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CURVES AND TABLES OF NEUTRON CROSS SECTIONS IN JENDL-3.3
PART I (Z=1-50)

November 2002

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Curves and Tables of Neutron Cross Sections in JENDL-3.3

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Neutron cross sections of 337 nuclides in JENDL-3.3 are presented in figures and tables. In the tables, shown are cross sections at 0.0253 eV and 14 MeV, Maxwellian average cross sections (kT=0.0253 eV), resonance integrals and fission spectrum average cross sections. The average cross sections calculated with typical reactor spectra are also tabulated. The numbers of delayed and total neutrons per fission are given in figures.

Keywords: JENDL-3.3, Neutron Cross Sections, Graph, Table, Average Cross Section, Resonance Integral, Thermal Cross Section, 14-MeV Cross Section, Number of Neutrons per Fission

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JENDL-3.3 に収納されている中性子断面積の図・表

日本原子力研究所東海研究所エネルギーシステム研究部
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（2002 年 9 月 19 日受理）

JENDL-3.3 に収納されている 337 核種の中性子断面積を図と表で示した。表には、0.0253 eV と 14 MeV の断面積、マックスウェル平均断面積（kT=0.0253 eV）、共鳴積分値、核分裂中性子スペクトル平均値を示した。また、典型的な炉心の中性子スペクトル平均値も示した。さらに、核分裂あたりの遅発中性子数と全中性子数を図で示した。

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1. Introduction

The third revision of Japanese Evaluated Nuclear Data Library (JENDL) version 3, JENDL-3.3[1], was completed in March 2002, and released in May 2002. This library contains the evaluated nuclear data for 337 materials (335 nuclides and 2 natural elements) in the incident neutron energy range from 10^{-5} eV to 20 MeV. The nuclides of JENDL-3.3 are listed in Table 1 with their MAT numbers which are identification numbers of the data. The data are compiled in the ENDF-6 format[2].

This report was prepared to show the characteristics of cross-section data of JENDL-3.3. The cross sections in the resonance region are represented with resolved and unresolved resonance parameters. The point-wise cross section data at 0 K were reconstructed from the resonance parameters with the RECENT and LINEAR codes of PREPRO2000[3] or RESENDD code[4] with an interpolation accuracy of 0.1 %. Those 0 K point-wise cross sections were used for the production of tables and figures given in Chapter 2. Not all the data of JENDL-3.2 were revised to JENDL-3.3. Some of them are the same as those of JENDL-3.2. This report contains also the tables and figures for such nuclides. For the nuclides with the same data as JENDL-3.2, their figures are reproduced from the previous report of JAERI-Data/Code 97-003[5]. In Chapter 3, the numbers of neutrons per fission (ν_{tot} and ν_d) are shown in figures. In the last chapter, average cross sections calculated with typical reactor spectra are presented. Those average values were calculated from cross-section data at 300 K.

1.1 Table of Cross Sections

In Chapter 2, the following values are summarized in a table given to each nuclide. These values were obtained from the point-wise cross sections at 0 K calculated with the RECENT[3] or RESENDD[4] code. The unit of cross-section values is "barns".

(1) E-thresh

The threshold energies of the reactions.

(2) 0.0253-eV

The cross sections at 0.0253 eV.

(3) Maxw. Av

The Maxwellian spectrum average cross sections calculated in the energy range from 10^{-5} to 3.0 eV with neutron spectrum at a temperature of 0.0253 eV.

(4) Res. integ

The resonance integrals calculated in the energy range from 0.5 eV to 20 MeV.

$$\text{Resonance integral} = \int_{0.5\text{eV}}^{20\text{MeV}} \frac{\sigma(E)}{E} dE .$$

(5) 14-MeV

The cross sections at 14 MeV.

(6) FissSp Av

Averages cross sections calculated with the ^{235}U thermal neutron induced fission spectrum that was the same as that used for the previous report:

$$\chi(E) = \sqrt{\frac{4}{\pi a^3 b}} \times \exp\left(-\frac{ab}{4} - \frac{E}{a}\right) \times \sinh\sqrt{bE} ,$$

where a and b are 0.988 MeV and 2.249 MeV^{-1}, respectively[6]. The integral was performed in the energy range from 10^{-5} eV to 20 MeV.

1.2 Figures of Cross sections

Three kinds of figures are given in Chapter 2 to each nuclide.

(1) The total, elastic and inelastic scattering, capture and fission cross sections

The figures of this kind give those cross sections at 0 K from 0.01 eV to 20 MeV. The cross sections of some reactions that are not small even in the thermal region are also shown in this figure.

(2) Average values of the total, elastic and inelastic scattering, capture and fission cross sections

These figures were provided to show the average trend of cross sections. In these figures, the cross sections were averaged in the 70 energy-group structure from 0.32242 eV to 20 MeV. Averaging was performed with the CRECTJ6 code[7]. The 70 energy-group structure was originally defined from 0.32242 eV to 10 MeV. In the CRECTJ6 code, the structure was extended up to 20 MeV. It should be noted that the figures of cross sections which are the same as JENDL-3.2 are reproduced from the previous report of JAERI-Data/Code 97-003. In such figures, the data from 10 to 20 MeV are not averaged.

(3) Threshold reaction cross sections

The threshold reaction cross sections are given in the third figure.

1.3 Figures of Neutrons per Fission

The number of delayed neutrons (ν_d) and the total number of neutrons (ν_{tot}) per fission are shown in Chapter 3.

Note: The data of ^{232}Th below 1.56 MeV and ^{234}Th below 1.5 MeV are incorrect. They will be modified in the next version of JENDL.

1.4 Average Cross Sections in Typical Reactor Spectra

The one-group average cross sections are given in Chapter 4. The calculation was made as follows using the point-wise cross sections $\sigma(E)$ at 300K obtained with the SIGMA1 code[3] and five sets of neutron flux data of typical reactors $\varphi(E)$:

$$<\sigma>=\frac{\int \varphi(E)\sigma(E)dE}{\int \varphi(E)dE}.$$

The five kinds of neutron fluxes are as follows:

a) BWR

40 % void ratio, temperature = 286 K, no burn-up. The cell average flux was used in the present work.

b) PWR

UO_2 fuel, the volume ratio of moderator to fuel = 1.9

c) MOX fueled PWR (MOX PWR) :

MOX fuel, the same square cell geometry as that of the conventional PWR

d) Reduced moderation water reactor (RMWR80%)

An example of axially heterogeneous core reduced moderation BWR, upper core region cell

MOX fuel, a hexagonal cell of pin diameter 13 mm and pin pitch 14.3 mm

80% moderator void fraction core region

e) Large Liquid Metal Fast Beeder Reactor (LMFBR)

MOX fuel, reactor power = 2600 MWt

The neutron flux of a typical BWR was calculated by Ando[8]. Those of PWR and LMFBR were

provided by Akie[9] by means of 90-group lattice calculation with the SRAC system[10] based on JENDL-2[11]. Akie[12] newly provided us those of MOX PWR and RMWR80% with 107-group pin cell calculation by using the SRAC95 system[13] and group constants based on JENDL-3.2[14]. These two fluxes were used in the present work in stead of HCLWR fluxes used in the previous work.

These neutron flux data were originally given in a multi-group structure. For the present calculation, they were changed into a point-wise form by simply selecting energy points of the root-mean square of energy boundaries, and connecting them by linear interpolation in the log-log scale:

$$E_{C,i} = \sqrt{E_i \times E_{i+1}} ,$$

where E_i and E_{i+1} are lower and upper boundaries of i-th interval. In the lowest energy interval, the neutron flux was replaced with the neutron flux in the Maxwellian shape. Above 10 MeV, the values are not defined in the original flux data. In this energy region, the fission spectra of ^{235}U and ^{239}Pu given in JENDL-3.3 were tentatively used after multiplying $\sqrt{E}$ to change their dimension to flux. The neutron fluxes of BWR and PWR were connected to the ^{235}U thermal fission spectrum, those of MOX PWR and RMWR to the ^{239}Pu thermal fission spectrum, and the flux of the LMFBR to the ^{239}Pu fast fission spectrum. The five sets of flux data used in the present work are shown in Figs. 1 to 5 (dashed lines) together with the originally given multi-group ones (solid lines).

Table 1 List of nuclides and MAT numbers

nuclides	MAT	nuclides	MAT	nuclides	MAT
1-H - 1	125	24-Cr- 52	2431	39-Y - 89	3925
1-H - 2	128	24-Cr- 53	2434	39-Y - 91	3931
2-He- 3	225	24-Cr- 54	2437	40-Zr- 90	4025
2-He- 4	228	25-Mn- 55	2525	40-Zr- 91	4028
3-Li- 6	325	26-Fe- 54	2625	40-Zr- 92	4031
3-Li- 7	328	26-Fe- 56	2631	40-Zr- 93	4034
4-Be- 9	425	26-Fe- 57	2634	40-Zr- 94	4037
5-B - 10	525	26-Fe- 58	2637	40-Zr- 95	4040
5-B - 11	528	27-Co- 59	2725	40-Zr- 96	4043
6-C -nat	600	28-Ni- 58	2825	41-Nb- 93	4125
7-N - 14	725	28-Ni- 60	2831	41-Nb- 94	4128
7-N - 15	728	28-Ni- 61	2834	41-Nb- 95	4131
8-O - 16	825	28-Ni- 62	2837	42-Mo- 92	4225
9-F - 19	925	28-Ni- 64	2843	42-Mo- 94	4231
11-Na- 23	1125	29-Cu- 63	2925	42-Mo- 95	4234
12-Mg- 24	1225	29-Cu- 65	2931	42-Mo- 96	4237
12-Mg- 25	1228	31-Ga- 69	3125	42-Mo- 97	4240
12-Mg- 26	1231	31-Ga- 71	3131	42-Mo- 98	4243
13-Al- 27	1325	32-Ge- 70	3225	42-Mo- 99	4246
14-Si- 28	1425	32-Ge- 72	3231	42-Mo-100	4249
14-Si- 29	1428	32-Ge- 73	3234	43-Tc- 99	4331
14-Si- 30	1431	32-Ge- 74	3237	44-Ru- 96	4425
15-P - 31	1525	32-Ge- 76	3243	44-Ru- 98	4431
16-S - 32	1625	33-As- 75	3325	44-Ru- 99	4434
16-S - 33	1628	34-Se- 74	3425	44-Ru-100	4437
16-S - 34	1631	34-Se- 76	3431	44-Ru-101	4440
16-S - 36	1637	34-Se- 77	3434	44-Ru-102	4443
17-Cl- 35	1725	34-Se- 78	3437	44-Ru-103	4446
17-Cl- 37	1731	34-Se- 79	3440	44-Ru-104	4449
18-Ar- 40	1837	34-Se- 80	3443	44-Ru-106	4455
19-K - 39	1925	34-Se- 82	3449	45-Rh-103	4525
19-K - 40	1928	35-Br- 79	3525	45-Rh-105	4531
19-K - 41	1931	35-Br- 81	3531	46-Pd-102	4625
20-Ca- 40	2025	36-Kr- 78	3625	46-Pd-104	4631
20-Ca- 42	2031	36-Kr- 80	3631	46-Pd-105	4634
20-Ca- 43	2034	36-Kr- 82	3637	46-Pd-106	4637
20-Ca- 44	2037	36-Kr- 83	3640	46-Pd-107	4640
20-Ca- 46	2043	36-Kr- 84	3643	46-Pd-108	4643
20-Ca- 48	2049	36-Kr- 85	3646	46-Pd-110	4649
21-Sc- 45	2125	36-Kr- 86	3649	47-Ag-107	4725
22-Ti- 46	2225	37-Rb- 85	3725	47-Ag-109	4731
22-Ti- 47	2228	37-Rb- 87	3731	47-Ag-110m	4735
22-Ti- 48	2231	38-Sr- 86	3831	48-Cd-106	4825
22-Ti- 49	2234	38-Sr- 87	3834	48-Cd-108	4831
22-Ti- 50	2237	38-Sr- 88	3837	48-Cd-110	4837
23-V -nat	2300	38-Sr- 89	3840	48-Cd-111	4840
24-Cr- 50	2425	38-Sr- 90	3843	48-Cd-112	4843

Table 1 List of nuclides and MAT numbers (continued)

nuclides	MAT	nuclides	MAT	nuclides	MAT
48-Cd-113	4846	55-Cs-135	5531	64-Gd-154	6431
48-Cd-114	4849	55-Cs-136	5534	64-Gd-155	6434
48-Cd-116	4855	55-Cs-137	5537	64-Gd-156	6437
49-In-113	4925	56-Ba-130	5625	64-Gd-157	6440
49-In-115	4931	56-Ba-132	5631	64-Gd-158	6443
50-Sn-112	5025	56-Ba-134	5637	64-Gd-160	6449
50-Sn-114	5031	56-Ba-135	5640	65-Tb-159	6525
50-Sn-115	5034	56-Ba-136	5643	68-Er-162	6825
50-Sn-116	5037	56-Ba-137	5646	68-Er-164	6831
50-Sn-117	5040	56-Ba-138	5649	68-Er-166	6837
50-Sn-118	5043	56-Ba-140	5655	68-Er-167	6840
50-Sn-119	5046	57-La-138	5725	68-Er-168	6843
50-Sn-120	5049	57-La-139	5728	68-Er-170	6849
50-Sn-122	5055	58-Ce-140	5837	72-Hf-174	7225
50-Sn-123	5058	58-Ce-141	5840	72-Hf-176	7231
50-Sn-124	5061	58-Ce-142	5843	72-Hf-177	7234
50-Sn-126	5067	58-Ce-144	5849	72-Hf-178	7237
51-Sb-121	5125	59-Pr-141	5925	72-Hf-179	7240
51-Sb-123	5131	59-Pr-143	5931	72-Hf-180	7243
51-Sb-124	5134	60-Nd-142	6025	73-Ta-181	7328
51-Sb-125	5137	60-Nd-143	6028	74-W -182	7431
52-Te-120	5225	60-Nd-144	6031	74-W -183	7434
52-Te-122	5231	60-Nd-145	6034	74-W -184	7437
52-Te-123	5234	60-Nd-146	6037	74-W -186	7443
52-Te-124	5237	60-Nd-147	6040	80-Hg-196	8025
52-Te-125	5240	60-Nd-148	6043	80-Hg-198	8031
52-Te-126	5243	60-Nd-150	6049	80-Hg-199	8034
52-Te-127m	5247	61-Pm-147	6149	80-Hg-200	8037
52-Te-128	5249	61-Pm-148	6152	80-Hg-201	8040
52-Te-129m	5253	61-Pm-148m	6153	80-Hg-202	8043
52-Te-130	5255	61-Pm-149	6155	80-Hg-204	8049
53-I -127	5325	62-Sm-144	6225	82-Pb-204	8225
53-I -129	5331	62-Sm-147	6234	82-Pb-206	8231
53-I -131	5337	62-Sm-148	6237	82-Pb-207	8234
54-Xe-124	5425	62-Sm-149	6240	82-Pb-208	8237
54-Xe-126	5431	62-Sm-150	6243	83-Bi-209	8325
54-Xe-128	5437	62-Sm-151	6246	88-Ra-223	8825
54-Xe-129	5440	62-Sm-152	6249	88-Ra-224	8828
54-Xe-130	5443	62-Sm-153	6252	88-Ra-225	8831
54-Xe-131	5446	62-Sm-154	6255	88-Ra-226	8834
54-Xe-132	5449	63-Eu-151	6325	89-Ac-225	8925
54-Xe-133	5452	63-Eu-152	6328	89-Ac-226	8928
54-Xe-134	5455	63-Eu-153	6331	89-Ac-227	8931
54-Xe-135	5458	63-Eu-154	6334	90-Th-227	9025
54-Xe-136	5461	63-Eu-155	6337	90-Th-228	9028
55-Cs-133	5525	63-Eu-156	6340	90-Th-229	9031
55-Cs-134	5528	64-Gd-152	6425	90-Th-230	9034

Table 1 List of nuclides and MAT numbers (continued)

nuclides	MAT	nuclides	MAT	nuclides	MAT
90-Th-232	9040	94-Pu-237	9431	96-Cm-245	9640
90-Th-233	9043	94-Pu-238	9434	96-Cm-246	9643
90-Th-234	9046	94-Pu-239	9437	96-Cm-247	9646
91-Pa-231	9131	94-Pu-240	9440	96-Cm-248	9649
91-Pa-232	9134	94-Pu-241	9443	96-Cm-249	9652
91-Pa-233	9137	94-Pu-242	9446	96-Cm-250	9655
92-U -232	9219	94-Pu-244	9452	97-Bk-247	9746
92-U -233	9222	94-Pu-246	9458	97-Bk-249	9752
92-U -234	9225	95-Am-241	9543	97-Bk-250	9755
92-U -235	9228	95-Am-242	9546	98-Cf-249	9852
92-U -236	9231	95-Am-242m	9547	98-Cf-250	9855
92-U -237	9234	95-Am-243	9549	98-Cf-251	9858
92-U -238	9237	95-Am-244	9552	98-Cf-252	9861
93-Np-235	9340	95-Am-244m	9553	98-Cf-254	9867
93-Np-236	9343	96-Cm-240	9625	99-Es-254	9914
93-Np-237	9346	96-Cm-241	9628	99-Es-255	9915
93-Np-238	9349	96-Cm-242	9631	100-Fm-255	9936
93-Np-239	9352	96-Cm-243	9634		
94-Pu-236	9428	96-Cm-244	9637		

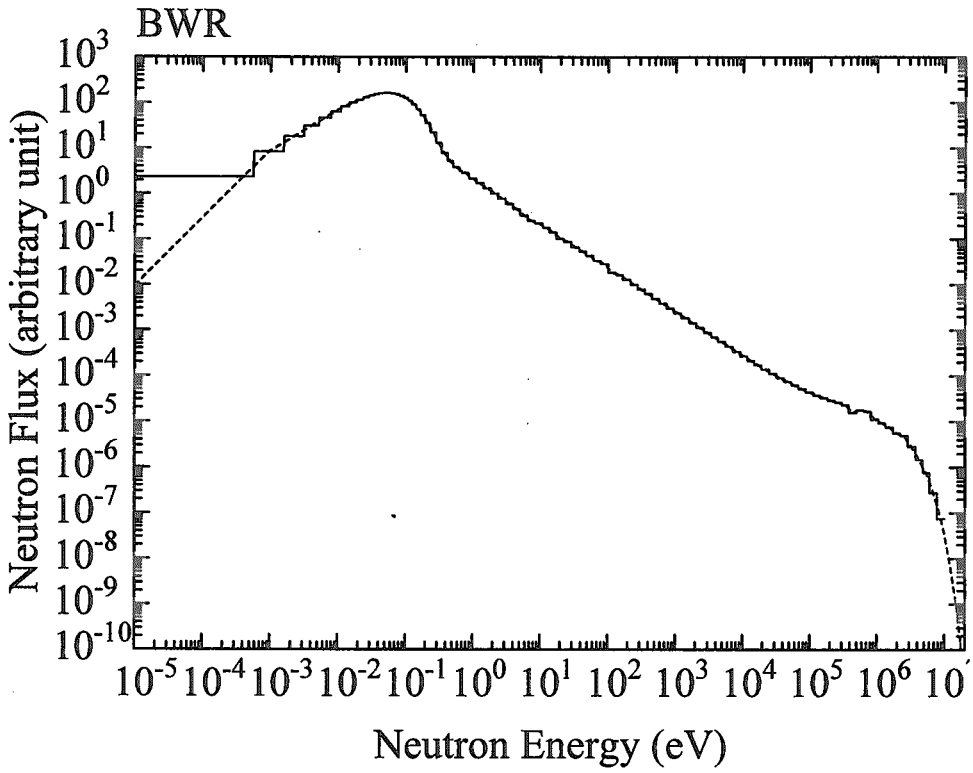


Fig. 1 Neutron flux of BWR

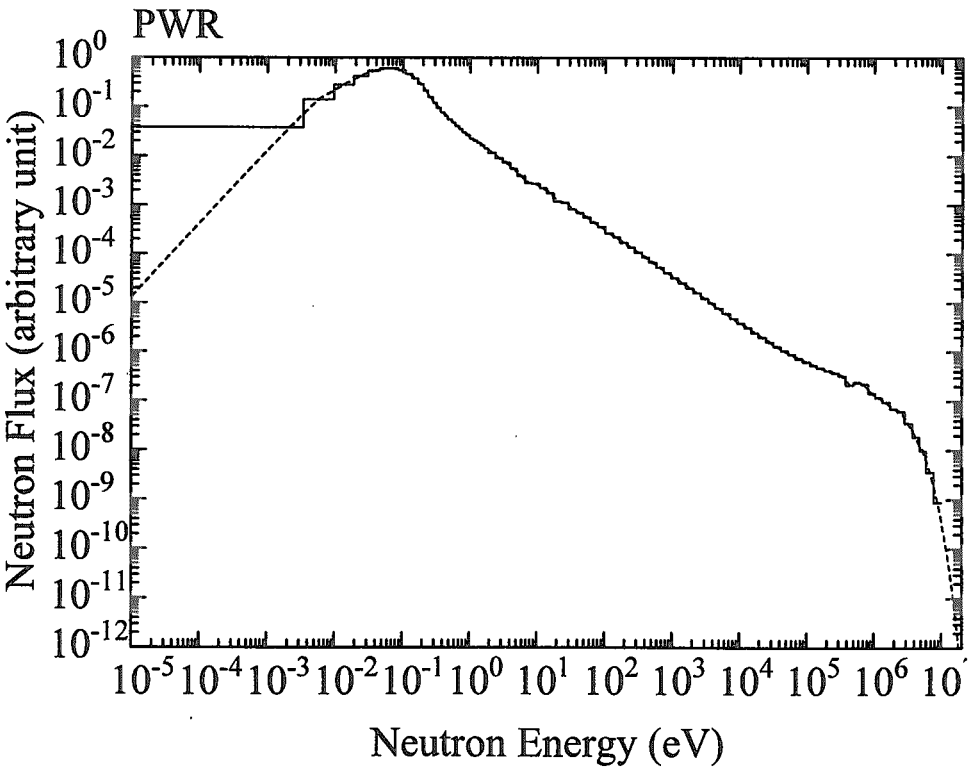


Fig. 2 Neutron flux of PWR

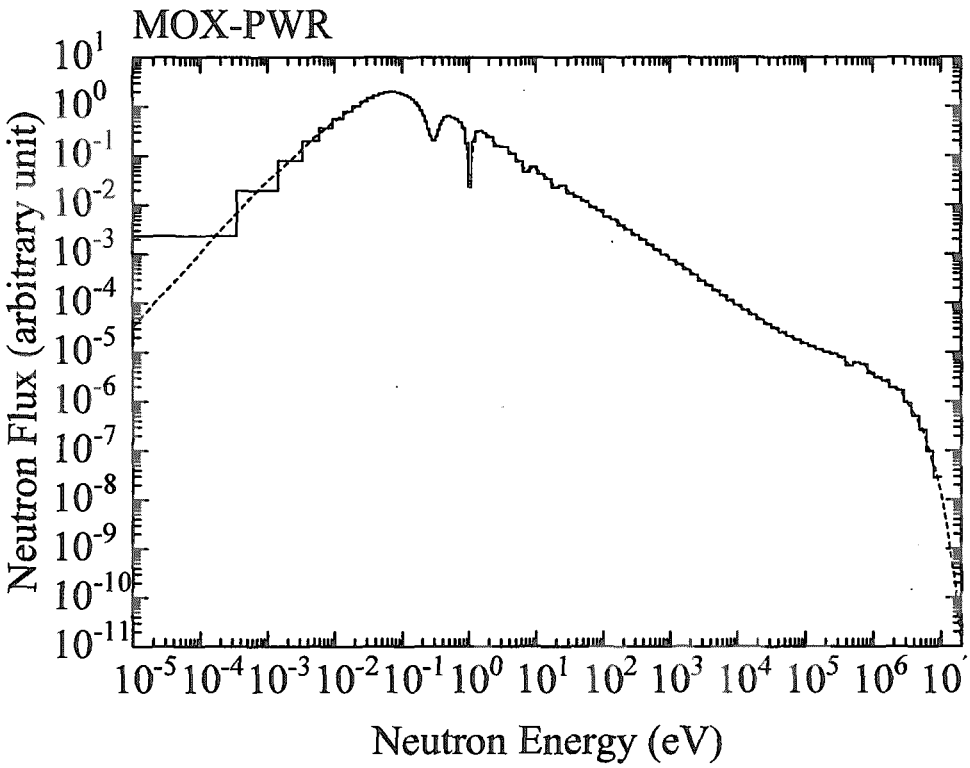


Fig. 3 Neutron flux of MOX-PWR

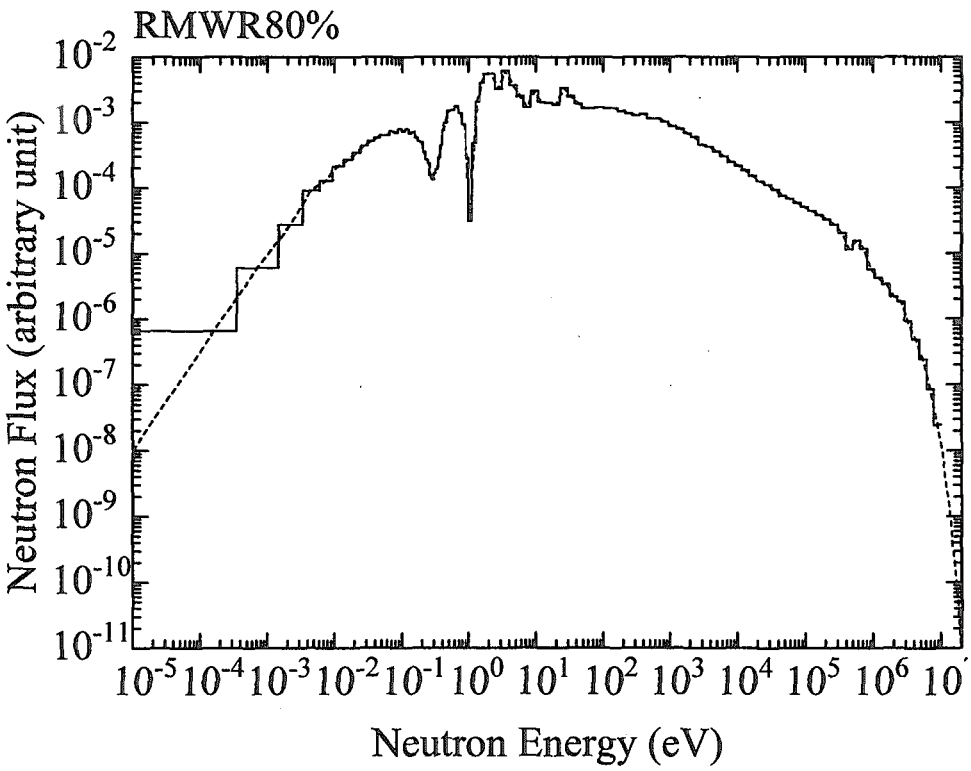


Fig. 4 Neutron flux of RMWR80%

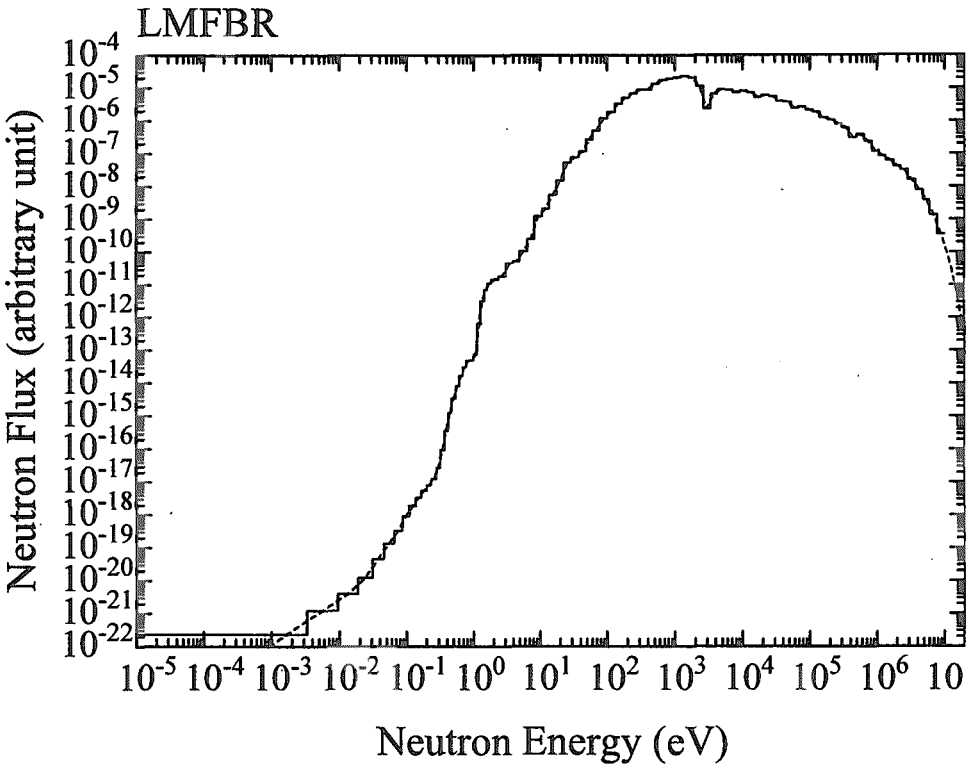


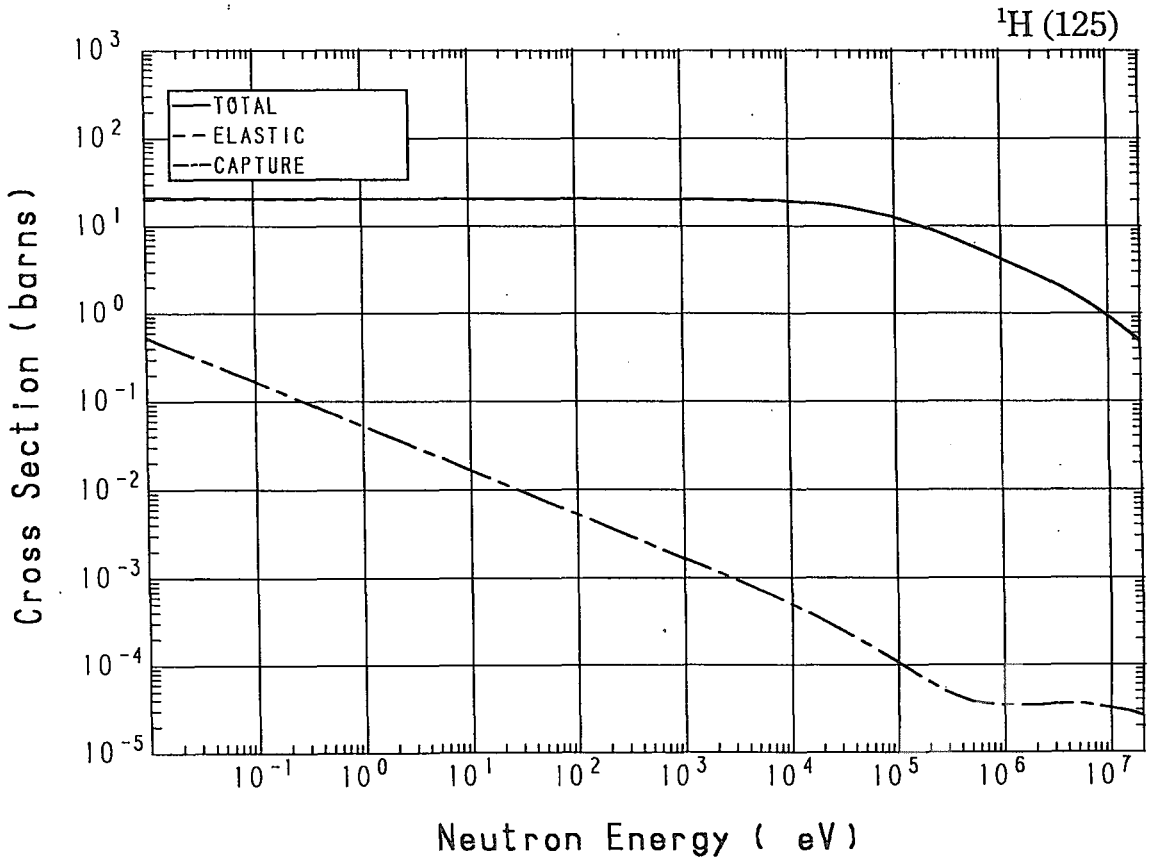
Fig. 5 Neutron flux of LMFBR

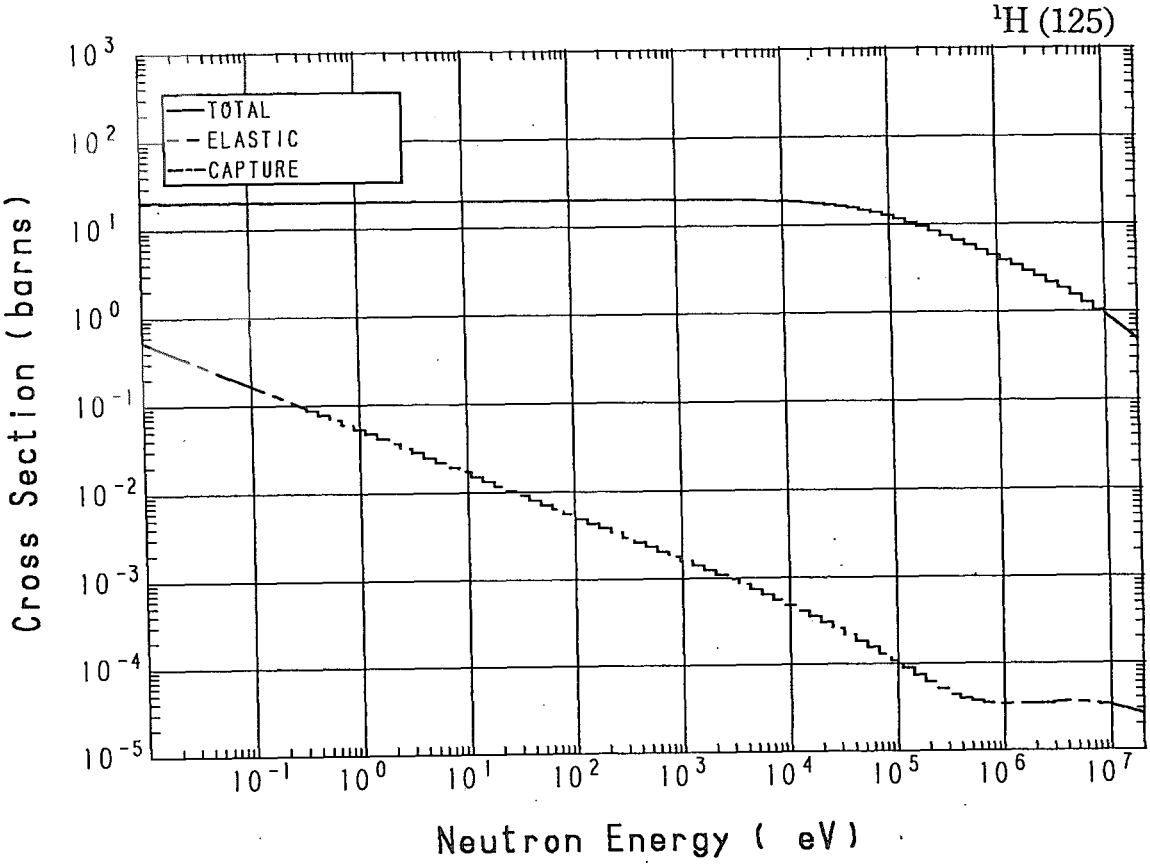
2. Tables and Figures of Cross Sections

For each nuclide, a table and figures of cross sections are given. In the table, cross sections are listed in the unit of barns.

1-H - 1 (MAT= 125)

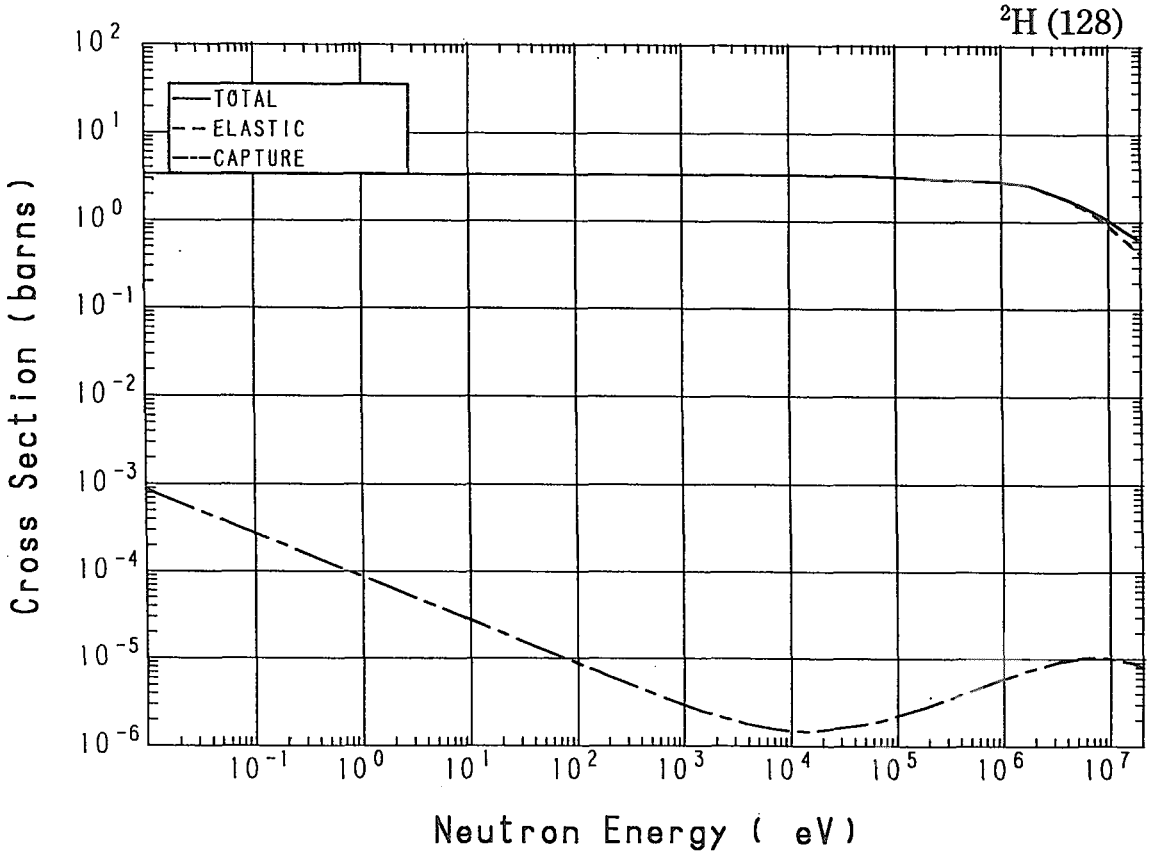
Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	20.81	20.78	–	692.0×10^{-3}	3.927
elastic	–	20.47	20.47	–	692.0×10^{-3}	3.928
capture	–	332.0×10^{-3}	294.3×10^{-3}	149.1×10^{-3}	29.83×10^{-6}	39.28×10^{-6}

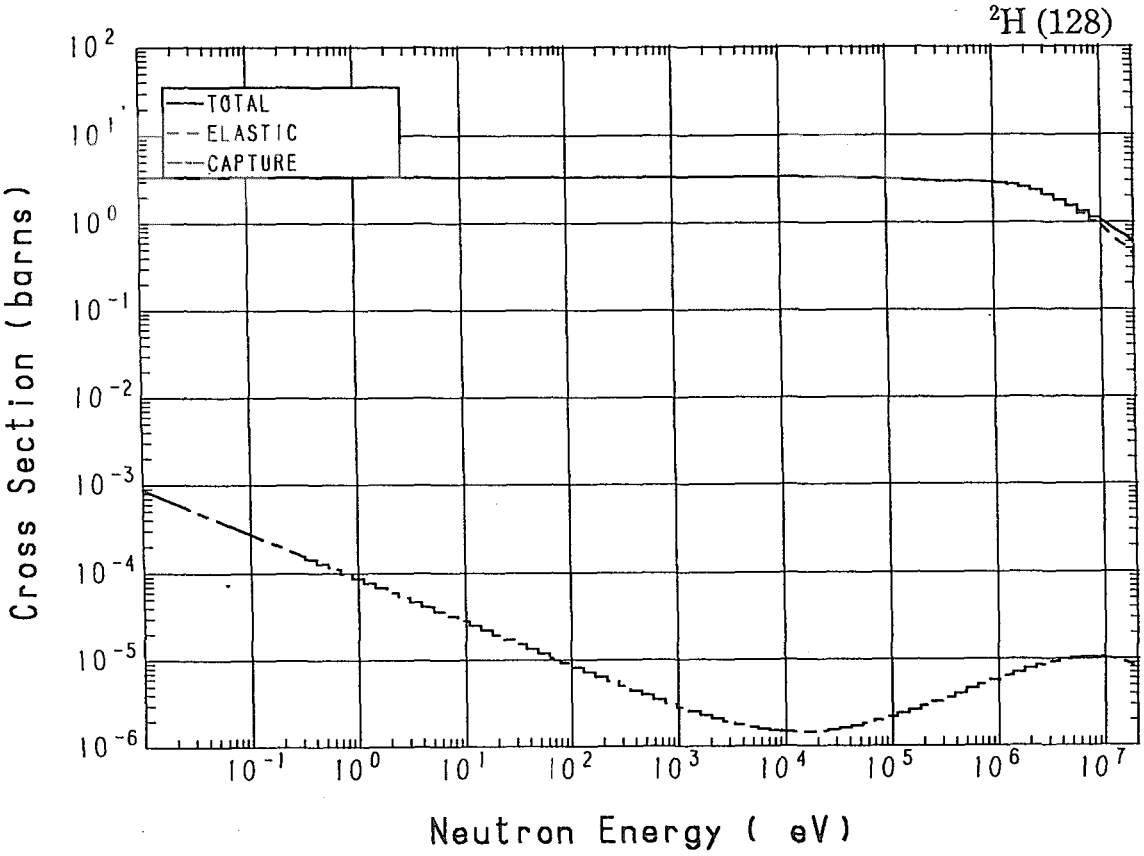


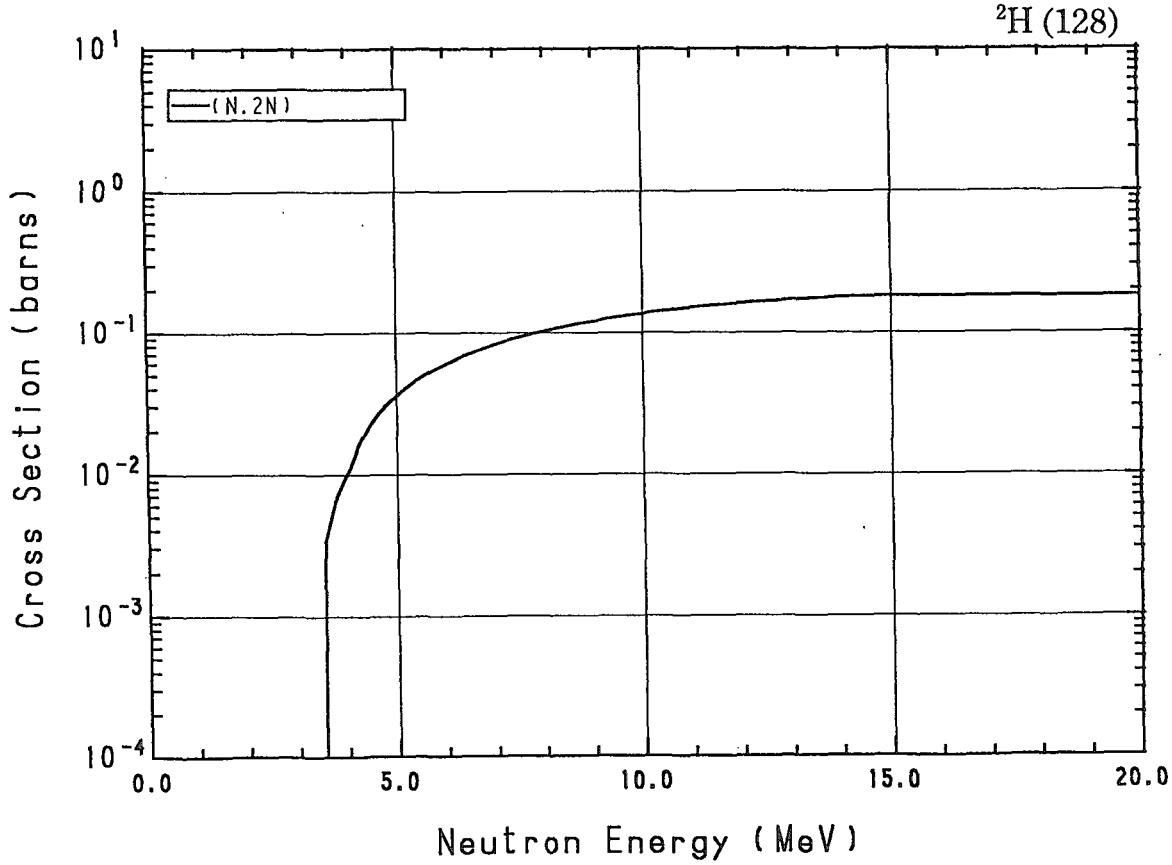

^{1}H (125)
TOTAL
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7}

1-H - 2 (MAT= 128)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.390	3.390	–	801.5×10^{-3}	2.537
elastic	–	3.389	3.389	–	624.3×10^{-3}	2.532
(n,2n)	3.339 MeV	–	–	–	177.2×10^{-3}	5.274×10^{-3}
capture	–	550.0×10^{-6}	487.6×10^{-6}	286.4×10^{-6}	9.521×10^{-6}	7.073×10^{-6}

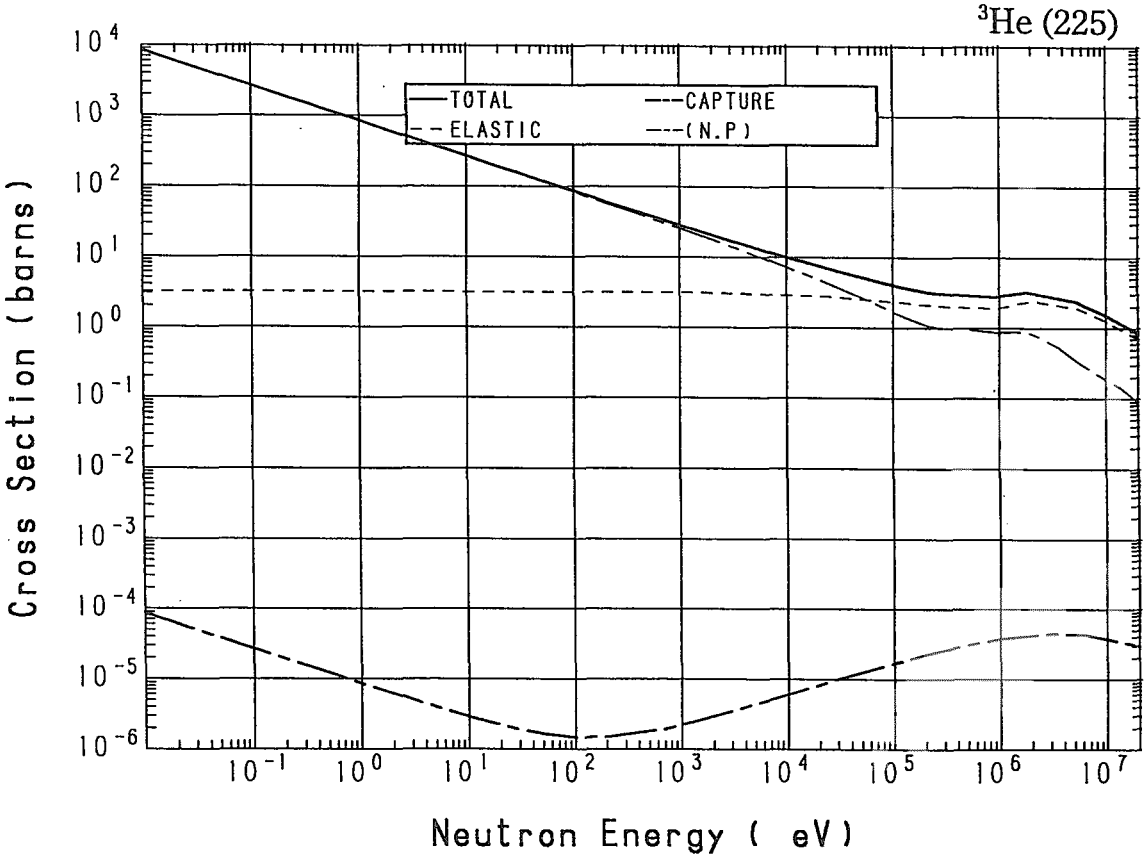


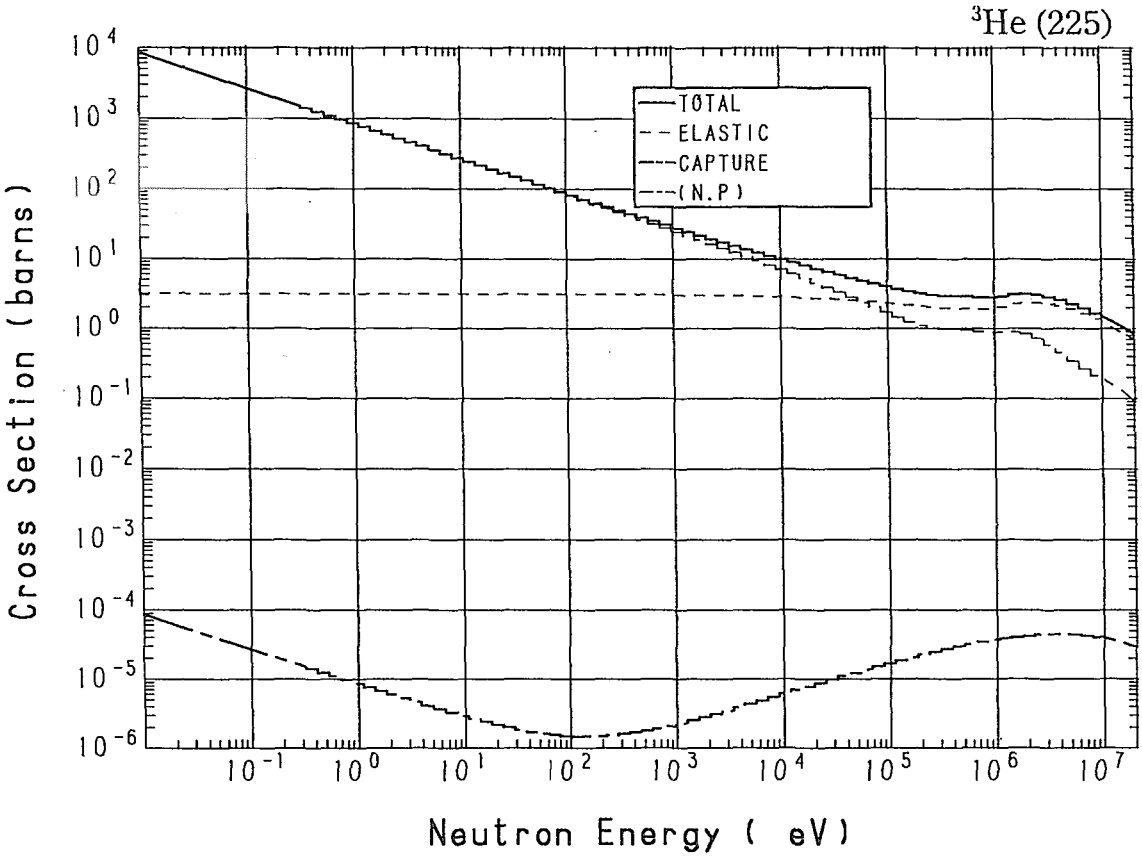

^{2}H (128)
TOTAL
ELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

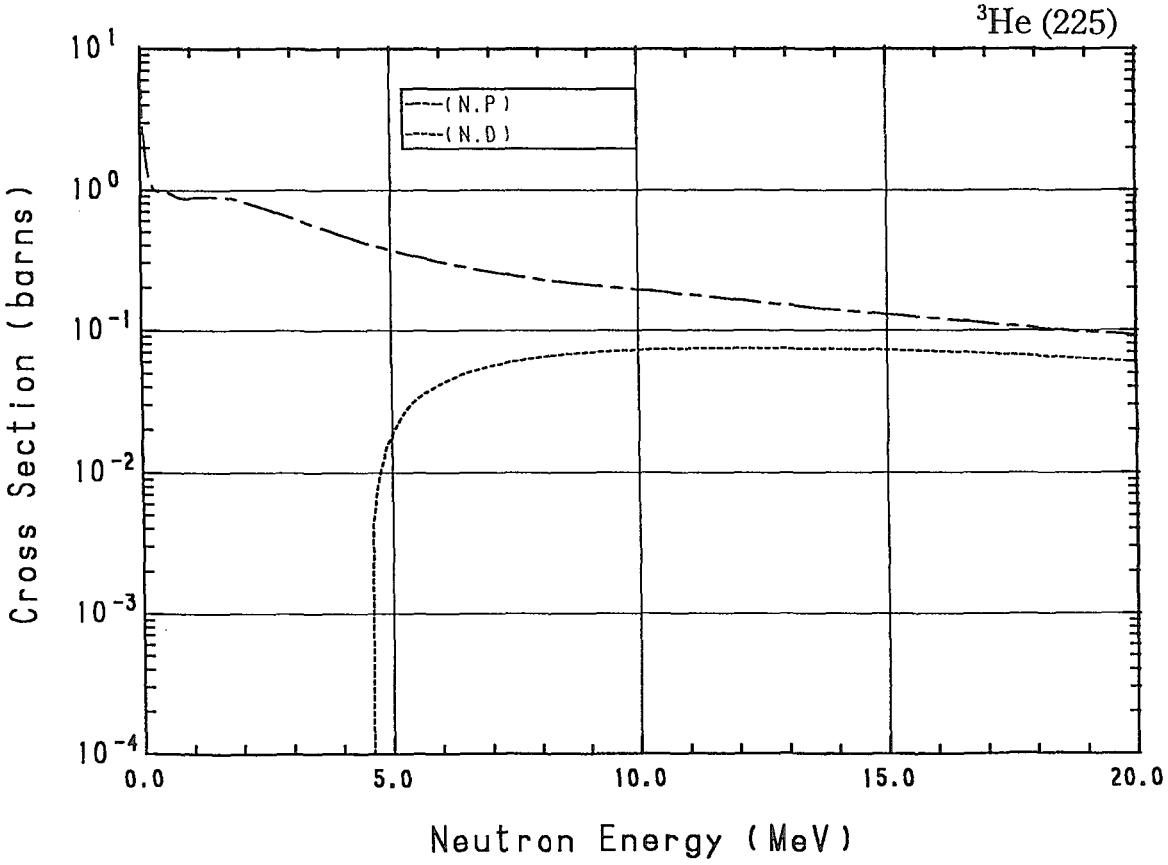

^{2}H (128)
(N,2N)
Cross Section (barns)
Neutron Energy (MeV)

2-He- 3 (MAT= 225)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	$5.331\times10^{+3}$	$4.743\times10^{+3}$	–	1.168	2.941
elastic	–	3.135	3.135	–	954.4×10^{-3}	2.121
nonelastic	–	$5.328\times10^{+3}$	$4.724\times10^{+3}$	$2.381\times10^{+3}$	213.8×10^{-3}	819.6×10^{-3}
capture	–	54.01×10^{-6}	47.90×10^{-6}	246.9×10^{-6}	35.19×10^{-6}	39.23×10^{-6}
(n,p)	–	$5.328\times10^{+3}$	$4.724\times10^{+3}$	$2.381\times10^{+3}$	139.7×10^{-3}	816.9×10^{-3}
(n,d)	4.362 MeV	–	–	–	74.07×10^{-3}	2.647×10^{-3}

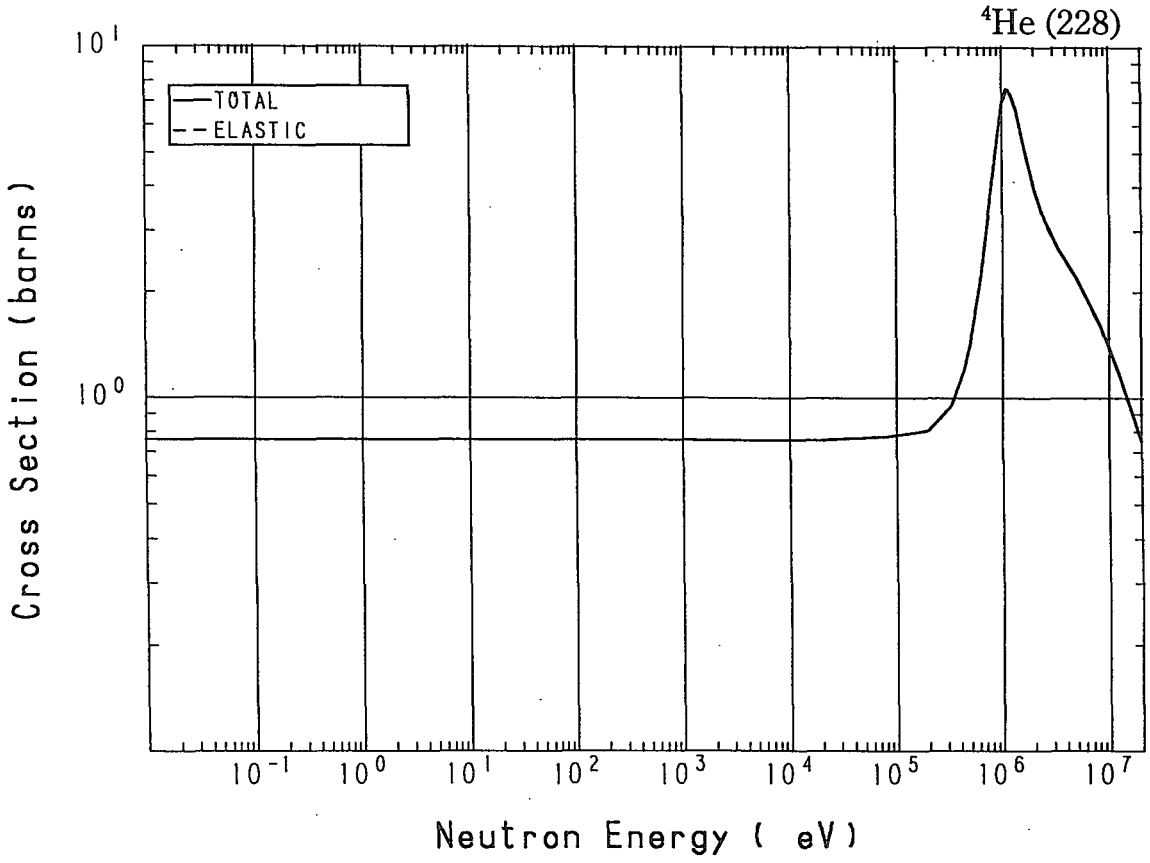


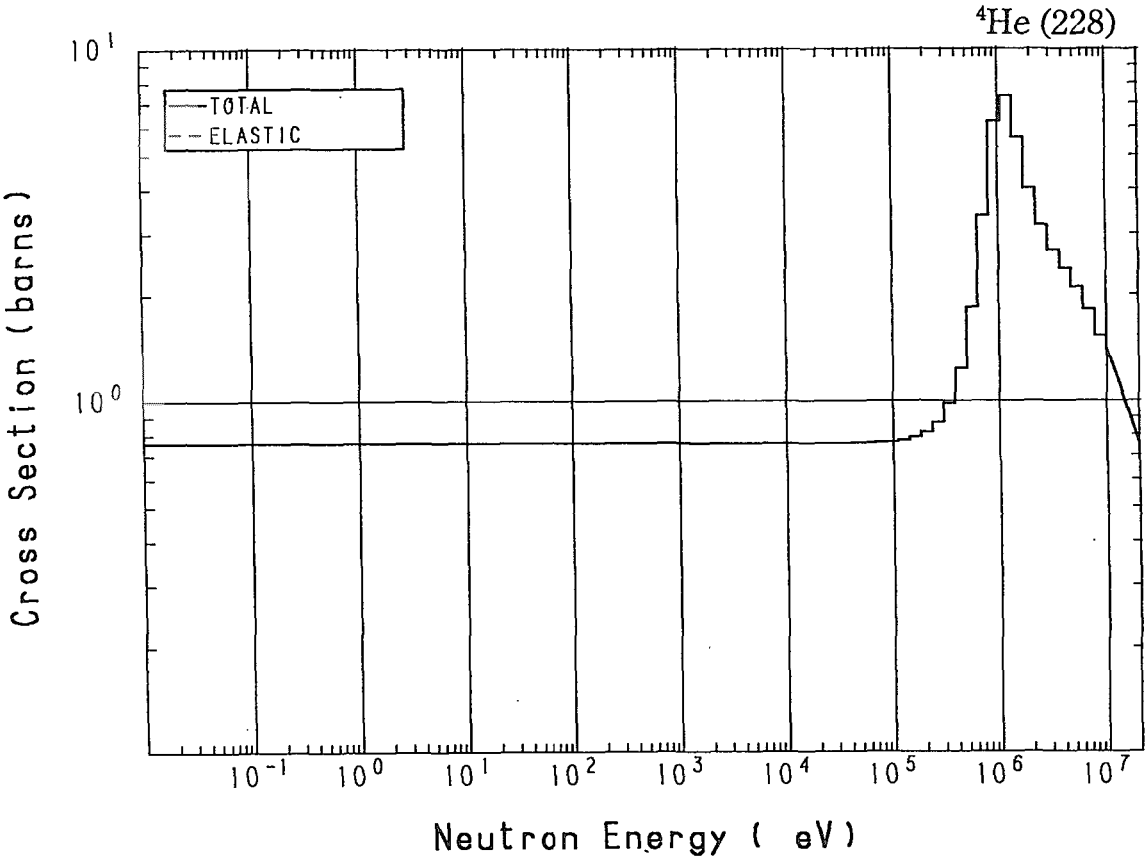

^{3}He (225)
TOTAL
ELASTIC
CAPTURE
(N,P)
Cross Section (barns)
Neutron Energy (eV)


^{3}He (225)
(N,P)
(N,D)
Cross Section (barns)
Neutron Energy (MeV)

2-He- 4 (MAT= 228)

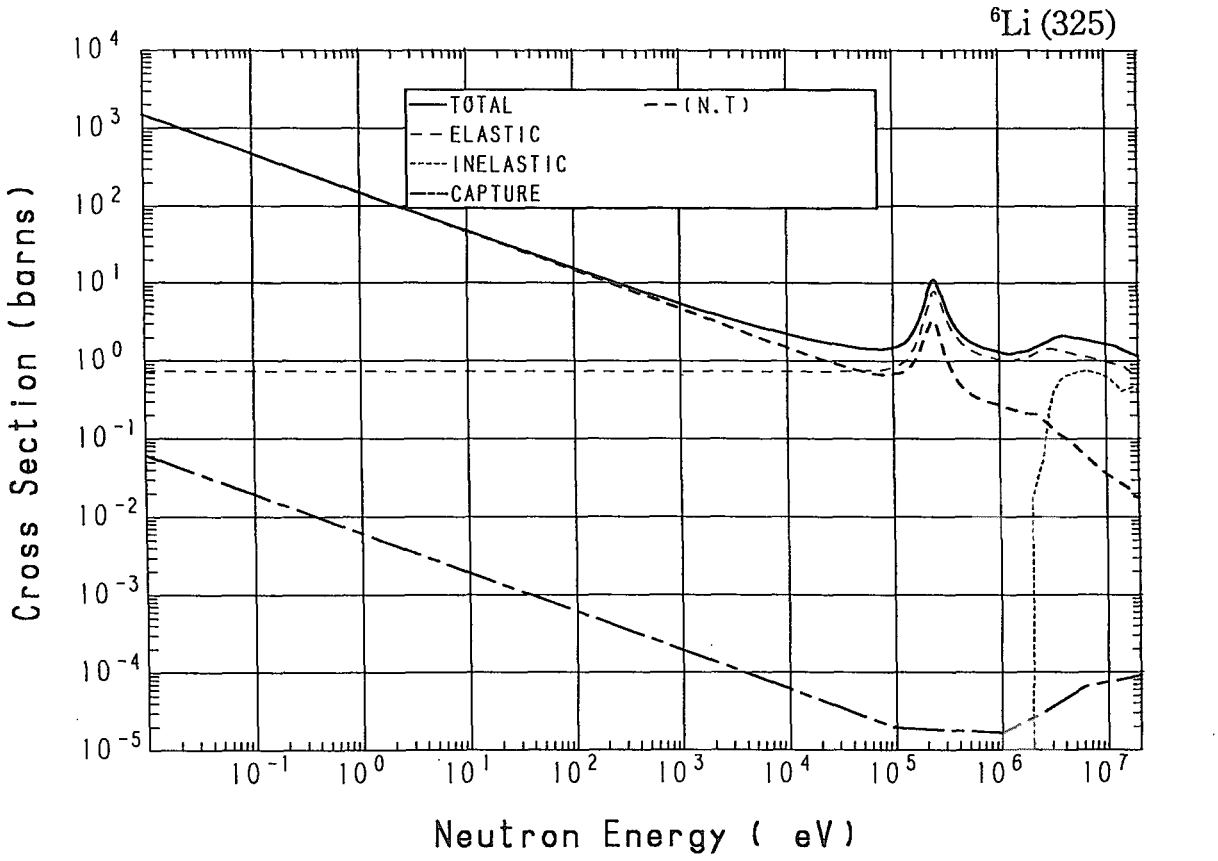
Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	759.3×10^{-3}	759.3×10^{-3}	–	1.052	3.685
elastic	–	759.3×10^{-3}	759.3×10^{-3}	–	1.052	3.685

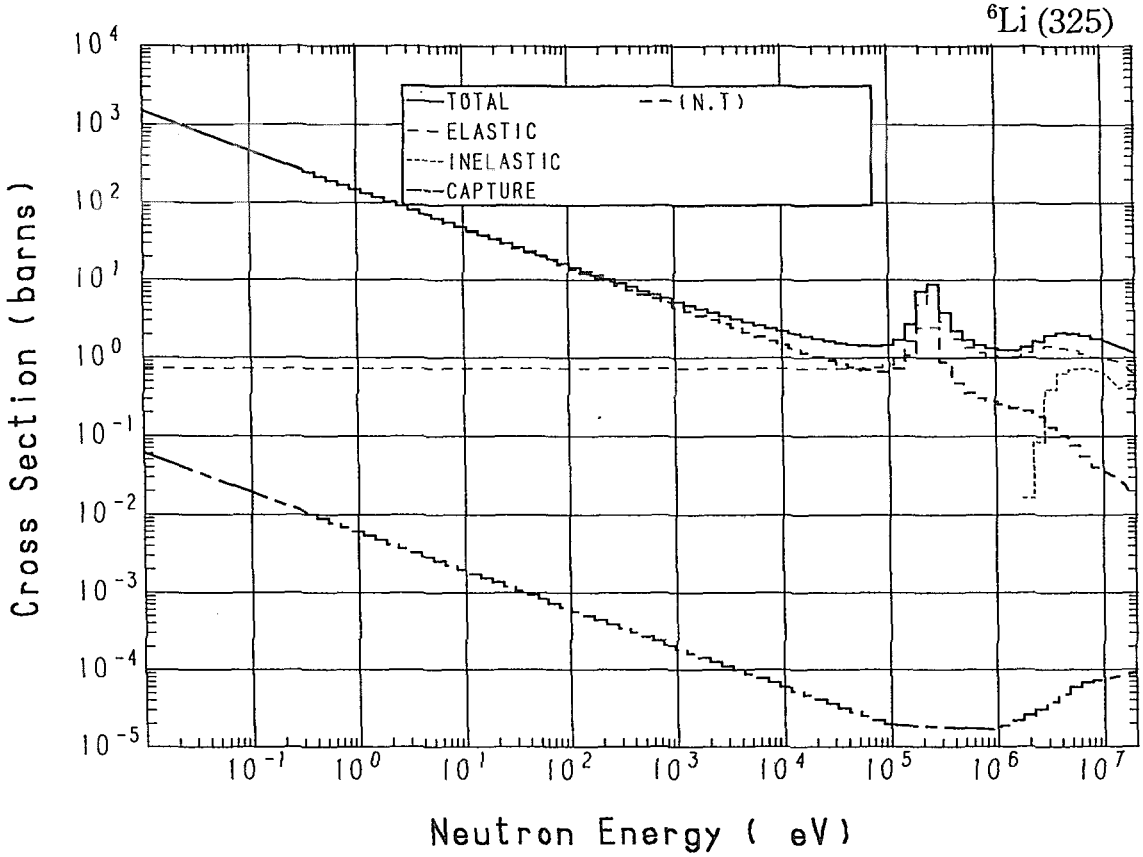


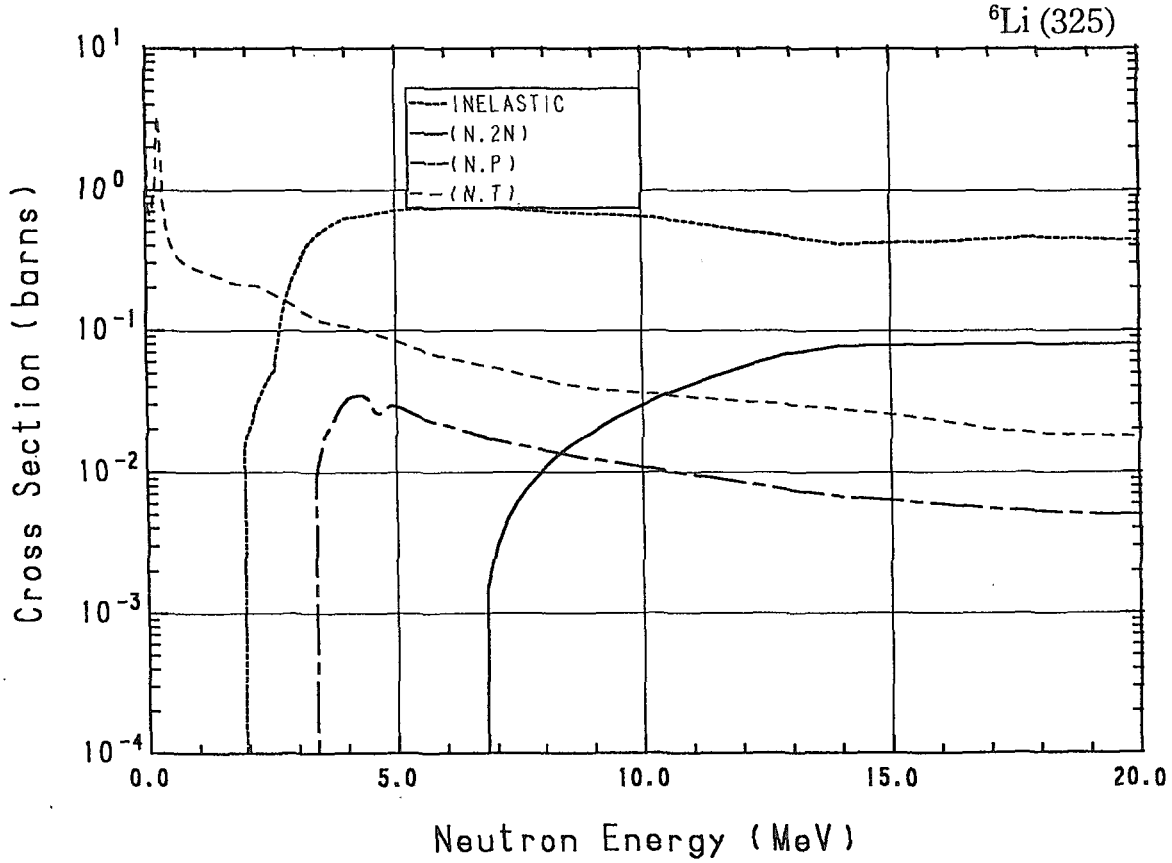

^{4}He (228)
TOTAL
ELASTIC
Cross Section (barns)
Neutron Energy (eV)
10^1
10^0
10^{-1}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7

3-Li- 6 (MAT= 325)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	941.1	837.2	–	1.431	1.900
elastic	–	734.5×10^{-3}	735.2×10^{-3}	–	906.4×10^{-3}	1.422
nonelastic	–	940.4	836.5	427.5	525.0×10^{-3}	478.0×10^{-3}
inelastic	1.752 MeV	–	–	–	412.0×10^{-3}	142.8×10^{-3}
(n,2n)	6.614 MeV	–	–	–	78.05×10^{-3}	190.5×10^{-6}
capture	–	38.50×10^{-3}	34.12×10^{-3}	17.47×10^{-3}	82.04×10^{-6}	28.06×10^{-6}
(n,p)	3.185 MeV	–	–	–	6.766×10^{-3}	4.264×10^{-3}
(n,t)	–	940.3	833.7	425.0	28.04×10^{-3}	330.7×10^{-3}

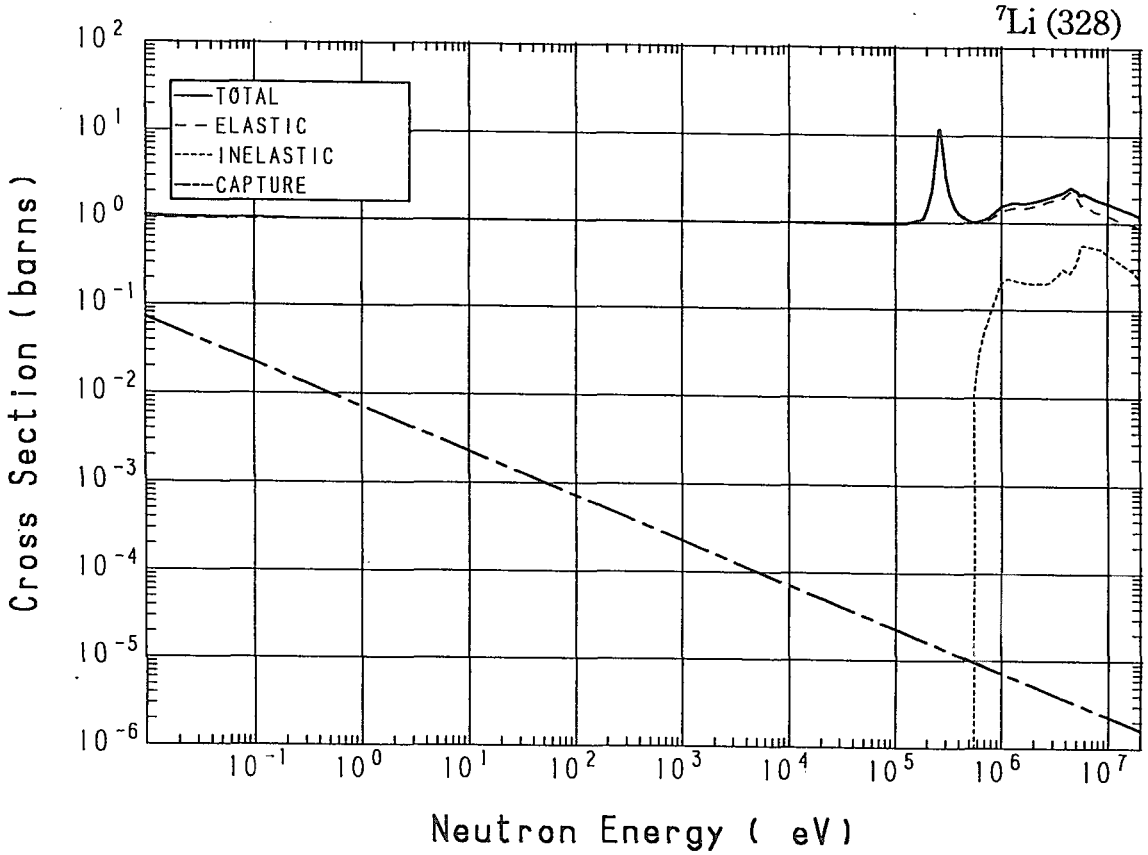


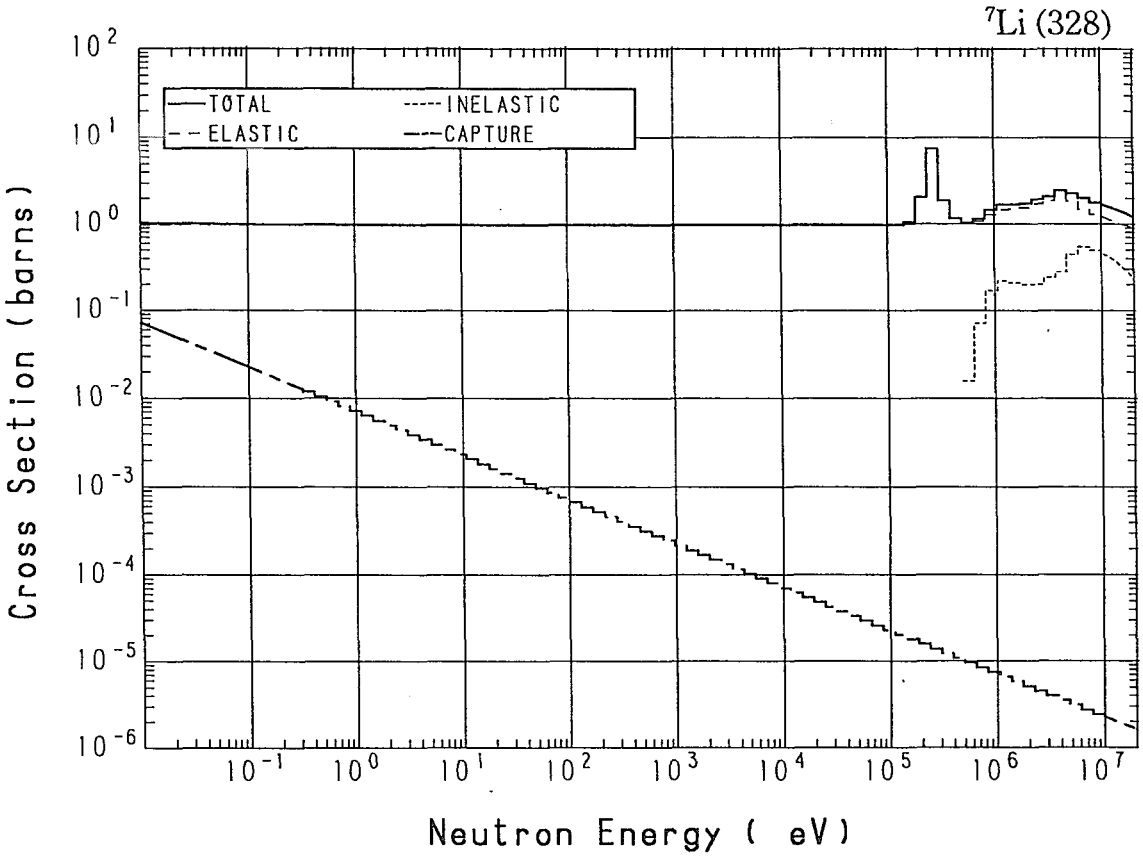

^{6}Li (325)
TOTAL
(N.T)
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

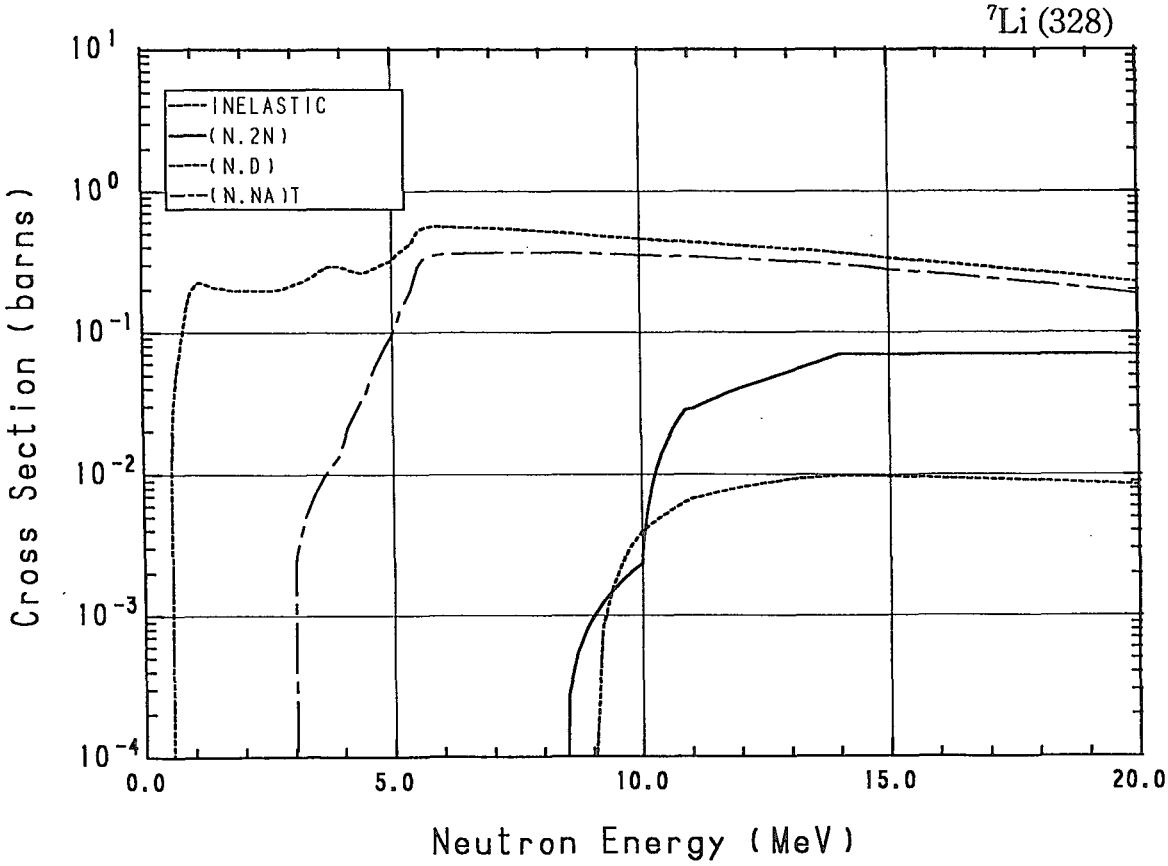

^{6}Li (325)
INELASTIC
(N.2N)
(N.P)
(N.T)
Cross Section (barns)
Neutron Energy (MeV)

3-Li- 7 (MAT= 328)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.015	1.012	–	1.470	1.845
elastic	–	970.0×10^{-3}	971.7×10^{-3}	–	1.025	1.660
nonelastic	–	45.40×10^{-3}	40.38×10^{-3}	1.078	444.9×10^{-3}	184.8×10^{-3}
inelastic	546.3 keV	–	–	–	365.0×10^{-3}	184.7×10^{-3}
(n,2n)	8.300 MeV	–	–	–	70.09×10^{-3}	38.53×10^{-6}
capture	–	45.40×10^{-3}	40.25×10^{-3}	20.43×10^{-3}	1.932×10^{-6}	6.905×10^{-6}
(n,d)	8.868 MeV	–	–	–	9.763×10^{-3}	10.98×10^{-6}

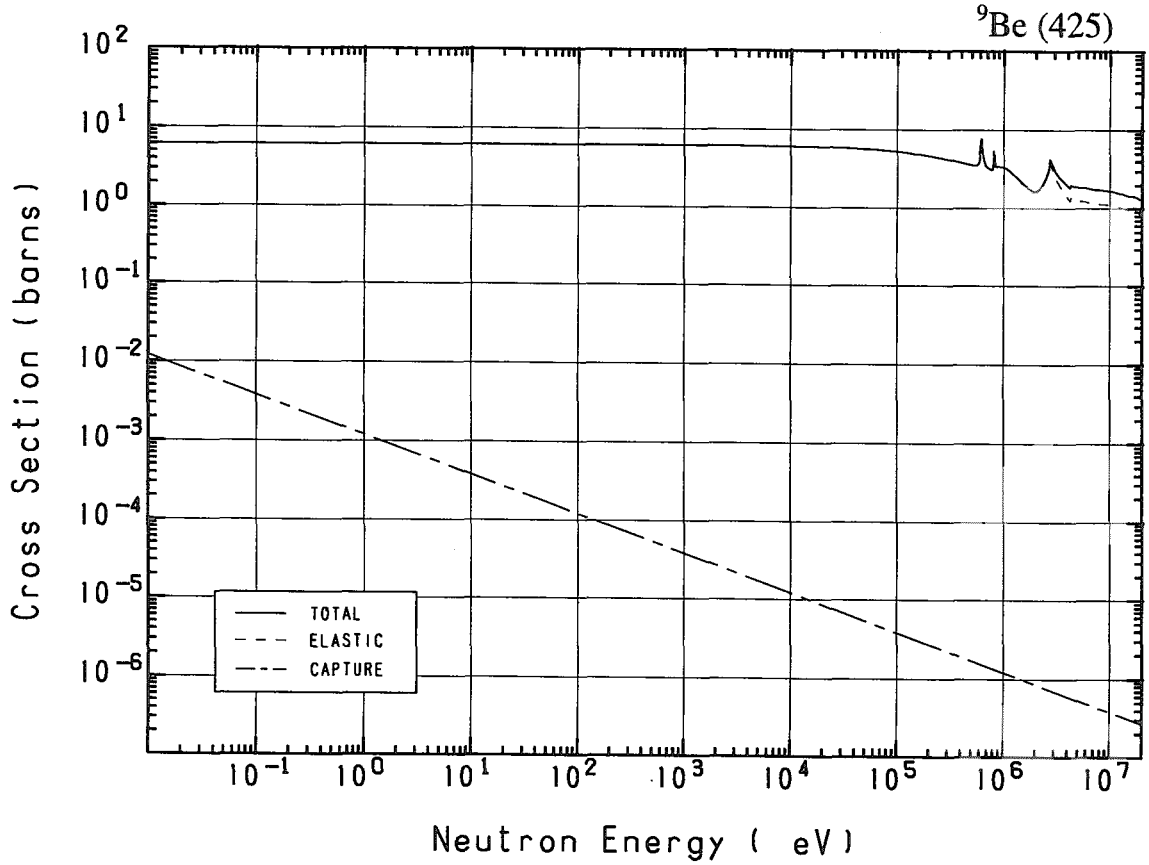


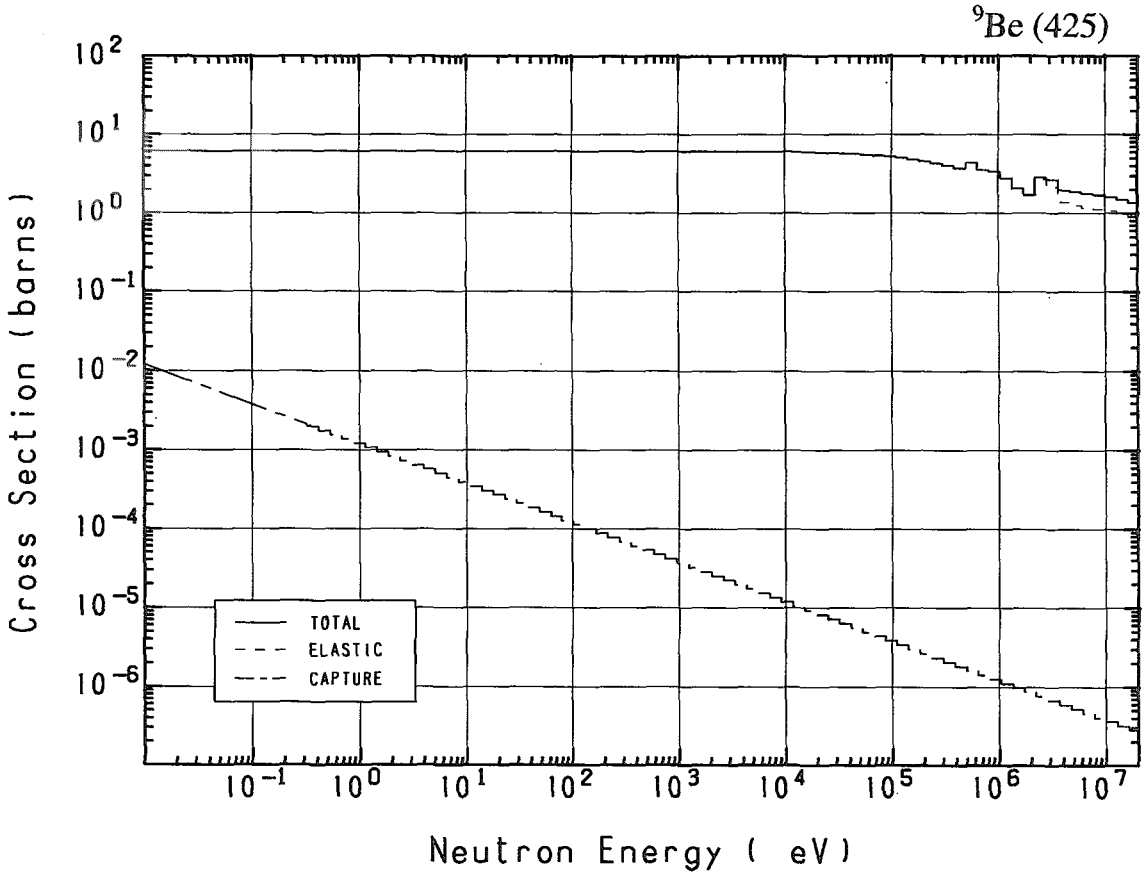

7Li (328)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

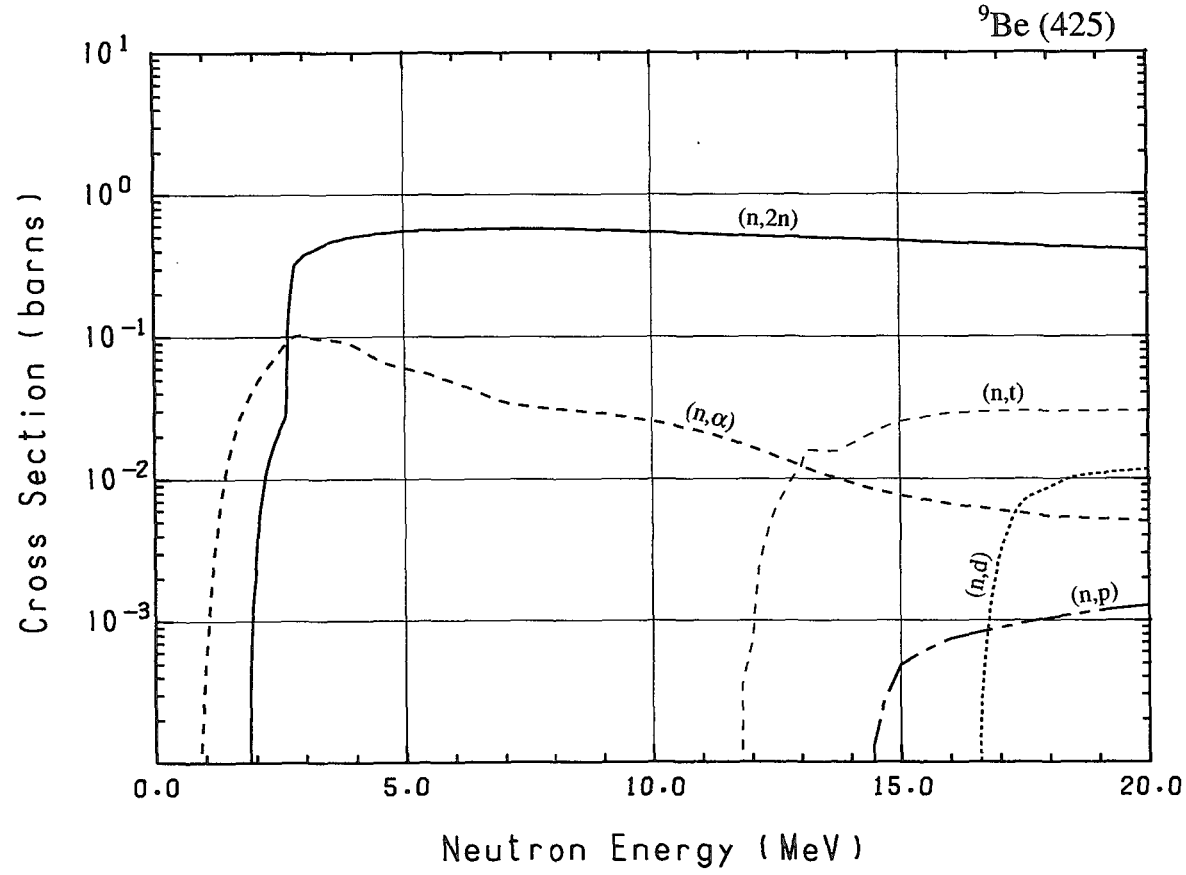

7Li (328)
INELASTIC
(N,2N)
(N,D)
(N,NA)T
Cross Section (barns)
Neutron Energy (MeV)

4-Be- 9 (MAT= 425)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.159	6.158	–	1.494	2.834
elastic	–	6.151	6.151	–	983.2×10^{-3}	2.673
nonelastic	–	7.600×10^{-3}	6.760×10^{-3}	1.144	510.6×10^{-3}	161.0×10^{-3}
(n,2n)	1.749 MeV	–	–	–	483.8×10^{-3}	125.4×10^{-3}
capture	–	7.600×10^{-3}	6.738×10^{-3}	3.420×10^{-3}	323.4×10^{-9}	1.156×10^{-6}
(n,p)	14.26 MeV	–	–	–	–	20.25×10^{-9}
(n,d)	16.30 MeV	–	–	–	–	32.68×10^{-9}
(n,t)	11.61 MeV	–	–	–	17.34×10^{-3}	3.084×10^{-6}
(n,α)	669.7 keV	–	–	–	9.419×10^{-3}	35.65×10^{-3}

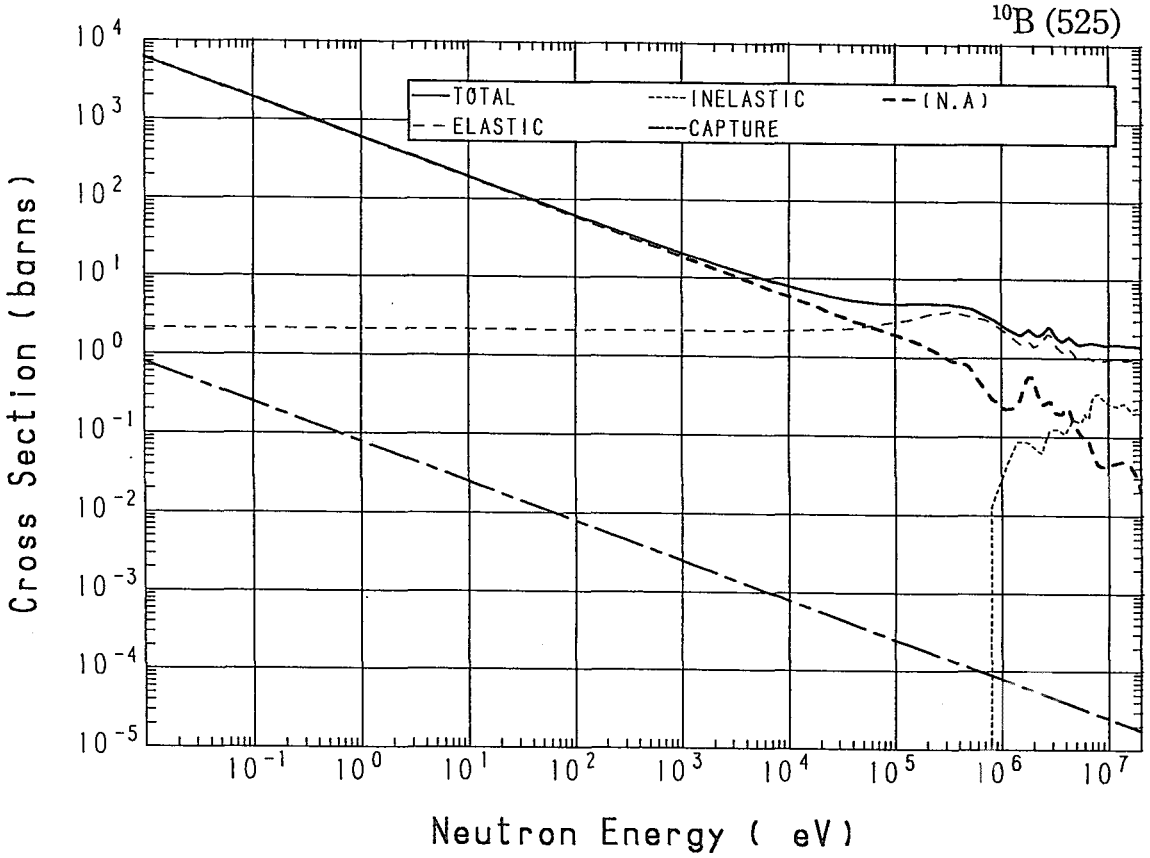


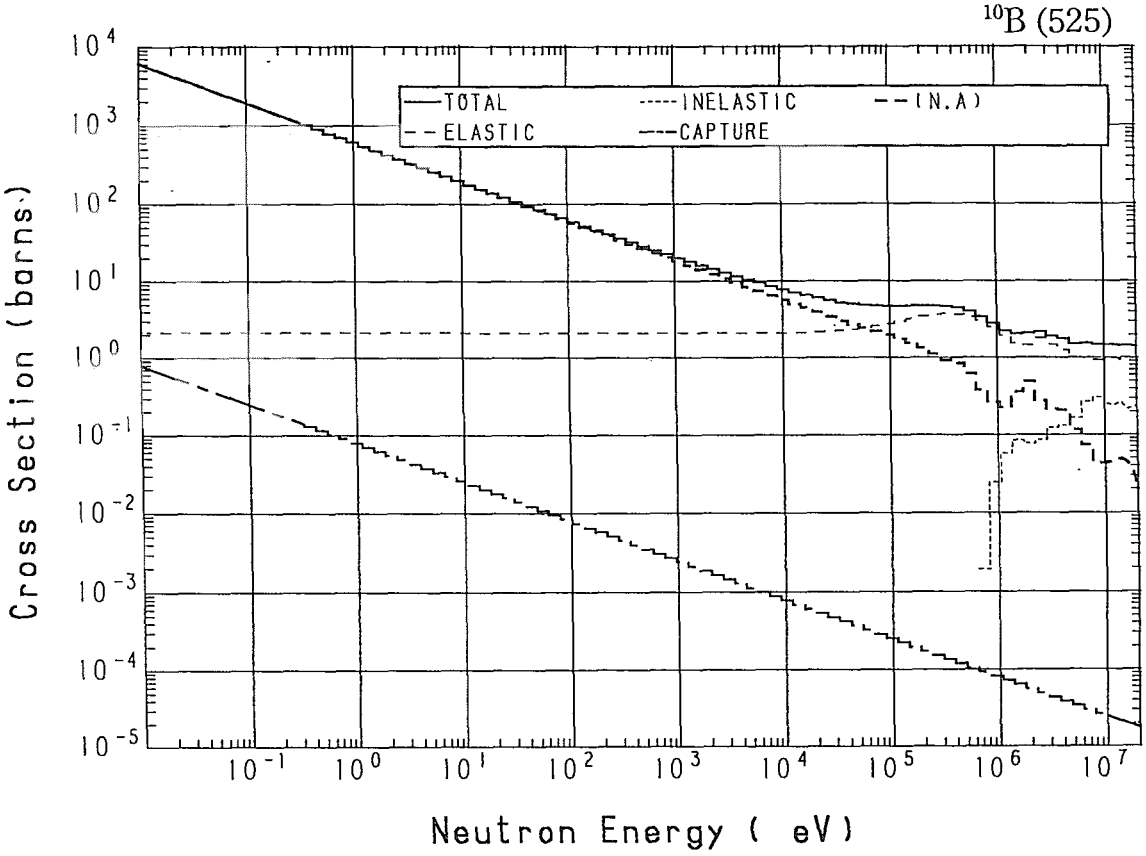

^{9}Be (425)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
CAPTURE

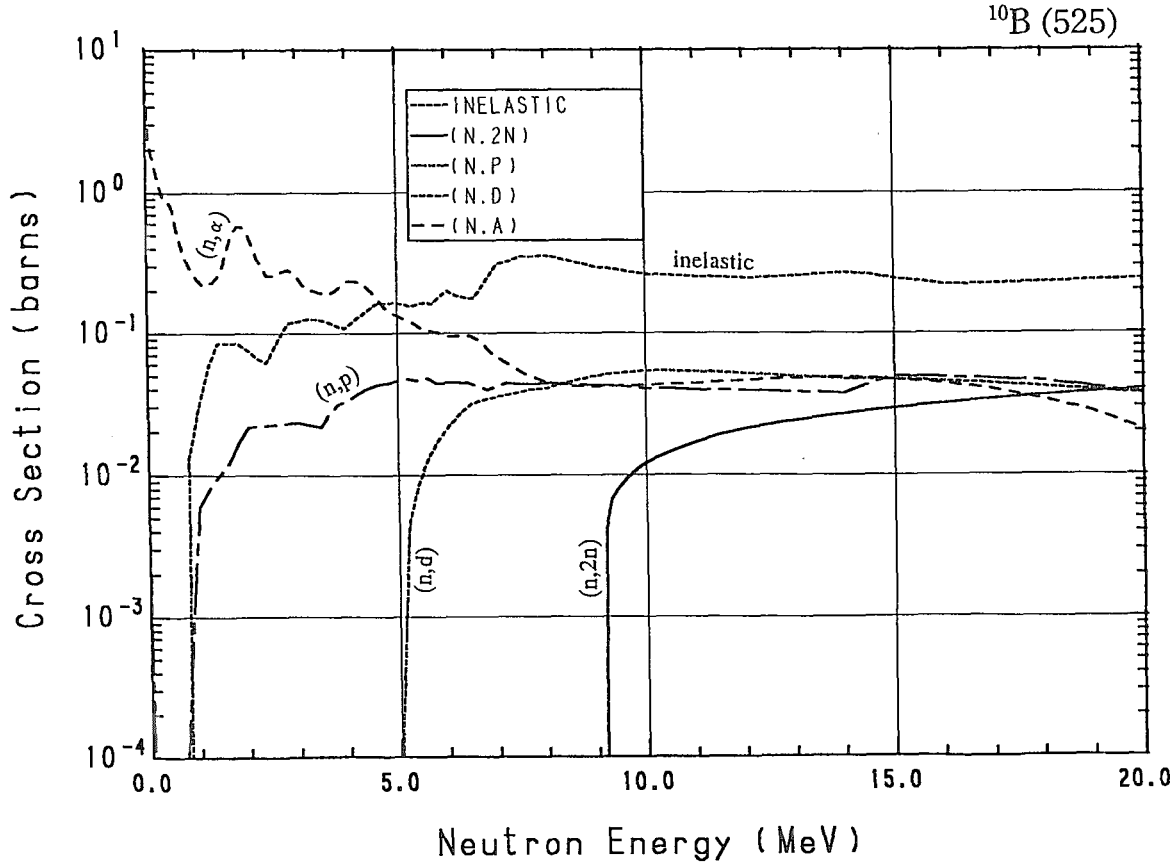

^{9}Be (425)
Cross Section (barns)
Neutron Energy (MeV)
(n,2n)
(n,α)
(n,t)
(n,d)
(n,p)

5-B - 10 (MAT= 525)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	$3.840\times10^{+3}$	$3.415\times10^{+3}$	–	1.467	2.638
elastic	–	2.144	2.144	–	942.5×10^{-3}	2.062
nonelastic	–	$3.838\times10^{+3}$	$3.413\times10^{+3}$	$1.726\times10^{+3}$	524.1×10^{-3}	575.3×10^{-3}
inelastic	790.7 keV	–	–	–	268.5×10^{-3}	70.84×10^{-3}
(n,2n)	8.980 MeV	–	–	–	26.83×10^{-3}	33.22×10^{-6}
capture	–	500.0×10^{-3}	443.3×10^{-3}	225.0×10^{-3}	21.27×10^{-6}	76.05×10^{-6}
(n,p)	–	3.000×10^{-3}	2.660×10^{-3}	94.96×10^{-3}	37.51×10^{-3}	15.25×10^{-3}
(n,d)	4.801 MeV	–	–	–	47.63×10^{-3}	1.249×10^{-3}
(n,α)	–	$3.837\times10^{+3}$	$3.402\times10^{+3}$	$1.719\times10^{+3}$	48.95×10^{-3}	435.5×10^{-3}
(n,t2α)	–	12.00×10^{-3}	10.64×10^{-3}	305.2×10^{-3}	94.66×10^{-3}	52.28×10^{-3}

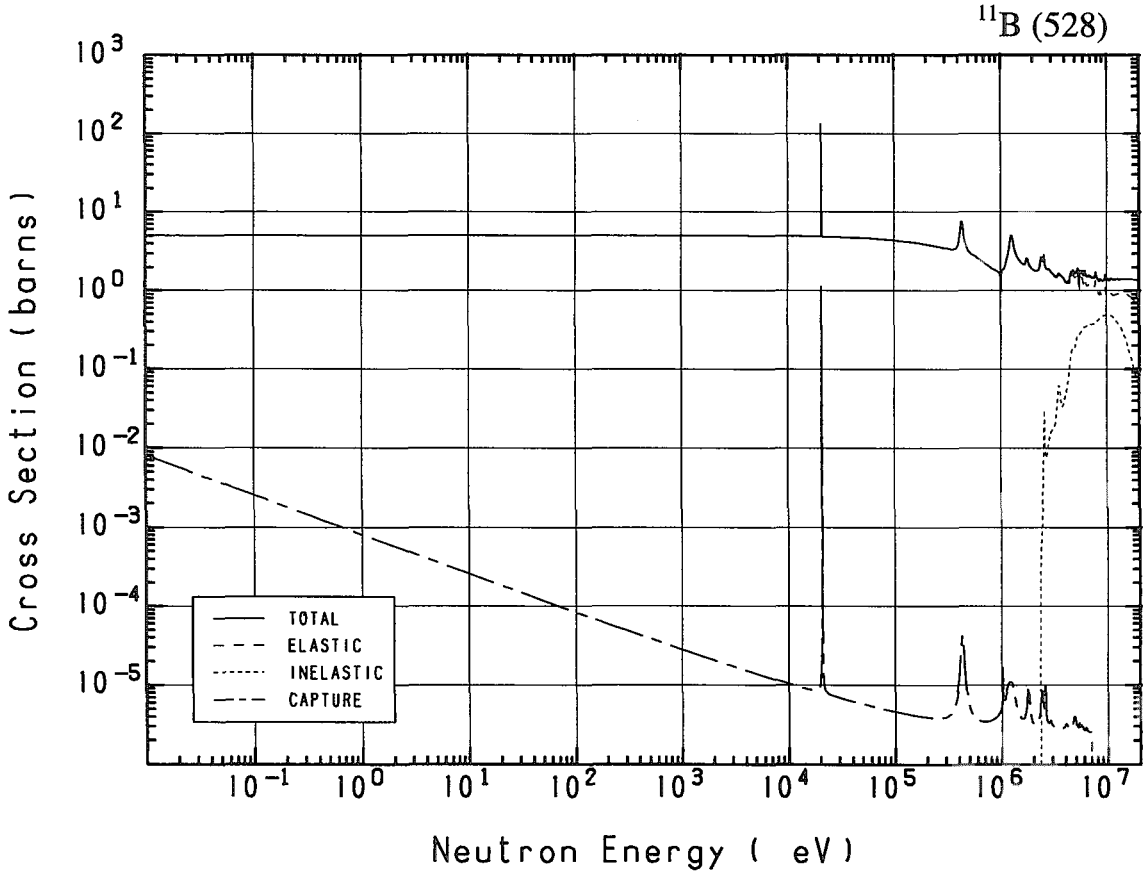


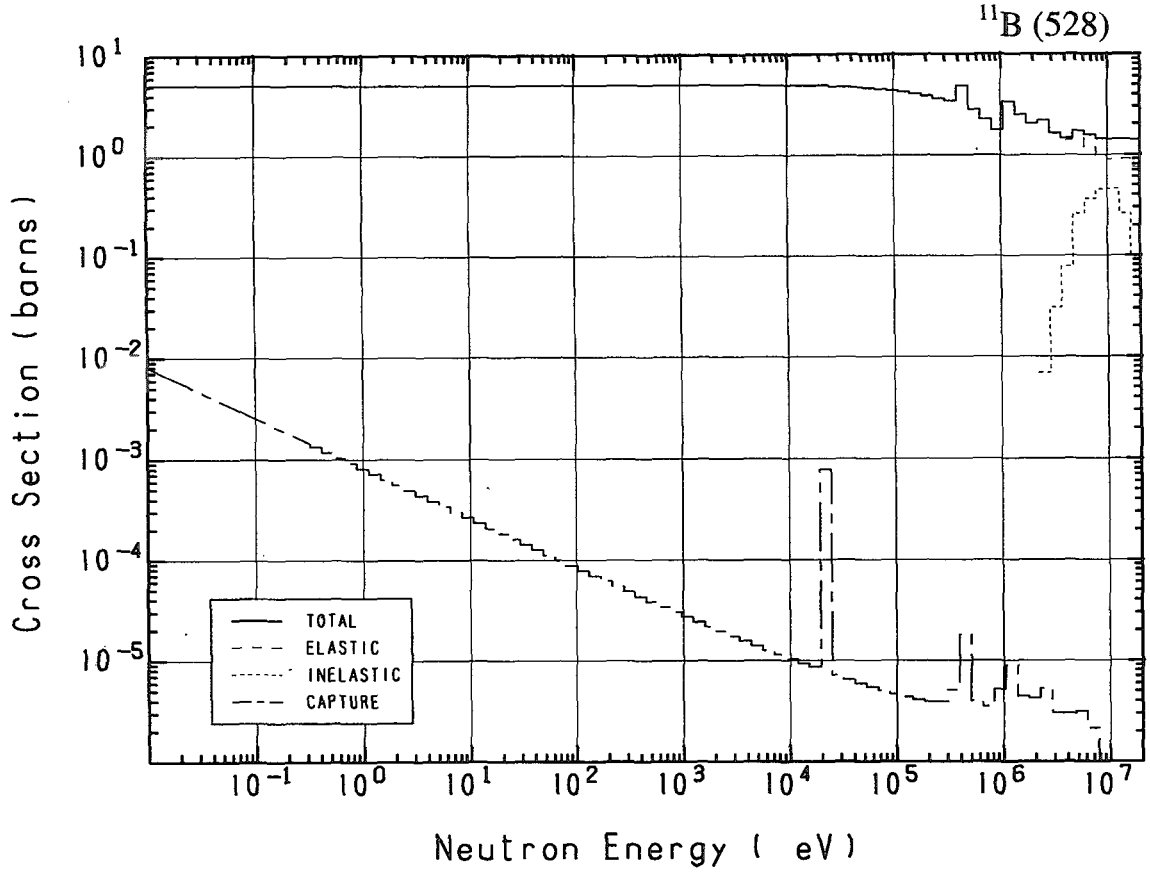

^{10}B (525)
TOTAL
ELASTIC
INELASTIC
CAPTURE
(N.A)
Cross Section (barns)
Neutron Energy (eV)

