057+ 0	6.5983+ 0		5.0740- 1				0.0000+ 0			0.0000+ 0		2.8047- 2
2.0000+ 4 ~ 4.0000+ 4	6.9824+ 0	6.8224+ 0		3.3997- 1				0.0000+ 0			0.0000+ 0		5.2000- 2
4.0000+ 4 ~ 7.0000+ 4	7.0070+ 0	6.7816+ 0		2.2545- 1				0.0000+ 0			0.0000+ 0		8.8974- 2
7.0000+ 4 ~ 1.0000+ 5	7.0999+ 0	6.9300+ 0		1.6995- 1				0.0000+ 0			0.0000+ 0		1.2888- 1
1.0000+ 5 ~ 2.0000+ 5	7.3785+ 0	7.2487+ 0		1.2958- 1				1.5836-15			6.6131- 8		1.9593- 1
2.0000+ 5 ~ 4.0000+ 5	7.5889+ 0	7.4274+ 0	3.9088- 2	1.0344- 1				6.3944-15			2.4978- 7		2.9401- 1
4.0000+ 5 ~ 7.0000+ 5	7.9091+ 0	8.0958+ 0	2.3583- 1	7.8404- 2				1.4023-13			5.8034- 7		3.7869- 1
7.0000+ 5 ~ 1.0000+ 6	8.0648+ 0	8.1301+ 0	5.7428- 1	5.0284- 2				8.0271-11			1.3203- 6		4.4434- 1
1.0000+ 6 ~ 2.0000+ 6	8.0001+ 0	4.8087+ 0	1.1518+ 0	4.1758- 2				1.7035- 7			8.4309- 8	1.2869-21	5.1823- 1
2.0000+ 6 ~ 4.0000+ 6	4.5808+ 0	2.7921+ 0	1.7450+ 0	2.3819- 2				4.2275- 5			9.7653- 5	1.6879-17	6.1578- 1
4.0000+ 6 ~ 7.0000+ 6	3.9877+ 0	2.0388+ 0	1.9383+ 0	8.8993- 3		5.1729- 4		6.2653- 4		4.9639-15	5.4657- 4	1.2741-11	6.8298- 1
7.0000+ 6 ~ 1.0000+ 7	4.3434+ 0	2.4238+ 0	1.8231+ 0	2.2724- 3		2.2090- 1		2.1883- 3	3.8596- 8	1.3207- 8	9.2169- 4	8.6185- 7	7.9658- 1
1.0000+ 7 ~ 2.0000+ 7	4.2251+ 0	2.4238+ 0	3.8582- 1	1.1258- 3		1.2518+ 0	1.4812- 1	2.2949- 2	5.7739- 3	1.8781- 3	4.3425- 3	1.5583- 3	8.5559- 1

MATERIAL =3510 CROSS SECTION

Sb (3510)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.9818+ 1	3.7229+ 0		1.6095+ 1				0.0000+ 0			0.0000+ 0		
1.0000- 2 ~ 2.0000- 2	1.0614+ 1	3.7224+ 0		6.8814+ 0				0.0000+ 0			0.0000+ 0		
2.0000- 2 ~ 4.0000- 2	8.8066+ 0	3.7217+ 0		4.8849+ 0				0.0000+ 0			0.0000+ 0		
4.0000- 2 ~ 7.0000- 2	7.3268+ 0	3.7208+ 0		3.6080+ 0				0.0000+ 0			0.0000+ 0		
7.0000- 2 ~ 1.0000- 1	6.8208+ 0	3.7193+ 0		3.0912+ 0				0.0000+ 0			0.0000+ 0		
1.0000- 1 ~ 2.0000- 1	5.8448+ 0	3.7163+ 0		2.2285+ 0				0.0000+ 0			0.0000+ 0		
2.0000- 1 ~ 4.0000- 1	5.2267+ 0	3.7094+ 0		1.6193+ 0				0.0000+ 0			0.0000+ 0		
4.0000- 1 ~ 7.0000- 1	4.8469+ 0	3.6874+ 0		1.2408+ 0				0.0000+ 0			0.0000+ 0		
7.0000- 1 ~ 1.0000+ 0	4.7468+ 0	3.6829+ 0		1.0645+ 0				0.0000+ 0			0.0000+ 0		
1.0000+ 0 ~ 2.0000+ 0	4.5844+ 0	3.8461+ 0		9.4933- 1				0.0000+ 0			0.0000+ 0		
2.0000+ 0 ~ 4.0000+ 0	4.7268+ 0	3.9217+ 0		1.2046+ 0				0.0000+ 0			0.0000+ 0		
4.0000+ 0 ~ 7.0000+ 0	1.4077+ 2	3.8258+ 0		1.3448+ 2				0.0000+ 0			0.0000+ 0		
7.0000+ 0 ~ 1.0000+ 1	6.2092+ 0	4.0147+ 0		2.1945+ 0				0.0000+ 0			0.0000+ 0		
1.0000+ 1 ~ 2.0000+ 1	5.9138+ 1	8.1887+ 0		5.0989+ 1				0.0000+ 0			0.0000+ 0		
2.0000+ 1 ~ 4.0000+ 1	7.6382+ 1	2.0878+ 1		5.5614+ 1				0.0000+ 0			0.0000+ 0		
4.0000+ 1 ~ 7.0000+ 1	8.2236+ 0	4.3238+ 0		3.8998+ 0				0.0000+ 0			0.0000+ 0		
7.0000+ 1 ~ 1.0000+ 2	1.6747+ 1	5.1116+ 0		1.1636+ 1				0.0000+ 0			0.0000+ 0		
1.0000+ 2 ~ 2.0000+ 2	1.7724+ 1	7.3194+ 0		1.0404+ 1				0.0000+ 0			0.0000+ 0		
2.0000+ 2 ~ 4.0000+ 2	7.6980+ 0	4.7571+ 0		2.9818+ 0				0.0000+ 0			0.0000+ 0		
4.0000+ 2 ~ 7.0000+ 2	1.0030+ 1	6.4578+ 0		3.5724+ 0				0.0000+ 0			0.0000+ 0		
7.0000+ 2 ~ 1.0000+ 3	1.0341+ 1	7.0468+ 0		3.2980+ 0				0.0000+ 0			0.0000+ 0		
1.0000+ 3 ~ 2.0000+ 3	7.4878+ 0	5.9811+ 0		1.5065+ 0				0.0000+ 0			0.0000+ 0		
2.0000+ 3 ~ 4.0000+ 3	9.5848+ 0	7.9889+ 0		1.8149+ 0				0.0000+ 0			0.0000+ 0		
4.0000+ 3 ~ 7.0000+ 3	8.5748+ 0	7.3946+ 0		1.1800+ 0				0.0000+ 0			0.0000+ 0		
7.0000+ 3 ~ 1.0000+ 4	7.8224+ 0	6.8616+ 0		9.4077- 1				0.0000+ 0			0.0000+ 0		
1.0000+ 4 ~ 2.0000+ 4	7.1588+ 0	6.4495+ 0		7.1015- 1				0.0000+ 0			0.0000+ 0		
2.0000+ 4 ~ 4.0000+ 4	9.6454+ 0	8.1844+ 0	1.7019- 3	4.7929- 1				0.0000+ 0			0.0000+ 0		
4.0000+ 4 ~ 7.0000+ 4	8.4130+ 0	6.8901+ 0	1.2278- 1	3.0046- 1				0.0000+ 0			0.0000+ 0		
7.0000+ 4 ~ 1.0000+ 5	8.3254+ 0	5.9016+ 0	2.1592- 1	2.0699- 1				0.0000+ 0			0.0000+ 0		
1.0000+ 5 ~ 2.0000+ 5	6.3128+ 0	5.8089+ 0	2.9579- 1	2.0721- 1				1.5903-21			8.1677-14		
2.0000+ 5 ~ 4.0000+ 5	6.3270+ 0	5.7436+ 0	4.3727- 1	1.4816- 1				6.3613-21			3.2671-13		
4.0000+ 5 ~ 7.0000+ 5	6.4153+ 0	5.7721+ 0	5.1641- 1	1.2785- 1				2.5592-20			7.8768-13		
7.0000+ 5 ~ 1.0000+ 6	6.6235+ 0	5.8609+ 0	6.3500- 1	1.2757- 1				3.0695-19			1.9333-12		
1.0000+ 6 ~ 2.0000+ 6	6.2985+ 0	5.0854+ 0	1.0984+ 0	1.0242- 1				4.2193-18			2.3989-11		
2.0000+ 6 ~ 4.0000+ 6	4.9178+ 0	3.0805+ 0	1.7807+ 0	5.5010- 2				3.7133- 9			1.4134- 8	2.8017-20	
4.0000+ 6 ~ 7.0000+ 6	4.2658+ 0	2.2888+ 0	1.9850+ 0	1.1107- 2				8.5279- 5	4.8369-21	1.1421-15	6.2096- 8	6.1758-15	
7.0000+ 6 ~ 1.0000+ 7	4.4417+ 0	2.8364+ 0	1.7638+ 0	1.3716- 3		4.9387- 2		5.7018- 4	1.8675-10	6.2314- 8	8.6249- 5	3.8779-10	
1.0000+ 7 ~ 2.0000+ 7	4.3811+ 0	2.5446+ 0	3.4121- 1	1.0626- 3		1.3442+ 0	1.2753- 1	5.7345- 3	5.0036- 3	3.8065- 3	4.5699- 3	7.3587- 4	

CROSS SECTION

^{121}Sb (3511)

MATERIAL =3511

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.2027+ 1	3.5813+ 0		1.8438+ 1				0.0000+ 0			0.0000+ 0		5.5618- 3
1.0000- 2 ~ 2.0000- 2	1.1492+ 1	3.5908+ 0		7.9012+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
2.0000- 2 ~ 4.0000- 2	8.1978+ 0	3.5801+ 0		5.8077+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
4.0000- 2 ~ 7.0000- 2	7.7373+ 0	3.5888+ 0		4.1486+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
7.0000- 2 ~ 1.0000- 1	6.9338+ 0	3.5873+ 0		3.3463+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
1.0000- 1 ~ 2.0000- 1	6.1743+ 0	3.5839+ 0		2.5905+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
2.0000- 1 ~ 4.0000- 1	5.4776+ 0	3.5768+ 0		1.9017+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
4.0000- 1 ~ 7.0000- 1	5.0594+ 0	3.5618+ 0		1.4976+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
7.0000- 1 ~ 1.0000+ 0	4.8634+ 0	3.5435+ 0		1.3099+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
1.0000+ 0 ~ 2.0000+ 0	4.7901+ 0	3.4965+ 0		1.2936+ 0				0.0000+ 0			0.0000+ 0		5.5618- 3
2.0000+ 0 ~ 4.0000+ 0	5.1103+ 0	3.3243+ 0		1.7861+ 0				0.0000+ 0			0.0000+ 0		5.5572- 3
4.0000+ 0 ~ 7.0000+ 0	2.4270+ 2	8.2481+ 0		2.3448+ 2				0.0000+ 0			0.0000+ 0		5.5851- 3
7.0000+ 0 ~ 1.0000+ 1	7.9098+ 0	4.3863+ 0		3.5245+ 0				0.0000+ 0			0.0000+ 0		5.5875- 3
1.0000+ 1 ~ 2.0000+ 1	9.8220+ 1	1.2217+ 1		8.7002+ 1				0.0000+ 0			0.0000+ 0		5.5736- 3
2.0000+ 1 ~ 4.0000+ 1	2.1628+ 1	5.0886+ 0		1.6540+ 1				0.0000+ 0			0.0000+ 0		5.5864- 3
4.0000+ 1 ~ 7.0000+ 1	7.9463+ 0	4.1102+ 0		3.8352+ 0				0.0000+ 0			0.0000+ 0		5.6149- 3
7.0000+ 1 ~ 1.0000+ 2	2.2339+ 1	5.8905+ 0		1.6848+ 1				0.0000+ 0			0.0000+ 0		5.6381- 3
1.0000+ 2 ~ 2.0000+ 2	1.9187+ 1	8.8280+ 0		1.2358+ 1				0.0000+ 0			0.0000+ 0		5.7235- 3
2.0000+ 2 ~ 4.0000+ 2	6.8724+ 0	4.4458+ 0		2.4266+ 0				0.0000+ 0			0.0000+ 0		5.9054- 3
4.0000+ 2 ~ 7.0000+ 2	1.3187+ 1	7.9179+ 0		5.2492+ 0				0.0000+ 0			0.0000+ 0		6.3323- 3
7.0000+ 2 ~ 1.0000+ 3	1.0442+ 1	8.8259+ 0		3.8162+ 0				0.0000+ 0			0.0000+ 0		6.6812- 3
1.0000+ 3 ~ 2.0000+ 3	7.5204+ 0	5.8370+ 0		1.6833+ 0				0.0000+ 0			0.0000+ 0		7.7005- 3
2.0000+ 3 ~ 4.0000+ 3	6.9838+ 0	4.5287+ 0		2.4349+ 0				0.0000+ 0			0.0000+ 0		1.0292- 2
4.0000+ 3 ~ 7.0000+ 3	6.4941+ 0	4.7597+ 0		1.7354+ 0				0.0000+ 0			0.0000+ 0		1.5105- 2
7.0000+ 3 ~ 1.0000+ 4	6.2710+ 0	4.6764+ 0		1.5946+ 0				0.0000+ 0			0.0000+ 0		2.0693- 2
1.0000+ 4 ~ 2.0000+ 4	6.1184+ 0	5.0339+ 0		1.0851+ 0				0.0000+ 0			0.0000+ 0		3.4079- 2
2.0000+ 4 ~ 4.0000+ 4	6.0828+ 0	5.3175+ 0	2.8702- 3	7.7233- 1				0.0000+ 0			0.0000+ 0		6.2714- 2
4.0000+ 4 ~ 7.0000+ 4	6.2531+ 0	5.6493+ 0	2.1427- 1	4.8608- 1				0.0000+ 0			0.0000+ 0		1.0925- 1
7.0000+ 4 ~ 1.0000+ 5	6.3420+ 0	5.8225+ 0	3.7830- 1	9.4443- 1				0.0000+ 0			0.0000+ 0		1.5704- 1
1.0000+ 5 ~ 2.0000+ 5	6.3142+ 0	5.5857+ 0	4.9385- 1	2.3589- 1				2.7754-21			1.4248-13		2.3752- 1
2.0000+ 5 ~ 4.0000+ 5	6.3284+ 0	5.5045+ 0	5.5473- 1	1.6812- 1				1.1102-20			5.6991-13		3.4478- 1
4.0000+ 5 ~ 7.0000+ 5	6.3861+ 0	5.5238+ 0	5.1453- 1	1.4789- 1				4.4838-20			1.3740-12		4.2068- 1
7.0000+ 5 ~ 1.0000+ 6	6.3748+ 0	5.4861+ 0	7.8257- 1	1.4608- 1				5.3568-19			3.3721-12		4.5995- 1
1.0000+ 6 ~ 2.0000+ 6	5.9548+ 0	4.6385+ 0	1.2000+ 0	1.1488- 1				7.3833-16			4.1804-11		5.2359- 1
2.0000+ 6 ~ 4.0000+ 6	4.8854+ 0	2.7772+ 0	1.6108+ 0	6.3089- 2				6.4801- 9			2.4648- 8	4.8896-20	6.1570- 1
4.0000+ 6 ~ 7.0000+ 6	3.8288+ 0	1.9283+ 0	1.9678+ 0	1.2247- 2				1.3125- 4	8.4448-21	1.9923-15	1.0573- 5	1.0584-14	6.4435- 1
7.0000+ 6 ~ 1.0000+ 7	4.2788+ 0	2.4756+ 0	1.7708+ 0	1.3808- 3		2.7827- 2		9.5974- 4	3.2581-10	1.0099- 7	1.3558- 4	6.3257-10	7.5787- 1
1.0000+ 7 ~ 2.0000+ 7	4.3748+ 0	2.4478+ 0	3.8801- 1	1.0658- 3		1.4241+ 0	1.0578- 1	8.3950- 3	8.0224- 3	4.5891- 3	5.2178- 3	9.1125- 4	8.5484- 1

CROSS SECTION

^{123}Sb (3512)

MATERIAL =3512

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.0054+ 1	3.8993+ 0		1.2054+ 1							0.0000+ 0		5.4713- 3
1.0000- 2 ~ 2.0000- 2	9.4352+ 0	3.8948+ 0		5.5385+ 0							0.0000+ 0		5.4713- 3
2.0000- 2 ~ 4.0000- 2	7.8130+ 0	3.8994+ 0		3.8145+ 0							0.0000+ 0		5.4713- 3
4.0000- 2 ~ 7.0000- 2	6.7727+ 0	3.8976+ 0		2.8752+ 0							0.0000+ 0		5.4713- 3
7.0000- 2 ~ 1.0000- 1	6.2004+ 0	3.8994+ 0		2.3040+ 0							0.0000+ 0		5.4713- 3
1.0000- 1 ~ 2.0000- 1	5.6484+ 0	3.8941+ 0		1.7544+ 0							0.0000+ 0		5.4713- 3
2.0000- 1 ~ 4.0000- 1	5.1298+ 0	3.8996+ 0		1.2403+ 0							0.0000+ 0		5.4713- 3
4.0000- 1 ~ 7.0000- 1	4.7941+ 0	3.8795+ 0		9.1480- 1							0.0000+ 0		5.4713- 3
7.0000- 1 ~ 1.0000+ 0	4.6032+ 0	3.8698+ 0		7.3480- 1							0.0000+ 0		5.4713- 3
1.0000+ 0 ~ 2.0000+ 0	4.4129+ 0	3.8445+ 0		5.6784- 1							0.0000+ 0		5.4713- 3
2.0000+ 0 ~ 4.0000+ 0	4.2128+ 0	3.7868+ 0		4.2597- 1							0.0000+ 0		5.4715- 3
4.0000+ 0 ~ 7.0000+ 0	4.0498+ 0	3.5784+ 0		3.7120- 1							0.0000+ 0		5.4732- 3
7.0000+ 0 ~ 1.0000+ 1	3.9266+ 0	3.5181+ 0		4.0943- 1							0.0000+ 0		5.4748- 3
1.0000+ 1 ~ 2.0000+ 1	5.3623+ 0	2.7311+ 0		2.6212+ 0							0.0000+ 0		5.4790- 3
2.0000+ 1 ~ 4.0000+ 1	1.4990+ 2	4.2074+ 1		1.0762+ 2							0.0000+ 0		5.4879- 3
4.0000+ 1 ~ 7.0000+ 1	8.5968+ 0	4.6108+ 0		3.8860+ 0							0.0000+ 0		5.5091- 3
7.0000+ 1 ~ 1.0000+ 2	9.2437+ 0	4.3344+ 0		4.9093+ 0							0.0000+ 0		5.5285- 3
1.0000+ 2 ~ 2.0000+ 2	1.6768+ 1	7.8768+ 0		7.7807+ 0							0.0000+ 0		5.5954- 3
2.0000+ 2 ~ 4.0000+ 2	8.5745+ 0	5.1284+ 0		3.4461+ 0							0.0000+ 0		5.7472- 3
4.0000+ 2 ~ 7.0000+ 2	5.8200+ 0	4.4983+ 0		1.3217+ 0							0.0000+ 0		6.1202- 3
7.0000+ 2 ~ 1.0000+ 3	1.0208+ 1	7.3402+ 0		2.6860+ 0							0.0000+ 0		6.4259- 3
1.0000+ 3 ~ 2.0000+ 3	7.4883+ 0	5.8830+ 0		1.4753+ 0							0.0000+ 0		7.3528- 3
2.0000+ 3 ~ 4.0000+ 3	6.8284+ 0	5.1778+ 0		1.4506+ 0							0.0000+ 0		9.7557- 3
4.0000+ 3 ~ 7.0000+ 3	6.2487+ 0	5.0830+ 0		1.1557+ 0							0.0000+ 0		1.4288- 2
7.0000+ 3 ~ 1.0000+ 4	6.0647+ 0	5.1652+ 0		9.1953- 1							0.0000+ 0		1.9759- 2
1.0000+ 4 ~ 2.0000+ 4	5.8895+ 0	5.3008+ 0		6.8907- 1							0.0000+ 0		3.2286- 2
2.0000+ 4 ~ 4.0000+ 4	5.8287+ 0	5.5681+ 0		4.6252- 1							0.0000+ 0		6.0259- 2
4.0000+ 4 ~ 7.0000+ 4	6.1622+ 0	5.8488+ 0		3.1327- 1							0.0000+ 0		1.0237- 1
7.0000+ 4 ~ 1.0000+ 5	6.2864+ 0	6.0506+ 0		2.3592- 1							0.0000+ 0		1.4490- 1
1.0000+ 5 ~ 2.0000+ 5	6.3105+ 0	6.1064+ 0	3.0146- 2	1.7139- 1							6.6473-17		2.1749- 1
2.0000+ 5 ~ 4.0000+ 5	6.3251+ 0	5.9300+ 0	2.7963- 1	1.1536- 1							3.5389-16		3.2623- 1
4.0000+ 5 ~ 7.0000+ 5	6.3830+ 0	5.8984+ 0	3.8238- 1	1.0118- 1							8.9917-16		4.0075- 1
7.0000+ 5 ~ 1.0000+ 6	6.3730+ 0	5.8084+ 0	4.8381- 1	1.0272- 1				0.0000+ 0			2.4808-15		4.3305- 1
1.0000+ 6 ~ 2.0000+ 6	5.8848+ 0	4.9054+ 0	9.6193- 1	8.5899- 2				1.5983-19			1.5438-14		4.9583- 1
2.0000+ 6 ~ 4.0000+ 6	4.8642+ 0	2.8821+ 0	1.7403+ 0	4.4184- 2				5.2783-13			2.8468-11		5.9885- 1
4.0000+ 6 ~ 7.0000+ 6	3.8285+ 0	1.9332+ 0	1.8832+ 0	9.5734- 3				2.3340- 5		1.2902-16	3.4772- 7	2.4692-16	6.4196- 1
7.0000+ 6 ~ 1.0000+ 7	4.2784+ 0	2.4837+ 0	1.7508+ 0	1.3486- 3		7.8587- 2		2.8157- 4	1.4538-13	9.9526- 9	2.0001- 5	1.0988-11	7.5761- 1
1.0000+ 7 ~ 2.0000+ 7	4.3747+ 0	2.8582+ 0	3.0626- 1	1.0686- 3		1.2369+ 0	1.5871- 1	4.5057- 3	3.8353- 3	2.6207- 3	3.6995- 3	5.0000- 4	8.5484- 1

MATERIAL =3630 CROSS SECTION

Eu (3630)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.7893+ 4	5.5693+ 0		1.7888+ 4				0.0000+ 0			1.7739- 5	0.0000+ 0	
1.0000- 2 ~ 2.0000- 2	6.8626+ 3	5.4318+ 0		6.8173+ 3				0.0000+ 0			6.9417- 6	0.0000+ 0	
2.0000- 2 ~ 4.0000- 2	4.0588+ 3	5.1808+ 0		4.0533+ 3				0.0000+ 0			4.0691- 6	0.0000+ 0	
4.0000- 2 ~ 7.0000- 2	2.1197+ 3	4.7655+ 0		2.1150+ 3				0.0000+ 0			2.1882- 6	0.0000+ 0	
7.0000- 2 ~ 1.0000- 1	1.2580+ 3	4.4782+ 0		1.2535+ 3				0.0000+ 0			1.3451- 6	0.0000+ 0	
1.0000- 1 ~ 2.0000- 1	8.9039+ 2	4.4169+ 0		8.8597+ 2				0.0000+ 0			9.8105- 7	0.0000+ 0	
2.0000- 1 ~ 4.0000- 1	2.8423+ 3	9.8813+ 0		2.5324+ 3				0.0000+ 0			2.8911- 6	0.0000+ 0	
4.0000- 1 ~ 7.0000- 1	4.2492+ 3	4.1818+ 1		4.2074+ 3				0.0000+ 0			4.3448- 6	0.0000+ 0	
7.0000- 1 ~ 1.0000+ 0	3.1852+ 2	7.8903+ 0		3.1163+ 2				0.0000+ 0			4.7177- 7	0.0000+ 0	
1.0000+ 0 ~ 2.0000+ 0	2.5088+ 2	6.5980+ 0		2.4428+ 2				0.0000+ 0			2.9799- 7	0.0000+ 0	
2.0000+ 0 ~ 4.0000+ 0	8.0852+ 2	1.2834+ 1		7.9568+ 2				0.0000+ 0			1.2469- 6	0.0000+ 0	
4.0000+ 0 ~ 7.0000+ 0	1.2524+ 2	7.2001+ 0		1.1804+ 2				0.0000+ 0			2.9072- 7	0.0000+ 0	
7.0000+ 0 ~ 1.0000+ 1	3.5813+ 2	1.3995+ 1		3.4413+ 2				0.0000+ 0			3.7184- 7	0.0000+ 0	
1.0000+ 1 ~ 2.0000+ 1	2.3880+ 2	1.3155+ 1		2.2364+ 2				0.0000+ 0			3.2472- 7	0.0000+ 0	
2.0000+ 1 ~ 4.0000+ 1	1.7051+ 2	1.8018+ 1		1.5449+ 2				0.0000+ 0			2.3920- 7	0.0000+ 0	
4.0000+ 1 ~ 7.0000+ 1	2.0274+ 2	3.6288+ 1		1.6846+ 2				0.0000+ 0			2.4624- 7	0.0000+ 0	
7.0000+ 1 ~ 1.0000+ 2	1.3498+ 2	2.9230+ 1		1.0575+ 2				0.0000+ 0			1.5045- 7	0.0000+ 0	
1.0000+ 2 ~ 2.0000+ 2	1.1870+ 2	3.0888+ 1		8.6009+ 1				0.0000+ 0			5.4948- 8	0.0000+ 0	
2.0000+ 2 ~ 4.0000+ 2	8.4011+ 1	2.7674+ 1		5.6336+ 1				0.0000+ 0			4.3865- 8	0.0000+ 0	
4.0000+ 2 ~ 7.0000+ 2	6.3200+ 1	2.4697+ 1		3.8503+ 1				0.0000+ 0			3.5920- 8	0.0000+ 0	
7.0000+ 2 ~ 1.0000+ 3	5.1894+ 1	2.2629+ 1		2.9265+ 1				0.0000+ 0			3.1081- 8	0.0000+ 0	
1.0000+ 3 ~ 2.0000+ 3	4.1458+ 1	2.0814+ 1		2.0644+ 1				0.0000+ 0			2.6187- 8	0.0000+ 0	
2.0000+ 3 ~ 4.0000+ 3	3.1217+ 1	1.7861+ 1		1.3356+ 1				0.0000+ 0			2.1134- 8	0.0000+ 0	
4.0000+ 3 ~ 7.0000+ 3	2.4456+ 1	1.5524+ 1		8.9320+ 0				0.0000+ 0			1.7487- 8	0.0000+ 0	
7.0000+ 3 ~ 1.0000+ 4	2.0545+ 1	1.3974+ 1		6.6716+ 0				0.0000+ 0			1.5246- 8	0.0000+ 0	
1.0000+ 4 ~ 2.0000+ 4	1.8598+ 1	1.1862+ 1		4.7438+ 0				0.0000+ 0			1.5170- 8	0.0000+ 0	
2.0000+ 4 ~ 4.0000+ 4	1.2817+ 1	9.5848+ 0	3.2826- 2	2.9888+ 0				0.0000+ 0			1.6503- 8	0.0000+ 0	
4.0000+ 4 ~ 7.0000+ 4	1.0156+ 1	7.9797+ 0	9.0459- 2	2.0882+ 0				0.0000+ 0			1.7776- 8	0.0000+ 0	
7.0000+ 4 ~ 1.0000+ 5	8.7873+ 0	6.8781+ 0	1.2960- 1	1.6517+ 0				0.0000+ 0			1.8758- 8	0.0000+ 0	
1.0000+ 5 ~ 2.0000+ 5	7.7693+ 0	6.0967+ 0	4.1859- 1	1.2528+ 0				0.0000+ 0			9.8351- 8	0.0000+ 0	2.3876- 1
2.0000+ 5 ~ 4.0000+ 5	7.0740+ 0	5.3988+ 0	8.4147- 1	8.3216- 1				0.0000+ 0			1.2642- 7	0.0000+ 0	3.5422- 1
4.0000+ 5 ~ 7.0000+ 5	7.0807+ 0	5.2598+ 0	1.2885+ 0	5.3408- 1				0.0000+ 0			9.5142- 7	0.0000+ 0	4.4522- 1
7.0000+ 5 ~ 1.0000+ 6	7.2728+ 0	5.3203+ 0	1.5826+ 0	3.8940- 1				0.0000+ 0			7.2989- 7	0.0000+ 0	5.1880- 1
1.0000+ 6 ~ 2.0000+ 6	7.2699+ 0	5.1333+ 0	1.8856+ 0	2.4835- 1				8.9380-10			5.0855- 8	0.0000+ 0	6.3492- 1
2.0000+ 6 ~ 4.0000+ 6	8.3695+ 0	4.0068+ 0	2.2900+ 0	9.0348- 2				1.0592- 5			3.4933- 5	0.0000+ 0	7.3047- 1
4.0000+ 6 ~ 7.0000+ 6	5.1532+ 0	2.7046+ 0	2.4781+ 0	9.9363- 3				1.3128- 4	2.8068- 9		1.7558- 4	0.0000+ 0	7.4182- 1
7.0000+ 6 ~ 1.0000+ 7	4.4326+ 0	2.6696+ 0	2.2205+ 0	9.3651- 4		1.3928- 1		8.5034- 4	2.0725- 5		9.6130- 4	0.0000+ 0	7.7600- 1
1.0000+ 7 ~ 2.0000+ 7	5.2486+ 0	3.0083+ 0	5.1037- 1	1.0814- 3		1.5427+ 0	1.8862- 1	7.4724- 3	7.4193- 3		4.8884- 3	1.9296- 3	8.7338- 1

MATERIAL =3631 CROSS SECTION

^{151}Eu (3631)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.8013+ 4	3.7650+ 0		3.8009+ 4				0.0000+ 0			3.4171- 5	0.0000+ 0	4.4658- 3
1.0000- 2 ~ 2.0000- 2	1.4017+ 4	3.5388+ 0		1.4013+ 4				0.0000+ 0			1.3308- 5	0.0000+ 0	4.4658- 3
2.0000- 2 ~ 4.0000- 2	8.0883+ 3	3.0458+ 0		8.0853+ 3				0.0000+ 0			7.7309- 6	0.0000+ 0	4.4652- 3
4.0000- 2 ~ 7.0000- 2	4.1648+ 3	2.5356+ 0		4.1625+ 3				0.0000+ 0			4.0107- 6	0.0000+ 0	4.5924- 3
7.0000- 2 ~ 1.0000- 1	2.4217+ 3	2.0801+ 0		2.4185+ 3				0.0000+ 0			2.3913- 6	0.0000+ 0	4.8718- 3
1.0000- 1 ~ 2.0000- 1	1.7189+ 3	1.9903+ 0		1.7148+ 3				0.0000+ 0			1.7828- 6	0.0000+ 0	4.7706- 3
2.0000- 1 ~ 4.0000- 1	6.1844+ 3	1.3906+ 1		6.1807+ 3				0.0000+ 0			6.7988- 6	0.0000+ 0	4.8848- 3
4.0000- 1 ~ 7.0000- 1	8.7304+ 3	8.0926+ 1		8.8495+ 3				0.0000+ 0			8.7738- 6	0.0000+ 0	5.0041- 3
7.0000- 1 ~ 1.0000+ 0	8.2815+ 2	1.0478+ 1		8.1787+ 2				0.0000+ 0			9.1357- 7	0.0000+ 0	5.0833- 3
1.0000+ 0 ~ 2.0000+ 0	4.0779+ 2	9.0529+ 0		3.9874+ 2				0.0000+ 0			3.0061- 7	0.0000+ 0	5.1824- 3
2.0000+ 0 ~ 4.0000+ 0	8.0001+ 2	9.8701+ 0		5.8034+ 2				0.0000+ 0			5.8746- 7	0.0000+ 0	5.3053- 3
4.0000+ 0 ~ 7.0000+ 0	1.1820+ 2	5.1264+ 0		1.1294+ 2				0.0000+ 0			1.9891- 7	0.0000+ 0	5.4158- 3
7.0000+ 0 ~ 1.0000+ 1	4.4868+ 2	1.4868+ 1		4.3169+ 2				0.0000+ 0			4.0549- 7	0.0000+ 0	5.4950- 3
1.0000+ 1 ~ 2.0000+ 1	2.4514+ 2	1.1449+ 1		2.3370+ 2				0.0000+ 0			2.0940- 7	0.0000+ 0	5.5941- 3
2.0000+ 1 ~ 4.0000+ 1	2.0870+ 2	1.6342+ 1		1.9338+ 2				0.0000+ 0			2.2047- 7	0.0000+ 0	5.7180- 3
4.0000+ 1 ~ 7.0000+ 1	2.3642+ 2	4.3858+ 1		1.9258+ 2				0.0000+ 0			1.8992- 7	0.0000+ 0	5.8276- 3
7.0000+ 1 ~ 1.0000+ 2	1.8874+ 2	3.0872+ 1		1.3788+ 2				0.0000+ 0			1.2641- 7	0.0000+ 0	5.9088- 3
1.0000+ 2 ~ 2.0000+ 2	1.3337+ 2	3.4148+ 1		9.9223+ 1				0.0000+ 0			1.0848- 7	0.0000+ 0	6.0058- 3
2.0000+ 2 ~ 4.0000+ 2	9.5834+ 1	3.0830+ 1		6.5204+ 1				0.0000+ 0			8.8500- 8	0.0000+ 0	6.1298- 3
4.0000+ 2 ~ 7.0000+ 2	7.2028+ 1	2.7004+ 1		4.5025+ 1				0.0000+ 0			7.1941- 8	0.0000+ 0	6.2393- 3
7.0000+ 2 ~ 1.0000+ 3	5.8753+ 1	2.4230+ 1		3.4522+ 1				0.0000+ 0			6.2954- 8	0.0000+ 0	6.3185- 3
1.0000+ 3 ~ 2.0000+ 3	4.5822+ 1	2.1364+ 1		2.4458+ 1				0.0000+ 0			5.3386- 8	0.0000+ 0	6.4521- 3
2.0000+ 3 ~ 4.0000+ 3	3.4027+ 1	1.8130+ 1		1.5898+ 1				0.0000+ 0			4.3369- 8	0.0000+ 0	1.5021- 2
4.0000+ 3 ~ 7.0000+ 3	2.6350+ 1	1.5602+ 1		1.0748+ 1				0.0000+ 0			3.6068- 8	0.0000+ 0	1.9943- 2
7.0000+ 3 ~ 1.0000+ 4	2.2036+ 1	1.3942+ 1		8.0939+ 0				0.0000+ 0			3.1563- 8	0.0000+ 0	2.3500- 2
1.0000+ 4 ~ 2.0000+ 4	1.7807+ 1	1.1978+ 1		5.8280+ 0				0.0000+ 0			3.1493- 8	0.0000+ 0	3.7041- 2
2.0000+ 4 ~ 4.0000+ 4	1.2338+ 1	9.6893+ 0	8.8803- 2	3.5740+ 0				0.0000+ 0			3.4342- 8	0.0000+ 0	7.1158- 2
4.0000+ 4 ~ 7.0000+ 4	1.0682+ 1	7.9849+ 0	1.8824- 1	2.3778+ 0				0.0000+ 0			3.7070- 8	0.0000+ 0	1.1798- 1
7.0000+ 4 ~ 1.0000+ 5	8.9068+ 0	6.8464+ 0	2.0059- 1	1.8805+ 0				0.0000+ 0			3.9174- 8	0.0000+ 0	1.6940- 1
1.0000+ 5 ~ 2.0000+ 5	7.7458+ 0	6.0432+ 0	1.9812- 1	1.5080+ 0				0.0000+ 0			8.1414- 8	0.0000+ 0	2.5381- 1
2.0000+ 5 ~ 4.0000+ 5	7.0664+ 0	5.5896+ 0	4.4328- 1	1.0830+ 0				0.0000+ 0			2.6433- 7	0.0000+ 0	3.6803- 1
4.0000+ 5 ~ 7.0000+ 5	7.2439+ 0	5.4913+ 0	9.1387- 1	6.5758- 1				0.0000+ 0			7.3497- 7	0.0000+ 0	4.5714- 1
7.0000+ 5 ~ 1.0000+ 6	7.2723+ 0	5.5941+ 0	1.2128+ 0	4.6301- 1				0.0000+ 0			1.5258- 6	0.0000+ 0	5.2716- 1
1.0000+ 6 ~ 2.0000+ 6	7.2518+ 0	5.3874+ 0	1.8012+ 0	2.7888- 1				0.0000+ 0			1.0597- 5	0.0000+ 0	6.3838- 1
2.0000+ 6 ~ 4.0000+ 6	8.3478+ 0	4.0862+ 0	2.1644+ 0	1.0482- 1				1.3037- 5			7.3002- 5	0.0000+ 0	7.2904- 1
4.0000+ 6 ~ 7.0000+ 6	5.1619+ 0	2.6862+ 0	2.4823+ 0	1.3279- 2				2.0969- 4	6.4515- 9		3.8013- 4	0.0000+ 0	7.3948- 1
7.0000+ 6 ~ 1.0000+ 7	4.9227+ 0	2.5668+ 0	2.1490+ 0	1.1125- 3		2.0322- 1		1.1636- 3	3.7422- 5		1.8927- 3	0.0000+ 0	7.7878- 1
1.0000+ 7 ~ 2.0000+ 7	5.2498+ 0	3.0144+ 0	9.9423- 1	1.0891- 3		1.4681+ 0	2.4339- 1	6.1775- 3	8.0940- 3		7.9485- 3	3.1972- 3	8.7372- 1

CROSS SECTION

^{153}Eu (3633)

MATERIAL =3633

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.9012+ 3	7.2114+ 0		1.2940+ 3							2.6917- 6	0.0000+ 0	4.4356- 3
1.0000- 2 ~ 2.0000- 2	5.4187+ 2	7.1848+ 0		5.3471+ 2							1.1120- 6	0.0000+ 0	4.4356- 3
2.0000- 2 ~ 4.0000- 2	3.8882+ 2	7.0875+ 0		3.8272+ 2							7.6411- 7	0.0000+ 0	4.4541- 3
4.0000- 2 ~ 7.0000- 2	2.5884+ 2	6.8858+ 0		2.4984+ 2							5.1919- 7	0.0000+ 0	4.5138- 3
7.0000- 2 ~ 1.0000- 1	1.8262+ 2	6.6759+ 0		1.8574+ 2							3.8718- 7	0.0000+ 0	4.5692- 3
1.0000- 1 ~ 2.0000- 1	1.3387+ 2	6.8522+ 0		1.2722+ 2							2.6508- 7	0.0000+ 0	4.6159- 3
2.0000- 1 ~ 4.0000- 1	1.1196+ 2	6.1896+ 0		1.0676+ 2							2.3024- 7	0.0000+ 0	4.8888- 3
4.0000- 1 ~ 7.0000- 1	1.4758+ 2	5.0430+ 0		1.4151+ 2							2.8878- 7	0.0000+ 0	4.7497- 3
7.0000- 1 ~ 1.0000+ 0	3.8884+ 1	5.5224+ 0		3.1462+ 1							6.7212- 8	0.0000+ 0	4.7980- 3
1.0000+ 0 ~ 2.0000+ 0	1.0744+ 2	4.3514+ 0		1.0309+ 2							2.9559- 7	0.0000+ 0	4.8518- 3
2.0000+ 0 ~ 4.0000+ 0	9.9947+ 2	1.6735+ 1		9.8374+ 2							1.8692- 6	0.0000+ 0	4.9228- 3
4.0000+ 0 ~ 7.0000+ 0	1.3078+ 2	9.0992+ 0		1.2165+ 2							3.7415- 7	0.0000+ 0	4.9858- 3
7.0000+ 0 ~ 1.0000+ 1	2.7711+ 2	1.3103+ 1		2.6401+ 2							3.4103- 7	0.0000+ 0	5.0309- 3
1.0000+ 1 ~ 2.0000+ 1	2.2908+ 2	1.4719+ 1		2.1435+ 2							4.3581- 7	0.0000+ 0	5.0877- 3
2.0000+ 1 ~ 4.0000+ 1	1.3455+ 2	1.5718+ 1		1.1886+ 2							2.5636- 7	0.0000+ 0	5.1507- 3
4.0000+ 1 ~ 7.0000+ 1	1.7182+ 2	2.9356+ 1		1.4267+ 2							2.9781- 7	0.0000+ 0	5.2215- 3
7.0000+ 1 ~ 1.0000+ 2	1.0408+ 2	2.7725+ 1		7.6335+ 1							1.7339- 7	0.0000+ 0	5.2668- 3
1.0000+ 2 ~ 2.0000+ 2	1.0125+ 2	2.7509+ 1		7.3744+ 1							7.2769- 8	0.0000+ 0	5.3238- 3
2.0000+ 2 ~ 4.0000+ 2	7.3186+ 1	2.4967+ 1		4.8219+ 1							4.1921- 8	0.0000+ 0	5.3946- 3
4.0000+ 2 ~ 7.0000+ 2	5.5165+ 1	2.2558+ 1		3.2607+ 1							2.5831- 8	0.0000+ 0	5.4573- 3
7.0000+ 2 ~ 1.0000+ 3	4.5883+ 1	2.1178+ 1		2.4507+ 1							1.7930- 8	0.0000+ 0	5.5027- 3
1.0000+ 3 ~ 2.0000+ 3	3.7370+ 1	1.8908+ 1		1.7481+ 1							1.1642- 8	0.0000+ 0	7.7481- 3
2.0000+ 3 ~ 4.0000+ 3	2.8843+ 1	1.7815+ 1		1.1028+ 1							6.7049-10	0.0000+ 0	1.1748- 2
4.0000+ 3 ~ 7.0000+ 3	2.2722+ 1	1.5469+ 1		7.2692+ 0							4.0995-10	0.0000+ 0	1.5282- 2
7.0000+ 3 ~ 1.0000+ 4	1.8181+ 1	1.3811+ 1		5.3683+ 0							2.8678-10	0.0000+ 0	1.7837- 2
1.0000+ 4 ~ 2.0000+ 4	1.5487+ 1	1.1737+ 1		3.7501+ 0							1.8620-10	0.0000+ 0	3.4714- 2
2.0000+ 4 ~ 4.0000+ 4	1.1965+ 1	9.4988+ 0		2.4747+ 0							1.0724-10	0.0000+ 0	8.3262- 2
4.0000+ 4 ~ 7.0000+ 4	8.7543+ 0	7.5749+ 0		1.8194+ 0				0.0000+ 0			8.5587-11	0.0000+ 0	9.5175- 2
7.0000+ 4 ~ 1.0000+ 5	6.6396+ 0	7.0957+ 0	6.4384- 2	1.4787+ 0				0.0000+ 0			4.5867-11	0.0000+ 0	1.3624- 1
1.0000+ 5 ~ 2.0000+ 5	7.7811+ 0	6.1494+ 0	6.1848- 1	1.0202+ 0				0.0000+ 0			4.1539-11	0.0000+ 0	2.2174- 1
2.0000+ 5 ~ 4.0000+ 5	7.0811+ 0	5.2838+ 0	1.2081+ 0	8.2073- 1				0.0000+ 0			4.4119-11	0.0000+ 0	3.4087- 1
4.0000+ 5 ~ 7.0000+ 5	7.0564+ 0	5.0474+ 0	1.8884+ 0	4.2118- 1				0.0000+ 0			4.7133-11	0.0000+ 0	4.3335- 1
7.0000+ 5 ~ 1.0000+ 6	7.2729+ 0	5.0887+ 0	1.8830+ 0	3.2016- 1				0.0000+ 0			4.9198-11	0.0000+ 0	5.1037- 1
1.0000+ 6 ~ 2.0000+ 6	7.2864+ 0	4.9199+ 0	2.1484+ 0	2.2085- 1				1.7119- 9			3.8841-10	0.0000+ 0	6.3173- 1
2.0000+ 6 ~ 4.0000+ 6	8.4277+ 0	3.8827+ 0	2.3868+ 0	7.7278- 2				2.8584- 6			6.2019- 8	0.0000+ 0	7.3141- 1
4.0000+ 6 ~ 7.0000+ 6	6.2216+ 0	2.7222+ 0	2.4826+ 0	6.6882- 3				6.0411- 5			8.4229- 6	0.0000+ 0	7.4380- 1
7.0000+ 6 ~ 1.0000+ 7	4.8416+ 0	2.5730+ 0	2.2860+ 0	7.7604- 4		8.0749- 2		5.6331- 4	5.4319- 6		8.8540- 5	0.0000+ 0	7.7727- 1
1.0000+ 7 ~ 2.0000+ 7	5.2500+ 0	2.9988+ 0	5.2514- 1	1.0743- 3		1.6110+ 0	9.6320- 2	6.8287- 3	6.8013- 3		2.0445- 3	7.6927- 4	8.7307- 1

CROSS SECTION

Hf (3720)

MATERIAL =3720

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.2818+ 2	8.8543+ 0		3.1823+ 2				0.0000+ 0			0.0000+ 0		3.5684- 3
1.0000- 2 ~ 2.0000- 2	1.4735+ 2	8.8494+ 0		1.3740+ 2				0.0000+ 0			0.0000+ 0		3.5684- 3
2.0000- 2 ~ 4.0000- 2	1.0857+ 2	8.8422+ 0		9.8825+ 1				0.0000+ 0			0.0000+ 0		3.5684- 3
4.0000- 2 ~ 7.0000- 2	8.4235+ 1	8.9306+ 0		7.4305+ 1				0.0000+ 0			0.0000+ 0		3.5684- 3
7.0000- 2 ~ 1.0000- 1	7.1040+ 1	8.8174+ 0		6.1122+ 1				0.0000+ 0			0.0000+ 0		3.5684- 3
1.0000- 1 ~ 2.0000- 1	5.8672+ 1	8.8825+ 0		4.9980+ 1				0.0000+ 0			0.0000+ 0		3.5684- 3
2.0000- 1 ~ 4.0000- 1	5.2868+ 1	8.8806+ 0		4.2998+ 1				0.0000+ 0			0.0000+ 0		3.6884- 3
4.0000- 1 ~ 7.0000- 1	6.3311+ 1	1.0015+ 1		5.3296+ 1				0.0000+ 0			0.0000+ 0		3.5684- 3
7.0000- 1 ~ 1.0000+ 0	2.2061+ 2	1.3858+ 1		2.0878+ 2				0.0000+ 0			0.0000+ 0		3.5684- 3
1.0000+ 0 ~ 2.0000+ 0	6.3224+ 2	3.0893+ 1		6.0135+ 2				0.0000+ 0			0.0000+ 0		3.5688- 3
2.0000+ 0 ~ 4.0000+ 0	7.1795+ 2	9.0280+ 1		6.2167+ 2				0.0000+ 0			0.0000+ 0		3.5691- 3
4.0000+ 0 ~ 7.0000+ 0	4.1225+ 2	5.1691+ 1		3.6068+ 2				0.0000+ 0			0.0000+ 0		3.5700- 3
7.0000+ 0 ~ 1.0000+ 1	2.8019+ 3	1.1245+ 3		1.4774+ 3				0.0000+ 0			0.0000+ 0		3.5711- 3
1.0000+ 1 ~ 2.0000+ 1	3.7253+ 1	1.5158+ 1		1.8097+ 1				0.0000+ 0			0.0000+ 0		3.5733- 3
2.0000+ 1 ~ 4.0000+ 1	4.7380+ 1	1.8157+ 1		3.7203+ 1				0.0000+ 0			0.0000+ 0		3.5765- 3
4.0000+ 1 ~ 7.0000+ 1	8.7555+ 1	3.9058+ 1		4.8507+ 1				0.0000+ 0			0.0000+ 0		3.5873- 3
7.0000+ 1 ~ 1.0000+ 2	6.9002+ 1	3.2844+ 1		3.6357+ 1				0.0000+ 0			0.0000+ 0		3.5978- 3
1.0000+ 2 ~ 2.0000+ 2	4.8359+ 1	2.6186+ 1		2.2178+ 1				0.0000+ 0			0.0000+ 0		3.6205- 3
2.0000+ 2 ~ 4.0000+ 2	4.6412+ 1	3.3359+ 1		1.3053+ 1				0.0000+ 0			0.0000+ 0		3.6728- 3
4.0000+ 2 ~ 7.0000+ 2	3.2509+ 1	2.4310+ 1		8.1993+ 0				0.0000+ 0			0.0000+ 0		3.7601- 3
7.0000+ 2 ~ 1.0000+ 3	4.4788+ 1	3.9480+ 1		5.2868+ 0				0.0000+ 0			0.0000+ 0		3.8646- 3
1.0000+ 3 ~ 2.0000+ 3	2.8142+ 1	2.5823+ 1		3.3198+ 0				0.0000+ 0			0.0000+ 0		4.3197- 3
2.0000+ 3 ~ 4.0000+ 3	2.4843+ 1	2.2521+ 1		2.0270+ 0				0.0000+ 0			0.0000+ 0		5.5271- 3
4.0000+ 3 ~ 7.0000+ 3	2.0898+ 1	1.9565+ 1		1.3331+ 0				0.0000+ 0			0.0000+ 0		7.5395- 3
7.0000+ 3 ~ 1.0000+ 4	1.8270+ 1	1.7251+ 1		1.0185+ 0				0.0000+ 0			0.0000+ 0		9.9543- 3
1.0000+ 4 ~ 2.0000+ 4	1.5710+ 1	1.4947+ 1		7.6309- 1				0.0000+ 0			0.0000+ 0		1.8468- 2
2.0000+ 4 ~ 4.0000+ 4	1.3148+ 1	1.2588+ 1		5.4970- 1				0.0000+ 0			0.0000+ 0		3.2477- 2
4.0000+ 4 ~ 7.0000+ 4	1.1286+ 1	1.0855+ 1		4.3842- 1				0.0000+ 0			0.0000+ 0		5.9608- 2
7.0000+ 4 ~ 1.0000+ 5	1.0072+ 1	9.8988+ 0	1.1888- 2	3.8353- 1				0.0000+ 0			0.0000+ 0		9.0541- 2
1.0000+ 5 ~ 2.0000+ 5	8.7888+ 0	8.1222+ 0	4.0465- 1	2.5871- 1				0.0000+ 0			0.0000+ 0		1.4331- 1
2.0000+ 5 ~ 4.0000+ 5	7.7811+ 0	6.5588+ 0	1.0388+ 0	1.6347- 1				0.0000+ 0			0.0000+ 0		2.4625- 1
4.0000+ 5 ~ 7.0000+ 5	7.3103+ 0	5.5805+ 0	1.6380+ 0	1.1153- 1				0.0000+ 0			0.0000+ 0		3.5413- 1
7.0000+ 5 ~ 1.0000+ 6	7.2428+ 0	5.1048+ 0	2.0440+ 0	9.4238- 2				0.0000+ 0			0.0000+ 0		4.3979- 1
1.0000+ 6 ~ 2.0000+ 6	7.2923+ 0	4.8335+ 0	2.5815+ 0	7.7481- 2				7.7397-17			8.5179- 8		5.9697- 1
2.0000+ 6 ~ 4.0000+ 6	8.3308+ 0	3.7906+ 0	3.0121+ 0	2.5701- 2				1.0289- 6			9.0540- 7		7.8188- 1
4.0000+ 6 ~ 7.0000+ 6	5.6208+ 0	2.8884+ 0	2.9143+ 0	2.1038- 3		9.4084- 3		6.3490- 7			4.0042- 6		8.2722- 1
7.0000+ 6 ~ 1.0000+ 7	5.0354+ 0	2.2622+ 0	1.9881+ 0	6.4783- 5		7.8309- 1		2.9749- 5			2.7438- 5		8.3802- 1
1.0000+ 7 ~ 2.0000+ 7	5.4223+ 0	2.8915+ 0	7.6718- 1	2.2228- 6		1.3970+ 0	3.4391- 1	1.8923- 3			5.7301- 4		9.0245- 1

MATERIAL =3721 CROSS SECTION ^{174}Hf (3721)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.4283+ 3	1.5248+ 1		1.8141+ 3									3.8682- 3
1.0000- 2 ~ 2.0000- 2	7.7327+ 2	1.5098+ 1		7.5817+ 2									3.8682- 3
2.0000- 2 ~ 4.0000- 2	5.3667+ 2	1.4887+ 1		5.2188+ 2									3.8682- 3
4.0000- 2 ~ 7.0000- 2	3.7038+ 2	1.4549+ 1		3.8463+ 2									3.8682- 3
7.0000- 2 ~ 1.0000- 1	2.8930+ 2	1.4188+ 1		2.7573+ 2									3.8682- 3
1.0000- 1 ~ 2.0000- 1	2.0142+ 2	1.3438+ 1		1.8798+ 2									3.8682- 3
2.0000- 1 ~ 4.0000- 1	1.1710+ 2	1.2078+ 1		1.0502+ 2									3.8682- 3
4.0000- 1 ~ 7.0000- 1	8.5148+ 1	1.0482+ 1		5.4684+ 1									3.8682- 3
7.0000- 1 ~ 1.0000+ 0	3.9949+ 1	9.2009+ 0		3.0749+ 1									3.8682- 3
1.0000+ 0 ~ 2.0000+ 0	2.1475+ 1	7.6500+ 0		1.3825+ 1									3.8684- 3
2.0000+ 0 ~ 4.0000+ 0	1.0622+ 1	5.8982+ 0		4.8237+ 0									3.8689- 3
4.0000+ 0 ~ 7.0000+ 0	1.1028+ 1	4.8895+ 0		6.3339+ 0									3.8699- 3
7.0000+ 0 ~ 1.0000+ 1	5.3818+ 0	3.9177+ 0		1.4540+ 0									3.8710- 3
1.0000+ 1 ~ 2.0000+ 1	1.5248+ 2	1.5028+ 1		1.3745+ 2									3.8733- 3
2.0000+ 1 ~ 4.0000+ 1	2.8049+ 2	1.1521+ 2		1.6528+ 2									3.8789- 3
4.0000+ 1 ~ 7.0000+ 1	5.2868+ 0	4.5569+ 0		7.2989- 1									3.8880- 3
7.0000+ 1 ~ 1.0000+ 2	1.4258+ 2	6.8205+ 1		7.4454+ 1									3.8991- 3
1.0000+ 2 ~ 2.0000+ 2	1.2805+ 2	8.2778+ 1		4.5278+ 1									3.7229- 3
2.0000+ 2 ~ 4.0000+ 2	8.5654+ 1	6.2774+ 1		2.2880+ 1									3.7760- 3
4.0000+ 2 ~ 7.0000+ 2	5.7837+ 1	4.5000+ 1		1.2837+ 1									3.8599- 3
7.0000+ 2 ~ 1.0000+ 3	4.7817+ 1	3.8875+ 1		8.9422+ 0									3.9801- 3
1.0000+ 3 ~ 2.0000+ 3	3.8324+ 1	3.2508+ 1		5.8152+ 0									4.4269- 3
2.0000+ 3 ~ 4.0000+ 3	2.9298+ 1	2.5925+ 1		3.3711+ 0									5.6021- 3
4.0000+ 3 ~ 7.0000+ 3	2.3403+ 1	2.1270+ 1		2.1326+ 0									7.5508- 3
7.0000+ 3 ~ 1.0000+ 4	2.0158+ 1	1.8550+ 1		1.6083+ 0									9.9113- 3
1.0000+ 4 ~ 2.0000+ 4	1.7018+ 1	1.5797+ 1		1.2197+ 0									1.6238- 2
2.0000+ 4 ~ 4.0000+ 4	1.3908+ 1	1.3017+ 1		8.8110- 1									3.1790- 2
4.0000+ 4 ~ 7.0000+ 4	1.1742+ 1	1.1004+ 1		7.3780- 1									5.8188- 2
7.0000+ 4 ~ 1.0000+ 5	1.0634+ 1	9.8557+ 0	1.4888- 2	6.5378- 1									8.8126- 2
1.0000+ 5 ~ 2.0000+ 5	8.3854+ 0	8.4883+ 0	4.0189- 1	5.1480- 1									1.3868- 1
2.0000+ 5 ~ 4.0000+ 5	6.2270+ 0	6.8822+ 0	9.4301- 1	3.9148- 1									2.4036- 1
4.0000+ 5 ~ 7.0000+ 5	7.8189+ 0	5.8241+ 0	1.4383+ 0	3.5483- 1									3.4780- 1
7.0000+ 5 ~ 1.0000+ 6	7.3985+ 0	5.2315+ 0	1.7459+ 0	3.6856- 1									4.4251- 1
1.0000+ 6 ~ 2.0000+ 6	7.2272+ 0	4.4709+ 0	2.4292+ 0	3.2720- 1									6.1010- 1
2.0000+ 6 ~ 4.0000+ 6	8.5227+ 0	3.4380+ 0	2.9082+ 0	1.8859- 1									7.9266- 1
4.0000+ 6 ~ 7.0000+ 6	5.3842+ 0	2.4379+ 0	2.9238+ 0	2.9442- 2									8.3662- 1
7.0000+ 6 ~ 1.0000+ 7	4.9417+ 0	2.1635+ 0	2.5932+ 0	6.9191- 4		1.8185- 1							8.5171- 1
1.0000+ 7 ~ 2.0000+ 7	5.2929+ 0	2.7294+ 0	7.6652- 1	1.1350- 5		1.6482+ 0	1.4996- 1						9.1946- 1

MATERIAL =3722 CROSS SECTION ^{176}Hf (3722)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.7982+ 1	5.5495+ 0		7.2312+ 1							0.0000+ 0		3.8237- 3
1.0000- 2 ~ 2.0000- 2	3.8625+ 1	5.5458+ 0		3.0879+ 1							0.0000+ 0		3.8237- 3
2.0000- 2 ~ 4.0000- 2	2.7539+ 1	5.5405+ 0		2.1898+ 1							0.0000+ 0		3.8237- 3
4.0000- 2 ~ 7.0000- 2	2.1800+ 1	5.5314+ 0		1.6268+ 1							0.0000+ 0		3.8237- 3
7.0000- 2 ~ 1.0000- 1	1.8800+ 1	5.5205+ 0		1.3080+ 1							0.0000+ 0		3.8237- 3
1.0000- 1 ~ 2.0000- 1	1.5887+ 1	5.4988+ 0		1.0891+ 1							0.0000+ 0		3.8237- 3
2.0000- 1 ~ 4.0000- 1	1.2818+ 1	5.4401+ 0		7.3780+ 0							0.0000+ 0		3.8237- 3
4.0000- 1 ~ 7.0000- 1	1.1098+ 1	5.3421+ 0		5.7589+ 0							0.0000+ 0		3.8237- 3
7.0000- 1 ~ 1.0000+ 0	1.0188+ 1	5.2177+ 0		4.9674+ 0							0.0000+ 0		3.8237- 3
1.0000+ 0 ~ 2.0000+ 0	9.4062+ 0	4.9137+ 0		4.4925+ 0							0.0000+ 0		3.8238- 3
2.0000+ 0 ~ 4.0000+ 0	8.3017+ 0	3.9784+ 0		3.3234+ 0							0.0000+ 0		3.8244- 3
4.0000+ 0 ~ 7.0000+ 0	2.4241+ 1	1.4326+ 0		2.2809+ 1							0.0000+ 0		3.8252- 3
7.0000+ 0 ~ 1.0000+ 1	2.4812+ 3	4.9605+ 2		1.9851+ 3							0.0000+ 0		3.8263- 3
1.0000+ 1 ~ 2.0000+ 1	1.4601+ 1	1.1828+ 1		2.7719+ 0							0.0000+ 0		3.6266- 3
2.0000+ 1 ~ 4.0000+ 1	8.4752+ 0	5.8025+ 0		6.7247- 1							0.0000+ 0		3.6339- 3
4.0000+ 1 ~ 7.0000+ 1	4.0263+ 2	2.5798+ 2		1.4464+ 2							0.0000+ 0		3.6425- 3
7.0000+ 1 ~ 1.0000+ 2	1.2621+ 1	1.2428+ 1		1.9273- 1							0.0000+ 0		3.6532- 3
1.0000+ 2 ~ 2.0000+ 2	3.3847+ 1	1.9487+ 1		1.4360+ 1							0.0000+ 0		3.6760- 3
2.0000+ 2 ~ 4.0000+ 2	5.4781+ 1	4.0720+ 1		1.4061+ 1							0.0000+ 0		3.7267- 3
4.0000+ 2 ~ 7.0000+ 2	4.7377+ 1	4.1148+ 1		6.2308+ 0							0.0000+ 0		3.8185- 3
7.0000+ 2 ~ 1.0000+ 3	3.8896+ 1	3.5840+ 1		3.0563+ 0							0.0000+ 0		3.9219- 3
1.0000+ 3 ~ 2.0000+ 3	3.2148+ 1	3.0144+ 1		2.0029+ 0							0.0000+ 0		4.3766- 3
2.0000+ 3 ~ 4.0000+ 3	2.5877+ 1	2.4448+ 1		1.2912+ 0							0.0000+ 0		5.5836- 3
4.0000+ 3 ~ 7.0000+ 3	2.1438+ 1	2.0688+ 1		8.7218- 1							0.0000+ 0		7.5948- 3
7.0000+ 3 ~ 1.0000+ 4	1.9088+ 1	1.8588+ 1		7.1853- 1							0.0000+ 0		1.0008- 2
1.0000+ 4 ~ 2.0000+ 4	1.6781+ 1	1.8195+ 1		5.8643- 1							0.0000+ 0		1.6489- 2
2.0000+ 4 ~ 4.0000+ 4	1.4438+ 1	1.3982+ 1		4.5706- 1							0.0000+ 0		3.2397- 2
4.0000+ 4 ~ 7.0000+ 4	1.2057+ 1	1.1881+ 1		3.7612- 1							0.0000+ 0		5.9246- 2
7.0000+ 4 ~ 1.0000+ 5	1.0688+ 1	1.0537+ 1	3.3448- 2	2.9880- 1							0.0000+ 0		8.9981- 2
1.0000+ 5 ~ 2.0000+ 5	8.8280+ 0	8.9020+ 0	5.1524- 1	1.8877- 1							0.0000+ 0		1.4311- 1
2.0000+ 5 ~ 4.0000+ 5	8.5448+ 0	7.2872+ 0	1.1188+ 0	1.3140- 1							0.0000+ 0		2.4840- 1
4.0000+ 5 ~ 7.0000+ 5	7.9002+ 0	6.1789+ 0	1.8098+ 0	1.1082- 1							2.8788- 8		3.5703- 1
7.0000+ 5 ~ 1.0000+ 6	7.8080+ 0	5.5838+ 0	1.9191+ 0	1.2053- 1				0.0000+ 0			1.4062- 7		4.3947- 1
1.0000+ 6 ~ 2.0000+ 6	7.3339+ 0	4.7805+ 0	2.4543+ 0	1.1894- 1				1.4987-15			8.3204- 7		5.9882- 1
2.0000+ 6 ~ 4.0000+ 6	8.5578+ 0	3.4514+ 0	3.0338+ 0	4.8077- 2				1.5068- 8			1.7198- 6		7.9108- 1
4.0000+ 6 ~ 7.0000+ 6	5.4048+ 0	2.4330+ 0	2.9862+ 0	3.8736- 3				2.2050- 6			4.7818- 6		8.3924- 1
7.0000+ 6 ~ 1.0000+ 7	4.9830+ 0	2.1744+ 0	2.4198+ 0	1.1734- 4		3.8521- 1		7.5183- 5			3.1716- 5		8.5655- 1
1.0000+ 7 ~ 2.0000+ 7	5.3297+ 0	2.7372+ 0	7.8172- 1	1.2918- 6		1.8518+ 0	1.7430- 1	3.2848- 3			8.3851- 4		9.2168- 1

MATERIAL =3723 CROSS SECTION ^{177}Hf (3723)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	NU-BAR
1.0000- 5 ~ 1.0000- 2	1.1216+ 3	1.9489- 1		1.1214+ 3				0.0000+ 0			0.0000+ 0		3.8018- 3
1.0000- 2 ~ 2.0000- 2	4.8684+ 2	2.0254- 1		4.8664+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
2.0000- 2 ~ 4.0000- 2	3.5180+ 2	2.1477- 1		3.5159+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
4.0000- 2 ~ 7.0000- 2	2.6808+ 2	2.3717- 1		2.6784+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
7.0000- 2 ~ 1.0000- 1	2.2382+ 2	2.8747- 1		2.2335+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
1.0000- 1 ~ 2.0000- 1	1.8788+ 2	3.6148- 1		1.8751+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
2.0000- 1 ~ 4.0000- 1	1.7363+ 2	8.7821- 1		1.7288+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
4.0000- 1 ~ 7.0000- 1	2.4418+ 2	2.3268+ 0		2.4185+ 2				0.0000+ 0			0.0000+ 0		3.8018- 3
7.0000- 1 ~ 1.0000+ 0	1.0973+ 3	2.3838+ 1		1.0734+ 3				0.0000+ 0			0.0000+ 0		3.8018- 3
1.0000+ 0 ~ 2.0000+ 0	3.3175+ 3	1.1769+ 2		3.2002+ 3				0.0000+ 0			0.0000+ 0		3.8020- 3
2.0000+ 0 ~ 4.0000+ 0	3.7790+ 3	4.4158+ 2		3.3373+ 3				0.0000+ 0			0.0000+ 0		3.8027- 3
4.0000+ 0 ~ 7.0000+ 0	1.6142+ 3	1.7844+ 2		1.4378+ 3				0.0000+ 0			0.0000+ 0		3.8038- 3
7.0000+ 0 ~ 1.0000+ 1	5.5783+ 2	5.6760+ 1		5.0167+ 2				0.0000+ 0			0.0000+ 0		3.8052- 3
1.0000+ 1 ~ 2.0000+ 1	7.2378+ 1	7.8622+ 0		6.4496+ 1				0.0000+ 0			0.0000+ 0		3.8082- 3
2.0000+ 1 ~ 4.0000+ 1	8.1511+ 1	9.0605+ 0		7.2451+ 1				0.0000+ 0			0.0000+ 0		3.8150- 3
4.0000+ 1 ~ 7.0000+ 1	2.5005+ 2	8.5498+ 1		1.6455+ 2				0.0000+ 0			0.0000+ 0		3.8283- 3
7.0000+ 1 ~ 1.0000+ 2	9.0440+ 1	2.2682+ 1		6.7778+ 1				0.0000+ 0			0.0000+ 0		3.8400- 3
1.0000+ 2 ~ 2.0000+ 2	6.8830+ 1	2.4795+ 1		4.1835+ 1				0.0000+ 0			0.0000+ 0		3.8695- 3
2.0000+ 2 ~ 4.0000+ 2	6.5417+ 1	3.5457+ 1		2.9960+ 1				0.0000+ 0			0.0000+ 0		3.7377- 3
4.0000+ 2 ~ 7.0000+ 2	5.1391+ 1	3.2305+ 1		1.9086+ 1				0.0000+ 0			0.0000+ 0		3.8513- 3
7.0000+ 2 ~ 1.0000+ 3	4.2452+ 1	2.8738+ 1		1.3716+ 1				0.0000+ 0			0.0000+ 0		3.9876- 3
1.0000+ 3 ~ 2.0000+ 3	3.3930+ 1	2.4794+ 1		9.1360+ 0				0.0000+ 0			0.0000+ 0		4.4917- 3
2.0000+ 3 ~ 4.0000+ 3	2.5864+ 1	2.0471+ 1		5.4628+ 0				0.0000+ 0			0.0000+ 0		5.7997- 3
4.0000+ 3 ~ 7.0000+ 3	2.0721+ 1	1.7234+ 1		3.4868+ 0				0.0000+ 0			0.0000+ 0		7.9796- 3
7.0000+ 3 ~ 1.0000+ 4	1.7848+ 1	1.5258+ 1		2.5892+ 0				0.0000+ 0			0.0000+ 0		1.0595- 2
1.0000+ 4 ~ 2.0000+ 4	1.5087+ 1	1.3190+ 1		1.8988+ 0				0.0000+ 0			0.0000+ 0		1.7507- 2
2.0000+ 4 ~ 4.0000+ 4	1.2382+ 1	1.1032+ 1		1.3502+ 0				0.0000+ 0			0.0000+ 0		3.4397- 2
4.0000+ 4 ~ 7.0000+ 4	1.0640+ 1	9.5042+ 0		1.0358+ 0				0.0000+ 0			0.0000+ 0		6.2779- 2
7.0000+ 4 ~ 1.0000+ 5	9.5711+ 0	8.5942+ 0		8.7870- 1				0.0000+ 0			0.0000+ 0		9.4517- 2
1.0000+ 5 ~ 2.0000+ 5	8.5895+ 0	7.8481+ 0	1.7084- 1	6.8887- 1				0.0000+ 0			0.0000+ 0		1.4590- 1
2.0000+ 5 ~ 4.0000+ 5	7.8104+ 0	6.8652+ 0	8.8152- 1	4.4803- 1				0.0000+ 0			0.0000+ 0		2.4732- 1
4.0000+ 5 ~ 7.0000+ 5	7.4124+ 0	5.8732+ 0	1.4495+ 0	2.8640- 1				0.0000+ 0			0.0000+ 0		3.5817- 1
7.0000+ 5 ~ 1.0000+ 6	7.3594+ 0	5.0478+ 0	2.0922+ 0	1.8925- 1				0.0000+ 0			0.0000+ 0		4.6055- 1
1.0000+ 6 ~ 2.0000+ 6	7.2814+ 0	4.3740+ 0	2.7786+ 0	1.2796- 1				0.0000+ 0			0.0000+ 0		6.2531- 1
2.0000+ 6 ~ 4.0000+ 6	6.8018+ 0	3.5772+ 0	2.9621+ 0	3.7981- 2				5.0211- 6			3.8237- 6		7.7915- 1
4.0000+ 6 ~ 7.0000+ 6	5.4448+ 0	2.8280+ 0	2.5008+ 0	2.7346- 3		1.2094- 2		2.5730- 6			1.6583- 5		8.0701- 1
7.0000+ 6 ~ 1.0000+ 7	4.9686+ 0	2.3081+ 0	1.5604+ 0	5.8349- 5		1.1262+ 0		6.8156- 5			1.0267- 4		8.2638- 1
1.0000+ 7 ~ 2.0000+ 7	5.3428+ 0	2.8659+ 0	4.8717- 1	6.3817- 7		1.7147+ 0	2.9008- 1	3.3023- 3			1.1960- 3		9.0319- 1

MATERIAL =3724 CROSS SECTION ^{178}Hf (3724)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	NU-BAR
1.0000- 5 ~ 1.0000- 2	2.6324+ 2	4.4846+ 0		2.5876+ 2							0.0000+ 0		3.5802- 3
1.0000- 2 ~ 2.0000- 2	1.1533+ 2	4.4729+ 0		1.1085+ 2							0.0000+ 0		3.5802- 3
2.0000- 2 ~ 4.0000- 2	8.3152+ 1	4.4588+ 0		7.8887+ 1							0.0000+ 0		3.5802- 3
4.0000- 2 ~ 7.0000- 2	6.2828+ 1	4.4285+ 0		6.8203+ 1							0.0000+ 0		3.5802- 3
7.0000- 2 ~ 1.0000- 1	5.1208+ 1	4.3815+ 0		4.8813+ 1							0.0000+ 0		3.5802- 3
1.0000- 1 ~ 2.0000- 1	4.0414+ 1	4.3154+ 0		3.6998+ 1							0.0000+ 0		3.5802- 3
2.0000- 1 ~ 4.0000- 1	3.0638+ 1	4.1380+ 0		2.6998+ 1							0.0000+ 0		3.5802- 3
4.0000- 1 ~ 7.0000- 1	2.4439+ 1	3.8370+ 0		2.0602+ 1							0.0000+ 0		3.5802- 3
7.0000- 1 ~ 1.0000+ 0	2.1263+ 1	3.4873+ 0		1.7768+ 1							0.0000+ 0		3.5802- 3
1.0000+ 0 ~ 2.0000+ 0	1.8773+ 1	2.8368+ 0		1.6137+ 1							0.0000+ 0		3.5803- 3
2.0000+ 0 ~ 4.0000+ 0	2.0222+ 1	8.1121- 1		1.9411+ 1							0.0000+ 0		3.5808- 3
4.0000+ 0 ~ 7.0000+ 0	1.2541+ 2	2.8048+ 1		9.7962+ 1							0.0000+ 0		3.5818- 3
7.0000+ 0 ~ 1.0000+ 1	8.8491+ 3	3.9611+ 3		4.8881+ 3							0.0000+ 0		3.5828- 3
1.0000+ 1 ~ 2.0000+ 1	4.8808+ 1	3.8818+ 1		7.7883+ 0							0.0000+ 0		3.5847- 3
2.0000+ 1 ~ 4.0000+ 1	1.6991+ 1	1.8505+ 1		4.8534- 1							0.0000+ 0		3.5895- 3
4.0000+ 1 ~ 7.0000+ 1	1.1549+ 1	1.1436+ 1		1.1214- 1							0.0000+ 0		3.5976- 3
7.0000+ 1 ~ 1.0000+ 2	9.0158+ 0	8.9507+ 0		6.4787- 2							0.0000+ 0		3.6072- 3
1.0000+ 2 ~ 2.0000+ 2	1.4269+ 1	8.3441+ 0		5.9246+ 0							0.0000+ 0		3.6282- 3
2.0000+ 2 ~ 4.0000+ 2	8.4543+ 1	5.4804+ 1		9.7393+ 0							0.0000+ 0		3.6765- 3
4.0000+ 2 ~ 7.0000+ 2	2.6580+ 1	2.1194+ 1		4.3860+ 0							0.0000+ 0		3.7570- 3
7.0000+ 2 ~ 1.0000+ 3	5.4058+ 1	5.1811+ 1		2.4453+ 0							0.0000+ 0		3.8538- 3
1.0000+ 3 ~ 2.0000+ 3	3.4843+ 1	3.3427+ 1		1.4158+ 0							0.0000+ 0		4.2784- 3
2.0000+ 3 ~ 4.0000+ 3	2.5830+ 1	2.4898+ 1		8.3136- 1							0.0000+ 0		5.3998- 3
4.0000+ 3 ~ 7.0000+ 3	2.1167+ 1	2.0582+ 1		5.8829- 1							0.0000+ 0		7.2723- 3
7.0000+ 3 ~ 1.0000+ 4	1.8664+ 1	1.8078+ 1		4.8827- 1							0.0000+ 0		9.5192- 3
1.0000+ 4 ~ 2.0000+ 4	1.6026+ 1	1.5835+ 1		3.8031- 1							0.0000+ 0		1.5569- 2
2.0000+ 4 ~ 4.0000+ 4	1.3480+ 1	1.3183+ 1		2.9688- 1							0.0000+ 0		3.0439- 2
4.0000+ 4 ~ 7.0000+ 4	1.1992+ 1	1.1348+ 1		2.6222+ 1							0.0000+ 0		5.5817- 2
7.0000+ 4 ~ 1.0000+ 5	1.0472+ 1	1.0288+ 1	1.5081- 2	1.9134- 1							0.0000+ 0		8.4376- 2
1.0000+ 5 ~ 2.0000+ 5	9.3822+ 0	8.7727+ 0	4.8498- 1	1.2383- 1							0.0000+ 0		1.3471- 1
2.0000+ 5 ~ 4.0000+ 5	8.2928+ 0	7.1082+ 0	1.0981+ 0	7.9584- 2							0.0000+ 0		2.3642- 1
4.0000+ 5 ~ 7.0000+ 5	7.6681+ 0	5.9979+ 0	1.6217+ 0	6.6510- 2							1.0383- 9		3.4367- 1
7.0000+ 5 ~ 1.0000+ 6	7.4668+ 0	5.4268+ 0	1.8844+ 0	7.3431- 2							5.4513- 9		4.2840- 1
1.0000+ 6 ~ 2.0000+ 6	7.3283+ 0	4.8868+ 0	2.5884+ 0	7.1886- 2							1.3883- 8		5.9842- 1
2.0000+ 6 ~ 4.0000+ 6	6.8288+ 0	3.8181+ 0	3.0825+ 0	2.2979- 2				3.1853-12			1.4054- 7		7.9508- 1
4.0000+ 6 ~ 7.0000+ 6	5.4483+ 0	2.4877+ 0	2.9578+ 0	1.7211- 3				8.0849- 8			7.5257- 7		8.3582- 1
7.0000+ 6 ~ 1.0000+ 7	4.9649+ 0	2.1958+ 0	2.1481+ 0	5.8184- 5		6.1566- 1		1.1869- 5			7.4980- 5		8.4229- 1
1.0000+ 7 ~ 2.0000+ 7	5.4481+ 0	3.0156+ 0	5.3928- 1	3.8481- 7		1.5158+ 0	3.7957- 1	1.3359- 3			3.8176- 4		8.9423- 1

MATERIAL =3725 CROSS SECTION ^{179}Hf (3725)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.3871+ 2	8.7748+ 0		1.3294+ 2							0.0000+ 0		3.5585- 3
1.0000- 2 ~ 2.0000- 2	8.3459+ 1	5.7861+ 0		5.5893+ 1							0.0000+ 0		3.5585- 3
2.0000- 2 ~ 4.0000- 2	4.8730+ 1	6.7691+ 0		3.8977+ 1							0.0000+ 0		3.5585- 3
4.0000- 2 ~ 7.0000- 2	3.5969+ 1	6.7315+ 0		2.9237+ 1							0.0000+ 0		3.5585- 3
7.0000- 2 ~ 1.0000- 1	3.0000+ 1	6.7058+ 0		2.3295+ 1							0.0000+ 0		3.5585- 3
1.0000- 1 ~ 2.0000- 1	2.4161+ 1	6.8510+ 0		1.7510+ 1							0.0000+ 0		3.5585- 3
2.0000- 1 ~ 4.0000- 1	1.8056+ 1	6.5280+ 0		1.2107+ 1							0.0000+ 0		3.6666- 3
4.0000- 1 ~ 7.0000- 1	1.4957+ 1	6.3329+ 0		8.8243+ 0							0.0000+ 0		3.5585- 3
7.0000- 1 ~ 1.0000+ 0	1.2809+ 1	6.1112+ 0		6.6982+ 0							0.0000+ 0		3.5585- 3
1.0000+ 0 ~ 2.0000+ 0	1.0723+ 1	5.8671+ 0		5.0555+ 0							0.0000+ 0		3.5586- 3
2.0000+ 0 ~ 4.0000+ 0	8.8332+ 0	4.8149+ 0		5.2183+ 0							0.0000+ 0		3.5585- 3
4.0000+ 0 ~ 7.0000+ 0	6.0870+ 2	3.2429+ 1		4.7827+ 2							0.0000+ 0		3.6586- 3
7.0000+ 0 ~ 1.0000+ 1	8.3325+ 0	5.3209+ 0		3.0117+ 0							0.0000+ 0		3.6585- 3
1.0000+ 1 ~ 2.0000+ 1	3.0876+ 1	5.0358+ 0		2.5640+ 1							0.0000+ 0		3.5586- 3
2.0000+ 1 ~ 4.0000+ 1	1.6085+ 2	3.4508+ 1		1.0254+ 2							0.0000+ 0		3.5585- 3
4.0000+ 1 ~ 7.0000+ 1	9.0029+ 1	2.4245+ 1		7.4784+ 1							0.0000+ 0		3.5585- 3
7.0000+ 1 ~ 1.0000+ 2	7.3152+ 1	2.4053+ 1		4.9099+ 1							0.0000+ 0		3.5585- 3
1.0000+ 2 ~ 2.0000+ 2	1.1742+ 2	5.2177+ 1		6.5239+ 1							0.0000+ 0		3.5586- 3
2.0000+ 2 ~ 4.0000+ 2	8.0342+ 1	5.0703+ 1		2.9639+ 1							0.0000+ 0		3.5585- 3
4.0000+ 2 ~ 7.0000+ 2	4.6771+ 1	3.2229+ 1		1.4542+ 1							0.0000+ 0		3.5586- 3
7.0000+ 2 ~ 1.0000+ 3	3.0903+ 1	2.8575+ 1		1.0328+ 1							0.0000+ 0		3.6586- 3
1.0000+ 3 ~ 2.0000+ 3	3.1450+ 1	2.4851+ 1		6.7991+ 0							0.0000+ 0		3.9868- 3
2.0000+ 3 ~ 4.0000+ 3	2.4965+ 1	2.0308+ 1		3.9772+ 0							0.0000+ 0		5.2717- 3
4.0000+ 3 ~ 7.0000+ 3	9743+ 1	1.7229+ 1		2.5136+ 0							0.0000+ 0		7.4137- 3
7.0000+ 3 ~ 1.0000+ 4	1.7198+ 1	1.5328+ 1		1.8705+ 0							0.0000+ 0		9.9829- 3
1.0000+ 4 ~ 2.0000+ 4	1.4741+ 1	1.3370+ 1		1.3709+ 0							0.0000+ 0		1.6547- 2
2.0000+ 4 ~ 4.0000+ 4	1.2313+ 1	1.1349+ 1		9.8375- 1							0.0000+ 0		3.2456- 2
4.0000+ 4 ~ 7.0000+ 4	1.0801+ 1	9.8773+ 0		7.2381- 1							0.0000+ 0		5.9306- 2
7.0000+ 4 ~ 1.0000+ 5	9.8009+ 0	8.8868+ 0		5.0485- 1							0.0000+ 0		8.9456- 2
1.0000+ 5 ~ 2.0000+ 5	8.8751+ 0	8.1078+ 0	1.3286- 1	4.3242- 1							0.0000+ 0		1.4081- 1
2.0000+ 5 ~ 4.0000+ 5	7.7562+ 0	6.8386+ 0	8.6789- 1	2.5780- 1							0.0000+ 0		2.4405- 1
4.0000+ 5 ~ 7.0000+ 5	7.3674+ 0	5.5089+ 0	1.6917+ 0	1.5835- 1							1.2125- 8		3.5752- 1
7.0000+ 5 ~ 1.0000+ 6	7.3062+ 0	5.0422+ 0	2.1356+ 0	1.2713- 1				0.0000+ 0			9.5159- 8		4.4731- 1
1.0000+ 6 ~ 2.0000+ 6	7.3035+ 0	4.8711+ 0	2.8349+ 0	9.8759- 2				0.0000+ 0			2.0860- 7		6.0257- 1
2.0000+ 6 ~ 4.0000+ 6	6.8810+ 0	3.7125+ 0	2.9414+ 0	2.2779- 2				8.8140-10			4.5899- 7		7.7122- 1
4.0000+ 6 ~ 7.0000+ 6	5.4783+ 0	2.7074+ 0	2.7158+ 0	1.2888- 3		5.2521- 2		5.3757- 7			2.9414- 6		7.9895- 1
7.0000+ 6 ~ 1.0000+ 7	4.9881+ 0	2.3402+ 0	1.2825+ 0	2.7534- 5		1.3577+ 0		3.8542- 5			2.7569- 5		8.0349- 1
1.0000+ 7 ~ 2.0000+ 7	5.3058+ 0	2.8180+ 0	3.9469- 1	2.3102- 7		1.6231+ 0	4.2585- 1	3.0017- 3			7.3309- 4		8.9901- 1

MATERIAL =3726 CROSS SECTION ^{180}Hf (3726)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.1492+ 1	2.1245+ 1		4.0247+ 1							0.0000+ 0		3.5374- 3
1.0000- 2 ~ 2.0000- 2	3.8432+ 1	2.1240+ 1		1.7191+ 1							0.0000+ 0		3.5374- 3
2.0000- 2 ~ 4.0000- 2	3.3403+ 1	2.1234+ 1		1.2169+ 1							0.0000+ 0		3.5374- 3
4.0000- 2 ~ 7.0000- 2	3.0135+ 1	2.1225+ 1		8.9117+ 0							0.0000+ 0		3.5374- 3
7.0000- 2 ~ 1.0000- 1	2.8332+ 1	2.1210+ 1		7.1221+ 0							0.0000+ 0		3.5374- 3
1.0000- 1 ~ 2.0000- 1	2.6594+ 1	2.1181+ 1		5.4128+ 0							0.0000+ 0		3.5374- 3
2.0000- 1 ~ 4.0000- 1	2.4916+ 1	2.1116+ 1		3.8000+ 0							0.0000+ 0		3.6374- 3
4.0000- 1 ~ 7.0000- 1	2.3778+ 1	2.1007+ 1		2.7882+ 0							0.0000+ 0		3.5374- 3
7.0000- 1 ~ 1.0000+ 0	2.3088+ 1	2.0879+ 1		2.1870+ 0							0.0000+ 0		3.5374- 3
1.0000+ 0 ~ 2.0000+ 0	2.2235+ 1	2.0809+ 1		1.6259+ 0							0.0000+ 0		3.5376- 3
2.0000+ 0 ~ 4.0000+ 0	2.1108+ 1	2.0017+ 1		1.0882+ 0							0.0000+ 0		3.5381- 3
4.0000+ 0 ~ 7.0000+ 0	1.9847+ 1	1.9116+ 1		7.3247- 1							0.0000+ 0		3.5389- 3
7.0000+ 0 ~ 1.0000+ 1	1.8679+ 1	1.8150+ 1		5.2887- 1							0.0000+ 0		3.5399- 3
1.0000+ 1 ~ 2.0000+ 1	1.8779+ 1	1.8444+ 1		3.3570- 1							0.0000+ 0		3.5421- 3
2.0000+ 1 ~ 4.0000+ 1	1.3782+ 1	1.3809+ 1		1.7397- 1							0.0000+ 0		3.5470- 3
4.0000+ 1 ~ 7.0000+ 1	9.7178+ 0	9.3545+ 0		3.8259- 1							0.0000+ 0		3.5554- 3
7.0000+ 1 ~ 1.0000+ 2	1.1086+ 2	8.2525+ 1		4.8139- 1							0.0000+ 0		3.5653- 3
1.0000+ 2 ~ 2.0000+ 2	4.0144+ 1	3.1430+ 1		8.7143+ 0							0.0000+ 0		3.5870- 3
2.0000+ 2 ~ 4.0000+ 2	7.5487+ 0	7.5398+ 0		9.1747- 3							0.0000+ 0		3.6369- 3
4.0000+ 2 ~ 7.0000+ 2	1.9837+ 1	1.8780+ 1		3.1771+ 0							0.0000+ 0		3.7200- 3
7.0000+ 2 ~ 1.0000+ 3	4.1784+ 1	4.0410+ 1		1.3736+ 0							0.0000+ 0		3.8199- 3
1.0000+ 3 ~ 2.0000+ 3	2.0888+ 1	2.0178+ 1		5.1218- 1							0.0000+ 0		4.2775- 3
2.0000+ 3 ~ 4.0000+ 3	2.2664+ 1	2.2093+ 1		5.7057- 1							0.0000+ 0		5.5008- 3
4.0000+ 3 ~ 7.0000+ 3	2.1148+ 1	2.0655+ 1		4.8232- 1							0.0000+ 0		7.5398- 3
7.0000+ 3 ~ 1.0000+ 4	1.8561+ 1	1.8131+ 1		4.2058- 1							0.0000+ 0		9.9881- 3
1.0000+ 4 ~ 2.0000+ 4	1.8007+ 1	1.5872+ 1		3.3503- 1							0.0000+ 0		1.8689- 2
2.0000+ 4 ~ 4.0000+ 4	1.3432+ 1	1.3165+ 1		2.4888- 1							0.0000+ 0		3.3248- 2
4.0000+ 4 ~ 7.0000+ 4	1.1818+ 1	1.1428+ 1		1.8177- 1							0.0000+ 0		5.1443- 2
7.0000+ 4 ~ 1.0000+ 5	1.0884+ 1	1.0509+ 1	1.7128- 2	1.3820- 1							0.0000+ 0		8.3923- 2
1.0000+ 5 ~ 2.0000+ 5	9.6739+ 0	9.0262+ 0	5.5545- 1	7.8924- 2							0.0000+ 0		1.4965- 1
2.0000+ 5 ~ 4.0000+ 5	8.5908+ 0	7.2898+ 0	1.2364+ 0	4.4490- 2							0.0000+ 0		2.5901- 1
4.0000+ 5 ~ 7.0000+ 5	7.9029+ 0	6.1318+ 0	1.7348+ 0	3.3220- 2							1.0280-11		3.5858- 1
7.0000+ 5 ~ 1.0000+ 6	7.6837+ 0	5.5818+ 0	2.0844+ 0	3.5912- 2							5.3972-11		4.3530- 1
1.0000+ 6 ~ 2.0000+ 6	7.4968+ 0	4.9722+ 0	2.4839+ 0	4.0218- 2							3.1130-10		5.7821- 1
2.0000+ 6 ~ 4.0000+ 6	6.8607+ 0	3.8427+ 0	2.9982+ 0	1.8587- 2							1.0014- 8		7.7628- 1
4.0000+ 6 ~ 7.0000+ 6	5.6827+ 0	2.8887+ 0	3.0100+ 0	2.0517- 3				5.3872- 9			1.8390- 7		8.4189- 1
7.0000+ 6 ~ 1.0000+ 7	5.1200+ 0	2.2434+ 0	2.3029+ 0	7.2429- 5		5.7010- 1		2.6798- 6			2.5040- 6		9.5007- 1
1.0000+ 7 ~ 2.0000+ 7	5.4823+ 0	2.8219+ 0	1.3057+ 0	5.3581- 6		1.0086+ 0	3.4364- 1	9.0878- 4			2.9253- 4		9.1553- 1

MATERIAL =3731 CROSS SECTION ^{181}Ta (3731)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	6.9324+ 1	5.6574+ 0		6.3667+ 1							4.5919- 5		3.5165- 3
1.0000- 2 ~ 2.0000- 2	3.2827+ 1	5.8638+ 0		2.7273+ 1							4.5919- 5		3.5165- 3
2.0000- 2 ~ 4.0000- 2	2.5018+ 1	5.6467+ 0		1.9370+ 1							4.6266- 5		3.5166- 3
4.0000- 2 ~ 7.0000- 2	1.9924+ 1	5.6400+ 0		1.4284+ 1							4.7789- 5		3.5165- 3
7.0000- 2 ~ 1.0000- 1	1.7136+ 1	5.6259+ 0		1.1506+ 1							4.9620- 5		3.5165- 3
1.0000- 1 ~ 2.0000- 1	1.4495+ 1	5.6068+ 0		8.8887+ 0							5.3629- 5		3.5165- 3
2.0000- 1 ~ 4.0000- 1	1.2065+ 1	5.5526+ 0		6.5128+ 0							6.2882- 5		3.5168- 3
4.0000- 1 ~ 7.0000- 1	1.0590+ 1	5.4579+ 0		5.1322+ 0							7.8303- 5		3.5167- 3
7.0000- 1 ~ 1.0000+ 0	9.8695+ 0	5.3353+ 0		4.5336+ 0							9.5809- 5		3.5187- 3
1.0000+ 0 ~ 2.0000+ 0	9.6190+ 0	5.0177+ 0		4.6012+ 0							1.3690- 4		3.5169- 3
2.0000+ 0 ~ 4.0000+ 0	2.9763+ 1	5.5347+ 0		2.6128+ 1							2.2943- 4		3.5134- 3
4.0000+ 0 ~ 7.0000+ 0	5.8795+ 2	4.0022+ 1		5.2783+ 2							3.8585- 4		3.5182- 3
7.0000+ 0 ~ 1.0000+ 1	1.2705+ 1	5.3233+ 0		7.3814+ 0							5.6870- 4		3.5191- 3
1.0000+ 1 ~ 2.0000+ 1	9.1073+ 1	1.0094+ 1		8.0978+ 1							9.6985- 4		3.5210- 3
2.0000+ 1 ~ 4.0000+ 1	2.6721+ 2	7.7858+ 1		1.7956+ 2							1.6949- 3		3.5256- 3
4.0000+ 1 ~ 7.0000+ 1	1.7488+ 1	8.9889+ 0		8.4980+ 0							3.4371- 3		3.5331- 3
7.0000+ 1 ~ 1.0000+ 2	1.2379+ 2	8.8458+ 1		5.5325+ 1							5.2878- 3		3.5422- 3
1.0000+ 2 ~ 2.0000+ 2	7.1383+ 1	3.7048+ 1		3.4309+ 1							9.2972- 3		3.5619- 3
2.0000+ 2 ~ 4.0000+ 2	4.0361+ 1	1.7800+ 1		2.2483+ 1							1.6550- 2		3.6073- 3
4.0000+ 2 ~ 7.0000+ 2	3.6608+ 1	1.2184+ 1		1.4424+ 1							3.3512- 2		3.6829- 3
7.0000+ 2 ~ 1.0000+ 3	3.1957+ 1	2.0658+ 1		1.1337+ 1							5.2477- 2		3.7737- 3
1.0000+ 3 ~ 2.0000+ 3	2.4191+ 1	1.7508+ 1		6.6807+ 0							9.2572- 2		4.0369- 3
2.0000+ 3 ~ 4.0000+ 3	1.7808+ 1	1.3858+ 1		3.7657+ 0							1.6510- 1		4.8063- 3
4.0000+ 3 ~ 7.0000+ 3	1.5855+ 1	1.3041+ 1	5.3848- 3	2.4855+ 0							3.3931- 1		6.2333- 3
7.0000+ 3 ~ 1.0000+ 4	1.4598+ 1	1.2284+ 1	1.2615- 1	1.6845+ 0							5.2437- 1		8.1879- 3
1.0000+ 4 ~ 2.0000+ 4	1.3906+ 1	1.1337+ 1	2.4873- 1	1.1391+ 0							5.8283- 1		1.2905- 2
2.0000+ 4 ~ 4.0000+ 4	1.1927+ 1	1.0350+ 1	3.6287- 1	7.3378- 1							4.7891- 1		2.4541- 2
4.0000+ 4 ~ 7.0000+ 4	1.0653+ 1	9.1781+ 0	5.5643- 1	5.1159- 1							3.0845- 1		4.4118- 2
7.0000+ 4 ~ 1.0000+ 5	9.4938+ 0	8.1955+ 0	7.8871- 1	4.0884- 1							1.0282- 1		6.6500- 2
1.0000+ 5 ~ 2.0000+ 5	8.1821+ 0	8.0898+ 0	9.2414- 1	2.9708- 1							1.8047- 6		1.0902- 1
2.0000+ 5 ~ 4.0000+ 5	7.3200+ 0	6.8888+ 0	1.2572+ 0	1.8391- 1							1.0316- 6		1.7889- 1
4.0000+ 5 ~ 7.0000+ 5	6.8788+ 0	4.8848+ 0	1.8874+ 0	1.2703- 1				0.0000+ 0			8.6586- 6		2.6324- 1
7.0000+ 5 ~ 1.0000+ 6	6.9807+ 0	4.7500+ 0	2.1351+ 0	1.0524- 1				0.0000+ 0			4.6215-10		3.5449- 1
1.0000+ 6 ~ 2.0000+ 6	7.2815+ 0	4.8361+ 0	2.3397+ 0	8.4928- 2				1.3378-13			9.7399-10		5.1362- 1
2.0000+ 6 ~ 4.0000+ 6	6.8585+ 0	4.1288+ 0	2.6838+ 0	3.0275- 2				1.6885- 6			2.3460- 8		7.2000- 1
4.0000+ 6 ~ 7.0000+ 6	5.6571+ 0	2.8078+ 0	2.8449+ 0	2.6732- 3				2.5188- 6			3.6388- 7		7.9905- 1
7.0000+ 6 ~ 1.0000+ 7	5.0818+ 0	2.5361+ 0	2.0247+ 0	3.8598- 5		5.2168- 1		1.1032- 4	1.3492- 8		2.8439- 6		7.5476- 1
1.0000+ 7 ~ 2.0000+ 7	5.4175+ 0	3.0788+ 0	2.8738- 1	4.5547- 7		1.7068+ 0	3.3925- 1	5.2294- 3	1.8283- 3		2.8302- 4		8.5311- 1

MATERIAL =3740 CROSS SECTION W (3740)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.1326+ 1	4.8775+ 0		6.8348+ 1							0.0000+ 0	0.0000+ 0	
1.0000- 2 ~ 2.0000- 2	2.9083+ 1	4.8752+ 0		2.4108+ 1							0.0000+ 0	0.0000+ 0	
2.0000- 2 ~ 4.0000- 2	2.2043+ 1	4.8721+ 0		1.7081+ 1							0.0000+ 0	0.0000+ 0	
4.0000- 2 ~ 7.0000- 2	1.7838+ 1	4.8670+ 0		1.2968+ 1							0.0000+ 0	0.0000+ 0	
7.0000- 2 ~ 1.0000- 1	1.5052+ 1	4.8608+ 0		1.0091+ 1							0.0000+ 0	0.0000+ 0	
1.0000- 1 ~ 2.0000- 1	1.2881+ 1	4.8475+ 0		7.7336+ 0							0.0000+ 0	0.0000+ 0	
2.0000- 1 ~ 4.0000- 1	1.0474+ 1	4.8185+ 0		5.5579+ 0							0.0000+ 0	0.0000+ 0	
4.0000- 1 ~ 7.0000- 1	8.0807+ 0	4.8840+ 0		4.2187+ 0							0.0000+ 0	0.0000+ 0	
7.0000- 1 ~ 1.0000+ 0	8.3280+ 0	4.7983+ 0		3.5297+ 0							0.0000+ 0	0.0000+ 0	
1.0000+ 0 ~ 2.0000+ 0	7.8888+ 0	4.8459+ 0		3.0430+ 0							0.0000+ 0	0.0000+ 0	
2.0000+ 0 ~ 4.0000+ 0	1.5888+ 1	3.9011+ 0		1.1987+ 1							0.0000+ 0	0.0000+ 0	
4.0000+ 0 ~ 7.0000+ 0	1.3581+ 2	9.8882+ 0		1.2592+ 2							0.0000+ 0	0.0000+ 0	
7.0000+ 0 ~ 1.0000+ 1	3.9151+ 1	8.5392+ 0		3.2812+ 1							0.0000+ 0	0.0000+ 0	
1.0000+ 1 ~ 2.0000+ 1	1.7232+ 3	1.5878+ 3		1.8541+ 2							0.0000+ 0	0.0000+ 0	
2.0000+ 1 ~ 4.0000+ 1	1.9008+ 2	1.0373+ 2		8.8315+ 1							0.0000+ 0	0.0000+ 0	
4.0000+ 1 ~ 7.0000+ 1	7.1990+ 1	5.4312+ 1		1.7873+ 1							0.0000+ 0	0.0000+ 0	
7.0000+ 1 ~ 1.0000+ 2	8.1250+ 0	5.8531+ 0		4.7188- 1							0.0000+ 0	0.0000+ 0	
1.0000+ 2 ~ 2.0000+ 2	1.2196+ 2	1.0531+ 2		1.6649+ 1							0.0000+ 0	0.0000+ 0	
2.0000+ 2 ~ 4.0000+ 2	8.5313+ 1	5.7282+ 1		8.0513+ 0							0.0000+ 0	0.0000+ 0	
4.0000+ 2 ~ 7.0000+ 2	3.0878+ 1	2.6512+ 1		4.3668+ 0							0.0000+ 0	0.0000+ 0	
7.0000+ 2 ~ 1.0000+ 3	4.9232+ 1	4.5818+ 1		3.3153+ 0							0.0000+ 0	0.0000+ 0	
1.0000+ 3 ~ 2.0000+ 3	2.7814+ 1	2.5862+ 1		1.8917+ 0							0.0000+ 0	0.0000+ 0	
2.0000+ 3 ~ 4.0000+ 3	2.0818+ 1	1.8735+ 1		9.5173+ 1							0.0000+ 0	0.0000+ 0	
4.0000+ 3 ~ 7.0000+ 3	1.8945+ 1	1.8519+ 1		4.2588- 1							0.0000+ 0	0.0000+ 0	7.3439- 3
7.0000+ 3 ~ 1.0000+ 4	1.7421+ 1	1.7128+ 1		2.9257- 1							0.0000+ 0	0.0000+ 0	8.2743- 3
1.0000+ 4 ~ 2.0000+ 4	1.5388+ 1	1.5139+ 1		2.5004- 1							0.0000+ 0	0.0000+ 0	1.3337- 2
2.0000+ 4 ~ 4.0000+ 4	1.2871+ 1	1.2522+ 1		2.4882- 1							0.0000+ 0	0.0000+ 0	2.8733- 2
4.0000+ 4 ~ 7.0000+ 4	1.0884+ 1	1.0421+ 1	5.1284- 2	2.1100- 1							0.0000+ 0	0.0000+ 0	4.3337- 2
7.0000+ 4 ~ 1.0000+ 5	9.4273+ 0	9.1459+ 0	9.0802- 2	1.9018- 1							0.0000+ 0	0.0000+ 0	6.1813- 2
1.0000+ 5 ~ 2.0000+ 5	8.1420+ 0	7.8498+ 0	3.8240- 1	1.2048- 1							0.0000+ 0	0.0000+ 0	1.0522- 1
2.0000+ 5 ~ 4.0000+ 5	7.0418+ 0	5.9920+ 0	8.7887- 1	6.8873- 2							0.0000+ 0	0.0000+ 0	1.8151- 1
4.0000+ 5 ~ 7.0000+ 5	6.5289+ 0	4.8907+ 0	1.5800+ 0	5.9017- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	2.7958- 1
7.0000+ 5 ~ 1.0000+ 6	6.4835+ 0	4.3783+ 0	2.0424+ 0	5.2788- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.8201- 1
1.0000+ 6 ~ 2.0000+ 6	6.8140+ 0	3.9754+ 0	2.7888+ 0	5.2088- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	5.8707- 1
2.0000+ 6 ~ 4.0000+ 6	6.6198+ 0	3.7498+ 0	3.0482+ 0	2.1139- 2				0.0000+ 0			3.5019- 7	0.0000+ 0	7.8893- 1
4.0000+ 6 ~ 7.0000+ 6	5.6888+ 0	2.8241+ 0	2.8850+ 0	2.8564- 3		5.4981- 3		9.5537- 6			6.0870- 8	0.0000+ 0	8.3098- 1
7.0000+ 6 ~ 1.0000+ 7	4.8887+ 0	2.2081+ 0	1.9938+ 0	1.5115- 4		6.5342- 1		3.0155- 4			5.6534- 5	5.5159- 7	8.0115- 1
1.0000+ 7 ~ 2.0000+ 7	5.2098+ 0	2.7572+ 0	5.3041- 1	4.5350- 8		1.5480+ 0	3.8847- 1	4.2040- 3	2.0980- 3		8.0848- 4	2.9894- 4	8.9307- 1

MATERIAL =3741 CROSS SECTION ^{182}W (3741)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	7.2828+ 1	8.8665+ 0		8.3772+ 1							0.0000+ 0	0.0000+ 0	3.6959- 3
1.0000- 2 ~ 2.0000- 2	3.8170+ 1	8.8499+ 0		2.7320+ 1							0.0000+ 0	0.0000+ 0	3.6959- 3
2.0000- 2 ~ 4.0000- 2	2.8243+ 1	8.6415+ 0		1.9401+ 1							0.0000+ 0	0.0000+ 0	3.6959- 3
4.0000- 2 ~ 7.0000- 2	2.3177+ 1	8.8274+ 0		1.4350+ 1							0.0000+ 0	0.0000+ 0	3.6959- 3
7.0000- 2 ~ 1.0000- 1	2.0340+ 1	8.8104+ 0		1.1530+ 1							0.0000+ 0	0.0000+ 0	3.6959- 3
1.0000- 1 ~ 2.0000- 1	1.7878+ 1	8.7734+ 0		8.8045+ 0							0.0000+ 0	0.0000+ 0	3.6959- 3
2.0000- 1 ~ 4.0000- 1	1.5209+ 1	8.8841+ 0		6.6234+ 0							0.0000+ 0	0.0000+ 0	3.6959- 3
4.0000- 1 ~ 7.0000- 1	1.3667+ 1	8.6361+ 0		5.1315+ 0							0.0000+ 0	0.0000+ 0	3.6960- 3
7.0000- 1 ~ 1.0000+ 0	1.2858+ 1	8.3424+ 0		4.5157+ 0							0.0000+ 0	0.0000+ 0	3.6960- 3
1.0000+ 0 ~ 2.0000+ 0	1.2372+ 1	7.8511+ 0		4.5205+ 0							0.0000+ 0	0.0000+ 0	3.6960- 3
2.0000+ 0 ~ 4.0000+ 0	4.4865+ 1	5.0829+ 0		3.9783+ 1							0.0000+ 0	0.0000+ 0	3.6960- 3
4.0000+ 0 ~ 7.0000+ 0	4.9792+ 2	2.6447+ 1		4.7148+ 2							0.0000+ 0	0.0000+ 0	3.6960- 3
7.0000+ 0 ~ 1.0000+ 1	9.1143+ 0	7.5004+ 0		1.6139+ 0							0.0000+ 0	0.0000+ 0	3.6960- 3
1.0000+ 1 ~ 2.0000+ 1	1.1278+ 1	3.5764+ 0		7.7017+ 0							0.0000+ 0	0.0000+ 0	3.6973- 3
2.0000+ 1 ~ 4.0000+ 1	3.7693+ 2	1.4361+ 2		2.3542+ 2							0.0000+ 0	0.0000+ 0	3.6995- 3
4.0000+ 1 ~ 7.0000+ 1	5.0287+ 0	5.4769+ 0		1.4779+ 1							0.0000+ 0	0.0000+ 0	3.7016- 3
7.0000+ 1 ~ 1.0000+ 2	2.5058+ 0	2.2898+ 0		2.1624+ 1							0.0000+ 0	0.0000+ 0	3.7031- 3
1.0000+ 2 ~ 2.0000+ 2	1.0215+ 2	8.4303+ 1		1.7843+ 1							0.0000+ 0	0.0000+ 0	3.7381- 3
2.0000+ 2 ~ 4.0000+ 2	1.5044+ 2	1.3813+ 2		1.2313+ 1							0.0000+ 0	0.0000+ 0	3.8000- 3
4.0000+ 2 ~ 7.0000+ 2	3.6694+ 1	3.2158+ 1		4.7345+ 0							0.0000+ 0	0.0000+ 0	3.8547- 3
7.0000+ 2 ~ 1.0000+ 3	3.9123+ 1	3.8086+ 1		3.0570+ 0							0.0000+ 0	0.0000+ 0	3.8943- 3
1.0000+ 3 ~ 2.0000+ 3	2.8183+ 1	2.4240+ 1		1.8433+ 0							0.0000+ 0	0.0000+ 0	4.7040- 3
2.0000+ 3 ~ 4.0000+ 3	2.5747+ 1	2.4552+ 1		1.1945+ 0							0.0000+ 0	0.0000+ 0	6.1300- 3
4.0000+ 3 ~ 7.0000+ 3	2.2353+ 1	2.1890+ 1		4.8359- 1							0.0000+ 0	0.0000+ 0	7.3904- 3
7.0000+ 3 ~ 1.0000+ 4	1.8334+ 1	1.8074+ 1		2.5916- 1							0.0000+ 0	0.0000+ 0	8.3013- 3
1.0000+ 4 ~ 2.0000+ 4	1.5007+ 1	1.4752+ 1		2.7457- 1							0.0000+ 0	0.0000+ 0	1.2521- 2
2.0000+ 4 ~ 4.0000+ 4	1.2263+ 1	1.2005+ 1		2.6086- 1							0.0000+ 0	0.0000+ 0	2.5241- 2
4.0000+ 4 ~ 7.0000+ 4	1.0307+ 1	1.0075+ 1		2.2793- 1							0.0000+ 0	0.0000+ 0	4.3175- 2
7.0000+ 4 ~ 1.0000+ 5	9.1757+ 0	8.9615+ 0		2.1418- 1							0.0000+ 0	0.0000+ 0	6.4411- 2
1.0000+ 5 ~ 2.0000+ 5	8.0800+ 0	7.5900+ 0	3.3009- 1	1.3821- 1							0.0000+ 0	0.0000+ 0	1.1054- 1
2.0000+ 5 ~ 4.0000+ 5	7.0857+ 0	6.0734+ 0	9.3773- 1	6.0881- 2							0.0000+ 0	0.0000+ 0	1.9030- 1
4.0000+ 5 ~ 7.0000+ 5	6.6880+ 0	5.0738+ 0	1.6395+ 0	7.3773- 2							0.0000+ 0	0.0000+ 0	2.8863- 1
7.0000+ 5 ~ 1.0000+ 6	6.6782+ 0	4.8374+ 0	1.9532+ 0	6.8437- 2							0.0000+ 0	0.0000+ 0	3.8277- 1
1.0000+ 6 ~ 2.0000+ 6	6.9198+ 0	4.3001+ 0	2.5326+ 0	8.6866- 2							0.0000+ 0	0.0000+ 0	5.7038- 1
2.0000+ 6 ~ 4.0000+ 6	6.7735+ 0	3.7181+ 0	3.0251+ 0	3.2988- 2				0.0000+ 0			8.7355- 7	0.0000+ 0	7.8759- 1
4.0000+ 6 ~ 7.0000+ 6	5.6488+ 0	2.7558+ 0	2.8675+ 0	4.2311- 3				3.3614- 5			6.6303- 6	0.0000+ 0	8.3610- 1
7.0000+ 6 ~ 1.0000+ 7	4.8709+ 0	2.1819+ 0	2.3733+ 0	1.8654- 4		3.1219- 1		1.0474- 3			3.4120- 5	1.9018- 6	8.1023- 1
1.0000+ 7 ~ 2.0000+ 7	5.2014+ 0	2.7335+ 0	5.0436- 1	3.0493- 6		1.7848+ 0	1.7348- 1	4.0317- 3	2.1930- 4		9.1052- 5	4.9947- 4	8.9738- 1

MATERIAL =3742 CROSS SECTION ^{183}W (3742)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.3819+ 1	2.3829+ 0		3.1258+ 1							0.0000+ 0	0.0000+ 0	3.6757- 3
1.0000- 2 ~ 2.0000- 2	1.6743+ 1	2.3822+ 0		1.9381+ 1							0.0000+ 0	0.0000+ 0	3.6757- 3
2.0000- 2 ~ 4.0000- 2	1.1848+ 1	2.3812+ 0		8.4848+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
4.0000- 2 ~ 7.0000- 2	8.3847+ 0	2.3795+ 0		6.0752+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
7.0000- 2 ~ 1.0000- 1	7.0880+ 0	2.3774+ 0		4.7887+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
1.0000- 1 ~ 2.0000- 1	5.5428+ 0	2.3728+ 0		3.2688+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
2.0000- 1 ~ 4.0000- 1	4.4200+ 0	2.3629+ 0		2.0577+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
4.0000- 1 ~ 7.0000- 1	4.0458+ 0	2.3449+ 0		1.7013+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
7.0000- 1 ~ 1.0000+ 0	4.2208+ 0	2.3223+ 0		1.8987+ 0							0.0000+ 0	0.0000+ 0	3.6758- 3
1.0000+ 0 ~ 2.0000+ 0	3.8284+ 0	2.2717+ 0		1.5567+ 0							0.0000+ 0	0.0000+ 0	3.6759- 3
2.0000+ 0 ~ 4.0000+ 0	3.5726+ 0	2.1360+ 0		1.4366+ 0							0.0000+ 0	0.0000+ 0	3.6759- 3
4.0000+ 0 ~ 7.0000+ 0	6.5882+ 0	1.7183+ 0		4.8489+ 0							0.0000+ 0	0.0000+ 0	3.6759- 3
7.0000+ 0 ~ 1.0000+ 1	2.2148+ 2	6.6278+ 0		2.1485+ 2							0.0000+ 0	0.0000+ 0	3.6759- 3
1.0000+ 1 ~ 2.0000+ 1	2.5614+ 0	1.4886+ 0		1.0728+ 0							0.0000+ 0	0.0000+ 0	3.6773- 3
2.0000+ 1 ~ 4.0000+ 1	2.5372+ 2	1.0827+ 2		1.4746+ 2							0.0000+ 0	0.0000+ 0	3.6799- 3
4.0000+ 1 ~ 7.0000+ 1	4.4470+ 2	3.2204+ 2		1.2265+ 2							0.0000+ 0	0.0000+ 0	3.6822- 3
7.0000+ 1 ~ 1.0000+ 2	7.3510+ 0	4.8078+ 0		2.5433+ 0							0.0000+ 0	0.0000+ 0	3.6838- 3
1.0000+ 2 ~ 2.0000+ 2	1.1028+ 2	8.5189+ 1		4.5108+ 1							0.0000+ 0	0.0000+ 0	3.7201- 3
2.0000+ 2 ~ 4.0000+ 2	3.5409+ 1	2.0102+ 1		1.5306+ 1							0.0000+ 0	0.0000+ 0	3.7842- 3
4.0000+ 2 ~ 7.0000+ 2	4.0800+ 1	3.3772+ 1		7.0277+ 0							0.0000+ 0	0.0000+ 0	3.8407- 3
7.0000+ 2 ~ 1.0000+ 3	3.3601+ 1	2.9217+ 1		4.2841+ 0							0.0000+ 0	0.0000+ 0	3.8816- 3
1.0000+ 3 ~ 2.0000+ 3	1.7888+ 1	1.5780+ 1		1.0881+ 0							0.0000+ 0	0.0000+ 0	4.6924- 3
2.0000+ 3 ~ 4.0000+ 3	2.6868+ 1	2.5288+ 1		1.5760+ 0							0.0000+ 0	0.0000+ 0	6.1194- 3
4.0000+ 3 ~ 7.0000+ 3	2.2478+ 1	2.1358+ 1		1.0875+ 0							0.0000+ 0	0.0000+ 0	7.3807- 3
7.0000+ 3 ~ 1.0000+ 4	1.8930+ 1	1.8129+ 1		7.9365- 1							0.0000+ 0	0.0000+ 0	8.2922- 3
1.0000+ 4 ~ 2.0000+ 4	1.5885+ 1	1.5079+ 1		8.0570- 1							0.0000+ 0	0.0000+ 0	1.2509- 2
2.0000+ 4 ~ 4.0000+ 4	1.2544+ 1	1.2081+ 1		4.6381- 1							0.0000+ 0	0.0000+ 0	2.4495- 2
4.0000+ 4 ~ 7.0000+ 4	1.0565+ 1	9.8468+ 0	3.8870- 1	3.4965- 1							0.0000+ 0	0.0000+ 0	4.5746- 2
7.0000+ 4 ~ 1.0000+ 5	9.4988+ 0	8.5751+ 0	9.3498- 1	2.8769- 1							0.0000+ 0	0.0000+ 0	7.0828- 2
1.0000+ 5 ~ 2.0000+ 5	8.3022+ 0	7.1803+ 0	9.1423- 1	1.8287- 1							0.0000+ 0	0.0000+ 0	1.1972- 1
2.0000+ 5 ~ 4.0000+ 5	7.1828+ 0	5.8553+ 0	1.8308+ 0	1.0203- 1							0.0000+ 0	0.0000+ 0	2.1695- 1
4.0000+ 5 ~ 7.0000+ 5	6.8853+ 0	4.3300+ 0	2.2888+ 0	6.8442- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4862- 1
7.0000+ 5 ~ 1.0000+ 6	6.8615+ 0	3.7773+ 0	2.8130+ 0	6.0758- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	4.7795- 1
1.0000+ 6 ~ 2.0000+ 6	6.9015+ 0	3.8240+ 0	3.2318+ 0	4.5883- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	6.5842- 1
2.0000+ 6 ~ 4.0000+ 6	6.8179+ 0	3.8354+ 0	3.1841+ 0	1.8180- 2				0.0000+ 0			1.2101- 8	0.0000+ 0	8.0833- 1
4.0000+ 6 ~ 7.0000+ 6	5.8882+ 0	2.7720+ 0	2.8448+ 0	2.0372- 3		3.0378- 2		5.0009- 6			2.6228- 5	0.0000+ 0	8.3752- 1
7.0000+ 6 ~ 1.0000+ 7	4.8837+ 0	2.1987+ 0	1.6138+ 0	6.7820- 5		1.1817+ 0		1.7129- 4			2.4880- 4	3.5950- 7	8.0919- 1
1.0000+ 7 ~ 2.0000+ 7	5.2139+ 0	2.7288+ 0	5.5409- 1	8.8347- 7		1.5954+ 0	3.3118- 1	3.8577- 3	2.2748- 4		1.6818- 3	3.7600- 4	8.9666- 1

MATERIAL =3743 CROSS SECTION ^{184}W (3743)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.2606+ 1	7.3533+ 0		5.2528+ 0							0.0000+ 0	0.0000+ 0	3.6557- 3
1.0000- 2 ~ 2.0000- 2	9.5876+ 0	7.3531+ 0		2.2446+ 0							0.0000+ 0	0.0000+ 0	3.6557- 3
2.0000- 2 ~ 4.0000- 2	8.9339+ 0	7.3528+ 0		1.5873+ 0							0.0000+ 0	0.0000+ 0	3.6557- 3
4.0000- 2 ~ 7.0000- 2	8.5189+ 0	7.3519+ 0		1.1670+ 0							0.0000+ 0	0.0000+ 0	3.6557- 3
7.0000- 2 ~ 1.0000- 1	8.2652+ 0	7.3511+ 0		9.3409- 1							0.0000+ 0	0.0000+ 0	3.6557- 3
1.0000- 1 ~ 2.0000- 1	8.0687+ 0	7.3493+ 0		7.0942- 1							0.0000+ 0	0.0000+ 0	3.6557- 3
2.0000- 1 ~ 4.0000- 1	7.8472+ 0	7.3461+ 0		5.0214- 1							0.0000+ 0	0.0000+ 0	3.6556- 3
4.0000- 1 ~ 7.0000- 1	7.7071+ 0	7.3380+ 0		3.6902- 1							0.0000+ 0	0.0000+ 0	3.6558- 3
7.0000- 1 ~ 1.0000+ 0	7.6259+ 0	7.3298+ 0		2.9570- 1							0.0000+ 0	0.0000+ 0	3.6558- 3
1.0000+ 0 ~ 2.0000+ 0	7.5385+ 0	7.3114+ 0		2.2515- 1							0.0000+ 0	0.0000+ 0	3.6558- 3
2.0000+ 0 ~ 4.0000+ 0	7.4288+ 0	7.2692+ 0		1.5972- 1							0.0000+ 0	0.0000+ 0	3.6558- 3
4.0000+ 0 ~ 7.0000+ 0	7.3170+ 0	7.1990+ 0		1.1806- 1							0.0000+ 0	0.0000+ 0	3.6558- 3
7.0000+ 0 ~ 1.0000+ 1	7.2098+ 0	7.1148+ 0		9.5054- 2							0.0000+ 0	0.0000+ 0	3.6556- 3
1.0000+ 1 ~ 2.0000+ 1	7.0047+ 0	6.9310+ 0		7.3745- 2							0.0000+ 0	0.0000+ 0	3.6570- 3
2.0000+ 1 ~ 4.0000+ 1	6.5548+ 0	6.4995+ 0		5.5306- 2							0.0000+ 0	0.0000+ 0	3.6590- 3
4.0000+ 1 ~ 7.0000+ 1	5.7764+ 0	5.7286+ 0		4.7840- 2							0.0000+ 0	0.0000+ 0	3.6608- 3
7.0000+ 1 ~ 1.0000+ 2	4.6545+ 0	4.6780+ 0		7.6492- 2							0.0000+ 0	0.0000+ 0	3.6821- 3
1.0000+ 2 ~ 2.0000+ 2	2.4826+ 2	2.3278+ 2		1.3498+ 1							0.0000+ 0	0.0000+ 0	3.8942- 3
2.0000+ 2 ~ 4.0000+ 2	1.8629+ 1	1.4355+ 1		2.2743+ 0							0.0000+ 0	0.0000+ 0	3.7510- 3
4.0000+ 2 ~ 7.0000+ 2	1.6744+ 1	1.6464+ 1		2.8200+ 0							0.0000+ 0	0.0000+ 0	3.8011- 3
7.0000+ 2 ~ 1.0000+ 3	5.4676+ 1	5.1273+ 1		3.4023+ 0							0.0000+ 0	0.0000+ 0	3.8374- 3
1.0000+ 3 ~ 2.0000+ 3	4.3303+ 1	4.0619+ 1		2.7038+ 0							0.0000+ 0	0.0000+ 0	4.5916- 3
2.0000+ 3 ~ 4.0000+ 3	2.6814+ 1	2.5837+ 1		7.7776- 1							0.0000+ 0	0.0000+ 0	5.9203- 3
4.0000+ 3 ~ 7.0000+ 3	1.6123+ 1	1.4530+ 1		1.5298- 1							0.0000+ 0	0.0000+ 0	7.0947- 3
7.0000+ 3 ~ 1.0000+ 4	1.7388+ 1	1.7159+ 1		1.9697- 1							0.0000+ 0	0.0000+ 0	7.9435- 3
1.0000+ 4 ~ 2.0000+ 4	1.6576+ 1	1.5410+ 1		1.6612- 1							0.0000+ 0	0.0000+ 0	1.7365- 2
2.0000+ 4 ~ 4.0000+ 4	1.2782+ 1	1.2666+ 1		1.9676- 1							0.0000+ 0	0.0000+ 0	3.3698- 2
4.0000+ 4 ~ 7.0000+ 4	1.0582+ 1	1.0407+ 1		1.7451- 1							0.0000+ 0	0.0000+ 0	4.8127- 2
7.0000+ 4 ~ 1.0000+ 5	9.3288+ 0	9.1808+ 0		1.4858- 1							0.0000+ 0	0.0000+ 0	6.1199- 2
1.0000+ 5 ~ 2.0000+ 5	8.0537+ 0	7.6842+ 0	2.7298- 1	9.8898- 2							0.0000+ 0	0.0000+ 0	1.0351- 1
2.0000+ 5 ~ 4.0000+ 5	6.9838+ 0	6.0321+ 0	6.9178- 1	5.6691- 2							0.0000+ 0	0.0000+ 0	1.7711- 1
4.0000+ 5 ~ 7.0000+ 5	6.4781+ 0	4.9552+ 0	1.4817+ 0	5.0059- 2							0.0000+ 0	0.0000+ 0	2.6994- 1
7.0000+ 5 ~ 1.0000+ 6	6.4335+ 0	4.4343+ 0	1.8520+ 0	5.7068- 2							0.0000+ 0	0.0000+ 0	3.8427- 1
1.0000+ 6 ~ 2.0000+ 6	6.7928+ 0	3.9792+ 0	2.7730+ 0	4.0712- 2							0.0000+ 0	0.0000+ 0	5.8011- 1
2.0000+ 6 ~ 4.0000+ 6	6.8280+ 0	3.7501+ 0	3.0808+ 0	1.4765- 2							0.0000+ 0	0.0000+ 0	7.8933- 1
4.0000+ 6 ~ 7.0000+ 6	5.7010+ 0	2.8331+ 0	2.8848+ 0	1.8899- 3				0.0000+ 0			1.8578- 5	0.0000+ 0	8.3043- 1
7.0000+ 6 ~ 1.0000+ 7	4.8707+ 0	2.2113+ 0	2.0334+ 0	7.4931- 5		6.2375- 1		0.0000+ 0			3.2256- 5	0.0000+ 0	8.0023- 1
1.0000+ 7 ~ 2.0000+ 7	5.2182+ 0	2.7474+ 0	5.1835- 1	1.2261- 6		1.5262+ 0	4.1835- 1	3.6901- 3	2.8997- 3		6.9082- 4	2.3196- 4	8.9261- 1

MATERIAL =3744 CROSS SECTION ^{186}W (3744)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.1725+ 2	1.4918- 1		1.1710+ 2							0.0000+ 0	0.0000+ 0	3.6163- 3
1.0000- 2 ~ 2.0000- 2	5.0221+ 1	1.4783- 1		5.0073+ 1							0.0000+ 0	0.0000+ 0	3.6164- 3
2.0000- 2 ~ 4.0000- 2	3.5845+ 1	1.4582- 1		3.5495+ 1							0.0000+ 0	0.0000+ 0	3.6164- 3
4.0000- 2 ~ 7.0000- 2	2.8195+ 1	1.4250- 1		2.4052+ 1							0.0000+ 0	0.0000+ 0	3.6164- 3
7.0000- 2 ~ 1.0000- 1	2.1024+ 1	1.3855- 1		2.0655+ 1							0.0000+ 0	0.0000+ 0	3.6164- 3
1.0000- 1 ~ 2.0000- 1	1.6095+ 1	1.3017- 1		1.5965+ 1							0.0000+ 0	0.0000+ 0	3.6164- 3
2.0000- 1 ~ 4.0000- 1	1.1476+ 1	1.1169- 1		1.1364+ 1							0.0000+ 0	0.0000+ 0	3.6164- 3
4.0000- 1 ~ 7.0000- 1	8.5621+ 0	8.3850- 2		8.4784+ 0							0.0000+ 0	0.0000+ 0	3.6164- 3
7.0000- 1 ~ 1.0000+ 0	6.8492+ 0	5.4578- 2		6.8947+ 0							0.0000+ 0	0.0000+ 0	3.6164- 3
1.0000+ 0 ~ 2.0000+ 0	5.4888+ 0	1.4581- 2		5.4552+ 0							0.0000+ 0	0.0000+ 0	3.6164- 3
2.0000+ 0 ~ 4.0000+ 0	4.3604+ 0	8.8842- 2		4.3108+ 0							0.0000+ 0	0.0000+ 0	3.6164- 3
4.0000+ 0 ~ 7.0000+ 0	4.9972+ 0	8.4442- 1		4.0527+ 0							0.0000+ 0	0.0000+ 0	3.6165- 3
7.0000+ 0 ~ 1.0000+ 1	9.9633+ 0	8.0102+ 0		4.8431+ 0							0.0000+ 0	0.0000+ 0	3.6165- 3
1.0000+ 1 ~ 2.0000+ 1	6.0068+ 3	5.4351+ 3		5.7074+ 2							0.0000+ 0	0.0000+ 0	3.6175- 3
2.0000+ 1 ~ 4.0000+ 1	1.8242+ 2	1.7092+ 2		1.1503+ 1							0.0000+ 0	0.0000+ 0	3.6193- 3
4.0000+ 1 ~ 7.0000+ 1	1.7873+ 1	1.7695+ 1		2.7793- 1							0.0000+ 0	0.0000+ 0	3.6209- 3
7.0000+ 1 ~ 1.0000+ 2	1.0430+ 1	1.0335+ 1		9.5472- 2							0.0000+ 0	0.0000+ 0	3.6221- 3
1.0000+ 2 ~ 2.0000+ 2	1.2050+ 1	7.3490+ 0		4.7012+ 0							0.0000+ 0	0.0000+ 0	3.8609- 3
2.0000+ 2 ~ 4.0000+ 2	5.4439+ 1	4.7719+ 1		6.7204+ 0							0.0000+ 0	0.0000+ 0	3.7017- 3
4.0000+ 2 ~ 7.0000+ 2	3.3465+ 1	2.8511+ 1		4.9446+ 0							0.0000+ 0	0.0000+ 0	3.7466- 3
7.0000+ 2 ~ 1.0000+ 3	8.0620+ 1	8.7569+ 1		2.9859+ 0							0.0000+ 0	0.0000+ 0	3.7791- 3
1.0000+ 3 ~ 2.0000+ 3	1.7702+ 1	1.6678+ 1		1.0259+ 0							0.0000+ 0	0.0000+ 0	4.4847- 3
2.0000+ 3 ~ 4.0000+ 3	2.7230+ 1	2.6629+ 1		6.0146- 1							0.0000+ 0	0.0000+ 0	5.6728- 3
4.0000+ 3 ~ 7.0000+ 3	1.8089+ 1	1.7898+ 1		2.0124- 1							0.0000+ 0	0.0000+ 0	6.7403- 3
7.0000+ 3 ~ 1.0000+ 4	1.7882+ 1	1.7480+ 1		1.7212- 1							0.0000+ 0	0.0000+ 0	7.5122- 3
1.0000+ 4 ~ 2.0000+ 4	1.5422+ 1	1.5261+ 1		1.4038- 1							0.0000+ 0	0.0000+ 0	1.1142- 2
2.0000+ 4 ~ 4.0000+ 4	1.3760+ 1	1.3693+ 1		1.6704- 1							0.0000+ 0	0.0000+ 0	2.2202- 2
4.0000+ 4 ~ 7.0000+ 4	1.1248+ 1	1.1083+ 1		1.6574- 1							0.0000+ 0	0.0000+ 0	3.7856- 2
7.0000+ 4 ~ 1.0000+ 5	9.7787+ 0	9.8218+ 0		1.5803- 1							0.0000+ 0	0.0000+ 0	5.6451- 2
1.0000+ 5 ~ 2.0000+ 5	8.2509+ 0	7.9289+ 0	2.1378- 1	9.8782- 2							0.0000+ 0	0.0000+ 0	9.5690- 2
2.0000+ 5 ~ 4.0000+ 5	7.0105+ 0	6.1105+ 0	6.3946- 1	5.8846- 2							0.0000+ 0	0.0000+ 0	1.6315- 1
4.0000+ 5 ~ 7.0000+ 5	6.3909+ 0	4.9428+ 0	1.3970+ 0	5.0098- 2							0.0000+ 0	0.0000+ 0	2.5131- 1
7.0000+ 5 ~ 1.0000+ 6	6.3065+ 0	4.3358+ 0	1.9204+ 0	4.8331- 2							0.0000+ 0	0.0000+ 0	3.5911- 1
1.0000+ 6 ~ 2.0000+ 6	6.7285+ 0	3.8883+ 0	2.8248+ 0	3.5851- 2							0.0000+ 0	0.0000+ 0	5.7840- 1
2.0000+ 6 ~ 4.0000+ 6	6.8676+ 0	3.8646+ 0	3.0138+ 0	1.8613- 2							0.0000+ 0	0.0000+ 0	7.8027- 1
4.0000+ 6 ~ 7.0000+ 6	5.7825+ 0	2.8151+ 0	2.8325+ 0	3.3881- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	8.2382- 1
7.0000+ 6 ~ 1.0000+ 7	4.8673+ 0	2.2417+ 0	1.8508+ 0	2.4517- 4		7.7283- 1		5.5825- 5			7.3084- 6	0.0000+ 0	7.9004- 1
1.0000+ 7 ~ 2.0000+ 7	5.2314+ 0	2.8188+ 0	5.8000- 1	1.1287- 5		1.3301+ 0	5.1484- 1	5.0559- 3	3.7985- 3		4.6233- 4	1.4966- 4	8.8792- 1

MATERIAL =3820

CROSS SECTION

Pb (3820)

ENERGY	TOTAL	ELASTIC	INELA.	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.1773+ 1	1.1237+ 1		5.3223- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3269- 3
1.0000- 2 ~ 2.0000- 2	1.1489+ 1	1.1259+ 1		2.2744- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3488- 3
2.0000- 2 ~ 4.0000- 2	1.1423+ 1	1.1281+ 1		1.6091- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3597- 3
4.0000- 2 ~ 7.0000- 2	1.1392+ 1	1.1273+ 1		1.1834- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3693- 3
7.0000- 2 ~ 1.0000- 1	1.1360+ 1	1.1285+ 1		9.4804- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3763- 3
1.0000- 1 ~ 2.0000- 1	1.1341+ 1	1.1288+ 1		7.1876- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3850- 3
2.0000- 1 ~ 4.0000- 1	1.1331+ 1	1.1279+ 1		5.0822- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3959- 3
4.0000- 1 ~ 7.0000- 1	1.1316+ 1	1.1278+ 1		3.7373- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4056- 3
7.0000- 1 ~ 1.0000+ 0	1.1298+ 1	1.1288+ 1		2.9913- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4124- 3
1.0000+ 0 ~ 2.0000+ 0	1.1288+ 1	1.1285+ 1		2.2748- 2				0.0000+ 0			6.8087-16	0.0000+ 0	3.4212- 3
2.0000+ 0 ~ 4.0000+ 0	1.1285+ 1	1.1288+ 1		1.6085- 2				0.0000+ 0			2.7235-15	0.0000+ 0	3.4321- 3
4.0000+ 0 ~ 7.0000+ 0	1.1280+ 1	1.1268+ 1		1.1825- 2				0.0000+ 0			6.1278-15	0.0000+ 0	3.4419- 3
7.0000+ 0 ~ 1.0000+ 1	1.1274+ 1	1.1265+ 1		9.4489- 3				0.0000+ 0			1.0213-14	0.0000+ 0	3.4489- 3
1.0000+ 1 ~ 2.0000+ 1	1.1271+ 1	1.1283+ 1		7.1945- 3				0.0000+ 0			1.9064-14	0.0000+ 0	3.4578- 3
2.0000+ 1 ~ 4.0000+ 1	1.1269+ 1	1.1284+ 1		5.0883- 3				0.0000+ 0			3.9490-14	0.0000+ 0	3.4689- 3
4.0000+ 1 ~ 7.0000+ 1	1.1267+ 1	1.1263+ 1		3.7425- 3				0.0000+ 0			7.3534-14	0.0000+ 0	3.4787- 3
7.0000+ 1 ~ 1.0000+ 2	1.1264+ 1	1.1261+ 1		2.9906- 3				0.0000+ 0			1.1439-13	0.0000+ 0	3.4846- 3
1.0000+ 2 ~ 2.0000+ 2	1.1261+ 1	1.1259+ 1		2.2794- 3				0.0000+ 0			2.0290-13	0.0000+ 0	3.4903- 3
2.0000+ 2 ~ 4.0000+ 2	1.1256+ 1	1.1255+ 1		1.6156- 3				0.0000+ 0			4.0716-13	0.0000+ 0	3.4986- 3
4.0000+ 2 ~ 7.0000+ 2	1.1249+ 1	1.1246+ 1		2.4031- 3				0.0000+ 0			7.4760-13	0.0000+ 0	3.5091- 3
7.0000+ 2 ~ 1.0000+ 3	1.1236+ 1	1.1235+ 1		9.6807- 4				0.0000+ 0			1.1561-12	0.0000+ 0	3.5202- 3
1.0000+ 3 ~ 2.0000+ 3	1.1284+ 1	1.1284+ 1		1.9958- 2				0.0000+ 0			2.0412-12	0.0000+ 0	3.8970- 3
2.0000+ 3 ~ 4.0000+ 3	1.1154+ 1	1.1122+ 1		3.1488- 2				0.0000+ 0			4.0839-12	0.0000+ 0	4.5797- 3
4.0000+ 3 ~ 7.0000+ 3	1.0881+ 1	1.0878+ 1		2.1304- 3				0.0000+ 0			7.4882-12	0.0000+ 0	5.4450- 3
7.0000+ 3 ~ 1.0000+ 4	1.0428+ 1	1.0421+ 1		6.6758- 3				0.0000+ 0			1.1573-11	0.0000+ 0	6.7558- 3
1.0000+ 4 ~ 2.0000+ 4	1.0823+ 1	1.0815+ 1		8.0249- 3				0.0000+ 0			2.0425-11	0.0000+ 0	1.1748- 2
2.0000+ 4 ~ 4.0000+ 4	9.0217+ 0	9.0158+ 0		5.9559- 3				0.0000+ 0			4.0851-11	0.0000+ 0	1.9684- 2
4.0000+ 4 ~ 7.0000+ 4	9.6512+ 0	9.6468+ 0		4.3654- 3				0.0000+ 0			7.4894-11	0.0000+ 0	2.9204- 2
7.0000+ 4 ~ 1.0000+ 5	1.0946+ 1	1.0940+ 1		4.4480- 3				0.0000+ 0			1.1575-10	0.0000+ 0	4.2689- 2
1.0000+ 5 ~ 2.0000+ 5	8.1271+ 0	8.1224+ 0		4.6898- 3				0.0000+ 0			2.0426-10	0.0000+ 0	6.8448- 2
2.0000+ 5 ~ 4.0000+ 5	6.8319+ 0	6.8295+ 0		2.3897- 3				0.0000+ 0			4.0852-10	0.0000+ 0	1.1083- 1
4.0000+ 5 ~ 7.0000+ 5	5.2566+ 0	5.2410+ 0	1.2033- 2	3.7063- 3				0.0000+ 0			7.4896-10	0.0000+ 0	1.5352- 1
7.0000+ 5 ~ 1.0000+ 6	5.3507+ 0	5.2402+ 0	1.0701- 1	3.5182- 3				0.0000+ 0			1.1575- 9	0.0000+ 0	1.8355- 1
1.0000+ 6 ~ 2.0000+ 6	5.2999+ 0	4.8970+ 0	4.0065- 1	2.2917- 3				4.4680-15			2.8981- 9	0.0000+ 0	2.4435- 1
2.0000+ 6 ~ 4.0000+ 6	7.4172+ 0	6.3062+ 0	1.1100+ 0	1.0537- 3				4.4324- 9			3.8208- 8	0.0000+ 0	5.0254- 1
4.0000+ 6 ~ 7.0000+ 6	6.9321+ 0	4.6873+ 0	2.2744+ 0	5.3154- 4				3.0774- 8			1.7398- 6	0.0000+ 0	7.2898- 1
7.0000+ 6 ~ 1.0000+ 7	5.3804+ 0	2.6386+ 0	2.2466+ 0	7.4893- 4		4.9379- 1		1.7257- 5	2.0786-11		9.5124- 6	5.3931- 8	7.1993- 1
1.0000+ 7 ~ 2.0000+ 7	5.5175+ 0	2.7332+ 0	5.7030- 1	6.4884- 4		2.0214+ 0	1.8285- 1	2.4494- 3	1.5752- 3		4.2293- 3	1.6789- 4	8.4671- 1

MATERIAL =3821

CROSS SECTION

^{204}Pb (3821)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.3246+ 1	1.1196+ 1		2.0444+ 0				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.3823- 3
1.0000- 2 ~ 2.0000- 2	1.2073+ 1	1.1198+ 1		8.7381- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4089- 3
2.0000- 2 ~ 4.0000- 2	1.1816+ 1	1.1198+ 1		6.1808- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4223- 3
4.0000- 2 ~ 7.0000- 2	1.1652+ 1	1.1196+ 1		4.5458- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4341- 3
7.0000- 2 ~ 1.0000- 1	1.1560+ 1	1.1196+ 1		3.6338- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4427- 3
1.0000- 1 ~ 2.0000- 1	1.1473+ 1	1.1198+ 1		2.7808- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4534- 3
2.0000- 1 ~ 4.0000- 1	1.1392+ 1	1.1198+ 1		1.9622- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4668- 3
4.0000- 1 ~ 7.0000- 1	1.1340+ 1	1.1195+ 1		1.4358- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4786- 3
7.0000- 1 ~ 1.0000+ 0	1.1311+ 1	1.1196+ 1		1.1491- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4872- 3
1.0000+ 0 ~ 2.0000+ 0	1.1264+ 1	1.1198+ 1		6.7389- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4979- 3
2.0000+ 0 ~ 4.0000+ 0	1.1258+ 1	1.1196+ 1		6.1815- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5113- 3
4.0000+ 0 ~ 7.0000+ 0	1.1240+ 1	1.1195+ 1		4.5484- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5231- 3
7.0000+ 0 ~ 1.0000+ 1	1.1230+ 1	1.1194+ 1		3.6347- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5317- 3
1.0000+ 1 ~ 2.0000+ 1	1.1220+ 1	1.1192+ 1		2.7708- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5424- 3
2.0000+ 1 ~ 4.0000+ 1	1.1207+ 1	1.1188+ 1		1.9848- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5558- 3
4.0000+ 1 ~ 7.0000+ 1	1.1195+ 1	1.1180+ 1		1.4520- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5676- 3
7.0000+ 1 ~ 1.0000+ 2	1.1183+ 1	1.1171+ 1		1.1673- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5762- 3
1.0000+ 2 ~ 2.0000+ 2	1.1190+ 1	1.1151+ 1		9.0173- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.5869- 3
2.0000+ 2 ~ 4.0000+ 2	1.1104+ 1	1.1098+ 1		6.6731- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.6003- 3
4.0000+ 2 ~ 7.0000+ 2	1.1080+ 1	1.0990+ 1		9.0828- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.6121- 3
7.0000+ 2 ~ 1.0000+ 3	1.0805+ 1	1.0800+ 1		5.2214- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.6207- 3
1.0000+ 3 ~ 2.0000+ 3	1.8883+ 1	1.7318+ 1		1.3589+ 0				0.0000+ 0			0.0000+ 0	0.0000+ 0	4.0894- 3
2.0000+ 3 ~ 4.0000+ 3	1.5649+ 1	1.5334+ 1		3.2901- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	4.8686- 3
4.0000+ 3 ~ 7.0000+ 3	9.9672+ 0	9.8504+ 0		1.2484- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	5.8758- 3
7.0000+ 3 ~ 1.0000+ 4	1.6613+ 1	1.6188+ 1		4.4559- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	7.4200- 3
1.0000+ 4 ~ 2.0000+ 4	1.0518+ 1	1.0439+ 1		7.8849- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.0995- 2
2.0000+ 4 ~ 4.0000+ 4	1.0573+ 1	1.0503+ 1		7.0159- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.9971- 2
4.0000+ 4 ~ 7.0000+ 4	1.2188+ 1	1.2141+ 1		4.5152- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.1812- 2
7.0000+ 4 ~ 1.0000+ 5	1.2088+ 1	1.2057+ 1		3.1071- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	4.5939- 2
1.0000+ 5 ~ 2.0000+ 5	1.0632+ 1	1.0577+ 1		2.5970- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	7.3056- 2
2.0000+ 5 ~ 4.0000+ 5	8.4411+ 0	8.4037+ 0		2.2791- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.1394- 1
4.0000+ 5 ~ 7.0000+ 5	6.2876+ 0	6.2577+ 0		2.4578- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.5383- 1
7.0000+ 5 ~ 1.0000+ 6	5.0998+ 0	5.0352+ 0	3.5420- 2	2.8249- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.8728- 1
1.0000+ 6 ~ 2.0000+ 6	5.2850+ 0	4.6015+ 0	8.6289- 1	2.0318- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	2.8194- 1
2.0000+ 6 ~ 4.0000+ 6	7.3883+ 0	5.4888+ 0	1.8847+ 0	1.4381- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	5.8025- 1
4.0000+ 6 ~ 7.0000+ 6	8.7801+ 0	4.4339+ 0	2.3211+ 0	3.9881- 3				3.3333- 8			1.3333- 8	0.0000+ 0	7.5062- 1
7.0000+ 6 ~ 1.0000+ 7	6.3385+ 0	2.9178+ 0	2.2321+ 0	9.2248- 4		1.8838- 1		3.0187- 5	0.0000+ 0		1.0583- 5	0.0000+ 0	7.1494- 1
1.0000+ 7 ~ 2.0000+ 7	5.4578+ 0	2.9993+ 0	3.5869- 1	3.8912- 5		2.0277+ 0	7.1783- 2	2.7187- 4	1.9579- 4		2.5117- 4	1.1058- 4	8.4774- 1

MATERIAL =3822 CROSS SECTION ^{206}Pb (3822)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.0558+ 1	1.0483+ 1		9.4688- 2							0.0000+ 0	0.0000+ 0	3.3648- 3
1.0000- 2 ~ 2.0000- 2	1.0504+ 1	1.0483+ 1		4.0484- 2							0.0000+ 0	0.0000+ 0	3.3674- 3
2.0000- 2 ~ 4.0000- 2	1.0492+ 1	1.0483+ 1		2.9814- 2							0.0000+ 0	0.0000+ 0	3.3986- 3
4.0000- 2 ~ 7.0000- 2	1.0484+ 1	1.0483+ 1		2.1041- 2							0.0000+ 0	0.0000+ 0	3.4089- 3
7.0000- 2 ~ 1.0000- 1	1.0480+ 1	1.0483+ 1		1.6844- 2							0.0000+ 0	0.0000+ 0	3.4162- 3
1.0000- 1 ~ 2.0000- 1	1.0476+ 1	1.0483+ 1		1.2767- 2							0.0000+ 0	0.0000+ 0	3.4253- 3
2.0000- 1 ~ 4.0000- 1	1.0472+ 1	1.0483+ 1		8.0513- 3							0.0000+ 0	0.0000+ 0	3.4368- 3
4.0000- 1 ~ 7.0000- 1	1.0470+ 1	1.0483+ 1		5.8485- 3							0.0000+ 0	0.0000+ 0	3.4468- 3
7.0000- 1 ~ 1.0000+ 0	1.0468+ 1	1.0483+ 1		5.3273- 3							0.0000+ 0	0.0000+ 0	3.4541- 3
1.0000+ 0 ~ 2.0000+ 0	1.0467+ 1	1.0483+ 1		4.0503- 3							1.3175-15	0.0000+ 0	3.4633- 3
2.0000+ 0 ~ 4.0000+ 0	1.0465+ 1	1.0482+ 1		2.8846- 3							5.2700-15	0.0000+ 0	3.4747- 3
4.0000+ 0 ~ 7.0000+ 0	1.0464+ 1	1.0482+ 1		2.1056- 3							1.1658-14	0.0000+ 0	3.4848- 3
7.0000+ 0 ~ 1.0000+ 1	1.0462+ 1	1.0481+ 1		1.6826- 3							1.9753-14	0.0000+ 0	3.4921- 3
1.0000+ 1 ~ 2.0000+ 1	1.0460+ 1	1.0458+ 1		1.2814- 3							3.8590-14	0.0000+ 0	3.5012- 3
2.0000+ 1 ~ 4.0000+ 1	1.0458+ 1	1.0456+ 1		9.0634- 4							7.6415-14	0.0000+ 0	3.5126- 3
4.0000+ 1 ~ 7.0000+ 1	1.0449+ 1	1.0449+ 1		6.6653- 4							1.4229-13	0.0000+ 0	3.5227- 3
7.0000+ 1 ~ 1.0000+ 2	1.0441+ 1	1.0441+ 1		5.3367- 4							2.2134-13	0.0000+ 0	3.5300- 3
1.0000+ 2 ~ 2.0000+ 2	1.0424+ 1	1.0424+ 1		4.0584- 4							3.9262-13	0.0000+ 0	3.5392- 3
2.0000+ 2 ~ 4.0000+ 2	1.0384+ 1	1.0384+ 1		2.8727- 4							7.8787-13	0.0000+ 0	3.5506- 3
4.0000+ 2 ~ 7.0000+ 2	1.0318+ 1	1.0320+ 1		2.1132- 4							1.4456-12	0.0000+ 0	3.5607- 3
7.0000+ 2 ~ 1.0000+ 3	1.0238+ 1	1.0241+ 1		1.6979- 4							2.2371-12	0.0000+ 0	3.5680- 3
1.0000+ 3 ~ 2.0000+ 3	1.0087+ 1	1.0072+ 1		1.3024- 4							3.8499-12	0.0000+ 0	3.5850- 3
2.0000+ 3 ~ 4.0000+ 3	9.9519+ 0	9.8920+ 0		7.8266- 2							7.9024-12	0.0000+ 0	4.7284- 3
4.0000+ 3 ~ 7.0000+ 3	9.0252+ 0	9.0282+ 0		7.1837- 5							1.4490-11	0.0000+ 0	5.6659- 3
7.0000+ 3 ~ 1.0000+ 4	8.2462+ 0	8.2469+ 0		5.8034- 5							2.2395-11	0.0000+ 0	7.1044- 3
1.0000+ 4 ~ 2.0000+ 4	7.8718+ 0	7.8543+ 0		1.7316- 2							3.9523-11	0.0000+ 0	1.2455- 2
2.0000+ 4 ~ 4.0000+ 4	8.3044+ 0	8.2837+ 0		1.0740- 2							7.9048-11	0.0000+ 0	2.1019- 2
4.0000+ 4 ~ 7.0000+ 4	7.8242+ 0	7.8118+ 0		7.2929- 3							1.4492-10	0.0000+ 0	3.1031- 2
7.0000+ 4 ~ 1.0000+ 5	7.8838+ 0	7.8870+ 0		6.7872- 3							2.2397-10	0.0000+ 0	4.4884- 2
1.0000+ 5 ~ 2.0000+ 5	7.8801+ 0	7.8808+ 0		9.3835- 3							3.9525-10	0.0000+ 0	7.0828- 2
2.0000+ 5 ~ 4.0000+ 5	8.7418+ 0	8.7383+ 0		2.8890- 3							7.9050-10	0.0000+ 0	1.1249- 1
4.0000+ 5 ~ 7.0000+ 5	8.4687+ 0	8.4633+ 0		8.3216- 4							1.4492- 9	0.0000+ 0	1.5305- 1
7.0000+ 5 ~ 1.0000+ 6	5.0628+ 0	4.9336+ 0	1.2845- 1	8.3795- 4							2.2398- 9	0.0000+ 0	1.8834- 1
1.0000+ 6 ~ 2.0000+ 6	5.2873+ 0	4.4197+ 0	8.4868- 1	4.8880- 4				5.2883-15			2.1998- 9	0.0000+ 0	2.7598- 1
2.0000+ 6 ~ 4.0000+ 6	7.4188+ 0	5.4147+ 0	2.0037+ 0	3.8408- 4				4.4235- 9			3.8659- 6	0.0000+ 0	5.7841- 1
4.0000+ 6 ~ 7.0000+ 6	8.8268+ 0	4.3492+ 0	2.4774+ 0	2.4384- 4				1.0873- 5			2.9563- 6	0.0000+ 0	7.7723- 1
7.0000+ 6 ~ 1.0000+ 7	5.3948+ 0	2.8227+ 0	2.4443+ 0	1.0219- 4		3.2533- 1		5.1700- 5	2.0515-13		1.0548- 5	1.5502- 7	7.1783- 1
1.0000+ 7 ~ 2.0000+ 7	5.4894+ 0	2.7247+ 0	8.3958- 1	7.6168- 6		2.0727+ 0	2.8413- 2	3.3671- 3	3.3484- 4		1.3093- 3	7.6882- 5	8.4708- 1

MATERIAL =3823 CROSS SECTION ^{207}Pb (3823)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.3873+ 1	1.1448+ 1		2.2032+ 0							0.0000+ 0	0.0000+ 0	3.3447- 3
1.0000- 2 ~ 2.0000- 2	1.2400+ 1	1.1448+ 1		8.4182- 1							0.0000+ 0	0.0000+ 0	3.3670- 3
2.0000- 2 ~ 4.0000- 2	1.2120+ 1	1.1448+ 1		5.6555- 1							0.0000+ 0	0.0000+ 0	3.3782- 3
4.0000- 2 ~ 7.0000- 2	1.1941+ 1	1.1448+ 1		4.8923- 1							0.0000+ 0	0.0000+ 0	3.3881- 3
7.0000- 2 ~ 1.0000- 1	1.1844+ 1	1.1448+ 1		3.8160- 1							0.0000+ 0	0.0000+ 0	3.3953- 3
1.0000- 1 ~ 2.0000- 1	1.1748+ 1	1.1448+ 1		2.8754- 1							0.0000+ 0	0.0000+ 0	3.4043- 3
2.0000- 1 ~ 4.0000- 1	1.1680+ 1	1.1448+ 1		2.1044- 1							0.0000+ 0	0.0000+ 0	3.4156- 3
4.0000- 1 ~ 7.0000- 1	1.1604+ 1	1.1448+ 1		1.5489- 1							0.0000+ 0	0.0000+ 0	3.4254- 3
7.0000- 1 ~ 1.0000+ 0	1.1573+ 1	1.1448+ 1		1.2369- 1							0.0000+ 0	0.0000+ 0	3.4326- 3
1.0000+ 0 ~ 2.0000+ 0	1.1542+ 1	1.1448+ 1		9.4149- 2							1.5426-15	0.0000+ 0	3.4416- 3
2.0000+ 0 ~ 4.0000+ 0	1.1514+ 1	1.1447+ 1		6.8579- 2							6.5705-15	0.0000+ 0	3.4526- 3
4.0000+ 0 ~ 7.0000+ 0	1.1496+ 1	1.1447+ 1		4.8864- 2							1.4784-14	0.0000+ 0	3.4627- 3
7.0000+ 0 ~ 1.0000+ 1	1.1488+ 1	1.1447+ 1		3.9108- 2							2.4639-14	0.0000+ 0	3.4699- 3
1.0000+ 1 ~ 2.0000+ 1	1.1478+ 1	1.1448+ 1		2.9778- 2							4.5993-14	0.0000+ 0	3.4789- 3
2.0000+ 1 ~ 4.0000+ 1	1.1468+ 1	1.1444+ 1		2.1058- 2							9.5272-14	0.0000+ 0	3.4901- 3
4.0000+ 1 ~ 7.0000+ 1	1.1458+ 1	1.1444+ 1		1.5475- 2							1.7740-13	0.0000+ 0	3.5000- 3
7.0000+ 1 ~ 1.0000+ 2	1.1450+ 1	1.1437+ 1		1.2368- 2							2.7596-13	0.0000+ 0	3.5072- 3
1.0000+ 2 ~ 2.0000+ 2	1.1438+ 1	1.1428+ 1		9.4204- 3							4.8950-13	0.0000+ 0	3.5182- 3
2.0000+ 2 ~ 4.0000+ 2	1.1417+ 1	1.1410+ 1		6.6636- 3							9.8229-13	0.0000+ 0	3.5274- 3
4.0000+ 2 ~ 7.0000+ 2	1.1383+ 1	1.1378+ 1		4.8010- 3							1.8036-12	0.0000+ 0	3.5373- 3
7.0000+ 2 ~ 1.0000+ 3	1.1348+ 1	1.1341+ 1		3.9201- 3							2.7892-12	0.0000+ 0	3.5445- 3
1.0000+ 3 ~ 2.0000+ 3	1.1281+ 1	1.1268+ 1		2.8885- 3							4.9248-12	0.0000+ 0	3.9459- 3
2.0000+ 3 ~ 4.0000+ 3	1.1171+ 1	1.1136+ 1		3.5181- 2							9.8524-12	0.0000+ 0	4.8815- 3
4.0000+ 3 ~ 7.0000+ 3	1.0750+ 1	1.0749+ 1		1.5753- 3							1.8066-11	0.0000+ 0	5.5643- 3
7.0000+ 3 ~ 1.0000+ 4	1.0426+ 1	1.0424+ 1		1.5199- 3							2.7921-11	0.0000+ 0	6.9493- 3
1.0000+ 4 ~ 2.0000+ 4	1.2755+ 1	1.2743+ 1		1.2139- 2							4.9275-11	0.0000+ 0	1.2137- 2
2.0000+ 4 ~ 4.0000+ 4	8.3681+ 0	8.3474+ 0		1.0718- 2							9.8554-11	0.0000+ 0	2.0449- 2
4.0000+ 4 ~ 7.0000+ 4	1.1841+ 1	1.1832+ 1		8.8058- 3							1.8088-10	0.0000+ 0	3.0218- 2
7.0000+ 4 ~ 1.0000+ 5	8.4590+ 0	8.4530+ 0		5.8378- 3							2.7924-10	0.0000+ 0	4.3855- 2
1.0000+ 5 ~ 2.0000+ 5	8.1838+ 0	8.1789+ 0		7.9621- 3							4.9278-10	0.0000+ 0	6.9720- 2
2.0000+ 5 ~ 4.0000+ 5	7.0080+ 0	7.0046+ 0		3.8181- 3							9.8557-10	0.0000+ 0	1.1189- 1
4.0000+ 5 ~ 7.0000+ 5	8.1868+ 0	8.1310+ 0	5.4495- 2	1.2828- 3							1.8069- 9	0.0000+ 0	1.5460- 1
7.0000+ 5 ~ 1.0000+ 6	5.0608+ 0	4.7059+ 0	3.4417- 1	4.3402- 4				0.0000+ 0			2.7924- 9	0.0000+ 0	1.9248- 1
1.0000+ 6 ~ 2.0000+ 6	5.3242+ 0	4.4988+ 0	8.8845- 1	4.6880- 4				1.6375-14			2.2271- 9	0.0000+ 0	2.7183- 1
2.0000+ 6 ~ 4.0000+ 6	7.4388+ 0	5.7282+ 0	1.7092+ 0	8.5880- 4				1.7084- 8			6.9428- 6	0.0000+ 0	5.5351- 1
4.0000+ 6 ~ 7.0000+ 6	6.8617+ 0	4.6928+ 0	2.2873+ 0	3.6652- 4				3.1452- 6			2.1522- 6	0.0000+ 0	7.3936- 1
7.0000+ 6 ~ 1.0000+ 7	5.4227+ 0	2.8138+ 0	1.8048+ 0	7.6612- 5		7.0180- 1		2.4654- 5	1.1721-14		9.8787- 6	6.4287- 9	7.1943- 1
1.0000+ 7 ~ 2.0000+ 7	5.4788+ 0	3.0230+ 0	3.5534- 1	3.0972- 6		1.8747+ 0	2.3793- 1	2.8258- 3	2.8558- 4		1.9914- 3	5.8859- 5	8.4676- 1

MATERIAL =3824 — CROSS SECTION — ^{208}Pb (3824)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.1233+ 1	1.1232+ 1		1.3046- 3							0.0000+ 0	0.0000+ 0	3.3143- 3
1.0000- 2 ~ 2.0000- 2	1.1232+ 1	1.1232+ 1		5.5751- 4							0.0000+ 0	0.0000+ 0	3.3358- 3
2.0000- 2 ~ 4.0000- 2	1.1232+ 1	1.1232+ 1		3.9478- 4							0.0000+ 0	0.0000+ 0	3.3467- 3
4.0000- 2 ~ 7.0000- 2	1.1232+ 1	1.1232+ 1		2.6846- 4							0.0000+ 0	0.0000+ 0	3.3562- 3
7.0000- 2 ~ 1.0000- 1	1.1232+ 1	1.1232+ 1		2.3156- 4							0.0000+ 0	0.0000+ 0	3.3631- 3
1.0000- 1 ~ 2.0000- 1	1.1232+ 1	1.1232+ 1		1.7838- 4							0.0000+ 0	0.0000+ 0	3.3718- 3
2.0000- 1 ~ 4.0000- 1	1.1232+ 1	1.1232+ 1		1.2469- 4							0.0000+ 0	0.0000+ 0	3.3826- 3
4.0000- 1 ~ 7.0000- 1	1.1232+ 1	1.1232+ 1		9.1627- 5							0.0000+ 0	0.0000+ 0	3.3921- 3
7.0000- 1 ~ 1.0000+ 0	1.1232+ 1	1.1232+ 1		7.3295- 5							0.0000+ 0	0.0000+ 0	3.3991- 3
1.0000+ 0 ~ 2.0000+ 0	1.1232+ 1	1.1232+ 1		5.5767- 5							0.0000+ 0	0.0000+ 0	3.4077- 3
2.0000+ 0 ~ 4.0000+ 0	1.1232+ 1	1.1232+ 1		3.8441- 5							0.0000+ 0	0.0000+ 0	3.4165- 3
4.0000+ 0 ~ 7.0000+ 0	1.1232+ 1	1.1231+ 1		2.8987- 5							0.0000+ 0	0.0000+ 0	3.4281- 3
7.0000+ 0 ~ 1.0000+ 1	1.1231+ 1	1.1231+ 1		2.3223- 5							0.0000+ 0	0.0000+ 0	3.4350- 3
1.0000+ 1 ~ 2.0000+ 1	1.1231+ 1	1.1231+ 1		1.7680- 5							0.0000+ 0	0.0000+ 0	3.4435- 3
2.0000+ 1 ~ 4.0000+ 1	1.1231+ 1	1.1231+ 1		1.2507- 5							0.0000+ 0	0.0000+ 0	3.4540- 3
4.0000+ 1 ~ 7.0000+ 1	1.1230+ 1	1.1230+ 1		9.2153- 6							0.0000+ 0	0.0000+ 0	3.4640- 3
7.0000+ 1 ~ 1.0000+ 2	1.1229+ 1	1.1229+ 1		7.3688- 6							0.0000+ 0	0.0000+ 0	3.4709- 3
1.0000+ 2 ~ 2.0000+ 2	1.1228+ 1	1.1228+ 1		5.8600- 6							0.0000+ 0	0.0000+ 0	3.4795- 3
2.0000+ 2 ~ 4.0000+ 2	1.1221+ 1	1.1221+ 1		4.0623- 6							0.0000+ 0	0.0000+ 0	3.4904- 3
4.0000+ 2 ~ 7.0000+ 2	1.1211+ 1	1.1211+ 1		3.0617- 6							0.0000+ 0	0.0000+ 0	3.4999- 3
7.0000+ 2 ~ 1.0000+ 3	1.1200+ 1	1.1200+ 1		2.5232- 6							0.0000+ 0	0.0000+ 0	3.5069- 3
1.0000+ 3 ~ 2.0000+ 3	1.1178+ 1	1.1178+ 1		2.0387- 6							0.0000+ 0	0.0000+ 0	3.5855- 3
2.0000+ 3 ~ 4.0000+ 3	1.1119+ 1	1.1119+ 1		1.6500- 6							0.0000+ 0	0.0000+ 0	4.5604- 3
4.0000+ 3 ~ 7.0000+ 3	1.1026+ 1	1.1026+ 1		1.5002- 6							0.0000+ 0	0.0000+ 0	5.4138- 3
7.0000+ 3 ~ 1.0000+ 4	1.0913+ 1	1.0913+ 1		1.6117- 6							0.0000+ 0	0.0000+ 0	5.7281- 3
1.0000+ 4 ~ 2.0000+ 4	1.0870+ 1	1.0870+ 1		1.7978- 6							0.0000+ 0	0.0000+ 0	1.1712- 2
2.0000+ 4 ~ 4.0000+ 4	1.0108+ 1	1.0108+ 1		3.3781- 6							0.0000+ 0	0.0000+ 0	1.9709- 2
4.0000+ 4 ~ 7.0000+ 4	9.4753+ 0	9.4753+ 0		2.8433- 5							0.0000+ 0	0.0000+ 0	2.9170- 2
7.0000+ 4 ~ 1.0000+ 5	1.2947+ 1	1.2946+ 1		2.0251- 3							0.0000+ 0	0.0000+ 0	4.2499- 2
1.0000+ 5 ~ 2.0000+ 5	8.2498+ 0	8.2492+ 0		5.6379- 4							0.0000+ 0	0.0000+ 0	5.8163- 2
2.0000+ 5 ~ 4.0000+ 5	8.5130+ 0	8.5128+ 0		1.7787- 4							0.0000+ 0	0.0000+ 0	1.1060- 1
4.0000+ 5 ~ 7.0000+ 5	4.5681+ 0	4.5677+ 0		1.4858- 4							0.0000+ 0	0.0000+ 0	1.8202- 1
7.0000+ 5 ~ 1.0000+ 6	5.1872+ 0	5.1839+ 0		3.3347- 3							0.0000+ 0	0.0000+ 0	1.7672- 1
1.0000+ 6 ~ 2.0000+ 6	5.3341+ 0	5.3311+ 0		2.9834- 3							3.2094- 9	0.0000+ 0	2.2125- 1
2.0000+ 6 ~ 4.0000+ 6	7.4264+ 0	6.8688+ 0	4.5448- 1	9.7640- 4							2.3175- 8	0.0000+ 0	4.5580- 1
4.0000+ 6 ~ 7.0000+ 6	6.8645+ 0	4.6947+ 0	2.1870+ 0	5.7235- 4				1.2055-11			7.7967- 7	0.0000+ 0	7.1691- 1
7.0000+ 6 ~ 1.0000+ 7	5.4494+ 0	2.6818+ 0	2.3001+ 0	1.3518- 3		4.8401- 1		1.7294- 7	1.3860-14		6.9026- 8	2.8798- 8	7.2118- 1
1.0000+ 7 ~ 2.0000+ 7	5.4851+ 0	2.8873+ 0	8.4325- 1	1.0421- 3		1.9641+ 0	1.9725- 1	1.8485- 3	3.1817- 3		5.9144- 3	2.4214- 4	8.4645- 1

MATERIAL =3831 — CROSS SECTION — ^{209}Bi (3831)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	(N,P)	(N,NP)	(N,D)	(N,A)	(N,NA)	MU-BAR
1.0000- 5 ~ 1.0000- 2	9.4022+ 0	9.2975+ 0		1.0470- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0109- 3
1.0000- 2 ~ 2.0000- 2	9.3423+ 0	9.2975+ 0		4.4746- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0109- 3
2.0000- 2 ~ 4.0000- 2	9.3291+ 0	9.2975+ 0		3.1838- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0109- 3
4.0000- 2 ~ 7.0000- 2	9.3207+ 0	9.2975+ 0		2.3268- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0110- 3
7.0000- 2 ~ 1.0000- 1	9.3161+ 0	9.2975+ 0		1.8818- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0110- 3
1.0000- 1 ~ 2.0000- 1	9.3115+ 0	9.2974+ 0		1.4142- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0110- 3
2.0000- 1 ~ 4.0000- 1	9.3073+ 0	9.2973+ 0		1.0008- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0110- 3
4.0000- 1 ~ 7.0000- 1	9.3044+ 0	9.2970+ 0		7.3558- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0111- 3
7.0000- 1 ~ 1.0000+ 0	9.3028+ 0	9.2967+ 0		6.8914- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0112- 3
1.0000+ 0 ~ 2.0000+ 0	9.3008+ 0	9.2961+ 0		4.4864- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0114- 3
2.0000+ 0 ~ 4.0000+ 0	9.2979+ 0	9.2947+ 0		3.1812- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0118- 3
4.0000+ 0 ~ 7.0000+ 0	9.2947+ 0	9.2924+ 0		2.3494- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0125- 3
7.0000+ 0 ~ 1.0000+ 1	9.2914+ 0	9.2895+ 0		1.8672- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0133- 3
1.0000+ 1 ~ 2.0000+ 1	9.2848+ 0	9.2835+ 0		1.4542- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0151- 3
2.0000+ 1 ~ 4.0000+ 1	9.2597+ 0	9.2589+ 0		1.0578- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0193- 3
4.0000+ 1 ~ 7.0000+ 1	9.2439+ 0	9.2431+ 0		8.1669- 4				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0263- 3
7.0000+ 1 ~ 1.0000+ 2	9.2112+ 0	9.2105+ 0		6.9592- 4				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0347- 3
1.0000+ 2 ~ 2.0000+ 2	9.1310+ 0	9.1304+ 0		6.1228- 4				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0529- 3
2.0000+ 2 ~ 4.0000+ 2	8.8760+ 0	8.8753+ 0		5.7515- 4				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.0950- 3
4.0000+ 2 ~ 7.0000+ 2	7.7838+ 0	7.7811+ 0		2.4468- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.1650- 3
7.0000+ 2 ~ 1.0000+ 3	5.3608+ 1	5.3449+ 1		3.5944- 1				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.2490- 3
1.0000+ 3 ~ 2.0000+ 3	8.9070+ 0	8.9064+ 0		5.1008- 4				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.4310- 3
2.0000+ 3 ~ 4.0000+ 3	1.7843+ 1	1.7818+ 1		2.5482- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.8511- 3
4.0000+ 3 ~ 7.0000+ 3	1.1041+ 1	1.1023+ 1		1.8056- 2				0.0000+ 0			0.0000+ 0	0.0000+ 0	4.5512- 3
7.0000+ 3 ~ 1.0000+ 4	9.2807+ 0	9.2707+ 0		9.9799- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	5.3913- 3
1.0000+ 4 ~ 2.0000+ 4	1.5831+ 1	1.5827+ 1		3.4882- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	7.6430- 3
2.0000+ 4 ~ 4.0000+ 4	1.1516+ 1	1.1514+ 1		2.4005- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.3577- 2
4.0000+ 4 ~ 7.0000+ 4	1.0334+ 1	1.0332+ 1		1.8210- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	2.4471- 2
7.0000+ 4 ~ 1.0000+ 5	9.7917+ 0	9.7902+ 0		1.5631- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	3.8121- 2
1.0000+ 5 ~ 2.0000+ 5	8.7288+ 0	8.7284+ 0		2.3045- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	6.6828- 2
2.0000+ 5 ~ 4.0000+ 5	7.4849+ 0	7.4821+ 0		2.7713- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.2053- 1
4.0000+ 5 ~ 7.0000+ 5	6.2321+ 0	4.2292+ 0		2.9800- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.7141- 1
7.0000+ 5 ~ 1.0000+ 6	5.1371+ 0	5.1178+ 0	1.5474- 2	3.8412- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	1.9406- 1
1.0000+ 6 ~ 2.0000+ 6	5.3882+ 0	5.0818+ 0	3.2081- 1	6.8210- 3				0.0000+ 0			0.0000+ 0	0.0000+ 0	2.2779- 1
2.0000+ 6 ~ 4.0000+ 6	7.5720+ 0	6.3380+ 0	1.2290+ 0	4.8772- 3				2.8885-10		8.9482-17	7.4496- 7	0.0000+ 0	5.4904- 1
4.0000+ 6 ~ 7.0000+ 6	6.9748+ 0	4.4827+ 0	2.5117+ 0	4.0000- 4				1.3428- 7	1.7277- 9	4.8926- 8	4.2276- 8	9.0360- 8	7.6324- 1
7.0000+ 6 ~ 1.0000+ 7	5.4509+ 0	3.0228+ 0	2.0133+ 0	4.0000- 4		4.1453- 1		1.1342- 5	1.4732- 6	1.0271- 5	3.7297- 5	3.3516- 6	7.2323- 1
1.0000+ 7 ~ 2.0000+ 7	5.4794+ 0	2.9082+ 0	4.1943- 1	9.1000- 4		1.8891+ 0	2.5771- 1	1.2141- 3	7.4473- 4	1.2684- 3	5.5658- 4	1.2680- 4	8.3156- 1

MATERIAL =3881 CROSS SECTION ^{223}Ra (3881)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU x FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	4.1632+ 2	1.2400+ 1		4.0088+ 2	2.1586+ 0				1.5275+ 0	3.3087+ 0	1.8571+ 2		3.0152- 3
1.0000- 2 ~ 2.0000- 2	1.8658+ 2	1.2400+ 1		1.7130+ 2	9.2238- 1				1.5275+ 0	1.4139+ 0	1.8571+ 2		3.0152- 3
2.0000- 2 ~ 4.0000- 2	1.3454+ 2	1.2400+ 1		1.2113+ 2	6.5222- 1				1.5275+ 0	1.0017+ 0	1.8571+ 2		3.0152- 3
4.0000- 2 ~ 7.0000- 2	1.0249+ 2	1.2400+ 1		8.9018+ 1	4.7932- 1				1.5275+ 0	7.3405- 1	1.8571+ 2		3.0152- 3
7.0000- 2 ~ 1.0000- 1	8.4216+ 1	1.2400+ 1		7.1204+ 1	3.8340- 1				1.5275+ 0	5.8756- 1	1.8572+ 2		3.0152- 3
1.0000- 1 ~ 2.0000- 1	6.7193+ 1	1.2400+ 1		5.4170+ 1	2.9168- 1				1.5275+ 0	4.4757- 1	1.8572+ 2		3.0152- 3
2.0000- 1 ~ 4.0000- 1	5.1092+ 1	1.2400+ 1		3.8904+ 1	2.0826- 1				1.5276+ 0	3.1631- 1	1.8572+ 2		3.0152- 3
4.0000- 1 ~ 7.0000- 1	4.1031+ 1	1.2400+ 1		2.8150+ 1	1.5157- 1				1.5276+ 0	2.3217- 1	1.8572+ 2		3.0152- 3
7.0000- 1 ~ 1.0000+ 0	3.5168+ 1	1.2400+ 1		2.2517+ 1	1.2124- 1				1.5275+ 0	1.8563- 1	1.8572+ 2		3.0152- 3
1.0000+ 0 ~ 2.0000+ 0	2.9094+ 1	1.2400+ 1		1.7130+ 1	9.2260- 2				1.5275+ 0	1.4155- 1	1.8569+ 2		3.0152- 3
2.0000+ 0 ~ 4.0000+ 0	2.4838+ 1	1.2400+ 1		1.2113+ 1	6.5248- 2				1.5275+ 0	9.9966- 2	1.8564+ 2		3.0152- 3
4.0000+ 0 ~ 7.0000+ 0	2.1231+ 1	9.2155+ 1		2.1922+ 1	5.5700- 2				1.5275+ 0	8.5082- 2	3.9357+ 3		3.0185- 3
7.0000+ 0 ~ 1.0000+ 1	2.4761+ 1	8.4197+ 1		1.8295+ 1	5.5700- 2				1.5275+ 0	8.5082- 2	2.9255+ 3		3.0233- 3
1.0000+ 1 ~ 2.0000+ 1	1.6963+ 2	7.5275+ 1		1.1381+ 2	5.5700- 2				1.5275+ 0	8.5082- 2	2.0395+ 3		3.0293- 3
2.0000+ 1 ~ 4.0000+ 1	1.3768+ 2	6.6383+ 1		7.1760+ 1	5.5700- 2				1.5275+ 0	8.5082- 2	1.2987+ 3		3.0369- 3
4.0000+ 1 ~ 7.0000+ 1	1.0578+ 2	5.7713+ 1		4.7694+ 1	5.5700- 2				1.5275+ 0	8.5082- 2	6.5627+ 2		3.0435- 3
7.0000+ 1 ~ 1.0000+ 2	8.8482+ 1	5.2730+ 1		3.5451+ 1	5.5700- 2				1.5275+ 0	8.5082- 2	6.3547+ 2		3.0484- 3
1.0000+ 2 ~ 2.0000+ 2	7.0777+ 1	4.6351+ 1		2.3658+ 1	5.5617- 2				1.5275+ 0	8.5041- 2	4.2868+ 2		3.1482- 3
2.0000+ 2 ~ 4.0000+ 2	5.3401+ 1	3.9029+ 1		1.4073+ 1	5.5489- 2				1.5275+ 0	8.4916- 2	2.5367+ 2		3.3240- 3
4.0000+ 2 ~ 7.0000+ 2	4.2847+ 1	3.3612+ 1		8.7918+ 0	5.5339- 2				1.5275+ 0	8.4709- 2	1.5886+ 2		3.4794- 3
7.0000+ 2 ~ 1.0000+ 3	3.6436+ 1	3.0012+ 1		6.2478+ 0	5.5246- 2				1.5275+ 0	8.4460- 2	1.1309+ 2		3.5917- 3
1.0000+ 3 ~ 2.0000+ 3	3.0800+ 1	2.6818+ 1		4.2132+ 0	5.5291- 2				1.5278+ 0	8.4378- 2	7.8209+ 1		5.1770- 3
2.0000+ 3 ~ 4.0000+ 3	2.5560+ 1	2.2880+ 1		2.5811+ 0	5.5439- 2				1.5277+ 0	8.4508- 2	4.6563+ 1		7.9451- 3
4.0000+ 3 ~ 7.0000+ 3	2.1892+ 1	1.9042+ 1		1.6662+ 0	5.5569- 2				1.5278+ 0	8.4725- 2	3.0022+ 1		1.0992- 2
7.0000+ 3 ~ 1.0000+ 4	1.9621+ 1	1.8223+ 1		1.2152+ 0	5.5664- 2				1.5280+ 0	8.4984- 2	2.1832+ 1		1.2160- 2
1.0000+ 4 ~ 2.0000+ 4	1.7376+ 1	1.8423+ 1		8.9386- 1	5.5700- 2				1.5284+ 0	8.5130- 2	1.5048+ 1		1.9231- 2
2.0000+ 4 ~ 4.0000+ 4	1.5279+ 1	1.4589+ 1		6.6281- 1	5.5700- 2				1.5292+ 0	8.5179- 2	1.1717+ 1		3.5995- 2
4.0000+ 4 ~ 7.0000+ 4	1.3671+ 1	1.3008+ 1	1.4848- 1	4.6878- 1	5.5700- 2				1.5307+ 0	8.5259- 2	8.2004+ 0		6.3742- 2
7.0000+ 4 ~ 1.0000+ 5	1.2561+ 1	1.1892+ 1	5.2775- 1	3.7260- 1	5.5700- 2				1.5324+ 0	8.5355- 2	4.8940+ 0		9.5343- 2
1.0000+ 5 ~ 2.0000+ 5	1.1107+ 1	9.9195+ 0	9.7858- 1	1.5344- 1	5.5700- 2				1.5382+ 0	8.5568- 2	2.7547+ 0		1.5274- 1
2.0000+ 5 ~ 4.0000+ 5	9.2293+ 0	7.8788+ 0	1.4082+ 0	8.5884- 2	5.5700- 2				1.5449+ 0	8.6051- 2	1.5416+ 0		2.4565- 1
4.0000+ 5 ~ 7.0000+ 5	7.7428+ 0	6.6114+ 0	1.7992+ 0	5.2667- 2	5.5700- 2				1.5594+ 0	8.6859- 2	9.4914- 1		3.5161- 1
7.0000+ 5 ~ 1.0000+ 6	6.9992+ 0	4.8589+ 0	1.9773+ 0	4.6170- 2	5.5700- 2				1.5768+ 0	8.7826- 2	8.2869- 1		4.3519- 1
1.0000+ 6 ~ 2.0000+ 6	6.9804+ 0	4.6118+ 0	2.2689+ 0	4.5219- 2	5.5700- 2				1.6145+ 0	8.9928- 2	8.1184- 1		5.4970- 1
2.0000+ 6 ~ 4.0000+ 6	7.5773+ 0	4.8998+ 0	2.6027+ 0	1.9080- 2	5.5700- 2				1.7015+ 0	9.4773- 2	3.4255- 1		7.2216- 1
4.0000+ 6 ~ 7.0000+ 6	8.9867+ 0	4.2039+ 0	1.9875+ 0	1.4026- 3	5.5700- 2	7.4178- 1			1.8465+ 0	1.0285- 1	2.6815- 2		8.0295- 1
7.0000+ 6 ~ 1.0000+ 7	8.1479+ 0	3.2349+ 0	4.0308- 1	1.5188- 5	5.5700- 2	2.4509+ 0			2.0205+ 0	1.1254- 1	2.7226- 4		8.2176- 1
1.0000+ 7 ~ 2.0000+ 7	8.2647+ 0	3.1721+ 0	5.9204- 1	3.7952- 6	5.5699- 2	1.1105+ 0	1.2763+ 0		2.3975+ 0	1.3354- 1	6.8137- 5		8.8980- 1

MATERIAL =3882 CROSS SECTION ^{224}Ra (3882)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU x FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	4.9685+ 1	1.2500+ 1		3.7004+ 1									3.0017- 3
1.0000- 2 ~ 2.0000- 2	2.8442+ 1	1.2500+ 1		1.5812+ 1									3.0017- 3
2.0000- 2 ~ 4.0000- 2	2.3758+ 1	1.2500+ 1		1.1181+ 1									3.0017- 3
4.0000- 2 ~ 7.0000- 2	2.0781+ 1	1.2500+ 1		8.2189+ 0									3.0017- 3
7.0000- 2 ~ 1.0000- 1	1.9187+ 1	1.2500+ 1		6.5725+ 0									3.0017- 3
1.0000- 1 ~ 2.0000- 1	1.7597+ 1	1.2500+ 1		5.0000+ 0									3.0017- 3
2.0000- 1 ~ 4.0000- 1	1.6118+ 1	1.2500+ 1		3.6358+ 0									3.0017- 3
4.0000- 1 ~ 7.0000- 1	1.5179+ 1	1.2500+ 1		2.5983+ 0									3.0017- 3
7.0000- 1 ~ 1.0000+ 0	1.4828+ 1	1.2500+ 1		2.0784+ 0									3.0017- 3
1.0000+ 0 ~ 2.0000+ 0	1.4127+ 1	1.2500+ 1		1.5811+ 0									3.0017- 3
2.0000+ 0 ~ 4.0000+ 0	1.3861+ 1	1.2500+ 1		1.1180+ 0									3.0017- 3
4.0000+ 0 ~ 7.0000+ 0	1.3343+ 1	1.2500+ 1		8.2189- 1									3.0017- 3
7.0000+ 0 ~ 1.0000+ 1	1.3184+ 1	1.2500+ 1		6.6721- 1									3.0017- 3
1.0000+ 1 ~ 2.0000+ 1	1.3015+ 1	1.2500+ 1		5.0000- 1									3.0060- 3
2.0000+ 1 ~ 4.0000+ 1	1.2864+ 1	1.2500+ 1		3.5353- 1									3.0136- 3
4.0000+ 1 ~ 7.0000+ 1	8.6875- 1	7.3121+ 1		1.3807+ 1									3.0204- 3
7.0000+ 1 ~ 1.0000+ 2	8.5970+ 1	7.4169+ 1		1.1688+ 1									3.0253- 3
1.0000+ 2 ~ 2.0000+ 2	8.9025+ 1	8.1439+ 1		7.3817+ 0									3.1157- 3
2.0000+ 2 ~ 4.0000+ 2	5.2772+ 1	4.8602+ 1		4.0638+ 0									3.2747- 3
4.0000+ 2 ~ 7.0000+ 2	4.1977+ 1	3.9478+ 1		2.4081+ 0									3.4153- 3
7.0000+ 2 ~ 1.0000+ 3	3.5636+ 1	3.3980+ 1		1.8407+ 0									3.5169- 3
1.0000+ 3 ~ 2.0000+ 3	3.0348+ 1	2.9175+ 1		1.1528+ 0									5.0580- 3
2.0000+ 3 ~ 4.0000+ 3	2.5374+ 1	2.4569+ 1		7.4947- 1									7.7543- 3
4.0000+ 3 ~ 7.0000+ 3	2.1853+ 1	2.1099+ 1		5.1894- 1									1.0137- 2
7.0000+ 3 ~ 1.0000+ 4	1.9305+ 1	1.8897+ 1		3.9749- 1									1.1860- 2
1.0000+ 4 ~ 2.0000+ 4	1.7202+ 1	1.6898+ 1		3.0321- 1									1.8779- 2
2.0000+ 4 ~ 4.0000+ 4	1.5164+ 1	1.4958+ 1		2.2555- 1									3.6185- 2
4.0000+ 4 ~ 7.0000+ 4	1.3814+ 1	1.3432+ 1		1.8227- 1									6.3706- 2
7.0000+ 4 ~ 1.0000+ 5	1.2542+ 1	1.2355+ 1	3.7830- 2	1.4798- 1									9.0966- 2
1.0000+ 5 ~ 2.0000+ 5	1.1094+ 1	1.0852+ 1	3.4861- 1	8.1082- 2									1.4444- 1
2.0000+ 5 ~ 4.0000+ 5	9.2507+ 0	8.2788+ 0	9.3217- 1	4.3832- 2									2.3052- 1
4.0000+ 5 ~ 7.0000+ 5	7.7915+ 0	6.3351+ 0	1.3370+ 0	3.1382- 2									3.2127- 1
7.0000+ 5 ~ 1.0000+ 6	6.9352+ 0	5.3853+ 0	1.5326+ 0	3.5311- 2									3.9191- 1
1.0000+ 6 ~ 2.0000+ 6	6.9531+ 0	4.8852+ 0	2.0557+ 0	3.7397- 2									5.1715- 1
2.0000+ 6 ~ 4.0000+ 6	7.5898+ 0	4.3498+ 0	2.8224+ 0	1.7412- 2									7.1561- 1
4.0000+ 6 ~ 7.0000+ 6	8.9636+ 0	4.1955+ 0	2.7087+ 0	1.5583- 3		5.3190- 2							8.0176- 1
7.0000+ 6 ~ 1.0000+ 7	8.1110+ 0	3.2611+ 0	8.1755- 1	3.2202- 5		2.0377+ 0							8.2231- 1
1.0000+ 7 ~ 2.0000+ 7	8.2110+ 0	3.1769+ 0	5.9889- 1	2.8424- 6		1.0114+ 0	1.4205+ 0						8.8970- 1

MATERIAL =3883 CROSS SECTION ^{225}Ra (3883)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	3.2184+ 2	1.2400+ 1		3.0837+ 2							2.9883- 3
1.0000- 2 ~ 2.0000- 2	1.4484+ 2	1.2400+ 1		1.3177+ 2							2.9883- 3
2.0000- 2 ~ 4.0000- 2	1.0809+ 2	1.2400+ 1		9.3155+ 1							2.9883- 3
4.0000- 2 ~ 7.0000- 2	8.0964+ 1	1.2400+ 1		6.8409+ 1							2.9883- 3
7.0000- 2 ~ 1.0000- 1	5.7293+ 1	1.2400+ 1		5.4687+ 1							2.9883- 3
1.0000- 1 ~ 2.0000- 1	5.4185+ 1	1.2400+ 1		4.1575+ 1							2.9883- 3
2.0000- 1 ~ 4.0000- 1	4.1879+ 1	1.2400+ 1		2.9372+ 1							2.9883- 3
4.0000- 1 ~ 7.0000- 1	3.4105+ 1	1.2400+ 1		2.1568+ 1							2.9883- 3
7.0000- 1 ~ 1.0000+ 0	2.9807+ 1	1.2400+ 1		1.7242+ 1							2.9883- 3
1.0000+ 0 ~ 2.0000+ 0	2.5812+ 1	1.2400+ 1		1.3108+ 1							2.9883- 3
2.0000+ 0 ~ 4.0000+ 0	2.2484+ 1	1.2400+ 1		1.0084+ 1							2.9883- 3
4.0000+ 0 ~ 7.0000+ 0	2.0167+ 1	1.2400+ 1		7.7667+ 0							2.9883- 3
7.0000+ 0 ~ 1.0000+ 1	1.8371+ 1	1.2400+ 1		5.9971+ 0							2.9883- 3
1.0000+ 1 ~ 2.0000+ 1	1.6222+ 1	1.2400+ 1		3.8822+ 0							2.9883- 3
2.0000+ 1 ~ 4.0000+ 1	1.3075+ 1	1.2400+ 1		6.7514+ 0							2.9883- 3
4.0000+ 1 ~ 7.0000+ 1	1.0017+ 1	1.2400+ 1		3.7614+ 0							2.9883- 3
7.0000+ 1 ~ 1.0000+ 2	8.3099+ 0	1.2400+ 1		1.0699+ 0							2.9883- 3
1.0000+ 2 ~ 2.0000+ 2	6.5881+ 0	1.2400+ 1		5.3481+ 0							2.9883- 3
2.0000+ 2 ~ 4.0000+ 2	4.9995+ 0	1.2400+ 1		3.7595+ 0							2.9883- 3
4.0000+ 2 ~ 7.0000+ 2	4.0288+ 0	1.2400+ 1		2.7888+ 0							2.9883- 3
7.0000+ 2 ~ 1.0000+ 3	3.4620+ 0	1.2400+ 1		2.2220+ 0							2.9883- 3
1.0000+ 3 ~ 2.0000+ 3	2.9495+ 0	1.2400+ 1		1.7095+ 0							2.9883- 3
2.0000+ 3 ~ 4.0000+ 3	2.4512+ 0	1.2400+ 1		1.2112+ 0							2.9883- 3
4.0000+ 3 ~ 7.0000+ 3	2.1109+ 0	1.2400+ 1		8.7109+ 0							2.9883- 3
7.0000+ 3 ~ 1.0000+ 4	1.9003+ 0	1.2400+ 1		6.5003+ 0							2.9883- 3
1.0000+ 4 ~ 2.0000+ 4	1.7031+ 0	1.2400+ 1		4.5031+ 0							2.9883- 3
2.0000+ 4 ~ 4.0000+ 4	1.5087+ 0	1.2400+ 1		2.5087+ 0							2.9883- 3
4.0000+ 4 ~ 7.0000+ 4	1.3578+ 0	1.2400+ 1		1.1578+ 0							2.9883- 3
7.0000+ 4 ~ 1.0000+ 5	1.2532+ 0	1.2400+ 1		1.3320- 1							2.9883- 3
1.0000+ 5 ~ 2.0000+ 5	1.1145+ 0	1.2400+ 1		1.2545- 1							2.9883- 3
2.0000+ 5 ~ 4.0000+ 5	9.2659+ 0	1.2400+ 1		2.8259- 1							2.9883- 3
4.0000+ 5 ~ 7.0000+ 5	7.7803+ 0	1.2400+ 1		4.3403- 1							2.9883- 3
7.0000+ 5 ~ 1.0000+ 6	6.9518+ 0	1.2400+ 1		5.2118- 1							2.9883- 3
1.0000+ 6 ~ 2.0000+ 6	6.0793+ 0	1.2400+ 1		6.0393- 1							2.9883- 3
2.0000+ 6 ~ 4.0000+ 6	5.2013+ 0	1.2400+ 1		6.8613- 1							2.9883- 3
4.0000+ 6 ~ 7.0000+ 6	4.5013+ 0	1.2400+ 1		7.5613- 1							2.9883- 3
7.0000+ 6 ~ 1.0000+ 7	4.0013+ 0	1.2400+ 1		8.0613- 1							2.9883- 3
1.0000+ 7 ~ 2.0000+ 7	3.2220+ 0	1.2400+ 1		8.8380- 1							2.9883- 3