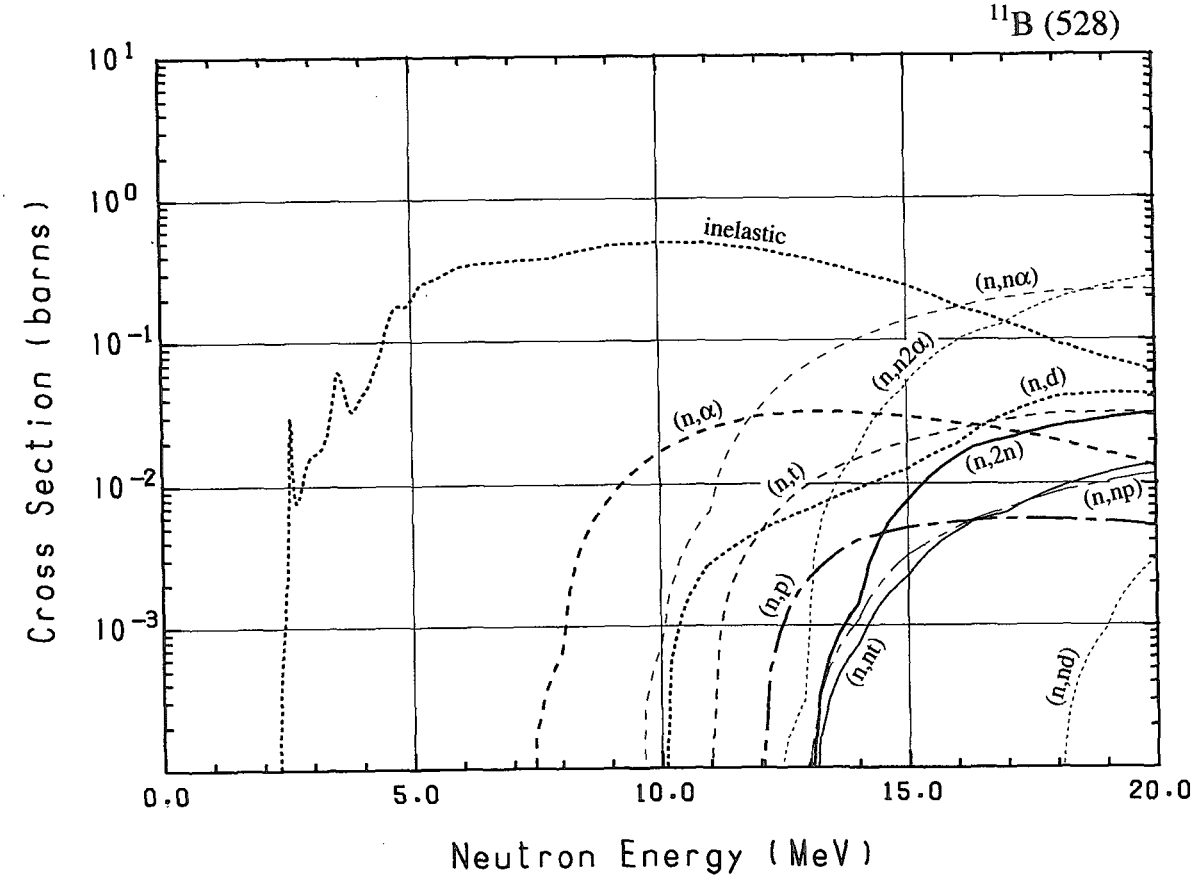

^{10}B (525)
INELASTIC
(N.2N)
(N.P)
(N.D)
(N.A)
(n,α)
(n,p)
(n,d)
(n,2n)
inelastic
Cross Section (barns)
Neutron Energy (MeV)

5-B - 11 (MAT= 528)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.050	5.050	–	1.415	2.425
elastic	–	5.045	5.045	–	934.9×10^{-3}	2.396
inelastic	2.320 MeV	–	–	–	298.3×10^{-3}	28.81×10^{-3}
(n,2n)	12.51 MeV	–	–	–	1.414×10^{-3}	496.7×10^{-9}
(n,nα)	9.460 MeV	–	–	–	101.0×10^{-3}	27.54×10^{-6}
(n,np)	12.26 MeV	–	–	–	1.104×10^{-3}	211.0×10^{-9}
(n,n2α)	12.15 MeV	–	–	–	17.96×10^{-3}	3.696×10^{-6}
(n,nd)	17.27 MeV	–	–	–	–	1.335×10^{-9}
(n,nt)	12.25 MeV	–	–	–	747.4×10^{-6}	169.8×10^{-9}
capture	–	5.075×10^{-3}	4.513×10^{-3}	2.541×10^{-3}	0.000	5.473×10^{-6}
(n,p)	11.71 MeV	–	–	–	4.021×10^{-3}	579.7×10^{-9}
(n,d)	9.830 MeV	–	–	–	9.200×10^{-3}	4.074×10^{-6}
(n,t)	10.43 MeV	–	–	–	14.96×10^{-3}	3.443×10^{-6}
(n,α)	7.240 MeV	–	–	–	31.38×10^{-3}	63.13×10^{-6}

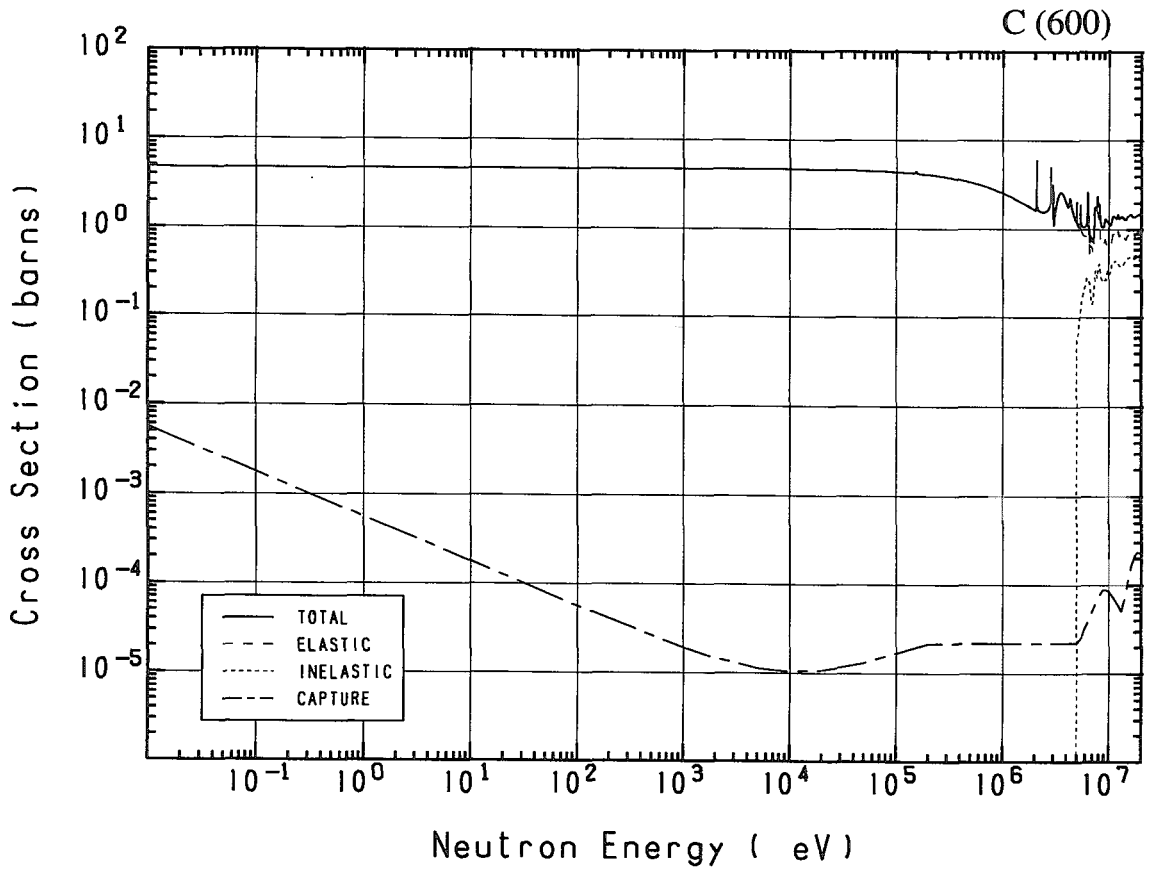


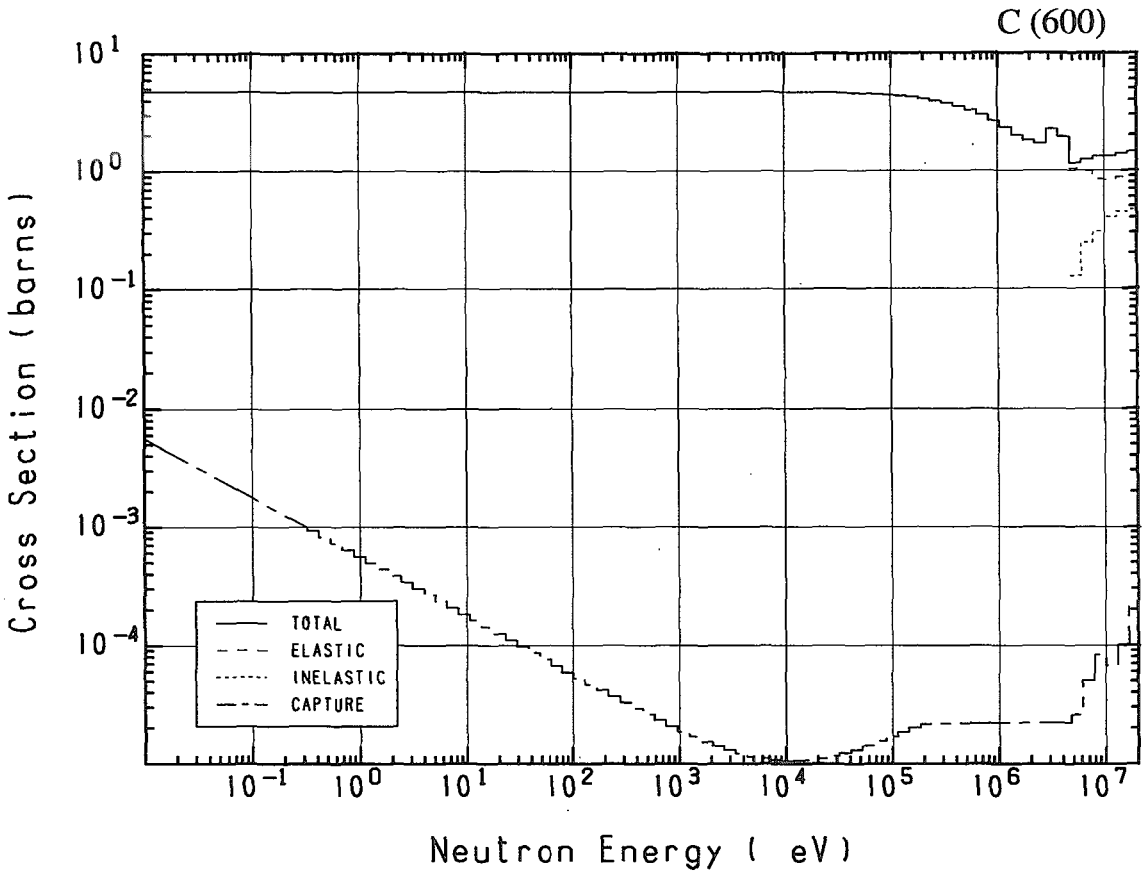

^{11}B (528)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

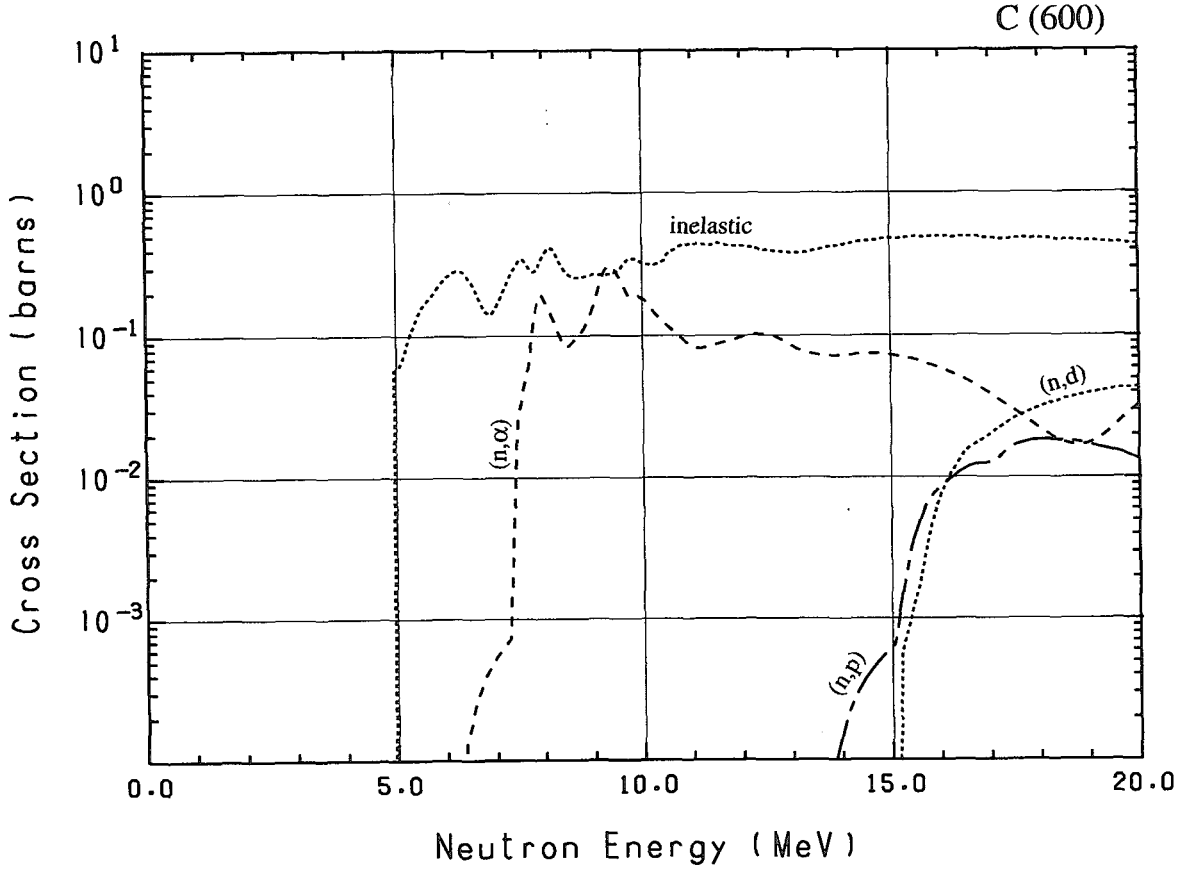

^{11}B (528)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,nα)
(n,n2α)
(n,d)
(n,α)
(n,t)
(n,2n)
(n,np)
(n,p)
(n,nt)
(n,nd)

6-C - 0 (MAT= 600)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.743	4.742	–	1.303	2.365
elastic	–	4.739	4.739	–	803.4×10^{-3}	2.352
inelastic	4.812 MeV	–	–	–	426.9×10^{-3}	11.42×10^{-3}
capture	–	3.530×10^{-3}	3.130×10^{-3}	1.823×10^{-3}	70.46×10^{-6}	22.92×10^{-6}
(n,p)	13.65 MeV	–	–	–	164.0×10^{-6}	184.2×10^{-9}
(n,d)	14.89 MeV	–	–	–	–	218.9×10^{-9}
(n,α)	6.181 MeV	–	–	–	72.65×10^{-3}	1.223×10^{-3}

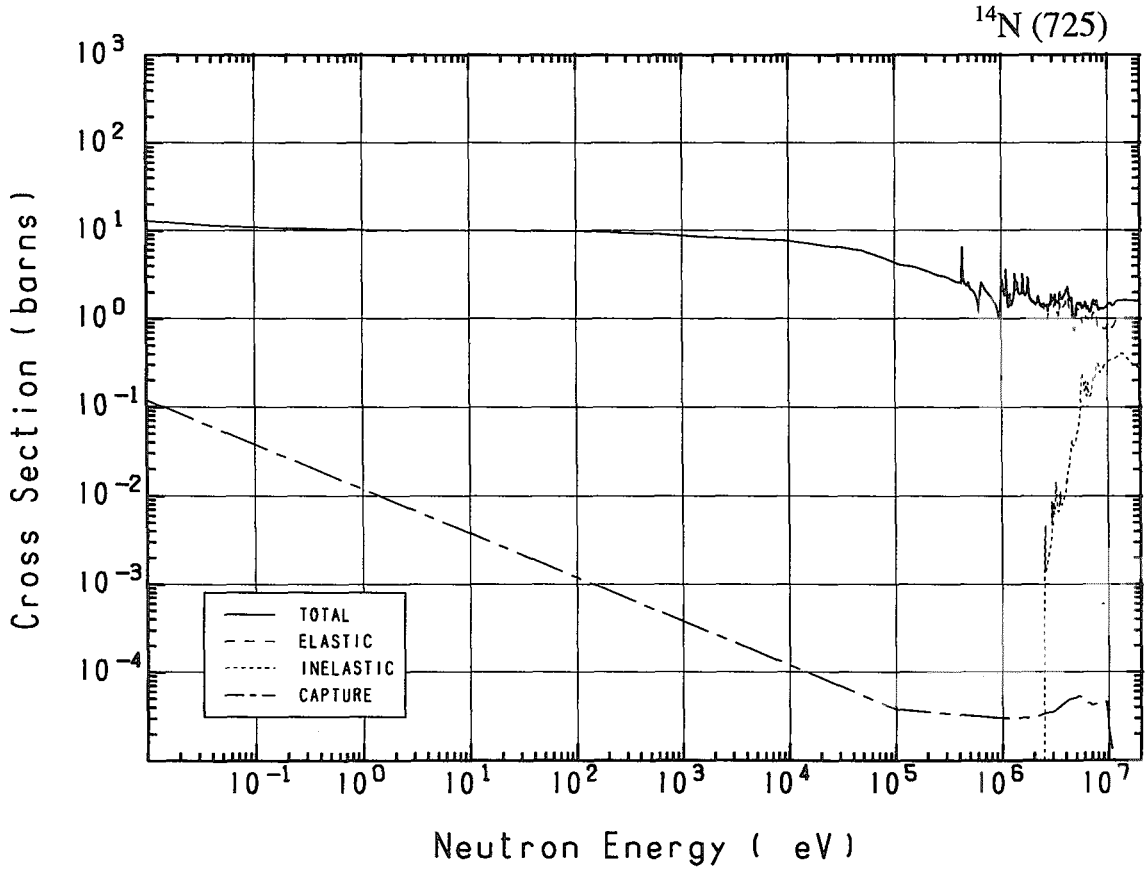


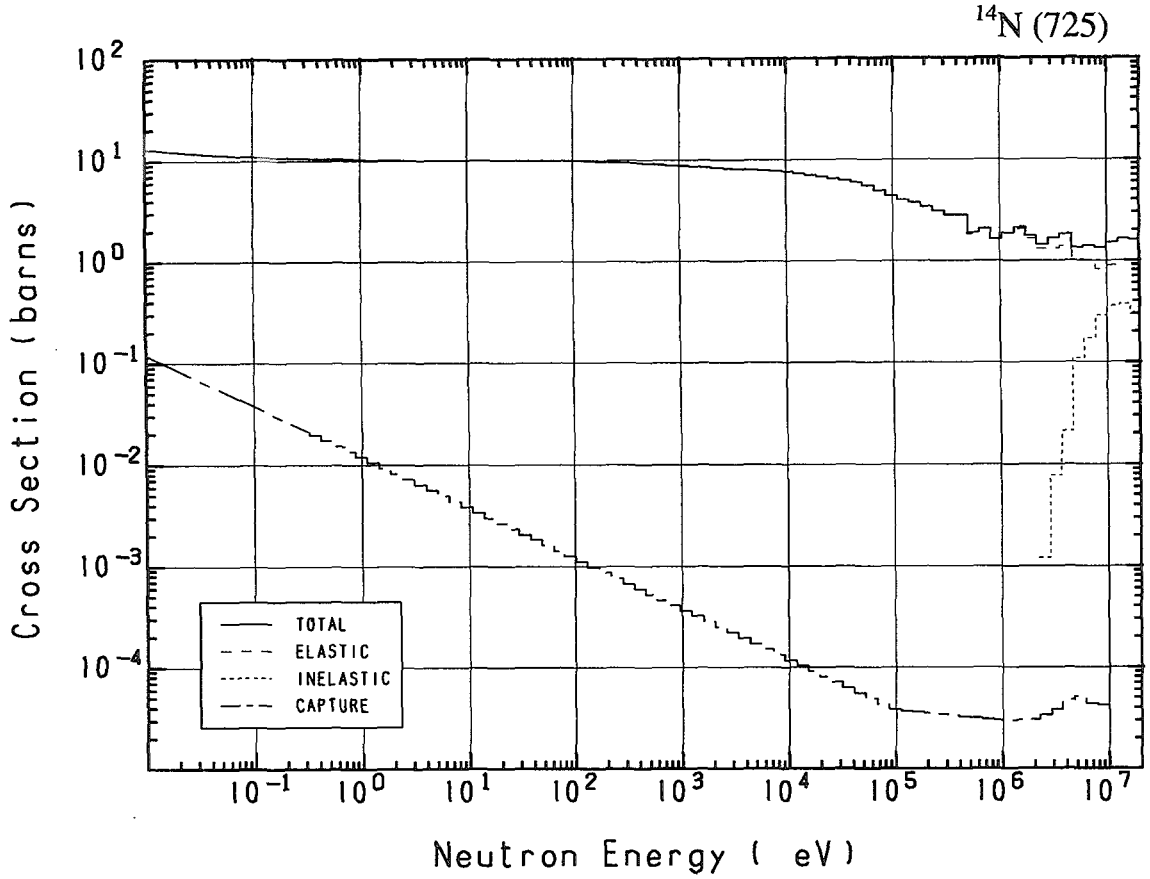

C (600)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

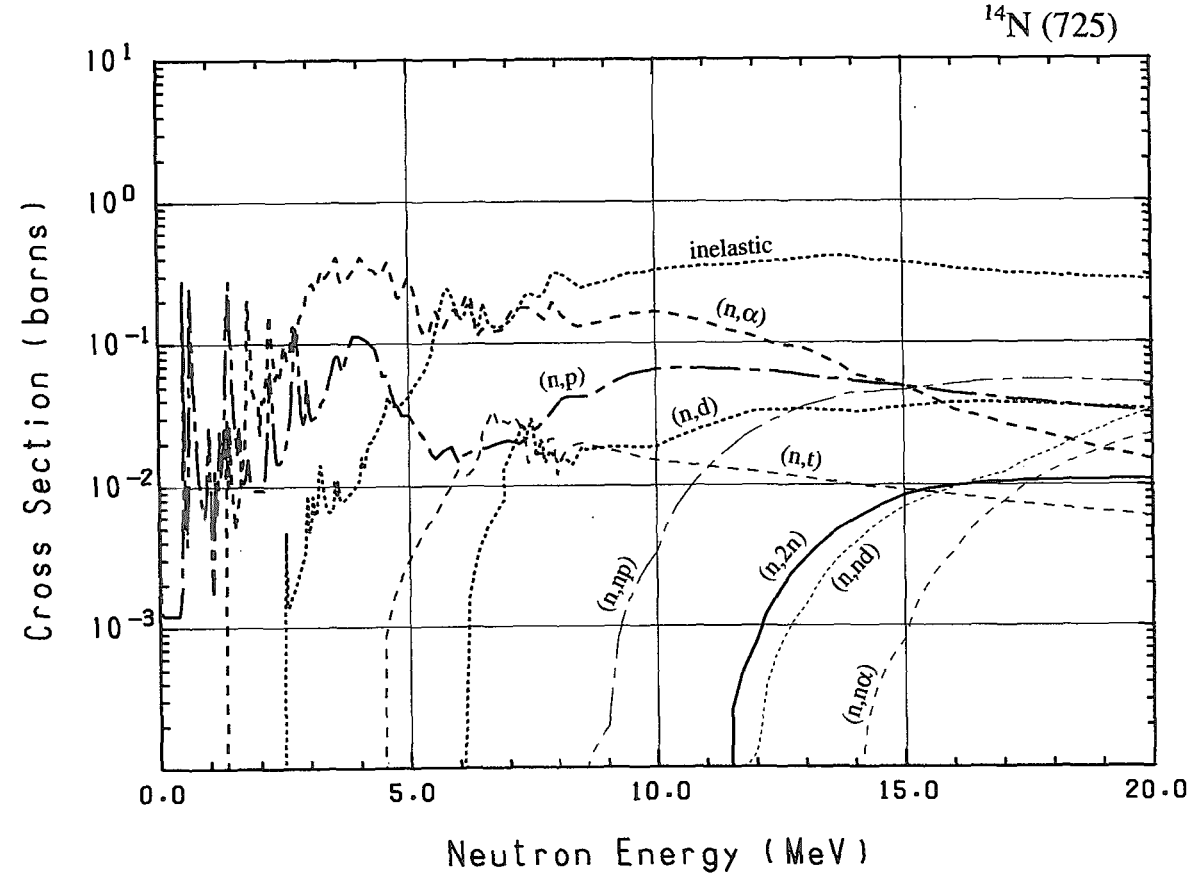

C (600)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,α)
(n,d)
(n,p)

7-N - 14 (MAT= 725)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	11.91	11.69	–	1.629	1.964
elastic	–	10.00	10.00	–	984.0×10^{-3}	1.832
inelastic	2.480 MeV	–	–	–	399.3×10^{-3}	11.36×10^{-3}
(n,2n)	11.31 MeV	–	–	–	5.670×10^{-3}	1.006×10^{-6}
(n,nα)	12.45 MeV	–	–	–	29.95×10^{-6}	113.6×10^{-9}
(n,np)	8.095 MeV	–	–	–	44.52×10^{-3}	22.89×10^{-6}
(n,nd)	11.01 MeV	–	–	–	3.826×10^{-3}	654.7×10^{-9}
capture	–	75.00×10^{-3}	66.49×10^{-3}	33.85×10^{-3}	1.036×10^{-6}	34.69×10^{-6}
(n,p)	–	1.830	1.622	983.2×10^{-3}	54.03×10^{-3}	35.13×10^{-3}
(n,d)	5.710 MeV	–	–	–	32.66×10^{-3}	319.6×10^{-6}
(n,t)	4.304 MeV	–	–	–	10.00×10^{-3}	773.8×10^{-6}
(n,α)	169.4 keV	–	–	–	60.10×10^{-3}	84.07×10^{-3}
(n,2α)	9.458 MeV	–	–	–	34.48×10^{-3}	5.639×10^{-6}

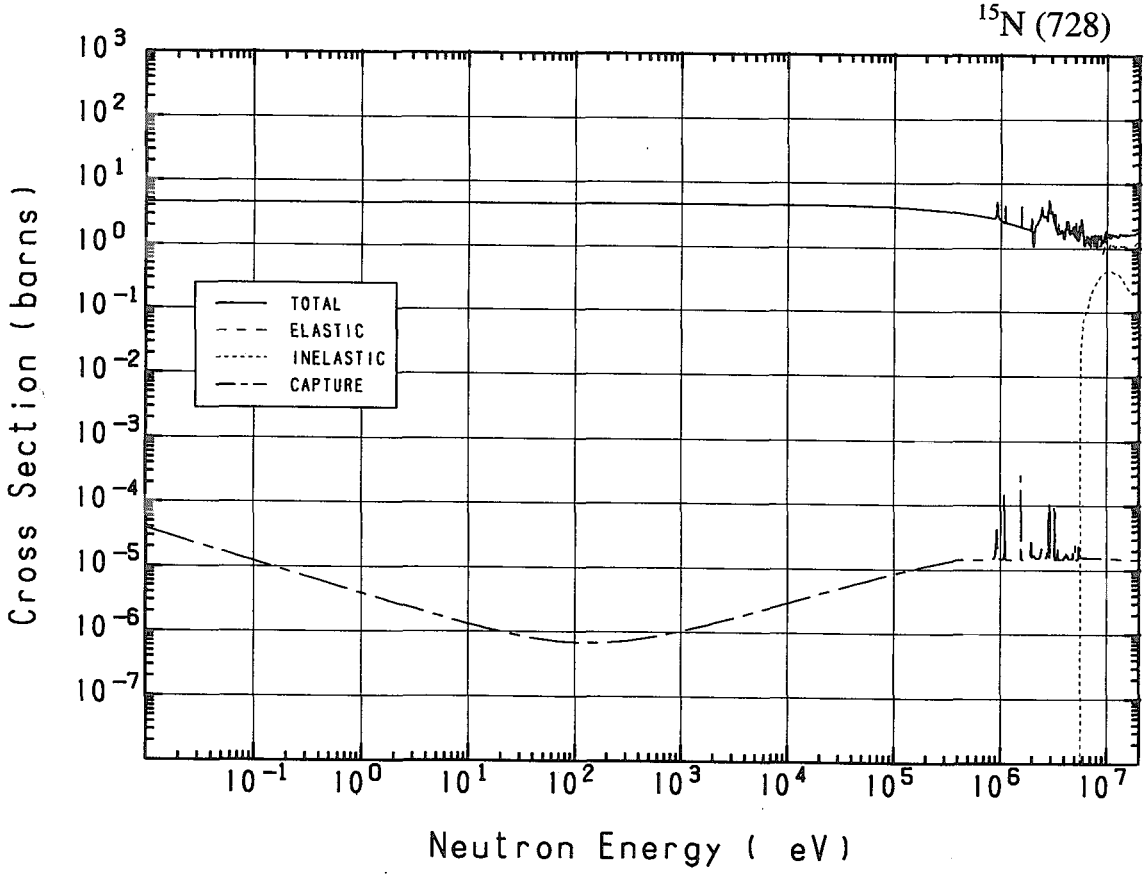


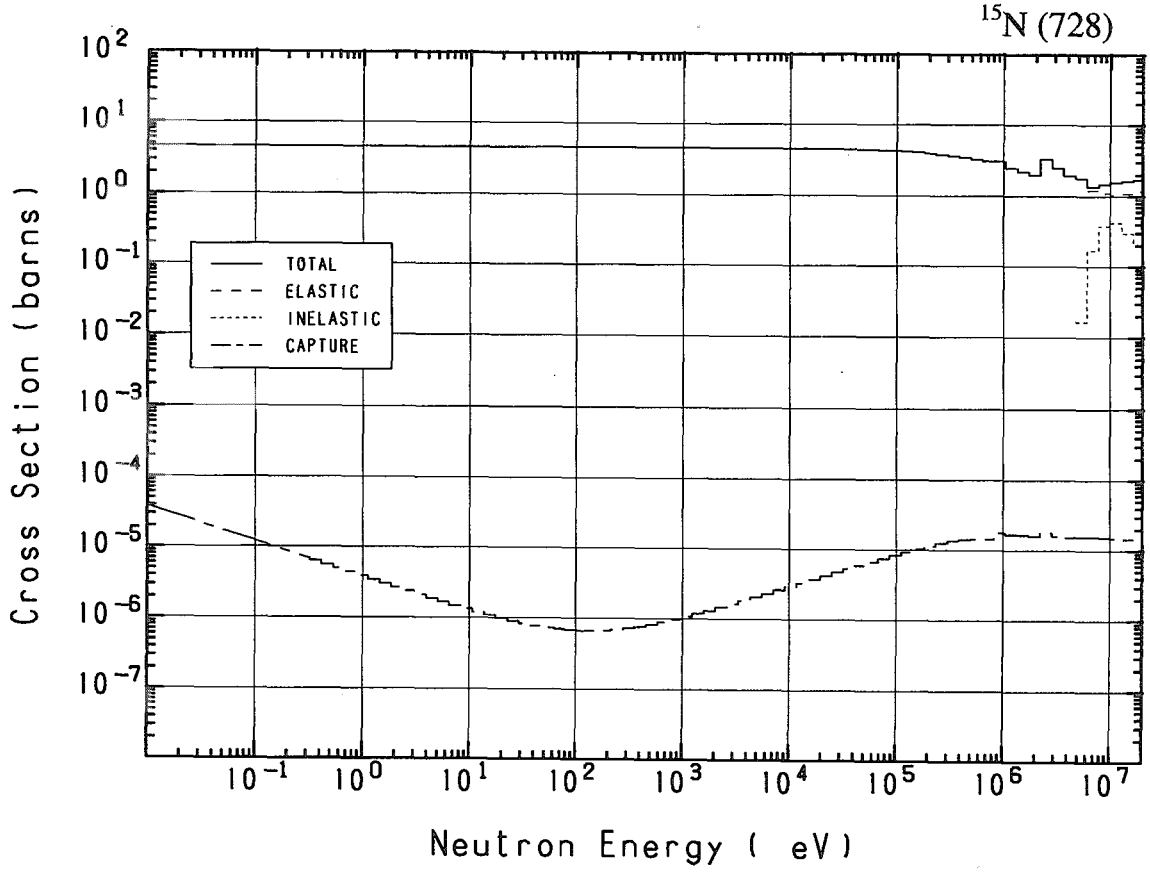

^{14}N (725)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

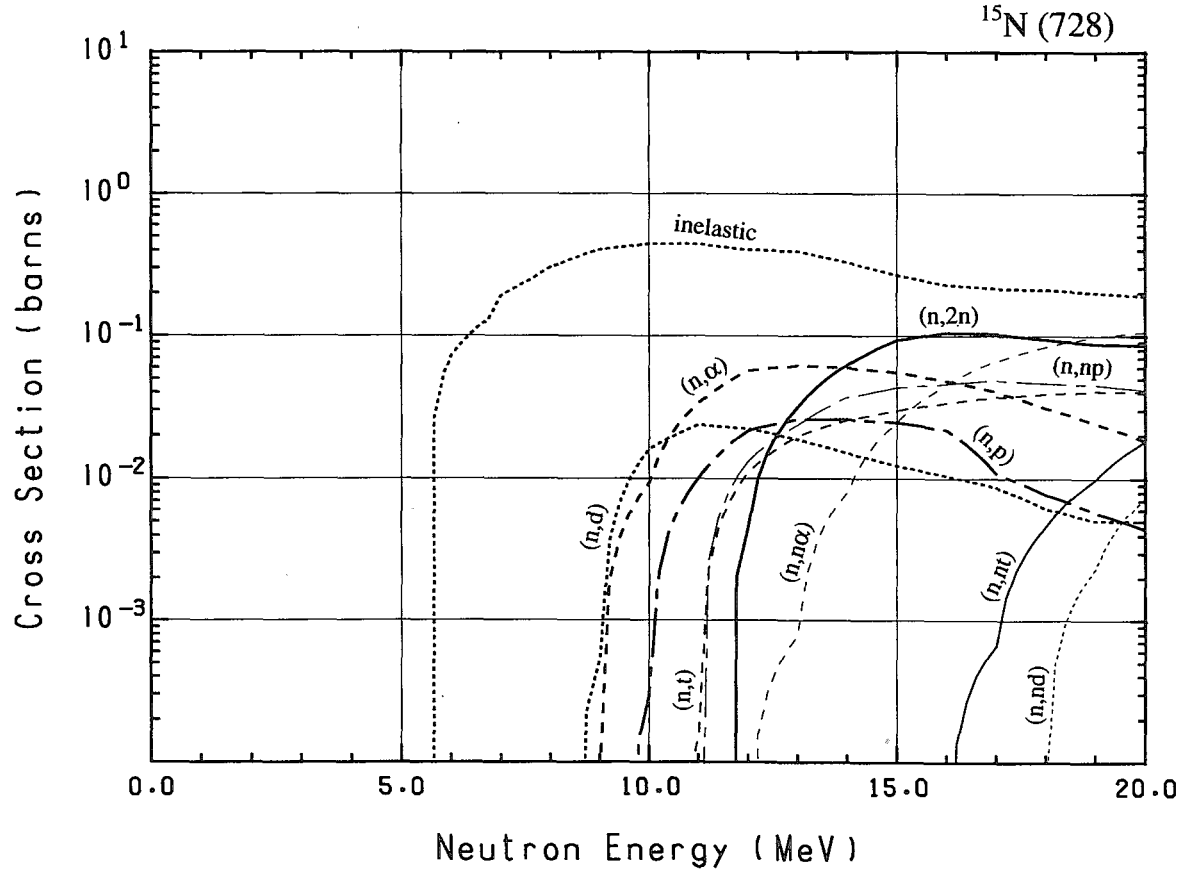

^{14}N (725)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,α)
(n,p)
(n,d)
(n,t)
(n,2n)
(n,nd)
(n,np)
(n,nα)

7-N - 15 (MAT= 728)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.590	4.590	–	1.643	2.683
elastic	–	4.590	4.590	–	1.080	2.677
inelastic	5.625 MeV	–	–	–	329.3×10^{-3}	5.894×10^{-3}
(n,2n)	11.56 MeV	–	–	–	62.72×10^{-3}	9.942×10^{-6}
(n,nα)	11.73 MeV	–	–	–	7.976×10^{-3}	1.804×10^{-6}
(n,np)	10.89 MeV	–	–	–	37.00×10^{-3}	8.488×10^{-6}
(n,nd)	17.25 MeV	–	–	–	–	3.194×10^{-9}
(n,nt)	15.85 MeV	–	–	–	–	20.82×10^{-9}
capture	–	24.26×10^{-6}	21.58×10^{-6}	106.0×10^{-6}	14.83×10^{-6}	15.85×10^{-6}
(n,p)	9.594 MeV	–	–	–	25.87×10^{-3}	14.34×10^{-6}
(n,d)	8.520 MeV	–	–	–	15.14×10^{-3}	37.19×10^{-6}
(n,t)	10.57 MeV	–	–	–	25.53×10^{-3}	6.715×10^{-6}
(n,α)	8.134 MeV	–	–	–	60.09×10^{-3}	49.78×10^{-6}

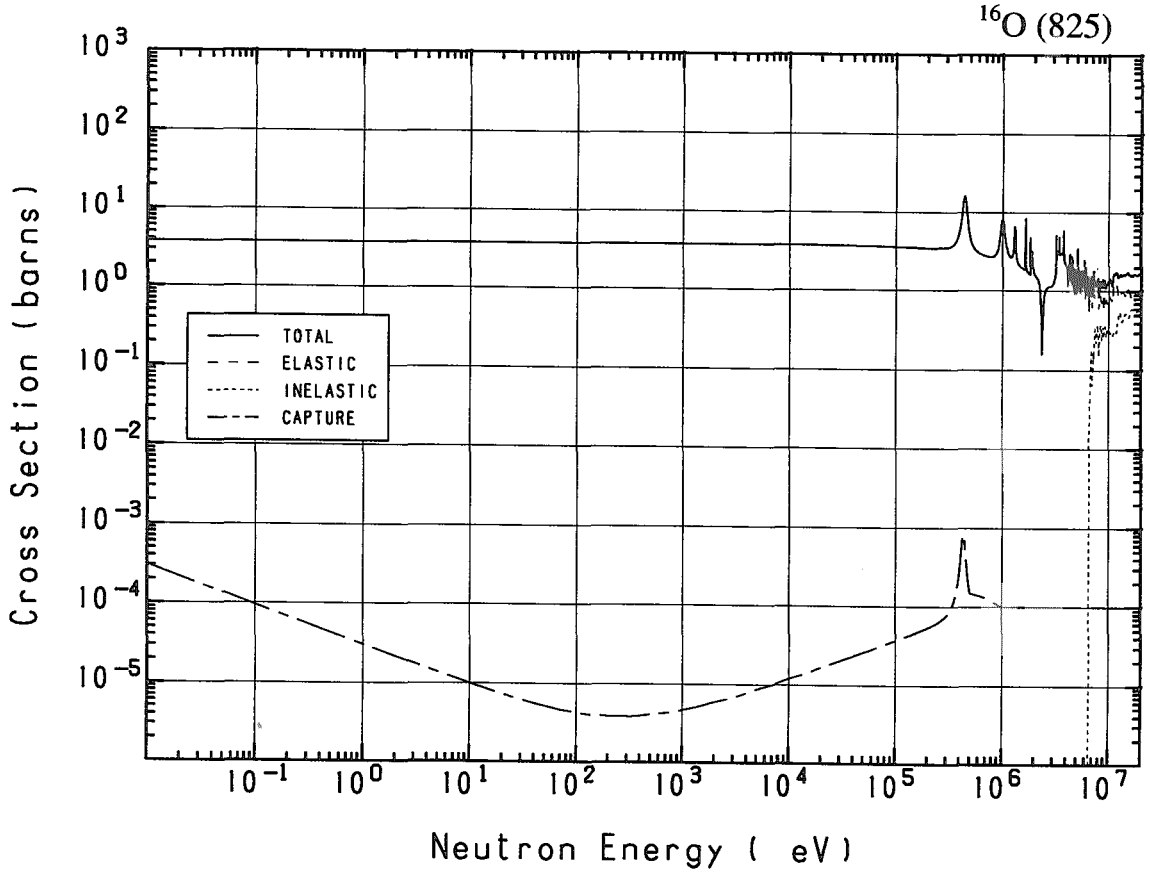


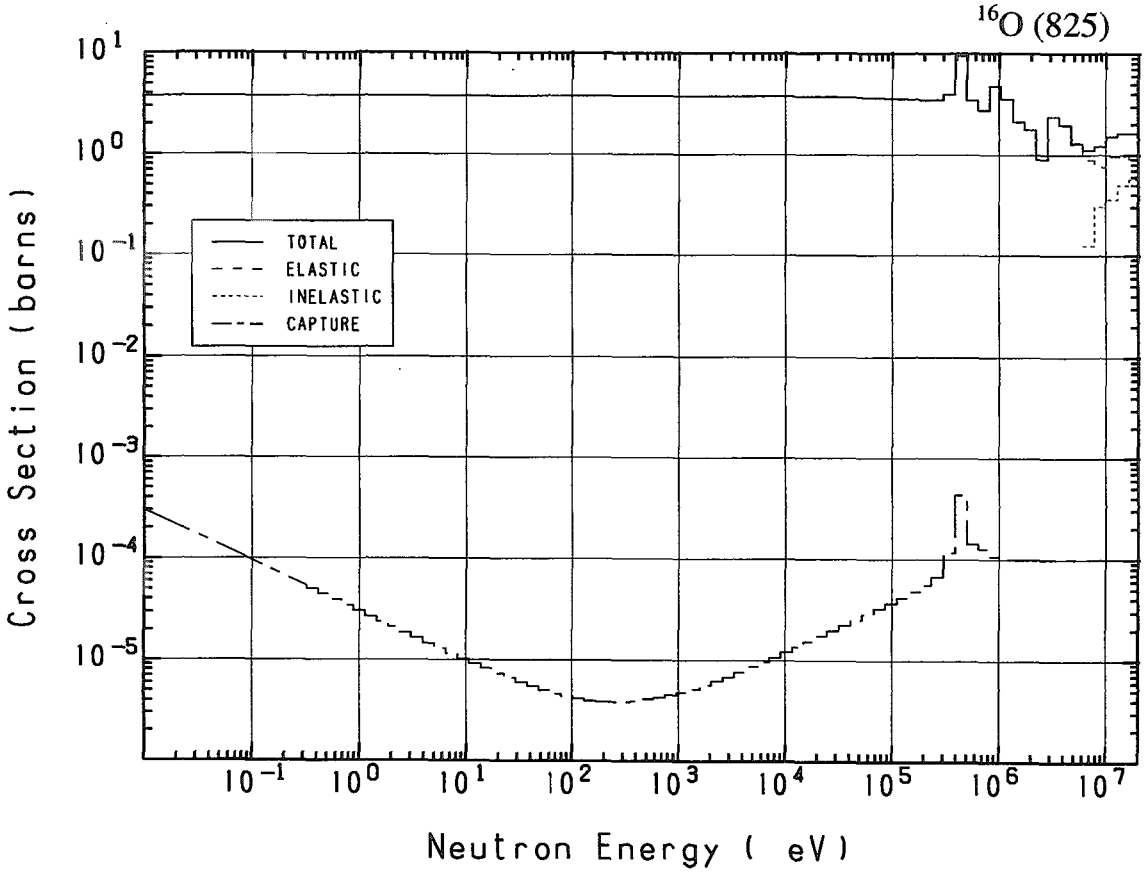

^{15}N (728)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

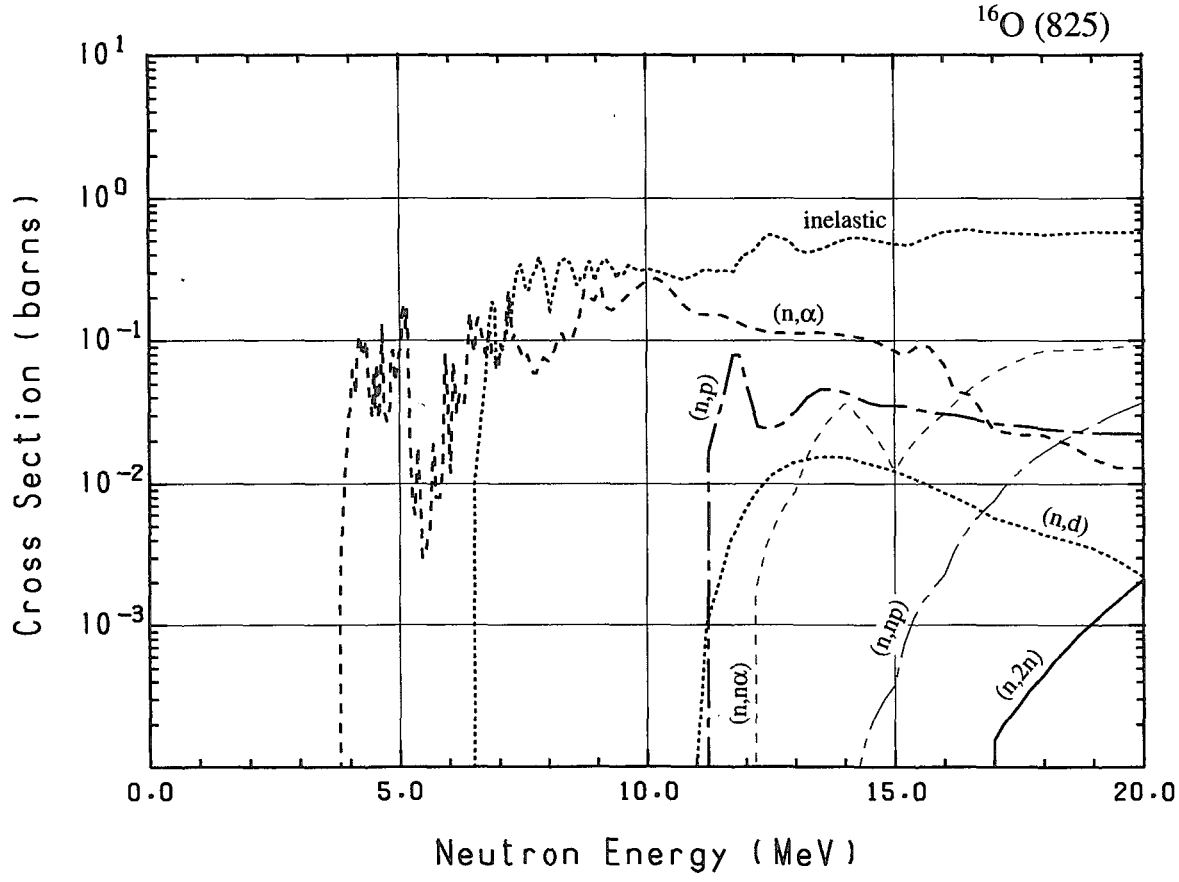

^{15}N (728)
inelastic
(n,2n)
(n,α)
(n,np)
(n,p)
(n,d)
(n,nα)
(n,nt)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

8-O - 16 (MAT= 825)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.780	3.780	–	1.611	2.750
elastic	–	3.780	3.780	–	897.8×10^{-3}	2.739
inelastic	6.430 MeV	–	–	–	508.4×10^{-3}	3.868×10^{-3}
(n,2n)	16.65 MeV	–	–	–	–	2.152×10^{-9}
(n,nα)	7.613 MeV	–	–	–	36.61×10^{-3}	3.472×10^{-6}
(n,np)	12.89 MeV	–	–	–	0.000	109.3×10^{-9}
capture	–	189.9×10^{-6}	168.3×10^{-6}	742.6×10^{-6}	100.0×10^{-6}	113.6×10^{-6}
(n,p)	10.24 MeV	–	–	–	43.70×10^{-3}	20.26×10^{-6}
(n,d)	10.53 MeV	–	–	–	15.40×10^{-3}	3.888×10^{-6}
(n,α)	2.355 MeV	–	–	–	109.0×10^{-3}	7.629×10^{-3}

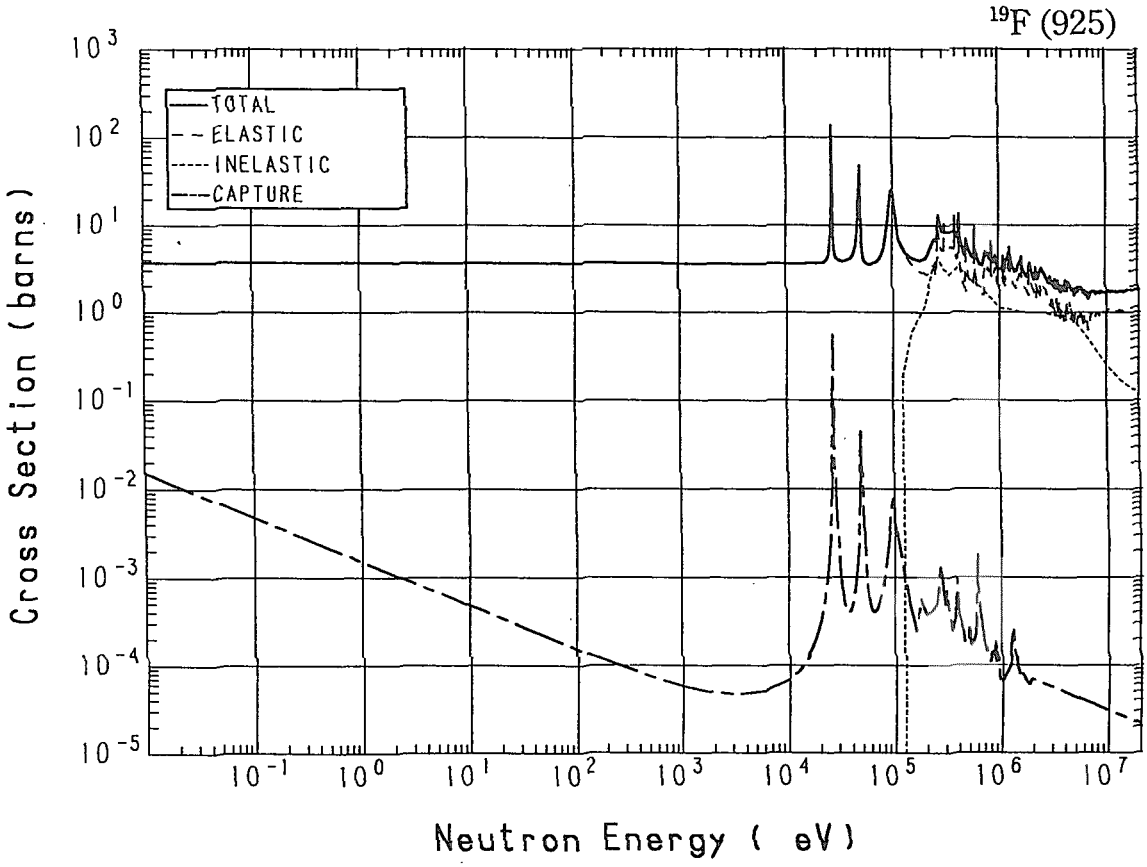


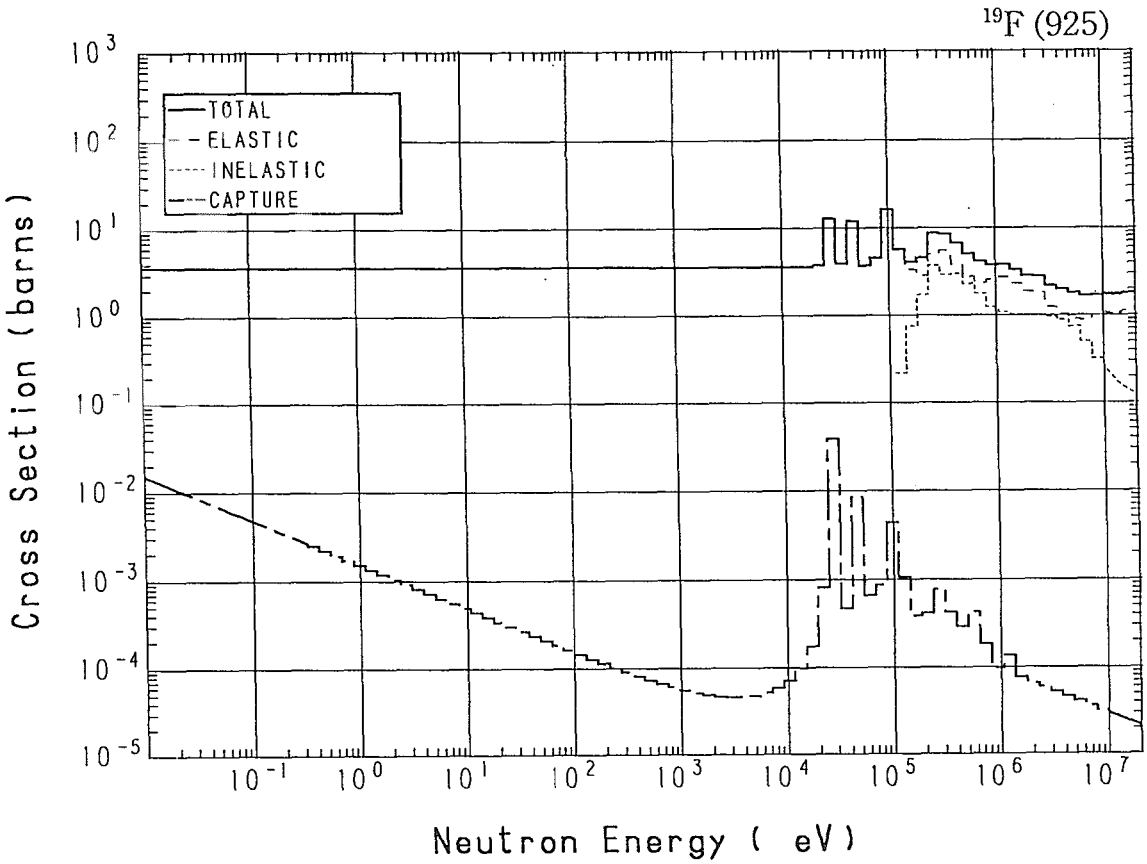

16O (825)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

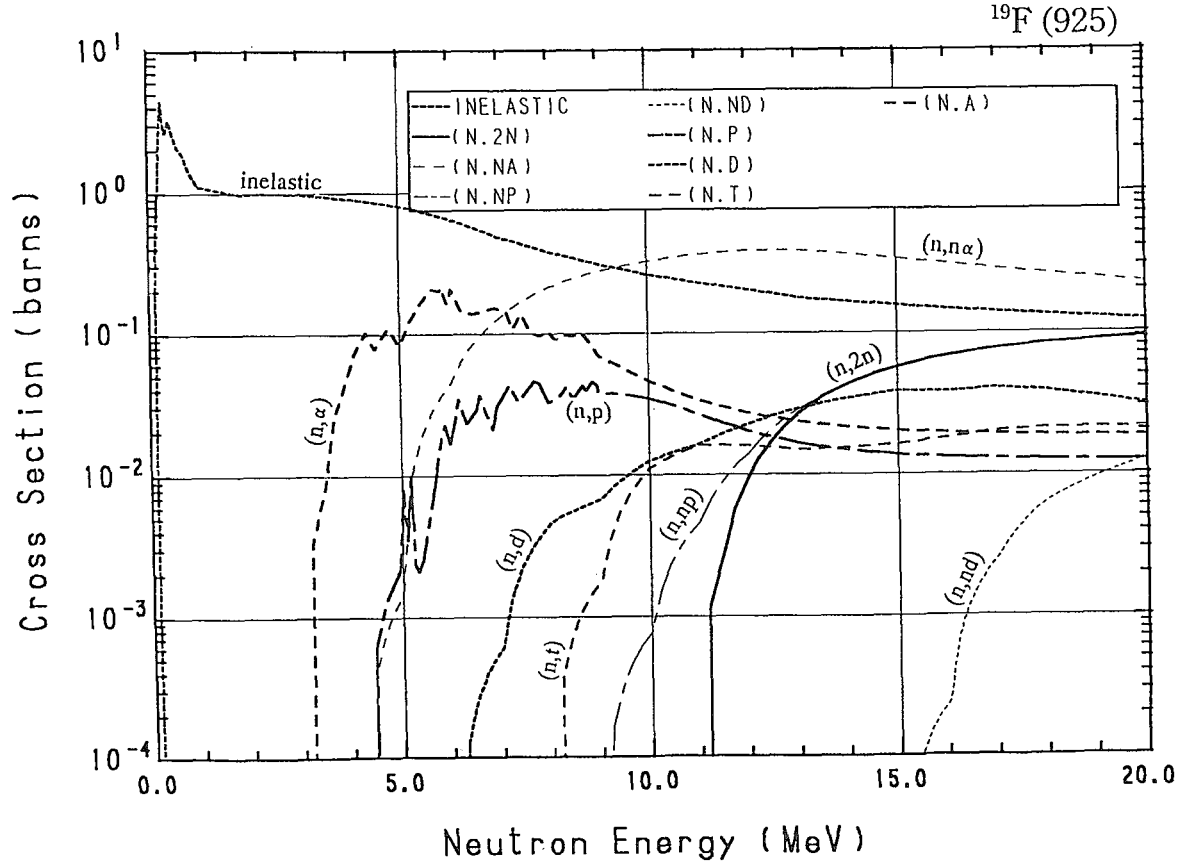

16O (825)
inelastic
(n,α)
(n,p)
(n,d)
(n,np)
(n,nα)
(n,2n)
Cross Section (barns)
Neutron Energy (MeV)

9-F - 19 (MAT= 925)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.652	3.651	–	1.741	3.610
elastic	–	3.643	3.643	–	1.046	2.324
inelastic	115.8 keV	–	–	–	164.2×10^{-3}	1.265
(n,2n)	10.99 MeV	–	–	–	42.94×10^{-3}	8.615×10^{-6}
(n,nα)	4.226 MeV	–	–	–	359.4×10^{-3}	4.614×10^{-3}
(n,np)	8.417 MeV	–	–	–	42.81×10^{-3}	13.20×10^{-6}
(n,nd)	14.55 MeV	–	–	–	–	31.83×10^{-9}
capture	–	9.570×10^{-3}	8.484×10^{-3}	19.49×10^{-3}	25.66×10^{-6}	211.7×10^{-6}
(n,p)	4.251 MeV	–	–	–	14.66×10^{-3}	1.163×10^{-3}
(n,d)	6.074 MeV	–	–	–	34.08×10^{-3}	75.92×10^{-6}
(n,t)	7.959 MeV	–	–	–	15.30×10^{-3}	30.23×10^{-6}
(n,α)	1.603 MeV	–	–	–	21.34×10^{-3}	14.65×10^{-3}

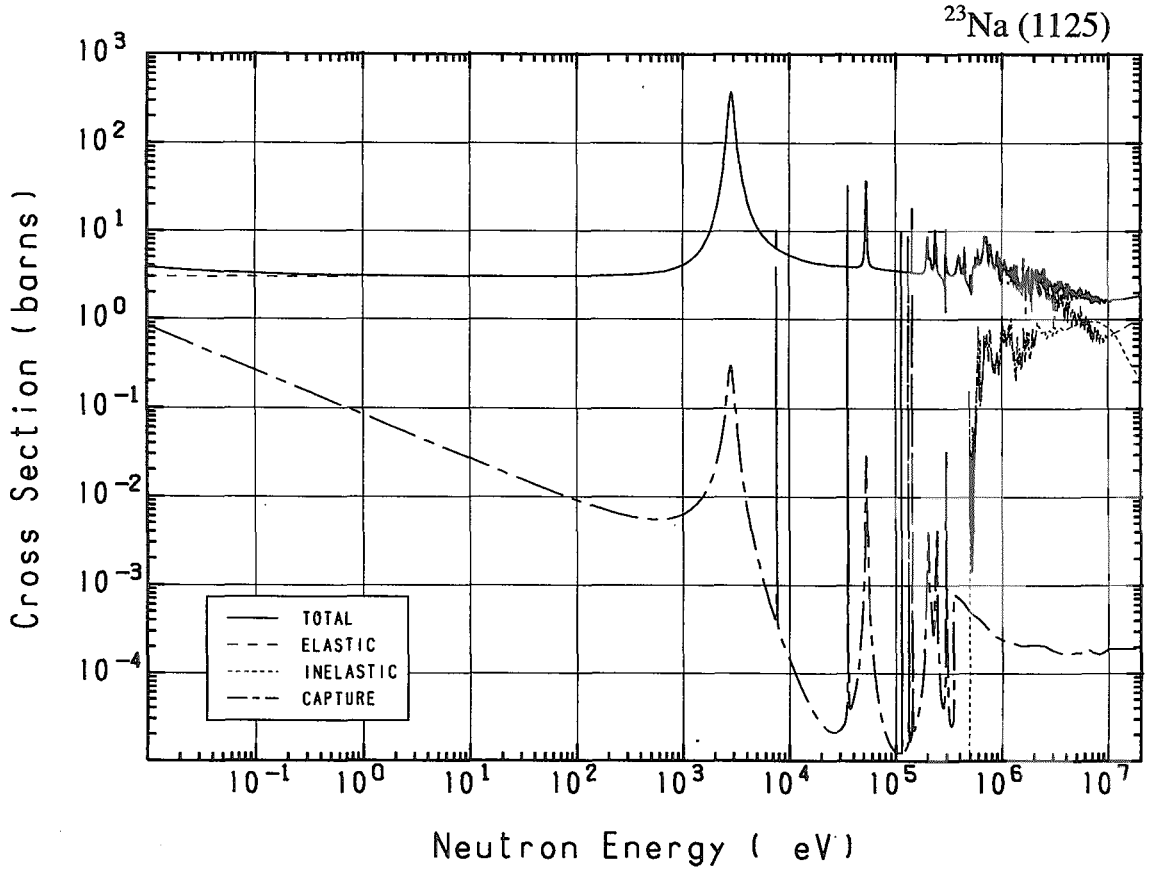


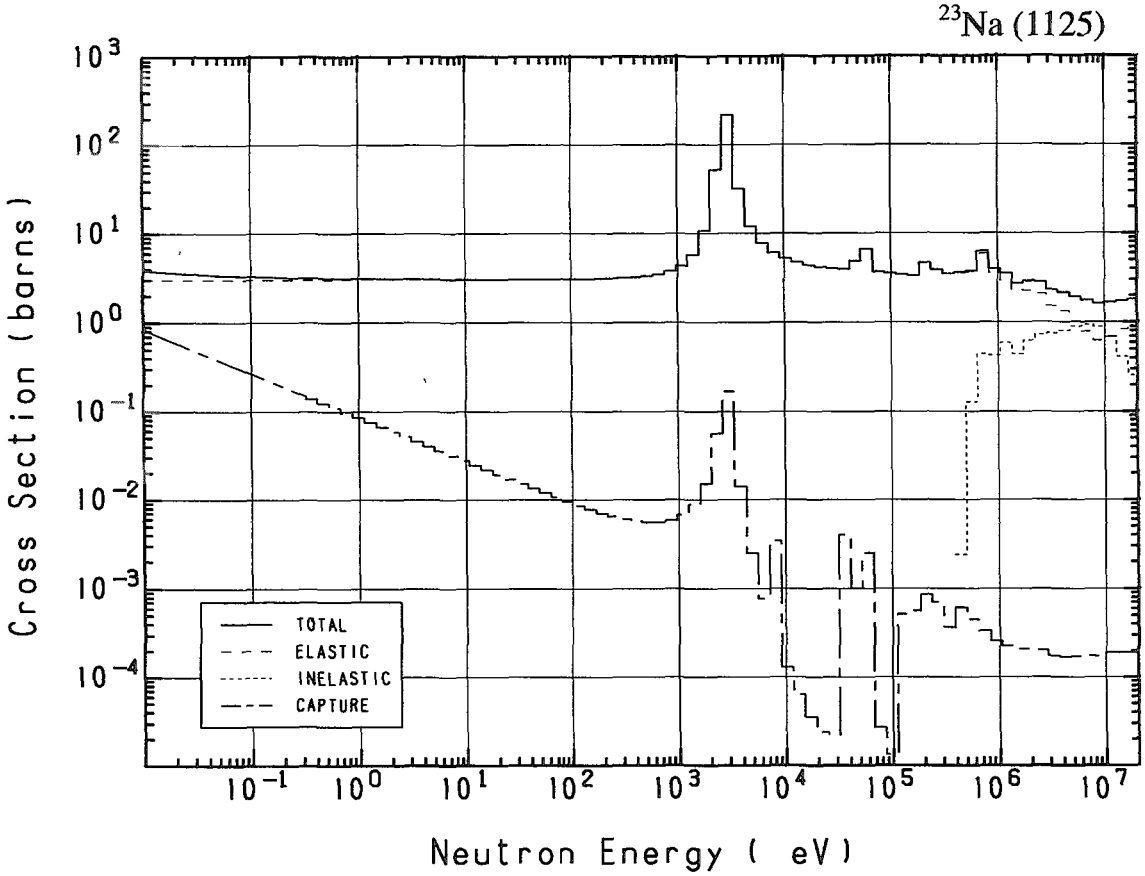

^{19}F (925)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

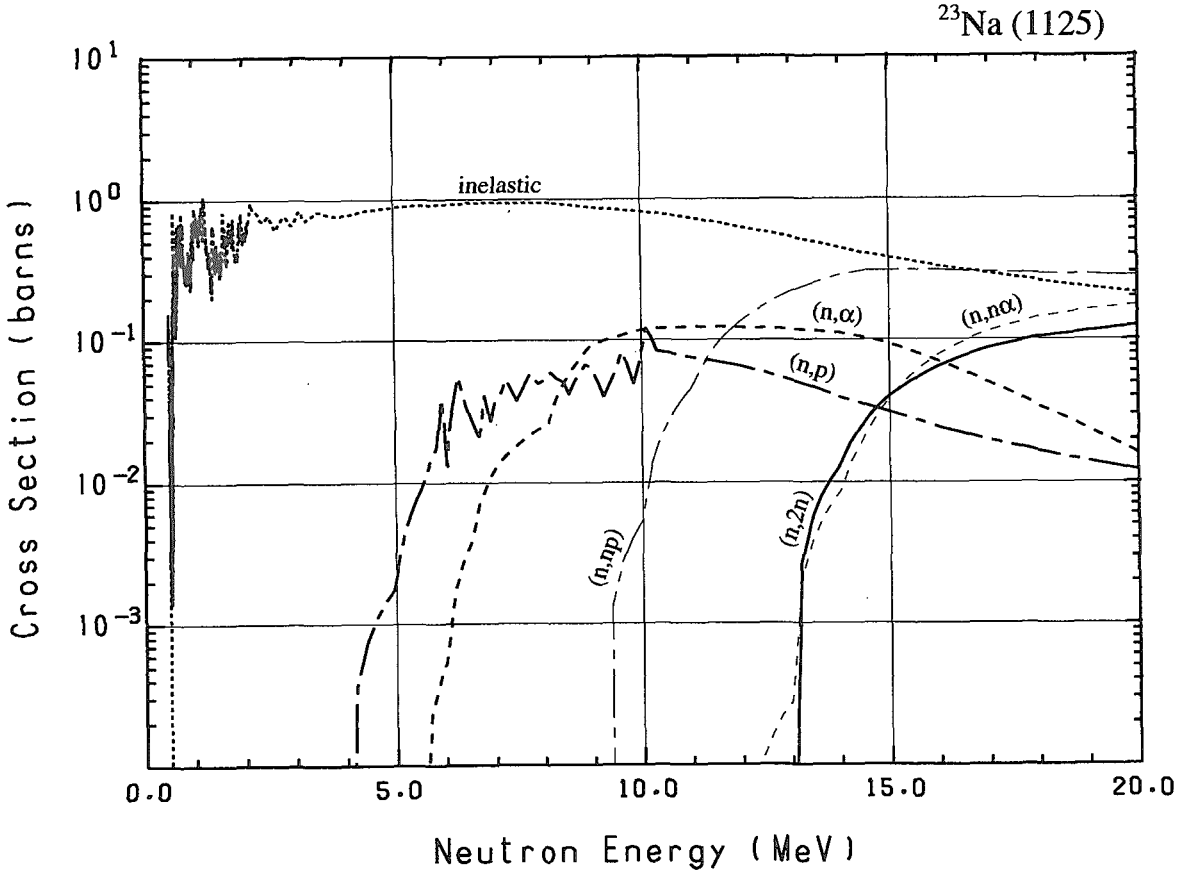

^{19}F (925)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,nα)
(n,2n)
(n,α)
(n,p)
(n,d)
(n,np)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

11-Na- 23 (MAT=1125)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.555	3.495	–	1.716	3.208
elastic	–	3.024	3.024	–	806.2×10^{-3}	2.680
inelastic	459.3 keV	–	–	–	449.1×10^{-3}	525.7×10^{-3}
(n,2n)	12.96 MeV	–	–	–	13.14×10^{-3}	2.554×10^{-6}
(n,nα)	10.93 MeV	–	–	–	8.594×10^{-3}	2.633×10^{-6}
(n,np)	9.178 MeV	–	–	–	287.5×10^{-3}	102.8×10^{-6}
capture	–	531.4×10^{-3}	471.1×10^{-3}	311.7×10^{-3}	190.0×10^{-6}	282.5×10^{-6}
(n,p)	3.750 MeV	–	–	–	39.66×10^{-3}	1.522×10^{-3}
(n,α)	4.035 MeV	–	–	–	111.9×10^{-3}	673.9×10^{-6}

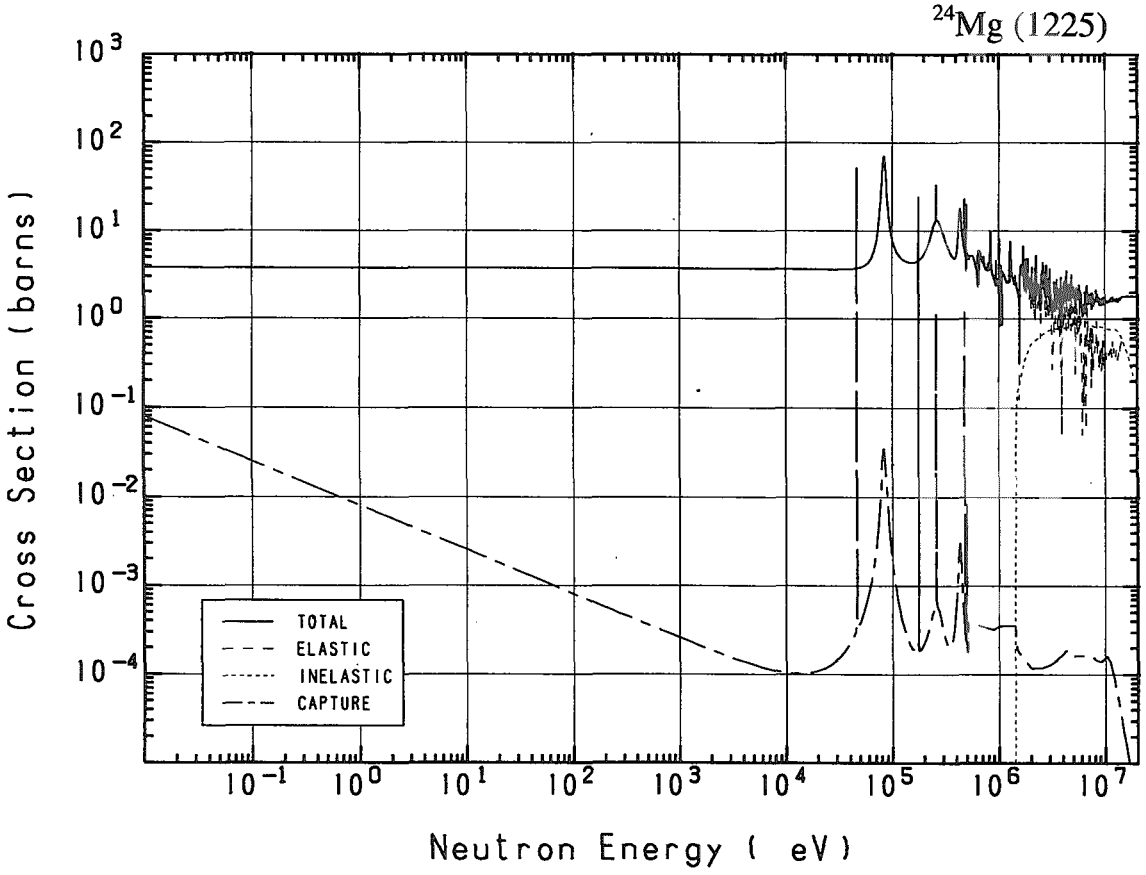


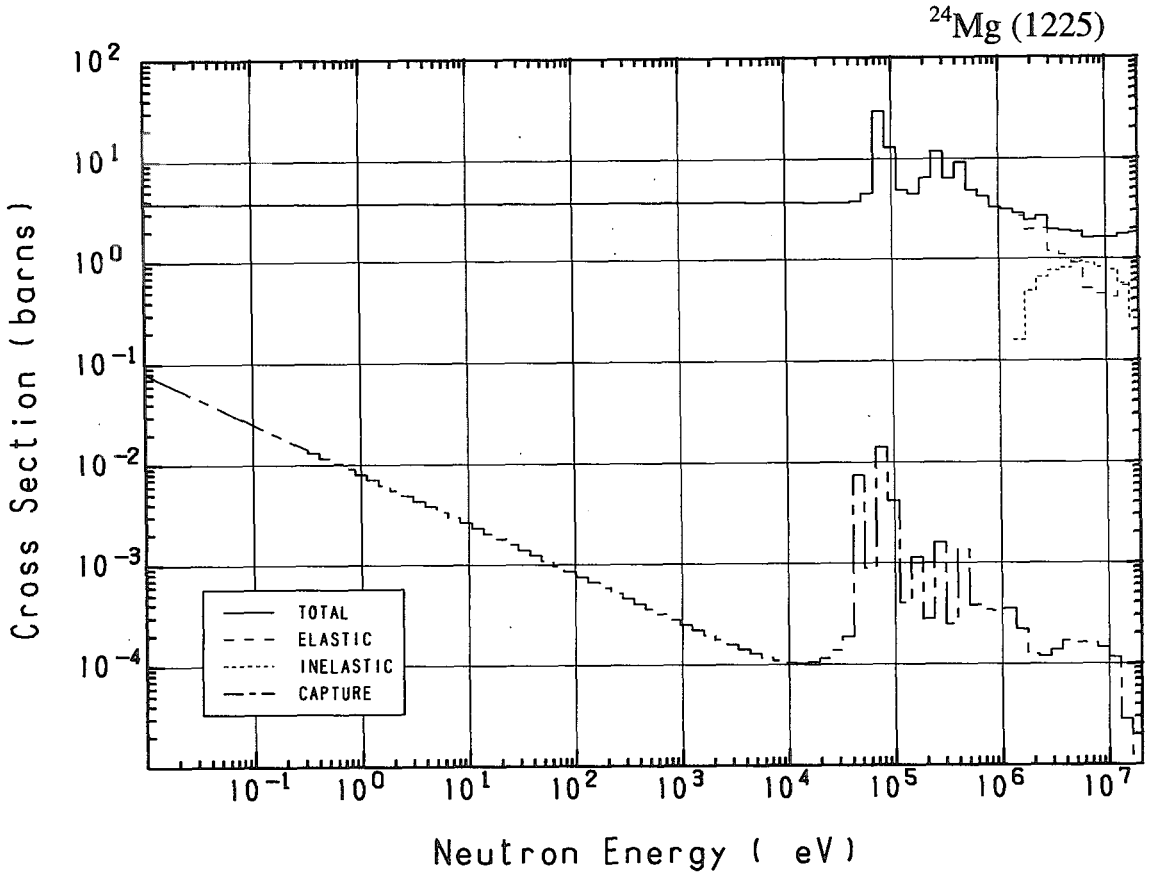

^{23}Na (1125)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

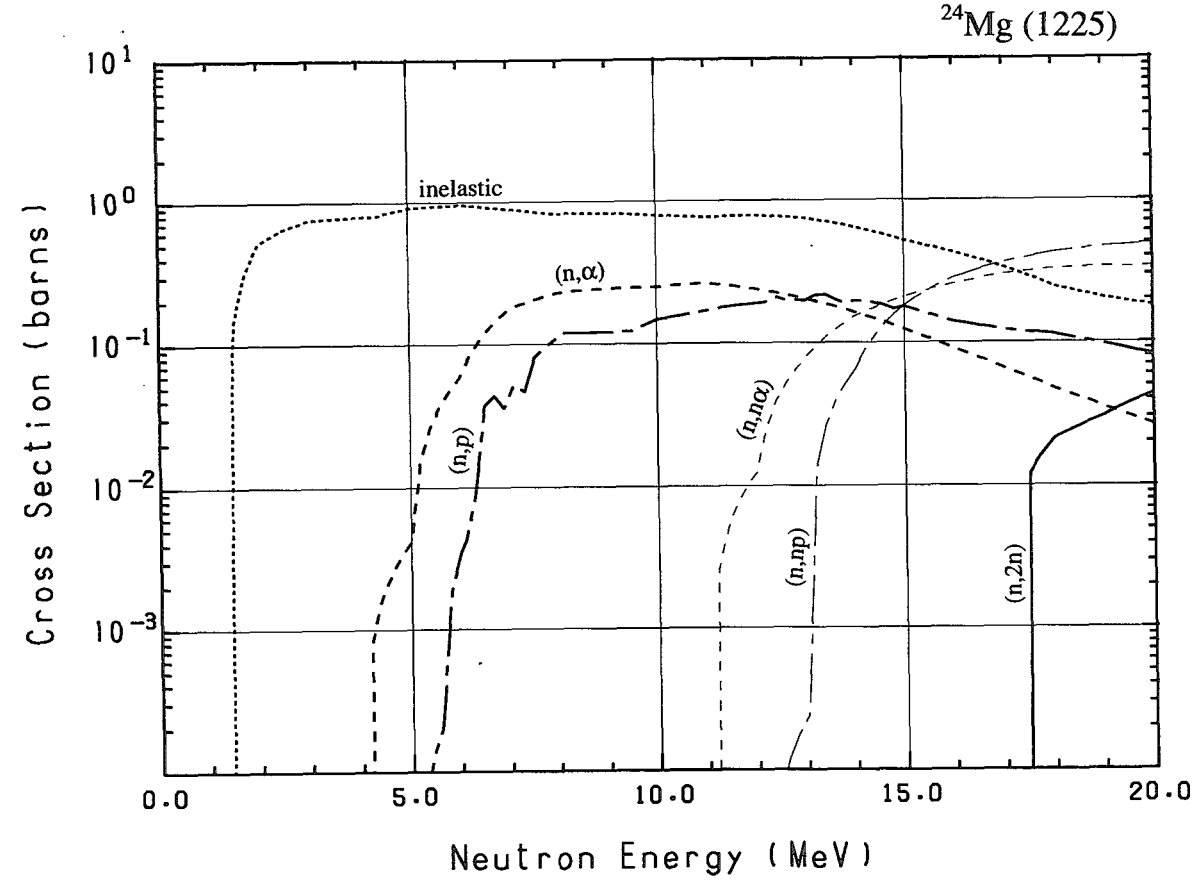

^{23}Na (1125)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,α)
(n,nα)
(n,p)
(n,np)
(n,2n)

12-Mg- 24 (MAT=1225)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.799	3.793	–	1.747	3.496
elastic	–	3.749	3.749	–	524.7×10^{-3}	3.144
inelastic	1.426 MeV	–	–	–	645.0×10^{-3}	344.2×10^{-3}
(n,2n)	17.23 MeV	–	–	–	–	62.62×10^{-9}
(n,nα)	9.706 MeV	–	–	–	152.9×10^{-3}	25.74×10^{-6}
(n,np)	12.18 MeV	–	–	–	64.68×10^{-3}	11.46×10^{-6}
capture	–	50.29×10^{-3}	44.58×10^{-3}	31.18×10^{-3}	34.40×10^{-6}	376.0×10^{-6}
(n,p)	4.931 MeV	–	–	–	196.5×10^{-3}	1.640×10^{-3}
(n,α)	2.661 MeV	–	–	–	163.5×10^{-3}	5.351×10^{-3}

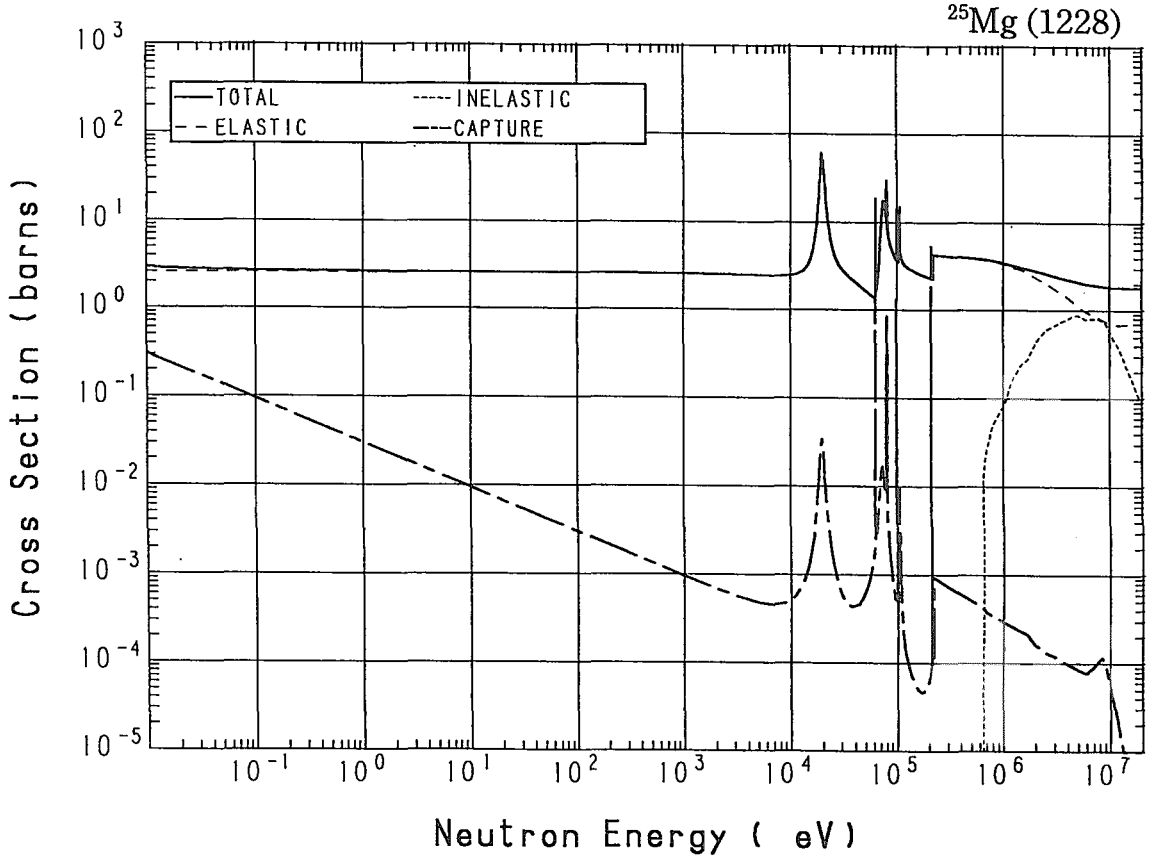


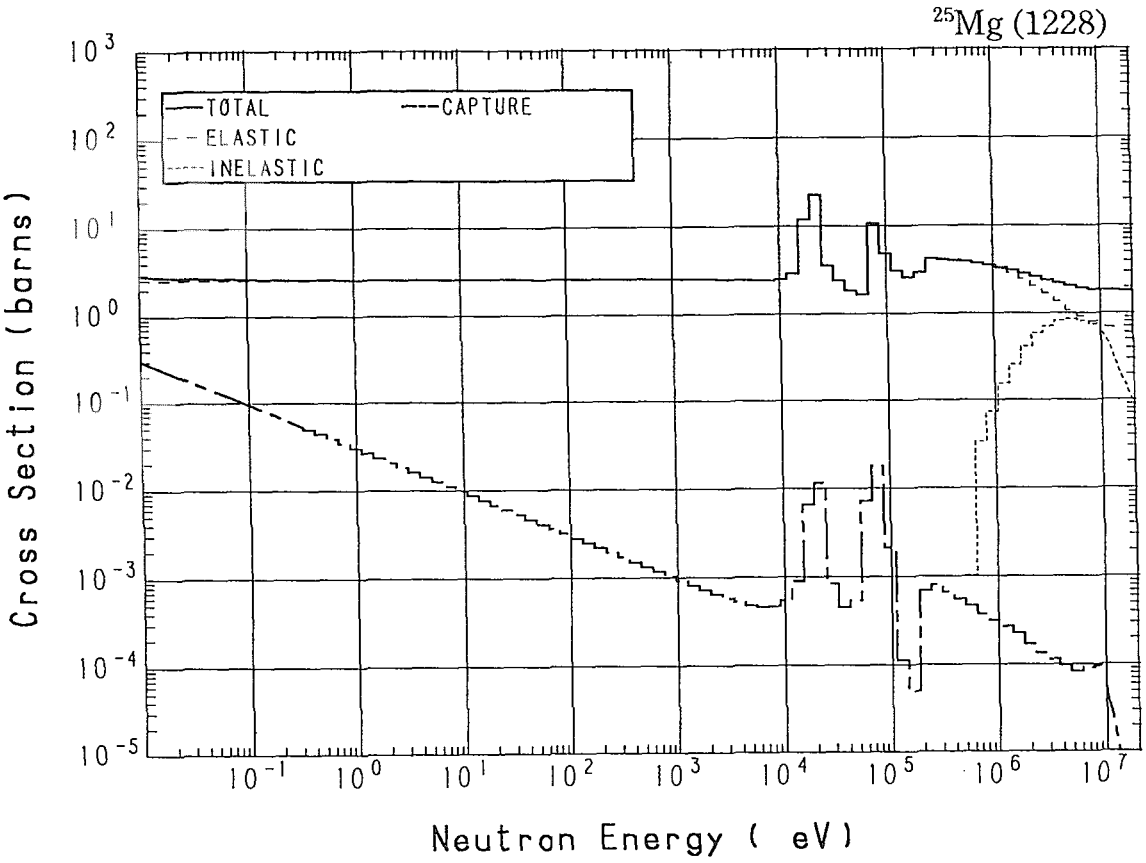

^{24}Mg (1225)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

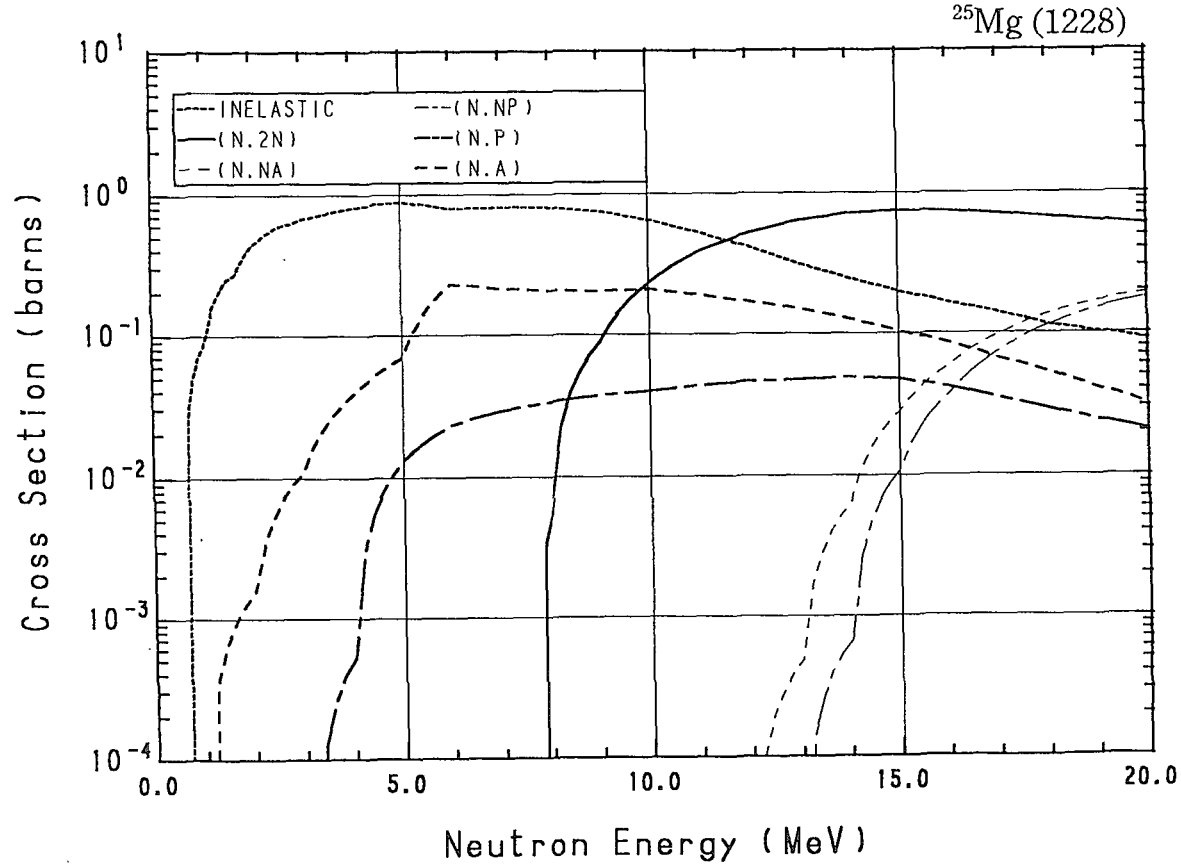

^{24}Mg (1225)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,α)
(n,p)
(n,nα)
(n,np)
(n,2n)

12-Mg- 25 (MAT=1228)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.785	2.763	–	1.823	3.088
elastic	–	2.595	2.595	–	683.0×10^{-3}	2.716
inelastic	608.7 keV	–	–	–	246.7×10^{-3}	351.4×10^{-3}
(n,2n)	7.628 MeV	–	–	–	710.1×10^{-3}	883.9×10^{-6}
(n,nα)	10.28 MeV	–	–	–	6.484×10^{-3}	2.146×10^{-6}
(n,np)	12.55 MeV	–	–	–	674.8×10^{-6}	1.168×10^{-6}
capture	–	190.4×10^{-3}	168.8×10^{-3}	98.63×10^{-3}	6.961×10^{-6}	345.7×10^{-6}
(n,p)	3.176 MeV	–	–	–	48.98×10^{-3}	1.681×10^{-3}
(n,α)	–	0.000	0.000	240.3×10^{-3}	127.0×10^{-3}	16.56×10^{-3}

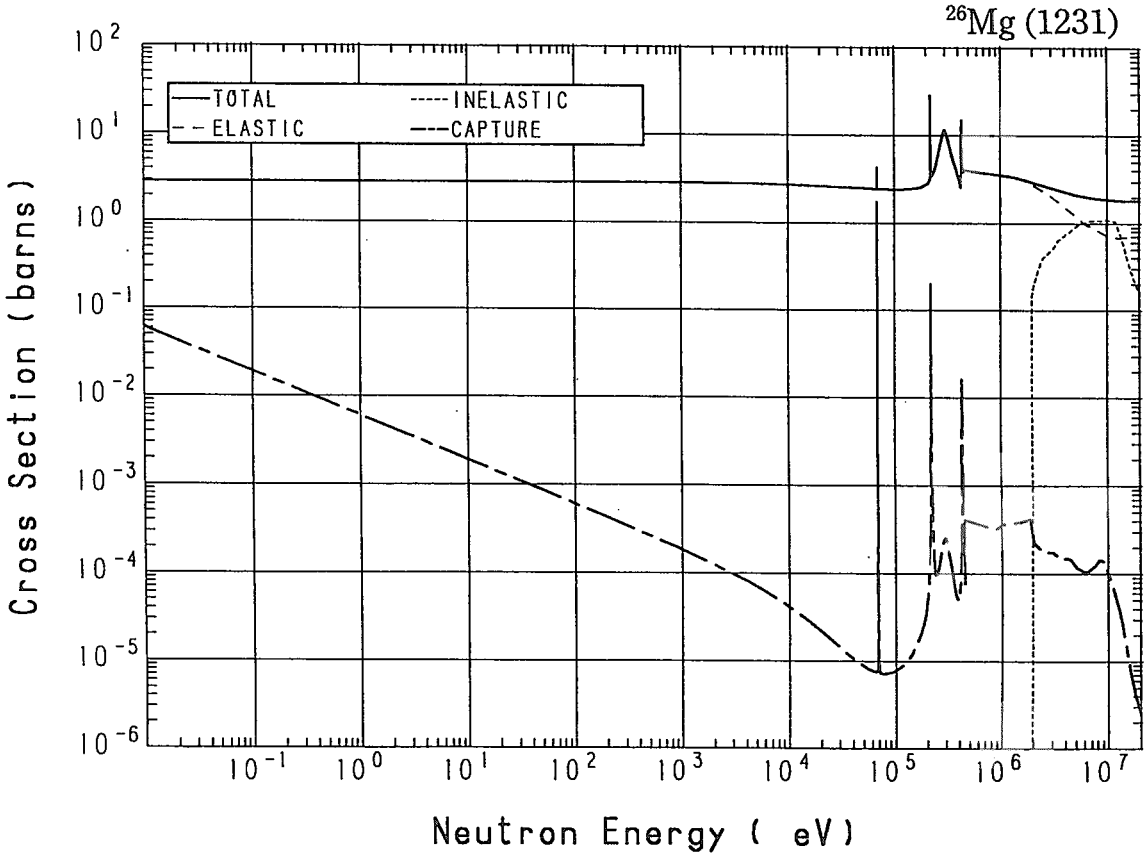


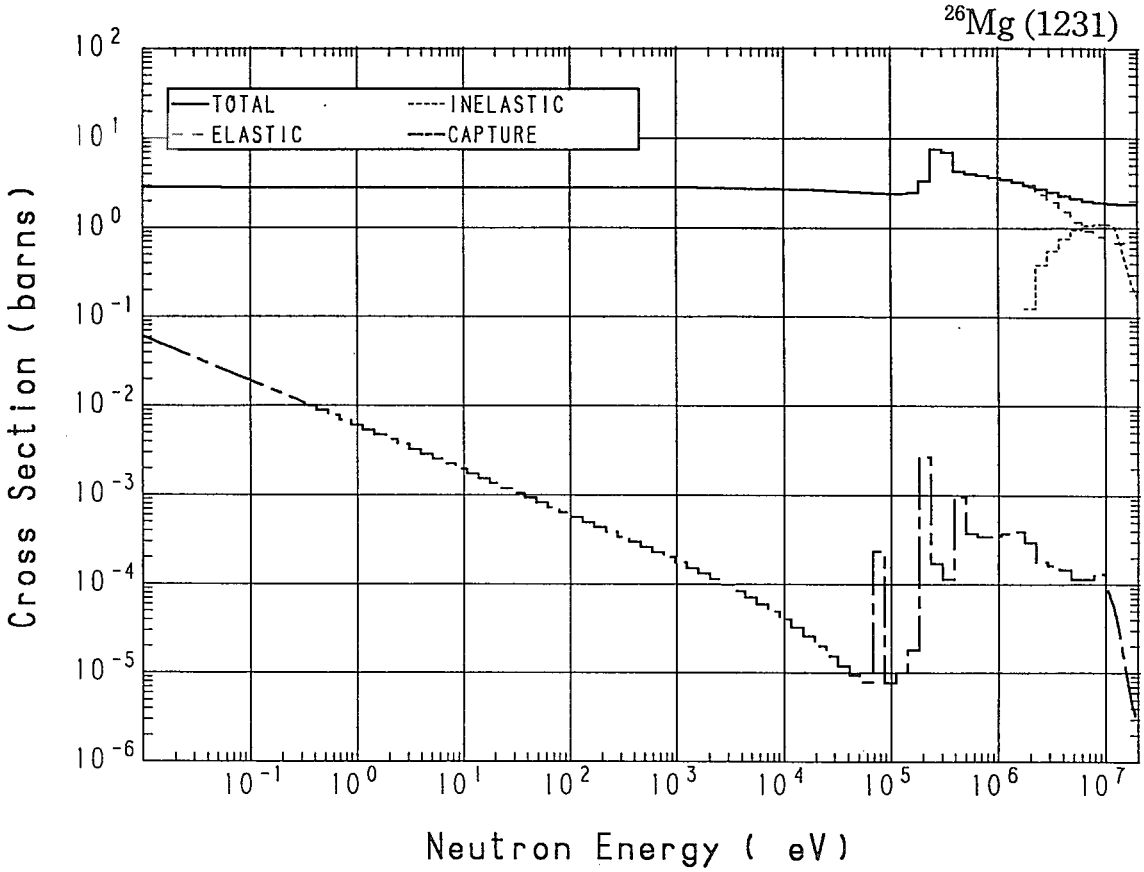

25Mg (1228)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

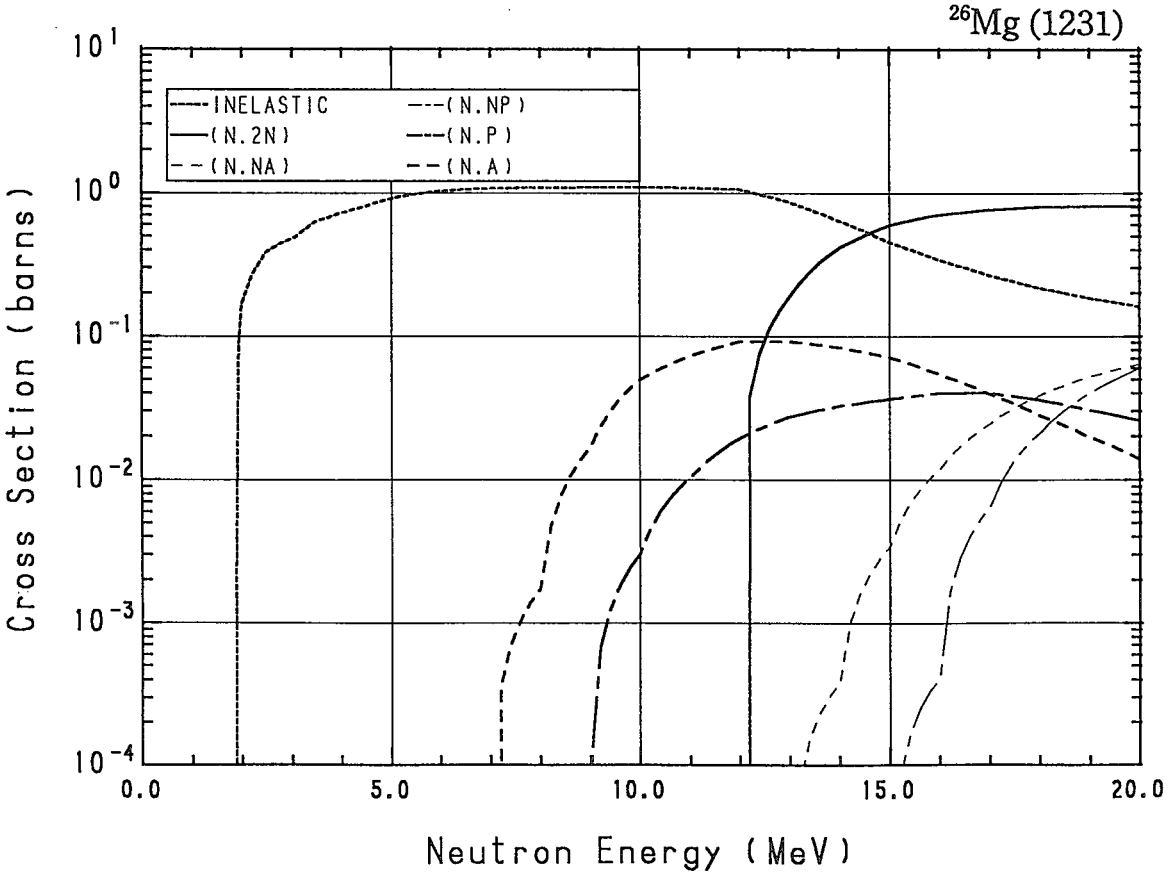

25Mg (1228)
INELASTIC
(N.NP)
(N.2N)
(N.P)
(N.NA)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

12-Mg- 26 (MAT=1231)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.869	2.864	–	1.848	3.260
elastic	–	2.830	2.830	–	678.6×10^{-3}	3.025
inelastic	1.879 MeV	–	–	–	639.5×10^{-3}	234.0×10^{-3}
(n,2n)	11.52 MeV	–	–	–	412.6×10^{-3}	60.06×10^{-6}
(n,nα)	11.03 MeV	–	–	–	387.1×10^{-6}	398.4×10^{-9}
(n,np)	14.70 MeV	–	–	–	–	104.7×10^{-9}
capture	–	38.31×10^{-3}	33.96×10^{-3}	18.90×10^{-3}	21.24×10^{-6}	318.7×10^{-6}
(n,p)	8.228 MeV	–	–	–	32.65×10^{-3}	18.24×10^{-6}
(n,α)	5.627 MeV	–	–	–	84.03×10^{-3}	170.4×10^{-6}

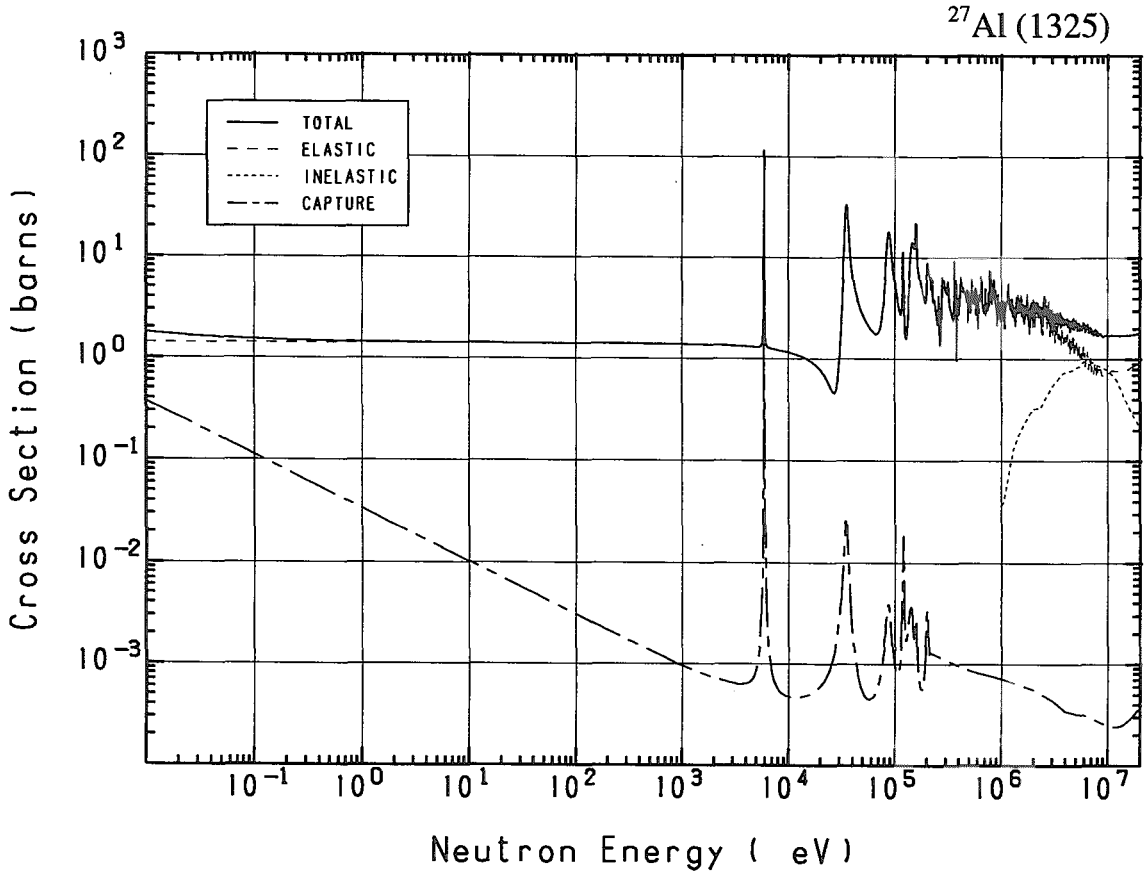


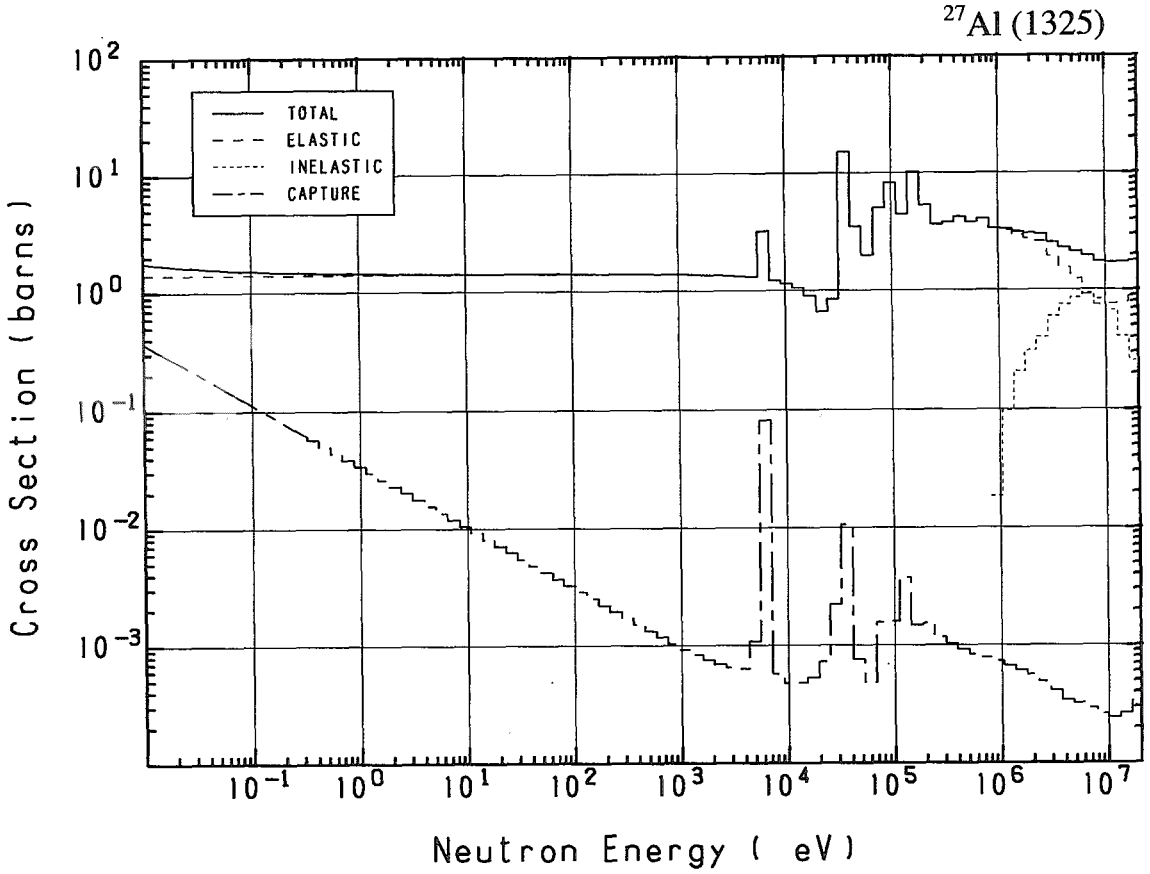

^{26}Mg (1231)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

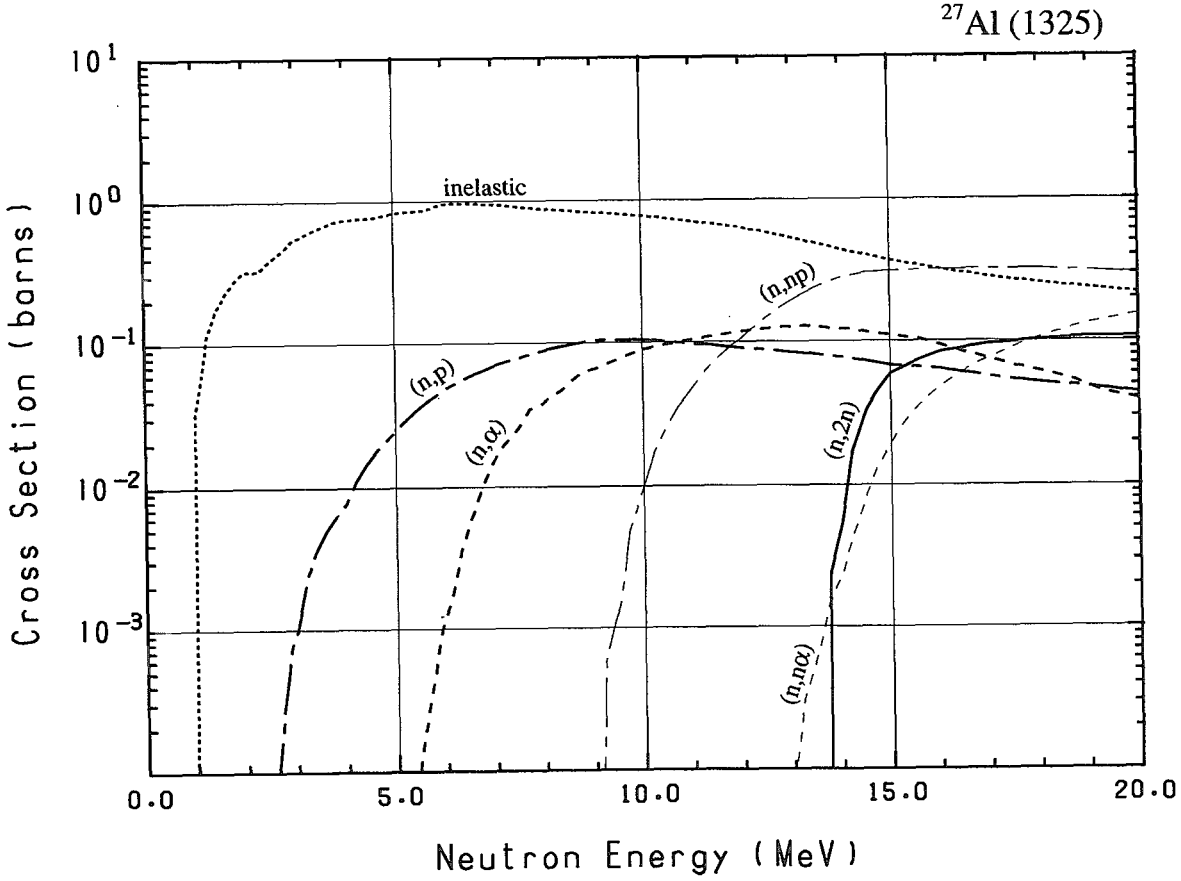

^{26}Mg (1231)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

13-Al- 27 (MAT=1325)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.645	1.616	–	1.720	3.259
elastic	–	1.414	1.414	–	788.5×10^{-3}	2.966
inelastic	875.3 keV	–	–	–	443.5×10^{-3}	287.2×10^{-3}
(n,2n)	13.55 MeV	–	–	–	5.385×10^{-3}	2.679×10^{-6}
(n,nα)	10.47 MeV	–	–	–	2.428×10^{-3}	1.440×10^{-6}
(n,np)	8.581 MeV	–	–	–	279.7×10^{-3}	96.50×10^{-6}
capture	–	231.0×10^{-3}	202.7×10^{-3}	123.1×10^{-3}	253.2×10^{-6}	670.2×10^{-6}
(n,p)	1.896 MeV	–	–	–	77.96×10^{-3}	4.284×10^{-3}
(n,α)	3.249 MeV	–	–	–	122.2×10^{-3}	687.7×10^{-6}
(n,2p)	16.80 MeV	–	–	–	–	1.172×10^{-12}

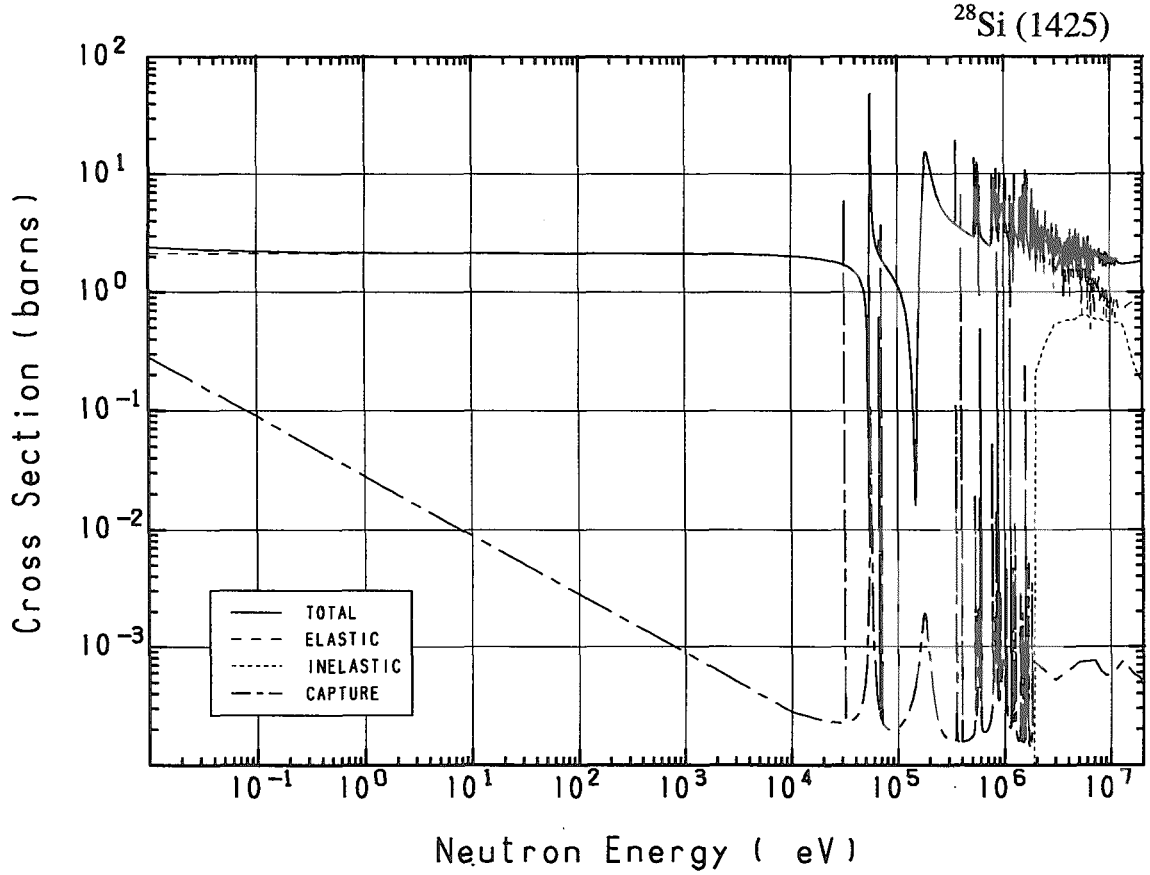


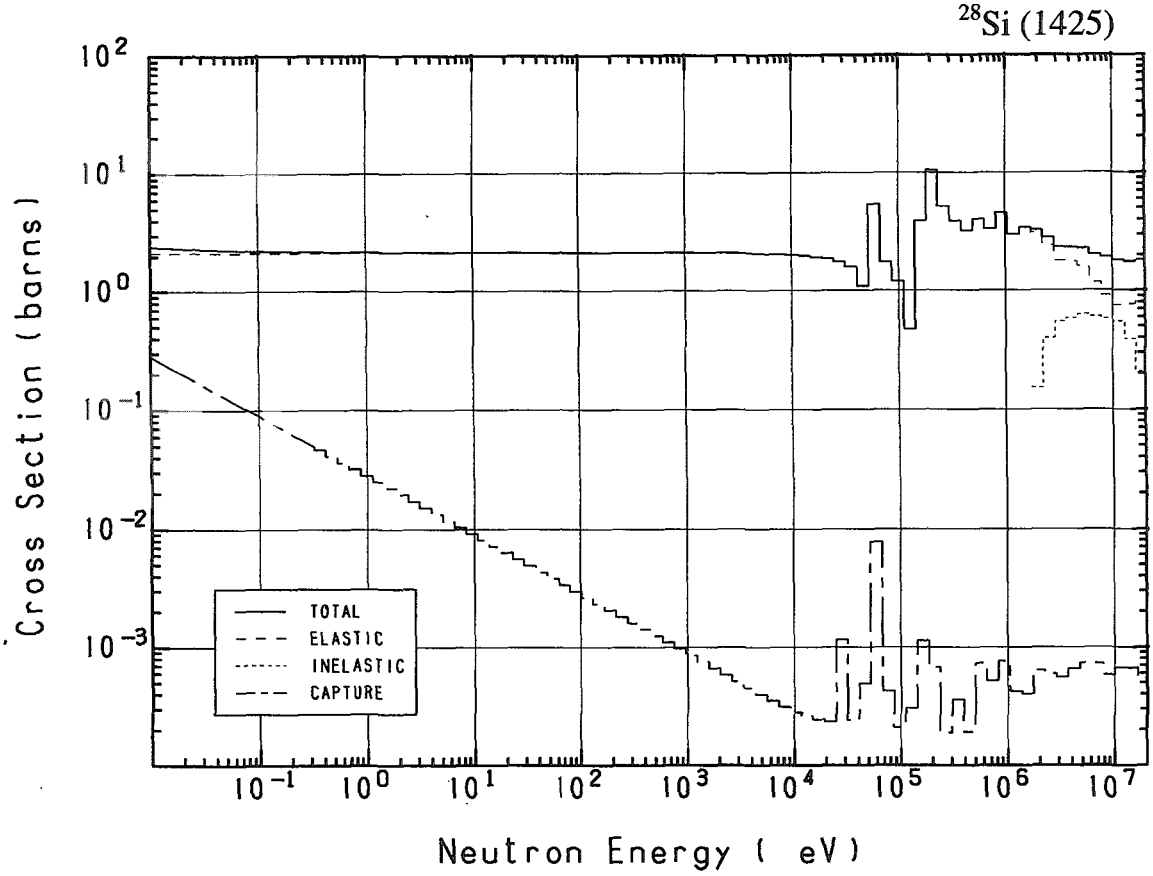

27Al (1325)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

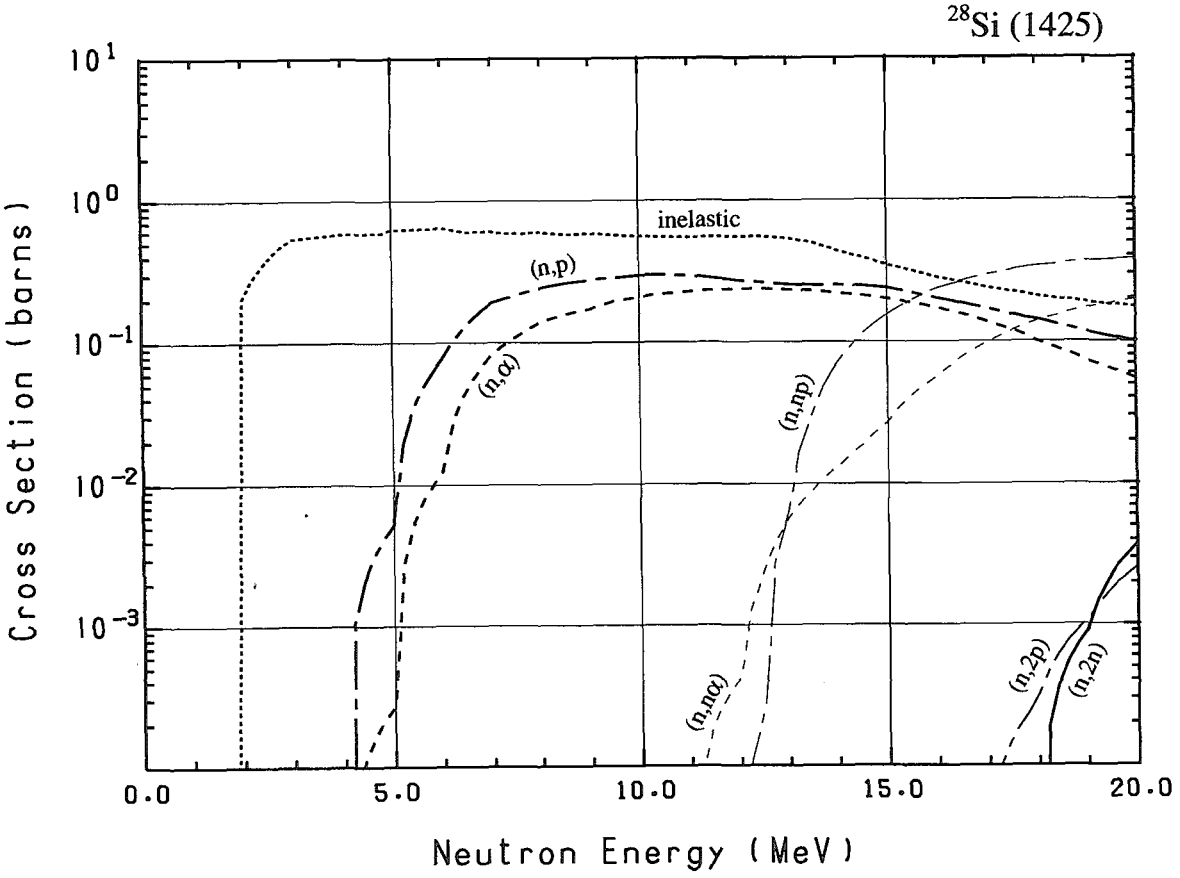

27Al (1325)
inelastic
(n,np)
(n,p)
(n,α)
(n,2n)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)

14-Si- 28 (MAT=1425)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.314	2.294	–	1.752	3.241
elastic	–	2.137	2.137	–	757.3×10^{-3}	3.031
inelastic	1.843 MeV	–	–	–	436.5×10^{-3}	200.5×10^{-3}
(n,2n)	17.80 MeV	–	–	–	–	1.396×10^{-9}
(n,nα)	10.34 MeV	–	–	–	13.10×10^{-3}	2.970×10^{-6}
(n,np)	12.00 MeV	–	–	–	71.27×10^{-3}	10.51×10^{-6}
capture	–	176.8×10^{-3}	156.8×10^{-3}	84.81×10^{-3}	705.5×10^{-6}	573.7×10^{-6}
(n,p)	3.999 MeV	–	–	–	251.6×10^{-3}	6.134×10^{-3}
(n,α)	2.748 MeV	–	–	–	221.4×10^{-3}	2.611×10^{-3}
(n,2p)	13.90 MeV	–	–	–	0.000	1.964×10^{-9}

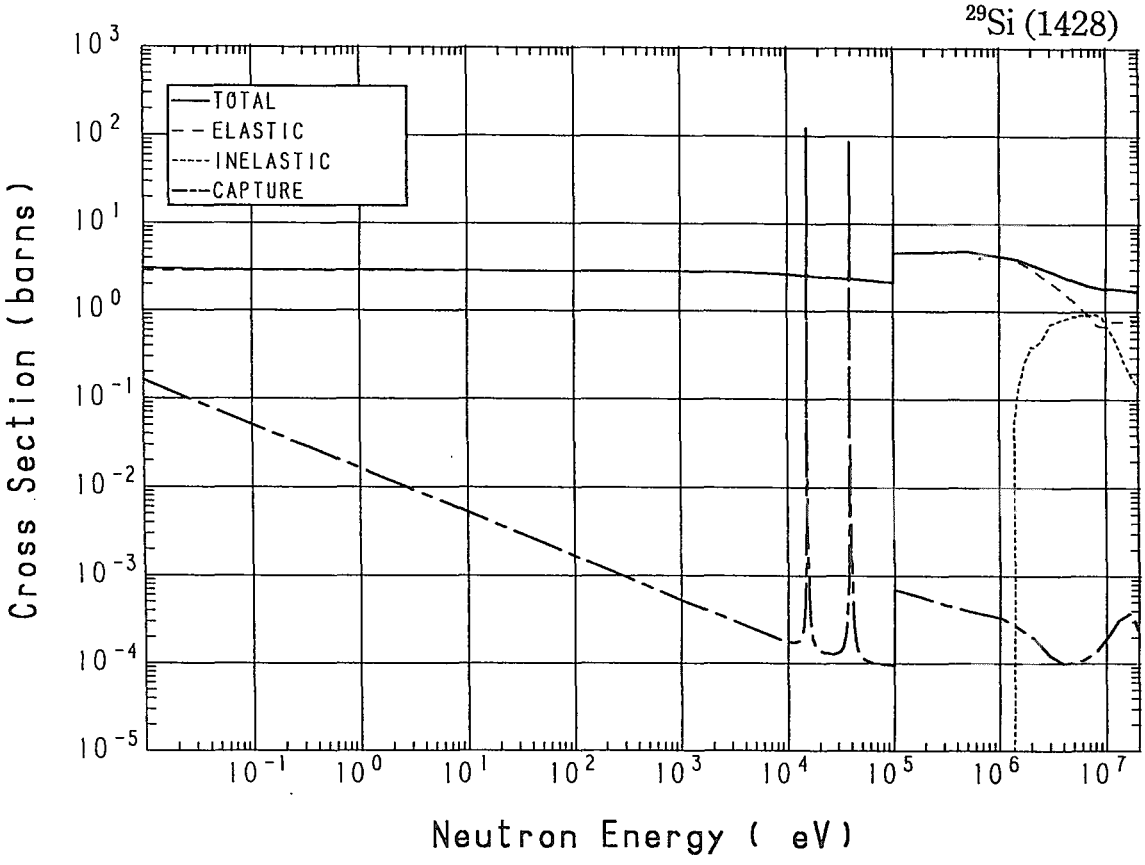


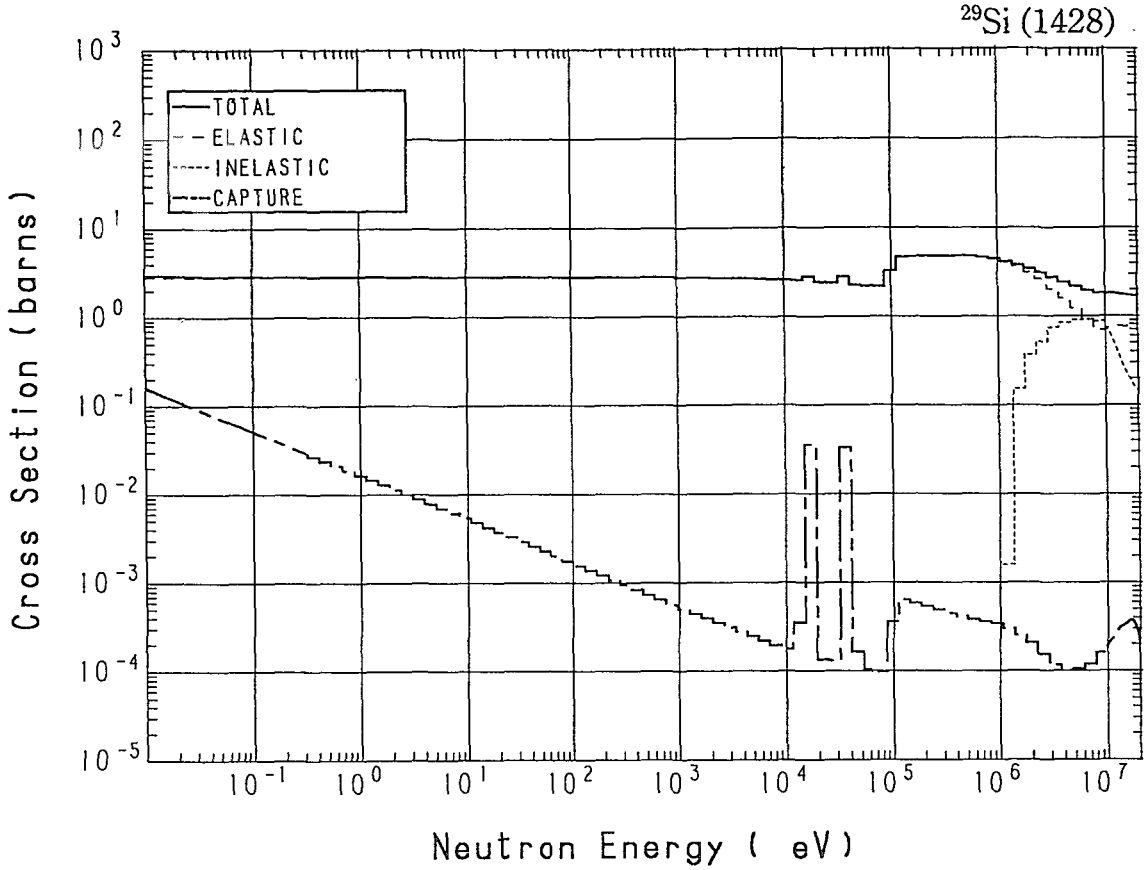

^{28}Si (1425)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

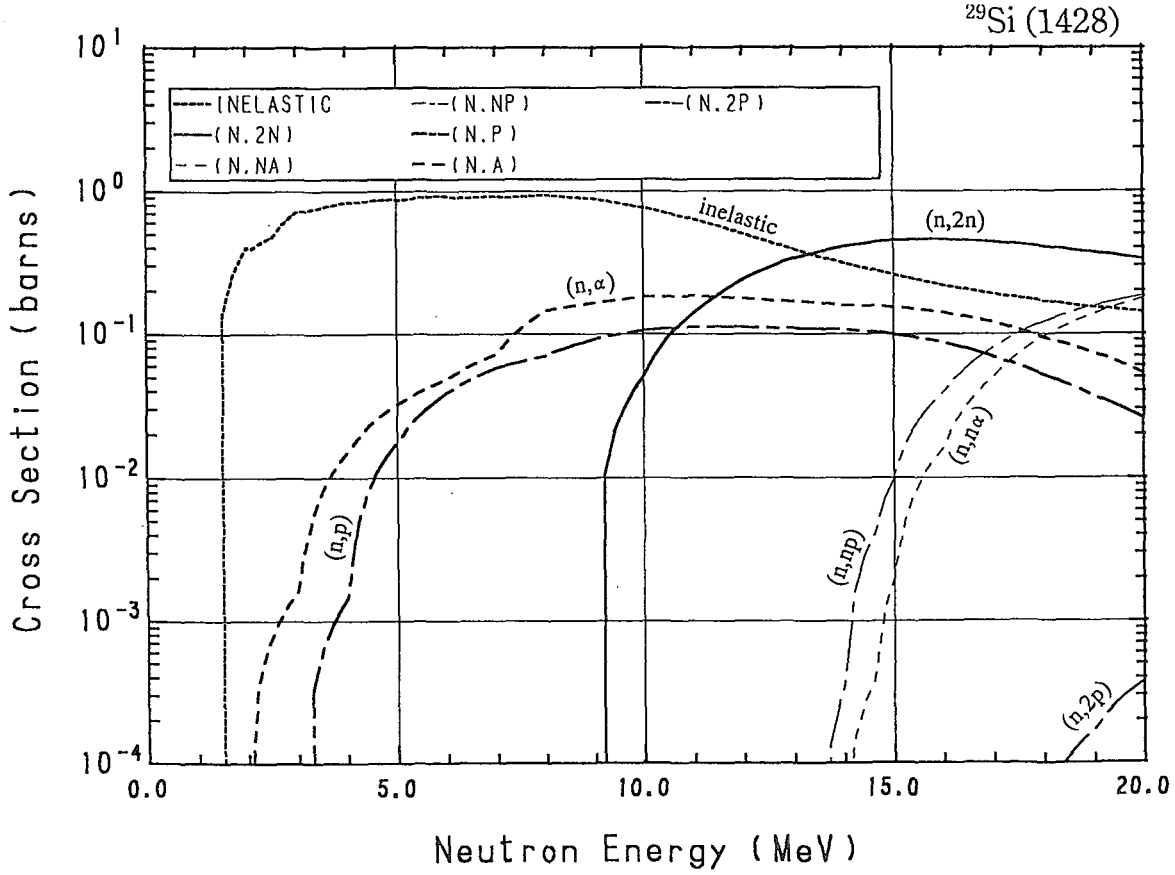

^{28}Si (1425)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,p)
(n,α)
(n,np)
(n,nα)
(n,2p)
(n,2n)

14-Si- 29 (MAT=1428)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.944	2.933	–	1.757	3.612
elastic	–	2.843	2.843	–	771.3×10^{-3}	3.289
inelastic	1.317 MeV	–	–	–	311.8×10^{-3}	312.0×10^{-3}
(n,2n)	8.769 MeV	–	–	–	407.3×10^{-3}	242.3×10^{-6}
(n,nα)	11.51 MeV	–	–	–	42.54×10^{-6}	651.6×10^{-9}
(n,np)	12.76 MeV	–	–	–	349.9×10^{-6}	1.178×10^{-6}
capture	–	101.4×10^{-3}	90.11×10^{-3}	65.99×10^{-3}	325.1×10^{-6}	292.3×10^{-6}
(n,p)	2.999 MeV	–	–	–	107.7×10^{-3}	2.991×10^{-3}
(n,α)	34.30 keV	–	–	–	158.2×10^{-3}	5.914×10^{-3}
(n,2p)	13.85 MeV	–	–	–	0.000	332.4×10^{-12}

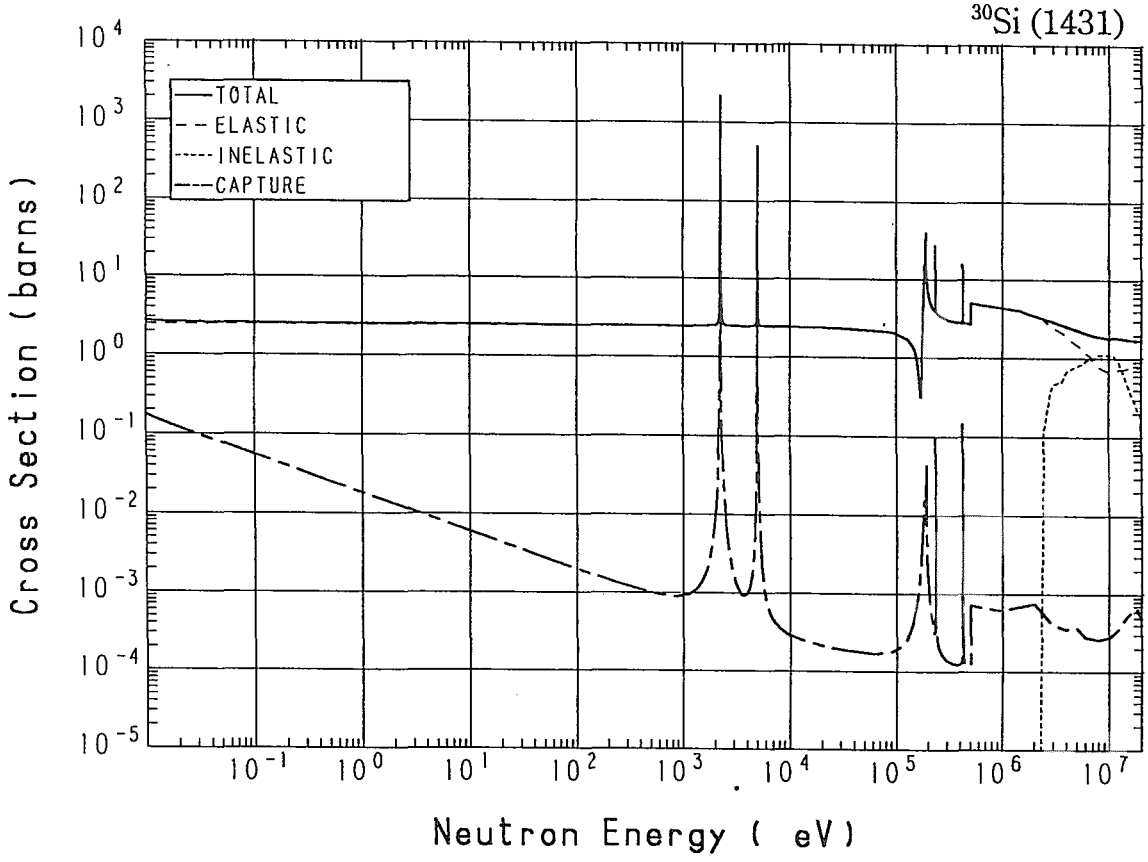


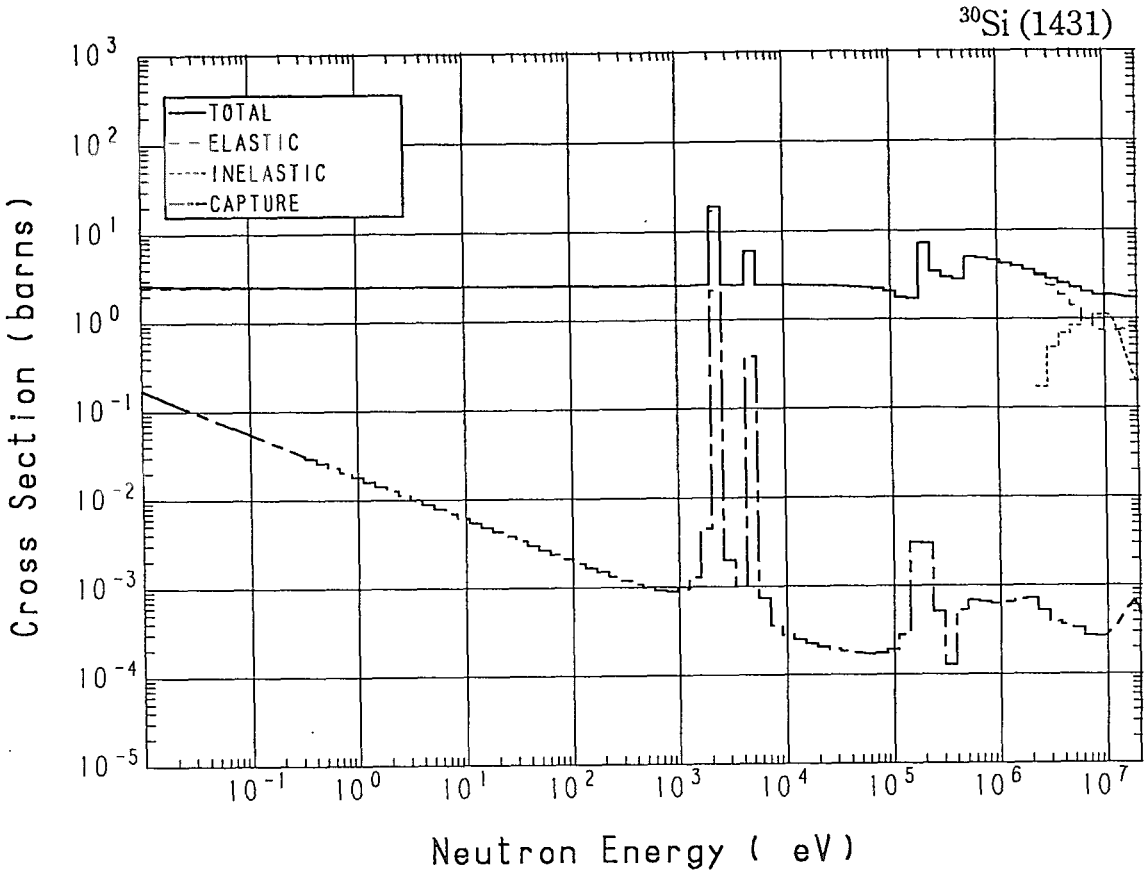

29Si (1428)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

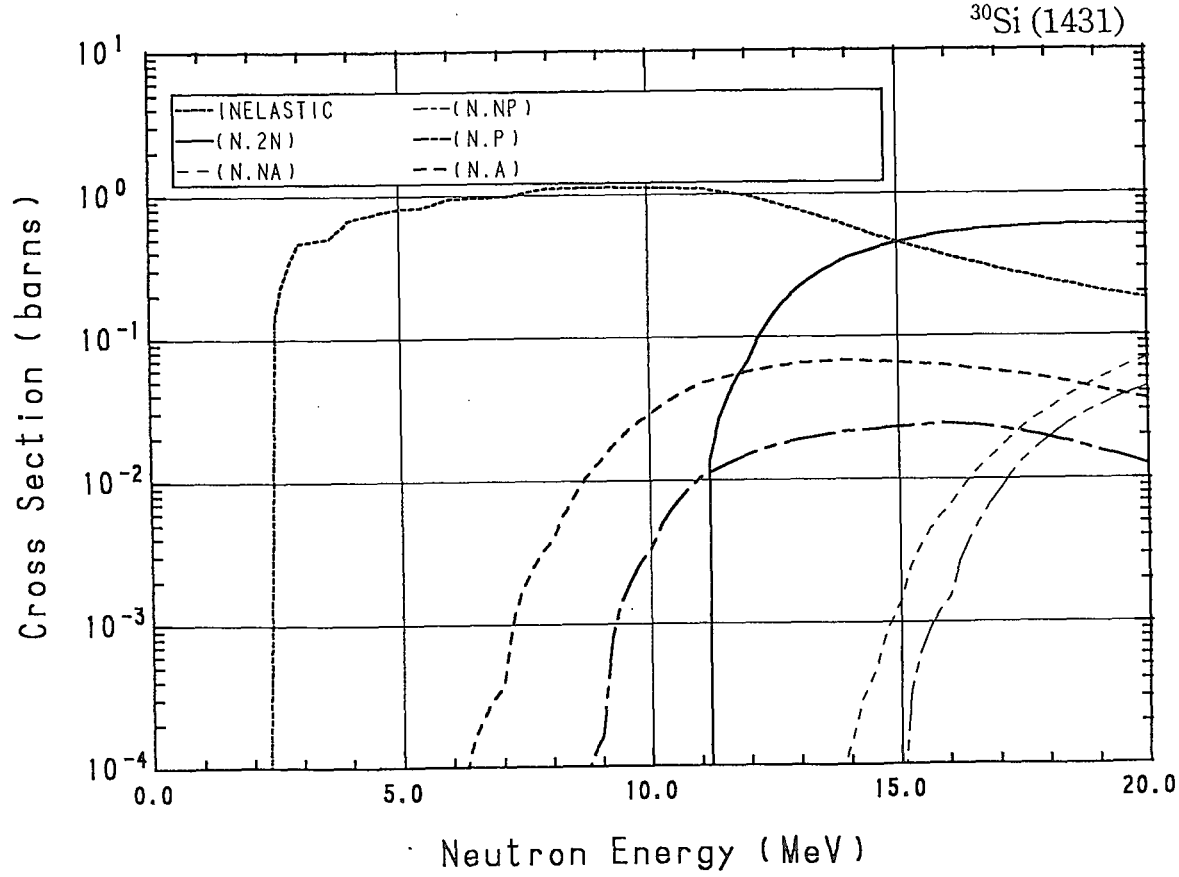

29Si (1428)
INELASTIC
(N.NP)
(N.2P)
(N.2N)
(N.P)
(N.NA)
(N.A)
inelastic
(n,2n)
(n,α)
(n,p)
(n,np)
(n,nα)
(n,2p)
Cross Section (barns)
Neutron Energy (MeV)

14-Si- 30 (MAT=1431)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.598	2.588	–	1.779	3.591
elastic	–	2.491	2.491	–	737.4×10^{-3}	3.414
inelastic	2.310 MeV	–	–	–	596.3×10^{-3}	175.3×10^{-3}
(n,2n)	10.97 MeV	–	–	–	355.7×10^{-3}	69.47×10^{-6}
(n,nα)	11.00 MeV	–	–	–	146.6×10^{-6}	242.6×10^{-9}
(n,np)	13.96 MeV	–	–	–	0.000	106.4×10^{-9}
capture	–	107.5×10^{-3}	95.99×10^{-3}	708.0×10^{-3}	481.7×10^{-6}	670.4×10^{-6}
(n,p)	8.020 MeV	–	–	–	21.42×10^{-3}	15.87×10^{-6}
(n,α)	4.341 MeV	–	–	–	67.91×10^{-3}	131.1×10^{-6}
(n,2p)	19.00 MeV	–	–	–	–	179.8×10^{-21}

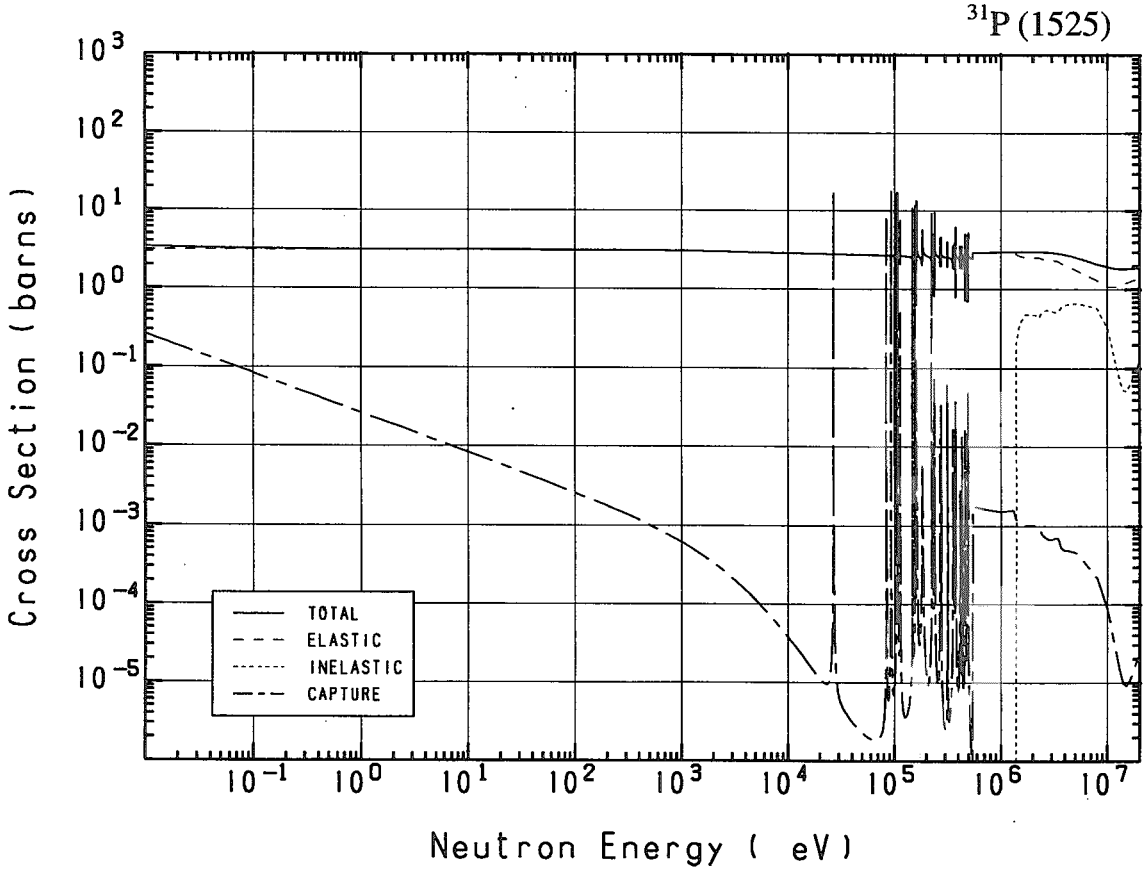


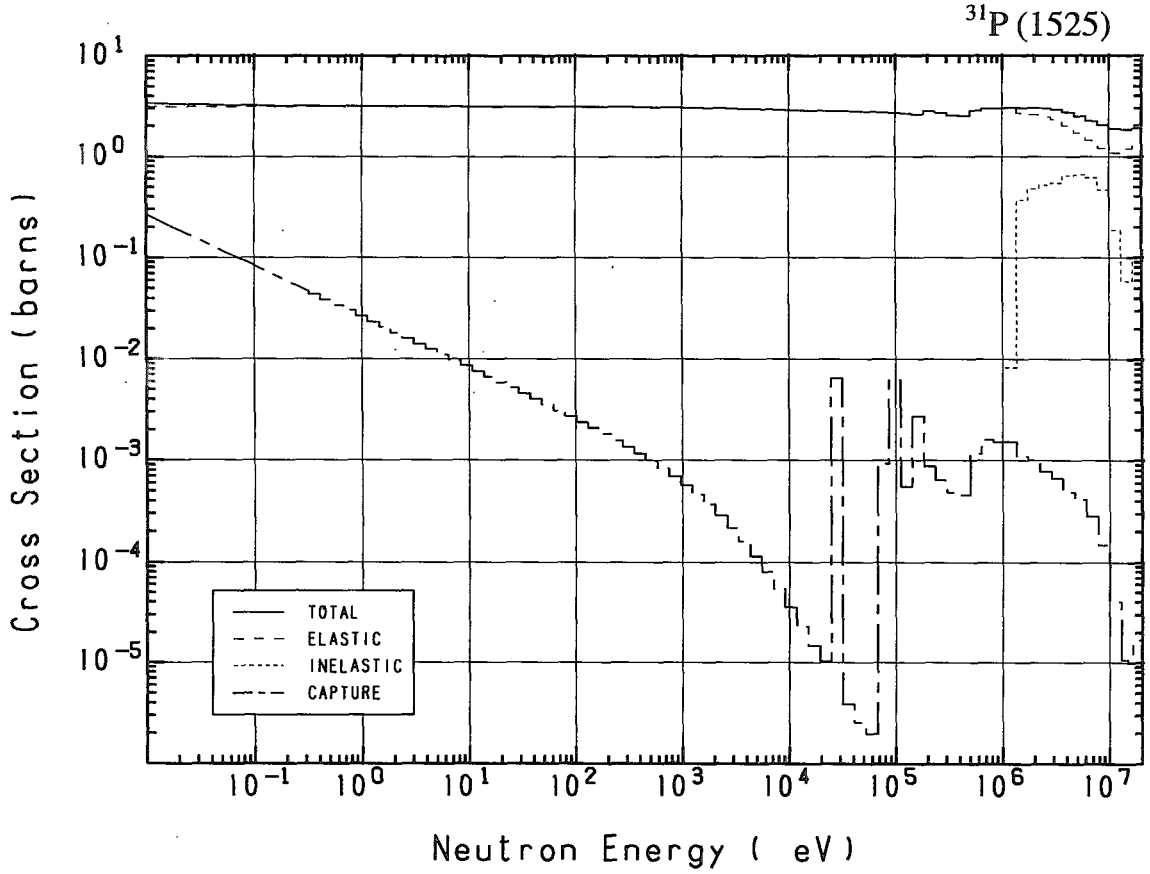

30Si (1431)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

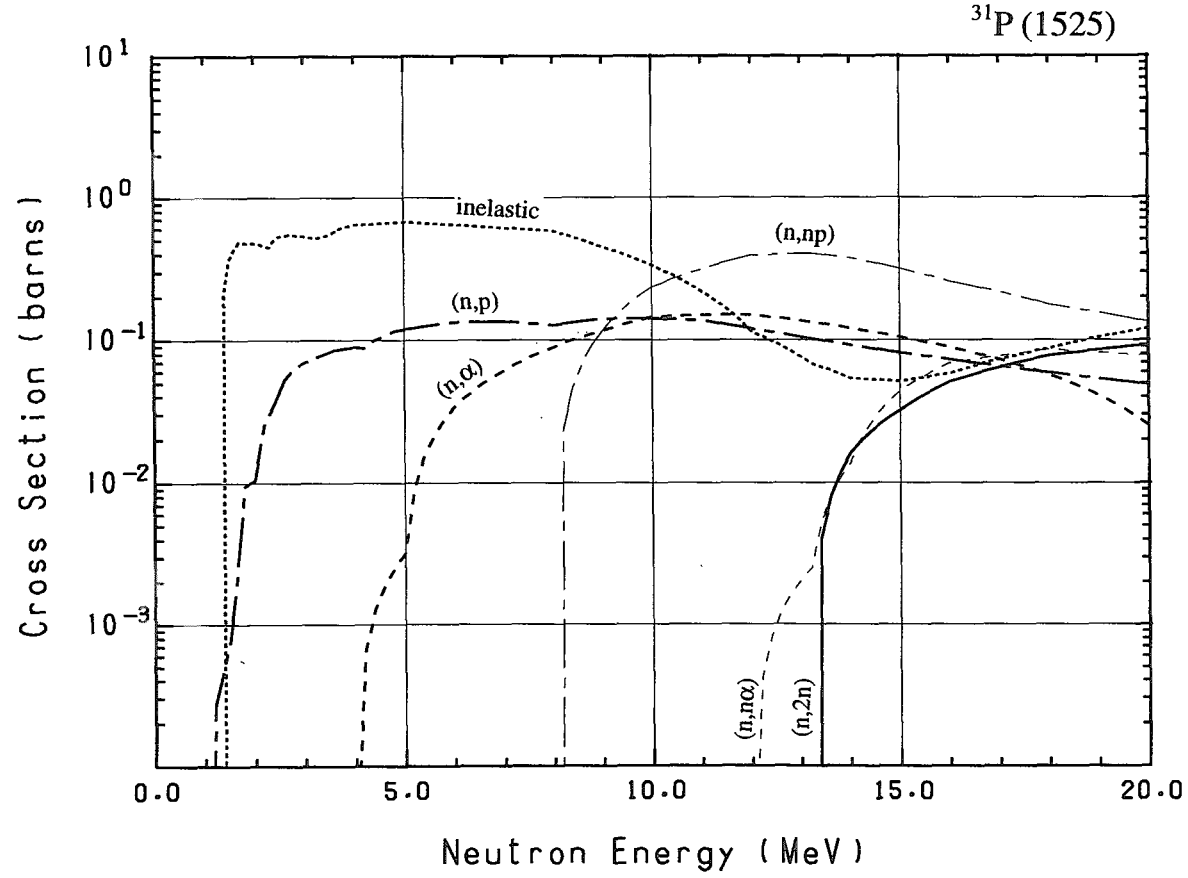

30Si (1431)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

15-P - 31 (MAT=1525)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.300	3.281	–	1.832	2.889
elastic	–	3.134	3.134	–	1.161	2.556
inelastic	1.307 MeV	–	–	–	53.91×10^{-3}	298.6×10^{-3}
(n,2n)	12.71 MeV	–	–	–	16.04×10^{-3}	2.130×10^{-6}
(n,nα)	9.984 MeV	–	–	–	13.81×10^{-3}	2.732×10^{-6}
(n,np)	7.535 MeV	–	–	–	374.2×10^{-3}	821.8×10^{-6}
capture	–	166.2×10^{-3}	147.3×10^{-3}	80.77×10^{-3}	9.895×10^{-6}	1.010×10^{-3}
(n,p)	732.3 keV	–	–	–	91.90×10^{-3}	30.12×10^{-3}
(n,α)	2.007 MeV	–	–	–	121.2×10^{-3}	2.442×10^{-3}

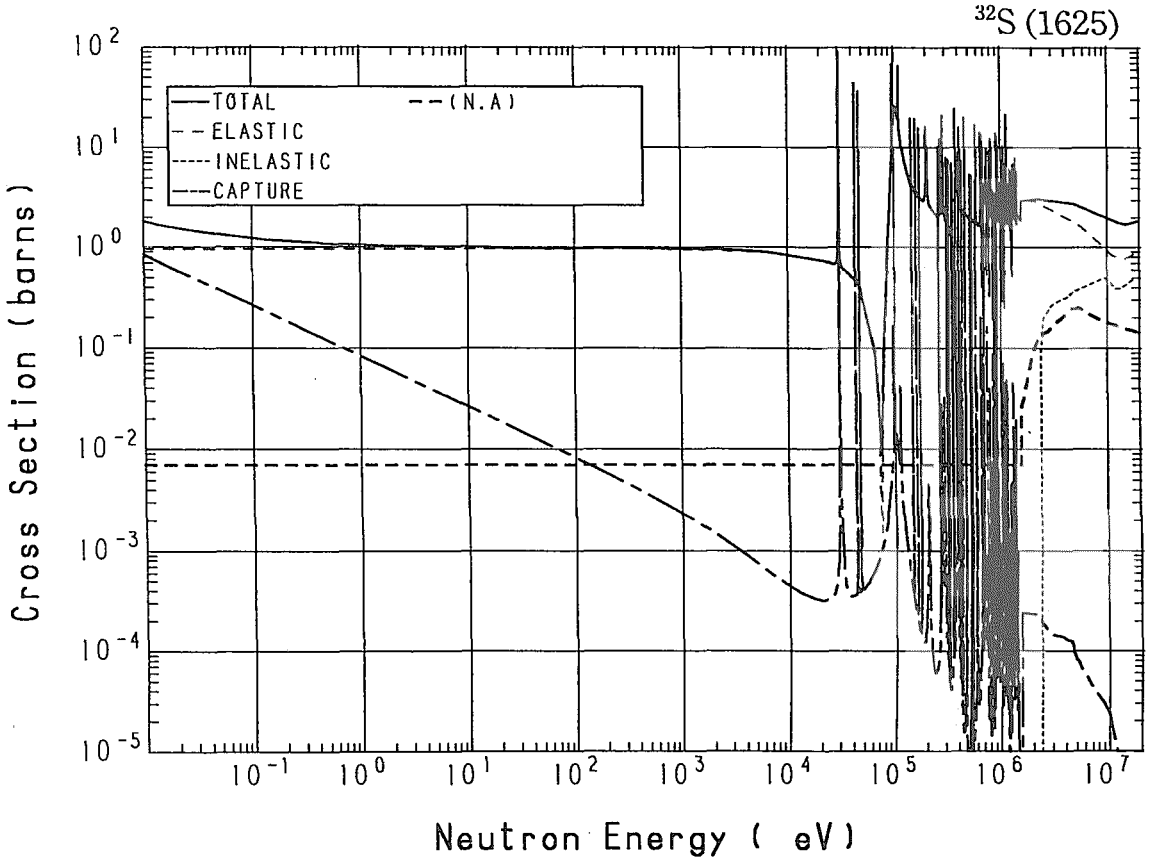


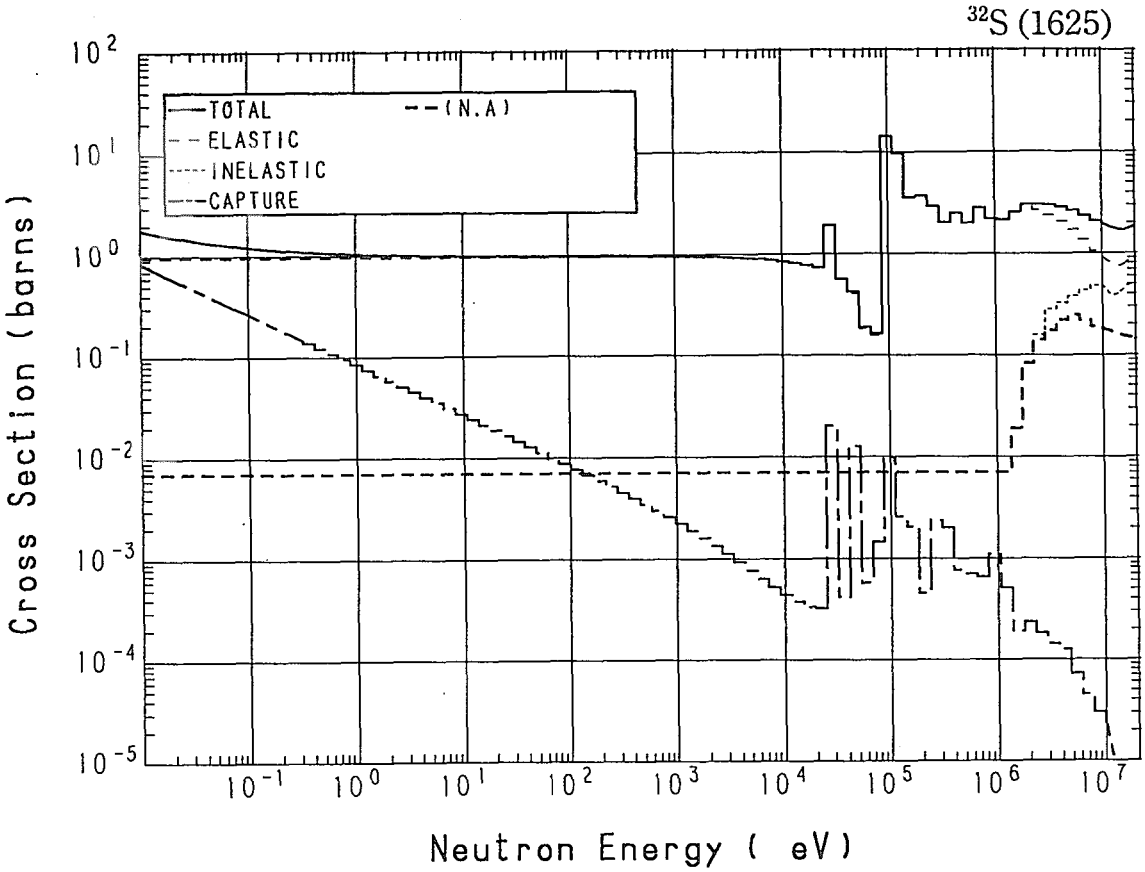

^{31}P (1525)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

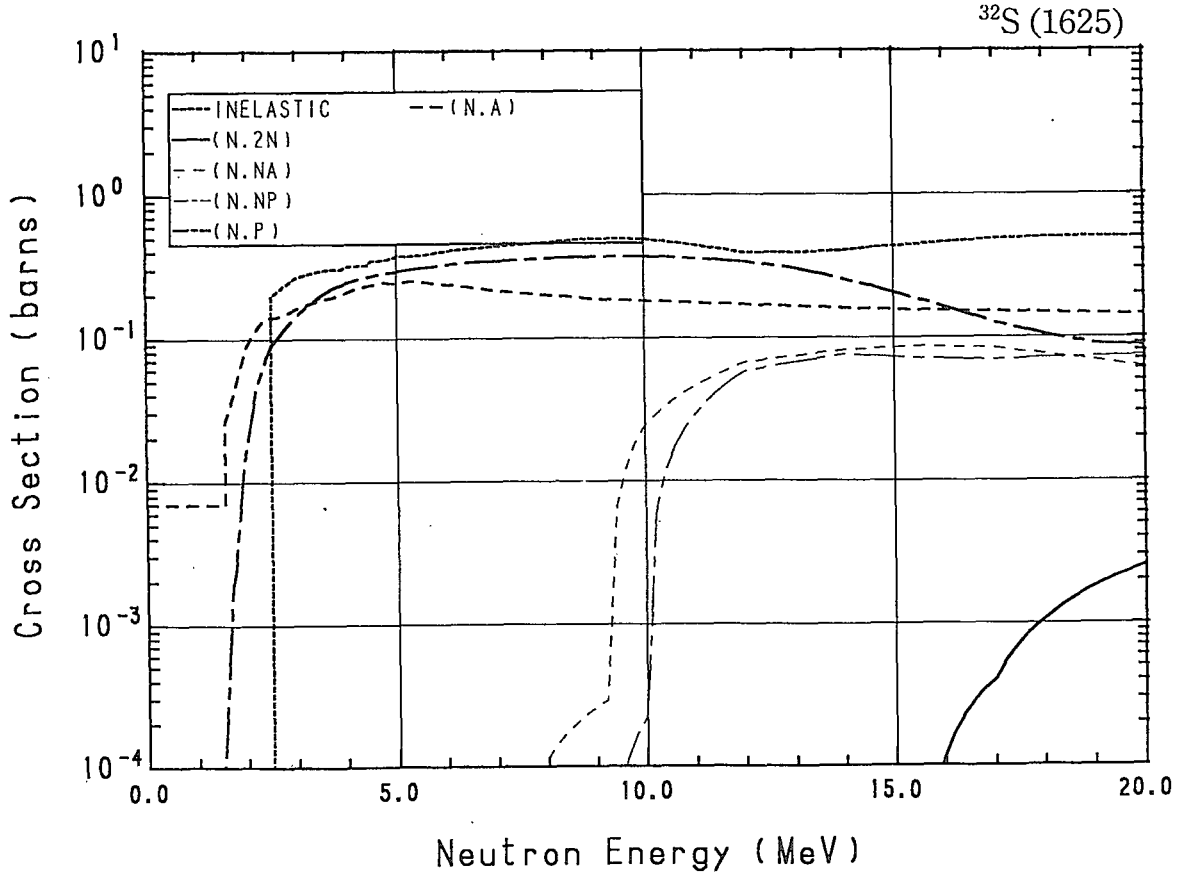

^{31}P (1525)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,np)
(n,p)
(n,α)
(n,nα)
(n,2n)

16-S - 32 (MAT=1625)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.499	1.439	–	1.737	2.777
elastic	–	963.5×10^{-3}	963.5×10^{-3}	–	763.3×10^{-3}	2.531
inelastic	2.300 MeV	–	–	–	402.6×10^{-3}	95.59×10^{-3}
(n,2n)	15.56 MeV	–	–	–	–	5.765×10^{-9}
(n,nα)	7.167 MeV	–	–	–	81.47×10^{-3}	74.70×10^{-6}
(n,np)	9.144 MeV	–	–	–	76.00×10^{-3}	40.04×10^{-6}
capture	–	528.2×10^{-3}	468.2×10^{-3}	249.4×10^{-3}	3.235×10^{-6}	572.1×10^{-6}
(n,p)	956.9 keV	–	–	–	254.0×10^{-3}	69.55×10^{-3}
(n,α)	–	7.000×10^{-3}	7.000×10^{-3}	536.9×10^{-3}	159.6×10^{-3}	79.47×10^{-3}

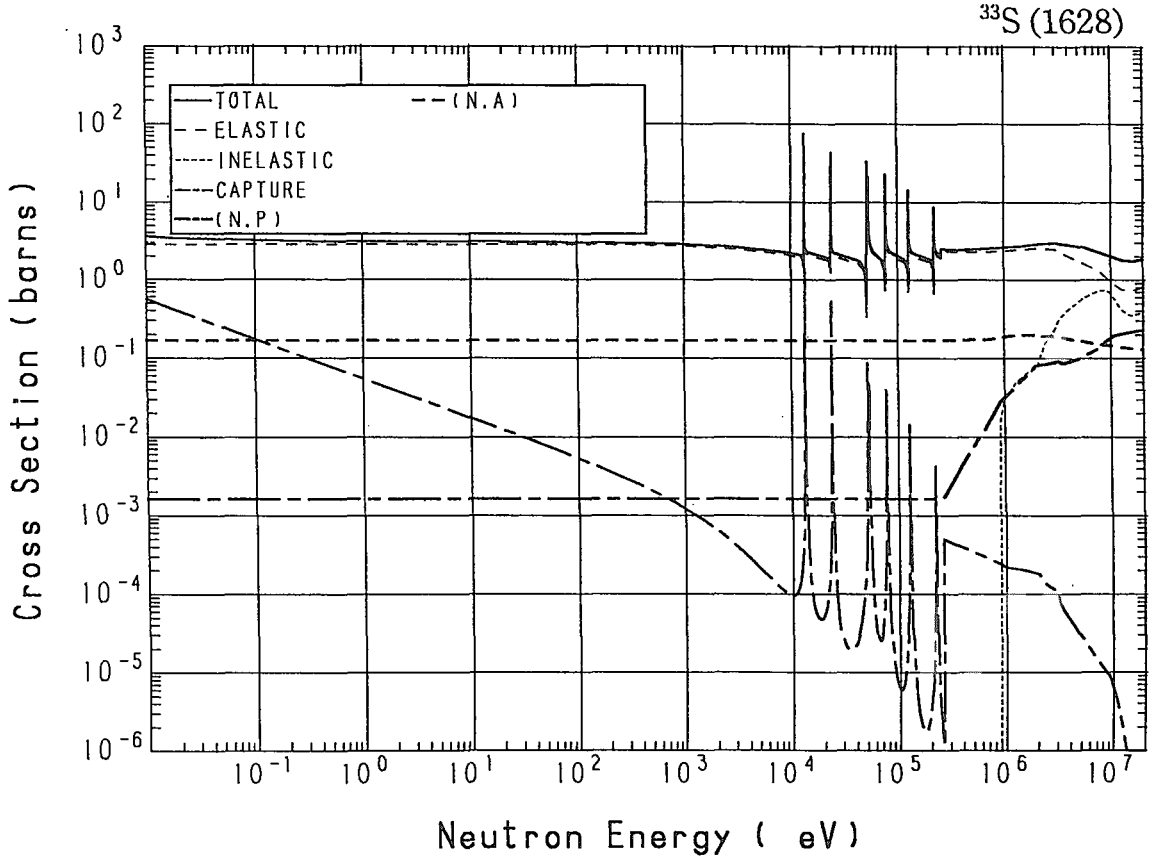


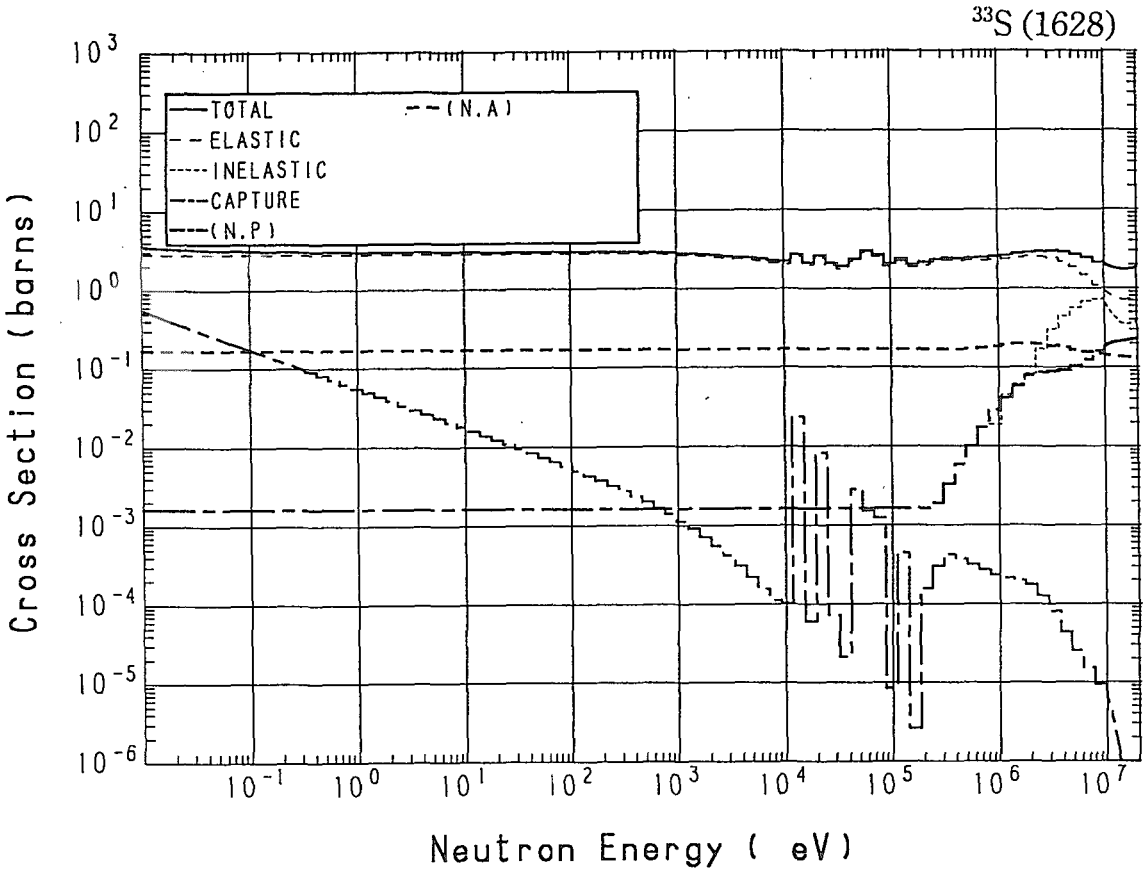

32S (1625)
TOTAL
ELASTIC
INELASTIC
CAPTURE
(N.A)
Cross Section (barns)
Neutron Energy (eV)

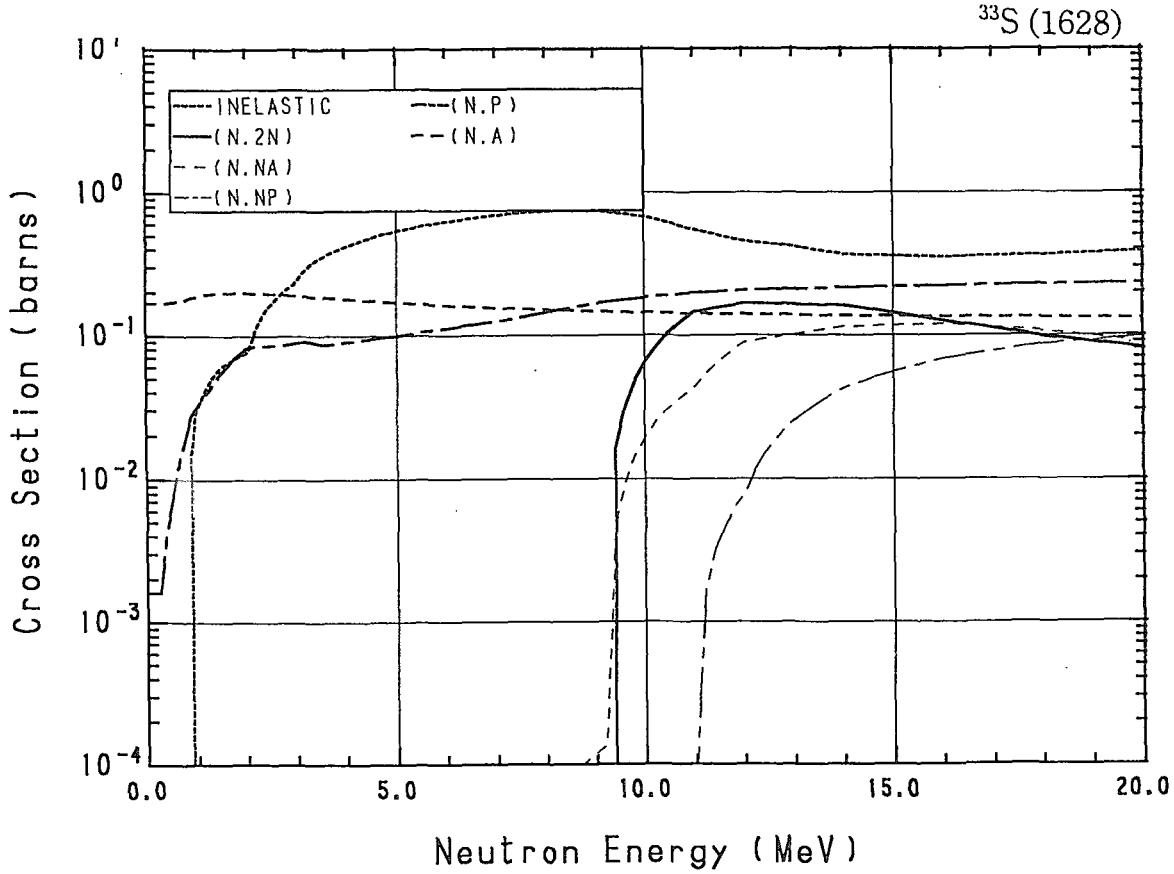

32S (1625)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

16-S - 33 (MAT=1628)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.365	3.325	–	1.762	2.719
elastic	–	2.844	2.844	–	727.4×10^{-3}	2.331
inelastic	865.7 keV	–	–	–	365.9×10^{-3}	144.5×10^{-3}
(n,2n)	8.908 MeV	–	–	–	161.1×10^{-3}	194.0×10^{-6}
(n,nα)	7.335 MeV	–	–	–	114.4×10^{-3}	78.19×10^{-6}
(n,np)	9.864 MeV	–	–	–	42.55×10^{-3}	8.416×10^{-6}
capture	–	350.0×10^{-3}	310.3×10^{-3}	163.9×10^{-3}	715.3×10^{-9}	202.4×10^{-6}
(n,p)	–	1.612×10^{-3}	1.612×10^{-3}	393.6×10^{-3}	214.0×10^{-3}	57.18×10^{-3}
(n,α)	–	168.6×10^{-3}	168.6×10^{-3}	2.965	136.5×10^{-3}	186.1×10^{-3}

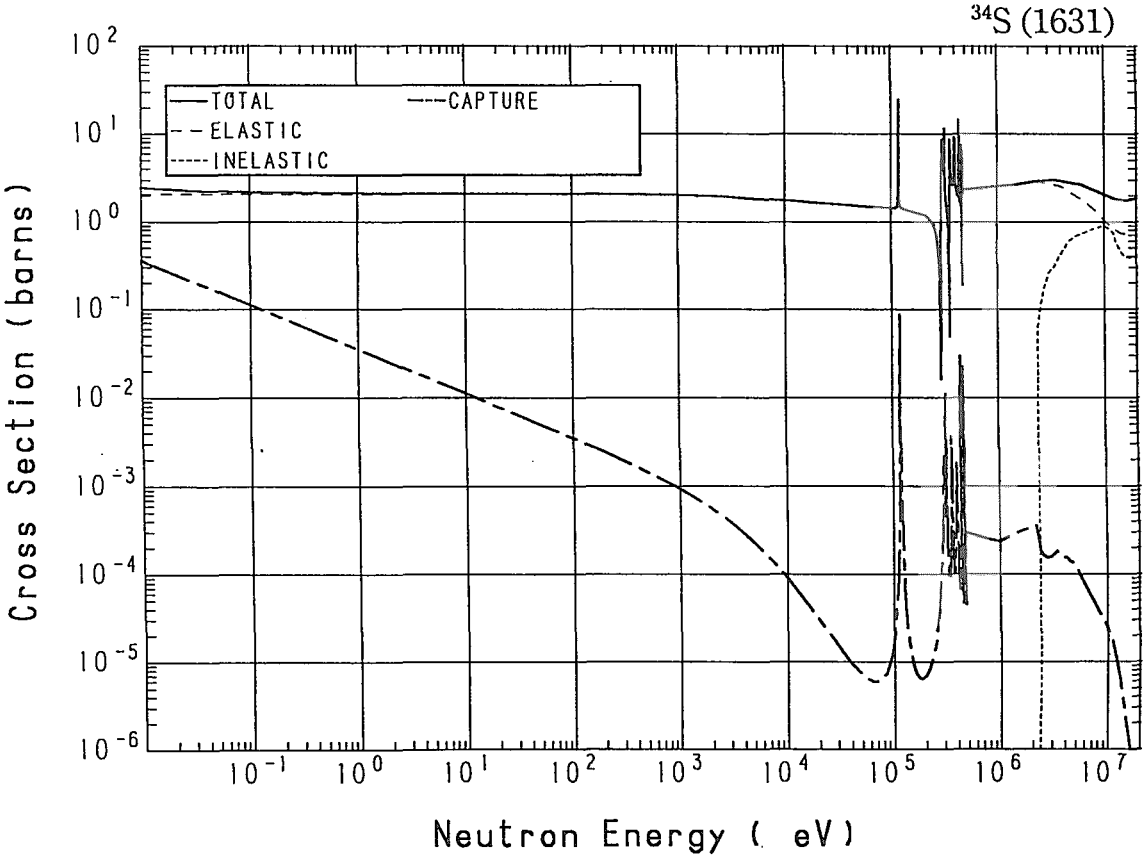


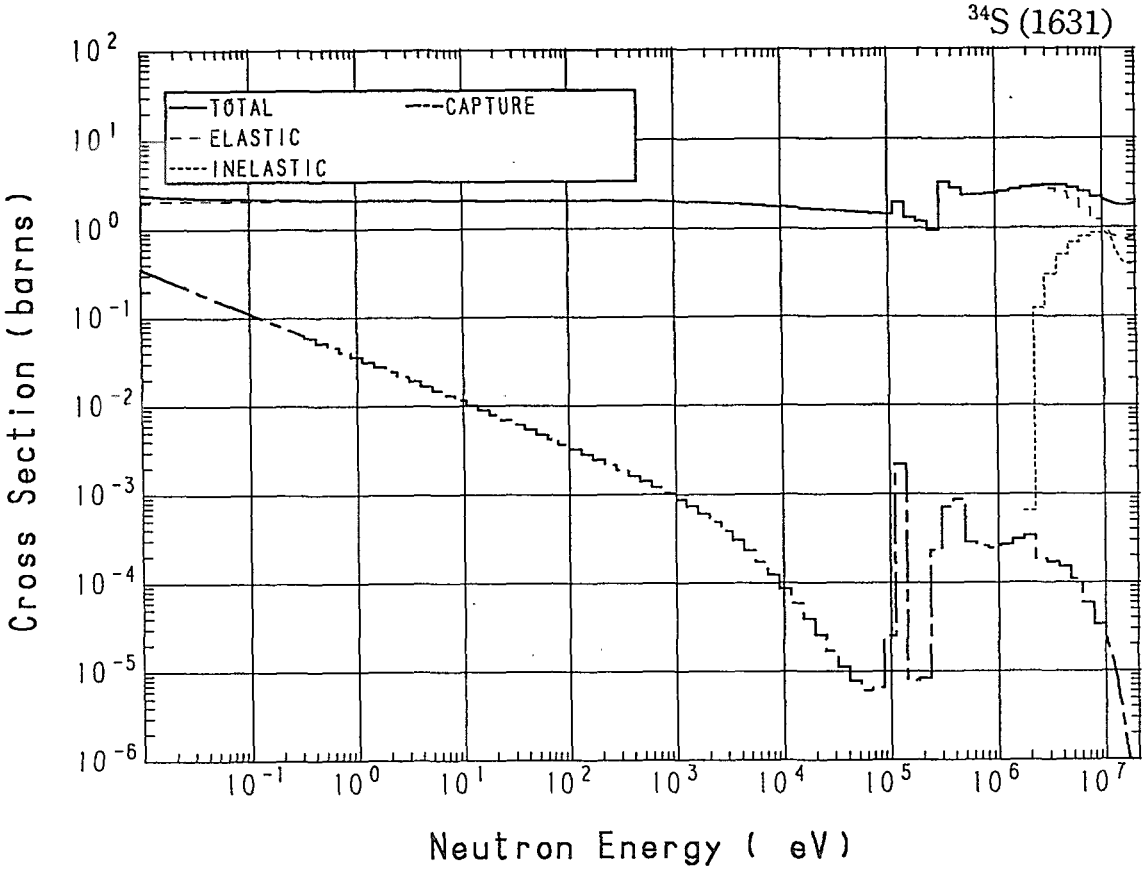

^{33}S (1628)
TOTAL
ELASTIC
INELASTIC
CAPTURE
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (eV)

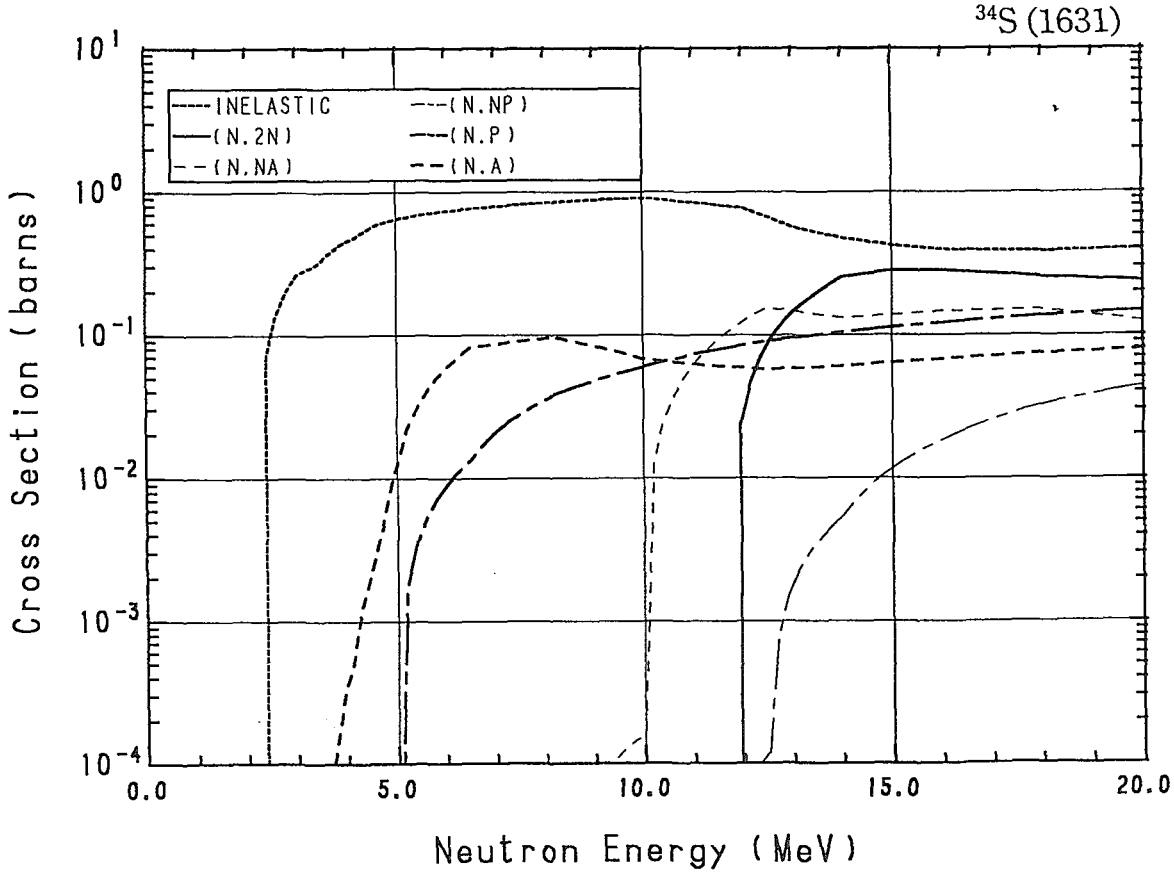

^{33}S (1628)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

16-S - 34 (MAT=1631)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.301	2.276	–	1.780	2.659
elastic	–	2.077	2.077	–	748.0×10^{-3}	2.529
inelastic	2.190 MeV	–	–	–	477.0×10^{-3}	126.4×10^{-3}
(n,2n)	11.75 MeV	–	–	–	252.8×10^{-3}	38.34×10^{-6}
(n,nα)	8.158 MeV	–	–	–	131.8×10^{-3}	84.96×10^{-6}
(n,np)	11.20 MeV	–	–	–	5.424×10^{-3}	957.4×10^{-9}
capture	–	223.6×10^{-3}	198.2×10^{-3}	100.6×10^{-3}	3.667×10^{-6}	275.5×10^{-6}
(n,p)	4.445 MeV	–	–	–	104.3×10^{-3}	800.5×10^{-6}
(n,α)	1.374 MeV	–	–	–	60.42×10^{-3}	3.331×10^{-3}

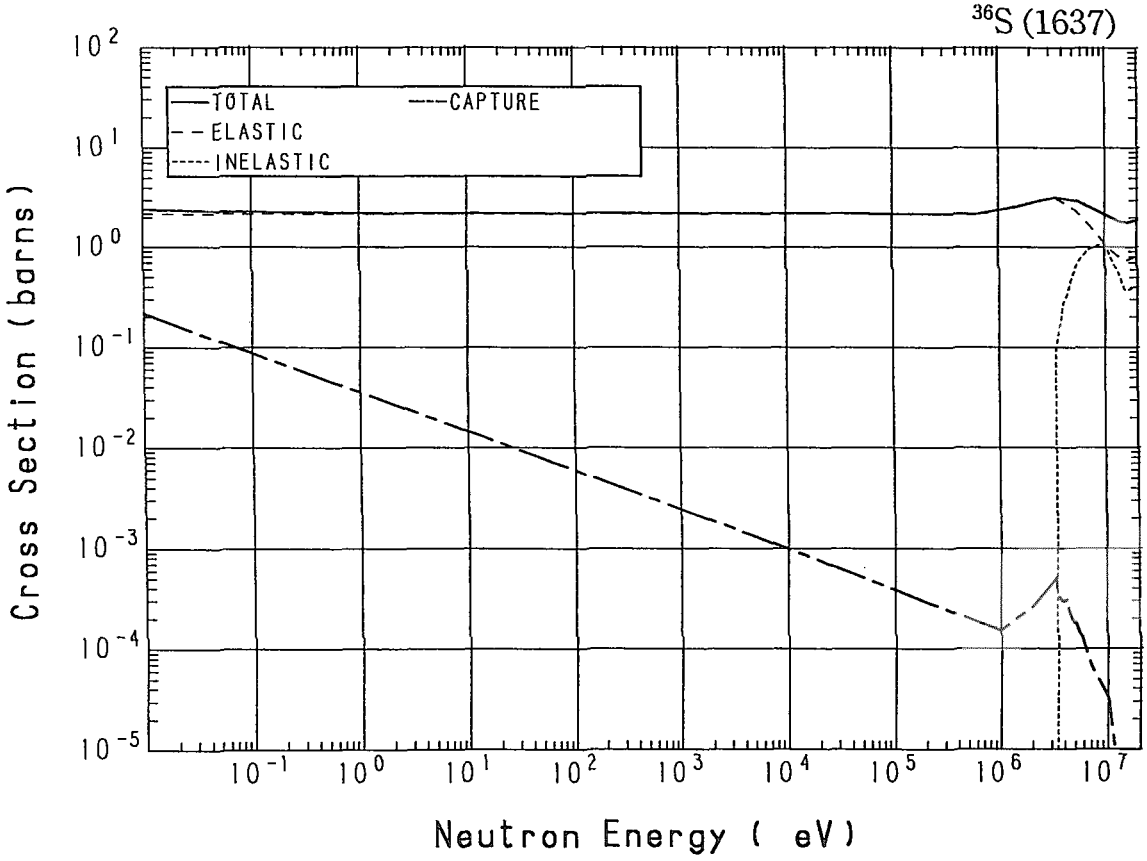


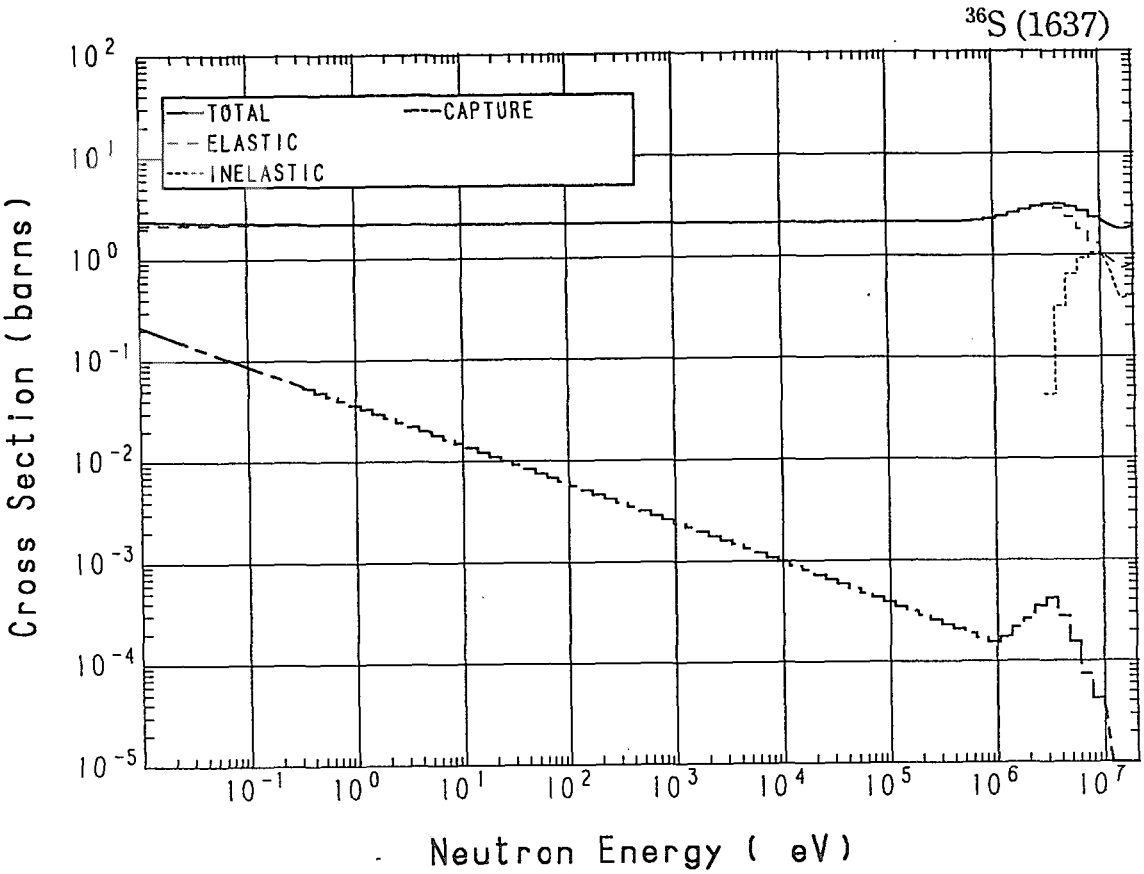

34S (1631)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

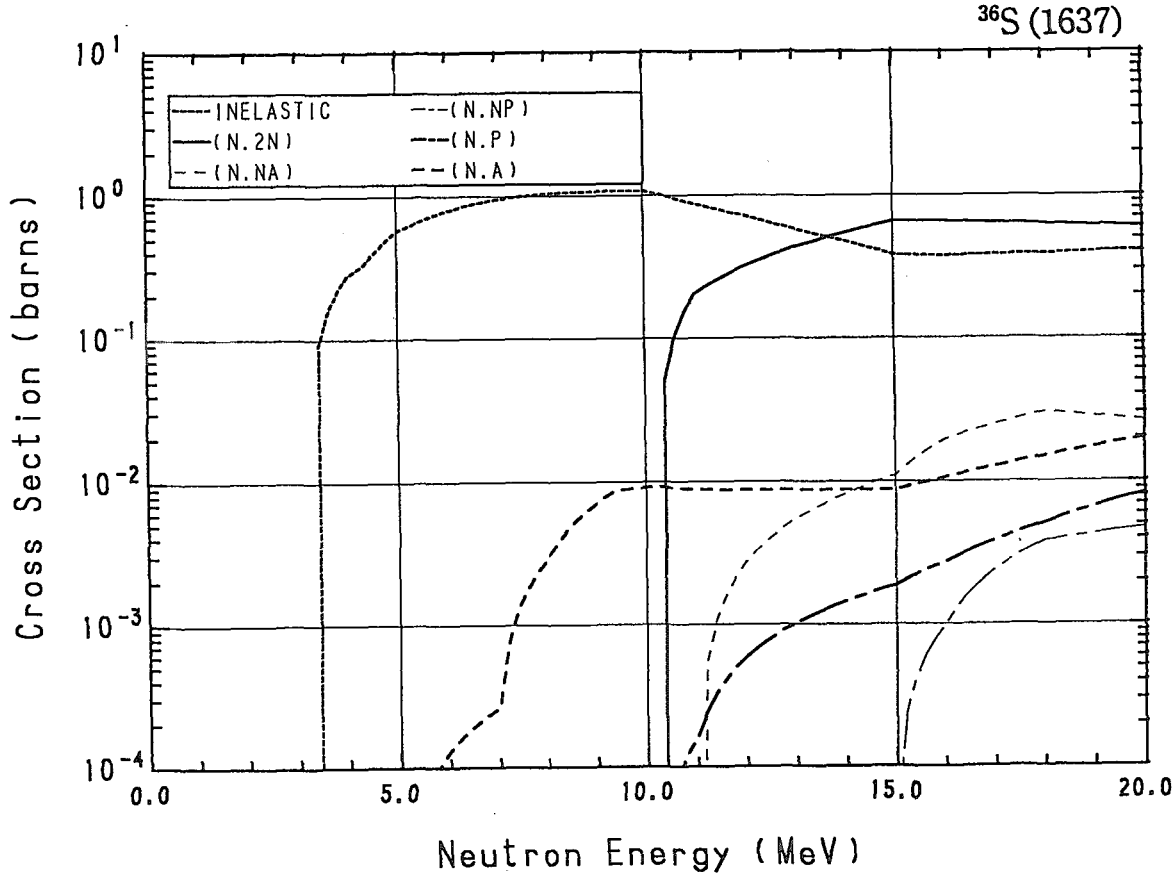

34S (1631)
INELASTIC
(N,2N)
(N,NA)
(N,NP)
(N,P)
(N,A)
Cross Section (barns)
Neutron Energy (MeV)

16-S - 36 (MAT=1637)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.335	2.320	–	1.825	2.657
elastic	–	2.185	2.185	–	789.6×10^{-3}	2.581
inelastic	3.383 MeV	–	–	–	477.1×10^{-3}	75.72×10^{-3}
(n,2n)	10.17 MeV	–	–	–	540.1×10^{-3}	242.7×10^{-6}
(n,nα)	9.252 MeV	–	–	–	8.270×10^{-3}	2.082×10^{-6}
(n,np)	13.41 MeV	–	–	–	17.14×10^{-6}	29.59×10^{-9}
capture	–	150.0×10^{-3}	134.8×10^{-3}	121.0×10^{-3}	1.364×10^{-6}	251.4×10^{-6}
(n,p)	9.243 MeV	–	–	–	1.452×10^{-3}	460.8×10^{-9}
(n,α)	4.065 MeV	–	–	–	8.735×10^{-3}	54.12×10^{-6}

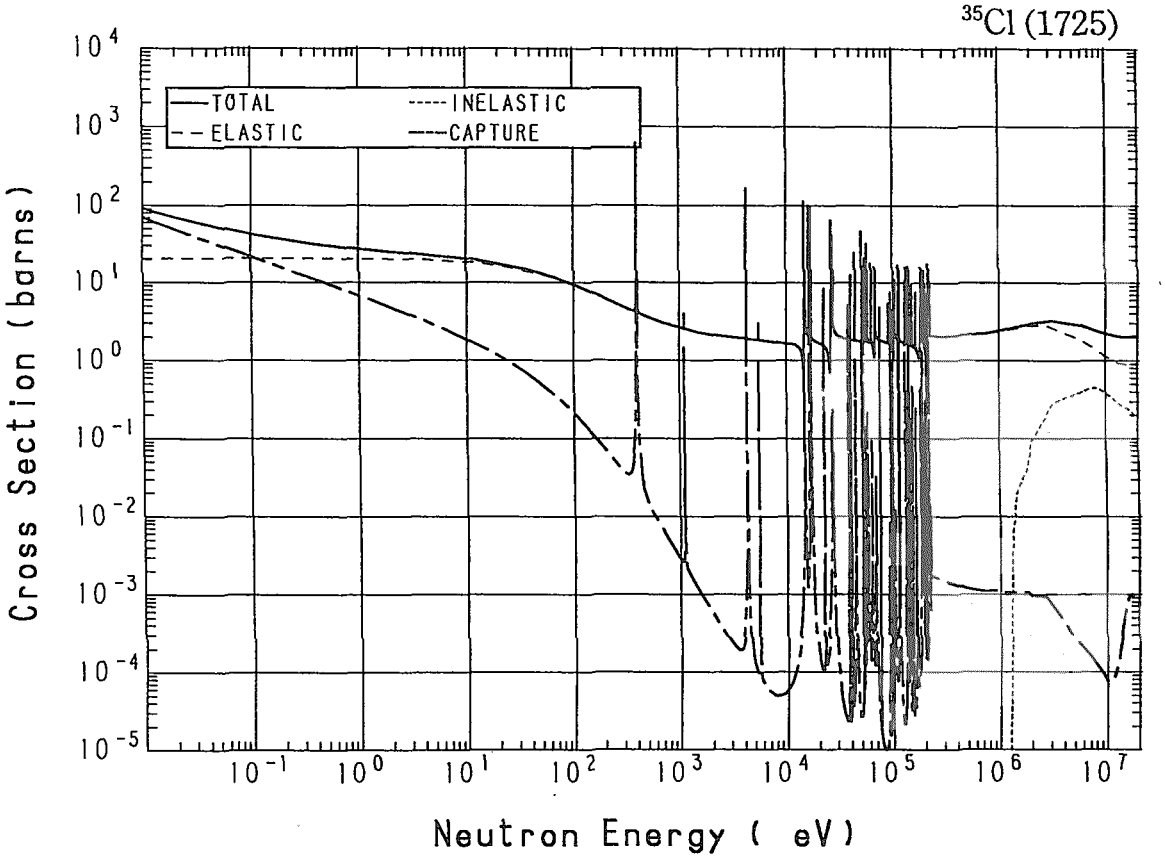


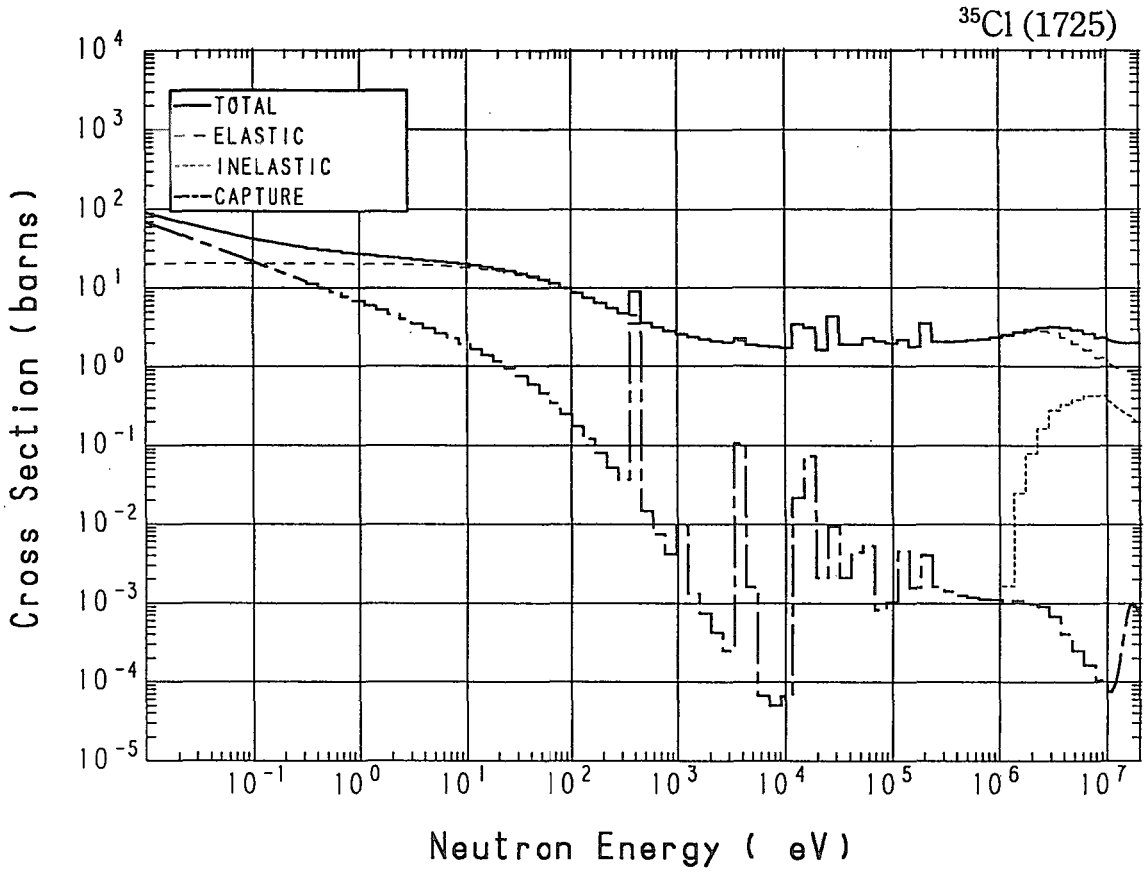

36S (1637)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

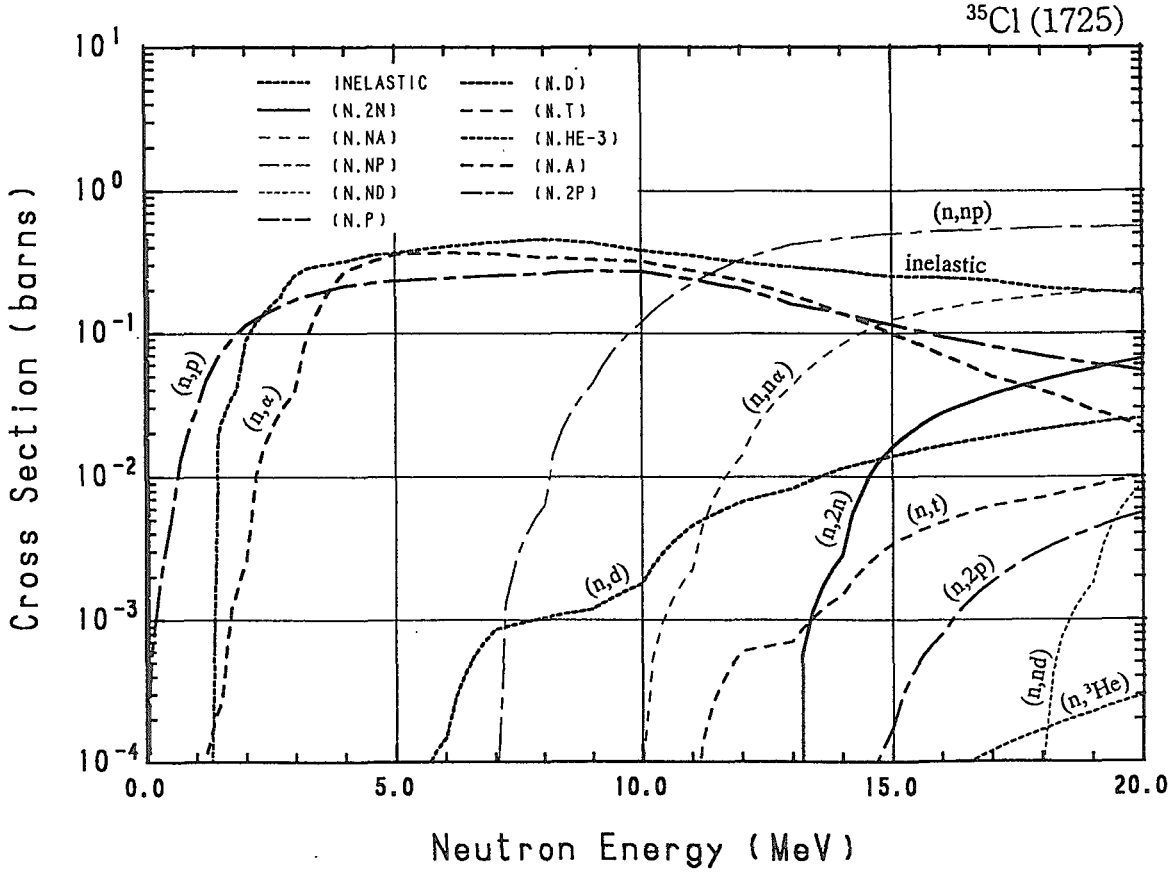

36S (1637)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

17-Cl- 35 (MAT=1725)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	64.69	59.67	–	2.023	2.736
elastic	–	20.60	20.59	–	909.7×10^{-3}	2.472
inelastic	1.254 MeV	–	–	–	273.7×10^{-3}	108.4×10^{-3}
(n,2n)	13.01 MeV	–	–	–	2.820×10^{-3}	950.6×10^{-9}
(n,nα)	7.198 MeV	–	–	–	84.01×10^{-3}	17.15×10^{-6}
(n,np)	6.555 MeV	–	–	–	465.2×10^{-3}	522.0×10^{-6}
(n,nd)	16.01 MeV	–	–	–	–	3.258×10^{-9}
capture	–	43.60	38.65	17.81	349.4×10^{-6}	1.074×10^{-3}
(n,p)	–	489.0×10^{-3}	434.9×10^{-3}	965.0×10^{-3}	137.1×10^{-3}	96.25×10^{-3}
(n,d)	4.267 MeV	–	–	–	11.36×10^{-3}	27.06×10^{-6}
(n,t)	9.572 MeV	–	–	–	1.513×10^{-3}	439.6×10^{-9}
(n,He-3)	9.808 MeV	–	–	–	14.37×10^{-6}	3.042×10^{-9}
(n,α)	–	80.00×10^{-6}	70.93×10^{-6}	466.3×10^{-3}	137.3×10^{-3}	56.45×10^{-3}
(n,2p)	11.00 MeV	–	–	–	12.74×10^{-6}	26.92×10^{-9}

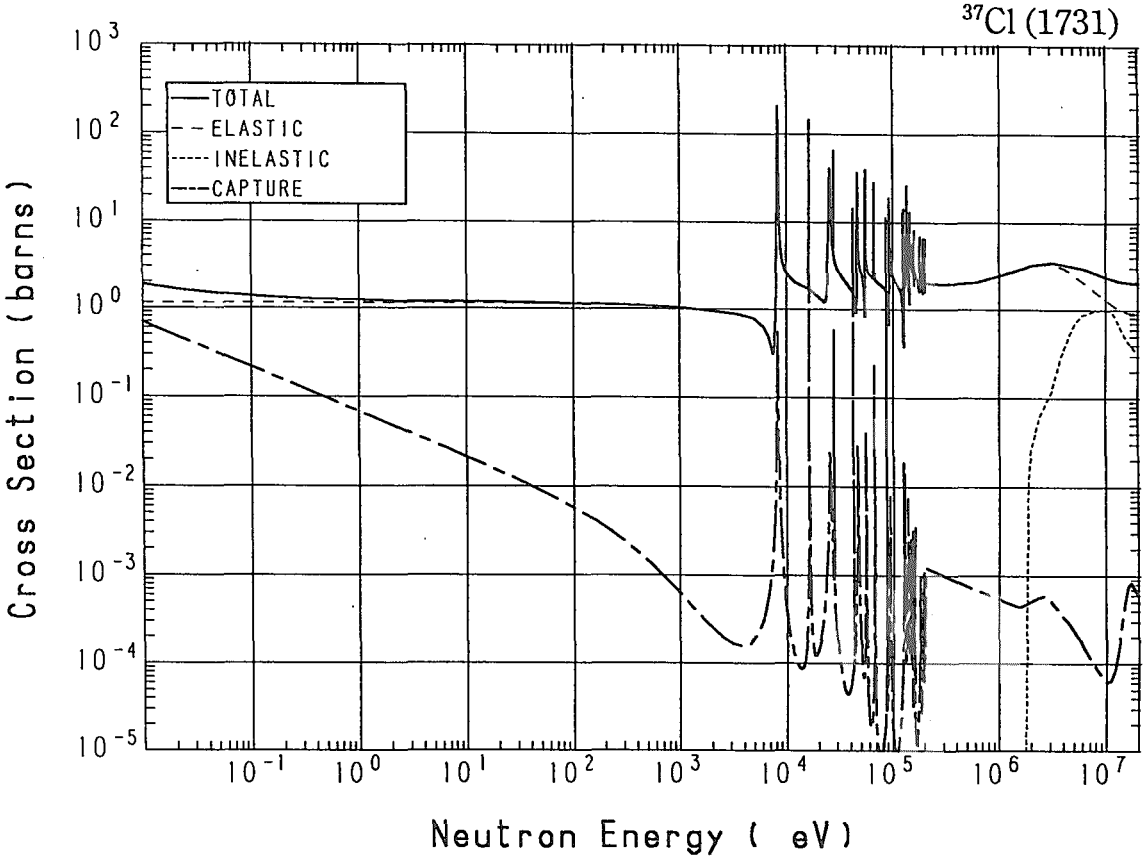


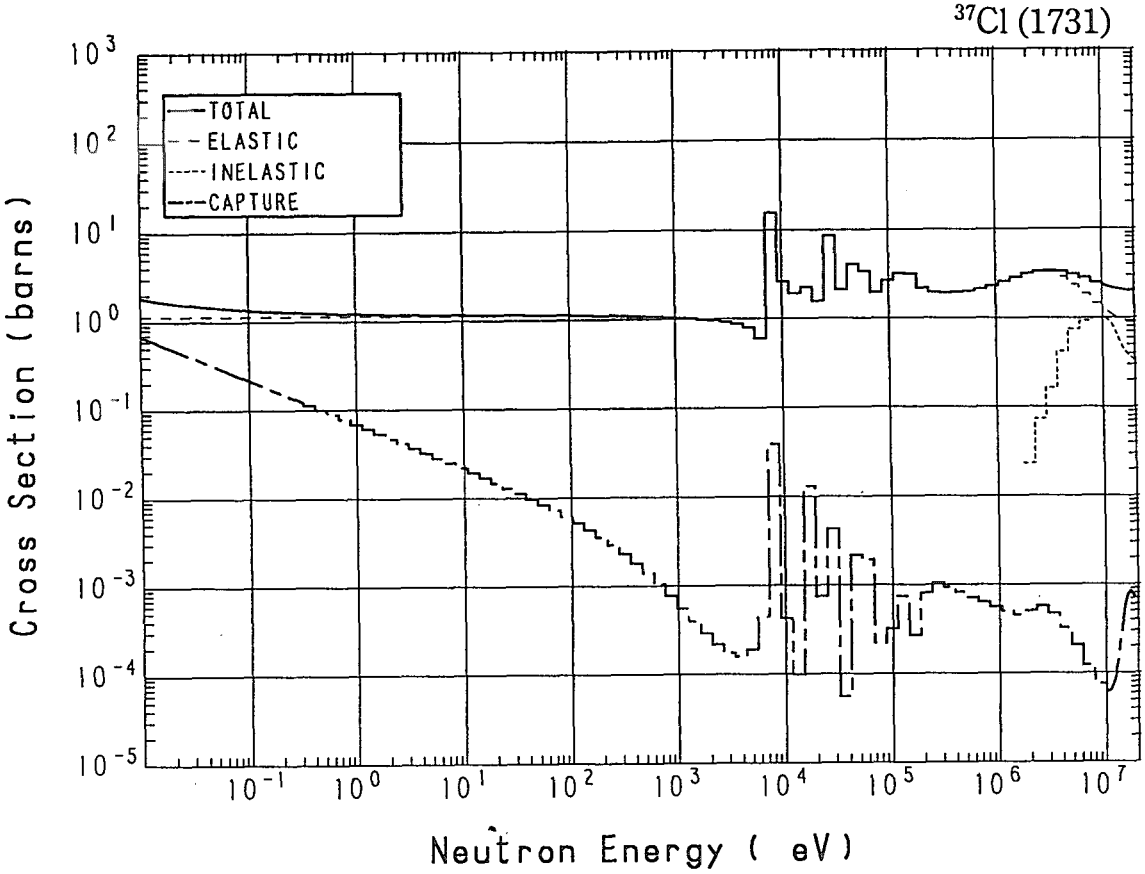

35Cl (1725)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

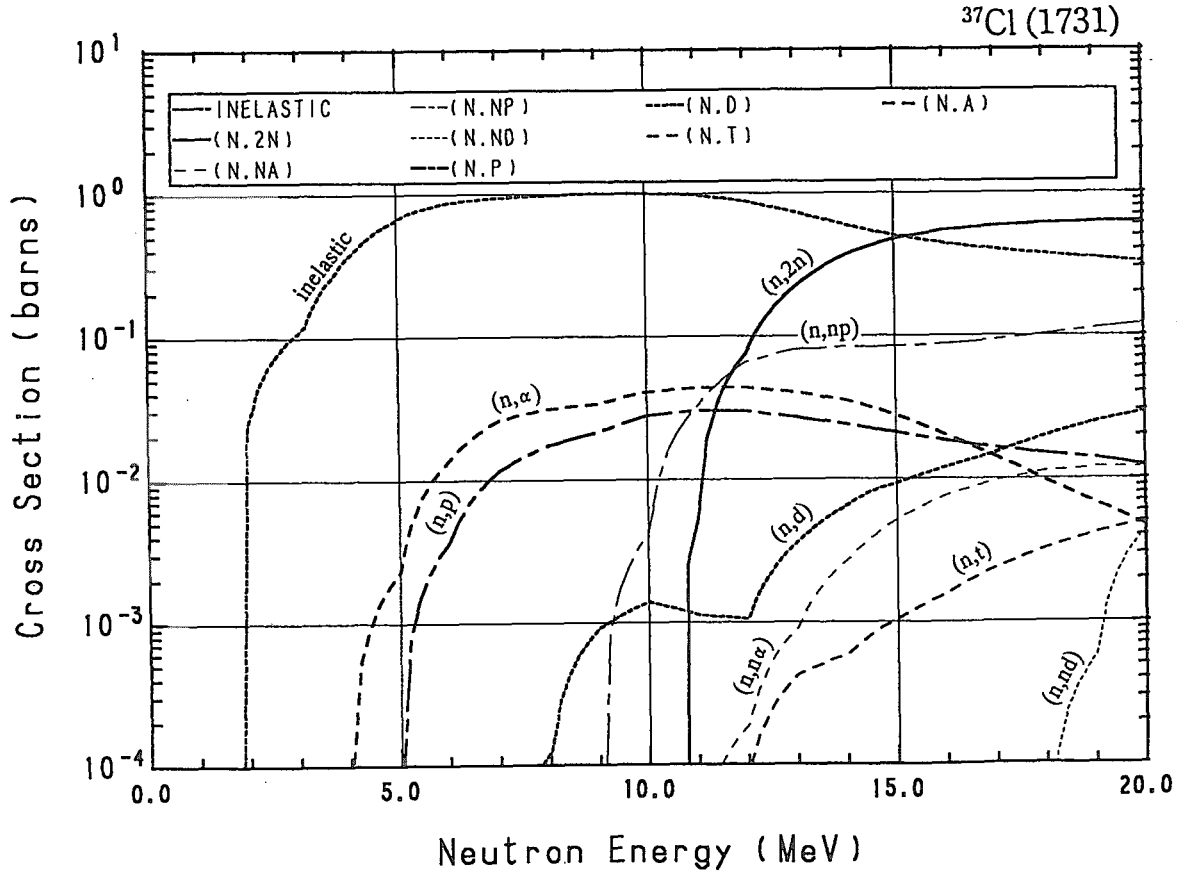

35Cl (1725)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.HE-3)
(N.A)
(N.2P)
(n,np)
inelastic
(n,p)
(n,α)
(n,nα)
(n,2n)
(n,t)
(n,d)
(n,2p)
(n,nd)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)

17-Cl- 37 (MAT=1731)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.583	1.534	–	2.106	2.823
elastic	–	1.150	1.150	–	993.1×10^{-3}	2.711
inelastic	1.774 MeV	–	–	–	597.8×10^{-3}	110.0×10^{-3}
(n,2n)	10.59 MeV	–	–	–	362.5×10^{-3}	73.78×10^{-6}
(n,nα)	8.062 MeV	–	–	–	2.724×10^{-3}	504.0×10^{-9}
(n,np)	8.611 MeV	–	–	–	83.43×10^{-3}	49.69×10^{-6}
(n,nd)	16.49 MeV	–	–	–	–	1.298×10^{-9}
capture	–	432.8×10^{-3}	383.7×10^{-3}	203.5×10^{-3}	286.8×10^{-6}	549.7×10^{-6}
(n,p)	4.182 MeV	–	–	–	23.92×10^{-3}	383.5×10^{-6}
(n,d)	6.327 MeV	–	–	–	6.491×10^{-3}	6.024×10^{-6}
(n,t)	10.06 MeV	–	–	–	589.9×10^{-6}	142.6×10^{-9}
(n,He-3)	14.08 MeV	–	–	–	–	9.236×10^{-12}
(n,α)	1.319 MeV	–	–	–	35.26×10^{-3}	957.0×10^{-6}

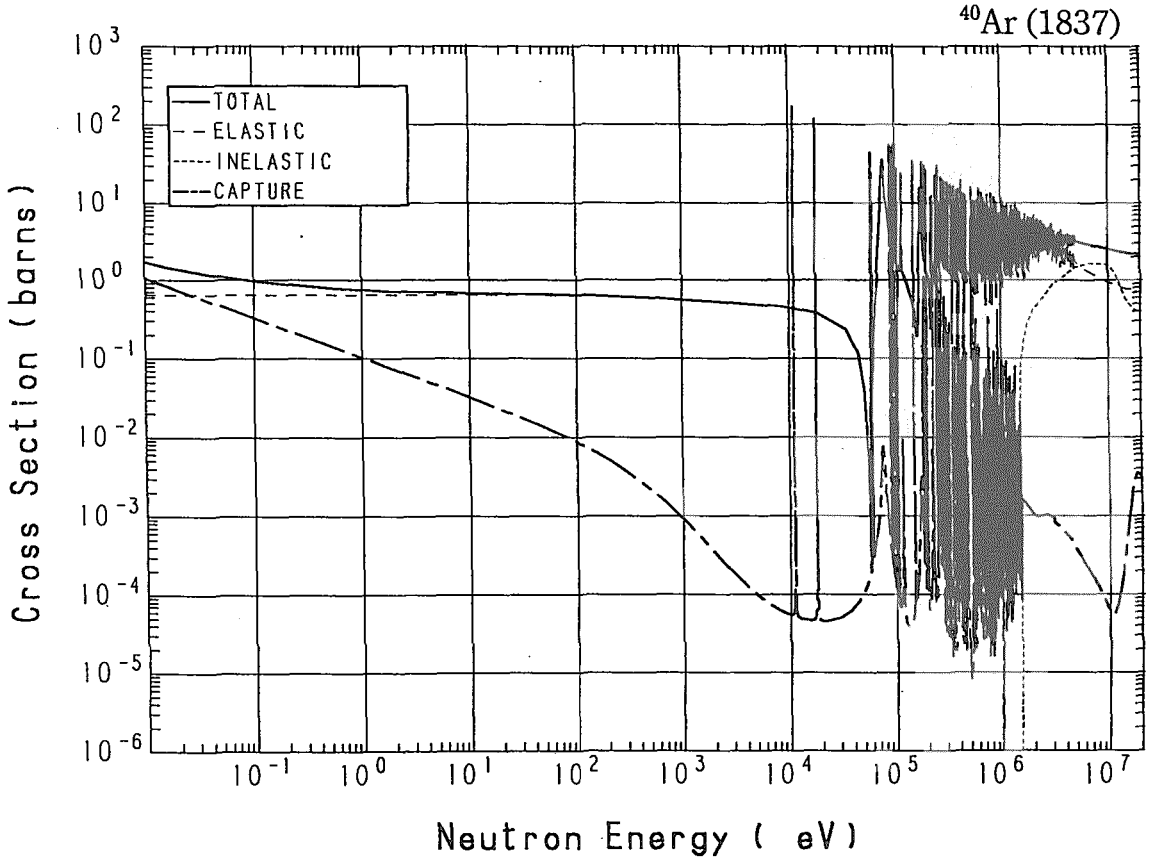


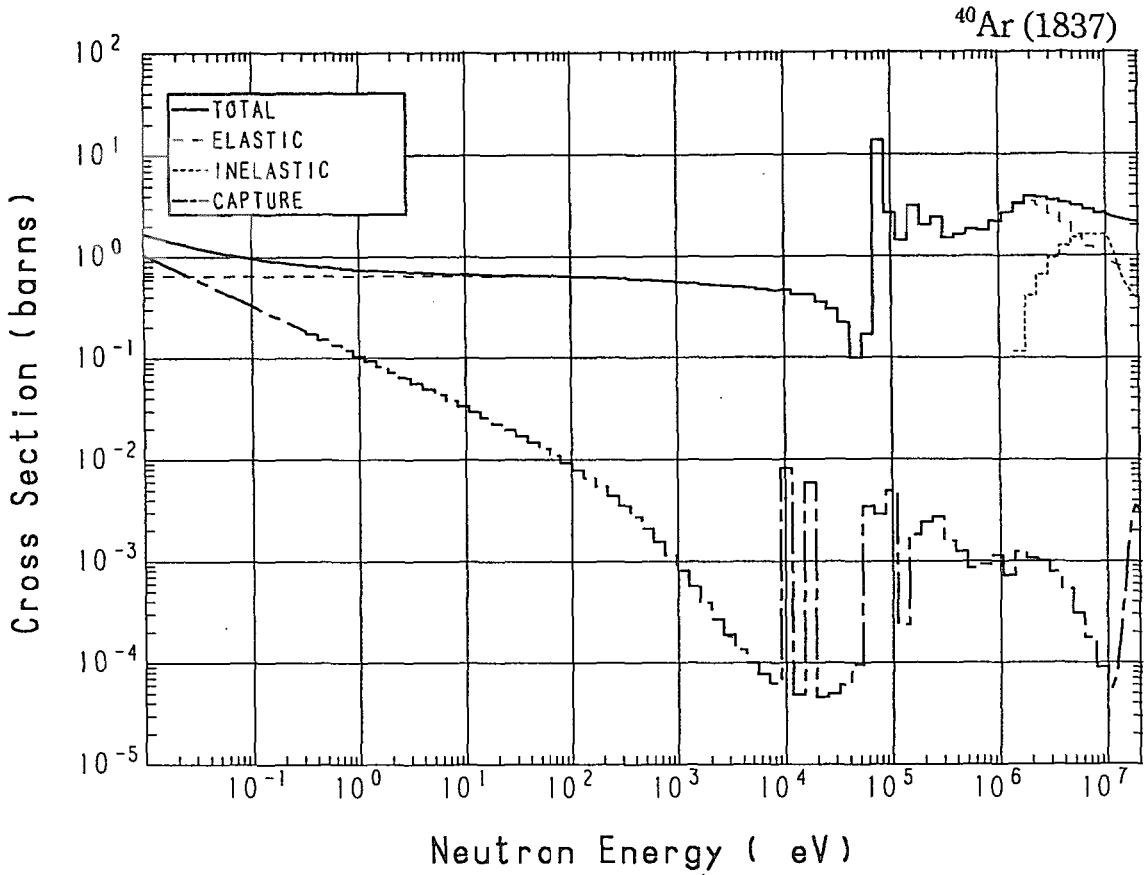

37Cl (1731)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

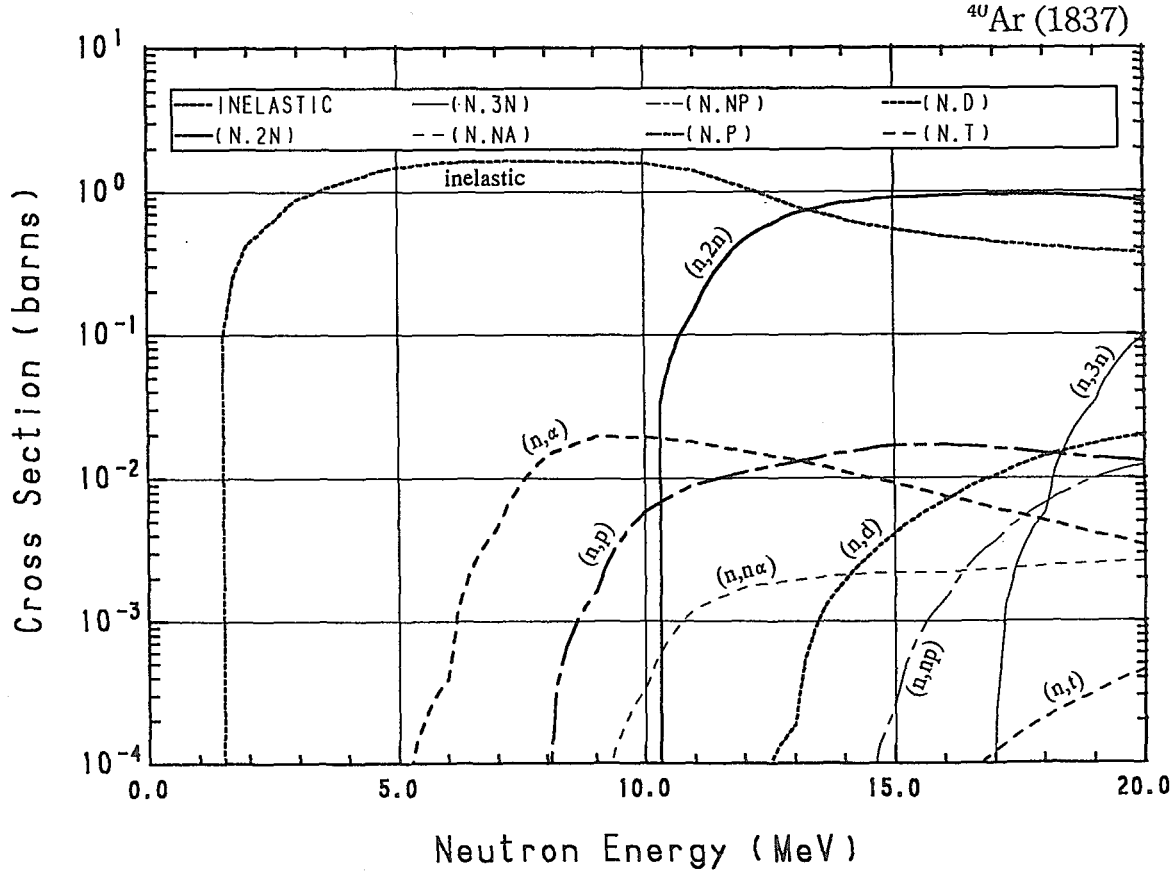

37Cl (1731)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,2n)
(n,np)
(n,α)
(n,p)
(n,d)
(n,t)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