MATERIAL =3884 CROSS SECTION ^{226}Ra (3884)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	4.8219+ 1	9.8117+ 0		3.6408+ 1	1.5461- 4			1.5597+ 0	2.4115- 4	2.3581+ 5	2.9751- 3
1.0000- 2 ~ 2.0000- 2	2.8033+ 1	9.8084+ 0		1.8226+ 1	5.8109- 5			1.5597+ 0	1.0311- 4	2.4677+ 5	2.9751- 3
2.0000- 2 ~ 4.0000- 2	2.1950+ 1	9.7980+ 0		1.2152+ 1	4.0798- 5			1.5597+ 0	7.2988- 5	2.8043+ 5	2.9751- 3
4.0000- 2 ~ 7.0000- 2	1.9857+ 1	9.7829+ 0		9.8738+ 0	3.4421- 5			1.5597+ 0	5.3886- 5	2.8813+ 5	2.9751- 3
7.0000- 2 ~ 1.0000- 1	1.8727+ 1	9.7627+ 0		8.9647+ 0	2.7475- 5			1.5597+ 0	4.2853- 5	3.2751+ 5	2.9751- 3
1.0000- 1 ~ 2.0000- 1	1.9022+ 1	9.7065+ 0		9.3160+ 0	2.0906- 5			1.5597+ 0	3.2606- 5	4.5358+ 5	2.9751- 3
2.0000- 1 ~ 4.0000- 1	2.9676+ 1	9.4349+ 0		2.0140+ 1	1.4739- 6			1.5597+ 0	2.2989- 5	1.4366+ 6	2.9751- 3
4.0000- 1 ~ 7.0000- 1	5.1599+ 2	1.0545+ 1		5.0644+ 2	1.0826- 5			1.5597+ 0	1.6885- 5	4.6830+ 7	2.9751- 3
7.0000- 1 ~ 1.0000+ 0	1.8459+ 1	1.0600+ 1		7.8582+ 0	8.6697- 6			1.5597+ 0	1.3508- 5	8.8032+ 5	2.9751- 3
1.0000+ 0 ~ 2.0000+ 0	1.0955+ 1	1.0247+ 1		7.0629- 1	6.5886- 6			1.5597+ 0	1.0278- 5	1.0088+ 5	2.9751- 3
2.0000+ 0 ~ 4.0000+ 0	1.0207+ 1	1.0130+ 1		7.7778- 2	4.6591- 6			1.5597+ 0	7.2669- 6	1.5961+ 4	2.9751- 3
4.0000+ 0 ~ 7.0000+ 0	1.0099+ 1	1.0078+ 1		2.0715- 2	3.4251- 6			1.5597+ 0	5.3422- 6	5.9608+ 3	2.9751- 3
7.0000+ 0 ~ 1.0000+ 1	1.0086+ 1	1.0043+ 1		1.1740- 2	2.7398- 6			1.5597+ 0	4.2732- 6	4.2748+ 3	2.9751- 3
1.0000+ 1 ~ 2.0000+ 1	9.9853+ 0	9.9765+ 0		8.7840- 3	2.1587- 6			1.5597+ 0	3.3669- 6	4.0630+ 3	2.9804- 3
2.0000+ 1 ~ 4.0000+ 1	1.2296+ 1	9.7659+ 0		2.5269+ 0	2.0530- 6			1.5597+ 0	3.2021- 6	1.2318+ 6	2.9901- 3
4.0000+ 1 ~ 7.0000+ 1	2.5596+ 1	1.3274+ 1		1.2322+ 1	2.0530- 6			1.5597+ 0	3.2021- 6	6.0018+ 6	2.9886- 3
7.0000+ 1 ~ 1.0000+ 2	4.7598+ 1	2.9427+ 1		1.8171+ 1	2.0530- 6			1.5597+ 0	3.2021- 6	8.8510+ 6	3.0048- 3
1.0000+ 2 ~ 2.0000+ 2	1.0074+ 1	9.6174+ 0		4.5864- 1	2.0530- 6			1.5597+ 0	3.2021- 6	2.2242+ 5	3.1045- 3
2.0000+ 2 ~ 4.0000+ 2	6.9209+ 1	5.9467+ 1		9.7413+ 0	2.0530- 6			1.5597+ 0	3.2021- 6	4.7449+ 6	3.2791- 3
4.0000+ 2 ~ 7.0000+ 2	2.7267+ 1	2.4549+ 1		2.7178+ 0	2.0530- 6			1.5597+ 0	3.2021- 6	1.3238+ 6	3.4335- 3
7.0000+ 2 ~ 1.0000+ 3	2.2936+ 1	2.0900+ 1		2.0373+ 0	2.0530- 6			1.5598+ 0	3.2022- 6	9.9235+ 5	3.5451- 3
1.0000+ 3 ~ 2.0000+ 3	2.9027+ 1	2.6470+ 1		2.4583+ 0	2.0530- 6			1.5598+ 0	3.2023- 6	5.1491+ 6	3.1871- 3
2.0000+ 3 ~ 4.0000+ 3	2.4461+ 1	2.2298+ 1		1.5510+ 0	2.0530- 6			1.5599+ 0	3.2025- 6	7.5550+ 5	7.9515- 3
4.0000+ 3 ~ 7.0000+ 3	2.1003+ 1	1.9658+ 1		1.0393+ 0	2.0530- 6			1.5801+ 0	3.2029- 6	5.0504+ 5	1.1429- 2
7.0000+ 3 ~ 1.0000+ 4	1.8814+ 1	1.8007+ 1		7.7411- 1	2.0530- 6			1.5604+ 0	3.2034- 6	3.7706+ 5	1.2218- 2
1.0000+ 4 ~ 2.0000+ 4	1.6864+ 1	1.5271+ 1		5.9182- 1	2.0530- 6			1.5608+ 0	3.2044- 6	2.8827+ 5	1.3349- 2
2.0000+ 4 ~ 4.0000+ 4	1.4988+ 1	1.4547+ 1		4.4961- 1	2.0530- 6			1.5620+ 0	3.2057- 6	2.1900+ 5	3.7221- 2
4.0000+ 4 ~ 7.0000+ 4	1.3545+ 1	1.3182+ 1	5.7483- 4	3.6271- 1	2.0530- 6			1.5639+ 0	3.2106- 6	1.7667+ 5	6.4327- 2
7.0000+ 4 ~ 1.0000+ 5	1.2525+ 1	1.2137+ 1	1.2122- 1	2.6504- 1	2.0530- 6			1.5682+ 0	3.2153- 6	1.2910+ 5	9.3507- 2
1.0000+ 5 ~ 2.0000+ 5	1.1128+ 1	1.0552+ 1	3.8000- 1	1.8555- 1	2.0530- 6			1.5711+ 0	3.2255- 6	9.0378+ 4	1.4823- 1
2.0000+ 5 ~ 4.0000+ 5	9.3208+ 0	8.3881+ 0	8.2683- 1	1.2271- 1	2.0530- 6			1.5825+ 0	3.2489- 6	5.9769+ 4	2.3301- 1
4.0000+ 5 ~ 7.0000+ 5	7.7492+ 0	6.3765+ 0	1.2782+ 0	6.9218- 2	2.0530- 6			1.6015+ 0	3.2879- 6	4.3458+ 4	3.2390- 1
7.0000+ 5 ~ 1.0000+ 6	6.9433+ 0	5.3127+ 0	1.5338+ 0	9.6220- 2	2.0530- 6			1.6243+ 0	3.3347- 6	4.6868+ 4	3.9646- 1
1.0000+ 6 ~ 2.0000+ 6	6.9586+ 0	4.8656+ 0	1.9711+ 0	1.3361- 1	3.8262- 6			1.6737+ 0	5.1262- 6	4.5959+ 4	5.1250- 1
2.0000+ 6 ~ 4.0000+ 6	7.6127+ 0	4.9730+ 0	2.5378+ 0	9.9698- 2	2.0519- 4			1.7877+ 0	3.7860- 4	3.7680+ 3	7.1258- 1
4.0000+ 6 ~ 7.0000+ 6	7.0209+ 0	4.2403+ 0	2.8786+ 0	1.3786- 2	2.3932- 3	7.7224- 2		1.9777+ 0	4.7771- 3	7.8542+ 0	8.0327- 1
7.0000+ 6 ~ 1.0000+ 7	6.1567+ 0	3.2656+ 0	7.4880- 1	1.3560- 2	3.2778- 3	2.1137+ 0		2.2017+ 0	7.2693- 3	1.0968- 1	8.2364- 1
1.0000+ 7 ~ 2.0000+ 7	6.2349+ 0	3.1869+ 0	5.9793- 1	3.3188- 5	1.4322- 2	8.9787- 1	1.5122+ 0	2.6997+ 0	3.9951- 2	3.5732- 3	8.8951- 1

MATERIAL =3891

CROSS SECTION

^{225}Ac (3891)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	3.1086+ 3	1.2400+ 1		3.0837+ 3									2.9883- 3
1.0000- 2 ~ 2.0000- 2	1.3348+ 3	1.2400+ 1		1.3177+ 3									2.9883- 3
2.0000- 2 ~ 4.0000- 2	9.4904+ 2	1.2400+ 1		9.3174+ 2									2.9883- 3
4.0000- 2 ~ 7.0000- 2	6.9690+ 2	1.2400+ 1		6.8472+ 2									2.9883- 3
7.0000- 2 ~ 1.0000- 1	5.8173+ 2	1.2400+ 1		5.4768+ 2									2.9883- 3
1.0000- 1 ~ 2.0000- 1	4.3088+ 2	1.2400+ 1		4.1884+ 2									2.9883- 3
2.0000- 1 ~ 4.0000- 1	3.0786+ 2	1.2400+ 1		2.9469+ 2									2.9883- 3
4.0000- 1 ~ 7.0000- 1	4.3392+ 2	1.8321+ 1		4.1437+ 2									2.9883- 3
7.0000- 1 ~ 1.0000+ 0	7.2275+ 2	3.0098+ 1		6.9249+ 2									2.9883- 3
1.0000+ 0 ~ 2.0000+ 0	5.5225+ 2	2.9784+ 1		5.2162+ 2									2.9883- 3
2.0000+ 0 ~ 4.0000+ 0	3.8257+ 2	2.9309+ 1		3.5274+ 2									2.9883- 3
4.0000+ 0 ~ 7.0000+ 0	2.9258+ 2	2.8988+ 1		2.6268+ 2									2.9883- 3
7.0000+ 0 ~ 1.0000+ 1	2.3692+ 2	2.8692+ 1		2.0788+ 2									2.9883- 3
1.0000+ 1 ~ 2.0000+ 1	1.8271+ 2	2.7695+ 1		1.5402+ 2									3.0001- 3
2.0000+ 1 ~ 4.0000+ 1	1.3169+ 2	2.6873+ 1		1.0439+ 2									3.0213- 3
4.0000+ 1 ~ 7.0000+ 1	1.0063+ 2	2.6000+ 1		7.3869+ 1									3.0399- 3
7.0000+ 1 ~ 1.0000+ 2	8.3205+ 1	2.5387+ 1		5.7481+ 1									3.0535- 3
1.0000+ 2 ~ 2.0000+ 2	6.5711+ 1	2.4278+ 1		4.1325+ 1									3.1926- 3
2.0000+ 2 ~ 4.0000+ 2	4.9640+ 1	2.2770+ 1		2.6871+ 1									3.4336- 3
4.0000+ 2 ~ 7.0000+ 2	3.9781+ 1	2.1514+ 1		1.8192+ 1									3.6465- 3
7.0000+ 2 ~ 1.0000+ 3	3.4464+ 1	2.0649+ 1		1.3745+ 1									3.8003- 3
1.0000+ 3 ~ 2.0000+ 3	2.9148+ 1	1.9440+ 1		9.8580+ 0									5.5729- 3
2.0000+ 3 ~ 4.0000+ 3	2.4108+ 1	1.7931+ 1		6.1215+ 0									8.6472- 3
4.0000+ 3 ~ 7.0000+ 3	2.0917+ 1	1.6894+ 1		4.0786+ 0									1.1365- 2
7.0000+ 3 ~ 1.0000+ 4	1.8955+ 1	1.6853+ 1		3.0377+ 0									1.1329- 2
1.0000+ 4 ~ 2.0000+ 4	1.7031+ 1	1.4808+ 1		2.2088+ 0									2.0885- 2
2.0000+ 4 ~ 4.0000+ 4	1.5080+ 1	1.3515+ 1		1.5710+ 0									3.9622- 2
4.0000+ 4 ~ 7.0000+ 4	1.3687+ 1	1.2200+ 1	2.4813- 1	1.1301+ 0									6.8670- 2
7.0000+ 4 ~ 1.0000+ 5	1.2534+ 1	1.1185+ 1	4.6375- 1	8.8462- 1									1.0082- 1
1.0000+ 5 ~ 2.0000+ 5	1.1111+ 1	9.7819+ 0	6.6088- 1	6.7738- 1									1.5852- 1
2.0000+ 5 ~ 4.0000+ 5	9.2835+ 0	7.7296+ 0	1.0480+ 0	4.5890- 1									2.4881- 1
4.0000+ 5 ~ 7.0000+ 5	7.7803+ 0	5.9472+ 0	1.4918+ 0	3.0471- 1									3.4861- 1
7.0000+ 5 ~ 1.0000+ 6	6.8618+ 0	4.9001+ 0	1.6268+ 0	2.1882- 1									4.3039- 1
1.0000+ 6 ~ 2.0000+ 6	6.9783+ 0	4.5639+ 0	2.2828+ 0	1.3184- 1									5.4989- 1
2.0000+ 6 ~ 4.0000+ 6	7.5013+ 0	4.8815+ 0	2.6898+ 0	9.7316- 2									7.2330- 1
4.0000+ 6 ~ 7.0000+ 6	8.9948+ 0	4.2183+ 0	2.7477+ 0	2.7535- 3		2.1791- 2							8.0265- 1
7.0000+ 6 ~ 1.0000+ 7	8.1364+ 0	3.2678+ 0	9.7428- 1	8.7547- 5		1.8694+ 0							8.2293- 1
1.0000+ 7 ~ 2.0000+ 7	8.2232+ 0	3.1820+ 0	5.9919- 1	3.8734- 6		1.2378+ 0	1.2043+ 0						8.8981- 1

MATERIAL =3892

CROSS SECTION

^{226}Ac (3892)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	3.2184+ 2	1.2400+ 1		3.0837+ 2									2.9751- 3
1.0000- 2 ~ 2.0000- 2	1.4484+ 2	1.2400+ 1		1.3177+ 2									2.9751- 3
2.0000- 2 ~ 4.0000- 2	1.0690+ 2	1.2400+ 1		9.3174+ 1									2.9751- 3
4.0000- 2 ~ 7.0000- 2	8.1114+ 1	1.2400+ 1		6.8476+ 1									2.9751- 3
7.0000- 2 ~ 1.0000- 1	6.7401+ 1	1.2400+ 1		5.4773+ 1									2.9751- 3
1.0000- 1 ~ 2.0000- 1	5.4292+ 1	1.2400+ 1		4.1870+ 1									2.9751- 3
2.0000- 1 ~ 4.0000- 1	4.2048+ 1	1.2400+ 1		2.9465+ 1									2.9751- 3
4.0000- 1 ~ 7.0000- 1	5.6644+ 2	2.3508+ 1		4.4245+ 2									2.9751- 3
7.0000- 1 ~ 1.0000+ 0	8.9800+ 2	2.3458+ 1		6.7224+ 2									2.9751- 3
1.0000+ 0 ~ 2.0000+ 0	5.3204+ 2	2.3319+ 1		5.0797+ 2									2.9751- 3
2.0000+ 0 ~ 4.0000+ 0	3.7878+ 2	2.3102+ 1		3.5523+ 2									2.9751- 3
4.0000+ 0 ~ 7.0000+ 0	2.8223+ 2	2.2811+ 1		2.5850+ 2									2.9751- 3
7.0000+ 0 ~ 1.0000+ 1	2.2843+ 2	2.2779+ 1		2.0528+ 2									2.9751- 3
1.0000+ 1 ~ 2.0000+ 1	1.7542+ 2	2.2435+ 1		1.5331+ 2									2.9891- 3
2.0000+ 1 ~ 4.0000+ 1	1.2752+ 2	2.1928+ 1		1.0522+ 2									3.0142- 3
4.0000+ 1 ~ 7.0000+ 1	9.7450+ 1	2.1488+ 1		7.5297+ 1									3.0365- 3
7.0000+ 1 ~ 1.0000+ 2	8.0544+ 1	2.1173+ 1		5.9073+ 1									3.0525- 3
1.0000+ 2 ~ 2.0000+ 2	9.3734+ 1	2.0855+ 1		4.3081+ 1									3.2068- 3
2.0000+ 2 ~ 4.0000+ 2	4.8289+ 1	1.9884+ 1		2.8512+ 1									3.4727- 3
4.0000+ 2 ~ 7.0000+ 2	3.8788+ 1	1.8944+ 1		1.9749+ 1									3.7077- 3
7.0000+ 2 ~ 1.0000+ 3	3.3625+ 1	1.8428+ 1		1.5131+ 1									3.8776- 3
1.0000+ 3 ~ 2.0000+ 3	2.8489+ 1	1.7814+ 1		1.0807+ 1									5.7285- 3
2.0000+ 3 ~ 4.0000+ 3	2.3600+ 1	1.6949+ 1		6.9937+ 0									8.9343- 3
4.0000+ 3 ~ 7.0000+ 3	2.0568+ 1	1.5661+ 1		4.7479+ 0									1.1766- 2
7.0000+ 3 ~ 1.0000+ 4	1.8705+ 1	1.5049+ 1		3.5648+ 0									1.3815- 2
1.0000+ 4 ~ 2.0000+ 4	1.6884+ 1	1.4219+ 1		2.6351+ 0									2.1591- 2
2.0000+ 4 ~ 4.0000+ 4	1.4998+ 1	1.3098+ 1		1.8957+ 0									4.0888- 2
4.0000+ 4 ~ 7.0000+ 4	1.3534+ 1	1.2028+ 1		1.5081+ 0									7.1286- 2
7.0000+ 4 ~ 1.0000+ 5	1.2523+ 1	1.1210+ 1		1.3121+ 0									1.0120- 1
1.0000+ 5 ~ 2.0000+ 5	1.1128+ 1	9.9674+ 0		1.1706+ 0									1.5636- 1
2.0000+ 5 ~ 4.0000+ 5	9.3154+ 0	8.0711+ 0	2.8543- 1	9.3850- 1									2.4158- 1
4.0000+ 5 ~ 7.0000+ 5	7.7338+ 0	5.6808+ 0	1.4987+ 0	3.1871- 1									3.5782- 1
7.0000+ 5 ~ 1.0000+ 6	6.9488+ 0	4.6944+ 0	2.1310+ 0	1.1084- 1									4.4869- 1
1.0000+ 6 ~ 2.0000+ 6	6.9672+ 0	4.4611+ 0	2.4564+ 0	4.9040- 2									5.5728- 1
2.0000+ 6 ~ 4.0000+ 6	7.8280+ 0	4.9272+ 0	2.8880+ 0	1.1372- 2									7.2235- 1
4.0000+ 6 ~ 7.0000+ 6	9.3939+ 0	4.3451+ 0	2.1353+ 0	5.2408- 4		5.0728- 1							7.9437- 1
7.0000+ 6 ~ 1.0000+ 7	5.8605+ 0	3.2807+ 0	2.0056- 1	1.8879- 6		2.3947+ 0							7.7718- 1
1.0000+ 7 ~ 2.0000+ 7	5.8314+ 0	3.3735+ 0	5.4608- 3	7.6815- 9		1.1736+ 0	1.2556+ 0						8.4142- 1

MATERIAL =3893

CROSS SECTION

^{227}Ac (3893)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.7871+ 3	1.2400+ 1		2.7462+ 3	8.9434- 4				1.8321+ 0	1.6442- 3	3.0694+ 6		2.9493- 3
1.0000- 2 ~ 2.0000- 2	1.1894+ 3	1.2400+ 1		1.1728+ 3	3.8214- 4				1.8321+ 0	7.0259- 4	3.0691+ 6		2.9524- 3
2.0000- 2 ~ 4.0000- 2	8.9429+ 2	1.2400+ 1		8.7724+ 2	2.7021- 4				1.8321+ 0	4.9759- 4	3.2827+ 6		2.9540- 3
4.0000- 2 ~ 7.0000- 2	7.9828+ 2	1.2400+ 1		7.8222+ 2	1.9858- 4				1.8321+ 0	3.8478- 4	3.9558+ 6		2.9564- 3
7.0000- 2 ~ 1.0000- 1	7.4040+ 2	1.2400+ 1		7.2551+ 2	1.5885- 4				1.8321+ 0	2.9108- 4	4.5753+ 6		2.9564- 3
1.0000- 1 ~ 2.0000- 1	6.7842+ 2	1.2400+ 1		6.6076+ 2	1.2085- 4				1.8321+ 0	2.2238- 4	5.5032+ 6		2.9578- 3
2.0000- 1 ~ 4.0000- 1	6.0283+ 2	1.2400+ 1		6.8761+ 2	8.6456- 5				1.8321+ 0	1.6701- 4	6.8198+ 6		2.9582- 3
4.0000- 1 ~ 7.0000- 1	5.4278+ 2	1.2400+ 1		5.2947+ 2	6.2809- 5				1.8321+ 0	1.1549- 4	8.4066+ 6		2.9606- 3
7.0000- 1 ~ 1.0000+ 0	5.0450+ 2	1.2400+ 1		4.9108+ 2	5.0236- 5				1.8321+ 0	9.2322- 5	9.7926+ 6		2.9616- 3
1.0000+ 0 ~ 2.0000+ 0	4.8058+ 2	1.2400+ 1		4.4725+ 2	3.8219- 5				1.8321+ 0	7.0275- 5	1.1778+ 7		2.9619- 3
2.0000+ 0 ~ 4.0000+ 0	4.1092+ 2	1.2400+ 1		3.9788+ 2	2.7026- 5				1.8321+ 0	4.9698- 5	1.4811+ 7		2.9619- 3
4.0000+ 0 ~ 7.0000+ 0	3.7160+ 2	1.2400+ 1		3.5839+ 2	1.9862- 6				1.8321+ 0	3.6497- 5	1.8121+ 7		2.9619- 3
7.0000+ 0 ~ 1.0000+ 1	3.4531+ 2	1.2400+ 1		3.3241+ 2	1.5887- 5				1.8321+ 0	2.9246- 6	2.0959+ 7		2.9619- 3
1.0000+ 1 ~ 2.0000+ 1	3.1575+ 2	1.2400+ 1		3.0274+ 2	1.2087- 5				1.8321+ 0	2.2227- 5	2.5210+ 7		2.9639- 3
2.0000+ 1 ~ 4.0000+ 1	2.5011+ 2	2.8888+ 1		2.2098+ 2	8.5875- 6				1.8321+ 0	1.5784- 5	2.5248+ 7		2.9693- 3
4.0000+ 1 ~ 7.0000+ 1	9.6819+ 1	8.2929+ 1		1.2299+ 1	7.6900- 6				1.8321+ 0	1.4089- 5	1.5994+ 6		3.0398- 3
7.0000+ 1 ~ 1.0000+ 2	8.0101+ 1	7.1055+ 1		8.3834+ 0	7.6900- 6				1.8321+ 0	1.4089- 5	1.0902+ 6		3.1165- 3
1.0000+ 2 ~ 2.0000+ 2	8.4288+ 1	5.8731+ 1		5.2810+ 0	7.6900- 6				1.8321+ 0	1.4089- 5	8.8873+ 5		3.2126- 3
2.0000+ 2 ~ 4.0000+ 2	4.9251+ 1	4.8177+ 1		2.9234+ 0	7.6900- 6				1.8321+ 0	1.4089- 5	3.8018+ 5		3.3327- 3
4.0000+ 2 ~ 7.0000+ 2	3.9171+ 1	3.7305+ 1		1.7248+ 0	7.6900- 6				1.8321+ 0	1.4089- 5	2.2429+ 5		3.4389- 3
7.0000+ 2 ~ 1.0000+ 3	3.3184+ 1	3.1984+ 1		1.1758+ 0	7.6900- 6				1.8322+ 0	1.4089- 5	1.5288+ 5		3.5157- 3
1.0000+ 3 ~ 2.0000+ 3	2.8402+ 1	2.7588+ 1		7.9877- 1	7.6900- 6				1.8322+ 0	1.4090- 5	1.0381+ 5		5.0883- 3
2.0000+ 3 ~ 4.0000+ 3	2.4011+ 1	2.3449+ 1		5.0849- 1	7.6900- 6				1.8323+ 0	1.4091- 5	6.6123+ 4		7.8624- 3
4.0000+ 3 ~ 7.0000+ 3	2.0682+ 1	2.0318+ 1		3.4092- 1	7.6900- 6				1.8326+ 0	1.4092- 5	4.4933+ 4		1.0297- 2
7.0000+ 3 ~ 1.0000+ 4	1.8579+ 1	1.8314+ 1		2.5507- 1	7.6900- 6				1.8328+ 0	1.4094- 5	3.3169+ 4		1.2084- 2
1.0000+ 4 ~ 2.0000+ 4	1.6702+ 1	1.6520+ 1		1.8020- 1	7.6900- 6				1.8333+ 0	1.4098- 5	2.3433+ 4		1.9098- 2
2.0000+ 4 ~ 4.0000+ 4	1.4808+ 1	1.4580+ 1	2.2084- 1	1.0189- 1	7.6900- 6				1.8348+ 0	1.4108- 5	1.3249+ 4		3.8347- 2
4.0000+ 4 ~ 7.0000+ 4	1.3607+ 1	1.2648+ 1	8.1374- 1	4.1728- 2	7.6900- 6				1.8366+ 0	1.4123- 5	6.4283+ 3		6.7259- 2
7.0000+ 4 ~ 1.0000+ 5	1.2517+ 1	1.1411+ 1	1.0852+ 0	2.0355- 2	7.6900- 6				1.8391+ 0	1.4142- 5	2.6470+ 3		9.9871- 2
1.0000+ 5 ~ 2.0000+ 5	1.1178+ 1	9.8709+ 0	1.2932+ 0	1.0778- 2	7.6800- 6				1.8444+ 0	1.4189- 5	1.4015+ 3		1.6886- 1
2.0000+ 5 ~ 4.0000+ 5	9.3488+ 0	7.8528+ 0	1.4855+ 0	8.5195- 3	7.6900- 6				1.8587+ 0	1.4278- 5	8.4779+ 2		2.6024- 1
4.0000+ 5 ~ 7.0000+ 5	7.8228+ 0	6.0822+ 0	1.7288+ 0	4.8109- 3	7.6900- 6				1.8772+ 0	1.4436- 5	6.2560+ 2		3.4640- 1
7.0000+ 5 ~ 1.0000+ 6	6.9805+ 0	5.0134+ 0	1.9584+ 0	3.9488- 3	5.4883- 4				1.9018+ 0	1.0443- 3	2.1388+ 2		4.2316- 1
1.0000+ 6 ~ 2.0000+ 6	7.0223+ 0	4.8170+ 0	2.3877+ 0	2.7847- 3	9.1422- 3				1.9551+ 0	8.2026- 3	1.2453+ 0		5.4337- 1
2.0000+ 6 ~ 4.0000+ 6	7.8309+ 0	4.8918+ 0	2.7098+ 0	7.3870- 4	2.8706- 2				2.0781+ 0	5.9898- 2	3.2899- 2		7.2312- 1
4.0000+ 6 ~ 7.0000+ 6	7.0819+ 0	4.2982+ 0	2.7108+ 0	2.9834- 6	3.3442- 2	3.9789- 2			2.2831+ 0	7.6489- 2	9.1475- 4		8.0591- 1
7.0000+ 6 ~ 1.0000+ 7	6.1799+ 0	3.3014+ 0	6.3910- 1	2.1379- 7	6.3419- 2	1.9848+ 0			2.5291+ 0	1.3588- 1	4.7348- 6		8.2412- 1
1.0000+ 7 ~ 2.0000+ 7	6.1351+ 0	3.1989+ 0	6.1027- 1	2.1819- 9	1.1847- 1	9.0420- 1	1.3047+ 0		3.0621+ 0	3.6865- 1	2.4077- 8		8.8969- 1

MATERIAL =3901

CROSS SECTION

^{227}Th (3901)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 6 ~ 1.0000- 2	5.3872+ 3	1.2400+ 1		4.7333+ 3	6.2290+ 2				1.9859+ 0	1.2413+ 3	7.5988+ 0		2.9619- 3
1.0000- 2 ~ 2.0000- 2	2.3083+ 3	1.2400+ 1		2.0228+ 3	2.6817+ 2				1.9859+ 0	5.3047+ 2	7.5990+ 0		2.9819- 3
2.0000- 2 ~ 4.0000- 2	1.6388+ 3	1.2400+ 1		1.4502+ 3	1.8821+ 2				1.9859+ 0	3.75[illegible]+ 2	7.5990+ 0		2.9619- 3
4.0000- 2 ~ 7.0000- 2	1.2088+ 3	1.2400+ 1		1.0611+ 3	1.3832+ 2				1.9859+ 0	2.7[illegible]+ 2	7.5990+ 0		2.9819- 3
7.0000- 2 ~ 1.0000- 1	9.8845+ 2	1.2400+ 1		8.4079+ 2	1.1084+ 2				1.9858+ 0	2.20[illegible]+ 2	7.5991+ 0		2.9819- 3
1.0000- 1 ~ 2.0000- 1	7.3797+ 2	1.2400+ 1		6.3988+ 2	8.4175+ 1				1.9859+ 0	1.6757+ 2	7.5991+ 0		2.9619- 3
2.0000- 1 ~ 4.0000- 1	6.2683+ 2	1.2400+ 1		4.5231+ 2	6.8622+ 1				1.9859+ 0	1.1869+ 2	7.5991+ 0		2.9819- 3
4.0000- 1 ~ 7.0000- 1	7.5054+ 2	2.0854+ 1		6.4108+ 2	8.8021+ 1				1.9859+ 0	1.7549+ 2	7.3088+ 0		2.9819- 3
7.0000- 1 ~ 1.0000+ 0	6.8985+ 2	2.2508+ 1		5.8874+ 2	7.8463+ 1				1.9859+ 0	1.5677+ 2	7.2485+ 0		2.9819- 3
1.0000+ 0 ~ 2.0000+ 0	5.1231+ 2	2.2372+ 1		4.2947+ 2	5.9745+ 1				1.9859+ 0	1.1918+ 2	7.1855+ 0		2.9819- 3
2.0000+ 0 ~ 4.0000+ 0	3.8489+ 2	2.2163+ 1		2.9995+ 2	4.2374+ 1				1.9869+ 0	8.4483+ 1	7.0755+ 0		2.9619- 3
4.0000+ 0 ~ 7.0000+ 0	2.7200+ 2	2.1980+ 1		2.1601+ 2	3.1226+ 1				1.9859+ 0	6.2182+ 1	6.9798+ 0		2.9819- 3
7.0000+ 0 ~ 1.0000+ 1	2.2021+ 2	2.1849+ 1		1.7298+ 2	2.5026+ 1				1.9859+ 0	4.9869+ 1	6.9112+ 0		2.9619- 3
1.0000+ 1 ~ 2.0000+ 1	1.7021+ 2	2.1528+ 1		1.2899+ 2	1.9053+ 1				1.9859+ 0	3.8009+ 1	6.7840+ 0		2.9765- 3
2.0000+ 1 ~ 4.0000+ 1	1.2320+ 2	2.1049+ 1		8.8327+ 1	1.3470+ 1				1.9859+ 0	2.6858+ 1	6.5512+ 0		3.0025- 3
4.0000+ 1 ~ 7.0000+ 1	9.4247+ 1	2.0834+ 1		6.3075+ 1	9.8983+ 0				1.9859+ 0	1.9712+ 1	6.3885+ 0		3.0256- 3
7.0000+ 1 ~ 1.0000+ 2	7.7852+ 1	2.0340+ 1		4.9410+ 1	7.9168+ 0				1.9859+ 0	1.5778+ 1	6.2398+ 0		3.0422- 3
1.0000+ 2 ~ 2.0000+ 2	6.1810+ 1	1.9782+ 1		3.9831+ 1	6.0231+ 0				1.9859+ 0	1.2016+ 1	5.9535+ 0		3.2015- 3
2.0000+ 2 ~ 4.0000+ 2	4.8873+ 1	1.8948+ 1		2.3878+ 1	4.2595+ 0				1.9859+ 0	8.4930+ 0	5.5472+ 0		3.4780- 3
4.0000+ 2 ~ 7.0000+ 2	3.7793+ 1	1.8258+ 1		1.8338+ 1	3.1308+ 0				1.9859+ 0	6.23[illegible]+ 0	5.2109+ 0		3.7188- 3
7.0000+ 2 ~ 1.0000+ 3	3.2823+ 1	1.7772+ 1		1.2480+ 1	2.5045+ 0				1.9860+ 0	4.9909+ 0	4.9805+ 0		3.8940- 3
1.0000+ 3 ~ 2.0000+ 3	2.7872+ 1	1.8888+ 1		8.8007+ 0	2.0384+ 0				1.9860+ 0	4.0548+ 0	4.3031+ 0		5.8158- 3
2.0000+ 3 ~ 4.0000+ 3	2.3204+ 1	1.5951+ 1		5.5888+ 0	1.6309+ 0				1.9861+ 0	3.2558+ 0	3.3998+ 0		9.1443- 3
4.0000+ 3 ~ 7.0000+ 3	2.0278+ 1	1.5087+ 1		3.7052+ 0	1.3394+ 0				1.9864+ 0	2.6691+ 0	2.7588+ 0		1.2088- 2
7.0000+ 3 ~ 1.0000+ 4	1.8478+ 1	1.4491+ 1		2.7588+ 0	1.1614+ 0				1.9866+ 0	2.3129+ 0	2.3710+ 0		1.4213- 2
1.0000+ 4 ~ 2.0000+ 4	1.8702+ 1	1.3877+ 1		1.9868+ 0	1.0435+ 0				1.9871+ 0	2.0868+ 0	1.8789+ 0		2.2321- 2
2.0000+ 4 ~ 4.0000+ 4	1.4802+ 1	1.2809+ 1	8.8784- 3	1.3373+ 0	9.4340- 1				1.9884+ 0	1.8792+ 0	1.4146+ 0		4.1871- 2
4.0000+ 4 ~ 7.0000+ 4	1.3488+ 1	1.1679+ 1	4.8587- 2	1.0088+ 0	8.6475- 1				1.9904+ 0	1.7052+ 0	1.1787+ 0		7.4241- 2
7.0000+ 4 ~ 1.0000+ 5	1.2514+ 1	1.0790+ 1	9.2369- 2	8.3858- 1	7.9429- 1				1.9929+ 0	1.5843+ 0	1.0528+ 0		1.0589- 1
1.0000+ 5 ~ 2.0000+ 5	1.1145+ 1	9.6241+ 0	2.2805- 1	8.7880- 1	7.0352- 1				1.9982+ 0	1.4109+ 0	9.6098- 1		1.6492- 1
2.0000+ 5 ~ 4.0000+ 5	9.3217+ 0	7.8645+ 0	5.3398- 1	4.9907- 1	6.1808- 1				2.0105+ 0	1.2463+ 0	8.0848- 1		2.5608- 1
4.0000+ 5 ~ 7.0000+ 5	7.8188+ 0	5.9316+ 0	9.3806- 1	3.5202- 1	5.8291- 1				2.0310+ 0	1.1454+ 0	6.2412- 1		3.5367- 1
7.0000+ 5 ~ 1.0000+ 6	6.8830+ 0	4.8898+ 0	1.2878+ 0	2.8333- 1	5.1602- 1				2.0588+ 0	1.0625+ 0	5.0978- 1		4.3161- 1
1.0000+ 6 ~ 2.0000+ 6	6.9898+ 0	4.5369+ 0	1.8179+ 0	1.6924- 1	4.4603- 1				2.1089+ 0	9.4043- 1	3.7787- 1		5.4614- 1
2.0000+ 6 ~ 4.0000+ 6	7.8402+ 0	4.9374+ 0	2.2294+ 0	5.0497- 2	4.1889- 1				2.2319+ 0	9.3450- 1	1.2040- 1		7.2107- 1
4.0000+ 6 ~ 7.0000+ 6	7.0285+ 0	4.3889+ 0	1.8284+ 0	3.8850- 3	4.3279- 1	3.8197- 1			2.4389+ 0	1.0597+ 0	8.9312- 3		7.9499- 1
7.0000+ 6 ~ 1.0000+ 7	5.8878+ 0	3.2788+ 0	1.8198- 1	1.1946- 5	7.0288- 1	1.7331+ 0			2.6829+ 0	1.8915+ 0	1.9132- 5		7.7804- 1
1.0000+ 7 ~ 2.0000+ 7	5.8368+ 0	3.3734+ 0	8.0515- 3	6.8337- 8	1.5798+ 0	5.4921- 1	3.2364- 1		3.2159+ 0	5.1427+ 0	6.2463- 8		8.4105- 1

MATERIAL =3902

CROSS SECTION

^{228}Th (3902)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	3.8305+ 2	1.2825+ 1		3.8929+ 2	9.2820- 1				2.0100+ 0	1.8657+ 0	3.9793+ 2		4.5945- 3
1.0000- 2 ~ 2.0000- 2	1.7136+ 2	1.2815+ 1		1.5814+ 2	3.9670- 1				2.0100+ 0	7.9736- 1	3.9868+ 2		4.9783- 3
2.0000- 2 ~ 4.0000- 2	1.2534+ 2	1.2800+ 1		1.1229+ 2	2.8065- 1				2.0100+ 0	5.6410- 1	3.9998+ 2		5.1711- 3
4.0000- 2 ~ 7.0000- 2	9.6019+ 1	1.2775+ 1		8.3015+ 1	2.0640- 1				2.0100+ 0	4.1486- 1	4.0230+ 2		5.3416- 3
7.0000- 2 ~ 1.0000- 1	7.9728+ 1	1.2744+ 1		6.6850+ 1	1.5502- 1				2.0100+ 0	3.3169- 1	4.0520+ 2		5.4648- 3
1.0000- 1 ~ 2.0000- 1	6.4442+ 1	1.2673+ 1		5.1744+ 1	1.2572- 1				2.0100+ 0	2.5270- 1	4.1202+ 2		5.6189- 3
2.0000- 1 ~ 4.0000- 1	5.0698+ 1	1.2487+ 1		3.8123+ 1	8.8840- 2				2.0100+ 0	1.7817- 1	4.3108+ 2		5.8117- 3
4.0000- 1 ~ 7.0000- 1	4.3219+ 1	1.2088+ 1		3.1063+ 1	6.5176- 2				2.0100+ 0	1.3100- 1	4.7881+ 2		5.9822- 3
7.0000- 1 ~ 1.0000+ 0	4.1823+ 1	1.1386+ 1		3.0333+ 1	5.2010- 2				2.0100+ 0	1.0454- 1	5.8606+ 2		6.1054- 3
1.0000+ 0 ~ 2.0000+ 0	1.6298+ 3	4.1165+ 1		1.5888+ 3	3.9528- 2				2.0100+ 0	7.9451- 2	4.5808+ 4		6.2595- 3
2.0000+ 0 ~ 4.0000+ 0	7.1231+ 1	2.0614+ 1		5.0558+ 1	2.7949- 2				2.0100+ 0	5.6178- 2	1.8151+ 3		6.4524- 3
4.0000+ 0 ~ 7.0000+ 0	2.5531+ 1	1.4368+ 1		1.1118+ 1	2.0540- 2				2.0100+ 0	4.1285- 2	6.5599+ 2		6.6228- 3
7.0000+ 0 ~ 1.0000+ 1	3.6291+ 2	7.7168+ 1		2.8587+ 2	1.8428- 2				2.0100+ 0	3.3086- 2	1.6834+ 4		6.7460- 3
1.0000+ 1 ~ 2.0000+ 1	1.6407+ 2	8.5141+ 1		7.8823+ 1	1.2498- 2				2.0100+ 0	2.6211- 2	6.2819+ 3		6.9001- 3
2.0000+ 1 ~ 4.0000+ 1	1.1957+ 2	7.1548+ 1		4.7941+ 1	8.8370- 3				2.0100+ 0	1.7827- 2	5.4004+ 3		7.0930- 3
4.0000+ 1 ~ 7.0000+ 1	9.1081+ 1	6.0734+ 1		3.0288+ 1	6.4942- 3				2.0100+ 0	1.3090- 2	4.6480+ 3		7.2634- 3
7.0000+ 1 ~ 1.0000+ 2	7.5261+ 1	5.3735+ 1		2.1502+ 1	5.1948- 3				2.0100+ 0	1.0464- 2	4.1334+ 3		7.3866- 3
1.0000+ 2 ~ 2.0000+ 2	6.0152+ 1	4.6070+ 1		1.4047+ 1	3.9518- 3				2.0100+ 0	7.9874- 3	3.5341+ 3		7.5408- 3
2.0000+ 2 ~ 4.0000+ 2	4.6089+ 1	3.7977+ 1		8.0895+ 0	2.7949- 3				2.0100+ 0	5.6353- 3	2.8706+ 3		7.7336- 3
4.0000+ 2 ~ 7.0000+ 2	3.7050+ 1	3.2148+ 1		4.8942+ 0	2.0535- 3				2.0100+ 0	4.1518- 3	2.3738+ 3		7.9040- 3
7.0000+ 2 ~ 1.0000+ 3	3.2036+ 1	2.8625+ 1		3.4044+ 0	1.6425- 3				2.0100+ 0	3.3127- 3	2.0693+ 3		8.0272- 3
1.0000+ 3 ~ 2.0000+ 3	2.7243+ 1	2.5011+ 1		2.2248+ 0	1.2498- 3				2.0100+ 0	2.5193- 3	1.7711+ 3		8.1814- 3
2.0000+ 3 ~ 4.0000+ 3	2.2865+ 1	2.1484+ 1		1.3784+ 0	2.6665- 4				2.0100+ 0	5.3597- 4			8.3742- 3
4.0000+ 3 ~ 7.0000+ 3	1.9689+ 1	1.8947+ 1		9.3878- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			8.7419- 3
7.0000+ 3 ~ 1.0000+ 4	1.8165+ 1	1.7449+ 1		7.4225- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			1.1427- 2
1.0000+ 4 ~ 2.0000+ 4	1.6530+ 1	1.5942+ 1		5.8759- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			1.9120- 2
2.0000+ 4 ~ 4.0000+ 4	1.4819+ 1	1.4372+ 1		4.4821- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			3.6824- 2
4.0000+ 4 ~ 7.0000+ 4	1.3463+ 1	1.3102+ 1	2.2765- 2	9.3731- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			6.4797- 2
7.0000+ 4 ~ 1.0000+ 5	1.2507+ 1	1.2078+ 1	1.8467- 1	2.4259- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			9.5142- 2
1.0000+ 5 ~ 2.0000+ 5	1.1192+ 1	1.0581+ 1	4.9669- 1	1.7208- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			1.4963- 1
2.0000+ 5 ~ 4.0000+ 5	9.3482+ 0	8.4473+ 0	7.7084- 1	1.2747- 1	0.0000+ 0				2.0100+ 0	0.0000+ 0			2.3549- 1
4.0000+ 5 ~ 7.0000+ 5	7.7926+ 0	6.3882+ 0	1.3008+ 0	9.8770- 2	3.2500- 3				2.0100+ 0	6.5325- 3			3.2898- 1
7.0000+ 5 ~ 1.0000+ 6	6.9120+ 0	5.2544+ 0	1.5143+ 0	1.0090- 1	4.1417- 2				2.0100+ 0	8.3247- 2	3.2098+ 0		4.0262- 1
1.0000+ 6 ~ 2.0000+ 6	8.0567+ 0	4.8668+ 0	2.0861+ 0	9.9123- 2	1.0340- 1				2.0539+ 0	2.1291- 1	1.0037+ 0		5.2731- 1
2.0000+ 6 ~ 4.0000+ 6	7.6518+ 0	4.9627+ 0	2.4845+ 0	3.6733- 2	1.6525- 1				2.2026+ 0	3.6440- 1	2.4133- 1		7.1784- 1
4.0000+ 6 ~ 7.0000+ 6	6.9790+ 0	4.3656+ 0	2.4210+ 0	1.9558- 3	1.9087- 1				2.4574+ 0	4.7181- 1	1.1417- 2		7.9367- 1
7.0000+ 6 ~ 1.0000+ 7	5.6364+ 0	3.3071+ 0	1.2760+ 0	2.1295- 5	4.8558- 1	7.6590- 1			2.9500+ 0	1.4412+ 0	5.3505- 5		7.7970- 1
1.0000+ 7 ~ 2.0000+ 7	5.8583+ 0	3.3810+ 0	8.3912- 2	3.8022- 6	6.1456- 1	1.1020+ 0	6.9663- 1		3.5675+ 0	2.2125+ 0	6.6049- 6		8.4119- 1

MATERIAL =3903

CROSS SECTION

^{229}Th (3903)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.8792+ 2	9.9771+ 0		1.8496+ 2	9.2894+ 1				2.0078+ 0	1.8671+ 2	1.9936+ 0		2.9360- 3
1.0000- 2 ~ 2.0000- 2	1.3180+ 2	9.9880+ 0		8.1401+ 1	4.0245+ 1				2.0078+ 0	8.0803+ 1	2.0237+ 0		2.9360- 3
2.0000- 2 ~ 4.0000- 2	9.0097+ 1	9.9205+ 0		5.9960+ 1	2.8808+ 1				2.0078+ 0	5.8204+ 1	2.0714+ 0		2.9360- 3
4.0000- 2 ~ 7.0000- 2	7.8940+ 1	9.8760+ 0		4.7167+ 1	2.1896+ 1				2.0078+ 0	4.3983+ 1	2.1569+ 0		2.9360- 3
7.0000- 2 ~ 1.0000- 1	6.9313+ 1	9.8096+ 0		4.1297+ 1	1.8207+ 1				2.0078+ 0	3.6555+ 1	2.2706+ 0		2.9360- 3
1.0000- 1 ~ 2.0000- 1	6.3908+ 1	9.6377+ 0		3.9086+ 1	1.5204+ 1				2.0078+ 0	3.0527+ 1	2.5799+ 0		2.9360- 3
2.0000- 1 ~ 4.0000- 1	8.1733+ 1	9.0142+ 0		5.7773+ 1	1.4947+ 1				2.0078+ 0	3.0010+ 1	3.8148+ 0		2.9360- 3
4.0000- 1 ~ 7.0000- 1	1.3880+ 3	1.2609+ 1		1.2117+ 3	1.3172+ 2				2.0078+ 0	2.6448+ 2	8.0969+ 0		2.9360- 3
7.0000- 1 ~ 1.0000+ 0	1.2984+ 2	1.2149+ 1		9.3524+ 1	2.4174+ 1				2.0078+ 0	4.8536+ 1	3.6483+ 0		2.9360- 3
1.0000+ 0 ~ 2.0000+ 0	5.4283+ 2	1.1902+ 1		3.1197+ 2	2.1895+ 2				2.0078+ 0	4.3981+ 2	1.3962+ 0		2.9360- 3
2.0000+ 0 ~ 4.0000+ 0	1.3442+ 2	1.0911+ 1		6.6474+ 1	6.7040+ 1				2.0078+ 0	1.3460+ 2	9.9601- 1		2.9360- 3
4.0000+ 0 ~ 7.0000+ 0	3.6084+ 2	1.6647+ 1		1.4600+ 2	1.9819+ 2				2.0078+ 0	3.9794+ 2	1.2871+ 0		2.9360- 3
7.0000+ 0 ~ 1.0000+ 1	9.2844+ 1	1.4898+ 1		4.5408+ 1	3.2403+ 1				2.0078+ 0	6.5075+ 1	2.0149+ 0		2.9360- 3
1.0000+ 1 ~ 2.0000+ 1	1.5775+ 2	1.7260+ 1		1.2483+ 2	1.5582+ 1				2.0078+ 0	3.1356+ 1	8.0349+ 0		2.9533- 3
2.0000+ 1 ~ 4.0000+ 1	1.1483+ 2	1.7127+ 1		8.7243+ 1	1.0346+ 1				2.0078+ 0	2.0835+ 1	8.4464+ 0		2.9842- 3
4.0000+ 1 ~ 7.0000+ 1	8.7753+ 1	1.7011+ 1		6.3449+ 1	7.1957+ 0				2.0078+ 0	1.4491+ 1	8.8274+ 0		3.0115- 3
7.0000+ 1 ~ 1.0000+ 2	7.2824+ 1	1.6928+ 1		5.0988+ 1	5.5293+ 0				2.0078+ 0	1.1150+ 1	9.1133+ 0		3.0312- 3
1.0000+ 2 ~ 2.0000+ 2	5.8121+ 1	1.6840+ 1	7.7286- 2	3.6818+ 1	4.3891+ 0				2.0078+ 0	8.8570+ 0	8.3400+ 0		3.2099- 3
2.0000+ 2 ~ 4.0000+ 2	4.4402+ 1	1.6188+ 1	2.1758- 1	2.4287+ 1	3.4821+ 0				2.0078+ 0	7.0085+ 0	6.9446+ 0		3.6197- 3
4.0000+ 2 ~ 7.0000+ 2	3.5901+ 1	1.5801+ 1	3.4156- 1	1.6747+ 1	2.8300+ 0				2.0078+ 0	5.7018+ 0	5.9041+ 0		3.7936- 3
7.0000+ 2 ~ 1.0000+ 3	3.1289+ 1	1.5527+ 1	4.3117- 1	1.2798+ 1	2.4353+ 0				2.0079+ 0	4.9029+ 0	5.2495+ 0		3.9915- 3
1.0000+ 3 ~ 2.0000+ 3	2.6724+ 1	1.5086+ 1	4.2889- 1	9.1127+ 0	2.0384+ 0				2.0079+ 0	4.0998+ 0	4.4572+ 0		6.0279- 3
2.0000+ 3 ~ 4.0000+ 3	2.2422+ 1	1.4440+ 1	3.6330- 1	5.8754+ 0	1.6309+ 0				2.0081+ 0	3.2915+ 0	3.5883+ 0		9.5472- 3
4.0000+ 3 ~ 7.0000+ 3	1.9712+ 1	1.3909+ 1	3.0551- 1	9.9755+ 0	1.3394+ 0				2.0083+ 0	2.6986+ 0	2.9605+ 0		1.2658- 2
7.0000+ 3 ~ 1.0000+ 4	1.8033+ 1	1.3637+ 1	2.8374- 1	2.9944+ 0	1.1614+ 0				2.0086+ 0	2.3385+ 0	2.5756+ 0		1.4906- 2
1.0000+ 4 ~ 2.0000+ 4	1.6392+ 1	1.2957+ 1	2.1789- 1	2.1584+ 0	1.0436+ 0				2.0092+ 0	2.1098+ 0	2.0615+ 0		2.3331- 2
2.0000+ 4 ~ 4.0000+ 4	1.4729+ 1	1.2072+ 1	2.8723- 1	1.4213+ 0	9.4340- 1				2.0106+ 0	1.9002+ 0	1.5022+ 0		4.3298- 2
4.0000+ 4 ~ 7.0000+ 4	1.3428+ 1	1.1115+ 1	4.9699- 1	9.6031- 1	8.6475- 1				2.0130+ 0	1.7245+ 0	1.1213+ 0		7.8259- 2
7.0000+ 4 ~ 1.0000+ 5	1.2499+ 1	1.0370+ 1	6.6878- 1	7.4794- 1	7.9429- 1				2.0158+ 0	1.6025+ 0	9.4109- 1		1.1092- 1
1.0000+ 5 ~ 2.0000+ 5	1.1180+ 1	9.1756+ 0	7.1367- 1	6.6021- 1	7.0352- 1				2.0219+ 0	1.4270+ 0	8.2320- 1		1.7424- 1
2.0000+ 5 ~ 4.0000+ 5	9.3838+ 0	7.4131+ 0	9.0808- 1	4.3414- 1	6.1608- 1				2.0360+ 0	1.2620+ 0	7.0367- 1		2.6982- 1
4.0000+ 5 ~ 7.0000+ 5	7.8700+ 0	5.8111+ 0	1.1318+ 0	3.4232- 1	5.6291- 1				2.0595+ 0	1.1615+ 0	6.0761- 1		3.6598- 1
7.0000+ 5 ~ 1.0000+ 6	6.9872+ 0	4.8409+ 0	1.3465+ 0	2.9045- 1	5.1602- 1				2.0877+ 0	1.0791+ 0	5.6282- 1		4.3865- 1
1.0000+ 6 ~ 2.0000+ 6	6.9918+ 0	4.4978+ 0	1.8391+ 0	2.0849- 1	4.4503- 1				2.1488+ 0	9.5814- 1	4.6610- 1		5.4822- 1
2.0000+ 6 ~ 4.0000+ 6	7.0458+ 0	4.6880+ 0	2.2880+ 0	6.6804- 2	4.1869- 1				2.2898+ 0	9.5874- 1	1.5690- 1		7.2362- 1
4.0000+ 6 ~ 7.0000+ 6	7.1210+ 0	4.3348+ 0	1.7965+ 0	4.9748- 3	4.3279- 1	5.4828- 1			2.5248+ 0	1.0982+ 0	1.2046- 2		8.0709- 1
7.0000+ 6 ~ 1.0000+ 7	6.2280+ 0	3.3376+ 0	4.0043- 1	5.2116- 5	7.0298- 1	1.7841+ 0			2.8068+ 0	1.9792+ 0	7.9483- 5		8.2550- 1
1.0000+ 7 ~ 2.0000+ 7	6.2710+ 0	3.2025+ 0	5.9948- 1	6.1903- 6	1.5798+ 0	5.3690- 1	3.4231- 1		3.4178+ 0	5.4703+ 0	6.7231- 6		8.8928- 1

CROSS SECTION

MATERIAL =3904

^{230}Th (3904)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	7.7784+ 1	9.7927+ 0		6.7992+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
1.0000- 2 ~ 2.0000- 2	3.9225+ 1	3.7836+ 0		2.9442+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
2.0000- 2 ~ 4.0000- 2	3.0853+ 1	9.7698+ 0		2.1183+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
4.0000- 2 ~ 7.0000- 2	2.6763+ 1	9.7482+ 0		1.8037+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
7.0000- 2 ~ 1.0000- 1	2.3051+ 1	9.7168+ 0		1.3335+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
1.0000- 1 ~ 2.0000- 1	2.0872+ 1	9.6463+ 0		1.1029+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
2.0000- 1 ~ 4.0000- 1	1.9189+ 1	9.4819+ 0		9.7088+ 0	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
4.0000- 1 ~ 7.0000- 1	2.0411+ 1	9.2218+ 0		1.1193+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
7.0000- 1 ~ 1.0000+ 0	2.8892+ 1	8.0530+ 0		2.0839+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9232- 3
1.0000+ 0 ~ 2.0000+ 0	1.1174+ 3	2.8891+ 1		1.0907+ 3	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9263- 3
2.0000+ 0 ~ 4.0000+ 0	1.5017+ 1	1.2018+ 1		3.0011+ 0	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9317- 3
4.0000+ 0 ~ 7.0000+ 0	1.1310+ 1	1.0746+ 1		5.6437- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9366- 3
7.0000+ 0 ~ 1.0000+ 1	1.0393+ 1	9.9061+ 0		4.8653- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9400- 3
1.0000+ 1 ~ 2.0000+ 1	2.9705+ 2	9.2525+ 1		2.0452+ 2	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9444- 3
2.0000+ 1 ~ 4.0000+ 1	1.5741+ 2	4.3148+ 1		1.1428+ 2	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9498- 3
4.0000+ 1 ~ 7.0000+ 1	6.4811+ 1	2.4462+ 1		3.0329+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9547- 3
7.0000+ 1 ~ 1.0000+ 2	6.3071+ 1	3.3538+ 1		2.9533+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.9582- 3
1.0000+ 2 ~ 2.0000+ 2	8.0936+ 1	3.6992+ 1		2.2547+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			3.0240- 3
2.0000+ 2 ~ 4.0000+ 2	6.3799+ 1	5.2985+ 1		1.0814+ 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			3.1397- 3
4.0000+ 2 ~ 7.0000+ 2	4.3307+ 1	3.8918+ 1		4.3885+ 0	0.0000+ 0				2.0500+ 0	0.0000+ 0			3.2577- 3
7.0000+ 2 ~ 1.0000+ 3	3.0844+ 1	2.7238+ 1		3.3515+ 0	0.0000+ 0				2.0500+ 0	0.0000+ 0			3.4708- 3
1.0000+ 3 ~ 2.0000+ 3	2.8131+ 1	2.3943+ 1		2.2015+ 0	0.0000+ 0				2.0500+ 0	0.0000+ 0			4.0397- 3
2.0000+ 3 ~ 4.0000+ 3	2.1985+ 1	2.0556+ 1		1.4429+ 0	0.0000+ 0				2.0500+ 0	0.0000+ 0			5.5089- 3
4.0000+ 3 ~ 7.0000+ 3	1.9288+ 1	1.8352+ 1		9.3458- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			8.2216- 3
7.0000+ 3 ~ 1.0000+ 4	1.7754+ 1	1.7004+ 1		7.5038- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			1.1599- 2
1.0000+ 4 ~ 2.0000+ 4	1.8230+ 1	1.5633+ 1		5.9821- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			1.9410- 2
2.0000+ 4 ~ 4.0000+ 4	1.4852+ 1	1.4198+ 1		4.5243- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			3.7347- 2
4.0000+ 4 ~ 7.0000+ 4	1.3403+ 1	1.3025+ 1	3.6198- 2	3.4263- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			6.5456- 2
7.0000+ 4 ~ 1.0000+ 5	1.2492+ 1	1.2039+ 1	2.1223- 1	2.4006- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			9.6595- 2
1.0000+ 5 ~ 2.0000+ 5	1.1232+ 1	1.0599+ 1	4.5860- 1	1.7336- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			1.5193- 1
2.0000+ 5 ~ 4.0000+ 5	9.4450+ 0	8.8507+ 0	7.6307- 1	1.3872- 1	0.0000+ 0				2.0500+ 0	0.0000+ 0			2.3742- 1
4.0000+ 5 ~ 7.0000+ 5	7.8424+ 0	6.6041+ 0	1.1011+ 0	1.3380- 1	2.1170- 3				2.0500+ 0	4.3500- 3			3.2393- 1
7.0000+ 5 ~ 1.0000+ 6	6.9856+ 0	5.2483+ 0	1.5742+ 0	1.1600- 1	4.4089- 2				2.0500+ 0	9.0733- 2	5.6829+ 0		4.0500- 1
1.0000+ 6 ~ 2.0000+ 6	8.9585+ 0	4.5988+ 0	1.9974+ 0	1.0808- 1	2.6576- 1				2.0913+ 0	5.3598- 1	4.2971- 1		5.2907- 1
2.0000+ 6 ~ 4.0000+ 6	7.6904+ 0	4.9633+ 0	2.4994+ 0	4.0194- 2	1.9672- 1				2.2408+ 0	4.4038- 1	1.9867- 1		7.2098- 1
4.0000+ 6 ~ 7.0000+ 6	7.1061+ 0	4.4325+ 0	2.4684+ 0	2.3301- 3	2.0023- 1	1.4612- 3			2.5102+ 0	5.0645- 1	1.2352- 2		7.9528- 1
7.0000+ 6 ~ 1.0000+ 7	5.9754+ 0	3.3105+ 0	1.1208+ 0	5.3367- 5	5.2668- 1	1.0148- 0			3.0761+ 0	1.6312+ 0	1.2897- 4		7.8147- 1
1.0000+ 7 ~ 2.0000+ 7	5.8631+ 0	3.3785+ 0	5.2278- 2	2.3100- 7	5.6836- 1	9.8520- 1	7.7677- 1		3.7377+ 0	2.5217+ 0	3.9020- 7		8.4041- 1

CROSS SECTION

MATERIAL =3905

^{232}Th (3905)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	3.6791+ 1	1.3713+ 1		2.3077+ 1					3.7081+ 0	0.0000+ 0			2.8969- 3
1.0000- 2 ~ 2.0000- 2	2.3632+ 1	1.3708+ 1		9.8228+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
2.0000- 2 ~ 4.0000- 2	2.0621+ 1	1.3703+ 1		6.8176+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
4.0000- 2 ~ 7.0000- 2	1.8723+ 1	1.3693+ 1		5.0286+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
7.0000- 2 ~ 1.0000- 1	1.7683+ 1	1.3681+ 1		3.8829+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
1.0000- 1 ~ 2.0000- 1	1.6823+ 1	1.3658+ 1		2.9675+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
2.0000- 1 ~ 4.0000- 1	1.5598+ 1	1.3599+ 1		1.9998+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
4.0000- 1 ~ 7.0000- 1	1.4699+ 1	1.3511+ 1		1.3675+ 0					3.7081+ 0	0.0000+ 0			2.8969- 3
7.0000- 1 ~ 1.0000+ 0	1.4405+ 1	1.3414+ 1		9.9081- 1					3.7081+ 0	0.0000+ 0			2.8969- 3
1.0000+ 0 ~ 2.0000+ 0	1.3877+ 1	1.3234+ 1		6.4246- 1					3.7081+ 0	0.0000+ 0			2.8969- 3
2.0000+ 0 ~ 4.0000+ 0	1.3248+ 1	1.2910+ 1		3.3775- 1					3.7081+ 0	0.0000+ 0			2.8969- 3
4.0000+ 0 ~ 7.0000+ 0	1.2701+ 1	1.2526+ 1		1.8242- 1					3.7081+ 0	0.0000+ 0			2.8969- 3
7.0000+ 0 ~ 1.0000+ 1	1.2316+ 1	1.2158+ 1		1.5880- 1					3.7081+ 0	0.0000+ 0			2.8969- 3
1.0000+ 1 ~ 2.0000+ 1	1.1400+ 1	1.1191+ 1		2.0905- 1					3.7081+ 0	0.0000+ 0			2.8969- 3
2.0000+ 1 ~ 4.0000+ 1	8.8095+ 1	1.8120+ 1		4.7974+ 1					3.7081+ 0	0.0000+ 0			2.8969- 3
4.0000+ 1 ~ 7.0000+ 1	1.0119+ 2	8.4208+ 1		3.6978+ 1					3.7080+ 0	0.0000+ 0			2.8969- 3
7.0000+ 1 ~ 1.0000+ 2	1.5975+ 1	1.5582+ 1		3.9233- 1					3.7080+ 0	0.0000+ 0			2.8969- 3
1.0000+ 2 ~ 2.0000+ 2	4.7534+ 1	3.1537+ 1		1.5998+ 1					3.7059+ 0	0.0000+ 0			2.8969- 3
2.0000+ 2 ~ 4.0000+ 2	3.2628+ 1	2.5128+ 1		7.4972+ 0					3.7058+ 0	0.0000+ 0			2.8969- 3
4.0000+ 2 ~ 7.0000+ 2	2.0344+ 1	1.7795+ 1		3.1484+ 0					3.7055+ 0	0.0000+ 0			2.8969- 3
7.0000+ 2 ~ 1.0000+ 3	2.3828+ 1	2.1263+ 1		2.5627+ 0					3.7052+ 0	0.0000+ 0			2.8969- 3
1.0000+ 3 ~ 2.0000+ 3	2.2409+ 1	2.0524+ 1		1.8850+ 0					3.7048+ 0	0.0000+ 0			3.9480- 3
2.0000+ 3 ~ 4.0000+ 3	1.9827+ 1	1.8851+ 1		1.1752+ 0					3.7031+ 0	0.0000+ 0			4.8954- 3
4.0000+ 3 ~ 7.0000+ 3	1.8002+ 1	1.7005+ 1		9.9878- 1					3.7006+ 0	0.0000+ 0			6.9459- 3
7.0000+ 3 ~ 1.0000+ 4	1.6871+ 1	1.5858+ 1		8.1518- 1					3.6976+ 0	0.0000+ 0			9.6452- 3
1.0000+ 4 ~ 2.0000+ 4	1.5608+ 1	1.4941+ 1		6.6510- 1					3.6911+ 0	0.0000+ 0			1.5494- 2
2.0000+ 4 ~ 4.0000+ 4	1.4472+ 1	1.3986+ 1		4.8783- 1					3.6781+ 0	0.0000+ 0			2.8891- 2
4.0000+ 4 ~ 7.0000+ 4	1.3293+ 1	1.2878+ 1	8.1091- 2	3.3808- 1					3.6511+ 0	0.0000+ 0			5.1250- 2
7.0000+ 4 ~ 1.0000+ 5	1.2474+ 1	1.1699+ 1	3.9490- 1	2.4017- 1					3.5212+ 0	0.0000+ 0			7.7246- 2
1.0000+ 5 ~ 2.0000+ 5	1.1339+ 1	1.0375+ 1	7.8176- 1	1.7471- 1					3.5682+ 0	0.0000+ 0			1.1707- 1
2.0000+ 5 ~ 4.0000+ 5	9.7859+ 0	8.4370+ 0	1.2140+ 0	1.3375- 1					3.4083+ 0	0.0000+ 0			1.9762- 1
4.0000+ 5 ~ 7.0000+ 5	8.1749+ 0	6.5071+ 0	1.5286+ 0	1.3722- 1	4.5000- 5				3.1685+ 0	2.4238- 4	3.6564+ 2		3.1426- 1
7.0000+ 5 ~ 1.0000+ 6	7.1880+ 0	4.9342+ 0	2.1045+ 0	1.4425- 1	8.4187- 4				2.8586+ 0	2.3493- 3	2.8088+ 2		4.0046- 1
1.0000+ 6 ~ 2.0000+ 6	8.8577+ 0	3.4200+ 0	3.2754+ 0	9.8318- 2	8.5207- 2				2.3135+ 0	1.4347- 1	1.1387+ 1		5.5643- 1
2.0000+ 6 ~ 4.0000+ 6	7.8171+ 0	3.7080+ 0	3.7410+ 0	3.0373- 2	1.3885- 1				2.3529+ 0	3.2226- 1	2.2937- 1		7.3789- 1
4.0000+ 6 ~ 7.0000+ 6	7.2367+ 0	3.8478+ 0	3.1841+ 0	6.3225- 3	1.9226- 1	2.4518- 2			2.7180+ 0	5.3004- 1	5.1019- 2		8.5100- 1
7.0000+ 6 ~ 1.0000+ 7	5.9537+ 0	2.8381+ 0	1.7108+ 0	3.2850- 3	3.5868- 1	1.2430+ 0			3.1832+ 0	1.1307- 0	9.0865- 3		9.5608- 1
1.0000+ 7 ~ 2.0000+ 7	5.9281+ 0	2.8818+ 0	7.0800- 1	1.2778- 4	4.0690- 1	9.5573- 1	9.7762- 1		4.1480+ 0	1.7235+ 0	4.0802- 4		9.0748- 1

MATERIAL =3906

CROSS SECTION

^{233}Th (3906)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	4.5303+ 3	1.2998+ 1		4.4714+ 3	4.5763+ 1				1.9900+ 0	9.1403+ 1	9.7571+ 1		4.7330- 3
1.0000- 2 ~ 2.0000- 2	1.8438+ 3	1.2999+ 1		1.9107+ 3	1.9676+ 1				1.9900+ 0	3.9335+ 1	9.7093+ 1		5.1639- 3
2.0000- 2 ~ 4.0000- 2	1.3782+ 3	1.3000+ 1		1.3510+ 3	1.4006+ 1				1.9900+ 0	2.7988+ 1	9.6443+ 1		5.3604- 3
4.0000- 2 ~ 7.0000- 2	1.0184+ 3	1.3002+ 1		9.9289+ 2	1.0381+ 1				1.9900+ 0	2.0709+ 1	9.5628+ 1		5.5718- 3
7.0000- 2 ~ 1.0000- 1	8.1560+ 2	1.3005+ 1		7.9420+ 2	8.3587+ 0				1.9900+ 0	1.6685+ 1	9.5031+ 1		5.7101- 3
1.0000- 1 ~ 2.0000- 1	8.2410+ 2	1.3010+ 1		8.0421+ 2	6.4580+ 0				1.9900+ 0	1.2901+ 1	9.3528+ 1		5.8832- 3
2.0000- 1 ~ 4.0000- 1	4.4618+ 2	1.3022+ 1		4.2724+ 2	4.6777+ 0				1.9900+ 0	9.3427+ 0	9.1276+ 1		6.0897- 3
4.0000- 1 ~ 7.0000- 1	3.3104+ 2	1.3043+ 1		3.1398+ 2	3.5134+ 0				1.9900+ 0	7.0280+ 0	8.9329+ 1		6.2910- 3
7.0000- 1 ~ 1.0000+ 0	2.6730+ 2	1.3067+ 1		2.5115+ 2	2.8562+ 0				1.9900+ 0	5.7049+ 0	8.7947+ 1		6.4293- 3
1.0000+ 0 ~ 2.0000+ 0	2.0890+ 2	1.3120+ 1		1.9107+ 2	2.2638+ 0				1.9900+ 0	4.5203+ 0	8.4279+ 1		6.6024- 3
2.0000+ 0 ~ 4.0000+ 0	1.6033+ 2	1.3242+ 1		1.3510+ 2	1.7101+ 0				1.9900+ 0	3.4138+ 0	7.8863+ 1		6.8109- 3
4.0000+ 0 ~ 7.0000+ 0	1.1468+ 2	1.3446+ 1		9.9280+ 1	1.3333+ 0				1.9900+ 0	2.6647+ 0	7.4397+ 1		7.0103- 3
7.0000+ 0 ~ 1.0000+ 1	9.4601+ 1	1.3689+ 1		7.9421+ 1	1.1132+ 0				1.9900+ 0	2.2228+ 0	7.1313+ 1		7.1486- 3
1.0000+ 1 ~ 2.0000+ 1	7.6876+ 1	1.4217+ 1		6.0421+ 1	9.2381- 1				1.9900+ 0	1.8458+ 0	6.5266+ 1		7.3217- 3
2.0000+ 1 ~ 4.0000+ 1	5.9002+ 1	1.5437+ 1		4.2724+ 1	7.4482- 1				1.9900+ 0	1.4865+ 0	5.7229+ 1		7.5382- 3
4.0000+ 1 ~ 7.0000+ 1	4.9698+ 1	1.7489+ 1		3.1398+ 1	6.2034- 1				1.9900+ 0	1.2389+ 0	5.0534+ 1		7.7295- 3
7.0000+ 1 ~ 1.0000+ 2	4.6701+ 1	1.9908+ 1		2.5115+ 1	5.5595- 1				1.9900+ 0	1.1068+ 0	4.5145+ 1		7.8679- 3
1.0000+ 2 ~ 2.0000+ 2	4.4068+ 1	2.5181+ 1		1.9107+ 1	4.8486- 1				1.9900+ 0	9.8721- 1	3.8519+ 1		8.0409- 3
2.0000+ 2 ~ 4.0000+ 2	4.0154+ 1	2.7266+ 1		1.2429+ 1	4.3724- 1				1.9900+ 0	8.7178- 1	2.8312+ 1		8.2574- 3
4.0000+ 2 ~ 7.0000+ 2	3.2885+ 1	2.4361+ 1		7.9024+ 0	4.0086- 1				1.9900+ 0	7.9866- 1	1.9683+ 1		8.4488- 3
7.0000+ 2 ~ 1.0000+ 3	2.8640+ 1	2.2482+ 1		5.6708+ 0	3.8077- 1				1.9900+ 0	7.5819- 1	1.4882+ 1		8.5871- 3
1.0000+ 3 ~ 2.0000+ 3	2.4593+ 1	2.0424+ 1		3.7989+ 0	3.6114- 1				1.9900+ 0	7.1938- 1	1.0488+ 1		8.7602- 3
2.0000+ 3 ~ 4.0000+ 3	2.0894+ 1	1.8227+ 1		2.3174+ 0	3.4951- 1				1.9900+ 0	6.8408- 1	6.7357+ 0		8.9767- 3
4.0000+ 3 ~ 7.0000+ 3	1.8515+ 1	1.6622+ 1		1.5575+ 0	3.3180- 1				1.9900+ 0	6.6066- 1	4.6908+ 0		9.3818- 3
7.0000+ 3 ~ 1.0000+ 4	1.7182+ 1	1.5827+ 1		1.2088+ 0	3.2528- 1				1.9900+ 0	6.4741- 1	3.7157+ 0		1.2294- 2
1.0000+ 4 ~ 2.0000+ 4	1.6782+ 1	1.4607+ 1	4.7990- 2	9.0658- 1	3.1914- 1				1.9900+ 0	6.3531- 1	2.8387+ 0		2.0678- 2
2.0000+ 4 ~ 4.0000+ 4	1.4421+ 1	1.3148+ 1	3.0711- 1	5.8419- 1	2.9114- 1				1.9900+ 0	5.8108- 1	2.0000+ 0		4.0320- 2
4.0000+ 4 ~ 7.0000+ 4	1.3298+ 1	1.2161+ 1	5.0842- 1	4.0382- 1	2.2333- 1				1.9900+ 0	4.4582- 1	1.8073+ 0		7.1000- 2
7.0000+ 4 ~ 1.0000+ 5	1.2474+ 1	1.1387+ 1	8.4127- 1	2.8744- 1	1.6754- 1				1.9900+ 0	3.3418- 1	1.7734+ 0		1.0400- 1
1.0000+ 5 ~ 2.0000+ 5	1.1288+ 1	1.0081+ 1	8.3883- 1	2.0806- 1	1.6219- 1				1.9900+ 0	3.2238- 1	1.2782+ 0		1.6389- 1
2.0000+ 5 ~ 4.0000+ 5	9.5458+ 0	8.1332+ 0	1.0201+ 0	1.5234- 1	2.3808- 1				1.9915+ 0	4.6999- 1	6.5921- 1		2.5790- 1
4.0000+ 5 ~ 7.0000+ 5	7.8029+ 0	6.2949+ 0	1.2665+ 0	1.5004- 1	1.6806- 1				2.0163+ 0	3.3950- 1	9.3069- 1		3.4895- 1
7.0000+ 5 ~ 1.0000+ 6	7.0078+ 0	5.0647+ 0	1.6643+ 0	1.6191- 1	1.0858- 1				2.0521+ 0	2.1927- 1	1.4329+ 0		4.2460- 1
1.0000+ 6 ~ 2.0000+ 6	7.0082+ 0	4.4081+ 0	2.3953+ 0	9.6024- 2	8.9006- 2				2.1286+ 0	1.8979- 1	1.0871+ 0		5.4086- 1
2.0000+ 6 ~ 4.0000+ 6	7.7086+ 0	4.8274+ 0	2.8753+ 0	1.9004- 2	8.3737- 2				2.3046+ 0	1.9298- 1	2.2848- 1		7.2263- 1
4.0000+ 6 ~ 7.0000+ 6	7.0043+ 0	4.4828+ 0	1.6881+ 0	7.8192- 4	8.6798- 2	7.4138- 1			2.6090+ 0	2.2460- 1	9.4706- 3		7.9699- 1
7.0000+ 6 ~ 1.0000+ 7	6.0717+ 0	3.3968+ 0	3.1232- 1	4.3004- 6	1.4280- 1	2.2190+ 0			3.0391+ 0	4.3470- 1	3.2285- 5		7.8367- 1
1.0000+ 7 ~ 2.0000+ 7	6.8881+ 0	3.3840+ 0	2.0436- 2	1.9312- 8	3.1596- 1	1.0860+ 0	1.0998+ 0		4.0360+ 0	1.2997+ 0	1.1446- 7		8.3966- 1

MATERIAL =3907

CROSS SECTION

^{234}Th (3907)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.8482+ 1	1.3000+ 1		5.3841+ 0	0.0000+ 0					0.0000+ 0			4.6460- 3
1.0000- 2 ~ 2.0000- 2	1.6363+ 1	1.3000+ 1		2.3087+ 0	0.0000+ 0					0.0000+ 0			5.0682- 3
2.0000- 2 ~ 4.0000- 2	1.4864+ 1	1.3000+ 1		1.8305+ 0	0.0000+ 0					0.0000+ 0			5.2659- 3
4.0000- 2 ~ 7.0000- 2	1.4255+ 1	1.3000+ 1		1.1981+ 0	0.0000+ 0					0.0000+ 0			5.4494- 3
7.0000- 2 ~ 1.0000- 1	1.3877+ 1	1.3000+ 1		9.6824- 1	0.0000+ 0					0.0000+ 0			5.5820- 3
1.0000- 1 ~ 2.0000- 1	1.3767+ 1	1.3000+ 1		7.2890- 1	0.0000+ 0					0.0000+ 0			5.7480- 3
2.0000- 1 ~ 4.0000- 1	1.3631+ 1	1.3000+ 1		6.1633- 1	0.0000+ 0					0.0000+ 0			5.9568- 3
4.0000- 1 ~ 7.0000- 1	1.3411+ 1	1.3000+ 1		3.7868- 1	0.0000+ 0					0.0000+ 0			6.1392- 3
7.0000- 1 ~ 1.0000+ 0	1.3363+ 1	1.3000+ 1		3.0265- 1	0.0000+ 0					0.0000+ 0			6.2718- 3
1.0000+ 0 ~ 2.0000+ 0	1.3281+ 1	1.3000+ 1		2.3037- 1	0.0000+ 0					0.0000+ 0			6.4378- 3
2.0000+ 0 ~ 4.0000+ 0	1.3192+ 1	1.3000+ 1		1.6287- 1	0.0000+ 0					0.0000+ 0			6.6464- 3
4.0000+ 0 ~ 7.0000+ 0	1.3123+ 1	1.3000+ 1		1.1986- 1	0.0000+ 0					0.0000+ 0			6.8289- 3
7.0000+ 0 ~ 1.0000+ 1	1.3098+ 1	1.3000+ 1		9.5729- 2	0.0000+ 0					0.0000+ 0			6.9616- 3
1.0000+ 1 ~ 2.0000+ 1	6.7890+ 1	3.7530+ 1		3.0334+ 1	0.0000+ 0					0.0000+ 0			7.1275- 3
2.0000+ 1 ~ 4.0000+ 1	9.7577+ 1	5.6257+ 1		4.2261+ 1	0.0000+ 0					0.0000+ 0			7.3352- 3
4.0000+ 1 ~ 7.0000+ 1	7.4903+ 1	4.7837+ 1		2.7018+ 1	0.0000+ 0					0.0000+ 0			7.5187- 3
7.0000+ 1 ~ 1.0000+ 2	6.2308+ 1	4.2942+ 1		1.9346+ 1	0.0000+ 0					0.0000+ 0			7.6513- 3
1.0000+ 2 ~ 2.0000+ 2	5.0288+ 1	3.7488+ 1		1.2774+ 1	0.0000+ 0					0.0000+ 0			7.8173- 3
2.0000+ 2 ~ 4.0000+ 2	3.9084+ 1	3.1628+ 1		7.4373+ 0	0.0000+ 0					0.0000+ 0			8.0250- 3
4.0000+ 2 ~ 7.0000+ 2	3.1913+ 1	2.7333+ 1		4.5858+ 0	0.0000+ 0					0.0000+ 0			8.2085- 3
7.0000+ 2 ~ 1.0000+ 3	2.7922+ 1	2.4708+ 1		3.2118+ 0	0.0000+ 0					0.0000+ 0			8.3411- 3
1.0000+ 3 ~ 2.0000+ 3	2.4123+ 1	2.1989+ 1		2.1337+ 0	0.0000+ 0					0.0000+ 0			8.5071- 3
2.0000+ 3 ~ 4.0000+ 3	2.0684+ 1	1.9230+ 1		1.3317+ 0	0.0000+ 0					0.0000+ 0			8.7147- 3
4.0000+ 3 ~ 7.0000+ 3	1.8278+ 1	1.7333+ 1		9.4373- 1	0.0000+ 0					0.0000+ 0			9.1059- 3
7.0000+ 3 ~ 1.0000+ 4	1.6878+ 1	1.6212+ 1		7.6703- 1	0.0000+ 0					0.0000+ 0			1.1934- 2
1.0000+ 4 ~ 2.0000+ 4	1.5688+ 1	1.6074+ 1		8.1313- 1	0.0000+ 0					0.0000+ 0			1.9975- 2
2.0000+ 4 ~ 4.0000+ 4	1.4360+ 1	1.3888+ 1		4.6324- 1	0.0000+ 0					0.0000+ 0			3.8370- 2
4.0000+ 4 ~ 7.0000+ 4	1.3288+ 1	1.2882+ 1	5.4701- 2	3.3026- 1	0.0000+ 0					0.0000+ 0			8.7585- 2
7.0000+ 4 ~ 1.0000+ 5	1.2473+ 1	1.1878+ 1	2.5994- 1	2.3419- 1	0.0000+ 0					0.0000+ 0			9.9462- 2
1.0000+ 5 ~ 2.0000+ 5	1.1310+ 1	1.0838+ 1	5.0198- 1	1.7063- 1	0.0000+ 0					0.0000+ 0			1.5662- 1
2.0000+ 5 ~ 4.0000+ 5	9.6034+ 0	8.6682+ 0	7.8484- 1	1.3825- 1	0.0000+ 0					0.0000+ 0			2.4497- 1
4.0000+ 5 ~ 7.0000+ 5	7.9646+ 0	6.7792+ 0	1.0208+ 0	1.5062- 1	0.0000+ 0					0.0000+ 0			3.2697- 1
7.0000+ 5 ~ 1.0000+ 6	7.0081+ 0	5.4861+ 0	1.3438+ 0	1.6814- 1	0.0000+ 0					0.0000+ 0			3.9383- 1
1.0000+ 6 ~ 2.0000+ 6	6.9850+ 0	4.6400+ 0	2.1842+ 0	1.3133- 1	2.9800- 2				5.5800- 1	4.3881- 2			5.2341- 1
2.0000+ 6 ~ 4.0000+ 6	7.7187+ 0	4.8408+ 0	2.8738+ 0	3.3307- 2	8.9400- 2				2.2868+ 0	1.5808- 1	4.5497- 1		7.2084- 1
4.0000+ 6 ~ 7.0000+ 6	7.1832+ 0	4.5088+ 0	2.4986+ 0	1.9892- 3	8.8000- 2	8.6033- 2			2.6215+ 0	1.7982- 1	3.2135- 2		7.9751- 1
7.0000+ 6 ~ 1.0000+ 7	6.0828+ 0	3.4147+ 0	8.6387- 1	4.7333- 5	1.3250- 1	1.6460+ 0			3.1476+ 0	4.1813- 1	3.6054- 4		7.8445- 1
1.0000+ 7 ~ 2.0000+ 7	5.8864+ 0	3.3849+ 0	5.6278- 2	4.5308- 7	1.6380- 1	9.8217- 1	1.3083+ 0		4.3218+ 0	7.2210- 1	3.3489- 8		8.3940- 1

CROSS SECTION

MATERIAL =3911

^{231}Pa (3911)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	7.5293+ 2	1.0091+ 1		7.4276+ 2	7.9141- 2				2.1816+ 0	1.7265- 1	9.4451+ 3		2.9094- 3
1.0000- 2 ~ 2.0000- 2	2.8807+ 2	1.0021+ 1		2.8801+ 2	2.8208- 2				2.1816+ 0	6.3717- 2	9.8105+ 3		2.9094- 3
2.0000- 2 ~ 4.0000- 2	1.8584+ 2	9.9258+ 0		1.8388+ 2	1.7753- 2				2.1816+ 0	3.8730- 2	1.0397+ 4		2.9094- 3
4.0000- 2 ~ 7.0000- 2	1.3478+ 2	9.7838+ 0		1.2497+ 2	1.0887- 2				2.1816+ 0	2.3969- 2	1.1429+ 4		2.9094- 3
7.0000- 2 ~ 1.0000- 1	1.0888+ 2	9.6231+ 0		1.0003+ 2	7.9119- 3				2.1816+ 0	1.7261- 2	1.2674+ 4		2.9094- 3
1.0000- 1 ~ 2.0000- 1	1.0886+ 2	9.2412+ 0		9.8704+ 1	6.5982- 3				2.1816+ 0	1.4395- 2	1.5113+ 4		2.9094- 3
2.0000- 1 ~ 4.0000- 1	9.8682+ 2	8.0220+ 0		8.4788+ 2	4.0003- 2				2.1816+ 0	8.7271- 2	2.0938+ 4		2.9094- 3
4.0000- 1 ~ 7.0000- 1	7.7436+ 2	1.4180+ 1		7.6008+ 2	8.2939- 2				2.1816+ 0	1.8094- 1	8.6591+ 3		2.9094- 3
7.0000- 1 ~ 1.0000+ 0	1.0142+ 2	1.1428+ 1		8.8974+ 1	1.3287- 2				2.1816+ 0	2.8944- 2	8.2551+ 3		2.9094- 3
1.0000+ 0 ~ 2.0000+ 0	7.2860+ 1	1.0807+ 1		6.1898+ 1	4.7177- 3				2.1816+ 0	1.0292- 2	1.3337+ 4		2.9094- 3
2.0000+ 0 ~ 4.0000+ 0	3.3898+ 1	8.7988+ 0		2.4191+ 1	3.5882- 3				2.1816+ 0	7.8280- 3	1.1029+ 4		2.9094- 3
4.0000+ 0 ~ 7.0000+ 0	2.6275+ 2	1.5381+ 1		2.4736+ 2	6.6400- 3				2.1816+ 0	1.2741- 2	3.8589+ 4		2.9094- 3
7.0000+ 0 ~ 1.0000+ 1	1.2728+ 2	1.2200+ 1		1.1508+ 2	1.4921- 2				2.1816+ 0	3.2552- 2	1.4392+ 4		2.9094- 3
1.0000+ 1 ~ 2.0000+ 1	1.3765+ 2	1.4289+ 1		1.2325+ 2	1.1127- 2				2.1816+ 0	2.4274- 2	1.3844+ 4		2.9094- 3
2.0000+ 1 ~ 4.0000+ 1	7.6693+ 1	1.4368+ 1		6.1227+ 1	7.1703- 3				2.1816+ 0	1.5643- 2	1.0044+ 4		2.9094- 3
4.0000+ 1 ~ 7.0000+ 1	6.2801+ 1	1.6816+ 1		4.7180+ 1	5.2946- 3				2.1816+ 0	1.1551- 2	1.0280+ 4		2.9094- 3
7.0000+ 1 ~ 1.0000+ 2	4.0042+ 1	1.4179+ 1		2.5860+ 1	2.5722- 3				2.1816+ 0	5.6116- 3	1.0052+ 4		2.9094- 3
1.0000+ 2 ~ 2.0000+ 2	4.1147+ 1	1.2788+ 1		2.0858+ 1	1.4713- 3				2.1816+ 0	3.2098- 3	2.1015+ 4		2.9094- 3
2.0000+ 2 ~ 4.0000+ 2	3.2737+ 1	1.2237+ 1		2.0499+ 1	7.9347- 4				2.1816+ 0	1.7311- 3	2.6071+ 4		2.9094- 3
4.0000+ 2 ~ 7.0000+ 2	2.6480+ 1	1.2118+ 1		1.4349+ 1	4.8320- 4				2.1817+ 0	1.0542- 3	2.9903+ 4		2.9094- 3
7.0000+ 2 ~ 1.0000+ 3	2.3177+ 1	1.2013+ 1		1.1163+ 1	3.4317- 4				2.1817+ 0	7.4870- 4	3.2629+ 4		2.9094- 3
1.0000+ 3 ~ 2.0000+ 3	2.0373+ 1	1.1870+ 1		8.8090+ 0	3.0000- 4				2.1818+ 0	6.5454- 4	2.8343+ 4		2.9094- 3
2.0000+ 3 ~ 4.0000+ 3	1.7448+ 1	1.1846+ 1		5.8025+ 0	3.0000- 4				2.1820+ 0	6.5460- 4	1.9341+ 4		2.9094- 3
4.0000+ 3 ~ 7.0000+ 3	1.5468+ 1	1.1988+ 1		4.0867+ 0	3.0000- 4				2.1823+ 0	6.5470- 4	1.3556+ 4		2.9094- 3
7.0000+ 3 ~ 1.0000+ 4	1.4434+ 1	1.1186+ 1	1.8024- 2	3.2212+ 0	3.0000- 4				2.1827+ 0	6.5482- 4	1.0737+ 4		2.9094- 3
1.0000+ 4 ~ 2.0000+ 4	1.3686+ 1	1.0911+ 1	2.1850- 1	2.6009+ 0	3.0000- 4				2.1836+ 0	6.5508- 4	8.6696+ 3		7.0129- 3
2.0000+ 4 ~ 4.0000+ 4	1.2880+ 1	1.0471+ 1	2.8500- 1	2.1243+ 0	3.0000- 4				2.1858+ 0	6.5569- 4	7.0811+ 3		1.9929- 2
4.0000+ 4 ~ 7.0000+ 4	1.2422+ 1	1.0267+ 1	3.4827- 1	1.8145+ 0	3.7614- 4				2.1890+ 0	8.2634- 4	5.0665+ 3		3.9840- 2
7.0000+ 4 ~ 1.0000+ 5	1.2263+ 1	1.0067+ 1	6.5638- 1	1.5339+ 0	7.5907- 4				2.1930+ 0	1.6686- 3	2.1062+ 3		6.4461- 2
1.0000+ 5 ~ 2.0000+ 5	1.1484+ 1	9.1008+ 0	1.3050+ 0	1.0784+ 0	8.0890- 3				2.2017+ 0	2.0073- 2	3.7488+ 2		1.1781- 1
2.0000+ 5 ~ 4.0000+ 5	8.8321+ 0	7.1319+ 0	1.8820+ 0	8.7810- 1	4.0450- 2				2.2218+ 0	9.0330- 2	4.1387+ 1		2.4091- 1
4.0000+ 5 ~ 7.0000+ 5	8.1337+ 0	5.1549+ 0	2.1881+ 0	4.3851- 1	3.4482- 1				2.2554+ 0	7.7961- 1	2.1796+ 0		4.0385- 1
7.0000+ 5 ~ 1.0000+ 6	7.0423+ 0	3.8807+ 0	2.0304+ 0	3.1263- 1	7.0843- 1				2.2956+ 0	1.6251+ 0	4.7078- 1		4.7057- 1
1.0000+ 6 ~ 2.0000+ 6	6.7478+ 0	3.3488+ 0	2.1838+ 0	2.1881- 1	8.8467- 1				2.3827+ 0	2.3342+ 0	2.2702- 1		5.8871- 1
2.0000+ 6 ~ 4.0000+ 6	7.4107+ 0	3.8481+ 0	2.5740+ 0	1.2508- 1	1.0588+ 0				2.5839+ 0	2.7329+ 0	1.1590- 1		7.1252- 1
4.0000+ 6 ~ 7.0000+ 6	7.2839+ 0	3.8871+ 0	2.3097+ 0	6.2858- 3	1.0708+ 0	2.2128- 3			2.9192+ 0	3.1805+ 0	6.7471- 3		8.4684- 1
7.0000+ 6 ~ 1.0000+ 7	6.0836+ 0	2.7163+ 0	8.5200- 1	8.3333- 5	1.8482+ 0	5.3600- 1			3.3215+ 0	6.4795+ 0	4.5046- 5		8.4999- 1
1.0000+ 7 ~ 2.0000+ 7	5.8749+ 0	2.7041+ 0	2.5835- 1	0.0000+ 0	2.0448+ 0	5.8460- 1	3.0348- 1		4.1931+ 0	8.6188+ 0	0.0000+ 0		9.0254- 1

CROSS SECTION

MATERIAL =3912

^{232}Pa (3912)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	3.8143+ 3	1.2228+ 1		1.4308+ 3	2.1588+ 3				2.2906+ 0	4.9818+ 3	6.6288- 1		2.8980- 3
1.0000- 2 ~ 2.0000- 2	1.8488+ 3	1.2228+ 1		8.1141+ 2	8.2238+ 2				2.2906+ 0	2.1203+ 3	8.8288- 1		2.8980- 3
2.0000- 2 ~ 4.0000- 2	1.0804+ 3	1.2228+ 1		4.2488+ 2	6.8221+ 2				2.2906+ 0	1.5004+ 3	6.5038- 1		2.8980- 3
4.0000- 2 ~ 7.0000- 2	7.8730+ 2	1.2228+ 1		2.8348+ 2	4.7929+ 2				2.2508+ 0	1.1035+ 3	6.1149- 1		2.8980- 3
7.0000- 2 ~ 1.0000- 1	6.2120+ 2	1.2228+ 1		2.2380+ 2	3.8338+ 2				2.2908+ 0	8.8135+ 2	5.8345- 1		2.8980- 3
1.0000- 1 ~ 2.0000- 1	4.8832+ 2	1.2228+ 1		1.6083+ 2	2.9183+ 2				2.2908+ 0	6.7018+ 2	5.5032- 1		2.8980- 3
2.0000- 1 ~ 4.0000- 1	3.2871+ 2	1.2228+ 1		1.0587+ 2	2.0320+ 2				2.2906+ 0	4.7383+ 2	5.1141- 1		2.8980- 3
4.0000- 1 ~ 7.0000- 1	2.3780+ 2	1.2228+ 1		7.2724+ 1	1.5159+ 2				2.2908+ 0	3.4852+ 2	4.7828- 1		2.8980- 3
7.0000- 1 ~ 1.0000+ 0	1.8831+ 2	1.2228+ 1		5.5457+ 1	1.2120+ 2				2.2908+ 0	2.7881+ 2	4.5731- 1		2.8980- 3
1.0000+ 0 ~ 2.0000+ 0	1.4214+ 2	1.6371+ 1		6.9172+ 1	5.7469+ 1				2.2908+ 0	1.3201+ 2	1.2040+ 0		2.8989- 3
2.0000+ 0 ~ 4.0000+ 0	1.2737+ 2	1.5188+ 1		6.1522+ 1	5.0417+ 1				2.2908+ 0	1.1589+ 2	1.2206+ 0		2.9033- 3
4.0000+ 0 ~ 7.0000+ 0	1.1658+ 2	1.5048+ 1		5.5458+ 1	4.4903+ 1				2.2906+ 0	1.0343+ 2	1.2352+ 0		2.9064- 3
7.0000+ 0 ~ 1.0000+ 1	1.0774+ 2	1.4840+ 1		5.1448+ 1	4.1294+ 1				2.2908+ 0	8.5270+ 1	1.2469+ 0		2.9088- 3
1.0000+ 1 ~ 2.0000+ 1	9.3819+ 1	1.4800+ 1		4.3876+ 1	3.4968+ 1				2.2906+ 0	8.0308+ 1	1.2494+ 0		2.9278- 3
2.0000+ 1 ~ 4.0000+ 1	7.8187+ 1	1.4825+ 1		3.4112+ 1	2.7325+ 1				2.2906+ 0	6.2754+ 1	1.2483+ 0		2.9601- 3
4.0000+ 1 ~ 7.0000+ 1	6.4024+ 1	1.4471+ 1		2.7386+ 1	2.1981+ 1				2.2908+ 0	5.0491+ 1	1.2474+ 0		2.9888- 3
7.0000+ 1 ~ 1.0000+ 2	5.8671+ 1	1.4381+ 1		2.3372+ 1	1.8747+ 1				2.2906+ 0	4.3064+ 1	1.2467+ 0		3.0098- 3
1.0000+ 2 ~ 2.0000+ 2	4.7888+ 1	1.4230+ 1		1.8782+ 1	1.4825+ 1				2.2808+ 0	3.3851+ 1	1.2870+ 0		3.2072- 3
2.0000+ 2 ~ 4.0000+ 2	3.8627+ 1	1.4071+ 1		1.4076+ 1	1.0345+ 1				2.2906+ 0	2.3791+ 1	1.3628+ 0		3.5475- 3
4.0000+ 2 ~ 7.0000+ 2	3.2880+ 1	1.3992+ 1		1.0890+ 1	7.6049+ 0				2.2907+ 0	1.7469+ 1	1.4335+ 0		3.8483- 3
7.0000+ 2 ~ 1.0000+ 3	2.8067+ 1	1.3839+ 1		8.0422+ 0	6.0844+ 0				2.2907+ 0	1.3985+ 1	1.4868+ 0		4.0857- 3
1.0000+ 3 ~ 2.0000+ 3	2.6284+ 1	1.3877+ 1		6.8803+ 0	4.8487+ 0				2.2908+ 0	1.1158+ 1	1.3881+ 0		6.2308- 3
2.0000+ 3 ~ 4.0000+ 3	2.1339+ 1	1.3198+ 1		4.3082+ 0	3.7358+ 0				2.2909+ 0	8.5819+ 0	1.1482+ 0		9.9874- 3
4.0000+ 3 ~ 7.0000+ 3	1.8888+ 1	1.2865+ 1		2.9249+ 0	2.9649+ 0				2.2912+ 0	6.8201+ 0	9.8408- 1		1.3270- 2
7.0000+ 3 ~ 1.0000+ 4	1.7414+ 1	1.2832+ 1		2.2080+ 0	2.5079+ 0				2.2815+ 0	5.7648+ 0	8.7955- 1		1.5657- 2
1.0000+ 4 ~ 2.0000+ 4	1.5865+ 1	1.2216+ 1		1.6501+ 0	2.0888+ 0				2.2923+ 0	4.8042+ 0	7.8904- 1		2.6461- 2
2.0000+ 4 ~ 4.0000+ 4	1.4508+ 1	1.1822+ 1		1.1797+ 0	1.8927+ 0				2.2940+ 0	3.8952+ 0	6.9553- 1		4.9721- 2
4.0000+ 4 ~ 7.0000+ 4	1.3396+ 1	1.0834+ 1	1.8703- 2	9.4788- 1	1.4342+ 0				2.2988+ 0	3.2982+ 0	6.6039- 1		7.8082- 2
7.0000+ 4 ~ 1.0000+ 5	1.2478+ 1	1.0245+ 1	1.1817- 1	7.8853- 1	1.3441+ 0				2.3001+ 0	3.0959+ 0	5.7146- 1		1.1467- 1
1.0000+ 5 ~ 2.0000+ 5	1.1277+ 1	9.1107+ 0	3.8304- 1	5.2434- 1	1.2578+ 0				2.3074+ 0	2.9025+ 0	4.1559- 1		1.7920- 1
2.0000+ 5 ~ 4.0000+ 5	8.5181+ 0	7.2891+ 0	7.5879- 1	2.3891- 1	1.2474+ 0				2.3242+ 0	2.8987+ 0	1.9168- 1		2.8548- 1
4.0000+ 5 ~ 7.0000+ 5	7.9027+ 0	6.5915+ 0	1.0302+ 0	1.1107- 1	1.1881+ 0				2.3522+ 0	2.7490+ 0	9.4675- 2		3.8682- 1
7.0000+ 5 ~ 1.0000+ 6	7.0248+ 0	4.8638+ 0	1.1842+ 0	6.8481- 2	1.1200+ 0				2.3856+ 0	2.6722+ 0	5.9408- 2		4.5881- 1
1.0000+ 6 ~ 2.0000+ 6	7.0858+ 0	4.4718+ 0	1.4838+ 0	3.5298- 2	1.0848+ 0				2.4588+ 0	2.7022+ 0	3.2094- 2		5.6301- 1
2.0000+ 6 ~ 4.0000+ 6	7.0879+ 0	4.8203+ 0	1.7478+ 0	8.2522- 3	1.0184+ 0				2.8288+ 0	2.8763+ 0	8.9398- 3		7.2360- 1
4.0000+ 6 ~ 7.000C+ 6	7.1880+ 0	4.5080+ 0	1.3808+ 0	5.1784- 4	1.0233+ 0	2.5966- 1			2.9068+ 0	2.9870+ 0	5.4078- 4		7.9939- 1
7.0000+ 6 ~ 1.0000+ 7	8.0048+ 0	3.3705+ 0	9.4957- 2	1.7310- 8	1.2992+ 0	1.2388+ 0			3.2428+ 0	4.2120+ 0	1.3248- 8		7.8239- 1
1.0000+ 7 ~ 2.0000+ 7	6.8723+ 0	3.3772+ 0	5.3620- 3	7.6308- 9	1.2815+ 0	6.0975- 1	5.8553- 1		3.9706+ 0	5.1221+ 0	5.8688- 9		8.3955- 1