18-Ar- 40 (MAT=1837)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.307	1.232	–	2.290	2.994
elastic	–	647.0×10^{-3}	647.0×10^{-3}	–	788.0×10^{-3}	2.569
inelastic	1.498 MeV	–	–	–	636.2×10^{-3}	422.6×10^{-3}
(n,2n)	10.12 MeV	–	–	–	835.7×10^{-3}	304.1×10^{-6}
(n,3n)	16.88 MeV	–	–	–	–	53.87×10^{-9}
(n,nα)	6.968 MeV	–	–	–	2.123×10^{-3}	1.711×10^{-6}
(n,np)	12.84 MeV	–	–	–	6.636×10^{-6}	51.76×10^{-9}
capture	–	660.0×10^{-3}	585.1×10^{-3}	294.0×10^{-3}	346.4×10^{-6}	1.013×10^{-3}
(n,p)	6.885 MeV	–	–	–	14.99×10^{-3}	19.52×10^{-6}
(n,d)	10.56 MeV	–	–	–	1.949×10^{-3}	326.5×10^{-9}
(n,t)	12.42 MeV	–	–	–	354.1×10^{-9}	1.736×10^{-9}
(n,He-3)	15.41 MeV	–	–	–	–	295.7×10^{-15}
(n,α)	2.548 MeV	–	–	–	11.08×10^{-3}	204.0×10^{-6}

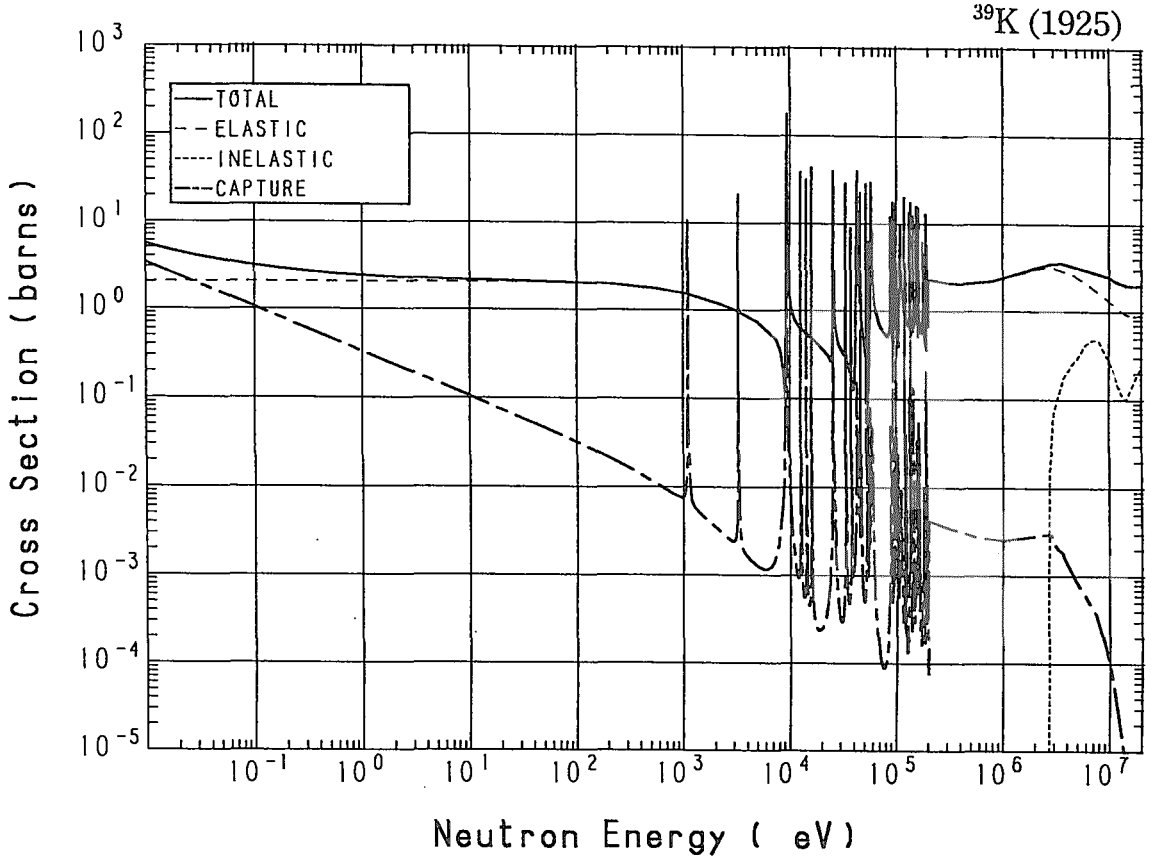


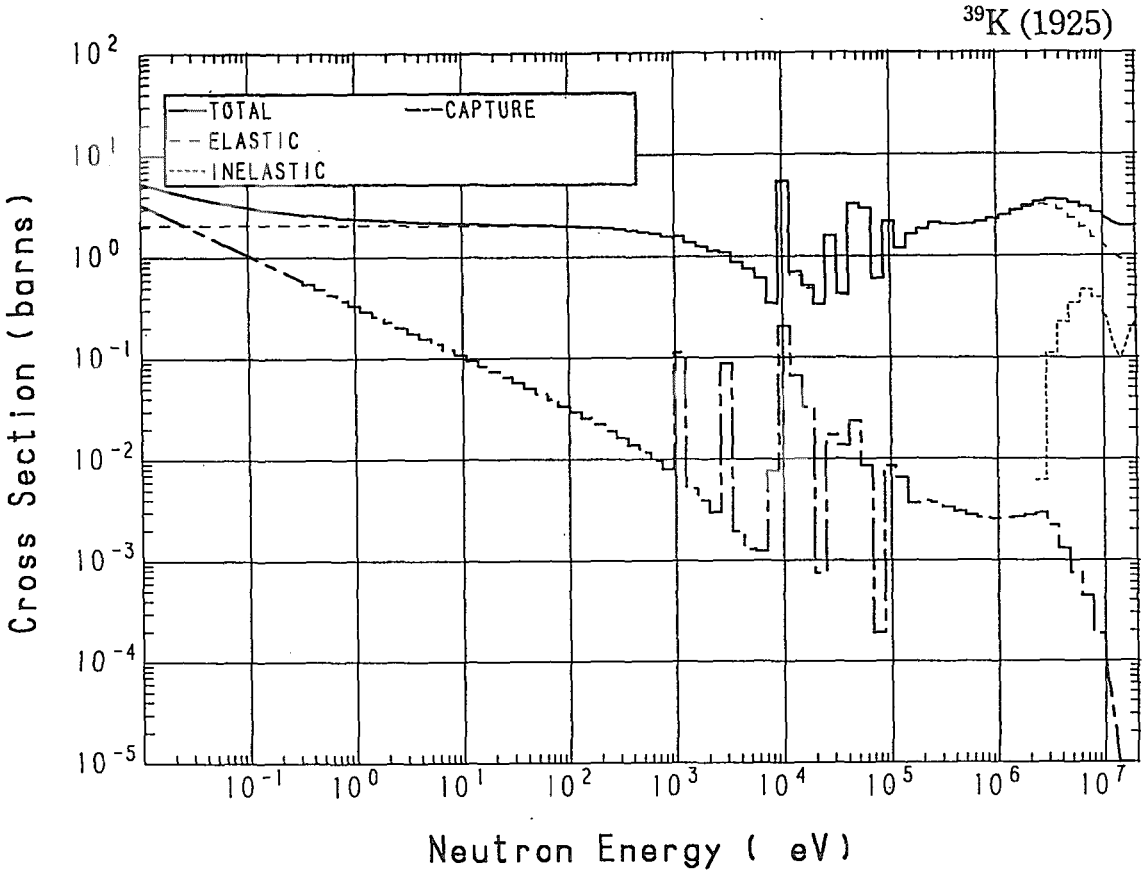

40Ar (1837)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

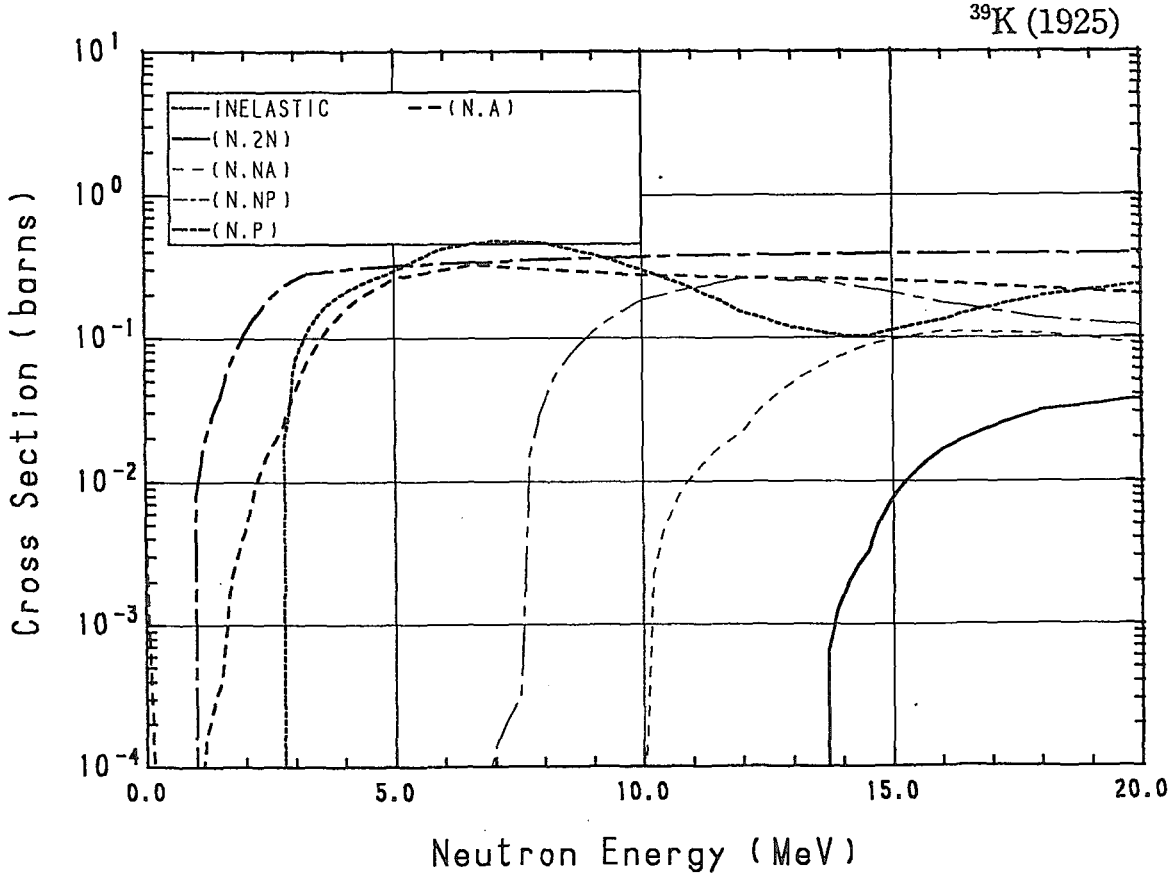

40Ar (1837)
INELASTIC
(N,3N)
(N,NP)
(N,D)
(N,2N)
(N,NA)
(N,P)
(N,T)
inelastic
(n,2n)
(n,3n)
(n,α)
(n,p)
(n,nα)
(n,d)
(n,np)
(n,f)
Cross Section (barns)
Neutron Energy (MeV)

19-K - 39 (MAT=1925)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.164	3.926	–	2.012	2.815
elastic	–	2.062	2.062	–	955.3×10^{-3}	2.605
inelastic	2.588 MeV	–	–	–	102.8×10^{-3}	52.05×10^{-3}
(n,2n)	13.42 MeV	–	–	–	1.631×10^{-3}	492.6×10^{-9}
(n,nα)	7.404 MeV	–	–	–	75.52×10^{-3}	22.26×10^{-6}
(n,np)	6.545 MeV	–	–	–	235.3×10^{-3}	775.4×10^{-6}
capture	–	2.098	1.860	1.080	7.416×10^{-6}	2.680×10^{-3}
(n,p)	–	0.000	0.000	758.9×10^{-3}	385.3×10^{-3}	113.3×10^{-3}
(n,α)	–	4.300×10^{-3}	3.855×10^{-3}	463.8×10^{-3}	256.5×10^{-3}	41.06×10^{-3}

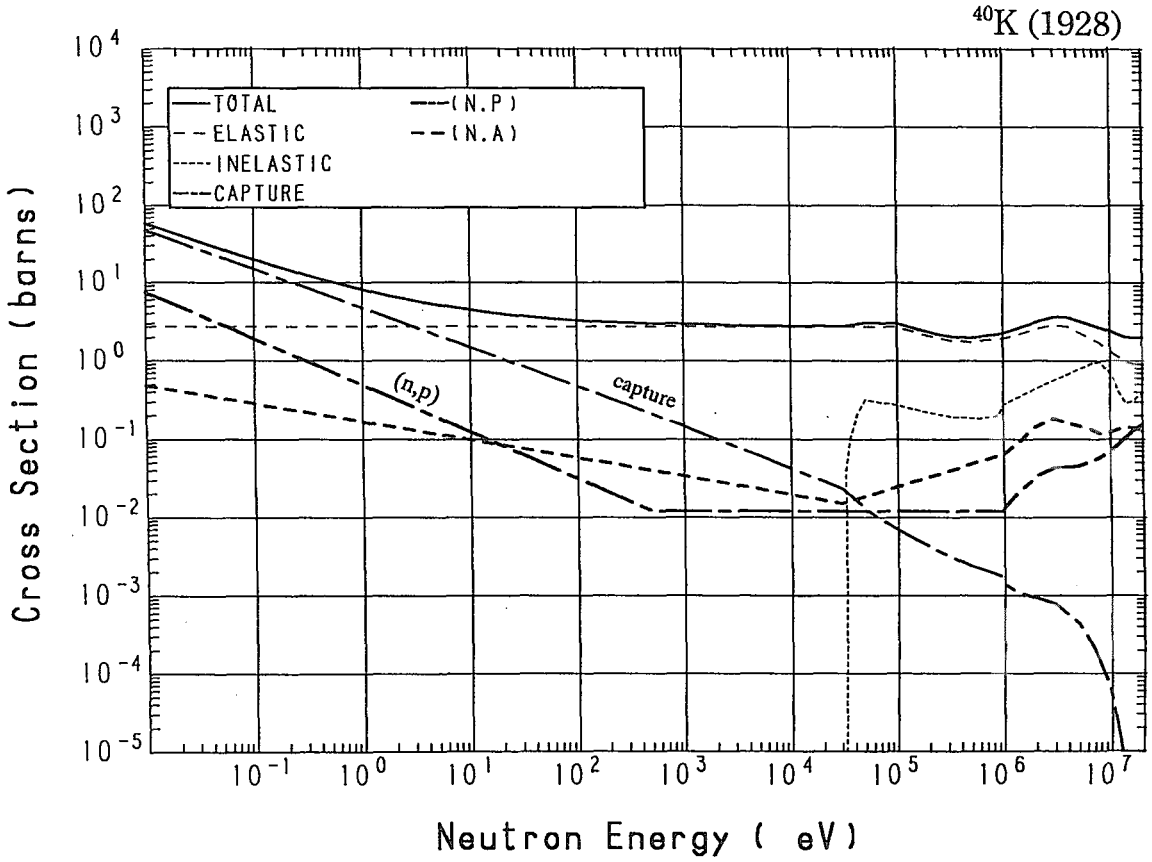


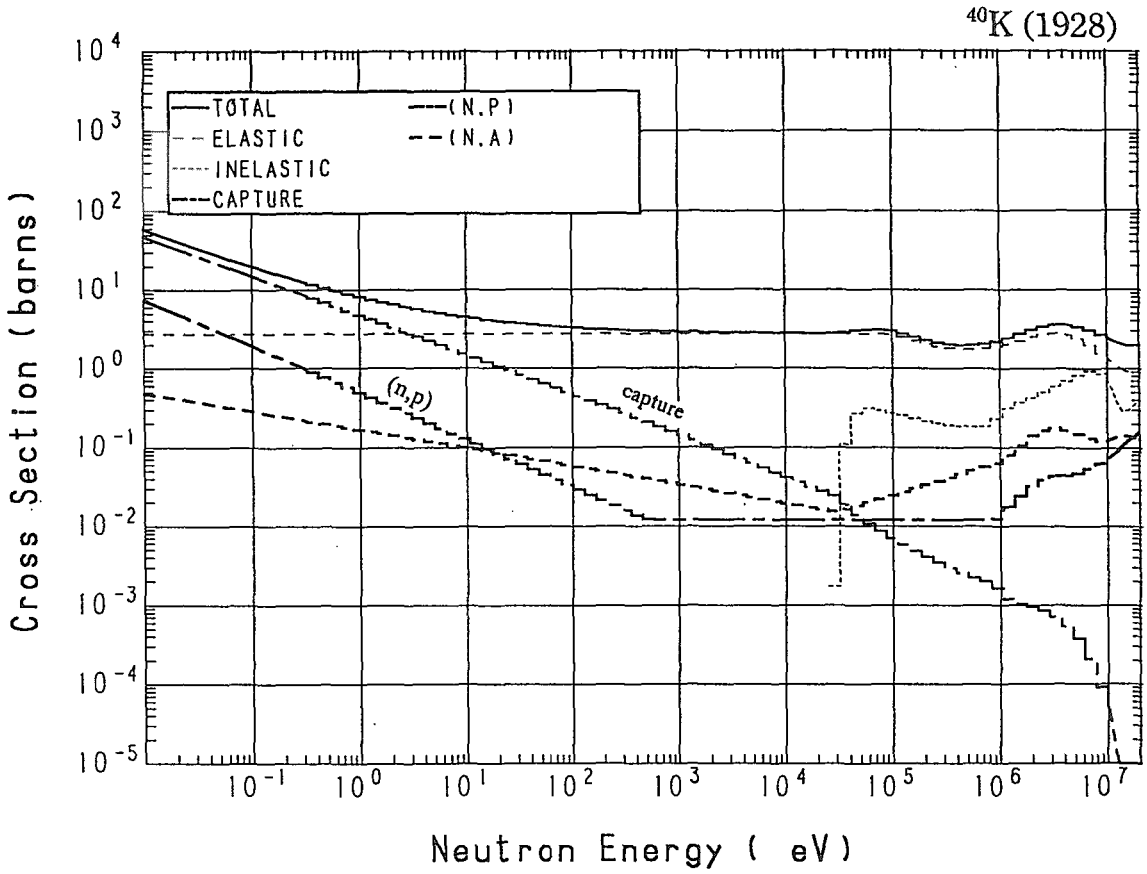

^{39}K (1925)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

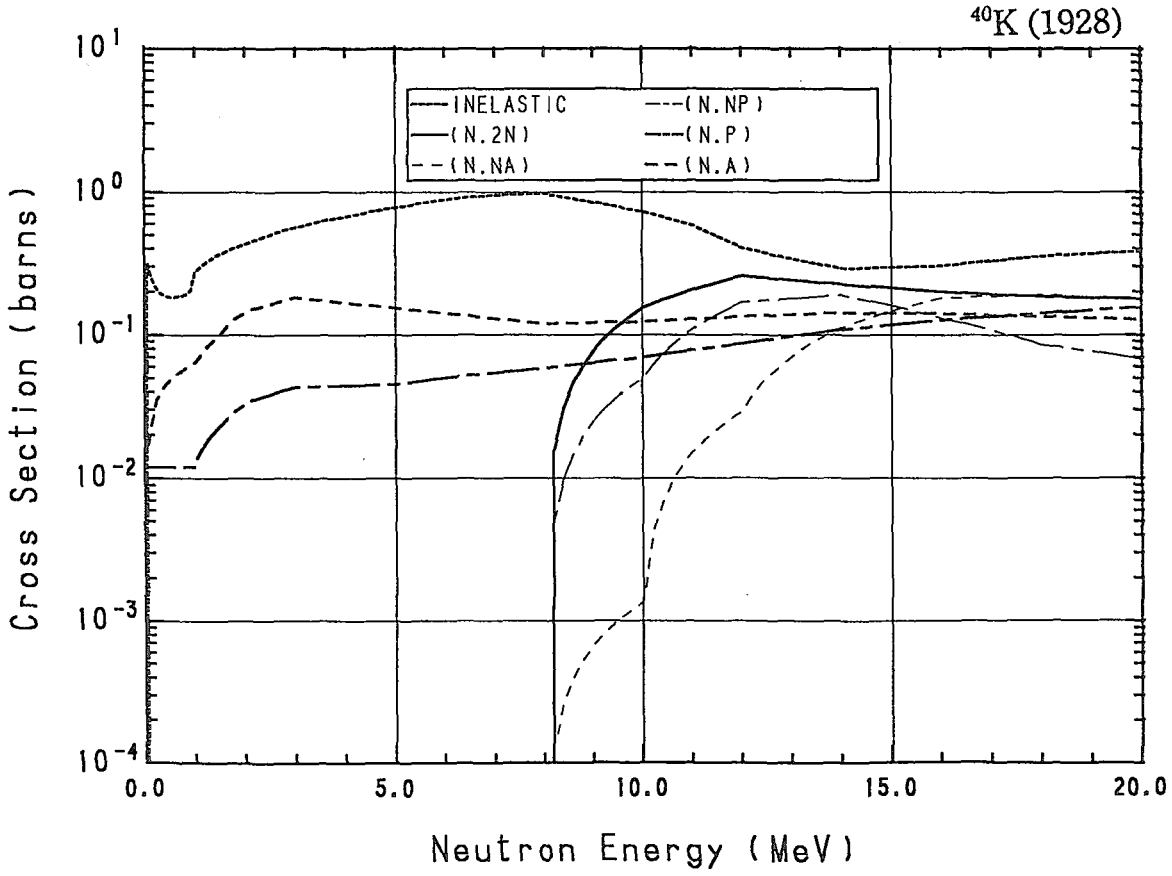

^{39}K (1925)
INELASTIC
(N.A)
(N.2N)
(N.NA)
(N.NP)
(N.P)
Cross Section (barns)
Neutron Energy (MeV)

19-K - 40 (MAT=1928)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	37.54	33.76	–	2.046	2.862
elastic	–	2.751	2.751	–	977.4×10^{-3}	2.311
inelastic	30.76 keV	–	–	–	289.9×10^{-3}	411.6×10^{-3}
(n,2n)	7.997 MeV	–	–	–	225.5×10^{-3}	537.6×10^{-6}
(n,nα)	6.600 MeV	–	–	–	112.8×10^{-3}	34.59×10^{-6}
(n,np)	7.775 MeV	–	–	–	190.0×10^{-3}	232.1×10^{-6}
capture	–	30.00	26.60	13.45	4.123×10^{-6}	1.546×10^{-3}
(n,p)	–	4.400	3.855	1.481	108.5×10^{-3}	27.41×10^{-3}
(n,α)	–	390.0×10^{-3}	359.6×10^{-3}	1.307	142.4×10^{-3}	109.9×10^{-3}

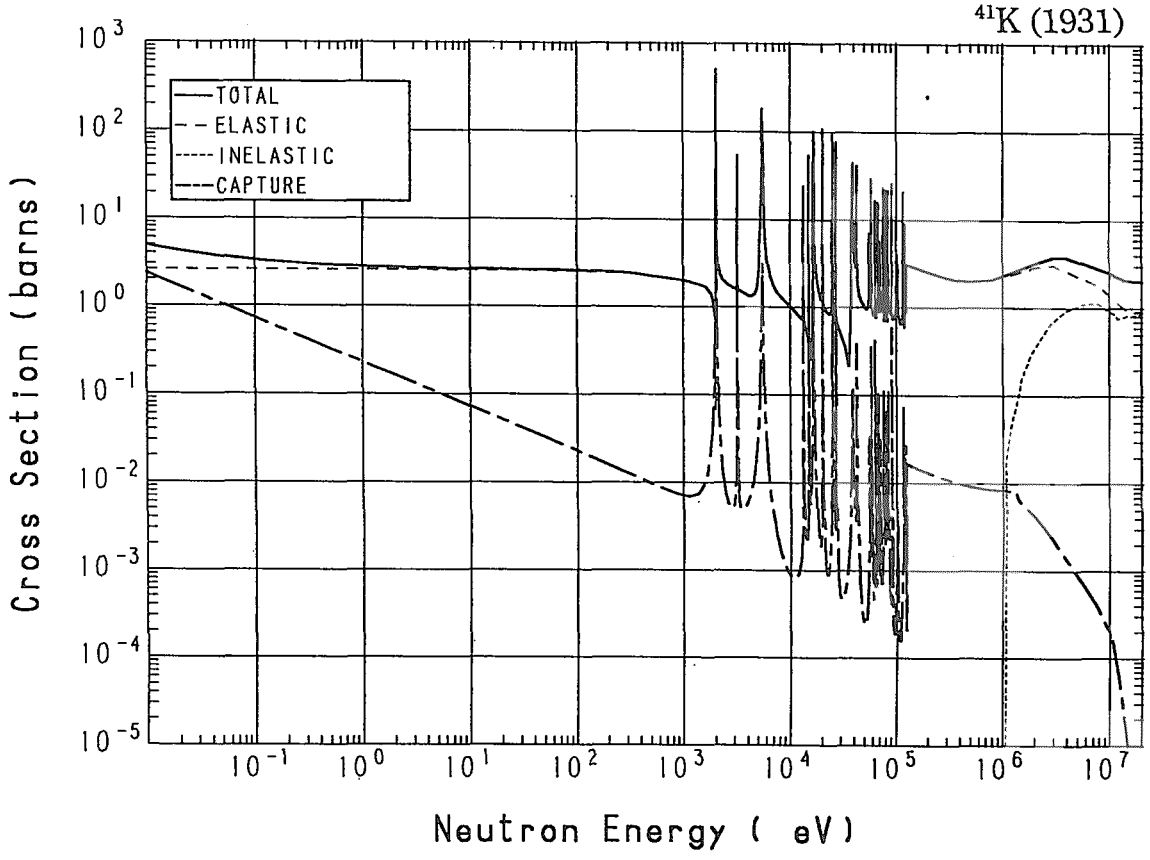


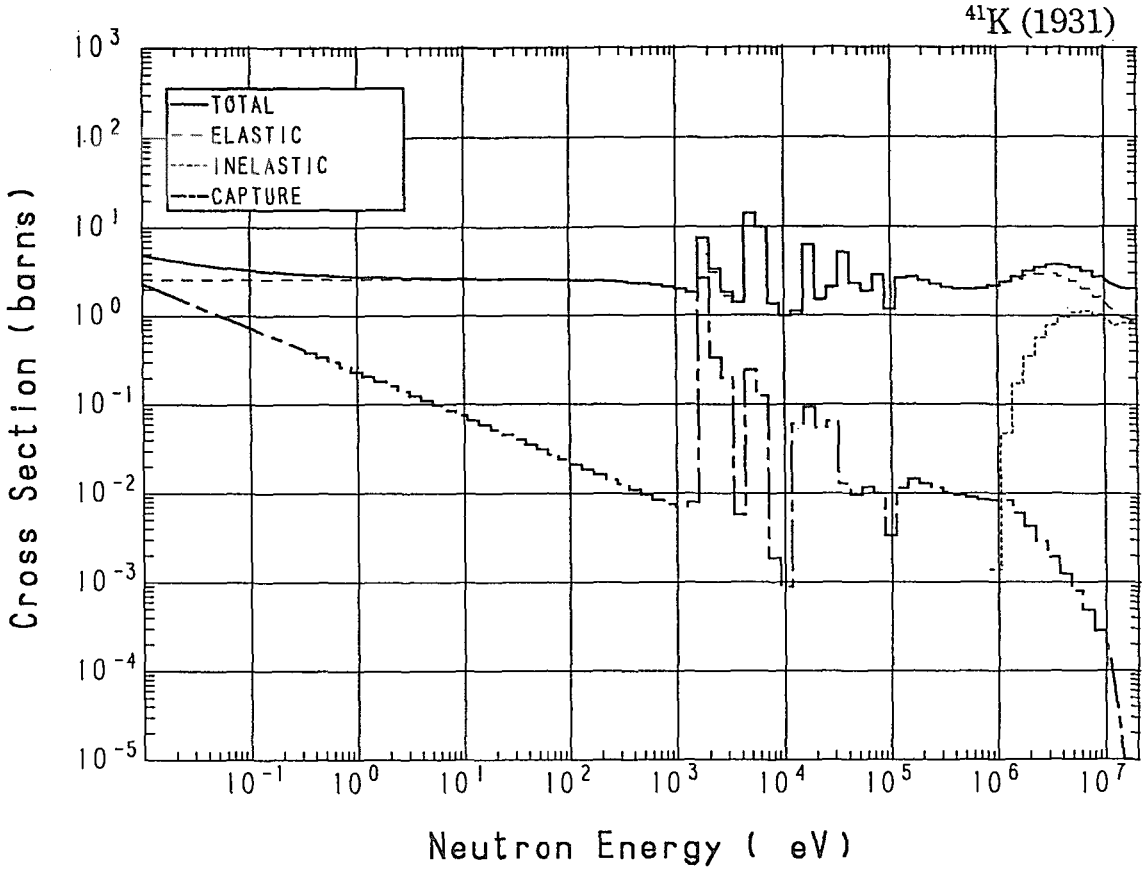

40K (1928)
TOTAL
ELASTIC
INELASTIC
CAPTURE
(N.P)
(N.A)
(n,p)
capture
Cross Section (barns)
Neutron Energy (eV)

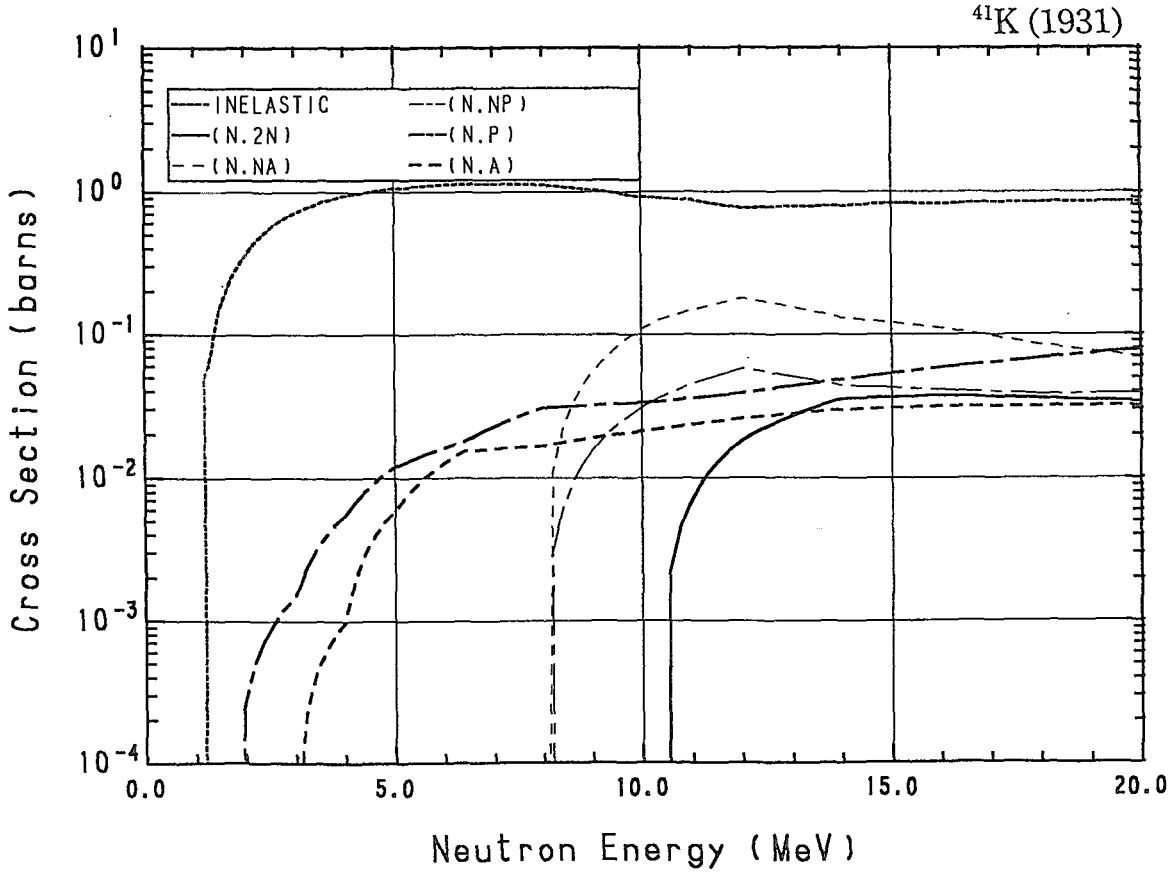

40K (1928)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

19-K - 41 (MAT=1931)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.025	3.860	–	2.084	2.882
elastic	–	2.566	2.566	–	1.001	2.526
inelastic	1.004 MeV	–	–	–	794.2×10^{-3}	347.5×10^{-3}
(n,2n)	10.34 MeV	–	–	–	35.38×10^{-3}	12.15×10^{-6}
(n,nα)	6.375 MeV	–	–	–	131.7×10^{-3}	379.2×10^{-6}
(n,np)	8.001 MeV	–	–	–	43.97×10^{-3}	111.8×10^{-6}
capture	–	1.459	1.294	1.580	17.40×10^{-6}	5.858×10^{-3}
(n,p)	1.752 MeV	–	–	–	48.16×10^{-3}	2.031×10^{-3}
(n,α)	114.3 keV	–	–	–	29.67×10^{-3}	931.9×10^{-6}

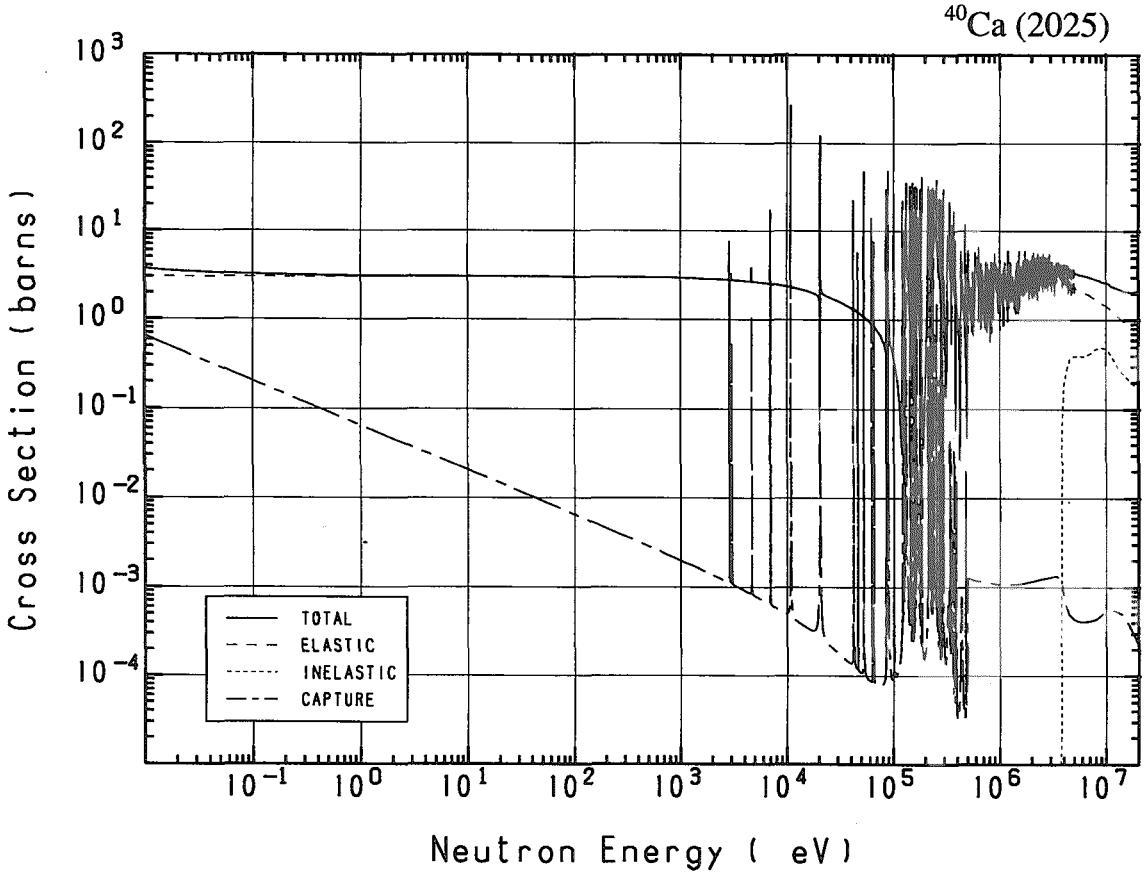


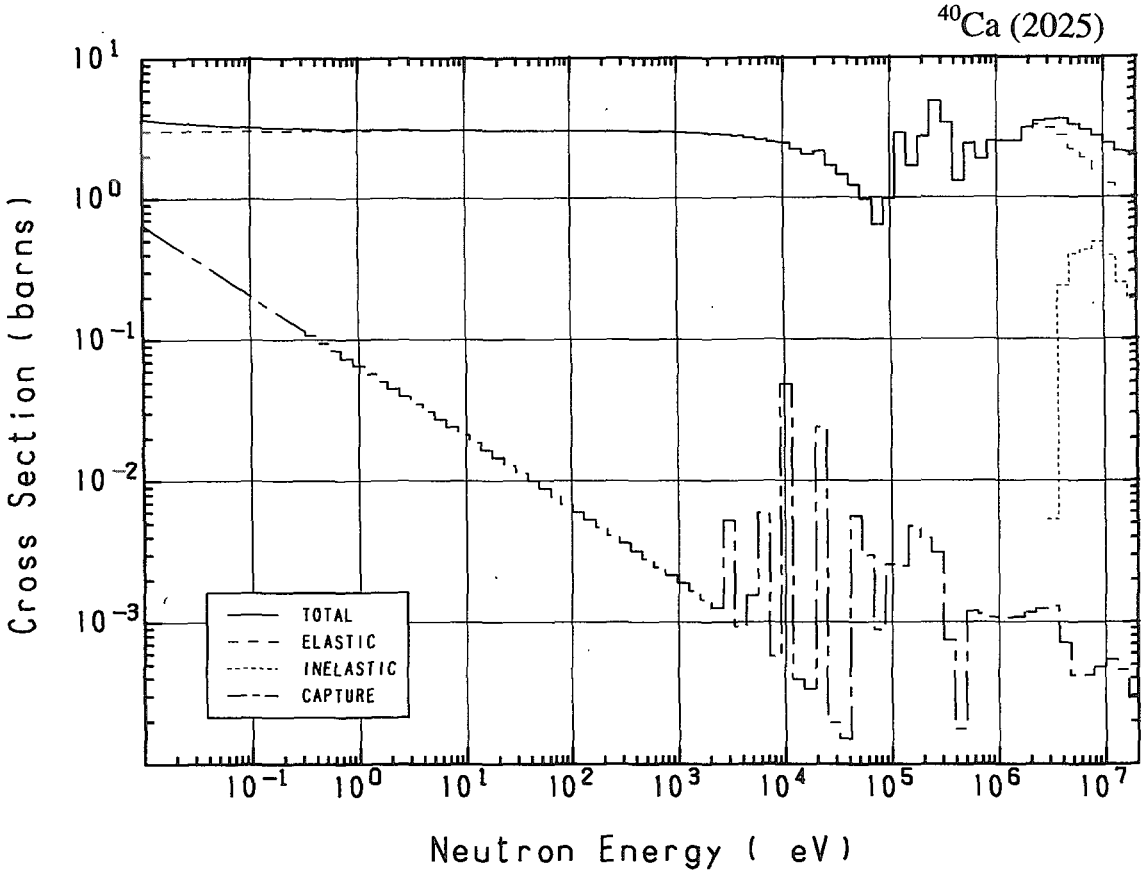

41K (1931)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

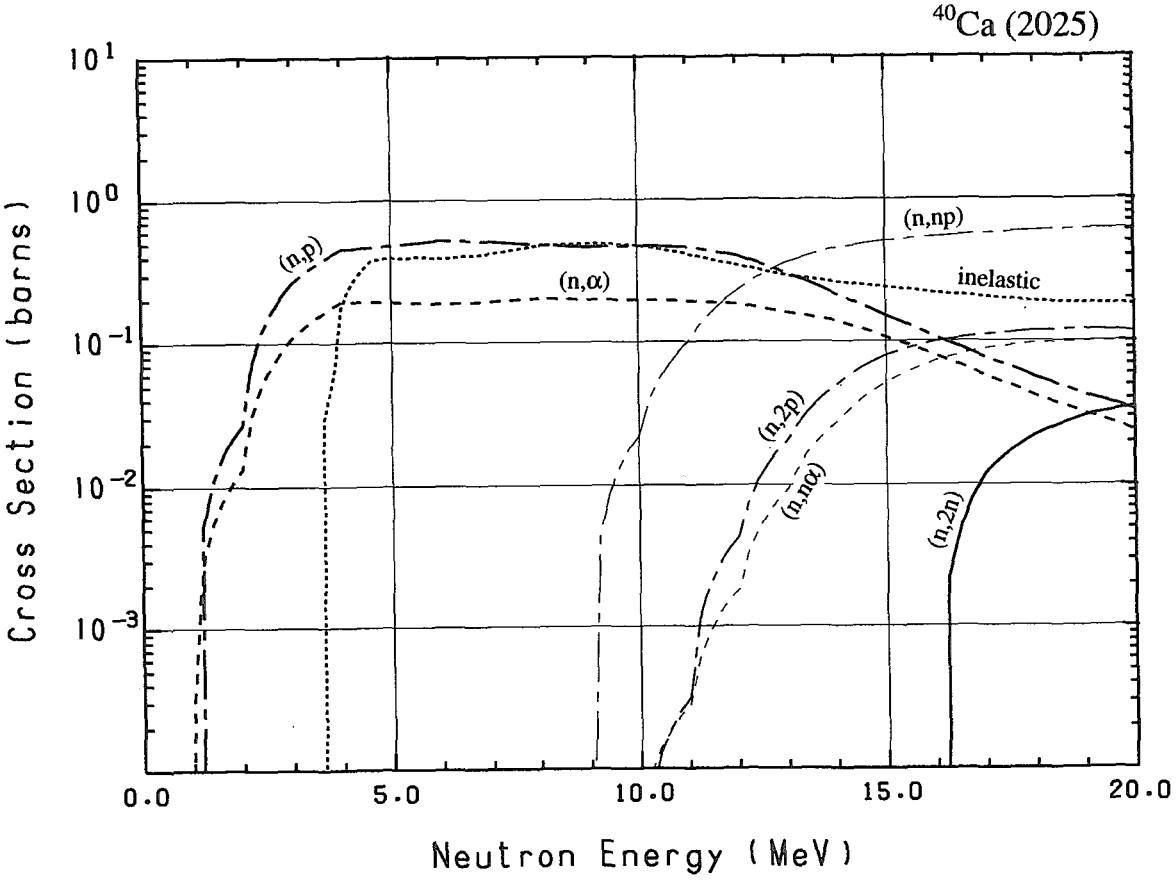

41K (1931)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

20-Ca- 40 (MAT=2025)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.429	3.383	–	2.154	2.880
elastic	–	3.022	3.022	–	1.008	2.665
inelastic	3.437 MeV	–	–	–	261.3×10^{-3}	43.59×10^{-3}
(n,2n)	16.03 MeV	–	–	–	–	107.5×10^{-9}
(n,nα)	7.218 MeV	–	–	–	27.26×10^{-3}	4.963×10^{-6}
(n,np)	8.540 MeV	–	–	–	453.0×10^{-3}	196.9×10^{-6}
capture	–	407.5×10^{-3}	361.3×10^{-3}	212.4×10^{-3}	500.0×10^{-6}	1.195×10^{-3}
(n,p)	542.5 keV	–	–	–	214.3×10^{-3}	120.2×10^{-3}
(n,α)	–	0.000	0.000	333.6×10^{-3}	139.6×10^{-3}	49.77×10^{-3}
(n,2p)	8.317 MeV	–	–	–	49.42×10^{-3}	8.516×10^{-6}

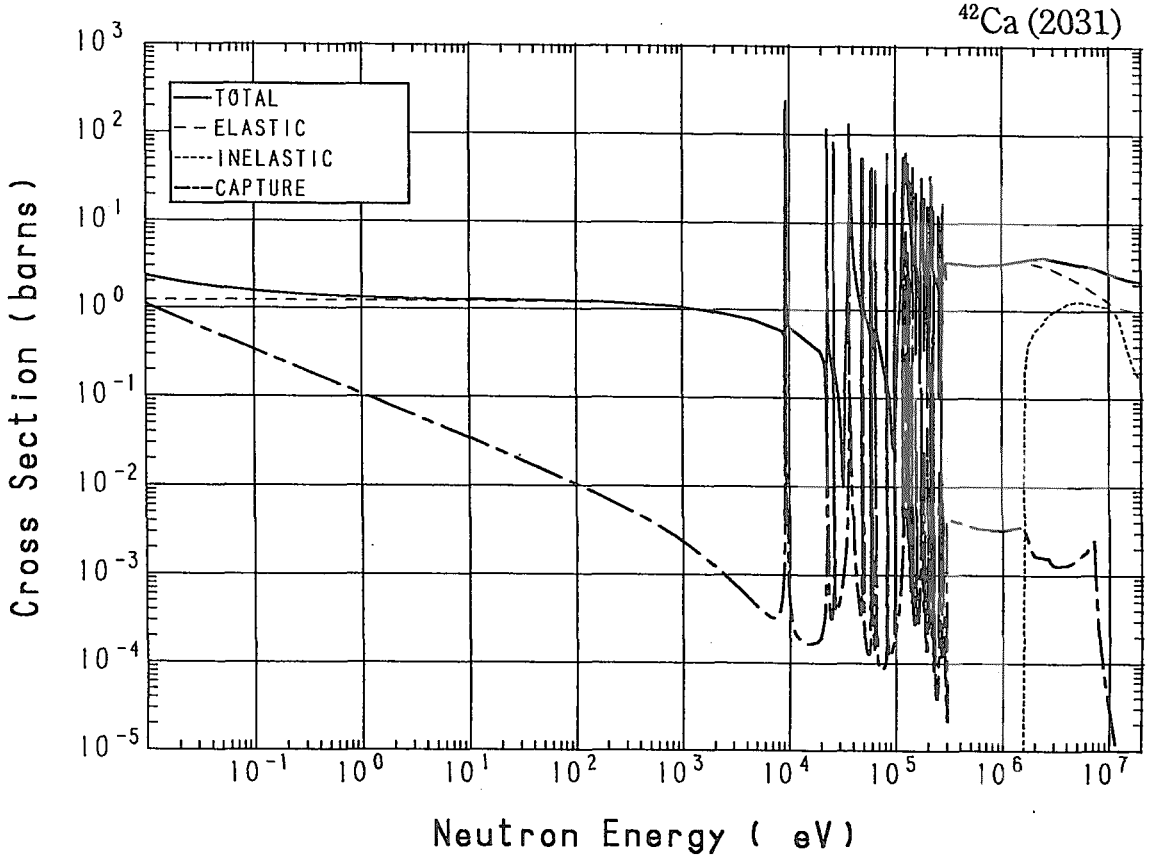


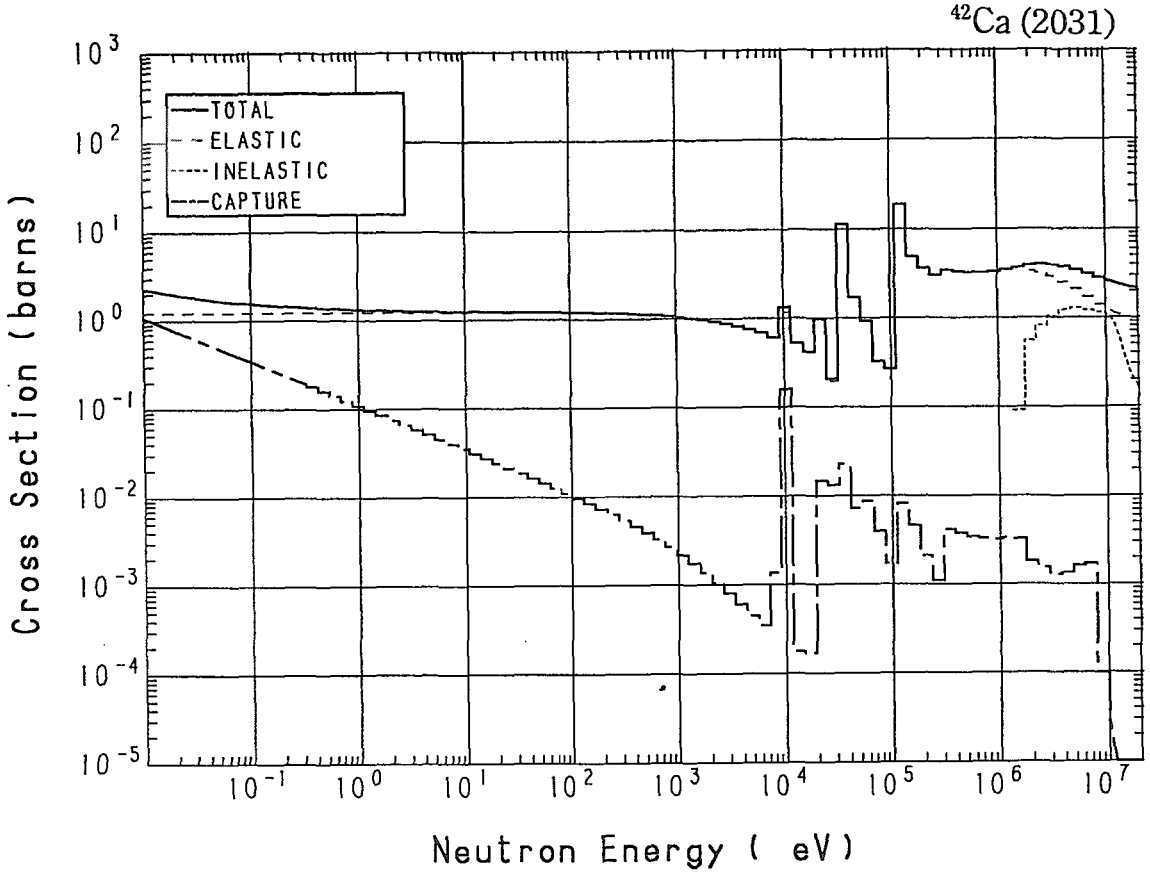

^{40}Ca (2025)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

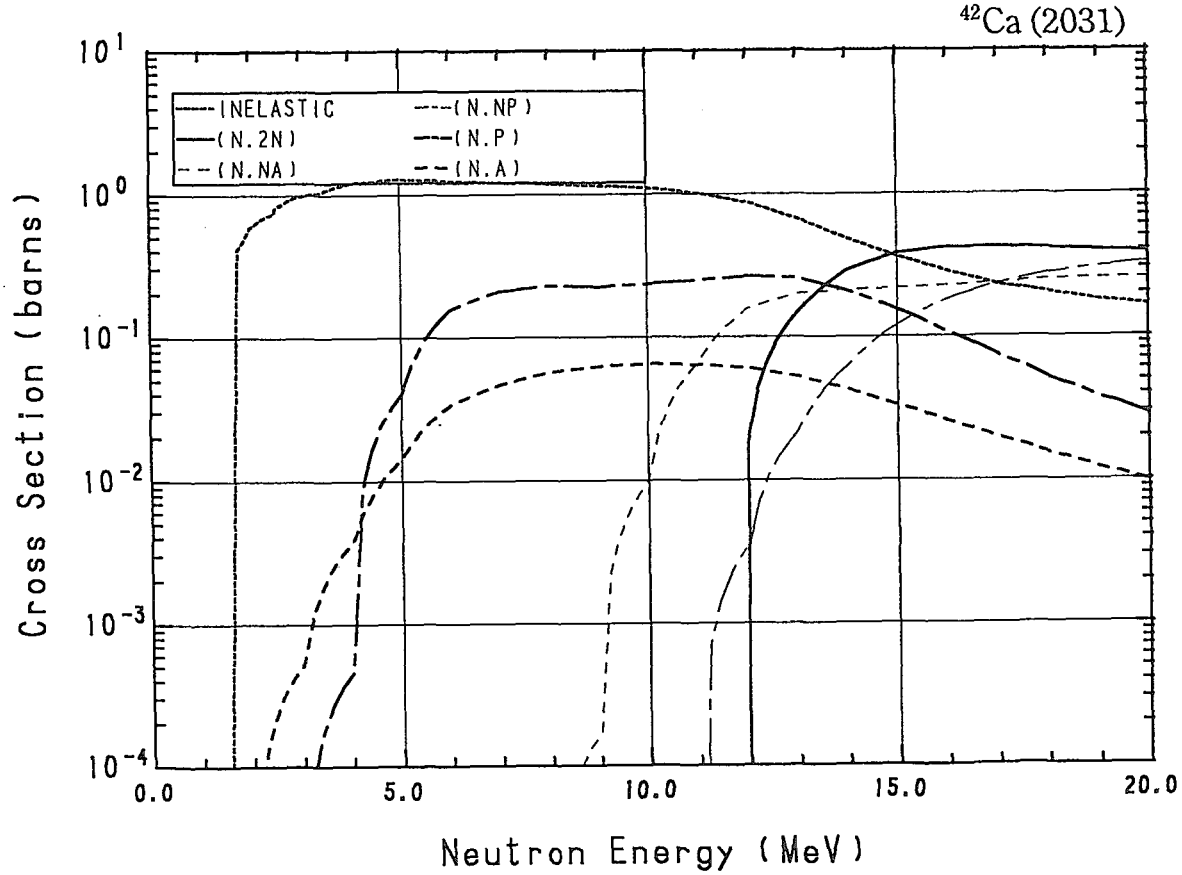

^{40}Ca (2025)
Cross Section (barns)
Neutron Energy (MeV)
(n,p)
(n,α)
(n,np)
inelastic
(n,2p)
(n,nα)
(n,2n)

20-Ca- 42 (MAT=2031)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.905	1.827	–	2.352	3.725
elastic	–	1.222	1.222	–	1.061	3.273
inelastic	1.561 MeV	–	–	–	480.4×10^{-3}	438.2×10^{-3}
(n,2n)	11.75 MeV	–	–	–	287.4×10^{-3}	42.97×10^{-6}
(n,nα)	6.399 MeV	–	–	–	211.1×10^{-3}	115.3×10^{-6}
(n,np)	10.52 MeV	–	–	–	62.26×10^{-3}	11.25×10^{-6}
capture	–	683.0×10^{-3}	605.5×10^{-3}	375.1×10^{-3}	966.2×10^{-9}	2.563×10^{-3}
(n,p)	2.801 MeV	–	–	–	207.2×10^{-3}	9.139×10^{-3}
(n,α)	–	0.000	0.000	61.60×10^{-3}	42.67×10^{-3}	2.675×10^{-3}

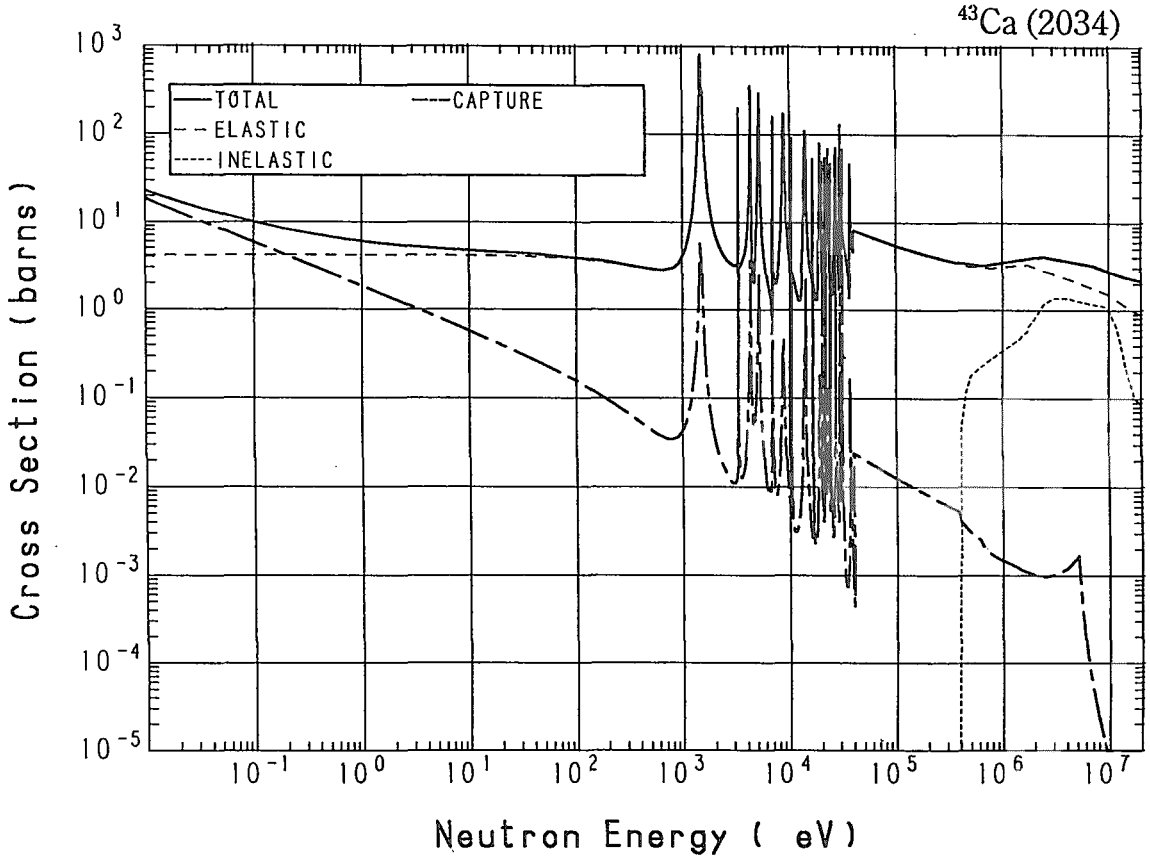


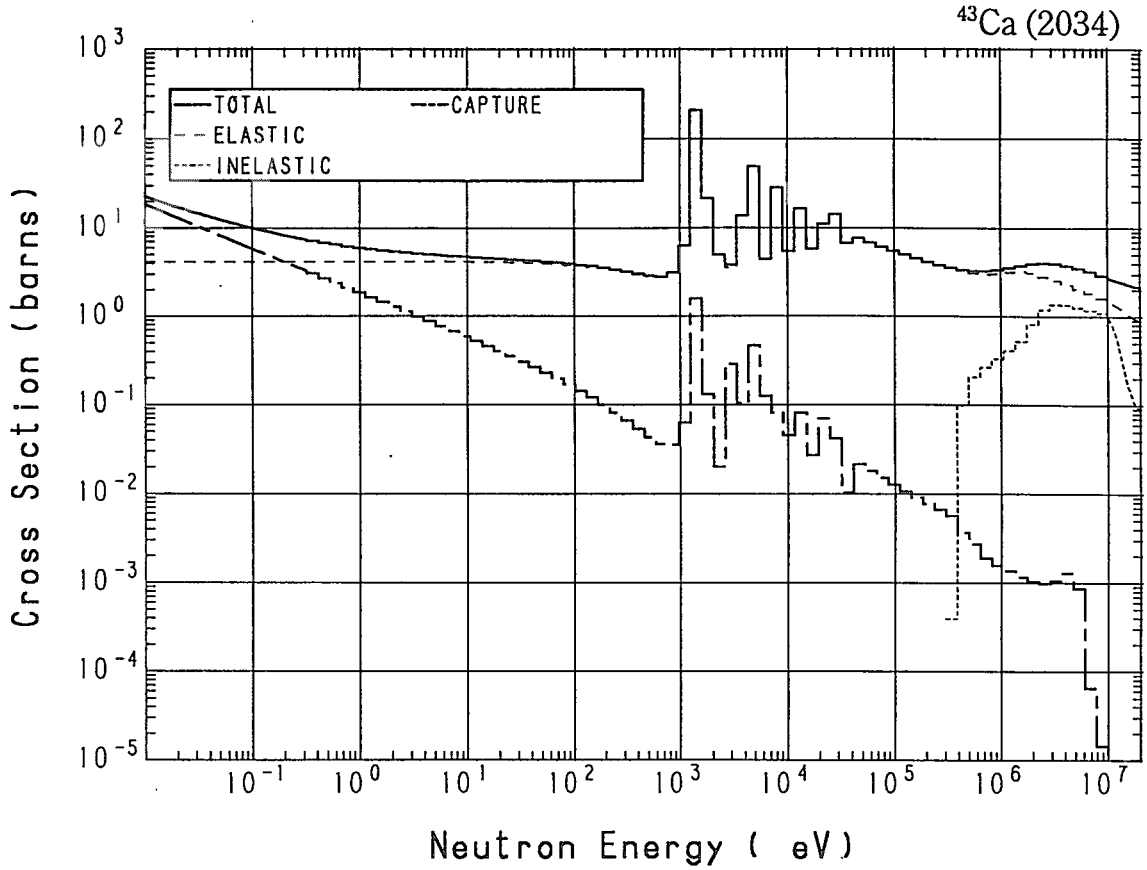

^{42}Ca (2031)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

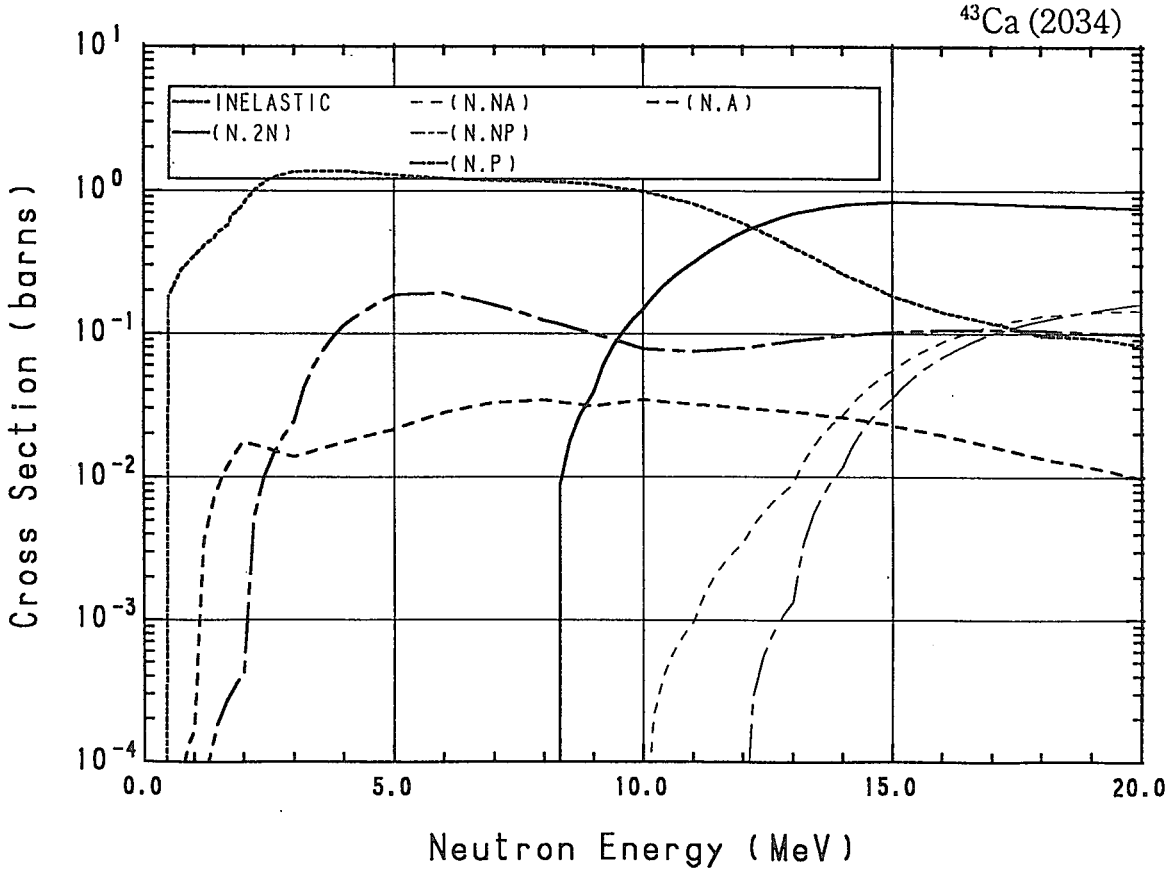

^{42}Ca (2031)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

20-Ca- 43 (MAT=2034)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	15.82	14.50	–	2.396	3.771
elastic	–	4.160	4.160	–	1.175	3.031
inelastic	381.6 keV	–	–	–	262.5×10^{-3}	700.4×10^{-3}
(n,2n)	8.119 MeV	–	–	–	798.0×10^{-3}	634.9×10^{-6}
(n,3n)	19.86 MeV	–	–	–	–	6.016×10^{-12}
(n,nα)	7.762 MeV	–	–	–	26.86×10^{-3}	5.993×10^{-6}
(n,np)	10.92 MeV	–	–	–	11.65×10^{-3}	2.673×10^{-6}
capture	–	11.66	10.34	5.781	177.9×10^{-9}	2.180×10^{-3}
(n,p)	1.059 MeV	–	–	–	96.51×10^{-3}	26.73×10^{-3}
(n,α)	–	0.000	0.000	57.95×10^{-3}	25.85×10^{-3}	9.686×10^{-3}

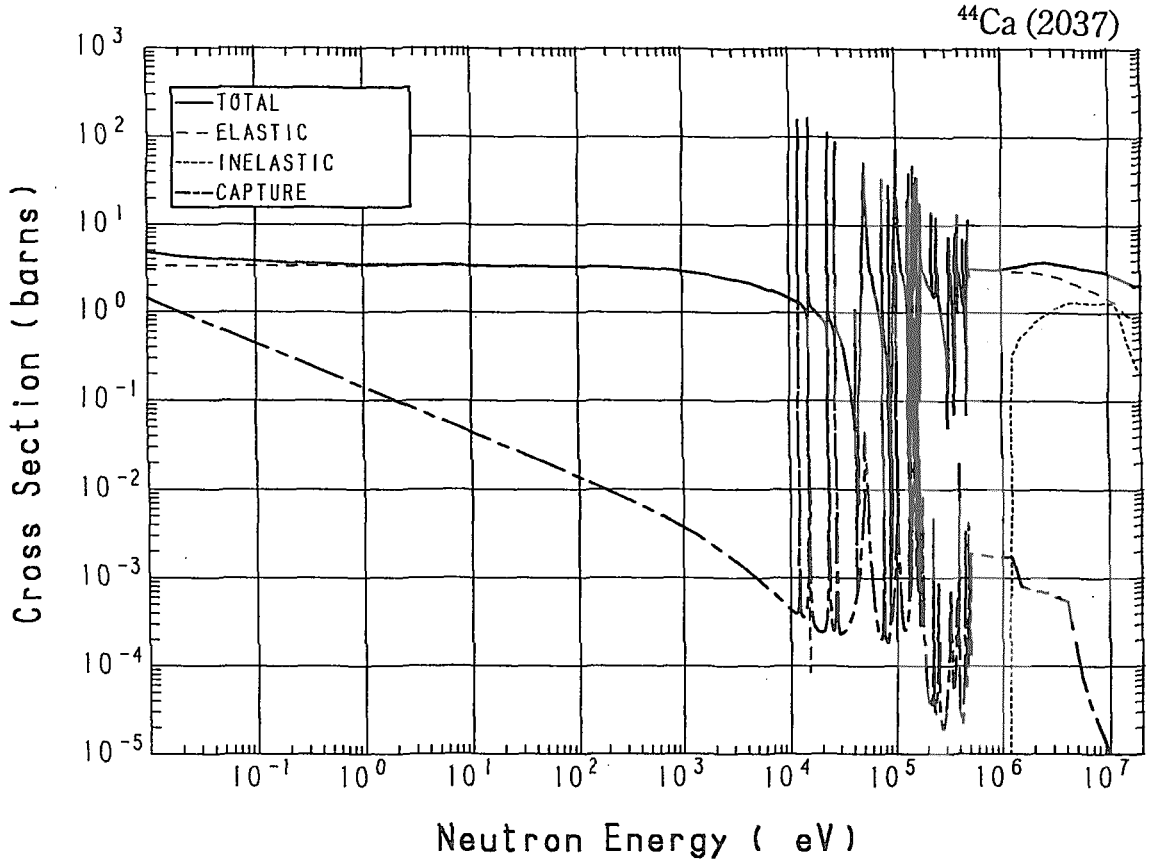


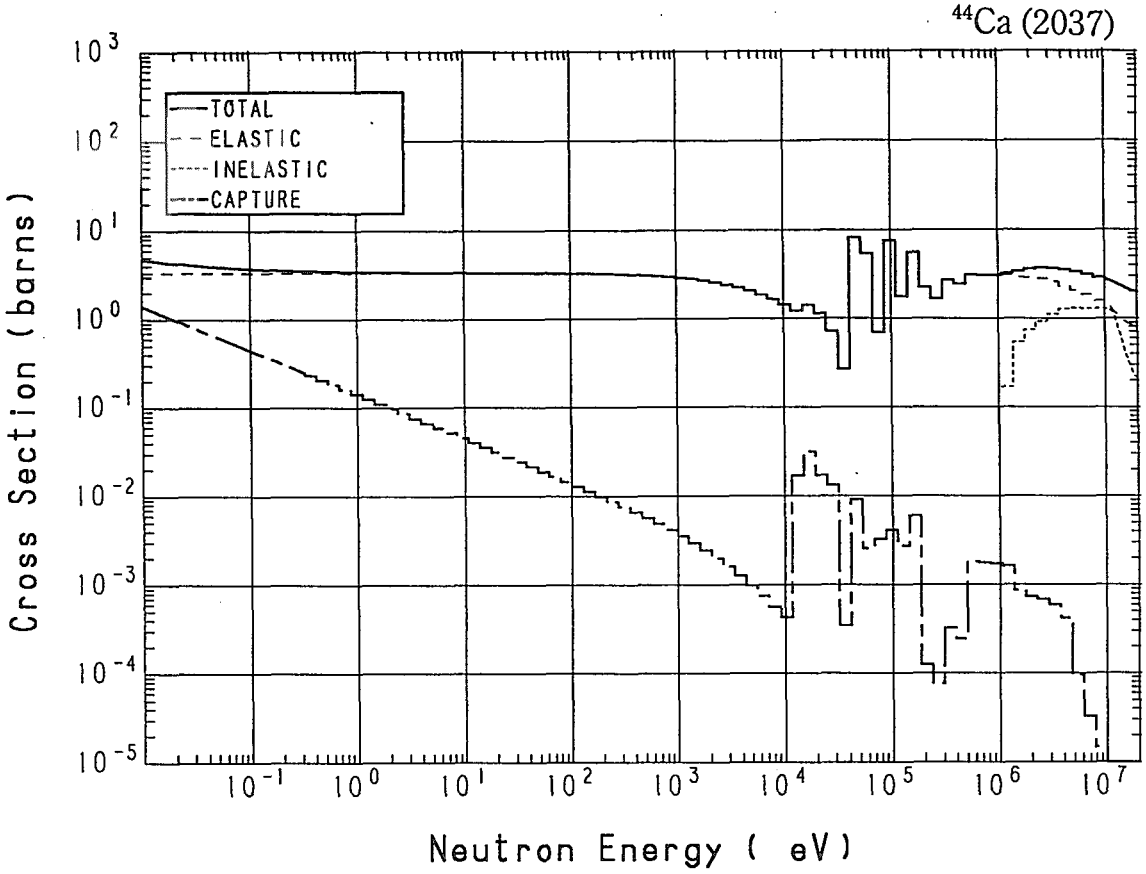

43Ca (2034)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

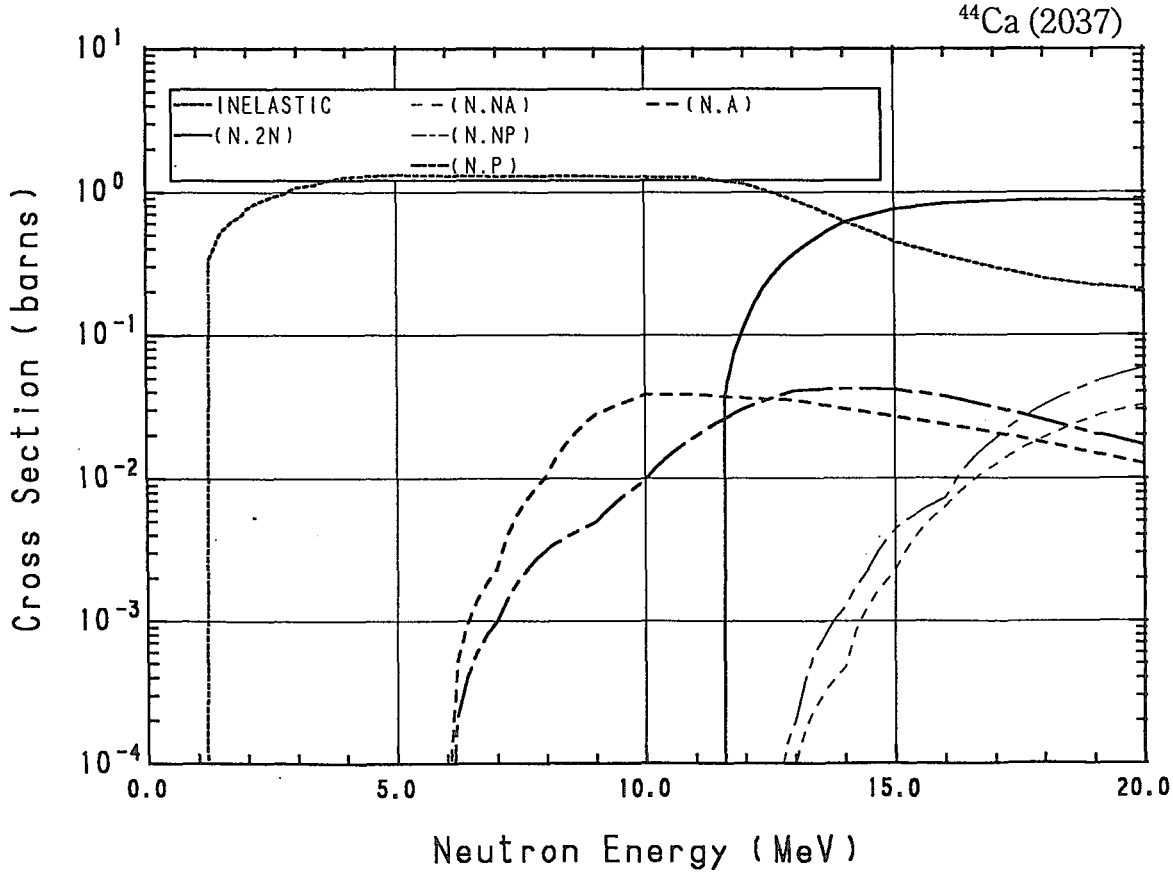

43Ca (2034)
INELASTIC
(N.NA)
(N.A)
(N.2N)
(N.NP)
(N.P)
Cross Section (barns)
Neutron Energy (MeV)

20-Ca- 44 (MAT=2037)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.208	4.107	–	2.340	3.347
elastic	–	3.320	3.320	–	1.031	2.787
inelastic	1.184 MeV	–	–	–	624.1×10^{-3}	558.7×10^{-3}
(n,2n)	11.39 MeV	–	–	–	610.7×10^{-3}	109.5×10^{-6}
(n,3n)	19.51 MeV	–	–	–	–	18.28×10^{-12}
(n,nα)	9.052 MeV	–	–	–	474.5×10^{-6}	241.3×10^{-9}
(n,np)	12.45 MeV	–	–	–	1.279×10^{-3}	384.5×10^{-9}
capture	–	888.3×10^{-3}	787.6×10^{-3}	424.1×10^{-3}	786.7×10^{-9}	1.039×10^{-3}
(n,p)	4.989 MeV	–	–	–	42.32×10^{-3}	71.10×10^{-6}
(n,α)	2.818 MeV	–	–	–	30.36×10^{-3}	212.1×10^{-6}

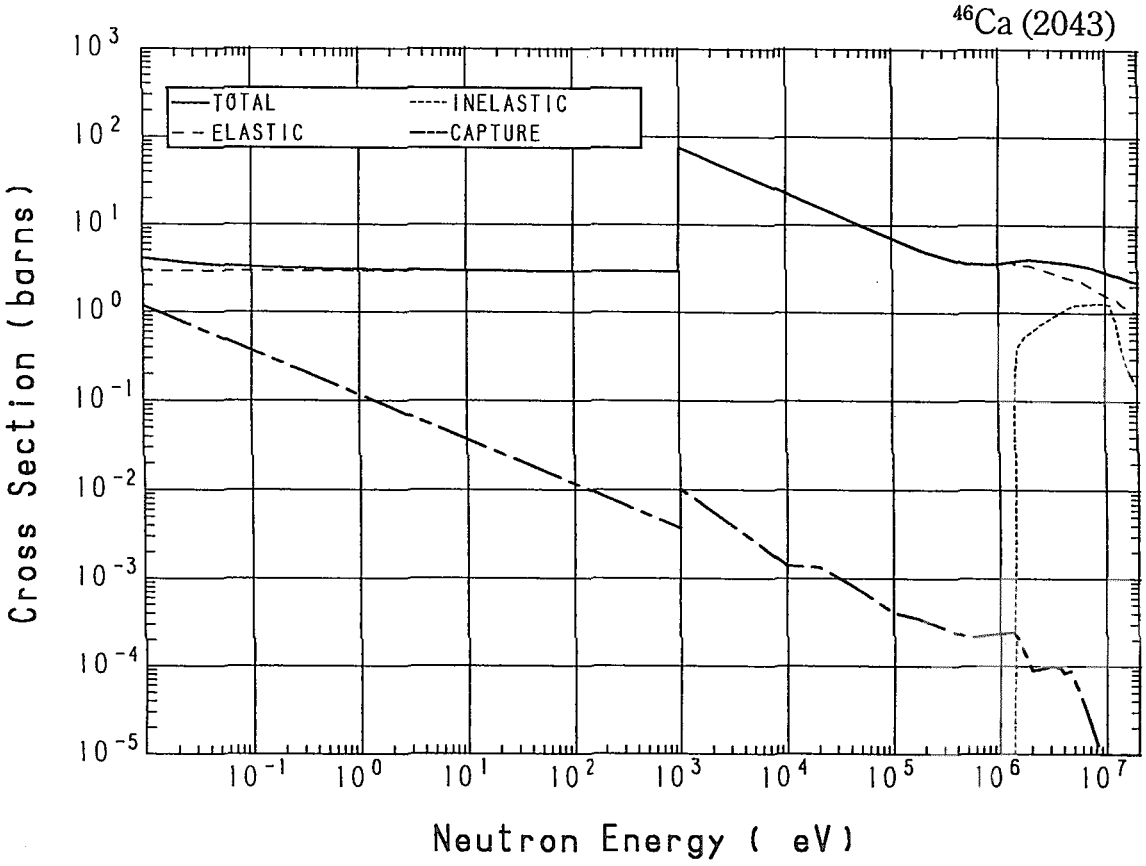


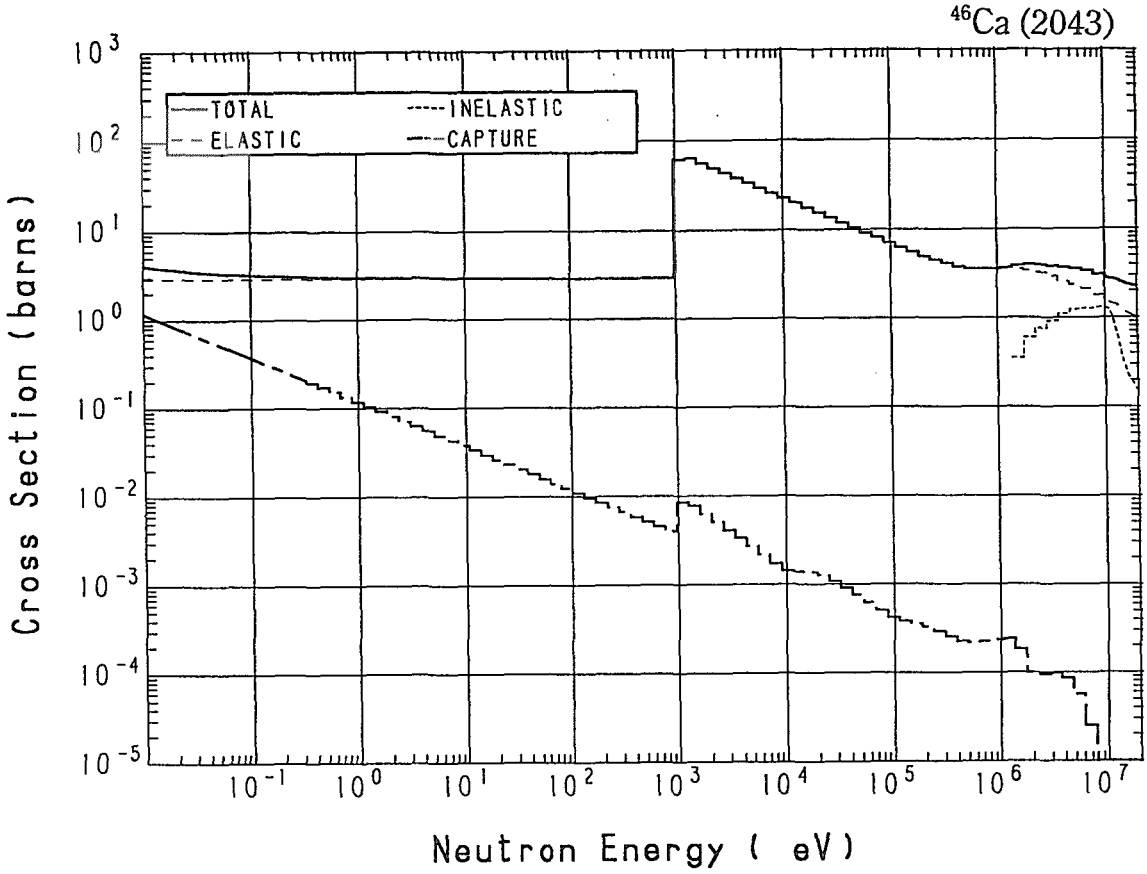

44Ca (2037)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

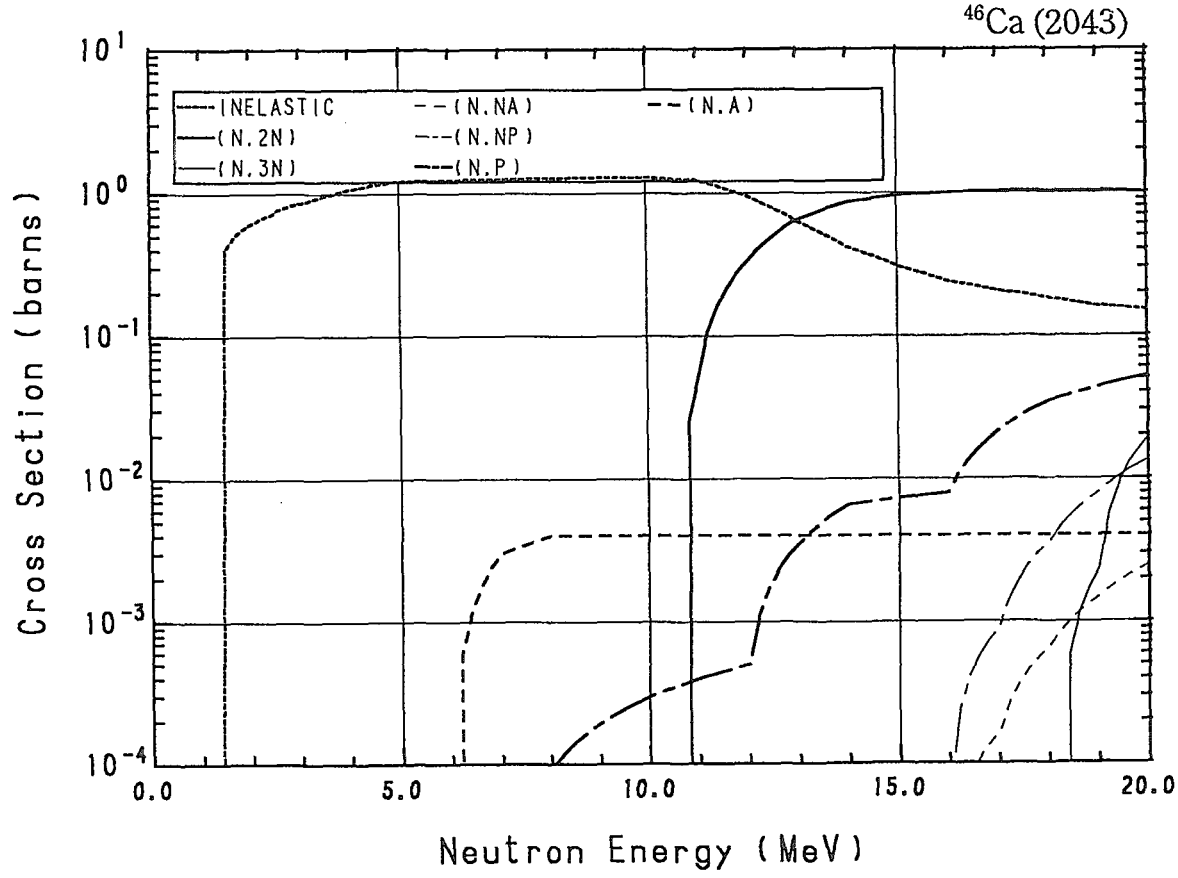

44Ca (2037)
INELASTIC
(N.NA)
(N.A)
(N.2N)
(N.NP)
(N.P)
Cross Section (barns)
Neutron Energy (MeV)

20-Ca- 46 (MAT=2043)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.640	3.569	–	2.527	3.932
elastic	–	2.900	2.900	–	1.241	3.485
inelastic	1.375 MeV	–	–	–	418.8×10^{-3}	446.3×10^{-3}
(n,2n)	10.63 MeV	–	–	–	856.6×10^{-3}	223.2×10^{-6}
(n,3n)	18.21 MeV	–	–	–	–	5.233×10^{-9}
(n,nα)	11.39 MeV	–	–	–	8.923×10^{-9}	3.515×10^{-9}
(n,np)	14.12 MeV	–	–	–	–	18.31×10^{-9}
capture	–	740.0×10^{-3}	656.1×10^{-3}	339.1×10^{-3}	896.6×10^{-9}	172.2×10^{-6}
(n,p)	7.088 MeV	–	–	–	6.600×10^{-3}	2.525×10^{-6}
(n,α)	5.632 MeV	–	–	–	4.000×10^{-3}	66.88×10^{-6}

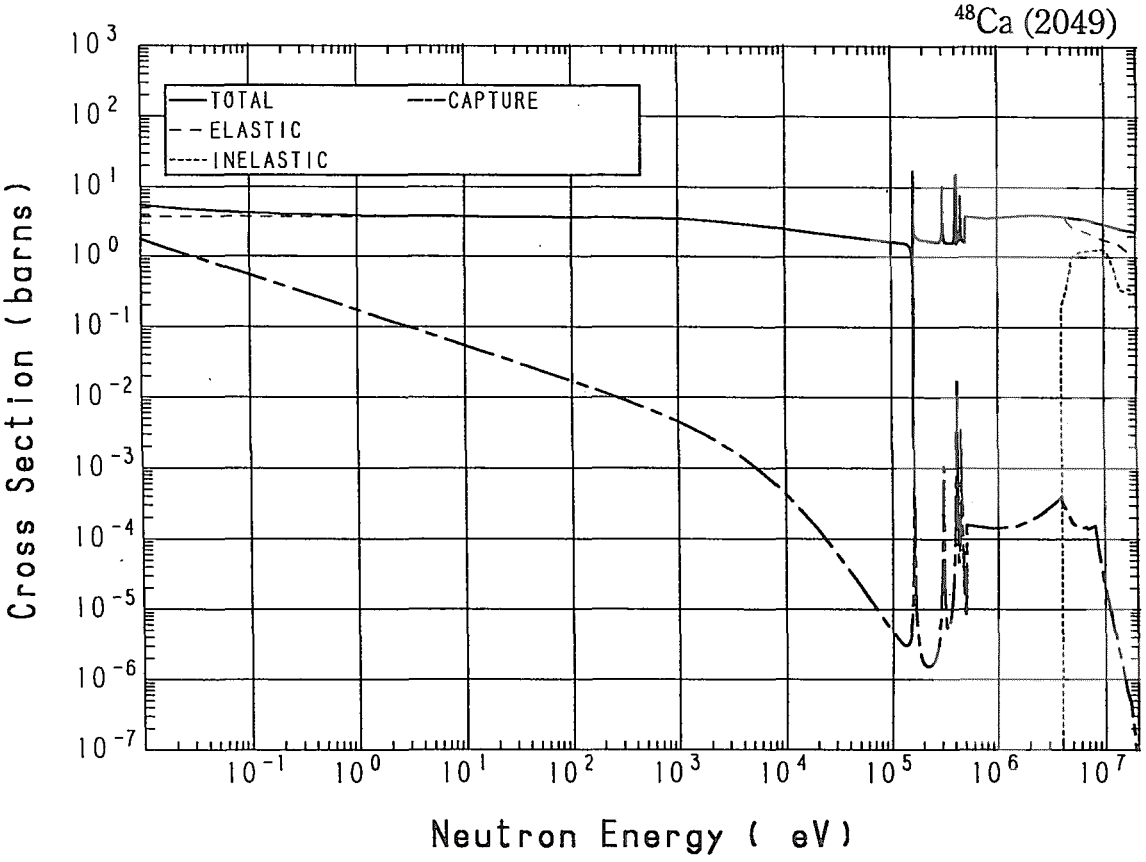


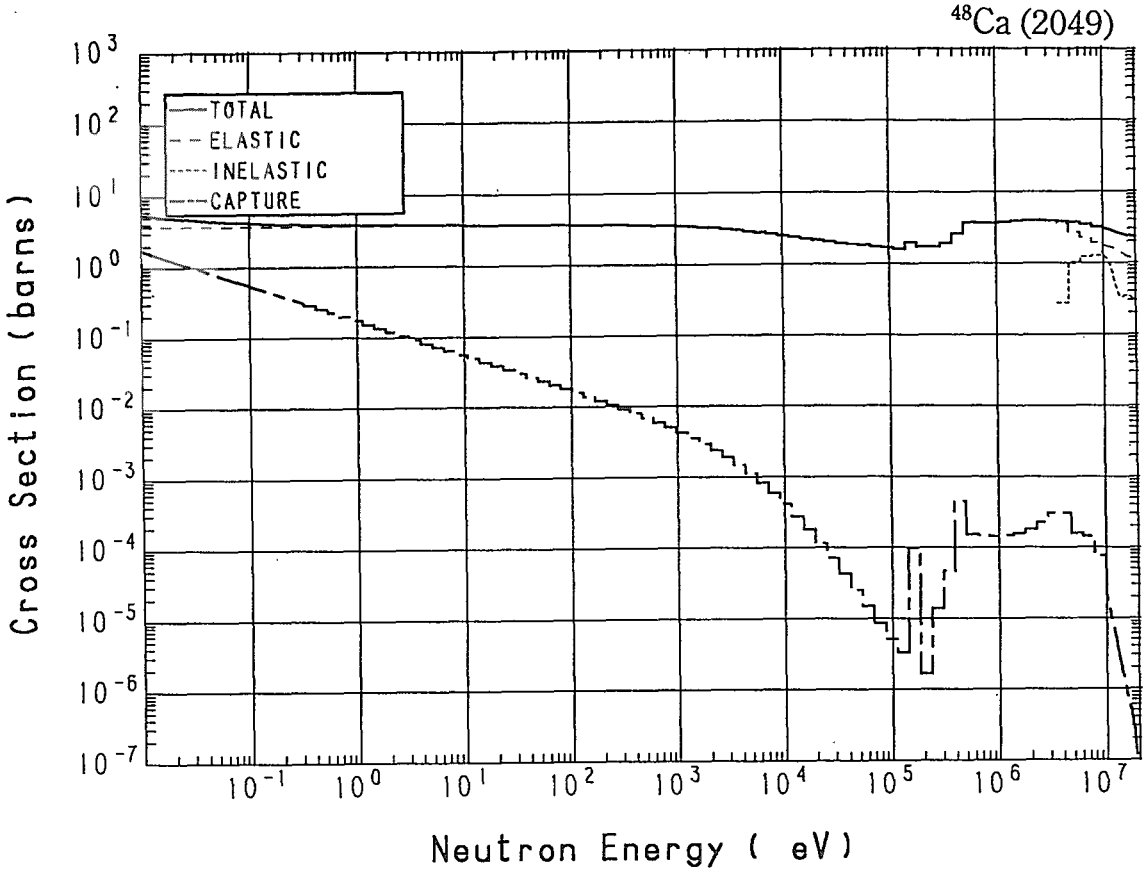

46Ca (2043)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

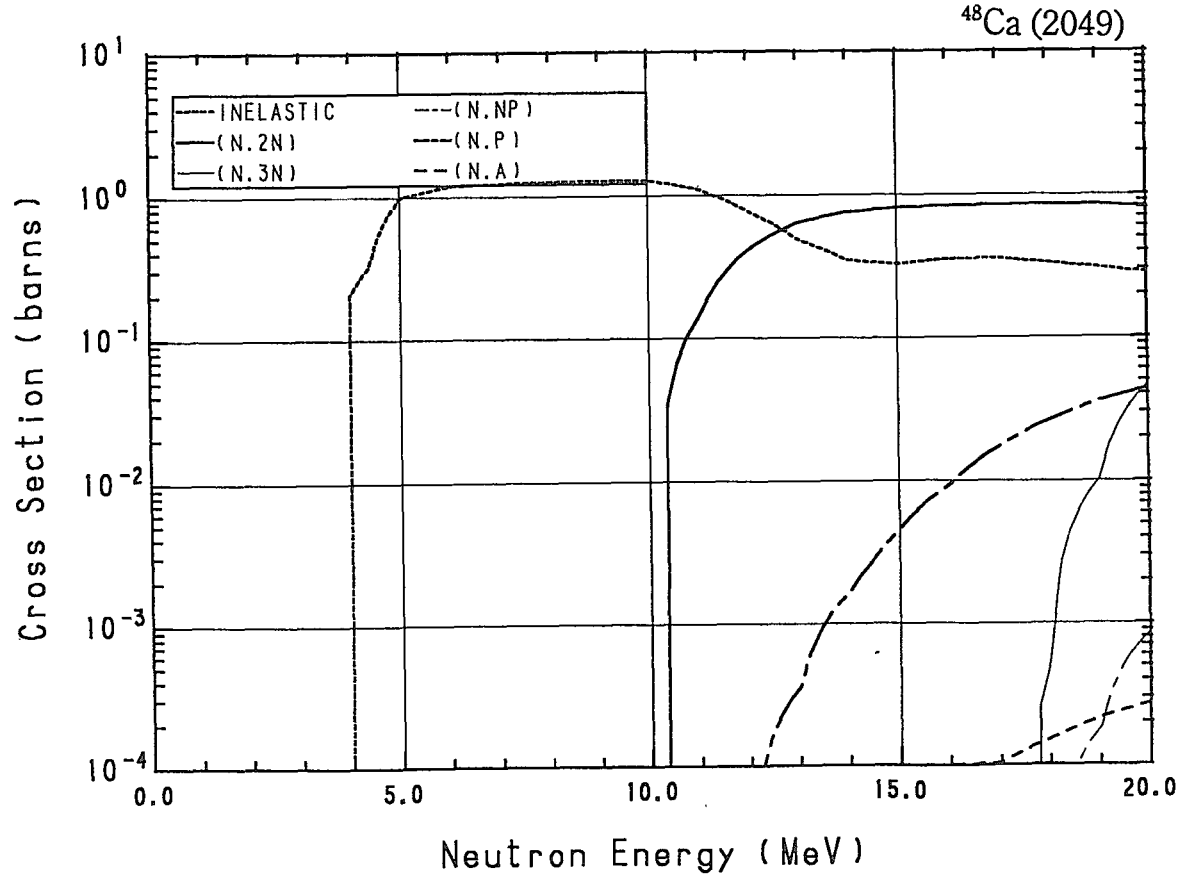

46Ca (2043)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,A)
Cross Section (barns)
Neutron Energy (MeV)

20-Ca- 48 (MAT=2049)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.809	4.685	–	2.613	3.622
elastic	–	3.717	3.717	–	1.511	3.530
inelastic	3.912 MeV	–	–	–	347.9×10^{-3}	90.95×10^{-3}
(n,2n)	10.16 MeV	–	–	–	752.7×10^{-3}	275.9×10^{-6}
(n,3n)	17.59 MeV	–	–	–	–	17.14×10^{-9}
(n,np)	16.14 MeV	–	–	–	–	317.9×10^{-12}
capture	–	1.093	968.7×10^{-3}	484.3×10^{-3}	1.786×10^{-6}	190.1×10^{-6}
(n,p)	11.55 MeV	–	–	–	1.670×10^{-3}	420.8×10^{-9}
(n,α)	9.035 MeV	–	–	–	0.000	3.195×10^{-9}

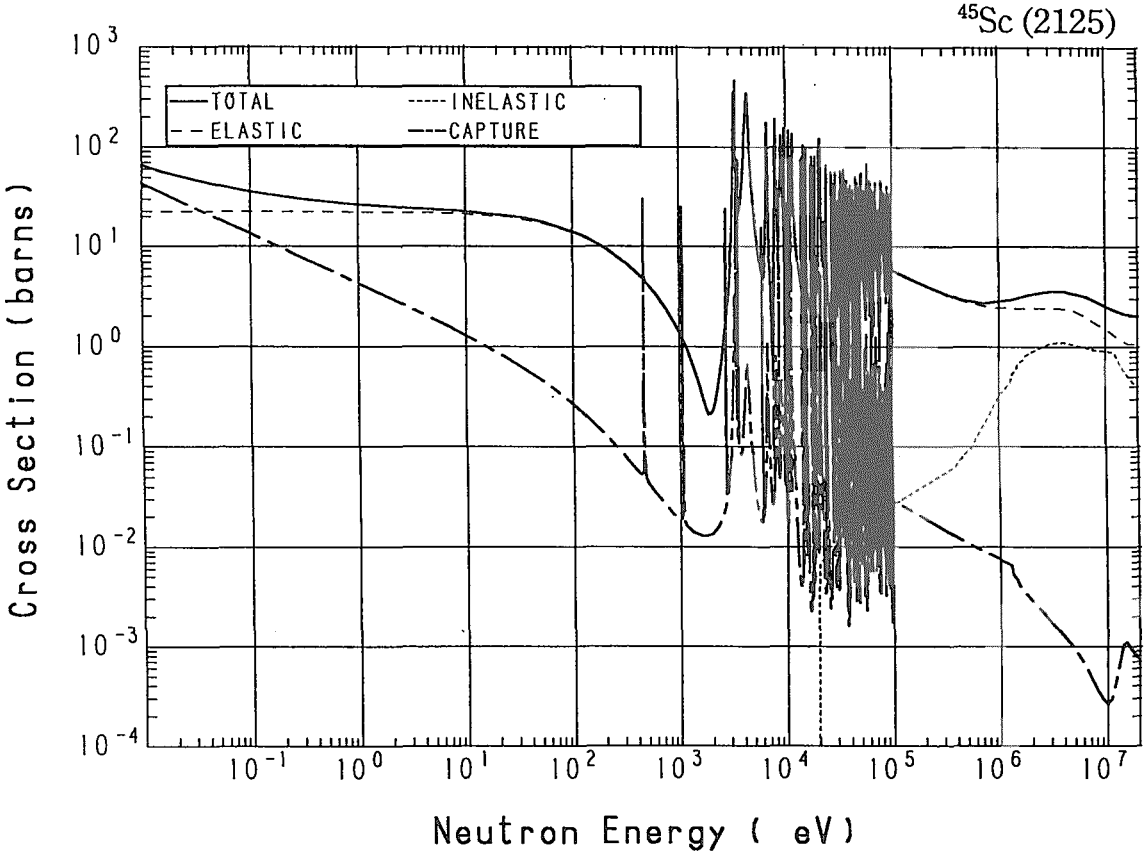


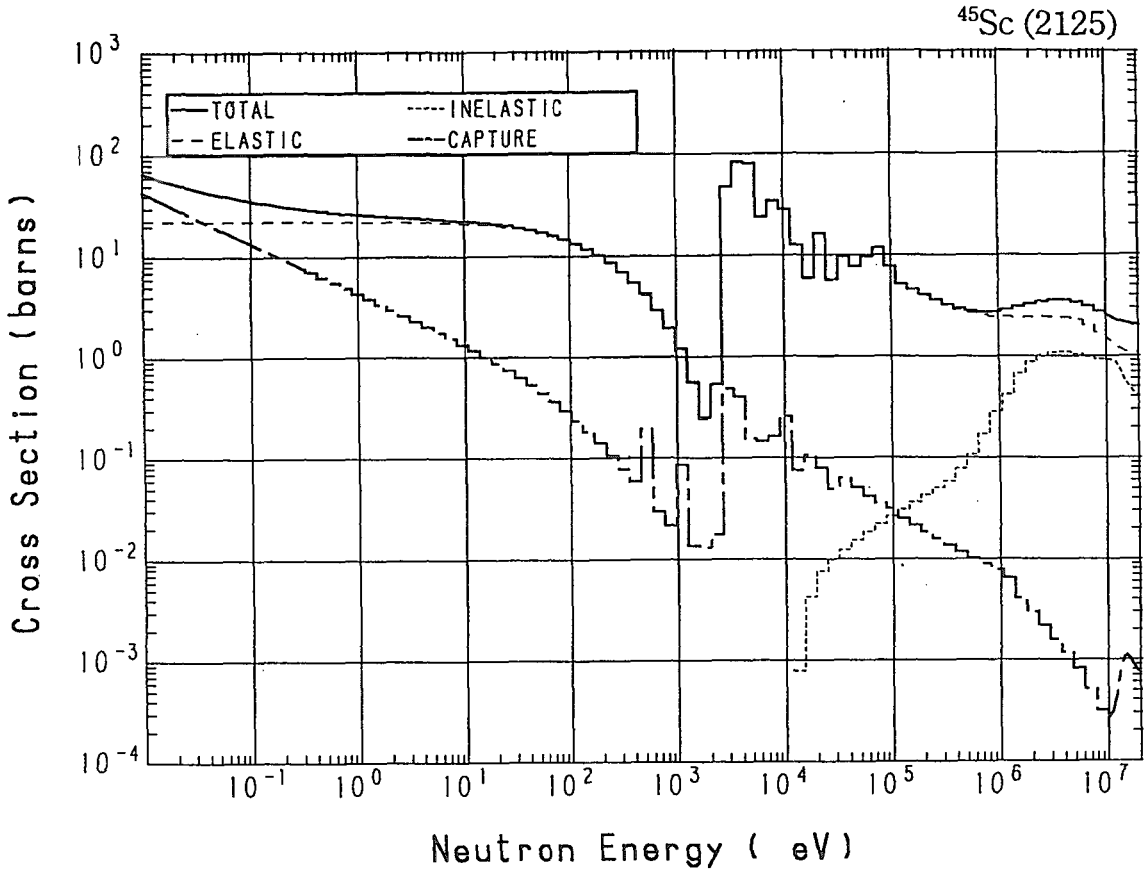

48Ca (2049)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

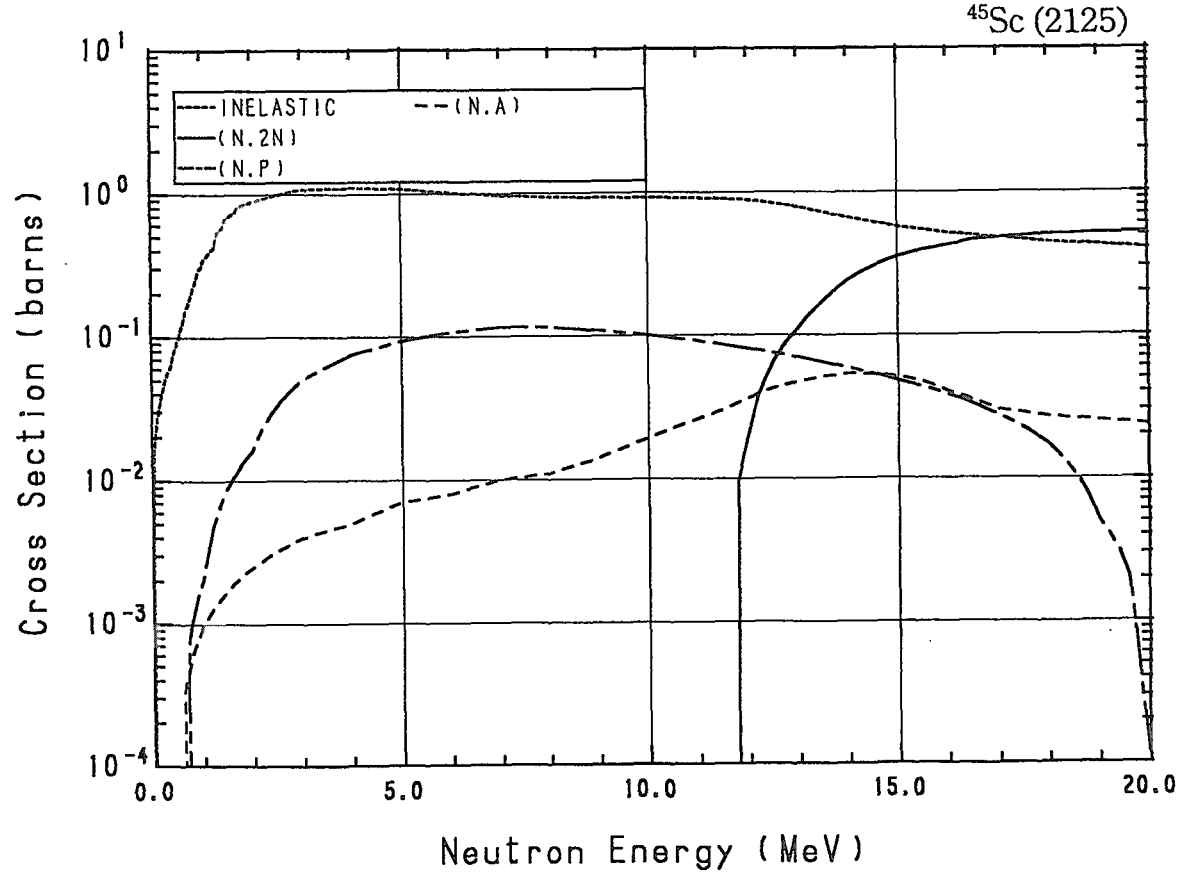

48Ca (2049)
INELASTIC
(N.2N)
(N.3N)
(N.NP)
(N.P)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

21-Sc- 45 (MAT=2125)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	49.62	46.54	–	2.175	3.346
elastic	–	22.48	22.48	–	1.159	2.677
inelastic	12.68 keV	–	–	–	663.2×10^{-3}	633.0×10^{-3}
(n,2n)	11.58 MeV	–	–	–	240.0×10^{-3}	37.87×10^{-6}
capture	–	27.14	24.06	11.83	1.045×10^{-3}	6.171×10^{-3}
(n,p)	–	0.000	0.000	168.3×10^{-3}	59.00×10^{-3}	25.64×10^{-3}
(n,α)	405.9 keV	–	–	–	53.50×10^{-3}	2.518×10^{-3}

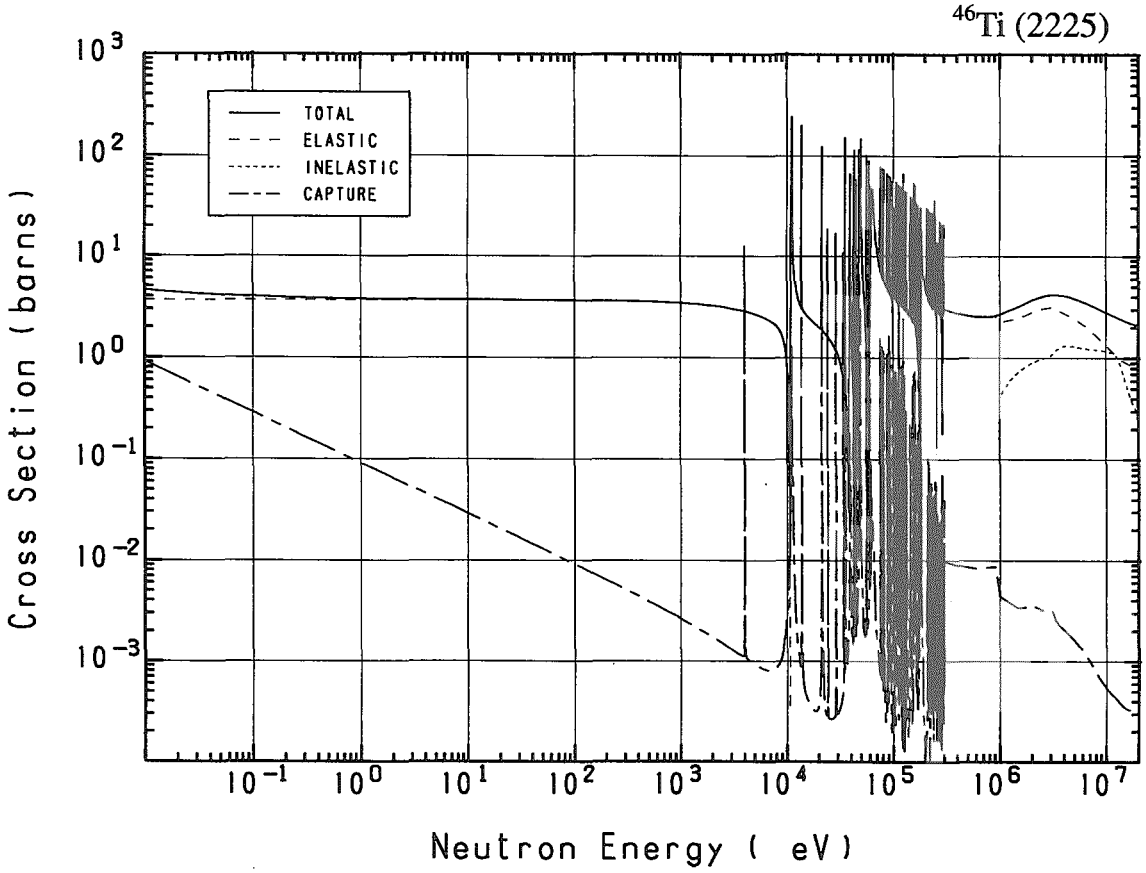


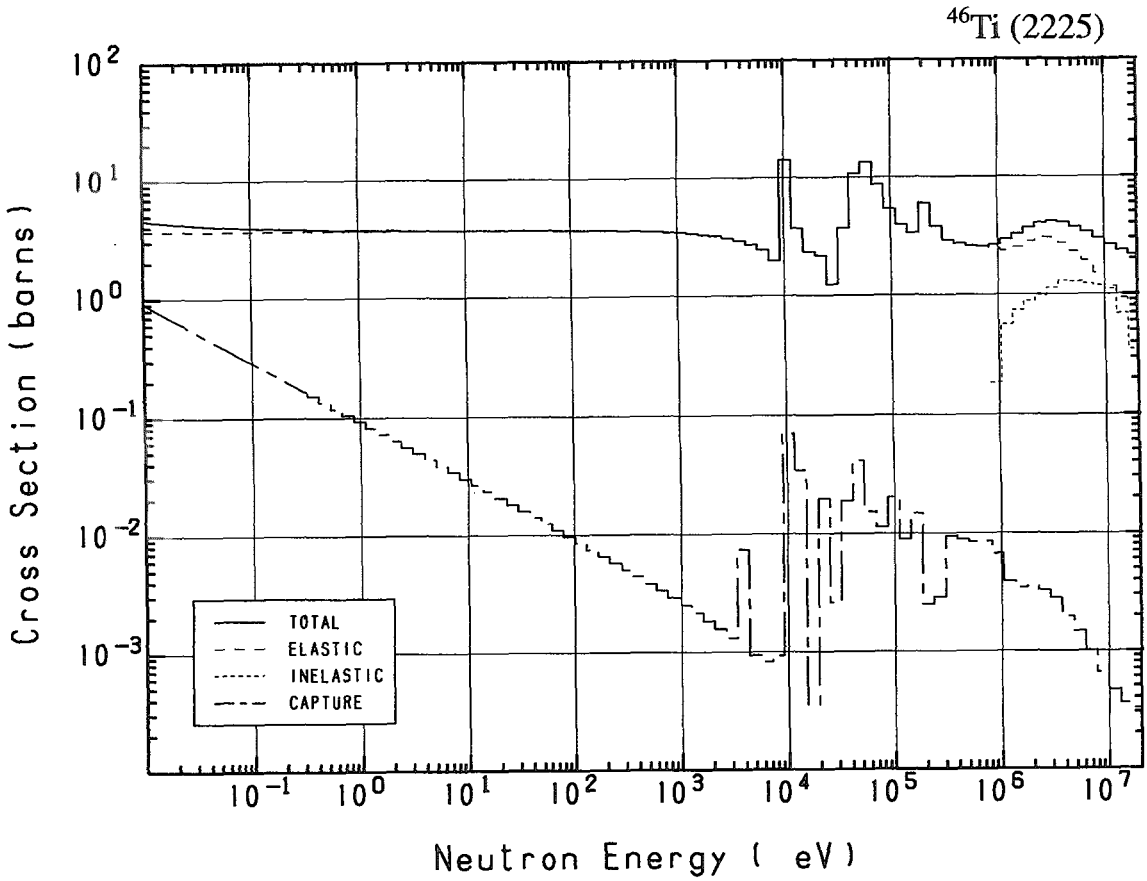

45Sc (2125)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

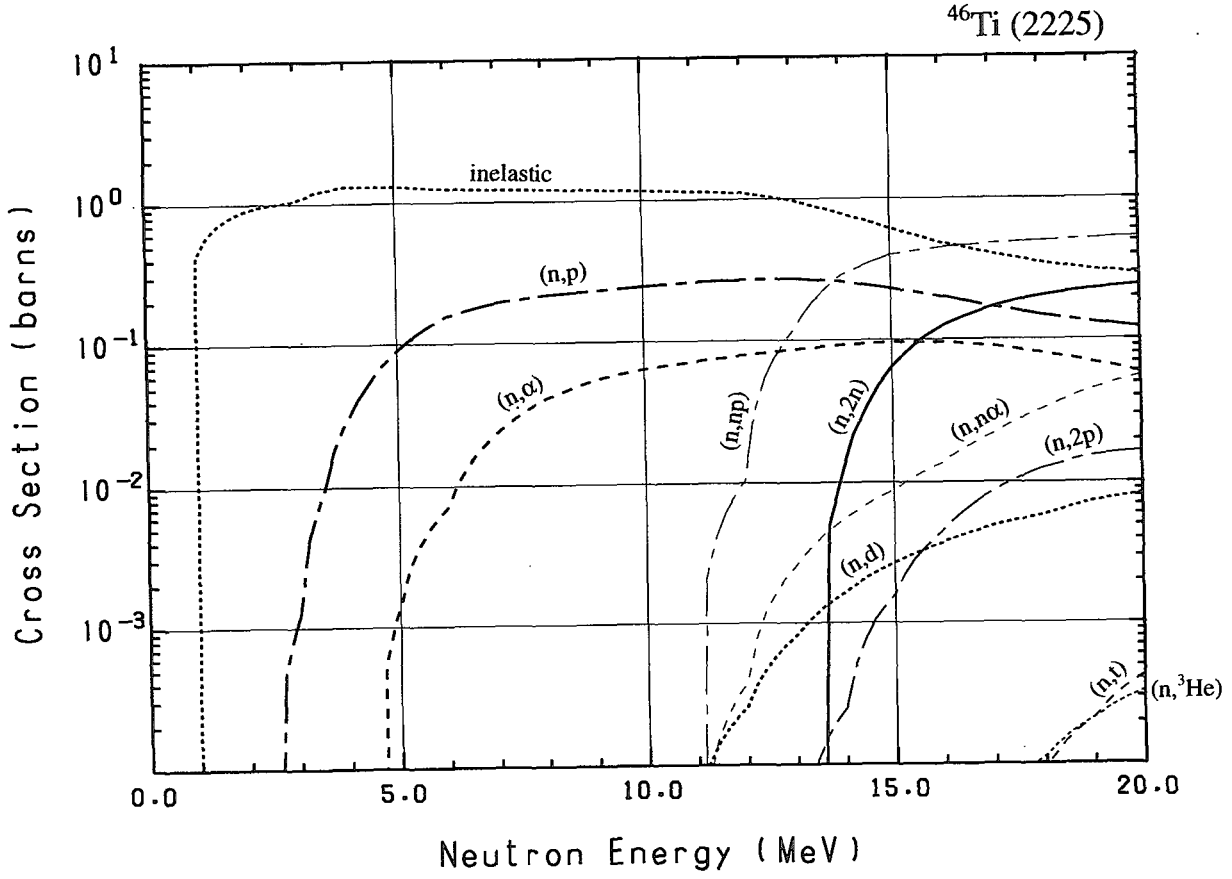

45Sc (2125)
INELASTIC
(N.A)
(N.2N)
(N.P)
Cross Section (barns)
Neutron Energy (MeV)

22-Ti- 46 (MAT=2225)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.259	4.194	–	2.399	3.494
elastic	–	3.683	3.683	–	954.4×10^{-3}	2.814
inelastic	908.8 keV	–	–	–	786.1×10^{-3}	661.5×10^{-3}
(n,2n)	13.49 MeV	–	–	–	12.64×10^{-3}	3.845×10^{-6}
(n,nα)	8.189 MeV	–	–	–	5.512×10^{-3}	1.053×10^{-6}
(n,np)	10.58 MeV	–	–	–	287.0×10^{-3}	41.31×10^{-6}
capture	–	576.0×10^{-3}	510.6×10^{-3}	338.2×10^{-3}	363.9×10^{-6}	4.704×10^{-3}
(n,p)	1.620 MeV	–	–	–	259.0×10^{-3}	13.10×10^{-3}
(n,d)	8.306 MeV	–	–	–	1.660×10^{-3}	363.0×10^{-9}
(n,t)	13.48 MeV	–	–	–	0.000	474.5×10^{-12}
(n,He-3)	9.731 MeV	–	–	–	427.5×10^{-9}	864.5×10^{-12}
(n,α)	81.81 keV	–	–	–	92.49×10^{-3}	888.4×10^{-6}
(n,2p)	10.03 MeV	–	–	–	254.5×10^{-6}	151.0×10^{-9}

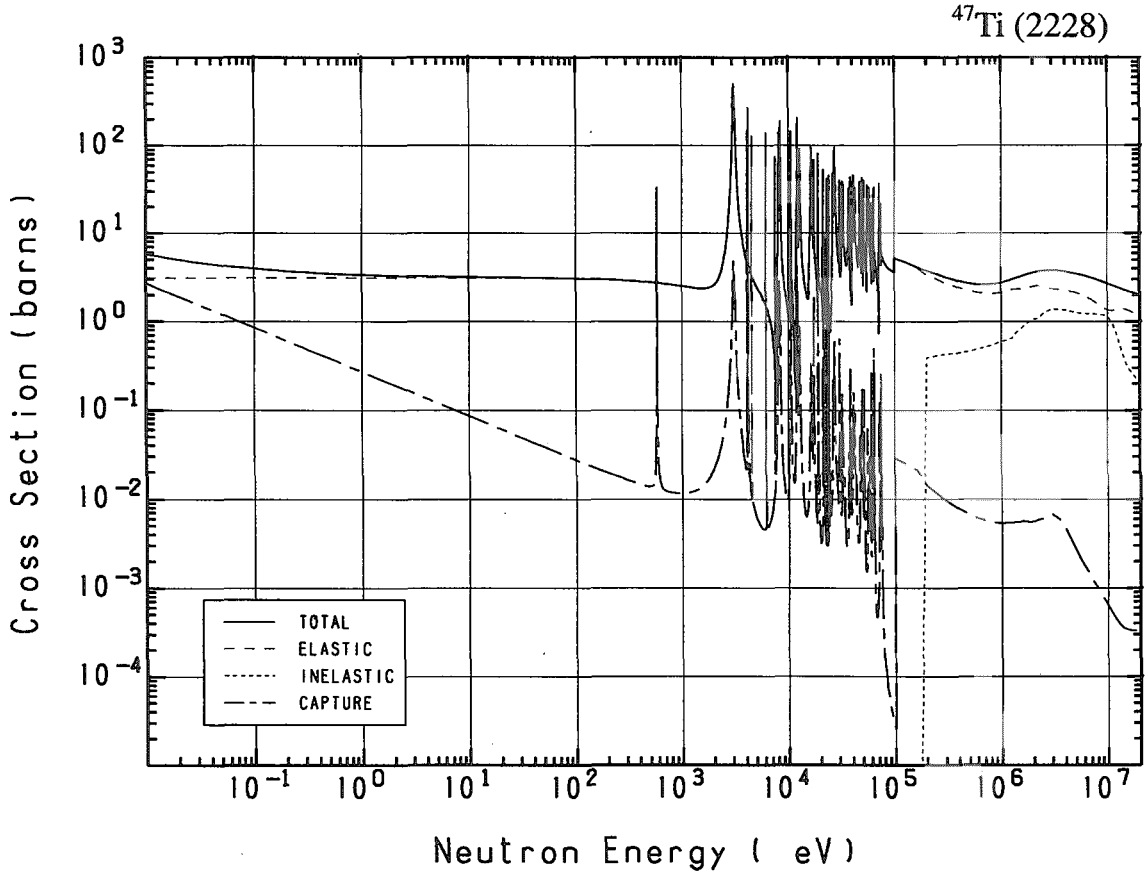


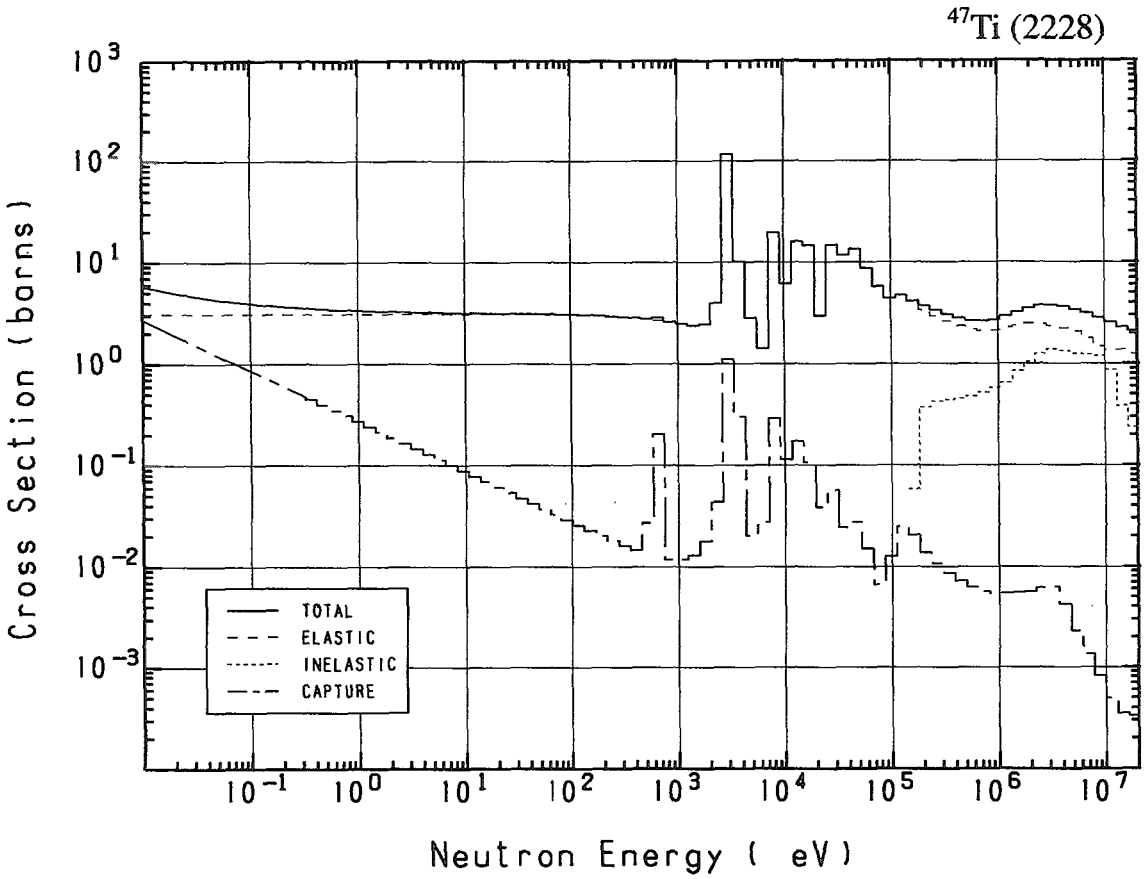

46Ti (2225)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

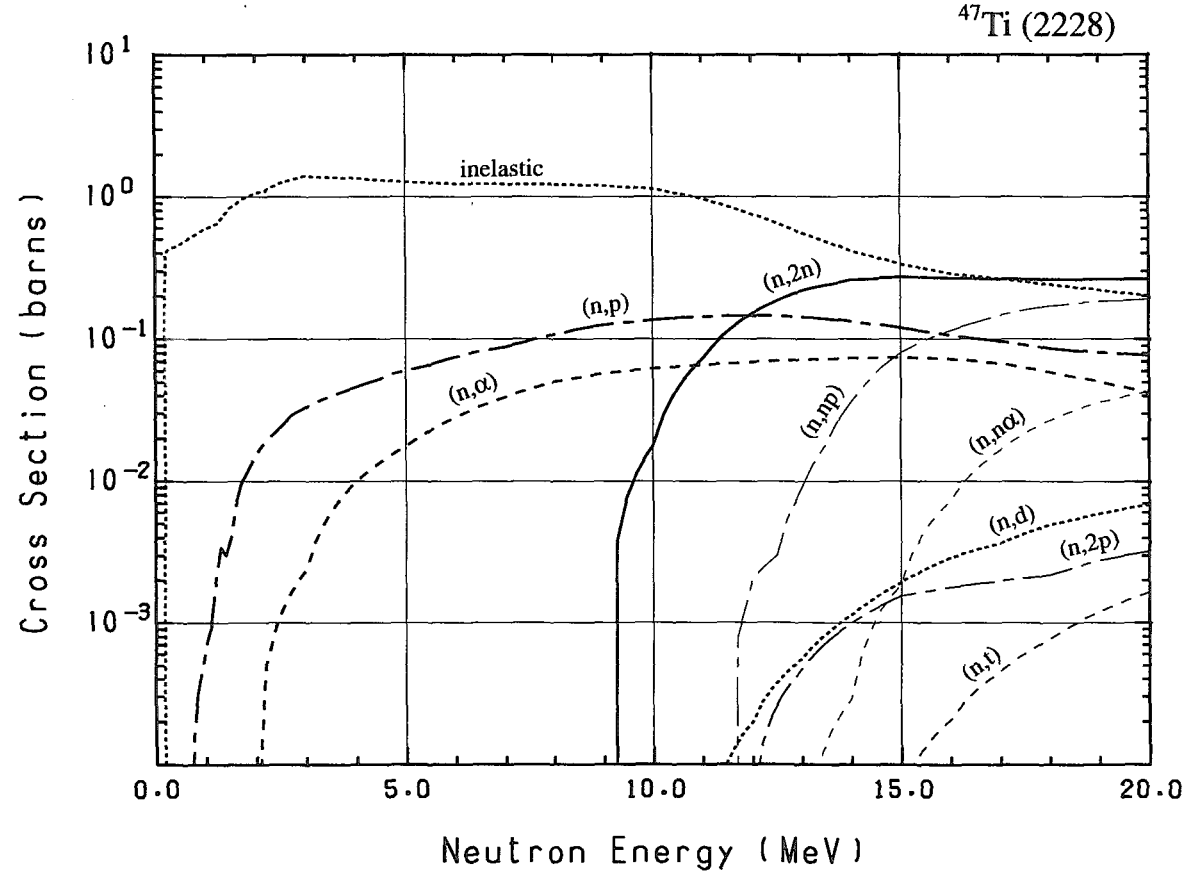

46Ti (2225)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,p)
(n,α)
(n,np)
(n,2n)
(n,nα)
(n,2p)
(n,d)
(n,t)
(n,3He)

22-Ti- 47 (MAT=2228)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.797	4.604	–	2.325	3.352
elastic	–	3.095	3.095	–	1.404	2.439
inelastic	162.8 keV	–	–	–	415.4×10^{-3}	885.0×10^{-3}
(n,2n)	9.066 MeV	–	–	–	258.9×10^{-3}	129.7×10^{-6}
(n,nα)	9.148 MeV	–	–	–	285.8×10^{-6}	255.6×10^{-9}
(n,np)	10.68 MeV	–	–	–	36.40×10^{-3}	6.082×10^{-6}
capture	–	1.702	1.508	1.434	355.2×10^{-6}	6.384×10^{-3}
(n,p)	–	0.000	0.000	186.0×10^{-3}	132.9×10^{-3}	17.75×10^{-3}
(n,d)	8.412 MeV	–	–	–	1.138×10^{-3}	250.2×10^{-9}
(n,t)	10.98 MeV	–	–	–	12.95×10^{-6}	7.898×10^{-9}
(n,He-3)	11.22 MeV	–	–	–	959.5×10^{-12}	98.84×10^{-12}
(n,α)	–	0.000	0.000	79.41×10^{-3}	73.96×10^{-3}	3.338×10^{-3}
(n,2p)	8.478 MeV	–	–	–	1.002×10^{-3}	164.1×10^{-9}

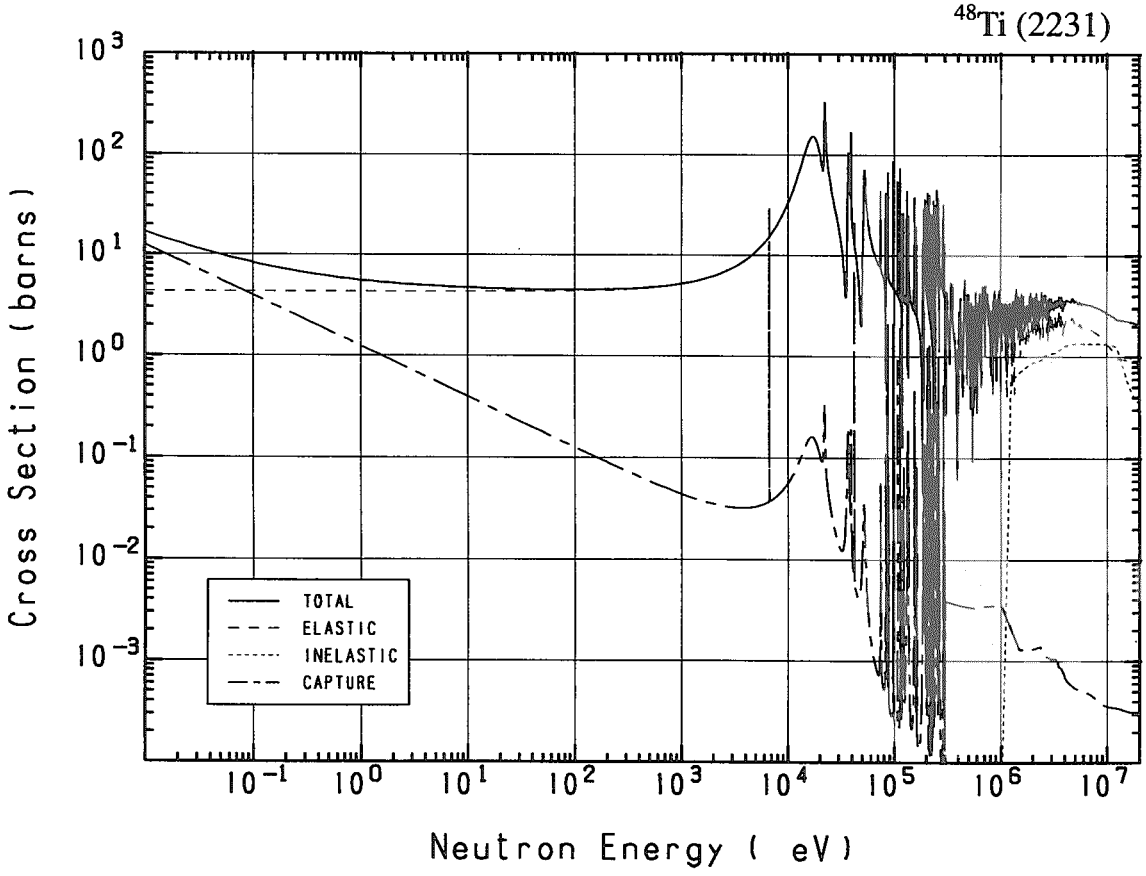


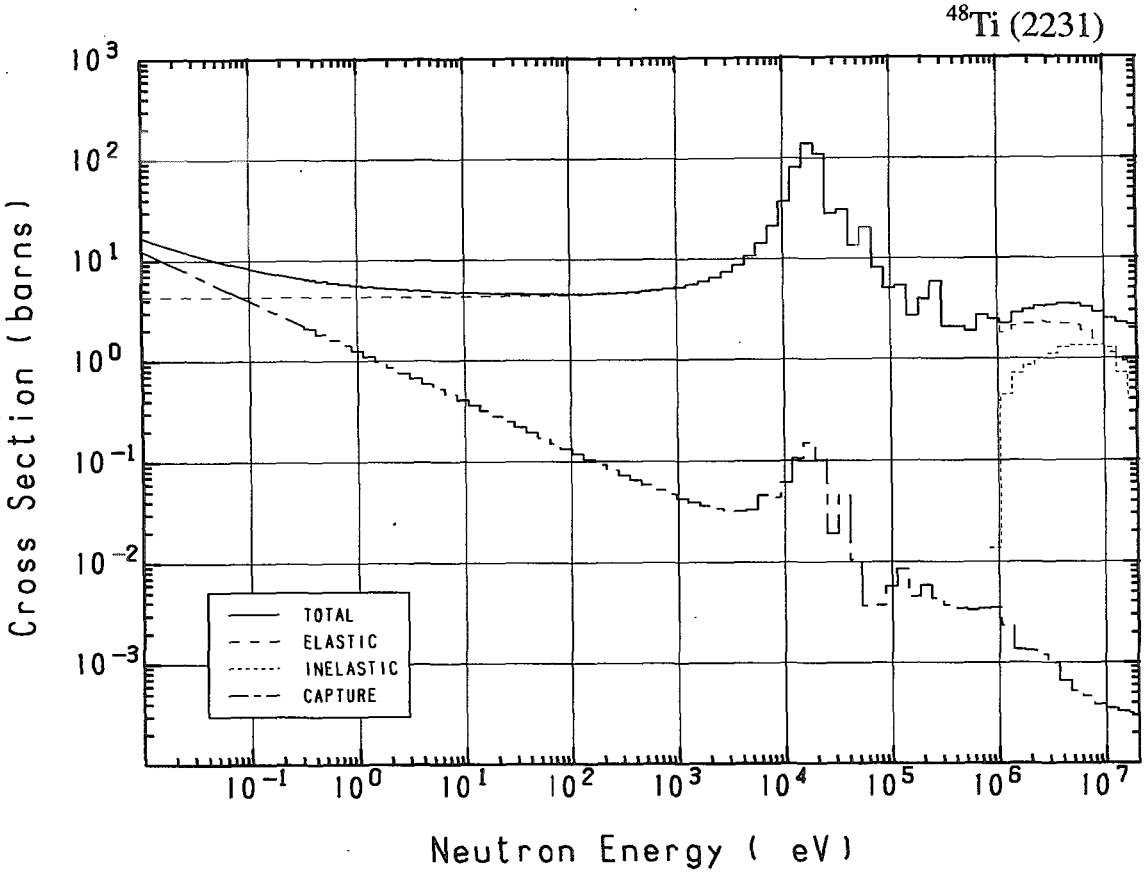

47Ti (2228)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

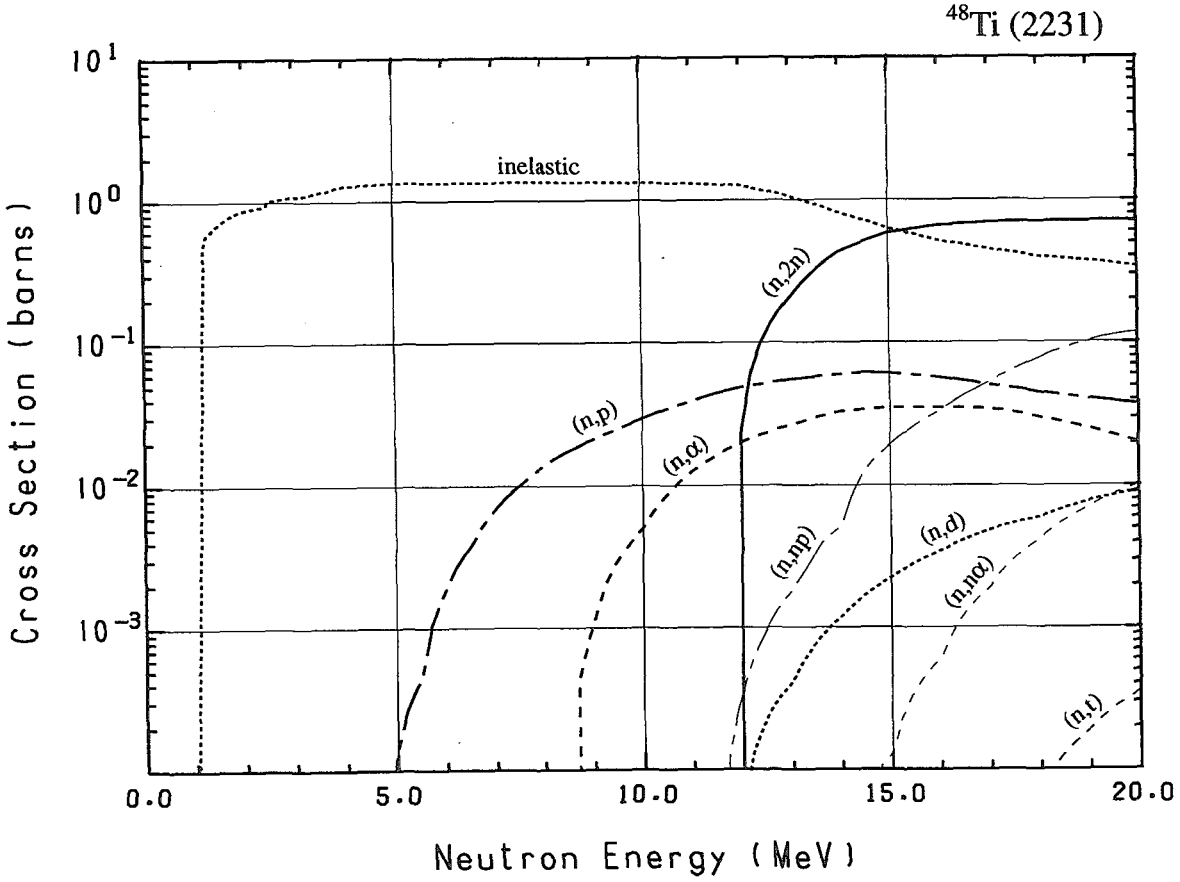

47Ti (2228)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,2p)
(n,t)

22-Ti- 48 (MAT=2231)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	12.16	11.27	–	2.287	3.218
elastic	–	4.320	4.320	–	945.4×10^{-3}	2.585
inelastic	1.004 MeV	–	–	–	812.4×10^{-3}	630.0×10^{-3}
(n,2n)	11.87 MeV	–	–	–	429.2×10^{-3}	63.63×10^{-6}
(n,nα)	9.646 MeV	–	–	–	19.02×10^{-6}	30.47×10^{-9}
(n,np)	11.69 MeV	–	–	–	5.150×10^{-3}	1.547×10^{-6}
capture	–	7.840	6.950	3.681	330.5×10^{-6}	2.289×10^{-3}
(n,p)	3.276 MeV	–	–	–	60.12×10^{-3}	286.5×10^{-6}
(n,d)	9.415 MeV	–	–	–	1.200×10^{-3}	219.0×10^{-9}
(n,t)	13.89 MeV	–	–	–	0.000	400.5×10^{-12}
(n,He-3)	12.46 MeV	–	–	–	4.800×10^{-15}	19.90×10^{-12}
(n,α)	2.074 MeV	–	–	–	33.00×10^{-3}	22.80×10^{-6}

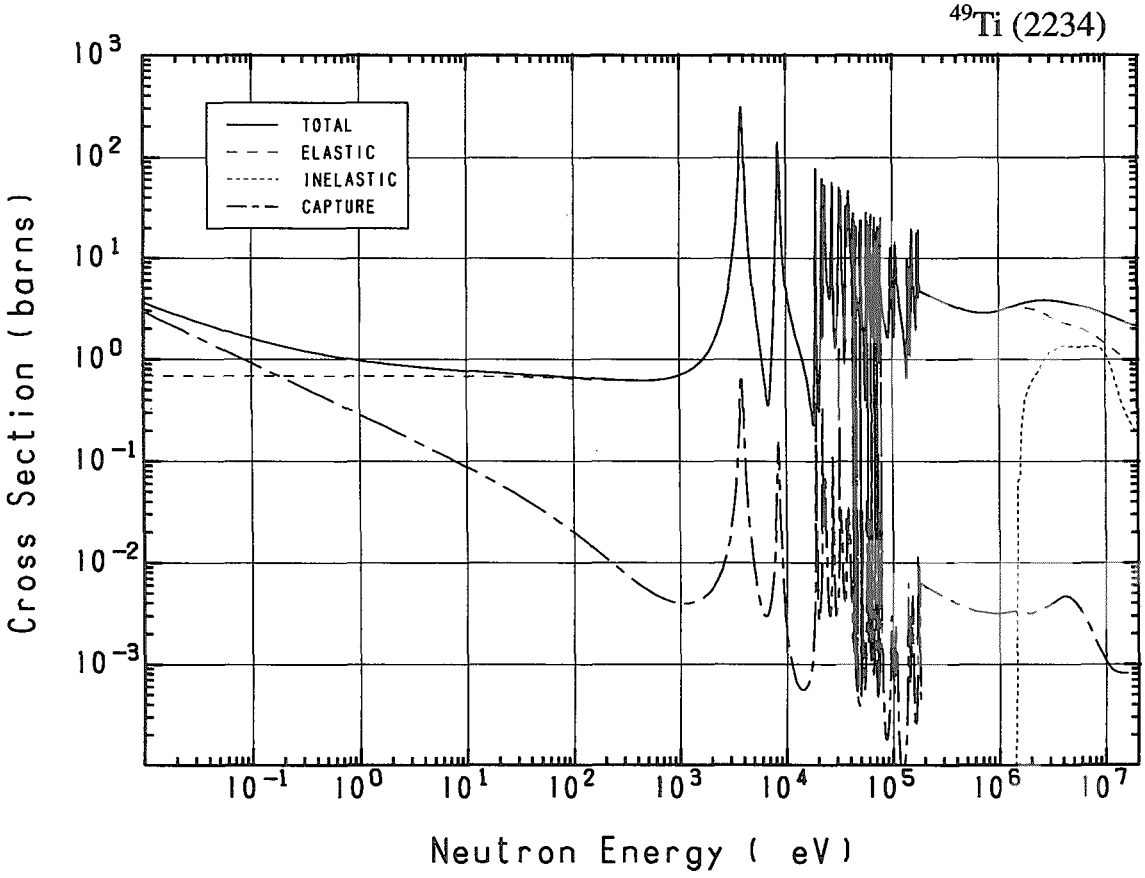


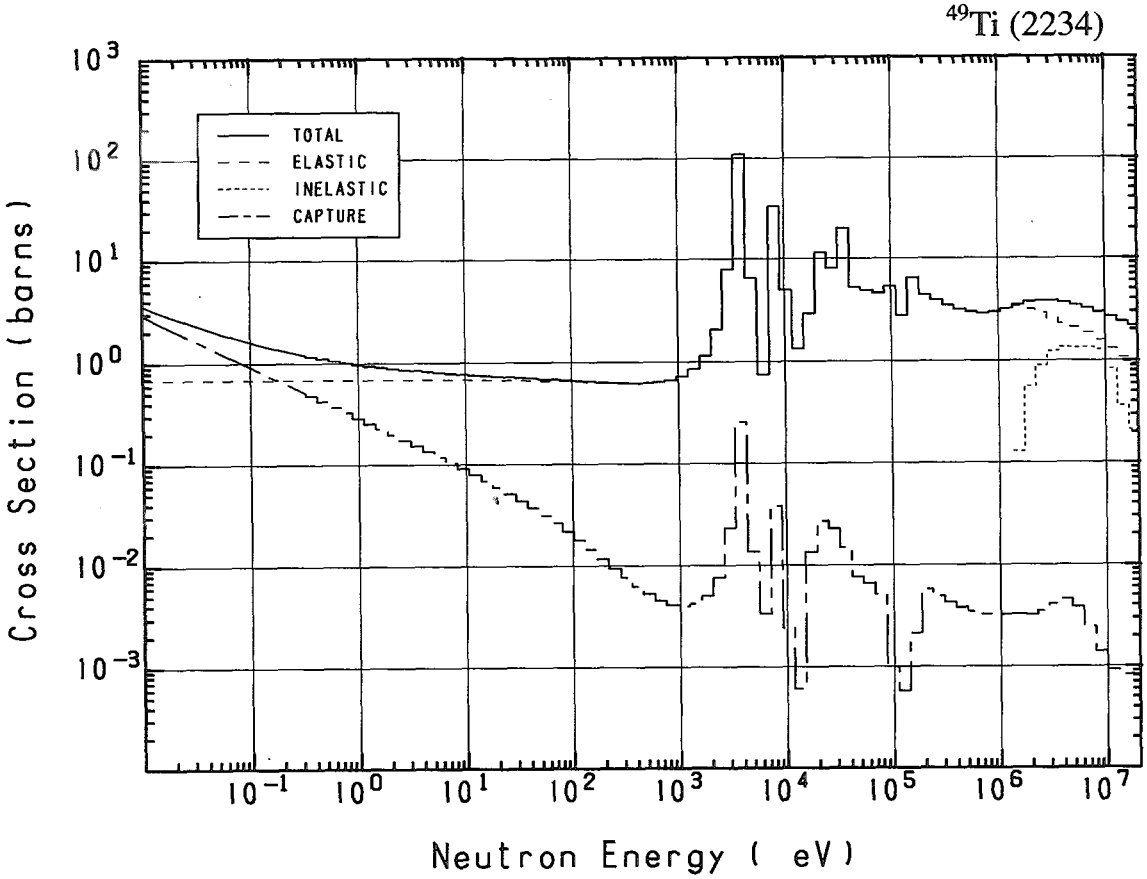

48Ti (2231)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

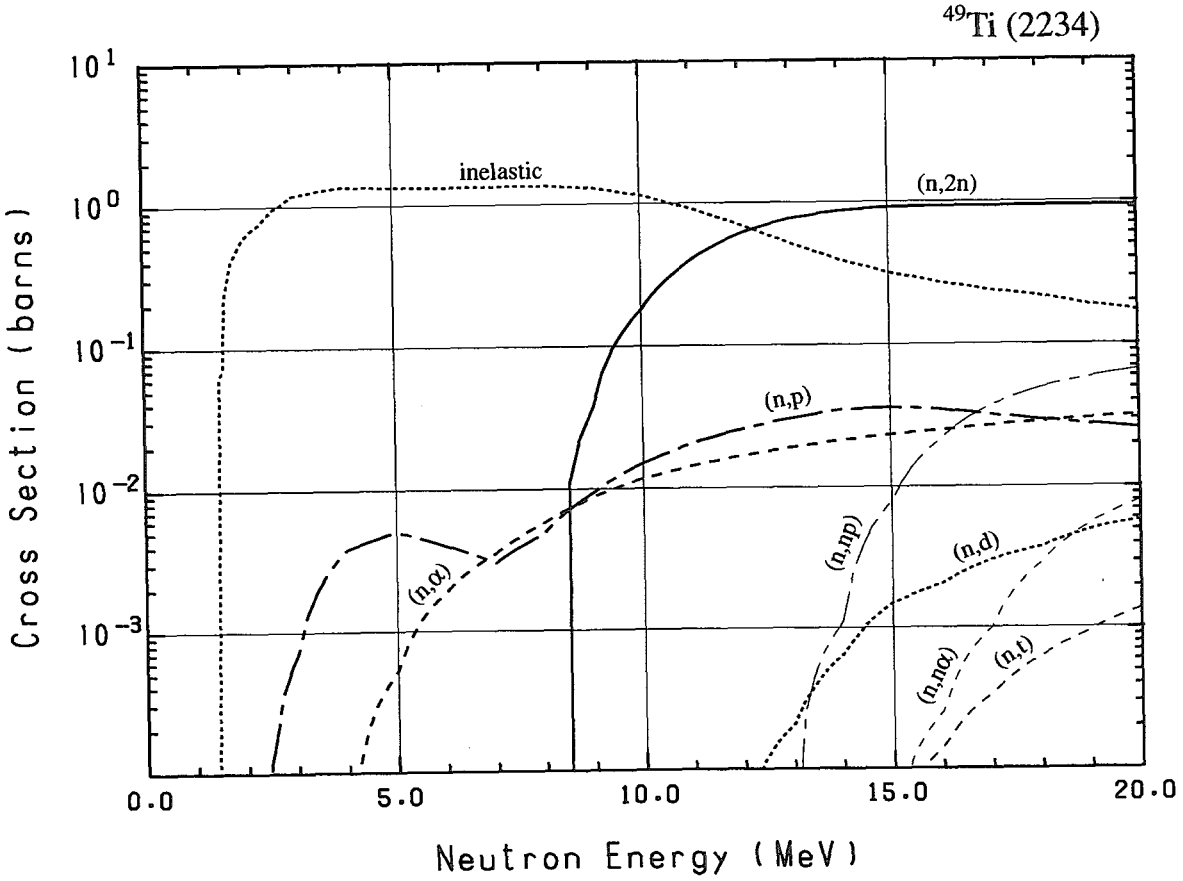

48Ti (2231)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)

22-Ti- 49 (MAT=2234)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.519	2.311	–	2.420	3.524
elastic	–	689.1×10^{-3}	689.1×10^{-3}	–	1.106	3.029
inelastic	1.410 MeV	–	–	–	391.8×10^{-3}	490.2×10^{-3}
(n,2n)	8.311 MeV	–	–	–	864.3×10^{-3}	729.1×10^{-6}
(n,nα)	10.39 MeV	–	–	–	840.8×10^{-9}	17.04×10^{-9}
(n,np)	11.59 MeV	–	–	–	1.104×10^{-3}	667.1×10^{-9}
capture	–	1.830	1.622	892.1×10^{-3}	817.0×10^{-6}	3.595×10^{-3}
(n,p)	1.248 MeV	–	–	–	34.93×10^{-3}	790.2×10^{-6}
(n,d)	9.315 MeV	–	–	–	649.7×10^{-6}	131.2×10^{-9}
(n,t)	11.34 MeV	–	–	–	2.813×10^{-6}	5.428×10^{-9}
(n,He-3)	13.34 MeV	–	–	–	0.000	3.755×10^{-12}
(n,α)	–	0.000	0.000	18.13×10^{-3}	21.17×10^{-3}	173.4×10^{-6}
(n,2p)	11.07 MeV	–	–	–	34.49×10^{-9}	66.36×10^{-12}

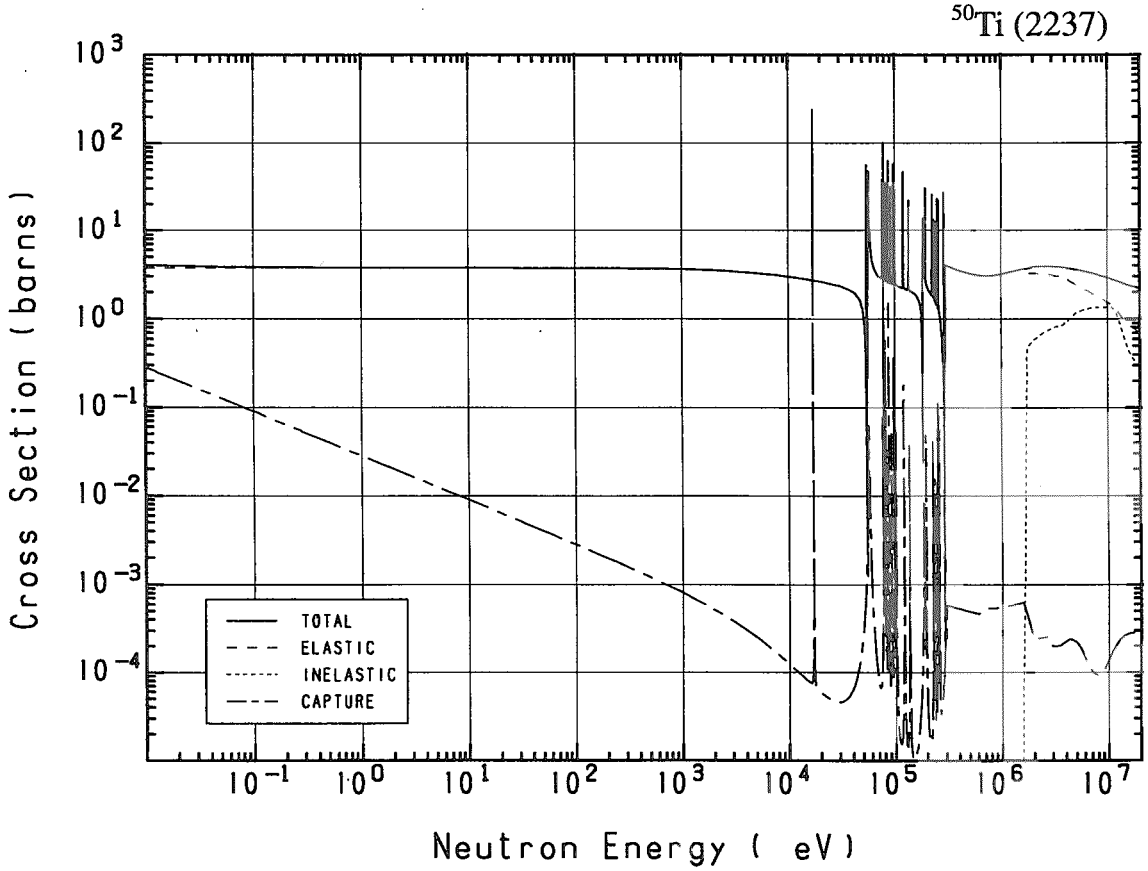


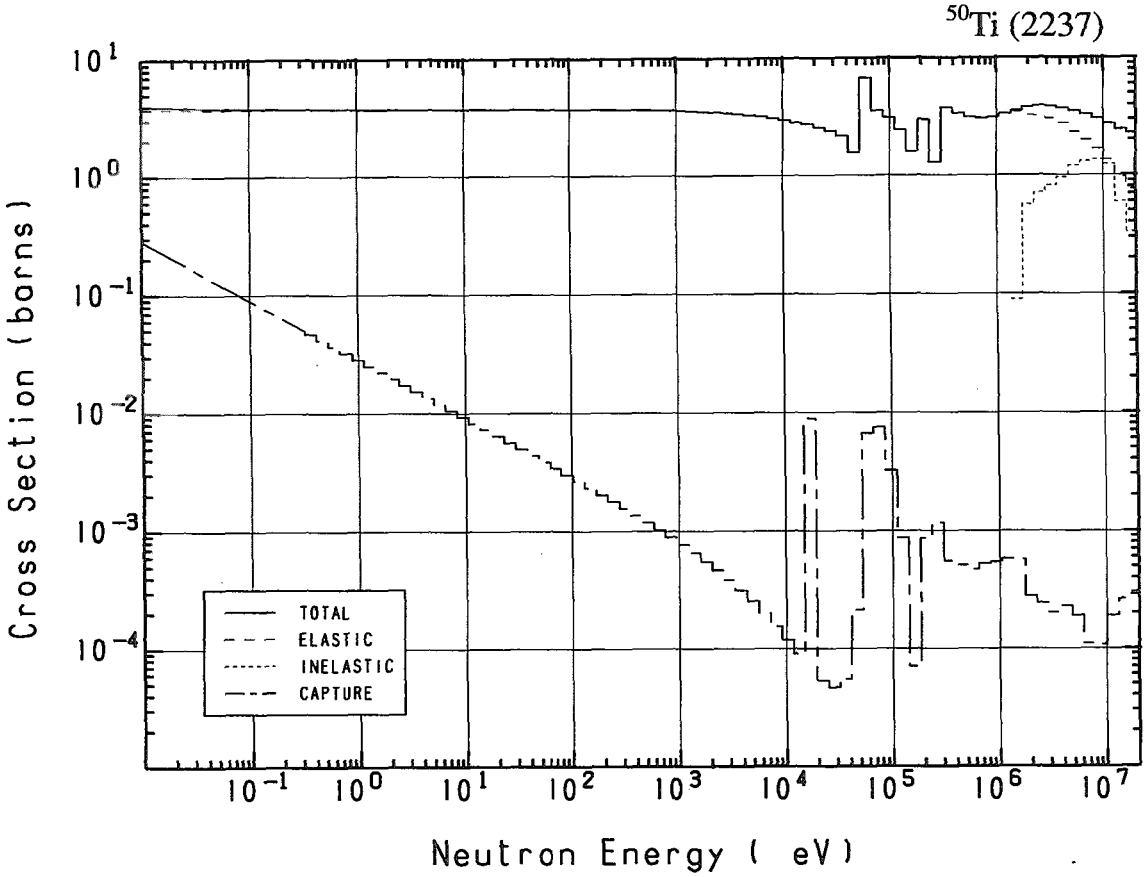

^{49}Ti (2234)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

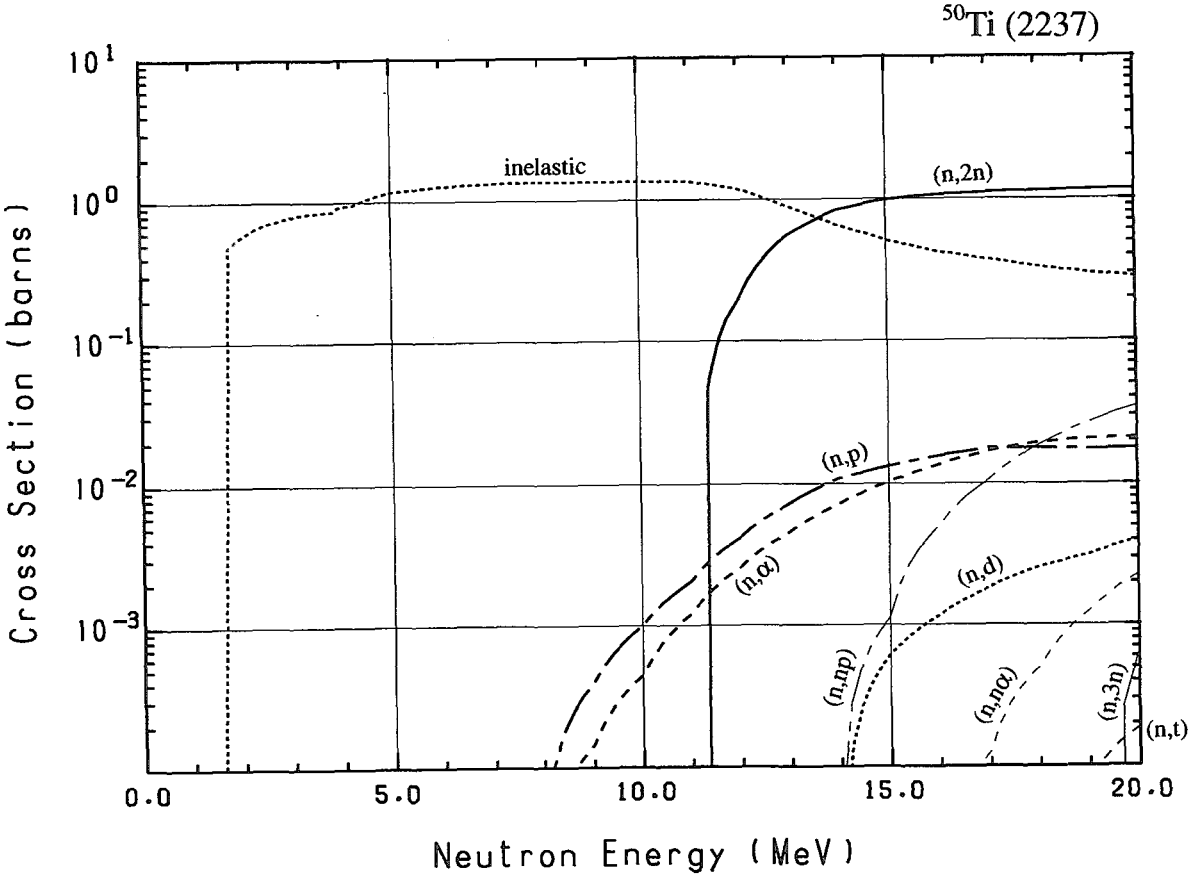

^{49}Ti (2234)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

22-Ti- 50 (MAT=2237)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.920	3.900	–	2.509	3.478
elastic	–	3.742	3.742	–	1.007	3.087
inelastic	1.585 MeV	–	–	–	653.8×10^{-3}	390.2×10^{-3}
(n,2n)	11.17 MeV	–	–	–	830.0×10^{-3}	165.7×10^{-6}
(n,3n)	19.48 MeV	–	–	–	–	59.46×10^{-12}
(n,nα)	10.94 MeV	–	–	–	8.519×10^{-9}	2.800×10^{-9}
(n,np)	12.42 MeV	–	–	–	56.51×10^{-6}	164.1×10^{-9}
capture	–	178.3×10^{-3}	158.1×10^{-3}	88.15×10^{-3}	260.2×10^{-6}	463.0×10^{-6}
(n,p)	6.229 MeV	–	–	–	10.88×10^{-3}	5.804×10^{-6}
(n,d)	10.15 MeV	–	–	–	3.722×10^{-6}	36.96×10^{-9}
(n,t)	14.10 MeV	–	–	–	–	144.4×10^{-12}
(n,He-3)	14.36 MeV	–	–	–	–	227.8×10^{-15}
(n,α)	3.513 MeV	–	–	–	7.232×10^{-3}	3.310×10^{-6}

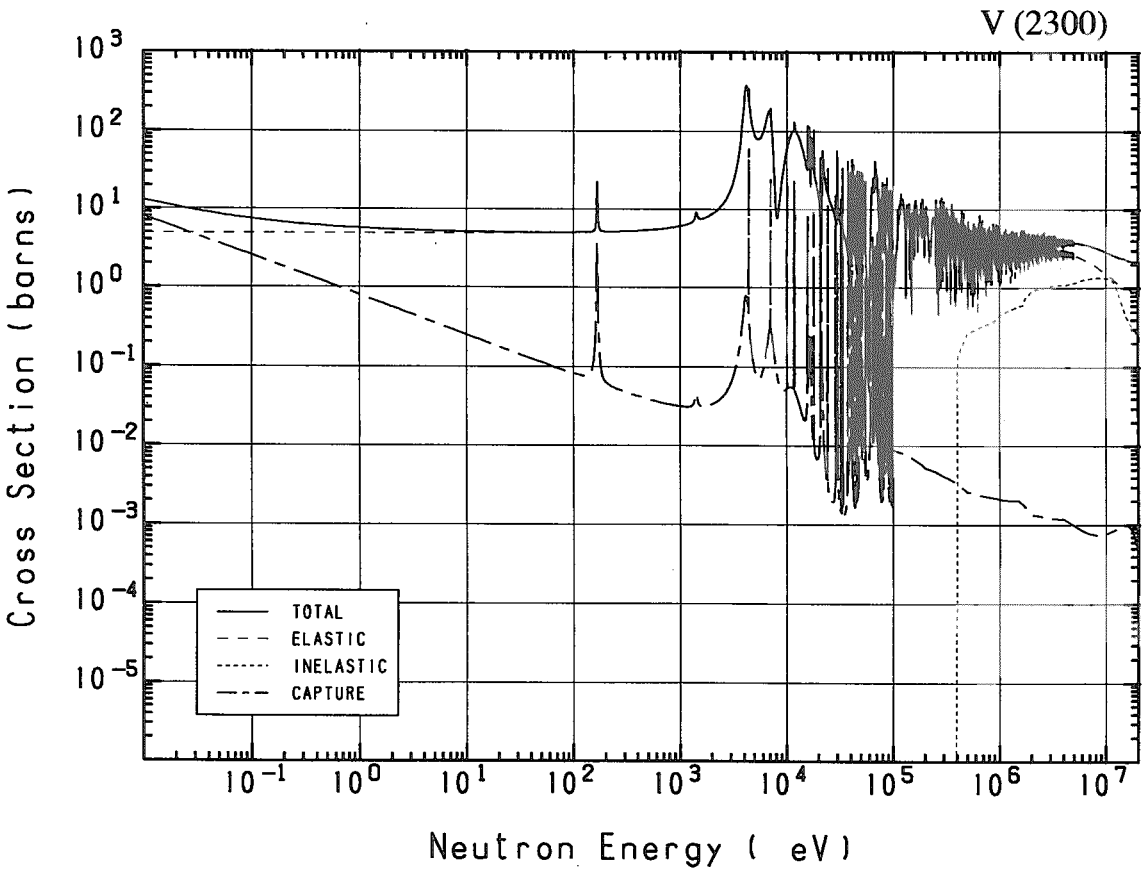


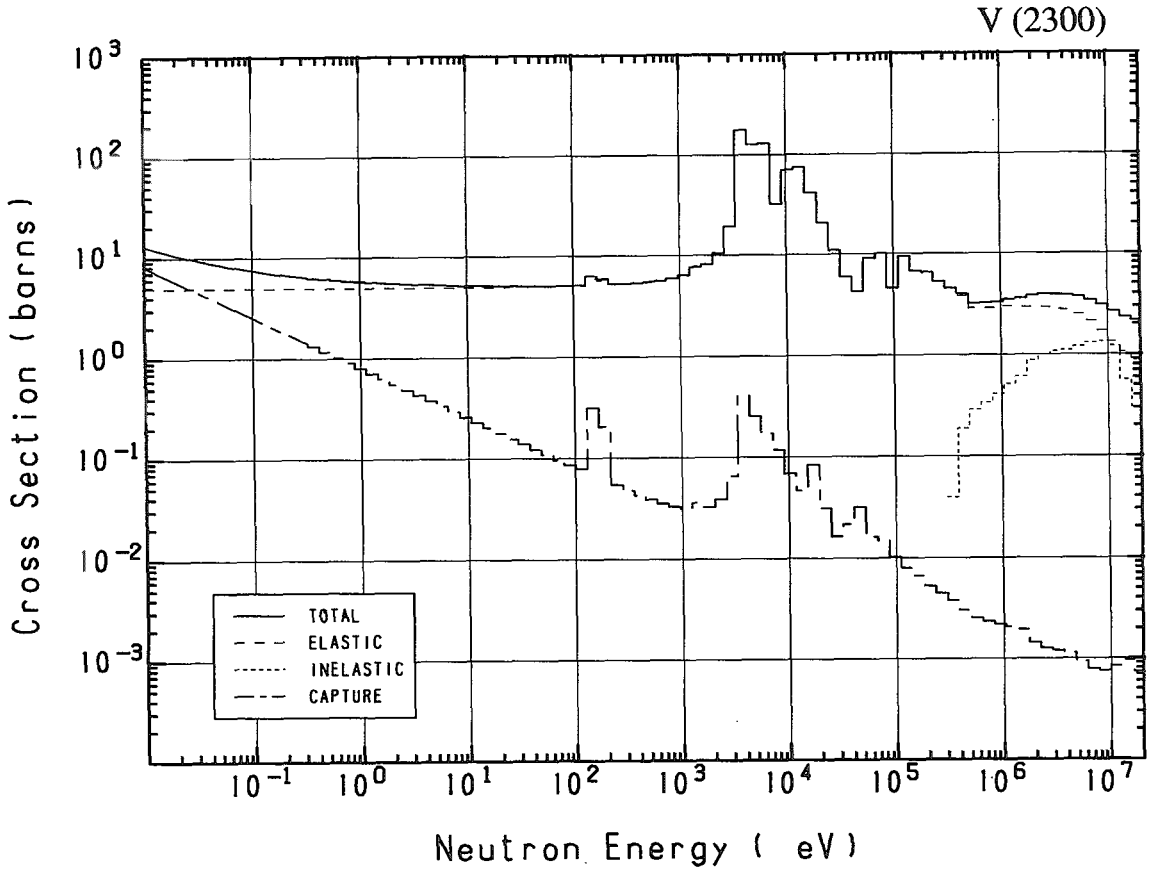

^{50}Ti (2237)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

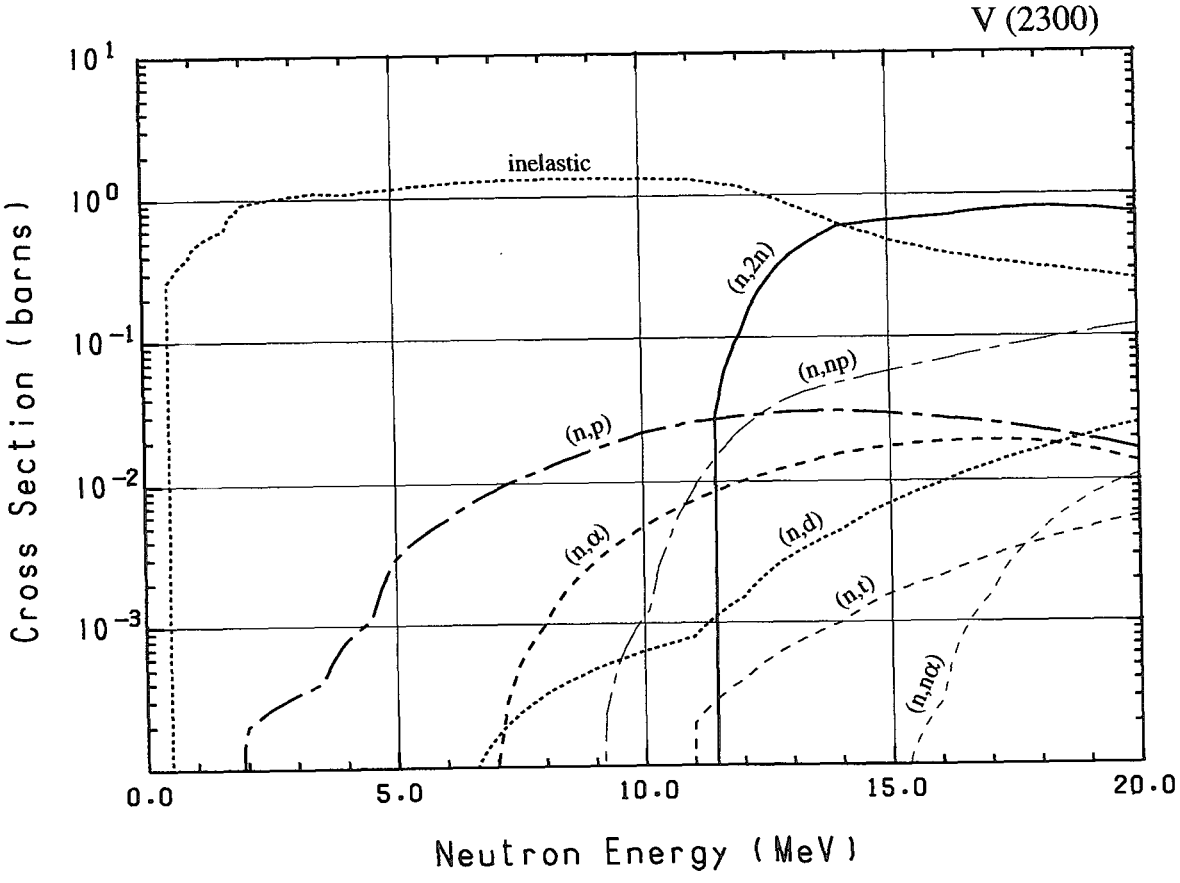

^{50}Ti (2237)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,3n)
(n,t)

23-V - 0 (MAT=2300)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	9.963	9.390	–	2.374	3.933
elastic	–	4.907	4.907	–	1.046	3.250
inelastic	326.4 keV	–	–	–	621.8×10^{-3}	680.3×10^{-3}
(n,2n)	11.27 MeV	–	–	–	604.0×10^{-3}	107.2×10^{-6}
(n,nα)	10.49 MeV	–	–	–	344.7×10^{-9}	23.48×10^{-9}
(n,np)	8.220 MeV	–	–	–	48.54×10^{-3}	18.25×10^{-6}
capture	–	5.056	4.483	2.700	961.5×10^{-6}	2.277×10^{-3}
(n,p)	1.722 MeV	–	–	–	31.00×10^{-3}	583.9×10^{-6}
(n,d)	5.952 MeV	–	–	–	4.500×10^{-3}	6.659×10^{-6}
(n,t)	10.73 MeV	–	–	–	1.000×10^{-3}	324.3×10^{-9}
(n,α)	2.098 MeV	–	–	–	15.60×10^{-3}	35.17×10^{-6}

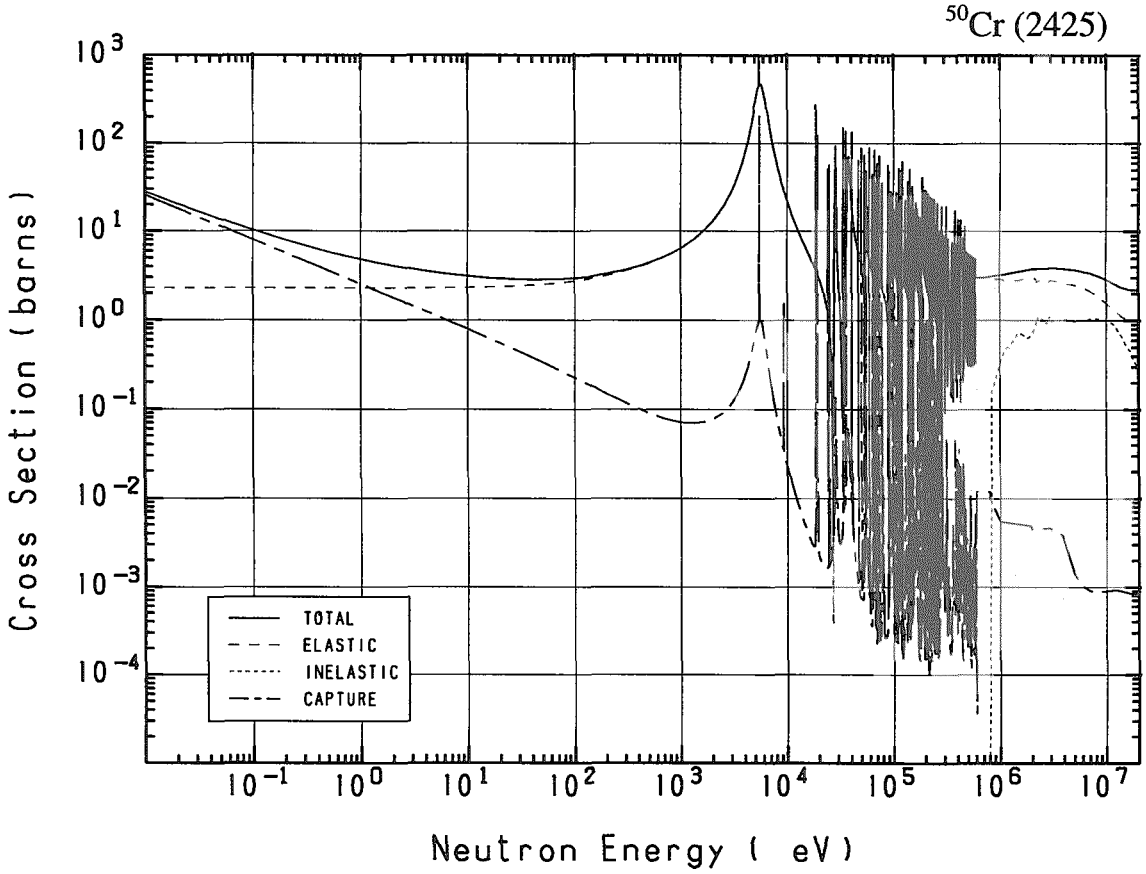


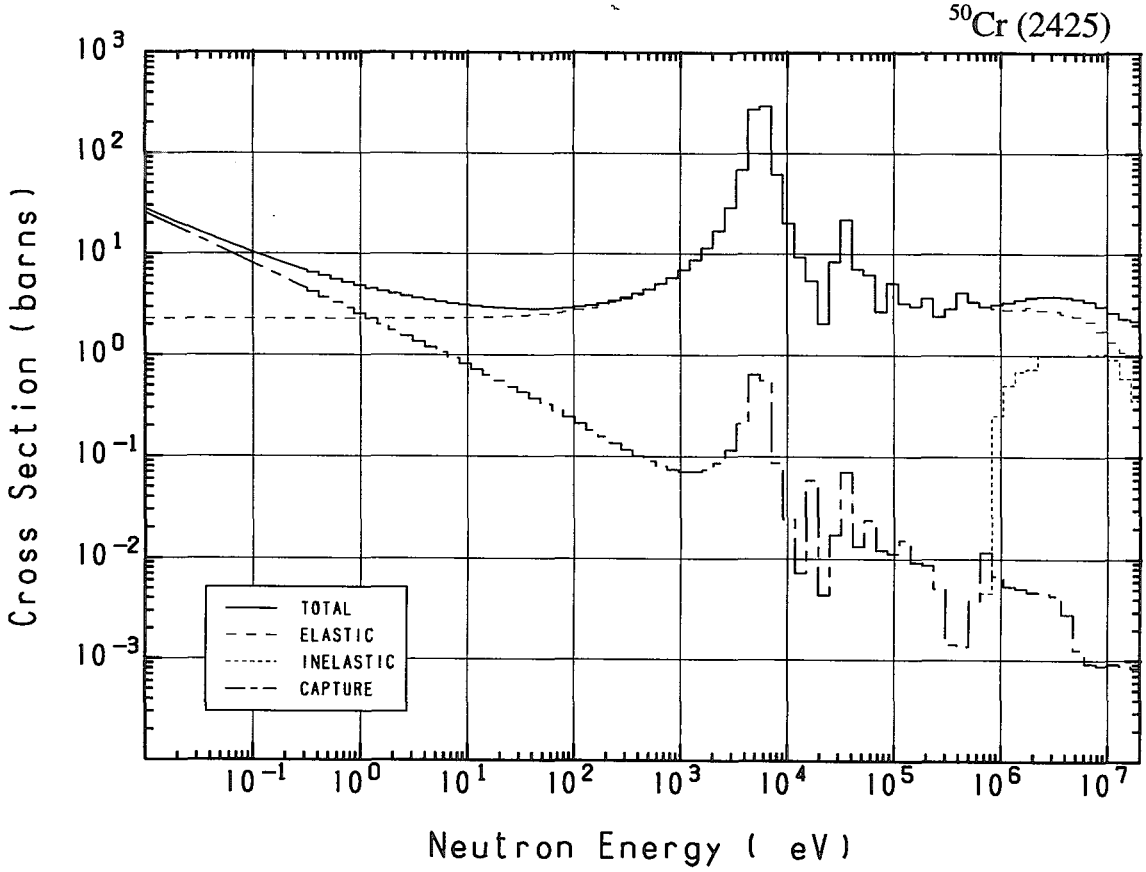

V (2300)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

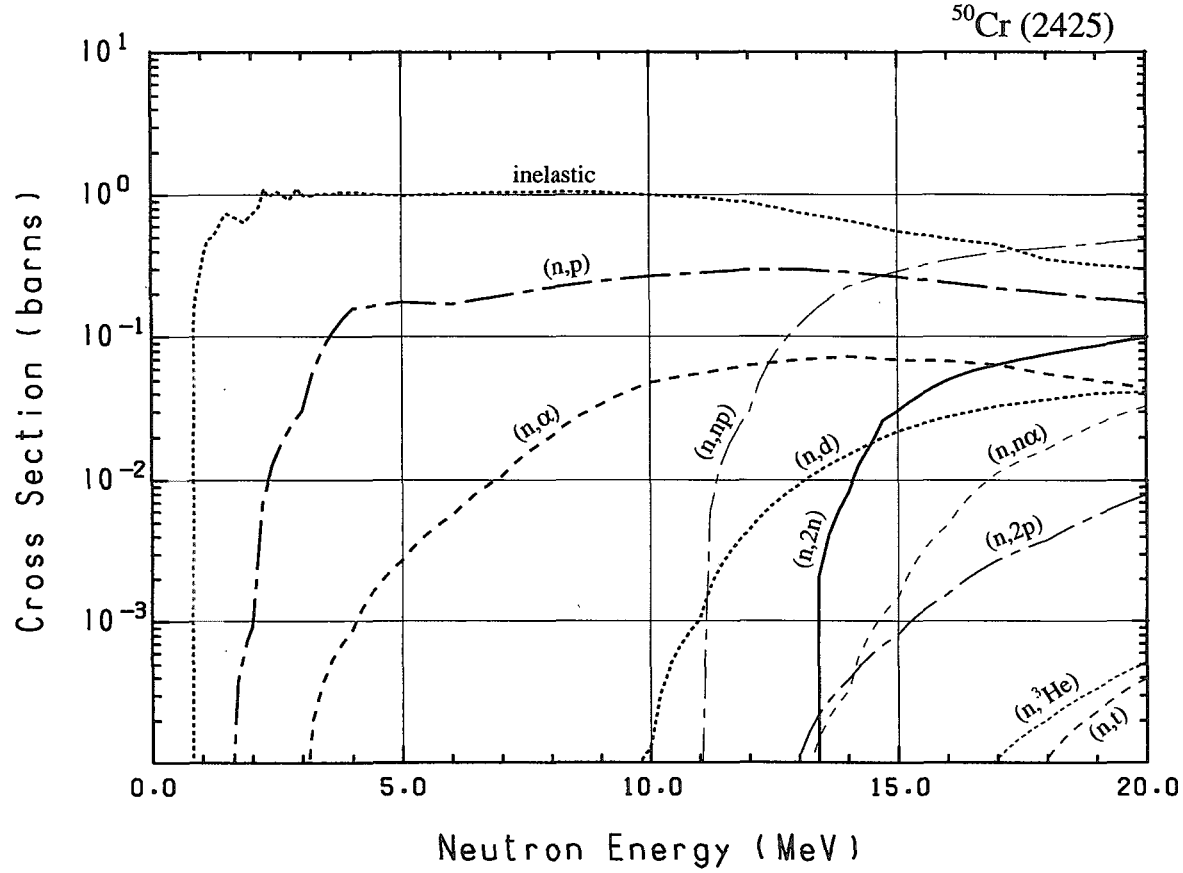

V (2300)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,t)
(n,nα)

24-Cr- 50 (MAT=2425)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	18.32	16.50	–	2.348	3.618
elastic	–	2.284	2.284	–	1.088	2.989
inelastic	799.1 keV	–	–	–	653.7×10^{-3}	591.5×10^{-3}
(n,2n)	13.20 MeV	–	–	–	8.200×10^{-3}	1.805×10^{-6}
(n,nα)	8.729 MeV	–	–	–	326.6×10^{-6}	183.5×10^{-9}
(n,np)	9.784 MeV	–	–	–	223.7×10^{-3}	39.64×10^{-6}
capture	–	16.03	14.21	7.498	894.9×10^{-6}	5.255×10^{-3}
(n,p)	260.8 keV	–	–	–	284.3×10^{-3}	31.81×10^{-3}
(n,d)	7.514 MeV	–	–	–	15.02×10^{-3}	4.115×10^{-6}
(n,t)	12.92 MeV	–	–	–	10.18×10^{-12}	607.1×10^{-12}
(n,He-3)	8.804 MeV	–	–	–	2.326×10^{-6}	1.811×10^{-9}
(n,α)	–	0.000	0.000	54.72×10^{-3}	73.21×10^{-3}	691.2×10^{-6}
(n,2p)	8.371 MeV	–	–	–	387.5×10^{-6}	84.07×10^{-9}

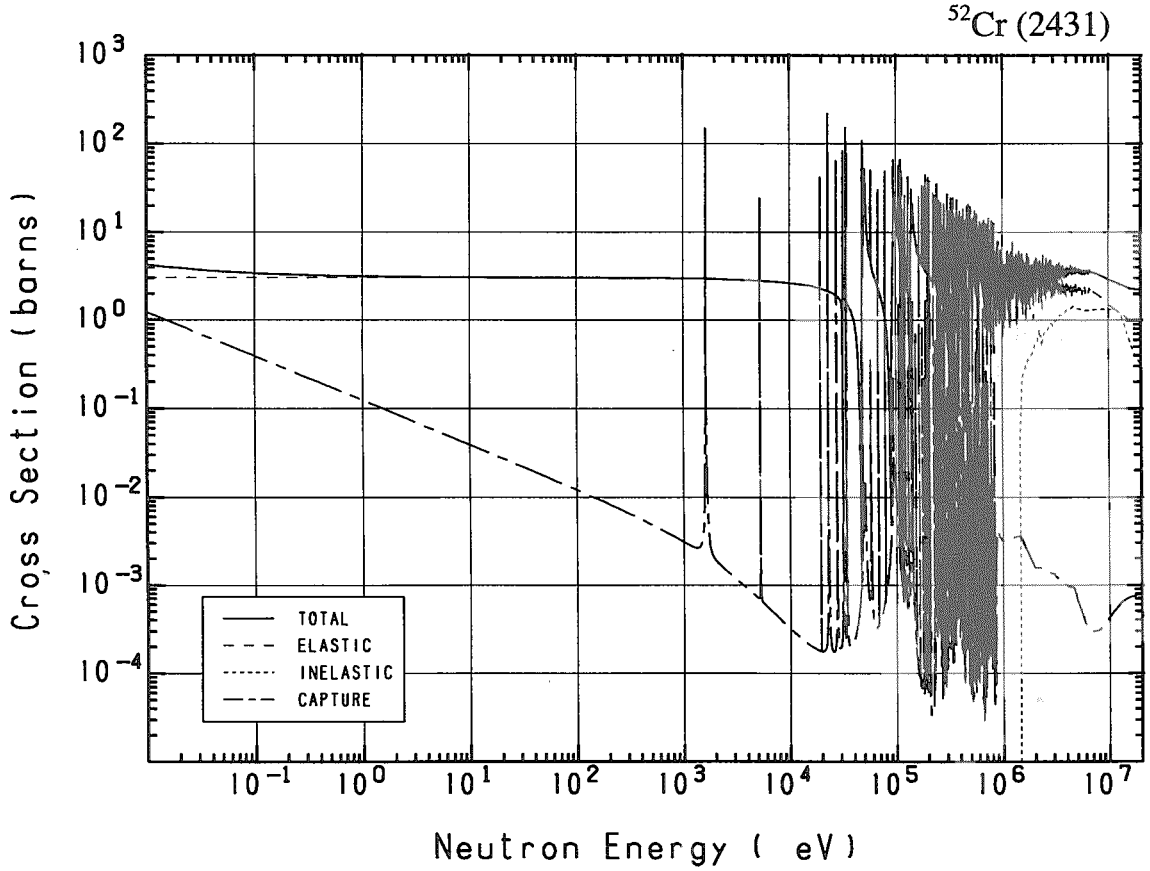


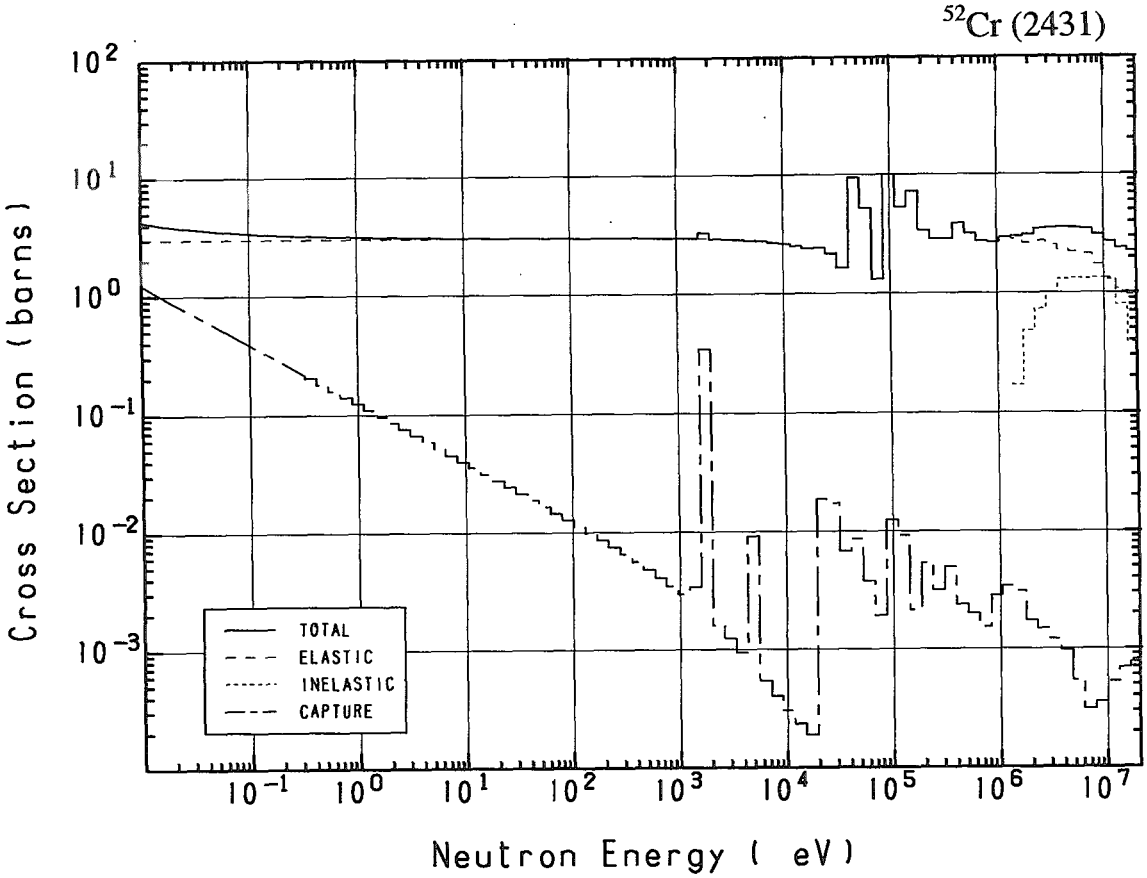

^{50}Cr (2425)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

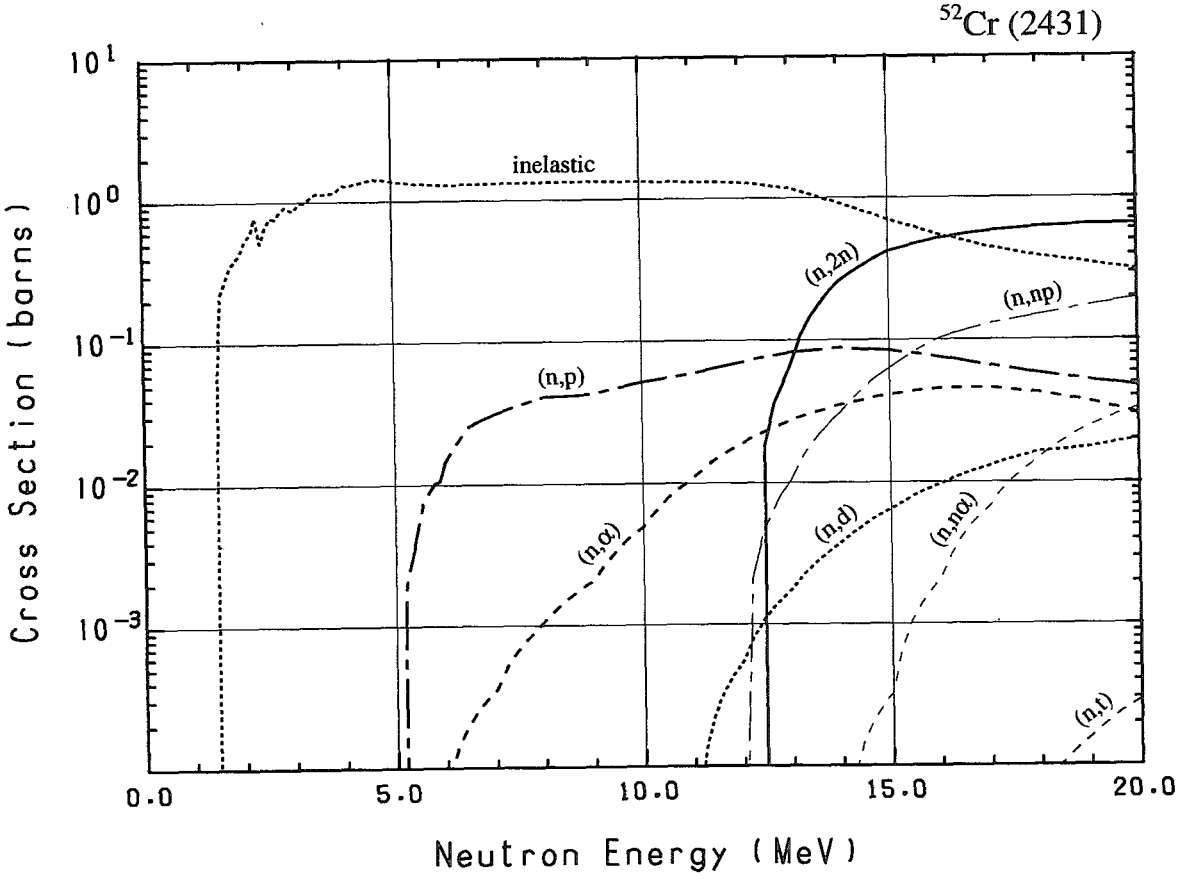

^{50}Cr (2425)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,p)
(n,α)
(n,np)
(n,d)
(n,2n)
(n,nα)
(n,2p)
(n,^{3}He)
(n,t)

24-Cr- 52 (MAT=2431)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.801	3.713	–	2.466	3.296
elastic	–	3.026	3.026	–	1.130	2.852
inelastic	1.462 MeV	–	–	–	919.1×10^{-3}	441.3×10^{-3}
(n,2n)	12.27 MeV	–	–	–	258.4×10^{-3}	33.23×10^{-6}
(n,nα)	9.534 MeV	–	–	–	23.24×10^{-6}	100.3×10^{-9}
(n,np)	10.71 MeV	–	–	–	30.43×10^{-3}	5.427×10^{-6}
capture	–	775.0×10^{-3}	687.1×10^{-3}	468.7×10^{-3}	680.4×10^{-6}	2.250×10^{-3}
(n,p)	3.258 MeV	–	–	–	88.22×10^{-3}	1.014×10^{-3}
(n,d)	8.441 MeV	–	–	–	3.797×10^{-3}	778.0×10^{-9}
(n,t)	13.33 MeV	–	–	–	4.315×10^{-15}	345.7×10^{-12}
(n,He-3)	11.05 MeV	–	–	–	301.3×10^{-12}	66.34×10^{-12}
(n,α)	1.233 MeV	–	–	–	34.91×10^{-3}	35.93×10^{-6}
(n,2p)	12.43 MeV	–	–	–	12.11×10^{-15}	41.89×10^{-12}

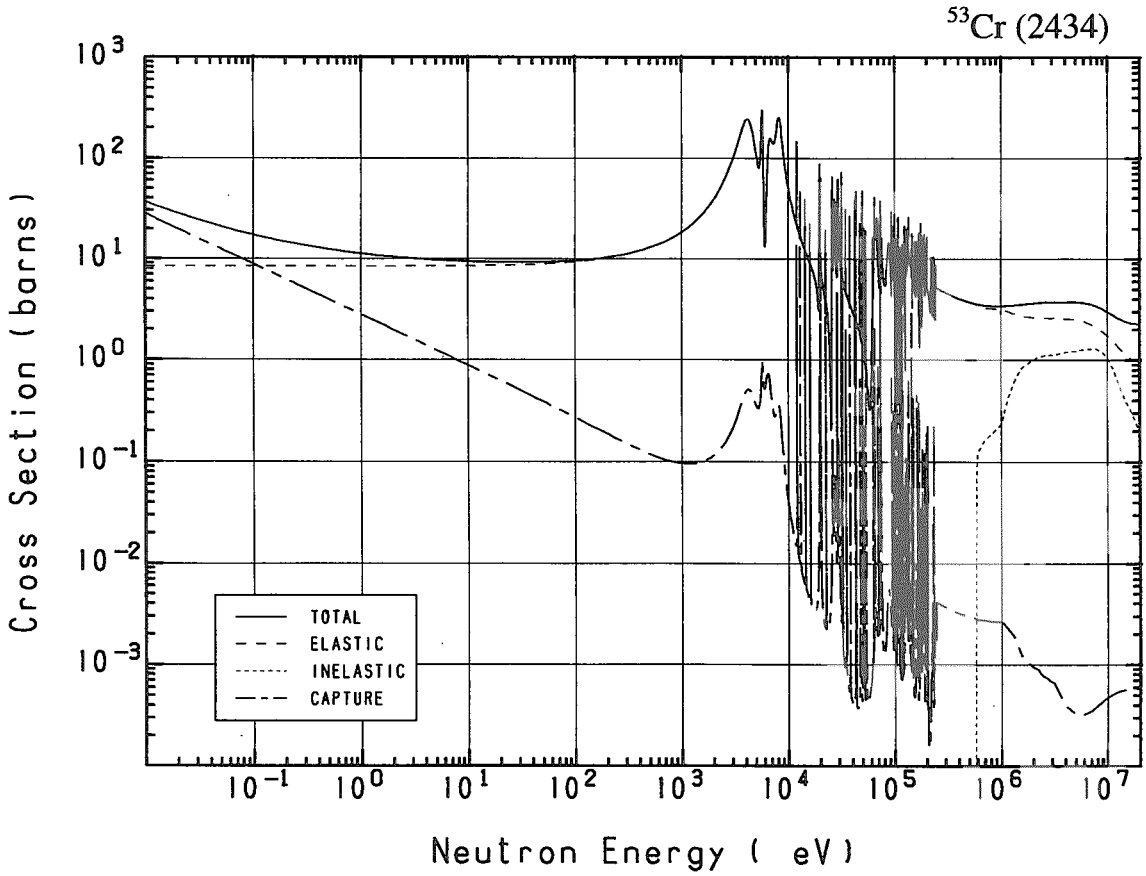


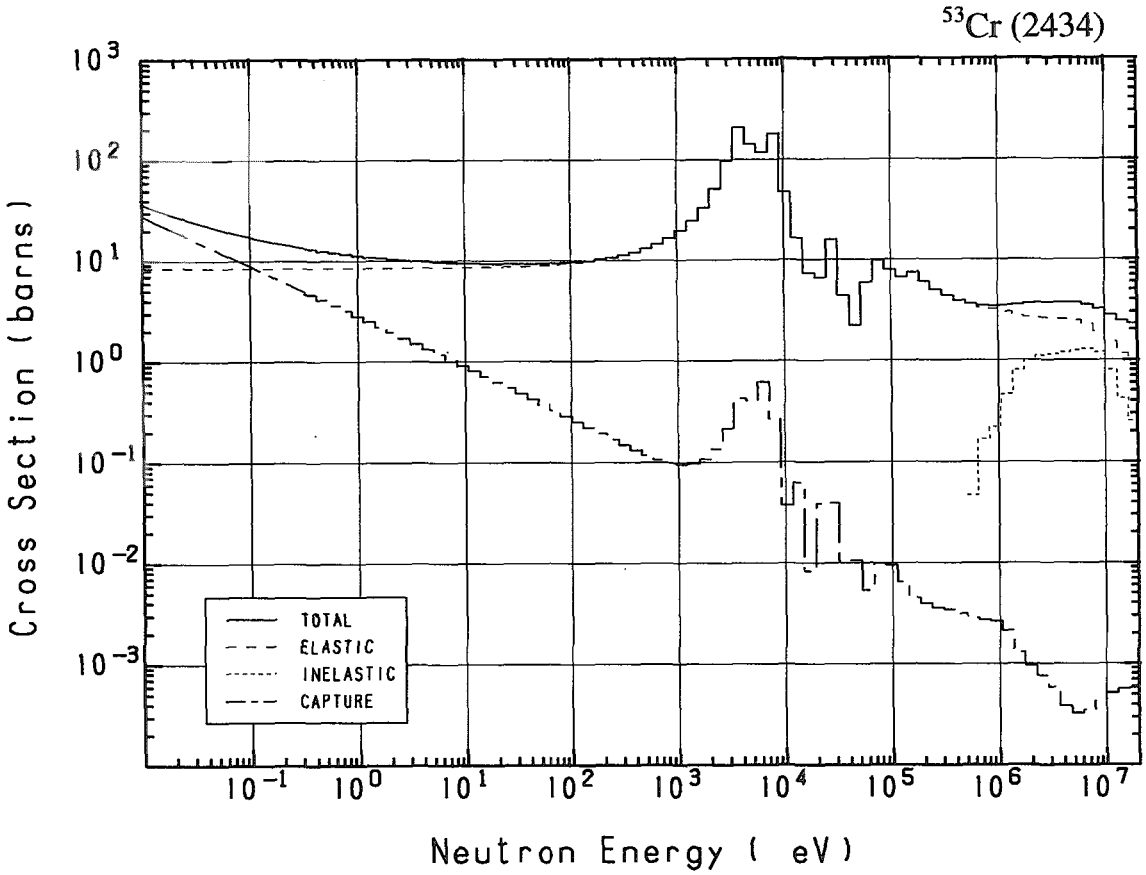

52Cr (2431)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

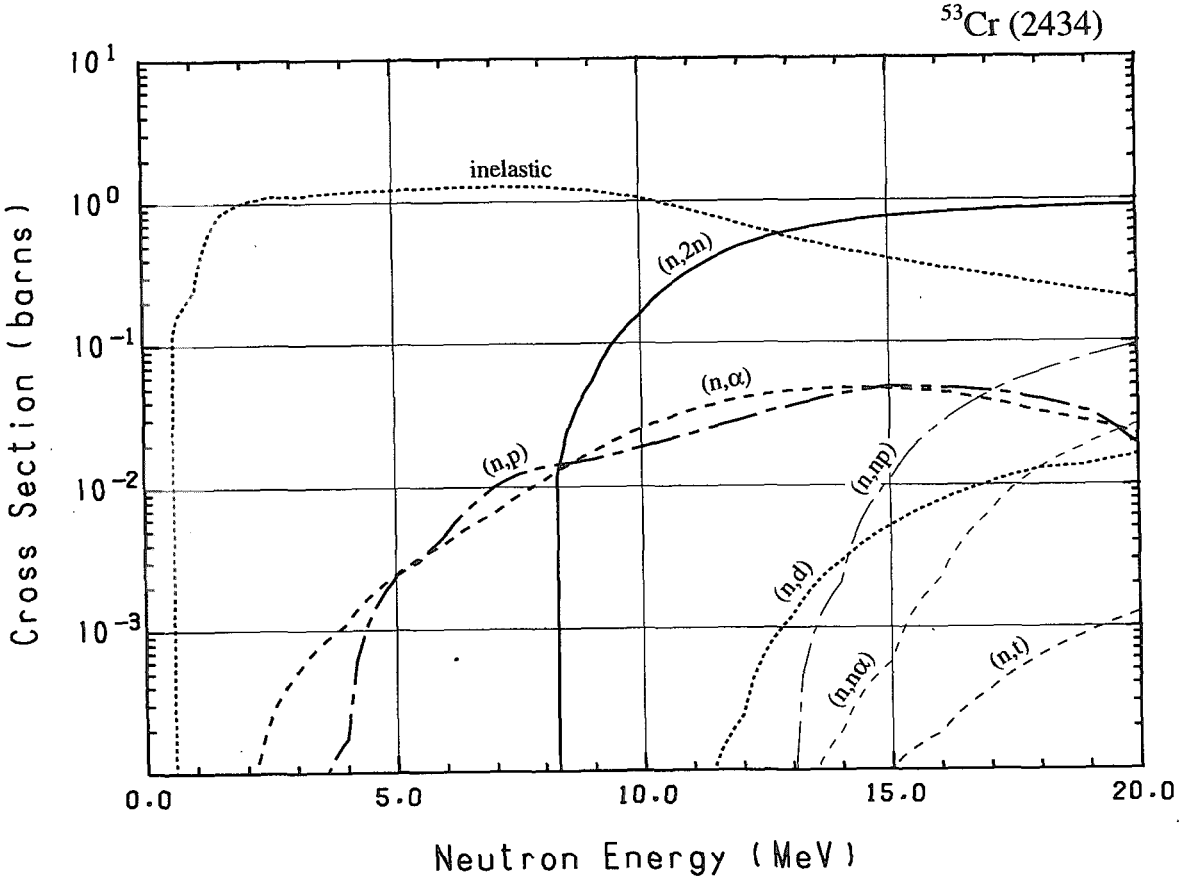

52Cr (2431)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)

24-Cr- 53 (MAT=2434)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	26.05	24.05	–	2.458	3.864
elastic	–	8.456	8.456	–	1.206	3.171
inelastic	574.7 keV	–	–	–	456.1×10^{-3}	689.3×10^{-3}
(n,2n)	8.092 MeV	–	–	–	698.3×10^{-3}	665.3×10^{-6}
(n,nα)	9.326 MeV	–	–	–	189.6×10^{-6}	105.8×10^{-9}
(n,np)	11.34 MeV	–	–	–	2.091×10^{-3}	886.1×10^{-9}
capture	–	17.59	15.59	8.358	556.8×10^{-6}	1.926×10^{-3}
(n,p)	2.691 MeV	–	–	–	43.61×10^{-3}	452.6×10^{-6}
(n,d)	9.078 MeV	–	–	–	2.939×10^{-3}	554.2×10^{-9}
(n,t)	10.15 MeV	–	–	–	43.98×10^{-6}	9.199×10^{-9}
(n,He-3)	12.64 MeV	–	–	–	50.78×10^{-18}	6.225×10^{-12}
(n,α)	–	0.000	0.000	34.13×10^{-3}	48.39×10^{-3}	570.0×10^{-6}
(n,2p)	12.56 MeV	–	–	–	8.561×10^{-18}	2.563×10^{-12}

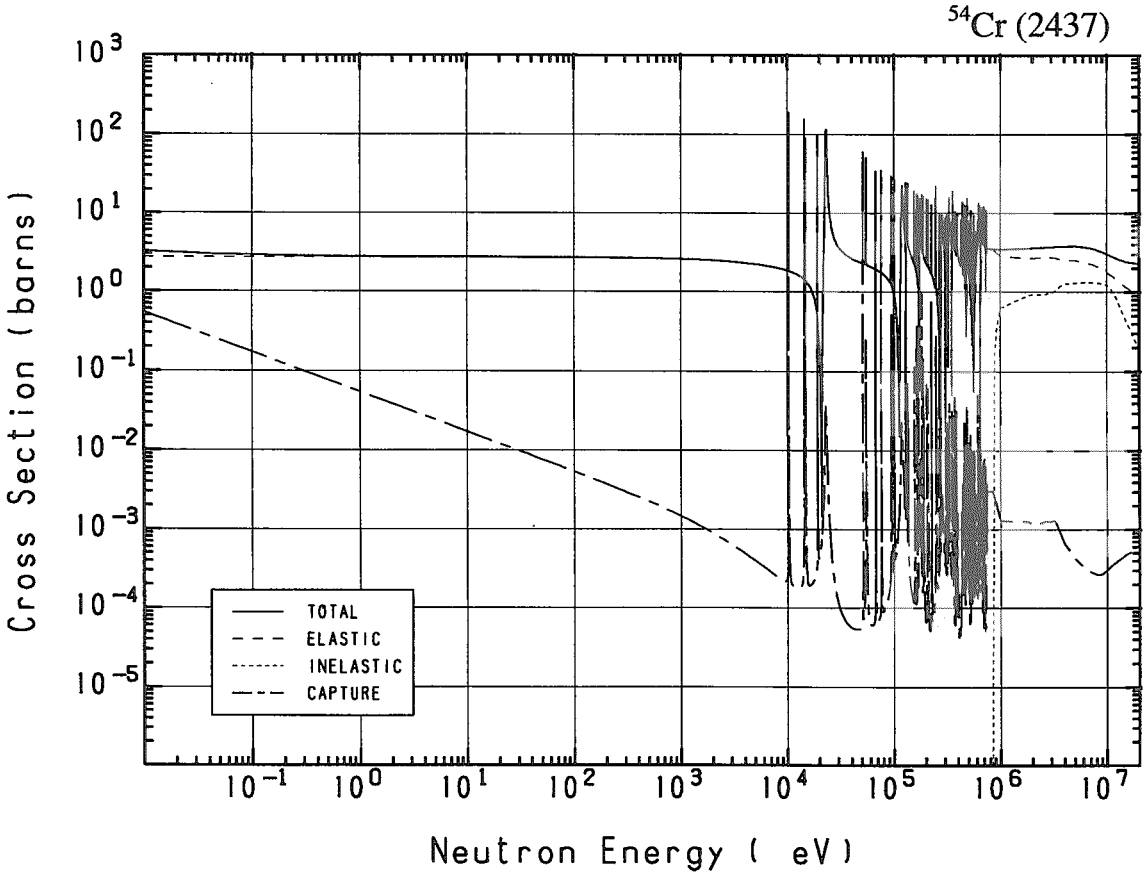


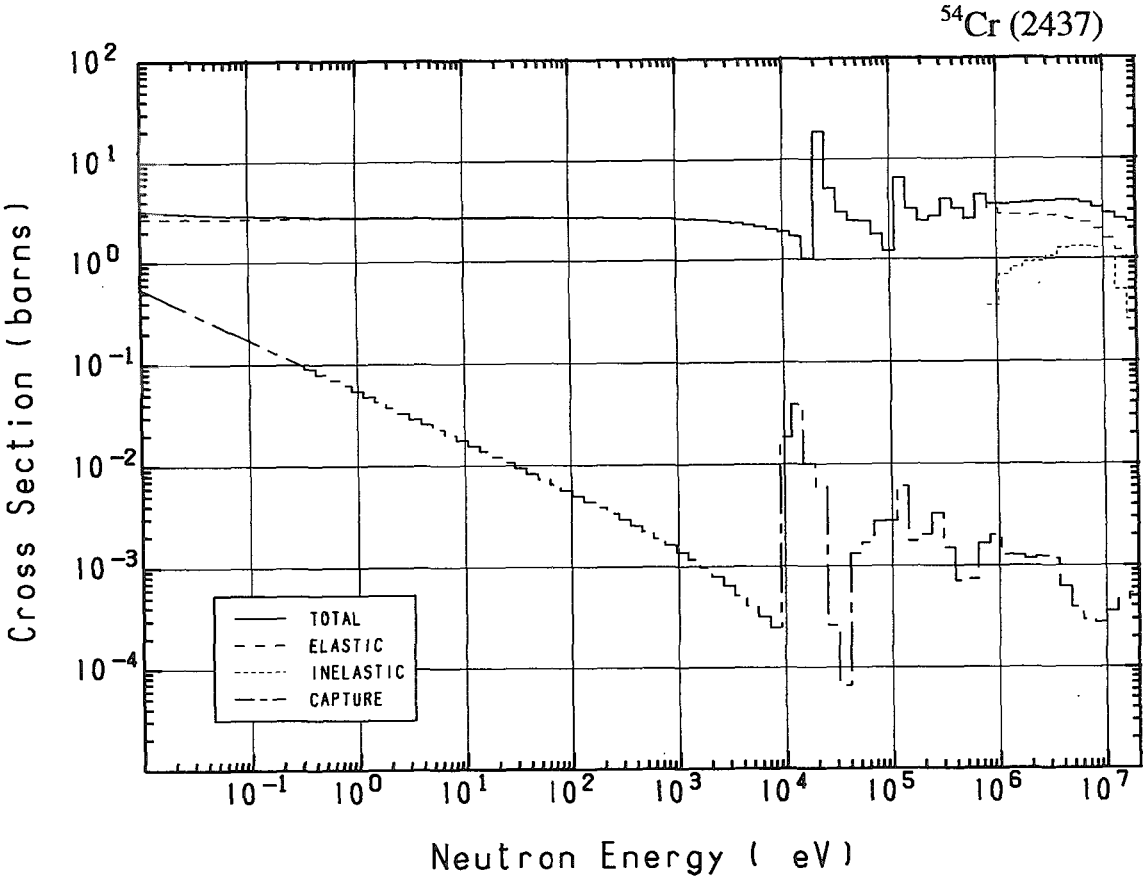

^{53}Cr (2434)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

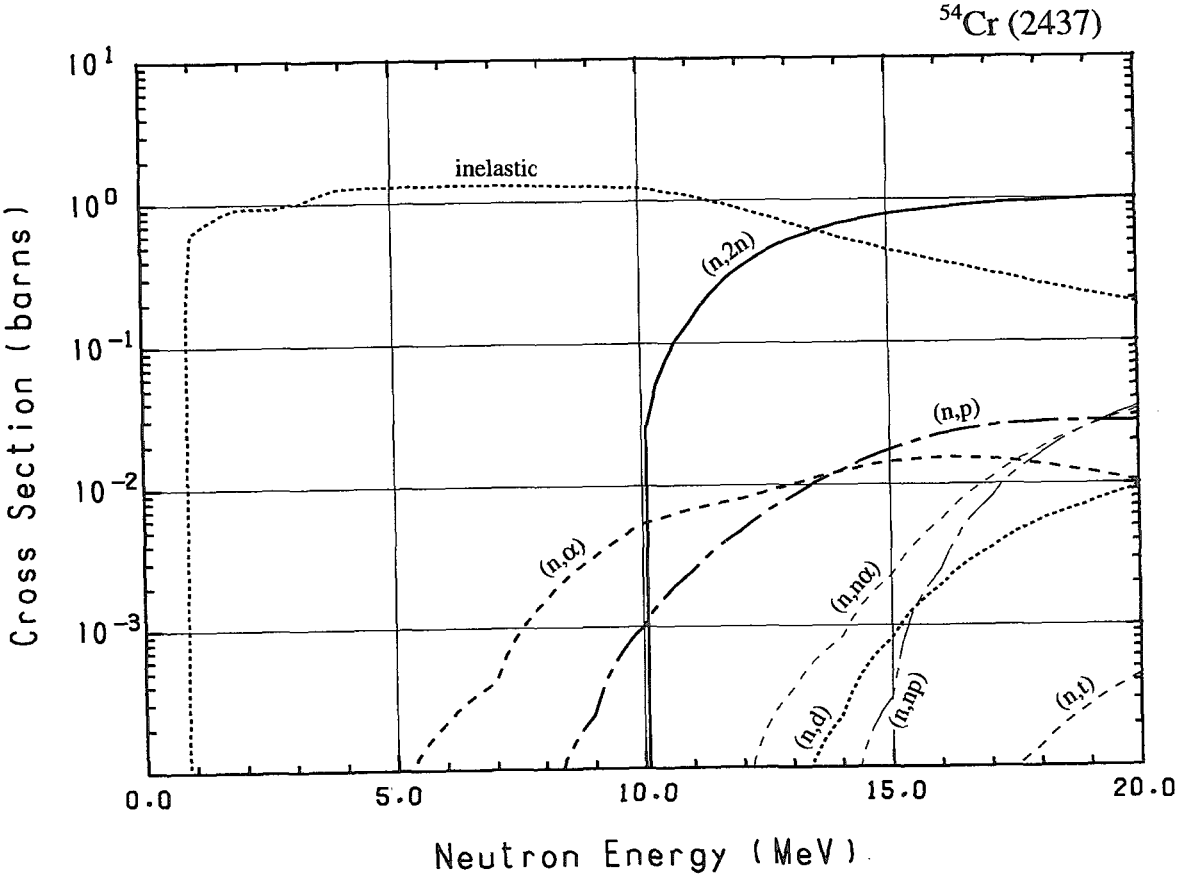

^{53}Cr (2434)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,α)
(n,p)
(n,np)
(n,d)
(n,nα)
(n,t)

24-Cr- 54 (MAT=2437)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.060	3.021	–	2.500	3.569
elastic	–	2.717	2.717	–	1.249	2.879
inelastic	850.5 keV	–	–	–	548.6×10^{-3}	687.4×10^{-3}
(n,2n)	9.902 MeV	–	–	–	676.1×10^{-3}	259.7×10^{-6}
(n,nα)	8.072 MeV	–	–	–	833.5×10^{-6}	270.6×10^{-9}
(n,np)	12.59 MeV	–	–	–	1.131×10^{-6}	108.5×10^{-9}
capture	–	342.6×10^{-3}	303.7×10^{-3}	178.3×10^{-3}	445.3×10^{-6}	1.294×10^{-3}
(n,p)	6.336 MeV	–	–	–	12.47×10^{-3}	6.136×10^{-6}
(n,d)	10.34 MeV	–	–	–	231.4×10^{-6}	75.87×10^{-9}
(n,t)	12.60 MeV	–	–	–	6.223×10^{-9}	896.4×10^{-12}
(n,He-3)	14.59 MeV	–	–	–	–	83.71×10^{-15}
(n,α)	1.575 MeV	–	–	–	12.36×10^{-3}	38.51×10^{-6}
(n,2p)	16.92 MeV	–	–	–	–	8.959×10^{-18}

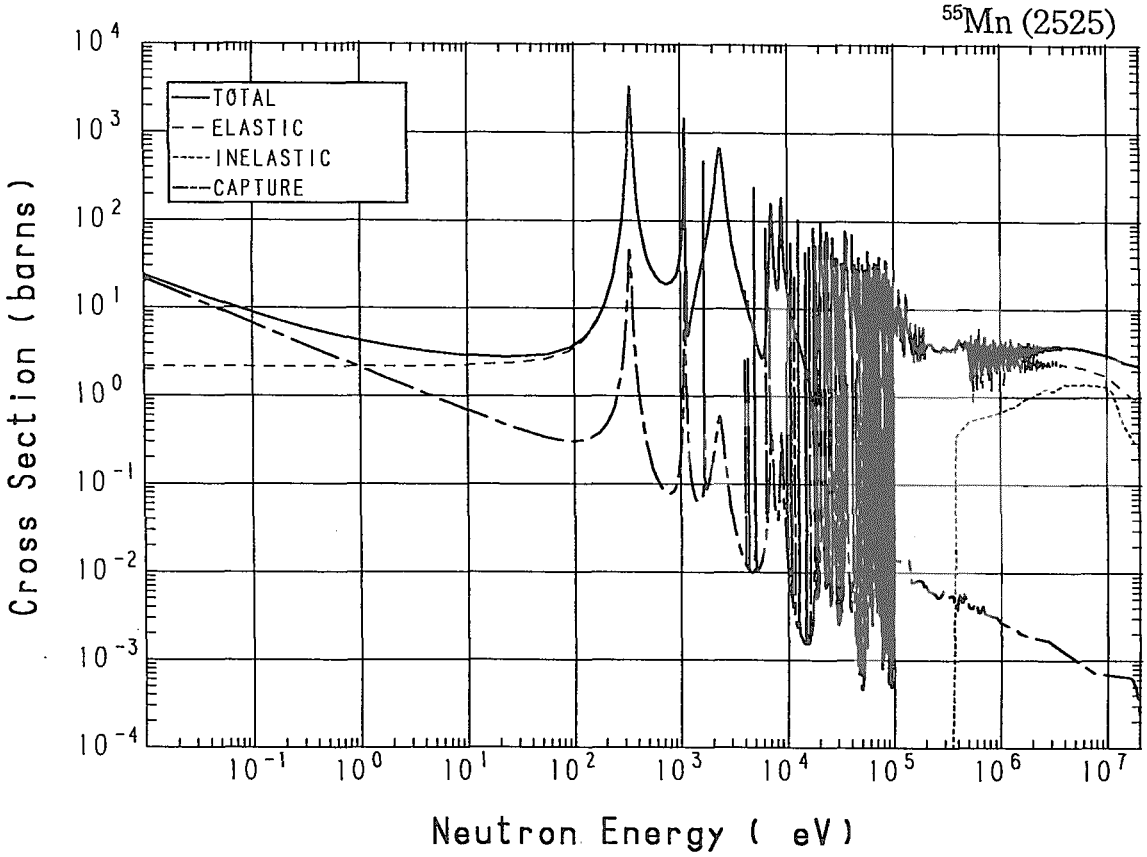


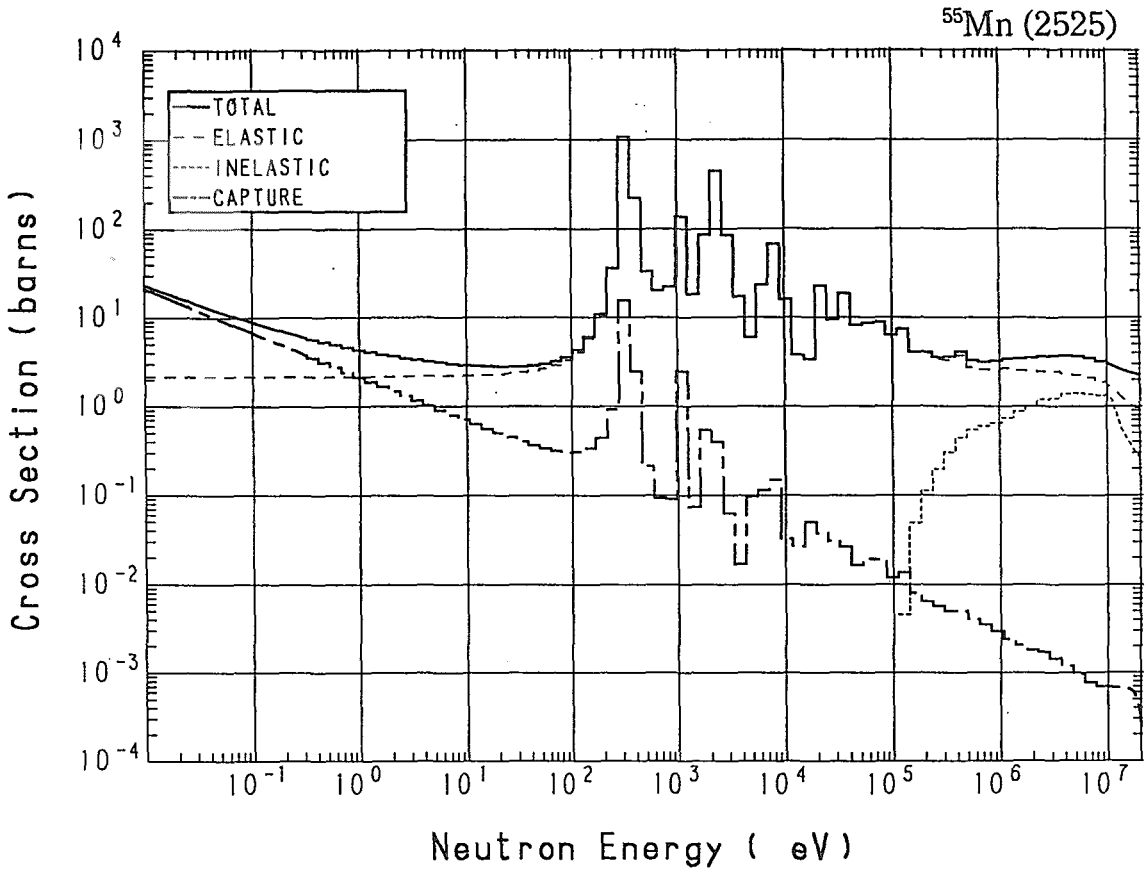

^{54}Cr (2437)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

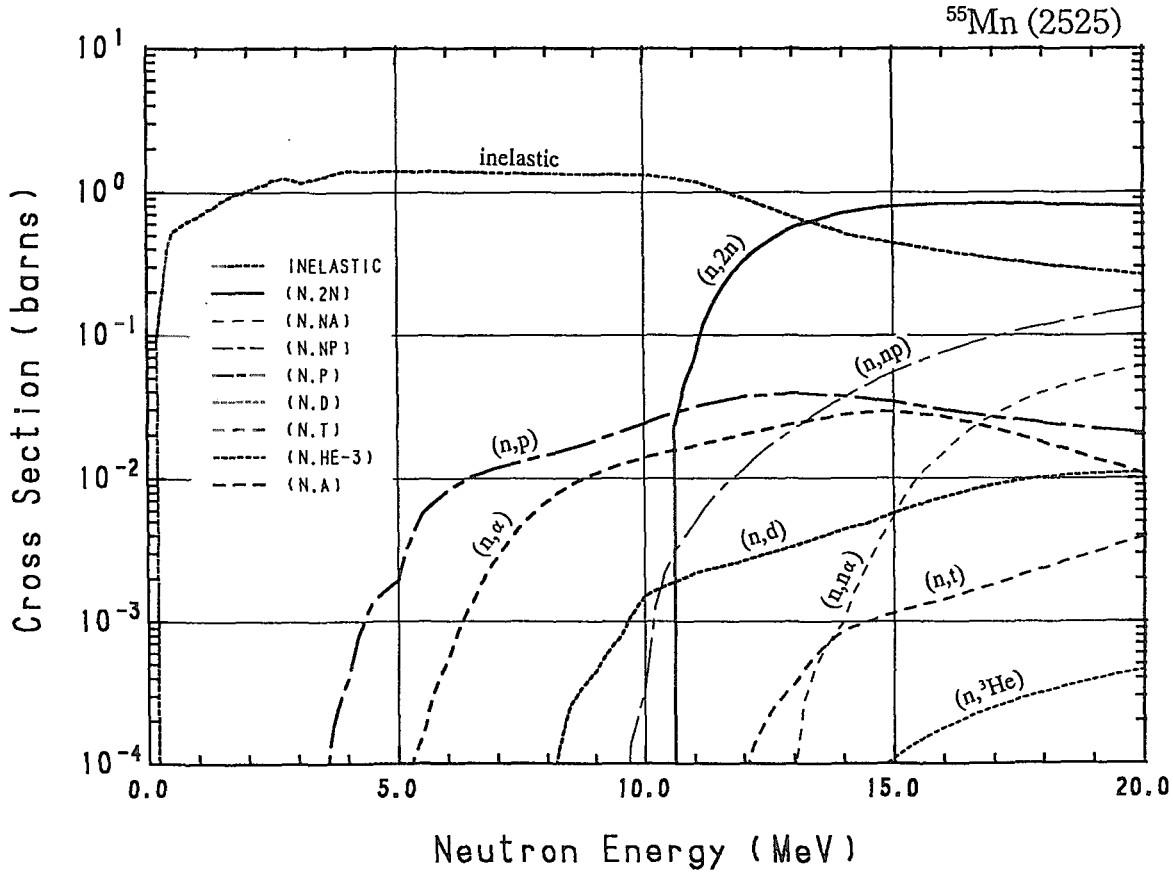

^{54}Cr (2437)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,np)
(n,t)