MATERIAL =3913 CROSS SECTION ^{233}Pa (3913)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.4894+ 2	1.3053+ 1		1.3588+ 2	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
1.0000- 2 ~ 2.0000- 2	8.8238+ 1	1.3037+ 1		5.6199+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
2.0000- 2 ~ 4.0000- 2	4.9982+ 1	1.3014+ 1		3.6948+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
4.0000- 2 ~ 7.0000- 2	3.6277+ 1	1.2978+ 1		2.5298+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
7.0000- 2 ~ 1.0000- 1	3.1964+ 1	1.2940+ 1		1.9024+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
1.0000- 1 ~ 2.0000- 1	2.6882+ 1	1.2882+ 1		1.3820+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
2.0000- 1 ~ 4.0000- 1	2.3073+ 1	1.2888+ 1		1.0387+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
4.0000- 1 ~ 7.0000- 1	2.3832+ 1	1.2323+ 1		1.1509+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
7.0000- 1 ~ 1.0000+ 0	3.9469+ 1	1.1650+ 1		2.7809+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
1.0000+ 0 ~ 2.0000+ 0	6.8346+ 2	1.5750+ 1		5.6570+ 2	0.0003+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
2.0000+ 0 ~ 4.0000+ 0	2.2220+ 2	1.5814+ 1		2.0538+ 2	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
4.0000+ 0 ~ 7.0000+ 0	1.0477+ 2	1.5483+ 1		8.9504+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
7.0000+ 0 ~ 1.0000+ 1	1.6398+ 2	1.6594+ 1		1.4738+ 2	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
1.0000+ 1 ~ 2.0000+ 1	8.2752+ 1	1.5442+ 1		6.7320+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
2.0000+ 1 ~ 4.0000+ 1	7.0593+ 1	1.4441+ 1		5.6152+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
4.0000+ 1 ~ 7.0000+ 1	5.6318+ 1	1.4408+ 1		4.0910+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
7.0000+ 1 ~ 1.0000+ 2	4.5651+ 1	1.4375+ 1		3.2277+ 1	0.0013+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
1.0000+ 2 ~ 2.0000+ 2	3.9073+ 1	1.4325+ 1		2.4349+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
2.0000+ 2 ~ 4.0000+ 2	3.1118+ 1	1.4248+ 1		1.6873+ 1	0.0000+ 0				2.1335+ 0	0.0000+ 0			2.8844- 3
4.0000+ 2 ~ 7.0000+ 2	2.6300+ 1	1.4156+ 1		1.2144+ 1	0.0000+ 0				2.1336+ 0	0.0000+ 0			2.8844- 3
7.0000+ 2 ~ 1.0000+ 3	2.3570+ 1	1.4078+ 1		9.4943+ 0	0.0000+ 0				2.1336+ 0	0.0000+ 0			2.8844- 3
1.0000+ 3 ~ 2.0000+ 3	2.1081+ 1	1.3858+ 1		7.1056+ 0	0.0000+ 0				2.1337+ 0	0.0000+ 0			2.8844- 3
2.0000+ 3 ~ 4.0000+ 3	1.8687+ 1	1.3787+ 1		4.9159+ 0	0.0000+ 0				2.1339+ 0	0.0000+ 0			2.8844- 3
4.0000+ 3 ~ 7.0000+ 3	1.7168+ 1	1.3558+ 1	8.8798- 4	3.6107+ 0	0.0000+ 0				2.1343+ 0	0.0000+ 0			2.8844- 3
7.0000+ 3 ~ 1.0000+ 4	1.6438+ 1	1.3371+ 1	1.4294- 1	2.9242+ 0	0.0000+ 0				2.1347+ 0	0.0000+ 0			2.8844- 3
1.0000+ 4 ~ 2.0000+ 4	1.5740+ 1	1.3088+ 1	2.8250- 1	2.3815+ 0	0.0000+ 0				2.1356+ 0	0.0000+ 0			2.8844- 3
2.0000+ 4 ~ 4.0000+ 4	1.4890+ 1	1.2687+ 1	3.1900- 1	1.8647+ 0	0.0000+ 0				2.1377+ 0	0.0000+ 0			2.8844- 3
4.0000+ 4 ~ 7.0000+ 4	1.3278+ 1	1.1442+ 1	3.7284- 1	1.4608+ 0	0.0000+ 0				2.1412+ 0	0.0000+ 0			2.8844- 3
7.0000+ 4 ~ 1.0000+ 5	1.7282+ 1	1.0370+ 1	7.0858- 1	1.1608+ 0	0.0000+ 0				2.1454+ 0	0.0000+ 0			2.8844- 3
1.0000+ 5 ~ 2.0000+ 5	1.1377+ 1	9.1313+ 0	1.3749+ 0	8.8219- 1	0.0000+ 0				2.1545+ 0	0.0000+ 0			5.1280- 2
2.0000+ 5 ~ 4.0000+ 5	8.7981+ 0	7.2088+ 0	1.8978+ 0	6.8807- 1	0.0000+ 0				2.1765+ 0	0.0000+ 0			1.9847- 1
4.0000+ 5 ~ 7.0000+ 5	8.1398+ 0	5.0278+ 0	2.4016+ 0	5.6386- 1	4.0000- 2				2.2107+ 0	5.9044+ 2			3.8528- 1
7.0000+ 5 ~ 1.0000+ 6	7.0578+ 0	3.8740+ 0	2.5103+ 0	4.7736- 1	1.9267- 1				2.2526+ 0	4.3550- 1	3.0525+ 0		4.6544- 1
1.0000+ 6 ~ 2.0000+ 6	6.7830+ 0	3.3749+ 0	2.7830+ 0	2.0793- 1	4.0250- 1				2.3440+ 0	9.4986- 1	5.3479- 1		5.7035- 1
2.0000+ 6 ~ 4.0000+ 6	7.4587+ 0	3.7721+ 0	3.1375+ 0	8.8445- 2	4.1125- 1				2.5544+ 0	1.0470+ 0	1.8099- 1		7.1522- 1
4.0000+ 6 ~ 7.0000+ 6	7.3058+ 0	3.9503+ 0	2.7870+ 0	4.8427- 3	5.5133- 1	1.3898- 2			2.9052+ 0	1.6299+ 0	1.1506- 2		8.4601- 1
7.0000+ 6 ~ 1.0000+ 7	6.0958+ 0	2.7781+ 0	1.1893+ 0	8.3333- 5	1.1158+ 0	1.0110+ 0			3.3260+ 0	3.7001+ 0	7.0487- 5		8.5088- 1
1.0000+ 7 ~ 2.0000+ 7	5.8243+ 0	2.7105+ 0	3.3460- 1	0.0000+ 0	1.1494+ 0	1.0331+ 0	6.6853- 1		4.2380+ 0	4.9497+ 0	0.0000+ 0		9.0269- 1

MATERIAL =3921 CROSS SECTION ^{232}U (3921)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	6.0754+ 2	1.0841+ 1		2.4738+ 2	2.4933+ 2				2.4560+ 0	6.1236+ 2	9.9098- 1		2.8980- 3
1.0000- 2 ~ 2.0000- 2	2.1684+ 2	1.0816+ 1		1.0219+ 2	1.0383+ 2				2.4560+ 0	2.5500+ 2	9.8400- 1		2.8980- 3
2.0000- 2 ~ 4.0000- 2	1.5107+ 2	1.0779+ 1		6.9223+ 1	7.1064+ 1				2.4560+ 0	1.7453+ 2	9.7364- 1		2.8980- 3
4.0000- 2 ~ 7.0000- 2	1.0773+ 2	1.0722+ 1		4.7438+ 1	4.8572+ 1				2.4560+ 0	1.2176+ 2	9.5619- 1		2.8980- 3
7.0000- 2 ~ 1.0000- 1	8.2822+ 1	1.0658+ 1		3.4891+ 1	3.7273+ 1				2.4560+ 0	9.1544+ 1	9.3565- 1		2.8980- 3
1.0000- 1 ~ 2.0000- 1	5.8066+ 1	1.0536+ 1		2.2836+ 1	2.5512+ 1				2.4560+ 0	6.2658+ 1	8.9198- 1		2.8980- 3
2.0000- 1 ~ 4.0000- 1	3.7144+ 1	1.0320+ 1		1.1988+ 1	1.4868+ 1				2.4560+ 0	3.6492+ 1	7.8921- 1		2.8980- 3
4.0000- 1 ~ 7.0000- 1	2.4954+ 1	1.0084+ 1		5.0201+ 0	8.8592+ 0				2.4560+ 0	2.1783+ 1	6.7305- 1		2.8980- 3
7.0000- 1 ~ 1.0000+ 0	1.9572+ 1	9.8482+ 0		3.6208+ 0	6.2055+ 0				2.4560+ 0	1.5241+ 1	5.6503- 1		2.8980- 3
1.0000+ 0 ~ 2.0000+ 0	1.5988+ 1	9.5145+ 0		2.0335+ 0	4.4378+ 0				2.4560+ 0	1.0899+ 1	4.5494- 1		2.8985- 3
2.0000+ 0 ~ 4.0000+ 0	1.4487+ 1	8.7811+ 0		1.8096+ 0	3.8687+ 0				2.4560+ 0	9.4967+ 0	4.6560- 1		2.8995- 3
4.0000+ 0 ~ 7.0000+ 0	3.6031+ 2	1.8228+ 1		2.0516+ 2	1.2890+ 2				2.4560+ 0	3.1659+ 2	2.4747- 0		2.9004- 3
7.0000+ 0 ~ 1.0000+ 1	1.5704+ 1	9.4512+ 0		2.8719+ 0	3.6812+ 0				2.4560+ 0	8.7555+ 0	6.2944+ 1		2.9011- 3
1.0000+ 1 ~ 2.0000+ 1	2.3073+ 2	1.5770+ 1		2.9078+ 1	1.8588+ 2				2.4560+ 0	4.5652+ 2	1.5220- 1		2.9092- 3
2.0000+ 1 ~ 4.0000+ 1	1.0913+ 2	1.4534+ 1		2.0996+ 1	7.3605+ 1				2.4560+ 0	1.8077+ 2	1.4237- 1		2.9233- 3
4.0000+ 1 ~ 7.0000+ 1	4.8905+ 1	1.2718+ 1		5.4483+ 0	2.8141+ 1				2.4560+ 0	6.9115+ 1	1.2595- 1		2.9357- 3
7.0000+ 1 ~ 1.0000+ 2	5.1515+ 1	1.3858+ 1		2.7459+ 0	3.5111+ 1				2.4560+ 0	8.6233+ 1	1.4303- 1		2.9447- 3
1.0000+ 2 ~ 2.0000+ 2	4.5141+ 1	1.3860+ 1		3.8728+ 0	2.7809+ 1				2.4560+ 0	6.7805+ 1	1.4734- 1		2.9655- 3
2.0000+ 2 ~ 4.0000+ 2	3.9658+ 1	2.1932+ 1		7.4372+ 0	9.1557+ 0				2.4560+ 0	2.2629+ 1	1.3710- 0		3.0986- 3
4.0000+ 2 ~ 7.0000+ 2	3.0083+ 1	2.1417+ 1		5.3511+ 0	3.2237+ 0				2.4561+ 0	7.9394+ 0	1.4690+ 0		3.3129- 3
7.0000+ 2 ~ 1.0000+ 3	2.6914+ 1	2.0698+ 1		4.1738+ 0	1.9995+ 0				2.4561+ 0	4.9303+ 0	2.2598+ 0		3.6079- 3
1.0000+ 3 ~ 2.0000+ 3	2.5398+ 1	1.9529+ 1		3.0029+ 0	2.7728+ 0				2.4562+ 0	6.8345+ 0	1.1003+ 0		4.3115- 3
2.0000+ 3 ~ 4.0000+ 3	2.1513+ 1	1.7793+ 1		1.9017+ 0	1.7750+ 0				2.4564+ 0	4.3730+ 0	1.0661+ 0		6.2360- 3
4.0000+ 3 ~ 7.0000+ 3	1.8938+ 1	1.8188+ 1		1.2450+ 0	1.5173+ 0				2.4568+ 0	3.7337+ 0	8.1952- 1		9.0337- 3
7.0000+ 3 ~ 1.0000+ 4	1.7498+ 1	1.5080+ 1		9.1403- 1	1.5000+ 0				2.4572+ 0	3.6888+ 0	8.0977- 1		1.2938- 2
1.0000+ 4 ~ 2.0000+ 4	1.8021+ 1	1.3871+ 1		5.4411- 1	1.7667+ 0				2.4581+ 0	4.3324+ 0	3.1532- 1		2.2886- 2
2.0000+ 4 ~ 4.0000+ 4	1.4499+ 1	1.2208+ 1		2.7878- 1	2.0000+ 0				2.4602+ 0	4.9204+ 0	1.3839- 1		4.6584- 2
4.0000+ 4 ~ 7.0000+ 4	1.3364+ 1	1.1118+ 1	7.8926- 2	1.5178- 1	2.0000+ 0				2.4637+ 0	4.9274+ 0	7.5879- 2		7.8006- 2
7.0000+ 4 ~ 1.0000+ 5	1.2498+ 1	1.0265+ 1	1.9926- 1	9.3567- 2	2.0000+ 0				2.4679+ 0	4.9359+ 0	4.6784- 2		1.1568- 1
1.0000+ 5 ~ 2.0000+ 5	1.1283+ 1	9.0428+ 0	1.4873- 1	5.6473- 2	2.0000+ 0				2.4770+ 0	4.9541+ 0	2.8237- 2		1.8202- 1
2.0000+ 5 ~ 4.0000+ 5	9.4919+ 0	7.2885+ 0	1.7800- 1	3.8537- 2	2.0000+ 0				2.4981+ 0	4.9982+ 0	1.7769- 2		2.8531- 1
4.0000+ 5 ~ 7.0000+ 5	7.9485+ 0	5.7278+ 0	2.1771- 1	2.8771- 2	2.0000+ 0				2.5332+ 0	5.0863+ 0	1.4229- 2		3.8360- 1
7.0000+ 5 ~ 1.0000+ 6	7.1205+ 0	4.8331+ 0	2.5417- 1	3.1081- 2	2.0000+ 0				2.5752+ 0	5.1605+ 0	1.5540- 2		4.5300- 1
1.0000+ 6 ~ 2.0000+ 6	6.9075+ 0	4.3493+ 0	5.1605- 1	3.7888- 2	2.0000+ 0				2.6864+ 0	5.3329+ 0	1.8949- 2		5.5211- 1
2.0000+ 6 ~ 4.0000+ 6	7.7225+ 0	4.9113+ 0	7.9386- 1	1.3973- 2	2.0000+ 0				2.8761+ 0	5.7538+ 0	8.9865- 3		7.2816- 1
4.0000+ 6 ~ 7.0000+ 6	7.1880+ 0	4.4500+ 0	8.0371- 1	8.3038- 4	2.1417+ 0				3.2278+ 0	6.9324+ 0	4.1074- 4		7.9620- 1
7.0000+ 6 ~ 1.0000+ 7	8.1266+ 0	3.3948+ 0	1.6023- 1	7.1189- 6	2.5239+ 0	4.5142- 2			3.6486+ 0	9.2114+ 0	2.8604- 6		7.8253- 1
1.0000+ 7 ~ 2.0000+ 7	5.9430+ 0	3.4007+ 0	2.2830- 2	7.1868- 8	2.4308+ 0	8.2550- 2	5.7474- 3		4.5805+ 0	1.1088+ 1	2.9069- 8		8.4083- 1

MATERIAL =3922

CROSS SECTION

^{233}U (3922)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.8046+ 3	1.2733+ 1		1.3940+ 2	1.6512+ 3				2.4930+ 0	4.1314+ 3	8.4481- 2		6.0119- 3
1.0000- 2 ~ 2.0000- 2	7.7792+ 2	1.2717+ 1		5.9577+ 1	7.0550+ 2				2.4930+ 0	1.7654+ 3	8.4433- 2		6.7410- 3
2.0000- 2 ~ 4.0000- 2	5.5152+ 2	1.2692+ 1		4.2209+ 1	4.9860+ 2				2.4930+ 0	1.2430+ 3	8.5032- 2		7.1074- 3
4.0000- 2 ~ 7.0000- 2	4.0681+ 2	1.2649+ 1		3.2184+ 1	3.6177+ 2				2.4930+ 0	9.0413+ 2	8.9058- 2		7.4312- 3
7.0000- 2 ~ 1.0000- 1	3.2613+ 2	1.2597+ 1		2.7584+ 1	2.8595+ 2				2.4930+ 0	7.1354+ 2	9.6634- 2		7.6652- 3
1.0000- 1 ~ 2.0000- 1	2.5781+ 2	1.2497+ 1		2.8564+ 1	2.1874+ 2				2.4930+ 0	5.4678+ 2	1.2207- 1		7.9581- 3
2.0000- 1 ~ 4.0000- 1	1.9722+ 2	1.2267+ 1		1.6173+ 1	1.6976+ 2				2.4930+ 0	4.2463+ 2	8.8464- 2		8.3244- 3
4.0000- 1 ~ 7.0000- 1	1.5264+ 2	1.1840+ 1		1.0484+ 1	1.3031+ 2				2.4930+ 0	3.2546+ 2	8.0632- 2		8.6482- 3
7.0000- 1 ~ 1.0000+ 0	1.4643+ 2	1.1279+ 1		1.1651+ 1	1.2349+ 2				2.4930+ 0	3.0781+ 2	9.4177- 2		8.8823- 3
1.0000+ 0 ~ 2.0000+ 0	4.7901+ 2	1.1240+ 1		7.1477+ 1	3.9829+ 2				2.4930+ 0	9.8795+ 2	1.5748- 1		9.1751- 3
2.0000+ 0 ~ 4.0000+ 0	1.9878+ 2	1.2735+ 1		4.8641+ 1	1.3538+ 2				2.4930+ 0	3.3751+ 2	2.6669- 1		9.5415- 3
4.0000+ 0 ~ 7.0000+ 0	1.7538+ 2	1.1343+ 1		2.7187+ 1	1.3686+ 2				2.4930+ 0	3.4118+ 2	1.2777- 1		9.8853- 3
7.0000+ 0 ~ 1.0000+ 1	7.0163+ 1	1.1506+ 1		8.0834+ 0	5.0573+ 1				2.4930+ 0	1.2608+ 2	1.4784- 1		1.0099- 2
1.0000+ 1 ~ 2.0000+ 1	1.4182+ 2	1.2068+ 1		1.8548+ 1	1.1119+ 2				2.4930+ 0	2.7719+ 2	1.6528- 1		1.0392- 2
2.0000+ 1 ~ 4.0000+ 1	9.3265+ 1	1.2872+ 1		7.7552+ 0	7.2638+ 1				2.4930+ 0	1.8108+ 2	9.7812- 2		1.0759- 2
4.0000+ 1 ~ 7.0000+ 1	5.1881+ 1	1.2433+ 1		4.0861+ 0	3.5361+ 1				2.4930+ 0	8.8155+ 1	1.0870- 1		1.1082- 2
7.0000+ 1 ~ 1.0000+ 2	5.7007+ 1	1.3248+ 1		5.5563+ 0	3.8203+ 1				2.4930+ 0	9.5240+ 1	1.2162- 1		1.1316- 2
1.0000+ 2 ~ 2.0000+ 2	4.2019+ 1	1.3808+ 1		3.5998+ 0	2.4805+ 1				2.4930+ 0	6.1837+ 1	1.4453- 1		1.1609- 2
2.0000+ 2 ~ 4.0000+ 2	3.4834+ 1	1.3150+ 1		2.2654+ 0	1.9418+ 1				2.4929+ 0	4.8408+ 1	1.1366- 1		1.1976- 2
4.0000+ 2 ~ 7.0000+ 2	2.7825+ 1	1.2849+ 1		1.7111+ 0	1.3265+ 1				2.4929+ 0	3.3069+ 1	1.2908- 1		1.2299- 2
7.0000+ 2 ~ 1.0000+ 3	2.6014+ 1	1.2544+ 1		1.4757+ 0	1.1984+ 1				2.4928+ 0	2.9900+ 1	1.2387- 1		1.2533- 2
1.0000+ 3 ~ 2.0000+ 3	2.2198+ 1	1.2278+ 1		9.6887- 1	8.9518+ 0				2.4927+ 0	2.2314+ 1	1.0749- 1		1.2828- 2
2.0000+ 3 ~ 4.0000+ 3	1.9375+ 1	1.2137+ 1		6.6456- 1	6.5735+ 0				2.4924+ 0	1.6384+ 1	1.0066- 1		1.3193- 2
4.0000+ 3 ~ 7.0000+ 3	1.7732+ 1	1.2451+ 1		4.2555- 1	4.8546+ 0				2.4919+ 0	1.2097+ 1	8.7541- 2		1.3517- 2
7.0000+ 3 ~ 1.0000+ 4	1.6715+ 1	1.2052+ 1		3.4061- 1	4.3123+ 0				2.4913+ 0	1.0743+ 1	7.9380- 2		1.3751- 2
1.0000+ 4 ~ 2.0000+ 4	1.5118+ 1	1.1432+ 1		3.5672- 1	3.3296+ 0				2.4901+ 0	8.2912+ 0	1.0713- 1		2.0770- 2
2.0000+ 4 ~ 4.0000+ 4	1.3949+ 1	1.0813+ 1		3.0771- 1	2.8283+ 0				2.4875+ 0	7.0360+ 0	1.0884- 1		3.9410- 2
4.0000+ 4 ~ 7.0000+ 4	1.3008+ 1	1.0222+ 1	8.6487- 2	2.8728- 1	2.4317+ 0				2.4831+ 0	6.0387+ 0	1.0991- 1		7.0391- 2
7.0000+ 4 ~ 1.0000+ 5	1.2361+ 1	9.8394+ 0	1.6899- 1	2.4970- 1	2.2931+ 0				2.4777+ 0	5.6817+ 0	1.0888- 1		1.0666- 1
1.0000+ 5 ~ 2.0000+ 5	1.1253+ 1	8.5729+ 0	3.2829- 1	2.1715- 1	2.1371+ 0				2.4698+ 0	5.2785+ 0	1.0153- 1		1.7522- 1
2.0000+ 5 ~ 4.0000+ 5	9.7087+ 0	6.8585+ 0	5.3958- 1	1.8401- 1	2.1244+ 0				2.4940+ 0	5.2985+ 0	8.6630- 2		2.9670- 1
4.0000+ 5 ~ 7.0000+ 5	8.0208+ 0	4.9175+ 0	9.8578- 1	1.3093- 1	1.9869+ 0				2.5115+ 0	4.9896+ 0	6.5493- 2		4.2655- 1
7.0000+ 5 ~ 1.0000+ 6	7.0372+ 0	3.8697+ 0	1.2043+ 0	7.3956- 2	1.8991+ 0				2.5605+ 0	4.8627+ 0	3.8957- 2		5.0429- 1
1.0000+ 6 ~ 2.0000+ 6	6.8035+ 0	3.3871+ 0	1.4070+ 0	5.7770- 2	1.9515+ 0				2.6360+ 0	6.1454+ 0	2.9852- 2		5.8119- 1
2.0000+ 6 ~ 4.0000+ 6	7.8332+ 0	4.3121+ 0	1.5892+ 0	2.2548- 2	1.9092+ 0				2.8442+ 0	5.4219+ 0	1.1509- 2		7.6132- 1
4.0000+ 6 ~ 7.0000+ 6	7.4921+ 0	4.2930+ 0	1.4492+ 0	1.3222- 3	1.7394+ 0	8.8829- 3			3.2563+ 0	5.6828+ 0	7.8986- 4		8.4593- 1
7.0000+ 6 ~ 1.0000+ 7	8.2348+ 0	3.1918+ 0	7.8258- 1	2.0891- 5	2.2147+ 0	1.2572- 1			3.6828+ 0	8.1533+ 0	9.2627- 6		8.4364- 1
1.0000+ 7 ~ 2.0000+ 7	8.0088+ 0	2.9805+ 0	8.1734- 1	1.8890- 6	2.1959+ 0	1.4541- 1	8.9422- 2		4.3145+ 0	9.4846+ 0	7.7169- 7		9.0384- 1

MATERIAL =3923

CROSS SECTION

^{234}U (3923)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	3.3419+ 2	1.9564+ 1		3.1461+ 2	1.9108- 2				2.3700+ 0	4.6280- 2	1.6436+ 4		2.8732- 3
1.0000- 2 ~ 2.0000- 2	1.6283+ 2	1.9482+ 1		1.3314+ 2	8.1942- 3				2.3700+ 0	1.9420- 2	1.6241+ 4		2.8732- 3
2.0000- 2 ~ 4.0000- 2	1.1232+ 2	1.9378+ 1		9.2942+ 1	5.8209- 3				2.3700+ 0	1.3795- 2	1.5954+ 4		2.8732- 3
4.0000- 2 ~ 7.0000- 2	8.8024+ 1	1.9209+ 1		6.8817+ 1	4.3090- 3				2.3700+ 0	1.0212- 2	1.5491+ 4		2.8732- 3
7.0000- 2 ~ 1.0000- 1	7.1209+ 1	1.9000+ 1		5.2199+ 1	3.4882- 3				2.3700+ 0	8.2623- 3	1.4958+ 4		2.8732- 3
1.0000- 1 ~ 2.0000- 1	5.8278+ 1	1.8585+ 1		3.7689+ 1	2.7035- 3				2.3700+ 0	6.4073- 3	1.3893+ 4		2.8732- 3
2.0000- 1 ~ 4.0000- 1	4.1803+ 1	1.7720+ 1		2.3881+ 1	2.0116- 3				2.3700+ 0	4.7673- 3	1.1802+ 4		2.8732- 3
4.0000- 1 ~ 7.0000- 1	3.1343+ 1	1.6500+ 1		1.4842+ 1	1.6149- 3				2.3700+ 0	3.8272- 3	9.1470+ 3		2.8733- 3
7.0000- 1 ~ 1.0000+ 0	2.5380+ 1	1.5302+ 1		1.0057+ 1	1.4637- 3				2.3700+ 0	3.4454- 3	6.9031+ 3		2.8733- 3
1.0000+ 0 ~ 2.0000+ 0	1.9602+ 1	1.3338+ 1		6.1608+ 0	1.4843- 3				2.3700+ 0	3.5178- 3	4.1933+ 3		2.8736- 3
2.0000+ 0 ~ 4.0000+ 0	1.6299+ 1	9.4444+ 0		5.8510+ 0	3.3789- 3				2.3700+ 0	8.0018- 3	1.8064+ 3		2.8742- 3
4.0000+ 0 ~ 7.0000+ 0	1.0530+ 3	1.5648+ 2		8.9584+ 2	6.9158- 1				2.3700+ 0	1.6390+ 0	1.3293+ 3		2.8748- 3
7.0000+ 0 ~ 1.0000+ 1	1.6180+ 1	1.4829+ 1		1.3558+ 0	9.2705- 4				2.3700+ 0	2.1971- 3	1.4919+ 3		2.8752- 3
1.0000+ 1 ~ 2.0000+ 1	1.1730+ 1	1.1502+ 1		2.2837- 1	1.4570- 4				2.3700+ 0	3.4531- 4	1.5637+ 3		2.8813- 3
2.0000+ 1 ~ 4.0000+ 1	7.5909+ 1	2.7252+ 1		4.8641+ 1	1.5723- 2				2.3700+ 0	3.7264- 2	2.6006+ 3		2.8919- 3
4.0000+ 1 ~ 7.0000+ 1	4.4458+ 1	2.0180+ 1		2.4273+ 1	5.6165- 3				2.3700+ 0	1.3311- 2	3.3088+ 3		2.9013- 3
7.0000+ 1 ~ 1.0000+ 2	1.0074+ 2	6.0819+ 1		3.9890+ 1	3.4112- 2				2.3700+ 0	8.0845- 2	1.5452+ 3		2.9081- 3
1.0000+ 2 ~ 2.0000+ 2	6.7708+ 1	4.3401+ 1		2.4211+ 1	9.8015- 2				2.3700+ 0	2.3230- 1	9.8981+ 2		3.0157- 3
2.0000+ 2 ~ 4.0000+ 2	2.7304+ 1	1.9514+ 1		7.7419+ 0	4.8518- 2				2.3700+ 0	1.1499- 1	3.8046+ 2		3.2041- 3
4.0000+ 2 ~ 7.0000+ 2	2.2809+ 1	1.7032+ 1		5.2214+ 0	3.5588- 1				2.3701+ 0	8.4345- 1	4.9283+ 1		3.3706- 3
7.0000+ 2 ~ 1.0000+ 3	2.9877+ 1	2.5710+ 1		4.1259+ 0	4.1578- 2				2.3701+ 0	9.8543- 2	6.8252+ 2		3.4910- 3
1.0000+ 3 ~ 2.0000+ 3	2.2813+ 1	1.8451+ 1		3.0803+ 0	1.1889- 2				2.3702+ 0	2.8168- 2	2.1625+ 3		5.1672- 3
2.0000+ 3 ~ 4.0000+ 3	1.9222+ 1	1.7329+ 1		1.6822+ 0	1.0809- 2				2.3704+ 0	2.5622- 2	1.7399+ 2		8.0930- 3
4.0000+ 3 ~ 7.0000+ 3	1.7243+ 1	1.5944+ 1		1.2887+ 0	1.0634- 2				2.3707+ 0	2.5210- 2	1.2113+ 2		1.0679- 2
7.0000+ 3 ~ 1.0000+ 4	1.8134+ 1	1.6098+ 1		1.0245+ 0	1.0508- 2				2.3711+ 0	2.4914- 2	9.7477+ 1		1.2548- 2
1.0000+ 4 ~ 2.0000+ 4	1.5027+ 1	1.4209+ 1		8.0818- 1	1.0349- 2				2.3719+ 0	2.4548- 2	7.8052+ 1		1.9977- 2
2.0000+ 4 ~ 4.0000+ 4	1.3890+ 1	1.3275+ 1		6.0550- 1	1.0152- 2				2.3737+ 0	2.4098- 2	5.9613+ 1		3.7820- 2
4.0000+ 4 ~ 7.0000+ 4	1.3002+ 1	1.2419+ 1	1.4162- 1	4.2353- 1	1.5154- 2				2.3769+ 0	3.6901- 2	3.2337+ 1		6.7072- 2
7.0000+ 4 ~ 1.0000+ 5	1.2384+ 1	1.1605+ 1	4.3023- 1	2.9238- 1	3.2815- 2				2.3806+ 0	7.7937- 2	9.2299+ 0		1.0069- 1
1.0000+ 5 ~ 2.0000+ 5	1.1408+ 1	1.0358+ 1	7.5344- 1	2.1818- 1	4.7458- 2				2.3888+ 0	1.1291- 1	4.8216+ 0		1.8217- 1
2.0000+ 5 ~ 4.0000+ 5	9.8979+ 0	8.5013+ 0	1.0761+ 0	1.9303- 1	1.2819- 1				2.4075+ 0	3.0303- 1	1.9301+ 0		2.6128- 1
4.0000+ 5 ~ 7.0000+ 5	8.3366+ 0	6.2748+ 0	1.1352+ 0	2.5102- 1	6.7186- 1				2.4388+ 0	1.6348+ 0	4.3959- 1		3.6708- 1
7.0000+ 5 ~ 1.0000+ 6	7.3059+ 0	4.7224+ 0	1.1182+ 0	2.8561- 1	1.1791+ 0				2.4762+ 0	2.9202+ 0	2.4398- 1		4.4853- 1
1.0000+ 6 ~ 2.0000+ 6	6.9482+ 0	3.8250+ 0	1.6348+ 0	2.8344- 1	1.4046+ 0				2.5575+ 0	3.5982+ 0	2.0715- 1		5.6602- 1
2.0000+ 6 ~ 4.0000+ 6	7.8050+ 0	4.0455+ 0	1.8817+ 0	1.8022- 1	1.5169+ 0				2.7450+ 0	4.1624+ 0	1.0517- 1		7.6971- 1
4.0000+ 6 ~ 7.0000+ 6	7.2390+ 0	3.9978+ 0	1.7420+ 0	3.5857- 2	1.4566+ 0	5.2792- 4			3.0575+ 0	4.4639+ 0	2.5523- 2		8.5781- 1
7.0000+ 6 ~ 1.0000+ 7	8.0709+ 0	2.9074+ 0	5.9935- 1	1.0707- 3	2.1004+ 0	4.5933- 1			3.4325+ 0	7.2117+ 0	5.2721- 4		8.5777- 1
1.0000+ 7 ~ 2.0000+ 7	5.8895+ 0	2.9338+ 0	3.0840- 1	2.8277- 5	2.1142+ 0	3.2975- 1	2.0333- 1		4.2450+ 0	8.9894+ 0	1.3586- 5		8.9682- 1

MATERIAL =3924 CROSS SECTION ^{235}U (3924)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.2804+ 3	1.4800+ 1		3.0809+ 2	1.9510+ 3				2.4374+ 0	4.7733+ 3	1.5910- 1		2.9237- 3
1.0000- 2 ~ 2.0000- 2	9.2967+ 2	1.4800+ 1		1.2750+ 2	7.8358+ 2				2.4381+ 0	1.9189+ 3	1.6280- 1		2.9383- 3
2.0000- 2 ~ 4.0000- 2	6.4040+ 2	1.4600+ 1		8.8913+ 1	5.3404+ 2				2.4381+ 0	1.3085+ 3	1.6673- 1		2.9457- 3
4.0000- 2 ~ 7.0000- 2	4.4917+ 2	1.3983+ 1		6.5038+ 1	3.8698+ 2				2.4381+ 0	9.0266+ 2	1.7655- 1		2.9522- 3
7.0000- 2 ~ 1.0000- 1	3.5081+ 2	1.3883+ 1		5.1709+ 1	2.8484+ 2				2.4381+ 0	6.9872+ 2	1.8176- 1		2.9589- 3
1.0000- 1 ~ 2.0000- 1	2.5847+ 2	1.3800+ 1		3.8826+ 1	2.0490+ 2				2.4391+ 0	5.0130+ 2	1.9050- 1		2.9828- 3
2.0000- 1 ~ 4.0000- 1	2.1888+ 2	1.3700+ 1		3.8181+ 1	1.6898+ 2				2.4381+ 0	4.0733+ 2	2.1382- 1		2.9701- 3
4.0000- 1 ~ 7.0000- 1	9.8153+ 1	1.3350+ 1		9.0211+ 0	7.6597+ 1				2.4391+ 0	1.8740+ 2	1.1487- 1		2.9786- 3
7.0000- 1 ~ 1.0000+ 0	7.8550+ 1	1.3017+ 1		8.3388+ 0	5.7137+ 1				2.4391+ 0	1.3943+ 2	1.1034- 1		2.9819- 3
1.0000+ 0 ~ 2.0000+ 0	5.5676+ 1	1.2993+ 1		1.0008+ 1	3.2573+ 1				2.4326+ 0	7.9238+ 1	3.5056- 1		2.9872- 3
2.0000+ 0 ~ 4.0000+ 0	4.5044+ 1	1.1762+ 1		1.1692+ 1	2.1588+ 1				2.4328+ 0	5.2318+ 1	8.0782- 1		2.9946- 3
4.0000+ 0 ~ 7.0000+ 0	8.2284+ 1	1.0769+ 1		3.2870+ 1	1.8825+ 1				2.4328+ 0	4.5307+ 1	1.1736+ 0		3.0011- 3
7.0000+ 0 ~ 1.0000+ 1	1.3260+ 2	1.1398+ 1		4.3673+ 1	7.7589+ 1				2.4926+ 0	1.8874+ 2	7.1146- 1		3.0056- 3
1.0000+ 1 ~ 2.0000+ 1	1.0843+ 2	1.1983+ 1		4.7811+ 1	4.8640+ 1				2.4158+ 0	1.1750+ 2	9.0139- 1		3.0117- 3
2.0000+ 1 ~ 4.0000+ 1	9.2904+ 1	1.2279+ 1		3.2918+ 1	4.7707+ 1				2.4158+ 0	1.1525+ 2	6.9238- 1		3.0190- 3
4.0000+ 1 ~ 7.0000+ 1	6.9952+ 1	1.2839+ 1		2.0407+ 1	3.6913+ 1				2.4158+ 0	8.9174+ 1	6.6205- 1		3.0255- 3
7.0000+ 1 ~ 1.0000+ 2	5.7411+ 1	1.3587+ 1	5.0579- 9	1.8235+ 1	2.7508+ 1				2.4158+ 0	5.6696+ 1	6.0616- 1		3.0302- 3
1.0000+ 2 ~ 2.0000+ 2	4.6378+ 1	1.3107+ 1	3.2127- 8	1.2284+ 1	2.0976+ 1				2.3997+ 0	5.0333+ 1	5.8880- 1		3.0658- 3
2.0000+ 2 ~ 4.0000+ 2	3.8055+ 1	1.3033+ 1	8.5739- 8	8.0735+ 0	1.6949+ 1				2.3997+ 0	4.0673+ 1	4.7919- 1		3.3087- 3
4.0000+ 2 ~ 7.0000+ 2	3.0528+ 1	1.2752+ 1	9.7331- 8	4.6268+ 0	1.3149+ 1				2.4106+ 0	3.1696+ 1	3.5866- 1		3.6046- 3
7.0000+ 2 ~ 1.0000+ 3	2.8169+ 1	1.2883+ 1	1.1944- 7	4.8124+ 0	8.8935+ 0				2.4181+ 0	2.1004+ 1	5.4461- 1		4.0680- 3
1.0000+ 3 ~ 2.0000+ 3	2.3305+ 1	1.2782+ 1	1.4711- 7	3.4468+ 0	7.0870+ 0				2.4181+ 0	1.7147+ 1	4.8352- 1		4.9336- 3
2.0000+ 3 ~ 4.0000+ 3	1.8392+ 1	1.2451+ 1	3.8080- 7	1.8755+ 0	4.9860+ 0				2.4161+ 0	1.1998+ 1	3.8639- 1		7.4763- 3
4.0000+ 3 ~ 7.0000+ 3	1.7546+ 1	1.2324+ 1	3.5778- 6	1.5118+ 0	3.7110+ 0				2.4236+ 0	8.9924+ 0	4.1111- 1		1.0355- 2
7.0000+ 3 ~ 1.0000+ 4	1.8807+ 1	1.2250+ 1	1.1737- 6	1.3777+ 0	3.0389+ 0				2.4274+ 0	7.3766+ 0	4.5442- 1		1.4439- 2
1.0000+ 4 ~ 2.0000+ 4	1.5196+ 1	1.1854+ 1	5.3109- 3	8.6210- 1	2.4748+ 0				2.4196+ 0	5.9885+ 0	3.4780- 1		2.5795- 2
2.0000+ 4 ~ 4.0000+ 4	1.4209+ 1	1.1371+ 1	2.0434- 2	7.6860- 1	2.0585+ 0				2.4196+ 0	4.9818+ 0	3.8869- 1		4.4728- 2
4.0000+ 4 ~ 7.0000+ 4	1.3060+ 1	1.0544+ 1	9.8814- 2	8.0898- 1	1.8000+ 0				2.4198+ 0	4.3559+ 0	3.3794- 1		7.5889- 2
7.0000+ 4 ~ 1.0000+ 5	1.2201+ 1	9.8117+ 0	2.5332- 1	5.1518- 1	1.6213+ 0				2.4198+ 0	3.9233+ 0	3.1766- 1		1.1154- 1
1.0000+ 5 ~ 2.0000+ 5	1.1191+ 1	8.7984+ 0	5.8582- 1	3.9874- 1	1.4332+ 0				2.4481+ 0	3.5082+ 0	2.7680- 1		1.7853- 1
2.0000+ 5 ~ 4.0000+ 5	8.8820+ 0	7.1298+ 0	1.0388+ 0	2.4284- 1	1.2506+ 0				2.4741+ 0	3.0944+ 0	1.9384- 1		2.9378- 1
4.0000+ 5 ~ 7.0000+ 5	8.1142+ 0	5.4110+ 0	1.3991+ 0	1.8152- 1	1.1425+ 0				2.4895+ 0	2.8441+ 0	1.4115- 1		4.1138- 1
7.0000+ 5 ~ 1.0000+ 6	7.1676+ 0	4.3240+ 0	1.5945+ 0	1.2284- 1	1.1461+ 0				2.5272+ 0	2.8968+ 0	1.0751- 1		4.0988- 1
1.0000+ 6 ~ 2.0000+ 6	6.8098+ 0	3.6822+ 0	1.8863+ 0	7.2008- 2	1.2803+ 0				2.8089+ 0	3.2889+ 0	5.7414- 2		6.8022- 1
2.0000+ 6 ~ 4.0000+ 6	7.7938+ 0	4.3077+ 0	2.2399+ 0	1.8164- 2	1.2280+ 0				2.7927+ 0	3.4263+ 0	1.4450- 2		7.5743- 1
4.0000+ 6 ~ 7.0000+ 6	7.4330+ 0	4.2548+ 0	1.9126+ 0	8.8787- 4	1.1680+ 0	9.0283- 2			3.1304+ 0	3.8650+ 0	7.9505- 4		8.4149- 1
7.0000+ 6 ~ 1.0000+ 7	6.1684+ 0	3.0884+ 0	7.6354- 1	6.6354- 8	1.7498+ 0	5.9867- 1			3.5872+ 0	6.2782+ 0	5.0222- 6		8.3995- 1
1.0000+ 7 ~ 2.0000+ 7	5.9862+ 0	2.9815+ 0	3.5894- 1	2.8834- 7	1.9257+ 0	6.2233- 1	1.1480- 1		4.5002+ 0	8.6926+ 0	1.4951- 7		9.0064- 1

MATERIAL =3925 CROSS SECTION ^{236}U (3925)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.4871+ 1	8.3413+ 0		1.6340+ 1	1.8905- 1				2.3700+ 0	4.4805- 1	8.6432+ 1		3.0617- 3
1.0000- 2 ~ 2.0000- 2	1.6413+ 1	8.3391+ 0		8.0928+ 0	8.0819- 2				2.3700+ 0	1.9178- 1	8.6418+ 1		3.1114- 3
2.0000- 2 ~ 4.0000- 2	1.3348+ 1	8.3357+ 0		4.9532+ 0	5.7333- 2				2.3700+ 0	1.3588- 1	8.6393+ 1		3.1363- 3
4.0000- 2 ~ 7.0000- 2	1.2022+ 1	8.3301+ 0		3.6488+ 0	4.2282- 2				2.3700+ 0	1.0016- 1	8.6354+ 1		3.1584- 3
7.0000- 2 ~ 1.0000- 1	1.1293+ 1	8.3294+ 0		2.9367+ 0	3.4013- 2				2.3700+ 0	8.0612- 2	8.6309+ 1		3.1743- 3
1.0000- 1 ~ 2.0000- 1	1.0689+ 1	8.3088+ 0		2.2544+ 0	2.6147- 2				2.3700+ 0	6.1970- 2	8.6212+ 1		3.1943- 3
2.0000- 1 ~ 4.0000- 1	9.8217+ 0	8.2738+ 0		1.6290+ 0	1.8840- 2				2.3700+ 0	4.4887- 2	8.8000+ 1		3.2192- 3
4.0000- 1 ~ 7.0000- 1	9.4032+ 0	8.2194+ 0		1.2551+ 0	1.4848- 2				2.3700+ 0	3.4715- 2	8.5681+ 1		3.2413- 3
7.0000- 1 ~ 1.0000+ 0	9.2240+ 0	8.1982+ 0		1.0762+ 0	1.2687- 2				2.3700+ 0	2.9856- 2	8.6348+ 1		3.2572- 3
1.0000+ 0 ~ 2.0000+ 0	8.9648+ 0	7.8388+ 0		1.0046+ 0	1.1840- 2				2.3700+ 0	2.8062- 2	8.4895+ 1		3.2772- 3
2.0000+ 0 ~ 4.0000+ 0	8.8410+ 0	7.1327+ 0		1.7071+ 0	2.1180- 2				2.3700+ 0	5.0198- 2	8.4387+ 1		3.3021- 3
4.0000+ 0 ~ 7.0000+ 0	5.6130+ 2	6.2378+ 1		4.9308+ 2	5.8366+ 0				2.3700+ 0	1.3833+ 1	8.4424+ 1		3.3242- 3
7.0000+ 0 ~ 1.0000+ 1	1.1213+ 1	1.0404+ 1		7.9867- 1	9.5413- 3				2.3700+ 0	2.2613- 2	8.3342+ 1		3.3401- 3
1.0000+ 1 ~ 2.0000+ 1	9.0848+ 0	8.8844+ 0		9.9225- 2	1.2833- 3				2.3700+ 0	3.0413- 3	7.5784+ 1		3.3501- 3
2.0000+ 1 ~ 4.0000+ 1	2.6358+ 1	9.2908+ 0		1.6926+ 1	1.4018- 1				2.3700+ 0	3.3222- 1	8.6676+ 1		3.3850- 3
4.0000+ 1 ~ 7.0000+ 1	8.3142+ 1	3.3978+ 1		2.8530+ 1	8.3722- 1				2.3700+ 0	1.5102+ 0	5.7285+ 1		3.4071- 3
7.0000+ 1 ~ 1.0000+ 2	1.1311+ 2	7.0321+ 1		4.2196+ 1	5.8322- 1				2.3700+ 0	1.4059+ 0	8.8776+ 1		3.4230- 3
1.0000+ 2 ~ 2.0000+ 2	5.0184+ 1	3.8098+ 1		1.3847+ 1	2.3864- 1				2.3700+ 0	5.8534- 1	5.9082+ 1		3.4430- 3
2.0000+ 2 ~ 4.0000+ 2	3.7463+ 1	3.0298+ 1		7.0394+ 0	1.1458- 1				2.3700+ 0	2.7152- 1	6.1581+ 1		3.4679- 3
4.0000+ 2 ~ 7.0000+ 2	3.1337+ 1	2.5258+ 1		6.8026+ 0	9.5335- 2				2.3701+ 0	2.2595- 1	6.4267+ 1		3.4900- 3
7.0000+ 2 ~ 1.0000+ 3	3.4818+ 1	3.0887+ 1		3.8802+ 0	6.0915- 2				2.3701+ 0	1.4437- 1	6.5054+ 1		3.5059- 3
1.0000+ 3 ~ 2.0000+ 3	2.9864+ 1	2.1095+ 1		8.4271+ 0	9.1414- 2				2.3702+ 0	7.4467- 2	7.9041+ 1		3.8220- 3
2.0000+ 3 ~ 4.0000+ 3	1.8248+ 1	1.7634+ 1		1.5975+ 0	1.4888- 2				2.3704+ 0	3.5482- 2	1.0891+ 2		4.5122- 3
4.0000+ 3 ~ 7.0000+ 3	1.7280+ 1	1.6141+ 1		1.1308+ 0	8.3973- 3				2.3707+ 0	1.9908- 2	1.3585+ 2		6.3485- 3
7.0000+ 3 ~ 1.0000+ 4	1.8195+ 1	1.5282+ 1		9.2869- 1	6.1201- 3				2.3711+ 0	1.4511- 2	1.5160+ 2		8.6686- 3
1.0000+ 4 ~ 2.0000+ 4	1.5182+ 1	1.4393+ 1		7.5498- 1	4.7717- 3				2.3720+ 0	1.1318- 2	1.5823+ 2		1.4229- 2
2.0000+ 4 ~ 4.0000+ 4	1.4042+ 1	1.3483+ 1		6.7871- 1	3.8738- 3				2.3741+ 0	8.7212- 3	1.5855+ 2		2.7268- 2
4.0000+ 4 ~ 7.0000+ 4	1.2877+ 1	1.2342+ 1	1.2083- 1	4.1076- 1	3.0582- 3				2.3774+ 0	7.2787- 3	1.3385+ 2		4.9828- 2
7.0000+ 4 ~ 1.0000+ 5	1.2281+ 1	1.1581+ 1	4.1061- 1	2.8738- 1	2.7543- 3				2.3815+ 0	6.5609- 3	1.0422+ 2		7.7589- 2
1.0000+ 5 ~ 2.0000+ 5	1.1410+ 1	1.0444+ 1	7.6158- 1	2.0967- 1	2.5887- 3				2.3903+ 0	6.1906- 3	8.0915+ 1		1.3342- 1
2.0000+ 5 ~ 4.0000+ 5	9.9178+ 0	8.8190+ 0	1.1199+ 0	1.7447- 1	3.4179- 3				2.4105+ 0	8.2260- 3	5.3467+ 1		2.3290- 1
4.0000+ 5 ~ 7.0000+ 5	9.2888+ 0	6.8387+ 0	1.4188+ 0	1.8876- 1	1.8935- 2				2.4443+ 0	4.6340- 2	1.4827+ 1		3.3190- 1
7.0000+ 5 ~ 1.0000+ 6	7.2182+ 0	4.9858+ 0	1.8144+ 0	1.9475- 1	2.1027- 1				2.4847+ 0	5.2387- 1	1.3502+ 0		4.0797- 1
1.0000+ 6 ~ 2.0000+ 6	8.9800+ 0	3.5480+ 0	2.8408+ 0	1.0986- 1	6.8348- 1				2.5725+ 0	1.7821+ 0	1.7744- 1		5.5717- 1
2.0000+ 6 ~ 4.0000+ 6	7.7603+ 0	4.0538+ 0	2.7831+ 0	4.0889- 2	8.9265- 1				2.7750+ 0	2.4778+ 0	4.5805- 2		7.7761- 1
4.0000+ 6 ~ 7.0000+ 6	7.2480+ 0	4.0132+ 0	2.2406+ 0	2.8538- 3	9.8881- 1	4.4564- 3			3.1125+ 0	3.0878+ 0	3.1788- 3		8.5738- 1
7.0000+ 6 ~ 1.0000+ 7	6.0887+ 0	2.9230+ 0	8.9484- 1	5.2444- 6	1.5701+ 0	7.1041- 1			3.5175+ 0	5.5224+ 0	3.3529- 5		8.5589- 1
1.0000+ 7 ~ 2.0000+ 7	5.8184+ 0	2.9570+ 0	3.3317- 1	8.6685- 7	1.6638+ 0	5.0053- 1	4.6393- 1		4.3950+ 0	7.3500+ 0	5.5249- 7		8.9620- 1

MATERIAL =3926 CROSS SECTION ^{238}U (3926)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.7407+ 1	9.1412+ 0		8.2638+ 0	3.4013- 5				2.4893+ 0	8.4669- 5	2.4304+ 5		2.8248- 3
1.0000- 2 ~ 2.0000- 2	1.2886+ 1	9.1400+ 0		3.5368+ 0	1.4537- 5				2.4893+ 0	3.8167- 5	2.4345+ 5		2.8248- 3
2.0000- 2 ~ 4.0000- 2	1.1653+ 1	9.1381+ 0		2.5124+ 0	1.0308- 5				2.4893+ 0	2.5659- 5	2.4373+ 5		2.8248- 3
4.0000- 2 ~ 7.0000- 2	1.0988+ 1	9.1350+ 0		1.8501+ 0	7.5921- 6				2.4893+ 0	1.8899- 5	2.4299+ 5		2.8248- 3
7.0000- 2 ~ 1.0000- 1	1.0819+ 1	9.1312+ 0		1.4879+ 0	6.0968- 6				2.4893+ 0	1.5177- 5	2.4406+ 5		2.8248- 3
1.0000- 1 ~ 2.0000- 1	1.0270+ 1	9.1228+ 0		1.1458+ 0	4.6683- 6				2.4893+ 0	1.1621- 5	2.4563+ 5		2.8248- 3
2.0000- 1 ~ 4.0000- 1	9.9368+ 0	9.1036+ 0		8.3082- 1	3.3261- 6				2.4893+ 0	8.2798- 6	2.6001+ 5		2.8248- 3
4.0000- 1 ~ 7.0000- 1	9.7102+ 0	9.0700+ 0		6.3987- 1	2.4742- 6				2.4893+ 0	6.1590- 6	2.5893+ 5		2.8248- 3
7.0000- 1 ~ 1.0000+ 0	9.6712+ 0	9.0277+ 0		5.4345- 1	2.0041- 6				2.4893+ 0	4.9888- 6	2.7142+ 5		2.8248- 3
1.0000+ 0 ~ 2.0000+ 0	9.4038+ 0	8.9248+ 0		4.7874- 1	1.5683- 6				2.4893+ 0	3.9039- 6	3.0698+ 5		2.8248- 3
2.0000+ 0 ~ 4.0000+ 0	9.1605+ 0	8.5984+ 0		5.6368- 1	1.2286- 6				2.4893+ 0	3.0584- 6	4.6249+ 5		2.8248- 3
4.0000+ 0 ~ 7.0000+ 0	3.1277+ 2	2.5659+ 1		2.8722+ 2	1.2541- 4				2.4893+ 0	3.1218- 4	1.5257+ 6		2.8248- 3
7.0000+ 0 ~ 1.0000+ 1	1.4179+ 1	1.1024+ 1		3.1642+ 0	2.0305- 6				2.4893+ 0	5.0545- 6	1.1071+ 6		2.8248- 3
1.0000+ 1 ~ 2.0000+ 1	8.3888+ 0	7.3188+ 0		1.0699+ 0	2.4300- 6				2.4893+ 0	6.0489- 6	4.7278+ 5		2.8248- 3
2.0000+ 1 ~ 4.0000+ 1	2.9652+ 2	1.4916+ 2		1.4635+ 2	1.9670- 4				2.4893+ 0	4.8965- 4	1.0766+ 6		2.8248- 3
4.0000+ 1 ~ 7.0000+ 1	6.3342+ 1	3.8364+ 1		2.4978+ 1	5.6627- 5				2.4893+ 0	1.4096- 4	5.0304+ 5		2.8248- 3
7.0000+ 1 ~ 1.0000+ 2	1.2845+ 1	9.5309+ 0		3.3144+ 0	8.1074- 6				2.4893+ 0	2.0182- 5	1.1282+ 6		2.8248- 3
1.0000+ 2 ~ 2.0000+ 2	8.7649+ 1	7.0489+ 1		1.7185+ 1	1.0912- 5				2.4893+ 0	2.7164- 5	2.8826+ 7		2.8785- 3
2.0000+ 2 ~ 4.0000+ 2	2.7925+ 1	2.2148+ 1		5.7793+ 0	1.8471- 5				2.4893+ 0	4.5980- 5	1.5334+ 7		3.0395- 3
4.0000+ 2 ~ 7.0000+ 2	2.1707+ 1	1.8024+ 1		3.6830+ 0	4.0228- 5				2.4893+ 0	1.0014- 4	5.5015+ 6		3.3079- 3
7.0000+ 2 ~ 1.0000+ 3	2.6949+ 1	2.2980+ 1		2.9870+ 0	2.4537- 3				2.4894+ 0	6.1082- 3	7.4054+ 6		3.6300- 3
1.0000+ 3 ~ 2.0000+ 3	2.3736+ 1	2.1887+ 1		1.8482+ 0	4.2025- 4				2.4894+ 0	1.0462- 3	1.8780+ 7		4.3279- 3
2.0000+ 3 ~ 4.0000+ 3	2.2248+ 1	2.0968+ 1		1.2801+ 0	4.1484- 8				2.4895+ 0	1.0327- 7	3.0789+ 7		5.9384- 3
4.0000+ 3 ~ 7.0000+ 3	1.6839+ 1	1.5813+ 1		8.2808- 1	4.2957- 6				2.4897+ 0	1.0548- 5	1.7848+ 7		8.6225- 3
7.0000+ 3 ~ 1.0000+ 4	1.6205+ 1	1.5535+ 1		6.7030- 1	1.2364- 4				2.4899+ 0	3.0785- 4	5.6149+ 4		1.1843- 2
1.0000+ 4 ~ 2.0000+ 4	1.3989+ 1	1.3392+ 1		5.9859- 1	1.0826- 4				2.4904+ 0	2.6961- 4	5.8881+ 3		1.8822- 2
2.0000+ 4 ~ 4.0000+ 4	1.3435+ 1	1.2988+ 1		4.4820- 1	6.0188- 5				2.4914+ 0	1.4994- 4	9.0871+ 3		3.4927- 2
4.0000+ 4 ~ 7.0000+ 4	1.3053+ 1	1.2523+ 1	2.3271- 1	2.9776- 1	8.1867- 6				2.4932+ 0	2.0420- 4	3.8612+ 3		6.1768- 2
7.0000+ 4 ~ 1.0000+ 5	1.2453+ 1	1.1814+ 1	6.3612- 1	2.0258- 1	3.4847- 5				2.4953+ 0	8.7113- 5	6.5737+ 3		9.3977- 2
1.0000+ 5 ~ 2.0000+ 5	1.1560+ 1	1.0244+ 1	9.8851- 1	1.4799- 1	7.0917- 5				2.5000+ 0	1.7735- 4	2.5845+ 3		1.5888- 1
2.0000+ 5 ~ 4.0000+ 5	9.7419+ 0	8.3254+ 0	1.2994+ 0	1.1683- 1	1.3373- 4				2.5108+ 0	3.3618- 4	1.0190+ 3		2.7648- 1
4.0000+ 5 ~ 7.0000+ 5	8.3951+ 0	6.7007+ 0	1.5810+ 0	1.1252- 1	7.0289- 4				2.5284+ 0	1.7824- 3	2.2596+ 2		3.8812- 1
7.0000+ 5 ~ 1.0000+ 6	7.4733+ 0	5.1881+ 0	2.1508+ 0	1.2505- 1	8.9047- 3				2.5497+ 0	2.2773- 2	2.4374+ 1		4.5388- 1
1.0000+ 6 ~ 2.0000+ 6	7.0814+ 0	3.6479+ 0	3.0890+ 0	6.6446- 2	2.8429- 1				2.5959+ 0	7.4229- 1	1.1978+ 0		5.9494- 1
2.0000+ 6 ~ 4.0000+ 6	7.7228+ 0	3.9270+ 0	3.2341+ 0	1.9148- 2	5.4259- 1				2.7382+ 0	1.4860+ 0	3.5275- 2		7.8852- 1
4.0000+ 6 ~ 7.0000+ 6	7.3428+ 0	3.9264+ 0	2.7450+ 0	7.4188- 3	8.3018- 1	3.3684- 2			3.1611+ 0	2.0071+ 0	1.2538- 2		8.5950- 1
7.0000+ 6 ~ 1.0000+ 7	6.1389+ 0	3.0940+ 0	1.0853+ 0	3.9528- 3	9.9041- 1	9.6322- 1			3.6174+ 0	3.5826+ 0	3.9908- 3		8.5063- 1
1.0000+ 7 ~ 2.0000+ 7	5.8734+ 0	2.9129+ 0	8.3477- 1	1.8841- 3	1.1330+ 0	7.2972- 1	4.6104- 1		4.5611+ 0	5.2096+ 0	1.7266- 3		9.0155- 1

MATERIAL =3931 CROSS SECTION ^{237}Np (3931)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	6.2773+ 2	2.7800+ 1		5.9987+ 2	6.3981- 2				2.5406+ 0	1.6250- 1	9.3809+ 3		2.8863- 3
1.0000- 2 ~ 2.0000- 2	2.7466+ 2	2.7669+ 1		2.4697+ 2	2.6280- 2				2.5406+ 0	6.6767- 2	9.3987+ 3		2.8978- 3
2.0000- 2 ~ 4.0000- 2	1.9608+ 2	2.7463+ 1		1.6761+ 2	1.7788- 2				2.5406+ 0	4.5137- 2	9.4366+ 3		2.9038- 3
4.0000- 2 ~ 7.0000- 2	1.4343+ 2	2.7124+ 1		1.1630+ 2	1.2211- 2				2.5406+ 0	3.1024- 2	9.5284+ 3		2.9088- 3
7.0000- 2 ~ 1.0000- 1	1.1544+ 2	2.6748+ 1		8.8678+ 1	9.1582- 3				2.5406+ 0	2.3267- 2	9.6883+ 3		2.9125- 3
1.0000- 1 ~ 2.0000- 1	9.1782+ 1	2.5985+ 1		6.5791+ 1	6.4087- 3				2.5406+ 0	1.6282- 2	1.0317+ 4		2.9171- 3
2.0000- 1 ~ 4.0000- 1	9.9793+ 1	2.4218+ 1		7.5672+ 1	4.9282- 3				2.5408+ 0	1.2516- 2	1.6106+ 4		2.9229- 3
4.0000- 1 ~ 7.0000- 1	5.2000+ 2	2.3945+ 1		4.9604+ 2	1.6872- 2				2.5406+ 0	4.2866- 2	2.4392+ 4		2.9280- 3
7.0000- 1 ~ 1.0000+ 0	4.8230+ 1	2.1582+ 1		2.4687+ 1	1.9949- 3				2.5406+ 0	5.0683- 3	1.2297+ 4		2.9318- 3
1.0000+ 0 ~ 2.0000+ 0	3.0108+ 2	2.0328+ 1		2.8074+ 2	1.6761- 2				2.5406+ 0	4.2658- 2	1.5174+ 4		2.9364- 3
2.0000+ 0 ~ 4.0000+ 0	8.4138+ 1	1.8209+ 1		6.7923+ 1	5.1931- 3				2.5406+ 0	1.3194- 2	1.0504+ 4		2.9422- 3
4.0000+ 0 ~ 7.0000+ 0	1.1052+ 2	1.4864+ 1		9.5847+ 1	8.7767- 3				2.5406+ 0	2.2298- 2	2.3946+ 4		2.9473- 3
7.0000+ 0 ~ 1.0000+ 1	8.2811+ 1	1.2590+ 1		7.0017+ 1	3.7927- 3				2.5406+ 0	9.6358- 3	2.4247+ 4		2.9510- 3
1.0000+ 1 ~ 2.0000+ 1	8.7201+ 1	1.2782+ 1		7.4407+ 1	1.5480- 3				2.5406+ 0	3.9329- 3	3.4037+ 4		2.9557- 3
2.0000+ 1 ~ 4.0000+ 1	9.8682+ 1	1.5101+ 1		8.3453+ 1	1.2761- 1				2.5406+ 0	3.2421- 1	8.6944+ 3		2.9615- 3
4.0000+ 1 ~ 7.0000+ 1	7.6721+ 1	1.5958+ 1		6.0725+ 1	3.8682- 2				2.5406+ 0	9.8275- 2	1.1394+ 4		2.9666- 3
7.0000+ 1 ~ 1.0000+ 2	5.9033+ 1	1.4708+ 1		4.4323+ 1	2.6892- 3				2.5406+ 0	6.5761- 3	1.7012+ 4		2.9703- 3
1.0000+ 2 ~ 2.0000+ 2	4.6142+ 1	1.3510+ 1		3.1614+ 1	1.7721- 2				2.5406+ 0	4.5029- 2	5.9864+ 3		3.1913- 3
2.0000+ 2 ~ 4.0000+ 2	3.5285+ 1	1.2720+ 1		2.2536+ 1	9.0008- 3				2.5406+ 0	2.2868- 2	2.5038+ 3		3.5853- 3
4.0000+ 2 ~ 7.0000+ 2	2.8621+ 1	1.2573+ 1		1.6040+ 1	9.0008- 3				2.5407+ 0	2.2868- 2	1.7820+ 3		3.9335- 3
7.0000+ 2 ~ 1.0000+ 3	2.5012+ 1	1.2448+ 1		1.2556+ 1	9.0007- 3				2.5407+ 0	2.2868- 2	1.3949+ 3		4.1852- 3
1.0000+ 3 ~ 2.0000+ 3	2.1612+ 1	1.2268+ 1		9.3382+ 0	9.0009- 3				2.5408+ 0	2.2870- 2	1.0375+ 3		8.7973- 3
2.0000+ 3 ~ 4.0000+ 3	1.8408+ 1	1.1997+ 1		6.4015+ 0	9.0009- 3				2.5410+ 0	2.2871- 2	7.1122+ 2		1.1313- 2
4.0000+ 3 ~ 7.0000+ 3	1.6351+ 1	1.1718+ 1		4.6241+ 0	8.9987- 3				2.5414+ 0	2.2872- 2	5.1381+ 2		1.5304- 2
7.0000+ 3 ~ 1.0000+ 4	1.5239+ 1	1.1493+ 1		3.7371+ 0	9.0007- 3				2.5418+ 0	2.2878- 2	4.1520+ 2		1.8189- 2
1.0000+ 4 ~ 2.0000+ 4	1.4188+ 1	1.1191+ 1		2.9877+ 0	9.0008- 3				2.5427+ 0	2.2888- 2	3.3194+ 2		3.1509- 2
2.0000+ 4 ~ 4.0000+ 4	1.3163+ 1	1.0807+ 1	1.2492- 2	2.3225+ 0	1.0524- 2				2.5448+ 0	2.6795- 2	2.2069+ 2		5.5523- 2
4.0000+ 4 ~ 7.0000+ 4	1.2831+ 1	1.0584+ 1	2.1357- 1	1.8168+ 0	1.4595- 2				2.5484+ 0	3.7190- 2	1.2510+ 2		9.5088- 2
7.0000+ 4 ~ 1.0000+ 5	1.2291+ 1	1.0307+ 1	5.6769- 1	1.3869+ 0	1.7258- 2				2.5526+ 0	4.4052- 2	8.1347+ 1		1.4005- 1
1.0000+ 5 ~ 2.0000+ 5	1.1693+ 1	9.8572+ 0	1.0712+ 0	9.3790- 1	2.5308- 2				2.5618+ 0	6.4858- 2	3.9827+ 1		2.2007- 1
2.0000+ 5 ~ 4.0000+ 5	1.0639+ 1	8.4048+ 0	1.4850+ 0	6.8921- 1	7.9832- 2				2.5830+ 0	2.0646- 1	9.8975+ 0		3.4187- 1
4.0000+ 5 ~ 7.0000+ 5	9.1383+ 0	6.6135+ 0	1.5908+ 0	3.2027- 1	6.1088- 1				2.6183+ 0	1.6042+ 0	7.3554- 1		4.8333- 1
7.0000+ 5 ~ 1.0000+ 6	8.0889+ 0	5.2538+ 0	1.3805+ 0	1.8162- 1	1.2731+ 0				2.6607+ 0	3.3888+ 0	1.4525- 1		5.3777- 1
1.0000+ 6 ~ 2.0000+ 6	7.1889+ 0	4.1577+ 0	1.3271+ 0	1.0312- 1	1.6000+ 0				2.7525+ 0	4.4081+ 0	6.5305- 2		6.0129- 1
2.0000+ 6 ~ 4.0000+ 6	7.0080+ 0	4.0642+ 0	1.2798+ 0	2.8780- 2	1.6410+ 0				2.9863+ 0	4.8850+ 0	1.8096- 2		7.0722- 1
4.0000+ 6 ~ 7.0000+ 6	7.2098+ 0	4.3540+ 0	1.2352+ 0	1.8109- 3	1.6148+ 0	2.6999- 3			3.3749+ 0	5.4735+ 0	1.1929- 3		8.1163- 1
7.0000+ 6 ~ 1.0000+ 7	6.5598+ 0	3.6936+ 0	4.3363- 1	2.5880- 5	2.1549+ 0	2.7701- 1			3.8484+ 0	8.2853+ 0	1.1833- 5		8.4603- 1
1.0000+ 7 ~ 2.0000+ 7	5.6582+ 0	2.9046+ 0	1.0297- 1	4.7928- 7	2.0490+ 0	3.6010- 1	2.4109- 1		4.7470+ 0	9.7262+ 0	2.3863- 7		8.5738- 1

MATERIAL =3932 CROSS SECTION

^{239}Np (3932)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.2502+ 2	1.0500+ 1		1.1410+ 2	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8140- 3
1.0000- 2 ~ 2.0000- 2	5.9489+ 1	1.0500+ 1		4.8794+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8142- 3
2.0000- 2 ~ 4.0000- 2	4.5108+ 1	1.0500+ 1		3.4477+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8144- 3
4.0000- 2 ~ 7.0000- 2	3.5900+ 1	1.0500+ 1		2.5313+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8145- 3
7.0000- 2 ~ 1.0000- 1	3.0833+ 1	1.0500+ 1		2.0256+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8146- 3
1.0000- 1 ~ 2.0000- 1	2.8050+ 1	1.0500+ 1		1.5429+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8146- 3
2.0000- 1 ~ 4.0000- 1	2.1475+ 1	1.0500+ 1		1.0886+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8148- 3
4.0000- 1 ~ 7.0000- 1	1.8533+ 1	1.0500+ 1		8.0062+ 0	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8149- 3
7.0000- 1 ~ 1.0000+ 0	1.6950+ 1	1.0500+ 1		6.4256+ 0	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8150- 3
1.0000+ 0 ~ 2.0000+ 0	1.5425+ 1	1.0500+ 1		4.8855+ 0	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8151- 3
2.0000+ 0 ~ 4.0000+ 0	1.3975+ 1	1.0500+ 1		3.4452+ 0	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8152- 3
4.0000+ 0 ~ 7.0000+ 0	2.1312+ 2	2.5880+ 1		1.8726+ 2	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8124- 3
7.0000+ 0 ~ 1.0000+ 1	1.7238+ 2	2.2563+ 1		1.4981+ 2	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8189- 3
1.0000+ 1 ~ 2.0000+ 1	1.3344+ 2	1.9480+ 1		1.1397+ 2	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8259- 3
2.0000+ 1 ~ 4.0000+ 1	9.7150+ 1	1.8555+ 1		8.0583+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8433- 3
4.0000+ 1 ~ 7.0000+ 1	7.3907+ 1	1.4672+ 1		5.9229+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.8736- 3
7.0000+ 1 ~ 1.0000+ 2	6.1032+ 1	1.3680+ 1		4.7351+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		2.9142- 3
1.0000+ 2 ~ 2.0000+ 2	4.8772+ 1	1.2718+ 1		3.6039+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		3.0108- 3
2.0000+ 2 ~ 4.0000+ 2	3.7378+ 1	1.1866+ 1		2.5497+ 1	0.0000+ 0			2.7400+ 0	0.0000+ 0		3.2455- 3
4.0000+ 2 ~ 7.0000+ 2	3.0137+ 1	1.1362+ 1		1.8769+ 1	0.0000+ 0			2.7401+ 0	0.0000+ 0		3.6897- 3
7.0000+ 2 ~ 1.0000+ 3	2.6051+ 1	1.1038+ 1		1.5010+ 1	0.0000+ 0			2.7401+ 0	0.0000+ 0		4.0905- 3
1.0000+ 3 ~ 2.0000+ 3	2.2283+ 1	1.0867+ 1		1.1352+ 1	0.0000+ 0			2.7402+ 0	0.0000+ 0		5.9172- 3
2.0000+ 3 ~ 4.0000+ 3	1.8795+ 1	1.0748+ 1		8.0368+ 0	0.0000+ 0			2.7404+ 0	0.0000+ 0		8.7852- 3
4.0000+ 3 ~ 7.0000+ 3	1.6624+ 1	1.0681+ 1		5.9386+ 0	0.0000+ 0			2.7407+ 0	0.0000+ 0		1.2287- 2
7.0000+ 3 ~ 1.0000+ 4	1.5513+ 1	1.0735+ 1		4.7745+ 0	0.0000+ 0			2.7411+ 0	0.0000+ 0		1.7437- 2
1.0000+ 4 ~ 2.0000+ 4	1.4842+ 1	1.0861+ 1		3.7535+ 0	0.0000+ 0			2.7420+ 0	0.0000+ 0		2.8914- 2
2.0000+ 4 ~ 4.0000+ 4	1.3770+ 1	1.1060+ 1	5.0325- 2	2.8390+ 0	7.5000- 3			2.7439+ 0	2.0589- 2		5.3572- 2
4.0000+ 4 ~ 7.0000+ 4	1.3188+ 1	1.0870+ 1	3.9434- 1	1.8814+ 0	3.8333- 2			2.7472+ 0	1.0531- 1	4.9198+ 1	9.5003- 2
7.0000+ 4 ~ 1.0000+ 5	1.2794+ 1	1.0472+ 1	7.7727- 1	1.4990+ 0	4.5000- 2			2.7510+ 0	1.2380- 1	3.3739+ 1	1.4311- 1
1.0000+ 5 ~ 2.0000+ 5	1.2143+ 1	9.5709+ 0	1.3382+ 0	1.1495+ 0	7.7500- 2			2.7595+ 0	2.1397- 1	1.8311+ 1	2.3334- 1
2.0000+ 5 ~ 4.0000+ 5	1.0960+ 1	8.2563+ 0	1.8258+ 0	5.7613- 1	3.9500- 1			2.7790+ 0	1.0995+ 0	2.4297- 0	3.6458- 1
4.0000+ 5 ~ 7.0000+ 5	9.4546+ 0	6.5265+ 0	1.4407+ 0	3.5234- 1	1.1300+ 0			2.8115+ 0	3.1794+ 0	3.3205- 1	4.8598- 1
7.0000+ 5 ~ 1.0000+ 6	8.2883+ 0	5.0877+ 0	1.4407+ 0	2.0768- 1	1.5500+ 0			2.8505+ 0	4.4192+ 0	1.3497- 1	5.6512- 1
1.0000+ 5 ~ 2.0000+ 5	7.1697+ 0	3.8845+ 0	1.4781+ 0	9.8198- 2	1.7025+ 0			2.9350+ 0	4.9990+ 0	5.8046- 2	5.2629- 1
2.0000+ 6 ~ 4.0000+ 6	5.8081+ 0	3.6875+ 0	1.4724+ 0	3.5591- 2	1.6136+ 0			3.1300+ 0	5.0431+ 0	2.1736- 2	7.2021- 1
4.0000+ 6 ~ 7.0000+ 6	5.9910+ 0	3.9301+ 0	1.4826+ 0	1.4759- 2	1.5508+ 0	1.3212- 2		3.4550+ 0	5.3704+ 0	9.7198- 3	8.2905- 1
7.0000+ 6 ~ 1.0000+ 7	6.3378+ 0	3.3012+ 0	8.4529- 1	4.8608- 4	2.1100+ 0	2.8191- 1		3.8450+ 0	8.1243+ 0	2.4138- 4	8.5975- 1
1.0000+ 7 ~ 2.0000+ 7	5.5944+ 0	2.8976+ 0	1.3288- 1	1.0000- 5	2.3770+ 0	1.7538- 1	2.1185- 1	4.6900+ 0	1.1169+ 1	4.2101- 6	8.6482- 1

MATERIAL =3941 CROSS SECTION

^{236}Pu (3941)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	1.0438+ 3	1.8507+ 1		4.7413+ 2	5.5293+ 2			2.8380+ 0	1.5692+ 3	8.5754- 1	2.8488- 3
1.0000- 2 ~ 2.0000- 2	4.4345+ 2	1.8428+ 1		1.9718+ 2	2.2985+ 2			2.8380+ 0	6.5231+ 2	8.5789- 1	2.8488- 3
2.0000- 2 ~ 4.0000- 2	3.0789+ 2	1.8308+ 1		1.3485+ 2	1.5887+ 2			2.8380+ 0	4.4519+ 2	8.5842- 1	2.8488- 3
4.0000- 2 ~ 7.0000- 2	2.1887+ 2	1.8122+ 1		9.3476+ 1	1.0878+ 2			2.8380+ 0	3.0871+ 2	8.5935- 1	2.8488- 3
7.0000- 2 ~ 1.0000- 1	1.6853+ 2	1.5913+ 1		6.8681+ 1	8.0955+ 1			2.8380+ 0	2.2975+ 2	8.6052- 1	2.8488- 3
1.0000- 1 ~ 2.0000- 1	1.1603+ 2	1.5513+ 1		4.6586+ 1	5.3955+ 1			2.8380+ 0	1.5312+ 2	8.6327- 1	2.8488- 3
2.0000- 1 ~ 4.0000- 1	8.0623+ 1	1.4778+ 1		2.6611+ 1	2.8793+ 1			2.8380+ 0	8.1714+ 1	8.7077- 1	2.8488- 3
4.0000- 1 ~ 7.0000- 1	4.0597+ 1	1.3920+ 1		1.2530+ 1	1.4147+ 1			2.8380+ 0	4.0148+ 1	8.8729- 1	2.8488- 3
7.0000- 1 ~ 1.0000+ 0	2.7832+ 1	1.3224+ 1		8.8771+ 0	7.5314+ 0			2.8380+ 0	2.1374+ 1	9.1488- 1	2.8488- 3
1.0000+ 0 ~ 2.0000+ 0	1.8681+ 1	1.2338+ 1		3.1817+ 0	3.1701+ 0			2.8380+ 0	8.9988+ 0	1.0256+ 0	2.8488- 3
2.0000+ 0 ~ 4.0000+ 0	1.3650+ 1	1.1129+ 1		1.5891+ 0	9.3223- 1			2.8380+ 0	2.8437+ 0	1.8777+ 0	2.8488- 3
4.0000+ 0 ~ 7.0000+ 0	4.3677+ 2	3.4088+ 1		9.8171+ 2	4.2986+ 1			2.8380+ 0	1.2202+ 2	6.6780+ 0	2.8493- 3
7.0000+ 0 ~ 1.0000+ 1	6.0709+ 1	1.9868+ 1		3.7738+ 1	3.2987+ 0			2.8380+ 0	9.3668+ 0	7.9108+ 0	2.8547- 3
1.0000+ 1 ~ 2.0000+ 1	1.3909+ 2	3.1310+ 1		9.9350+ 1	8.3868+ 0			2.8380+ 0	2.3851+ 1	1.1873+ 1	2.8601- 3
2.0000+ 1 ~ 4.0000+ 1	1.0216+ 2	2.9850+ 1		5.8643+ 1	5.6261+ 0			2.8380+ 0	1.6041+ 1	1.1844+ 1	2.8726- 3
4.0000+ 1 ~ 7.0000+ 1	7.8534+ 1	2.8403+ 1		4.8201+ 1	3.9080+ 0			2.8380+ 0	1.1124+ 1	1.1821+ 1	2.8946- 3
7.0000+ 1 ~ 1.0000+ 2	6.5431+ 1	2.7281+ 1		3.5151+ 1	2.9771+ 0			2.8380+ 0	8.4762+ 0	1.1807+ 1	2.9224- 3
1.0000+ 2 ~ 2.0000+ 2	5.2918+ 1	2.5812+ 1		2.4949+ 1	2.1159+ 0			2.8380+ 0	6.0218+ 0	1.1790+ 1	2.9876- 3
2.0000+ 2 ~ 4.0000+ 2	4.1249+ 1	2.3844+ 1		1.5921+ 1	1.3628+ 0			2.8380+ 0	3.8503+ 0	1.1769+ 1	3.1492- 3
4.0000+ 2 ~ 7.0000+ 2	3.3775+ 1	2.2315+ 1		1.0951+ 1	8.9835- 1			2.8381+ 0	2.5583+ 0	1.1744+ 1	3.4376- 3
7.0000+ 2 ~ 1.0000+ 3	2.9638+ 1	2.1175+ 1		7.7890+ 0	6.8480- 1			2.8381+ 0	1.8935+ 0	1.1716+ 1	3.8078- 3
1.0000+ 3 ~ 2.0000+ 3	2.5804+ 1	1.9827+ 1		5.3903+ 0	4.6829- 1			2.8382+ 0	1.3160+ 0	1.1657+ 1	4.6604- 3
2.0000+ 3 ~ 4.0000+ 3	2.2010+ 1	1.8271+ 1		3.4324+ 0	2.9755- 1			2.8384+ 0	8.4865- 1	1.1529+ 1	6.6362- 3
4.0000+ 3 ~ 7.0000+ 3	1.9837+ 1	1.7031+ 1		2.3929+ 0	2.1090- 1			2.8387+ 0	6.0068- 1	1.1341+ 1	1.0634- 2
7.0000+ 3 ~ 1.0000+ 4	1.8309+ 1	1.6218+ 1		1.9184+ 0	1.7184- 1			2.8392+ 0	4.8941- 1	1.1162+ 1	1.5409- 2
1.0000+ 4 ~ 2.0000+ 4	1.7011+ 1	1.5312+ 1		1.5604+ 0	1.4508- 1			2.8400+ 0	4.1344- 1	1.0875+ 1	2.6850- 2
2.0000+ 4 ~ 4.0000+ 4	1.5640+ 1	1.4284+ 1		1.2285+ 0	1.2083- 1			2.8421+ 0	3.6850- 1	9.5138+ 0	5.0370- 2
4.0000+ 4 ~ 7.0000+ 4	1.4542+ 1	1.3375+ 1	8.9778- 2	9.8581- 1	1.3218- 1			2.8455+ 0	3.7599- 1	7.3275+ 0	8.7292- 2
7.0000+ 4 ~ 1.0000+ 5	1.3714+ 1	1.2559+ 1	2.5839- 1	7.4932- 1	1.4870- 1			2.8496+ 0	4.2363- 1	5.0587+ 0	1.2705- 1
1.0000+ 5 ~ 2.0000+ 5	1.2438+ 1	1.1184+ 1	4.8951- 1	5.8842- 1	2.1205- 1			2.8584+ 0	5.0511- 1	2.7628+ 0	1.9678- 1
2.0000+ 5 ~ 4.0000+ 5	1.0484+ 1	9.1512+ 0	8.3061- 1	4.2280- 1	4.3796- 1			2.8788+ 0	1.2676+ 0	1.0534+ 0	2.9894- 1
4.0000+ 5 ~ 7.0000+ 5	8.9486+ 0	8.5984+ 0	5.3197- 1	3.0795- 1	1.1033+ 0			2.9128+ 0	3.2254+ 0	3.0674- 1	3.9735- 1
7.0000+ 5 ~ 1.0000+ 6	8.0124+ 0	5.8181+ 0	3.3516- 1	1.8400- 1	1.6762+ 0			2.9536+ 0	5.5431+ 0	1.0016- 1	4.7357- 1
1.0000+ 6 ~ 2.0000+ 6	7.8218+ 0	5.0259+ 0	3.3971- 1	1.0025- 1	2.3550+ 0			3.0420+ 0	7.1632+ 0	4.2590- 2	5.6858- 1
2.0000+ 6 ~ 4.0000+ 6	6.3065+ 0	5.2923+ 0	4.7209- 1	4.5426- 2	2.5563+ 0			3.2460+ 0	8.2992+ 0	1.7831- 2	7.3234- 1
4.0000+ 6 ~ 7.0000+ 6	7.7774+ 0	4.6193+ 0	3.7662- 1	3.1140- 2	2.7470+ 0			3.5858+ 0	9.8575+ 0	1.1620- 2	8.1922- 1
7.0000+ 6 ~ 1.0000+ 7	6.7163+ 0	3.5986+ 0	5.2949- 2	3.4483- 3	3.0259+ 0	3.4185- 2		3.9940+ 0	1.2088+ 1	1.1366- 3	8.1312- 1
1.0000+ 7 ~ 2.0000+ 7	6.6971+ 0	3.6132+ 0	1.9535- 3	8.7238- 5	3.0485+ 0	2.9183- 2	5.1648- 3	4.6789+ 0	1.4876+ 1	2.9374- 5	8.7842- 1

MATERIAL =3942

CROSS SECTION

^{238}Pu (3942)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	1.9467+ 3	2.9229+ 1		1.8561+ 3	6.1336+ 1				2.8936+ 0	1.7748+ 2	3.0257+ 1		2.8248- 3
1.0000- 2 ~ 2.0000- 2	8.0507+ 2	2.8874+ 1		7.5134+ 2	2.4853+ 1				2.8936+ 0	7.1915+ 1	3.0230+ 1		2.8248- 3
2.0000- 2 ~ 4.0000- 2	5.4108+ 2	2.8377+ 1		4.9825+ 2	1.8437+ 1				2.8936+ 0	4.7561+ 1	3.0169+ 1		2.8248- 3
4.0000- 2 ~ 7.0000- 2	3.6608+ 2	2.7829+ 1		3.2880+ 2	1.0843+ 1				2.8936+ 0	3.1375+ 1	3.0118+ 1		2.8248- 3
7.0000- 2 ~ 1.0000- 1	2.8411+ 2	2.6839+ 1		2.2962+ 2	7.6463+ 0				2.8936+ 0	2.2125+ 1	3.0027+ 1		2.8248- 3
1.0000- 1 ~ 2.0000- 1	1.6890+ 2	2.5477+ 1		1.3877+ 2	4.6512+ 0				2.8936+ 0	1.3459+ 1	2.9814+ 1		2.8248- 3
2.0000- 1 ~ 4.0000- 1	8.7841+ 1	2.3340+ 1		6.2372+ 1	2.1285+ 0				2.8936+ 0	6.1589+ 0	2.9240+ 1		2.8248- 3
4.0000- 1 ~ 7.0000- 1	4.7782+ 1	2.1300+ 1		2.5556+ 1	9.0612- 1				2.8936+ 0	2.6220+ 0	2.8097+ 1		2.8248- 3
7.0000- 1 ~ 1.0000+ 0	3.2484+ 1	1.9918+ 1		1.2111+ 1	4.5467- 1				2.8936+ 0	1.3158+ 0	2.6551+ 1		2.8248- 3
1.0000+ 0 ~ 2.0000+ 0	2.3689+ 1	1.6416+ 1		5.0422+ 0	2.1049- 1				2.8936+ 0	6.0907- 1	2.3695+ 1		2.8257- 3
2.0000+ 0 ~ 4.0000+ 0	7.3430+ 1	1.7397+ 1		5.4363+ 1	1.6898+ 0				2.8936+ 0	4.8313+ 0	2.5814+ 1		2.8274- 3
4.0000+ 0 ~ 7.0000+ 0	1.7024+ 1	1.6416+ 1		5.5943- 1	4.8860- 2				2.8936+ 0	1.4080- 1	1.1184+ 1		2.8289- 3
7.0000+ 0 ~ 1.0000+ 1	3.7116+ 1	1.5246+ 1		1.7955+ 1	3.9150+ 0				2.8936+ 0	1.1328+ 1	6.0067+ 0		2.8300- 3
1.0000+ 1 ~ 2.0000+ 1	9.9990+ 1	2.2862+ 1		7.3389+ 1	3.7585+ 0				2.8936+ 0	1.0878+ 1	1.2789+ 1		2.8422- 3
2.0000+ 1 ~ 4.0000+ 1	1.6619+ 1	1.5824+ 1		6.9522- 1	9.9205- 2				2.8936+ 0	2.8706- 1	5.9670+ 0		2.8633- 3
4.0000+ 1 ~ 7.0000+ 1	1.7388+ 1	1.4102+ 1		3.1387+ 0	1.2713- 1				2.8936+ 0	3.6787- 1	6.2034+ 0		2.8820- 3
7.0000+ 1 ~ 1.0000+ 2	5.3226+ 1	2.6381+ 1		2.3929+ 1	2.9085+ 0				2.8936+ 0	8.4101+ 0	5.9419+ 0		2.8955- 3
1.0000+ 2 ~ 2.0000+ 2	7.2228+ 1	3.7441+ 1		2.7662+ 1	7.1231+ 0				2.8936+ 0	2.0811+ 1	5.4970+ 0		2.9482- 3
2.0000+ 2 ~ 4.0000+ 2	5.1456+ 1	3.4149+ 1		1.0013+ 1	7.2942+ 0				2.8936+ 0	2.1107+ 1	1.9805+ 0		3.1008- 3
4.0000+ 2 ~ 7.0000+ 2	3.8914+ 1	2.7774+ 1		8.7559+ 0	2.3580+ 0				2.8937+ 0	6.8176+ 0	4.3315+ 0		3.4051- 3
7.0000+ 2 ~ 1.0000+ 3	3.2049+ 1	2.3614+ 1		5.9997+ 0	2.5237+ 0				2.8937+ 0	7.3027+ 0	2.4709+ 0		3.8125- 3
1.0000+ 3 ~ 2.0000+ 3	2.7701+ 1	2.2088+ 1		4.2919+ 0	1.2940+ 0				2.8938+ 0	3.7445+ 0	3.3150+ 0		4.7117- 3
2.0000+ 3 ~ 4.0000+ 3	2.3561+ 1	1.8659+ 1		2.5851+ 0	1.3229+ 0				2.8940+ 0	3.8285+ 0	2.0419+ 0		7.0458- 3
4.0000+ 3 ~ 7.0000+ 3	2.0954+ 1	1.8002+ 1		1.7875+ 0	1.1697+ 0				2.8944+ 0	3.3855+ 0	1.6047+ 0		1.1262- 2
7.0000+ 3 ~ 1.0000+ 4	1.9488+ 1	1.7185+ 1		1.4734+ 0	8.1152- 1				2.8949+ 0	2.3492+ 0	1.8257+ 0		1.6404- 2
1.0000+ 4 ~ 2.0000+ 4	1.8023+ 1	1.6043+ 1		1.1503+ 0	8.1276- 1				2.8958+ 0	2.3536+ 0	1.4167+ 0		2.8128- 2
2.0000+ 4 ~ 4.0000+ 4	1.6520+ 1	1.4837+ 1		8.6599- 1	7.9895- 1				2.8980+ 0	2.3154+ 0	1.0848+ 0		5.4683- 2
4.0000+ 4 ~ 7.0000+ 4	1.6315+ 1	1.3878+ 1	8.9891- 2	6.6496- 1	6.4835- 1				2.9017+ 0	1.8813+ 0	1.0286+ 0		9.5057- 2
7.0000+ 4 ~ 1.0000+ 5	1.4408+ 1	1.2983+ 1	2.8778- 1	4.9812- 1	6.0586- 1				2.9062+ 0	1.7608+ 0	8.1829- 1		1.3807- 1
1.0000+ 5 ~ 2.0000+ 5	1.3077+ 1	1.1618+ 1	4.9735- 1	3.6612- 1	6.7856- 1				2.9158+ 0	1.9789+ 0	5.2913- 1		2.0969- 1
2.0000+ 5 ~ 4.0000+ 5	1.1138+ 1	9.2948+ 0	8.0460- 1	2.4662- 1	9.7983- 1				2.9380+ 0	2.8792+ 0	2.5867- 1		3.1657- 1
4.0000+ 5 ~ 7.0000+ 5	9.3704+ 0	7.1538+ 0	5.2098- 1	1.6472- 1	1.5255+ 0				2.9750+ 0	4.5416+ 0	1.1236- 1		4.1673- 1
7.0000+ 5 ~ 1.0000+ 6	8.4248+ 0	5.8698+ 0	4.1596- 1	9.5247- 2	2.0499+ 0				3.0194+ 0	6.1909+ 0	4.6665- 2		4.8698- 1
1.0000+ 6 ~ 2.0000+ 6	8.2102+ 0	5.3310+ 0	6.1920- 1	8.9424- 2	2.1710+ 0				3.1156+ 0	6.7650+ 0	4.1173- 2		5.7298- 1
2.0000+ 6 ~ 4.0000+ 6	8.8244+ 0	5.3978+ 0	8.6029- 1	4.1159- 2	2.2257+ 0				3.3376+ 0	7.4269+ 0	1.8462- 2		7.3822- 1
4.0000+ 6 ~ 7.0000+ 6	8.0127+ 0	4.6423+ 0	1.0755+ 0	3.8925- 3	2.2887+ 0				3.7076+ 0	8.5142+ 0	1.8054- 3		8.2645- 1
7.0000+ 6 ~ 1.0000+ 7	7.0024+ 0	3.8855+ 0	2.2017- 1	3.9480- 5	2.7306+ 0	3.6492- 1			4.1516+ 0	1.1335+ 1	1.4424- 5		8.1785- 1
1.0000+ 7 ~ 2.0000+ 7	7.0633+ 0	3.7792+ 0	2.9110- 3	4.2424- 8	2.7016+ 0	3.1424- 1	2.5552- 1		5.1136+ 0	1.3818+ 1	1.5870- 8		8.8681- 1