25-Mn- 55 (MAT=2525)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	15.58	14.06	–	2.567	3.671
elastic	–	2.167	2.167	–	1.214	2.783
inelastic	128.3 keV	–	–	–	525.7×10^{-3}	884.6×10^{-3}
(n,2n)	10.41 MeV	–	–	–	719.0×10^{-3}	211.6×10^{-6}
(n,nα)	8.082 MeV	–	–	–	1.007×10^{-3}	502.7×10^{-9}
(n,np)	8.216 MeV	–	–	–	36.58×10^{-3}	11.39×10^{-6}
capture	–	13.41	11.89	11.76	665.0×10^{-6}	2.898×10^{-3}
(n,p)	1.855 MeV	–	–	–	37.40×10^{-3}	578.1×10^{-6}
(n,d)	5.951 MeV	–	–	–	4.400×10^{-3}	4.928×10^{-6}
(n,t)	9.476 MeV	–	–	–	870.0×10^{-6}	135.7×10^{-9}
(n,He-3)	12.94 MeV	–	–	–	0.000	5.933×10^{-9}
(n,α)	635.8 keV	–	–	–	27.68×10^{-3}	126.8×10^{-6}

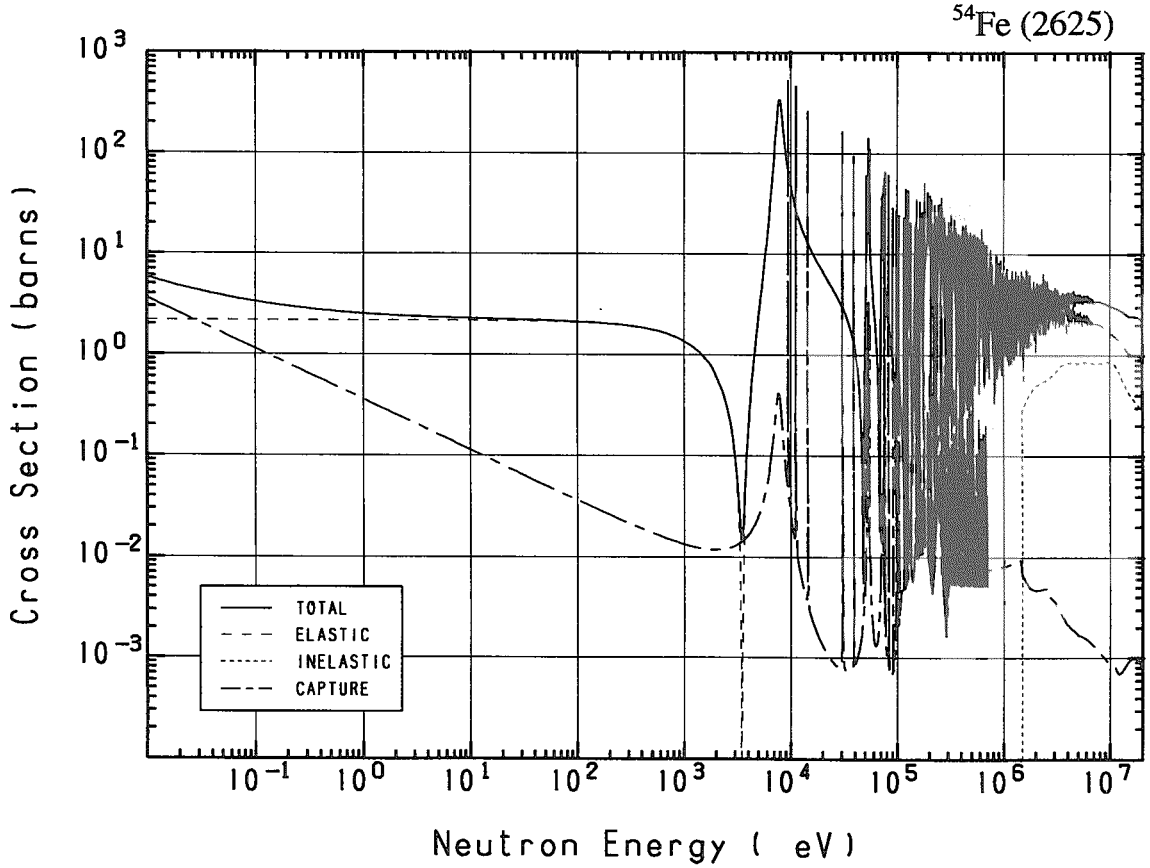


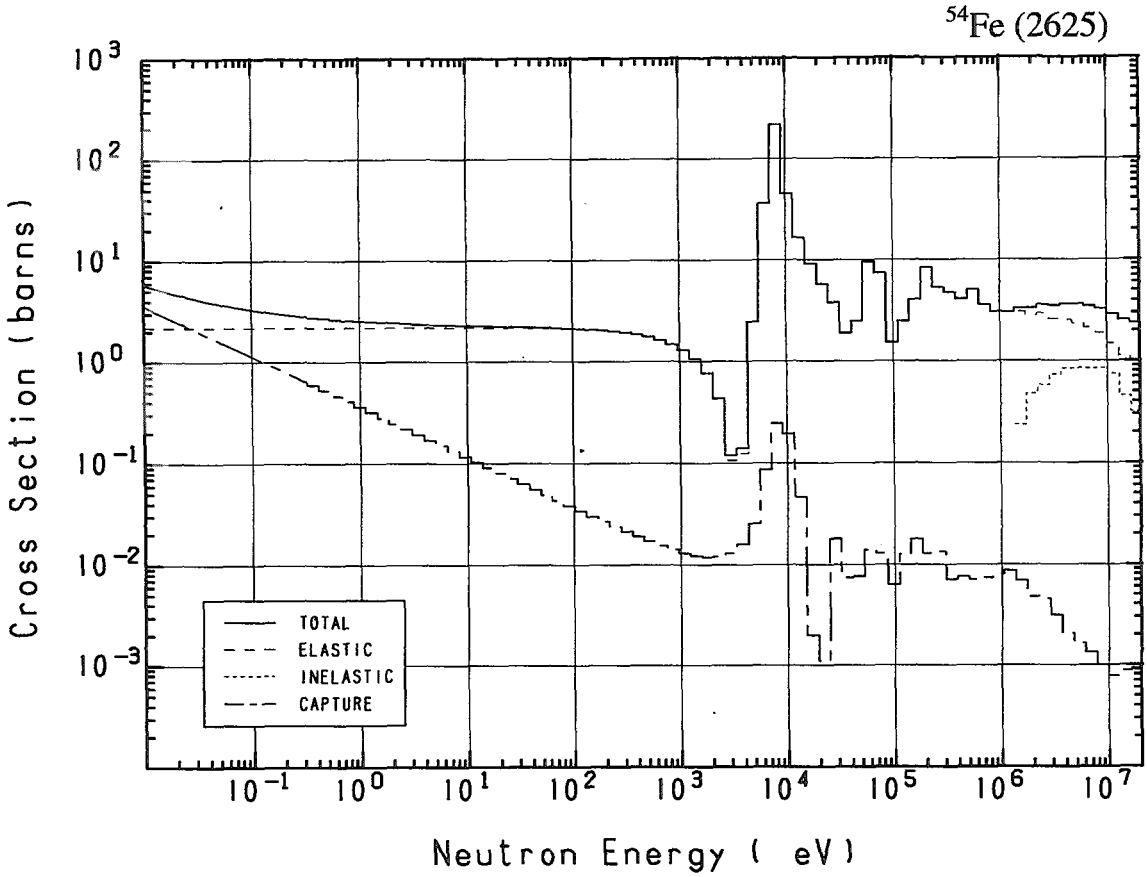

55Mn (2525)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

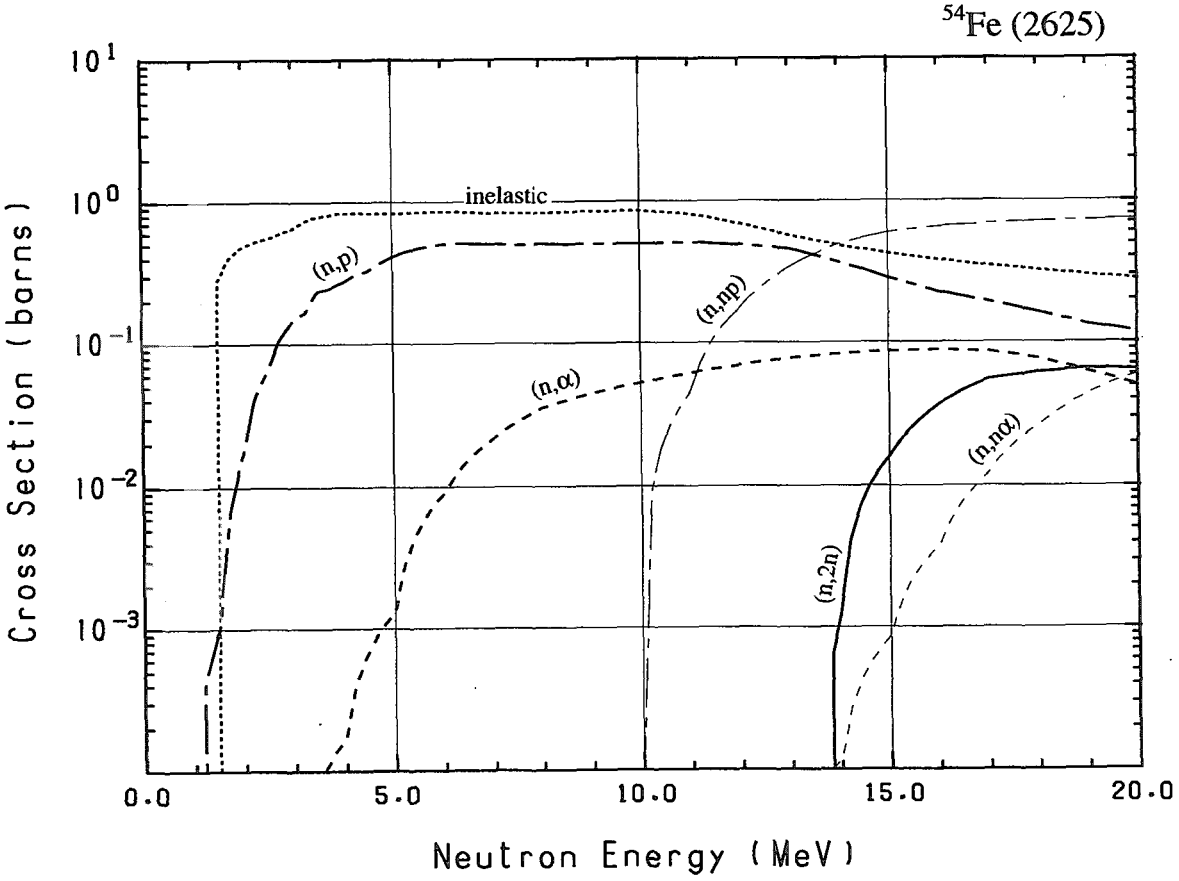

55Mn (2525)
inelastic
INELASTIC
(N,2N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,HE-3)
(N,A)
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)

26-Fe- 54 (MAT=2625)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.433	4.177	–	2.577	3.649
elastic	–	2.181	2.181	–	1.152	3.224
inelastic	1.435 MeV	–	–	–	481.5×10^{-3}	335.8×10^{-3}
(n,2n)	13.63 MeV	–	–	–	1.203×10^{-3}	1.032×10^{-6}
(n,nα)	8.578 MeV	–	–	–	120.8×10^{-6}	189.2×10^{-9}
(n,np)	9.020 MeV	–	–	–	490.6×10^{-3}	138.0×10^{-6}
capture	–	2.251	1.996	1.212	837.6×10^{-6}	6.078×10^{-3}
(n,p)	–	0.000	0.000	743.8×10^{-3}	367.6×10^{-3}	81.85×10^{-3}
(n,α)	–	123.8×10^{-21}	247.6×10^{-21}	68.03×10^{-3}	83.17×10^{-3}	864.7×10^{-6}

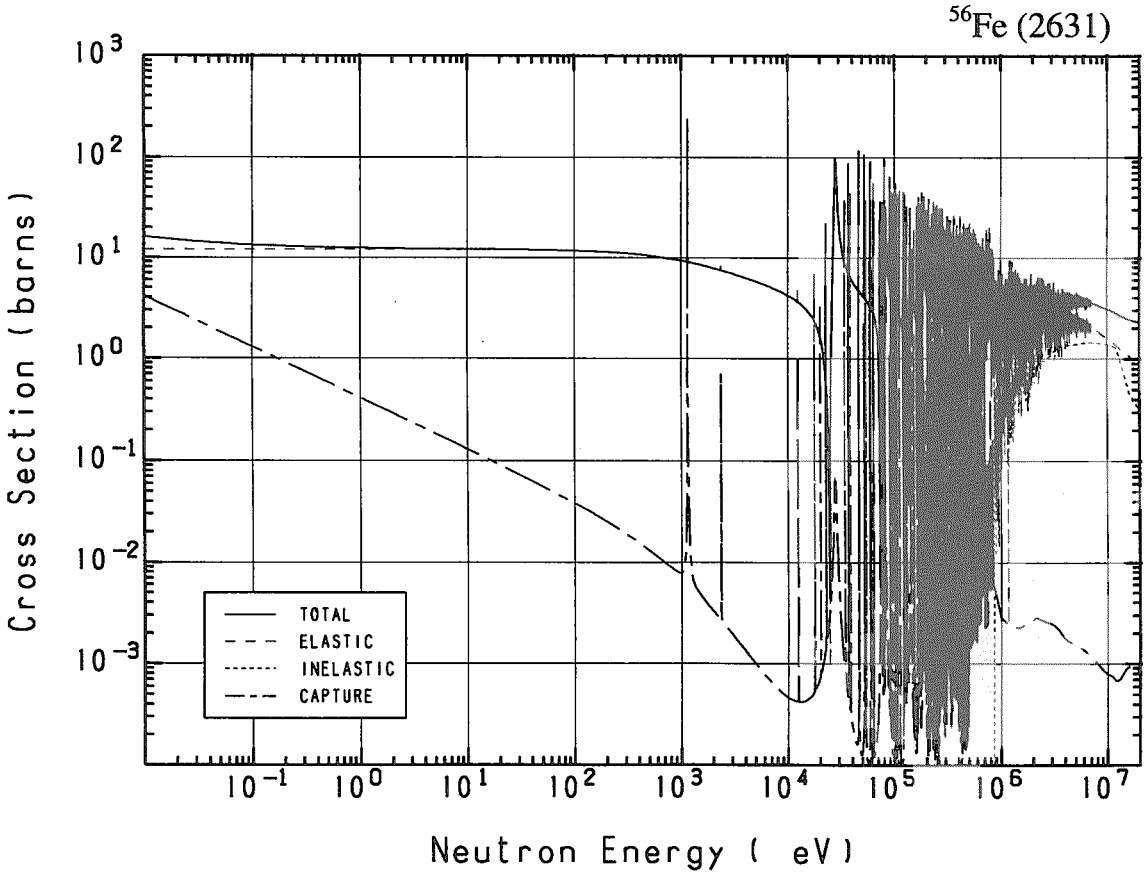


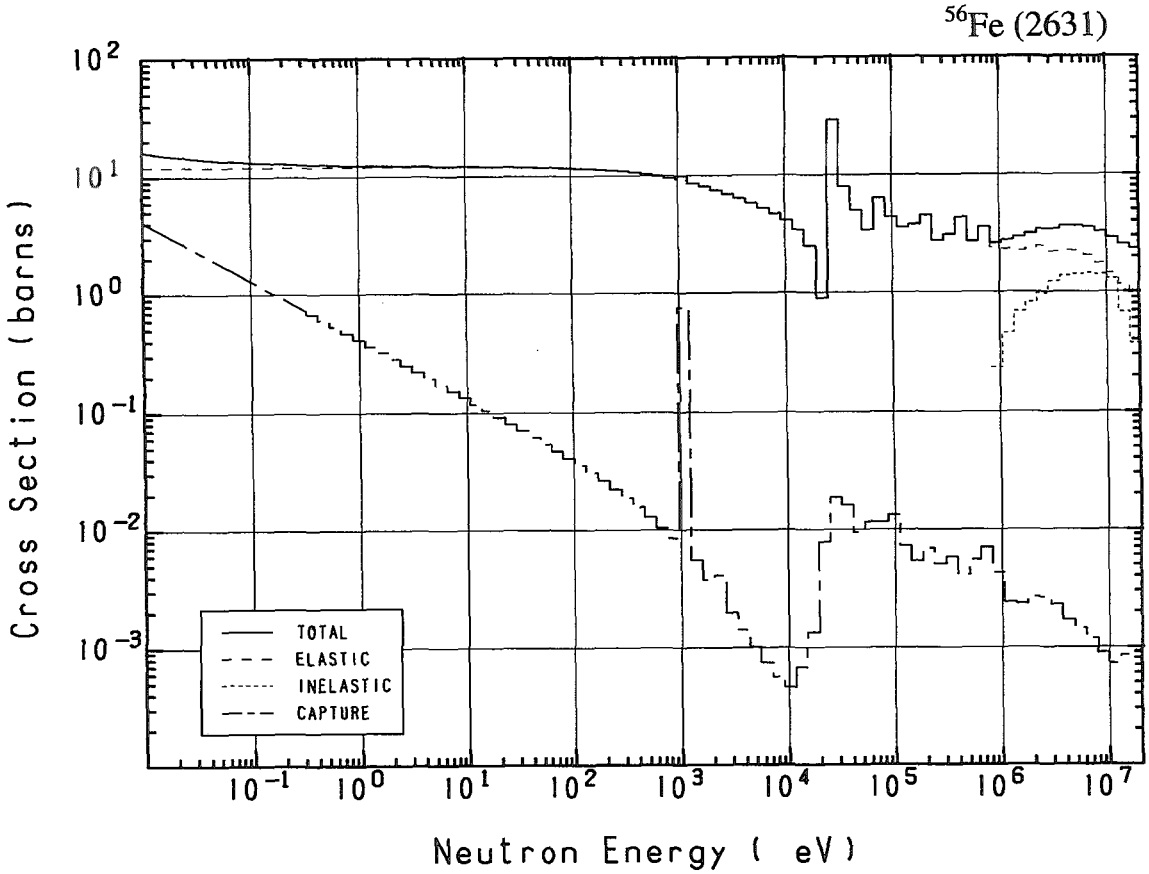

^{54}Fe (2625)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

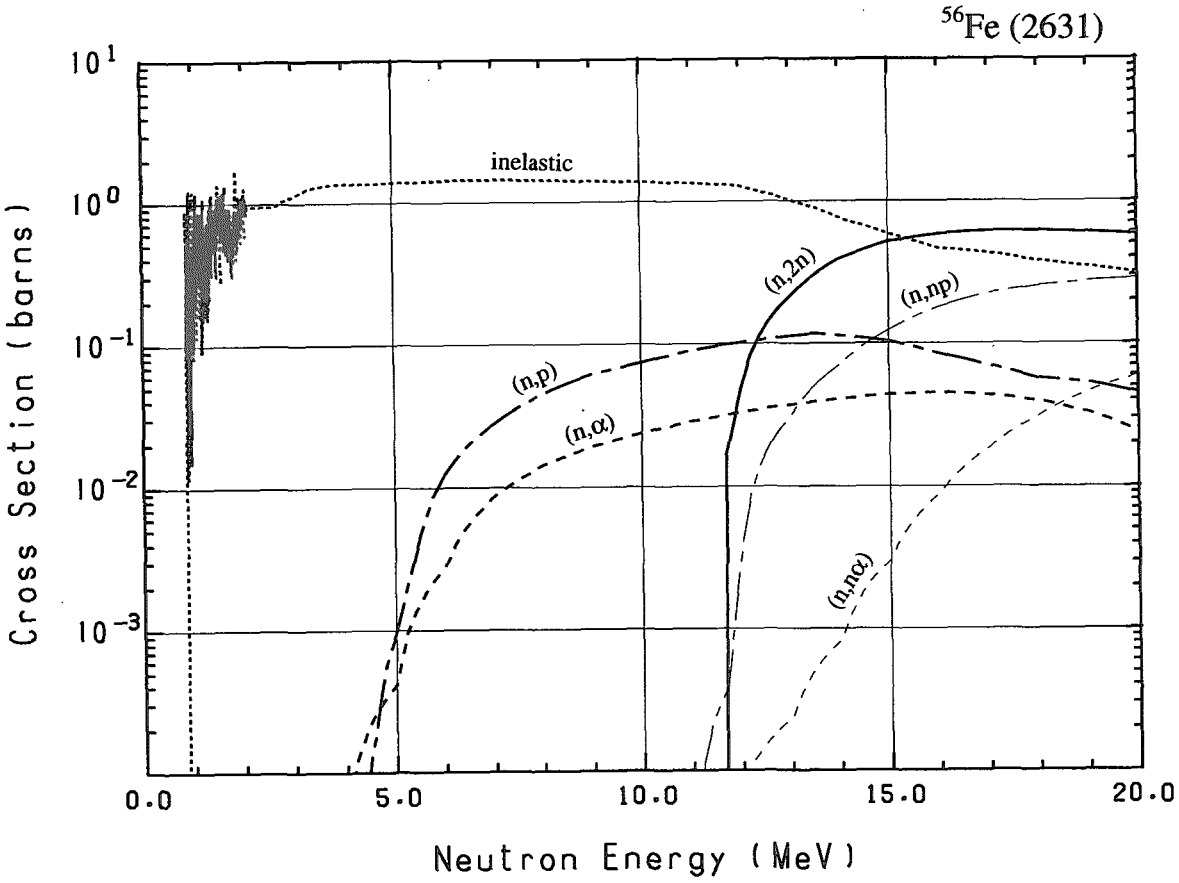

^{54}Fe (2625)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,p)
(n,α)
(n,np)
(n,nα)
(n,2n)

26-Fe- 56 (MAT=2631)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	14.67	14.38	–	2.589	3.249
elastic	–	12.08	12.08	–	1.203	2.581
inelastic	862.1 keV	–	–	–	769.3×10^{-3}	663.4×10^{-3}
(n,2n)	11.40 MeV	–	–	–	389.2×10^{-3}	64.57×10^{-6}
(n,nα)	7.757 MeV	–	–	–	840.1×10^{-6}	382.4×10^{-9}
(n,np)	10.37 MeV	–	–	–	70.94×10^{-3}	12.23×10^{-6}
capture	–	2.590	2.296	1.348	800.9×10^{-6}	3.391×10^{-3}
(n,p)	2.971 MeV	–	–	–	114.0×10^{-3}	1.057×10^{-3}
(n,α)	–	0.000	0.000	32.03×10^{-3}	40.90×10^{-3}	332.8×10^{-6}

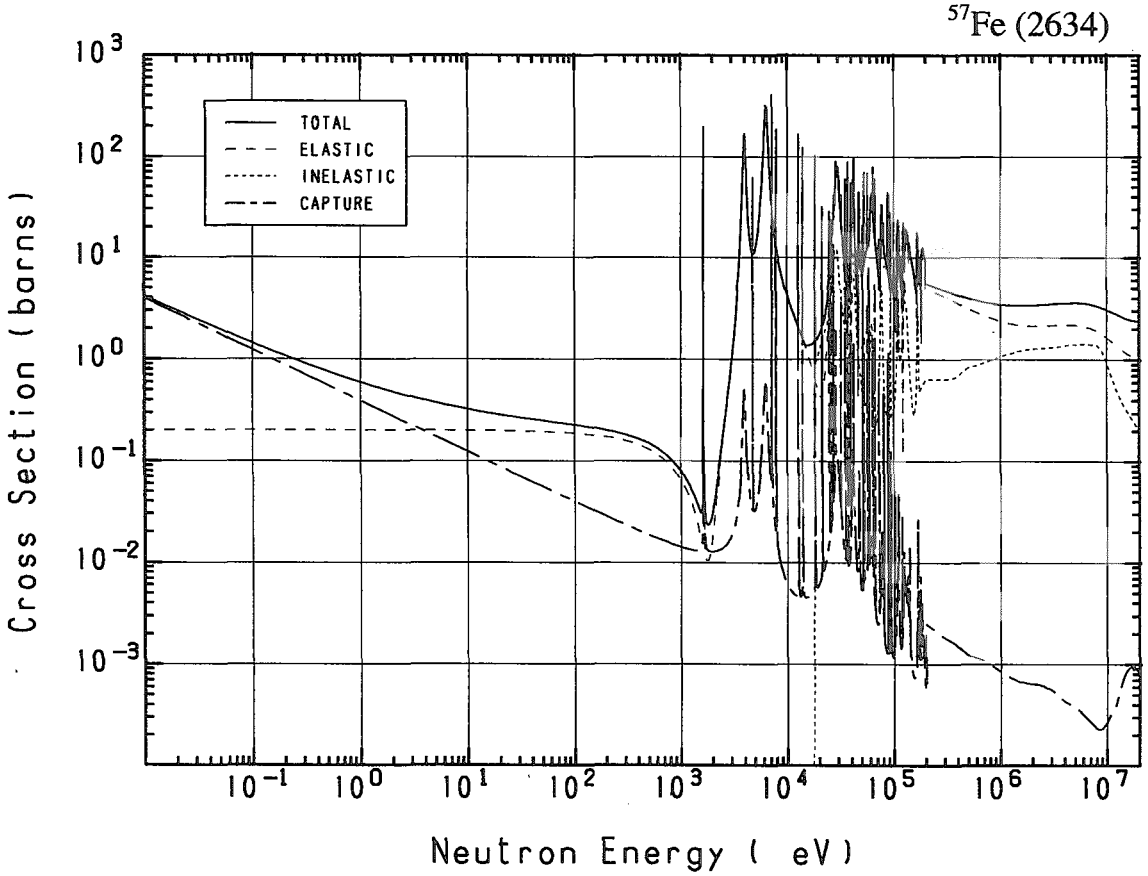


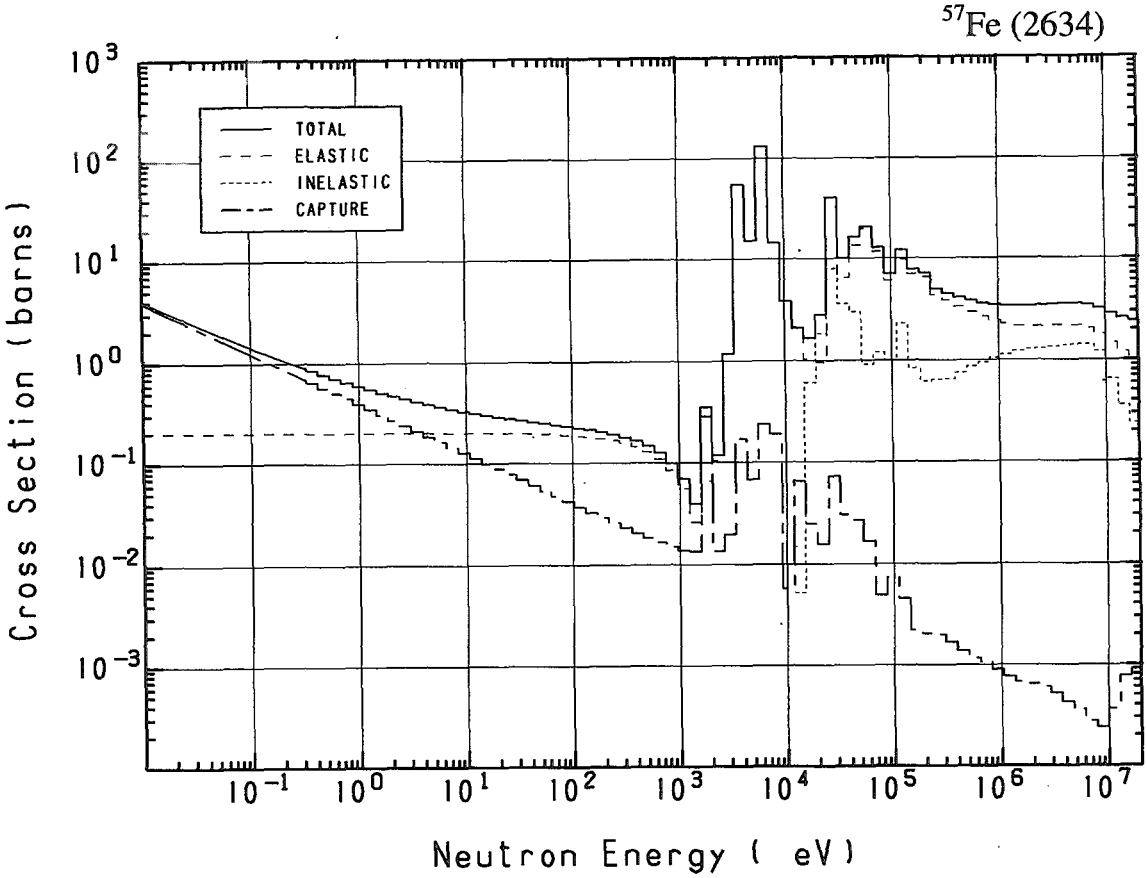

56Fe (2631)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

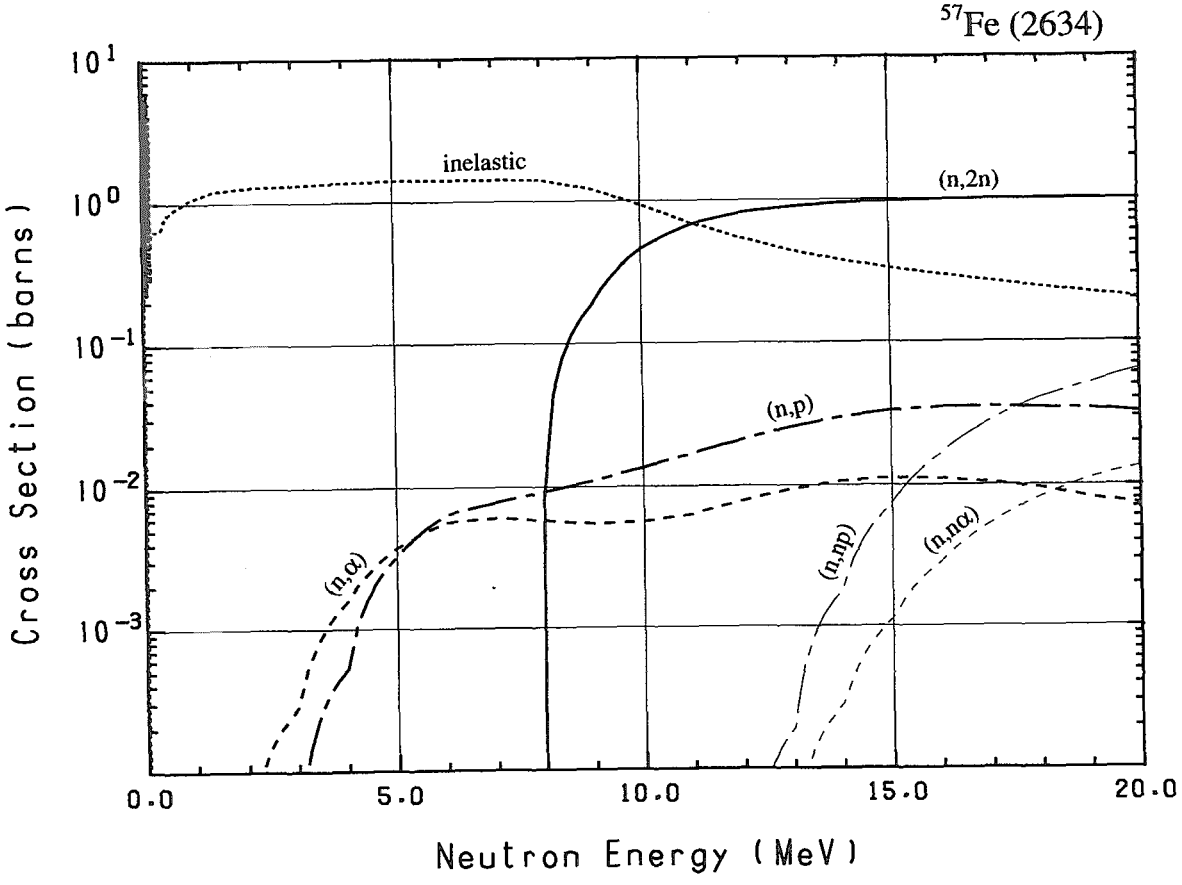

56Fe (2631)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,nα)

26-Fe- 57 (MAT=2634)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	2.664	2.390	–	2.611	3.879
elastic	–	202.1×10^{-3}	202.1×10^{-3}	–	1.247	2.698
inelastic	14.66 keV	–	–	–	377.5×10^{-3}	1.177
(n,2n)	7.782 MeV	–	–	–	943.4×10^{-3}	1.618×10^{-3}
(n,nα)	7.455 MeV	–	–	–	284.4×10^{-6}	109.6×10^{-9}
(n,np)	10.75 MeV	–	–	–	1.837×10^{-3}	612.7×10^{-9}
capture	–	2.462	2.183	1.424	708.1×10^{-6}	1.121×10^{-3}
(n,p)	1.813 MeV	–	–	–	29.74×10^{-3}	497.1×10^{-6}
(n,α)	–	0.000	0.000	10.90×10^{-3}	10.64×10^{-3}	563.1×10^{-6}

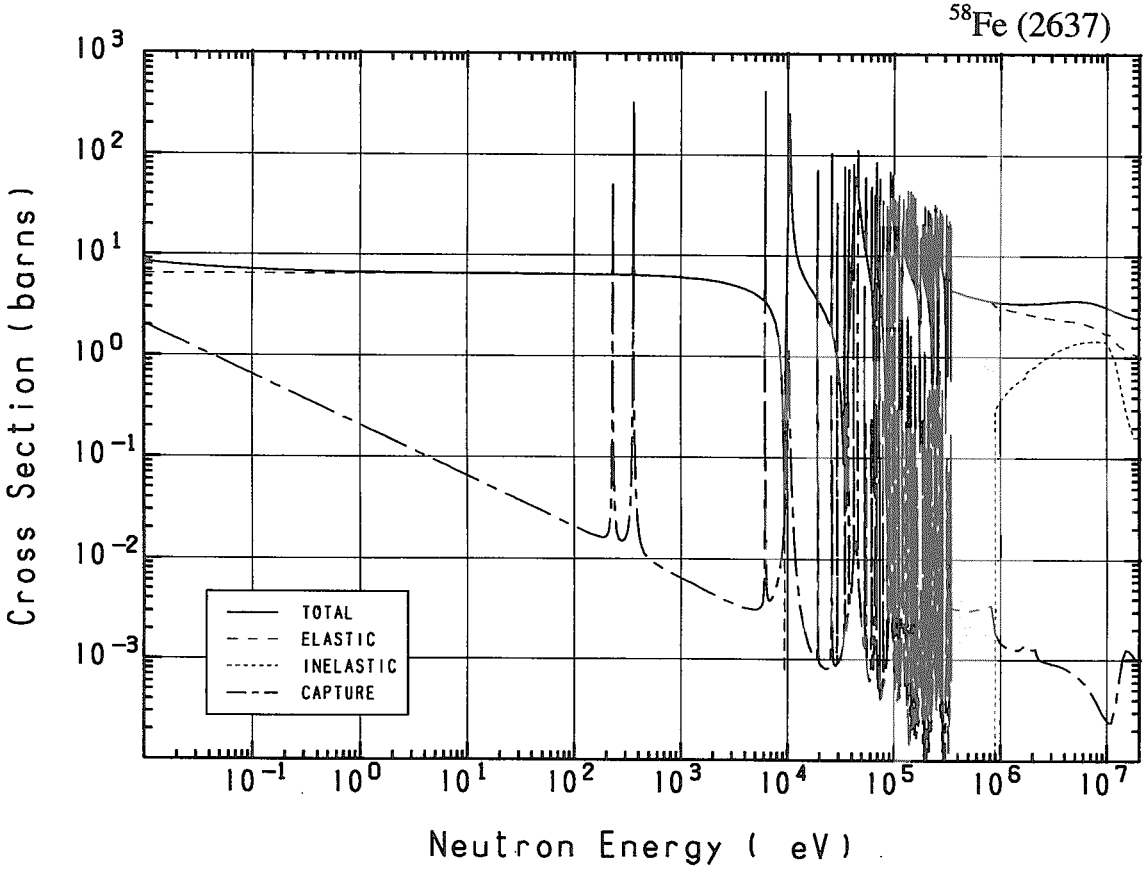


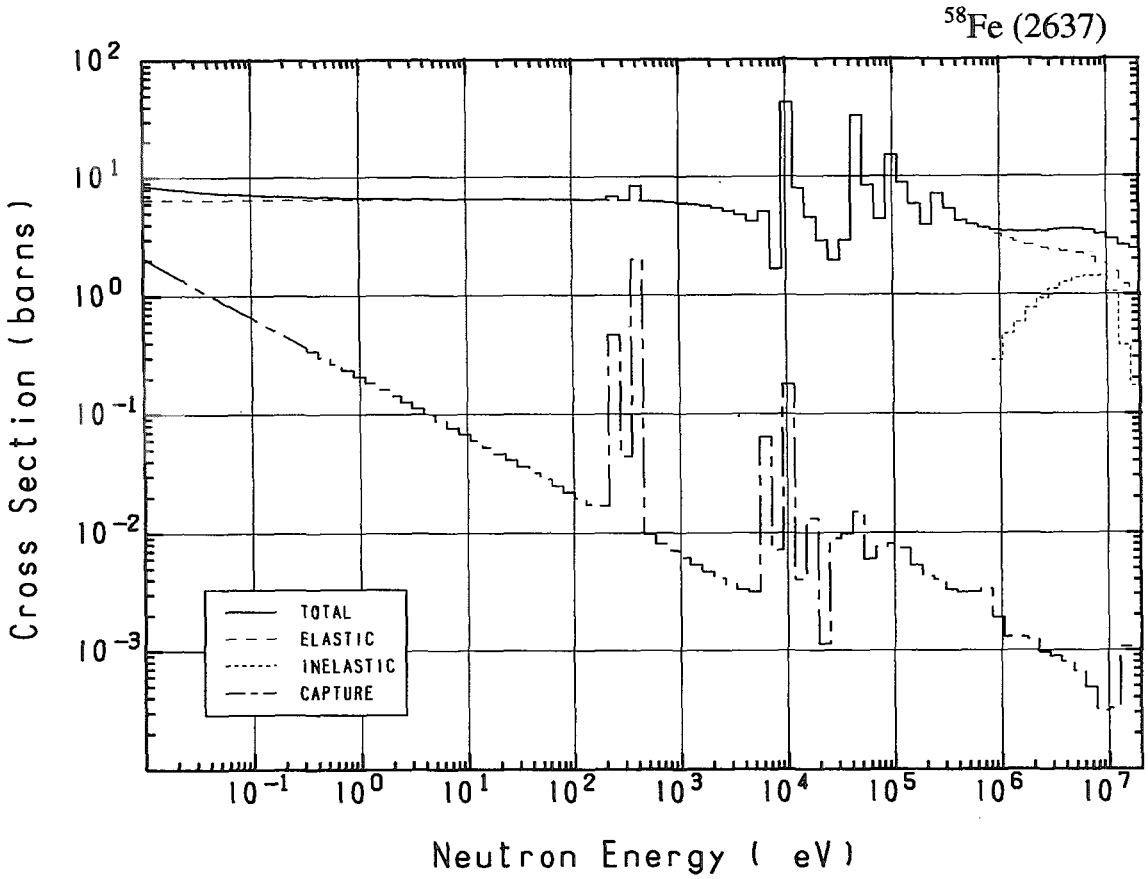

^{57}Fe (2634)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

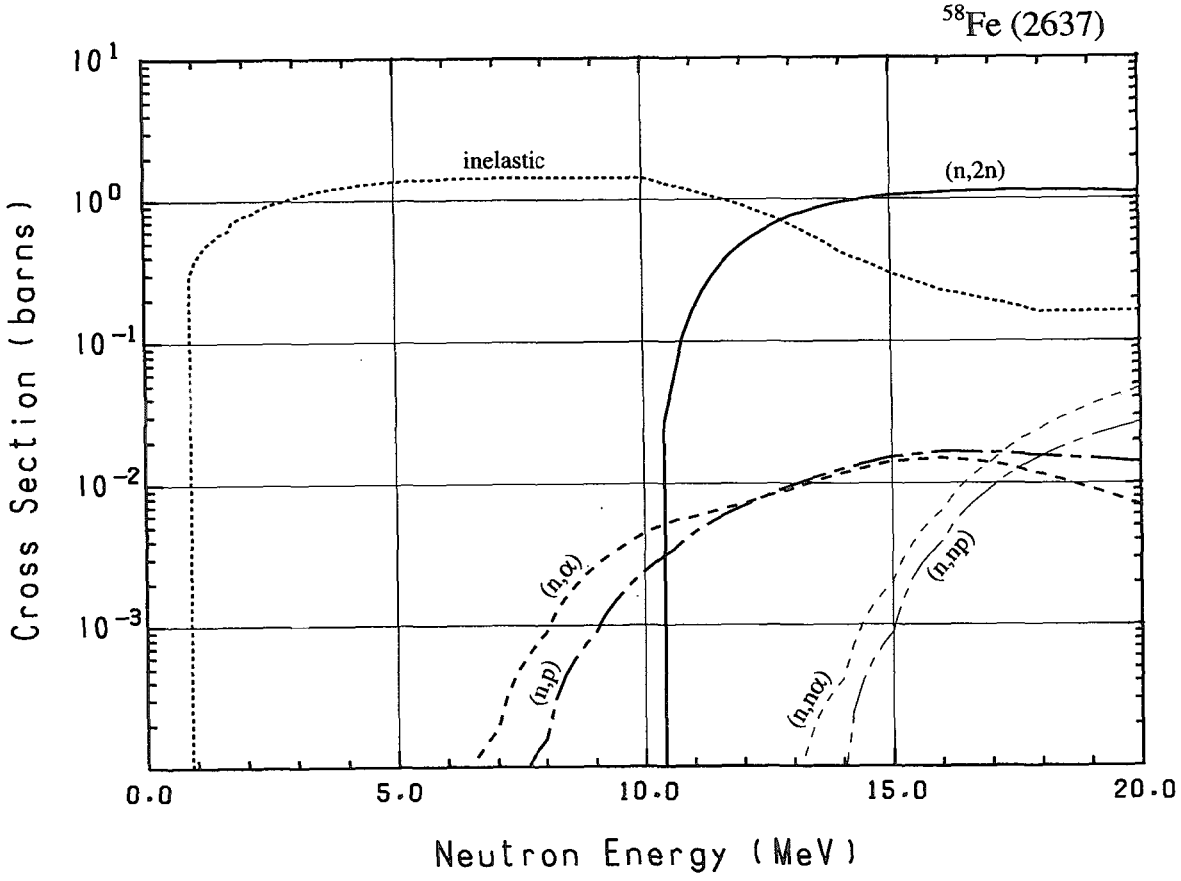

^{57}Fe (2634)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)

26-Fe- 58 (MAT=2637)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.770	7.623	–	2.660	3.828
elastic	–	6.470	6.470	–	1.267	3.200
inelastic	824.9 keV	–	–	–	419.8×10^{-3}	626.2×10^{-3}
(n,2n)	10.22 MeV	–	–	–	946.7×10^{-3}	321.8×10^{-6}
(n,nα)	7.781 MeV	–	–	–	411.3×10^{-6}	248.0×10^{-9}
(n,np)	12.03 MeV	–	–	–	80.31×10^{-6}	136.8×10^{-9}
capture	–	1.300	1.153	1.358	1.025×10^{-3}	1.829×10^{-3}
(n,p)	5.405 MeV	–	–	–	12.62×10^{-3}	11.21×10^{-6}
(n,α)	1.411 MeV	–	–	–	11.74×10^{-3}	23.91×10^{-6}

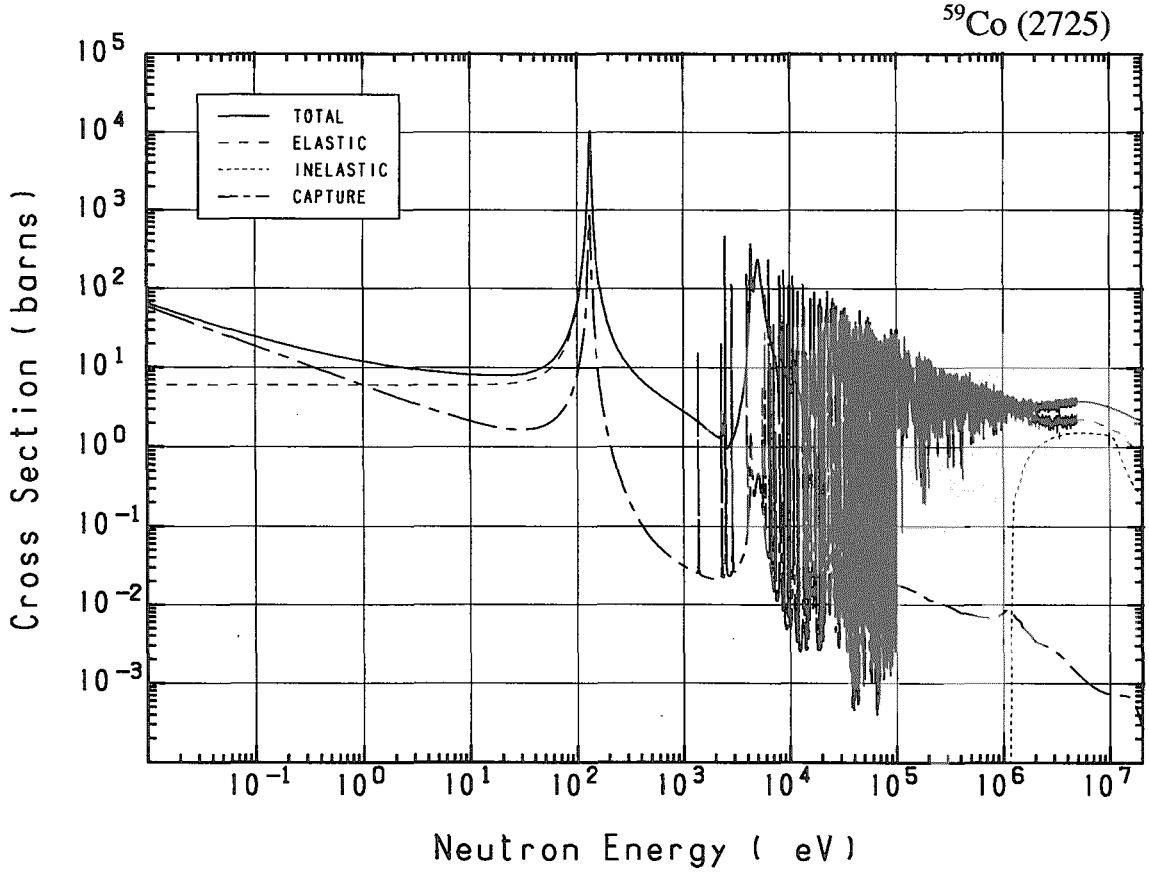


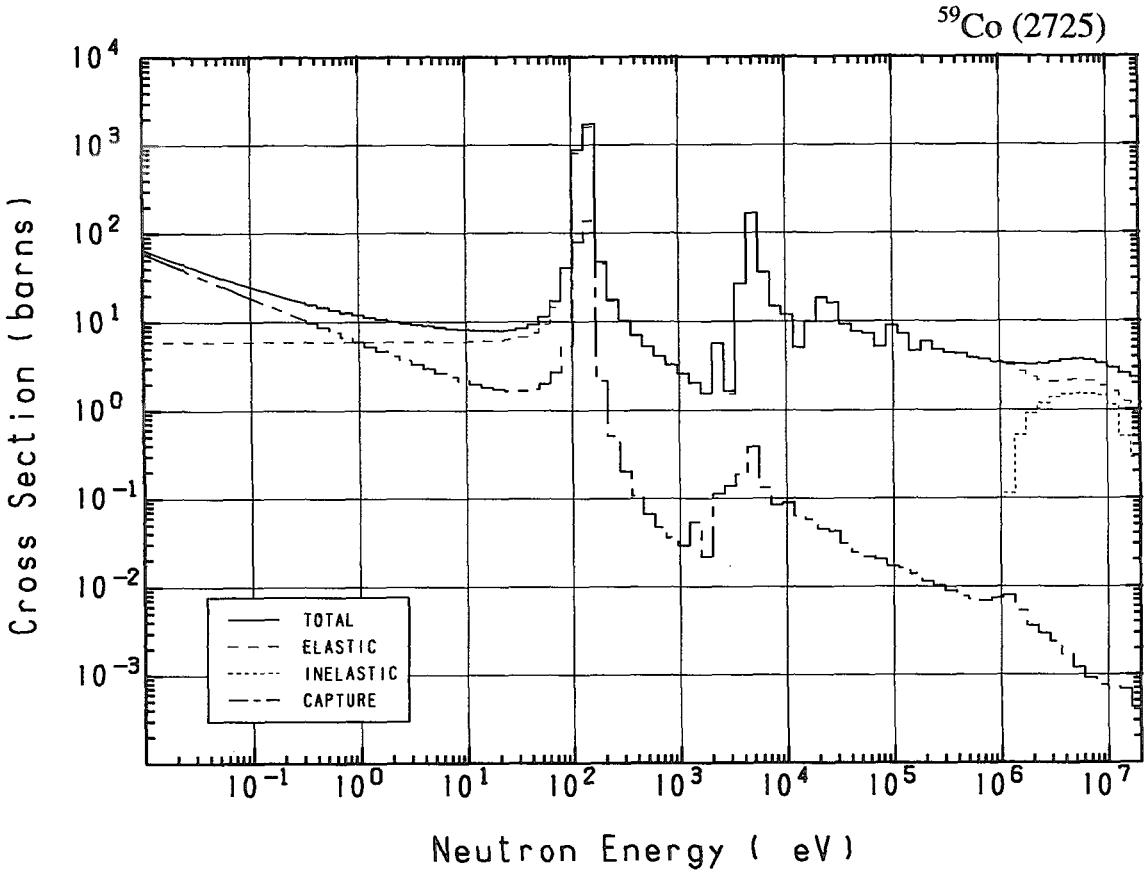

58Fe (2637)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

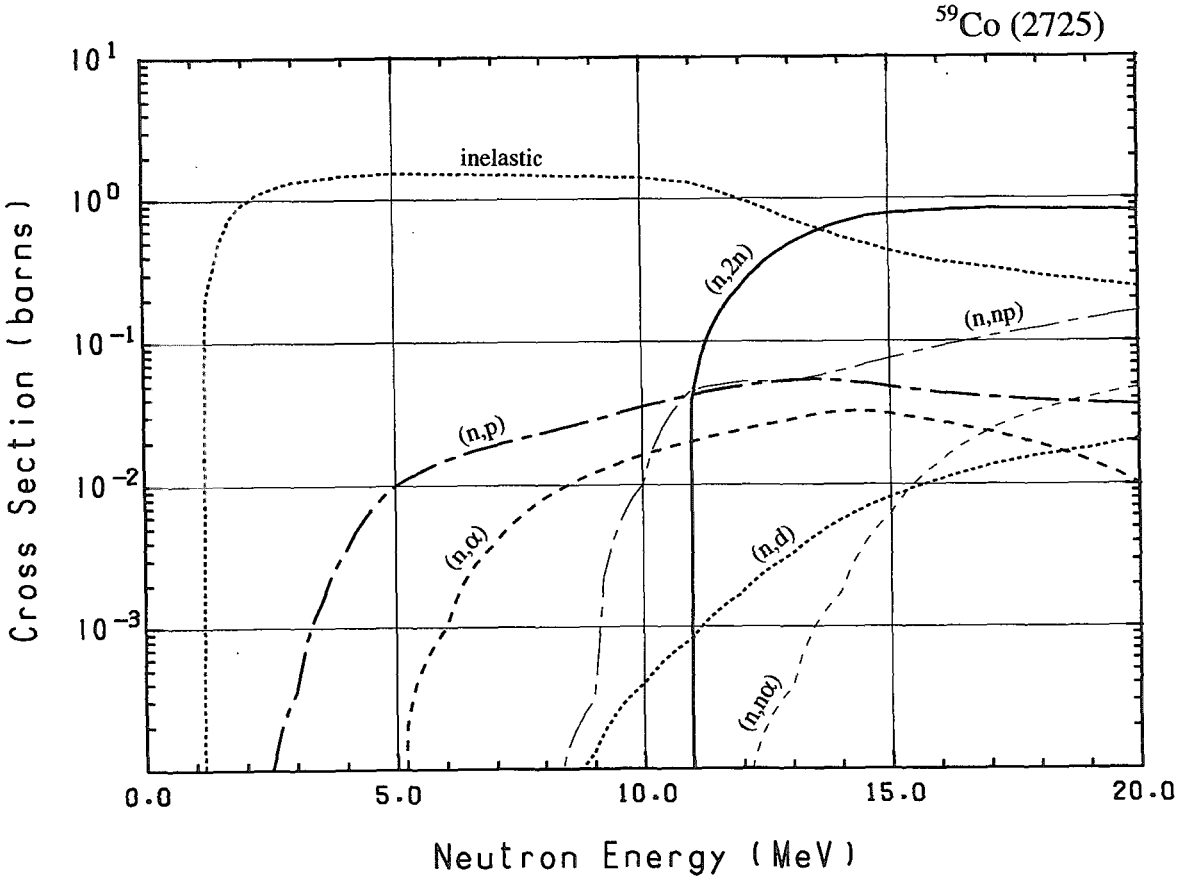

58Fe (2637)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,α)
(n,p)
(n,nα)
(n,np)

27-Co- 59 (MAT=2725)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	43.22	39.00	–	2.699	3.711
elastic	–	6.018	6.018	–	1.335	3.048
inelastic	1.118 MeV	–	–	–	542.3×10^{-3}	655.3×10^{-3}
(n,2n)	10.63 MeV	–	–	–	666.0×10^{-3}	169.4×10^{-6}
(n,nα)	7.069 MeV	–	–	–	1.765×10^{-3}	558.8×10^{-9}
(n,np)	7.496 MeV	–	–	–	61.93×10^{-3}	56.52×10^{-6}
capture	–	37.20	32.98	75.83	695.7×10^{-6}	5.575×10^{-3}
(n,p)	796.0 keV	–	–	–	53.00×10^{-3}	1.484×10^{-3}
(n,d)	5.233 MeV	–	–	–	5.673×10^{-3}	2.480×10^{-6}
(n,α)	–	0.000	0.000	20.24×10^{-3}	32.20×10^{-3}	165.1×10^{-6}

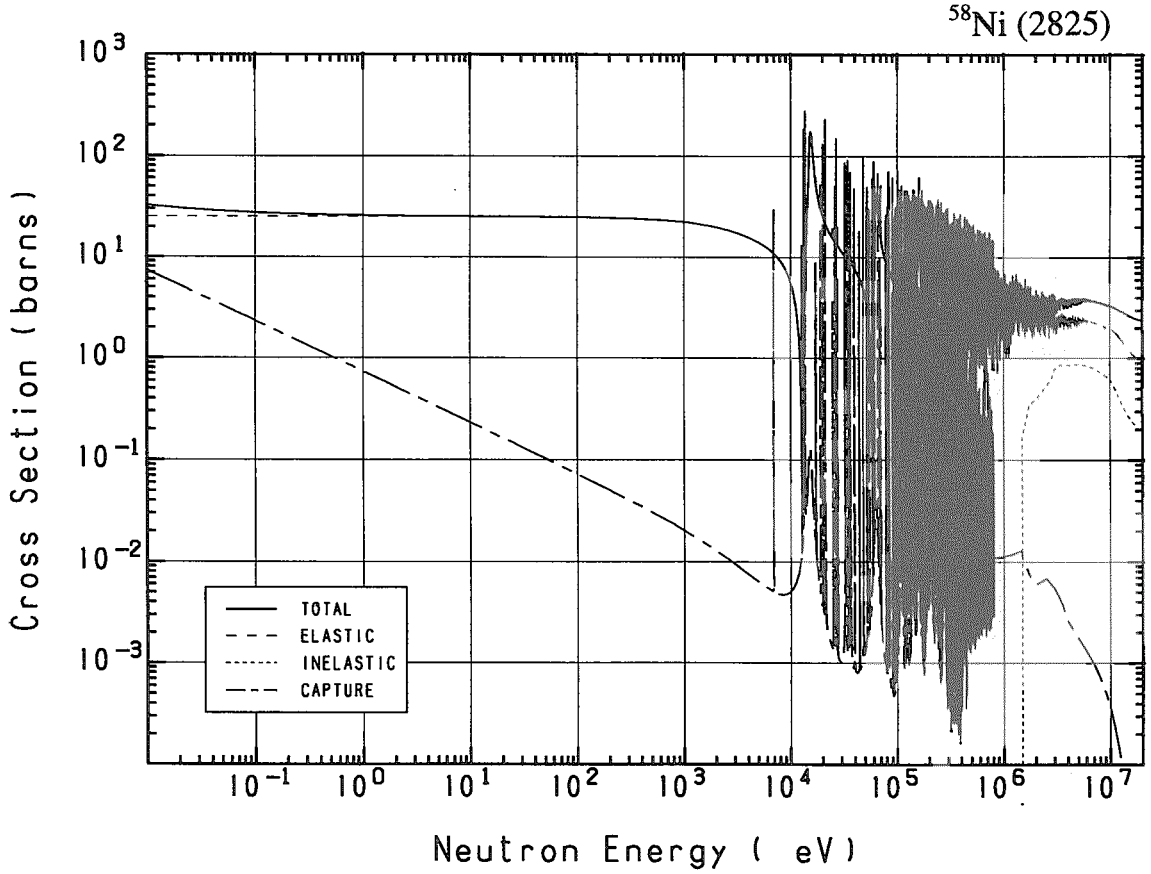


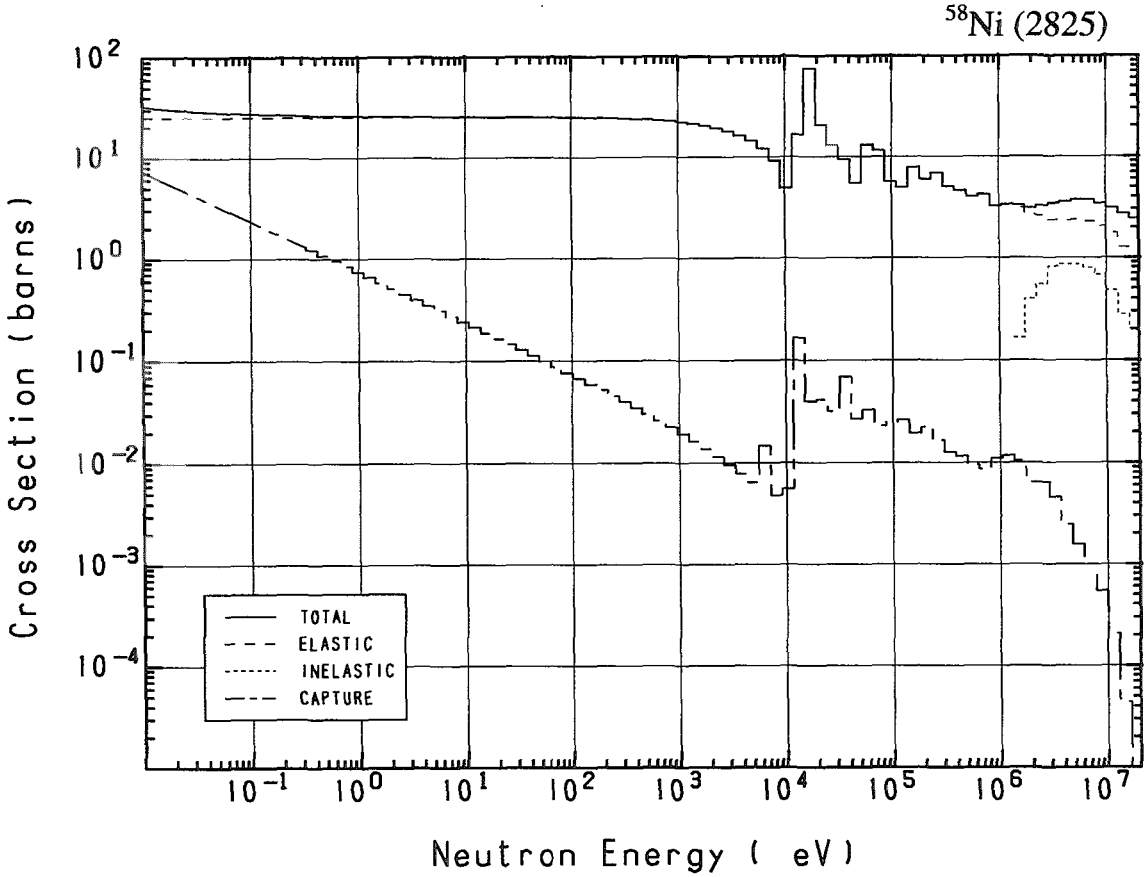

59Co (2725)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

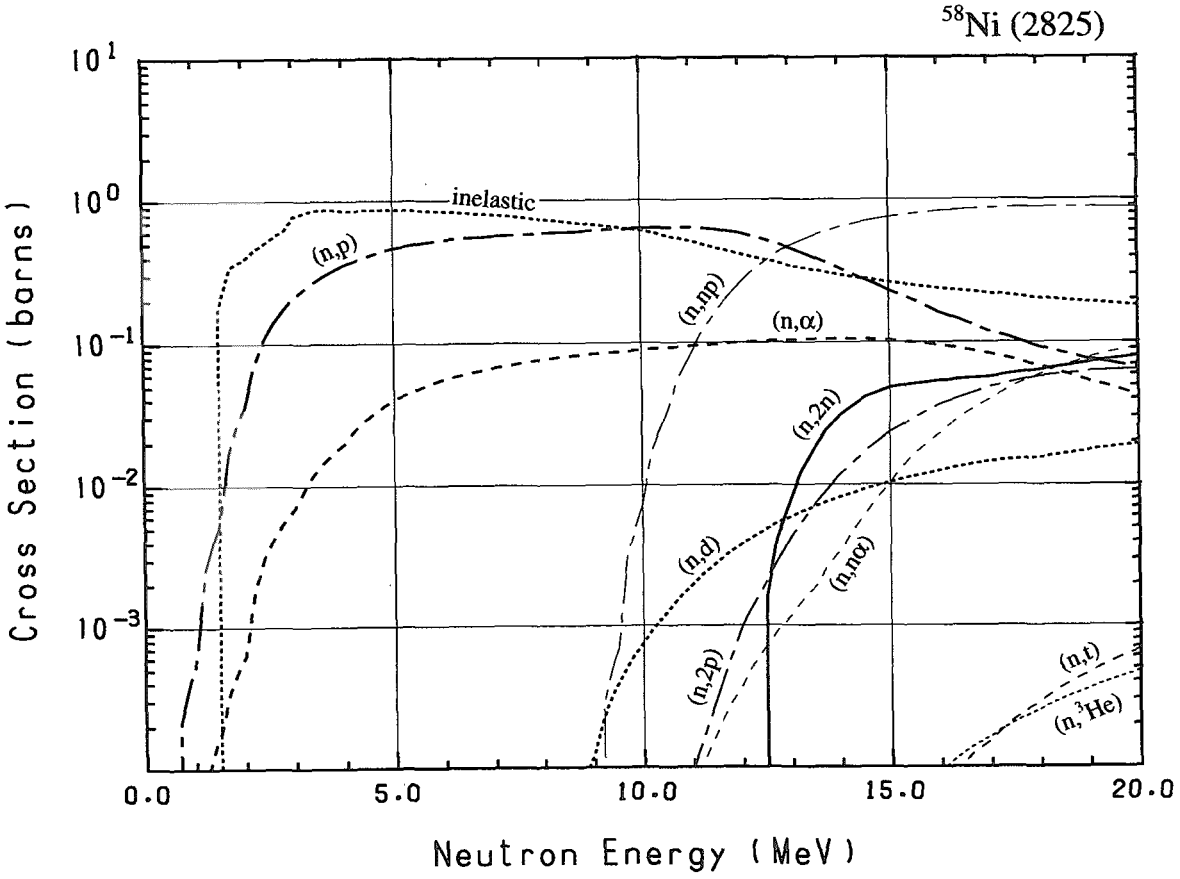

59Co (2725)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)

28-Ni- 58 (MAT=2825)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	29.42	28.90	–	2.761	3.661
elastic	–	24.80	24.80	–	1.339	3.212
inelastic	1.480 MeV	–	–	–	296.6×10^{-3}	324.8×10^{-3}
(n,2n)	12.41 MeV	–	–	–	30.65×10^{-3}	3.743×10^{-6}
(n,nα)	6.509 MeV	–	–	–	3.477×10^{-3}	1.066×10^{-6}
(n,np)	8.313 MeV	–	–	–	635.6×10^{-3}	201.4×10^{-6}
capture	–	4.620	4.096	2.213	53.98×10^{-6}	8.700×10^{-3}
(n,p)	–	0.000	0.000	856.8×10^{-3}	329.8×10^{-3}	107.2×10^{-3}
(n,d)	6.050 MeV	–	–	–	8.181×10^{-3}	4.140×10^{-6}
(n,t)	11.26 MeV	–	–	–	1.635×10^{-6}	2.554×10^{-9}
(n,He-3)	6.593 MeV	–	–	–	25.02×10^{-6}	5.675×10^{-9}
(n,α)	–	0.000	0.000	121.1×10^{-3}	105.8×10^{-3}	6.977×10^{-3}
(n,2p)	6.671 MeV	–	–	–	11.80×10^{-3}	2.175×10^{-6}

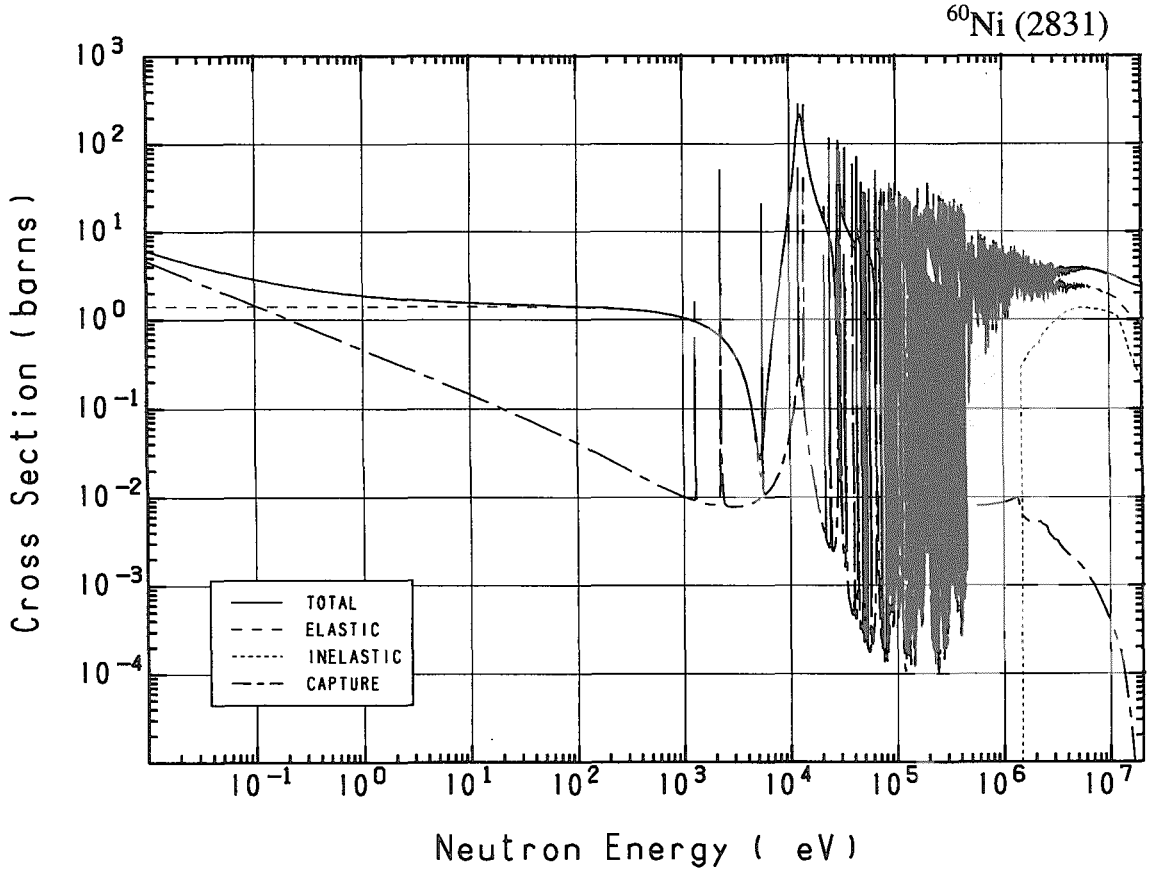


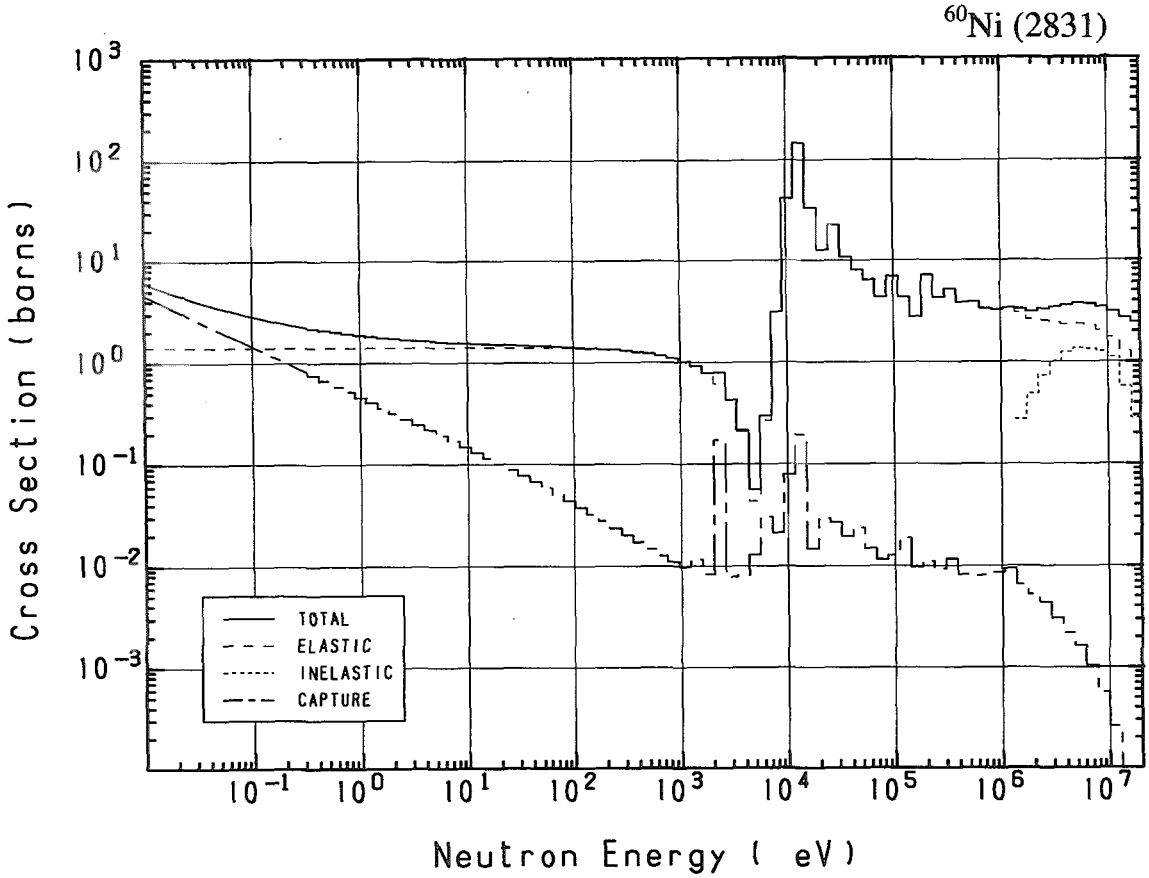

^{58}Ni (2825)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

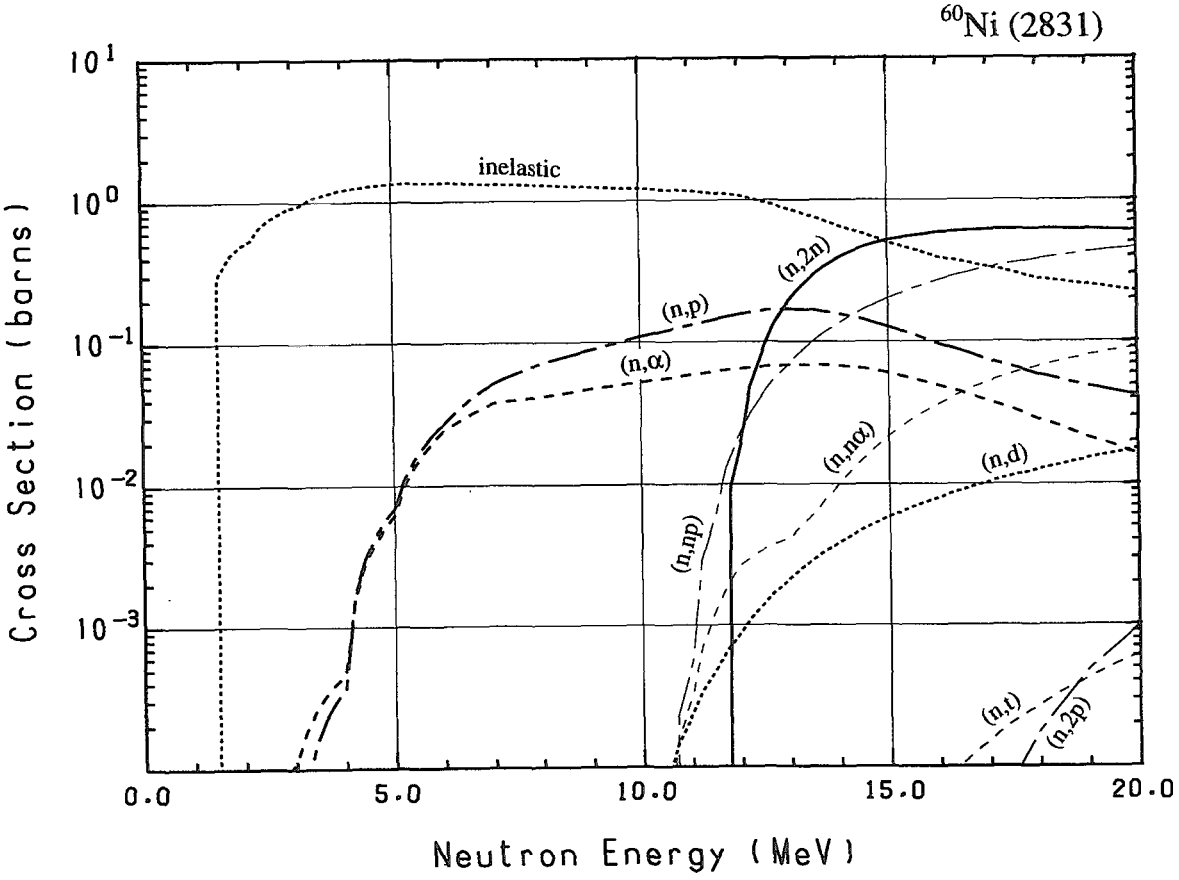

^{58}Ni (2825)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,p)
(n,np)
(n,α)
(n,2n)
(n,d)
(n,nα)
(n,2p)
(n,t)
(n,^{3}He)

28-Ni- 60 (MAT=2831)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.316	3.987	–	2.761	3.611
elastic	–	1.416	1.416	–	1.342	3.150
inelastic	1.355 MeV	–	–	–	657.0×10^{-3}	450.8×10^{-3}
(n,2n)	11.58 MeV	–	–	–	388.1×10^{-3}	57.86×10^{-6}
(n,nα)	6.397 MeV	–	–	–	9.980×10^{-3}	2.649×10^{-6}
(n,np)	9.694 MeV	–	–	–	134.5×10^{-3}	25.90×10^{-6}
capture	–	2.900	2.571	1.462	69.65×10^{-6}	6.359×10^{-3}
(n,p)	2.076 MeV	–	–	–	157.7×10^{-3}	2.202×10^{-3}
(n,d)	7.431 MeV	–	–	–	3.878×10^{-3}	942.4×10^{-9}
(n,t)	11.70 MeV	–	–	–	646.7×10^{-9}	2.302×10^{-9}
(n,He-3)	9.333 MeV	–	–	–	89.13×10^{-9}	168.5×10^{-12}
(n,α)	–	0.000	0.000	60.40×10^{-3}	68.26×10^{-3}	1.623×10^{-3}
(n,2p)	10.49 MeV	–	–	–	0.000	933.8×10^{-12}

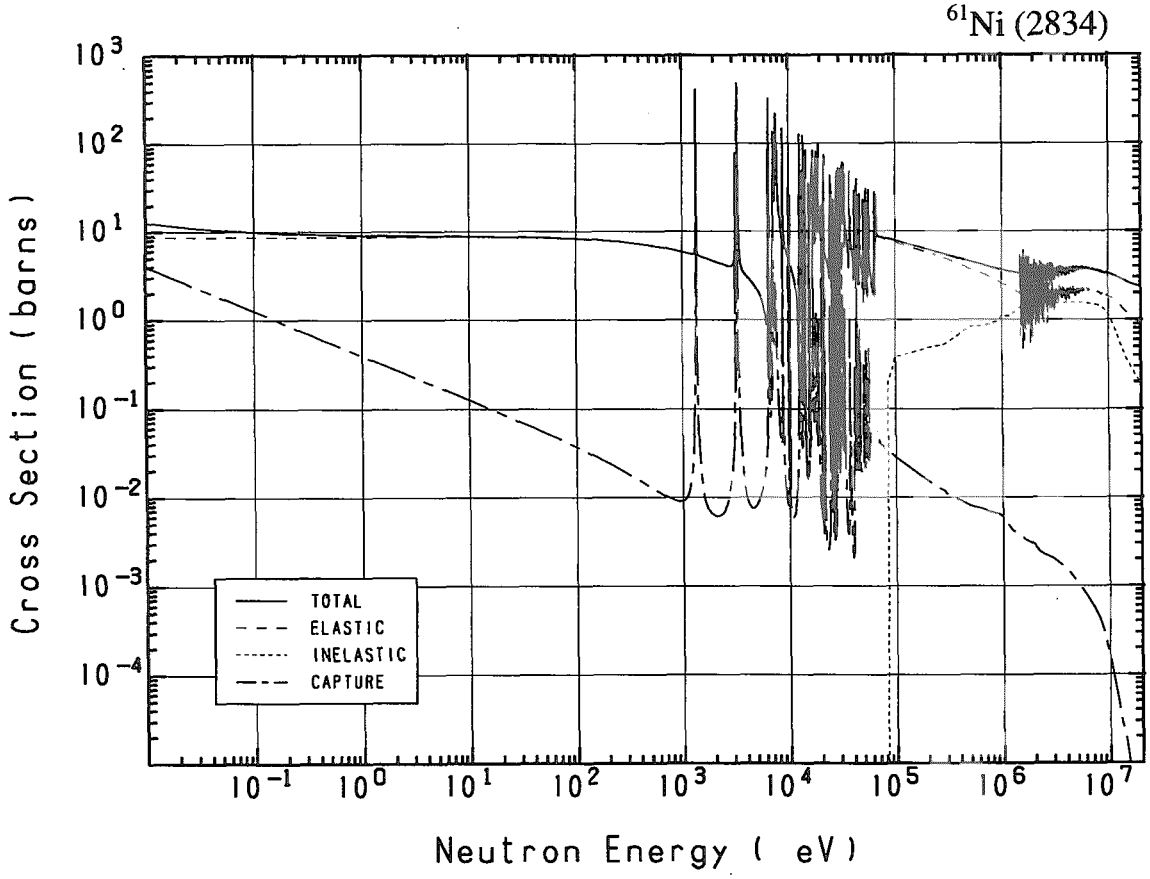


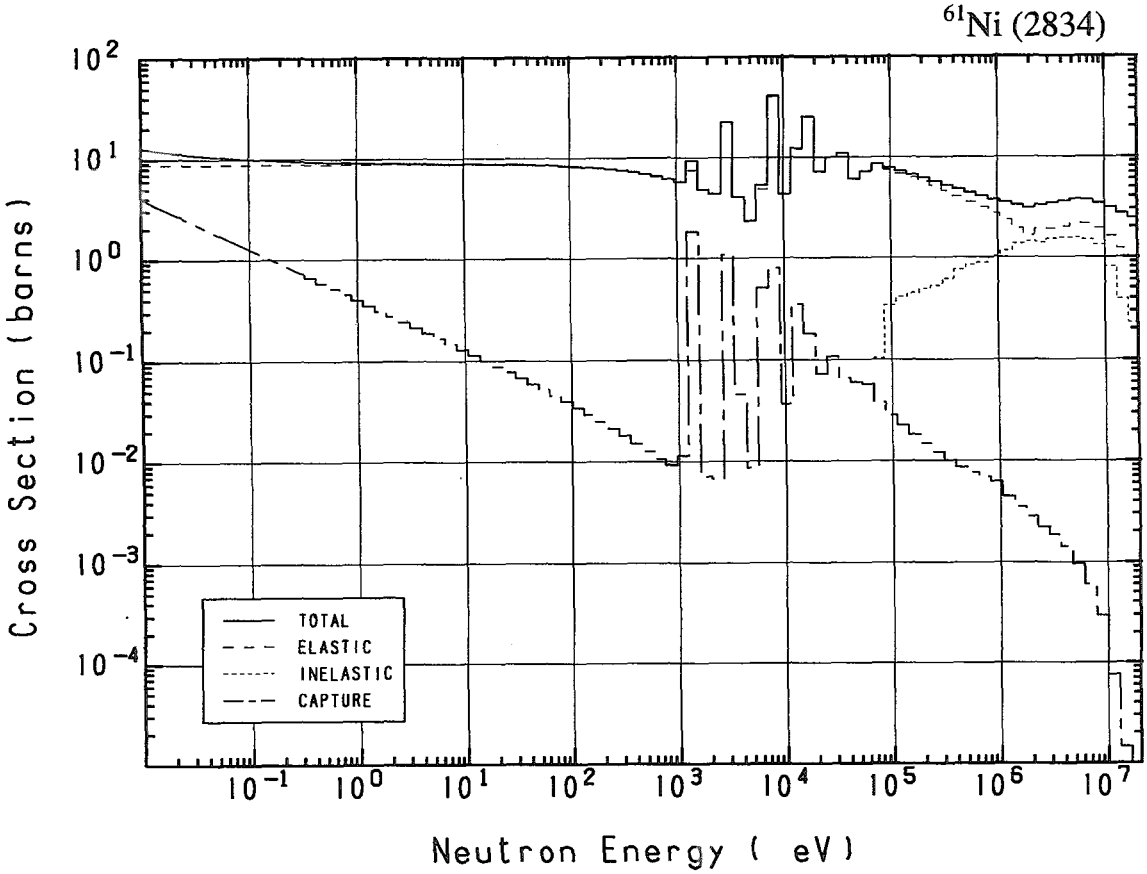

^{60}Ni (2831)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

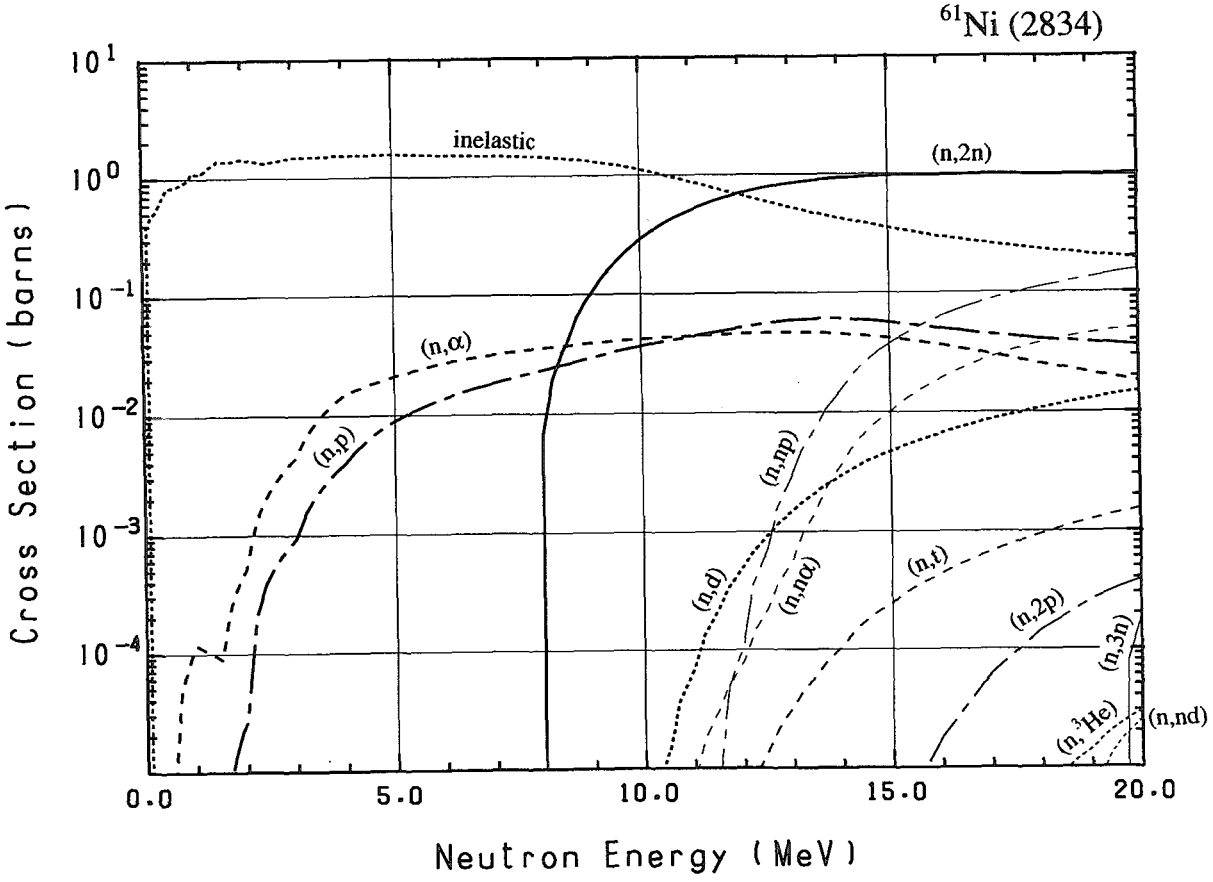

^{60}Ni (2831)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,np)
(n,t)
(n,2p)

28-Ni- 61 (MAT=2834)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	11.24	10.95	–	2.761	3.816
elastic	–	8.731	8.730	–	1.276	2.598
nonelastic	–	0.000	0.000	5.959	1.485	1.216
inelastic	68.52 keV	–	–	–	426.7×10^{-3}	1.205
(n,2n)	7.950 MeV	–	–	–	929.3×10^{-3}	1.081×10^{-3}
(n,3n)	19.53 MeV	–	–	–	–	14.69×10^{-12}
(n,nα)	6.572 MeV	–	–	–	3.548×10^{-3}	783.2×10^{-9}
(n,np)	10.03 MeV	–	–	–	15.11×10^{-3}	2.790×10^{-6}
(n,nd)	15.38 MeV	–	–	–	–	9.177×10^{-12}
capture	–	2.509	2.224	2.435	18.35×10^{-6}	5.458×10^{-3}
(n,p)	548.6 keV	–	–	–	61.35×10^{-3}	1.551×10^{-3}
(n,d)	7.763 MeV	–	–	–	2.937×10^{-3}	611.6×10^{-9}
(n,t)	9.018 MeV	–	–	–	108.1×10^{-6}	22.09×10^{-9}
(n,He-3)	10.59 MeV	–	–	–	1.152×10^{-9}	32.83×10^{-12}
(n,α)	–	0.000	0.000	56.82×10^{-3}	45.88×10^{-3}	4.045×10^{-3}
(n,2p)	9.447 MeV	–	–	–	207.3×10^{-9}	877.0×10^{-12}

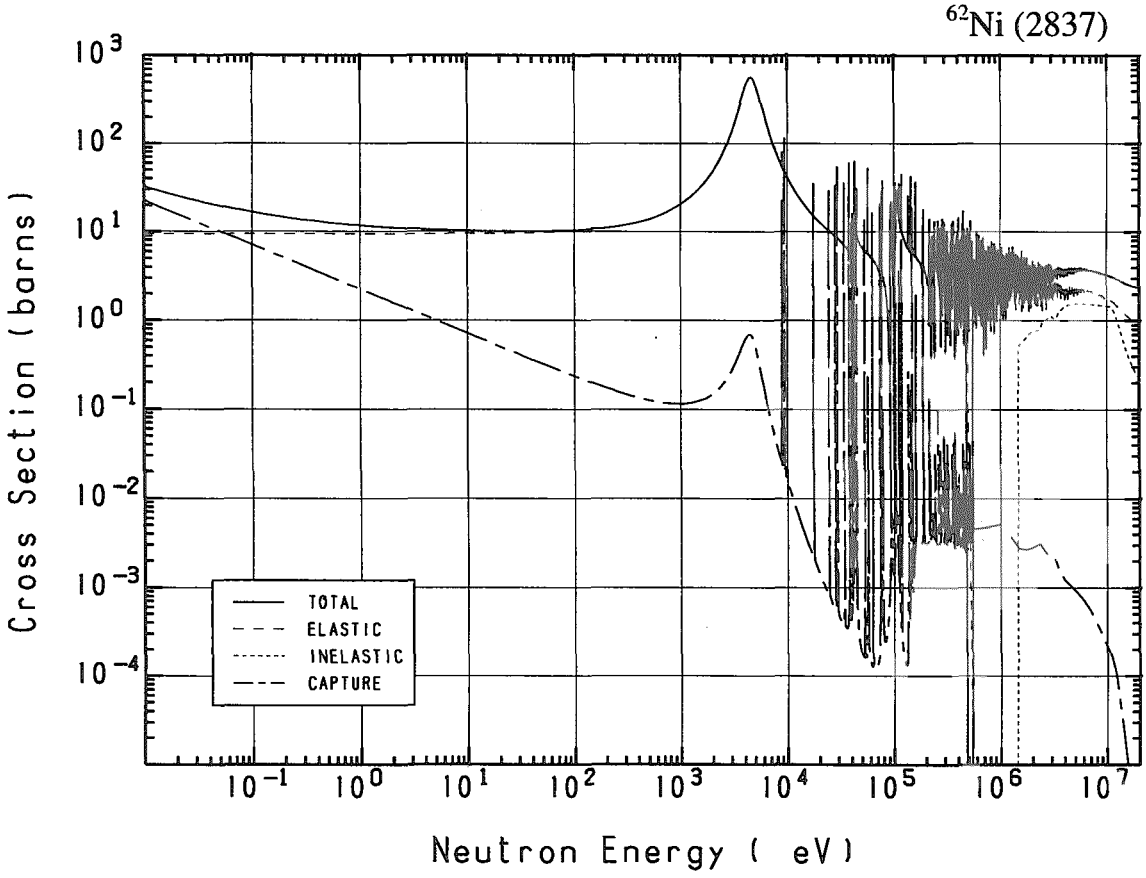


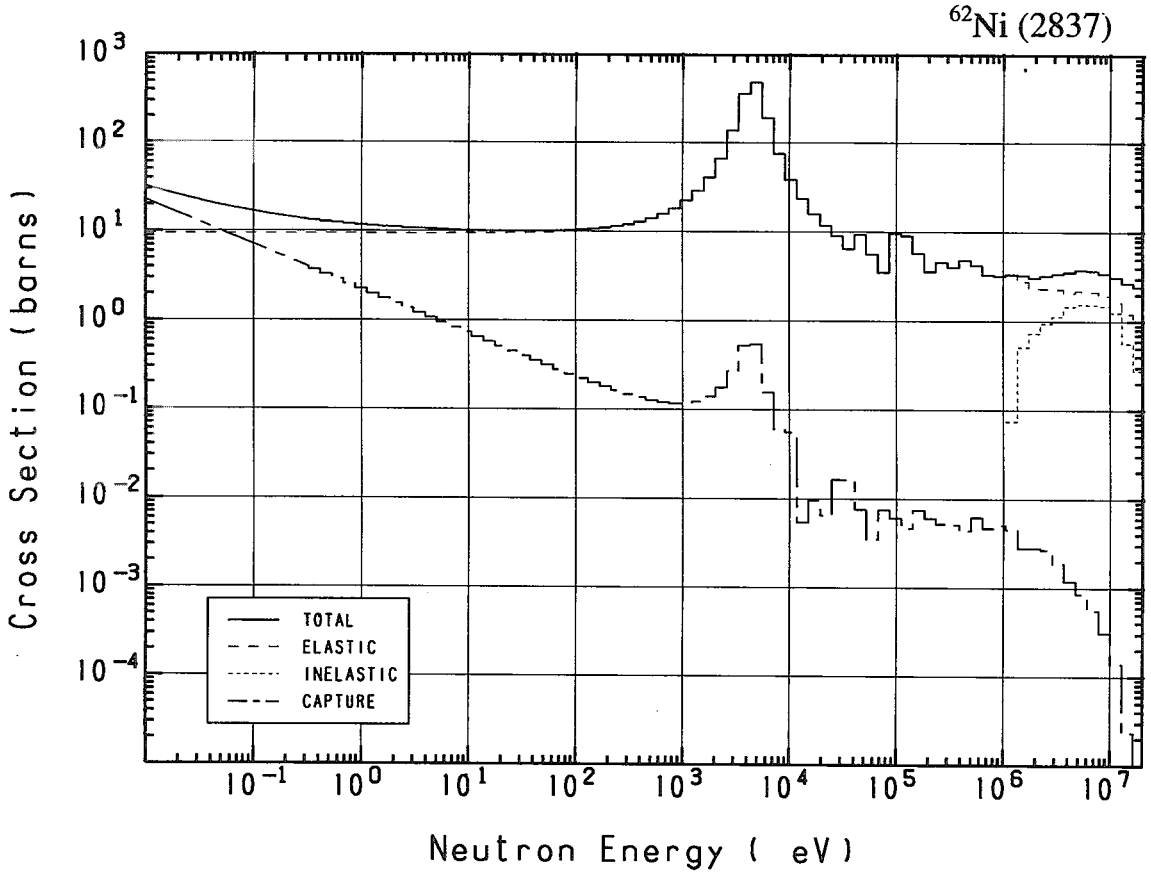

^{61}Ni (2834)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

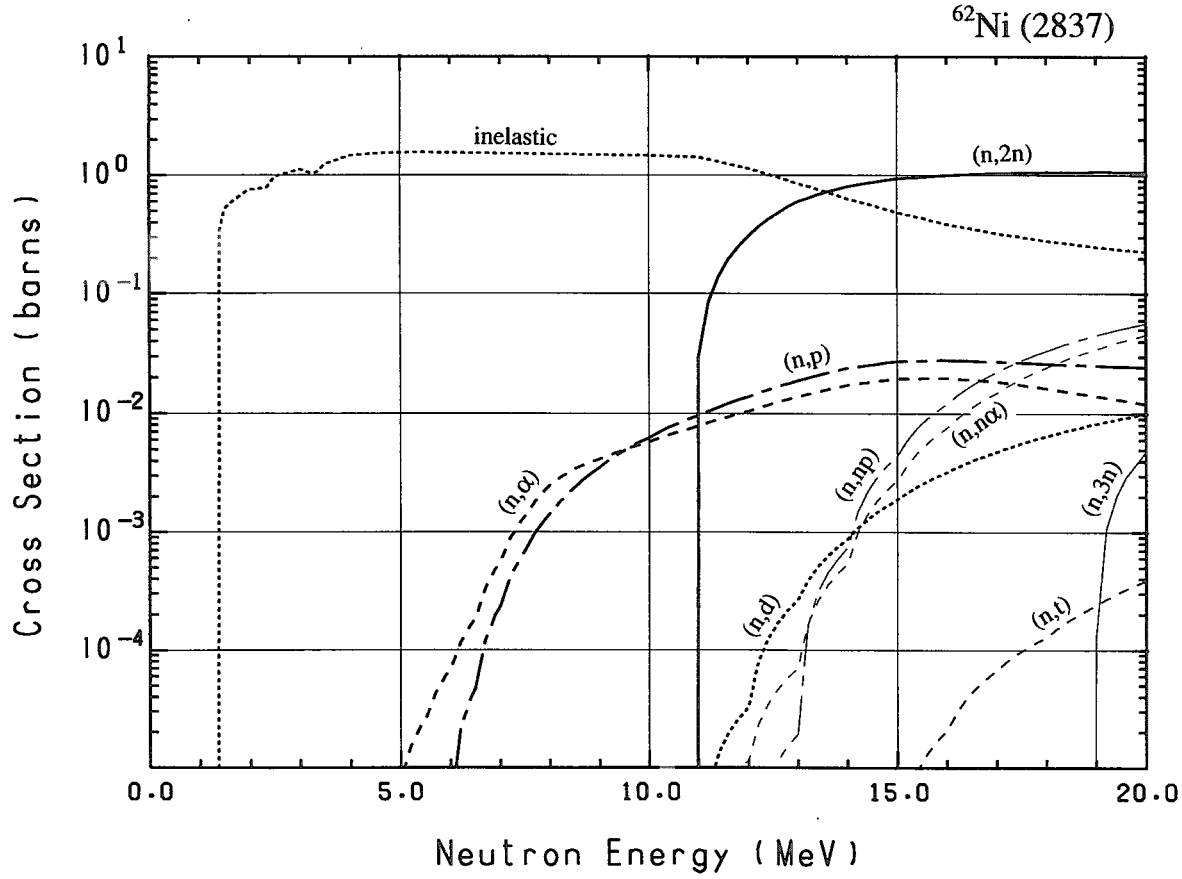

^{61}Ni (2834)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,α)
(n,p)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,2p)
(n,3n)
(n,nd)
(n,^{3}He)

28-Ni- 62 (MAT=2837)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	23.70	22.09	–	2.761	3.672
elastic	–	9.504	9.504	–	1.275	3.088
inelastic	1.192 MeV	–	–	–	635.1×10^{-3}	580.5×10^{-3}
(n,2n)	10.77 MeV	–	–	–	808.2×10^{-3}	204.1×10^{-6}
(n,3n)	18.72 MeV	–	–	–	–	989.4×10^{-12}
(n,nα)	7.133 MeV	–	–	–	540.7×10^{-6}	284.7×10^{-9}
(n,np)	11.32 MeV	–	–	–	736.5×10^{-6}	409.2×10^{-9}
capture	–	14.20	12.59	6.888	28.94×10^{-6}	3.450×10^{-3}
(n,p)	4.532 MeV	–	–	–	24.02×10^{-3}	34.56×10^{-6}
(n,d)	9.058 MeV	–	–	–	872.1×10^{-6}	174.4×10^{-9}
(n,t)	12.17 MeV	–	–	–	24.25×10^{-9}	933.2×10^{-12}
(n,He-3)	12.37 MeV	–	–	–	57.23×10^{-18}	1.465×10^{-12}
(n,α)	444.6 keV	–	–	–	17.30×10^{-3}	42.56×10^{-6}
(n,2p)	14.48 MeV	–	–	–	–	65.84×10^{-15}

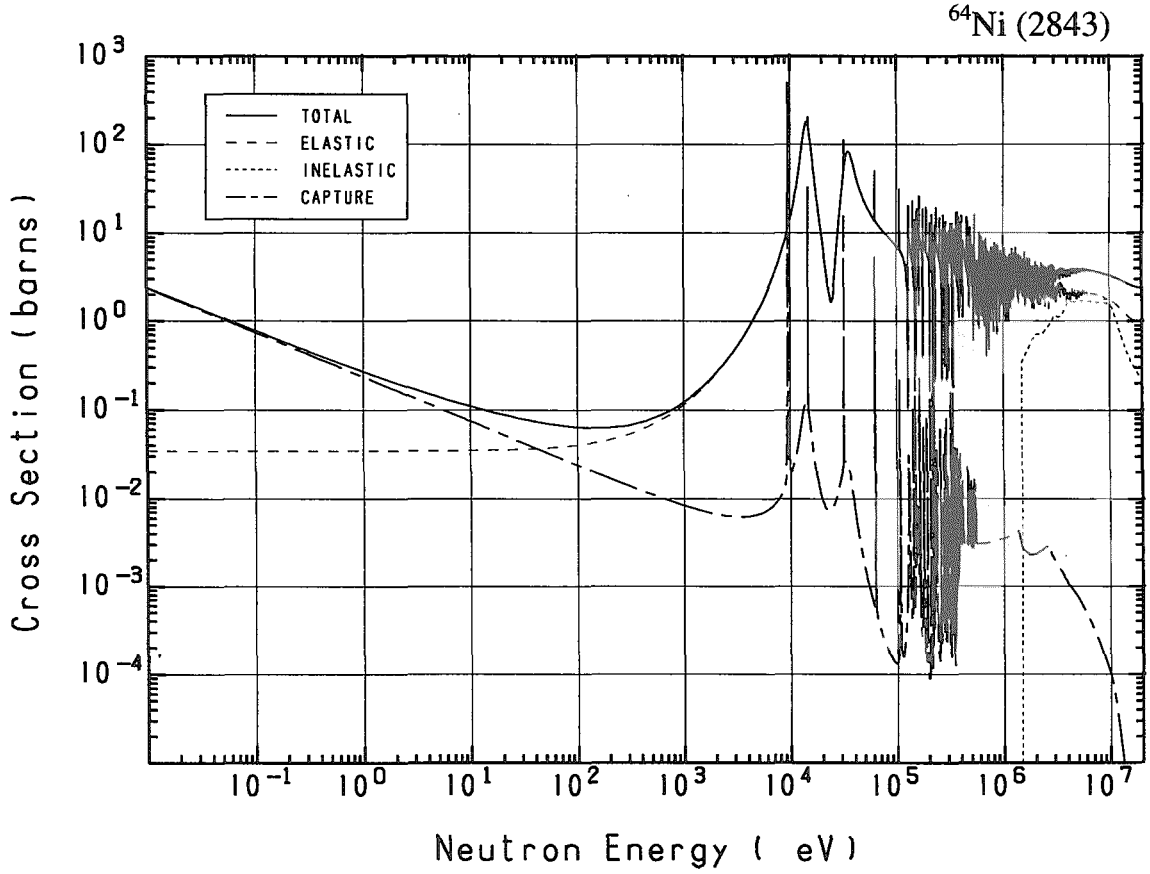


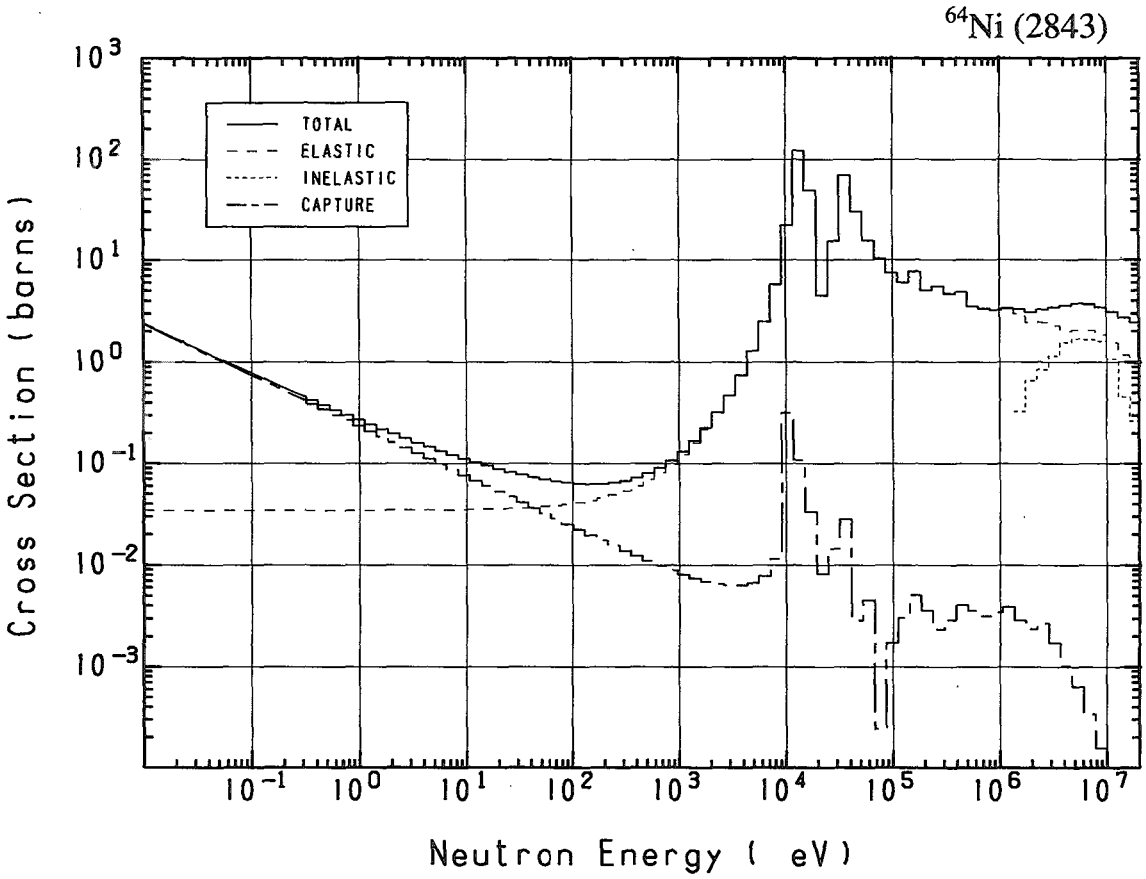

^{62}Ni (2837)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

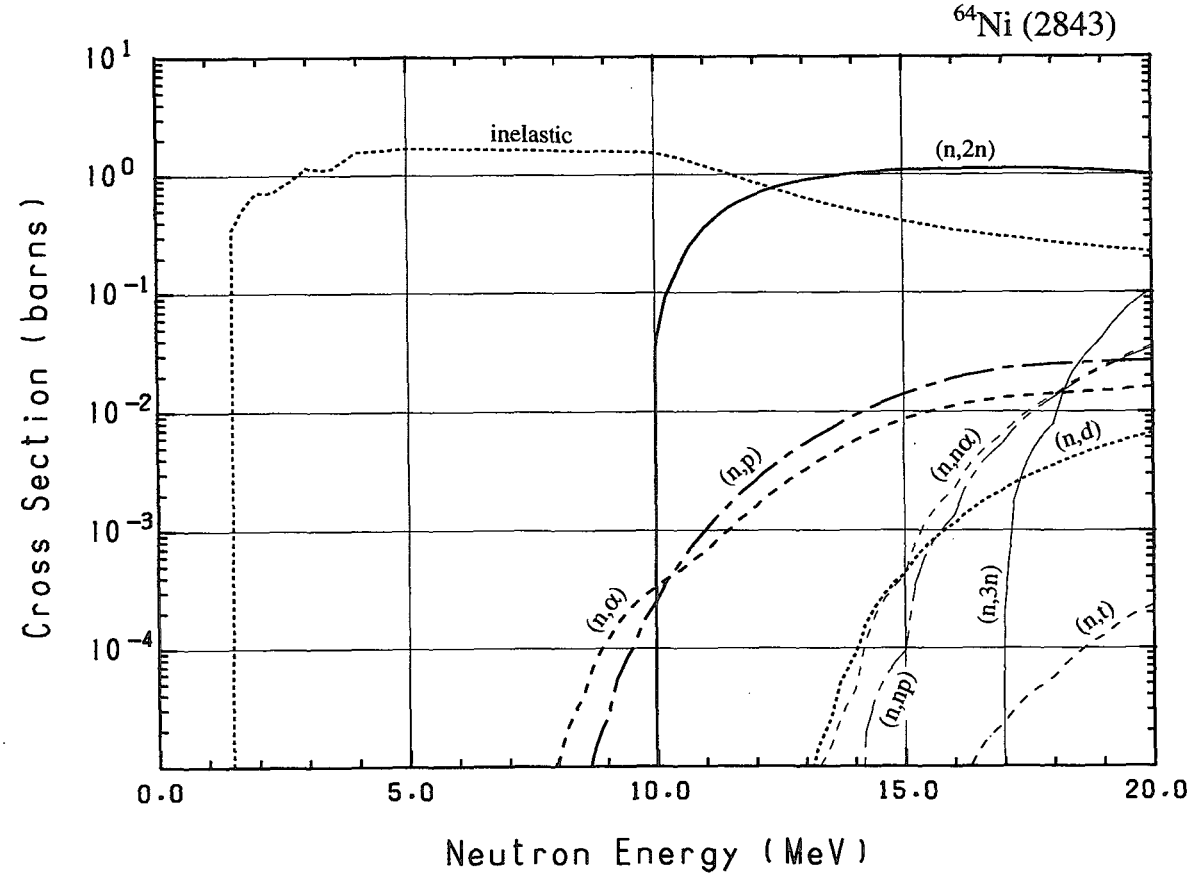

^{62}Ni (2837)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,3n)
(n,d)
(n,t)

28-Ni- 64 (MAT=2843)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	1.515	1.347	–	2.761	3.805
elastic	–	34.59×10^{-3}	34.59×10^{-3}	–	1.226	3.254
inelastic	1.367 MeV	–	–	–	498.6×10^{-3}	547.5×10^{-3}
(n,2n)	9.809 MeV	–	–	–	1.021	506.9×10^{-6}
(n,3n)	16.76 MeV	–	–	–	–	63.67×10^{-9}
(n,nα)	8.214 MeV	–	–	–	43.84×10^{-6}	99.89×10^{-9}
(n,np)	12.73 MeV	–	–	–	551.1×10^{-9}	78.49×10^{-9}
capture	–	1.480	1.312	817.1×10^{-3}	6.312×10^{-6}	2.777×10^{-3}
(n,p)	6.628 MeV	–	–	–	9.136×10^{-3}	2.825×10^{-6}
(n,d)	10.48 MeV	–	–	–	89.83×10^{-6}	41.00×10^{-9}
(n,t)	12.67 MeV	–	–	–	234.3×10^{-12}	361.0×10^{-12}
(n,He-3)	15.27 MeV	–	–	–	–	1.078×10^{-15}
(n,α)	2.480 MeV	–	–	–	5.601×10^{-3}	2.231×10^{-6}

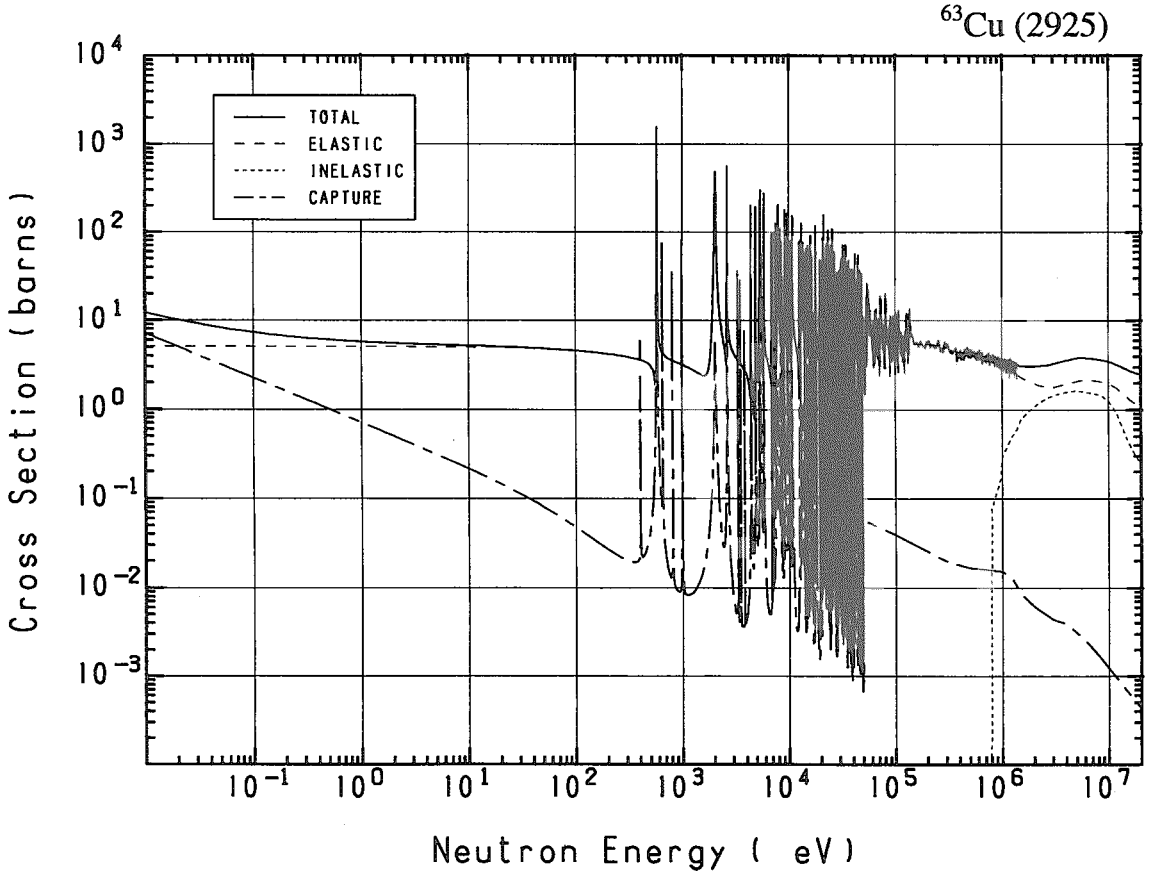


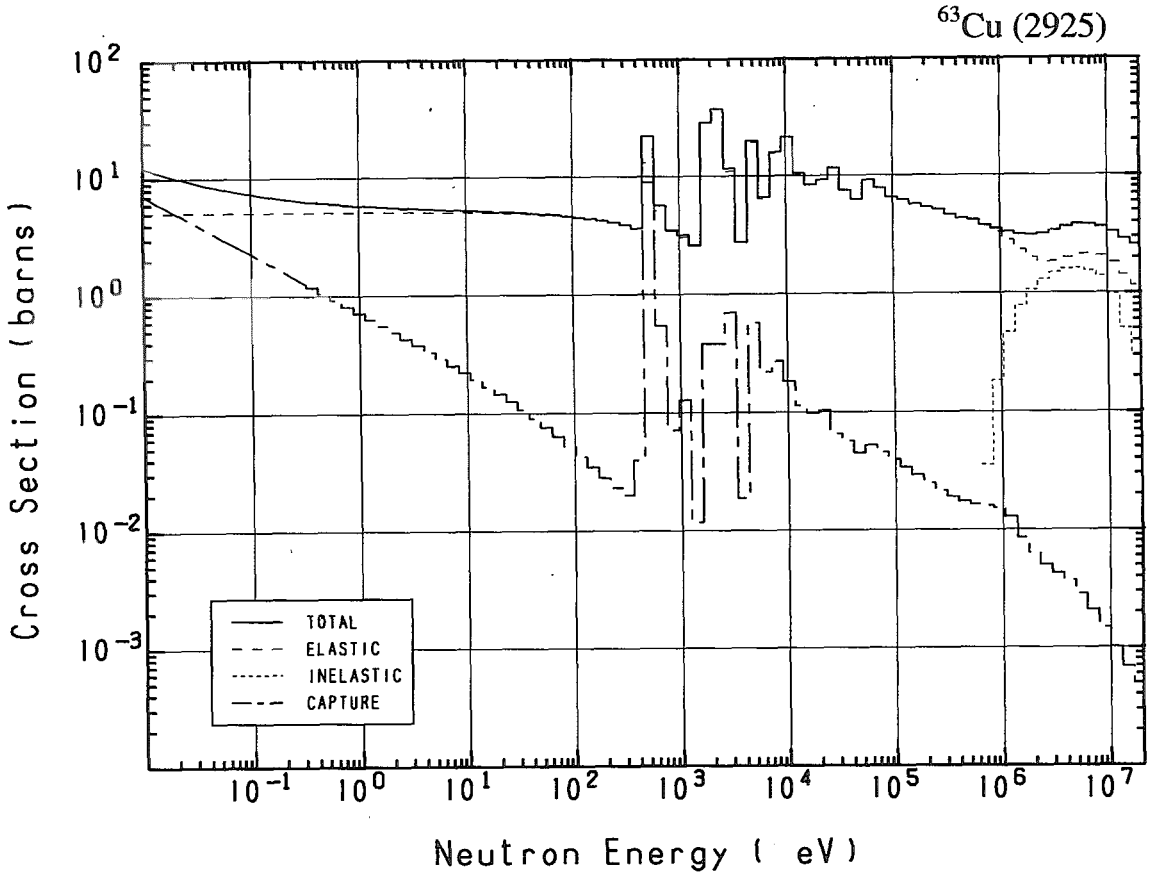

64Ni (2843)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

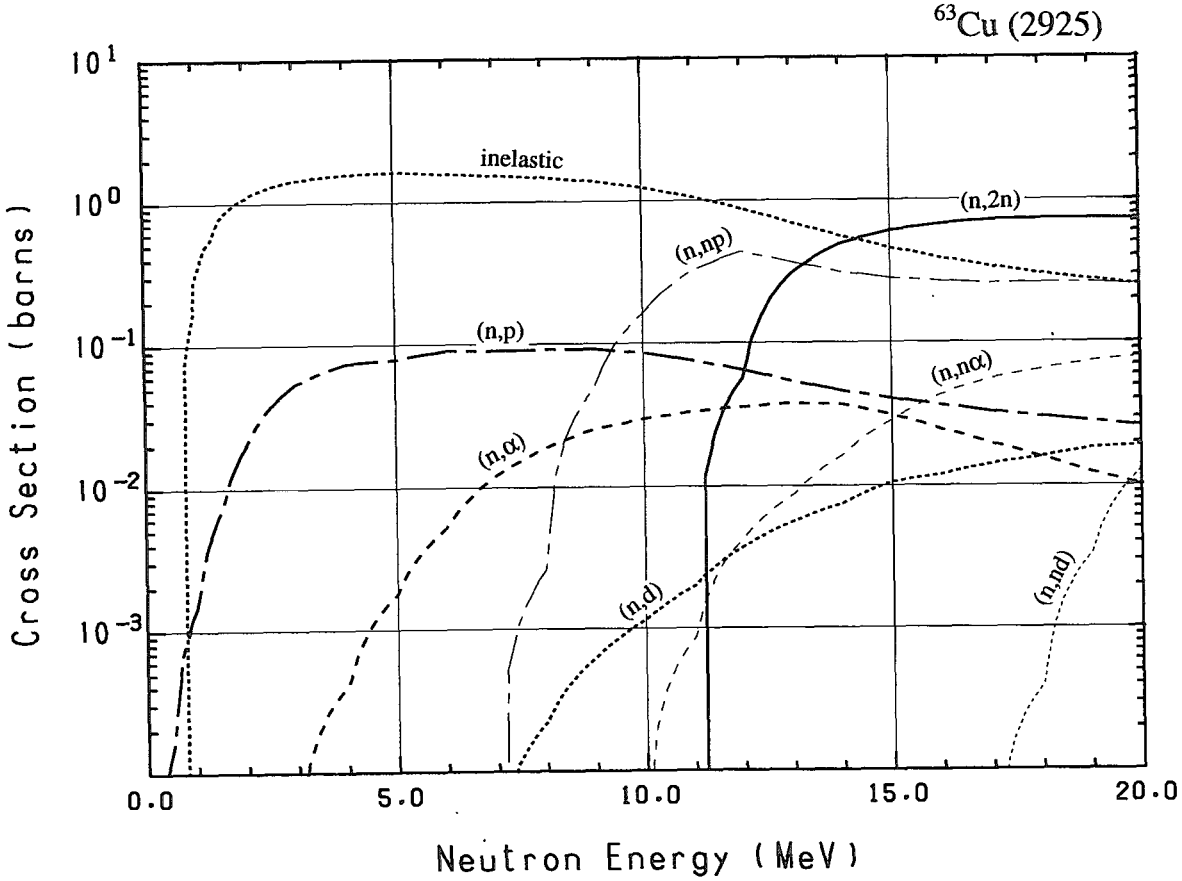

64Ni (2843)
inelastic
(n,2n)
(n,p)
(n,nα)
(n,d)
(n,α)
(n,3n)
(n,np)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

29-Cu- 63 (MAT=2925)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	9.608	9.096	–	2.948	3.643
elastic	–	5.102	5.102	–	1.484	2.815
inelastic	680.4 keV	–	–	–	555.9×10^{-3}	790.3×10^{-3}
(n,2n)	11.03 MeV	–	–	–	489.7×10^{-3}	86.87×10^{-6}
(n,nα)	5.869 MeV	–	–	–	16.43×10^{-3}	4.345×10^{-6}
(n,np)	6.223 MeV	–	–	–	310.5×10^{-3}	609.2×10^{-6}
(n,nd)	14.73 MeV	–	–	–	–	5.591×10^{-9}
capture	–	4.506	3.994	5.008	727.3×10^{-6}	10.73×10^{-3}
(n,p)	–	0.000	0.000	153.0×10^{-3}	46.15×10^{-3}	25.29×10^{-3}
(n,d)	3.963 MeV	–	–	–	7.503×10^{-3}	7.291×10^{-6}
(n,α)	–	0.000	0.000	29.44×10^{-3}	37.00×10^{-3}	555.5×10^{-6}

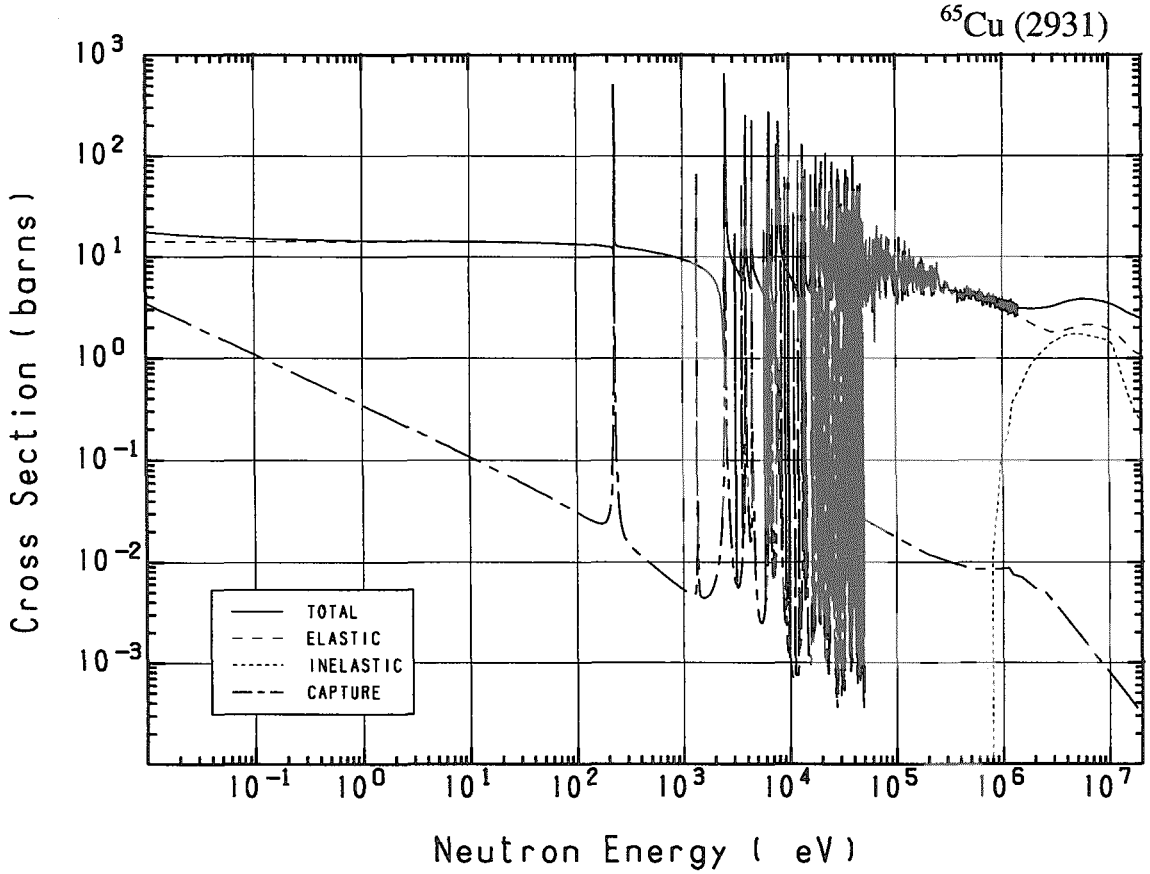


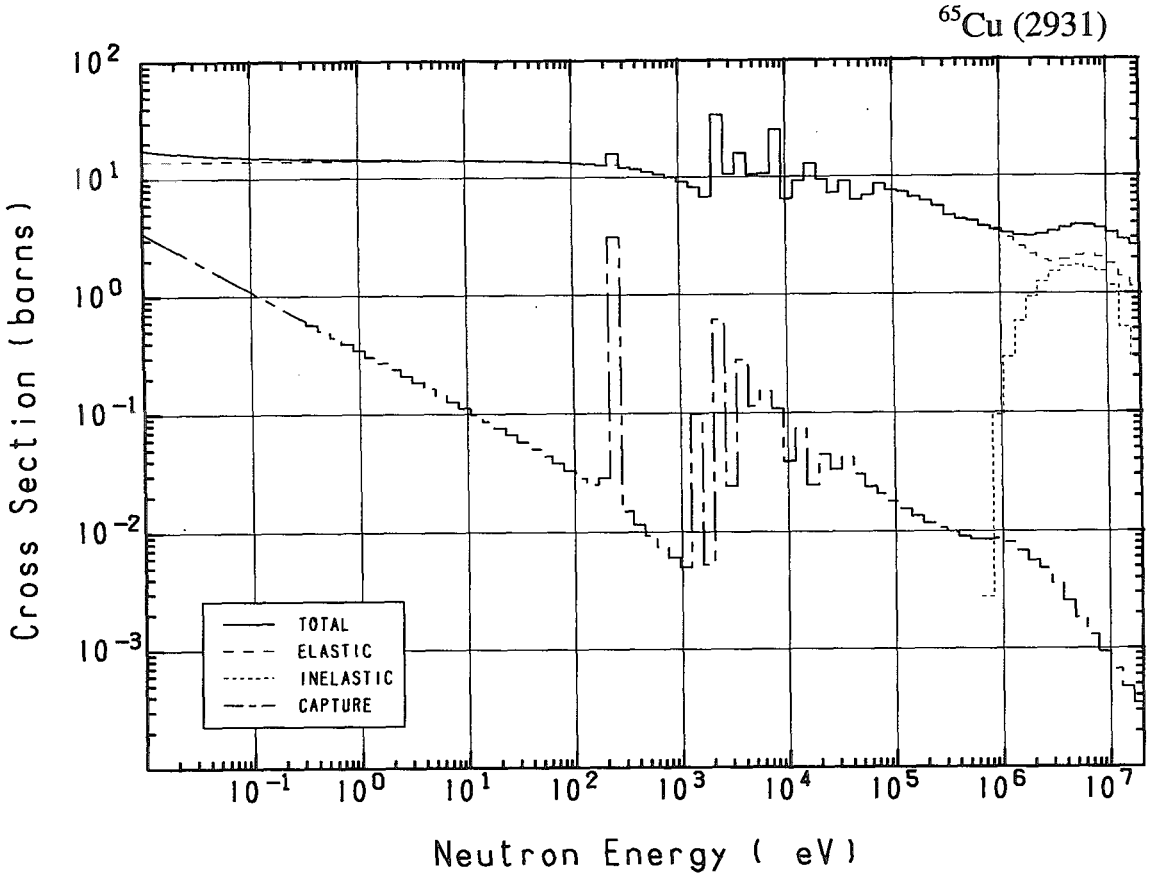

63Cu (2925)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

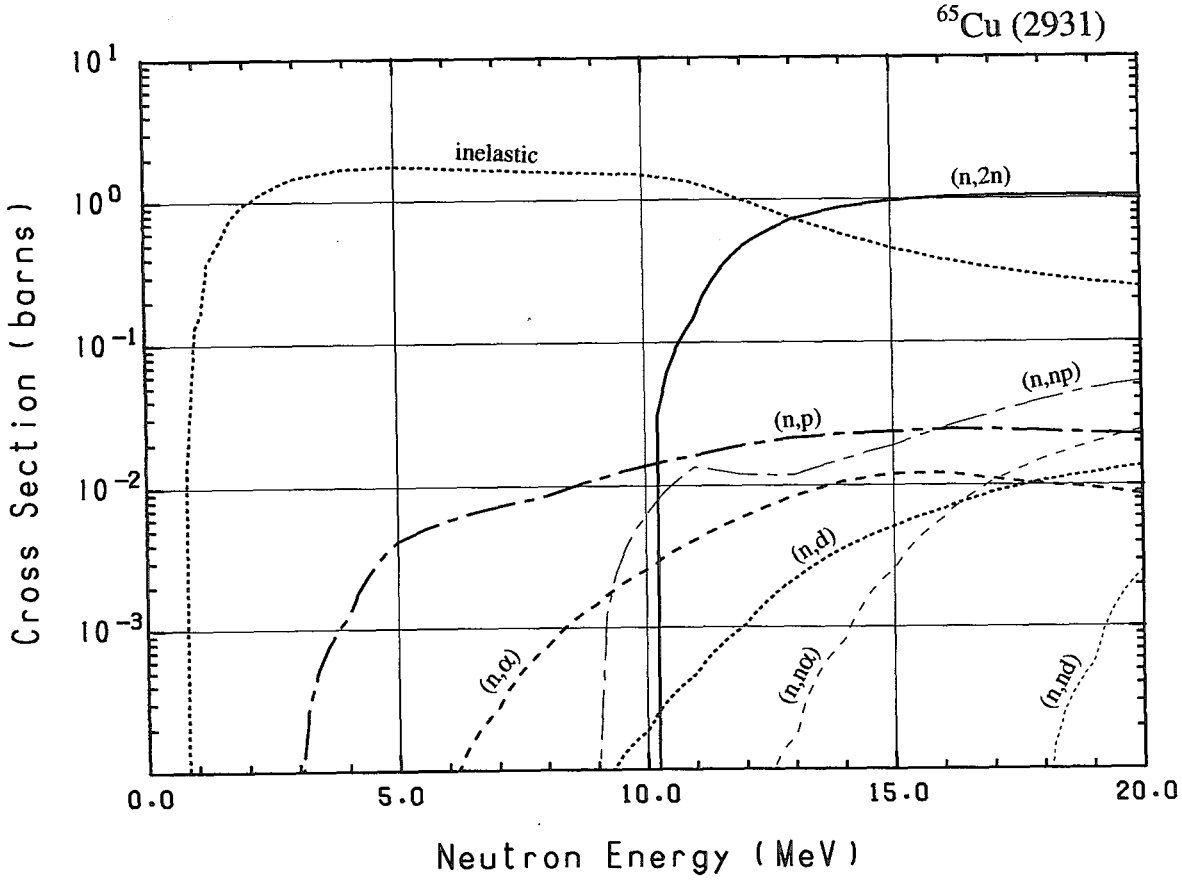

63Cu (2925)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,p)
(n,nα)
(n,α)
(n,d)
(n,nd)

29-Cu- 65 (MAT=2931)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	16.24	16.00	–	2.948	3.681
elastic	–	14.07	14.07	–	1.454	2.933
inelastic	782.6 keV	–	–	–	567.7×10^{-3}	740.4×10^{-3}
(n,2n)	10.06 MeV	–	–	–	873.0×10^{-3}	317.7×10^{-6}
(n,nα)	6.875 MeV	–	–	–	820.4×10^{-6}	245.5×10^{-9}
(n,np)	7.560 MeV	–	–	–	15.13×10^{-3}	18.67×10^{-6}
(n,nd)	15.11 MeV	–	–	–	–	966.1×10^{-12}
capture	–	2.168	1.922	2.219	500.0×10^{-6}	6.686×10^{-3}
(n,p)	1.370 MeV	–	–	–	22.74×10^{-3}	567.8×10^{-6}
(n,d)	5.301 MeV	–	–	–	3.647×10^{-3}	1.424×10^{-6}
(n,α)	89.42 keV	–	–	–	10.62×10^{-3}	19.26×10^{-6}

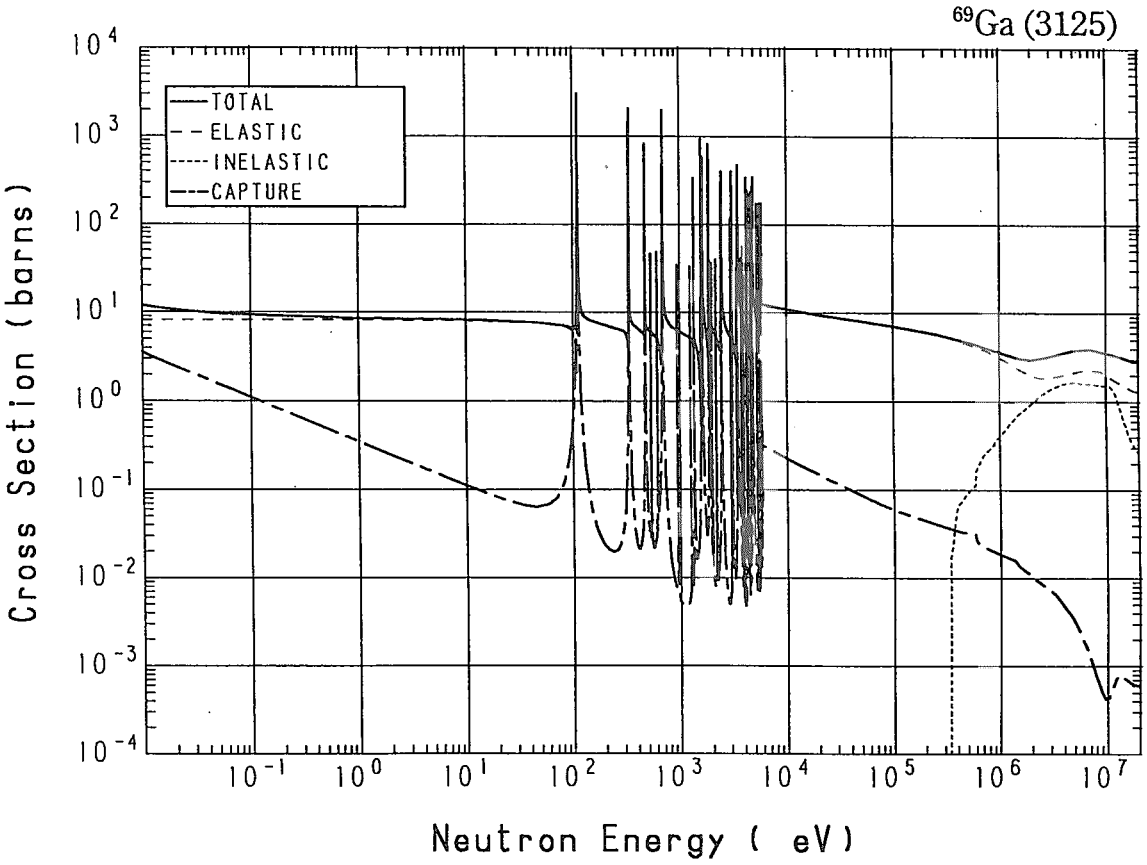


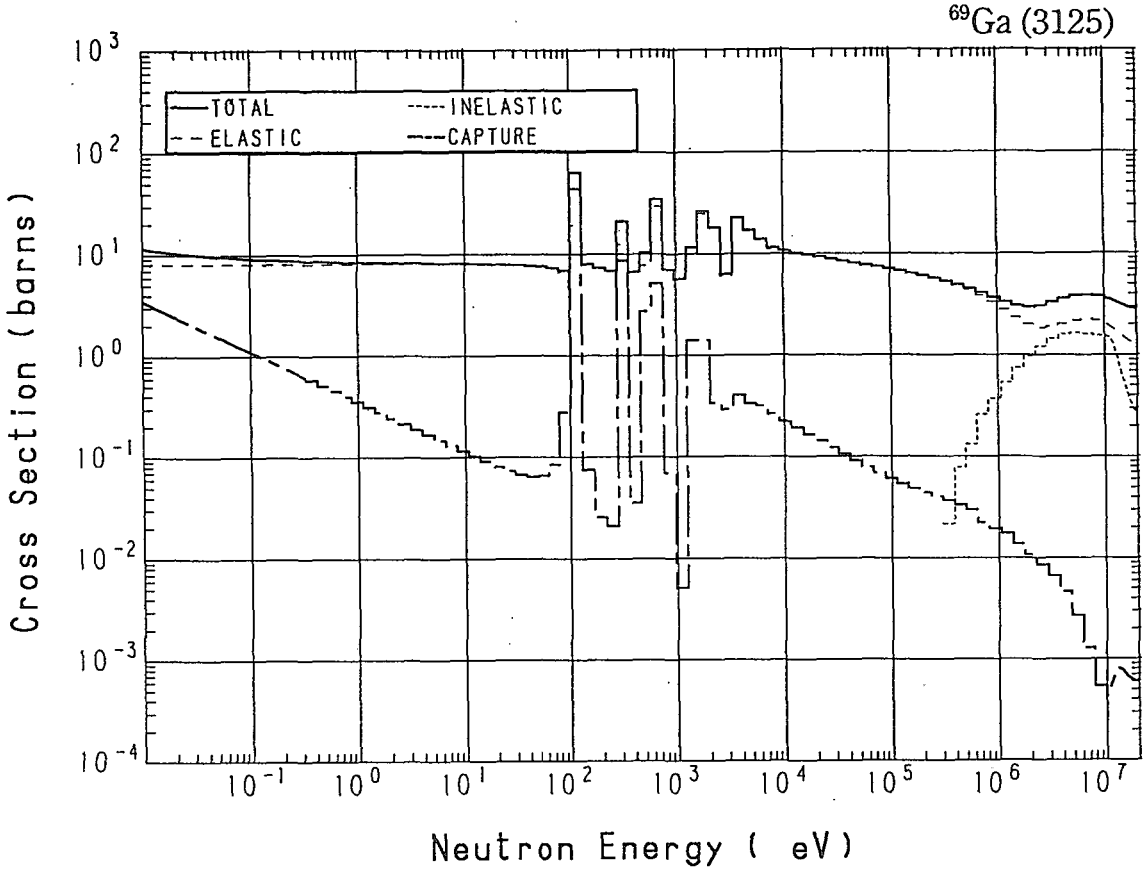

65Cu (2931)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

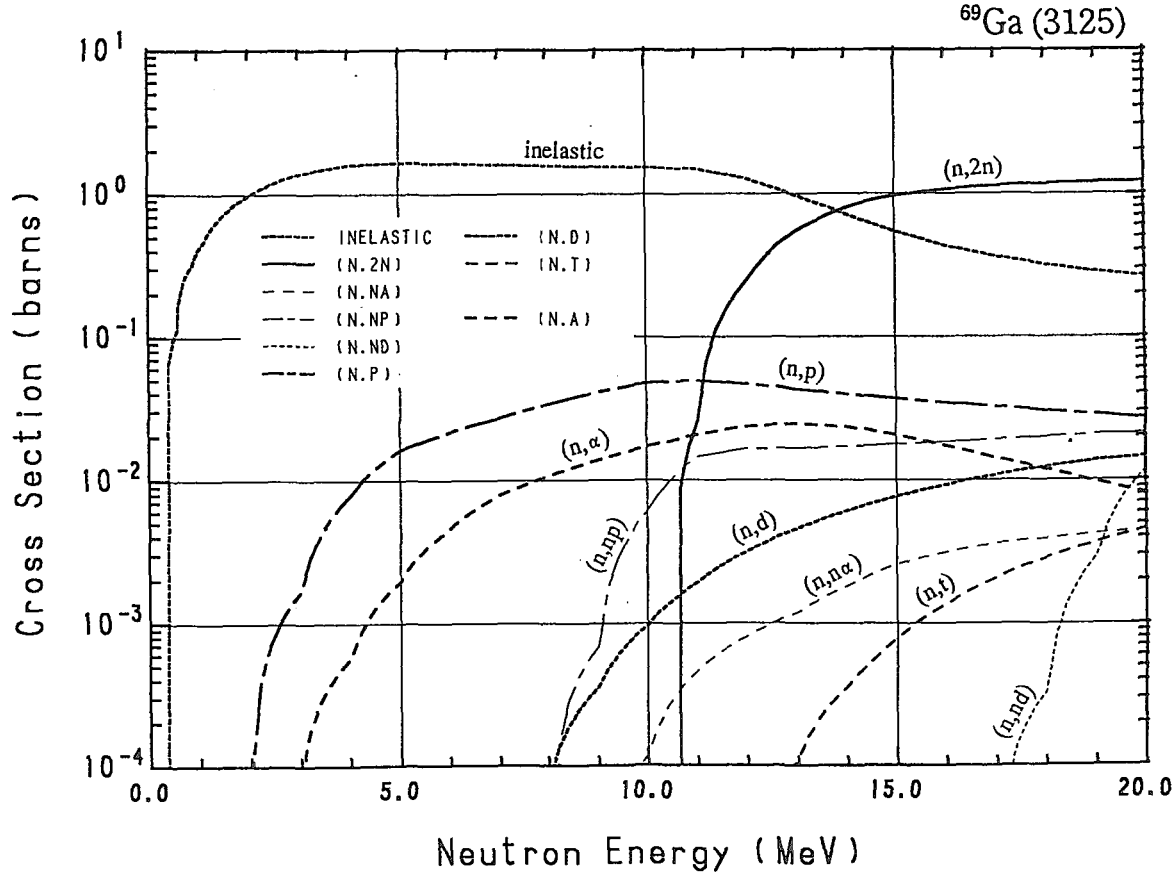

65Cu (2931)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,p)
(n,d)
(n,nα)
(n,α)
(n,nd)

31-Ga- 69 (MAT=3125)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	10.36	10.11	–	3.193	3.755
elastic	–	8.162	8.162	–	1.593	2.926
inelastic	323.4 keV	–	–	–	720.3×10^{-3}	808.7×10^{-3}
(n,2n)	10.46 MeV	–	–	–	790.8×10^{-3}	186.2×10^{-6}
(n,nα)	4.548 MeV	–	–	–	1.833×10^{-3}	856.8×10^{-9}
(n,np)	6.704 MeV	–	–	–	17.07×10^{-3}	21.90×10^{-6}
(n,nd)	14.79 MeV	–	–	–	–	5.008×10^{-9}
capture	–	2.200	1.951	18.22	772.4×10^{-6}	16.92×10^{-3}
(n,p)	126.1 keV	–	–	–	39.37×10^{-3}	2.612×10^{-3}
(n,d)	4.447 MeV	–	–	–	6.081×10^{-3}	4.960×10^{-6}
(n,t)	8.446 MeV	–	–	–	358.6×10^{-6}	74.16×10^{-9}
(n,He-3)	9.010 MeV	–	–	–	11.15×10^{-9}	48.01×10^{-12}
(n,α)	–	0.000	0.000	19.05×10^{-3}	23.34×10^{-3}	437.6×10^{-6}
(n,2p)	10.56 MeV	–	–	–	323.6×10^{-12}	65.79×10^{-12}

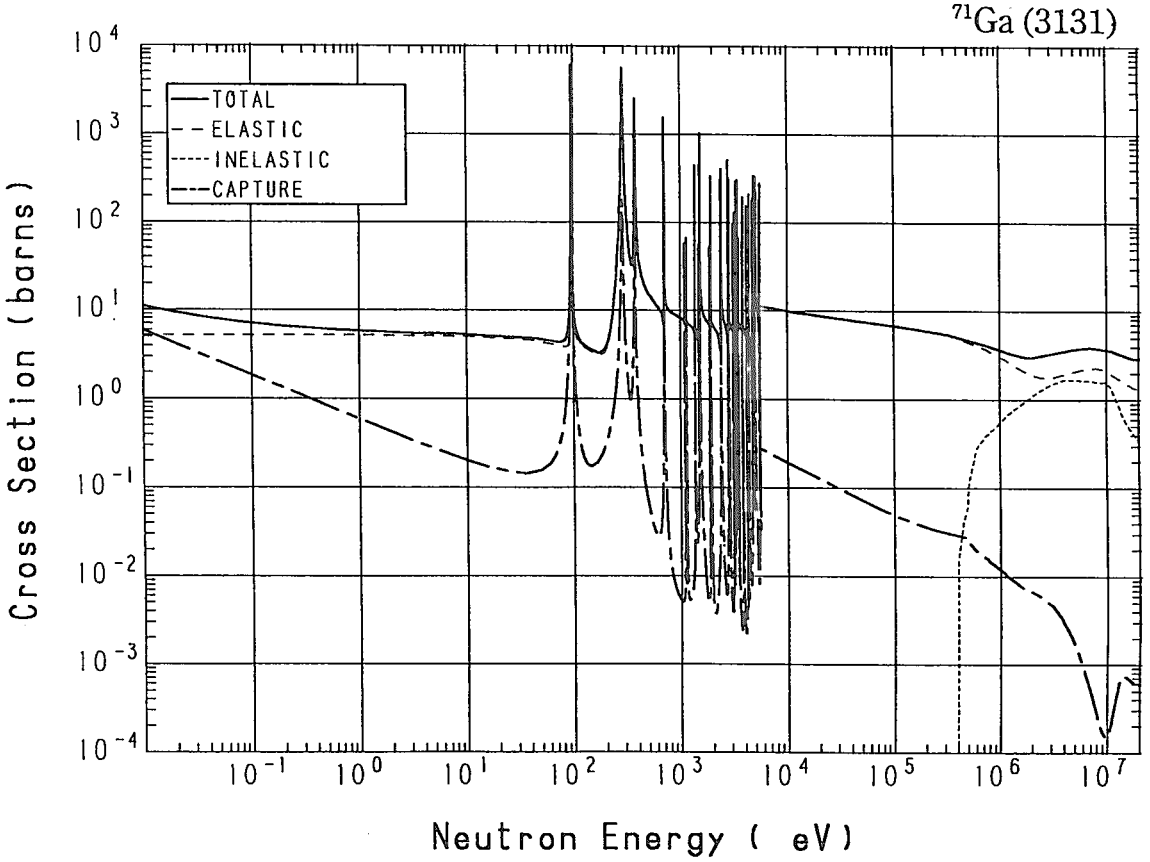


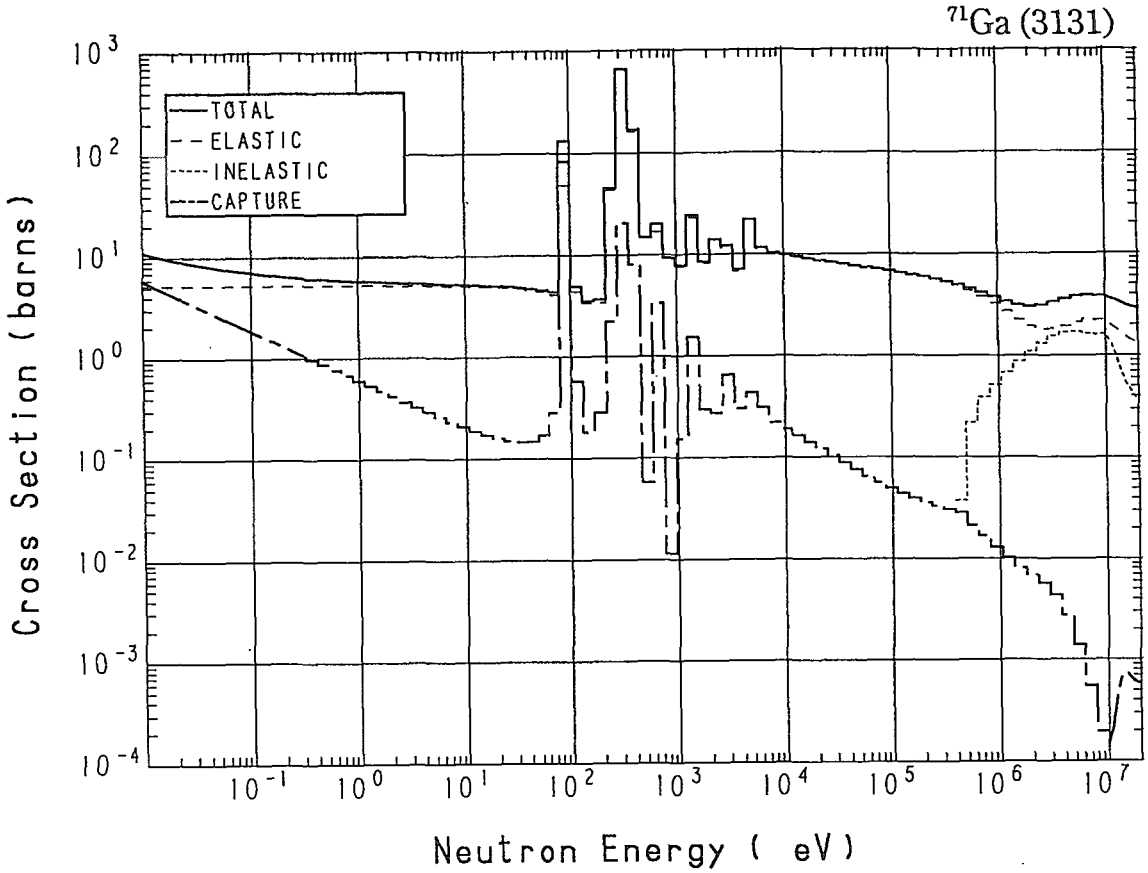

69Ga (3125)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

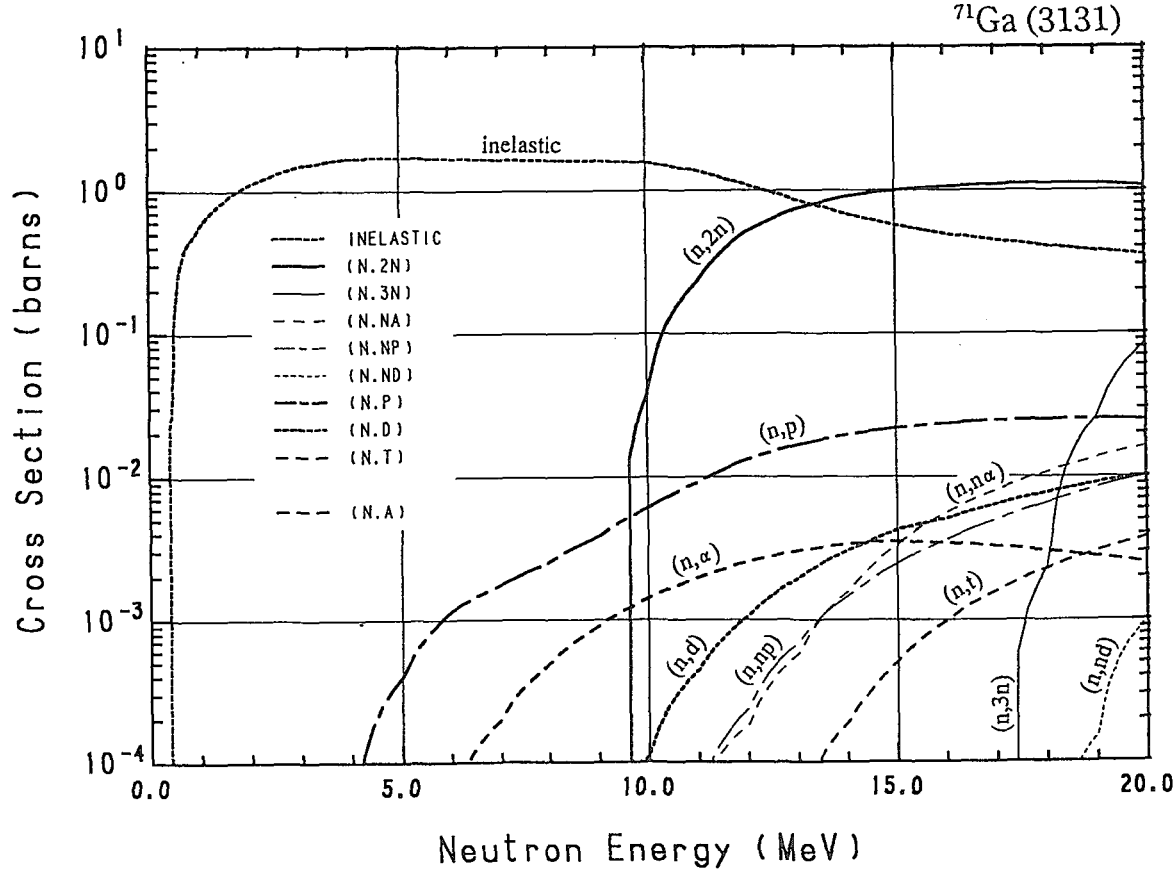

69Ga (3125)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,nd)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

31-Ga- 71 (MAT=3131)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	8.945	8.524	–	3.277	3.792
elastic	–	5.236	5.236	–	1.668	2.869
inelastic	395.5 keV	–	–	–	686.7×10^{-3}	910.2×10^{-3}
(n,2n)	9.435 MeV	–	–	–	893.1×10^{-3}	399.6×10^{-6}
(n,3n)	17.20 MeV	–	–	–	–	38.94×10^{-9}
(n,nα)	5.335 MeV	–	–	–	1.583×10^{-3}	390.7×10^{-9}
(n,np)	7.978 MeV	–	–	–	1.473×10^{-3}	344.6×10^{-9}
(n,nd)	15.07 MeV	–	–	–	–	330.8×10^{-12}
capture	–	3.709	3.288	32.17	744.8×10^{-6}	12.09×10^{-3}
(n,p)	2.052 MeV	–	–	–	19.37×10^{-3}	98.87×10^{-6}
(n,d)	5.722 MeV	–	–	–	3.038×10^{-3}	1.099×10^{-6}
(n,t)	8.722 MeV	–	–	–	192.4×10^{-6}	44.39×10^{-9}
(n,He-3)	11.21 MeV	–	–	–	17.48×10^{-15}	1.555×10^{-12}
(n,α)	–	0.000	0.000	2.240×10^{-3}	3.411×10^{-3}	11.77×10^{-6}

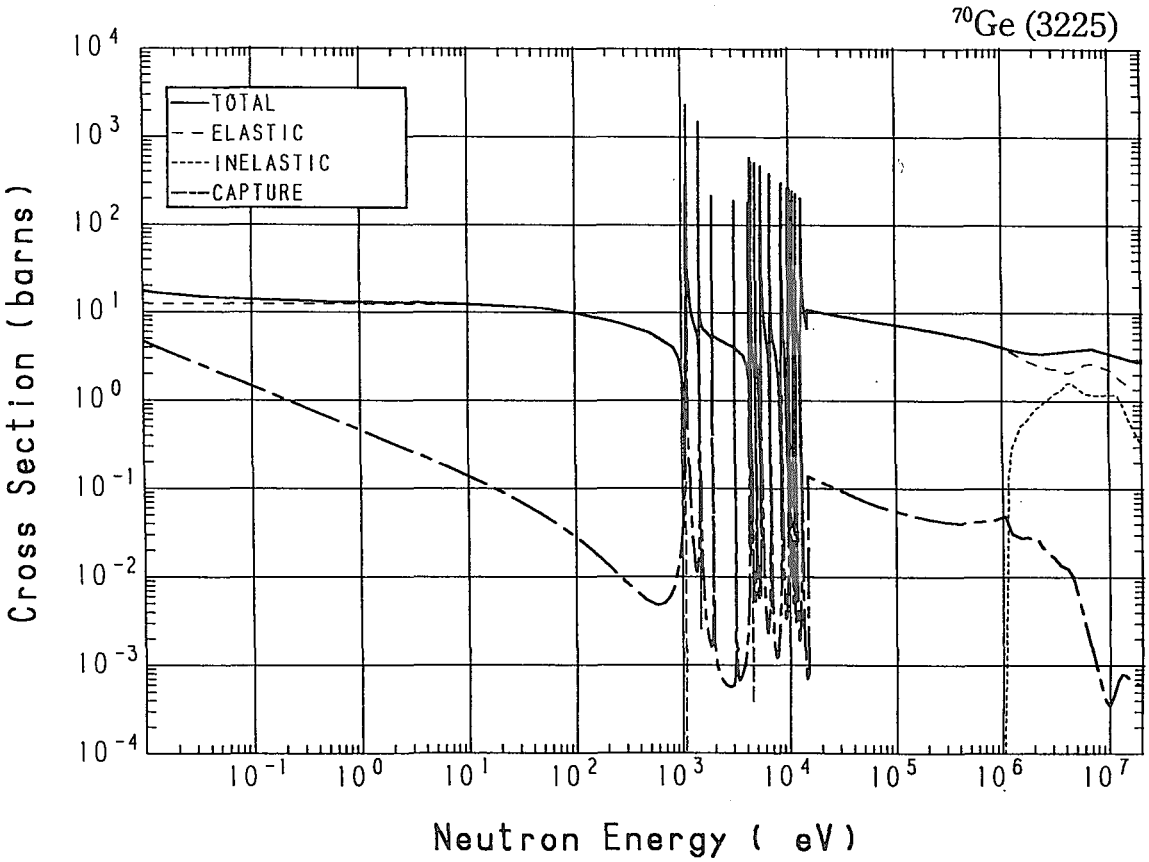


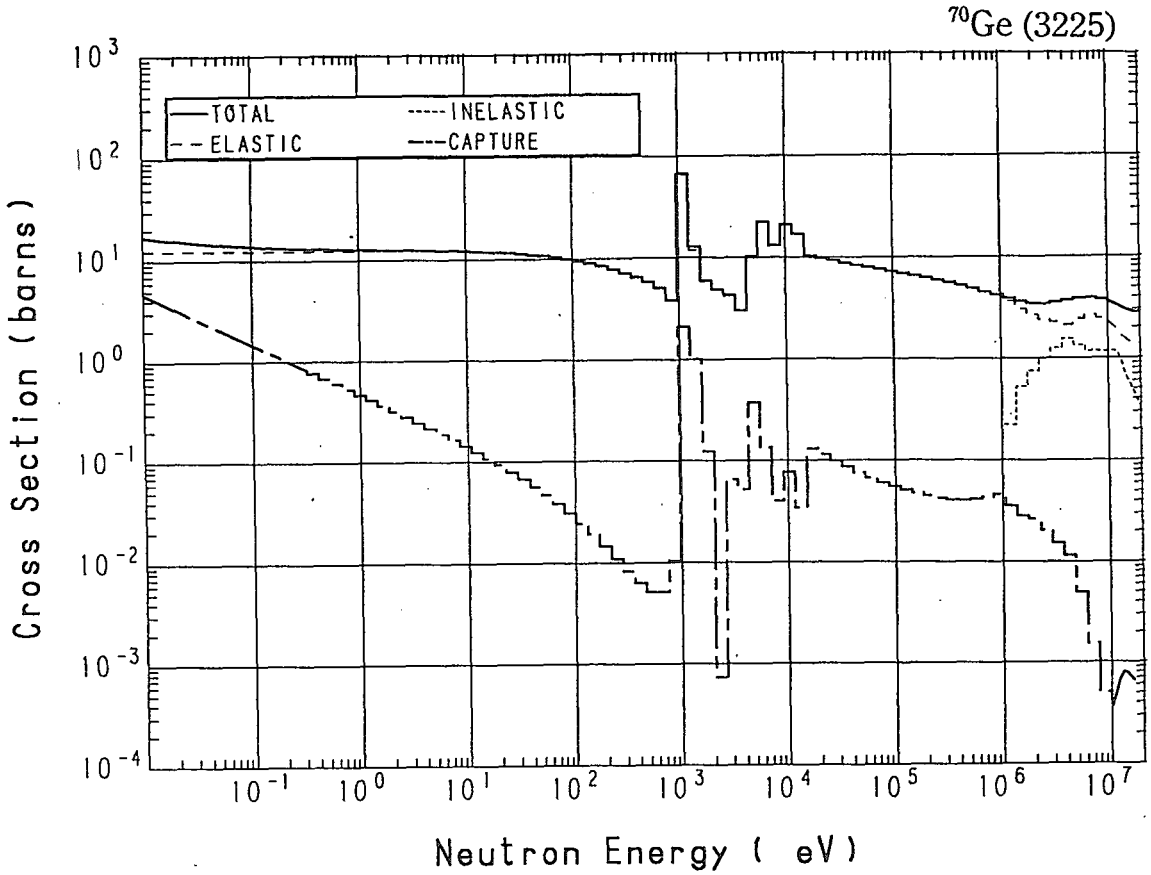

71Ga (3131)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

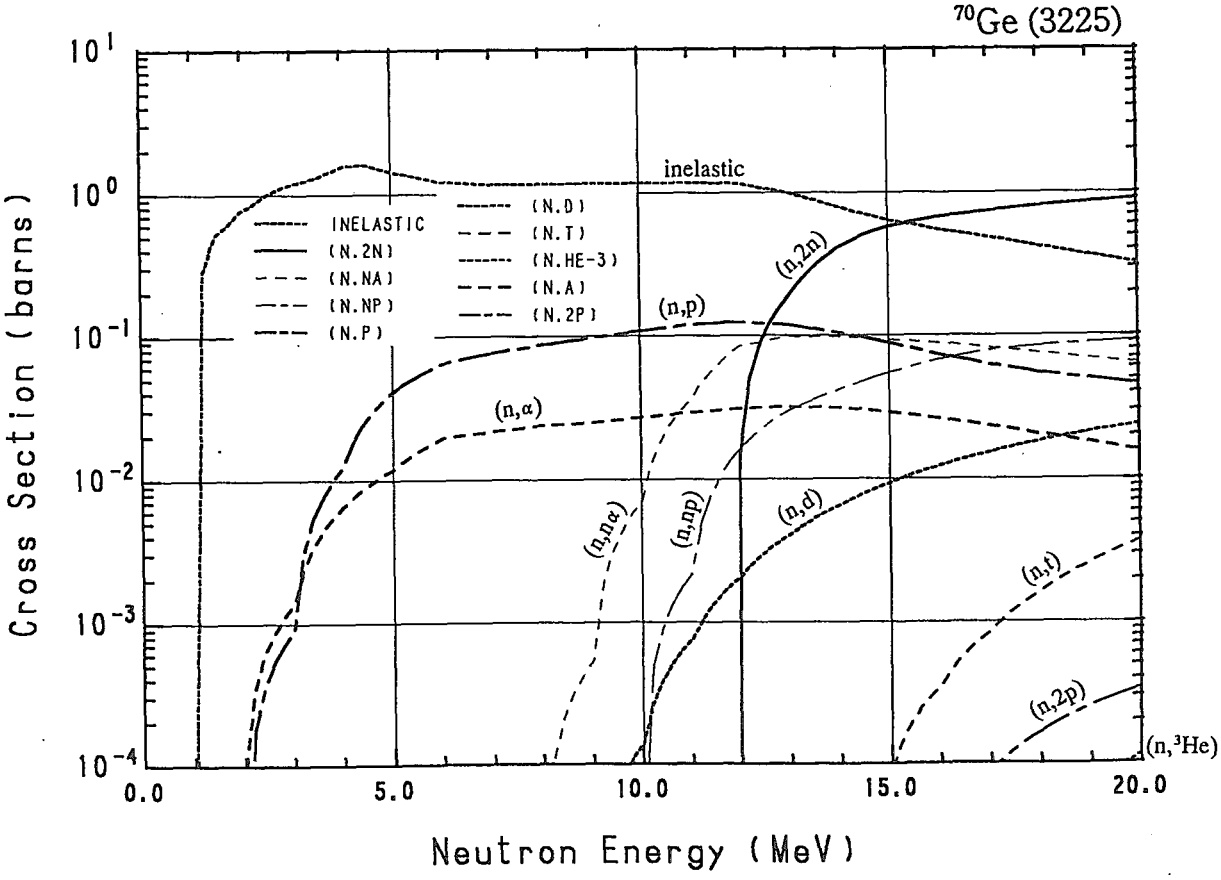

71Ga (3131)
inelastic
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,2n)
(n,p)
(n,nα)
(n,α)
(n,t)
(n,d)
(n,np)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

32-Ge- 70 (MAT=3225)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	15.44	15.10	–	3.084	4.115
elastic	–	12.50	12.50	–	1.603	3.473
inelastic	1.054 MeV	–	–	–	791.2×10^{-3}	604.2×10^{-3}
(n,2n)	11.70 MeV	–	–	–	407.1×10^{-3}	60.64×10^{-6}
(n,nα)	4.148 MeV	–	–	–	97.68×10^{-3}	62.14×10^{-6}
(n,np)	8.648 MeV	–	–	–	41.89×10^{-3}	11.76×10^{-6}
capture	–	2.935	2.601	2.507	777.7×10^{-6}	29.02×10^{-3}
(n,p)	883.5 keV	–	–	–	104.1×10^{-3}	5.777×10^{-3}
(n,d)	6.391 MeV	–	–	–	6.539×10^{-3}	2.088×10^{-6}
(n,t)	10.50 MeV	–	–	–	10.21×10^{-6}	13.56×10^{-9}
(n,He-3)	7.521 MeV	–	–	–	513.9×10^{-9}	376.4×10^{-12}
(n,α)	–	0.000	0.000	36.56×10^{-3}	31.04×10^{-3}	2.072×10^{-3}
(n,2p)	8.774 MeV	–	–	–	855.8×10^{-9}	1.295×10^{-9}

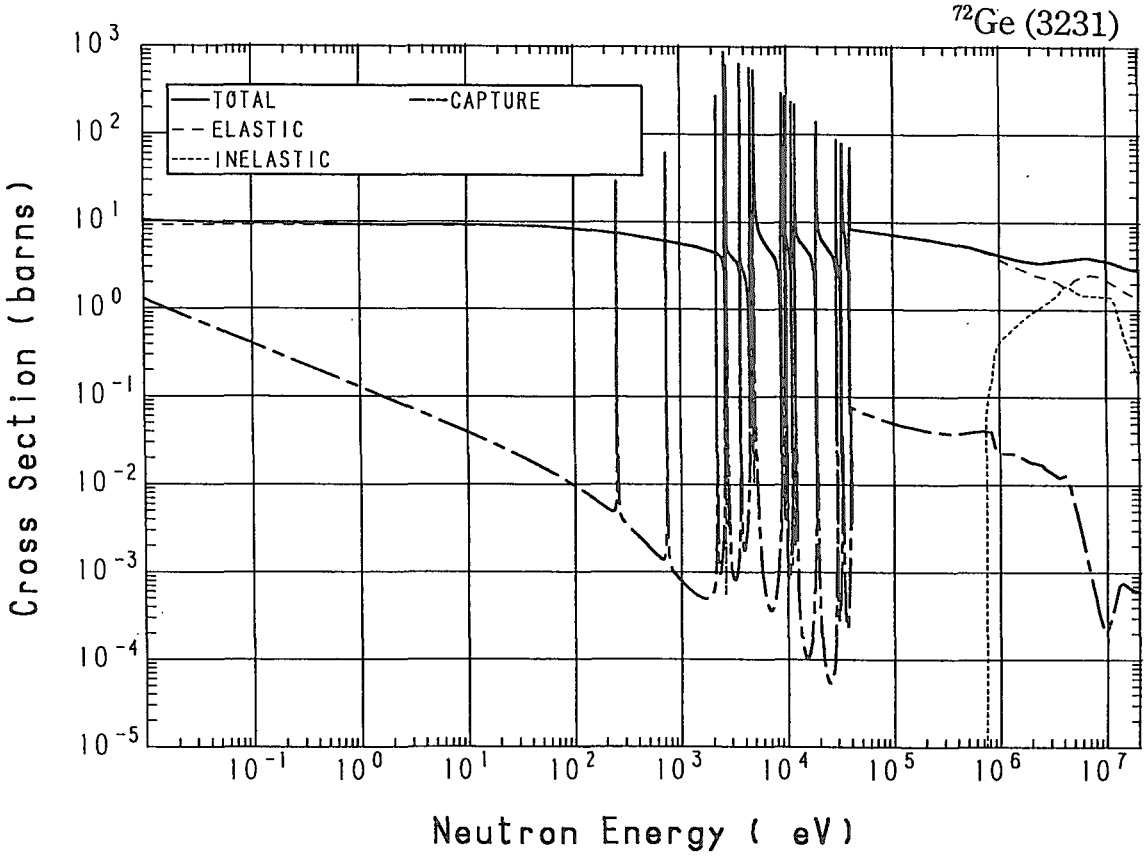


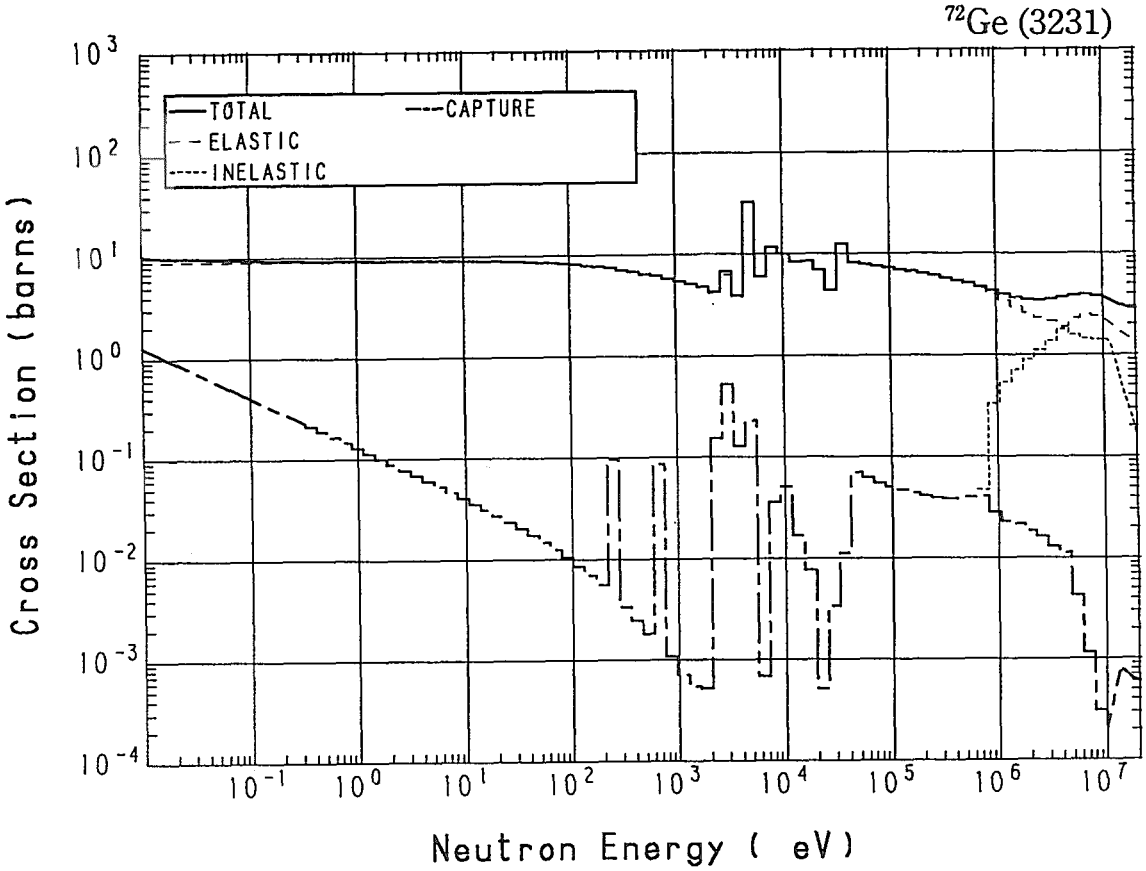

70Ge (3225)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

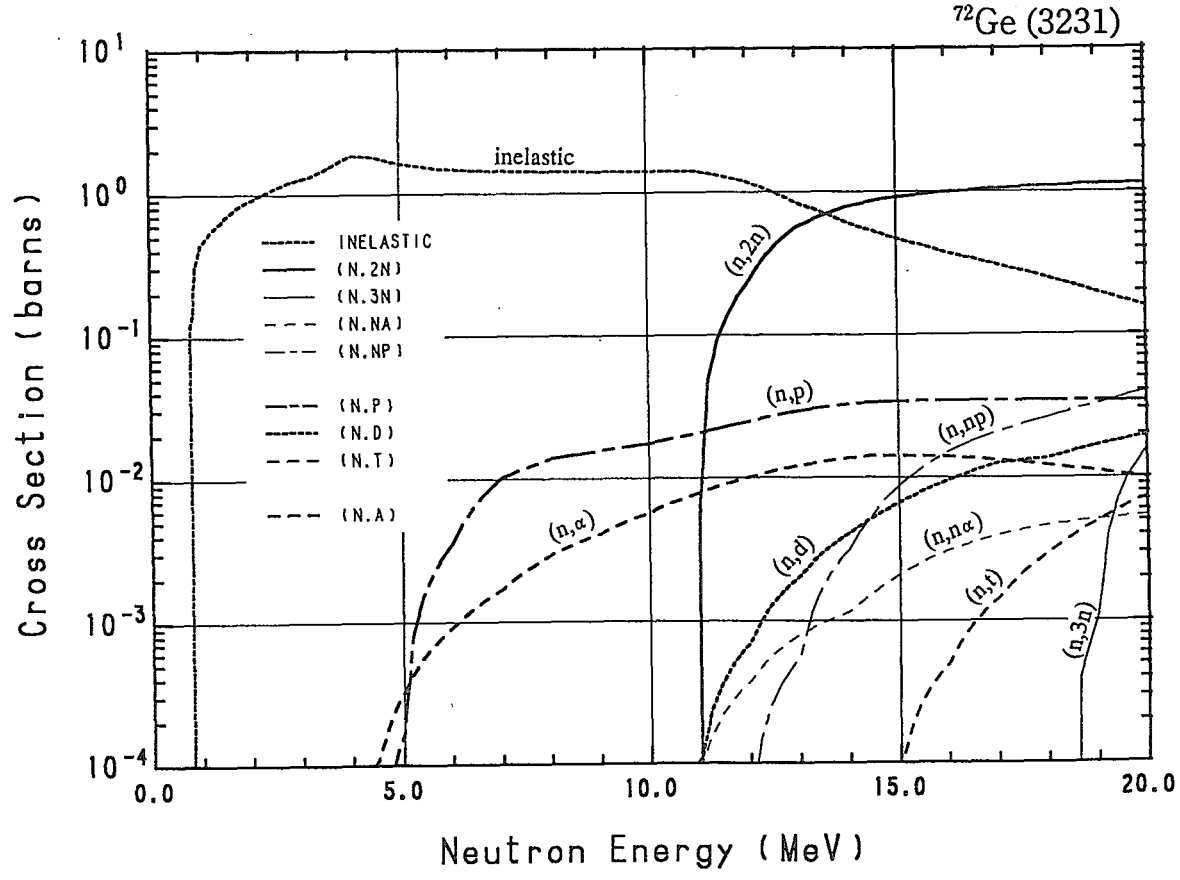

70Ge (3225)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.HE-3)
(N.A)
(N.2P)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
(n,2p)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)

32-Ge- 72 (MAT=3231)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	9.910	9.818	–	3.177	4.171
elastic	–	9.100	9.100	–	1.729	3.386
inelastic	701.3 keV	–	–	–	610.8×10^{-3}	760.0×10^{-3}
(n,2n)	10.90 MeV	–	–	–	782.2×10^{-3}	175.5×10^{-6}
(n,3n)	18.42 MeV	–	–	–	–	3.691×10^{-9}
(n,nα)	5.071 MeV	–	–	–	1.165×10^{-3}	408.6×10^{-9}
(n,np)	9.867 MeV	–	–	–	3.165×10^{-3}	657.6×10^{-9}
(n,nd)	17.04 MeV	–	–	–	–	2.331×10^{-12}
capture	–	810.0×10^{-3}	718.1×10^{-3}	868.2×10^{-3}	768.3×10^{-6}	23.00×10^{-3}
(n,p)	3.255 MeV	–	–	–	32.55×10^{-3}	323.2×10^{-6}
(n,d)	7.611 MeV	–	–	–	4.080×10^{-3}	893.2×10^{-9}
(n,t)	10.70 MeV	–	–	–	14.14×10^{-6}	21.65×10^{-9}
(n,He-3)	10.02 MeV	–	–	–	87.22×10^{-12}	11.71×10^{-12}
(n,α)	–	0.000	0.000	9.392×10^{-3}	13.64×10^{-3}	87.67×10^{-6}

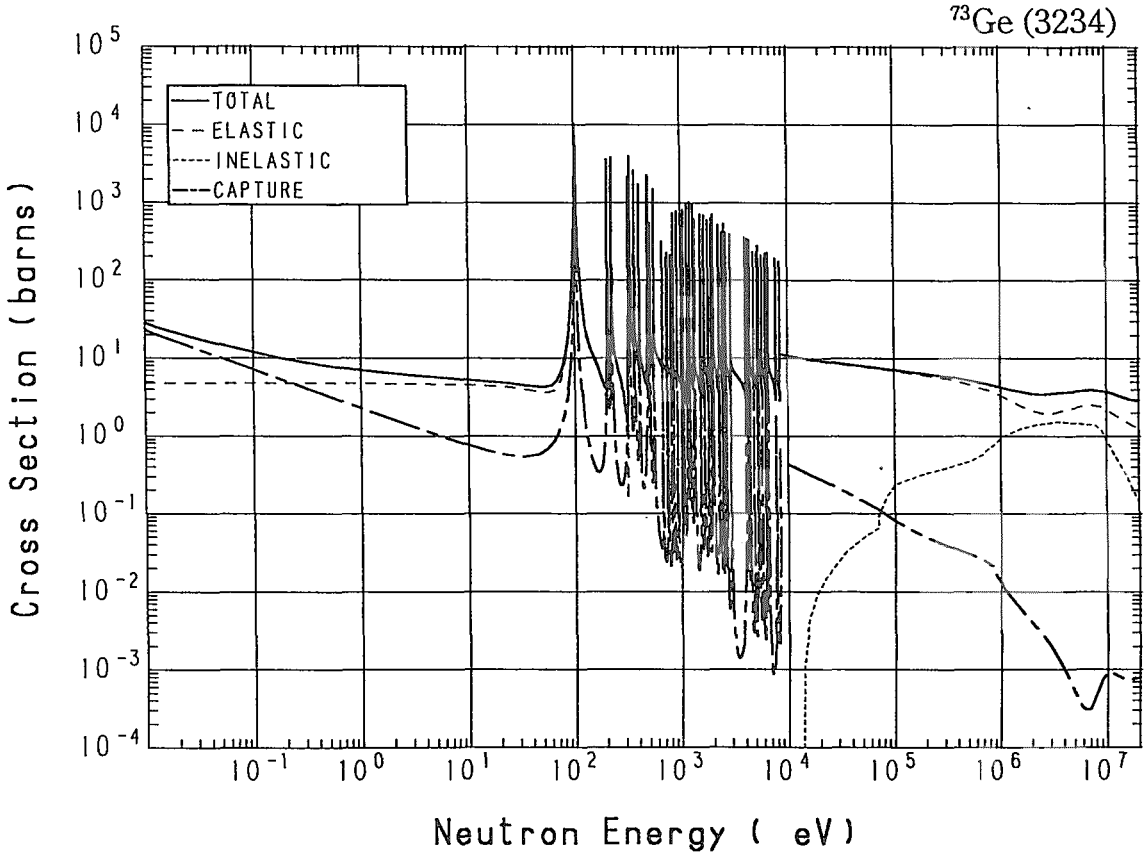


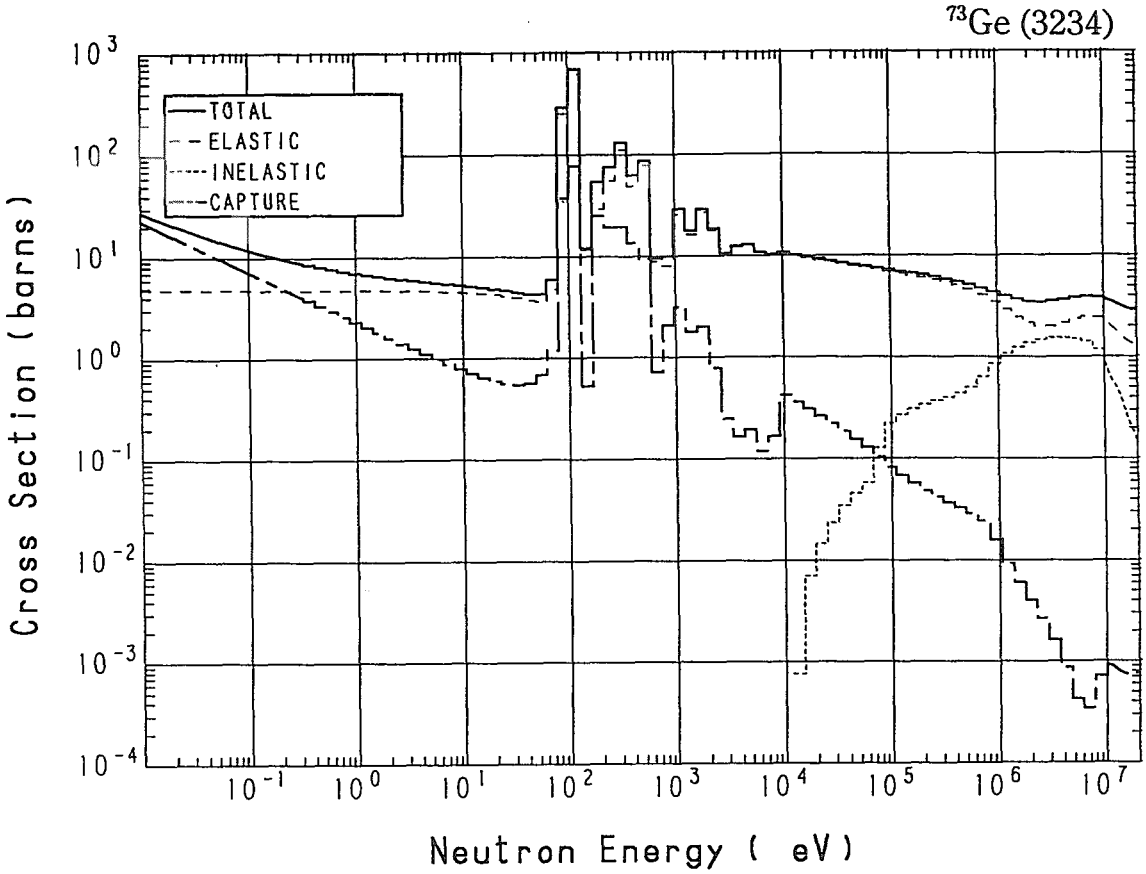

72Ge (3231)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

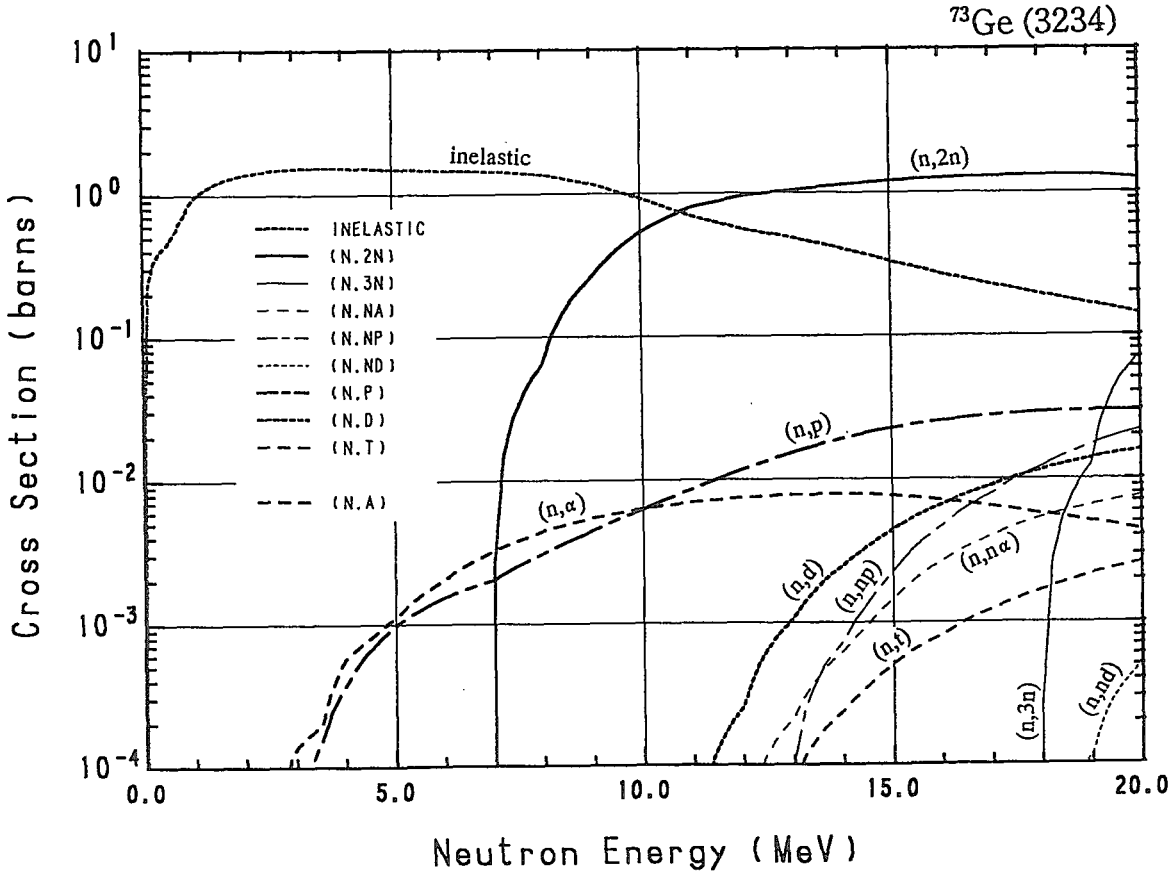

72Ge (3231)
inelastic
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,2n)
(n,p)
(n,np)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,3n)
Cross Section (barns)
Neutron Energy (MeV)

32-Ge- 73 (MAT=3234)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	19.20	17.57	–	3.225	4.198
elastic	–	4.800	4.799	–	1.663	3.071
inelastic	13.48 keV	–	–	–	407.1×10^{-3}	1.109
(n,2n)	6.877 MeV	–	–	–	1.123	2.274×10^{-3}
(n,3n)	17.77 MeV	–	–	–	–	23.89×10^{-9}
(n,nα)	5.375 MeV	–	–	–	627.3×10^{-6}	140.5×10^{-9}
(n,np)	10.13 MeV	–	–	–	736.6×10^{-6}	194.6×10^{-9}
(n,nd)	14.49 MeV	–	–	–	–	206.4×10^{-12}
capture	–	14.40	12.77	62.24	761.4×10^{-6}	13.75×10^{-3}
(n,p)	794.4 keV	–	–	–	18.91×10^{-3}	166.3×10^{-6}
(n,d)	7.877 MeV	–	–	–	2.479×10^{-3}	491.9×10^{-9}
(n,t)	8.144 MeV	–	–	–	240.8×10^{-6}	48.98×10^{-9}
(n,He-3)	10.97 MeV	–	–	–	139.9×10^{-15}	3.102×10^{-12}
(n,α)	–	0.000	0.000	7.452×10^{-3}	7.852×10^{-3}	224.3×10^{-6}

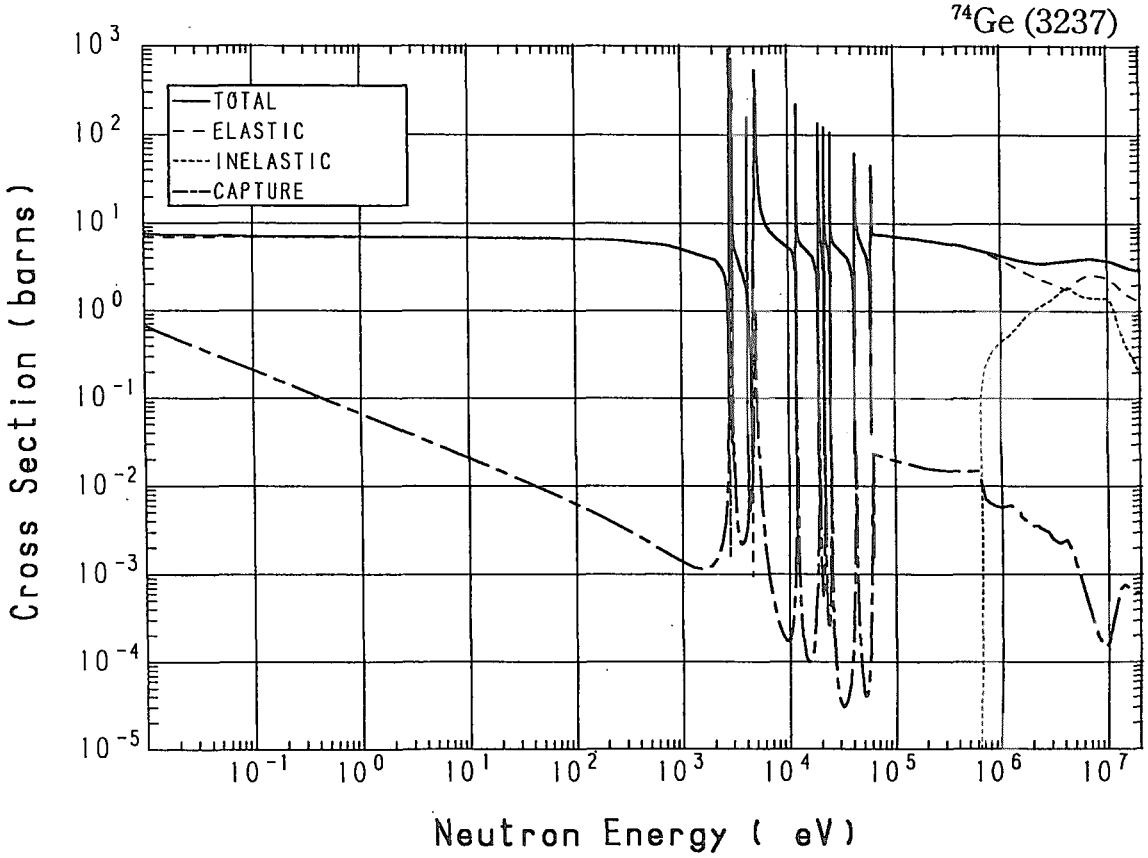


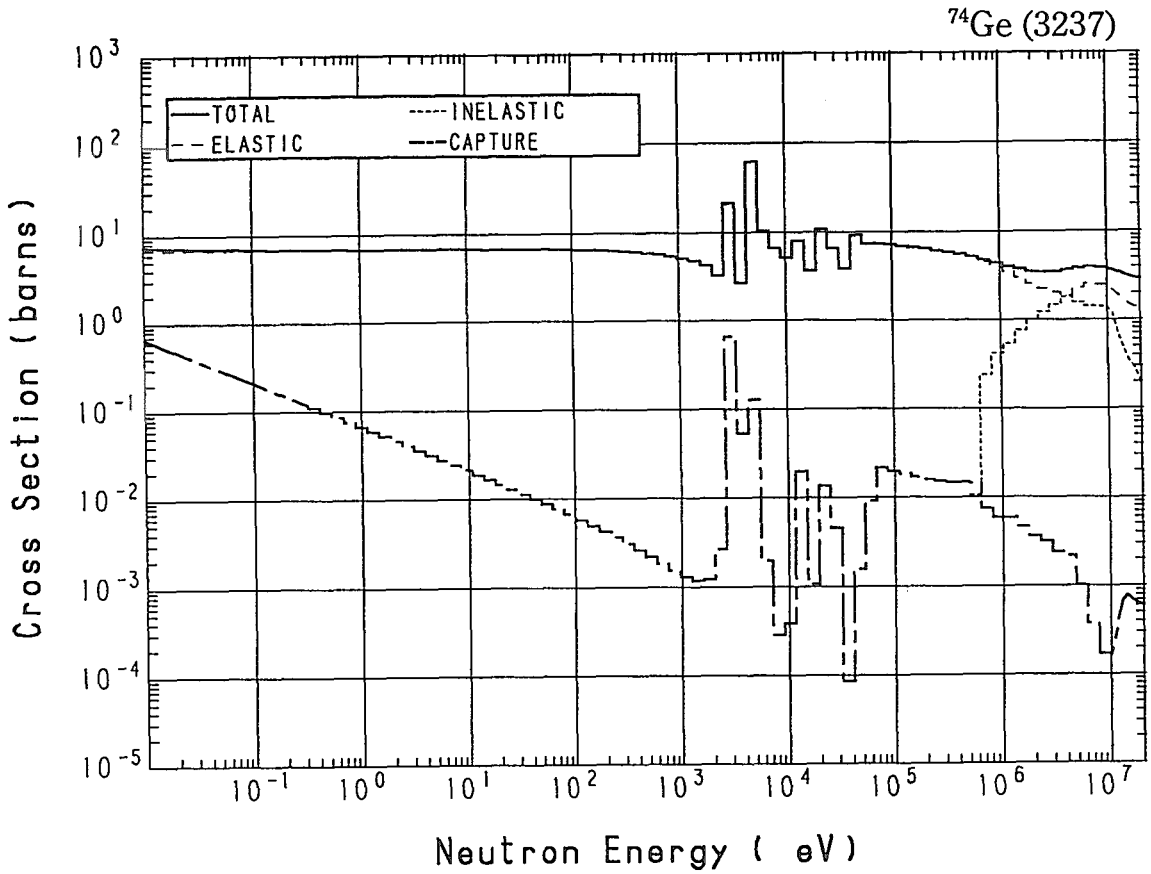

^{73}Ge (3234)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

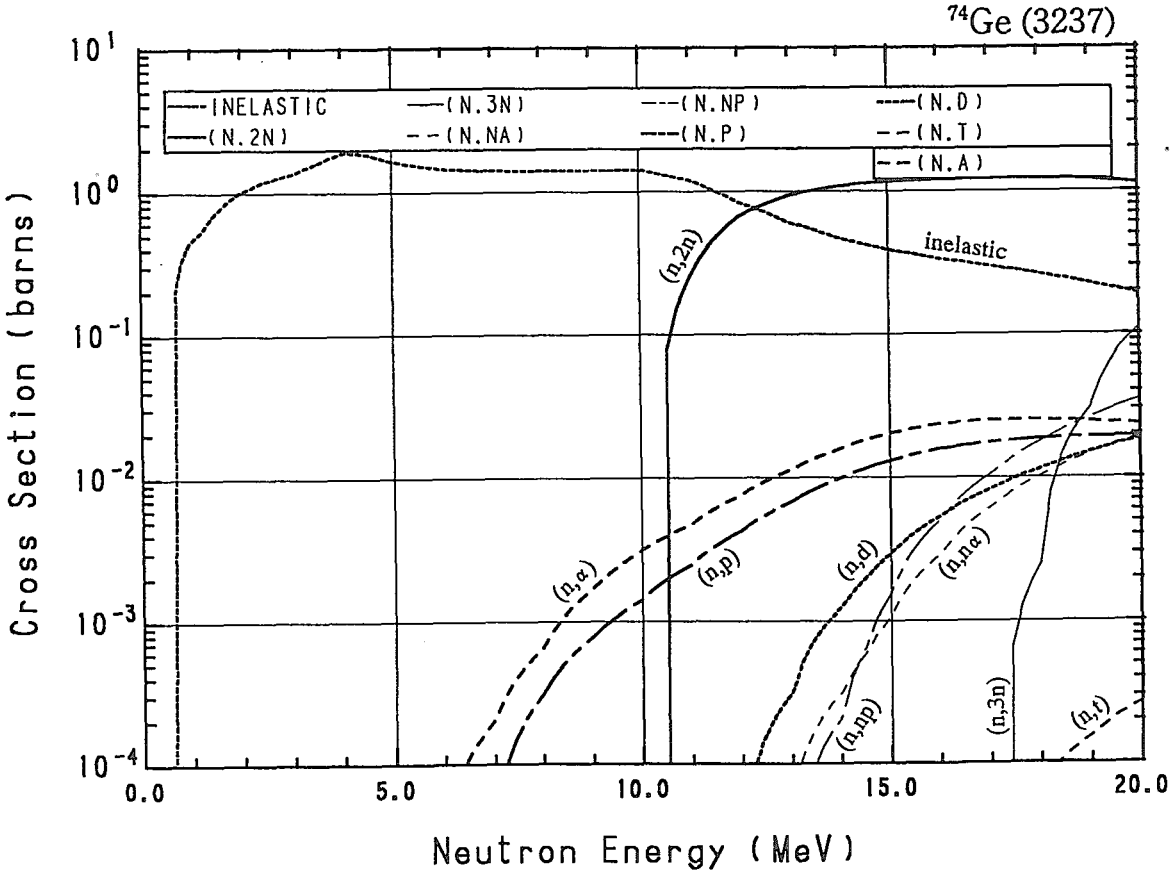

^{73}Ge (3234)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

32-Ge- 74 (MAT=3237)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.220	7.172	–	3.271	4.207
elastic	–	6.800	6.800	–	1.694	3.377
inelastic	604.0 keV	–	–	–	472.2×10^{-3}	822.6×10^{-3}
(n,2n)	10.34 MeV	–	–	–	1.076	423.2×10^{-6}
(n,3n)	17.21 MeV	–	–	–	–	47.20×10^{-9}
(n,nα)	6.373 MeV	–	–	–	315.7×10^{-6}	122.2×10^{-9}
(n,np)	11.12 MeV	–	–	–	212.5×10^{-6}	175.7×10^{-9}
capture	–	420.0×10^{-3}	372.3×10^{-3}	455.5×10^{-3}	771.5×10^{-6}	5.956×10^{-3}
(n,p)	4.784 MeV	–	–	–	9.900×10^{-3}	9.012×10^{-6}
(n,d)	8.865 MeV	–	–	–	1.251×10^{-3}	260.5×10^{-9}
(n,t)	11.87 MeV	–	–	–	1.620×10^{-9}	411.3×10^{-12}
(n,α)	449.6 keV	–	–	–	15.77×10^{-3}	19.84×10^{-6}

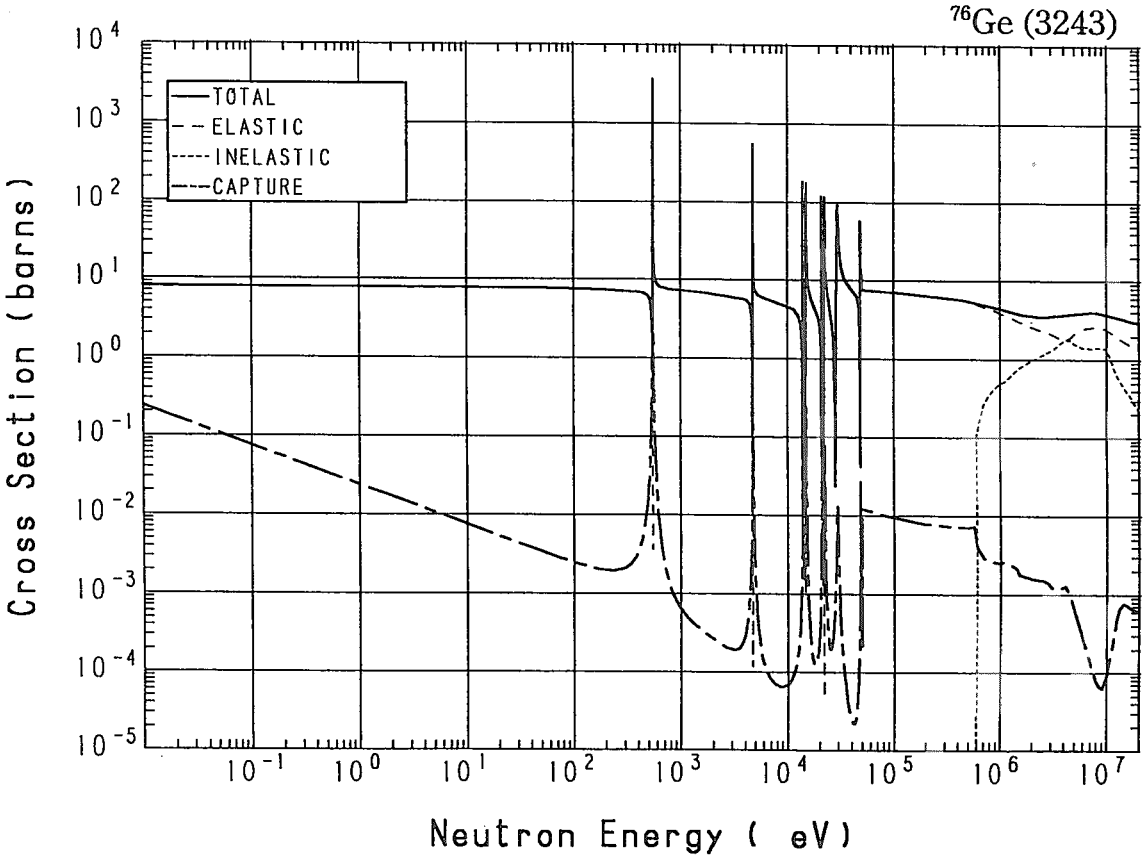


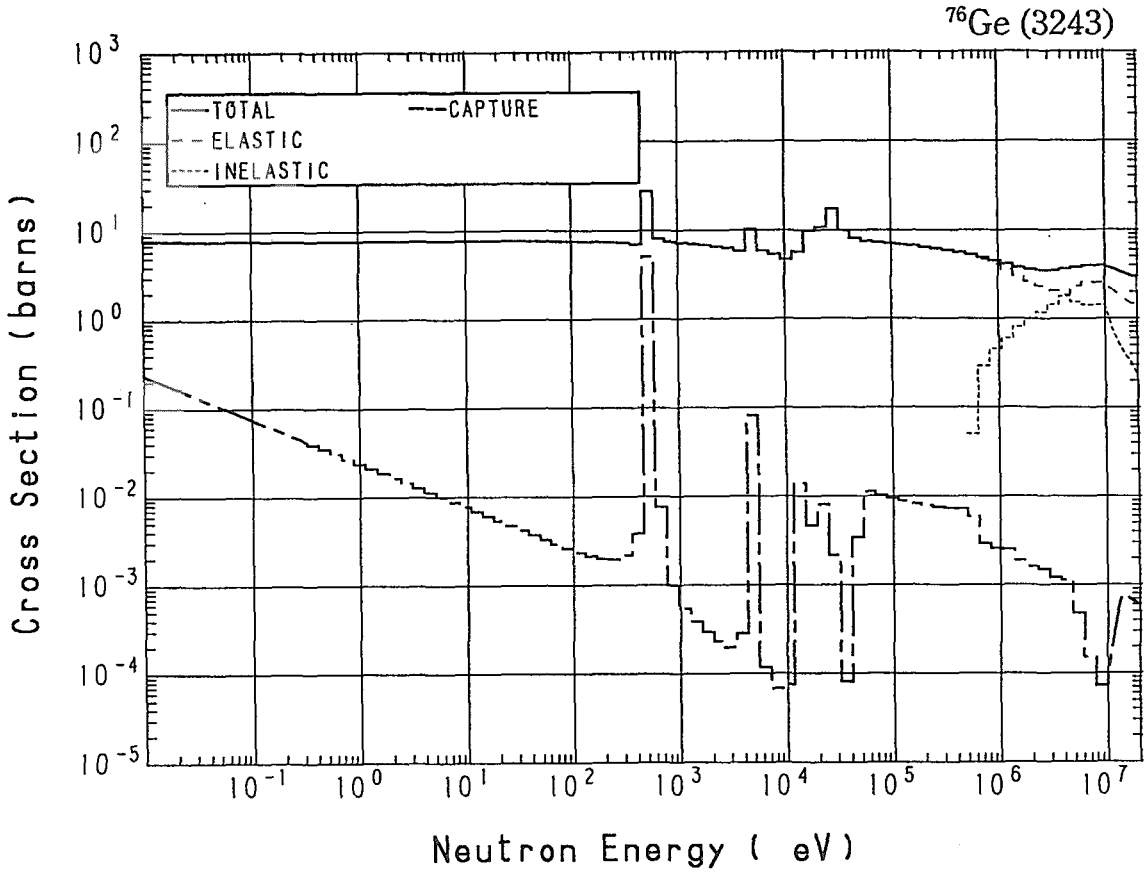

74Ge (3237)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

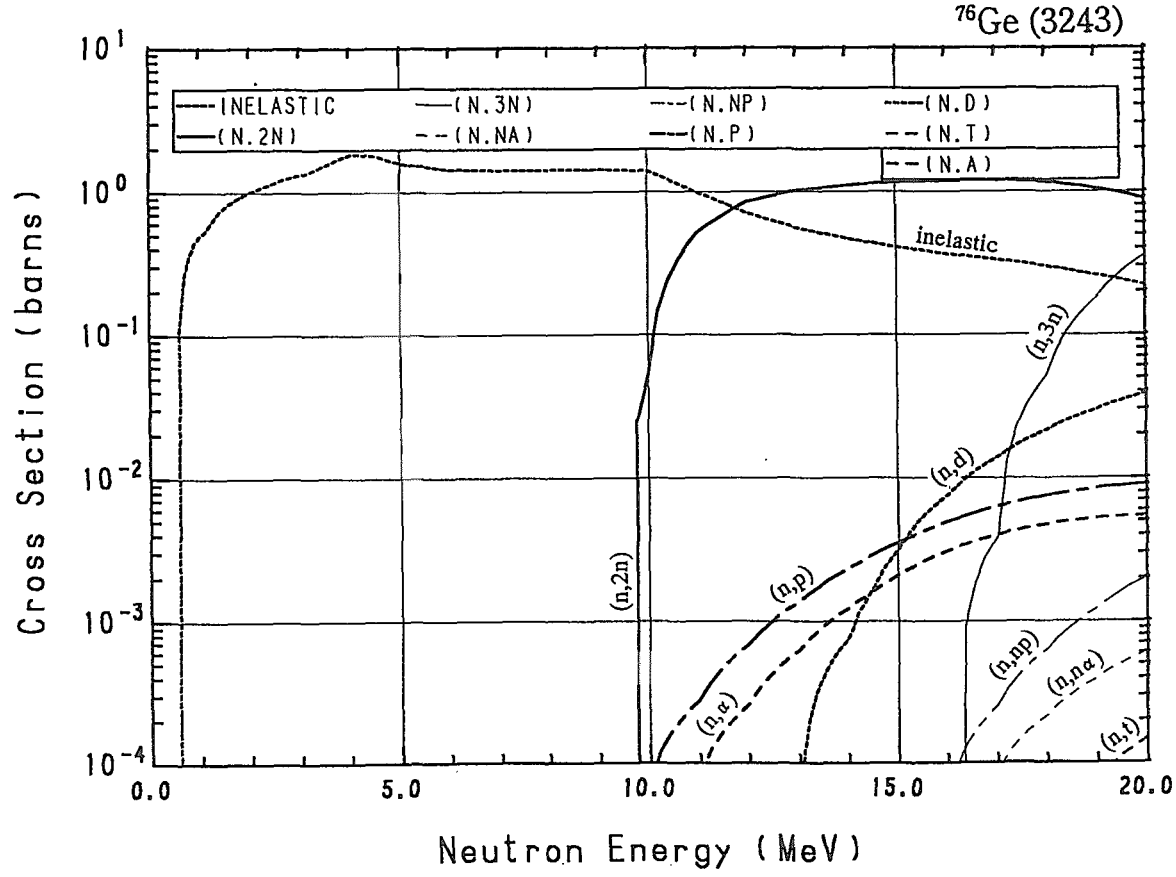

74Ge (3237)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,2n)
(n,α)
(n,p)
(n,d)
(n,nα)
(n,np)
(n,3n)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

32-Ge- 76 (MAT=3243)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.860	7.843	–	3.366	4.289
elastic	–	7.710	7.710	–	1.791	3.458
inelastic	570.4 keV	–	–	–	470.3×10^{-3}	826.2×10^{-3}
(n,2n)	9.567 MeV	–	–	–	1.100	662.2×10^{-6}
(n,3n)	16.14 MeV	–	–	–	–	296.9×10^{-9}
(n,nα)	7.605 MeV	–	–	–	819.7×10^{-9}	1.465×10^{-9}
(n,np)	12.12 MeV	–	–	–	145.1×10^{-9}	3.970×10^{-9}
capture	–	150.0×10^{-3}	133.0×10^{-3}	1.322	766.4×10^{-6}	2.716×10^{-3}
(n,p)	5.926 MeV	–	–	–	2.320×10^{-3}	809.0×10^{-9}
(n,d)	9.865 MeV	–	–	–	758.4×10^{-6}	281.1×10^{-9}
(n,t)	12.33 MeV	–	–	–	13.10×10^{-12}	173.4×10^{-12}
(n,α)	2.428 MeV	–	–	–	1.229×10^{-3}	359.6×10^{-9}

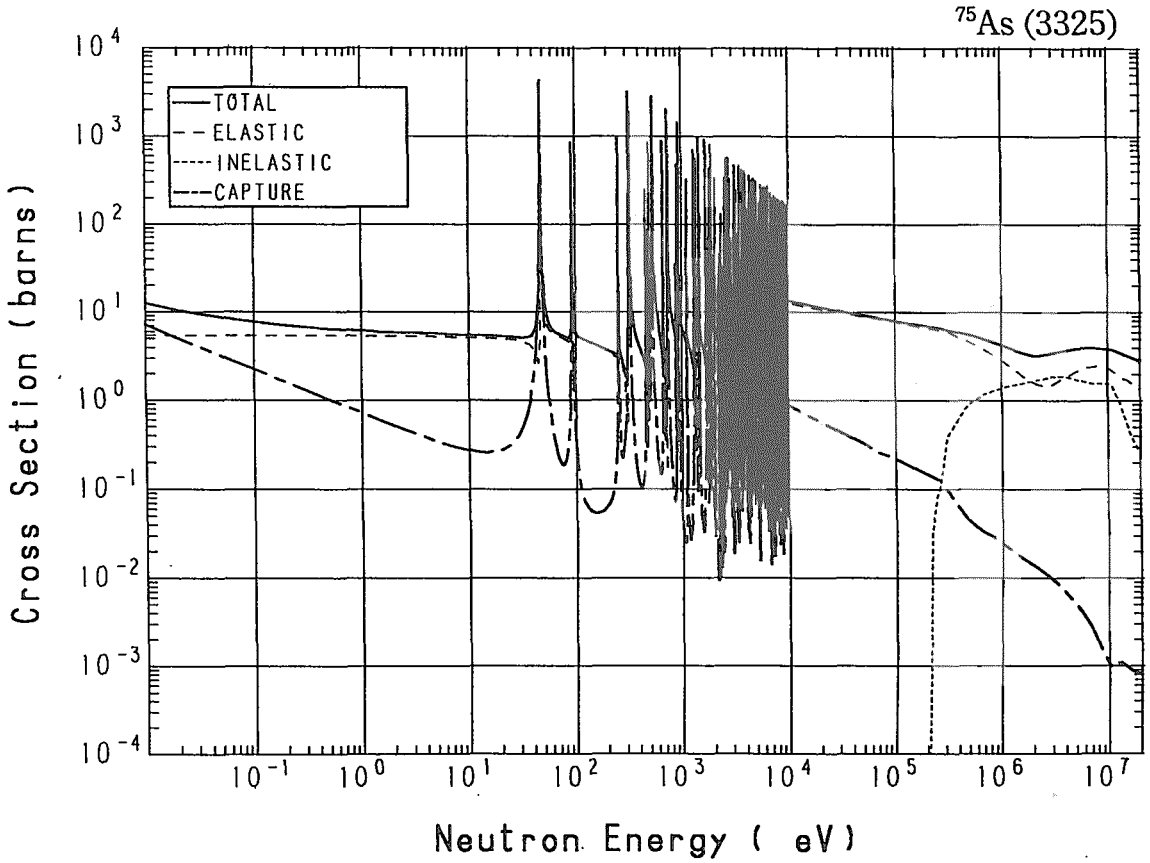


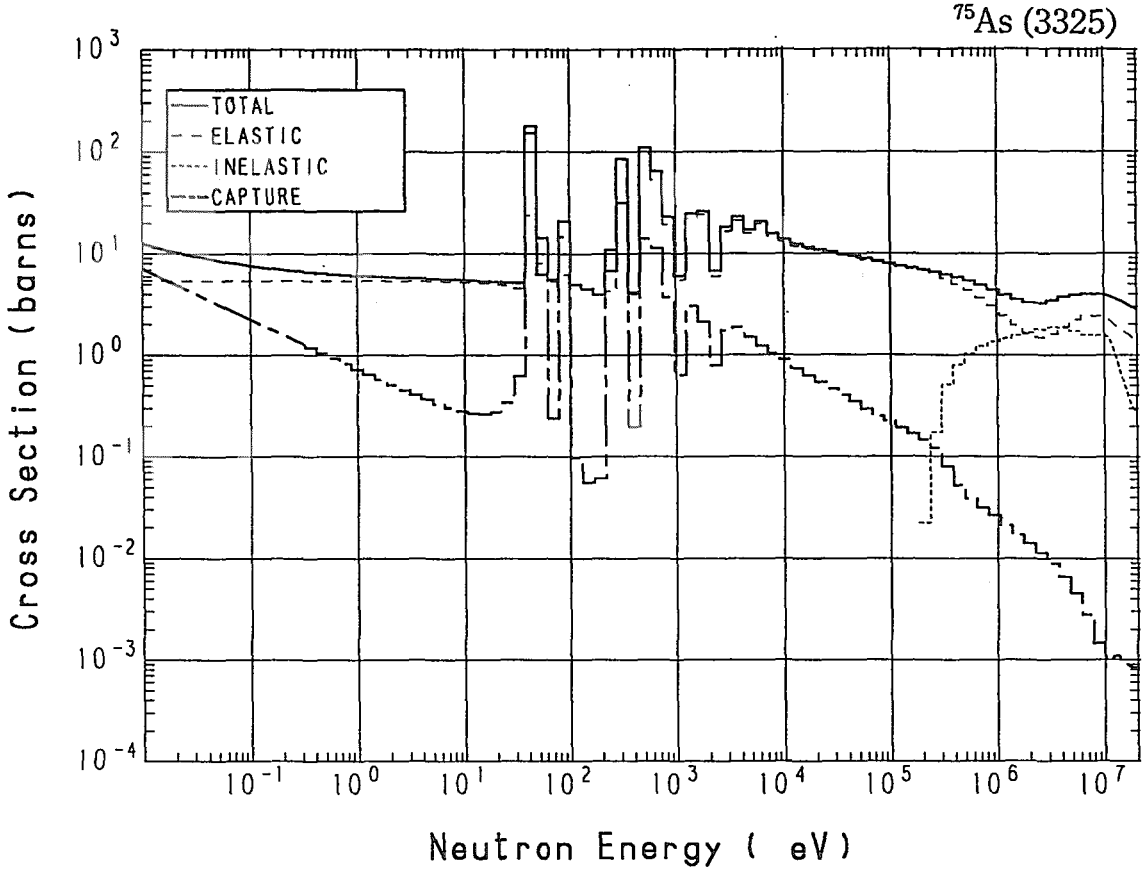

76Ge (3243)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

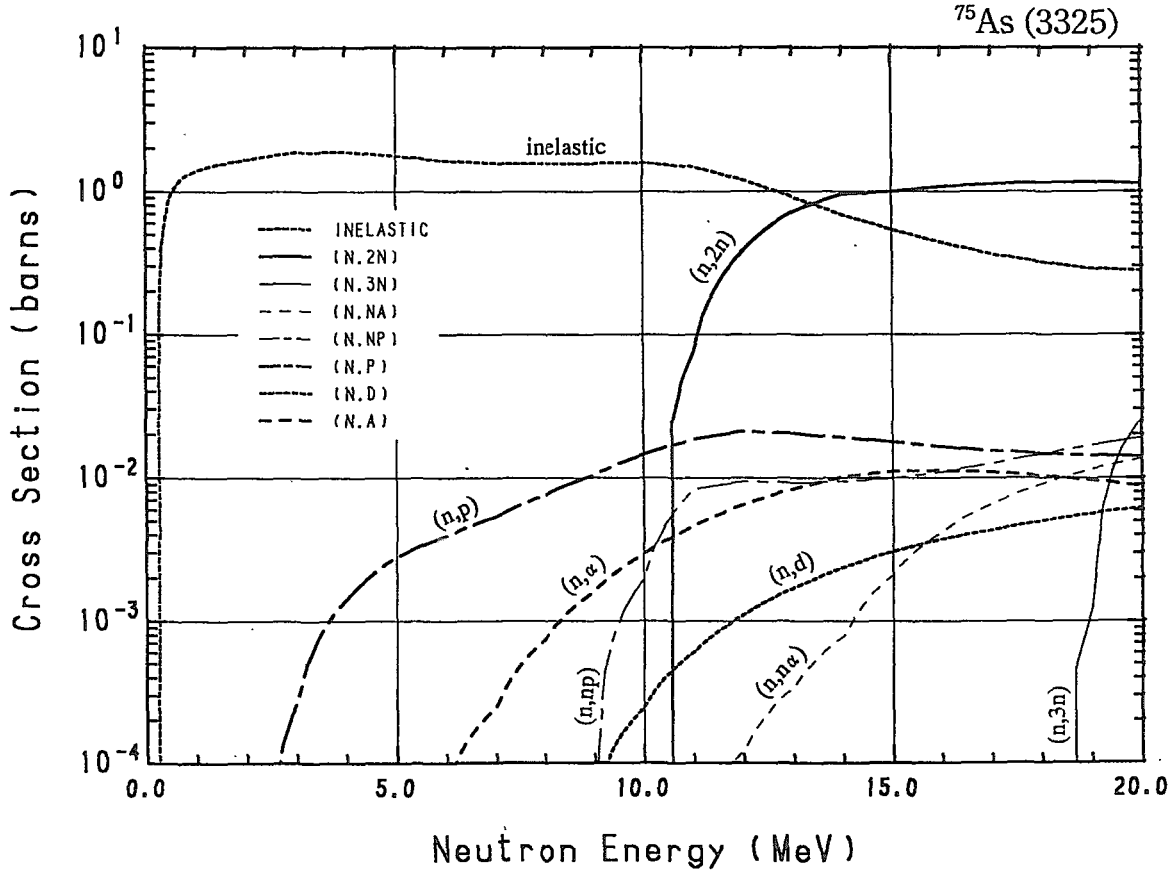

76Ge (3243)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,3n)
(n,d)
(n,2n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

33-As- 75 (MAT=3325)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	9.930	9.420	–	3.456	4.228
elastic	–	5.430	5.430	–	1.778	2.766
inelastic	201.3 keV	–	–	–	685.1×10^{-3}	1.429
(n,2n)	10.38 MeV	–	–	–	950.0×10^{-3}	260.8×10^{-6}
(n,3n)	18.46 MeV	–	–	–	–	5.734×10^{-9}
(n,nα)	5.388 MeV	–	–	–	786.4×10^{-6}	246.1×10^{-9}
(n,np)	6.989 MeV	–	–	–	9.422×10^{-3}	10.15×10^{-6}
capture	–	4.500	3.990	63.89	1.035×10^{-3}	31.25×10^{-3}
(n,p)	411.7 keV	–	–	–	19.00×10^{-3}	488.1×10^{-6}
(n,d)	4.735 MeV	–	–	–	2.370×10^{-3}	1.355×10^{-6}
(n,α)	–	0.000	0.000	6.343×10^{-3}	10.13×10^{-3}	20.49×10^{-6}