MATERIAL =3943

CROSS SECTION

^{239}Pu (3943)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	2.9923+ 3	8.9369+ 0		7.3638+ 2	2.2479+ 3				2.8843+ 0	6.4838+ 3	3.2948- 1		6.5804- 3
1.0000- 2 ~ 2.0000- 2	1.3168+ 3	8.8656+ 0		3.3507+ 2	9.7292+ 2				2.8843+ 0	2.8062+ 3	3.4493- 1		7.4680- 3
2.0000- 2 ~ 4.0000- 2	9.7178+ 2	8.8031+ 0		2.5834+ 2	7.0381+ 2				2.8843+ 0	2.0294+ 3	3.6972- 1		7.9005- 3
4.0000- 2 ~ 7.0000- 2	7.8004+ 2	8.8430+ 0		2.2546+ 2	6.4594+ 2				2.8832+ 0	1.5741+ 3	4.1439- 1		8.2908- 3
7.0000- 2 ~ 1.0000- 1	7.1870+ 2	8.4105+ 0		2.2878+ 2	4.8151+ 2				2.8785+ 0	1.3880+ 3	4.7137- 1		8.5728- 3
1.0000- 1 ~ 2.0000- 1	9.3748+ 2	7.8742+ 0		3.4858+ 2	5.8319+ 2				2.8892+ 0	1.6730+ 3	5.8828- 1		8.9257- 3
2.0000- 1 ~ 4.0000- 1	3.0888+ 3	1.3048+ 1		1.2277+ 3	1.8658+ 3				2.8843+ 0	5.3168+ 3	6.6328- 1		9.3672- 3
4.0000- 1 ~ 7.0000- 1	3.0334+ 2	1.3002+ 1		9.8394+ 1	1.9385+ 2				2.8808+ 0	5.5815+ 2	4.5409- 1		9.7574- 3
7.0000- 1 ~ 1.0000+ 0	7.7288+ 1	1.1401+ 1		1.6317+ 1	5.0548+ 1				2.8721+ 0	1.4518+ 2	2.8754- 1		1.0039- 2
1.0000+ 0 ~ 2.0000+ 0	3.8779+ 1	1.0881+ 1		5.0211+ 0	2.3098+ 1				2.8721+ 0	6.6335+ 1	2.1283- 1		1.0392- 2
2.0000+ 0 ~ 4.0000+ 0	2.3321+ 1	9.9887+ 0		2.1098+ 0	1.1231+ 1				2.8721+ 0	3.2258+ 1	1.8723- 1		1.0834- 2
4.0000+ 0 ~ 7.0000+ 0	1.8794+ 1	9.0124+ 0		1.8608+ 0	7.8713+ 0				2.8721+ 0	2.2807+ 1	2.3156- 1		1.1224- 2
7.0000+ 0 ~ 1.0000+ 1	1.1636+ 2	9.6757+ 0		4.8178+ 1	5.8827+ 1				2.8721+ 0	1.6838+ 2	8.1955- 1		1.1508- 2
1.0000+ 1 ~ 2.0000+ 1	1.8458+ 2	1.2815+ 1		7.1060+ 1	1.0071+ 2				2.8721+ 0	2.8928+ 2	8.2384- 1		1.1859- 2
2.0000+ 1 ~ 4.0000+ 1	4.1784+ 1	1.0148+ 1		1.4512+ 1	1.7105+ 1				2.8538+ 0	4.8988+ 1	9.1899- 1		1.2301- 2
4.0000+ 1 ~ 7.0000+ 1	1.1569+ 2	1.8498+ 1		4.8225+ 1	5.0864+ 1				2.8661+ 0	1.4632+ 2	1.2877+ 0		1.2691- 2
7.0000+ 1 ~ 1.0000+ 2	1.0263+ 2	2.0801+ 1		2.9278+ 1	5.2550+ 1				2.8751+ 0	1.5123+ 2	3.4502- 1		1.2973- 2
1.0000+ 2 ~ 2.0000+ 2	4.8034+ 1	1.6074+ 1		1.5778+ 1	1.8182+ 1				2.8787+ 0	5.2328+ 1	5.9204- 1		1.3326- 2
2.0000+ 2 ~ 4.0000+ 2	4.1289+ 1	1.5781+ 1		1.2838+ 1	1.2892+ 1				2.8706+ 0	3.6445+ 1	5.9110- 1		1.3767- 2
4.0000+ 2 ~ 7.0000+ 2	3.2134+ 1	1.6562+ 1		7.0488+ 0	9.5332+ 0				2.9053+ 0	2.7695+ 1	6.1786- 1		1.4157- 2
7.0000+ 2 ~ 1.0000+ 3	2.4579+ 1	1.4011+ 1		4.4709+ 0	6.0973+ 0				2.9152+ 0	1.7775+ 1	5.1867- 1		1.4439- 2
1.0000+ 3 ~ 2.0000+ 3	2.2297+ 1	1.3521+ 1		4.0009+ 0	4.7754+ 0				2.9152+ 0	1.3921+ 1	8.7122- 1		1.4792- 2
2.0000+ 3 ~ 4.0000+ 3	1.9357+ 1	1.3301+ 1		2.7635+ 0	3.2924+ 0				2.9152+ 0	9.5980+ 0	8.3984- 1		1.5234- 2
4.0000+ 3 ~ 7.0000+ 3	1.6898+ 1	1.2723+ 1		1.8488+ 0	2.3285+ 0				2.9152+ 0	6.7823+ 0	7.9279- 1		1.5624- 2
7.0000+ 3 ~ 1.0000+ 4	1.5716+ 1	1.2190+ 1	1.0719- 1	1.2841+ 0	2.1561+ 0				2.9152+ 0	6.2865+ 0	5.8617- 1		1.5906- 2
1.0000+ 4 ~ 2.0000+ 4	1.4742+ 1	1.1725+ 1	3.2801- 1	8.7172- 1	1.8195+ 0				2.9152+ 0	5.3041+ 0	4.7809- 1		2.4469- 2
2.0000+ 4 ~ 4.0000+ 4	1.3718+ 1	1.1128+ 1	3.7580- 1	5.6191- 1	1.6629+ 0				2.9152+ 0	4.8479+ 0	3.3115- 1		4.8791- 2
4.0000+ 4 ~ 7.0000+ 4	1.2887+ 1	1.0803+ 1	4.3531- 1	3.7317- 1	1.5755+ 0				2.9152+ 0	4.6933+ 0	2.3860- 1		8.3205- 2
7.0000+ 4 ~ 1.0000+ 5	1.2306+ 1	9.9320+ 0	5.6469- 1	2.9886- 1	1.5100+ 0				2.9152+ 0	4.4021+ 0	1.9788- 1		1.2321- 1
1.0000+ 5 ~ 2.0000+ 5	1.1319+ 1	8.8341+ 0	7.7587- 1	2.3758- 1	1.4719+ 0				2.8840+ 0	4.2597+ 0	1.6121- 1		1.9597- 1
2.0000+ 5 ~ 4.0000+ 5	9.7504+ 0	7.0867+ 0	8.8847- 1	1.6981- 1	1.5054+ 0				2.9143+ 0	4.3873+ 0	1.1299- 1		3.1164- 1
4.0000+ 5 ~ 7.0000+ 5	8.1388+ 0	5.2348+ 0	1.2525+ 0	1.0349- 1	1.5880+ 0				2.9480+ 0	4.6228+ 0	6.6138- 2		4.2686- 1
7.0000+ 5 ~ 1.0000+ 6	7.2091+ 0	4.0440+ 0	1.4179+ 0	6.5111- 2	1.6821+ 0				2.9886+ 0	5.0275+ 0	3.8799- 2		5.0803- 1
1.0000+ 6 ~ 2.0000+ 6	8.9621+ 0	3.4407+ 0	1.5580+ 0	3.5108- 2	1.9193+ 0				3.0787+ 0	5.9121+ 0	1.8526- 2		5.9925- 1
2.0000+ 6 ~ 4.0000+ 6	7.7480+ 0	4.1877+ 0	1.8825+ 0	1.0215- 2	1.8845+ 0				3.3066+ 0	6.2280+ 0	5.3234- 3		7.7203- 1
4.0000+ 6 ~ 7.0000+ 6	7.3714+ 0	4.1423+ 0	1.4098+ 0	5.8343- 4	1.7900+ 0	2.8474- 2			3.6885+ 0	6.6162+ 0	3.3645- 4		8.5799- 1
7.0000+ 6 ~ 1.0000+ 7	6.3722+ 0	3.2184+ 0	8.7104- 1	3.2317- 6	2.2385+ 0	2.4617- 1			4.1445+ 0	9.2780+ 0	1.4537- 6		8.6028- 1
1.0000+ 7 ~ 2.0000+ 7	6.0942+ 0	3.0988+ 0	3.4858- 1	2.9359- 8	2.2929+ 0	2.7545- 1	7.7323- 2		5.0543+ 0	1.1595+ 1	1.3141- 8		8.9588- 1

MATERIAL =3944

CROSS SECTION

^{240}Pu (3944)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	8.6157+ 2	1.7345+ 0		8.5987+ 2	1.7519- 1				2.7810+ 0	4.8720- 1	4.9084+ 3		2.8012- 3
1.0000- 2 ~ 2.0000- 2	3.7690+ 2	1.8899+ 0		3.7519+ 2	7.6307- 2				2.7810+ 0	2.1221- 1	4.9163+ 3		2.8012- 3
2.0000- 2 ~ 4.0000- 2	2.7468+ 2	1.6226+ 0		2.7298+ 2	5.5397- 2				2.7810+ 0	1.5406- 1	4.9282+ 3		2.8012- 3
4.0000- 2 ~ 7.0000- 2	2.1216+ 2	1.5093+ 0		2.1061+ 2	4.2572- 2				2.7810+ 0	1.1899- 1	4.9479+ 3		2.8013- 3
7.0000- 2 ~ 1.0000- 1	1.7990+ 2	1.3718+ 0		1.7849+ 2	3.5909- 2				2.7810+ 0	9.9885- 2	4.9711+ 3		2.8013- 3
1.0000- 1 ~ 2.0000- 1	1.5665+ 2	1.0704+ 0		1.5565+ 2	3.0933- 2				2.7810+ 0	8.8194- 2	5.0200+ 3		2.8014- 3
2.0000- 1 ~ 4.0000- 1	1.6780+ 2	4.1807- 1		1.6746+ 2	3.0713- 2				2.7810+ 0	8.6413- 2	5.1247+ 3		2.8016- 3
4.0000- 1 ~ 7.0000- 1	2.7290+ 2	9.1519- 1		2.7193+ 2	5.1517- 2				2.7810+ 0	1.4327- 1	5.2678+ 3		2.8018- 3
7.0000- 1 ~ 1.0000+ 0	2.4744+ 3	1.0204+ 2		2.3720+ 3	4.4020- 1				2.7810+ 0	1.2242+ 0	5.3798+ 3		2.8021- 3
1.0000+ 0 ~ 2.0000+ 0	8.1458+ 3	5.8421+ 2		7.5600+ 3	1.4008+ 0				2.7810+ 0	3.8955+ 0	5.2534+ 3		2.8027- 3
2.0000+ 0 ~ 4.0000+ 0	2.7412+ 1	1.6160+ 1		1.1229+ 1	2.6523- 3				2.7810+ 0	7.3761- 3	3.8779+ 3		2.8042- 3
4.0000+ 0 ~ 7.0000+ 0	1.2605+ 1	1.1140+ 1		1.4642+ 0	7.5818- 4				2.7810+ 0	2.1085- 3	[illegible]		2.8067- 3
7.0000+ 0 ~ 1.0000+ 1	1.0078+ 1	9.5863+ 0		4.9114- 1	5.7850- 4				2.7810+ 0	1.6088- 3	8.466[illegible]+ 2		2.8098- 3
1.0000+ 1 ~ 2.0000+ 1	8.5349+ 0	7.7370+ 0		7.9270- 1	5.1484- 3				2.7810+ 0	1.4318- 2	2.8423+ 2		2.8163- 3
2.0000+ 1 ~ 4.0000+ 1	1.2535+ 2	4.2258+ 1		8.2875+ 1	2.1845- 1				2.7810+ 0	6.0752- 1	1.0411+ 3		2.8314- 3
4.0000+ 1 ~ 7.0000+ 1	1.6194+ 2	8.7655+ 1		7.4247+ 1	3.8691- 2				2.7810+ 0	1.0760- 1	1.7708+ 3		2.8566- 3
7.0000+ 1 ~ 1.0000+ 2	7.5121+ 1	3.3203+ 1		4.1826+ 1	9.1721- 2				2.7810+ 0	2.5508- 1	8.7534+ 2		2.8868- 3
1.0000+ 2 ~ 2.0000+ 2	5.3687+ 1	2.7982+ 1		2.5675+ 1	4.9976- 2				2.7810+ 0	1.3898- 1	5.3204+ 3		2.9522- 3
2.0000+ 2 ~ 4.0000+ 2	2.9784+ 1	2.0234+ 1		9.5149+ 0	3.5508- 2				2.7811+ 0	9.8750- 2	5.9824+ 3		3.1032- 3
4.0000+ 2 ~ 7.0000+ 2	2.8304+ 1	1.9977+ 1		6.2814+ 0	4.5500- 2				2.7811+ 0	1.2654- 1	2.8782+ 3		3.3548- 3
7.0000+ 2 ~ 1.0000+ 3	2.5698+ 1	2.0291+ 1		4.9252+ 0	5.4228- 1				2.7811+ 0	1.5082+ 0	5.4351+ 2		3.6568- 3
1.0000+ 3 ~ 2.0000+ 3	2.3019+ 1	1.9532+ 1		3.2570+ 0	2.2957- 1				2.7812+ 0	6.3851- 1	8.2200+ 2		4.3786- 3
2.0000+ 3 ~ 4.0000+ 3	1.7997+ 1	1.5732+ 1		2.1419+ 0	1.2369- 1				2.7815+ 0	3.4404- 1	7.1977+ 3		6.1174- 3
4.0000+ 3 ~ 7.0000+ 3	1.6231+ 1	1.6547+ 1		1.5997+ 0	8.5022- 2				2.7818+ 0	2.3652- 1	2.3440+ 1		9.2115- 3
7.0000+ 3 ~ 1.0000+ 4	1.7842+ 1	1.6488+ 1		1.2907+ 0	6.4946- 2				2.7823+ 0	1.8069- 1	2.0514+ 1		1.2957- 2
1.0000+ 4 ~ 2.0070+ 4	1.6963+ 1	1.5807+ 1		1.0482+ 0	9.8549- 2				2.7833+ 0	2.7429- 1	1.1839+ 1		2.1246- 2
2.0000+ 4 ~ 4.0000+ 4	1.6243+ 1	1.4300+ 1		8.3995- 1	1.0282- 1				2.7855+ 0	2.8588- 1	8.4893+ 0		4.0304- 2
4.0000+ 4 ~ 7.0000+ 4	1.3659+ 1	1.2828+ 1	1.3146- 1	6.1263- 1	8.6080- 2				2.7893+ 0	2.4054- 1	9.7740+ 0		7.0659- 2
7.0000+ 4 ~ 1.0000+ 5	1.2669+ 1	1.1754+ 1	4.2119- 1	4.1114- 1	8.2266- 2				2.7938+ 0	2.3016- 1	5.4650+ 0		1.0595- 1
1.0000+ 5 ~ 2.0000+ 5	1.1372+ 1	1.0302+ 1	6.9841- 1	2.9902- 1	7.4933- 2				2.8035+ 0	2.1027- 1	4.0877+ C		1.6873- 1
2.0000+ 5 ~ 4.0000+ 6	9.5889+ 0	8.1581+ 0	1.1093+ 0	1.9718- 1	1.2597- 1				2.8260+ 0	3.5831- 1	1.6850+ 0		2.7103- 1
4.0000+ 5 ~ 7.0000+ 5	7.9873+ 0	5.8827+ 0	1.3861+ 0	1.6495- 1	5.5295- 1				2.8835+ 0	1.5873+ 0	3.9022- 1		3.5401- 1
7.0000+ 5 ~ 1.0000+ 0	7.1579+ 0	4.1210+ 0	1.8717+ 0	1.1431- 1	1.2506+ 0				2.9085+ 0	3.6404+ 0	9.5018- 2		3.9590- 1
1.0000+ 8 ~ 2.0000+ 6	7.0719+ 0	3.0514+ 0	7.3140+ 0	8.5278- 2	1.8210+ 0				3.0069+ 0	4.8752+ 0	5.2865- 2		4.8695- 1
2.0000+ 6 ~ 4.0000+ 6	7.7346+ 0	3.7346+ 0	2.2638+ 0	3.5289- 2	1.7008+ 0				3.2306+ 0	5.4928+ 0	2.0616- 2		6.5217- 1
4.0000+ 6 ~ 7.0000+ 6	7.3481+ 0	3.9018+ 0	1.8057+ 0	2.8810- 3	1.6338+ 0	4.3811- 3			3.6042+ 0	5.9029+ 0	1.8147- 3		7.7416- 1
7.0000+ 6 ~ 1.0000+ 7	6.4105+ 0	3.1308+ 0	7.8058- 1	9.9417- 4	2.2131+ 0	3.0527- 1			4.0529+ 0	8.9728+ 0	4.4902- 4		3.0800- 1
1.0000+ 7 ~ 2.0000+ 7	8.0140+ 0	2.8383+ 0	4.4561- 1	8.9572- 4	2.2242+ 0	2.8578- 1	2.1762- 1		5.0261+ 0	1.1182+ 1	3.1442- 4		8.2123- 1

MATERIAL =3945

CROSS SECTION

^{241}Pu (3945)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	4.4498+ 3	1.0488+ 1		1.2993+ 3	3.1400+ 3				2.9313+ 0	9.2378+ 3	4.0515- 1		2.8355- 3
1.0000- 2 ~ 2.0000- 2	1.8718+ 3	1.0368+ 1		5.0744+ 2	1.3540+ 3				2.9313+ 0	3.9765+ 3	3.7398- 1		2.8462- 3
2.0000- 2 ~ 4.0000- 2	1.2998+ 3	1.0169+ 1		3.3293+ 2	9.5870+ 2				2.9313+ 0	2.8155+ 3	3.4727- 1		2.8516- 3
4.0000- 2 ~ 7.0000- 2	9.8873+ 2	9.8883+ 0		2.3380+ 2	7.2305+ 2				2.9313+ 0	2.1231+ 3	3.2278- 1		2.8564- 3
7.0000- 2 ~ 1.0000- 1	8.3340+ 2	9.5170+ 0		1.8821+ 2	6.3567+ 2				2.9313+ 0	1.8638+ 3	2.9599- 1		2.8598- 3
1.0000- 1 ~ 2.0000- 1	1.0148+ 3	8.8417+ 0		2.2738+ 2	7.7834+ 2				2.9313+ 0	2.2816+ 3	2.8963- 1		2.8641- 3
2.0000- 1 ~ 4.0000- 1	1.3280+ 3	1.1871+ 1		3.9440+ 2	9.2160+ 2				2.9313+ 0	2.7026+ 3	5.0167- 1		2.8695- 3
4.0000- 1 ~ 7.0000- 1	1.0884+ 2	1.1274+ 1		3.6131+ 1	6.1420+ 1				2.9313+ 0	1.8030+ 2	5.4082- 1		2.8743- 3
7.0000- 1 ~ 1.0000+ 0	5.4508+ 1	1.0337+ 1		8.3625+ 0	3.5806+ 1				2.9313+ 0	1.0498+ 2	2.3120- 1		2.8777- 3
1.0000+ 0 ~ 2.0000+ 0	3.9831+ 1	9.5963+ 0		3.5882+ 0	2.6870+ 1				2.9313+ 0	7.8177+ 1	1.3239- 1		2.8820- 3
2.0000+ 0 ~ 4.0000+ 0	5.5798+ 1	7.8297+ 0		7.8912+ 0	4.0081+ 1				2.9313+ 0	1.1749+ 2	1.6589- 1		2.8874- 3
4.0000+ 0 ~ 7.0000+ 0	4.4277+ 2	1.0760+ 1		9.6882+ 1	3.3535+ 2				2.9313+ 0	9.8301+ 2	2.5087- 1		2.8922- 3
7.0000+ 0 ~ 1.0000+ 1	2.4385+ 2	1.2176+ 1		3.5488+ 1	1.9819+ 2				2.9313+ 0	6.7508+ 2	1.3733- 1		2.8956- 3
1.0000+ 1 ~ 2.0000+ 1	2.4771+ 2	1.7524+ 1		8.1092+ 1	1.4905+ 2				2.9313+ 0	4.3703+ 2	7.5875- 1		2.8999- 3
2.0000+ 1 ~ 4.0000+ 1	9.4447+ 1	1.3252+ 1		1.4708+ 1	6.6487+ 1				2.9313+ 0	1.9489+ 2	2.7743- 1		2.9053- 3
4.0000+ 1 ~ 7.0000+ 1	5.9160+ 1	1.3008+ 1		8.1979+ 0	3.7958+ 1				2 313+ 0	1.1126+ 2	4.5696- 1		2.9100- 3
7.0000+ 1 ~ 1.0000+ 2	6.8144+ 1	1.4746+ 1		1.4445+ 1	3.8353+ 1				2.9313+ 0	1.1418+ 2	3.2079- 1		2.9142- 3
1.0000+ 2 ~ 2.0000+ 2	4.4454+ 1	1.2214+ 1		6.5855+ 0	2.5875+ 1				2.9313+ 0	7.5250+ 1	2.5561- 1		2.9982- 3
2.0000+ 2 ~ 4.0000+ 2	4.3487+ 1	1.2977+ 1		6.8608+ 0	2.3828+ 1				2.9313+ 0	6.9253+ 1	2.9348- 1		3.2170- 3
4.0000+ 2 ~ 7.0000+ 2	3.3099+ 1	1.2800+ 1		5.1242+ 0	1.5175+ 1				2.9314+ 0	4.4485+ 1	3.3809- 1		3.5565- 3
7.0000+ 2 ~ 1.0000+ 3	2.5494+ 1	1.2118+ 1		2.8596+ 0	1.0518+ 1				2.9314+ 0	3.0834+ 1	2.7210- 1		3.9638- 3
1.0000+ 3 ~ 2.0000+ 3	2.4050+ 1	1.2518+ 1		2.3874+ 0	9.1299+ 0				2.9315+ 0	2.6747+ 1	2.8488- 1		4.9551- 3
2.0000+ 3 ~ 4.0000+ 3	2.0309+ 1	1.2088+ 1		1.6645+ 0	6.5782+ 0				2.9318+ 0	1.9280+ 1	2.5228- 1		7.1452- 3
4.0000+ 3 ~ 7.0000+ 3	1.8093+ 1	1.1885+ 1		1.2169+ 0	4.9911+ 0				2.9321+ 0	1.4634+ 1	2.4392- 1		1.0828- 2
7.0000+ 3 ~ 1.0000+ 4	1.6700+ 1	1.1662+ 1		9.6358- 1	4.0543+ 0				2.9326+ 0	1.1889+ 1	2.3708- 1		1.5304- 2
1.0000+ 4 ~ 2.0000+ 4	1.5540+ 1	1.1384+ 1		7.8118- 1	3.3747+ 0				2.9335+ 0	9.8998+ 0	2.3222- 1		2.5383- 2
2.0000+ 4 ~ 4.0000+ 4	1.4224+ 1	1.0893+ 1		5.6527- 1	2.7647+ 0				2.9356+ 0	8.1179+ 0	2.0356- 1		4.7869- 2
4.0000+ 4 ~ 7.0000+ 4	1.3267+ 1	1.0393+ 1	1.4950- 2	4.7891- 1	2.3802+ 0				2.9395+ 0	6.9984+ 0	2.0047- 1		8.3494- 2
7.0000+ 4 ~ 1.0000+ 5	1.2568+ 1	1.0041+ 1	3.5986- 2	3.2838- 1	2.1826+ 0				2.9440+ 0	6.3668+ 0	1.5133- 1		1.2243- 1
1.0000+ 5 ~ 2.0000+ 5	1.1508+ 1	9.1340+ 0	9.0838- 2	2.9997- 1	1.9818+ 0				2.9537+ 0	5.8531+ 0	1.5137- 1		1.9083- 1
2.0000+ 5 ~ 4.0000+ 5	9.6280+ 7	7.5563+ 0	2.9519- 1	2.5291- 1	1.7298+ 0				2.9760+ 0	5.1291+ 0	1.4666- 1		2.9703- 1
4.0000+ 5 ~ 7.0000+ 6	8.1881+ 0	5.9029+ 0	5.2082- 1	2.1883- 1	1.5242+ 0				3.0133+ 0	4.5925+ 0	1.4352- 1		3.9357- 1
7.0000+ 5 ~ 1.0000+ 6	7.2274+ 0	4.8298+ 0	6.7244- 1	1.7809- 1	1.5470+ 0				3.0580+ 0	4.7311+ 0	1.1537- 1		4.5839- 1
1.0000+ 6 ~ 2.0000+ 8	7.1332+ 0	4.3490+ 0	9.3539- 1	1.1818- 1	1.7925+ 0				3.1550+ 0	5.4687+ 0	6.7789- 2		5.5094- 1
2.0000+ 6 ~ 4.0000+ 6	7.9124+ 0	5.0432+ 0	1.2348+ 0	4.1140- 2	1.5932+ 0				3.3786+ 0	5.3789+ 0	2.5307- 2		7.2868- 1
4.0000+ 6 ~ 7.0000+ 6	7.4823+ 0	4.7571+ 0	9.1454- 1	3.7311- 3	1.5180+ 0	2.8848- 1			3.7491+ 0	5.7062+ 0	2.5790- 3		7.9969- 1
7.0000+ 6 ~ 1.0000+ 7	8.1428+ 0	3.5016+ 0	2.8350- 2	1.0807- 5	2.0017+ 0	6.1103- 1			4.1918+ 0	8.3923+ 0	5.3193- 6		7.7879- 1
1.0000+ 7 ~ 2.0000+ 7	5.9792+ 0	3.5007+ 0	2.0777- 3	1.1998- 7	2.0884+ 0	1.8195- 1	2.2083- 1		5.1609+ 0	1.0647+ 1	5.7891- 8		8.3213- 1

MATERIAL =3946 CROSS SECTION ^{242}Pu (3946)

ENERGY	TOTAL	ELASTIC	INELA.	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	6.5577+ 1	8.3370+ 0		5.7232+ 1	7.8400- 3				2.8080+ 0	2.2015- 2	7.3036+ 3		2.7780- 3
1.0000- 2 ~ 2.0000- 2	3.2986+ 1	8.3286+ 0		2.4658+ 1	3.3659- 3				2.8080+ 0	9.4515- 3	7.3269+ 3		2.7780- 3
2.0000- 2 ~ 4.0000- 2	2.5936+ 1	8.3158+ 0		1.7618+ 1	2.3944- 3				2.8080+ 0	6.7234- 3	7.3595+ 3		2.7780- 3
4.0000- 2 ~ 7.0000- 2	2.1470+ 1	8.2942+ 0		1.3174+ 1	1.7769- 3				2.8080+ 0	4.9897- 3	7.4158+ 3		2.7781- 3
7.0000- 2 ~ 1.0000- 1	1.9080+ 1	8.2677+ 0		1.0791+ 1	1.4429- 3				2.8080+ 0	4.0489- 3	7.4849+ 3		2.7781- 3
1.0000- 1 ~ 2.0000- 1	1.5819+ 1	8.2089+ 0		8.6095+ 0	1.1290- 3				2.8080+ 0	3.1701- 3	7.8335+ 3		2.7782- 3
2.0000- 1 ~ 4.0000- 1	1.4806+ 1	8.0698+ 0		6.8348+ 0	8.5587- 4				2.8080+ 0	2.4061- 3	7.9878+ 3		2.7783- 3
4.0000- 1 ~ 7.0000- 1	1.4015+ 1	7.7692+ 0		6.2481+ 0	7.2698- 4				2.8080+ 0	2.0414- 3	8.8016+ 3		2.7786- 3
7.0000- 1 ~ 1.0000+ 0	1.4095+ 1	7.3931+ 0		6.7633+ 0	7.2167- 4				2.8080+ 0	2.0270- 3	9.3624+ 3		2.7789- 3
1.0000+ 0 ~ 2.0000+ 0	1.5847+ 1	5.5530+ 0		1.4293+ 1	1.2797- 3				2.8080+ 0	3.5935- 3	1.0933+ 4		2.7796- 3
2.0000+ 0 ~ 4.0000+ 0	1.8434+ 3	1.2808+ 2		1.4178+ 3	1.1347- 1				2.8080+ 0	3.1864- 1	1.1993+ 4		2.7811- 3
4.0000+ 0 ~ 7.0000+ 0	1.4750+ 1	1.3117+ 1		1.8332+ 0	2.0004- 4				2.8080+ 0	5.6170- 4	7.2611+ 3		2.7837- 3
7.0000+ 0 ~ 1.0000+ 1	1.1725+ 1	1.1488+ 1		2.5854- 1	7.6580- 5				2.8080+ 0	2.1504- 4	3.2990+ 3		2.7868- 3
1.0000+ 1 ~ 2.0000+ 1	1.2435+ 1	1.0839+ 1		1.7962+ 0	7.6070- 4				2.8080+ 0	2.1350- 3	1.7207+ 3		2.7935- 3
2.0000+ 1 ~ 4.0000+ 1	1.2208+ 1	9.8864+ 0		2.5408+ 0	1.3276- 3				2.8080+ 0	3.7260- 3	1.7198+ 3		2.8089- 3
4.0000+ 1 ~ 7.0000+ 1	1.5639+ 2	1.2408+ 2		1.9230+ 2	1.9136- 2				2.8080+ 0	5.3734- 2	5.9986+ 3		2.8347- 3
7.0000+ 1 ~ 1.0000+ 2	1.3088+ 1	1.2077+ 1		1.0099+ 0	1.5979- 3				2.8080+ 0	4.4889- 3	8.1137+ 2		2.8656- 3
1.0000+ 2 ~ 2.0000+ 2	2.3552+ 1	1.5804+ 1		7.9303+ 0	1.7335- 2				2.8080+ 0	4.8678- 2	4.3152- 2		2.9325- 3
2.0000+ 2 ~ 4.0000+ 2	4.2878+ 1	3.4581+ 1		8.2785+ 0	1.8127- 2				2.8080+ 0	5.0902- 2	6.1833+ 2		3.0669- 3
4.0000+ 2 ~ 7.0000+ 2	2.4397+ 1	2.0720+ 1		3.6574+ 0	1.9299- 2				2.8081+ 0	5.4194- 2	2.2556+ 2		3.3444- 3
7.0000+ 2 ~ 1.0000+ 3	2.8543+ 1	2.4977+ 1		3.5134+ 0	1.5279- 1				2.8081+ 0	4.2905- 1	2.3527+ 2		3.6533- 3
1.0000+ 3 ~ 2.0000+ 3	2.2781+ 1	2.0199+ 1		2.5807+ 0	2.1529- 2				2.8082+ 0	5.0440- 2	2.7840+ 2		4.3785- 3
2.0000+ 3 ~ 4.0000+ 3	2.1053+ 1	1.9091+ 1		1.9597+ 0	1.2624- 2				2.8084+ 0	3.5465- 2	1.6640+ 2		6.1174- 3
4.0000+ 3 ~ 7.0000+ 3	1.9288+ 1	1.7731+ 1		1.5290+ 0	8.8772- 3				2.8088+ 0	2.4934- 2	2.0740+ 2		9.2116- 3
7.0000+ 3 ~ 1.0000+ 4	1.7481+ 1	1.6254+ 1		1.2220+ 0	5.0536- 3				2.8092+ 0	1.4225- 2	2.4651+ 2		1.2957- 2
1.0000+ 4 ~ 2.0000+ 4	1.6808+ 1	1.5794+ 1		1.0051+ 0	9.1482- 3				2.8101+ 0	2.5708- 2	1.1356+ 2		2.1246- 2
2.0000+ 4 ~ 4.0000+ 4	1.8199+ 1	1.5448+ 1		7.3852- 1	1.1808- 2				2.8123+ 0	3.5202- 2	6.3244+ 1		4.0304- 2
4.0000+ 4 ~ 7.0000+ 4	1.5354+ 1	1.4735+ 1	1.3413- 1	4.7245- 1	1.2783- 2				2.8158+ 0	3.6996- 2	3.7016+ 1		7.0659- 2
7.0000+ 4 ~ 1.0000+ 5	1.3884+ 1	1.3108+ 1	4.3582- 1	3.0587- 1	1.5802- 2				2.8201+ 0	4.4583- 2	1.9535+ 1		1.0595- 1
1.0000+ 5 ~ 2.0000+ 5	1.1850+ 1	1.0572+ 1	7.4747- 1	2.0733- 1	2.3378- 2				2.8293+ 0	6.6167- 2	9.5465+ 0		1.6873- 1
2.0000+ 5 ~ 4.0000+ 5	9.6859+ 0	8.2704+ 0	1.1078+ 0	1.4117- 1	2.0818- 2				2.8506+ 0	2.0215- 1	2.2953+ 0		2.7103- 1
4.0000+ 5 ~ 7.0000+ 5	8.3463+ 0	6.4887+ 0	1.4106+ 0	1.4012- 1	3.2887- 1				2.8861+ 0	9.5133- 1	5.3865- 1		3.5401- 1
7.0000+ 5 ~ 1.0000+ 6	7.4985+ 0	4.7397+ 0	1.6019+ 0	1.2247- 1	1.0323+ 0				2.9267+ 0	3.0267+ 0	1.3026- 1		3.9590- 1
1.0000+ 6 ~ 2.0000+ 6	7.2802+ 0	3.6861+ 0	2.0588+ 0	9.4451- 2	1.4410+ 0				3.0210+ 0	4.3523+ 0	6.5690- 2		4.8595- 1
2.0000+ 6 ~ 4.0000+ 6	7.8937+ 0	4.1466+ 0	2.3463+ 0	3.6684- 2	1.3639+ 0				3.2340+ 0	4.4078+ 0	2.6447- 2		5.5217- 1
4.0000+ 6 ~ 7.0000+ 6	7.4523+ 0	4.1654+ 0	1.8983+ 0	2.5848- 3	1.3887+ 0	1.7276- 2			3.5890+ 0	4.9317+ 0	1.9909- 3		7.7416- 1
7.0000+ 6 ~ 1.0000+ 7	6.4073+ 0	3.1245+ 0	8.2033- 1	1.0265- 3	1.9157+ 0	5.4173- 1			4.0150+ 0	7.7051+ 0	5.3586- 4		8.0800- 1
1.0000+ 7 ~ 2.0000+ 7	6.0353+ 0	2.9918+ 0	3.0730- 1	6.9708- 4	1.9404+ 0	4.0138- 1	3.5677- 1		4.9380+ 0	9.5944+ 0	3.6442- 4		8.2123- 1

MATERIAL =3951 CROSS SECTION ^{241}Am (3951)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.0426+ 3	1.1509+ 1		2.0210+ 3	9.9808+ 0				3.2235+ 0	3.2173+ 1	2.0224+ 2		2.7896- 3
1.0000- 2 ~ 2.0000- 2	8.3979+ 2	1.1318+ 1		8.2437+ 2	4.1071+ 0				3.2235+ 0	1.3239+ 1	2.0085+ 2		2.7896- 3
2.0000- 2 ~ 4.0000- 2	5.7017+ 2	1.1049+ 1		5.5632+ 2	2.8058+ 0				3.2235+ 0	9.0443+ 0	1.9813+ 2		2.7896- 3
4.0000- 2 ~ 7.0000- 2	3.9969+ 2	1.0832+ 1		3.8898+ 2	1.9971+ 0				3.2235+ 0	6.4377+ 0	1.9369+ 2		2.7896- 3
7.0000- 2 ~ 1.0000- 1	3.1710+ 2	1.0162+ 1		3.0539+ 2	1.6259+ 0				3.2235+ 0	5.2412+ 0	1.8767+ 2		2.7896- 3
1.0000- 1 ~ 2.0000- 1	3.0701+ 2	9.1127+ 0		2.9819+ 2	1.7103+ 0				3.2235+ 0	5.5133+ 0	1.7395+ 2		2.7896- 3
2.0000- 1 ~ 4.0000- 1	1.8398+ 3	1.1390+ 1		1.8164+ 3	1.1836+ 1				3.2235+ 0	3.8151+ 1	1.5659+ 2		2.7896- 3
4.0000- 1 ~ 7.0000- 1	9.1489+ 2	1.1781+ 1		8.9994+ 2	7.1660+ 0				3.2235+ 0	1.0205+ 1	1.5961+ 2		2.7896- 3
7.0000- 1 ~ 1.0000+ 0	8.4923+ 1	9.9356+ 0		7.4577+ 1	1.1063- 1				3.2235+ 0	1.3237+ 0	1.8056+ 2		2.7896- 3
1.0000+ 0 ~ 2.0000+ 0	6.2848+ 2	1.3600+ 1		5.1072+ 2	4.1642+ 0				3.2235+ 0	1.3429+ 1	2.1670+ 2		2.7904- 3
2.0000+ 0 ~ 4.0000+ 0	1.4988+ 2	1.0547+ 1		1.3880+ 2	5.2967- 1				3.2235+ 0	1.7074+ 0	2.3719+ 2		2.7920- 3
4.0000+ 0 ~ 7.0000+ 0	1.5559+ 2	1.1935+ 1		1.4191+ 2	1.7413+ 0				3.2235+ 0	5.6130+ 0	1.1586+ 2		2.7934- 3
7.0000+ 0 ~ 1.0000+ 1	7.9298+ 1	1.0131+ 1		8.8443+ 1	7.2408- 1				3.2235+ 0	2.3341+ 0	1.9244+ 2		2.7944- 3
1.0000+ 1 ~ 2.0000+ 1	9.8063+ 1	1.2932+ 1		8.4711+ 1	4.1970- 1				3.2235+ 0	1.3529+ 0	2.8406+ 2		2.8030- 3
2.0000+ 1 ~ 4.0000+ 1	6.7871+ 1	1.1508+ 1		5.6049+ 1	3.1437- 1				3.2235+ 0	1.0134+ 0	2.0578+ 2		2.8179- 3
4.0000+ 1 ~ 7.0000+ 1	6.1177+ 1	1.1675+ 1		4.9346+ 1	1.5835- 1				3.2235+ 0	5.0077- 1	4.0360+ 2		2.9310- 3
7.0000+ 1 ~ 1.0000+ 2	4.2497+ 1	1.2296+ 1		3.0039+ 1	1.6241- 1				3.2235+ 0	5.2352- 1	2.2040+ 2		3.0405- 3
1.0000+ 2 ~ 2.0000+ 2	5.0528+ 1	1.4725+ 1		3.5823+ 1	1.8026- 1				3.2235+ 0	5.8108- 1	2.0118+ 2		2.9390- 3
2.0000+ 2 ~ 4.0000+ 2	3.8977+ 1	1.3984+ 1		2.4876+ 1	1.3627- 1				3.2235+ 0	4.3929- 1	1.8328+ 2		3.1093- 3
4.0000+ 2 ~ 7.0000+ 2	3.1736+ 1	1.3794+ 1		1.7965+ 1	9.5332- 2				3.2236+ 0	3.0731- 1	1.8755+ 2		3.2598- 3
7.0000+ 2 ~ 1.0000+ 3	2.6847+ 1	1.3465+ 1		1.3311+ 1	7.1557- 2				3.2238+ 0	2.3067- 1	1.8614+ 2		3.3686- 3
1.0000+ 3 ~ 2.0000+ 3	2.3298+ 1	1.3290+ 1		9.9872+ 0	4.6589- 2				3.2237+ 0	1.5864- 1	2.0857- 2		3.8006- 3
2.0000+ 3 ~ 4.0000+ 3	1.9956+ 1	1.3025+ 1		6.8936+ 0	3.7420- 2				3.2240+ 0	1.2064- 1	1.8373+ 2		4.9678- 3
4.0000+ 3 ~ 7.0000+ 3	1.7235+ 1	1.2536+ 1		4.5757+ 0	2.7482- 2				3.2243+ 0	8.8611- 2	1.7088+ 2		6.9752- 3
7.0000+ 3 ~ 1.0000+ 4	1.6058+ 1	1.2289+ 1		3.7469+ 0	2.1801- 2				3.2248+ 0	7.0305- 2	1.7167+ 2		9.7021- 3
1.0000+ 4 ~ 2.0000+ 4	1.4974+ 1	1.1975+ 1		2.9796+ 0	1.8304- 2				3.2257+ 0	5.9043- 2	1.6277+ 2		1.5836- 2
2.0000+ 4 ~ 4.0000+ 4	1.3979+ 1	1.1641+ 1		2.3227+ 0	1.5417- 2				3.2280+ 0	4.9780- 2	1.5040+ 2		3.1307- 2
4.0000+ 4 ~ 7.0000+ 4	1.3316+ 1	1.1365+ 1	1.3453- 1	1.7822+ 0	1.3983- 2				3.2317+ 0	4.5197- 2	1.2724+ 2		5.8086- 2
7.0000+ 4 ~ 1.0000+ 5	1.2828+ 1	1.1033+ 1	3.3221- 1	1.4478+ 0	1.4627- 2				3.2362+ 0	4.7329- 2	9.9147+ 1		8.9306- 2
1.0000+ 5 ~ 2.0000+ 5	1.1997+ 1	1.0239+ 1	6.5297- 1	1.0838+ 0	1.8464- 2				3.2450+ 0	5.9811- 2	6.0063+ 1		1.5203- 1
2.0000+ 5 ~ 4.0000+ 5	1.0442+ 1	8.4842+ 0	1.2397+ 0	7.0148- 1	3.6137- 2				3.2685+ 0	1.1836- 1	2.1568+ 1		2.6389- 1
4.0000+ 5 ~ 7.0000+ 5	8.5946+ 0	6.2953+ 0	1.8338+ 0	5.0290- 1	1.6160- 1				3.3080+ 0	5.3780- 1	4.3494+ 0		3.7579- 1
7.0000+ 5 ~ 1.0000+ 6	7.3948+ 0	4.5302+ 0	1.7231+ 0	3.4146- 1	7.9686- 1				3.3510+ 0	2.6802+ 0	5.1317- 1		4.5658- 1
1.0000+ 6 ~ 2.0000+ 6	6.9714+ 0	3.5505+ 0	1.5048+ 0	1.4007- 1	1.7347+ 0				3.4485+ 0	5.1261+ 0	8.2056- 2		5.4844- 1
2.0000+ 6 ~ 4.0000+ 6	7.5378+ 0	4.4748+ 0	1.1744+ 0	2.4094+ 2	1.8627+ 0				3.5733+ 0	5.8411+ 0	1.2800- 2		7.1315- 1
4.0000+ 6 ~ 7.0000+ 6	7.4424+ 0	4.8334+ 0	9.4785- 1	9.5871- 4	1.8593+ 0	2.6000- 4			4.0484+ 0	7.5456+ 0	5.3578- 4		8.0247- 1
7.0000+ 6 ~ 1.0000+ 7	6.2614+ 0	3.4001+ 0	4.2958- 1	2.0156- 5	2.3825+ 0	4.8665- 2			4.4972+ 0	1.0713+ 1	8.4516- 6		8.1303- 1
1.0000+ 7 ~ 2.0000+ 7	5.8779+ 0	2.8287+ 0	1.7917- 1	1.1168- 6	2.4633+ 0	1.6017- 1	2.4612- 1		5.4721+ 0	1.3463+ 1	4.6068- 7		8.8967- 1

MATERIAL =3952

CROSS SECTION

^{242}Am (3952)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.3458+ 4	1.1440+ 1		1.6959+ 4	6.4751+ 3			3.2745+ 0	2.1277+ 4	2.6191+ 0	2.7780- 3
1.0000- 2 ~ 2.0000- 2	1.0028+ 4	1.1440+ 1		7.2472+ 3	2.7871+ 3			3.2745+ 0	9.0930+ 3	2.6191+ 0	2.7780- 3
2.0000- 2 ~ 4.0000- 2	7.0934+ 3	1.1440+ 1		5.1246+ 3	1.9587+ 3			3.2745+ 0	6.4297+ 3	2.6190+ 0	2.7780- 3
4.0000- 2 ~ 7.0000- 2	5.2171+ 3	1.1440+ 1		3.7859+ 3	1.4380+ 3			3.2745+ 0	4.7269+ 3	2.6189+ 0	2.7780- 3
7.0000- 2 ~ 1.0000- 1	4.1755+ 3	1.1440+ 1		3.0122+ 3	1.1502+ 3			3.2745+ 0	3.7836+ 3	2.6188+ 0	2.7780- 3
1.0000- 1 ~ 2.0000- 1	3.1789+ 3	1.1440+ 1		2.2915+ 3	8.7506+ 2			3.2745+ 0	2.8729+ 3	2.6187+ 0	2.7780- 3
2.0000- 1 ~ 4.0000- 1	1.4284+ 3	1.3288+ 1		8.2481+ 2	7.8838+ 2			3.2745+ 0	2.5847+ 3	8.0969- 1	2.7780- 3
4.0000- 1 ~ 7.0000- 1	8.8257+ 2	1.2988+ 1		2.4881+ 2	6.0073+ 2			3.2745+ 0	1.9682+ 3	4.1141- 1	2.7780- 3
7.0000- 1 ~ 1.0000+ 0	6.5047+ 2	1.2578+ 1		1.5739+ 2	4.8048+ 2			3.2745+ 0	1.5743+ 3	3.2667- 1	2.7780- 3
1.0000+ 0 ~ 2.0000+ 0	4.8684+ 2	1.2420+ 1		1.0893+ 2	3.6548+ 2			3.2745+ 0	1.1983+ 3	2.9801- 1	2.7780- 3
2.0000+ 0 ~ 4.0000+ 0	3.4722+ 2	1.2407+ 1		7.6434+ 1	2.5839+ 2			3.2745+ 0	8.4677+ 2	2.9573- 1	2.7780- 3
4.0000+ 0 ~ 7.0000+ 0	2.5833+ 2	1.2398+ 1		5.6090+ 1	1.8984+ 2			3.2745+ 0	6.2198+ 2	2.9543- 1	2.7780- 3
7.0000+ 0 ~ 1.0000+ 1	2.0898+ 2	1.2389+ 1		4.4782+ 1	1.5183+ 2			3.2745+ 0	4.9746+ 2	2.9488- 1	2.7856- 3
1.0000+ 1 ~ 2.0000+ 1	1.8169+ 2	1.2371+ 1		3.3785+ 1	1.1547+ 2			3.2745+ 0	3.7860+ 2	2.9245- 1	2.7938- 3
2.0000+ 1 ~ 4.0000+ 1	1.1782+ 2	1.2345+ 1		2.3661+ 1	8.1608+ 1			3.2745+ 0	2.6745+ 2	2.8983- 1	2.8097- 3
4.0000+ 1 ~ 7.0000+ 1	8.9404+ 1	1.2311+ 1		1.7145+ 1	5.9945- 1			3.2745+ 0	1.9640+ 2	2.8594- 1	2.8361- 3
7.0000+ 1 ~ 1.0000+ 2	7.3787+ 1	1.2281+ 1		1.3551+ 1	4.7933+ 1			3.2745+ 0	1.5705+ 2	2.8266- 1	2.8683- 3
1.0000+ 2 ~ 2.0000+ 2	5.8797+ 1	1.2234+ 1		1.0109+ 1	3.6451+ 1			3.2745+ 0	1.1961+ 2	2.7713- 1	2.9397- 3
2.0000+ 2 ~ 4.0000+ 2	4.4879+ 1	1.2181+ 1		6.9441+ 0	2.5772+ 1			3.2746+ 0	8.4462+ 1	2.6919- 1	3.1039- 3
4.0000+ 2 ~ 7.0000+ 2	3.5956+ 1	1.2075+ 1		4.9242+ 0	1.8956+ 1			3.2746+ 0	6.2108+ 1	2.5953- 1	3.3821- 3
7.0000+ 2 ~ 1.0000+ 3	3.1014+ 1	1.2000+ 1		3.8242+ 0	1.5189+ 1			3.2746+ 0	4.9767+ 1	2.5168- 1	3.7236- 3
1.0000+ 3 ~ 2.0000+ 3	2.8338+ 1	1.1892+ 1		2.8309+ 0	1.1811+ 1			3.2748+ 0	3.8071+ 1	2.4347- 1	4.4921- 3
2.0000+ 3 ~ 4.0000+ 3	2.1940+ 1	1.1712+ 1		1.9048+ 0	8.3222+ 0			3.2750+ 0	2.7276+ 1	2.2846- 1	6.2921- 3
4.0000+ 3 ~ 7.0000+ 3	1.9138+ 1	1.1508+ 1		1.3587+ 0	6.2738+ 0			3.2754+ 0	[illegible].0559+ 1	2.1603- 1	9.4009- 3
7.0000+ 3 ~ 1.0000+ 4	1.7578+ 1	1.1322+ 1		1.0750+ 0	5.1806+ 0			3.2760+ 0	1.6980+ 1	2.0740- 1	1.3274- 2
1.0000+ 4 ~ 2.0000+ 4	1.6063+ 1	1.1021+ 1		8.3503- 1	4.2080+ 0			3.2771+ 0	1.3795+ 1	1.9833- 1	2.2110- 2
2.0000+ 4 ~ 4.0000+ 4	1.4577+ 1	1.0521+ 1		8.4279- 1	3.4128+ 0			3.2797+ 0	1.1196+ 1	1.8818- 1	4.2704- 2
4.0000+ 4 ~ 7.0000+ 4	1.3471+ 1	9.9043+ 0	1.8846- 2	5.2871- 1	3.0234+ 0			3.2840+ 0	9.9302+ 0	1.7409- 1	7.6886- 2
7.0000+ 4 ~ 1.0000+ 5	1.2692+ 1	9.3165+ 0	6.8880- 2	4.5045- 1	2.8868+ 0			3.2891+ 0	9.4293+ 0	1.5709- 1	1.1635- 1
1.0000+ 5 ~ 2.0000+ 5	1.1584+ 1	8.3674+ 0	1.4152- 1	3.7919- 1	2.7158+ 0			3.3003+ 0	8.9637+ 0	1.3958- 1	1.8981- 1
2.0000+ 5 ~ 4.0000+ 5	9.9244+ 0	6.8841+ 0	3.2137- 1	3.8025- 1	2.3585+ 0			3.3261+ 0	7.8474+ 0	1.6208- 1	3.0808- 1
4.0000+ 5 ~ 7.0000+ 5	8.2557+ 0	5.3335+ 0	6.4240- 1	4.4151- 1	1.8380+ 0			3.3691+ 0	6.1934+ 0	2.4247- 1	4.1636- 1
7.0000+ 5 ~ 1.0000+ 6	7.2819+ 0	4.2883+ 0	9.8133- 1	4.3388- 1	1.6075+ 0			3.4207+ 0	5.5003+ 0	2.8953- 1	4.8849- 1
1.0000+ 6 ~ 2.0000+ 6	7.0872+ 0	3.7408+ 0	1.6070+ 0	2.0888- 1	1.5294+ 0			3.5325+ 0	5.4046+ 0	1.3791- 1	5.9418- 1
2.0000+ 6 ~ 4.0000+ 6	7.5585+ 0	4.4215+ 0	1.4420+ 0	3.9083- 2	1.7554+ 0			3.7905+ 0	6.6588+ 0	2.2766- 2	7.5406- 1
4.0000+ 6 ~ 7.0000+ 6	7.2285+ 0	4.2008+ 0	1.2432+ 0	2.8153- 3	1.7443+ 0	3.6993- 2		4.2203+ 0	7.3838+ 0	1.4948- 3	8.2498- 1
7.0000+ 6 ~ 1.0000+ 7	8.1508+ 0	3.1135+ 0	5.8790- 1	8.7957- 5	2.2157+ 0	2.3271- 1		4.7347+ 0	1.0517+ 1	4.2718- 5	8.3210- 1
1.0000+ 7 ~ 2.0000+ 7	8.0283+ 0	2.8860+ 0	4.7652- 1	5.1848- 8	2.3942+ 0	1.1657- 1	1.5297- 1	5.8525+ 0	1.3989+ 1	2.1448- 6	9.0368- 1

MATERIAL =3953

CROSS SECTION

^{242m}Am (3953)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.0895+ 4	5.5233+ 0	0.0000+ 0	3.3837+ 3	1.7326+ 4			3.2746+ 0	5.6734+ 4	1.9425- 1	2.7780- 3
1.0000- 2 ~ 2.0000- 2	9.4848+ 3	5.5824+ 0	0.0000+ 0	1.5481+ 3	7.9329+ 3			3.2746+ 0	2.5976+ 4	1.9491- 1	2.7780- 3
2.0000- 2 ~ 4.0000- 2	7.3694+ 3	5.7228+ 0	0.00[illegible] 0	1.2059+ 3	6.1577+ 3			3.2746+ 0	2.0163+ 4	1.9587- 1	2.7780- 3
4.0000- 2 ~ 7.0000- 2	8.3464+ 3	6.1275+ 0	0.00[illegible] 0	1.0448+ 3	5.2955+ 3			3.2746+ 0	1.7340+ 4	1.9731- 1	2.7780- 3
7.0000- 2 ~ 1.0000- 1	8.0945+ 3	6.9568+ 0	0.0000+ 0	1.0094+ 3	5.0781+ 3			3.2745+ 0	1.6628+ 4	1.9878- 1	2.7780- 3
1.0000- 1 ~ 2.0900- 1	6.9999+ 3	1.0422+ 1	0.0000+ 0	9.9852+ 2	4.9900+ 3			3.2745+ 0	1.6340+ 4	2.0031- 1	2.7780- 3
2.0000- 1 ~ 4.0000- 1	3.1884+ 3	1.4430+ 1	0.0000+ 0	5.1686+ 2	2.6381+ 3			3.2746+ 0	8.6384+ 3	1.9402- 1	2.7780- 3
4.0000- 1 ~ 7.0000- 1	1.4778+ 3	1.2300+ 1	0.0000+ 0	2.3239+ 2	1.2329+ 3			3.2745+ 0	4.0370+ 3	1.8824- 1	2.7780- 3
7.0000- 1 ~ 1.0000+ 0	7.9147+ 2	1.2397+ 1	0.0000+ 0	8.9210+ 1	6.8987+ 2			3.2745+ 0	2.2590+ 3	1.2525- 1	2.7780- 3
1.0000+ 0 ~ 2.0000+ 0	4.5017+ 2	1.1291+ 1	0.0000+ 0	4.0940+ 1	3.9794+ 2			3.2745+ 0	1.3031+ 3	1.0599- 1	2.7808- 3
2.0000+ 0 ~ 4.0000+ 0	3.3382+ 2	1.0858+ 1	0.0000+ 0	4.6061+ 1	2.7683+ 2			3.2745+ 0	9.0660+ 2	1.6464- 1	2.7857- 3
4.0000+ 0 ~ 7.0000+ 0	2.5225+ 2	1.2223+ 1	0 0000+ 0	3.5385+ 1	2.0485+ 2			3.2745+ 0	6.7012+ 2	1.7766- 1	2.7901- 3
7.0000+ 0 ~ 1.0000+ 1	8.5125+ 1	1.1747+ 1	0.0000+ 0	7.8469+ 0	6.5531+ 1			3.2745+ 0	2.1458+ 2	1.1928- 1	2.7932- 3
1.0000+ 1 ~ 2.0000+ 1	1.3988+ 2	1.2116+ 1	2.1274- 9	1.4399+ 1	1.1337+ 2			3.2745+ 0	3.7124+ 2	1.2930- 1	2.7972- 3
2.0000+ 1 ~ 4.0000+ 1	1.1477+ 2	1.2015+ 1	4.3246- 8	1.7318+ 1	8.5443+ 1			3.2745+ 0	2.7978+ 2	7.0347- 1	2.8193- 3
4.0000+ 1 ~ 7.0000+ 1	8.4857+ 1	1.2003+ 1	1.0577- 7	1.2842+ 1	6.0212+ 1			3.2745+ 0	1.9717+ 2	2.1538- 1	2.8608- 3
7.0000+ 1 ~ 1.0000+ 2	6.6727+ 1	1.1991+ 1	1.5097- 7	1.0086+ 1	4.4670+ 1			3.2745+ 0	1.4627+ 2	2.2576- 1	2.8735- 3
1.0000+ 2 ~ 2.0000+ 2	5.3219+ 1	1.1873+ 1	2.8097- 8	7.8188+ 0	9.3828+ 1			3.2745+ 0	1.1011+ 2	2.2599- 1	3.0491- 3
2.0000+ 2 ~ 4.0000+ 2	4.1409+ 1	1.1941+ 1	7.6498- 8	5.3393+ 0	2.4129+ 1			3.2746+ 0	7.9011+ 1	2.2456- 1	3.3485- 3
4.0000+ 2 ~ 7.0000+ 2	3.1711+ 1	1.1902+ 1	1.1739- 5	3.8893+ 0	1.5920+ 1			3.2746+ 0	5.2131+ 1	2.4391- 1	3.6132- 3
7.0000+ 2 ~ 1.0000+ 3	2.6254+ 1	1.1865+ 1	1.4788- 5	3.0853+ 0	1.3294+ 1			3.2748+ 0	4.3533+ 1	2.3258- 1	3.8045- 3
1.0000+ 3 ~ 2.0000+ 3	2.5189+ 1	1.1804+ 1	9.7480- 6	2.3585+ 0	1.1028+ 1			3.2748+ 0	3.6118+ 1	2.1323- 1	4.5328- 3
2.0000+ 3 ~ 4.0000+ 3	2.1136+ 1	1.1698+ 1	1.8469- 4	1.6724+ 0	7.7867+ 0			3.2750+ 0	2.5498+ 1	2.1563- 1	6.3893- 3
4.0000+ 3 ~ 7.0000+ 3	1.8798+ 1	1.1581+ 1	4.6885- 4	1.2857+ 0	5.9704+ 0			3.2754+ 0	1.9555+ 1	2.1187- 1	9.4615- 3
7.0000+ 3 ~ 1.0000+ 4	1.7488+ 1	1.1432+ 1	1.0370- 3	1.0588+ 0	4.9760+ 0			3.2760+ 0	1.6301+ 1	2.1292- 1	1.3444- 2
1.0000+ 4 ~ 2.0000+ 4	1.6120+ 1	1.1214+ 1	2.7258- 3	8.8389- 1	4.0183+ 0			3.2771+ 0	1.3171+ 1	2.2000- 1	2.2032- 2
2.0000+ 4 ~ 4.0000+ 4	1.4716+ 1	1.0893+ 1	8.3929- 3	7.4649- 1	3.2872+ 0			3.2797+ 0	1.0728+ 1	2.2886- 1	4.2515- 2
4.0000+ 4 ~ 7.0000+ 4	1.3472+ 1	9.9705+ 0	2.0482- 2	6.1491- 1	2.8884+ 0			3.2840+ 0	9.4164+ 0	2.1434- 1	7.6927- 2
7.0000+ 4 ~ 1.0000+ 5	1.2891+ 1	9.3858+ 0	6.0475- 2	4.9780- 1	2.7867+ 0			3.2891+ 0	9.1012+ 0	1.7987- 1	1.1579- 1
1.0000+ 5 ~ 2.0000+ 5	1.1591+ 1	8.3988+ 0	2.1172- 1	3.9129- 1	2.5900+ 0			3.3003+ 0	8.5598+ 0	1.5084- 1	1.8918- 1
2.0000+ 5 ~ 4.0000+ 5	9.9258+ 0	6.8235+ 0	4.7974- 1	2.8474- 1	2.3374+ 0			3.3281+ 0	7.7828+ 0	1.2153- 1	3.1037- 1
4.0000+ 5 ~ 7.0000+ 5	8.2818+ 0	5.2029+ 0	8.0425- 1	2.2882- 1	2.0257+ 0			3.3891+ 0	6.8304+ 0	1.1304- 1	4.2720- 1
7.0000+ 5 ~ 1.0000+ 6	7.2822+ 0	4.1770+ 0	1.1544+ 0	2.1388- 1	1.7382+ 0			3.4207+ 0	5.9415+ 0	1.2314- 1	4.9845- 1
1.0000+ 6 ~ 2.0000+ 6	7.0800+ 0	3.8898+ 0	1.5959+ 0	1.0487- 1	1.6843+ 0			3.5325+ 0	5.9520+ 0	8.3036- 2	5.9405- 1
2.0000+ 6 ~ 4.0000+ 6	7.6694+ 0	4.4372+ 0	1.4158+ 0	1.2898- 2	1.8027+ 0			3.7905+ 0	6.8319+ 0	7.0201- 3	7.5488- 1
4.0000+ 6 ~ 7.0000+ 6	7.2342+ 0	4.2087+ 0	1.3316+ 0	4.4202- 4	1.6557+ 0	3.6993- 2		4.2203+ 0	6.9949+ 0	2.6878- 4	8.2510- 1
7.0000+ 6 ~ 1.0000+ 7	6.1494+ 0	3.1123+ 0	8.4558- 1	1.4059- 5	2.1572+ 0	2.3271- 1		4.7347+ 0	1.0238+ 1	6.9095- 6	8.3212- 1
1.0000+ 7 ~ 2.0000+ 7	6.0027+ 0	2.8802+ 0	4.1978- 1	1.3382- 8	2.4334+ 0	1.1625- 1	1.5297- 1	5.8525+ 0	1.4228+ 1	5.6390- 7	9.0346- 1

MATERIAL =3954

CROSS SECTION

^{243}Am (3954)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.4654+ 2	7.5232+ 0		2.3866+ 2	3.5810- 1				3.2095+ 0	1.1493+ 0	6.6717+ 2		2.7666- 3
1.0000- 2 ~ 2.0000- 2	1.1066+ 2	7.5036+ 0		1.0291+ 2	1.5324- 1				3.2095+ 0	4.9169- 1	6.7169+ 2		2.7666- 3
2.0000- 2 ~ 4.0000- 2	8.1233+ 1	7.4741+ 0		7.3650+ 1	1.0860- 1				3.2095+ 0	3.4856- 1	6.7848+ 2		2.7666- 3
4.0000- 2 ~ 7.0000- 2	6.2827+ 1	7.4242+ 0		5.5323+ 1	8.0251- 2				3.2095+ 0	2.5756- 1	6.8960+ 2		2.7666- 3
7.0000- 2 ~ 1.0000- 1	5.2978+ 1	7.3834+ 0		4.5550+ 1	6.4804- 2				3.2096+ 0	2.0799- 1	7.0327+ 2		2.7666- 3
1.0000- 1 ~ 2.0000- 1	4.4332+ 1	7.2281+ 0		3.7055+ 1	5.0791- 2				3.2095+ 0	1.6301- 1	7.3064+ 2		2.7666- 3
2.0000- 1 ~ 4.0000- 1	4.2864+ 1	8.6671+ 0		3.6934+ 1	5.2741- 2				3.2096+ 0	1.6927- 1	7.0823+ 2		2.7666- 3
4.0000- 1 ~ 7.0000- 1	5.2324+ 1	6.1854+ 0		4.6070+ 1	6.8470- 2				3.2095+ 0	2.1976- 1	6.0336+ 2		2.7666- 3
7.0000- 1 ~ 1.0000+ 0	1.4564+ 2	4.8195+ 0		1.4043+ 2	2.8402- 1				3.2095+ 0	9.1157- 1	7.7051+ 2		2.7666- 3
1.0000+ 0 ~ 2.0000+ 0	1.9270+ 3	4.6958+ 1		1.8795+ 3	1.5328+ 0				3.2095+ 0	4.9194+ 0	1.0881+ 3		2.7674- 3
2.0000+ 0 ~ 4.0000+ 0	1.1160+ 2	1.1284+ 1		1.0033+ 2	1.8194- 1				3.2095+ 0	5.8392- 1	6.0610+ 2		2.7689- 3
4.0000+ 0 ~ 7.0000+ 0	1.6319+ 2	1.0993+ 1		1.4166+ 2	3.4228- 1				3.2095+ 0	1.0985+ 0	4.6902+ 2		2.7703- 3
7.0000+ 0 ~ 1.0000+ 1	1.6479+ 2	1.2859+ 1		1.4169+ 2	1.8377- 1				3.2095+ 0	5.8983- 1	6.6064+ 2		2.7712- 3
1.0000+ 1 ~ 2.0000+ 1	1.2458+ 2	1.4019+ 1		1.1027+ 2	2.7346- 1				3.2095+ 0	8.7766- 1	3.9208+ 2		2.7797- 3
2.0000+ 1 ~ 4.0000+ 1	7.5029+ 1	1.1207+ 1		6.3554+ 1	2.6718- 1				3.2095+ 0	8.5752- 1	2.8397+ 2		2.7943- 3
4.0000+ 1 ~ 7.0000+ 1	5.2925+ 1	1.1459+ 1		4.1336+ 1	1.3722- 1				3.2095+ 0	4.4042- 1	3.0340+ 2		2.8071- 3
7.0000+ 1 ~ 1.0000+ 2	4.7390+ 1	1.2388+ 1		3.4695+ 1	1.0737- 1				3.2095+ 0	3.4461- 1	3.2491+ 2		2.8164- 3
1.0000+ 2 ~ 2.0000+ 2	4.9041+ 1	1.5878+ 1		3.3260+ 1	1.0234- 1				3.2095+ 0	3.2846- 1	3.2499+ 2		2.9138- 3
2.0000+ 2 ~ 4.0000+ 2	3.4300+ 1	1.3809+ 1		2.0429+ 1	6.2546- 2				3.2095+ 0	2.0074- 1	3.2662+ 2		3.0823- 3
4.0000+ 2 ~ 7.0000+ 2	2.8131+ 1	1.3818+ 1		1.4469+ 1	4.4288- 2				3.2096+ 0	1.4215- 1	3.2669+ 2		3.2311- 3
7.0000+ 2 ~ 1.0000+ 3	2.4793+ 1	1.3447+ 1		1.1311+ 1	3.4628- 2				3.2096+ 0	1.1114- 1	3.2665+ 2		3.3387- 3
1.0000+ 3 ~ 2.0000+ 3	2.1585+ 1	1.3208+ 1		8.3338+ 0	2.5517- 2				3.2097+ 0	8.1903- 2	3.2659+ 2		3.7693- 3
2.0000+ 3 ~ 4.0000+ 3	1.8821+ 1	1.2886+ 1		5.9167+ 0	1.8120- 2				3.2100+ 0	5.8163- 2	3.2653+ 2		4.9381- 3
4.0000+ 3 ~ 7.0000+ 3	1.6781+ 1	1.2540+ 1		4.2277+ 0	1.2949- 2				3.2104+ 0	4.1571- 2	3.2648+ 2		6.9596- 3
7.0000+ 3 ~ 1.0000+ 4	1.5781+ 1	1.2299+ 1		3.4773+ 0	1.0652- 2				3.2109+ 0	3.4200- 2	3.2645+ 2		9.7192- 3
1.0000+ 4 ~ 2.0000+ 4	1.4834+ 1	1.1998+ 1		2.8301+ 0	8.6704- 3				3.2119+ 0	2.7848- 2	3.2641+ 2		1.5952- 2
2.0000+ 4 ~ 4.0000+ 4	1.3955+ 1	1.1712+ 1		2.2359+ 0	6.9766- 3				3.2143+ 0	2.2434- 2	3.2029+ 2		3.1727- 2
4.0000+ 4 ~ 7.0000+ 4	1.3401+ 1	1.1487+ 1	1.3629- 1	1.7708+ 0	6.5431- 3				3.2183+ 0	2.1053- 2	2.7068+ 2		5.9047- 2
7.0000+ 4 ~ 1.0000+ 5	1.2982+ 1	1.1150+ 1	4.0102- 1	1.4028+ 0	6.8800- 3				3.2231+ 0	2.2159- 2	2.0422+ 2		9.1406- 2
1.0000+ 5 ~ 2.0000+ 5	1.2187+ 1	1.0197+ 1	1.0798+ 0	9.0043- 1	8.7892- 3				3.2335+ 0	2.8344- 2	1.0623+ 2		1.5910- 1
2.0000+ 5 ~ 4.0000+ 5	1.0864+ 1	8.4723+ 0	1.8009+ 0	5.8407- 1	1.5803- 2				3.2575+ 0	5.1503- 2	3.7992+ 1		2.7641- 1
4.0000+ 5 ~ 7.0000+ 5	8.7879+ 0	6.1943+ 0	2.1439+ 0	3.8243- 1	6.5565- 2				3.2975+ 0	2.1714- 1	8.6275+ 0		3.9949- 1
7.0000+ 5 ~ 1.0000+ 6	7.6548+ 0	4.5306+ 0	2.2458+ 0	2.6827- 1	5.0951- 1				3.3455+ 0	1.7128+ 0	7.2932- 1		4.7498- 1
1.0000+ 6 ~ 2.0000+ 6	7.0316+ 0	3.5578+ 0	1.9475+ 0	1.2095- 1	1.4043+ 0				3.4495+ 0	4.8495+ 0	8.9496- 2		6.5240- 1
2.0000+ 6 ~ 4.0000+ 6	7.6148+ 0	4.4571+ 0	1.5612+ 0	2.1560- 2	1.4734+ 0				3.6895+ 0	5.4348+ 0	1.4484- 2		7.0992- 1
4.0000+ 6 ~ 7.0000+ 6	7.4794+ 0	4.6619+ 0	1.2260+ 0	8.0136- 4	1.5868+ 0	3.0465- 3			4.0892+ 0	6.5203+ 0	4.7911- 4		8.0228- 1
7.0000+ 6 ~ 1.0000+ 7	6.3148+ 0	3.4228+ 0	3.7942- 1	6.1042- 6	2.1877+ 0	3.2363- 1			4.5667+ 0	9.9849+ 0	2.7689- 6		8.1522- 1
1.0000+ 7 ~ 2.0000+ 7	6.9007+ 0	2.8340+ 0	2.5654- 1	2.8947- 7	2.1368+ 0	2.8099- 1	3.9151- 1		5.6055+ 0	1.2003+ 1	1.3885- 7		8.6979- 1

MATERIAL =3955

CROSS SECTION

^{244}Am (3955)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	8.9734+ 3	1.1622+ 1		1.8508+ 3	7.0991+ 3				3.1418+ 0	2.2381+ 4	2.6074- 1		2.7552- 3
1.0000- 2 ~ 2.0000- 2	3.8382+ 3	1.1622+ 1		7.9065+ 2	3.0513+ 3				3.1418+ 0	9.5874+ 3	2.6089- 1		2.7552- 3
2.0000- 2 ~ 4.0000- 2	2.7132+ 3	1.1622+ 1		5.6087+ 2	2.1424+ 3				3.1418+ 0	6.7540+ 3	2.6087- 1		2.7552- 3
4.0000- 2 ~ 7.0000- 2	1.9947+ 3	1.1622+ 1		4.1025+ 2	1.5728+ 3				3.1418+ 0	4.9563+ 3	2.6087- 1		2.7552- 3
7.0000- 2 ~ 1.0000- 1	1.9184+ 3	1.1622+ 1		3.8329+ 2	1.5212+ 3				3.1418+ 0	4.7979+ 3	2.6198- 1		2.7552- 3
1.0000- 1 ~ 2.0000- 1	1.4804+ 3	1.1622+ 1		2.9159+ 2	1.1587+ 3				3.1418+ 0	3.6514+ 3	2.6209- 1		2.7552- 3
2.0000- 1 ~ 4.0000- 1	1.0363+ 3	1.1622+ 1		2.0819+ 2	8.1750+ 2				3.1418+ 0	2.6718+ 3	2.6221- 1		2.7552- 3
4.0000- 1 ~ 7.0000- 1	7.6388+ 2	1.1622+ 1		1.5159+ 2	6.0079+ 2				3.1418+ 0	1.8885+ 3	2.5224- 1		2.7552- 3
7.0000- 1 ~ 1.0000+ 0	6.1331+ 2	1.1622+ 1		1.2121+ 2	4.8048+ 2				3.1418+ 0	1.5105+ 3	2.5226- 1		2.7552- 3
1.0000+ 0 ~ 2.0000+ 0	4.6838+ 2	1.1621+ 1		9.2280+ 1	3.6548+ 2				3.1418+ 0	1.1498+ 3	2.5250- 1		2.7570- 3
2.0000+ 0 ~ 4.0000+ 0	3.3834+ 2	1.1617+ 1		6.5346+ 1	2.5838+ 2				3.1418+ 0	8.1245+ 2	2.5292- 1		2.7603- 3
4.0000+ 0 ~ 7.0000+ 0	2.4984+ 2	1.1615+ 1		4.8086+ 1	1.8984+ 2				3.1418+ 0	5.9677+ 2	2.5330- 1		2.7632- 3
7.0000+ 0 ~ 1.0000+ 1	2.0194+ 2	1.1613+ 1		3.8498+ 1	1.5183+ 2				3.1418+ 0	4.7730+ 2	2.5357- 1		2.7663- 3
1.0000+ 1 ~ 2.0000+ 1	1.5828+ 2	1.1605+ 1		2.9182+ 1	1.1547+ 2				3.1418+ 0	3.6325+ 2	2.5267- 1		2.7829- 3
2.0000+ 1 ~ 4.0000+ 1	1.1388+ 2	1.1592+ 1		2.0478+ 1	8.1808+ 1				3.1418+ 0	2.5681+ 2	2.5087- 1		2.8131- 3
4.0000+ 1 ~ 7.0000+ 1	8.8475+ 1	1.1580+ 1		1.4947+ 1	5.9946+ 1				3.1418+ 0	1.8845+ 2	2.4931- 1		2.8397- 3
7.0000+ 1 ~ 1.0000+ 2	7.1404+ 1	1.1572+ 1		1.1897+ 1	4.7933+ 1				3.1418+ 0	1.5069+ 2	2.4818- 1		2.8590- 3
1.0000+ 2 ~ 2.0000+ 2	5.8674+ 1	1.1648+ 1		8.8745+ 0	3.8451+ 1				3.1418+ 0	1.1487+ 2	2.4812- 1		3.0416- 3
2.0000+ 2 ~ 4.0000+ 2	4.3548+ 1	1.1504+ 1		6.2874+ 0	2.5772+ 1				3.1419+ 0	8.1039+ 1	2.4309- 1		3.3561- 3
4.0000+ 2 ~ 7.0000+ 2	3.4980+ 1	1.1488+ 1		4.5550+ 0	1.8956+ 1				3.1419+ 0	5.9591+ 1	2.4023- 1		3.6340- 3
7.0000+ 2 ~ 1.0000+ 3	3.0248+ 1	1.1442+ 1		3.8141+ 0	1.5169+ 1				3.1419+ 0	4.7751+ 1	2.3792- 1		3.8349- 3
1.0000+ 3 ~ 2.0000+ 3	2.8744+ 1	1.1388+ 1		2.7488+ 0	1.1811+ 1				3.1421+ 0	3.8528+ 1	2.3854- 1		4.5898- 3
2.0000+ 3 ~ 4.0000+ 3	2.1648+ 1	1.1275+ 1		1.9507+ 0	8.3222+ 0				3.1424+ 0	2.6171+ 1	2.3430- 1		6.5112- 3
4.0000+ 3 ~ 7.0000+ 3	1.8665+ 1	1.1137+ 1		1.4538+ 0	6.2738+ 0				3.1428+ 0	1.9727+ 1	2.3167- 1		9.6698- 3
7.0000+ 3 ~ 1.0000+ 4	1.7974+ 1	1.0997+ 1		1.1968+ 0	5.1606+ 0				3.1434+ 0	1.6292+ 1	2.3100- 1		1.3769- 2
1.0000+ 4 ~ 2.0000+ 4	1.5888+ 1	1.0750+ 1		9.3043- 1	4.2060+ 0				3.1445+ 0	1.3237+ 1	2.2131- 1		2.2621- 2
2.0000+ 4 ~ 4.0000+ 4	1.4531+ 1	1.0317+ 1		8.0117- 1	3.4128+ 0				3.1473+ 0	1.0745+ 1	2.3480- 1		4.3974- 2
4.0000+ 4 ~ 7.0000+ 4	1.3487+ 1	9.7458+ 0		7.1824- 1	3.0234+ 0				3.1519+ 0	9.5309+ 0	2.3758- 1		7.9727- 2
7.0000+ 4 ~ 1.0000+ 5	1.2762+ 1	9.2028+ 0	5.2862-10	6.8314- 1	2.8666+ 0				3.1574+ 0	9.0518+ 0	2.3831- 1		1.1987- 1
1.0000+ 5 ~ 2.0000+ 5	1.1899+ 1	8.3010+ 0	3.7121- 3	6.7840- 1	2.7158+ 0				3.1684+ 0	8.6082+ 0	2.4999- 1		1.9583- 1
2.0000+ 5 ~ 4.0000+ 5	1.0048+ 1	6.6678+ 0	7.8770- 2	7.5288- 1	2.3685+ 0				3.1970+ 0	7.5428+ 0	3.2139- 1		3.1748- 1
4.0000+ 5 ~ 7.0000+ 5	8.3878+ 0	5.3208+ 0	3.8577- 1	8.2265- 1	1.8390+ 0				3.2430+ 0	5.9814+ 0	4.4912- 1		4.2931- 1
7.0000+ 5 ~ 1.0000+ 6	7.3860+ 0	4.2167+ 0	9.0158- 1	6.3919- 1	1.6075+ 0				3.2982+ 0	5.3039+ 0	3.9699- 1		5.0388- 1
1.0000+ 6 ~ 2.0000+ 6	7.1187+ 0	3.8871+ 0	1.5868+ 0	3.1238- 1	1.5294+ 0				3.4176+ 0	5.2293+ 0	2.0858- 1		6.9847- 1
2.0000+ 6 ~ 4.0000+ 6	7.8888+ 0	4.4298+ 0	1.4400+ 0	4.0728- 2	1.7554+ 0				3.6930+ 0	6.4893+ 0	2.3081- 2		7.5327- 1
4.0000+ 6 ~ 7.0000+ 6	7.2727+ 0	4.2382+ 0	9.9487- 1	1.4468- 3	1.7443+ 0	2.9247- 1			4.1538+ 0	7.2478+ 0	8.2555- 4		8.2522- 1
7.0000+ 6 ~ 1.0000+ 7	8.1962+ 0	3.1478+ 0	5.8018- 2	7.4970- 6	2.2157+ 0	7.7517- 1			4.7058+ 0	1.0465+ 1	3.7384- 6		8.3381- 1
1.0000+ 7 ~ 2.0000+ 7	8.0230+ 0	2.8888+ 0	1.0000- 2	2.0491- 7	2.3942+ 0	2.5397- 1	4.6103- 1		5.9018+ 0	1.4084+ 1	8.4288- 8		9.0349- 1

MATERIAL =3956

CROSS SECTION

^{244m}Am (3956)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N.2N)	(N.3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	6.1915+ 3	1.1622+ 1	0.0000+ 0	1.2335+ 3	4.9343+ 3				3.1418+ 0	1.5557+ 4	2.4998- 1		2.7552- 3
1.0000- 2 ~ 2.0000- 2	2.8497+ 3	1.1622+ 1	0.0000+ 0	5.2708+ 2	2.1083+ 3				3.1418+ 0	6.6475+ 3	2.5000- 1		2.7552- 3
2.0000- 2 ~ 4.0000- 2	1.8754+ 3	1.1622+ 1	0.0000+ 0	3.7258+ 2	1.4908+ 3				3.1418+ 0	4.6999+ 3	2.4991- 1		2.7552- 3
4.0000- 2 ~ 7.0000- 2	1.3810+ 3	1.1622+ 1	0.0000+ 0	2.7360+ 2	1.0957+ 3				3.1418+ 0	3.4531+ 3	2.4961- 1		2.7552- 3
7.0000- 2 ~ 1.0000- 1	1.9164+ 3	1.1622+ 1	0.0000+ 0	3.8329+ 2	1.5212+ 3				3.1418+ 0	4.7979+ 3	2.5196- 1		2.7552- 3
1.0000- 1 ~ 2.0000- 1	1.4604+ 3	1.1622+ 1	0.0000+ 0	2.9159+ 2	1.1567+ 3				3.1418+ 0	3.6514+ 3	2.5209- 1		2.7552- 3
2.0000- 1 ~ 4.0000- 1	1.0369+ 3	1.1622+ 1	0.0000+ 0	2.0619+ 2	8.1760+ 2				3.1418+ 0	2.5718+ 3	2.6221- 1		2.7662- 3
4.0000- 1 ~ 7.0000- 1	7.8388+ 2	1.1622+ 1	0.0000+ 0	1.5153+ 2	6.0073+ 2				3.1418+ 0	1.8885+ 3	2.5224- 1		2.7552- 3
7.0000- 1 ~ 1.0000+ 0	6.1331+ 2	1.1622+ 1	0.0000+ 0	1.2121+ 2	4.8048+ 2				3.1418+ 0	1.5105+ 3	2.5228- 1		2.7552- 3
1.0000+ 0 ~ 2.0000+ 0	4.6938+ 2	1.1620+ 1	0.0000+ 0	9.2281+ 1	3.6548+ 2				3.1418+ 0	1.1498+ 3	2.5250- 1		2.7570- 3
2.0000+ 0 ~ 4.0000+ 0	3.3534+ 2	1.1617+ 1	0.0000+ 0	6.5347+ 1	2.5838+ 2				3.1418+ 0	8.1245+ 2	2.5292- 1		2.7603- 3
4.0000+ 0 ~ 7.0000+ 0	2.4954+ 2	1.1614+ 1	0.0000+ 0	4.8087+ 1	1.8984+ 2				3.1418+ 0	5.9677+ 2	2.5331- 1		2.7632- 3
7.0000+ 0 ~ 1.0000+ 1	2.0194+ 2	1.1612+ 1	0.0000+ 0	3.8500+ 1	1.5183+ 2				3.1418+ 0	4.7730+ 2	2.5358- 1		2.7653- 3
1.0000+ 1 ~ 2.0000+ 1	1.5628+ 2	1.1604+ 1	0.0000+ 0	2.9183+ 1	1.1547+ 2				3.1418+ 0	3.6325+ 2	2.5268- 1		2.7829- 3
2.0000+ 1 ~ 4.0000+ 1	1.1368+ 2	1.1591+ 1	0.0000+ 0	2.0479+ 1	8.1608+ 1				3.1418+ 0	2.5661+ 2	2.5089- 1		2.8131- 3
4.0000+ 1 ~ 7.0000+ 1	8.6475+ 1	1.1579+ 1	0.0000+ 0	1.4949+ 1	5.9945+ 1				3.1418+ 0	1.8845+ 2	2.4933- 1		2.8397- 3
7.0000+ 1 ~ 1.0000+ 2	7.1404+ 1	1.1571+ 1	0.0000+ 0	1.1898+ 1	4.7933+ 1				3.1418+ 0	1.5069+ 2	2.4822- 1		2.8590- 3
1.0000+ 2 ~ 2.0000+ 2	5.8875+ 1	1.1544+ 1	0.0000+ 0	8.8763+ 0	3.8451+ 1				3.1418+ 0	1.1467+ 2	2.4617- 1		3.0416- 3
2.0000+ 2 ~ 4.0000+ 2	4.3546+ 1	1.1503+ 1	0.0000+ 0	6.2696+ 0	2.5772+ 1				3.1419+ 0	8.1039+ 1	2.4318- 1		3.3562- 3
4.0000+ 2 ~ 7.0000+ 2	3.4980+ 1	1.1488+ 1	0.0000+ 0	4.5573+ 0	1.8958+ 1				3.1419+ 0	5.9591+ 1	2.4035- 1		3.6342- 3
7.0000+ 2 ~ 1.0000+ 3	3.0248+ 1	1.1440+ 1	0.0000+ 0	3.6163+ 0	1.5189+ 1				3.1419+ 0	4.7751+ 1	2.3806- 1		3.8351- 3
1.0000+ 3 ~ 2.0000+ 3	2.5744+ 1	1.1382+ 1	0.0000+ 0	2.7482+ 0	1.1811+ 1				3.1421+ 0	3.6528+ 1	2.3875- 1		4.5840- 3
2.0000+ 3 ~ 4.0000+ 3	2.1649+ 1	1.1272+ 1	2.7737- 9	1.9537+ 0	8.3222+ 0				3.1424+ 0	2.6171+ 1	2.3466- 1		6.5122- 3
4.0000+ 3 ~ 7.0000+ 3	1.8865+ 1	1.1194+ 1	9.0808- 9	1.4570+ 0	6.2738+ 0				3.1428+ 0	1.9727+ 1	2.3220- 1		9.6718- 3
7.0000+ 3 ~ 1.0000+ 4	1.7374+ 1	1.0993+ 1	1.9851- 8	1.2005+ 0	5.1808+ 0				3.1434+ 0	1.6292+ 1	2.3172- 1		1.3773- 2
1.0000+ 4 ~ 2.0000+ 4	1.6882+ 1	1.0745+ 1	8.1888- 3	9.2091- 1	4.2060+ 0				3.1446+ 0	1.3237+ 1	2.1905- 1		2.2586- 2
2.0000+ 4 ~ 4.0000+ 4	1.4528+ 1	1.0908+ 1	2.1798- 2	7.8582- 1	3.4128+ 0				3.1479+ 0	1.0745+ 1	2.3024- 1		4.3892- 2
4.0000+ 4 ~ 7.0000+ 4	1.3487+ 1	9.7295+ 0	3.2877- 2	7.0142- 1	3.0234+ 0				3.1519+ 0	9.5309+ 0	2.3198- 1		7.9840- 2
7.0000+ 4 ~ 1.0000+ 5	1.2762+ 1	9.1776+ 0	5.2400- 2	6.5807- 1	2.8668+ 0				3.1574+ 0	9.0518+ 0	2.2885- 1		1.2017- 1
1.0000+ 5 ~ 2.0000+ 5	1.1898+ 1	8.2427+ 0	1.4027- 1	5.9903- 1	2.7156+ 0				3.1694+ 0	8.6082+ 0	2.2058- 1		1.9714- 1
2.0000+ 5 ~ 4.0000+ 5	1.0048+ 1	6.7378+ 0	3.7938- 1	5.7211- 1	2.3585+ 0				3.1970+ 0	7.5426+ 0	2.4349- 1		3.2333- 1
4.0000+ 5 ~ 7.0000+ 5	8.3880+ 0	6.1730+ 0	7.8568- 1	5.7078- 1	1.8380+ 0				3.2430+ 0	5.9614+ 0	3.1212- 1		4.4134- 1
7.0000+ 5 ~ 1.0000+ 6	7.3853+ 0	4.1400+ 0	1.0674+ 0	5.5981- 1	1.6075+ 0				3.2982+ 0	5.3033+ 0	3.4857- 1		5.1266- 1
1.0000+ 6 ~ 2.0000+ 6	7.1187+ 0	3.8749+ 0	1.4227+ 0	4.8887- 1	1.5294+ 0				3.4178+ 0	5.2293+ 0	3.2141- 1		5.9830- 1
2.0000+ 6 ~ 4.0000+ 6	7.8858+ 0	4.4300+ 0	1.3482+ 0	1.3033- 1	1.7554+ 0				3.8938+ 0	6.4893+ 0	7.5970- 2		7.5324- 1
4.0000+ 6 ~ 7.0000+ 6	7.2723+ 0	4.2982+ 0	8.8818- 1	7.5992- 3	1.7449+ 0	2.9247- 1			4.1538+ 0	7.2478+ 0	4.3457- 3		8.2522- 1
7.0000+ 6 ~ 1.0000+ 7	6.1952+ 0	3.1479+ 0	8.5965- 2	4.6003- 5	2.2157+ 0	7.7517- 1			4.7058+ 0	1.0466+ 1	2.2923- 5		8.3381- 1
1.0000+ 7 ~ 2.0000+ 7	6.0222+ 0	2.8898+ 0	9.9994- 3	1.2969- 8	2.3942+ 0	2.5917- 1	4.6103- 1		5.9018+ 0	1.4084+ 1	5.3331- 7		9.0349- 1

MATERIAL =3961

CROSS SECTION

^{241}Cm (3961)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N.2N)	(N.3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.8143+ 3	1.1900+ 1		4.3172+ 2	2.1584+ 3				3.3916+ 0	7.3455+ 3	2.0001- 1		2.7895- 3
1.0000- 2 ~ 2.0000- 2	1.1214+ 3	1.1900+ 1		1.8448+ 2	9.2237+ 2				3.3916+ 0	3.1392+ 3	2.0000- 1		2.7895- 3
2.0000- 2 ~ 4.0000- 2	7.9612+ 2	1.1900+ 1		1.3046+ 2	6.5213+ 2				3.3915+ 0	2.2212+ 3	2.0003- 1		2.7895- 3
4.0000- 2 ~ 7.0000- 2	5.8803+ 2	1.1900+ 1		9.5886+ 1	4.7903+ 2				3.3915+ 0	1.6330+ 3	2.0013- 1		2.7895- 3
7.0000- 2 ~ 1.0000- 1	4.7282+ 2	1.1900+ 1		7.6881+ 1	3.8302+ 2				3.3915+ 0	1.3038+ 3	2.0020- 1		2.7895- 3
1.0000- 1 ~ 2.0000- 1	3.6188+ 2	1.1900+ 1		5.8338+ 1	2.9128+ 2				3.3915+ 0	9.9098+ 2	2.0029- 1		2.7895- 3
2.0000- 1 ~ 4.0000- 1	2.8010+ 2	1.1800+ 1		4.1260+ 1	2.0683+ 2				3.3816+ 0	7.0000+ 2	2.0041- 1		2.7896- 3
4.0000- 1 ~ 7.0000- 1	1.9435+ 2	1.1900+ 1		3.0315+ 1	1.5119+ 2				3.3915+ 0	5.1457+ 2	2.0051- 1		2.7895- 3
7.0000- 1 ~ 1.0000+ 0	1.5735+ 2	1.1900+ 1		2.4248+ 1	1.2089+ 2				3.3915+ 0	4.1174+ 2	2.0058- 1		2.7885- 3
1.0000+ 0 ~ 2.0000+ 0	4.4834+ 2	2.0941+ 1		6.7770+ 1	3.5874+ 2				3.3916+ 0	1.2222+ 3	1.8883- 1		2.7905- 3
2.0000+ 0 ~ 4.0000+ 0	3.2218+ 2	2.0177+ 1		4.5498+ 1	2.5371+ 2				3.3915+ 0	8.6388+ 2	1.7907- 1		2.7923- 3
4.0000+ 0 ~ 7.0000+ 0	2.3970+ 2	1.9626+ 1		3.1822+ 1	1.8848+ 2				3.3915+ 0	6.3420+ 2	1.7101- 1		2.7938- 3
7.0000+ 0 ~ 1.0000+ 1	1.9348+ 2	1.9087+ 1		2.4888+ 1	1.4918+ 2				3.3915+ 0	5.0787+ 2	1.6642- 1		2.7949- 3
1.0000+ 1 ~ 2.0000+ 1	1.4998+ 2	1.8378+ 1		1.7590+ 1	1.1357+ 2				3.3915+ 0	3.8891+ 2	1.5444- 1		2.8059- 3
2.0000+ 1 ~ 4.0000+ 1	1.0938+ 2	1.7482+ 1		1.1252+ 1	8.0403+ 1				3.3915+ 0	2.7377+ 2	1.3955- 1		2.8250- 3
4.0000+ 1 ~ 7.0000+ 1	8.3863+ 1	1.6725+ 1		7.5805+ 0	5.9154+ 1				3.3915+ 0	2.0118+ 2	1.2757- 1		2.8418- 3
7.0000+ 1 ~ 1.0000+ 2	6.9408+ 1	1.6199+ 1		5.6656+ 0	4.7354+ 1				3.3915+ 0	1.6115+ 2	1.1956- 1		2.8539- 3
1.0000+ 2 ~ 2.0000+ 2	5.5814+ 1	1.5592+ 1		3.8815+ 0	3.8013+ 1				3.3915+ 0	1.2270+ 2	1.0781- 1		2.9858- 3
2.0000+ 2 ~ 4.0000+ 2	4.2851+ 1	1.4679+ 1		2.3745+ 0	2.5434+ 1				3.3915+ 0	8.6607+ 1	9.2968- 2		3.2142- 3
4.0000+ 2 ~ 7.0000+ 2	3.4743+ 1	1.4276+ 1		1.5281+ 0	1.8671+ 1				3.3916+ 0	6.3502+ 1	8.1672- 2		3.4160- 3
7.0000+ 2 ~ 1.0000+ 3	3.0008+ 1	1.3854+ 1		1.1110+ 0	1.4923+ 1				3.3918+ 0	5.0787+ 1	7.4364- 2		3.5618- 3
1.0000+ 3 ~ 2.0000+ 3	2.8482+ 1	1.3455+ 1		7.8140- 1	1.1230+ 1				3.3917+ 0	3.8234+ 1	6.9439- 2		4.1213- 3
2.0000+ 3 ~ 4.0000+ 3	2.1452+ 1	1.2974+ 1		6.0347- 1	7.9838+ 0				3.3920+ 0	2.7105+ 1	6.3012- 2		5.5979- 3
4.0000+ 3 ~ 7.0000+ 3	1.8908+ 1	1.2498+ 1		3.3458- 1	6.0742+ 0				3.3924+ 0	2.0665+ 1	5.4953- 2		8.0454- 3
7.0000+ 3 ~ 1.0000+ 4	1.7441+ 1	1.2188+ 1		2.5830- 1	5.0105+ 0				3.3929+ 0	1.7049+ 1	5.1702- 2		1.1142- 2
1.0000+ 4 ~ 2.0000+ 4	1.6018+ 1	1.1729+ 1		1.9528- 1	4.0910+ 0				3.3940+ 0	1.3919+ 1	4.7871- 2		1.8817- 2
2.0000+ 4 ~ 4.0000+ 4	1.4589+ 1	1.1188+ 1		1.5614- 1	3.2228+ 0				3.3984+ 0	1.0996+ 1	4.8567- 2		3.5119- 2
4.0000+ 4 ~ 7.0000+ 4	1.3484+ 1	1.0682+ 1	2.8808- 2	1.3578- 1	2.7092+ 0				3.4008+ 0	9.2239+ 0	5.0028- 2		6.2677- 2
7.0000+ 4 ~ 1.0000+ 5	1.2840+ 1	9.9521+ 0	1.0525- 1	1.0584- 1	2.4783+ 0				3.4056+ 0	8.4428+ 0	4.2543- 2		9.4865- 2
1.0000+ 5 ~ 2.0000+ 5	1.1481+ 1	8.8960+ 0	2.3361- 1	8.5170- 2	2.2448+ 0				3.4184+ 0	7.6882+ 0	3.7868- 2		1.5614- 1
2.0000+ 5 ~ 4.0000+ 5	9.8653+ 0	7.1492+ 0	4.2374- 1	7.1488- 2	2.0100+ 0				3.4413+ 0	6.9249+ 0	3.5558- 2		2.5951- 1
4.0000+ 5 ~ 7.0000+ 6	7.8825+ 0	6.2780+ 0	5.4025- 1	6.1908- 2	1.8719+ 0				3.4828+ 0	6.8872+ 0	3.1448- 2		3.6606- 1
7.0000+ 5 ~ 1.0000+ 6	6.8277+ 0	4.0724+ 0	8.4119- 1	5.3224- 2	2.0802+ 0				3.5326+ 0	7.2774+ 0	2.6842- 2		4.3784- 1
1.0000+ 6 ~ 2.0000+ 6	6.0898+ 0	3.7087+ 0	1.1332+ 0	5.1857- 2	1.8745+ 0				3.8405+ 0	7.1908+ 0	2.8284- 2		5.3541- 1
2.0000+ 6 ~ 4.0000+ 6	7.8191+ 0	4.7250+ 0	1.2836+ 0	1.8383- 2	1.8116+ 0				3.8895+ 0	7.0457+ 0	8.9302- 3		7.3166- 1
4.0000+ 6 ~ 7.0000+ 6	7.3066+ 0	4.4818+ 0	9.5708- 1	6.7708- 4	1.8155+ 0	6.7488- 2			4.3044+ 0	7.8232+ 0	3.8288- 4		8.0359- 1
7.0000+ 6 ~ 1.0000+ 7	8.0819+ 0	3.1877+ 0	1.2533- 1	2.5989- 8	1.9785+ 0	7.6938- 1			4.8021+ 0	9.4898+ 0	1.3083- 8		8.0038- 1
1.0000+ 7 ~ 2.0000+ 7	5.9456+ 0	2.8988+ 0	1.7132- 3	1.2828- 9	2.3454+ 0	4.4974- 1	2.5108- 1		5.8810+ 0	1.3863+ 1	6.3888-10		8.9327- 1

MATERIAL =3962 CROSS SECTION

^{242}Cm (3962)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	7.7186+ 1	1.1620+ 1		4.5778+ 1	1.6787+ 1				3.2521+ 0	5.1340+ 1	3.1522+ 0		2.7780- 3
1.0000- 2 ~ 2.0000- 2	3.9478+ 1	1.1616+ 1		2.1149+ 1	8.7203+ 0				3.2521+ 0	2.1855+ 1	3.1480+ 0		2.7780- 3
2.0000- 2 ~ 4.0000- 2	3.1170+ 1	1.1607+ 1		1.4835+ 1	4.7289+ 0				3.2521+ 0	1.5379+ 1	3.1368+ 0		2.7780- 3
4.0000- 2 ~ 7.0000- 2	2.6607+ 1	1.1594+ 1		1.0765+ 1	3.4483+ 0				3.2521+ 0	1.1214+ 1	3.1212+ 0		2.7780- 3
7.0000- 2 ~ 1.0000- 1	2.2791+ 1	1.1578+ 1		8.4804+ 0	2.7327+ 0				3.2521+ 0	8.8869+ 0	3.1027+ 0		2.7780- 3
1.0000- 1 ~ 2.0000- 1	1.9807+ 1	1.1545+ 1		6.2298+ 0	2.0923+ 0				3.2521+ 0	6.8092+ 0	3.0891+ 0		2.7780- 3
2.0000- 1 ~ 4.0000- 1	1.8847+ 1	1.1474+ 1		4.0873+ 0	1.3755+ 0				3.2521+ 0	4.4732+ 0	2.9740+ 0		2.7780- 3
4.0000- 1 ~ 7.0000- 1	1.4987+ 1	1.1387+ 1		2.8770+ 0	9.4309- 1				3.2521+ 0	3.0670+ 0	2.8929+ 0		2.7780- 3
7.0000- 1 ~ 1.0000+ 0	1.3930+ 1	1.1254+ 1		1.8761+ 0	7.0047- 1				3.2521+ 0	2.2780+ 0	2.6797+ 0		2.7780- 3
1.0000+ 0 ~ 2.0000+ 0	1.2882+ 1	1.1055+ 1		1.1344+ 0	4.7299- 1				3.2521+ 0	1.5382+ 0	2.3786+ 0		2.7785- 3
2.0000+ 0 ~ 4.0000+ 0	1.1548+ 1	1.0729+ 1		5.3776- 1	2.7904- 1				3.2521+ 0	9.0746- 1	1.9035+ 0		2.7793- 3
4.0000+ 0 ~ 7.0000+ 0	1.0817+ 1	1.0359+ 1		2.8198- 1	1.7677- 1				3.2521+ 0	5.7488- 1	1.5921+ 0		2.7800- 3
7.0000+ 0 ~ 1.0000+ 1	1.0362+ 1	9.9456+ 0		2.7193- 1	1.3444- 1				3.2521+ 0	4.3721- 1	2.0398+ 0		2.7805- 3
1.0000+ 1 ~ 2.0000+ 1	6.6481+ 1	1.2947+ 1		5.0322+ 1	2.1920+ 0				3.2521+ 0	7.1285+ 0	7.6799+ 0		2.7871- 3
2.0000+ 1 ~ 4.0000+ 1	5.6113+ 1	1.2092+ 1		3.9109+ 1	3.9121+ 0				3.2521+ 0	1.2722+ 1	6.0466+ 0		2.7986- 3
4.0000+ 1 ~ 7.0000+ 1	8.4684+ 1	3.1842+ 1		3.0888+ 1	1.8265+ 0				3.2521+ 0	5.9399+ 0	8.2695+ 0		2.8087- 3
7.0000+ 1 ~ 1.0000+ 2	3.0313+ 1	1.5258+ 1		1.3658+ 1	1.3994+ 0				3.2521+ 0	4.5509+ 0	3.6599+ 0		2.8180- 3
1.0000+ 2 ~ 2.0000+ 2	2.3870+ 1	1.4211+ 1		8.9471+ 0	9.1102- 1				3.2521+ 0	2.9828+ 0	2.8392+ 0		2.8858- 3
2.0000+ 2 ~ 4.0000+ 2	3.9347+ 1	2.7105+ 1		1.0781+ 1	1.4807+ 0				3.2521+ 0	4.8155+ 0	5.3196+ 0		3.0080- 3
4.0000+ 2 ~ 7.0000+ 2	2.8986+ 1	2.0298+ 1		5.5810+ 0	1.1285+ 0				3.2522+ 0	3.6635+ 0	4.9192+ 0		3.1123- 3
7.0000+ 2 ~ 1.0000+ 3	2.3743+ 1	1.8898+ 1		4.0648+ 0	8.4023- 1				3.2522+ 0	2.7326+ 0	4.8454+ 0		3.1891- 3
1.0000+ 3 ~ 2.0000+ 3	2.0788+ 1	1.7251+ 1		2.8804+ 0	6.5443- 1				3.2523+ 0	2.1284+ 0	4.3440+ 0		3.5445- 3
2.0000+ 3 ~ 4.0000+ 3	1.7986+ 1	1.5508+ 1		1.8892+ 0	5.8705- 1				3.2526+ 0	1.9094+ 0	3.1722+ 0		4.5619- 3
4.0000+ 3 ~ 7.0000+ 3	1.6219+ 1	1.4328+ 1		1.3893+ 0	5.0025- 1				3.2530+ 0	1.6273+ 0	2.7861+ 0		6.3892- 3
7.0000+ 3 ~ 1.0000+ 4	1.5301+ 1	1.3714+ 1		1.1772+ 0	4.1017- 1				3.2536+ 0	1.3345+ 0	2.8750+ 0		8.8591- 3
1.0000+ 4 ~ 2.0000+ 4	1.4490+ 1	1.3177+ 1		9.7026- 1	3.4256- 1				3.2547+ 0	1.1149+ 0	2.8287+ 0		1.4507- 2
2.0000+ 4 ~ 4.0000+ 4	1.3843+ 1	1.2825+ 1		7.3600- 1	2.8268- 1				3.2572+ 0	9.2075- 1	2.5993+ 0		2.8826- 2
4.0000+ 4 ~ 7.0000+ 4	1.3367+ 1	1.2417+ 1	1.7131- 1	5.0970- 1	2.5700- 1				3.2615+ 0	8.3901- 1	1.9781+ 0		5.4133- 2
7.0000+ 4 ~ 1.0000+ 5	1.2892+ 1	1.1824+ 1	4.8811- 1	3.5318- 1	2.2833- 1				3.2667+ 0	7.4043- 1	1.5569+ 0		8.5002- 2
1.0000+ 5 ~ 2.0000+ 5	1.2090+ 1	1.0778+ 1	8.0782- 1	2.5102- 1	2.4914- 1				3.2779+ 0	8.1580- 1	1.0421+ 0		1.4765- 1
2.0000+ 5 ~ 4.0000+ 5	1.0842+ 1	8.8195+ 0	1.0035+ 0	1.8187- 1	5.3119- 1				3.3037+ 0	1.7612+ 0	3.7176- 1		2.5923- 1
4.0000+ 5 ~ 7.0000+ 5	8.8829+ 0	8.3578+ 0	9.8379- 1	1.2924- 1	1.2330+ 0				3.3487+ 0	4.1156+ 0	1.1383- 1		3.8071- 1
7.0000+ 5 ~ 1.0000+ 6	7.4748+ 0	4.5617+ 0	9.0553- 1	8.8001- 2	1.9185+ 0				3.3983+ 0	6.5100+ 0	4.6408- 2		4.6148- 1
1.0000+ 6 ~ 2.0000+ 6	5.9989+ 0	3.6228+ 0	1.1068+ 0	6.2907- 2	2.2084+ 0				3.5101+ 0	7.7445+ 0	2.8648- 2		5.3855- 1
2.0000+ 6 ~ 4.0000+ 6	7.6268+ 0	4.4781+ 0	1.0048+ 0	1.8339- 2	2.0257+ 0				3.7681+ 0	7.6260+ 0	9.3997- 3		7.1017- 1
4.0000+ 6 ~ 7.0000+ 6	7.4818+ 0	4.6361+ 0	8.0744- 1	1.2883- 3	2.0182+ 0	1.4584- 8			4.1980+ 0	8.4770+ 0	6.6925- 4		8.0237- 1
7.0000+ 6 ~ 1.0000+ 7	8.2893+ 0	3.4203+ 0	1.0487- 1	1.0858- 6	2.5975+ 0	1.8406- 1			4.7135+ 0	1.2247+ 1	4.2118- 6		8.1419- 1
1.0000+ 7 ~ 2.0000+ 7	5.8922+ 0	2.8364+ 0	3.3808- 3	7.3879- 8	2.7828+ 0	1.4841- 1	1.2223- 1		5.8315+ 0	1.6265+ 1	8.9069- 9		8.9005- 1

MATERIAL =3963 CROSS SECTION

^{243}Cm (3963)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	2.3449+ 3	1.0025+ 1		4.2178+ 2	1.9132+ 3				3.4330+ 0	6.5879+ 3	2.1973- 1		2.7666- 3
1.0000- 2 ~ 2.0000- 2	1.0028+ 3	8.8758+ 0		1.7593+ 2	8.1687+ 2				3.4330+ 0	2.8036+ 3	2.1527- 1		2.7666- 3
2.0000- 2 ~ 4.0000- 2	7.0888+ 2	8.9048+ 0		1.2091+ 2	5.7808+ 2				3.4330+ 0	1.9845+ 3	2.0888- 1		2.7666- 3
4.0000- 2 ~ 7.0000- 2	5.2004+ 2	8.7815+ 0		8.4762+ 1	4.2848+ 2				3.4330+ 0	1.4807+ 3	1.9885- 1		2.7666- 3
7.0000- 2 ~ 1.0000- 1	4.1782+ 2	8.8833+ 0		6.4883+ 1	3.4337+ 2				3.4330+ 0	1.1788+ 3	1.8786- 1		2.7666- 3
1.0000- 1 ~ 2.0000- 1	3.2880+ 2	8.4111+ 0		4.5795+ 1	2.7160+ 2				3.4330+ 0	9.3240+ 2	1.6766- 1		2.7666- 3
2.0000- 1 ~ 4.0000- 1	2.6878+ 2	8.9086+ 0		3.1122+ 1	2.2873+ 2				3.4330+ 0	7.8886+ 2	1.3638- 1		2.7666- 3
4.0000- 1 ~ 7.0000- 1	3.1428+ 2	8.3458+ 0		2.9891+ 1	2.7822+ 2				3.4330+ 0	9.4826+ 2	1.0799- 1		2.7666- 3
7.0000- 1 ~ 1.0000+ 0	3.1055+ 2	8.0295+ 0		2.7982+ 1	2.7454+ 2				3.4330+ 0	9.4249+ 2	1.0194- 1		2.7666- 3
1.0000+ 0 ~ 2.0000+ 0	4.3347+ 2	8.7183+ 0		4.0330+ 1	3.8642+ 2				3.4330+ 0	1.3288+ 3	1.0834- 1		2.7666- 3
2.0000+ 0 ~ 4.0000+ 0	9.2223+ 2	1.3848+ 1		1.2375+ 2	7.8469+ 2				3.4330+ 0	2.6936+ 3	1.7844- 1		2.7666- 3
4.0000+ 0 ~ 7.0000+ 0	2.8471+ 2	1.0821+ 1		2.0515+ 1	2.5337+ 2				3.4330+ 0	8.6983+ 2	9.1215- 2		2.7666- 3
7.0000+ 0 ~ 1.0000+ 1	3.8181+ 2	1.4514+ 1		2.7800+ 1	3.4989+ 2				3.4330+ 0	1.2005+ 3	8.8324- 2		2.7666- 3
1.0000+ 1 ~ 2.0000+ 1	1.8740+ 2	1.3784+ 1		2.0299+ 1	1.3332+ 2				3.4330+ 0	4.5788+ 2	1.4248- 1		2.7810- 3
2.0000+ 1 ~ 4.0000+ 1	8.3579+ 1	1.4116+ 1		1.3782+ 1	5.5682+ 1				3.4330+ 0	1.9118+ 2	2.0831- 1		2.8068- 3
4.0000+ 1 ~ 7.0000+ 1	6.6950+ 1	1.3812+ 1		3.6308+ 0	4.8607+ 1				3.4330+ 0	1.6687+ 2	9.4582- 2		2.8297- 3
7.0000+ 1 ~ 1.0000+ 2	8.1118+ 1	1.3892+ 1		1.1655+ 1	5.5871+ 1				3.4330+ 0	1.9112+ 2	2.0768- 1		2.8462- 3
1.0000+ 2 ~ 2.0000+ 2	5.0214+ 1	1.3008+ 1		6.4191+ 0	3.0793+ 1				3.4330+ 0	1.0571+ 2	2.0818- 1		2.8865- 3
2.0000+ 2 ~ 4.0000+ 2	3.7888+ 1	1.2888+ 1		4.2146+ 0	2.0805+ 1				3.4331+ 0	7.0738+ 1	2.0441- 1		3.0447- 3
4.0000+ 2 ~ 7.0000+ 2	3.2084+ 1	1.2891+ 1		3.1749+ 0	1.5988+ 1				3.4331+ 0	5.4888+ 1	1.9854- 1		3.2878- 3
7.0000+ 2 ~ 1.0000+ 3	9.0515+ 1	1.3080+ 1		2.8080+ 0	1.4646+ 1				3.4332+ 0	5.0282+ 1	1.9171- 1		3.5662- 3
1.0000+ 3 ~ 2.0000+ 3	2.0378+ 1	1.2964+ 1		2.1028+ 0	1.1322+ 1				3.4333+ 0	3.8872+ 1	1.8594- 1		4.2248- 3
2.0000+ 3 ~ 4.0000+ 3	2.2202+ 1	1.2757+ 1		1.4220+ 0	8.0231+ 0				3.4335+ 0	2.7548+ 1	1.7686- 1		5.7909- 3
4.0000+ 3 ~ 7.0000+ 3	1.0882+ 1	1.2583+ 1		1.0288+ 0	6.0923+ 0				3.4340+ 0	2.0921+ 1	1.6830- 1		8.5402- 3
7.0000+ 3 ~ 1.0000+ 4	1.8215+ 1	1.2388+ 1		8.1830- 1	5.0295+ 0				3.4345+ 0	1.7274+ 1	1.6259- 1		1.1865- 2
1.0000+ 4 ~ 2.0000+ 4	1.8809+ 1	1.2050+ 1		6.4352- 1	4.1159+ 0				3.4357+ 0	1.4140+ 1	1.5611- 1		1.9491- 2
2.0000+ 4 ~ 4.0000+ 4	1.6205+ 1	1.1477+ 1		4.8748- 1	3.2410+ 0				3.4383+ 0	1.1143+ 1	1.5027- 1		3.7100- 2
4.0000+ 4 ~ 7.0000+ 4	1.3800+ 1	1.0894+ 1	3.8683- 2	3.5782- 1	2.7092+ 0				3.4428+ 0	9.3384+ 0	1.3173- 1		6.5468- 2
7.0000+ 4 ~ 1.0000+ 5	1.2793+ 1	9.8580+ 0	8.9484- 2	2.8810- 1	2.4763+ 0				3.4481+ 0	8.5484+ 0	1.1628- 1		9.7435- 2
1.0000+ 5 ~ 2.0000+ 5	1.1418+ 1	8.7858+ 0	1.8141- 1	2.1608- 1	2.2448+ 0				3.4597+ 0	7.7837+ 0	9.5859- 2		1.5678- 1
2.0000+ 5 ~ 4.0000+ 5	9.4858+ 0	6.8881+ 0	3.9958- 1	1.5651- 1	2.0100+ 0				3.4884+ 0	7.0157+ 0	7.7763- 2		2.5558- 1
4.0000+ 5 ~ 7.0000+ 5	7.8882+ 0	6.1018+ 0	4.8100- 1	1.2311- 1	1.9719+ 0				3.5308+ 0	6.9822+ 0	6.2475- 2		3.5837- 1
7.0000+ 5 ~ 1.0000+ 6	6.7642+ 0	4.0880+ 0	4.9207- 1	1.1387- 1	2.0602+ 0				3.5843+ 0	7.3840+ 0	5.5276- 2		4.3249- 1
1.0000+ 6 ~ 2.0000+ 6	6.9324+ 0	3.9275+ 0	9.1439- 1	1.1693- 1	1.9745+ 0				3.7000+ 0	7.3080+ 0	5.8657- 2		5.4018- 1
2.0000+ 6 ~ 4.0000+ 6	7.9621+ 0	4.8722+ 0	1.2238+ 0	4.1701- 2	1.8116+ 0				3.9670+ 0	7.1860+ 0	2.2772- 2		7.3842- 1
4.0000+ 6 ~ 7.0000+ 6	7.2008+ 0	4.3578+ 0	6.0840- 1	2.7798- 3	1.8155+ 0	1.3992- 1			4.4119+ 0	8.0191+ 0	1.5709- 3		8.0203- 1
7.0000+ 6 ~ 1.0000+ 7	6.9763+ 0	3.0908+ 0	7.2407- 2	1.3634- 5	1.9765+ 0	8.3357- 1			4.9452+ 0	9.7723+ 0	8.8129- 6		7.9356- 1
1.0000+ 7 ~ 2.0000+ 7	6.0174+ 0	2.9889+ 0	1.3341- 3	2.8615- 8	2.3454+ 0	4.0131- 1	3.0001- 1		6.1021+ 0	1.4387+ 1	1.2711- 8		8.9831- 1

MATERIAL =3964

CROSS SECTION

^{244}Cm (3964)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	8.1364+ 1	1.1074+ 1		4.6981+ 1	3.2987+ 0				3.2444+ 0	1.0705+ 1	1.4264+ 1		2.7552- 3
1.0000- 2 ~ 2.0000- 2	3.2482+ 1	1.1068+ 1		2.0024+ 1	1.3903+ 0				3.2444+ 0	4.5106+ 0	1.4408+ 1		2.7552- 3
2.0000- 2 ~ 4.0000- 2	2.8144+ 1	1.1080+ 1		1.4118+ 1	9.6596- 1				3.2444+ 0	3.1339+ 0	1.4828+ 1		2.7552- 3
4.0000- 2 ~ 7.0000- 2	2.2034+ 1	1.1047+ 1		1.0299+ 1	6.8749- 1				3.2444+ 0	2.2303+ 0	1.4897+ 1		2.7552- 3
7.0000- 2 ~ 1.0000- 1	1.9744+ 1	1.1031+ 1		8.1832+ 0	5.2997- 1				3.2444+ 0	1.7194+ 0	1.5453+ 1		2.7552- 3
1.0000- 1 ~ 2.0000- 1	1.7638+ 1	1.0997+ 1		6.1827+ 0	3.7543- 1				3.2444+ 0	1.2180+ 0	1.6486+ 1		2.7552- 3
2.0000- 1 ~ 4.0000- 1	1.5443+ 1	1.0920+ 1		4.2868+ 0	2.2731- 1				3.2444+ 0	7.3747- 1	1.9084+ 1		2.7552- 3
4.0000- 1 ~ 7.0000- 1	1.4078+ 1	1.0794+ 1		3.1517+ 0	1.3248- 1				3.2444+ 0	4.2982- 1	2.4145+ 1		2.7552- 3
7.0000- 1 ~ 1.0000+ 0	1.3311+ 1	1.0640+ 1		2.5878+ 0	8.3402- 2				3.2444+ 0	2.7059- 1	3.1359+ 1		2.7552- 3
1.0000+ 0 ~ 2.0000+ 0	1.2581+ 1	1.0289+ 1		2.2539+ 0	4.4982- 2				3.2444+ 0	1.4594- 1	5.2204+ 1		2.7577- 3
2.0000+ 0 ~ 4.0000+ 0	1.1026+ 1	9.1667+ 0		2.6363+ 0	2.2472- 2				3.2444+ 0	7.2908- 2	1.2131+ 2		2.7621- 3
4.0000+ 0 ~ 7.0000+ 0	1.9645+ 1	4.6815+ 0		1.4989+ 1	5.4738- 2				3.2444+ 0	1.7759- 1	2.4882+ 2		2.7660- 3
7.0000+ 0 ~ 1.0000+ 1	1.8805+ 3	4.2477+ 2		1.4311+ 3	4.6461+ 0				3.2444+ 0	1.5074+ 1	2.8828+ 2		2.7688- 3
1.0000+ 1 ~ 2.0000+ 1	8.4750+ 1	1.9408+ 1		4.3717+ 1	1.6245+ 0				3.2444+ 0	5.2706+ 0	7.2180+ 1		2.7723- 3
2.0000+ 1 ~ 4.0000+ 1	4.9002+ 1	1.7701+ 1		2.9014+ 1	2.2875+ 0				3.2444+ 0	7.4215+ 0	1.5302+ 1		2.7767- 3
4.0000+ 1 ~ 7.0000+ 1	1.6916+ 1	1.4106+ 1		2.6460+ 0	1.6463- 1				3.2444+ 0	5.3413- 1	2.1098+ 1		2.7806- 3
7.0000+ 1 ~ 1.0000+ 2	6.3239+ 1	3.0741+ 1		3.1738+ 1	7.6031- 1				3.2444+ 0	2.4667+ 0	4.1211+ 1		2.7834- 3
1.0000+ 2 ~ 2.0000+ 2	3.0767+ 1	1.9868+ 1		1.0611+ 1	3.8740- 1				3.2444+ 0	1.2572+ 0	2.8808+ 1		2.8557- 3
2.0000+ 2 ~ 4.0000+ 2	4.1028+ 1	2.8154+ 1		1.3344+ 1	3.2982- 1				3.2444+ 0	1.0701+ 0	4.6162+ 1		2.9835- 3
4.0000+ 2 ~ 7.0000+ 2	4.3760+ 1	3.5318+ 1		8.2622+ 0	1.8214- 1				3.2444+ 0	5.9096- 1	5.6496+ 1		3.0964- 3
7.0000+ 2 ~ 1.0000+ 3	3.6588+ 1	3.0770+ 1		5.8144+ 0	1.8207- 1				3.2445+ 0	5.9071- 1	8.5942+ 1		3.1781- 3
1.0000+ 3 ~ 2.0000+ 3	2.0787+ 1	1.8893+ 1		3.5282+ 0	2.9788- 1				3.2448+ 0	7.7111- 1	1.4775+ 1		3.5389- 3
2.0000+ 3 ~ 4.0000+ 3	1.8028+ 1	1.6497+ 1		2.3612+ 0	1.7983- 1				3.2449+ 0	5.8354- 1	1.3044+ 1		4.4933- 3
4.0000+ 3 ~ 7.0000+ 3	1.6336+ 1	1.4429+ 1		1.7667+ 0	1.4009- 1				3.2454+ 0	4.5463- 1	1.2611+ 1		6.3534- 3
7.0000+ 3 ~ 1.0000+ 4	1.5491+ 1	1.3018+ 1		1.4958+ 0	1.1869- 1				3.2459+ 0	3.7877- 1	1.2826+ 1		8.8346- 3
1.0000+ 4 ~ 2.0000+ 4	1.4696+ 1	1.3262+ 1		1.2404+ 0	9.2680- 2				3.2471+ 0	3.0094- 1	1.3405+ 1		1.5149- 2
2.0000+ 4 ~ 4.0000+ 4	1.3939+ 1	1.2886+ 1		9.7278- 1	7.0084- 2				3.2499+ 0	2.2769- 1	1.3890+ 1		2.9347- 2
4.0000+ 4 ~ 7.0000+ 4	1.3449+ 1	1.2630+ 1	1.6760- 1	6.9371- 1	5.4127- 2				3.2646+ 0	1.7692- 1	1.2764+ 1		5.5157- 2
7.0000+ 4 ~ 1.0000+ 5	1.3034+ 1	1.1904+ 1	5.1873- 1	4.8577- 1	4.5095- 2				3.2600+ 0	1.4691- 1	1.0771+ 1		9.6873- 2
1.0000+ 5 ~ 2.0000+ 5	1.2280+ 1	1.1002+ 1	8.8191- 1	3.4829- 1	4.7598- 2				3.2719+ 0	1.5578- 1	7.6170+ 0		1.5095- 1
2.0000+ 5 ~ 4.0000+ 5	1.0767+ 1	9.2029+ 0	1.1545+ 0	2.7243- 1	1.2633- 1				3.2996+ 0	4.1842- 1	2.4861+ 0		2.6038- 1
4.0000+ 5 ~ 7.0000+ 5	8.0890+ 0	6.8448+ 0	1.1261+ 0	2.3847- 1	6.7640- 1				3.3465+ 0	2.2716+ 0	4.8303- 1		3.7127- 1
7.0000+ 5 ~ 1.0000+ 6	7.6381+ 0	4.8721+ 0	8.4993- 1	1.9314- 1	1.7265+ 0				3.4008+ 0	5.8712+ 0	1.1933- 1		4.5015- 1
1.0000+ 6 ~ 2.0000+ 6	7.0681+ 0	3.7727+ 0	1.3393+ 0	1.8012- 1	1.7863+ 0				3.5204+ 0	6.2887+ 0	8.9489- 2		5.2829- 1
2.0000+ 6 ~ 4.0000+ 6	7.4938+ 0	4.4637+ 0	1.0882+ 0	4.8177- 2	1.9208+ 0				3.7963+ 0	7.2998+ 0	2.5467- 2		7.0489- 1
4.0000+ 6 ~ 7.0000+ 6	7.4952+ 0	4.0884+ 0	8.6636- 1	4.5680- 3	1.9542+ 0	6.8240- 4			4.2582+ 0	8.3260+ 0	2.3899- 3		8.0209- 1
7.0000+ 6 ~ 1.0000+ 7	6.3420+ 0	3.4021+ 0	2.4776- 1	1.4686- 4	2.2619+ 0	4.2824- 1			4.8071+ 0	1.0875+ 1	6.4983- 5		8.1630- 1
1.0000+ 7 ~ 2.0000+ 7	5.9129+ 0	2.0436+ 0	2.3923- 3	2.8831- 7	2.4913+ 0	3.0297- 1	2.7177- 1		6.0030+ 0	1.5018+ 1	1.2493- 7		8.8991- 1

MATERIAL =3965

CROSS SECTION

^{245}Cm (3965)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	8.4391+ 3	1.1608+ 1		1.2614+ 3	7.1661+ 3				3.6063+ 0	2.5843+ 4	1.7582- 1		2.7439- 3
1.0000- 2 ~ 2.0000- 2	3.3481+ 3	1.1504+ 1		4.0598+ 2	2.8405+ 3				3.6063+ 0	1.0244+ 4	1.7464- 1		2.7439- 3
2.0000- 2 ~ 4.0000- 2	2.1602+ 3	1.1578+ 1		3.1474+ 2	1.8239+ 3				3.6063+ 0	6.5776+ 3	1.7242- 1		2.7439- 3
4.0000- 2 ~ 7.0000- 2	1.3487+ 3	1.1508+ 1		1.9308+ 2	1.1461+ 3				3.6063+ 0	4.1297+ 3	1.6838- 1		2.7439- 3
7.0000- 2 ~ 1.0000- 1	9.0810+ 2	1.1393+ 1		1.2574+ 2	7.7087+ 2				3.6063+ 0	2.7803+ 3	1.6285- 1		2.7439- 3
1.0000- 1 ~ 2.0000- 1	5.2711+ 2	1.1141+ 1		6.7408+ 1	4.4858+ 2				3.6063+ 0	1.6176+ 3	1.4885- 1		2.7439- 3
2.0000- 1 ~ 4.0000- 1	2.7590+ 2	1.0887+ 1		2.7858+ 1	2.3724+ 2				3.6063+ 0	8.5557+ 2	1.1813- 1		2.7439- 3
4.0000- 1 ~ 7.0000- 1	2.2831+ 2	1.0307+ 1		1.6248+ 1	1.9975+ 2				3.6063+ 0	7.2037+ 2	8.1571- 2		2.7439- 3
7.0000- 1 ~ 1.0000+ 0	2.3133+ 2	1.0284+ 1		1.4330+ 1	2.0670+ 2				3.6063+ 0	7.4544+ 2	6.9372- 2		2.7439- 3
1.0000+ 0 ~ 2.0000+ 0	2.2958+ 2	9.8353+ 0		3.1209+ 1	1.8874+ 2				3.6063+ 0	6.8084+ 2	1.3892- 1		2.7478- 3
2.0000+ 0 ~ 4.0000+ 0	1.4461+ 2	1.0321+ 1		1.6861+ 1	1.1595+ 2				3.6063+ 0	4.1808+ 2	1.4037- 1		2.7548- 3
4.0000+ 0 ~ 7.0000+ 0	3.1899+ 2	1.2918+ 1		3.3675+ 1	2.7239+ 2				3.6063+ 0	9.8234+ 2	1.2520- 1		2.7610- 3
7.0000+ 0 ~ 1.0000+ 1	2.4253+ 2	1.3592+ 1		2.6882+ 1	2.0205+ 2				3.6063+ 0	7.2867+ 2	1.3823- 1		2.7655- 3
1.0000+ 1 ~ 2.0000+ 1	5.2831+ 1	1.2355+ 1		5.4316+ 0	3.3844+ 1				3.6063+ 0	1.2205+ 2	1.4062- 1		2.7711- 3
2.0000+ 1 ~ 4.0000+ 1	7.6312+ 1	1.1799+ 1		7.7439+ 0	5.6769+ 1				3.6063+ 0	2.0472+ 2	2.0470- 1		2.7781- 3
4.0000+ 1 ~ 7.0000+ 1	1.0132+ 2	1.4890+ 1		1.5389+ 1	7.1038+ 1				3.6063+ 0	2.5619+ 2	2.1391- 1		2.7855- 3
7.0000+ 1 ~ 1.0000+ 2	5.7026+ 1	1.2467+ 1		7.1399+ 0	3.7429+ 1				3.6063+ 0	1.3498+ 2	1.9062- 1		2.8044- 3
1.0000+ 2 ~ 2.0000+ 2	4.7006+ 1	1.2382+ 1		5.3984+ 0	2.9226+ 1				3.6063+ 0	1.0540+ 2	1.8391- 1		2.8542- 3
2.0000+ 2 ~ 4.0000+ 2	3.6140+ 1	1.2286+ 1		3.5449+ 0	2.0331+ 1				3.6063+ 0	7.3319+ 1	1.7383- 1		2.9660- 3
4.0000+ 2 ~ 7.0000+ 2	2.9531+ 1	1.2148+ 1		2.4550+ 0	1.4930+ 1				3.6063+ 0	5.3843+ 1	1.6398- 1		3.1578- 3
7.0000+ 2 ~ 1.0000+ 3	2.5860+ 1	1.2045+ 1		1.8614+ 0	1.1954+ 1				3.6064+ 0	4.3110+ 1	1.5535- 1		3.3971- 3
1.0000+ 3 ~ 2.0000+ 3	2.2881+ 1	1.1918+ 1		1.3602+ 0	9.3823+ 0				3.6064+ 0	3.3784+ 1	1.4887- 1		3.9783- 3
2.0000+ 3 ~ 4.0000+ 3	1.9303+ 1	1.1745+ 1		9.2853- 1	6.6289+ 0				3.6065+ 0	2.3907+ 1	1.3994- 1		5.2908- 3
4.0000+ 3 ~ 7.0000+ 3	1.7289+ 1	1.1582+ 1		6.9999- 1	4.9877+ 0				3.6067+ 0	1.7989+ 1	1.4049- 1		7.6144- 3
7.0000+ 3 ~ 1.0000+ 4	1.6170+ 1	1.1450+ 1		5.9791- 1	4.1222+ 0				3.6070+ 0	1.4869+ 1	1.4519- 1		1.0590- 2
1.0000+ 4 ~ 2.0000+ 4	1.5249+ 1	1.1241+ 1		5.1683- 1	3.4909+ 0				3.6075+ 0	1.2591+ 1	1.4809- 1		1.8025- 2
2.0000+ 4 ~ 4.0000+ 4	1.4220+ 1	1.0937+ 1		4.4863- 1	2.8534+ 0				3.6087+ 0	1.0225+ 1	1.5903- 1		3.4521- 2
4.0000+ 4 ~ 7.0000+ 4	1.3387+ 1	1.0490+ 1	1.6638- 2	4.1874- 1	2.4717+ 0				3.6107+ 0	8.9304+ 0	1.6940- 1		6.3416- 2
7.0000+ 4 ~ 1.0000+ 5	1.2838+ 1	1.0076+ 1	1.0714- 1	3.7074- 1	2.2833+ 0				3.6131+ 0	8.2558+ 0	1.6234- 1		9.8374- 2
1.0000+ 5 ~ 2.0000+ 5	1.1940+ 1	9.2778+ 0	2.6312- 1	3.0143- 1	2.1072+ 0				3.6183+ 0	7.6281+ 0	1.4284- 1		1.6534- 1
2.0000+ 5 ~ 4.0000+ 5	1.0316+ 1	7.6471+ 0	5.2680- 1	2.1280- 1	1.9281+ 0				3.6303+ 0	7.0108+ 0	1.0983- 1		2.6369- 1
4.0000+ 5 ~ 7.0000+ 5	8.4671+ 0	5.8144+ 0	1.0433+ 0	1.2222- 1	1.6860+ 0				3.6503+ 0	6.1674+ 0	7.2157- 2		4.0608- 1
7.0000+ 5 ~ 1.0000+ 6	7.3074+ 0	4.2561+ 0	1.4004+ 0	9.0342- 2	1.5588+ 0				3.6743+ 0	5.7318+ 0	5.7899- 2		4.7094- 1
1.0000+ 6 ~ 2.0000+ 6	7.0208+ 0	3.8028+ 0	1.5888+ 0	4.9128- 2	1.7688+ 0				3.7263+ 0	6.5922+ 0	2.8425- 2		5.4889- 1
2.0000+ 6 ~ 4.0000+ 6	7.8834+ 0	4.5874+ 0	1.3888+ 0	9.4841- 3	1.6880+ 0				3.8463+ 0	6.5264+ 0	5.4741- 3		7.1949- 1
4.0000+ 6 ~ 7.0000+ 6	7.4726+ 0	4.6253+ 0	1.0097+ 0	4.0044- 4	1.6275+ 0	2.1081- 1			4.0481+ 0	6.5844+ 0	2.5224- 4		8.0365- 1
7.0000+ 6 ~ 1.0000+ 7	6.2471+ 0	3.3605+ 0	4.3690- 2	5.6747- 7	2.2087+ 0	6.3232- 1			4.2845+ 0	9.4734+ 0	2.6483- 7		8.1027- 1
1.0000+ 7 ~ 2.0000+ 7	5.9480+ 0	2.8771+ 0	1.0797- 3	4.9909-10	2.5130+ 0	2.7827- 1	2.7916- 1		4.8043+ 0	1.2091+ 1	2.0592-10		8.9159- 1

MATERIAL =3966

CROSS SECTION

^{246}Cm (3966)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.6471+ 1	1.1080+ 1		3.9686+ 0	4.3213- 1				3.1992+ 0	1.3825+ 0	9.1641+ 0		2.8840- 3
1.0000- 2 ~ 2.0000- 2	1.2864+ 1	1.1078+ 1		1.8883+ 0	1.8488- 1				3.1992+ 0	6.9173- 1	9.1881+ 0		2.8946- 3
2.0000- 2 ~ 4.0000- 2	1.2420+ 1	1.1078+ 1		1.2103+ 0	1.3123- 1				3.1992+ 0	4.1984- 1	5.2245+ 0		2.9100- 3
4.0000- 2 ~ 7.0000- 2	1.2070+ 1	1.1077+ 1		8.8683- 1	9.8583- 2				3.1992+ 0	3.0899- 1	9.2866+ 0		2.9236- 3
7.0000- 2 ~ 1.0000- 1	1.1879+ 1	1.1075+ 1		7.2830- 1	7.7814- 2				3.1992+ 0	2.4830- 1	9.3598+ 0		2.9394- 3
1.0000- 1 ~ 2.0000- 1	1.1888+ 1	1.1071+ 1		6.6774- 1	5.9888- 2				3.1992+ 0	1.9088- 1	9.5240+ 0		2.9457- 3
2.0000- 1 ~ 4.0000- 1	1.1532+ 1	1.1061+ 1		4.2741- 1	4.3160- 2				3.1992+ 0	1.3807- 1	9.8201+ 0		2.9611- 3
4.0000- 1 ~ 7.0000- 1	1.1429+ 1	1.1044+ 1		3.6229- 1	3.3192- 2				3.1992+ 0	1.0618- 1	1.0636+ 1		2.9747- 3
7.0000- 1 ~ 1.0000+ 0	1.1378+ 1	1.1019+ 1		3.2790- 1	2.8326- 2				3.1992+ 0	9.0818- 2	1.1584+ 1		2.9846- 3
1.0000+ 0 ~ 2.0000+ 0	1.1344+ 1	1.0848+ 1		3.7002- 1	2.6173- 2				3.1992+ 0	8.3730- 2	1.4128+ 1		2.9988- 3
2.0000+ 0 ~ 4.0000+ 0	1.2841+ 1	1.0388+ 1		2.3840+ 0	1.0084- 1				3.1992+ 0	3.2196- 1	2.1435+ 1		3.0122- 3
4.0000+ 0 ~ 7.0000+ 0	1.2487+ 2	1.3288+ 1		1.0725+ 2	4.1598+ 0				3.1992+ 0	1.3308+ 1	2.1745+ 1		3.0258- 3
7.0000+ 0 ~ 1.0000+ 1	1.1694+ 1	1.1424+ 1		1.0077- 1	6.4928- 3				3.1992+ 0	2.6978- 2	1.1648+ 1		3.0366- 3
1.0000+ 1 ~ 2.0000+ 1	2.8330+ 1	1.1696+ 1		1.3666+ 1	1.7992- 1				3.1992+ 0	5.7661- 1	2.9741+ 1		3.0479- 3
2.0000+ 1 ~ 4.0000+ 1	1.1229+ 1	1.1213+ 1		1.2534- 2	2.9901- 3				3.1992+ 0	9.5660- 3	4.0792+ 0		3.0633- 3
4.0000+ 1 ~ 7.0000+ 1	1.0878+ 1	1.0866+ 1		1.8000- 2	2.3109- 3				3.1992+ 0	7.3930- 3	7.8291+ 0		3.0769- 3
7.0000+ 1 ~ 1.0000+ 2	8.4818+ 1	4.3863+ 1		4.0781+ 1	4.9197- 1				3.1992+ 0	1.5739+ 0	7.1270+ 1		3.0867- 3
1.0000+ 2 ~ 2.0000+ 2	2.0217+ 1	1.5978+ 1		4.1878+ 0	8.1285- 2				3.1992+ 0	2.5998- 1	1.6853+ 1		3.0990- 3
2.0000+ 2 ~ 4.0000+ 2	2.7088+ 1	2.1624+ 1		5.3131+ 0	1.5118- 1				3.1992+ 0	4.8359- 1	3.2139+ 1		3.1144- 3
4.0000+ 2 ~ 7.0000+ 2	2.7434+ 1	2.3473+ 1		3.7815+ 0	1.7999- 1				3.1993+ 0	5.7583- 1	2.1307+ 1		3.1280- 3
7.0000+ 2 ~ 1.0000+ 3	2.4151+ 1	2.1222+ 1		2.7307+ 0	1.9878- 1				3.1993+ 0	6.3597- 1	1.3814+ 1		3.1378- 3
1.0000+ 3 ~ 2.0000+ 3	2.1118+ 1	1.8028+ 1		1.9884+ 0	1.1950- 1				3.1994+ 0	3.8233- 1	1.6663+ 1		4.2554- 3
2.0000+ 3 ~ 4.0000+ 3	1.8232+ 1	1.6778+ 1		1.3628+ 0	9.1020- 2				3.1997+ 0	2.9124- 1	1.4963+ 1		6.2541- 3
4.0000+ 3 ~ 7.0000+ 3	1.6488+ 1	1.5383+ 1		1.0522+ 0	7.1158- 2				3.2002+ 0	2.2772- 1	1.4817+ 1		8.0205- 3
7.0000+ 3 ~ 1.0000+ 4	1.5666+ 1	1.4827+ 1		8.7948- 1	5.9129- 2				3.2008+ 0	1.8926- 1	1.4866+ 1		9.2972- 3
1.0000+ 4 ~ 2.0000+ 4	1.4768+ 1	1.4018+ 1		6.8906- 1	4.7992- 2				3.2021+ 0	1.5367- 1	1.4332+ 1		1.8398- 2
2.0000+ 4 ~ 4.0000+ 4	1.4041+ 1	1.3623+ 1		4.7880- 1	3.7828- 2				3.2050+ 0	1.2077- 1	1.2898+ 1		2.9729- 2
4.0000+ 4 ~ 7.0000+ 4	1.3668+ 1	1.3008+ 1	2.1877- 1	3.0138- 1	3.0900- 2				3.2099+ 0	9.9344- 2	9.6976+ 0		6.5809- 2
7.0000+ 4 ~ 1.0000+ 5	1.3192+ 1	1.2341+ 1	6.2781- 1	1.8201- 1	2.9201- 2				3.2158+ 0	9.3904- 2	6.5962+ 0		8.8293- 2
1.0000+ 5 ~ 2.0000+ 5	1.2483+ 1	1.1298+ 1	1.0077+ 0	1.3488- 1	4.0465- 2				3.2286+ 0	1.3040- 1	3.4318+ 0		1.5447- 1
2.0000+ 5 ~ 4.0000+ 5	1.0878+ 1	9.4868+ 0	1.2888+ 0	1.0384- 1	7.1338- 2				3.2560+ 0	2.3278- 1	1.5287+ 0		2.6490- 1
4.0000+ 5 ~ 7.0000+ 5	8.0880+ 0	7.3364+ 0	1.4614+ 0	1.0478- 1	1.8087- 1				3.3070+ 0	6.3382- 1	6.1782- 1		3.6149- 1
7.0000+ 5 ~ 1.0000+ 6	7.8037+ 0	6.4518+ 0	1.4814+ 0	1.0728- 1	7.7625- 1				3.3858+ 0	2.6257+ 0	1.3965- 1		4.2046- 1
1.0000+ 6 ~ 2.0000+ 6	7.1184+ 0	3.8880+ 0	1.5804+ 0	5.8110- 2	1.8084+ 0				3.4932+ 0	5.6908+ 0	3.7008- 2		5.2407- 1
2.0000+ 6 ~ 4.0000+ 6	7.4887+ 0	4.4350+ 0	1.3898+ 0	1.3210- 2	1.6255+ 0				3.7872+ 0	6.1633+ 0	8.0147- 3		7.0126- 1
4.0000+ 6 ~ 7.0000+ 6	7.5319+ 0	4.8996+ 0	1.3286+ 0	8.7827- 4	1.4649+ 0	1.7085- 2			4.2789+ 0	6.3853+ 0	6.2752- 4		3.0196- 1
7.0000+ 6 ~ 1.0000+ 7	6.4107+ 0	3.6146+ 0	1.4735- 1	4.4773- 6	2.3686+ 0	3.8202- 1			4.8625+ 0	1.1524+ 1	2.0258- 6		8.1923- 1
1.0000+ 7 ~ 2.0000+ 7	5.8381+ 0	2.8686+ 0	1.0818- 3	2.4831- 9	2.3936+ 0	2.7305- 1	4.1256- 1		6.1363+ 0	1.4672+ 1	1.0264- 9		8.9026- 1

MATERIAL =3967

CROSS SECTION

^{247}Cm (3967)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	4.8632+ 2	8.8128+ 0		1.8442+ 2	2.7208+ 2				3.8034+ 0	1.0348+ 3	6.7940- 1		2.7217- 3
1.0000- 2 ~ 2.0000- 2	1.8774+ 2	8.7938+ 0		7.7070+ 1	1.1188+ 2				3.8034+ 0	4.2552+ 2	6.8925- 1		2.7217- 3
2.0000- 2 ~ 4.0000- 2	1.3784+ 2	8.7882+ 0		5.3188+ 1	7.6808+ 1				3.8034+ 0	2.8767+ 2	7.0400- 1		2.7217- 3
4.0000- 2 ~ 7.0000- 2	8.8887+ 1	8.7218+ 0		3.7828+ 1	5.2008+ 1				3.8034+ 0	1.9781+ 2	7.2837- 1		2.7217- 3
7.0000- 2 ~ 1.0000- 1	7.7334+ 1	8.8705+ 0		2.9680+ 1	3.8103+ 1				3.8034+ 0	1.4873+ 2	7.5897- 1		2.7217- 3
1.0000- 1 ~ 2.0000- 1	5.8388+ 1	8.5838+ 0		2.2814+ 1	2.7511+ 1				3.8034+ 0	1.0464+ 2	8.1482- 1		2.7217- 3
2.0000- 1 ~ 4.0000- 1	4.6640+ 1	8.3109+ 0		1.7840+ 1	1.9388+ 1				3.8034+ 0	7.3743+ 1	9.2288- 1		2.7217- 3
4.0000- 1 ~ 7.0000- 1	5.0015+ 1	7.7882+ 0		2.1688+ 1	2.0868+ 1				3.8034+ 0	7.8569+ 1	1.0413+ 0		2.7217- 3
7.0000- 1 ~ 1.0000+ 0	1.0734+ 2	6.5425+ 0		5.3686+ 1	4.7238+ 1				3.8034+ 0	1.7966+ 2	1.1271+ 0		2.7217- 3
1.0000+ 0 ~ 2.0000+ 0	8.8270+ 2	1.7024+ 1		4.8888+ 2	3.8878+ 2				3.8034+ 0	1.5167+ 3	1.1109+ 0		2.7227- 3
2.0000+ 0 ~ 4.0000+ 0	3.8288+ 2	1.3867+ 1		1.4388+ 2	2.0547+ 2				3.8034+ 0	7.8160+ 2	7.8024- 1		2.7246- 3
4.0000+ 0 ~ 7.0000+ 0	1.4984+ 1	1.1000+ 1		1.8968+ 0	2.4484+ 0				3.8034+ 0	9.3121+ 0	5.9134- 1		2.7261- 3
7.0000+ 0 ~ 1.0000+ 1	7.1838+ 1	1.0304+ 1		1.4884+ 1	4.8552+ 1				3.8034+ 0	1.7705+ 2	3.6567- 1		2.7279- 3
1.0000+ 1 ~ 2.0000+ 1	8.2788+ 1	1.0821+ 1		8.1988+ 0	3.3638+ 1				3.8034+ 0	1.2793+ 2	2.7918- 1		2.7378- 3
2.0000+ 1 ~ 4.0000+ 1	3.4808+ 1	1.1391+ 1		1.8084+ 1	7.4134+ 0				3.8034+ 0	2.8196+ 1	1.2791+ 0		2.7553- 3
4.0000+ 1 ~ 7.0000+ 1	7.3892+ 1	1.3131+ 1		1.7775+ 1	4.3086+ 1				3.8034+ 0	1.6387+ 2	6.6732- 1		2.7709- 3
7.0000+ 1 ~ 1.0000+ 2	5.8083+ 1	1.2833+ 1		6.4271+ 0	4.0033+ 1				3.8034+ 0	1.5226+ 2	1.6299- 1		2.7822- 3
1.0000+ 2 ~ 2.0000+ 2	3.5976+ 1	1.1678+ 1		3.3702+ 0	2.0327+ 1				3.8034+ 0	7.7313+ 1	1.6808- 1		2.8534- 3
2.0000+ 2 ~ 4.0000+ 2	3.0737+ 1	1.1741+ 1		2.8784+ 0	1.6318+ 1				3.8035+ 0	6.2065+ 1	1.6482- 1		2.9735- 3
4.0000+ 2 ~ 7.0000+ 2	2.5788+ 1	1.1711+ 1		1.8874+ 0	1.2080+ 1				3.8035+ 0	4.5870+ 1	1.6602- 1		3.1179- 3
7.0000+ 2 ~ 1.0000+ 3	2.2244+ 1	1.1578+ 1		1.5678+ 0	9.1074+ 0				3.8038+ 0	3.4641+ 1	1.7133- 1		3.3282- 3
1.0000+ 3 ~ 2.0000+ 3	1.8882+ 1	1.1387+ 1		1.1188+ 0	6.0484+ 0				3.8037+ 0	2.2889+ 1	1.8582- 1		3.8958- 3
2.0000+ 3 ~ 4.0000+ 3	1.6842+ 1	1.1314+ 1		9.3828- 1	4.3918+ 0				3.8040+ 0	1.6708+ 1	2.1582- 1		5.3063- 3
4.0000+ 3 ~ 7.0000+ 3	1.5371+ 1	1.1217+ 1		8.8179- 1	3.2928+ 0				3.8046+ 0	1.2527+ 1	2.6302- 1		7.4085- 3
7.0000+ 3 ~ 1.0000+ 4	1.4726+ 1	1.1148+ 1		8.4822- 1	2.7328+ 0				3.8051+ 0	1.0398+ 1	3.1069- 1		1.0322- 2
1.0000+ 4 ~ 2.0000+ 4	1.4340+ 1	1.1088+ 1		8.7823- 1	2.3624+ 0				3.8064+ 0	8.9823+ 0	3.7360- 1		1.7974- 2
2.0000+ 4 ~ 4.0000+ 4	1.3888+ 1	1.1071+ 1		8.6128- 1	2.0688+ 0				3.8095+ 0	7.8342+ 0	4.1902- 1		3.6719- 2
4.0000+ 4 ~ 7.0000+ 4	1.3821+ 1	1.0801+ 1	8.0207- 3	7.2676- 1	1.8850+ 0				3.8145+ 0	7.6718+ 0	3.8559- 1		8.6883- 2
7.0000+ 4 ~ 1.0000+ 5	1.3278+ 1	1.0664+ 1	1.3848- 1	5.8777- 1	2.0157+ 0				3.8206+ 0	7.6986+ 0	2.7592- 1		1.0489- 1
1.0000+ 5 ~ 2.0000+ 5	1.2887+ 1	9.7336+ 0	3.3784- 1	3.7840- 1	2.1470+ 0				3.8337+ 0	8.2238+ 0	1.7688- 1		1.8923- 1
2.0000+ 5 ~ 4.0000+ 5	1.1117+ 1	8.1316+ 0	6.8278- 1	2.2478- 1	2.0777+ 0				3.8840+ 0	8.0313+ 0	1.0769- 1		3.1627- 1
4.0000+ 5 ~ 7.0000+ 5	9.2081+ 0	6.1888+ 0	1.1212+ 0	1.3226- 1	1.7883+ 0				3.9146+ 0	7.0055+ 0	7.3838- 2		4.4064- 1
7.0000+ 5 ~ 1.0000+ 6	7.8812+ 0	4.8814+ 0	1.3920+ 0	1.0108- 1	1.7151+ 0				3.9751+ 0	6.8178+ 0	5.8991- 2		4.9872- 1
1.0000+ 6 ~ 2.0000+ 6	7.1888+ 0	3.8881+ 0	1.6488+ 0	6.2318- 2	1.8756+ 0				4.1084+ 0	7.8982+ 0	2.8210- 2		5.6866- 1
2.0000+ 6 ~ 4.0000+ 6	7.4666+ 0	4.4104+ 0	1.1318+ 0	8.4038- 3	1.9002+ 0				4.4094+ 0	8.3781+ 0	4.8889- 3		7.0190- 1
4.0000+ 6 ~ 7.0000+ 6	7.8672+ 0	4.7077+ 0	4.8881- 1	4.9623- 4	2.2133+ 0	1.4414- 1			4.9141+ 0	1.0913+ 1	2.5363- 4		8.0218- 1
7.0000+ 6 ~ 1.0000+ 7	8.4378+ 0	3.6391+ 0	1.4981- 2	1.2188- 6	2.3716+ 0	5.1005- 1			5.5165+ 0	1.3080+ 1	5.1009- 7		8.2025- 1
1.0000+ 7 ~ 2.0000+ 7	6.8463+ 0	2.3556+ 0	1.0815- 3	2.0348- 8	2.5018+ 0	2.2194- 1	3.5298- 1		6.0252+ 0	1.7100+ 1	6.2041- 9		8.8997- 1

MATERIAL =3968

CROSS SECTION

^{248}Cm (3968)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	1.5584+ 1	6.5164+ 0		7.9245+ 0	1.1435+ 0				3.1296+ 0	3.5787+ 0	6.9312+ 0		2.8421- 3
1.0000- 2 ~ 2.0000- 2	1.0397+ 1	6.5155+ 0		3.3928+ 0	4.8897- 1				3.1296+ 0	1.5303+ 0	6.9388+ 0		2.8727- 3
2.0000- 2 ~ 4.0000- 2	9.2858+ 0	6.5140+ 0		2.4057+ 0	3.4818- 1				3.1296+ 0	1.0894+ 0	6.9501+ 0		2.8881- 3
4.0000- 2 ~ 7.0000- 2	8.5429+ 0	6.5115+ 0		1.7765+ 0	2.5484- 1				3.1298+ 0	7.9785- 1	6.9692+ 0		2.9017- 3
7.0000- 2 ~ 1.0000- 1	8.1411+ 0	6.5085+ 0		1.4283+ 0	2.0429- 1				3.1296+ 0	6.3935- 1	6.9921+ 0		2.9115- 3
1.0000- 1 ~ 2.0000- 1	7.7538+ 0	6.5020+ 0		1.0980+ 0	1.5568- 1				3.1298+ 0	4.8721- 1	7.0425+ 0		2.9239- 3
2.0000- 1 ~ 4.0000- 1	7.3831+ 0	6.4888+ 0		7.8636- 1	1.1114- 1				3.1298+ 0	3.4782- 1	7.1618+ 0		2.9392- 3
4.0000- 1 ~ 7.0000- 1	7.1544+ 0	6.4600+ 0		6.1143- 1	8.3039- 2				3.1298+ 0	2.5988- 1	7.3705+ 0		2.9529- 3
7.0000- 1 ~ 1.0000+ 0	7.0128+ 0	6.4283+ 0		5.1866- 1	6.7989- 2				3.1296+ 0	2.1271- 1	7.6383+ 0		2.9627- 3
1.0000+ 0 ~ 2.0000+ 0	6.8618+ 0	6.3443+ 0		4.6259- 1	5.4681- 2				3.1298+ 0	1.7113- 1	8.3042+ 0		2.9750- 3
2.0000+ 0 ~ 4.0000+ 0	6.6368+ 0	6.0861+ 0		5.0237- 1	4.8332- 2				3.1298+ 0	1.5126- 1	1.0372+ 1		2.9904- 3
4.0000+ 0 ~ 7.0000+ 0	1.0217+ 1	4.5318+ 0		5.3712+ 0	3.1381- 1				3.1298+ 0	9.8211- 1	1.6358+ 1		3.0040- 3
7.0000+ 0 ~ 1.0000+ 1	3.8009+ 2	3.3758+ 1		3.0908+ 2	1.7255+ 1				3.1296+ 0	5.4001+ 1	1.6463+ 1		3.0138- 3
1.0000+ 1 ~ 2.0000+ 1	8.4425+ 0	8.1189+ 0		3.0457- 1	1.9048- 2				3.1298+ 0	5.9612- 2	1.6814+ 1		3.0282- 3
2.0000+ 1 ~ 4.0000+ 1	2.2188+ 2	8.0117+ 1		1.3829+ 2	2.2851+ 0				3.1298+ 0	7.1515+ 0	9.3708+ 1		3.0416- 3
4.0000+ 1 ~ 7.0000+ 1	6.2978+ 0	6.0954+ 0		1.8139- 1	2.1108- 2				3.1298+ 0	6.6062- 2	8.9197+ 0		3.0552- 3
7.0000+ 1 ~ 1.0000+ 2	3.7225+ 2	3.0156+ 2		6.5610+ 1	5.0858+ 0				3.1296+ 0	1.5918+ 1	1.9792+ 1		3.0660- 3
1.0000+ 2 ~ 2.0000+ 2	1.6408+ 1	1.4938+ 1		1.4027+ 0	6.6482- 2				3.1298+ 0	2.0800- 1	1.0132+ 1		3.0779- 3
2.0000+ 2 ~ 4.0000+ 2	2.2188+ 1	1.7779+ 1		4.1818+ 0	2.1148- 1				3.1297+ 0	6.6185- 1	8.1332+ 0		3.0927- 3
4.0000+ 2 ~ 7.0000+ 2	3.1354+ 1	2.7822+ 1		3.5528+ 0	1.79[illegible]- 1				3.1297+ 0	5.6145- 1	1.1132+ 1		3.1069- 3
7.0000+ 2 ~ 1.0000+ 3	2.5236+ 1	2.3138+ 1		1.9976+ 0	1.01[illegible]- 1				3.1298+ 0	3.1701- 1	1.0066+ 1		3.1161- 3
1.0000+ 3 ~ 2.0000+ 3	2.1730+ 1	2.0338+ 1		1.3283+ 0	6.2939- 2				3.1299+ 0	1.9699- 1	1.5892+ 1		4.2545- 3
2.0000+ 3 ~ 4.0000+ 3	1.9877+ 1	1.8469+ 1		1.1544+ 0	5.8828- 2				3.1302+ 0	1.8414- 1	1.9661+ 1		6.2904- 3
4.0000+ 3 ~ 7.0000+ 3	1.7362+ 1	1.6432+ 1		8.7424- 1	5.5402- 2				3.1307+ 0	1.7346- 1	1.5806+ 1		8.0698- 3
7.0000+ 3 ~ 1.0000+ 4	1.6152+ 1	1.5304+ 1		7.1284- 1	5.5784- 2				3.1314+ 0	1.7462- 1	1.2774+ 1		9.3903- 3
1.0000+ 4 ~ 2.0000+ 4	1.6072+ 1	1.4480+ 1		5.4019- 1	5.1951- 2				3.1327+ 0	1.6274- 1	1.0362+ 1		1.6889- 2
2.0000+ 4 ~ 4.0000+ 4	1.4137+ 1	1.3791+ 1		3.6324- 1	4.2968- 2				3.1358+ 0	1.3508- 1	8.4190+ 0		3.0413- 2
4.0000+ 4 ~ 7.0000+ 4	1.3881+ 1	1.3186+ 1	2.3188- 1	2.2088- 1	3.3142- 2				3.1410+ 0	1.0438- 1	6.6070+ 0		5.7417- 2
7.0000+ 4 ~ 1.0000+ 5	1.3368+ 1	1.2620+ 1	6.0068- 1	1.3688- 1	2.7819- 2				3.1473+ 0	8.7779- 2	4.9108+ 0		9.1262- 2
1.0000+ 5 ~ 2.0000+ 5	1.2709+ 1	1.1488+ 1	1.0833+ 0	9.6210- 2	2.5180- 2				3.1808+ 0	7.9808- 2	3.8294+ 0		1.5977- 1
2.0000+ 5 ~ 4.0000+ 5	1.1215+ 1	9.7186+ 0	1.3802+ 0	7.4803- 2	4.0917- 2				3.1920+ 0	1.3076- 1	1.9249+ 0		2.7260- 1
4.0000+ 5 ~ 7.0000+ 5	9.3140+ 0	7.5083+ 0	1.4831+ 0	7.4223- 2	2.4488- 1				3.2440+ 0	8.0093- 1	5.1362- 1		3.7270- 1
7.0000+ 5 ~ 1.0000+ 6	7.8778+ 0	5.4186+ 0	1.2477+ 0	7.1658- 2	1.2317+ 0				3.3084+ 0	4.0805+ 0	5.8567- 2		4.4180- 1
1.0000+ 6 ~ 2.0000+ 6	7.1779+ 0	3.9802+ 0	1.4928+ 0	6.3781- 2	1.7081+ 0				3.4418+ 0	5.8511+ 0	3.7530- 2		5.1820- 1
2.0000+ 6 ~ 4.0000+ 6	7.4421+ 0	4.4408+ 0	1.5265+ 0	2.8671- 2	1.4457+ 0				3.7536+ 0	5.4178+ 0	1.9281- 2		6.9934- 1
4.0000+ 6 ~ 7.0000+ 6	7.5848+ 0	4.7288+ 0	1.3172+ 0	2.7728- 3	1.4832+ 0	5.2522- 2			4.2731+ 0	6.2988+ 0	2.0818- 3		8.0189- 1
7.0000+ 6 ~ 1.0000+ 7	6.4853+ 0	3.5668+ 0	1.2448- 1	1.6779- 6	2.2802+ 0	5.0381- 1			4.6919+ 0	1.1180+ 1	7.5900- 6		8.2126- 1
1.0000+ 7 ~ 2.0000+ 7	5.9812+ 0	2.8862+ 0	4.8718- 4	8.9383- 9	2.8011+ 0	2.0492- 1	2.0896- 1		6.2434+ 0	1.6846+ 1	3.6784- 9		8.9015- 1

MATERIAL =3969

CROSS SECTION

^{249}Cm (3969)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	1.8342+ 1	1.0800+ 1		4.9343+ 0	2.6298+ 0				3.3488+ 0	8.5012+ 0	1.9507+ 0		2.8520- 3
1.0000- 2 ~ 2.0000- 2	1.4048+ 1	1.0800+ 1		2.1083+ 0	1.0808+ 0				3.3488+ 0	3.6318+ 0	1.9511+ 0		2.8875- 3
2.0000- 2 ~ 4.0000- 2	1.3087+ 1	1.0800+ 1		1.4908+ 0	7.6404- 1				3.3488+ 0	2.5705+ 0	1.9512+ 0		2.9053- 3
4.0000- 2 ~ 7.0000- 2	1.2526+ 1	1.0800+ 1		1.0858+ 0	5.6150- 1				3.3488+ 0	1.8854+ 0	1.9512+ 0		2.9211- 3
7.0000- 2 ~ 1.0000- 1	1.2144+ 1	1.0800+ 1		8.7838- 1	4.4814- 1				3.3488+ 0	1.5087+ 0	1.9512+ 0		2.9325- 3
1.0000- 1 ~ 2.0000- 1	1.1848+ 1	1.0800+ 1		6.6871- 1	3.4170- 1				3.3488+ 0	1.1484+ 0	1.9512+ 0		2.9467- 3
2.0000- 1 ~ 4.0000- 1	1.1582+ 1	1.0800+ 1		4.7144- 1	2.4162- 1				3.3488+ 0	8.1160- 1	1.9512+ 0		2.9646- 3
4.0000- 1 ~ 7.0000- 1	1.1378+ 1	1.0800+ 1		3.4647- 1	1.7757- 1				3.3488+ 0	5.9466- 1	1.9512+ 0		2.9803- 3
7.0000- 1 ~ 1.0000+ 0	1.1290+ 1	1.0800+ 1		2.7719- 1	1.4204- 1				3.3488+ 0	4.7771- 1	1.9511+ 0		2.9917- 3
1.0000+ 0 ~ 2.0000+ 0	1.1186+ 1	1.0800+ 1		2.1083- 1	1.0808- 1				3.3488+ 0	3.6321- 1	1.9511+ 0		3.0080- 3
2.0000+ 0 ~ 4.0000+ 0	1.1083+ 1	1.0800+ 1		1.4908- 1	7.6408- 2				3.3488+ 0	2.5584- 1	1.9511+ 0		3.0238- 3
4.0000+ 0 ~ 7.0000+ 0	1.8014+ 2	3.1086+ 1		1.0478+ 2	5.4288+ 1				3.3488+ 0	1.8178+ 2	1.9286+ 0		3.0398- 3
7.0000+ 0 ~ 1.0000+ 1	1.6283+ 2	3.1117+ 1		8.6240+ 1	4.5577+ 1				3.3488+ 0	1.5263+ 2	1.8911+ 0		3.0510- 3
1.0000+ 1 ~ 2.0000+ 1	1.2878+ 2	2.9823+ 1		6.2934+ 1	3.4237+ 1				3.3488+ 0	1.1465+ 2	1.8346+ 0		3.0653- 3
2.0000+ 1 ~ 4.0000+ 1	9.2666+ 1	2.7671+ 1		4.1387+ 1	2.3686+ 1				3.3488+ 0	7.8986+ 1	1.7508+ 0		3.0831- 3
4.0000+ 1 ~ 7.0000+ 1	7.0378+ 1	2.6628+ 1		2.7987+ 1	1.6783+ 1				3.3488+ 0	5.6203+ 1	1.6635+ 0		3.0989- 3
7.0000+ 1 ~ 1.0000+ 2	5.6310+ 1	2.4208+ 1		2.0983+ 1	1.3141+ 1				3.3488+ 0	4.4006+ 1	1.5934+ 0		3.1103- 3
1.0000+ 2 ~ 2.0000+ 2	4.6012+ 1	2.2461+ 1		1.4087+ 1	9.7742+ 0				3.3488+ 0	3.2732+ 1	1.4883+ 0		3.1245- 3
2.0000+ 2 ~ 4.0000+ 2	3.6137+ 1	2.0910+ 1		9.1384+ 0	6.6871+ 0				3.3489+ 0	2.2394+ 1	1.3597+ 0		3.1424- 3
4.0000+ 2 ~ 7.0000+ 2	2.8182+ 1	1.8526+ 1		5.8778+ 0	4.7884+ 0				3.3489+ 0	1.6038+ 1	1.2239+ 0		3.1581- 3
7.0000+ 2 ~ 1.0000+ 3	2.6438+ 1	1.7347+ 1		4.2730+ 0	3.8184+ 0				3.3490+ 0	1.2791+ 1	1.1181+ 0		3.1895- 3
1.0000+ 3 ~ 2.0000+ 3	2.1840+ 1	1.6091+ 1		2.9217+ 0	2.8874+ 0				3.3491+ 0	1.0005+ 1	8.7072- 1		4.3808- 3
2.0000+ 3 ~ 4.0000+ 3	1.9707+ 1	1.4679+ 1		1.8084+ 0	2.3193+ 0				3.3494+ 0	7.7682+ 0	7.7428- 1		6.5739- 3
4.0000+ 3 ~ 7.0000+ 3	1.8711+ 1	1.3496+ 1		1.2066+ 0	2.0109+ 0				3.3500+ 0	6.7366+ 0	5.9806- 1		8.5036- 3
7.0000+ 3 ~ 1.0000+ 4	1.6487+ 1	1.2860+ 1		9.2626- 1	1.9212+ 0				3.3508+ 0	6.4372+ 0	4.8181- 1		9.8982- 3
1.0000+ 4 ~ 2.0000+ 4	1.4858+ 1	1.2228+ 1		6.9632- 1	1.9161+ 0				3.3520+ 0	6.4227+ 0	3.6312- 1		1.7984- 2
2.0000+ 4 ~ 4.0000+ 4	1.4088+ 1	1.1691+ 1	1.0818- 1	4.4813- 1	1.8376+ 0				3.3552+ 0	6.5044+ 0	2.3180- 1		3.5208- 2
4.0000+ 4 ~ 7.0000+ 4	1.3760+ 1	1.1128+ 1	4.6827- 1	2.6868- 1	1.6033+ 0				3.3606+ 0	6.3884+ 0	1.3580- 1		6.6824- 2
7.0000+ 4 ~ 1.0000+ 5	1.3458+ 1	1.0015+ 1	7.6148- 1	1.6378- 1	1.8184+ 0				3.3670+ 0	6.4506+ 0	8.6527- 2		1.0991- 1
1.0000+ 5 ~ 2.0000+ 5	1.2824+ 1	9.6000+ 0	9.9870- 1	1.0282- 1	2.0328+ 0				3.3809+ 0	6.8667+ 0	5.0871- 2		1.8413- 1
2.0000+ 5 ~ 4.0000+ 5	1.1348+ 1	8.0281+ 0	1.2006+ 0	6.0865- 2	2.0560+ 0				3.4130+ 0	7.0186+ 0	2.9578- 2		3.3897- 1
4.0000+ 5 ~ 7.0000+ 5	8.4283+ 0	6.1081+ 0	1.3050+ 0	4.5411- 2	1.9849+ 0				3.4666+ 0	6.8118+ 0	2.3133- 2		4.6663- 1
7.0000+ 5 ~ 1.0000+ 6	8.0718+ 0	4.6182+ 0	1.2316+ 0	3.6877- 2	2.1782+ 0				3.5307+ 0	7.6848+ 0	1.6980- 2		5.2685- 1
1.0000+ 6 ~ 2.0000+ 6	7.2318+ 0	3.6798+ 0	1.1398+ 0	2.4886- 2	2.3843+ 0				3.6698+ 0	8.7488+ 0	1.0516- 2		5.7260- 1
2.0000+ 6 ~ 4.0000+ 6	7.4406+ 0	4.3998+ 0	7.6731- 1	5.3708- 3	2.2742+ 0				3.9908+ 0	9.0808+ 0	2.3024- 3		6.9820- 1
4.0000+ 6 ~ 7.0000+ 6	7.5734+ 0	4.7097+ 0	4.8093- 1	3.2820- 4	2.0330+ 0	3.4813- 1			4.5250+ 0	9.2019+ 0	1.5988- 4		8.0105- 1
7.0000+ 6 ~ 1.0000+ 7	6.4861+ 0	3.5848+ 0	2.3707- 2	3.2837- 7	2.1870+ 0	7.0968- 1			5.1594+ 0	1.1291+ 1	1.5407- 7		8.2166- 1
1.0000+ 7 ~ 2.0000+ 7	5.8736+ 0	2.6717+ 0	9.7981- 5	3.0524-10	2.3855+ 0	2.6503- 1	4.0897- 1		6.5496+ 0	1.5765+ 1	1.3298-10		8.9006- 1

MATERIAL =3970

CROSS SECTION

^{250}Cm (3970)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	1.2090+ 1	1.0800+ 1		1.2533+ 0	6.1874- 3				3.0885+ 0	1.9114- 2	1.9998+ 2		2.6889- 3
1.0000- 2 ~ 2.0000- 2	1.1383+ 1	1.0800+ 1		5.2708- 1	2.6364- 3				3.0885+ 0	8.1683- 3	1.9999+ 2		2.6889- 3
2.0000- 2 ~ 4.0000- 2	1.1198+ 1	1.0800+ 1		3.7270- 1	1.8635- 3				3.0885+ 0	5.7751- 3	2.0000+ 2		2.6889- 3
4.0000- 2 ~ 7.0000- 2	1.1138+ 1	1.0800+ 1		2.7390- 1	1.3695- 3				3.0885+ 0	4.2422- 3	2.0000+ 2		2.6889- 3
7.0000- 2 ~ 1.0000- 1	1.1098+ 1	1.0800+ 1		2.1909- 1	1.0954- 3				3.0885+ 0	3.3977- 3	2.0000+ 2		2.6889- 3
1.0000- 1 ~ 2.0000- 1	1.1060+ 1	1.0800+ 1		1.6688- 1	8.3337- 4				3.0885+ 0	2.5810- 3	2.0001+ 2		2.6889- 3
2.0000- 1 ~ 4.0000- 1	1.0981+ 1	1.0800+ 1		1.1786- 1	5.8928- 4				3.0885+ 0	1.8266- 3	2.0001+ 2		2.6889- 3
4.0000- 1 ~ 7.0000- 1	1.0938+ 1	1.0800+ 1		8.6817- 2	4.3308- 4				3.0885+ 0	1.3425- 3	2.0001+ 2		2.6889- 3
7.0000- 1 ~ 1.0000+ 0	1.0901+ 1	1.0800+ 1		6.9284- 2	3.4640- 4				3.0885+ 0	1.0726- 3	2.0001+ 2		2.6889- 3
1.0000+ 0 ~ 2.0000+ 0	1.0868+ 1	1.0800+ 1		5.2709- 2	2.6353- 4				3.0885+ 0	8.1675- 4	2.0001+ 2		2.6891- 3
2.0000+ 0 ~ 4.0000+ 0	1.0845+ 1	1.0800+ 1		3.7271- 2	1.8634- 4				3.0885+ 0	5.7757- 4	2.0002+ 2		2.6893- 3
4.0000+ 0 ~ 7.0000+ 0	1.0838+ 1	1.0800+ 1		2.7391- 2	1.3694- 4				3.0885+ 0	4.2484- 4	2.0002+ 2		2.6895- 3
7.0000+ 0 ~ 1.0000+ 1	1.0833+ 1	1.0800+ 1		2.1910- 2	1.0954- 4				3.0885+ 0	3.3955- 4	2.0002+ 2		2.6897- 3
1.0000+ 1 ~ 2.0000+ 1	1.0827+ 1	1.0800+ 1		1.6668- 2	8.3333- 5				3.0885+ 0	2.5893- 4	2.0002+ 2		2.6929- 3
2.0000+ 1 ~ 4.0000+ 1	1.0819+ 1	1.0800+ 1		1.1788- 2	5.8925- 5				3.0885+ 0	1.8267- 4	2.0003+ 2		2.6985- 3
4.0000+ 1 ~ 7.0000+ 1	1.0812+ 1	1.0800+ 1		8.6621- 3	4.3304- 5				3.0885+ 0	1.3414- 4	2.0003+ 2		2.7035- 3
7.0000+ 1 ~ 1.0000+ 2	2.2510+ 1	2.0823+ 1		1.7974+ 0	8.8091- 2				3.0885+ 0	2.7218- 1	1.4014+ 2		2.7070- 3
1.0000+ 2 ~ 2.0000+ 2	3.9728+ 1	3.6459+ 1		3.8885+ 0	2.1571- 1				3.0885+ 0	6.8925- 1	1.7981+ 1		2.7493- 3
2.0000+ 2 ~ 4.0000+ 2	3.1848+ 1	2.8989+ 1		2.3152+ 0	1.5297- 1				3.0888+ 0	4.7433- 1	1.5060+ 1		2.8228- 3
4.0000+ 2 ~ 7.0000+ 2	2.5908+ 1	2.4294+ 1		1.4611+ 0	1.1270- 1				3.0886+ 0	3.4906- 1	1.2927+ 1		2.8951- 3
7.0000+ 2 ~ 1.0000+ 3	2.2847+ 1	2.1652+ 1		1.1022+ 0	9.0317- 2				3.0887+ 0	2.7991- 1	1.2198+ 1		3.0314- 3
1.0000+ 3 ~ 2.0000+ 3	2.0126+ 1	1.9216+ 1		8.3684- 1	7.0793- 2				3.0888+ 0	2.1933- 1	1.1611+ 1		3.4208- 3
2.0000+ 3 ~ 4.0000+ 3	1.7834+ 1	1.6987+ 1		6.0634- 1	5.8811- 2				3.0892+ 0	1.8172- 1	1.0327+ 1		4.4084- 3
4.0000+ 3 ~ 7.0000+ 3	1.6134+ 1	1.5631+ 1		4.4602- 1	5.5411- 2				3.0897+ 0	1.7145- 1	8.0433+ 0		6.3254- 3
7.0000+ 3 ~ 1.0000+ 4	1.5360+ 1	1.4957+ 1		3.4576- 1	5.4327- 2				3.0904+ 0	1.6804- 1	6.3631+ 0		8.8778- 3
1.0000+ 4 ~ 2.0000+ 4	1.4685+ 1	1.4387+ 1		2.4503- 1	5.1936- 2				3.0918+ 0	1.6077- 1	4.7068+ 0		1.4832- 2
2.0000+ 4 ~ 4.0000+ 4	1.4152+ 1	1.3962+ 1		1.5703- 1	4.3109- 2				3.0951+ 0	1.3390- 1	3.6320+ 0		3.0135- 2
4.0000+ 4 ~ 7.0000+ 4	1.3817+ 1	1.3425+ 1	2.7048- 1	8.7966- 2	3.3142- 2				3.1008+ 0	1.0301- 1	2.6266+ 0		5.9241- 2
7.0000+ 4 ~ 1.0000+ 5	1.3654+ 1	1.2717+ 1	7.5570- 1	5.1508- 2	2.7819- 2				3.1072+ 0	8.6691- 2	1.8513+ 0		9.4657- 2
1.0000+ 5 ~ 2.0000+ 5	1.2946+ 1	1.1708+ 1	1.1783+ 0	3.5377- 2	2.6190- 2				3.1215+ 0	7.8819- 2	1.4086+ 0		1.6620- 1
2.0000+ 5 ~ 4.0000+ 5	1.1480+ 1	9.9201+ 0	1.4932+ 0	2.6041- 2	4.0917- 2				3.1545+ 0	1.2922- 1	6.5111- 1		2.8190- 1
4.0000+ 5 ~ 7.0000+ 5	9.8316+ 0	7.6460+ 0	1.7108+ 0	2.1308- 2	2.4498- 1				3.2095+ 0	7.9282- 1	1.5388- 1		3.8782- 1
7.0000+ 5 ~ 1.0000+ 6	8.1520+ 0	5.3627+ 0	1.5282+ 0	1.8315- 2	1.2317+ 0				3.2755+ 0	4.0527+ 0	1.4798- 2		4.6570- 1
1.0000+ 6 ~ 2.0000+ 6	7.2325+ 0	3.9259+ 0	1.5928+ 0	1.2840- 2	1.7001+ 0				3.4185+ 0	5.8118+ 0	7.4362- 3		5.3467- 1
2.0000+ 6 ~ 4.0000+ 6	7.4178+ 0	4.4178+ 0	1.5494+ 0	4.0882- 3	1.4457+ 0				3.7485+ 0	5.4099+ 0	2.7190- 3		5.9237- 1
4.0000+ 6 ~ 7.0000+ 6	7.5781+ 0	4.7921+ 0	1.2531+ 0	2.4383- 4	1.4655+ 0	1.1742- 1			4.2985+ 0	6.3479+ 0	1.6300- 4		8.0139- 1
7.0000+ 6 ~ 1.0000+ 7	6.5088+ 0	3.5932+ 0	8.4863- 2	6.5099- 7	2.2802+ 0	5.8785- 1			4.9585+ 0	1.1334+ 1	3.1255- 7		8.2250- 1
1.0000+ 7 ~ 2.0000+ 7	5.8915+ 0	2.6837+ 0	5.1088- 3	7.0819- 9	2.6611+ 0	1.5984- 1	2.5207- 1		6.3885+ 0	1.7241+ 1	2.7378- 9		6.6915- 1

MATERIAL =3971

CROSS SECTION

^{249}Bk (3971)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		NU-BAR
1.0000- 5 ~ 1.0000- 2	1.8800+ 3	4.1335+ 0		1.8653+ 3	1.0534+ 1				3.4189+ 0	3.6016+ 1	1.7898+ 2		2.8947- 3
1.0000- 2 ~ 2.0000- 2	8.7409+ 2	4.0330+ 0		8.6522+ 2	4.8330+ 0				3.4189+ 0	1.6524+ 1	1.7902+ 2		2.9401- 3
2.0000- 2 ~ 4.0000- 2	6.8864+ 2	3.8619+ 0		6.8090+ 2	3.8578+ 0				3.4189+ 0	1.3190+ 1	1.7908+ 2		2.9630- 3
4.0000- 2 ~ 7.0000- 2	6.6710+ 2	3.6311+ 0		6.5978+ 2	3.6819+ 0				3.4189+ 0	1.2588+ 1	1.7920+ 2		2.9832- 3
7.0000- 2 ~ 1.0000- 1	8.1969+ 2	3.3888+ 0		8.1200+ 2	4.5285+ 0				3.4189+ 0	1.5482+ 1	1.7931+ 2		2.9978- 3
1.0000- 1 ~ 2.0000- 1	6.0338+ 3	1.6658+ 1		5.9836+ 3	3.3338+ 1				3.4189+ 0	1.1398+ 2	1.7945+ 2		3.0180- 3
2.0000- 1 ~ 4.0000- 1	1.9695+ 3	1.7416+ 1		1.9412+ 3	1.0818+ 1				3.4189+ 0	3.6985+ 1	1.7922+ 2		3.0388- 3
4.0000- 1 ~ 7.0000- 1	5.7807+ 1	8.4810+ 0		5.1138+ 1	2.8834- 1				3.4189+ 0	9.8582- 1	1.7690+ 2		3.0591- 3
7.0000- 1 ~ 1.0000+ 0	3.4329+ 1	5.0302+ 0		2.9131+ 1	1.6820- 1				3.4189+ 0	5.7508- 1	1.7325+ 2		3.0737- 3
1.0000+ 0 ~ 2.0000+ 0	1.0872+ 3	2.1104+ 1		1.0598+ 3	6.2989+ 0				3.4189+ 0	2.1528+ 1	1.7037+ 2		3.0919- 3
2.0000+ 0 ~ 4.0000+ 0	1.0084+ 2	7.9840+ 0		1.0132+ 2	5.5243- 1				3.4189+ 0	1.8887+ 0	1.8208+ 2		3.1148- 3
4.0000+ 0 ~ 7.0000+ 0	6.3185+ 1	6.4298+ 0		5.6479+ 1	2.8285- 1				3.4189+ 0	9.6703- 1	1.9968+ 2		3.1350- 3
7.0000+ 0 ~ 1.0000+ 1	1.5860+ 2	1.2021+ 1		1.4678+ 2	8.0129- 1				3.4189+ 0	2.7395+ 0	1.8194+ 2		3.1496- 3
1.0000+ 1 ~ 2.0000+ 1	1.5718+ 2	1.9913+ 1		1.3651+ 2	7.6474- 1				3.4189+ 0	2.6146+ 0	1.7856+ 2		3.1878- 3
2.0000+ 1 ~ 4.0000+ 1	6.9684+ 1	1.6919+ 1		5.2471+ 1	2.9395- 1				3.4189+ 0	1.0050+ 0	1.7851+ 2		3.1908- 3
4.0000+ 1 ~ 7.0000+ 1	8.1824+ 1	1.7644+ 1		6.3822+ 1	3.5791- 1				3.4189+ 0	1.2237+ 0	1.7757+ 2		3.2108- 3
7.0000+ 1 ~ 1.0000+ 2	6.1384+ 1	1.6118+ 1		4.3001+ 1	2.4477- 1				3.4189+ 0	8.3685- 1	1.7588+ 2		3.2254- 3
1.0000+ 2 ~ 2.0000+ 2	4.9385+ 1	1.7802+ 1		3.1583+ 1	1.7984- 1				3.4189+ 0	6.1485- 1	1.7562+ 2		3.2437- 3
2.0000+ 2 ~ 4.0000+ 2	3.8013+ 1	1.6878+ 1		2.1017+ 1	1.1973- 1				3.4190+ 0	4.0935- 1	1.7553+ 2		3.2665- 3
4.0000+ 2 ~ 7.0000+ 2	3.0681+ 1	1.6171+ 1		1.4428+ 1	8.2234- 2				3.4190+ 0	2.8116- 1	1.7545+ 2		3.2867- 3
7.0000+ 2 ~ 1.0000+ 3	2.6709+ 1	1.5842+ 1		1.1004+ 1	6.2739- 2				3.4191+ 0	2.1451- 1	1.7540+ 2		3.3013- 3
1.0000+ 3 ~ 2.0000+ 3	2.2883+ 1	1.4872+ 1		7.9867+ 0	4.5431- 2				3.4192+ 0	1.5534- 1	1.7533+ 2		4.5151- 3
2.0000+ 3 ~ 4.0000+ 3	1.9503+ 1	1.4134+ 1		5.3384+ 0	3.0457- 2				3.4195+ 0	1.0415- 1	1.7527+ 2		5.6631- 3
4.0000+ 3 ~ 7.0000+ 3	1.7307+ 1	1.3428+ 1		3.8666+ 0	2.2007- 2				3.4201+ 0	7.5268- 2	1.7524+ 2		8.5992- 3
7.0000+ 3 ~ 1.0000+ 4	1.6147+ 1	1.2974+ 1	4.4871- 3	3.1508+ 0	1.7982- 2				3.4207+ 0	6.1510- 2	1.7522+ 2		1.0138- 2
1.0000+ 4 ~ 2.0000+ 4	1.5103+ 1	1.2610+ 1	5.5388- 2	2.5232+ 0	1.4405- 2				3.4221+ 0	4.9294- 2	1.7516+ 2		1.9083- 2
2.0000+ 4 ~ 4.0000+ 4	1.4178+ 1	1.2132+ 1	1.1331- 1	1.9208+ 0	1.0812- 2				3.4253+ 0	3.7144- 2	1.7799+ 2		3.4642- 2
4.0000+ 4 ~ 7.0000+ 4	1.3749+ 1	1.1879+ 1	5.0708- 1	1.3445+ 0	7.4734- 3				3.4307+ 0	2.5713- 2	1.7971+ 2		6.4768- 2
7.0000+ 4 ~ 1.0000+ 5	1.3481+ 1	1.1530+ 1	8.7513- 1	9.4865- 1	5.4040- 3				3.4371+ 0	1.8665- 2	1.7469+ 2		1.0119- 1
1.0000+ 5 ~ 2.0000+ 5	1.2826+ 1	1.0806+ 1	1.8458+ 0	5.6698- 1	3.8917- 3				3.4510+ 0	1.3464- 2	1.4448+ 2		1.7751- 1
2.0000+ 5 ~ 4.0000+ 5	1.1368+ 1	8.9289+ 0	2.0814+ 0	3.3269- 1	3.9772- 3				3.4831+ 0	1.3863- 2	8.5619+ 1		3.0490- 1
4.0000+ 5 ~ 7.0000+ 5	9.4272+ 0	6.7090+ 0	2.4669+ 0	2.3788- 1	1.1039- 2				3.5388+ 0	3.9348- 2	2.8590+ 1		4.2598- 1
7.0000+ 5 ~ 1.0000+ 6	8.0648+ 0	4.8712+ 0	2.6627+ 0	2.0159- 1	2.1547- 1				3.6008+ 0	7.6303- 1	1.9179+ 0		4.9057- 1
1.0000+ 6 ~ 2.0000+ 6	7.2015+ 0	3.7825+ 0	2.1381+ 0	1.4041- 1	1.1606+ 0				3.7399+ 0	4.3566+ 0	1.3495- 1		5.5121- 1
2.0000+ 6 ~ 4.0000+ 6	7.4284+ 0	4.4025+ 0	1.5433+ 0	4.4239- 2	1.4338+ 0				4.0509+ 0	5.8234+ 0	3.0865- 2		6.9642- 1
4.0000+ 6 ~ 7.0000+ 6	7.6810+ 0	4.7260+ 0	1.0786+ 0	3.2877- 3	1.7438+ 0	2.6690- 2			4.5659+ 0	8.0782+ 0	2.1803- 3		8.0184- 1
7.0000+ 6 ~ 1.0000+ 7	6.4808+ 0	3.6735+ 0	6.7786- 2	1.2803- 5	2.5988+ 0	2.4050- 1			5.2378+ 0	1.3628+ 1	5.2005- 6		8.2150- 1
1.0000+ 7 ~ 2.0000+ 7	5.8757+ 0	2.8703+ 0	5.0789- 4	1.2728- 8	2.8700+ 0	1.5989- 1	2.7412- 1		6.6269+ 0	1.7699+ 1	4.7664- 9		8.9046- 1

MATERIAL =3972

CROSS SECTION

^{250}Bk (3972)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N.2N)	(N.3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	4.7511+ 3	1.2524+ 1		1.2760+ 3	3.4828+ 3				3.5720+ 0	1.2389+ 4	3.6842- 1		2.6889- 3
1.0000- 2 ~ 2.0000- 2	1.8810+ 3	1.2371+ 1		5.0310+ 2	1.3888+ 3				3.5720+ 0	4.8777+ 3	3.6842- 1		2.6889- 3
2.0000- 2 ~ 4.0000- 2	1.2082+ 3	1.2182+ 1		3.2228+ 2	8.7478+ 2				3.5720+ 0	3.1247+ 3	3.6842- 1		2.6889- 3
4.0000- 2 ~ 7.0000- 2	7.8272+ 2	1.1867+ 1		2.0218+ 2	5.4871+ 2				3.5720+ 0	1.9600+ 3	3.6842- 1		2.6889- 3
7.0000- 2 ~ 1.0000- 1	5.1693+ 2	1.1548+ 1		1.3685+ 2	3.8816+ 2				3.5720+ 0	1.3150+ 3	3.6842- 1		2.6889- 3
1.0000- 1 ~ 2.0000- 1	2.9480+ 2	1.1043+ 1		7.8395+ 1	2.0738+ 2				3.5720+ 0	7.4088+ 2	3.6842- 1		2.6889- 3
2.0000- 1 ~ 4.0000- 1	1.2038+ 2	1.0302+ 1		3.1780+ 1	8.6288+ 1				3.5720+ 0	3.0822+ 2	3.6842- 1		2.6889- 3
4.0000- 1 ~ 7.0000- 1	6.1243+ 1	9.6980+ 0		1.3904+ 1	3.7740+ 1				3.5720+ 0	1.3481+ 2	3.6842- 1		2.6889- 3
7.0000- 1 ~ 1.0000+ 0	4.4447+ 1	9.0131+ 0		9.5389+ 0	2.5894+ 1				3.5720+ 0	9.2499+ 1	3.6842- 1		2.6889- 3
1.0000+ 0 ~ 2.0000+ 0	4.8104+ 2	9.6285+ 0		1.2885+ 2	3.4467+ 2				3.5720+ 0	1.2308+ 3	3.6842- 1		2.6897- 3
2.0000+ 0 ~ 4.0000+ 0	1.8058+ 2	1.0172+ 1		4.5880+ 1	1.2453+ 2				3.5720+ 0	4.4482+ 2	3.6842- 1		2.6912- 3
4.0000+ 0 ~ 7.0000+ 0	1.3017+ 2	1.0739+ 1		3.2155+ 1	8.7278+ 1				3.5720+ 0	3.1178+ 2	3.6842- 1		2.6925- 3
7.0000+ 0 ~ 1.0000+ 1	1.0155+ 2	9.9441+ 0		2.4664+ 1	6.6946+ 1				3.5720+ 0	2.3913+ 2	3.6842- 1		2.6935- 3
1.0000+ 1 ~ 2.0000+ 1	1.0388+ 2	1.1021+ 1		2.5000+ 1	6.7858+ 1				3.5720+ 0	2.4239+ 2	3.6842- 1		2.7021- 3
2.0000+ 1 ~ 4.0000+ 1	7.6257+ 1	1.1180+ 1		1.7526+ 1	4.7571+ 1				3.5720+ 0	1.6992+ 2	3.6842- 1		2.7159- 3
4.0000+ 1 ~ 7.0000+ 1	5.6219+ 1	1.1560+ 1		1.2023+ 1	3.2635+ 1				3.5720+ 0	1.1657+ 2	3.6842- 1		2.7299- 3
7.0000+ 1 ~ 1.0000+ 2	4.8254+ 1	1.1962+ 1		9.7708+ 0	2.6521+ 1				3.5720+ 0	9.4732+ 1	3.6842- 1		2.7394- 3
1.0000+ 2 ~ 2.0000+ 2	3.8798+ 1	1.3850+ 1		1.1482+ 1	1.3485+ 1				3.5720+ 0	4.8167+ 1	8.4908- 1		2.8420- 3
2.0000+ 2 ~ 4.0000+ 2	3.0677+ 1	1.3628+ 1		7.7146+ 0	9.3348+ 0				3.5721+ 0	3.3346+ 1	8.2514- 1		3.0198- 3
4.0000+ 2 ~ 7.0000+ 2	2.6291+ 1	1.3222+ 1		5.3881+ 0	6.6695+ 0				3.5721+ 0	2.3824+ 1	8.0916- 1		3.1768- 3
7.0000+ 2 ~ 1.0000+ 3	2.2449+ 1	1.2878+ 1		4.1788+ 0	5.2848+ 0				3.5722+ 0	1.8878+ 1	7.9109- 1		3.2904- 3
1.0000+ 3 ~ 2.0000+ 3	1.8801+ 1	1.2688+ 1		3.1374+ 0	3.8740+ 0				3.5723+ 0	1.4198+ 1	7.8804- 1		3.7685- 3
2.0000+ 3 ~ 4.0000+ 3	1.7382+ 1	1.2258+ 1		2.1884+ 0	2.9685+ 0				3.5727+ 0	1.0583+ 1	7.3040- 1		5.0381- 3
4.0000+ 3 ~ 7.0000+ 3	1.5911+ 1	1.1898+ 1		1.6100+ 0	2.4023+ 0				3.5732+ 0	8.6897+ 0	6.6946- 1		7.4234- 3
7.0000+ 3 ~ 1.0000+ 4	1.5187+ 1	1.1884+ 1		1.3378+ 0	2.1680+ 0				3.5739+ 0	7.7409+ 0	6.1718- 1		1.0502- 2
1.0000+ 4 ~ 2.0000+ 4	1.4597+ 1	1.1515+ 1		1.0881+ 0	1.8834+ 0				3.5753+ 0	7.1289+ 0	5.4507- 1		1.7728- 2
2.0000+ 4 ~ 4.0000+ 4	1.4143+ 1	1.1373+ 1	2.0804- 2	7.8107- 1	1.8577+ 0				3.5788+ 0	7.0027+ 0	4.0471- 1		3.8403- 2
4.0000+ 4 ~ 7.0000+ 4	1.3824+ 1	1.0864+ 1	2.7066- 1	4.7322- 1	2.1211+ 0				3.5841+ 0	7.6920+ 0	2.2400- 1		7.1600- 2
7.0000+ 4 ~ 1.0000+ 5	1.3667+ 1	1.0807+ 1	4.6028- 1	3.3659- 1	2.1535+ 0				3.5907+ 0	7.7364+ 0	1.5622- 1		1.1248- 1
1.0000+ 5 ~ 2.0000+ 5	1.2960+ 1	9.7586+ 0	8.8220- 1	2.0017- 1	2.0887+ 0				3.6050+ 0	7.5887+ 0	9.6313- 2		1.9802- 1
2.0000+ 5 ~ 4.0000+ 5	1.1477+ 1	7.9915+ 0	1.3543+ 0	8.6738- 2	2.0433+ 0				3.6380+ 0	7.4352+ 0	4.2372- 2		3.4957- 1
4.0000+ 5 ~ 7.0000+ 5	9.6356+ 0	6.0705+ 0	1.4209+ 0	4.8118- 2	1.9841+ 0				3.6930+ 0	7.3847+ 0	2.4113- 2		4.8033- 1
7.0000+ 5 ~ 1.0000+ 6	8.1520+ 0	4.6263+ 0	1.5107+ 0	3.3146- 2	1.9818+ 0				3.7680+ 0	7.4494+ 0	1.6730- 2		5.3820- 1
1.0000+ 6 ~ 2.0000+ 6	7.2366+ 0	3.6480+ 0	1.5105+ 0	1.6704- 2	2.0585+ 0				3.9020+ 0	8.0389+ 0	8.1473- 3		6.7500- 1
2.0000+ 6 ~ 4.0000+ 6	7.4177+ 0	4.3902+ 0	8.7695- 1	1.9687- 3	2.0482+ 0				4.2320+ 0	8.6858+ 0	9.4822- 4		6.9876- 1
4.0000+ 6 ~ 7.0000+ 6	7.6842+ 0	4.7367+ 0	5.0071- 1	4.0195- 5	2.0461+ 0	3.0847- 1			4.7620+ 0	9.7843+ 0	1.9684- 5		8.0143- 1
7.0000+ 6 ~ 1.0000+ 7	8.5088+ 0	3.6932+ 0	2.4685- 2	9.4559- 8	2.0781+ 0	8.1082- 1			5.4420+ 0	1.1307+ 1	4.5263- 8		8.2250- 1
1.0000+ 7 ~ 2.0000+ 7	5.8846+ 0	2.8771+ 0	1.0108- 2	8.6890- 9	2.0733+ 0	3.4008- 1	6.4904- 1		6.8720+ 0	1.4250+ 1	4.1513- 9		8.9023- 1

MATERIAL =3981

CROSS SECTION

^{249}Cf (3981)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N.2N)	(N.3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	7.6730+ 3	6.4549+ 0		1.7661+ 3	5.8114+ 3				4.0628+ 0	2.3611+ 4	3.0207- 1		2.9494- 3
1.0000- 2 ~ 2.0000- 2	3.0399+ 3	6.3364+ 0		7.0440+ 2	2.3282+ 3				4.0628+ 0	9.4631+ 3	3.0249- 1		3.0002- 3
2.0000- 2 ~ 4.0000- 2	1.8895+ 3	6.1711+ 0		4.6348+ 2	1.5298+ 3				4.0628+ 0	6.2154+ 3	3.0300- 1		3.0287- 3
4.0000- 2 ~ 7.0000- 2	1.3270+ 3	5.9208+ 0		3.0789+ 2	1.0131+ 3				4.0628+ 0	4.1161+ 3	3.0398- 1		3.0539- 3
7.0000- 2 ~ 1.0000- 1	9.7071+ 2	5.6632+ 0		2.2684+ 2	7.3842+ 2				4.0628+ 0	3.0041+ 3	3.0520- 1		3.0722- 3
1.0000- 1 ~ 2.0000- 1	6.8877+ 2	5.1688+ 0		1.6104+ 2	5.2355+ 2				4.0628+ 0	2.1271+ 3	3.0772- 1		3.0960- 3
2.0000- 1 ~ 4.0000- 1	6.4778+ 2	4.2068+ 0		1.6304+ 2	4.9048+ 2				4.0628+ 0	1.9928+ 3	3.1191- 1		3.1236- 3
4.0000- 1 ~ 7.0000- 1	3.1489+ 3	1.0469+ 1		7.5071+ 2	2.3851+ 3				4.0628+ 0	9.6902+ 3	3.1454- 1		3.1488- 3
7.0000- 1 ~ 1.0000+ 0	2.7813+ 3	2.6339+ 1		6.5898+ 2	2.0980+ 3				4.0628+ 0	8.5158+ 3	3.1478- 1		3.1670- 3
1.0000+ 0 ~ 2.0000+ 0	1.2151+ 2	9.3028+ 0		2.6843+ 1	8.6384+ 1				4.0628+ 0	3.4882+ 2	3.1479- 1		3.1898- 3
2.0000+ 0 ~ 4.0000+ 0	8.0813+ 1	6.6894+ 0		3.1611+ 1	4.2602+ 1				4.0628+ 0	1.7308+ 2	4.7406- 1		3.2164- 3
4.0000+ 0 ~ 7.0000+ 0	1.0880+ 2	7.0861+ 0		2.3184+ 1	7.8324+ 1				4.0628+ 0	3.1821+ 2	3.3550- 1		3.2436- 3
7.0000+ 0 ~ 1.0000+ 1	1.5369+ 2	7.0866+ 0		3.8348+ 1	1.0818+ 2				4.0628+ 0	4.3953+ 2	3.6295- 1		3.2618- 3
1.0000+ 1 ~ 2.0000+ 1	8.8462+ 1	6.7761+ 0		1.6447+ 1	6.4239+ 1				4.0628+ 0	2.6099+ 2	2.7978- 1		3.2847- 3
2.0000+ 1 ~ 4.0000+ 1	1.1108+ 2	9.4012+ 0		2.0838+ 1	8.0825+ 1				4.0628+ 0	3.2838+ 2	2.3624- 1		3.3132- 3
4.0000+ 1 ~ 7.0000+ 1	6.8456+ 1	9.3472+ 0		8.7536+ 0	5.1366+ 1				4.0628+ 0	2.0868+ 2	1.6504- 1		3.3384- 3
7.0000+ 1 ~ 1.0000+ 2	4.2872+ 1	1.1522+ 1		7.7893+ 0	2.3881+ 1				4.0628+ 0	9.6128+ 1	3.2998- 1		3.3567- 3
1.0000+ 2 ~ 2.0000+ 2	5.0305+ 1	1.2882+ 1		8.9687+ 0	2.8374+ 1				4.0628+ 0	1.1528+ 2	3.1754- 1		3.3795- 3
2.0000+ 2 ~ 4.0000+ 2	4.1002+ 1	1.3081+ 1		6.5422+ 0	2.1379+ 1				4.0629+ 0	8.6860+ 1	3.0608- 1		3.4080- 3
4.0000+ 2 ~ 7.0000+ 2	3.1178+ 1	1.2477+ 1		4.3198+ 0	1.4381+ 1				4.0629+ 0	5.8429+ 1	3.0014- 1		3.4333- 3
7.0000+ 2 ~ 1.0000+ 3	2.6242+ 1	1.2147+ 1		3.2187+ 0	1.0878+ 1				4.0630+ 0	4.4198+ 1	2.9556- 1		3.4515- 3
1.0000+ 3 ~ 2.0000+ 3	2.2868+ 1	1.2042+ 1		2.4380+ 0	8.4788+ 0				4.0631+ 0	3.4460+ 1	2.8895- 1		4.9574- 3
2.0000+ 3 ~ 4.0000+ 3	1.9020+ 1	1.1817+ 1		1.8245+ 0	6.7782+ 0				4.0634+ 0	2.3479+ 1	2.8087- 1		7.8471- 3
4.0000+ 3 ~ 7.0000+ 3	1.6732+ 1	1.1900+ 1		1.1779+ 0	4.2548+ 0				4.0640+ 0	1.7290+ 1	2.7678- 1		1.0024- 2
7.0000+ 3 ~ 1.0000+ 4	1.5880+ 1	1.1108+ 1		9.7988- 1	3.6720+ 0				4.0648+ 0	1.4519+ 1	2.7429- 1		1.1742- 2
1.0000+ 4 ~ 2.0000+ 4	1.4778+ 1	1.0887+ 1		8.2490- 1	3.0658+ 0				4.0660+ 0	1.2425+ 1	2.6979- 1		[illegible]
2.0000+ 4 ~ 4.0000+ 4	1.4107+ 1	1.0797+ 1		7.2028- 1	2.6477+ 0				4.0692+ 0	1.0794+ 1	2.7272- 1		3.8688- 2
4.0000+ 4 ~ 7.0000+ 4	1.3764+ 1	1.0768+ 1	5.8904- 3	7.2422- 1	2.2683+ 0				4.0748+ 0	9.2355+ 0	3.1978- 1		7.0228- 2
7.0000+ 4 ~ 1.0000+ 5	1.3468+ 1	1.0533+ 1	1.3188- 1	5.9888- 1	2.1965+ 0				4.0810+ 0	8.9645+ 0	2.7171- 1		1.1048- 1
1.0000+ 5 ~ 2.0000+ 5	1.2626+ 1	9.8176+ 0	3.9724- 1	4.4384- 1	2.0666+ 0				4.0949+ 0	8.4727+ 0	2.1434- 1		1.8951- 1
2.0000+ 5 ~ 4.0000+ 5	1.1955+ 1	8.3745+ 0	8.9896- 1	2.8830- 1	1.8128+ 0				4.1270+ 0	7.4984+ 0	1.4794- 1		3.2504- 1
4.0000+ 5 ~ 7.0000+ 5	9.4276+ 0	6.4476+ 0	1.2427+ 0	1.9603- 1	1.5414+ 0				4.1806+ 0	6.4503+ 0	1.2848- 1		4.4218- 1
7.0000+ 5 ~ 1.0000+ 6	8.0840+ 0	4.8488+ 0	1.5627+ 0	1.7784- 1	1.3893+ 0				4.2447+ 0	5.8854+ 0	1.2815- 1		4.9287- 1
1.0000+ 6 ~ 2.0000+ 6	7.2318+ 0	3.8362+ 0	1.6118+ 0	1.2309- 1	1.6518+ 0				4.3838+ 0	7.2370+ 0	7.6910- 2		5.5041- 1
2.0000+ 6 ~ 4.0000+ 6	7.4319+ 0	4.4117+ 0	1.0945+ 0	2.8480- 2	1.8980+ 0				4.7048+ 0	8.9183+ 0	1.4835- 2		6.9705- 1
4.0000+ 6 ~ 7.0000+ 6	7.8899+ 0	4.7368+ 0	8.0491- 1	1.8437- 3	1.9084+ 0	1.3794- 1			5.2398+ 0	1.0011+ 1	9.9580- 4		8.0192- 1
7.0000+ 6 ~ 1.0000+ 7	8.4808+ 0	3.6731+ 0	9.0370- 2	7.8637- 8	2.1939+ 0	6.5317- 1			5.8818+ 0	1.2918+ 1	3.7518- 8		8.2150- 1
1.0000+ 7 ~ 2.0000+ 7	5.8734+ 0	2.8730+ 0	4.8989- 4	5.8421- 9	2.2781+ 0	4.0808- 1	4.1490- 1		7.2728+ 0	1.6553+ 1	2.5305- 9		8.9040- 1

MATERIAL =3982

CROSS SECTION

^{250}Cf (3982)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	5.7660+ 3	1.7085+ 2		5.6722+ 3	1.2810+ 1			3.6341+ 0	4.6651+ 1	4.3500+ 2	2.6923- 3
1.0000- 2 ~ 2.0000- 2	2.5408+ 3	1.8918+ 2		2.3862+ 3	6.4385+ 0			3.6341+ 0	1.9768+ 1	4.3500+ 2	2.6915- 3
2.0000- 2 ~ 4.0000- 2	1.8319+ 3	1.6660+ 2		1.6615+ 3	3.8196+ 0			3.6341+ 0	1.3881+ 1	4.3500+ 2	2.6910- 3
4.0000- 2 ~ 7.0000- 2	1.3734+ 3	1.6242+ 2		1.2082+ 3	2.7774+ 0			3.6341+ 0	1.0093+ 1	4.3500+ 2	2.6907- 3
7.0000- 2 ~ 1.0000- 1	1.1141+ 3	1.5763+ 2		9.6427+ 2	2.1937+ 0			3.6341+ 0	7.9721+ 0	4.3500+ 2	2.6904- 3
1.0000- 1 ~ 2.0000- 1	8.6623+ 2	1.4804+ 2		7.1656+ 2	1.6472+ 0			3.6341+ 0	5.9862+ 0	4.3500+ 2	2.6901- 3
2.0000- 1 ~ 4.0000- 1	6.6833+ 2	1.2817+ 2		5.2796+ 2	1.2137+ 0			3.6341+ 0	4.4108+ 0	4.3500+ 2	2.6897- 3
4.0000- 1 ~ 7.0000- 1	7.1671+ 2	1.0668+ 2		6.0862+ 2	1.3981+ 0			3.6341+ 0	5.0845+ 0	4.3500+ 2	2.6893- 3
7.0000- 1 ~ 1.0000+ 0	1.4006+ 4	8.2205+ 2		1.3363+ 4	3.0688+ 1			3.6341+ 0	1.1156+ 2	4.3500+ 2	2.6880- 3
1.0000+ 0 ~ 2.0000+ 0	4.2980+ 3	3.0811+ 2		3.9827+ 3	9.1567+ 0			3.6341+ 0	3.3272+ 1	4.3500+ 2	2.6893- 3
2.0000+ 0 ~ 4.0000+ 0	8.2332+ 1	5.2644+ 1		2.9719+ 1	6.8320- 2			3.6341+ 0	2.4828- 1	4.3500+ 2	2.6899- 3
4.0000+ 0 ~ 7.0000+ 0	3.9102+ 1	3.2180+ 1		6.9058+ 0	1.5876- 2			3.6341+ 0	5.7692- 2	4.3500+ 2	2.6905- 3
7.0000+ 0 ~ 1.0000+ 1	2.5918+ 1	2.3263+ 1		2.6468+ 0	6.0849- 3			3.6341+ 0	2.2113- 2	4.3500+ 2	2.6909- 3
1.0000+ 1 ~ 2.0000+ 1	1.7737+ 2	3.7874+ 1		1.3908+ 2	3.1873- 1			3.6341+ 0	1.1819+ 0	4.3500+ 2	2.6957- 3
2.0000+ 1 ~ 4.0000+ 1	7.1749+ 1	2.4084+ 1		4.7556+ 1	1.0932- 1			3.6341+ 0	3.9729- 1	4.3500+ 2	2.7040- 3
4.0000+ 1 ~ 7.0000+ 1	7.1065+ 1	2.4985+ 1		4.5974+ 1	1.0569- 1			3.6341+ 0	3.8408- 1	4.3500+ 2	2.7114- 3
7.0000+ 1 ~ 1.0000+ 2	5.8818+ 1	2.3851+ 1		3.4888+ 1	7.9742- 2			3.6341+ 0	2.8979- 1	4.3500+ 2	2.7167- 3
1.0000+ 2 ~ 2.0000+ 2	4.4586+ 1	2.4888+ 1		1.9628+ 1	4.8054- 2			3.6341+ 0	1.7463- 1	4.0255+ 2	2.7931- 3
2.0000+ 2 ~ 4.0000+ 2	3.4984+ 1	2.4806+ 1		1.0131+ 1	2.7379- 2			3.6341+ 0	9.9500- 2	3.7002+ 2	2.9267- 3
4.0000+ 2 ~ 7.0000+ 2	2.8493+ 1	2.2019+ 1		6.4627+ 0	1.7469- 2			3.6342+ 0	6.3485- 2	3.6996+ 2	3.0448- 3
7.0000+ 2 ~ 1.0000+ 3	2.4993+ 1	2.0251+ 1		4.7294+ 0	1.2785- 2			3.6342+ 0	4.6462- 2	3.6993+ 2	3.1302- 3
1.0000+ 3 ~ 2.0000+ 3	2.1676+ 1	1.8348+ 1		3.3187+ 0	8.9711- 3			3.6344+ 0	3.2604- 2	3.6993+ 2	3.5149- 3
2.0000+ 3 ~ 4.0000+ 3	1.8850+ 1	1.6588+ 1		2.2583+ 0	6.0985- 3			3.6347+ 0	2.2166- 2	3.6999+ 2	4.6018- 3
4.0000+ 3 ~ 7.0000+ 3	1.6779+ 1	1.5063+ 1		1.7214+ 0	4.6521- 3			3.6353+ 0	1.6911- 2	3.7002+ 2	6.6702- 3
7.0000+ 3 ~ 1.0000+ 4	1.5792+ 1	1.4330+ 1		1.4574+ 0	3.9389- 3			3.6359+ 0	1.4321- 2	3.7001+ 2	9.3548- 3
1.0000+ 4 ~ 2.0000+ 4	1.4827+ 1	1.3735+ 1		1.1884+ 0	3.2939- 3			3.6374+ 0	1.1763- 2	3.6720+ 2	1.5640- 2
2.0000+ 4 ~ 4.0000+ 4	1.4186+ 1	1.3298+ 1		8.8540- 1	2.6648- 3			3.6407+ 0	9.7008- 3	3.3172+ 2	3.1699- 2
4.0000+ 4 ~ 7.0000+ 4	1.3824+ 1	1.2980+ 1	2.4028- 1	5.9892- 1	2.8668- 3			3.6462+ 0	1.0392- 2	2.1139+ 2	6.0495- 2
7.0000+ 4 ~ 1.0000+ 5	1.3655+ 1	1.2465+ 1	6.8510- 1	3.9888- 1	3.8468- 3			3.6528+ 0	1.4065- 2	1.0610+ 2	9.6329- 2
1.0000+ 5 ~ 2.0000+ 5	1.2938+ 1	1.1543+ 1	1.1006+ 0	2.8128- 1	1.0467- 2			3.6671+ 0	3.8521- 2	3.2809+ 1	1.6772- 1
2.0000+ 5 ~ 4.0000+ 5	1.1474+ 1	8.8089+ 0	1.3852+ 0	2.1984- 1	7.8099- 2			3.7001+ 0	2.8094- 1	4.4941+ 0	2.8498- 1
4.0000+ 5 ~ 7.0000+ 5	9.6356+ 0	7.3800+ 0	1.2793+ 0	1.9497- 1	6.8654- 1			3.7551+ 0	2.5908+ 0	3.7431- 1	3.9798- 1
7.0000+ 5 ~ 1.0000+ 6	8.1510+ 0	6.2477+ 0	8.6298- 1	1.6477- 1	1.7894+ 0			3.8211+ 0	6.8526+ 0	9.0401- 2	4.7571- 1
1.0000+ 6 ~ 2.0000+ 6	7.2903+ 0	3.8160+ 0	1.0066+ 0	8.1219- 2	2.3273+ 0			3.9641+ 0	9.2265+ 0	3.5044- 2	5.4939- 1
2.0000+ 6 ~ 4.0000+ 6	7.4177+ 0	4.4028+ 0	6.6618- 1	2.4320- 2	2.3330+ 0			4.2941+ 0	1.0017+ 1	1.0405- 2	6.9475- 1
4.0000+ 6 ~ 7.0000+ 6	7.6974+ 0	4.7356+ 0	4.8481- 1	3.5154- 3	2.3897+ 0	2.9869- 3		4.8441+ 0	1.1491+ 1	1.5084- 3	8.0160- 1
7.0000+ 6 ~ 1.0000+ 7	8.6088+ 0	3.6934+ 0	6.1832- 2	4.8572- 5	2.7170+ 0	1.3439- 1		5.5041+ 0	1.4962+ 1	1.7636- 5	8.2250- 1
1.0000+ 7 ~ 2.0000+ 7	5.9833+ 0	2.8750+ 0	1.0037- 2	8.1547- 7	2.7693+ 0	1.4853- 1	1.8210- 1	6.9341+ 0	1.9237+ 1	2.2477- 7	8.9012- 1

MATERIAL =3983

CROSS SECTION

^{251}Cf (3983)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.8844+ 4	8.2487+ 1		9.8938+ 3	1.8967+ 4			4.1059+ 0	6.9867+ 4	5.8311- 1	2.6782- 3
1.0000- 2 ~ 2.0000- 2	1.0844+ 4	7.8198+ 1		4.0020+ 3	6.8632+ 3			4.1059+ 0	2.8180+ 4	5.8311- 1	2.6782- 3
2.0000- 2 ~ 4.0000- 2	7.2628+ 3	7.4714+ 1		2.6438+ 3	4.5341+ 3			4.1059+ 0	1.8617+ 4	5.8311- 1	2.6782- 3
4.0000- 2 ~ 7.0000- 2	4.8088+ 3	8.8181+ 1		1.7481+ 3	2.9846+ 3			4.1059+ 0	1.2296+ 4	5.8311- 1	2.6782- 3
7.0000- 2 ~ 1.0000- 1	3.4206+ 3	6.1648+ 1		1.2372+ 3	2.1218+ 3			4.1059+ 0	8.7118+ 3	5.8311- 1	2.6782- 3
1.0000- 1 ~ 2.0000- 1	2.1574+ 3	5.0867+ 1		7.7691+ 2	1.3306+ 3			4.1059+ 0	5.4635+ 3	5.8311- 1	2.6782- 3
2.0000- 1 ~ 4.0000- 1	1.2126+ 3	3.6786+ 1		4.3344+ 2	7.4332+ 2			4.1059+ 0	3.0520+ 3	5.8311- 1	2.6782- 3
4.0000- 1 ~ 7.0000- 1	1.9087+ 3	2.8074+ 1		6.9308+ 2	1.1886+ 3			4.1059+ 0	4.8801+ 3	5.8311- 1	2.6782- 3
7.0000- 1 ~ 1.0000+ 0	8.3237+ 3	1.1833+ 2		3.0219+ 3	5.1824+ 3			4.1059+ 0	2.1279+ 4	5.8311- 1	2.6782- 3
1.0000+ 0 ~ 2.0000+ 0	2.8028+ 2	2.6288+ 1		9.3541+ 1	1.6042+ 2			4.1059+ 0	6.5868+ 2	5.8311- 1	2.6789- 3
2.0000+ 0 ~ 4.0000+ 0	3.8701+ 1	1.4408+ 1		7.8440+ 0	1.3452+ 1			4.1059+ 0	5.5233+ 1	5.8311- 1	2.6802- 3
4.0000+ 0 ~ 7.0000+ 0	6.8698+ 1	9.7500+ 0		2.1675+ 1	3.7172+ 1			4.1059+ 0	1.5262+ 2	5.8311- 1	2.6814- 3
7.0000+ 0 ~ 1.0000+ 1	2.8129+ 2	2.1286+ 1		9.5776+ 1	1.6426+ 2			4.1059+ 0	6.7439+ 2	5.8311- 1	2.6822- 3
1.0000+ 1 ~ 2.0000+ 1	1.3586+ 2	1.4853+ 1		4.4689+ 1	7.6433+ 1			4.1059+ 0	3.1382+ 2	5.8311- 1	2.6904- 3
2.0000+ 1 ~ 4.0000+ 1	8.1422+ 1	1.4520+ 1		2.4842+ 1	4.2280+ 1			4.1059+ 0	1.7351+ 2	5.8311- 1	2.7045- 3
4.0000+ 1 ~ 7.0000+ 1	5.9580+ 1	1.3812+ 1		1.6668+ 1	2.8910+ 1			4.1059+ 0	1.1870+ 2	5.8311- 1	2.7169- 3
7.0000+ 1 ~ 1.0000+ 2	5.7079+ 1	1.5098+ 1		1.5463+ 1	2.6518+ 1			4.1059+ 0	1.0888+ 2	5.8311- 1	2.7259- 3
1.0000+ 2 ~ 2.0000+ 2	4.2838+ 1	1.6007+ 1		9.6874+ 0	1.7834+ 1			4.1059+ 0	7.3637+ 1	5.3101- 1	2.8279- 3
2.0000+ 2 ~ 4.0000+ 2	3.0646+ 1	1.4383+ 1		5.1518+ 0	1.1113+ 1			4.1060+ 0	4.5629+ 1	4.6250- 1	3.0047- 3
4.0000+ 2 ~ 7.0000+ 2	2.5239+ 1	1.3793+ 1		3.5117+ 0	7.9341+ 0			4.1060+ 0	3.2577+ 1	4.4199- 1	3.1610- 3
7.0000+ 2 ~ 1.0000+ 3	2.2332+ 1	1.3378+ 1		2.6801+ 0	6.2731+ 0			4.1061+ 0	2.5758+ 1	4.2665- 1	3.2739- 3
1.0000+ 3 ~ 2.0000+ 3	1.8807+ 1	1.2880+ 1		1.9519+ 0	4.7787+ 0			4.1062+ 0	1.9810+ 1	4.0781- 1	3.7471- 3
2.0000+ 3 ~ 4.0000+ 3	1.7177+ 1	1.2302+ 1		1.3540+ 0	3.5210+ 0			4.1066+ 0	1.4459+ 1	3.8389- 1	5.0500- 3
4.0000+ 3 ~ 7.0000+ 3	1.5744+ 1	1.1882+ 1		1.0298+ 0	2.6526+ 0			4.1071+ 0	1.1716+ 1	3.6062- 1	7.4908- 3
7.0000+ 3 ~ 1.0000+ 4	1.6043+ 1	1.1611+ 1		8.7143- 1	2.5607+ 0			4.1078+ 0	1.0519+ 1	3.4017- 1	1.0652- 2
1.0000+ 4 ~ 2.0000+ 4	1.4505+ 1	1.1429+ 1		7.2147- 1	2.3803+ 0			4.1099+ 0	9.8993+ 0	3.0523- 1	1.8093- 2
2.0000+ 4 ~ 4.0000+ 4	1.4183+ 1	1.1249+ 1	1.0442- 1	4.8883- 1	2.3242+ 0			4.1127+ 0	9.5545+ 0	2.1120- 1	3.7658- 2
4.0000+ 4 ~ 7.0000+ 4	1.3800+ 1	1.0760+ 1	3.4887- 1	2.7461- 1	2.5252+ 0			4.1169+ 0	1.0386+ 1	1.0921- 1	7.4315- 2
7.0000+ 4 ~ 1.0000+ 5	1.3863+ 1	1.0923+ 1	6.8177- 1	1.8363- 1	2.5637+ 0			4.1251+ 0	1.0581+ 1	7.1587- 2	1.1904- 1
1.0000+ 5 ~ 2.0000+ 5	1.3064+ 1	9.6788+ 0	8.6471- 1	1.2942- 1	2.4985+ 0			4.1398+ 0	1.0344+ 1	4.9378- 2	2.0730- 1
2.0000+ 5 ~ 4.0000+ 5	1.1810+ 1	7.9869+ 0	1.1211+ 0	6.6777- 2	2.4328+ 0			4.1737+ 0	1.0155+ 1	2.7419- 2	3.5934- 1
4.0000+ 5 ~ 7.0000+ 5	8.8488+ 0	6.1500+ 0	1.0788+ 0	4.6808- 2	2.3739+ 0			4.2302+ 0	1.0043+ 1	1.9713- 2	4.8804- 1
7.0000+ 5 ~ 1.0000+ 6	8.2392+ 0	4.7303+ 0	1.1080+ 0	4.0498- 2	2.3592+ 0			4.2980+ 0	1.0140+ 1	1.7170- 2	5.3777- 1
1.0000+ 6 ~ 2.0000+ 6	7.2840+ 0	3.8821+ 0	1.1086+ 0	2.0712- 2	2.4518+ 0			4.4449+ 0	1.0899+ 1	8.4845- 3	5.7555- 1
2.0000+ 6 ~ 4.0000+ 6	7.4028+ 0	4.3014+ 0	6.7857- 1	2.9458- 3	2.4383+ 0			4.7839+ 0	1.1862+ 1	1.1979- 3	6.9449- 1
4.0000+ 6 ~ 7.0000+ 6	7.8134+ 0	4.7490+ 0	2.8879- 1	9.8861- 5	2.4342+ 0	1.3839- 1		5.3489+ 0	1.3028+ 1	4.0957- 5	8.0148- 1
7.0000+ 6 ~ 1.0000+ 7	8.5379+ 0	3.6168+ 0	1.7604- 2	2.2207- 7	2.4740+ 0	4.2788- 1		6.0289+ 0	1.4908+ 1	8.9297- 8	8.2348- 1
1.0000+ 7 ~ 2.0000+ 7	5.9988+ 0	2.8815+ 0	1.0090- 2	1.2377- 8	2.4888+ 0	2.3113- 1	3.9288- 1	7.4959+ 0	1.8507+ 1	5.0244- 9	8.9029- 1

MATERIAL =3984

CROSS SECTION

^{252}Cf (3984)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.7866+ 2	1.1054+ 1		8.4894+ 1	1.0281+ 2				3.8923+ 0	4.0016+ 2	8.2910- 1		2.6676- 3
1.0000- 2 ~ 2.0000- 2	8.2358+ 1	1.1048+ 1		2.7510+ 1	4.3799+ 1				3.8923+ 0	1.7048+ 2	6.2807- 1		2.6678- 3
2.0000- 2 ~ 4.0000- 2	6.1209+ 1	1.1095+ 1		1.9327+ 1	3.0847+ 1				3.8923+ 0	1.2008+ 2	6.2848- 1		2.6676- 3
4.0000- 2 ~ 7.0000- 2	4.7574+ 1	1.1016+ 1		1.4045+ 1	2.2514+ 1				3.8923+ 0	8.7631+ 1	6.2374- 1		2.6676- 3
7.0000- 2 ~ 1.0000- 1	4.0024+ 1	1.0995+ 1		1.1115+ 1	1.7916+ 1				3.8923+ 0	6.9735+ 1	6.2029- 1		2.6676- 3
1.0000- 1 ~ 2.0000- 1	3.2840+ 1	1.0946+ 1		8.2411+ 0	1.3464+ 1				3.8923+ 0	5.2367+ 1	6.1206- 1		2.6676- 3
2.0000- 1 ~ 4.0000- 1	2.6841+ 1	1.0898+ 1		6.6870+ 0	9.4360+ 0				3.8923+ 0	3.6726+ 1	5.6881- 1		2.6678- 3
4.0000- 1 ~ 7.0000- 1	2.2036+ 1	1.0870+ 1		3.9605+ 0	7.4084+ 0				3.8923+ 0	2.8836+ 1	5.3319- 1		2.6678- 3
7.0000- 1 ~ 1.0000+ 0	2.2639+ 1	1.0462+ 1		3.6549+ 0	8.5220+ 0				3.8923+ 0	3.3170+ 1	4.3340- 1		2.6678- 3
1.0000+ 0 ~ 2.0000+ 0	6.4214+ 1	1.0392+ 1		1.2050+ 1	4.1772+ 1				3.8923+ 0	1.6259+ 2	3.2079- 1		2.6679- 3
2.0000+ 0 ~ 4.0000+ 0	1.2230+ 1	1.0001+ 1		7.4956- 1	1.4797+ 0				3.8923+ 0	5.7594+ 0	5.3241- 1		2.6685- 3
4.0000+ 0 ~ 7.0000+ 0	1.0273+ 1	9.5519+ 0		2.8836- 1	4.5584- 1				3.8923+ 0	1.7735+ 0	6.8392- 1		2.6690- 3
7.0000+ 0 ~ 1.0000+ 1	9.6191+ 0	9.2369+ 0		1.3756- 1	2.4464- 1				3.8923+ 0	9.5220- 1	5.6118- 1		2.6694- 3
1.0000+ 1 ~ 2.0000+ 1	9.0254+ 0	8.7637+ 0		8.4321- 2	1.5729- 1				3.8929+ 0	6.1224- 1	5.3575- 1		2.6744- 3
2.0000+ 1 ~ 4.0000+ 1	8.4332+ 1	1.9719+ 1		3.2267+ 1	3.2352+ 1				3.8923+ 0	1.2592+ 2	8.2826- 1		2.6830- 3
4.0000+ 1 ~ 7.0000+ 1	1.1191+ 2	2.7861+ 1		1.3728+ 1	7.0305+ 1				3.8929+ 0	2.7365+ 2	3.1094- 1		2.6906- 3
7.0000+ 1 ~ 1.0000+ 2	2.2731+ 1	1.3717+ 1		3.8066+ 0	5.2057+ 0				3.8923+ 0	2.0262+ 1	3.6139- 1		2.6962- 3
1.0000+ 2 ~ 2.0000+ 2	1.0114+ 1	9.1968+ 0		4.5227- 1	4.6807- 1				3.8923+ 0	1.8141+ 0	6.1689- 1		2.7803- 3
2.0000+ 2 ~ 4.0000+ 2	2.7141+ 1	2.0664+ 1		3.2427+ 0	3.2442+ 0				3.8924+ 0	1.2627+ 1	9.1636- 1		2.9275- 3
4.0000+ 2 ~ 7.0000+ 2	2.2938+ 1	1.7446+ 1		2.6870+ 0	2.8268+ 0				3.8924+ 0	1.1003+ 1	8.3246- 1		3.0576- 3
7.0000+ 2 ~ 1.0000+ 3	5.9659+ 1	5.4993+ 1		1.9098+ 0	2.7558+ 0				3.8925+ 0	1.0727+ 1	7.2560- 1		3.1516- 3
1.0000+ 3 ~ 2.0000+ 3	2.3588+ 1	1.9629+ 1		1.8862+ 0	2.1812+ 0				3.8928+ 0	8.4908+ 0	8.6083- 1		3.5754- 3
2.0000+ 3 ~ 4.0000+ 3	1.9938+ 1	1.7073+ 1		1.2886+ 0	1.5783+ 0				3.8930+ 0	6.1363+ 0	8.1758- 1		4.7393- 3
4.0000+ 3 ~ 7.0000+ 3	1.7710+ 1	1.5421+ 1		1.0137+ 0	1.2753+ 0				3.8938+ 0	4.9653+ 0	7.9441- 1		6.9873- 3
7.0000+ 3 ~ 1.0000+ 4	1.6506+ 1	1.4627+ 1		8.6916- 1	1.1203+ 0				3.8942+ 0	4.3626+ 0	7.6664- 1		9.9447- 3
1.0000+ 4 ~ 2.0000+ 4	1.5381+ 1	1.3689+ 1		6.9042- 1	9.8178- 1				3.8958+ 0	3.8247+ 0	7.0184- 1		1.6752- 2
2.0000+ 4 ~ 4.0000+ 4	1.4324+ 1	1.2961+ 1		4.9937- 1	8.7381- 1				3.8992+ 0	3.4099+ 0	5.7032- 1		3.4219- 2
4.0000+ 4 ~ 7.0000+ 4	1.3877+ 1	1.2826+ 1	1.7698- 1	3.3050- 1	8.4228- 1				3.9050+ 0	3.2887+ 0	3.9322- 1		6.5458- 2
7.0000+ 4 ~ 1.0000+ 5	1.3754+ 1	1.2030+ 1	5.7706- 1	2.0801- 1	9.3600- 1				3.9118+ 0	3.6578+ 0	2.2379- 1		1.0559- 1
1.0000+ 5 ~ 2.0000+ 5	1.3174+ 1	1.0968+ 1	8.9460- 1	1.4022- 1	1.1474+ 0				3.9268+ 0	4.4968+ 0	1.2341- 1		1.8688- 1
2.0000+ 5 ~ 4.0000+ 5	1.1724+ 1	9.2483+ 0	1.0412+ 0	1.0628- 1	1.3287+ 0				3.9613+ 0	5.2595+ 0	7.9490- 2		3.1826- 1
4.0000+ 5 ~ 7.0000+ 5	9.7584+ 0	7.0687+ 0	9.7626- 1	9.9602- 2	1.6212+ 0				4.0168+ 0	6.5133+ 0	6.1062- 2		4.3357- 1
7.0000+ 5 ~ 1.0000+ 6	8.3250+ 0	6.2800+ 0	9.5344- 1	9.3207- 2	1.9972+ 0				4.0878+ 0	8.1644+ 0	4.7036- 2		4.9303- 1
1.0000+ 6 ~ 2.0000+ 6	7.2916+ 0	3.6418+ 0	9.0636- 1	4.6200- 2	2.4977+ 0				4.2373+ 0	1.0589+ 1	1.8484- 2		5.5830- 1
2.0000+ 6 ~ 4.0000+ 6	7.3875+ 0	4.3784+ 0	4.4606- 1	1.0524- 2	2.6511+ 0				4.5823+ 0	1.1883+ 1	4.0848- 3		6.9125- 1
4.0000+ 6 ~ 7.0000+ 6	7.8286+ 0	4.7410+ 0	3.7759- 1	1.4104- 3	2.4774+ 0	2.9770- 2			5.1573+ 0	1.2773+ 1	5.7276- 4		8.0141- 1
7.0000+ 6 ~ 1.0000+ 7	6.6659+ 0	3.6184+ 0	5.5381- 2	1.7866- 5	2.5721+ 0	3.1817- 1			5.8473+ 0	1.5039+ 1	6.9590- 6		8.2445- 1
1.0000+ 7 ~ 2.0000+ 7	6.0085+ 0	2.8878+ 0	9.9804- 3	2.1737- 7	2.7541+ 0	1.1005- 1	2.4378- 1		7.3423+ 0	2.0243+ 1	7.9843- 8		8.9029- 1

MATERIAL =3985

CROSS SECTION

^{254}Cf (3985)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	3.0770+ 1	1.0800+ 1		1.3877+ 1	6.1872+ 0				3.5066+ 0	2.1701+ 1	2.2600+ 0		2.6465- 3
1.0000- 2 ~ 2.0000- 2	1.9281+ 1	1.0800+ 1		6.9296+ 0	2.6354+ 0				3.5066+ 0	9.2739+ 0	2.2600+ 0		2.6465- 3
2.0000- 2 ~ 4.0000- 2	1.6730+ 1	1.0800+ 1		4.1929+ 0	1.8836+ 0				3.5066+ 0	6.5810+ 0	2.2501+ 0		2.6465- 3
4.0000- 2 ~ 7.0000- 2	1.5132+ 1	1.0800+ 1		3.0814+ 0	1.3883+ 0				3.5066+ 0	4.6249+ 0	2.2503+ 0		2.6465- 3
7.0000- 2 ~ 1.0000- 1	1.4200+ 1	1.0800+ 1		2.4848+ 0	1.0952+ 0				3.5066+ 0	3.8687+ 0	2.2504+ 0		2.6465- 3
1.0000- 1 ~ 2.0000- 1	1.3388+ 1	1.0800+ 1		1.8751+ 0	8.3314- 1				3.5066+ 0	2.9299+ 0	2.2508+ 0		2.6465- 3
2.0000- 1 ~ 4.0000- 1	1.2664+ 1	1.0800+ 1		1.3259+ 0	6.8908- 1				3.6066+ 0	2.0715+ 0	2.2609+ 0		2.6465- 3
4.0000- 1 ~ 7.0000- 1	1.2029+ 1	1.0800+ 1		8.7442- 1	4.3288- 1				3.5066+ 0	1.5231+ 0	2.2511+ 0		2.6465- 3
7.0000- 1 ~ 1.0000+ 0	1.1764+ 1	1.0800+ 1		7.7842- 1	3.4821- 1				3.5066+ 0	1.2190+ 0	2.2513+ 0		2.6465- 3
1.0000+ 0 ~ 2.0000+ 0	1.1474+ 1	1.0800+ 1		5.9298- 1	2.6336- 1				3.5066+ 0	9.2684- 1	2.2516+ 0		2.6467- 3
2.0000+ 0 ~ 4.0000+ 0	1.1264+ 1	1.0600+ 1		4.1829- 1	1.8621- 1				3.5066+ 0	6.5536- 1	2.2517+ 0		2.6470- 3
4.0000+ 0 ~ 7.0000+ 0	1.1108+ 1	1.0600+ 1		3.0614- 1	1.3683- 1				3.5066+ 0	4.8172- 1	2.2520+ 0		2.6473- 3
7.0000+ 0 ~ 1.0000+ 1	1.0999+ 1	1.0600+ 1		2.4047- 1	1.0944- 1				3.5066+ 0	3.8487- 1	2.2521+ 0		2.6475- 3
1.0000+ 1 ~ 2.0000+ 1	1.0882+ 1	1.0800+ 1		1.8751- 1	8.3252- 2				3.5066+ 0	2.9299- 1	2.2523+ 0		2.6516- 3
2.0000+ 1 ~ 4.0000+ 1	1.0812+ 1	1.0800+ 1		1.3259- 1	5.8881- 2				3.5066+ 0	2.0718- 1	2.2526+ 0		2.6587- 3
4.0000+ 1 ~ 7.0000+ 1	1.0780+ 1	1.0800+ 1		9.7441- 2	4.3283- 2				3.5066+ 0	1.5230- 1	2.2528+ 0		2.6649- 3
7.0000+ 1 ~ 1.0000+ 2	1.0723+ 1	1.0800+ 1		7.7942- 2	3.4595- 2				3.5066+ 0	1.2165- 1	2.2530+ 0		2.6695- 3
1.0000+ 2 ~ 2.0000+ 2	3.2020+ 1	2.6082+ 1		2.0280+ 0	3.8189+ 0				3.5068+ 0	1.3422+ 1	8.7243- 1		2.7517- 3
2.0000+ 2 ~ 4.0000+ 2	3.0918+ 1	2.5414+ 1		1.6470+ 0	3.6871+ 0				3.5067+ 0	1.2966+ 1	4.4467- 1		2.8962- 3
4.0000+ 2 ~ 7.0000+ 2	2.6615+ 1	2.1579+ 1		1.0742+ 0	2.8535+ 0				3.5067+ 0	1.0048+ 1	3.7534- 1		3.0238- 3
7.0000+ 2 ~ 1.0000+ 3	2.2352+ 1	1.8180+ 1		7.8776- 1	2.3699+ 0				3.5068+ 0	8.3392+ 0	3.3200- 1		3.1161- 3
1.0000+ 3 ~ 2.0000+ 3	1.9814+ 1	1.7120+ 1		5.8871- 1	1.9019+ 0				3.5070+ 0	6.6684+ 0	3.0815- 1		3.5424- 3
2.0000+ 3 ~ 4.0000+ 3	1.7308+ 1	1.6432+ 1		4.2152- 1	1.4482+ 0				3.5073+ 0	5.0986+ 0	2.9058- 1		4.7167- 3
4.0000+ 3 ~ 7.0000+ 3	1.6946+ 1	1.4433+ 1		3.0038- 1	1.2093+ 0				3.5079+ 0	4.2507+ 0	2.4782- 1		6.9904- 3
7.0000+ 3 ~ 1.0000+ 4	1.5266+ 1	1.3968+ 1		2.2916- 1	1.0757+ 0				3.5087+ 0	3.7810+ 0	2.1190- 1		9.9907- 3
1.0000+ 4 ~ 2.0000+ 4	1.4709+ 1	1.3610+ 1		1.6028- 1	9.3795- 1				3.5103+ 0	3.3024+ 0	1.7019- 1		1.6937- 2
2.0000+ 4 ~ 4.0000+ 4	1.4552+ 1	1.3369+ 1		1.0336- 1	8.3878- 1				3.5139+ 0	2.9518+ 0	1.2294- 1		3.4876- 2
4.0000+ 4 ~ 7.0000+ 4	1.4140+ 1	1.3039+ 1	2.3016- 1	5.8785- 2	8.0857- 1				3.5200+ 0	2.8442+ 0	7.4140- 2		6.7435- 2
7.0000+ 4 ~ 1.0000+ 5	1.3980+ 1	1.2946+ 1	8.8143- 1	3.2918- 2	8.9858- 1				3.5274+ 0	3.1863+ 0	3.6896- 2		1.0936- 1
1.0000+ 5 ~ 2.0000+ 5	1.3421+ 1	1.1277+ 1	1.0182+ 0	2.1617- 2	1.1014+ 0				3.5432+ 0	3.8953+ 0	2.0010- 2		1.9256- 1
2.0000+ 5 ~ 4.0000+ 6	1.1973+ 1	9.4614+ 0	1.2178+ 0	1.6522- 2	1.2755+ 0				3.5798+ 0	4.5630+ 0	1.2220- 2		3.2776- 1
4.0000+ 5 ~ 7.0000+ 5	9.8799+ 0	7.1890+ 0	1.2381+ 0	1.2264- 2	1.5683+ 0				3.8408+ 0	5.6651+ 0	7.9806- 3		4.4730- 1
7.0000+ 5 ~ 1.0000+ 6	8.4983+ 0	6.3484+ 0	1.2203+ 0	9.7217- 3	1.9174+ 0				3.7140+ 0	7.1215+ 0	5.1016- 3		5.0733- 1
1.0000+ 6 ~ 2.0000+ 6	7.3481+ 0	3.8080+ 0	1.0354+ 0	5.0808- 3	2.3978+ 0				3.8728+ 0	9.2922+ 0	2.1722- 3		5.6052- 1
2.0000+ 6 ~ 4.0000+ 6	7.3871+ 0	4.3805+ 0	5.4549- 1	7.8190- 4	2.4490+ 0				4.2388+ 0	1.0373+ 1	3.1280- 4		6.8656- 1
4.0000+ 6 ~ 7.0000+ 6	7.8640+ 0	4.7749+ 0	4.7012- 1	3.7808- 5	2.3801+ 0	4.7402- 2			4.8466+ 0	1.1444+ 1	1.6082- 5		8.0113- 1
7.0000+ 6 ~ 1.0000+ 7	6.6236+ 0	3.8832+ 0	5.8948- 2	2.4022- 7	2.4500+ 0	4.2807- 1			5.5806+ 0	1.3682+ 1	1.0013- 7		8.2635- 1
1.0000+ 7 ~ 2.0000+ 7	6.0293+ 0	2.6954+ 0	5.1610- 3	2.7880- 9	2.8488+ 0	1.4025- 1	3.2923- 1		7.1666+ 0	1.8992+ 1	1.0536- 9		8.9050- 1

CROSS SECTION

MATERIAL =3991

^{254}Es (3991)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	8.1714+ 3	1.0600+ 1		8.7269+ 1	8.0625+ 3			4.0859+ 0	2.4857+ 4	1.4395- 2	2.6465- 3
1.0000- 2 ~ 2.0000- 2	2.8409+ 3	1.0600+ 1		3.7291+ 1	2.5908+ 3			4.0859+ 0	1.0622+ 4	1.4395- 2	2.6465- 3
2.0000- 2 ~ 4.0000- 2	1.8682+ 3	1.0600+ 1		2.5800+ 1	1.8318+ 3			4.0859+ 0	7.5277+ 3	1.4057- 2	2.6465- 3
4.0000- 2 ~ 7.0000- 2	1.3769+ 3	1.0600+ 1		1.7549+ 1	1.3462+ 3			4.0859+ 0	5.5146+ 3	1.3013- 2	2.6465- 3
7.0000- 2 ~ 1.0000- 1	1.1033+ 3	1.0600+ 1		1.3223+ 1	1.0788+ 3			4.0859+ 0	4.4170+ 3	1.2271- 2	2.6465- 3
1.0000- 1 ~ 2.0000- 1	8.4112+ 2	1.0600+ 1		9.3688+ 0	8.1922+ 2			4.0859+ 0	3.3624+ 3	1.1408- 2	2.6465- 3
2.0000- 1 ~ 4.0000- 1	6.0048+ 2	1.0600+ 1		6.0440+ 0	5.7927+ 2			4.0859+ 0	2.3743+ 3	1.0408- 2	2.6465- 3
4.0000- 1 ~ 7.0000- 1	4.4204+ 2	1.0600+ 1		4.0917+ 0	4.2572+ 2			4.0859+ 0	1.7452+ 3	9.6949- 3	2.6465- 3
7.0000- 1 ~ 1.0000+ 0	3.5660+ 2	1.0600+ 1		3.0831+ 0	3.4052+ 2			4.0859+ 0	1.3947+ 3	9.0476- 3	2.6465- 3
1.0000+ 0 ~ 2.0000+ 0	2.7406+ 2	1.0600+ 1		2.1844+ 0	2.5906+ 2			4.0859+ 0	1.0621+ 3	8.4100- 3	2.6475- 3
2.0000+ 0 ~ 4.0000+ 0	1.8634+ 2	1.0600+ 1		1.4092+ 0	1.8318+ 2			4.0859+ 0	7.5108+ 2	7.6727- 3	2.6493- 3
4.0000+ 0 ~ 7.0000+ 0	4.7672+ 2	1.2650+ 1		1.7397+ 0	4.6115+ 2			4.0859+ 0	1.8914+ 3	4.7018- 3	2.6508- 3
7.0000+ 0 ~ 1.0000+ 1	3.8228+ 2	1.3840+ 1		2.0238+ 0	3.6640+ 2			4.0859+ 0	1.4961+ 3	5.6674- 3	2.6520- 3
1.0000+ 1 ~ 2.0000+ 1	1.9788+ 2	1.3531+ 1		1.9084+ 0	1.8198+ 2			4.0859+ 0	7.4625+ 2	1.1006- 2	2.6621- 3
2.0000+ 1 ~ 4.0000+ 1	9.5456+ 1	1.3367+ 1		1.7462+ 0	7.9856+ 1			4.0859+ 0	3.2740+ 2	2.2998- 2	2.6796- 3
4.0000+ 1 ~ 7.0000+ 1	5.3312+ 1	1.3224+ 1		1.6192+ 0	3.8194+ 1			4.0859+ 0	1.5652+ 2	4.3791- 2	2.6950- 3
7.0000+ 1 ~ 1.0000+ 2	3.7055+ 1	1.3121+ 1		1.6319+ 0	2.2327+ 1			4.0859+ 0	9.1618+ 1	6.9531- 2	2.7062- 3
1.0000+ 2 ~ 2.0000+ 2	2.9232+ 1	1.2980+ 1		1.4244+ 0	1.4779+ 1			4.0859+ 0	6.0696+ 1	9.7242- 2	2.8245- 3
2.0000+ 2 ~ 4.0000+ 2	2.4249+ 1	1.2798+ 1		1.2976+ 0	1.0108+ 1			4.0860+ 0	4.1488+ 1	1.2950- 1	3.0291- 3
4.0000+ 2 ~ 7.0000+ 2	2.1081+ 1	1.2641+ 1		1.1946+ 0	7.2107+ 0			4.0860+ 0	2.9556+ 1	1.6663- 1	3.2100- 3
7.0000+ 2 ~ 1.0000+ 3	1.9329+ 1	1.2528+ 1		1.1252+ 0	5.6441+ 0			4.0861+ 0	2.3152+ 1	1.9984- 1	3.3407- 3
1.0000+ 3 ~ 2.0000+ 3	1.7710+ 1	1.2918+ 1		1.0778+ 0	4.2878+ 0			4.0863+ 0	1.7584+ 1	2.5335- 1	3.8752- 3
2.0000+ 3 ~ 4.0000+ 3	1.6181+ 1	1.2009+ 1		1.0028+ 0	3.1693+ 0			4.0866+ 0	1.2982+ 1	3.1604- 1	5.3311- 3
4.0000+ 3 ~ 7.0000+ 3	1.5227+ 1	1.1738+ 1		9.1219- 1	2.5715+ 0			4.0872+ 0	1.0547+ 1	3.5510- 1	8.0356- 3
7.0000+ 3 ~ 1.0000+ 4	1.4714+ 1	1.1674+ 1		8.3178- 1	2.3058+ 0			4.0880+ 0	9.4836+ 0	3.6075- 1	1.1518- 2
1.0000+ 4 ~ 2.0000+ 4	1.4322+ 1	1.1462+ 1		7.5332- 1	2.1181+ 0			4.0898+ 0	8.6663+ 0	3.5568- 1	1.9652- 2
2.0000+ 4 ~ 4.0000+ 4	1.4125+ 1	1.1384+ 1		6.5327- 1	2.0884+ 0			4.0932+ 0	8.5352+ 0	3.1340- 1	4.0607- 2
4.0000+ 4 ~ 7.0000+ 4	1.4065+ 1	1.1254+ 1		5.6078- 1	2.2686+ 0			4.0993+ 0	9.2912+ 0	2.4744- 1	7.7892- 2
7.0000+ 4 ~ 1.0000+ 5	1.3980+ 1	1.1182+ 1	1.5187- 5	4.9284- 1	2.3043+ 0			4.1066+ 0	9.4675+ 0	2.1375- 1	1.2034- 1
1.0000+ 5 ~ 2.0000+ 5	1.3415+ 1	1.0775+ 1	3.8486- 4	3.9343- 1	2.2468+ 0			4.1225+ 0	9.2585+ 0	1.7516- 1	2.0081- 1
2.0000+ 5 ~ 4.0000+ 5	1.1973+ 1	9.4768+ 0	3.3720- 3	3.0386- 1	2.1884+ 0			4.1691+ 0	9.0952+ 0	1.3891- 1	3.2639- 1
4.0000+ 5 ~ 7.0000+ 5	9.9800+ 0	7.3298+ 0	2.7804- 1	2.1133- 1	2.1337+ 0			4.2201+ 0	9.0050+ 0	9.6909- 2	4.3890- 1
7.0000+ 5 ~ 1.0000+ 6	8.4983+ 0	5.0525+ 0	1.2828+ 0	5.8779- 2	2.1206+ 0			4.2933+ 0	9.1036+ 0	2.7748- 2	5.3784- 1
1.0000+ 6 ~ 2.0000+ 6	7.3880+ 0	3.7808+ 0	1.3858+ 0	1.0884- 2	2.2000+ 0			4.4619+ 0	9.7935+ 0	4.9769- 3	5.8304- 1
2.0000+ 6 ~ 4.0000+ 6	7.3699+ 0	4.3444+ 0	8.1806- 1	7.3443- 4	2.1929+ 0			4.8179+ 0	1.0585+ 1	3.3209- 4	6.8787- 1
4.0000+ 6 ~ 7.0000+ 6	7.6495+ 0	4.7748+ 0	4.7786- 1	2.1832- 5	2.1883+ 0	2.0587- 1		5.4279+ 0	1.1883+ 1	1.0089- 5	8.0114- 1
7.0000+ 6 ~ 1.0000+ 7	8.8235+ 0	3.8832+ 0	2.9088- 2	7.8843- 8	2.2238+ 0	6.8518- 1		6.1599+ 0	1.3695+ 1	3.4259- 8	8.2836- 1
1.0000+ 7 ~ 2.0000+ 7	8.0292+ 0	2.8958+ 0	5.1229- 3	2.1428- 9	2.2184+ 0	3.3407- 1	5.5098- 1	7.7459+ 0	1.7188+ 1	9.6721-10	8.9057- 1

CROSS SECTION

MATERIAL =3992

^{255}Es (3992)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)	NU	NU X FIS	CAPT/FIS	MU-BAR
1.0000- 5 ~ 1.0000- 2	2.2280+ 2	1.0600+ 1		1.6860+ 2	4.1414+ 1			3.8495+ 0	1.5998+ 2	4.0953+ 0	2.6361- 3
1.0000- 2 ~ 2.0000- 2	1.0158+ 2	1.0600+ 1		7.2473+ 1	1.7897+ 1			3.8495+ 0	6.8984+ 1	4.0953+ 0	2.6361- 3
2.0000- 2 ~ 4.0000- 2	7.4591+ 1	1.0600+ 1		5.1246+ 1	1.2514+ 1			3.8495+ 0	4.8442+ 1	4.0952+ 0	2.6361- 3
4.0000- 2 ~ 7.0000- 2	5.7738+ 1	1.0600+ 1		3.7661+ 1	9.1971+ 0			3.8495+ 0	3.5494+ 1	4.0949+ 0	2.6361- 3
7.0000- 2 ~ 1.0000- 1	4.8180+ 1	1.0600+ 1		3.0125+ 1	7.3670+ 0			3.8495+ 0	2.8428+ 1	4.0947+ 0	2.6361- 3
1.0000- 1 ~ 2.0000- 1	3.9392+ 1	1.0600+ 1		2.2513+ 1	6.6974+ 0			3.8495+ 0	2.1644+ 1	4.0944+ 0	2.6361- 3
2.0000- 1 ~ 4.0000- 1	3.0822+ 1	1.0600+ 1		1.6208+ 1	3.9683+ 0			3.8495+ 0	1.6286+ 1	4.0940+ 0	2.6361- 3
4.0000- 1 ~ 7.0000- 1	2.5820+ 1	1.0600+ 1		1.1910+ 1	2.9092+ 0			3.8495+ 0	1.1237+ 1	4.0937+ 0	2.6361- 3
7.0000- 1 ~ 1.0000+ 0	2.2481+ 1	1.0600+ 1		9.6285+ 0	2.3272+ 0			3.8495+ 0	8.9800+ 0	4.0935+ 0	2.6361- 3
1.0000+ 0 ~ 2.0000+ 0	1.9864+ 1	1.0600+ 1		7.2473+ 0	1.7708+ 0			3.8495+ 0	6.8392+ 0	4.0932+ 0	2.6367- 3
2.0000+ 0 ~ 4.0000+ 0	1.4840+ 2	2.0201+ 1		1.0155+ 2	2.8057+ 1			3.8495+ 0	1.0087+ 2	3.9401+ 0	2.6379- 3
4.0000+ 0 ~ 7.0000+ 0	1.4806+ 2	2.2700+ 1		9.8428+ 1	2.5856+ 1			3.8495+ 0	9.9793+ 1	3.8048+ 0	2.6389- 3
7.0000+ 0 ~ 1.0000+ 1	1.2084+ 2	2.2328+ 1		7.7221+ 1	2.0888+ 1			3.8495+ 0	7.9913+ 1	3.7319+ 0	2.6396- 3
1.0000+ 1 ~ 2.0000+ 1	9.4197+ 1	2.1580+ 1		5.8298+ 1	1.5737+ 1			3.8495+ 0	6.0854+ 1	3.5707+ 0	2.6489- 3
2.0000+ 1 ~ 4.0000+ 1	6.9218+ 1	2.0528+ 1		3.7238+ 1	1.1123+ 1			3.8495+ 0	4.2989+ 1	3.3413+ 0	2.6596- 3
4.0000+ 1 ~ 7.0000+ 1	5.4093+ 1	1.9637+ 1		2.5777+ 1	8.1713+ 0			3.8495+ 0	3.1543+ 1	3.1507+ 0	2.6708- 3
7.0000+ 1 ~ 1.0000+ 2	4.6515+ 1	1.9018+ 1		1.9741+ 1	6.5343+ 0			3.8495+ 0	2.5240+ 1	3.0197+ 0	2.6789- 3
1.0000+ 2 ~ 2.0000+ 2	3.7488+ 1	1.8087+ 1		1.3948+ 1	5.1259+ 0			3.8495+ 0	1.9803+ 1	2.7104+ 0	2.7825- 3
2.0000+ 2 ~ 4.0000+ 2	2.9764+ 1	1.8835+ 1		8.8440+ 0	3.8407+ 0			3.8495+ 0	1.4632+ 1	2.2936+ 0	2.9629- 3
4.0000+ 2 ~ 7.0000+ 2	2.4840+ 1	1.6815+ 1		5.8949+ 0	2.9724+ 0			3.8496+ 0	1.1494+ 1	1.9781+ 0	3.1222- 3
7.0000+ 2 ~ 1.0000+ 3	2.2083+ 1	1.5117+ 1		4.3918+ 0	2.4887+ 0			3.8497+ 0	9.5369+ 0	1.7771+ 0	3.2374- 3
1.0000+ 3 ~ 2.0000+ 3	1.9602+ 1	1.4398+ 1		3.1548+ 0	1.9811+ 0			3.8498+ 0	7.6482+ 0	1.5877+ 0	3.7398- 3
2.0000+ 3 ~ 4.0000+ 3	1.7235+ 1	1.3532+ 1		2.1852+ 0	1.5085+ 0			3.8502+ 0	5.8279+ 0	1.4484+ 0	5.0741- 3
4.0000+ 3 ~ 7.0000+ 3	1.5907+ 1	1.2996+ 1		1.6472+ 0	1.2597+ 0			3.8508+ 0	4.8608+ 0	1.3060+ 0	7.6258- 3
7.0000+ 3 ~ 1.0000+ 4	1.5250+ 1	1.2759+ 1		1.3682+ 0	1.1206+ 0			3.8516+ 0	4.3234+ 0	1.2188+ 0	1.0951- 2
1.0000+ 4 ~ 2.0000+ 4	1.4722+ 1	1.2882+ 1		1.0815+ 0	9.7703- 1			3.8532+ 0	3.7761+ 0	1.1048+ 0	1.8518- 2
2.0000+ 4 ~ 4.0000+ 4	1.4383+ 1	1.2738+ 1		7.8725- 1	8.7379- 1			3.8589+ 0	3.3748+ 0	8.7633- 1	3.7639- 2
4.0000+ 4 ~ 7.0000+ 4	1.4224+ 1	1.2868+ 1	1.9089- 1	5.0307- 1	8.4226- 1			3.8632+ 0	3.2516+ 0	5.5855- 1	7.1254- 2
7.0000+ 4 ~ 1.0000+ 5	1.4066+ 1	1.2189+ 1	8.2497- 1	3.1194- 1	9.3800- 1			3.8707+ 0	3.6193+ 0	3.3572- 1	1.1422- 1
1.0000+ 5 ~ 2.0000+ 5	1.3595+ 1	1.1274+ 1	9.1278- 1	1.9715- 1	1.1474+ 0			3.8869+ 0	4.4512+ 0	1.7378- 1	1.9835- 1
2.0000+ 5 ~ 4.0000+ 5	1.2088+ 1	9.8408+ 0	9.8775- 1	1.3698- 1	1.3287+ 0			3.9244+ 0	5.2107+ 0	1.0350- 1	3.2960- 1
4.0000+ 5 ~ 7.0000+ 5	1.0091+ 1	7.3800+ 0	9.8871- 1	9.6629- 2	1.6212+ 0			3.9869+ 0	6.4619+ 0	6.0018- 2	4.4507- 1
7.0000+ 5 ~ 1.0000+ 6	8.5832+ 0	5.3451+ 0	1.1927+ 0	4.4689- 2	1.9972+ 0			4.0819+ 0	8.1130+ 0	2.2834- 2	5.1868- 1
1.0000+ 6 ~ 2.0000+ 6	7.9758+ 0	3.8824+ 0	1.0014+ 0	1.2213- 2	2.4977+ 0			4.2245+ 0	1.0558+ 1	5.0900- 3	5.7274- 1
2.0000+ 6 ~ 4.0000+ 6	7.3419+ 0	4.3468+ 0	4.4280- 1	9.5129- 4	2.5511+ 0			4.5995+ 0	1.1725+ 1	3.8398- 4	6.8509- 1
4.0000+ 6 ~ 7.0000+ 6	7.8724+ 0	4.7849+ 0	3.8800- 1	3.7182- 5	2.4584+ 0	3.9580- 2		5.2245+ 0	1.2845+ 1	1.5143- 5	8.0108- 1
7.0000+ 6 ~ 1.0000+ 7	6.6646+ 0	3.7068+ 0	6.4528- 2	2.7588- 7	2.5521+ 0	3.3978- 1		5.9745+ 0	1.5257+ 1	1.1037- 7	8.2727- 1
1.0000+ 7 ~ 2.0000+ 7	8.0434+ 0	2.9011+ 0	5.2180- 3	2.2184- 9	2.7570+ 0	1.2316- 1	2.5117- 1	7.5995+ 0	2.0978+ 1	8.1254-10	8.9058- 1

MATERIAL =3996 CROSS SECTION ^{255}Fm (3995)

ENERGY	TOTAL	ELASTIC	INELA	CAPTURE	FISSION	(N,2N)	(N,3N)		NU	NU X FIS	CAPT/FIS		MU-BAR
1.0000- 5 ~ 1.0000- 2	1.0463+ 4	1.0600+ 1		8.0176+ 1	1.0381+ 4				4.3949+ 0	4.5695+ 4	7.7381- 3		2.6361- 3
1.0000- 2 ~ 2.0000- 2	4.4747+ 3	1.0600+ 1		3.4260+ 1	4.4274+ 3				4.3949+ 0	1.9527+ 4	7.7381- 3		2.6361- 3
2.0000- 2 ~ 4.0000- 2	3.1584+ 3	1.0600+ 1		2.4225+ 1	3.1307+ 3				4.3949+ 0	1.3816+ 4	7.7381- 3		2.6361- 3
4.0000- 2 ~ 7.0000- 2	2.3979+ 3	1.0600+ 1		1.7804+ 1	2.3008+ 3				4.3949+ 0	1.0181+ 4	7.7379- 3		2.6361- 3
7.0000- 2 ~ 1.0000- 1	1.8759+ 3	1.0600+ 1		1.4241+ 1	1.8404+ 3				4.3949+ 0	8.1218+ 3	7.7378- 3		2.6361- 3
1.0000- 1 ~ 2.0000- 1	1.4325+ 3	1.0600+ 1		1.0834+ 1	1.4001+ 3				4.3949+ 0	6.1715+ 3	7.7377- 3		2.6361- 3
2.0000- 1 ~ 4.0000- 1	1.0178+ 3	1.0600+ 1		7.6608+ 0	9.9007+ 2				4.3949+ 0	4.3035+ 3	7.7376- 3		2.6361- 3
4.0000- 1 ~ 7.0000- 1	7.5119+ 2	1.0600+ 1		5.6300+ 0	7.2783+ 2				4.3949+ 0	3.2060+ 3	7.7374- 3		2.6361- 3
7.0000- 1 ~ 1.0000+ 0	6.0274+ 2	1.0600+ 1		4.5033+ 0	5.8203+ 2				4.3949+ 0	2.5884+ 3	7.7373- 3		2.6361- 3
1.0000+ 0 ~ 2.0000+ 0	4.8026+ 2	1.0600+ 1		3.4260+ 0	4.4279+ 2				4.3949+ 0	1.9530+ 3	7.7372- 3		2.6369- 3
2.0000+ 0 ~ 4.0000+ 0	3.1562+ 2	1.1458+ 1		7.6398+ 0	2.9583+ 2				4.3949+ 0	1.3050+ 3	6.2401- 2		2.6382- 3
4.0000+ 0 ~ 7.0000+ 0	1.4777+ 2	1.8918+ 1		4.5272+ 1	8.3200- 1				4.3949+ 0	3.6673+ 2	5.4372- 1		2.6394- 3
7.0000+ 0 ~ 1.0000+ 1	1.2057+ 2	1.8566+ 1		3.5258+ 1	8.6535+ 1				4.3949+ 0	2.9307+ 2	5.2975- 1		2.6403- 3
1.0000+ 1 ~ 2.0000+ 1	9.4435+ 1	1.7939+ 1		2.5373+ 1	5.0823+ 1				4.3949+ 0	2.2349+ 2	5.0000- 1		2.6491- 3
2.0000+ 1 ~ 4.0000+ 1	6.9880+ 1	1.7081+ 1		1.6458+ 1	3.5605+ 1				4.3949+ 0	1.5801+ 2	4.5850- 1		2.6643- 3
4.0000+ 1 ~ 7.0000+ 1	5.4324+ 1	1.6356+ 1		1.1198+ 1	2.6325+ 1				4.3949+ 0	1.1602+ 2	4.2467- 1		2.6778- 3
7.0000+ 1 ~ 1.0000+ 2	4.5569+ 1	1.5851+ 1		8.4677+ 0	2.1062+ 1				4.3949+ 0	9.2885+ 1	4.0175- 1		2.5875- 3
1.0000+ 2 ~ 2.0000+ 2	3.7448+ 1	1.5300+ 1		6.1190+ 0	1.5748+ 1				4.3949+ 0	6.9558+ 1	3.8832- 1		2.8001- 3
2.0000+ 2 ~ 4.0000+ 2	2.9571+ 1	1.4688+ 1		4.0885+ 0	1.0789+ 1				4.3950+ 0	4.7546+ 1	3.7936- 1		2.9954- 3
4.0000+ 2 ~ 7.0000+ 2	2.4696+ 1	1.4130+ 1		2.8562+ 0	7.5624+ 0				4.3950+ 0	3.3971+ 1	3.7161- 1		3.1681- 3
7.0000+ 2 ~ 1.0000+ 3	2.2072+ 1	1.3754+ 1		2.2020+ 0	6.0134+ 0				4.3951+ 0	2.6532+ 1	3.6611- 1		3.2928- 3
1.0000+ 3 ~ 2.0000+ 3	1.9502+ 1	1.3268+ 1		1.8585+ 0	4.8863+ 0				4.3953+ 0	2.0151+ 1	3.5795- 1		3.6188- 3
2.0000+ 3 ~ 4.0000+ 3	1.7237+ 1	1.2698+ 1		1.1613+ 0	3.3702+ 0				4.3956+ 0	1.4877+ 1	3.4417- 1		5.2636- 3
4.0000+ 3 ~ 7.0000+ 3	1.5918+ 1	1.2292+ 1		8.7770- 1	2.7398+ 0				4.3963+ 0	1.2087+ 1	3.1998- 1		7.5558- 3
7.0000+ 3 ~ 1.0000+ 4	1.5250+ 1	1.2077+ 1		7.1237- 1	2.4565+ 0				4.3970+ 0	1.0868+ 1	2.8983- 1		1.1422- 2
1.0000+ 4 ~ 2.0000+ 4	1.4722+ 1	1.1924+ 1		5.4195- 1	2.2546+ 0				4.3987+ 0	9.9312+	2.3993- 1		1.9516- 2
2.0000+ 4 ~ 4.0000+ 4	1.4383+ 1	1.1798+ 1		3.6152- 1	2.2229+ 0				4.4024+ 0	9.7805+ 0	1.6296- 1		4.0531- 2
4.0000+ 4 ~ 7.0000+ 4	1.4223+ 1	1.1551+ 1	1.7883- 2	2.3315- 1	2.4181+ 0				4.4087+ 0	1.0848+ 1	9.6777- 2		7.8506- 2
7.0000+ 4 ~ 1.0000+ 5	1.4065+ 1	1.1219+ 1	2.3669- 1	1.5490- 1	2.4550+ 0				4.4162+ 0	1.0847+ 1	6.3047- 2		1.2360- 1
1.0000+ 5 ~ 2.0000+ 5	1.3535+ 1	1.0503+ 1	5.3374- 1	1.0424- 1	2.3925+ 0				4.4324+ 0	1.0606+ 1	4.3552- 2		2.1267- 1
2.0000+ 5 ~ 4.0000+ 5	1.2096+ 1	8.9080+ 0	7.9394- 1	6.2757- 2	2.3294+ 0				4.4699+ 0	1.0414+ 1	2.6906- 2		3.5580- 1
4.0000+ 5 ~ 7.0000+ 5	1.0089+ 1	6.8297+ 0	9.4723- 1	3.8557- 2	2.2732+ 0				4.5324+ 0	1.0304+ 1	1.6068- 2		4.7968- 1
7.0000+ 5 ~ 1.0000+ 6	8.5832+ 0	5.1549+ 0	1.1041+ 0	2.3544- 2	2.2592+ 0				4.6074+ 0	1.0409+ 1	1.0425- 2		5.3290- 1
1.0000+ 6 ~ 2.0000+ 6	7.3939+ 0	3.9132+ 0	1.1257+ 0	1.0552- 2	2.3439+ 0				4.7699+ 0	1.1179+ 1	4.5220- 3		5.7125- 1
2.0000+ 6 ~ 4.0000+ 6	7.3459+ 0	4.3421+ 0	8.8231- 1	1.3932- 3	2.3364+ 0				5.1449+ 0	1.2020+ 1	5.9179- 4		6.8465- 1
4.0000+ 6 ~ 7.0000+ 6	7.6626+ 0	4.7850+ 0	3.9123- 1	5.5103- 5	2.3315+ 0	1.5308- 1			5.7699+ 0	1.3458+ 1	2.3901- 5		8.0108- 1
7.0000+ 6 ~ 1.0000+ 7	8.6525+ 0	3.7059+ 0	2.4092- 2	1.6847- 7	2.3690+ 0	6.5096- 1			6.5199+ 0	1.5444+ 1	6.9841- 8		8.2727- 1
1.0000+ 7 ~ 2.0000+ 7	6.0416+ 0	2.9014+ 0	5.1160- 3	4.7082- 9	2.3836+ 0	3.0754- 1	4.5220- 1		6.1449+ 0	1.9253+ 1	1.9949- 9		8.9055- 1

5. Table of 2200-m/s, 14-MeV, Maxellian Average, Fission Spectrum Average Cross Sections and Resonance Integrals

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
1-H - 1	total	20.81	20.78		692.0 -3	3.927
	elastic	20.47	20.47		692.0 -3	3.926
	capture	332.0 -3	294.2 -3	149.1 -3	29.83 -6	39.27 -6
1-H - 2	total	3.390	3.390		801.5 -3	2.537
	elastic	3.389	3.390		624.3 -3	2.532
	(n,2n)	(E-threshold = 3.339 MeV)			177.2 -3	5.276 -3
	capture	550.0 -6	487.4 -6	286.3 -6	9.521 -6	7.076 -6
2-He- 3	total	5331.	4742.		1.168	2.941
	elastic	3.135	3.134		954.4 -3	2.121
	(n,p)	5328.	4722.	2381.	139.7 -3	816.9 -3
	(n,d)	(E-threshold = 4.362 MeV)			74.07 -3	2.647 -3
2-He- 4	total	759.3 -3	759.3 -3		1.052	3.685
	elastic	759.3 -3	759.3 -3		1.052	3.685
3-Li- 6	total	941.1	837.2		1.431	1.900
	elastic	734.9 -3	734.9 -3		880.7 -3	1.428
	inelastic	(E-threshold = 1.751 MeV)			437.7 -3	137.1 -3
	(n,2n)	(E-threshold = 6.614 MeV)			78.05 -3	190.5 -6
	capture	38.50 -3	34.11 -3	17.47 -3	82.11 -6	28.06 -6
	(n,p)	(E-threshold = 3.185 MeV)			6.766 -3	4.264 -3
	(n,t)	940.3	833.4	424.8	28.04 -3	330.7 -3
3-Li- 7	total	1.015	1.012		1.470	1.845
	elastic	970.0 -3	971.7 -3		1.025	1.660
	inelastic	(E-threshold = 0.546 MeV)			365.0 -3	184.7 -3
	(n,2n)	(E-threshold = 8.300 MeV)			70.09 -3	38.53 -6
	capture	45.40 -3	40.24 -3	20.42 -3	1.930 -6	6.903 -6
	(n,d)	(E-threshold = 8.868 MeV)			9.763 -3	10.98 -6
4-Be- 9	total	6.159	6.158		1.494	2.834
	elastic	6.151	6.151		959.3 -3	2.673
	inelastic	(E-threshold = 8.784 MeV)			22.90 -3	38.95 -6
	(n,2n)to 1st	(E-threshold = 2.701 MeV)			168.6 -3	66.50 -3
	(n,2n)to 2nd	(E-threshold = 7.561 MeV)			28.68 -3	133.4 -6
	(n,2n)	(E-threshold = 1.868 MeV)			269.1 -3	53.83 -3
	(n,2na)	(E-threshold = 1.749 MeV)			17.49 -3	4.938 -3
	capture	7.600 -3	6.735 -3	3.419 -3	323.1 -9	1.156 -6
	(n,p)	(E-threshold = 14.260 MeV)				20.25 -9
	(n,d)	(E-threshold = 16.300 MeV)				32.68 -9
	(n,t)	(E-threshold = 11.610 MeV)			18.36 -3	2.751 -6
	(n,a)	(E-threshold = 0.670 MeV)			9.419 -3	35.65 -3
5-B - 10	total	3840.	3415.		1.467	2.638
	elastic	2.144	2.144		942.5 -3	2.062
	inelastic	(E-threshold = 0.791 MeV)			268.5 -3	70.84 -3
	(n,2n)	(E-threshold = 8.980 MeV)			26.83 -3	33.22 -6
	capture	500.0 -3	443.1 -3	224.9 -3	21.26 -6	76.03 -6
	(n,p)	3.000 -3	2.659 -3	94.96 -3	37.51 -3	15.25 -3
	(n,d)	(E-threshold = 4.801 MeV)			47.63 -3	1.249 -3
	(n,a)	3837.	3400.	1719.	48.95 -3	435.5 -3
	(n,t2a)	12.00 -3	10.63 -3	305.2 -3	94.66 -3	52.28 -3
5-B - 11	total	5.050	5.050		1.415	2.425
	elastic	5.045	5.045		934.9 -3	2.396
	inelastic	(E-threshold = 2.320 MeV)			298.3 -3	28.81 -3
	(n,2n)	(E-threshold = 12.510 MeV)			1.414 -3	496.7 -9
	(n,na)	(E-threshold = 9.460 MeV)			101.0 -3	27.54 -6
	(n,np)	(E-threshold = 12.260 MeV)			1.104 -3	211.0 -9
	(n,n2a)	(E-threshold = 12.150 MeV)			17.96 -3	3.696 -6
	(n,nd)	(E-threshold = 17.270 MeV)				1.335 -9
	(n,nt)	(E-threshold = 12.250 MeV)			747.4 -6	169.9 -9
	capture	5.075 -3	4.513 -3	2.542 -3	0.0	5.473 -6
	(n,p)	(E-threshold = 11.710 MeV)			4.021 -3	579.7 -9
	(n,d)	(E-threshold = 9.830 MeV)			9.200 -3	4.074 -6
	(n,t)	(E-threshold = 10.430 MeV)			14.96 -3	3.443 -6
	(n,a)	(E-threshold = 7.240 MeV)			31.38 -3	63.13 -6
6-C - 12	total	4.750	4.750		1.293	2.365
	elastic	4.746	4.746		794.7 -3	2.352
	inelastic	(E-threshold = 4.812 MeV)			425.6 -3	11.36 -3
	capture	3.530 -3	3.128 -3	1.733 -3	70.46 -6	10.57 -6
	(n,p)	(E-threshold = 13.640 MeV)			164.0 -6	184.2 -9

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
6-C - 12	(n,d)	(E-threshold = 14.890 MeV)				218.9 -9
	(n,a)	(E-threshold = 6.181 MeV)			72.65 -3	1.223 -3
7-N - 14	total	11.85	11.67		1.579	1.957
	elastic	10.01	9.996		797.3 -3	1.825
	inelastic	(E-threshold = 2.479 MeV)			547.5 -3	12.16 -3
	(n,2n)	(E-threshold = 11.310 MeV)			5.670 -3	1.006 -6
	(n,na)	(E-threshold = 12.450 MeV)			59.89 -6	227.3 -9
	(n,np)	(E-threshold = 8.095 MeV)			44.52 -3	22.89 -6
	(n,nd)	(E-threshold = 11.010 MeV)			7.652 -3	1.309 -6
	capture	75.00 -3	66.47 -3	33.84 -3	1.036 -6	34.69 -6
	(n,p)	1.769	1.568	924.7 -3	18.17 -3	34.86 -3
	(n,d)	(E-threshold = 5.710 MeV)			32.66 -3	319.6 -6
	(n,t)	(E-threshold = 4.304 MeV)			30.44 -3	808.2 -6
	(n,a)	(E-threshold = 0.169 MeV)			60.10 -3	84.06 -3
	(n,2a)	(E-threshold = 9.458 MeV)			34.48 -3	5.639 -6
7-N - 15	total	4.590	4.590		1.644	2.674
	elastic	4.590	4.590		1.080	2.668
	inelastic	(E-threshold = 5.625 MeV)			329.3 -3	5.895 -3
	(n,2n)	(E-threshold = 11.560 MeV)			62.72 -3	9.942 -6
	(n,na)	(E-threshold = 11.730 MeV)			7.976 -3	1.804 -6
	(n,np)	(E-threshold = 10.890 MeV)			37.00 -3	8.488 -6
	(n,nd)	(E-threshold = 17.250 MeV)				3.194 -9
	(n,nt)	(E-threshold = 15.850 MeV)				20.82 -9
	capture	24.26 -6	21.58 -6	16.63 -6	481.7 -9	1.797 -6
	(n,p)	(E-threshold = 9.594 MeV)			25.87 -3	14.34 -6
	(n,d)	(E-threshold = 8.520 MeV)			15.14 -3	37.19 -6
	(n,t)	(E-threshold = 10.570 MeV)			25.53 -3	6.715 -6
	(n,a)	(E-threshold = 8.134 MeV)			60.09 -3	49.78 -6
8-O - 16	total	3.780	3.780		1.611	2.750
	elastic	3.780	3.780		897.9 -3	2.739
	inelastic	(E-threshold = 6.430 MeV)			508.4 -3	3.868 -3
	(n,2n)	(E-threshold = 16.650 MeV)				21.52 -9
	(n,na)	(E-threshold = 7.613 MeV)			36.61 -3	3.472 -6
	(n,np)	(E-threshold = 12.890 MeV)			0.0	109.3 -9
	capture	190.0 -6	168.4 -6	85.61 -6	8.127 -9	29.04 -9
	(n,p)	(E-threshold = 10.240 MeV)			43.70 -3	20.26 -6
	(n,d)	(E-threshold = 10.530 MeV)			15.40 -3	3.888 -6
	(n,a)	(E-threshold = 2.355 MeV)			109.0 -3	7.629 -3
9-F - 19	total	3.652	3.651		1.741	3.609
	elastic	3.643	3.643		821.7 -3	2.264
	inelastic	(E-threshold = 0.116 MeV)			496.4 -3	1.327
	(n,2n)	(E-threshold = 10.990 MeV)			42.94 -3	8.615 -6
	(n,na)	(E-threshold = 4.227 MeV)			216.3 -3	2.009 -3
	(n,np)	(E-threshold = 8.418 MeV)			72.80 -3	37.46 -6
	capture	9.570 -3	8.513 -3	19.51 -3	25.66 -6	211.7 -6
	(n,p)	(E-threshold = 4.251 MeV)			14.66 -3	1.163 -3
	(n,d)	(E-threshold = 6.075 MeV)			39.50 -3	317.8 -6
	(n,t)	(E-threshold = 7.957 MeV)			15.00 -3	28.55 -6
	(n,a)	(E-threshold = 1.603 MeV)			21.34 -3	14.65 -3
11-Na- 23	total	3.555	3.496		1.740	3.133
	elastic	3.024	3.024		804.2 -3	2.596
	inelastic	(E-threshold = 0.459 MeV)			470.2 -3	534.1 -3
	(n,2n)	(E-threshold = 12.960 MeV)			18.00 -3	2.595 -6
	(n,na)	(E-threshold = 10.920 MeV)			8.000 -3	2.139 -6
	(n,np)	(E-threshold = 9.176 MeV)			262.0 -3	86.02 -6
	capture	531.4 -3	472.5 -3	312.2 -3	149.5 -6	225.7 -6
	(n,p)	(E-threshold = 3.753 MeV)			43.67 -3	1.524 -3
	(n,a)	(E-threshold = 4.035 MeV)			133.8 -3	601.7 -6
12-Mg- 0	total	3.595	3.588		1.766	3.429
	elastic	3.532	3.532		557.5 -3	3.088
	inelastic	(E-threshold = 0.609 MeV)			604.6 -3	333.2 -3
	(n,2n)	(E-threshold = 7.628 MeV)			116.4 -3	95.05 -6
	(n,na)	(E-threshold = 9.706 MeV)			121.5 -3	20.59 -6
	(n,np)	(E-threshold = 12.180 MeV)			51.16 -3	9.179 -6
	capture	62.98 -3	56.03 -3	36.61 -3	30.21 -6	360.3 -6
	(n,p)	(E-threshold = 3.176 MeV)			163.7 -3	1.465 -3
	(n,a)	0.0	0.0	196.8 -3	151.1 -3	5.901 -3
12-Mg- 24	total	3.799	3.793		1.798	3.653

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
12-Mg- 24	elastic	3.749	3.748		575.4 -3	3.300
	inelastic	(E-threshold = 1.426 MeV)			645.0 -3	344.8 -3
	(n,2n)	(E-threshold = 17.230 MeV)				62.62 -9
	(n,na)	(E-threshold = 9.706 MeV)			152.9 -3	25.75 -6
	(n,np)	(E-threshold = 12.180 MeV)			64.68 -3	11.46 -6
	capture	50.29 -3	44.72 -3	31.22 -3	34.40 -6	376.1 -6
	(n,p)	(E-threshold = 4.931 MeV)			196.5 -3	1.640 -3
	(n,a)	(E-threshold = 2.661 MeV)			163.5 -3	5.351 -3
12-Mg- 25	total	2.785	2.764		1.823	3.087
	elastic	2.595	2.595		683.0 -3	2.715
	inelastic	(E-threshold = 0.609 MeV)			246.7 -3	351.5 -3
	(n,2n)	(E-threshold = 7.628 MeV)			710.1 -3	883.9 -6
	(n,na)	(E-threshold = 10.280 MeV)			6.484 -3	2.146 -6
	(n,np)	(E-threshold = 12.550 MeV)			674.8 -6	1.168 -6
	capture	190.4 -3	169.4 -3	98.92 -3	6.961 -6	345.7 -6
	(n,p)	(E-threshold = 3.176 MeV)			48.98 -3	1.681 -3
	(n,a)	0.0	0.0	240.3 -3	127.0 -3	16.56 -3
12-Mg- 26	total	2.869	2.864		1.848	3.259
	elastic	2.830	2.830		678.6 -3	3.024
	inelastic	(E-threshold = 1.879 MeV)			639.5 -3	234.1 -3
	(n,2n)	(E-threshold = 11.520 MeV)			412.6 -3	60.06 -6
	(n,na)	(E-threshold = 11.030 MeV)			387.1 -6	398.4 -9
	(n,np)	(E-threshold = 14.700 MeV)				104.7 -9
	capture	38.31 -3	34.07 -3	18.96 -3	21.24 -6	318.7 -6
	(n,p)	(E-threshold = 8.228 MeV)			32.65 -3	18.24 -6
	(n,a)	(E-threshold = 5.627 MeV)			84.03 -3	170.4 -6
13-Al- 27	total	1.645	1.617		1.720	3.259
	elastic	1.414	1.414		732.0 -3	2.974
	inelastic	(E-threshold = 0.875 MeV)			499.8 -3	278.9 -3
	(n,2n)	(E-threshold = 13.550 MeV)			5.583 -3	3.865 -6
	(n,na)	(E-threshold = 10.470 MeV)			2.428 -3	1.440 -6
	(n,np)	(E-threshold = 8.581 MeV)			279.7 -3	96.50 -6
	capture	231.0 -3	203.4 -3	123.4 -3	253.2 -6	670.1 -6
	(n,p)	(E-threshold = 1.896 MeV)			77.96 -3	4.284 -3
	(n,a)	(E-threshold = 3.249 MeV)			122.2 -3	687.7 -6
	(n,2p)	(E-threshold = 16.800 MeV)				1.172 -12
14-Si- 0	total	2.343	2.324		1.752	3.171
	elastic	2.172	2.172		757.1 -3	2.958
	inelastic	(E-threshold = 1.319 MeV)			434.7 -3	204.1 -3
	(n,2n)	(E-threshold = 8.778 MeV)			30.05 -3	13.47 -6
	(n,na)	(E-threshold = 10.340 MeV)			12.09 -3	2.777 -6
	(n,np)	(E-threshold = 12.000 MeV)			65.75 -3	9.748 -6
	capture	171.1 -3	152.3 -3	103.5 -3	680.8 -6	558.4 -6
	(n,p)	(E-threshold = 3.002 MeV)			237.8 -3	5.798 -3
	(n,a)	(E-threshold = 0.034 MeV)			213.7 -3	2.689 -3
	(n,2p)	(E-threshold = 13.860 MeV)			0.0	1.827 -9
14-Si- 28	total	2.325	2.306		1.752	3.275
	elastic	2.149	2.149		758.2 -3	3.066
	inelastic	(E-threshold = 1.843 MeV)			435.5 -3	200.0 -3
	(n,2n)	(E-threshold = 17.800 MeV)				1.396 -9
	(n,na)	(E-threshold = 10.340 MeV)			13.10 -3	2.970 -6
	(n,np)	(E-threshold = 12.000 MeV)			71.27 -3	10.51 -6
	capture	176.7 -3	157.3 -3	85.01 -3	705.5 -6	570.3 -6
	(n,p)	(E-threshold = 3.999 MeV)			251.6 -3	6.134 -3
	(n,a)	(E-threshold = 2.748 MeV)			221.4 -3	2.611 -3
	(n,2p)	(E-threshold = 13.900 MeV)			0.0	1.964 -9
14-Si- 29	total	2.944	2.933		1.757	3.672
	elastic	2.843	2.843		771.3 -3	3.351
	inelastic	(E-threshold = 1.317 MeV)			311.8 -3	308.0 -3
	(n,2n)	(E-threshold = 8.769 MeV)			407.3 -3	242.3 -6
	(n,na)	(E-threshold = 11.510 MeV)			42.54 -6	651.6 -9
	(n,np)	(E-threshold = 12.760 MeV)			349.9 -6	1.178 -6
	capture	101.4 -3	90.43 -3	66.52 -3	325.1 -6	304.2 -6
	(n,p)	(E-threshold = 2.999 MeV)			107.7 -3	2.991 -3
	(n,a)	(E-threshold = 0.034 MeV)			158.2 -3	5.914 -3
	(n,2p)	(E-threshold = 13.850 MeV)			0.0	332.4 -12
14-Si- 30	total	2.598	2.588		1.779	3.590
	elastic	2.491	2.491		737.4 -3	3.416

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
14-Si- 30	inelastic	(E-threshold = 2.310 MeV)			596.3 -3	171.9 -3
	(n,2n)	(E-threshold = 10.970 MeV)			355.7 -3	69.47 -6
	(n,na)	(E-threshold = 11.000 MeV)			146.6 -6	242.6 -9
	(n,np)	(E-threshold = 13.960 MeV)			0.0	106.4 -9
	capture	107.5 -3	96.31 -3	708.8 -3	481.7 -6	670.6 -6
	(n,p)	(E-threshold = 8.020 MeV)			21.42 -3	15.87 -6
	(n,a)	(E-threshold = 4.341 MeV)			67.91 -3	131.1 -6
	(n,2p)	(E-threshold = 19.000 MeV)				179.8 -21
15-P - 31	total	3.300	3.282		1.808	4.177
	elastic	3.134	3.134		1.087	3.837
	inelastic	(E-threshold = 1.307 MeV)			53.91 -3	298.5 -3
	(n,2n)	(E-threshold = 12.710 MeV)			16.04 -3	2.130 -6
	(n,na)	(E-threshold = 9.984 MeV)			13.81 -3	2.732 -6
	(n,np)	(E-threshold = 7.535 MeV)			374.1 -3	821.8 -6
	capture	166.2 -3	147.8 -3	80.99 -3	9.895 -6	1.010 -3
	(n,p)	(E-threshold = 0.732 MeV)			142.1 -3	36.98 -3
	(n,a)	(E-threshold = 2.007 MeV)			121.2 -3	2.442 -3
16-S - 0	total	1.546	1.489		1.810	2.695
	elastic	1.024	1.024		873.0 -3	2.446
	inelastic	(E-threshold = 0.866 MeV)			365.8 -3	104.0 -3
	(n,2n)	(E-threshold = 8.908 MeV)			11.96 -3	3.118 -6
	(n,na)	(E-threshold = 7.167 MeV)			83.83 -3	75.14 -6
	(n,np)	(E-threshold = 9.144 MeV)			72.76 -3	38.15 -6
	capture	513.9 -3	457.1 -3	243.2 -3	3.234 -6	550.8 -6
	(n,p)	12.09 -6	12.09 -6	531.1 -3	247.3 -3	66.55 -3
	(n,a)	7.916 -3	7.916 -3	536.4 -3	155.3 -3	77.05 -3
16-S - 32	total	1.499	1.440		2.025	2.822
	elastic	963.5 -3	963.5 -3		1.078	2.573
	inelastic	(E-threshold = 2.300 MeV)			376.0 -3	98.78 -3
	(n,2n)	(E-threshold = 15.560 MeV)				5.765 -9
	(n,na)	(E-threshold = 7.167 MeV)			81.47 -3	74.70 -6
	(n,np)	(E-threshold = 9.144 MeV)			76.00 -3	40.04 -6
	capture	528.2 -3	470.0 -3	250.2 -3	3.235 -6	570.4 -6
	(n,p)	(E-threshold = 0.957 MeV)			254.0 -3	69.55 -3
	(n,a)	7.000 -3	7.000 -3	536.9 -3	159.6 -3	79.47 -3
16-S - 33	total	3.365	3.326		2.017	4.149
	elastic	2.844	2.844		1.280	3.667
	inelastic	(E-threshold = 0.866 MeV)			68.43 -3	237.7 -3
	(n,2n)	(E-threshold = 8.908 MeV)			161.1 -3	194.0 -6
	(n,na)	(E-threshold = 7.335 MeV)			114.4 -3	78.19 -6
	(n,np)	(E-threshold = 9.864 MeV)			42.55 -3	8.416 -6
	capture	350.0 -3	311.4 -3	164.4 -3	715.3 -9	202.4 -6
	(n,p)	1.612 -3	1.612 -3	393.6 -3	214.0 -3	57.18 -3
	(n,a)	168.6 -3	168.6 -3	2.965	136.5 -3	186.1 -3
16-S - 34	total	2.301	2.276		2.010	3.992
	elastic	2.077	2.077		1.266	3.790
	inelastic	(E-threshold = 2.190 MeV)			189.7 -3	197.4 -3
	(n,2n)	(E-threshold = 11.750 MeV)			252.8 -3	38.34 -6
	(n,na)	(E-threshold = 8.158 MeV)			131.8 -3	84.96 -6
	(n,np)	(E-threshold = 11.200 MeV)			5.424 -3	957.4 -9
	capture	223.6 -3	198.9 -3	100.9 -3	3.667 -6	275.5 -6
	(n,p)	(E-threshold = 4.445 MeV)			104.3 -3	800.5 -6
	(n,a)	(E-threshold = 1.374 MeV)			60.42 -3	3.331 -3
16-S - 36	total	1.150	1.179		2.022	4.100
	elastic	1.000	1.000		1.265	4.001
	inelastic	(E-threshold = 3.383 MeV)			195.4 -3	98.01 -3
	(n,2n)	(E-threshold = 10.170 MeV)			540.1 -3	242.7 -6
	(n,na)	(E-threshold = 9.252 MeV)			8.270 -3	2.082 -6
	(n,np)	(E-threshold = 13.410 MeV)			17.14 -6	29.59 -9
	capture	150.0 -3	134.8 -3	120.9 -3	1.364 -6	251.3 -6
	(n,p)	(E-threshold = 9.243 MeV)			1.452 -3	460.8 -9
	(n,a)	(E-threshold = 4.065 MeV)			8.735 -3	54.12 -6
19-K - 0	total	4.159	3.931		2.074	3.264
	elastic	2.096	2.096		1.126	3.035
	inelastic	(E-threshold = 0.031 MeV)			37.78 -3	80.80 -3
	(n,2n)	(E-threshold = 7.997 MeV)			3.929 -3	1.340 -6
	(n,na)	(E-threshold = 6.382 MeV)			79.31 -3	46.28 -6
	(n,np)	(E-threshold = 6.545 MeV)			222.4 -3	730.7 -6

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
19-K - 0	capture	2.058	1.831	1.118	8.086 -6	2.893 -3
	(n,p)	514.8 -6	450.9 -6	711.6 -3	362.6 -3	105.8 -3
	(n,a)	4.056 -3	3.637 -3	434.7 -3	241.2 -3	38.36 -3
19-K - 39	total	4.164	3.932		2.066	3.268
	elastic	2.062	2.062		1.078	3.051
	inelastic	(E-threshold = 2.588 MeV)			34.17 -3	58.88 -3
	(n,2n)	(E-threshold = 13.420 MeV)			1.631 -3	492.6 -9
	(n,na)	(E-threshold = 7.404 MeV)			75.52 -3	22.26 -6
	(n,np)	(E-threshold = 6.545 MeV)			235.3 -3	775.4 -6
	capture	2.098	1.866	1.083	7.415 -6	2.680 -3
	(n,p)	0.0	0.0	758.9 -3	385.3 -3	113.3 -3
	(n,a)	4.300 -3	3.854 -3	463.8 -3	256.5 -3	41.06 -3
19-K - 40	total	35.79	31.89		2.123	3.227
	elastic	1.000	1.000		1.285	2.642
	inelastic	(E-threshold = 0.031 MeV)			58.36 -3	444.1 -3
	(n,2n)	(E-threshold = 7.997 MeV)			225.5 -3	537.6 -6
	(n,na)	(E-threshold = 6.600 MeV)			112.8 -3	34.59 -6
	(n,np)	(E-threshold = 7.775 MeV)			190.0 -3	232.1 -6
	capture	30.00	26.59	13.45	4.123 -6	1.546 -3
	(n,p)	4.400	3.853	1.481	108.5 -3	27.41 -3
	(n,a)	390.0 -3	359.5 -3	1.307	142.4 -3	109.9 -3
19-K - 41	total	4.025	3.865		2.178	3.207
	elastic	2.566	2.566		1.801	2.816
	inelastic	(E-threshold = 1.004 MeV)			87.71 -3	383.9 -3
	(n,2n)	(E-threshold = 10.340 MeV)			35.38 -3	12.15 -6
	(n,na)	(E-threshold = 6.375 MeV)			131.7 -3	379.2 -6
	(n,np)	(E-threshold = 8.001 MeV)			43.97 -3	111.8 -6
	capture	1.459	1.298	1.583	17.40 -6	5.856 -3
	(n,p)	(E-threshold = 1.752 MeV)			48.16 -3	2.031 -3
	(n,a)	(E-threshold = 0.114 MeV)			29.67 -3	931.9 -6
20-Ca- 0	total	3.455	3.407		2.160	2.898
	elastic	3.019	3.019		853.8 -3	2.670
	inelastic	(E-threshold = 0.382 MeV)			328.2 -3	61.74 -3
	(n,2n)	(E-threshold = 8.132 MeV)			23.30 -3	5.430 -6
	(n,na)	(E-threshold = 6.400 MeV)			43.40 -3	10.83 -6
	(n,np)	(E-threshold = 8.540 MeV)			517.0 -3	213.1 -6
	capture	435.8 -3	387.5 -3	226.2 -3	7.337 -6	1.193 -3
	(n,p)	(E-threshold = 0.543 MeV)			210.1 -3	116.6 -3
	(n,a)	0.0	0.0	324.5 -3	136.3 -3	48.28 -3
	(n,2p)	(E-threshold = 8.317 MeV)			47.91 -3	8.256 -6
20-Ca- 40	total	3.430	3.384		1.695	2.977
	elastic	3.022	3.022		386.0 -3	2.755
	inelastic	(E-threshold = 3.437 MeV)			329.5 -3	49.74 -3
	(n,2n)	(E-threshold = 16.030 MeV)				107.4 -9
	(n,na)	(E-threshold = 7.218 MeV)			43.24 -3	9.896 -6
	(n,np)	(E-threshold = 8.540 MeV)			532.8 -3	219.7 -6
	capture	407.5 -3	362.4 -3	212.5 -3	7.542 -6	1.188 -3
	(n,p)	(E-threshold = 0.543 MeV)			214.3 -3	120.2 -3
	(n,a)	0.0	0.0	333.6 -3	139.6 -3	49.77 -3
	(n,2p)	(E-threshold = 8.317 MeV)			49.42 -3	8.516 -6
20-Ca- 42	total	1.905	1.829		2.352	3.728
	elastic	1.222	1.222		1.072	3.319
	inelastic	(E-threshold = 1.562 MeV)			178.7 -3	394.3 -3
	(n,2n)	(E-threshold = 11.750 MeV)			551.0 -3	83.04 -6
	(n,na)	(E-threshold = 6.400 MeV)			224.4 -3	189.1 -6
	(n,np)	(E-threshold = 10.520 MeV)			75.91 -3	13.95 -6
	capture	683.0 -3	607.6 -3	376.2 -3	966.2 -9	2.563 -3
	(n,p)	(E-threshold = 2.801 MeV)			207.2 -3	9.139 -3
	(n,a)	0.0	0.0	61.60 -3	42.67 -3	2.675 -3
20-Ca- 43	total	15.82	14.53		2.396	3.771
	elastic	4.160	4.160		1.104	3.188
	inelastic	(E-threshold = 0.382 MeV)			165.5 -3	543.4 -3
	(n,2n)	(E-threshold = 8.120 MeV)			985.8 -3	946.5 -6
	(n,na)	(E-threshold = 7.764 MeV)			15.35 -3	5.976 -6
	(n,np)	(E-threshold = 10.920 MeV)			3.751 -3	1.158 -6
	capture	11.66	10.37	5.798	177.9 -9	2.179 -3
	(n,p)	(E-threshold = 1.059 MeV)			96.51 -3	26.73 -3
	(n,a)	0.0	0.0	57.95 -3	25.85 -3	9.686 -3

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
20-Ca- 44	total	4.208	4.110		2.340	3.347
	elastic	3.320	3.320		1.146	2.862
	inelastic	(E-threshold = 1.228 MeV)			317.4 -3	483.0 -3
	(n,2n)	(E-threshold = 11.390 MeV)			802.9 -3	140.7 -6
	(n,na)	(E-threshold = 9.054 MeV)			629.6 -6	190.2 -9
	(n,np)	(E-threshold = 12.450 MeV)			183.7 -6	203.8 -9
	capture	888.4 -3	790.0 -3	425.4 -3	786.7 -9	1.039 -3
	(n,p)	(E-threshold = 4.989 MeV)			42.32 -3	71.10 -6
	(n,a)	(E-threshold = 2.814 MeV)			30.36 -3	212.1 -6
20-Ca- 46	total	3.640	3.569		2.527	3.932
	elastic	2.900	2.900		1.202	3.487
	inelastic	(E-threshold = 1.377 MeV)			664.8 -3	443.1 -3
	(n,2n)	(E-threshold = 10.630 MeV)			650.0 -3	167.4 -6
	capture	740.0 -3	655.8 -3	339.1 -3	896.6 -9	172.2 -6
	(n,p)	(E-threshold = 7.088 MeV)			6.600 -3	2.525 -6
	(n,a)	(E-threshold = 5.632 MeV)			4.000 -3	66.88 -6
20-Ca- 48	total	4.809	4.689		2.613	3.622
	elastic	3.717	3.717		1.269	3.541
	inelastic	(E-threshold = 3.913 MeV)			454.6 -3	80.99 -3
	(n,2n)	(E-threshold = 10.160 MeV)			887.4 -3	308.8 -6
	(n,na)	(E-threshold = 14.200 MeV)				17.76 -12
	(n,np)	(E-threshold = 16.140 MeV)				1.576 -9
	capture	1.093	972.3 -3	485.9 -3	1.786 -6	190.1 -6
	(n,p)	(E-threshold = 10.270 MeV)			1.670 -3	422.5 -9
	(n,a)	(E-threshold = 8.879 MeV)			0.0	3.195 -9
21-Sc- 45	total	49.68	46.68		2.175	3.346
	elastic	22.53	22.53		1.160	2.676
	inelastic	(E-threshold = 0.013 MeV)			663.2 -3	633.0 -3
	(n,2n)	(E-threshold = 11.580 MeV)			240.0 -3	37.87 -6
	capture	27.14	24.15	11.89	43.71 -6	7.082 -3
	(n,p)	0.0	0.0	168.3 -3	59.00 -3	25.64 -3
	(n,a)	(E-threshold = 0.406 MeV)			53.50 -3	2.518 -3
22-Ti- 0	total	10.18	9.506		2.318	3.164
	elastic	4.087	4.087		860.0 -3	2.494
	inelastic	(E-threshold = 0.163 MeV)			814.3 -3	664.6 -3
	(n,2n)	(E-threshold = 8.311 MeV)			487.0 -3	133.4 -6
	(n,na)	(E-threshold = 8.189 MeV)			205.1 -6	174.7 -9
	(n,np)	(E-threshold = 9.701 MeV)			35.04 -3	5.645 -6
	capture	6.092	5.419	2.921	36.59 -6	2.740 -3
	(n,p)	0.0	0.0	71.04 -3	82.38 -3	2.521 -3
	(n,a)	0.0	0.0	26.32 -3	38.75 -3	341.4 -6
22-Ti- 46	total	3.343	3.277		2.399	3.432
	elastic	2.747	2.747		1.100	2.660
	inelastic	(E-threshold = 0.909 MeV)			588.9 -3	755.5 -3
	(n,2n)	(E-threshold = 13.490 MeV)			12.64 -3	3.845 -6
	(n,na)	(E-threshold = 8.189 MeV)			2.143 -3	504.4 -9
	(n,np)	(E-threshold = 10.580 MeV)			313.5 -3	44.96 -6
	capture	596.0 -3	530.4 -3	352.2 -3	51.86 -6	4.954 -3
	(n,p)	(E-threshold = 1.620 MeV)			290.0 -3	11.24 -3
	(n,a)	(E-threshold = 0.082 MeV)			92.49 -3	888.4 -6
22-Ti- 47	total	4.797	4.609		2.325	3.350
	elastic	3.095	3.095		1.136	2.613
	inelastic	(E-threshold = 0.163 MeV)			259.8 -3	707.6 -3
	(n,2n)	(E-threshold = 9.066 MeV)			694.2 -3	346.4 -6
	(n,na)	(E-threshold = 9.148 MeV)			102.0 -6	186.0 -9
	(n,np)	(E-threshold = 10.680 MeV)			40.00 -3	5.970 -6
	capture	1.702	1.514	1.436	35.58 -6	6.329 -3
	(n,p)	0.0	0.0	189.1 -3	120.0 -3	19.28 -3
	(n,a)	0.0	0.0	79.41 -3	73.96 -3	3.338 -3
22-Ti- 48	total	12.46	11.59		2.709	3.749
	elastic	4.612	4.612		1.174	3.050
	inelastic	(E-threshold = 1.005 MeV)			956.3 -3	697.6 -3
	(n,2n)	(E-threshold = 11.870 MeV)			471.0 -3	65.61 -6
	(n,na)	(E-threshold = 9.646 MeV)			35.50 -6	163.6 -9
	(n,np)	(E-threshold = 11.690 MeV)			9.500 -3	2.144 -6
	capture	7.844	6.977	3.692	37.60 -6	2.242 -3
	(n,p)	(E-threshold = 3.276 MeV)			65.00 -3	278.1 -6
	(n,a)	(E-threshold = 2.074 MeV)			33.00 -3	22.80 -6

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
22-Ti- 49	total	2.906	2.661		2.420	3.528
	elastic	691.9 -3	691.9 -3		1.215	3.259
	inelastic	(E-threshold = 1.410 MeV)			202.1 -3	263.2 -3
	(n,2n)	(E-threshold = 8.311 MeV)			947.7 -3	957.0 -6
	(n,np)	(E-threshold = 10.110 MeV)			543.0 -6	409.6 -9
	capture	2.214	1.970	1.055	34.35 -6	3.636 -3
	(n,p)	(E-threshold = 1.248 MeV)			33.90 -3	166.3 -6
	(n,a)	0.0	0.0	18.13 -3	21.17 -3	173.4 -6
22-Ti- 50	total	3.884	3.864		2.509	3.636
	elastic	3.705	3.705		1.251	3.205
	inelastic	(E-threshold = 1.586 MeV)			580.9 -3	430.6 -3
	(n,2n)	(E-threshold = 11.170 MeV)			658.7 -3	125.0 -6
	(n,na)	(E-threshold = 19.840 MeV)				51.29 -12
	(n,np)	(E-threshold = 9.701 MeV)			46.94 -6	141.2 -9
	capture	178.6 -3	158.9 -3	85.67 -3	3.776 -6	441.5 -6
	(n,p)	(E-threshold = 6.229 MeV)			10.92 -3	6.015 -6
	(n,a)	(E-threshold = 3.512 MeV)			8.000 -3	4.671 -6
23-V - 51	total	9.734	9.194		2.350	3.841
	elastic	4.831	4.831		1.121	3.192
	inelastic	(E-threshold = 0.326 MeV)			628.5 -3	647.0 -3
	(n,2n)	(E-threshold = 11.270 MeV)			535.0 -3	89.33 -6
	(n,na)	(E-threshold = 10.500 MeV)			300.0 -6	107.5 -9
	(n,np)	(E-threshold = 8.211 MeV)			13.00 -3	5.293 -6
	capture	4.903	4.363	2.556	22.01 -6	2.132 -3
	(n,p)	(E-threshold = 1.708 MeV)			31.00 -3	584.2 -6
	(n,d)	(E-threshold = 5.941 MeV)			4.500 -3	6.695 -6
	(n,t)	(E-threshold = 10.720 MeV)			1.000 -3	324.6 -9
	(n,a)	(E-threshold = 2.096 MeV)			15.60 -3	35.18 -6
24-Cr- 0	total	6.450	6.111		2.461	3.344
	elastic	3.379	3.379		1.243	2.873
	inelastic	(E-threshold = 0.575 MeV)			707.7 -3	465.1 -3
	(n,2n)	(E-threshold = 8.092 MeV)			300.5 -3	96.01 -6
	(n,na)	(E-threshold = 8.072 MeV)			307.8 -6	135.3 -9
	(n,np)	(E-threshold = 9.782 MeV)			86.27 -3	14.17 -6
	capture	3.071	2.731	1.532	36.52 -6	2.485 -3
	(n,p)	(E-threshold = 0.262 MeV)			87.86 -3	2.940 -3
	(n,a)	0.0	0.0	27.09 -3	35.45 -3	142.0 -6
24-Cr- 50	total	18.24	16.48		2.348	3.649
	elastic	2.316	2.316		1.124	3.003
	inelastic	(E-threshold = 0.799 MeV)			653.7 -3	591.5 -3
	(n,2n)	(E-threshold = 13.200 MeV)			8.200 -3	1.805 -6
	(n,na)	(E-threshold = 8.728 MeV)			565.9 -6	172.0 -9
	(n,np)	(E-threshold = 9.782 MeV)			260.5 -3	48.78 -6
	capture	15.92	14.16	7.406	152.4 -6	6.344 -3
	(n,p)	(E-threshold = 0.262 MeV)			218.8 -3	47.12 -3
	(n,a)	0.0	0.0	69.17 -3	81.83 -3	601.0 -6
24-Cr- 52	total	3.723	3.639		2.419	3.692
	elastic	2.959	2.959		1.205	3.262
	inelastic	(E-threshold = 1.462 MeV)			743.5 -3	426.8 -3
	(n,2n)	(E-threshold = 12.270 MeV)			260.0 -3	31.72 -6
	(n,na)	(E-threshold = 9.536 MeV)			293.0 -6	132.9 -9
	(n,np)	(E-threshold = 10.710 MeV)			89.25 -3	14.29 -6
	capture	764.0 -3	679.5 -3	463.7 -3	31.80 -6	2.377 -3
	(n,p)	(E-threshold = 3.258 MeV)			88.22 -3	1.014 -3
	(n,a)	(E-threshold = 1.234 MeV)			32.74 -3	54.53 -6
24-Cr- 53	total	25.99	23.98		2.458	3.864
	elastic	7.779	7.779		1.214	3.170
	inelastic	(E-threshold = 0.575 MeV)			456.1 -3	689.3 -3
	(n,2n)	(E-threshold = 8.092 MeV)			698.3 -3	665.3 -6
	(n,na)	(E-threshold = 9.326 MeV)			189.6 -6	105.8 -9
	(n,np)	(E-threshold = 11.350 MeV)			1.844 -3	762.5 -9
	capture	18.21	16.20	8.607	21.53 -6	1.887 -3
	(n,p)	(E-threshold = 2.691 MeV)			43.61 -3	452.7 -6
	(n,a)	0.0	0.0	39.22 -3	43.90 -3	729.5 -6
24-Cr- 54	total	2.907	2.866		2.500	3.660
	elastic	2.542	2.542		1.249	2.970
	inelastic	(E-threshold = 0.851 MeV)			548.6 -3	687.4 -3
	(n,2n)	(E-threshold = 9.902 MeV)			676.1 -3	259.7 -6

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
24-Cr- 54	(n,na)	(E-threshold = 8.072 MeV)			833.5 -6	270.6 -9
	(n,np)	(E-threshold = 12.590 MeV)			1.131 -6	108.5 -9
	capture	364.4 -3	324.0 -3	184.8 -3	51.06 -6	1.541 -3
	(n,p)	(E-threshold = 6.336 MeV)			12.47 -3	6.136 -6
	(n,a)	(E-threshold = 1.575 MeV)			12.36 -3	38.51 -6
25-Mn- 55	total	15.58	14.09		2.567	3.671
	elastic	2.167	2.167		1.160	2.765
	inelastic	(E-threshold = 0.128 MeV)			579.4 -3	902.0 -3
	(n,2n)	(E-threshold = 10.410 MeV)			719.0 -3	211.6 -6
	(n,na)	(E-threshold = 8.081 MeV)			1.007 -3	502.7 -9
	(n,np)	(E-threshold = 8.216 MeV)			36.58 -3	11.39 -6
	capture	13.41	11.93	11.79	665.0 -6	2.889 -3
	(n,p)	(E-threshold = 1.855 MeV)			37.40 -3	578.1 -6
	(n,d)	(E-threshold = 5.951 MeV)			4.400 -3	4.928 -6
	(n,t)	(E-threshold = 9.476 MeV)			870.0 -6	135.7 -9
	(n,He-3)	(E-threshold = 12.940 MeV)			0.0	5.933 -9
	(n,a)	(E-threshold = 0.636 MeV)			27.68 -3	126.8 -6
26-Fe- 0	total	13.92	13.62		2.555	3.187
	elastic	11.36	11.36		1.130	2.566
	inelastic	(E-threshold = 0.015 MeV)			734.9 -3	610.5 -3
	(n,2n)	(E-threshold = 7.782 MeV)			426.2 -3	103.4 -6
	(n,na)	(E-threshold = 7.455 MeV)			785.0 -6	364.8 -9
	(n,np)	(E-threshold = 9.020 MeV)			93.56 -3	19.23 -6
	capture	2.562	2.254	1.340	99.40 -6	3.491 -3
	(n,p)	0.0	0.0	120.6 -3	126.2 -3	5.661 -3
	(n,a)	18.99 -21	37.99 -21	34.00 -3	43.12 -3	373.2 -6
26-Fe- 54	total	2.649	2.411		2.498	3.658
	elastic	492.9 -3	492.9 -3		1.080	3.234
	inelastic	(E-threshold = 1.435 MeV)			481.5 -3	335.9 -3
	(n,2n)	(E-threshold = 13.630 MeV)			1.203 -3	1.032 -6
	(n,na)	(E-threshold = 8.578 MeV)			120.8 -6	189.2 -9
	(n,np)	(E-threshold = 9.020 MeV)			490.6 -3	138.0 -6
	capture	2.156	1.918	1.326	136.3 -6	6.070 -3
	(n,p)	0.0	0.0	753.7 -3	361.0 -3	80.71 -3
	(n,a)	123.8 -21	247.6 -21	68.03 -3	83.17 -3	864.7 -6
26-Fe- 56	total	15.27	14.96		2.572	3.661
	elastic	12.46	12.46		1.145	3.040
	inelastic	(E-threshold = 0.862 MeV)			761.5 -3	616.8 -3
	(n,2n)	(E-threshold = 11.400 MeV)			439.1 -3	72.88 -6
	(n,na)	(E-threshold = 7.757 MeV)			840.1 -6	382.4 -9
	(n,np)	(E-threshold = 10.370 MeV)			70.94 -3	12.23 -6
	capture	2.813	2.502	1.448	99.56 -6	3.387 -3
	(n,p)	(E-threshold = 2.971 MeV)			114.0 -3	1.057 -3
	(n,a)	12.05 -21	24.10 -21	32.03 -3	40.90 -3	332.8 -6
26-Fe- 57	total	2.664	2.393		2.611	3.920
	elastic	202.1 -3	202.1 -3		1.248	2.737
	inelastic	(E-threshold = 0.015 MeV)			377.5 -3	1.178
	(n,2n)	(E-threshold = 7.782 MeV)			943.4 -3	1.618 -3
	(n,na)	(E-threshold = 7.455 MeV)			284.4 -6	109.6 -9
	(n,np)	(E-threshold = 10.750 MeV)			1.837 -3	612.7 -9
	capture	2.462	2.190	1.427	6.785 -6	1.114 -3
	(n,p)	(E-threshold = 1.813 MeV)			29.74 -3	497.1 -6
	(n,a)	0.0	0.0	10.90 -3	10.64 -3	563.1 -6
26-Fe- 58	total	5.705	5.564		2.649	3.902
	elastic	4.433	4.433		1.285	3.267
	inelastic	(E-threshold = 0.825 MeV)			392.1 -3	632.4 -3
	(n,2n)	(E-threshold = 10.220 MeV)			946.7 -3	321.8 -6
	(n,na)	(E-threshold = 7.781 MeV)			411.3 -6	248.0 -9
	(n,np)	(E-threshold = 12.030 MeV)			80.31 -6	136.8 -9
	capture	1.272	1.132	1.569	4.399 -6	1.851 -3
	(n,p)	(E-threshold = 5.405 MeV)			12.62 -3	11.21 -6
	(n,a)	(E-threshold = 1.411 MeV)			11.74 -3	23.91 -6
27-Co- 59	total	43.19	39.09		2.653	3.678
	elastic	6.018	6.018		843.4 -3	2.988
	inelastic	(E-threshold = 1.118 MeV)			963.1 -3	683.0 -3
	(n,2n)	(E-threshold = 10.630 MeV)			690.0 -3	180.0 -6
	(n,na)	(E-threshold = 7.069 MeV)			1.765 -3	558.8 -9
	(n,np)	(E-threshold = 7.496 MeV)			61.93 -3	56.52 -6

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
27-Co- 59	capture	37.18	33.07	75.61	2.016 -3	5.251 -3
	(n,p)	(E-threshold = 0.796 MeV)			53.00 -3	1.484 -3
	(n,d)	(E-threshold = 5.233 MeV)			5.673 -3	2.480 -6
	(n,a)	0.0	0.0	20.24 -3	32.20 -3	165.1 -6
28-Ni- 0	total	22.24	21.76		2.761	3.703
	elastic	17.86	17.86		1.402	3.244
	inelastic	(E-threshold = 0 069 MeV)			413.0 -3	373.1 -3
	(n,2n)	(E-threshold = 7.955 MeV)			155.8 -3	47.49 -6
	(n,3n)	(E-threshold = 16.770 MeV)				1.668 -9
	(n,na)	(E-threshold = 6.401 MeV)			10.27 -3	2.114 -6
	(n,np)	(E-threshold = 8.320 MeV)			402.8 -3	153.0 -6
	capture	4.383	3.897	2.143	56.33 -6	7.779 -3
	(n,p)	129.5 -15	259.0 -15	621.3 -3	282.5 -3	73.78 -3
	(n,d)	(E-threshold = 5.968 MeV)			8.940 -3	3.285 -6
	(n,t)	(E-threshold = 9.014 MeV)			8.372 -6	60.39 -9
	(n,He-3)	(E-threshold = 6.589 MeV)			6.828 -6	1.999 -9
	(n,a)	6.083 -15	12.17 -15	93.92 -3	77.67 -3	4.445 -3
	(n,2p)	(E-threshold = 6.671 MeV)			8.056 -3	1.485 -6
28-Ni- 58	total	30.75	30.26		2.662	3.835
	elastic	26.25	26.25		1.296	3.388
	inelastic	(E-threshold = 1.480 MeV)			296.6 -3	324.9 -3
	(n,2n)	(E-threshold = 12.420 MeV)			21.50 -3	2.984 -6
	(n,na)	(E-threshold = 6.520 MeV)			9.800 -3	1.940 -6
	(n,np)	(E-threshold = 8.320 MeV)			560.0 -3	218.9 -6
	capture	4.503	4.006	2.161	53.98 -6	8.476 -3
	(n,p)	189.7 -15	379.4 -15	858.7 -3	364.0 -3	107.0 -3
	(n,d)	(E-threshold = 5.968 MeV)			10.20 -3	3.185 -6
	(n,t)	(E-threshold = 11.250 MeV)			11.00 -6	66.81 -9
	(n,He-3)	(E-threshold = 6.589 MeV)			9.990 -6	2.908 -9
	(n,a)	0.0	0.0	119.8 -3	91.90 -3	6.178 -3
	(n,2p)	(E-threshold = 6.671 MeV)			11.80 -3	2.174 -6
28-Ni- 60	total	4.316	3.995		2.760	3.525
	elastic	1.416	1.416		1.481	3.064
	inelastic	(E-threshold = 1.355 MeV)			657.0 -3	450.9 -3
	(n,2n)	(E-threshold = 11.580 MeV)			346.8 -3	53.54 -6
	(n,na)	(E-threshold = 6.401 MeV)			13.40 -3	2.917 -6
	(n,np)	(E-threshold = 9.693 MeV)			78.00 -3	13.43 -6
	capture	2.900	2.578	1.467	69.65 -6	6.325 -3
	(n,p)	(E-threshold = 2.675 MeV)			123.0 -3	2.620 -3
	(n,d)	(E-threshold = 7.349 MeV)			7.310 -3	4.200 -6
	(n,t)	(E-threshold = 11.690 MeV)			0.0	53.71 -9
	(n,He-3)	(E-threshold = 9.329 MeV)			28.94 -9	49.47 -12
	(n,a)	0.0	0.0	43.18 -3	53.50 -3	732.0 -6
	(n,2p)	(E-threshold = 10.490 MeV)			0.0	933.6 -12
28-Ni- 61	total	11.24	10.96		2.814	3.813
	elastic	8.731	8.731		1.470	2.721
	inelastic	(E-threshold = 0.069 MeV)			282.9 -3	1.079
	(n,2n)	(E-threshold = 7.955 MeV)			928.4 -3	1.753 -3
	(n,na)	(E-threshold = 6.569 MeV)			2.914 -3	718.5 -9
	(n,np)	(E-threshold = 10.030 MeV)			11.16 -3	2.234 -6
	capture	2.509	2.231	2.439	18.35 -6	5.457 -3
	(n,p)	(E-threshold = 0.549 MeV)			79.10 -3	2.365 -3
	(n,d)	(E-threshold = 7.681 MeV)			5.551 -3	1.119 -6
	(n,t)	(E-threshold = 9.014 MeV)			76.32 -6	51.43 -9
	(n,He-3)	(E-threshold = 10.590 MeV)			453.5 -15	77.07 -12
	(n,a)	538.3 -15	1.077 -12	40.90 -3	33.45 -3	2.562 -3
	(n,2p)	(E-threshold = 9.447 MeV)			207.3 -9	876.7 -12
28-Ni- 62	total	23.70	22.14		2.869	3.778
	elastic	9.505	9.505		1.503	3.298
	inelastic	(E-threshold = 1.192 MeV)			484.9 -3	476.0 -3
	(n,2n)	(E-threshold = 10.780 MeV)			836.3 -3	196.9 -6
	(n,na)	(E-threshold = 7.130 MeV)			1.252 -3	454.6 -9
	(n,np)	(E-threshold = 11.320 MeV)			477.1 -6	447.6 -9
	capture	14.20	12.64	6.908	28.94 -6	3.451 -3
	(n,p)	(E-threshold = 4.532 MeV)			27.96 -3	37.58 -6
	(n,d)	(E-threshold = 8.976 MeV)			169.4 -6	59.32 -9
	(n,t)	(E-threshold = 12.170 MeV)			5.744 -9	3.780 -9
	(n,He-3)	(E-threshold = 12.360 MeV)			1.474 -21	201.1 -15
	(n,a)	(E-threshold = 0.437 MeV)			15.20 -3	45.28 -6
	(n,2p)	(E-threshold = 14.480 MeV)				65.83 -15

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
28-Ni- 64	total	1.515	1.351		2.984	3.938
	elastic	34.64 -3	34.64 -3		1.591	3.511
	inelastic	(E-threshold = 1.367 MeV)			273.9 -3	423.4 -3
	(n,2n)	(E-threshold = 9.814 MeV)			1.109	497.2 -6
	(n,3n)	(E-threshold = 16.770 MeV)				183.3 -9
	(n,na)	(E-threshold = 8.210 MeV)			35.95 -6	44.72 -9
	(n,np)	(E-threshold = 12.740 MeV)			6.134 -12	27.57 -9
	capture	1.480	1.317	819.5 -3	6.312 -6	2.777 -3
	(n,p)	(E-threshold = 6.627 MeV)			4.446 -3	1.726 -6
	(n,d)	(E-threshold = 10.390 MeV)			2.186 -6	5.085 -9
	(n,t)	(E-threshold = 12.670 MeV)			213.6 -15	1.300 -9
	(n,He-3)	(E-threshold = 15.260 MeV)				28.65 -18
	(n,a)	(E-threshold = 2.472 MeV)			5.066 -3	11.18 -6
	(n,2p)	(E-threshold = 17.630 MeV)				99.26 -30
29-Cu- 0	total	11.65	11.24		2.850	3.678
	elastic	7.868	7.868		1.378	2.876
	inelastic	(E-threshold = 0.680 MeV)			559.6 -3	775.0 -3
	(n,2n)	(E-threshold = 10.060 MeV)			607.9 -3	158.0 -6
	(n,na)	(E-threshold = 5.869 MeV)			11.62 -3	3.081 -6
	(n,np)	(E-threshold = 6.223 MeV)			219.4 -3	427.1 -6
	(n,nd)	(E-threshold = 14.730 MeV)				4.165 -9
	capture	3.785	3.368	4.121	9.620 -6	7.863 -3
	(n,p)	0.0	0.0	112.3 -3	38.93 -3	17.67 -3
	(n,d)	(E-threshold = 3.963 MeV)			6.314 -3	5.482 -6
	(n,a)	0.0	0.0	22.32 -3	28.87 -3	390.2 -6
29-Cu- 63	total	9.608	9.110		2.823	3.673
	elastic	5.102	5.102		1.360	2.848
	inelastic	(E-threshold = 0.680 MeV)			555.9 -3	790.5 -3
	(n,2n)	(E-threshold = 11.030 MeV)			489.7 -3	86.87 -6
	(n,na)	(E-threshold = 5.869 MeV)			16.43 -3	4.345 -6
	(n,np)	(E-threshold = 6.223 MeV)			310.5 -3	609.2 -6
	(n,nd)	(E-threshold = 14.730 MeV)				5.591 -9
	capture	4.506	4.008	4.972	12.21 -6	8.773 -3
	(n,p)	0.0	0.0	153.0 -3	46.15 -3	25.29 -3
	(n,d)	(E-threshold = 3.963 MeV)			7.502 -3	7.291 -6
	(n,a)	0.0	0.0	29.44 -3	37.00 -3	555.5 -6
29-Cu- 65	total	16.24	16.00		2.911	3.689
	elastic	14.07	14.07		1.417	2.942
	inelastic	(E-threshold = 0.783 MeV)			567.7 -3	740.5 -3
	(n,2n)	(E-threshold = 10.060 MeV)			873.0 -3	317.7 -6
	(n,na)	(E-threshold = 6.875 MeV)			820.4 -6	245.5 -9
	(n,np)	(E-threshold = 7.560 MeV)			15.12 -3	18.67 -6
	(n,nd)	(E-threshold = 15.110 MeV)				966.1 -12
	capture	2.168	1.929	2.210	3.800 -6	5.819 -3
	(n,p)	(E-threshold = 1.370 MeV)			22.74 -3	567.8 -6
	(n,d)	(E-threshold = 5.301 MeV)			3.647 -3	1.424 -6
	(n,a)	(E-threshold = 0.089 MeV)			10.62 -3	19.26 -6
40-Zr- 0	total	6.616	6.595		3.846	5.728
	elastic	6.430	6.430		1.870	5.052
	inelastic	(E-threshold = 0.928 MeV)			941.1 -3	669.7 -3
	(n,2n)	(E-threshold = 7.279 MeV)			973.6 -3	1.028 -3
	(n,na)	(E-threshold = 3.003 MeV)			152.9 -6	52.01 -9
	(n,np)	(E-threshold = 8.451 MeV)			21.95 -3	4.888 -6
	capture	185.6 -3	165.1 -3	1.188	7.726 -6	5.128 -3
	(n,p)	(E-threshold = 0.769 MeV)			33.96 -3	178.2 -6
	(n,a)	0.0	8.772 -15	5.179 -3	5.589 -3	49.31 -6
40-Zr- 90	total	5.511	5.506		4.336	5.640
	elastic	5.465	5.465		2.835	5.232
	inelastic	(E-threshold = 1.780 MeV)			763.4 -3	398.2 -3
	(n,2n)	(E-threshold = 12.120 MeV)			611.3 -3	83.00 -6
	(n,na)	(E-threshold = 6.749 MeV)			21.13 -6	36.70 -9
	(n,np)	(E-threshold = 8.457 MeV)			74.46 -3	16.94 -6
	capture	45.84 -3	40.79 -3	196.1 -3	1.030 -3	7.935 -3
	(n,p)	(E-threshold = 1.518 MeV)			41.04 -3	174.5 -6
	(n,d)	(E-threshold = 6.121 MeV)			1.120 -3	243.3 -9
	(n,t)	(E-threshold = 11.470 MeV)			1.548 -9	1.729 -9
	(n,He-3)	(E-threshold = 7.796 MeV)			377.1 -12	28.18 -12
	(n,a)	0.0	0.0	6.976 -3	8.385 -3	11.51 -6
	(n,2p)	(E-threshold = 9.175 MeV)			251.5 -12	28.61 -12

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
40-Zr- 91	total	11.83	11.70		4.337	5.663
	elastic	10.59	10.59		2.830	5.053
	inelastic	(E-threshold = 1.218 MeV)			121.8 -3	590.8 -3
	(n,2n)	(E-threshold = 7.284 MeV)			1.343	5.457 -3
	(n,3n)	(E-threshold = 19.400 MeV)				392.2 -12
	(n,na)	(E-threshold = 5.506 MeV)			144.5 -6	65.62 -9
	(n,np)	(E-threshold = 8.802 MeV)			2.968 -3	601.1 -9
	(n,nd)	(E-threshold = 13.400 MeV)			0.0	1.820 -9
	capture	1.247	1.110	6.951	1.002 -3	11.65 -3
	(n,p)	(E-threshold = 0.769 MeV)			27.38 -3	100.2 -6
	(n,d)	(E-threshold = 6.466 MeV)			2.316 -3	470.6 -9
	(n,t)	(E-threshold = 7.150 MeV)			128.0 -6	35.06 -9
	(n,He-3)	(E-threshold = 8.640 MeV)			14.29 -12	24.24 -12
	(n,a)	0.0	0.0	6.016 -3	7.865 -3	136.1 -6
40-Zr- 92	total	5.087	5.063		4.337	5.674
	elastic	4.869	4.869		2.815	4.813
	inelastic	(E-threshold = 0.945 MeV)			138.3 -3	838.3 -3
	(n,2n)	(E-threshold = 8.735 MeV)			1.351	1.688 -3
	(n,3n)	(E-threshold = 16.020 MeV)				887.8 -9
	(n,na)	(E-threshold = 3.000 MeV)			1.561 -3	350.9 -9
	(n,np)	(E-threshold = 9.503 MeV)			676.1 -6	196.8 -9
	(n,nd)	(E-threshold = 15.200 MeV)				35.63 -12
	(n,nt)	(E-threshold = 15.880 MeV)				1.031 -12
	capture	217.5 -3	193.6 -3	702.3 -3	1.020 -3	19.32 -3
	(n,p)	(E-threshold = 2.883 MeV)			19.58 -3	21.02 -6
	(n,d)	(E-threshold = 7.168 MeV)			692.2 -6	180.7 -9
	(n,t)	(E-threshold = 8.947 MeV)			27.46 -6	16.57 -9
	(n,a)	0.0	0.0	6.205 -3	9.217 -3	55.62 -6
40-Zr- 94	total	6.202	6.196		4.338	5.675
	elastic	6.152	6.152		2.827	4.793
	inelastic	(E-threshold = 0.928 MeV)			119.4 -3	865.3 -3
	(n,2n)	(E-threshold = 8.312 MeV)			1.378	2.718 -3
	(n,3n)	(E-threshold = 15.120 MeV)				2.597 -6
	(n,na)	(E-threshold = 3.791 MeV)			245.8 -6	58.27 -9
	(n,np)	(E-threshold = 10.440 MeV)			6.552 -6	9.436 -9
	(n,nd)	(E-threshold = 15.670 MeV)				7.433 -12
	capture	49.81 -3	44.31 -3	321.0 -3	1.002 -3	12.34 -3
	(n,p)	(E-threshold = 4.143 MeV)			8.114 -3	3.021 -6
	(n,d)	(E-threshold = 8.107 MeV)			29.82 -6	23.85 -9
	(n,t)	(E-threshold = 9.416 MeV)			8.044 -6	9.113 -9
	(n,a)	0.0	0.0	2.868 -3	4.171 -3	5.698 -6
40-Zr- 96	total	6.154	6.151		4.339	5.709
	elastic	6.131	6.131		2.714	5.158
	inelastic	(E-threshold = 1.611 MeV)			133.0 -3	537.4 -3
	(n,2n)	(E-threshold = 7.940 MeV)			1.485	3.967 -3
	(n,3n)	(E-threshold = 14.480 MeV)				5.040 -6
	(n,na)	(E-threshold = 5.027 MeV)			39.19 -6	21.09 -9
	(n,np)	(E-threshold = 11.630 MeV)			261.1 -9	10.99 -9
	capture	22.80 -3	20.29 -3	5.870	1.001 -3	7.450 -3
	(n,p)	(E-threshold = 6.298 MeV)			2.602 -3	563.4 -9
	(n,d)	(E-threshold = 9.292 MeV)			397.1 -9	5.558 -9
	(n,t)	(E-threshold = 10.040 MeV)			1.220 -6	4.885 -9
	(n,a)	0.0	0.0	2.253 -3	2.276 -3	751.1 -9
41-Nb- 93	total	7.474	7.347		3.971	5.851
	elastic	6.323	6.323		2.257	4.680
	inelastic	(E-threshold = 0.031 MeV)			404.7 -3	1.141
	(n,2n)	(E-threshold = 8.922 MeV)			1.244	1.076 -3
	(n,3n)	(E-threshold = 16.900 MeV)				213.7 -9
	(n,na)	(E-threshold = 1.968 MeV)			2.262 -3	1.474 -6
	(n,np)	(E-threshold = 6.105 MeV)			11.19 -3	4.516 -6
	capture	1.152	1.024	9.488	1.002 -3	28.41 -3
	(n,p)	0.0	0.0	27.16 -3	37.37 -3	284.0 -6
	(n,d)	(E-threshold = 3.856 MeV)			5.913 -3	3.195 -6
	(n,a)	0.0	0.0	5.665 -3	7.169 -3	121.1 -6
42-Mo- 0	total	8.066	7.778		4.072	5.840
	elastic	5.483	5.483		2.525	4.819
	inelastic	(E-threshold = 0.206 MeV)			231.5 -3	984.3 -3
	(n,2n)	(E-threshold = 6.897 MeV)			1.192	2.542 -3
	(n,3n)	(E-threshold = 14.370 MeV)				1.390 -6
	(n,na)	(E-threshold = 2.092 MeV)			1.861 -3	656.8 -9

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
42-Mo- 0	(n,np)	(E-threshold = 7.546 MeV)			73.26 -3	13.45 -6
	(n,nd)	(E-threshold = 13.710 MeV)			0.0	119.7 -12
	capture	2.582	2.295	25.69	1.012 -3	31.63 -3
	(n,p)	0.0	0.0	38.67 -3	35.76 -3	1.716 -3
	(n,d)	(E-threshold = 5.210 MeV)			784.4 -6	173.5 -9
	(n,t)	(E-threshold = 7.456 MeV)			17.21 -6	9.471 -9
	(n,He-3)	(E-threshold = 4.952 MeV)			38.66 -9	130.1 -12
	(n,a)	0.0	0.0	9.212 -3	10.65 -3	373.3 -6
	(n,2p)	(E-threshold = 5.485 MeV)			15.32 -6	3.681 -9
42-Mo- 92	total	5.566	5.564		4.337	5.661
	elastic	5.545	5.545		2.762	5.096
	inelastic	(E-threshold = 1.526 MeV)			774.7 -3	524.7 -3
	(n,2n)	(E-threshold = 12.820 MeV)			160.0 -3	24.51 -6
	(n,na)	(E-threshold = 5.669 MeV)			367.5 -6	145.6 -9
	(n,np)	(E-threshold = 7.546 MeV)			487.3 -3	89.37 -6
	capture	20.75 -3	18.46 -3	968.1 -3	1.045 -3	28.00 -3
	(n,p)	0.0	0.0	180.2 -3	128.1 -3	11.06 -3
	(n,d)	(E-threshold = 5.210 MeV)			2.352 -3	508.6 -9
	(n,t)	(E-threshold = 11.150 MeV)			4.766 -9	2.117 -9
	(n,He-3)	(E-threshold = 4.952 MeV)			259.7 -9	755.7 -12
	(n,a)	0.0	0.0	16.16 -3	21.40 -3	147.5 -6
	(n,2p)	(E-threshold = 5.485 MeV)			103.2 -6	24.79 -9
42-Mo- 94	total	6.011	6.010		4.338	5.662
	elastic	5.998	5.998		2.788	4.778
	inelastic	(E-threshold = 0.880 MeV)			261.3 -3	845.9 -3
	(n,2n)	(E-threshold = 9.789 MeV)			1.202	632.2 -6
	(n,3n)	(E-threshold = 17.950 MeV)				62.66 -9
	(n,na)	(E-threshold = 2.092 MeV)			7.498 -3	3.829 -6
	(n,np)	(E-threshold = 8.588 MeV)			6.383 -3	1.136 -6
	(n,nd)	(E-threshold = 15.190 MeV)				31.51 -12
	capture	13.11 -3	11.66 -3	1.401	1.008 -3	35.39 -3
	(n,p)	(E-threshold = 1.276 MeV)			53.40 -3	325.1 -6
	(n,d)	(E-threshold = 6.253 MeV)			1.024 -3	219.0 -9
	(n,t)	(E-threshold = 8.934 MeV)			15.22 -6	10.76 -9
	(n,He-3)	(E-threshold = 6.885 MeV)			643.1 -12	59.72 -12
	(n,a)	0.0	0.0	18.04 -3	17.51 -3	924.1 -6
	(n,2p)	(E-threshold = 7.891 MeV)			6.306 -9	25.95 -12
42-Mo- 95	total	19.56	18.00		4.338	5.665
	elastic	5.566	5.563		2.804	4.382
	inelastic	(E-threshold = 0.206 MeV)			113.2 -3	1.229
	(n,2n)	(E-threshold = 7.454 MeV)			1.365	4.685 -3
	(n,3n)	(E-threshold = 17.240 MeV)				222.8 -9
	(n,na)	(E-threshold = 2.265 MeV)			2.947 -3	723.8 -9
	(n,np)	(E-threshold = 8.730 MeV)			1.560 -3	305.1 -9
	(n,nd)	(E-threshold = 13.710 MeV)			0.0	571.4 -12
	capture	13.99	12.44	118.7	1.002 -3	45.47 -3
	(n,p)	(E-threshold = 0.145 MeV)			35.23 -3	241.1 -6
	(n,d)	(E-threshold = 6.396 MeV)			1.538 -3	313.9 -9
	(n,t)	(E-threshold = 7.456 MeV)			80.32 -6	26.90 -9
	(n,He-3)	(E-threshold = 7.530 MeV)			433.9 -12	72.91 -12
	(n,a)	0.0	0.0	15.91 -3	13.33 -3	1.504 -3
42-Mo- 96	total	5.322	5.257		4.339	5.664
	elastic	4.727	4.727		2.818	4.670
	inelastic	(E-threshold = 0.787 MeV)			149.3 -3	963.3 -3
	(n,2n)	(E-threshold = 9.255 MeV)			1.337	1.151 -3
	(n,3n)	(E-threshold = 16.710 MeV)				506.3 -9
	(n,na)	(E-threshold = 2.790 MeV)			2.931 -3	779.1 -9
	(n,np)	(E-threshold = 9.400 MeV)			495.3 -6	130.5 -9
	(n,nd)	(E-threshold = 15.650 MeV)				5.213 -12
	capture	595.4 -3	529.8 -3	17.55	1.006 -3	27.42 -3
	(n,p)	(E-threshold = 2.430 MeV)			20.65 -3	24.14 -6
	(n,d)	(E-threshold = 7.065 MeV)			150.8 -6	52.03 -9
	(n,t)	(E-threshold = 9.400 MeV)			4.706 -6	7.493 -9
	(n,a)	0.0	0.0	6.935 -3	9.742 -3	85.63 -6
42-Mo- 97	total	7.957	7.723		4.340	5.667
	elastic	5.857	5.856		2.822	4.367
	inelastic	(E-threshold = 0.486 MeV)			90.00 -3	1.247
	(n,2n)	(E-threshold = 6.897 MeV)			1.403	8.428 -3
	(n,3n)	(E-threshold = 16.150 MeV)				887.3 -9
	(n,na)	(E-threshold = 2.879 MeV)			689.6 -6	149.0 -9

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
42-Mo- 97	(n,np)	(E-threshold = 9.326 MeV)			129.8 -6	50.40 -9
	(n,nd)	(E-threshold = 13.960 MeV)			0.0	244.5 -12
	capture	2.100	1.867	17.15	1.001 -3	41.43 -3
	(n,p)	(E-threshold = 1.162 MeV)			14.80 -3	15.43 -6
	(n,d)	(E-threshold = 6.992 MeV)			658.5 -6	139.4 -9
	(n,t)	(E-threshold = 7.712 MeV)			15.09 -6	10.52 -9
	(n,He-3)	(E-threshold = 8.828 MeV)			154.6 -15	6.935 -12
	(n,a)	0.0	0.0	4.921 -3	6.881 -3	91.48 -6
42-Mo- 98	total	5.772	5.757		4.340	5.662
	elastic	5.642	5.642		2.830	4.611
	inelastic	(E-threshold = 0.743 MeV)			104.9 -3	1.021
	(n,2n)	(E-threshold = 8.736 MeV)			1.393	1.923 -3
	(n,3n)	(E-threshold = 15.630 MeV)				1.894 -6
	(n,na)	(E-threshold = 3.307 MeV)			341.3 -6	77.10 -9
	(n,np)	(E-threshold = 9.898 MeV)			27.67 -6	19.09 -9
	(n,nd)	(E-threshold = 15.730 MeV)				2.387 -12
	capture	130.0 -3	115.6 -3	6.555	1.012 -3	26.52 -3
	(n,p)	(E-threshold = 3.842 MeV)			4.786 -3	1.874 -6
	(n,d)	(E-threshold = 7.564 MeV)			31.67 -6	20.18 -9
	(n,t)	(E-threshold = 9.479 MeV)			2.762 -6	5.375 -9
	(n,a)	0.0	0.0	3.405 -3	5.081 -3	8.919 -6
42-Mo-100	total	5.499	5.477		4.340	5.665
	elastic	5.300	5.300		2.714	4.481
	inelastic	(E-threshold = 0.541 MeV)			95.34 -3	1.158
	(n,2n)	(E-threshold = 8.379 MeV)			1.526	2.840 -3
	(n,3n)	(E-threshold = 14.370 MeV)				7.505 -6
	(n,na)	(E-threshold = 3.198 MeV)			64.50 -6	17.24 -9
	(n,np)	(E-threshold = 11.250 MeV)			271.2 -9	4.406 -9
	(n,nd)	(E-threshold = 15.880 MeV)				1.061 -12
	capture	199.0 -3	177.0 -3	3.909	1.008 -3	20.96 -3
	(n,p)	(E-threshold = 5.502 MeV)			1.838 -3	424.8 -9
	(n,d)	(E-threshold = 8.916 MeV)			2.235 -6	7.352 -9
	(n,t)	(E-threshold = 9.630 MeV)			1.259 -6	3.269 -9
	(n,a)	0.0	0.0	1.629 -3	2.385 -3	1.159 -6
47-Ag- 0	total	68.81	61.95		4.295	5.714
	elastic	5.185	5.177		2.54[illegible]	4.026
	inelastic	(E-threshold = 0.089 MeV)			359.9 -3	1.585
	(n,2n)	(E-threshold = 9.277 MeV)			1.366	941.5 -6
	(n,3n)	(E-threshold = 16.610 MeV)				173.8 -9
	(n,na)	(E-threshold = 2.831 MeV)			561.9 -6	209.1 -9
	(n,np)	(E-threshold = 5.835 MeV)			5.688 -3	2.944 -6
	capture	63.62	56.77	762.5	66.57 -6	102.6 -3
	(n,p)	0.0	0.0	11.85 -3	14.[illegible]5 -3	302.3 -6
	(n,a)	0.0	0.0	2.884 -3	4.090 -3	10.46 -6
47-Ag-107	total	46.29	41.94		4.258	5.658
	elastic	7.668	7.660		2.514	3.990
	inelastic	(E-threshold = 0.094 MeV)			367.8 -3	1.559
	(n,2n)	(E-threshold = 9.637 MeV)			1.351	787.8 -6
	(n,3n)	(E-threshold = 17.640 MeV)				42.75 -9
	(n,na)	(E-threshold = 2.831 MeV)			623.8 -6	211.9 -9
	(n,np)	(E-threshold = 5.835 MeV)			6 100 -3	4.466 -6
	capture	38.62	34.28	103.2	78.43 -6	107.6 -3
	(n,p)	0.0	0.0	13.36 -3	14.74 -3	490.1 -6
	(n,a)	0.0	0.0	2.914 -3	4.215 -3	16.83 -6
47-Ag-109	total	93.04	83.40		4.335	5.775
	elastic	2.512	2.504		2.578	4.064
	inelastic	(E-threshold = 0.089 MeV)			351.5 -3	1.612
	(n,2n)	(E-threshold = 9.277 MeV)			1.382	1.107 -3
	(n,3n)	(E-threshold = 16.610 MeV)				314.9 -9
	(n,na)	(E-threshold = 3.322 MeV)			495.4 -6	206.1 -9
	(n,np)	(E-threshold = 6.548 MeV)			5.243 -3	1.306 -6
	capture	90.53	80.89	1472.	53.80 -6	97.12 -3
	(n,p)	(E-threshold = 0.337 MeV)			13.92 -3	100.0 -6
	(n,a)	35.56 -18	71.12 -18	2.851 -3	3.955 -3	3.598 -6
48-Cd- 0	total	2536.	3006.		4.480	5.762
	elastic	8.274	11.44		2.651	4.570
	inelastic	(E-threshold = 0.248 MeV)			278.1 -3	1.142
	(n,2n)	(E-threshold = 6.607 MeV)			1.525	2.892 -3
	(n,3n)	(E-threshold = 14.980 MeV)				1.508 -6

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
48-Cd- 0	(n,na)	(E-threshold = 1.643 MeV)			456.4 -6	132.6 -9
	(n,np)	(E-threshold = 7.420 MeV)			2.953 -3	585.6 -9
	(n,nd)	(E-threshold = 13.720 MeV)			0.0	26.75 -12
	capture	2528.	2994.	67.86	1.058 -3	46.65 -3
	(n,p)	0.0	0.0	15.30 -3	17.94 -3	85.16 -6
	(n,d)	(E-threshold = 5.088 MeV)			149.5 -6	46.11 -9
	(n,t)	(E-threshold = 7.474 MeV)			1.416 -6	3.195 -9
	(n,He-3)	(E-threshold = 4.631 MeV)			301.1 -12	3.352 -12
	(n,a)	0.0	0.0	3.409 -3	3.522 -3	83.14 -6
	(n,2p)	(E-threshold = 5.270 MeV)			600.7 -9	152.4 -12
51-Sb- 0	total	8.943	8.374		4.639	5.761
	elastic	3.722	3.721		2.843	4.468
	inelastic	(E-threshold = 0.037 MeV)			218.3 -3	1.197
	(n,2n)	(E-threshold = 9.044 MeV)			1.564	1.333 -3
	(n,3n)	(E-threshold = 15.910 MeV)				1.143 -6
	(n,na)	(E-threshold = 3.092 MeV)			49.92 -6	17.06 -9
	(n,np)	(E-threshold = 5.828 MeV)			1.899 -3	381.3 -9
	(n,nd)	(E-threshold = 12.690 MeV)			0.0	396.9 -12
	(n,nt)	(E-threshold = 12.990 MeV)			0.0	73.70 -12
	capture	5.221	4.654	175.1	1.008 -3	93.77 -3
	(n,p)	0.0	0.0	4.597 -3	6.674 -3	14.16 -6
	(n,d)	(E-threshold = 3.499 MeV)			739.5 -6	161.4 -9
	(n,t)	(E-threshold = 6.450 MeV)			27.53 -6	16.31 -9
	(n,a)	0.0	0.0	2.773 -3	3.013 -3	2.047 -6
51-Sb-121	total	9.582	8.936		4.639	5.519
	elastic	3.590	3.589		2.780	4.132
	inelastic	(E-threshold = 0.037 MeV)			237.1 -3	1.275
	(n,2n)	(E-threshold = 9.321 MeV)			1.605	1.135 -3
	(n,3n)	(E-threshold = 16.390 MeV)				836.0 -9
	(n,na)	(E-threshold = 3.092 MeV)			74.86 -6	23.41 -9
	(n,np)	(E-threshold = 5.828 MeV)			2.551 -3	520.9 -9
	(n,nd)	(E-threshold = 12.690 MeV)			0.0	533.2 -12
	(n,nt)	(E-threshold = 12.990 MeV)			0.0	77.66 -12
	capture	5.991	5.347	215.3	1.007 -3	108.9 -3
	(n,p)	0.0	0.0	5.824 -3	8.487 -3	20.71 -6
	(n,d)	(E-threshold = 3.499 MeV)			1.071 -3	222.1 -9
	(n,t)	(E-threshold = 6.450 MeV)			37.85 -6	18.65 -9
	(n,a)	0.0	0.0	3.216 -3	3.793 -3	3.053 -6
51-Sb-123	total	8.086	7.621		4.638	5.517
	elastic	3.899	3.898		2.928	4.341
	inelastic	(E-threshold = 0.162 MeV)			193.2 -3	1.093
	(n,2n)	(E-threshold = 9.044 MeV)			1.508	1.599 -3
	(n,3n)	(E-threshold = 15.910 MeV)				1.555 -6
	(n,na)	(E-threshold = 3.941 MeV)			16.46 -6	8.518 -9
	(n,np)	(E-threshold = 6.619 MeV)			1.023 -3	193.5 -9
	(n,nd)	(E-threshold = 13.180 MeV)			0.0	211.9 -12
	(n,nt)	(E-threshold = 13.170 MeV)			0.0	68.24 -12
	capture	4.187	3.724	123.3	1.009 -3	77.32 -3
	(n,p)	(E-threshold = 0.619 MeV)			4.240 -3	5.356 -6
	(n,d)	(E-threshold = 4.290 MeV)			294.1 -6	79.64 -9
	(n,t)	(E-threshold = 6.947 MeV)			13.69 -6	13.15 -9
	(n,a)	0.0	0.0	2.178 -3	1.966 -3	693.5 -9
63-Eu- 0	total	4606.	3698.		5.200	6.854
	elastic	5.248	4.942		2.870	4.700
	inelastic	(E-threshold = 0.022 MeV)			548.9 -3	1.839
	(n,2n)	(E-threshold = 8.035 MeV)			1.765	2.095 -3
	(n,3n)	(E-threshold = 14.510 MeV)				2.129 -6
	(n,na)	0.0	0.0	1.110 -3	765.5 -6	197.0 -9
	(n,np)	(E-threshold = 4.918 MeV)			2.307 -3	824.7 -9
	capture	4601.	3693.	2208.	1.006 -3	311.2 -3
	(n,p)	0.0	0.0	5.098 -3	6.555 -3	22.85 -6
	(n,a)	4.637 -6	3.736 -6	3.672 -3	5.219 -3	35.74 -6
63-Eu-151	total	9201.	7358.		5.200	6.839
	elastic	3.207	2.677		2.876	4.847
	inelastic	(E-threshold = 0.022 MeV)			592.3 -3	1.616
	(n,2n)	(E-threshold = 8.035 MeV)			1.710	2.593 -3
	(n,3n)	(E-threshold = 14.510 MeV)				3.314 -6
	(n,na)	0.0	0.0	1.856 -3	1.423 -3	381.3 -9
	(n,np)	(E-threshold = 4.918 MeV)			2.854 -3	1.140 -6
	capture	9198.	7355.	3072.	1.013 -3	370.3 -3

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
63-Eu-151	(n,p)	0.0	0.0	5.750 -3	7.479 -3	34.39 -6
	(n,a)	8.806 -6	7.044 -6	6.241 -3	8.881 -3	72.71 -6
63-Eu-153	total	399.2	346.7		5.200	6.868
	elastic	7.118	7.017		2.865	4.566
	inelastic	(E-threshold = 0.084 MeV)			509.2 -3	2.043
	(n,2n)	(E-threshold = 8.612 MeV)			1.815	1.639 -3
	(n,3n)	(E-threshold = 14.960 MeV)				1.045 -6
	(n,na)	0.0	0.0	427.8 -6	163.7 -6	28.25 -9
	(n,np)	(E-threshold = 5.926 MeV)			1.807 -3	536.3 -9
	capture	392.1	339.7	1418.	1.000 -3	257.0 -3
	(n,p)	(E-threshold = 0.021 MeV)			5.709 -3	12.28 -6
	(n,a)	818.7 -9	706.3 -9	1.316 -3	1.865 -3	1.857 -6
72-Hf- 0	total	114.9	104.6		5.455	7.125
	elastic	9.944	9.933		2.912	4.637
	inelastic	(E-threshold = 0.089 MeV)			774.3 -3	2.403
	(n,2n)	(E-threshold = 6.134 MeV)			1.767	8.424 -3
	(n,3n)	(E-threshold = 13.560 MeV)			1.037 -3	7.626 -6
	capture	105.0	94.65	1996.	1.522 -6	75.23 -3
	(n,p)	0.0	0.0	1.125 -3	995.3 -6	622.1 -9
	(n,a)	0.0	0.0	362.0 -6	417.6 -6	957.0 -9
72-Hf-174	total	576.4	503.2		5.334	7.088
	elastic	14.95	14.63		2.750	4.535
	inelastic	(E-threshold = 0.092 MeV)			692.5 -3	2.272
	(n,2n)	(E-threshold = 8.631 MeV)			1.892	2.605 -3
	(n,3n)	(E-threshold = 15.650 MeV)				1.450 -6
	capture	561.5	488.6	363.8	4.181 -6	274.3 -3
72-Hf-176	total	29.03	26.49		5.372	7.205
	elastic	5.542	5.533		2.758	4.735
	inelastic	(E-threshold = 0.089 MeV)			720.8 -3	2.370
	(n,2n)	(E-threshold = 8.135 MeV)			1.890	4.047 -3
	(n,3n)	(E-threshold = 15.030 MeV)				2.127 -6
	capture	23.48	20.96	894.1	421.7 -9	92.78 -3
	(n,p)	(E-threshold = 0.409 MeV)			1.921 -3	1.449 -6
	(n,a)	0.0	0.0	525.9 -6	610.5 -6	1.553 -6
72-Hf-177	total	373.7	339.1		5.382	7.050
	elastic	210.8 -3	235.8 -3		2.888	4.474
	inelastic	(E-threshold = 0.114 MeV)			444.9 -3	2.403
	(n,2n)	(E-threshold = 6.417 MeV)			2.046	12.54 -3
	(n,3n)	(E-threshold = 14.550 MeV)				4.475 -6
	capture	373.5	338.9	7214.	193.7 -9	159.1 -3
	(n,p)	0.0	0.0	2.050 -3	2.007 -3	1.630 -6
	(n,a)	0.0	0.0	801.9 -6	1.098 -3	3.611 -6
72-Hf-178	total	88.49	79.42		5.508	7.171
	elastic	4.461	4.432		3.082	4.687
	inelastic	(E-threshold = 0.094 MeV)			498.0 -3	2.419
	(n,2n)	(E-threshold = 7.669 MeV)			1.927	5.871 -3
	(n,3n)	(E-threshold = 14.090 MeV)				7.624 -6
	capture	84.03	74.99	1916.	733.6 -12	54.88 -3
	(n,p)	(E-threshold = 1.478 MeV)			678.9 -6	312.5 -9
	(n,a)	0.0	0.0	230.6 -6	229.8 -6	234.6 -9
72-Hf-179	total	49.55	44.70		5.404	7.070
	elastic	6.757	6.735		2.939	4.573
	inelastic	(E-threshold = 0.123 MeV)			389.7 -3	2.376
	(n,2n)	(E-threshold = 6.134 MeV)			2.071	16.99 -3
	(n,3n)	(E-threshold = 13.800 MeV)			1.706 -3	10.21 -6
	capture	42.79	37.97	523.0	75.16 -9	102.6 -3
	(n,p)	(E-threshold = 0.571 MeV)			1.518 -3	841.5 -9
	(n,a)	0.0	0.0	459.3 -6	547.6 -6	844.6 -9
72-Hf-180	total	34.23	32.78		5.485	7.380
	elastic	21.24	21.22		2.804	4.934
	inelastic	(E-threshold = 0.094 MeV)			1.321	2.405
	(n,2n)	(E-threshold = 7.429 MeV)			1.356	5.577 -3
	(n,3n)	(E-threshold = 13.560 MeV)			2.291 -3	9.139 -6
	capture	13.00	11.55	34.06	4.122 -6	32.53 -3
	(n,p)	(E-threshold = 2.528 MeV)			369.1 -6	123.4 -9
	(n,a)	0.0	0.0	170.7 -6	125.7 -6	71.79 -9

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
73-Ta-181	total	26.32	24.08		5.370	7.004
	elastic	5.650	5.642		2.991	4.613
	inelastic	(E-threshold = 0.006 MeV)			241.9 -3	2.295
	(n,2n)	(E-threshold = 7.686 MeV)			2.133	5.149 -3
	(n,3n)	(E-threshold = 14.300 MeV)				6.300 -6
	(n,np)	(E-threshold = 5.968 MeV)			163.1 -6	55.01 -9
	capture	20.67	18.44	660.4	205.5 -9	85.64 -3
	(n,p)	(E-threshold = 0.242 MeV)			3.723 -3	2.305 -6
	(n,a)	45.94 -6	47.65 -6	1.579	116.4 -6	3.588 -3
74-W - 0	total	23.22	21.22		5.208	6.750
	elastic	4.973	4.968		2.684	4.232
	inelastic	(E-threshold = 0.047 MeV)			530.6 -3	2.464
	(n,2n)	(E-threshold = 6.225 MeV)			1.990	7.010 -3
	(n,3n)	(E-threshold = 13.020 MeV)			0.0	8.526 -6
	(n,na)	0.0	0.0	168.2 -6	68.28 -6	23.68 -9
	(n,np)	(E-threshold = 7.124 MeV)			131.3 -6	47.64 -9
	capture	18.25	16.25	317.5	2.769 -6	45.26 -3
	(n,p)	(E-threshold = 0.287 MeV)			3.332 -3	4.455 -6
	(n,a)	0.0	0.0	404.7 -6	518.6 -6	1.226 -6
74-W -182	total	29.55	27.31		5.206	6.800
	elastic	8.844	8.830		2.664	4.363
	inelastic	(E-threshold = 0.101 MeV)			436.9 -3	2.367
	(n,2n)	(E-threshold = 8.099 MeV)			2.098	3.500 -3
	(n,3n)	(E-threshold = 14.780 MeV)				2.001 -6
	(n,na)	0.0	0.0	284.6 -6	148.9 -6	57.57 -9
	(n,np)	(E-threshold = 7.124 MeV)			57.71 -6	12.61 -9
	capture	20.71	18.48	628.6	741.8 -9	64.97 -3
	(n,p)	(E-threshold = 1.028 MeV)			6.100 -3	13.92 -6
	(n,a)	0.0	0.0	80.18 -6	137.4 -6	1.035 -6
74-W -183	total	12.49	11.39		5.215	6.820
	elastic	2.382	2.380		2.672	3.921
	inelastic	(E-threshold = 0.047 MeV)			588.0 -3	2.836
	(n,2n)	(E-threshold = 6.225 MeV)			1.949	14.63 -3
	(n,3n)	(E-threshold = 14.320 MeV)				5.412 -6
	(n,na)	0.0	0.0	210.4 -6	81.52 -6	24.41 -9
	(n,np)	(E-threshold = 7.253 MeV)			42.68 -6	10.13 -9
	capture	10.11	9.008	335.1	418.1 -9	48.55 -3
	(n,p)	(E-threshold = 0.287 MeV)			3.463 -3	3.002 -6
	(n,a)	0.0	0.0	1.181 -3	1.595 -3	5.098 -6
74-W -184	total	9.050	8.862		5.215	6.728
	elastic	7.353	7.352		2.689	4.257
	inelastic	(E-threshold = 0.112 MeV)			524.7 -3	2.428
	(n,2n)	(E-threshold = 7.452 MeV)			1.998	5.985 -3
	(n,3n)	(E-threshold = 13.680 MeV)			0.0	8.926 -6
	(n,na)	0.0	0.0	129.4 -6	42.37 -6	11.50 -9
	(n,np)	(E-threshold = 7.739 MeV)			290.9 -6	87.57 -9
	capture	1.698	1.510	16.23	648.3 -9	36.44 -3
	(n,p)	(E-threshold = 2.260 MeV)			2.145 -3	678.8 -9
	(n,a)	0.0	0.0	438.3 -6	546.0 -6	587.3 -9
74-W -186	total	38.03	33.87		5.224	6.721
	elastic	146.5 -3	143.1 -3		2.716	4.259
	inelastic	(E-threshold = 0.123 MeV)			596.7 -3	2.418
	(n,2n)	(E-threshold = 7.240 MeV)			1.910	7.560 -3
	(n,3n)	(E-threshold = 13.020 MeV)			0.0	15.69 -6
	(n,na)	0.0	0.0	82.47 -6	15.66 -6	5.335 -9
	(n,np)	(E-threshold = 8.429 MeV)			72.56 -6	56.02 -9
	capture	37.89	33.73	347.1	8.097 -6	35.08 -3
	(n,p)	(E-threshold = 3.129 MeV)			2.007 -3	552.6 -9
	(n,a)	0.0	0.0	280.6 -6	304.0 -6	157.8 -9
82-Pb- 0	total	11.43	11.42		5.419	6.287
	elastic	11.25	11.26		2.728	5.617
	inelastic	(E-threshold = [illegible].574 MeV)			507.4 -3	663.0 -3
	(n,2n)	(E-threshold = 6.774 MeV)			2.181	5.353 -3
	(n,3n)	(E-threshold = 14.180 MeV)				2.180 -6
	(n,na)	0.0	0.0	89.25 -6	7.506 -6	3.338 -9
	(n,np)	(E-threshold = 6.670 MeV)			30.69 -6	21.78 -9
	capture	172.0 -3	153.0 -3	137.8 -3	577.1 -6	2.143 -3
	(n,p)	0.0	0.0	1.402 -3	755.9 -6	564.3 -9
	(n,a)	0.0	9.767 -33	2.369 -3	821.9 -6	451.8 -9

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
82-Pb-204	total	11.86	11.79		5.337	6.499
	elastic	11.20	11.20		2.987	5.512
	inelastic	(E-threshold = 0.904 MeV)			223.3 -3	982.7 -3
	(n,2n)	(E-threshold = 8.442 MeV)			2.126	2.715 -3
	(n,3n)	(E-threshold = 15.260 MeV)				592.7 -9
	(n,na)	0.0	0.0	59.59 -6	4.900 -6	2.136 -9
	(n,np)	(E-threshold = 6.670 MeV)			35.00 -6	8.024 -9
	capture	660.6 -3	587.8 -3	1.862	8.149 -6	19.19 -3
	(n,p)	0.0	0.0	188.8 -6	290.0 -6	576.1 -9
	(n,a)	0.0	0.0	155.6 -6	159.0 -6	225.0 -9
82-Pb-206	total	10.49	10.49		5.348	6.311
	elastic	10.46	10.46		2.626	5.216
	inelastic	(E-threshold = 0.807 MeV)			546.7 -3	1.090
	(n,2n)	(E-threshold = 8.120 MeV)			2.174	3.815 -3
	(n,3n)	(E-threshold = 14.890 MeV)				235.4 -9
	(n,na)	0.0	0.0	41.02 -6	2.880 -6	2.949 -9
	(n,np)	(E-threshold = 7.291 MeV)			10.69 -6	5.792 -9
	capture	30.60 -3	27.22 -3	96.08 -3	2.179 -6	897.2 -6
	(n,p)	(E-threshold = 0.754 MeV)			1.549 -3	1.553 -6
	(n,a)	0.0	18.90 -33	748.0 -6	370.5 -6	391.1 -9
82-Pb-207	total	12.16	12.09		5.354	6.362
	elastic	11.45	11.45		3.009	5.332
	inelastic	(E-threshold = 0.574 MeV)			266.8 -3	1.021
	(n,2n)	(E-threshold = 6.774 MeV)			2.076	7.395 -3
	(n,3n)	(E-threshold = 14.890 MeV)				2.860 -6
	(n,na)	0.0	0.0	35.84 -6	3.824 -6	1.438 -9
	(n,np)	(E-threshold = 7.528 MeV)			8.669 -6	4.663 -9
	capture	712.0 -3	633.2 -3	375.1 -3	585.8 -9	1.042 -3
	(n,p)	(E-threshold = 0.653 MeV)			1.210 -3	793.7 -9
	(n,a)	0.0	23.56 -33	1.149 -3	754.1 -6	484.9 -9
82-Pb-208	total	11.23	11.23		5.360	6.200
	elastic	11.23	11.23		2.633	5.871
	inelastic	(E-threshold = 2.627 MeV)			598.4 -3	321.9 -3
	(n,2n)	(E-threshold = 7.404 MeV)			2.127	4.973 -3
	(n,3n)	(E-threshold = 14.180 MeV)				2.499 -6
	(n,na)	0.0	0.0	128.4 -6	10.73 -6	4.120 -9
	(n,np)	(E-threshold = 8.057 MeV)			26.50 -6	35.85 -9
	capture	421.6 -6	375.0 -6	7.166 -3	1.100 -3	1.678 -3
	(n,p)	(E-threshold = 4.232 MeV)			266.0 -6	76.22 -9
	(n,a)	0.0	0.0	3.292 -3	949.2 -6	401.1 -9
83-Bi-209	total	9.331	9.328		5.370	6.498
	elastic	9.298	9.297		2.805	5.805
	inelastic	(E-threshold = 0.901 MeV)			361.1 -3	683.8 -3
	(n,2n)	(E-threshold = 7.497 MeV)			2.201	4.502 -3
	(n,3n)	(E-threshold = 14.420 MeV)				3.776 -6
	(n,na)	0.0	0.0	71.72 -6	21.19 -6	44.03 -9
	(n,np)	(E-threshold = 3.817 MeV)			119.1 -6	43.14 -9
	capture	33.84 -3	30.10 -3	207.2 -3	1.000 -3	4.696 -3
	(n,p)	0.0	0.0	721.4 -6	683.6 -6	309.2 -9
	(n,d)	(E-threshold = 1.581 MeV)			527.2 -6	246.8 -9
	(n,a)	0.0	0.0	418.3 -6	479.2 -6	1.035 -6
88-Ra-223	total	143.1	128.8		6.181	7.542
	elastic	12.40	12.40		3.122	5.215
	inelastic	(E-threshold = 0.050 MeV)			591.1 -3	2.155
	(n,2n)	(E-threshold = 5.172 MeV)			1.381	67.55 -3
	(n,3n)	(E-threshold = 11.920 MeV)			1.032	137.0 -6
	fission	700.0 -3	620.4 -3	1.062	55.70 -3	55.70 -3
	(n,4n)	(E-threshold = 17.320 MeV)				257.6 -9
	capture	130.0	115.2	435.4	3.735 -6	45.24 -3
88-Ra-224	total	24.50	23.22		6.136	7.536
	elastic	12.50	12.50		3.125	5.476
	inelastic	(E-threshold = 0.085 MeV)			590.4 -3	2.001
	(n,2n)	(E-threshold = 6.523 MeV)			1.083	24.72 -3
	(n,3n)	(E-threshold = 11.690 MeV)			1.338	181.1 -6
	(n,4n)	(E-threshold = 18.440 MeV)				25.47 -9
	capture	12.00	10.63	28.98	2.743 -6	31.16 -3
88-Ra-225	total	112.4	101.3		6.146	7.558
	elastic	12.40	12.40		3.128	5.243

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
88-Ra-225	inelastic	(E-threshold = 0.026 MeV)			589.3 -3	2.176
	(n,2n)	(E-threshold = 4.919 MeV)			934.3 -3	85.43 -3
	(n,3n)	(E-threshold = 11.440 MeV)			1.495	215.4 -6
	(n,4n)	(E-threshold = 16.610 MeV)				668.4 -9
	capture	100.0	88.58	593.1	1.568 -6	49.34 -3
88-Ra-226	total	22.58	21.89		6.157	7.554
	elastic	9.801	9.784		3.131	5.480
	inelastic	(E-threshold = 0.068 MeV)			588.4 -3	1.936
	(n,2n)	(E-threshold = 6.422 MeV)			755.7 -3	26.69 -3
	(n,3n)	(E-threshold = 11.340 MeV)			1.670	253.8 -6
	fission	50.00 -6	44.49 -6	11.73 -3	11.50 -3	290.8 -6
	(n,4n)	(E-threshold = 17.860 MeV)				142.8 -9
	capture	12.78	12.11	285.7	31.97 -6	108.5 -3
89-Ac-225	total	1012.	902.0		6.146	7.555
	elastic	12.40	12.40		3.128	5.205
	inelastic	(E-threshold = 0.040 MeV)			589.5 -3	2.155
	(n,2n)	(E-threshold = 6.695 MeV)			1.800	21.46 -3
	(n,3n)	(E-threshold = 12.400 MeV)			629.1 -3	87.86 -6
	(n,4n)	(E-threshold = 19.290 MeV)				179.3 -12
	capture	1000.	886.2	1588.	3.750 -6	166.0 -3
89-Ac-226	total	112.4	101.3		5.614	7.555
	elastic	12.40	12.40		3.172	5.185
	inelastic	(E-threshold = 0.291 MeV)			5.025 -3	2.141
	(n,2n)	(E-threshold = 5.421 MeV)			1.576	52.55 -3
	(n,3n)	(E-threshold = 12.120 MeV)			861.4 -3	113.7 -6
	(n,4n)	(E-threshold = 17.820 MeV)				128.2 -9
	capture	100.0	88.63	1681.	5.705 -9	166.6 -3
89-Ac-227	total	902.4	926.9		6.167	7.601
	elastic	12.40	12.40		3.134	5.274
	inelastic	(E-threshold = 0.028 MeV)			587.2 -3	2.284
	(n,2n)	(E-threshold = 6.552 MeV)			1.311	23.42 -3
	(n,3n)	(E-threshold = 11.970 MeV)			1.011	161.9 -6
	fission	290.0 -6	257.0 -6	137.8 -3	124.0 -3	12.80 -3
	(n,4n)	(E-threshold = 18.670 MeV)				9.562 -9
	capture	890.0	911.1	1654.	1.389 -9	3.484 -3
90-Th-227	total	1749.	1558.		5.621	7.573
	elastic	12.40	12.40		3.170	5.201
	inelastic	(E-threshold = 0.025 MeV)			5.018 -3	1.653
	(n,2n)	(E-threshold = 5.479 MeV)			330.0 -3	38.45 -3
	(n,3n)	(E-threshold = 12.700 MeV)			65.61 -3	16.10 -6
	fission	202.0	179.0	209.5	2.050	479.8 -3
	(n,4n)	(E-threshold = 18.480 MeV)				6.945 -9
	capture	1535.	1360.	1417.	49.92 -9	192.0 -3
90-Th-228	total	133.0	120.0		5.628	7.562
	elastic	12.81	12.78		3.169	5.432
	inelastic	(E-threshold = 0.058 MeV)			4.136 -3	1.936
	(n,2n)	(E-threshold = 7.151 MeV)			1.637	7.688 -3
	(n,3n)	(E-threshold = 12.630 MeV)			269.0 -3	43.14 -6
	fission	300.0 -3	266.9 -3	1.024	549.0 -3	105.9 -3
	capture	119.9	107.0	1169.	240.3 -12	79.47 -3
90-Th-229	total	104.1	96.51		6.189	7.604
	elastic	9.938	9.882		3.141	5.127
	inelastic	(E-threshold = 0.000 MeV)			584.7 -3	1.738
	(n,2n)	(E-threshold = 5.272 MeV)			302.5 -3	48.79 -3
	(n,3n)	(E-threshold = 12.420 MeV)			110.2 -3	20.66 -6
	fission	30.81	27.87	444.1	2.050	479.8 -3
	(n,4n)	(E-threshold = 17.900 MeV)				41.69 -9
	capture	63.34	58.76	1237.	7.848 -6	204.5 -3
90-Th-230	total	32.32	30.13		5.644	7.603
	elastic	9.774	9.750		3.167	5.432
	inelastic	(E-threshold = 0.054 MeV)			10.45 -3	1.907
	(n,2n)	(E-threshold = 6.821 MeV)			1.340	10.66 -3
	(n,3n)	(E-threshold = 12.090 MeV)			529.0 -3	68.64 -6
	fission	0.0	0.0	1.077	597.0 -3	163.1 -3
	capture	22.55	20.38	1040.	16.16 -9	88.51 -3
90-Th-232	total	21.11	20.25		5.740	7.633

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
90-Th-232	elastic	13.70	13.69		2.683	4.578
	inelastic	(E-threshold = 0.049 MeV)			726.0 -3	2.875
	(n,2n)	(E-threshold = 6.465 MeV)			1.181	14.46 -3
	(n,3n)	(E-threshold = 11.610 MeV)			800.0 -3	113.6 -6
	fission	0.0	0.0	636.2 -3	350.0 -3	78.48 -3
	capture	7.400	6.553	84.40	0.0	85.68 -3
90-Th-233	total	1478.	1312.		5.670	7.617
	elastic	13.00	13.00		3.167	5.296
	inelastic	(E-threshold = 0.017 MeV)			15.80 -3	2.054
	(n,2n)	(E-threshold = 4.807 MeV)			1.160	66.75 -3
	(n,3n)	(E-threshold = 11.270 MeV)			917.0 -3	150.8 -6
	fission	15.00	13.34	11.08	410.0 -3	109.8 -3
	capture	1450.	1285.	642.8	6.071 -9	86.89 -3
90-Th-234	total	14.75	14.59		5.680	7.647
	elastic	13.00	13.00		3.168	5.497
	inelastic	(E-threshold = 0.048 MeV)			39.56 -3	1.989
	(n,2n)	(E-threshold = 6.219 MeV)			1.040	21.69 -3
	(n,3n)	(E-threshold = 11.030 MeV)			1.282	228.7 -6
	fission	0.0	0.0	260.3 -3	150.0 -3	36.89 -3
	capture	1.750	1.551	93.68	154.1 -9	100.9 -3
91-Pa-231	total	210.7	189.7		5.746	7.516
	elastic	9.954	9.813		2.556	4.164
	inelastic	(E-threshold = 0.009 MeV)			252.0 -3	2.231
	(n,2n)	(E-threshold = 6.844 MeV)			724.0 -3	5.849 -3
	(n,3n)	(E-threshold = 12.660 MeV)			134.0 -3	21.01 -6
	fission	19.66 -3	17.04 -3	4.605	2.080	833.7 -3
	capture	200.7	179.8	596.0	0.0	273.6 -3
91-Pa-232	total	1176.	1030.		5.660	7.667
	elastic	12.23	12.23		3.167	5.085
	inelastic	(E-threshold = 0.050 MeV)			4.998 -3	1.387
	(n,2n)	(E-threshold = 5.585 MeV)			841.2 -3	26.31 -3
	(n,3n)	(E-threshold = 12.430 MeV)			266.0 -3	40.08 -6
	fission	700.0	620.3	313.4	1.381	1.096
	(n,4n)	(E-threshold = 18.250 MeV)				11.04 -9
	capture	464.0	394.9	308.7	5.597 -9	71.66 -3
91-Pa-233	total	53.05	47.85		5.761	7.553
	elastic	13.02	12.99		2.557	4.211
	inelastic	(E-threshold = 0.007 MeV)			344.0 -3	2.712
	(n,2n)	(E-threshold = 6.547 MeV)			1.451	11.38 -3
	(n,3n)	(E-threshold = 12.130 MeV)			451.0 -3	68.72 -6
	fission	0.0	0.0	2.114	958.0 -3	325.0 -3
	capture	40.03	34.86	864.4	0.0	284.5 -3
92-U -232	total	162.3	142.0		5.774	7.638
	elastic	10.79	10.74		3.230	5.082
	inelastic	(E-threshold = 0.048 MeV)			19.42 -3	509.2 -3
	(n,2n)	(E-threshold = 7.286 MeV)			150.0 -3	484.1 -6
	(n,3n)	(E-threshold = 13.210 MeV)			5.000 -3	562.0 -9
	fission	76.66	66.63	364.1	2.370	2.013
	capture	74.88	64.60	173.0	0.0	28.47 -3
92-U -233	total	587.9	525.0		5.925	7.667
	elastic	12.70	12.66		2.894	4.350
	inelastic	(E-threshold = 0.041 MeV)			466.1 -3	1.304
	(n,2n)	(E-threshold = 5.779 MeV)			199.5 -3	1.796 -3
	(n,3n)	(E-threshold = 13.060 MeV)			17.70 -3	3.335 -6
	fission	529.9	470.8	772.2	2.348	1.945
	capture	45.30	41.43	138.5	887.8 -9	65.54 -3
92-U -234	total	119.2	107.0		5.720	7.694
	elastic	19.41	19.24		2.733	4.715
	inelastic	(E-threshold = 0.044 MeV)			320.2 -3	1.533
	(n,2n)	(E-threshold = 6.873 MeV)			473.0 -3	4.811 -3
	(n,3n)	(E-threshold = 12.650 MeV)			127.0 -3	14.54 -6
	fission	6.218 -3	5.551 -3	6.718	2.067	1.223
	capture	99.75	87.79	631.7	25.75 -6	217.7 -3
92-U -235	total	694.6	604.5		5.862	7.704
	elastic	14.64	14.26		2.839	4.565
	inelastic	(E-threshold = 0.000 MeV)			350.3 -3	1.804

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
92-U -235	(n,2n)	(E-threshold = 5.321 MeV)			542.9 -3	11.56 -3
	(n,3n)	(E-threshold = 12.190 MeV)			41.79 -3	7.074 -6
	fission	584.0	503.2	274.9	2.088	1.235
	(n,4n)	(E-threshold = 17.970 MeV)				8.408 -9
	capture	96.00	84.95	152.4	160.7 -9	89.27 -3
92-U -236	total	13.69	13.10		5.753	7.734
	elastic	8.337	8.331		2.757	4.768
	inelastic	(E-threshold = 0.045 MeV)			326.0 -3	2.256
	(n,2n)	(E-threshold = 6.578 MeV)			487.3 -3	7.645 -3
	(n,3n)	(E-threshold = 11.900 MeV)			522.9 -3	66.34 -6
	fission	61.29 -3	54.61 -3	7.767	1.659	594.1 -3
	capture	5.295	4.717	345.9	366.6 -9	107.6 -3
92-U -238	total	11.82	11.53		5.740	7.793
	elastic	9.139	9.135		2.714	4.760
	inelastic	(E-threshold = 0.045 MeV)			627.8 -3	2.645
	(n,2n)	(E-threshold = 6.179 MeV)			910.0 -3	12.07 -3
	(n,3n)	(E-threshold = 11.330 MeV)			350.0 -3	60.54 -6
	fission	11.00 -6	9.809 -6	2.020	1.136	308.4 -3
	capture	2.681	2.390	279.0	1.943 -3	66.32 -3
93-Np-237	total	208.5	185.3		5.539	7.797
	elastic	27.52	27.19		2.606	4.965
	inelastic	(E-threshold = 0.033 MeV)			105.6 -3	1.321
	(n,2n)	(E-threshold = 6.657 MeV)			492.5 -3	3.120 -3
	(n,3n)	(E-threshold = 12.370 MeV)			87.93 -3	14.05 -6
	fission	19.21 -3	16.68 -3	6.360	2.247	1.334
	capture	181.0	158.1	662.6	228.6 -9	173.3 -3
93-Np-239	total	47.50	43.42		5.523	7.808
	elastic	10.50	10.50		2.640	4.696
	inelastic	(E-threshold = 0.031 MeV)			73.67 -3	1.453
	(n,2n)	(E-threshold = 6.253 MeV)			143.0 -3	3.666 -3
	(n,3n)	(E-threshold = 11.750 MeV)			246.3 -3	36.09 -6
	fission	0.0	0.0	7.062	2.420	1.458
	capture	37.00	32.79	445.0	10.00 -6	194.1 -3
94-Pu-236	total	331.1	288.9		6.515	8.451
	elastic	16.34	16.16		3.426	5.801
	inelastic	(E-threshold = 0.045 MeV)			93.93 -6	418.2 -3
	(n,2n)	(E-threshold = 7.393 MeV)			17.37 -3	317.5 -6
	(n,3n)	(E-threshold = 13.660 MeV)			704.0 -6	278.9 -9
	fission	169.4	146.7	58.84	3.071	2.080
	capture	145.4	126.0	401.0	4.023 -6	149.7 -3
94-Pu-238	total	586.7	502.7		6.876	8.828
	elastic	28.53	27.83		3.584	6.012
	inelastic	(E-threshold = 0.044 MeV)			1.155 -3	716.6 -3
	(n,2n)	(E-threshold = 7.028 MeV)			514.7 -3	3.669 -3
	(n,3n)	(E-threshold = 12.930 MeV)			54.45 -3	13.71 -6
	fission	17.89	15.23	32.70	2.722	1.994
	capture	540.3	459.7	153.7	5.861 -9	99.27 -3
94-Pu-239	total	1026.	983.0		5.990	7.712
	elastic	8.831	8.644		2.984	4.394
	inelastic	(E-threshold = 0.008 MeV)			366.3 -3	1.460
	(n,2n)	(E-threshold = 5.680 MeV)			290.1 -3	4.045 -3
	(n,3n)	(E-threshold = 12.710 MeV)			11.50 -3	2.762 -6
	fission	746.7	699.6	299.1	2.338	1.800
	(n,4n)	(E-threshold = 18.590 MeV)				176.2 -12
	capture	270.0	274.7	185.2	7.930 -9	52.94 -3
94-Pu-240	total	291.1	266.1		5.890	7.723
	elastic	1.644	1.528		2.716	4.319
	inelastic	(E-threshold = 0.043 MeV)			432.6 -3	1.950
	(n,2n)	(E-threshold = 6.561 MeV)			373.1 -3	3.547 -3
	(n,3n)	(E-threshold = 12.230 MeV)			113.5 -3	14.86 -6
	fission	58.77 -3	53.60 -3	8.938	2.254	1.357
	(n,4n)	(E-threshold = 19.260 MeV)				6.280 -9
	capture	289.4	264.6	8110.	800.0 -6	93.27 -3
94-Pu-241	total	1388.	1286.		5.799	7.839
	elastic	10.23	9.935		3.290	5.167
	inelastic	(E-threshold = 0.042 MeV)			2.002 -3	884.0 -3

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
94-Pu-241	(n,2n)	(E-threshold = 5.262 MeV)			114.3 -3	21.37 -3
	(n,3n)	(E-threshold = 11.820 MeV)			95.00 -3	18.00 -6
	fission	1015.	947.7	590.4	2.298	1.648
	(n,4n)	(E-threshold = 17.500 MeV)				22.74 -9
	capture	363.0	327.9	186.8	105.0 -9	118.2 -3
94-Pu-242	total	27.11	25.17		5.949	7.932
	elastic	8.320	8.298		2.921	4.810
	inelastic	(E-threshold = 0.043 MeV)			279.0 -3	1.900
	(n,2n)	(E-threshold = 6.336 MeV)			433.3 -3	6.667 -3
	(n,3n)	(E-threshold = 11.600 MeV)			289.2 -3	43.45 -6
	fission	2.557 -3	2.286 -3	5.577	2.027	1.127
	(n,4n)	(E-threshold = 18.160 MeV)				133.1 -9
	capture	18.79	16.87	1131.	800.0 -6	87.85 -3
95-Am-241	total	614.6	547.5		5.741	7.783
	elastic	11.13	10.72		2.722	4.833
	inelastic	(E-threshold = 0.041 MeV)			49.94 -3	1.340
	(n,2n)	(E-threshold = 6.610 MeV)			262.4 -3	620.4 -6
	(n,3n)	(E-threshold = 12.650 MeV)			46.74 -3	10.02 -6
	fission	3.018	2.721	13.87	2.660	1.378
	capture	600.4	534.0	1307.	229.9 -9	229.5 -3
95-Am-242	total	7611.	6747.		5.906	7.758
	elastic	11.44	11.44		2.807	4.561
	inelastic	(E-threshold = 0.044 MeV)			402.3 -3	1.228
	(n,2n)	(E-threshold = 5.515 MeV)			130.8 -3	4.387 -3
	(n,3n)	(E-threshold = 12.120 MeV)			139.0 -3	17.94 -6
	fission	2100.	1861.	1258.	2.427	1.756
	capture	5500.	4872.	390.5	4.487 -6	206.6 -3
95-Am-242M	total	7669.	7487.		5.909	7.758
	elastic	5.667	6.297		2.807	4.528
	inelastic	0.0	0.0	4.709	282.3 -3	1.271
	(n,2n)	(E-threshold = 5.515 MeV)			130.8 -3	4.387 -3
	(n,3n)	(E-threshold = 12.120 MeV)			139.0 -3	17.94 -6
	fission	6409.	6252.	1561.	2.550	1.838
	capture	1254.	1229.	246.1	866.3 -9	116.3 -3
95-Am-243	total	86.10	78.21		5.759	7.853
	elastic	7.483	7.432		2.728	4.824
	inelastic	(E-threshold = 0.042 MeV)			308.5 -3	1.754
	(n,2n)	(E-threshold = 6.391 MeV)			360.5 -3	3.728 -3
	(n,3n)	(E-threshold = 11.950 MeV)			221.1 -3	33.16 -6
	fission	116.1 -3	103.6 -3	7.586	2.141	1.080
	(n,4n)	(E-threshold = 18.570 MeV)				2.068 -9
	capture	78.50	70.68	1825.	230.7 -9	189.3 -3
95-Am-244	total	2912.	2652.		5.925	7.802
	elastic	11.62	11.62		2.811	4.539
	inelastic	(E-threshold = 0.088 MeV)			9.355 -3	1.150
	(n,2n)	(E-threshold = 5.385 MeV)			338.0 -3	23.99 -3
	(n,3n)	(E-threshold = 11.780 MeV)			340.0 -3	47.20 -6
	fission	2300.	2096.	1258.	2.427	1.756
	(n,4n)	(E-threshold = 17.340 MeV)				66.74 -9
	capture	600.0	543.6	315.7	177.5 -9	331.1 -3
95-Am-244M	total	2012.	1964.		5.925	7.801
	elastic	11.62	11.62		2.811	4.503
	inelastic	0.0	0.0	3.731	9.354 -3	1.150
	(n,2n)	(E-threshold = 5.385 MeV)			338.0 -3	23.99 -3
	(n,3n)	(E-threshold = 11.780 MeV)			340.0 -3	47.20 -6
	fission	1600.	1561.	1258.	2.427	1.756
	(n,4n)	(E-threshold = 17.340 MeV)				66.74 -9
	capture	400.0	390.7	315.5	1.127 -6	366.9 -3
96-Cm-241	total	851.9	757.7		5.837	7.634
	elastic	11.90	11.90		2.818	4.674
	inelastic	(E-threshold = 0.053 MeV)			1.017 -3	963.2 -3
	(n,2n)	(E-threshold = 6.113 MeV)			516.0 -3	11.58 -3
	(n,3n)	(E-threshold = 13.590 MeV)			2.230 -3	7.504 -6
	fission	700.0	620.2	968.6	2.500	1.942
	capture	140.0	124.1	160.2	244.5 -12	41.16 -3
96-Cm-242	total	32.57	30.13		5.750	7.816

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
96-Cm-242	elastic	11.61	11.60		2.725	4.914
	inelastic	(E-threshold = 0.042 MeV)			9.919 -3	983.5 -3
	(n,2n)	(E-threshold = 6.995 MeV)			101.0 -3	1.727 -3
	(n,3n)	(E-threshold = 13.110 MeV)			7.389 -3	4.660 -6
	fission	5.064	4.486	19.95	2.907	1.844
	capture	15.90	14.05	108.6	53.43 -9	71.62 -3
96-Cm-243	total	757.5	674.6		5.939	7.653
	elastic	9.926	9.816		2.912	4.744
	inelastic	(E-threshold = 0.042 MeV)			1.012 -3	857.2 -3
	(n,2n)	(E-threshold = 5.719 MeV)			450.9 -3	15.68 -3
	(n,3n)	(E-threshold = 12.710 MeV)			75.30 -3	15.12 -6
	fission	617.4	551.2	1564.	2.500	1.942
	(n,4n)	(E-threshold = 18.830 MeV)				1.253 -9
	capture	130.2	113.6	198.8	13.38 -9	92.90 -3
96-Cm-244	total	27.20	25.35		5.769	7.885
	elastic	11.06	11.05		2.731	5.068
	inelastic	(E-threshold = 0.043 MeV)			1.015 -3	1.103
	(n,2n)	(E-threshold = 6.828 MeV)			310.3 -3	4.616 -3
	(n,3n)	(E-threshold = 12.550 MeV)			90.62 -3	16.15 -6
	fission	1.037	909.2 -3	13.22	2.636	1.565
	capture	15.10	13.39	660.7	82.55 -9	143.1 -3
96-Cm-245	total	2359.	1980.		5.814	7.810
	elastic	11.59	11.50		2.772	4.699
	inelastic	(E-threshold = 0.055 MeV)			973.4 -6	1.291
	(n,2n)	(E-threshold = 5.543 MeV)			359.5 -3	17.92 -3
	(n,3n)	(E-threshold = 12.370 MeV)			141.4 -3	20.44 -6
	fission	2001.	1680.	800.7	2.540	1.735
	(n,4n)	(E-threshold = 18.090 MeV)				9.381 -9
	capture	346.4	288.4	110.1	254.4 -12	65.13 -3
96-Cm-246	total	12.51	12.36		5.806	7.957
	elastic	11.08	11.08		2.755	5.238
	inelastic	(E-threshold = 0.043 MeV)			239.9 -6	1.423
	(n,2n)	(E-threshold = 6.483 MeV)			385.4 -3	5.052 -3
	(n,3n)	(E-threshold = 12.030 MeV)			245.1 -3	34.56 -6
	fission	140.1 -3	124.8 -3	9.901	2.420	1.229
	(n,4n)	(E-threshold = 18.850 MeV)				1.067 -9
	capture	1.291	1.154	113.0	232.0 -12	57.82 -3
96-Cm-247	total	147.8	130.1		5.797	8.003
	elastic	8.775	8.731		2.740	4.831
	inelastic	(E-threshold = 0.062 MeV)			846.0 -6	1.174
	(n,2n)	(E-threshold = 5.179 MeV)			241.3 -3	13.24 -3
	(n,3n)	(E-threshold = 11.660 MeV)			274.8 -3	38.82 -6
	fission	81.79	71.03	612.1	2.540	1.908
	(n,4n)	(E-threshold = 17.200 MeV)				64.32 -9
	capture	57.20	50.38	535.0	14.82 -9	74.21 -3
96-Cm-248	total	9.455	9.133		5.826	8.033
	elastic	6.514	6.512		2.762	5.313
	inelastic	(E-threshold = 0.044 MeV)			109.6 -6	1.403
	(n,2n)	(E-threshold = 6.238 MeV)			147.9 -3	8.202 -3
	(n,3n)	(E-threshold = 11.420 MeV)			235.6 -3	36.75 -6
	fission	370.0 -3	329.4 -3	17.52	2.680	1.253
	(n,4n)	(E-threshold = 17.900 MeV)				6.733 -9
	capture	2.570	2.292	260.2	1.047 -9	53.87 -3
96-Cm-249	total	13.22	12.99		5.836	8.084
	elastic	10.80	10.80		2.766	4.811
	inelastic	(E-threshold = 0.026 MeV)			92.78 -6	988.0 -3
	(n,2n)	(E-threshold = 4.732 MeV)			189.5 -3	28.54 -3
	(n,3n)	(E-threshold = 10.970 MeV)			480.5 -3	90.57 -6
	fission	820.0 -3	726.8 -3	139.2	2.400	2.225
	(n,4n)	(E-threshold = 16.150 MeV)				239.2 -9
	capture	1.600	1.418	214.8	220.3 -12	28.00 -3
96-Cm-250	total	11.20	11.21		5.864	8.106
	elastic	10.80	10.80		2.788	5.304
	inelastic	(E-threshold = 0.043 MeV)			4.937 -3	1.520
	(n,2n)	(E-threshold = 5.857 MeV)			62.47 -3	12.04 -3
	(n,3n)	(E-threshold = 10.590 MeV)			329.1 -3	94.03 -6
	fission	2.000 -3	1.772 -3	6.857	2.680	1.253

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
96-Cm-250	(n,4n)	(E-threshold = 16.830 MeV)				55.35 -9
	capture	400.0 -3	354.5 -3	8.226	6.106 -9	12.77 -3
97-Bk-249	total	717.5	953.5		5.817	8.071
	elastic	3.929	4.117		2.747	5.020
	inelastic	(E-threshold = 0.009 MeV)			165.6 -6	1.919
	(n,2n)	(E-threshold = 6.239 MeV)			228.0 -3	4.024 -3
	(n,3n)	(E-threshold = 11.830 MeV)			172.0 -3	28.46 -6
	fission	3.963	5.268	12.07	2.670	969.5 -3
	(n,4n)	(E-threshold = 18.460 MeV)				3.979 -9
	capture	709.6	944.1	1126.	2.298 -9	154.5 -3
97-Bk-250	total	1325.	1115.		5.827	8.108
	elastic	12.22	11.95		2.751	4.792
	inelastic	(E-threshold = 0.034 MeV)			9.955 -3	1.216
	(n,2n)	(E-threshold = 4.990 MeV)			300.9 -3	26.57 -3
	(n,3n)	(E-threshold = 11.230 MeV)			682.5 -3	108.2 -6
	fission	959.3	806.2	517.0	2.083	2.041
	(n,4n)	(E-threshold = 16.820 MeV)				196.5 -9
	capture	353.4	297.0	199.4	8.029 -9	31.05 -3
98-Cf-249	total	2177.	1876.		5.817	8.081
	elastic	6.221	5.986		2.747	4.952
	inelastic	(E-threshold = 0.063 MeV)			65.64 -6	1.249
	(n,2n)	(E-threshold = 5.616 MeV)			662.0 -3	14.19 -3
	(n,3n)	(E-threshold = 12.620 MeV)			118.0 -3	24.69 -6
	fission	1666.	1435.	2220.	2.290	1.741
	(n,4n)	(E-threshold = 18.660 MeV)				3.046 -9
	capture	504.5	435.0	694.9	328.2 -12	120.8 -3
98-Cf-250	total	1951.	1743.		5.827	8.107
	elastic	167.4	163.3		2.751	5.219
	inelastic	(E-threshold = 0.043 MeV)			9.554 -3	891.1 -3
	(n,2n)	(E-threshold = 6.650 MeV)			224.9 -3	1.700 -3
	(n,3n)	(E-threshold = 12.270 MeV)			131.7 -3	15.47 -6
	fission	4.090	3.623	27.84	2.710	1.895
	capture	1779.	1576.	8423.	496.6 -9	97.10 -3
98-Cf-251	total	7889.	6737.		5.838	8.147
	elastic	76.04	70.12		2.754	4.813
	inelastic	(E-threshold = 0.025 MeV)			10.20 -3	862.9 -3
	(n,2n)	(E-threshold = 5.132 MeV)			268.1 -3	12.34 -3
	(n,3n)	(E-threshold = 11.780 MeV)			325.2 -3	44.33 -6
	fission	4935.	4211.	2776.	2.480	2.430
	(n,4n)	(E-threshold = 17.400 MeV)				59.29 -9
	capture	2878.	2455.	1605.	11.11 -9	27.44 -3
98-Cf-252	total	64.77	58.62		5.848	8.184
	elastic	11.04	11.02		2.758	5.143
	inelastic	(E-threshold = 0.046 MeV)			10.29 -3	731.5 -3
	(n,2n)	(E-threshold = 6.195 MeV)			86.60 -3	4.930 -3
	(n,3n)	(E-threshold = 11.330 MeV)			223.0 -3	35.17 -6
	fission	33.03	29.28	110.8	2.770	2.252
	(n,4n)	(E-threshold = 17.980 MeV)				11.66 -9
	capture	20.71	18.32	47.39	185.5 -9	51.28 -3
98-Cf-254	total	17.10	16.44		5.870	8.257
	elastic	10.60	10.60		2.766	5.203
	inelastic	(E-threshold = 0.045 MeV)			4.908 -3	878.2 -3
	(n,2n)	(E-threshold = 6.053 MeV)			96.56 -3	6.948 -3
	(n,3n)	(E-threshold = 10.880 MeV)			342.7 -3	66.98 -6
	fission	2.000	1.772	24.34	2.659	2.160
	(n,4n)	(E-threshold = 17.070 MeV)				64.57 -9
	capture	4.500	3.988	6.510	2.335 -9	6.437 -3
99-Es-254	total	2005.	1779.		5.870	8.262
	elastic	10.60	10.60		2.766	5.115
	inelastic	(E-threshold = 0.078 MeV)			4.908 -3	876.1 -3
	(n,2n)	(E-threshold = 5.112 MeV)			364.3 -3	18.83 -3
	(n,3n)	(E-threshold = 11.350 MeV)			505.2 -3	75.31 -6
	fission	1966.	1742.	1217.	2.229	2.183
	(n,4n)	(E-threshold = 16.790 MeV)				138.0 -9
	capture	28.30	23.85	17.97	1.868 -9	65.70 -3
99-Es-255	total	79.03	71.59		5.881	8.294

Nuclide	Reaction	2200-m/s (barns)	Maxw.Avg. (barns)	Res.Integ (barns)	14-MeV (barns)	Fiss.Avg. (barns)
99-Es-255	elastic	10.60	10.60		2.771	5.212
	inelastic	(E-threshold = 0.048 MeV)			4.936 -3	785.4 -3
	(n,2n)	(E-threshold = 6.007 MeV)			111.0 -3	5.620 -3
	(n,3n)	(E-threshold = 11.120 MeV)			224.3 -3	37.60 -6
	fission	13.43	11.90	93.28	2.770	2.250
	(n,4n)	(E-threshold = 17.350 MeV)				26.69 -9
	capture	55.00	48.74	277.5	1.773 -9	38.29 -3
100-Fm-255	total	3397.	3018.		5.881	8.300
	elastic	10.60	10.60		2.771	5.081
	inelastic	(E-threshold = 0.060 MeV)			4.936 -3	857.5 -3
	(n,2n)	(E-threshold = 5.195 MeV)			390.5 -3	14.31 -3
	(n,3n)	(E-threshold = 11.740 MeV)			340.0 -3	47.42 -6
	fission	3360.	2978.	1174.	2.375	2.326
	(n,4n)	(E-threshold = 17.310 MeV)				57.43 -9
	capture	26.00	23.04	101.1	4.044 -9	19.47 -3