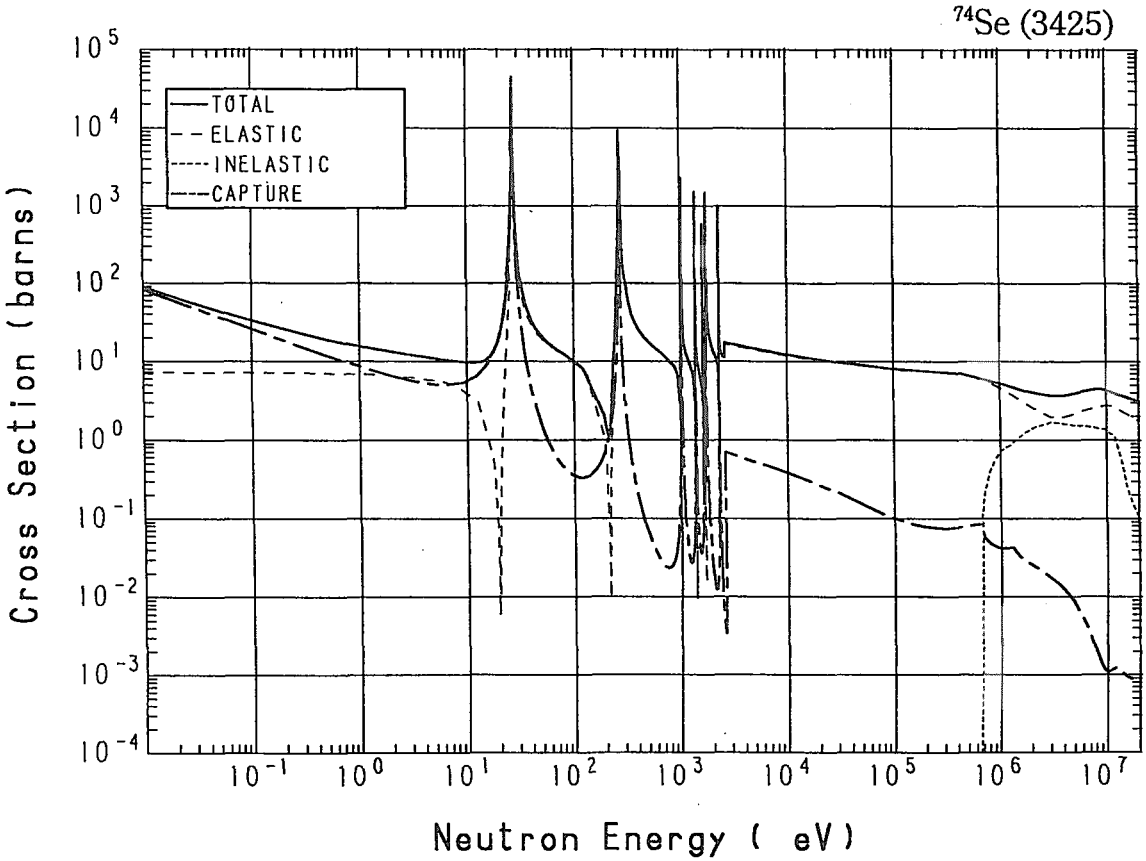


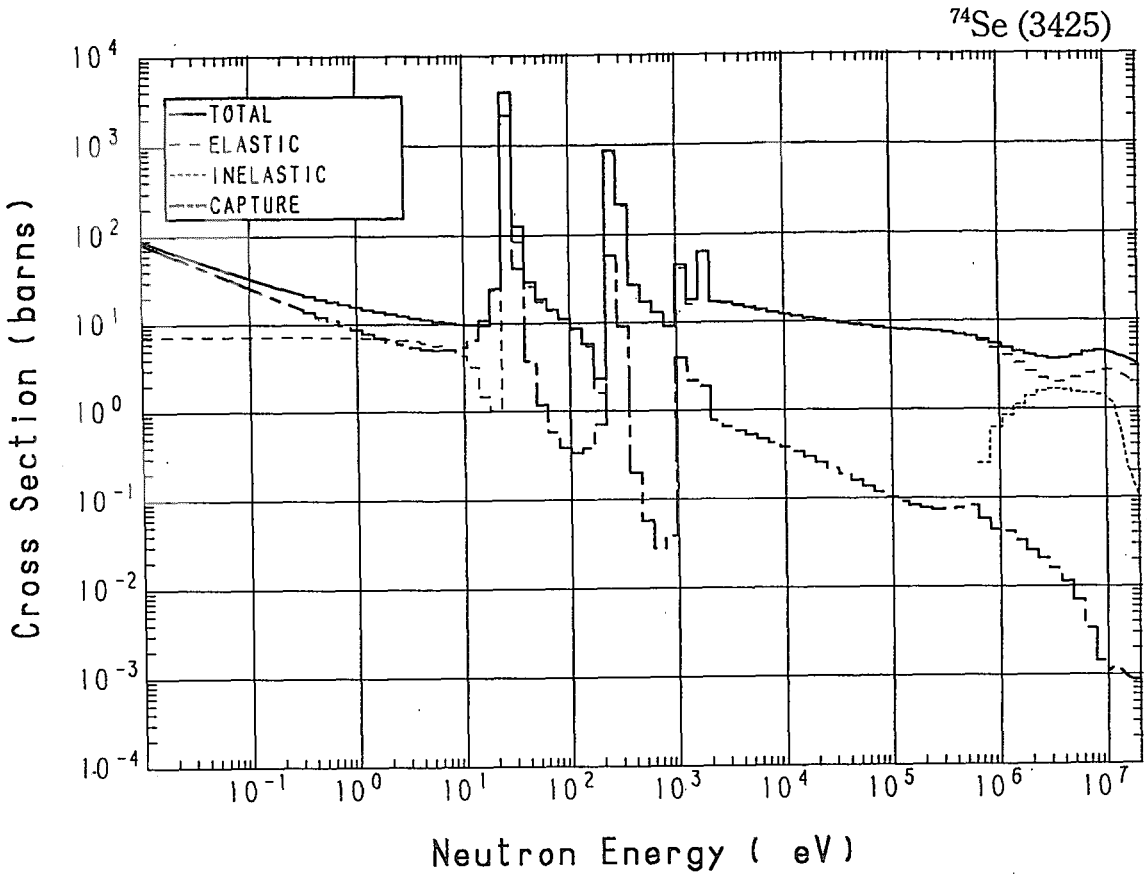

75As (3325)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

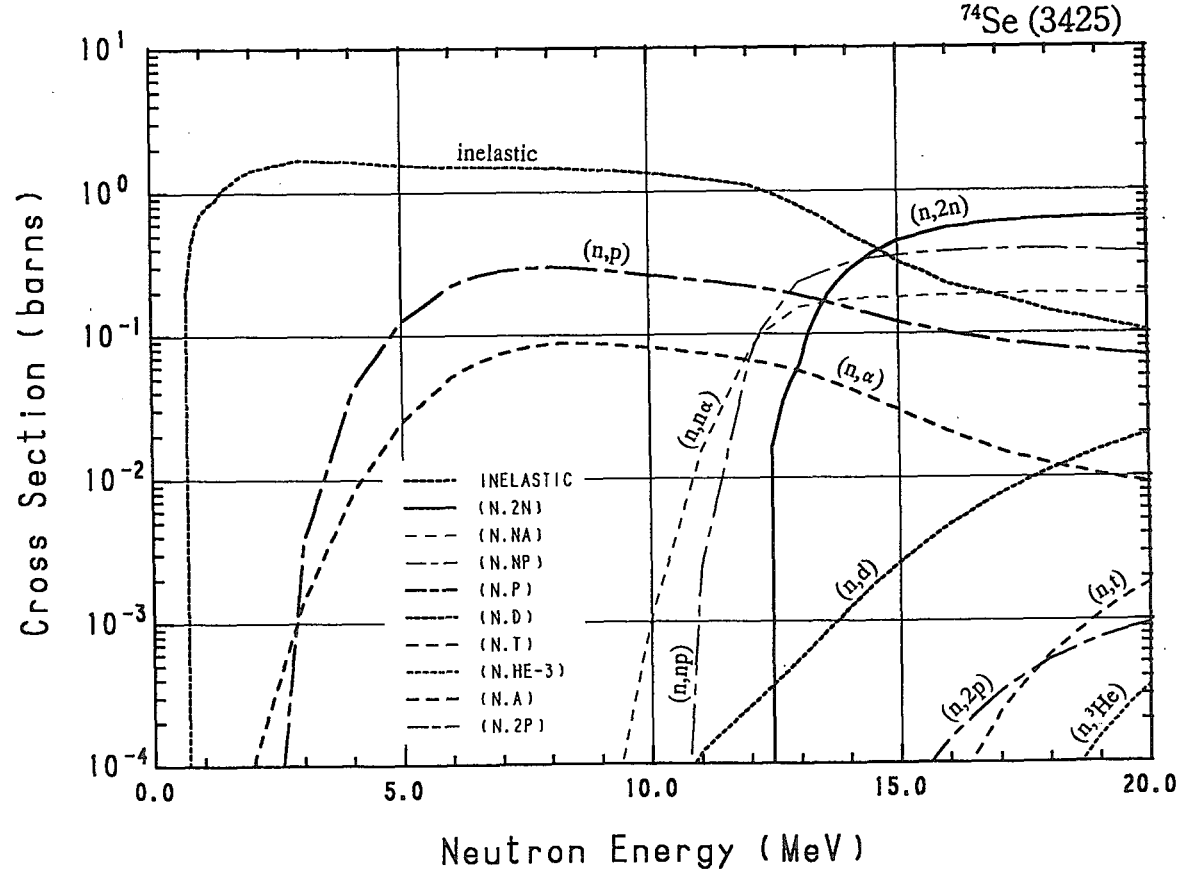

75As (3325)
inelastic
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,A)
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,3n)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 74 (MAT=3425)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	59.07	53.22	–	3.840	4.941
elastic	–	7.274	7.268	–	2.391	3.878
inelastic	643.5 keV	–	–	–	498.4×10^{-3}	1.002
(n,2n)	12.24 MeV	–	–	–	271.8×10^{-3}	34.44×10^{-6}
(n,nα)	4.129 MeV	–	–	–	174.3×10^{-3}	50.21×10^{-6}
(n,np)	8.674 MeV	–	–	–	310.1×10^{-3}	59.26×10^{-6}
capture	–	51.80	45.95	579.7	1.042×10^{-3}	38.55×10^{-3}
(n,p)	578.3 keV	–	–	–	151.4×10^{-3}	17.49×10^{-3}
(n,d)	6.332 MeV	–	–	–	1.240×10^{-3}	387.5×10^{-9}
(n,t)	11.00 MeV	–	–	–	179.3×10^{-9}	3.279×10^{-9}
(n,He-3)	6.574 MeV	–	–	–	279.6×10^{-9}	337.3×10^{-12}
(n,α)	–	0.000	0.000	79.74×10^{-3}	41.42×10^{-3}	4.226×10^{-3}
(n,2p)	7.532 MeV	–	–	–	12.38×10^{-6}	5.475×10^{-9}

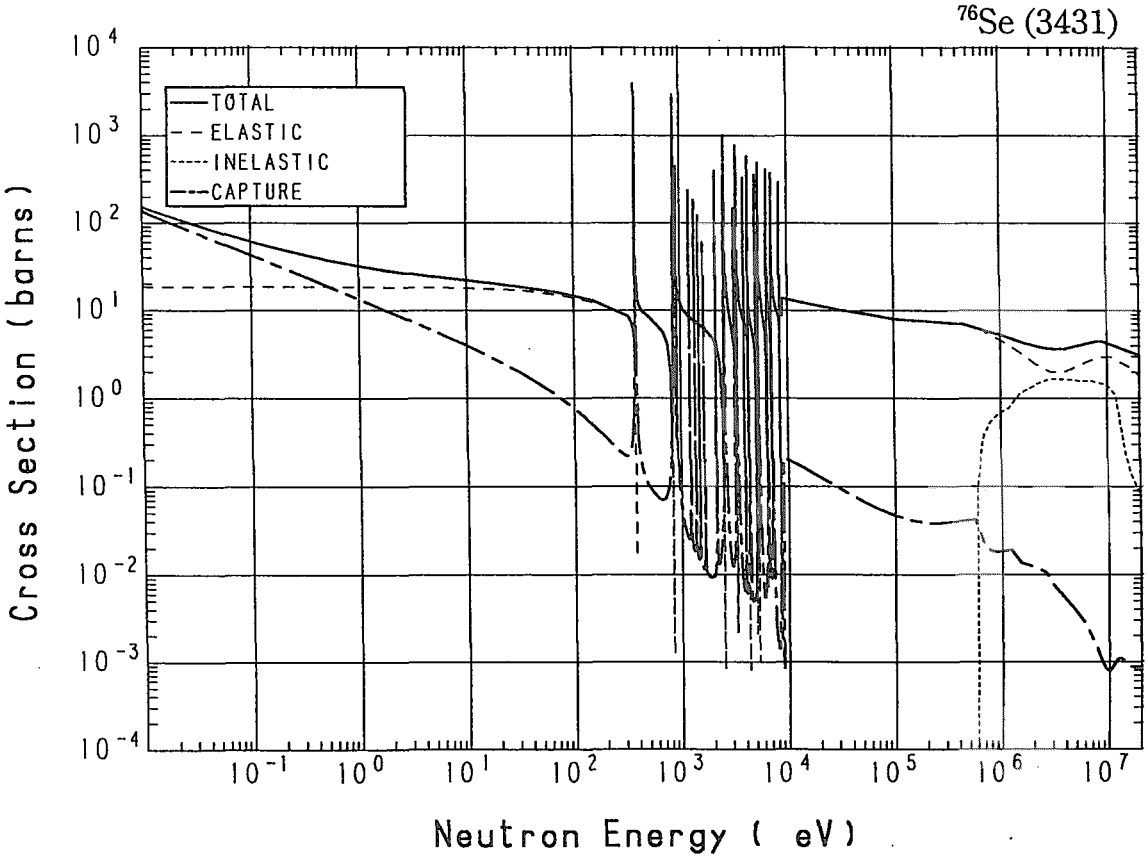


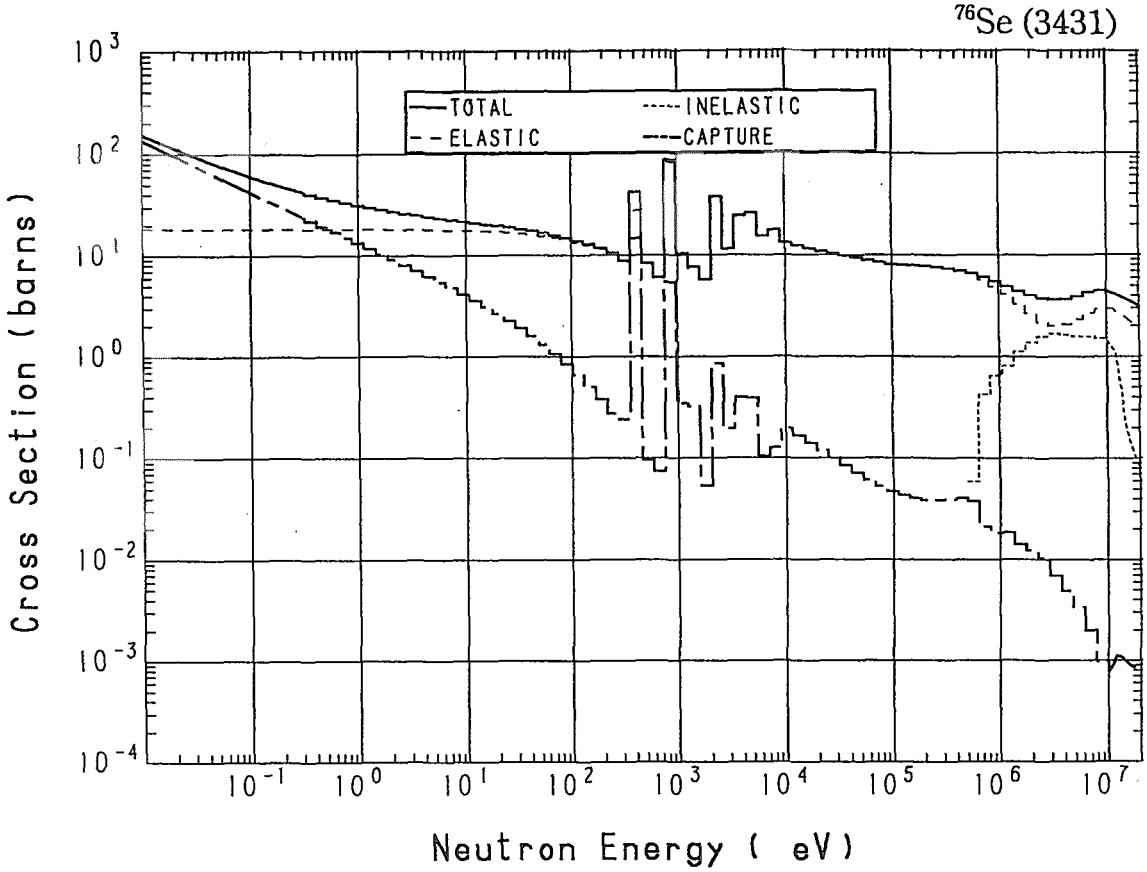

74Se (3425)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

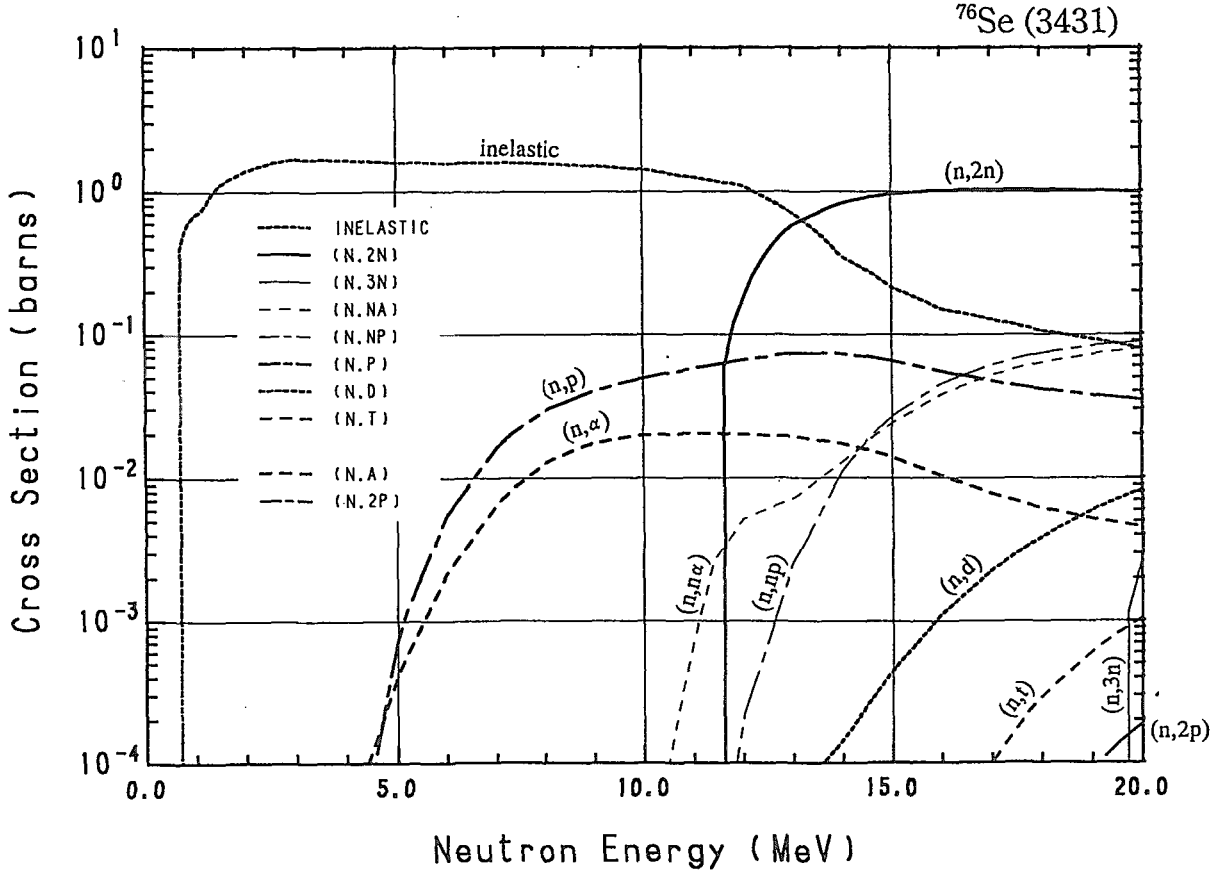

74Se (3425)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,np)
(n,2p)
(n,3He)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.HE-3)
(N.A)
(N.2P)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 76 (MAT=3431)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	103.4	93.74	–	3.841	4.942
elastic	–	18.40	18.40	–	2.550	3.902
inelastic	566.5 keV	–	–	–	349.9×10^{-3}	1.020
(n,2n)	11.31 MeV	–	–	–	824.9×10^{-3}	154.6×10^{-6}
(n,3n)	19.45 MeV	–	–	–	–	226.3×10^{-12}
(n,nα)	5.166 MeV	–	–	–	12.87×10^{-3}	3.777×10^{-6}
(n,np)	9.645 MeV	–	–	–	11.20×10^{-3}	1.983×10^{-6}
capture	–	85.00	75.35	41.01	1.023×10^{-3}	17.46×10^{-3}
(n,p)	2.215 MeV	–	–	–	73.36×10^{-3}	606.6×10^{-6}
(n,d)	7.305 MeV	–	–	–	146.2×10^{-6}	57.85×10^{-9}
(n,t)	11.42 MeV	–	–	–	13.03×10^{-9}	1.542×10^{-9}
(n,He-3)	8.808 MeV	–	–	–	480.7×10^{-12}	4.000×10^{-12}
(n,α)	–	0.000	0.000	15.71×10^{-3}	17.19×10^{-3}	253.0×10^{-6}
(n,2p)	10.05 MeV	–	–	–	822.1×10^{-12}	175.9×10^{-12}

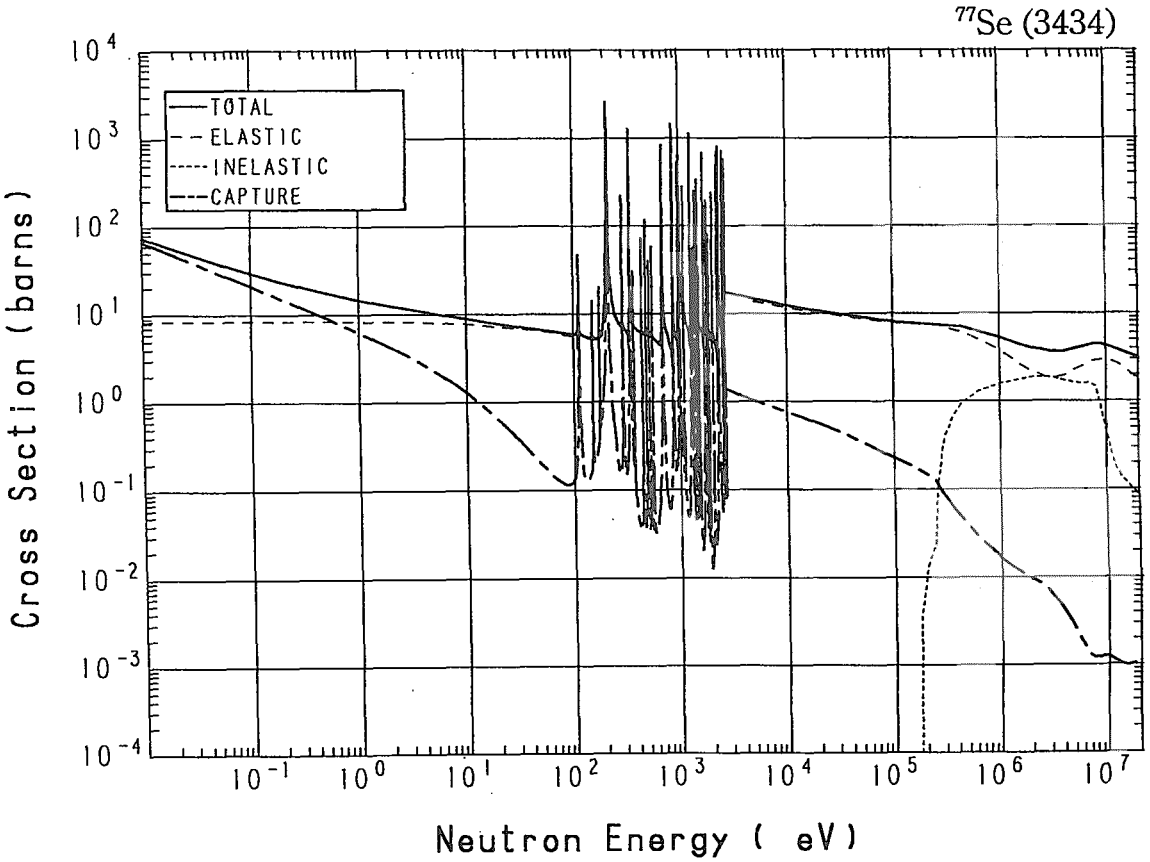


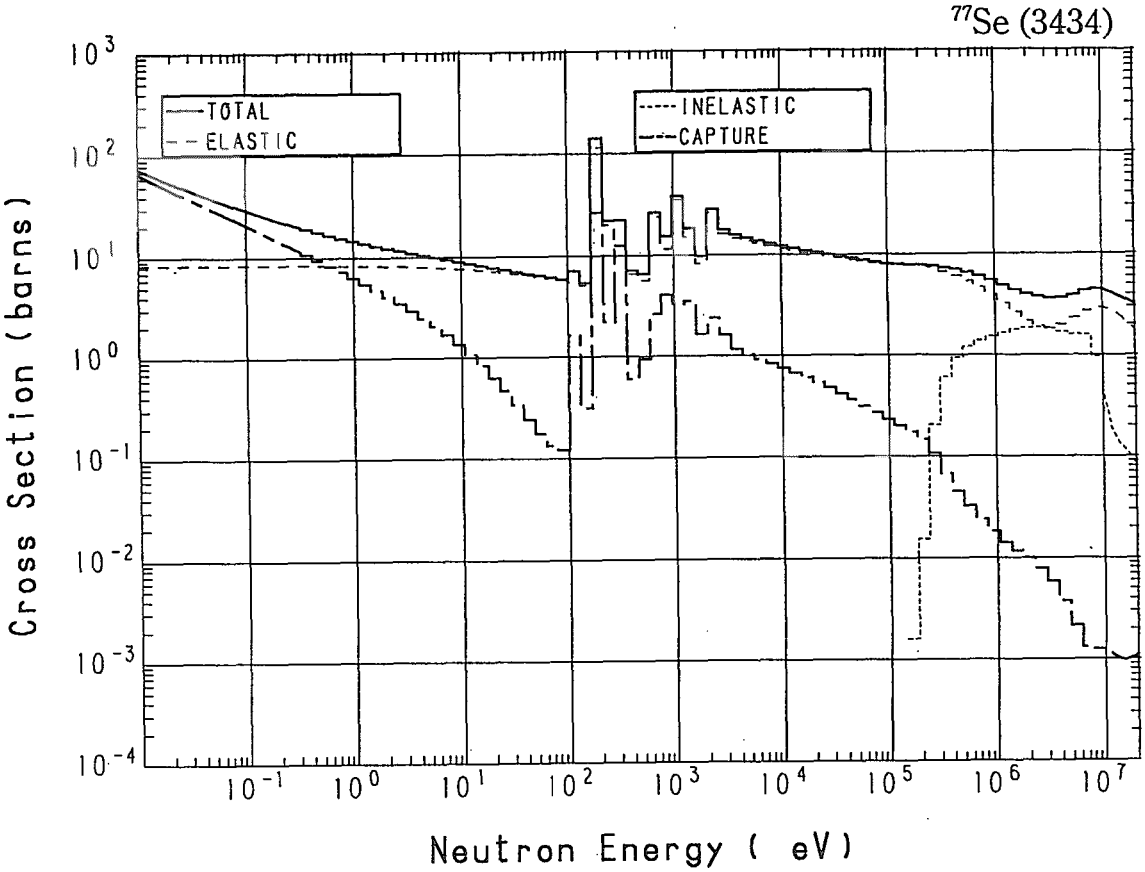

76Se (3431)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

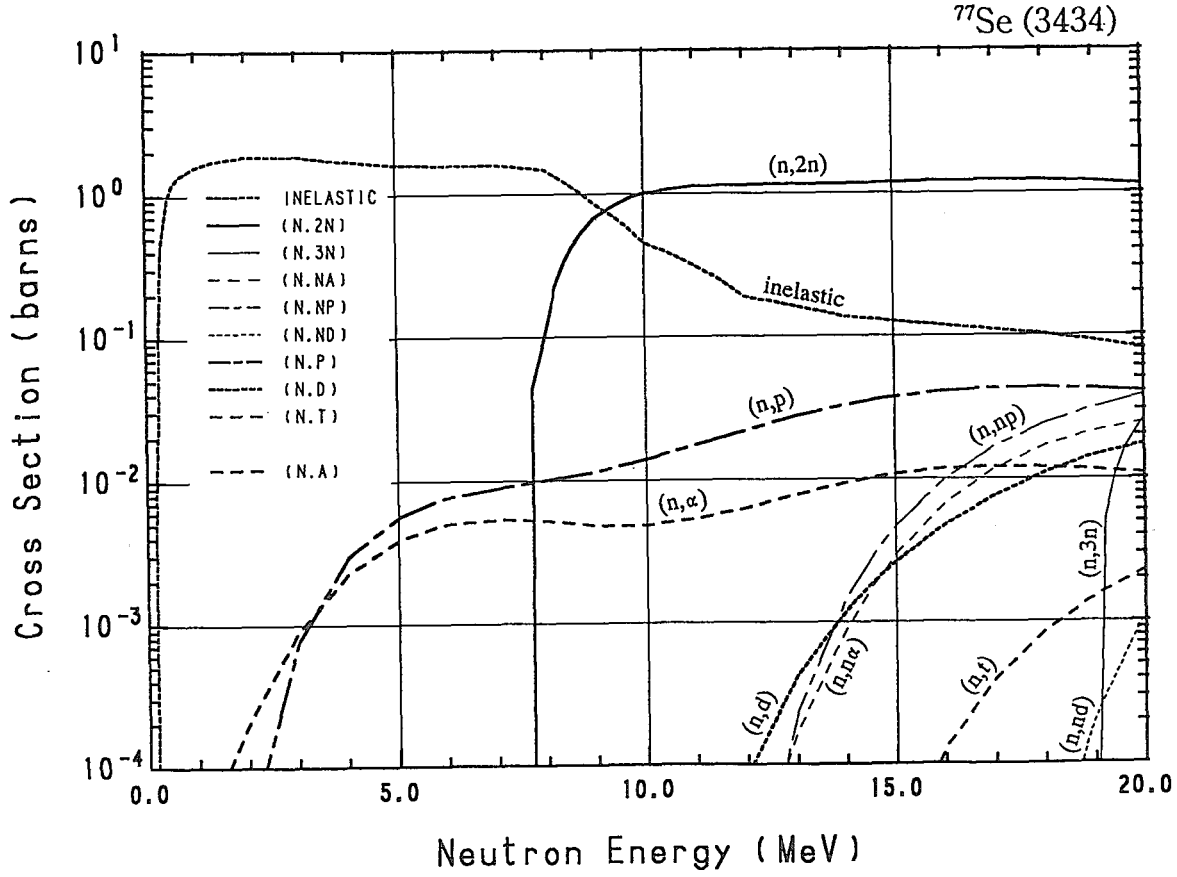

76Se (3431)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(N,2P)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
(n,3n)
(n,2p)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 77 (MAT=3434)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	50.43	45.63	–	3.841	4.946
elastic	–	8.430	8.427	–	2.502	3.388
inelastic	164.1 keV	–	–	–	136.3×10^{-3}	1.525
(n,2n)	7.520 MeV	–	–	–	1.156	3.973×10^{-3}
(n,3n)	18.83 MeV	–	–	–	–	5.166×10^{-9}
(n,nα)	5.810 MeV	–	–	–	901.2×10^{-6}	250.0×10^{-9}
(n,np)	9.735 MeV	–	–	–	1.476×10^{-3}	369.4×10^{-9}
(n,nd)	14.82 MeV	–	–	–	–	293.4×10^{-12}
capture	–	42.00	37.21	32.04	1.001×10^{-3}	26.28×10^{-3}
(n,p)	–	0.000	0.000	29.41×10^{-3}	32.57×10^{-3}	879.1×10^{-6}
(n,d)	7.395 MeV	–	–	–	1.207×10^{-3}	251.7×10^{-9}
(n,t)	8.557 MeV	–	–	–	1.758×10^{-6}	5.595×10^{-9}
(n,He-3)	9.732 MeV	–	–	–	1.976×10^{-12}	19.37×10^{-12}
(n,α)	–	0.000	0.000	10.98×10^{-3}	9.336×10^{-3}	700.7×10^{-6}
(n,2p)	8.007 MeV	–	–	–	146.5×10^{-9}	89.84×10^{-12}

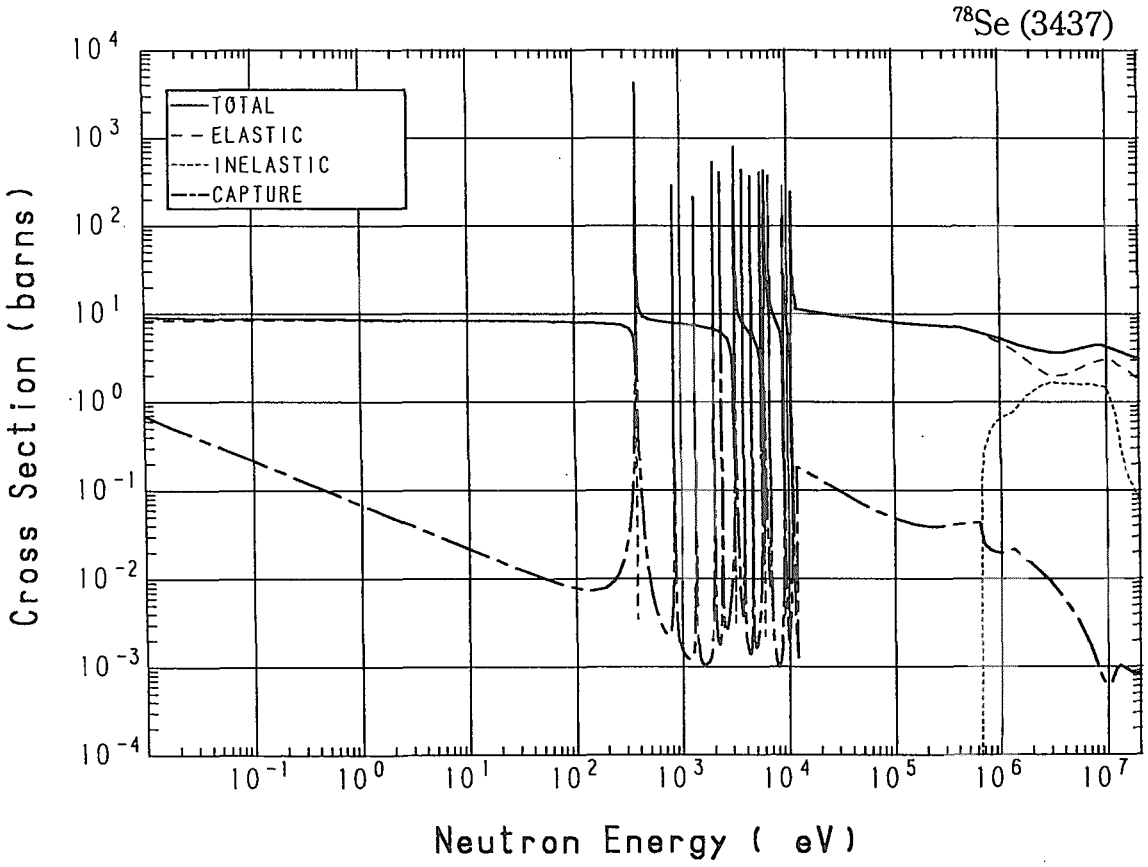


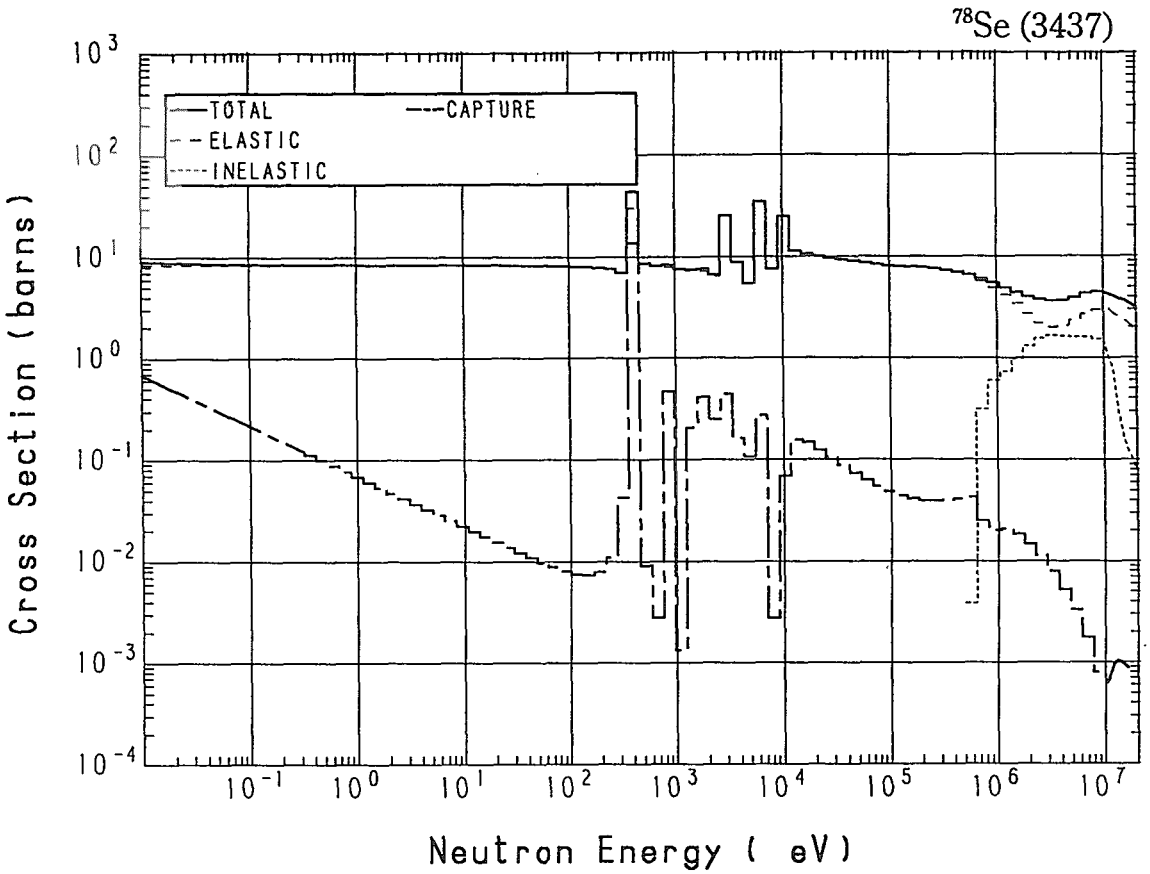

77Se (3434)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

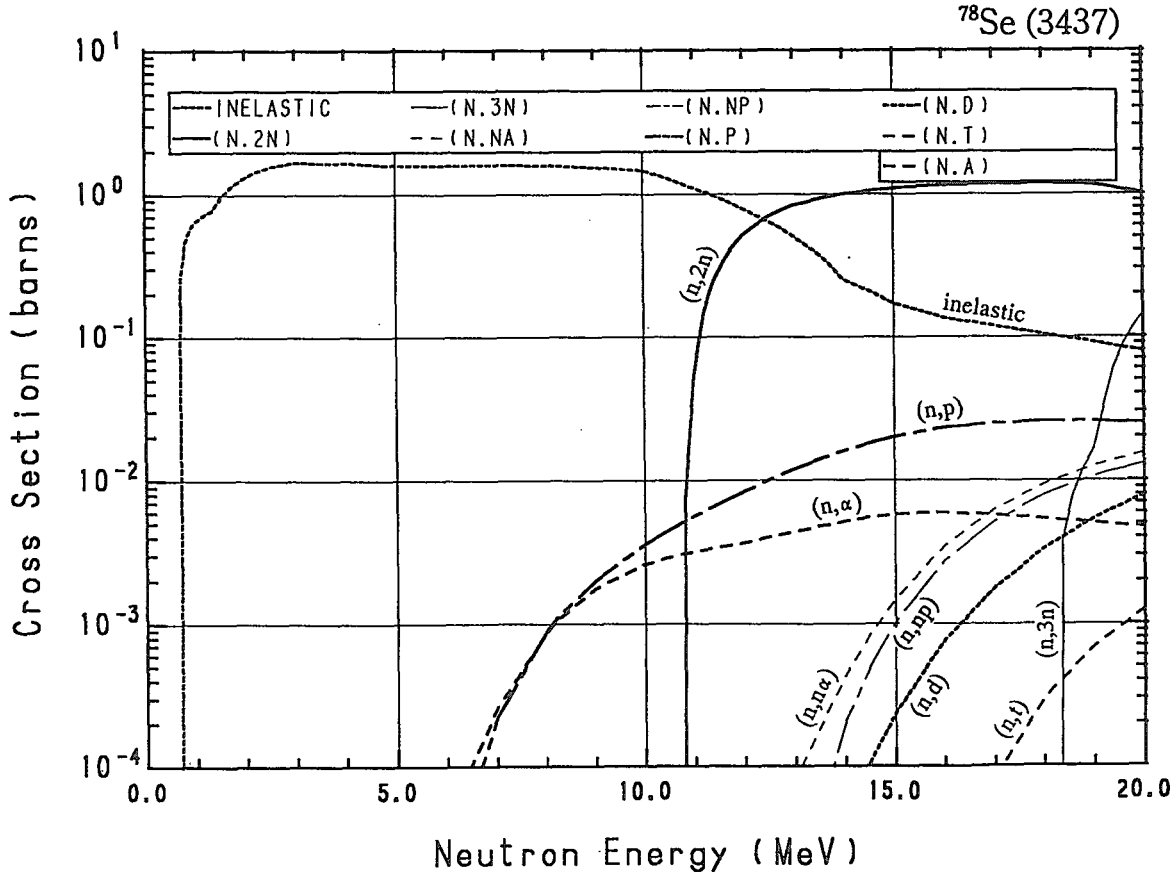

77Se (3434)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,2n)
inelastic
(n,p)
(n,np)
(n,α)
(n,3n)
(n,nα)
(n,d)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 78 (MAT=3437)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	8.830	8.781	–	3.841	4.941
elastic	–	8.400	8.400	–	2.570	3.949
inelastic	621.7 keV	–	–	–	250.2×10^{-3}	971.9×10^{-3}
(n,2n)	10.64 MeV	–	–	–	997.8×10^{-3}	296.6×10^{-6}
(n,3n)	18.16 MeV	–	–	–	–	36.65×10^{-9}
(n,nα)	6.109 MeV	–	–	–	441.6×10^{-6}	132.2×10^{-9}
(n,np)	10.54 MeV	–	–	–	208.8×10^{-6}	89.93×10^{-9}
capture	–	430.0×10^{-3}	381.2×10^{-3}	4.740	1.015×10^{-3}	19.43×10^{-3}
(n,p)	3.554 MeV	–	–	–	16.00×10^{-3}	21.18×10^{-6}
(n,d)	8.204 MeV	–	–	–	47.32×10^{-6}	29.99×10^{-9}
(n,t)	11.77 MeV	–	–	–	1.272×10^{-9}	1.488×10^{-9}
(n,α)	–	0.000	0.000	3.679×10^{-3}	5.159×10^{-3}	16.81×10^{-6}

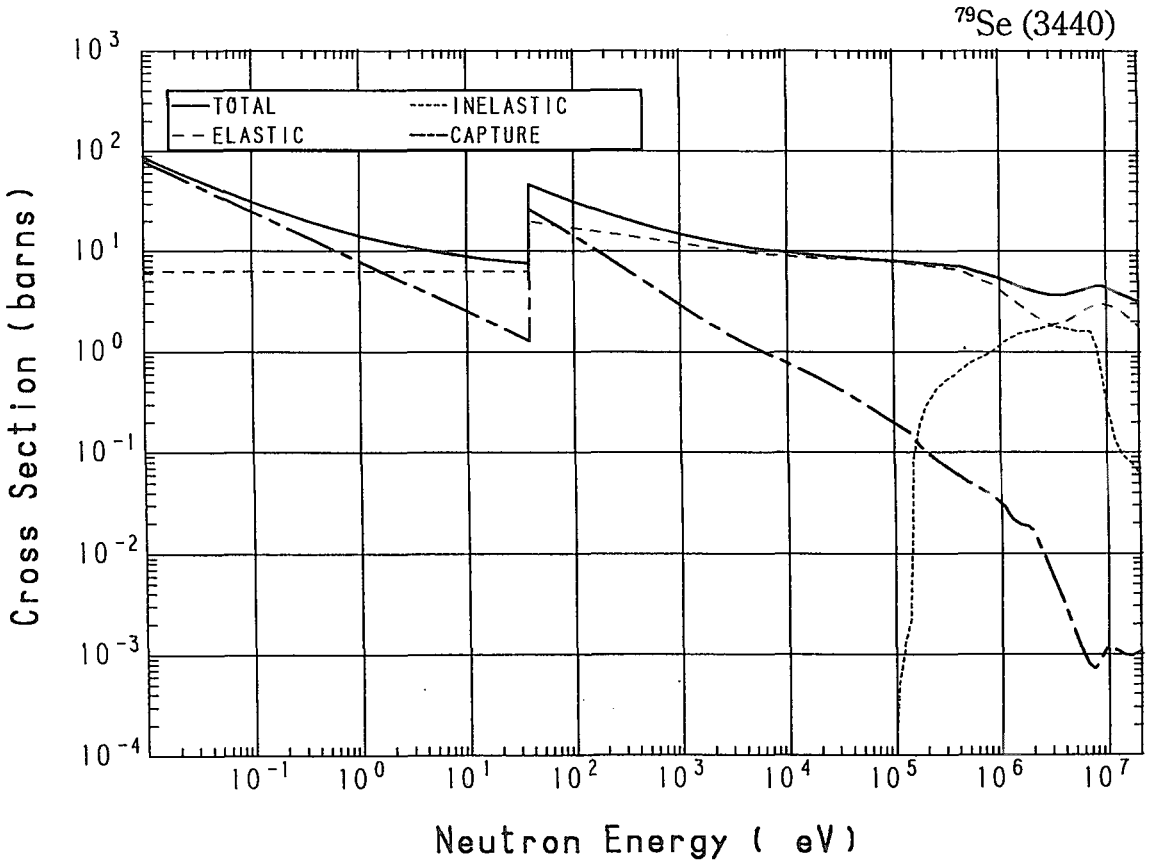


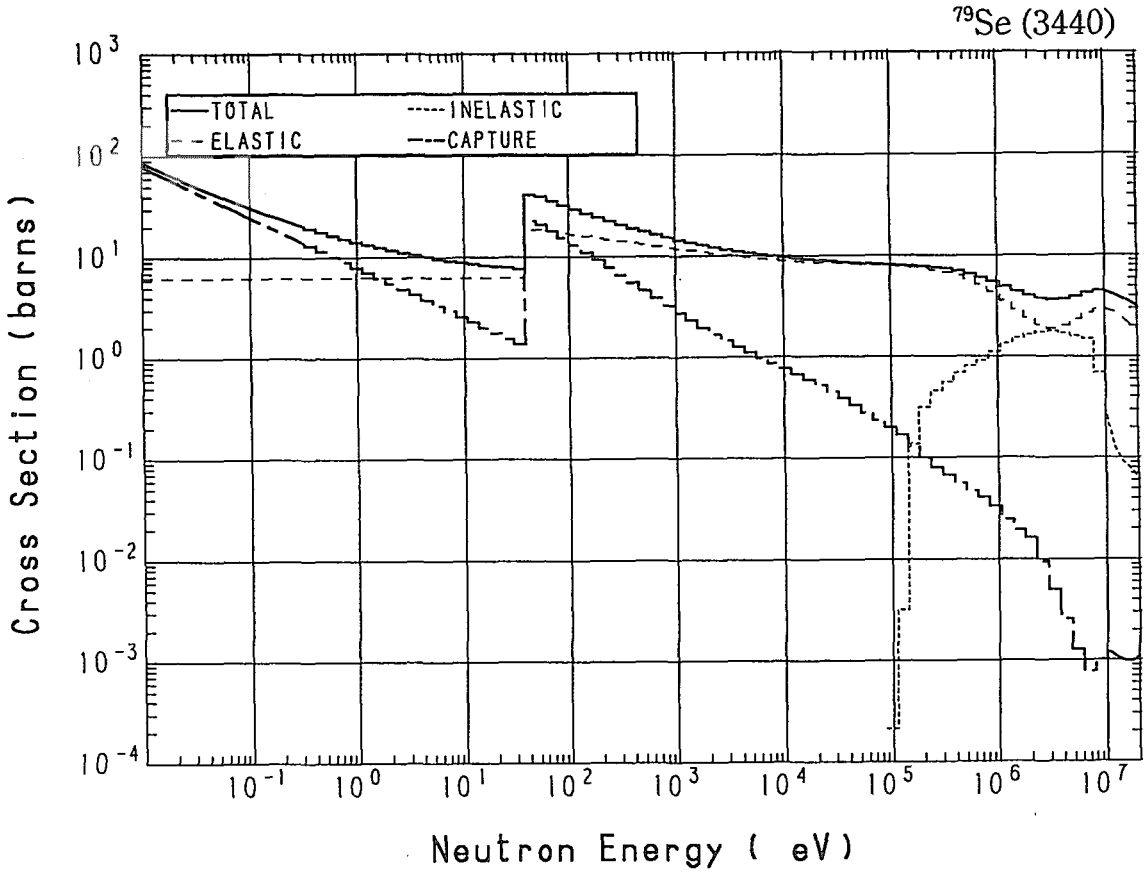

78Se (3437)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

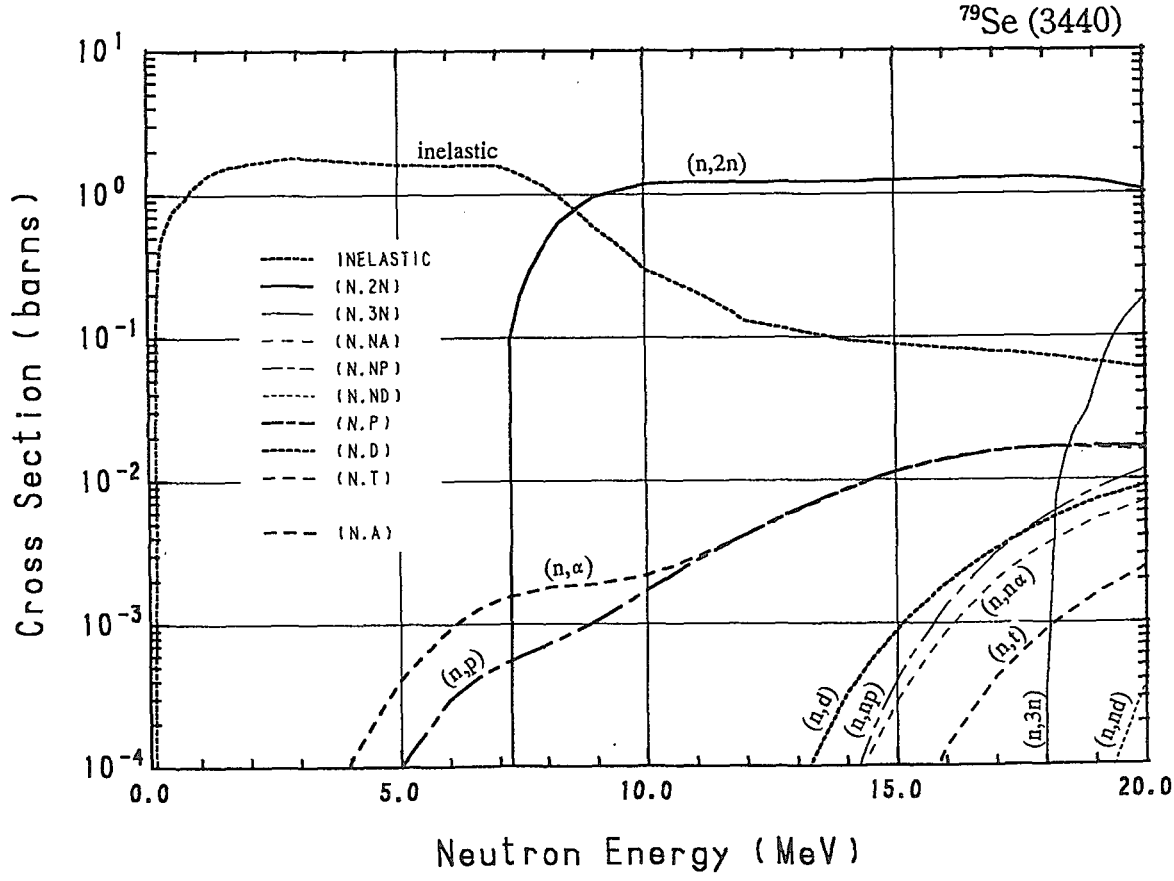

78Se (3437)
INELASTIC
(N.3N)
(N.NP)
(N.D)
(N.2N)
(N.NA)
(N.P)
(N.T)
(N.A)
(n,2n)
inelastic
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
(n,3n)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 79 (MAT=3440)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	56.30	50.80	–	3.841	4.940
elastic	–	6.300	6.300	–	2.514	3.565
inelastic	96.92 keV	–	–	–	94.99×10^{-3}	1.335
(n,2n)	7.054 MeV	–	–	–	1.213	6.730×10^{-3}
(n,3n)	17.69 MeV	–	–	–	–	66.91×10^{-9}
(n,nα)	6.569 MeV	–	–	–	57.12×10^{-6}	32.60×10^{-9}
(n,np)	10.61 MeV	–	–	–	63.23×10^{-6}	48.03×10^{-9}
(n,nd)	15.26 MeV	–	–	–	–	75.94×10^{-12}
capture	–	50.00	44.33	60.81	1.001×10^{-3}	29.98×10^{-3}
(n,p)	1.436 MeV	–	–	–	8.637×10^{-3}	26.09×10^{-6}
(n,d)	8.268 MeV	–	–	–	317.9×10^{-6}	78.72×10^{-9}
(n,t)	8.993 MeV	–	–	–	1.535×10^{-6}	5.891×10^{-9}
(n,He-3)	11.71 MeV	–	–	–	0.000	275.1×10^{-15}
(n,α)	–	0.000	0.000	7.569×10^{-3}	8.553×10^{-3}	77.07×10^{-6}

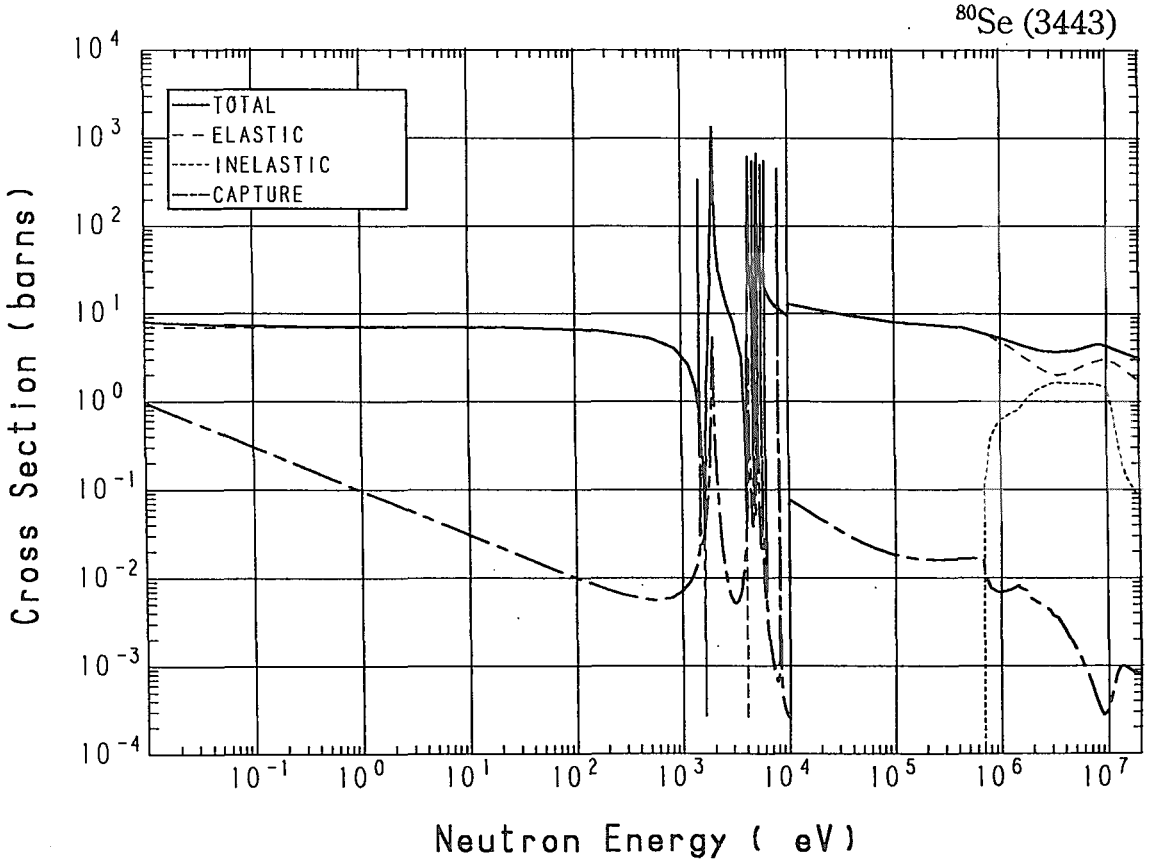


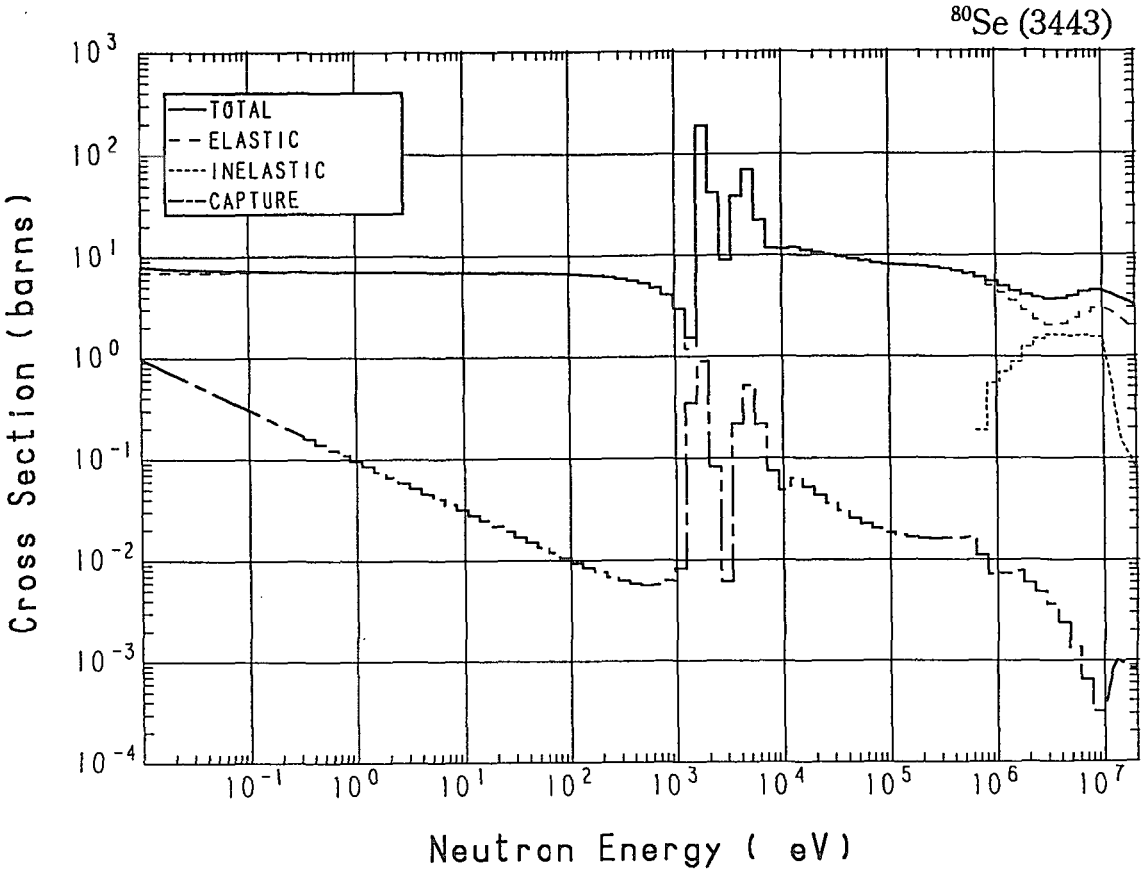

79Se (3440)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

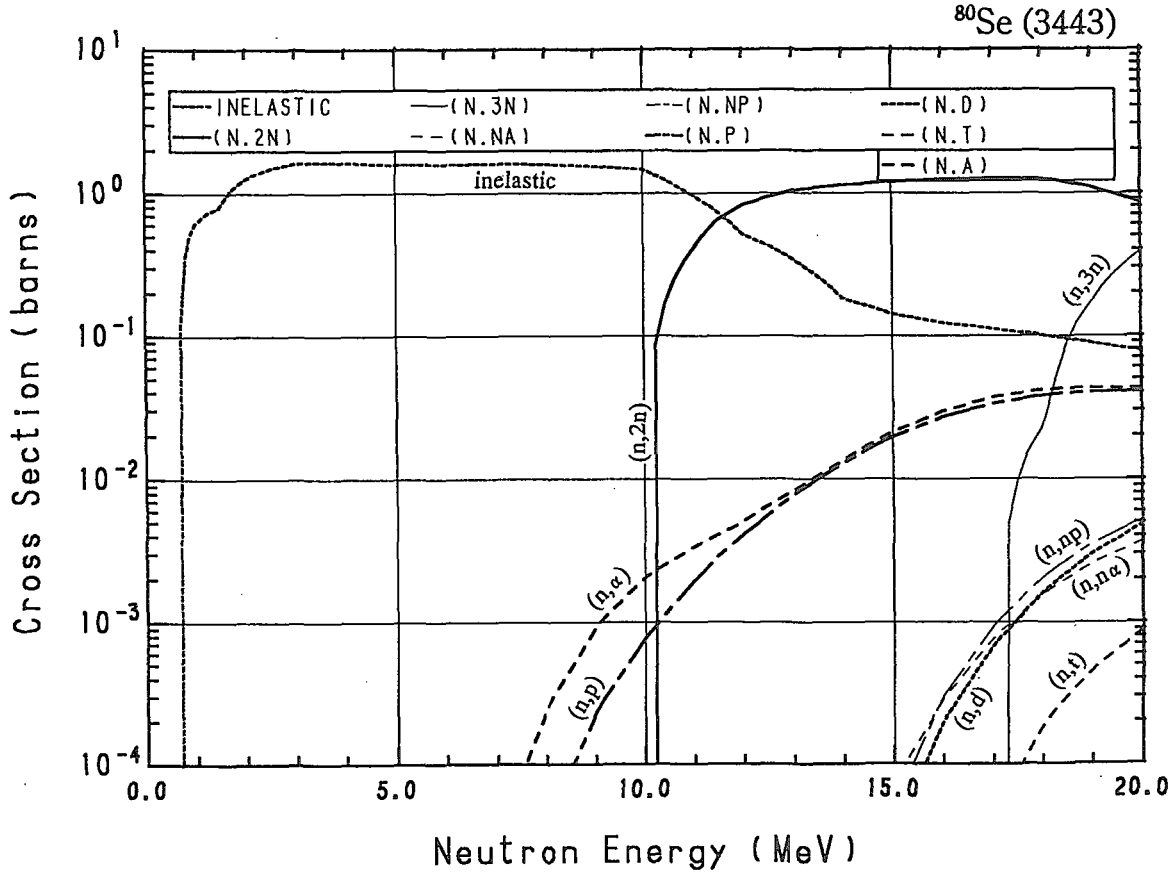

79Se (3440)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,ND)
(N,P)
(N,D)
(N,T)
(N,A)
(n,α)
(n,p)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 80 (MAT=3443)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.560	7.491	–	3.842	4.948
elastic	–	6.950	6.950	–	2.498	4.014
inelastic	674.6 keV	–	–	–	182.9×10^{-3}	924.9×10^{-3}
(n,2n)	10.04 MeV	–	–	–	1.133	575.5×10^{-6}
(n,3n)	17.10 MeV	–	–	–	–	226.0×10^{-9}
(n,nα)	7.058 MeV	–	–	–	12.33×10^{-6}	11.76×10^{-9}
(n,np)	11.48 MeV	–	–	–	2.853×10^{-6}	13.09×10^{-9}
capture	–	610.0×10^{-3}	540.8×10^{-3}	974.0×10^{-3}	1.002×10^{-3}	7.807×10^{-3}
(n,p)	4.981 MeV	–	–	–	12.85×10^{-3}	5.249×10^{-6}
(n,d)	9.139 MeV	–	–	–	2.755×10^{-6}	9.921×10^{-9}
(n,t)	12.05 MeV	–	–	–	90.24×10^{-12}	912.4×10^{-12}
(n,α)	904.1 keV	–	–	–	13.50×10^{-3}	10.26×10^{-6}

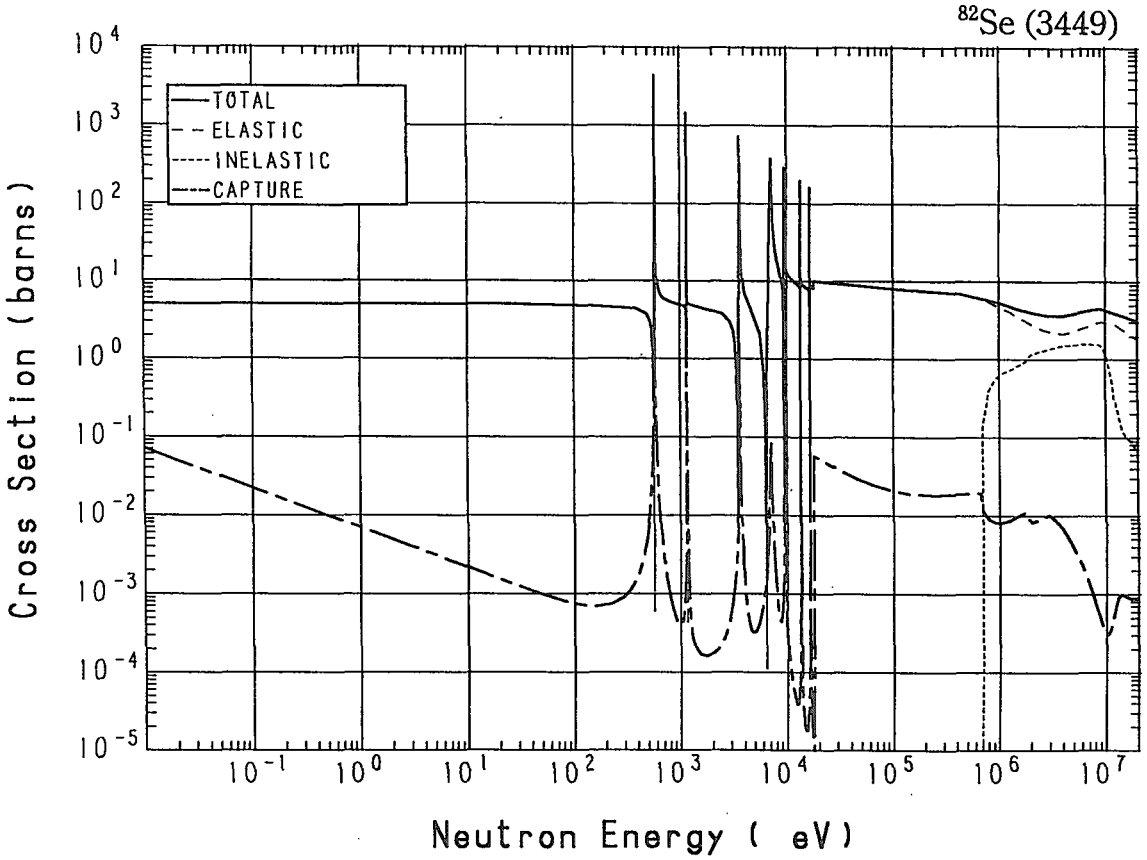


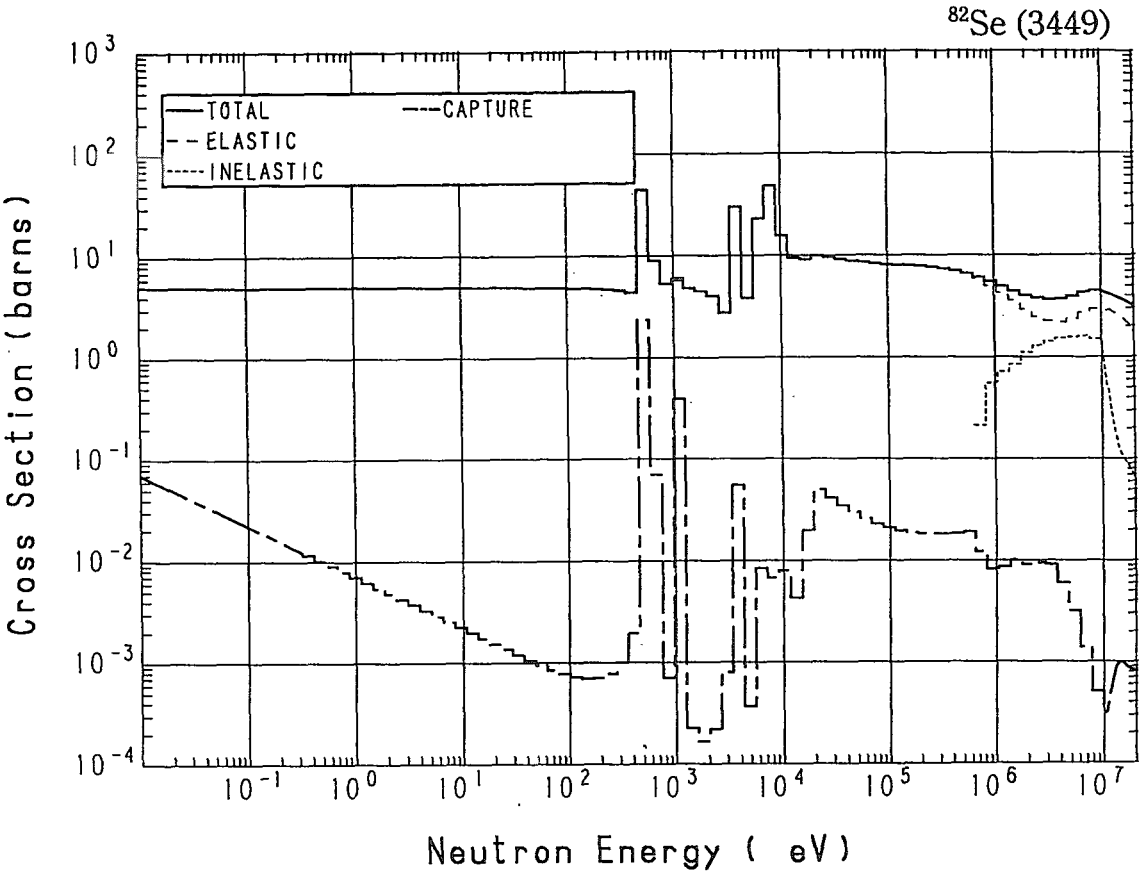

80Se (3443)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

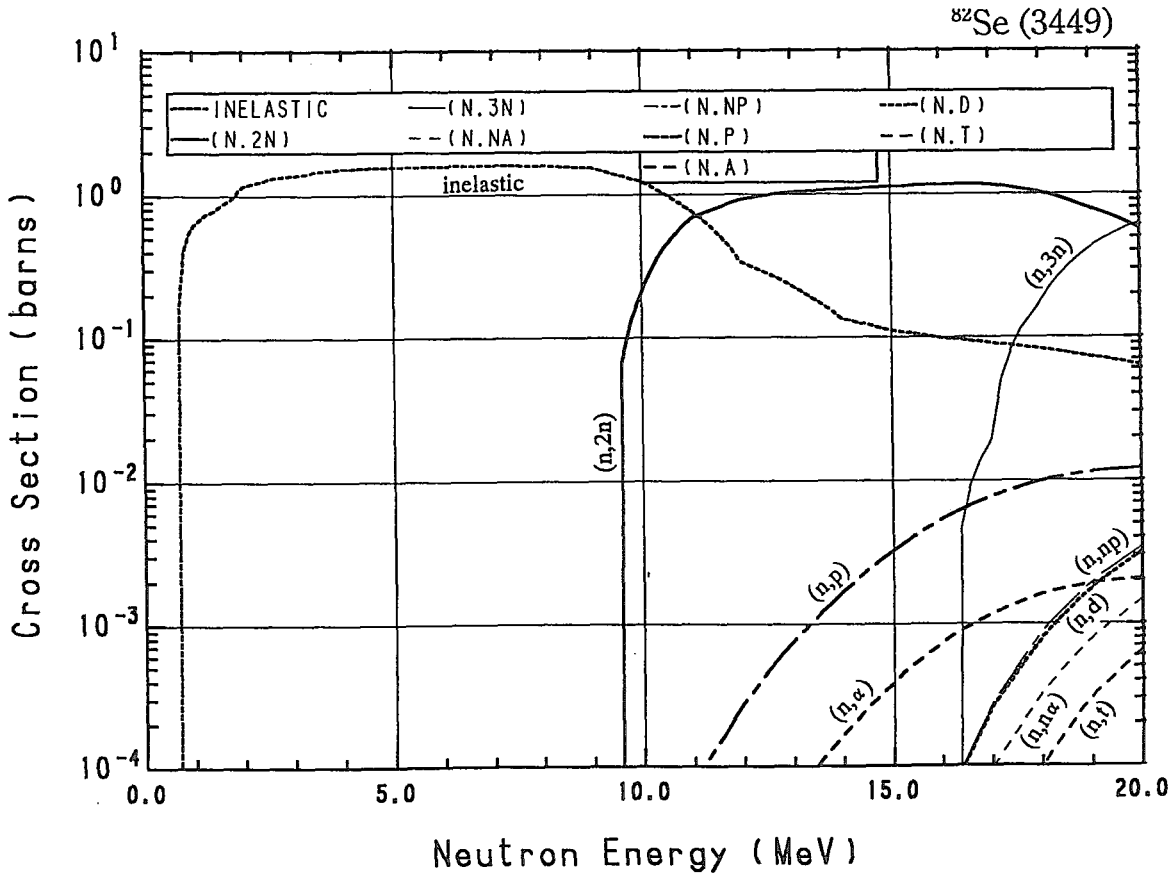

80Se (3443)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,3n)
(n,2n)
(n,α)
(n,p)
(n,np)
(n,nα)
(n,t)
(n,d)
Cross Section (barns)
Neutron Energy (MeV)

34-Se- 82 (MAT=3449)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.044	5.039	–	3.841	4.946
elastic	–	5.000	5.000	–	2.625	4.076
inelastic	662.9 keV	–	–	–	134.4×10^{-3}	857.1×10^{-3}
(n,2n)	9.385 MeV	–	–	–	1.079	885.4×10^{-6}
(n,3n)	16.17 MeV	–	–	–	–	775.3×10^{-9}
(n,nα)	8.349 MeV	–	–	–	128.1×10^{-9}	1.794×10^{-9}
(n,np)	12.39 MeV	–	–	–	5.754×10^{-9}	4.601×10^{-9}
capture	–	44.20×10^{-3}	39.18×10^{-3}	798.5×10^{-3}	1.006×10^{-3}	10.45×10^{-3}
(n,p)	6.695 MeV	–	–	–	1.711×10^{-3}	411.6×10^{-9}
(n,d)	10.05 MeV	–	–	–	269.6×10^{-9}	4.250×10^{-9}
(n,t)	12.55 MeV	–	–	–	40.35×10^{-15}	514.4×10^{-12}
(n,α)	2.391 MeV	–	–	–	169.3×10^{-6}	49.41×10^{-9}

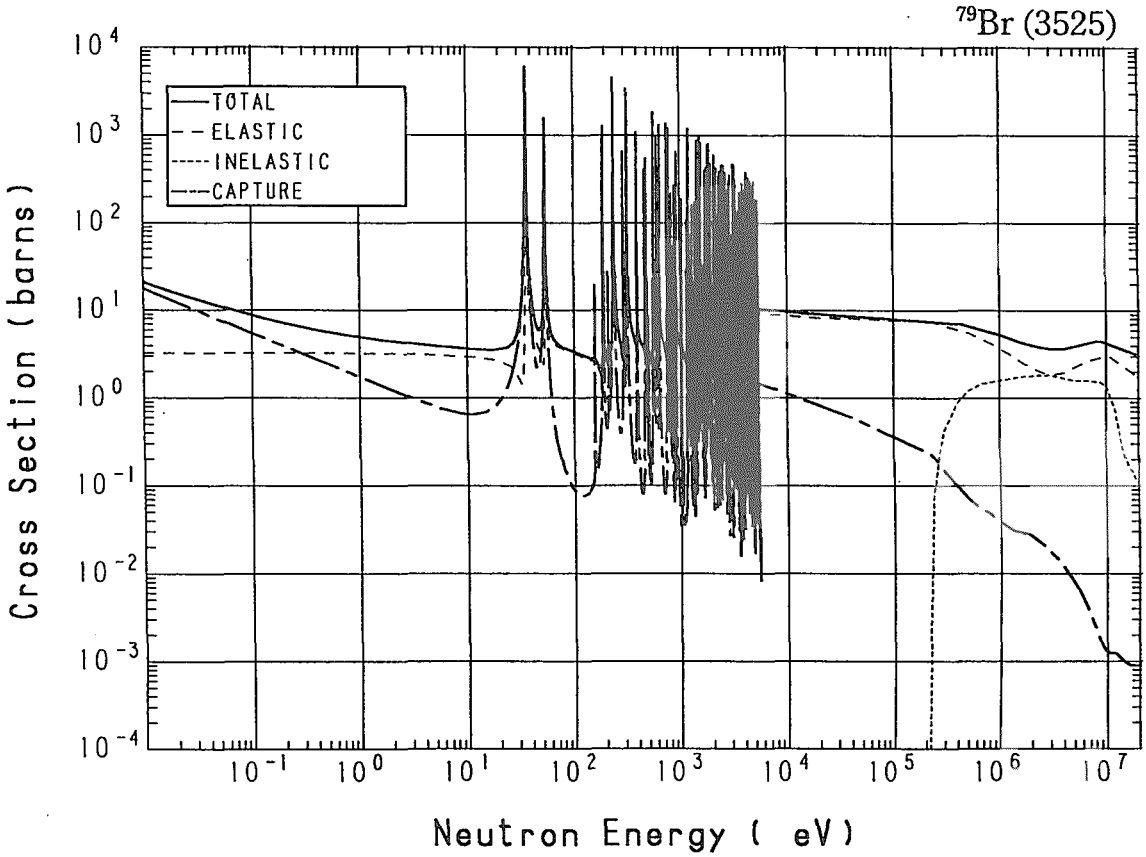


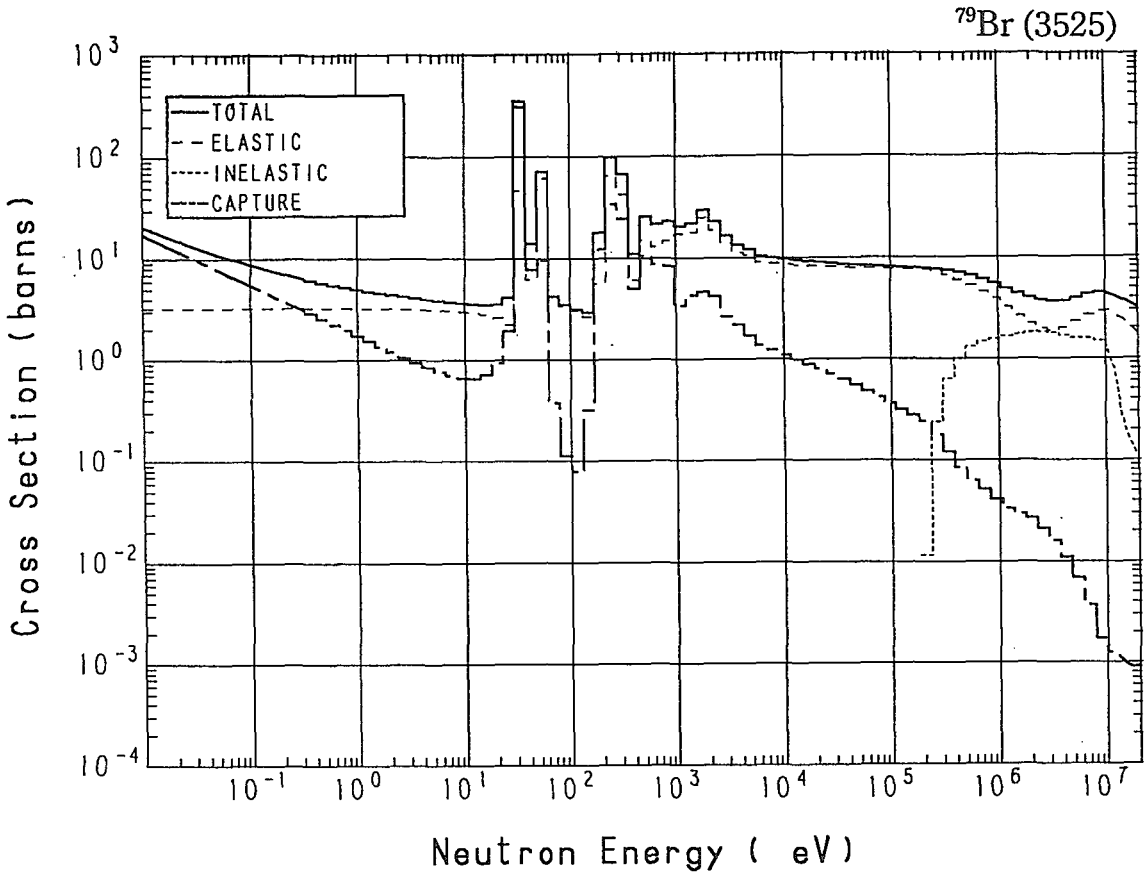

82Se (3449)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

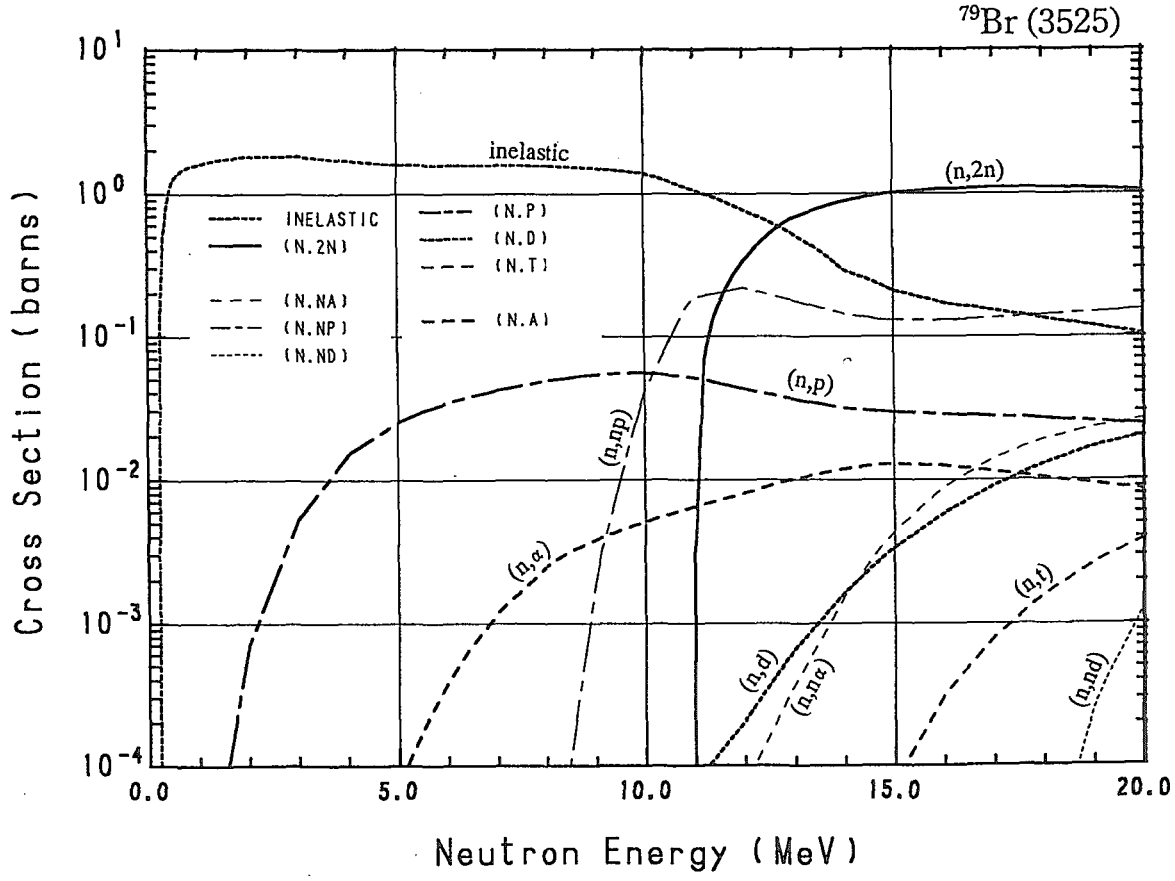

82Se (3449)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,d)
(n,α)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

35-Br- 79 (MAT=3525)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	14.27	13.02	–	3.841	4.940
elastic	–	3.269	3.268	–	2.474	3.359
inelastic	209.7 keV	–	–	–	291.2×10^{-3}	1.525
(n,2n)	10.82 MeV	–	–	–	883.3×10^{-3}	217.9×10^{-6}
(n,3n)	19.22 MeV	–	–	–	–	1.340×10^{-9}
(n,nα)	5.528 MeV	–	–	–	1.554×10^{-3}	371.3×10^{-9}
(n,np)	6.413 MeV	–	–	–	144.8×10^{-3}	194.6×10^{-6}
(n,nd)	14.71 MeV	–	–	–	–	360.9×10^{-12}
(n,nt)	15.96 MeV	–	–	–	–	3.057×10^{-12}
capture	–	11.00	9.751	128.9	1.030×10^{-3}	50.90×10^{-3}
(n,p)	–	0.000	0.000	61.85×10^{-3}	31.43×10^{-3}	4.454×10^{-3}
(n,d)	4.073 MeV	–	–	–	1.645×10^{-3}	548.8×10^{-9}
(n,t)	8.445 MeV	–	–	–	10.21×10^{-6}	12.19×10^{-9}
(n,He-3)	9.125 MeV	–	–	–	31.46×10^{-12}	27.91×10^{-12}
(n,α)	–	0.000	0.000	7.957×10^{-3}	11.87×10^{-3}	54.12×10^{-6}
(n,2p)	9.967 MeV	–	–	–	45.86×10^{-12}	12.03×10^{-12}

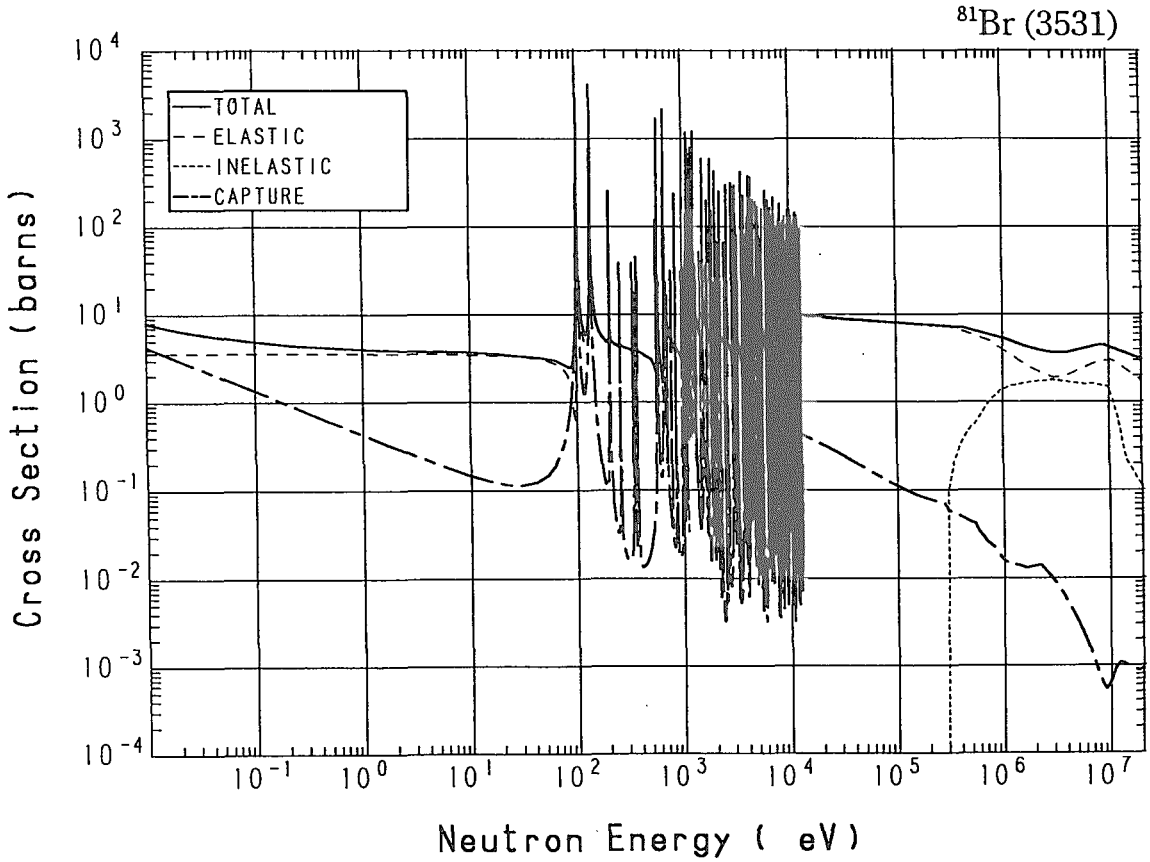


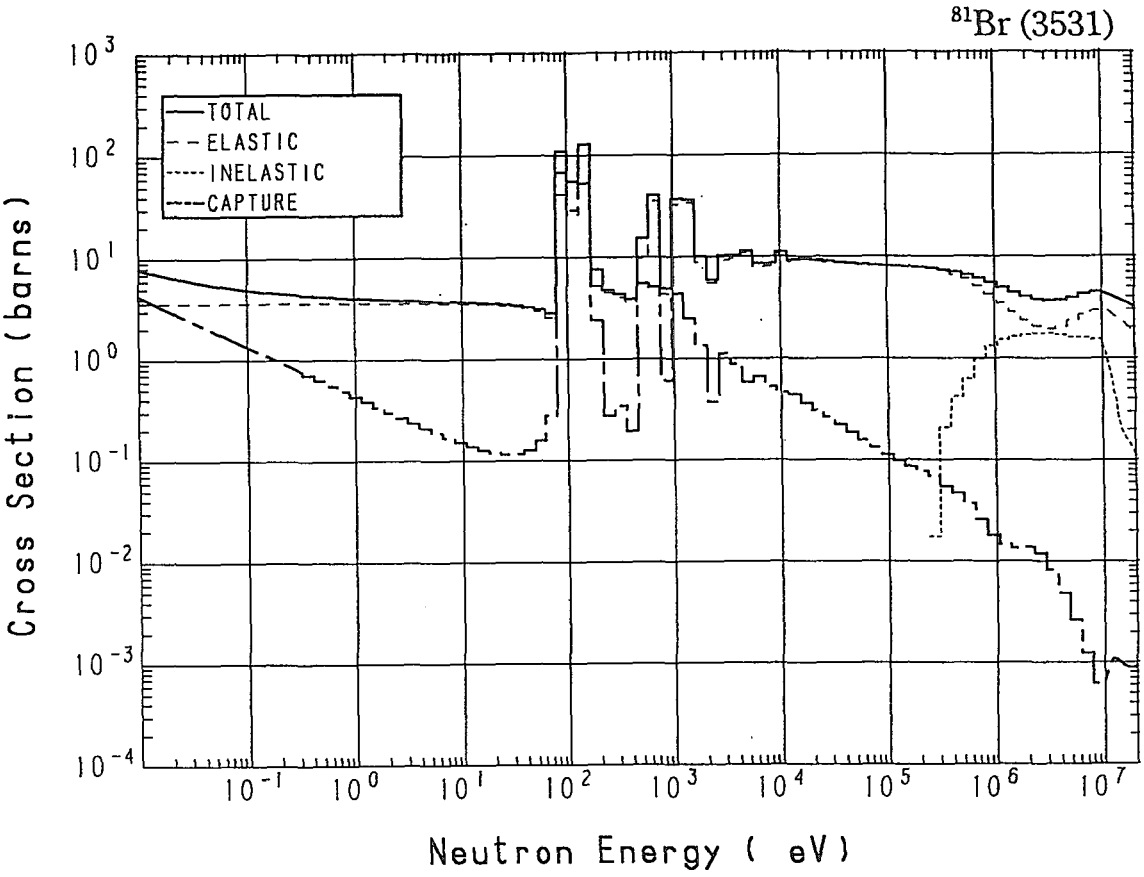

79Br (3525)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

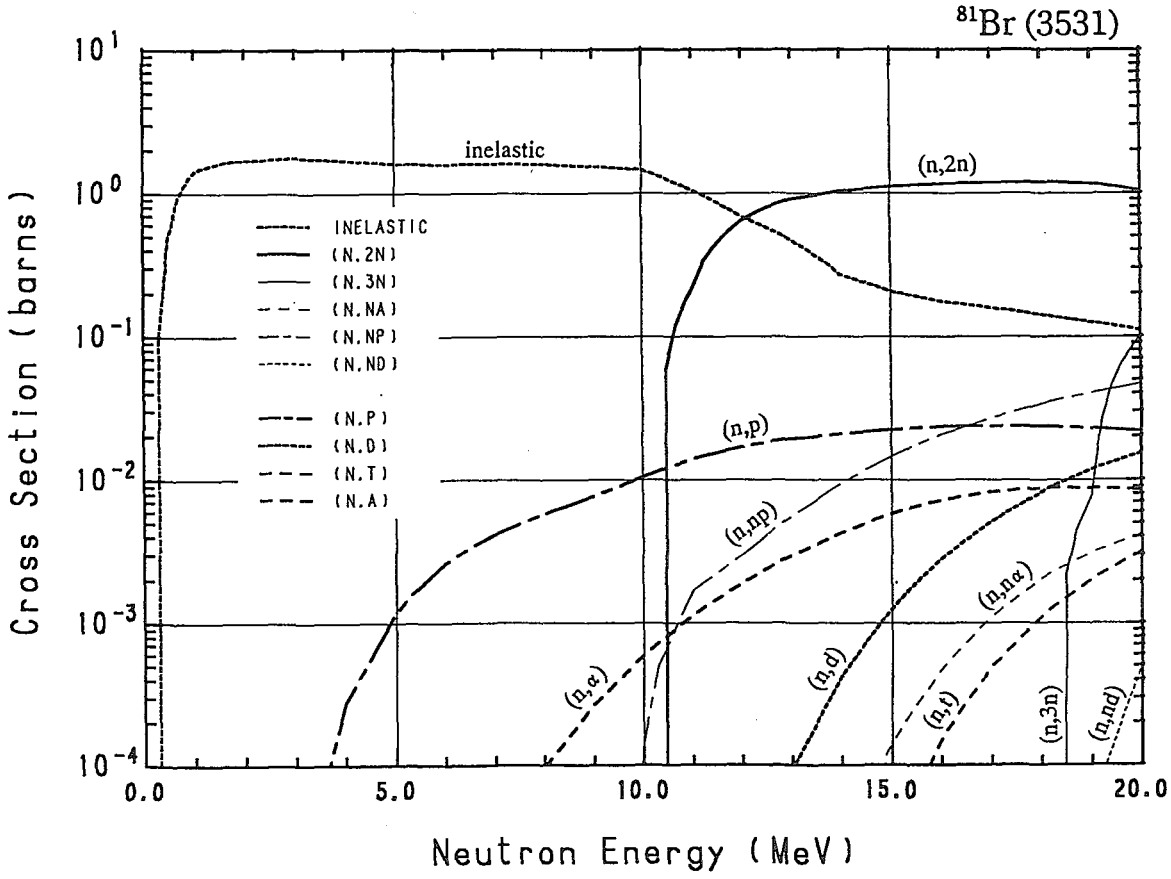

79Br (3525)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,np)
(n,α)
(n,t)
(n,d)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

35-Br- 81 (MAT=3531)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.306	6.001	–	3.841	4.939
elastic	–	3.616	3.616	–	2.508	3.566
inelastic	279.4 keV	–	–	–	268.0×10^{-3}	1.348
(n,2n)	10.29 MeV	–	–	–	1.029	401.7×10^{-6}
(n,3n)	18.28 MeV	–	–	–	–	24.54×10^{-9}
(n,nα)	6.563 MeV	–	–	–	28.42×10^{-6}	17.85×10^{-9}
(n,np)	7.602 MeV	–	–	–	9.470×10^{-3}	3.060×10^{-6}
(n,nd)	15.30 MeV	–	–	–	–	94.32×10^{-12}
(n,nt)	16.09 MeV	–	–	–	–	2.060×10^{-12}
capture	–	2.690	2.385	46.63	1.004×10^{-3}	22.06×10^{-3}
(n,p)	812.5 keV	–	–	–	20.73×10^{-3}	225.6×10^{-6}
(n,d)	5.263 MeV	–	–	–	425.1×10^{-6}	127.5×10^{-9}
(n,t)	9.041 MeV	–	–	–	1.897×10^{-6}	7.113×10^{-9}
(n,α)	–	0.000	0.000	3.371×10^{-3}	4.259×10^{-3}	3.501×10^{-6}

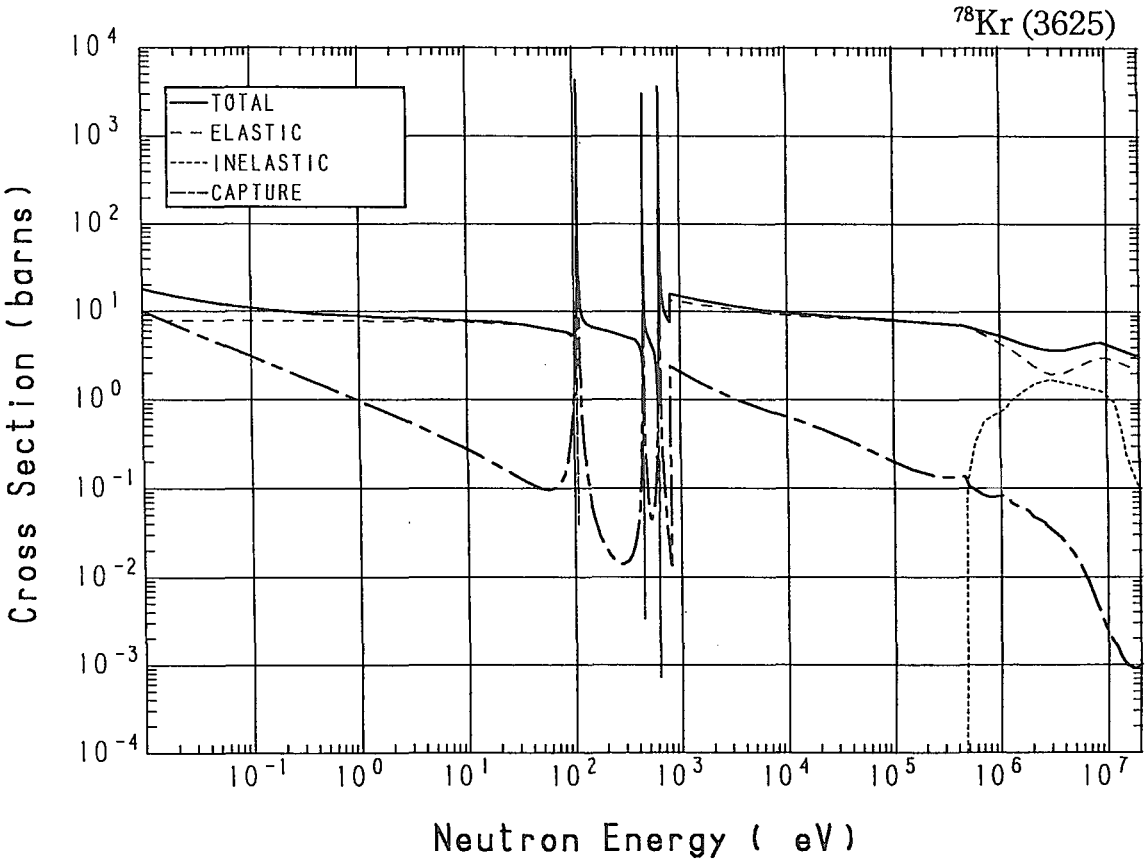


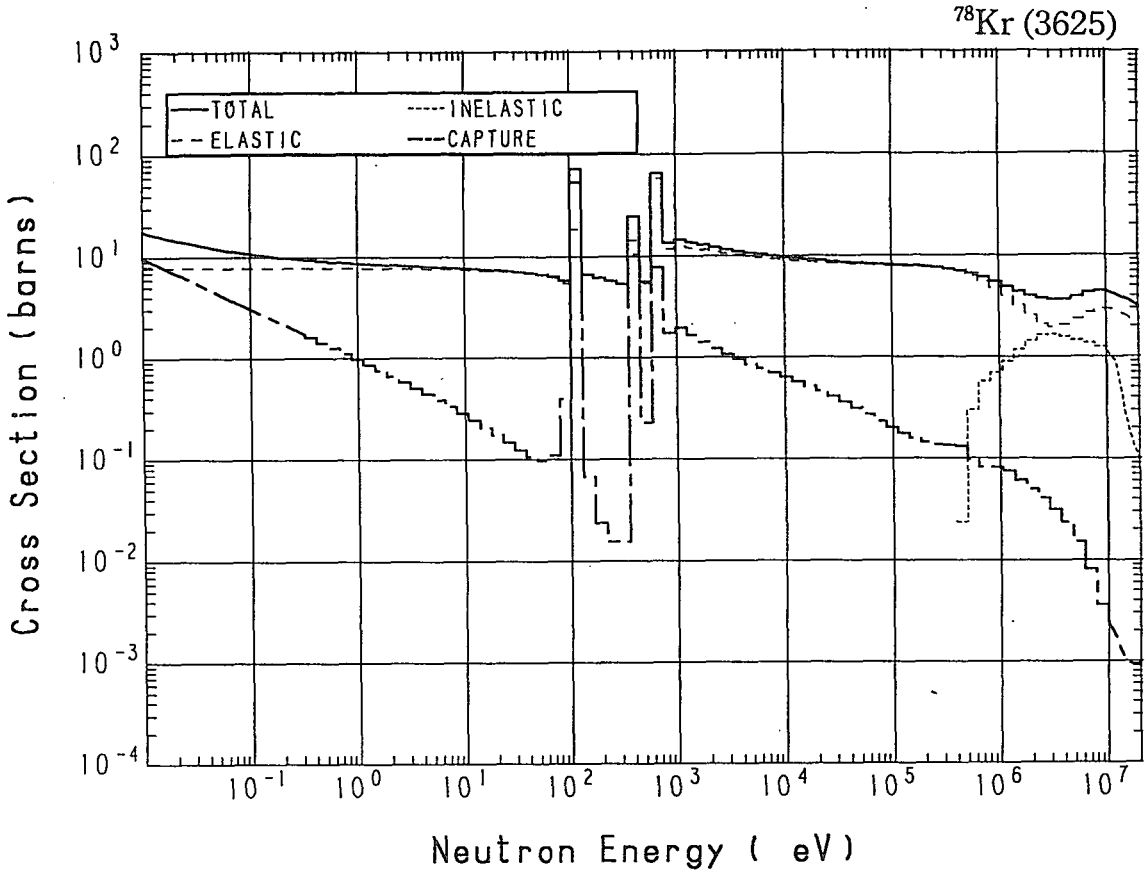

81Br (3531)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

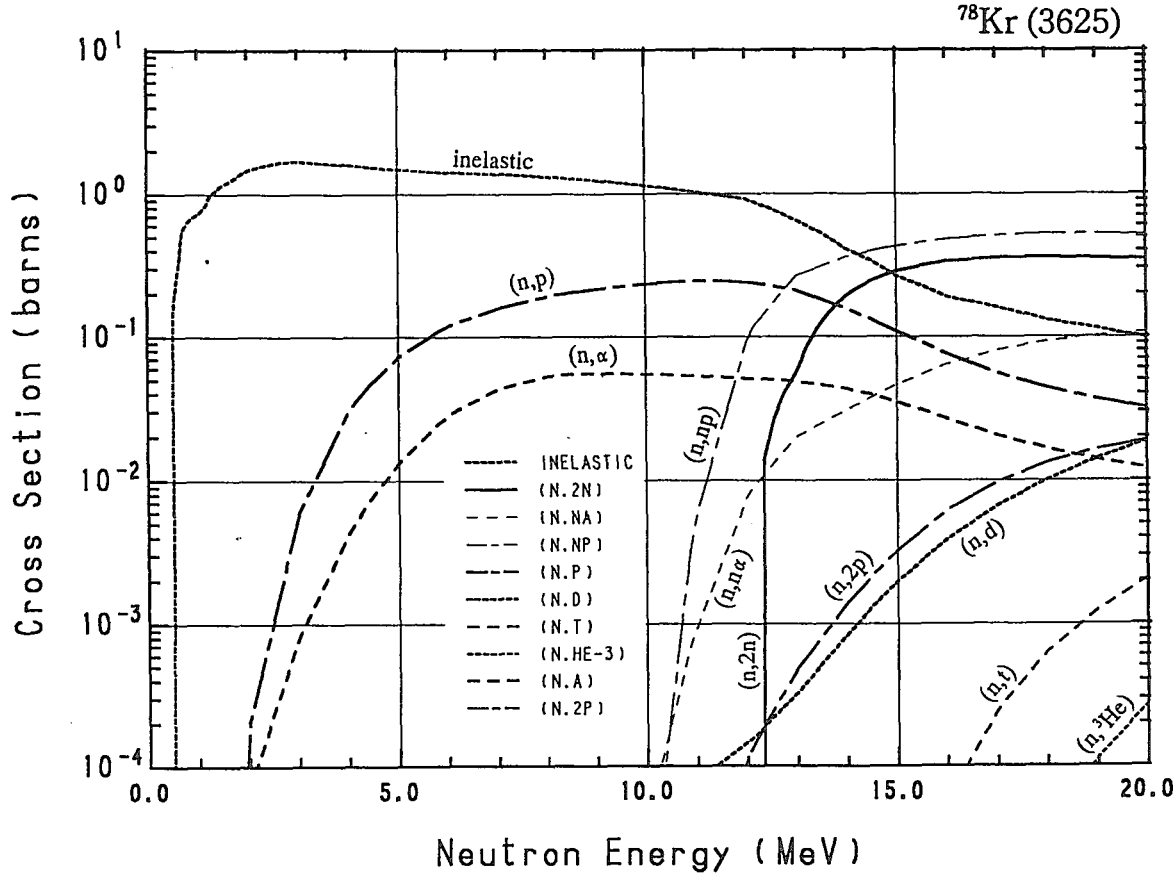

81Br (3531)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,ND)
(N,P)
(N,D)
(N,T)
(N,A)
(n,p)
(n,np)
(n,nα)
(n,α)
(n,d)
(n,γ)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 78 (MAT=3625)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	14.03	13.32	–	3.841	4.932
elastic	–	7.829	7.828	–	2.644	3.792
inelastic	460.9 keV	–	–	–	409.8×10^{-3}	1.057
(n,2n)	12.15 MeV	–	–	–	192.4×10^{-3}	24.50×10^{-6}
(n,nα)	4.416 MeV	–	–	–	30.79×10^{-3}	6.988×10^{-6}
(n,np)	8.308 MeV	–	–	–	361.0×10^{-3}	73.97×10^{-6}
capture	–	6.200	5.495	25.73	1.117×10^{-3}	67.31×10^{-3}
(n,p)	–	0.000	0.000	225.9×10^{-3}	156.5×10^{-3}	11.49×10^{-3}
(n,d)	5.968 MeV	–	–	–	847.7×10^{-6}	282.3×10^{-9}
(n,t)	10.86 MeV	–	–	–	192.0×10^{-9}	3.564×10^{-9}
(n,He-3)	5.821 MeV	–	–	–	151.2×10^{-9}	236.0×10^{-12}
(n,α)	–	0.000	0.000	55.89×10^{-3}	43.15×10^{-3}	2.396×10^{-3}
(n,2p)	6.133 MeV	–	–	–	1.402×10^{-3}	312.4×10^{-9}

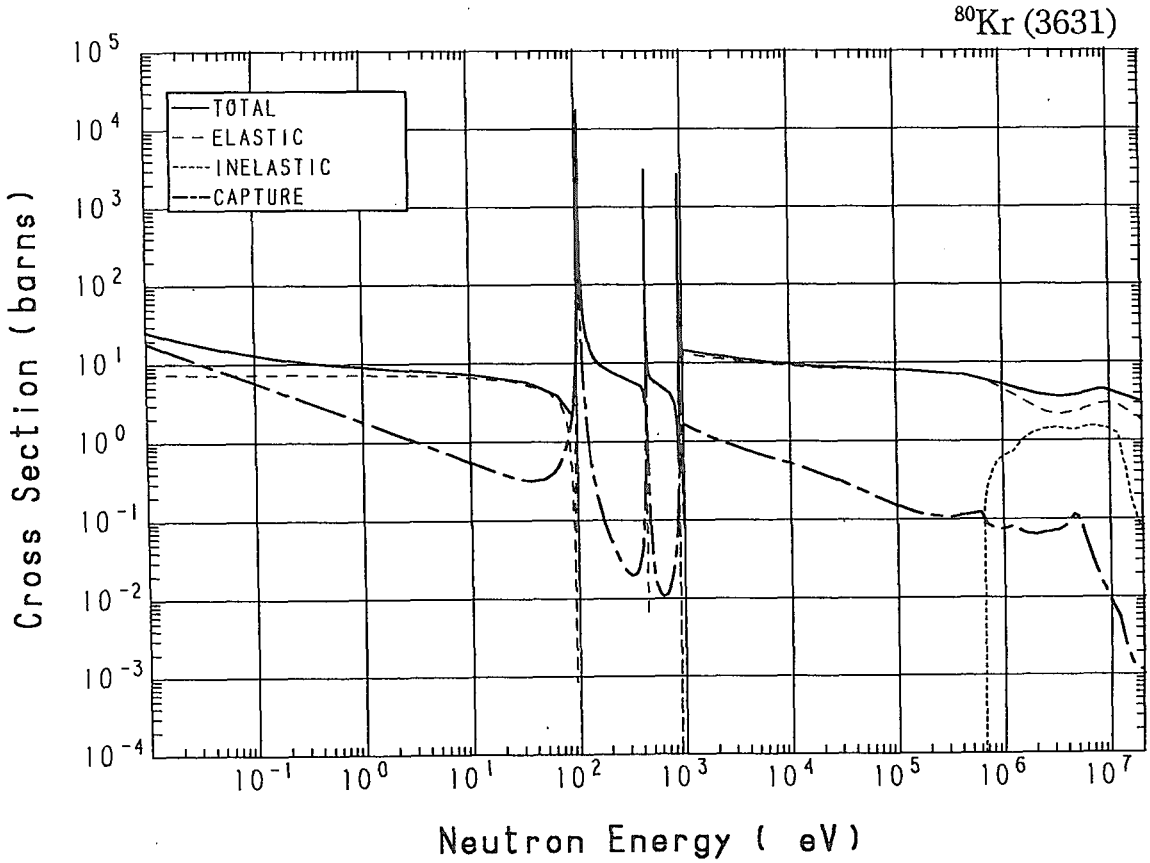


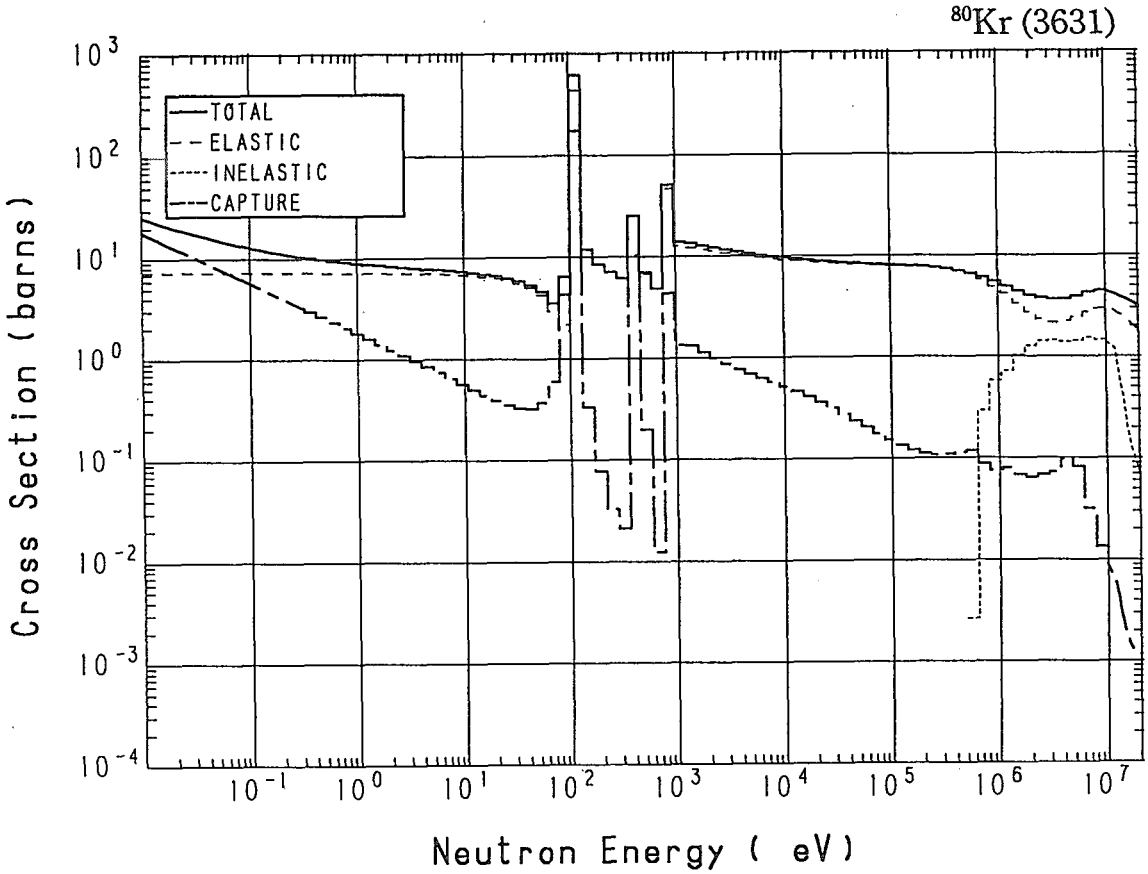

78Kr (3625)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

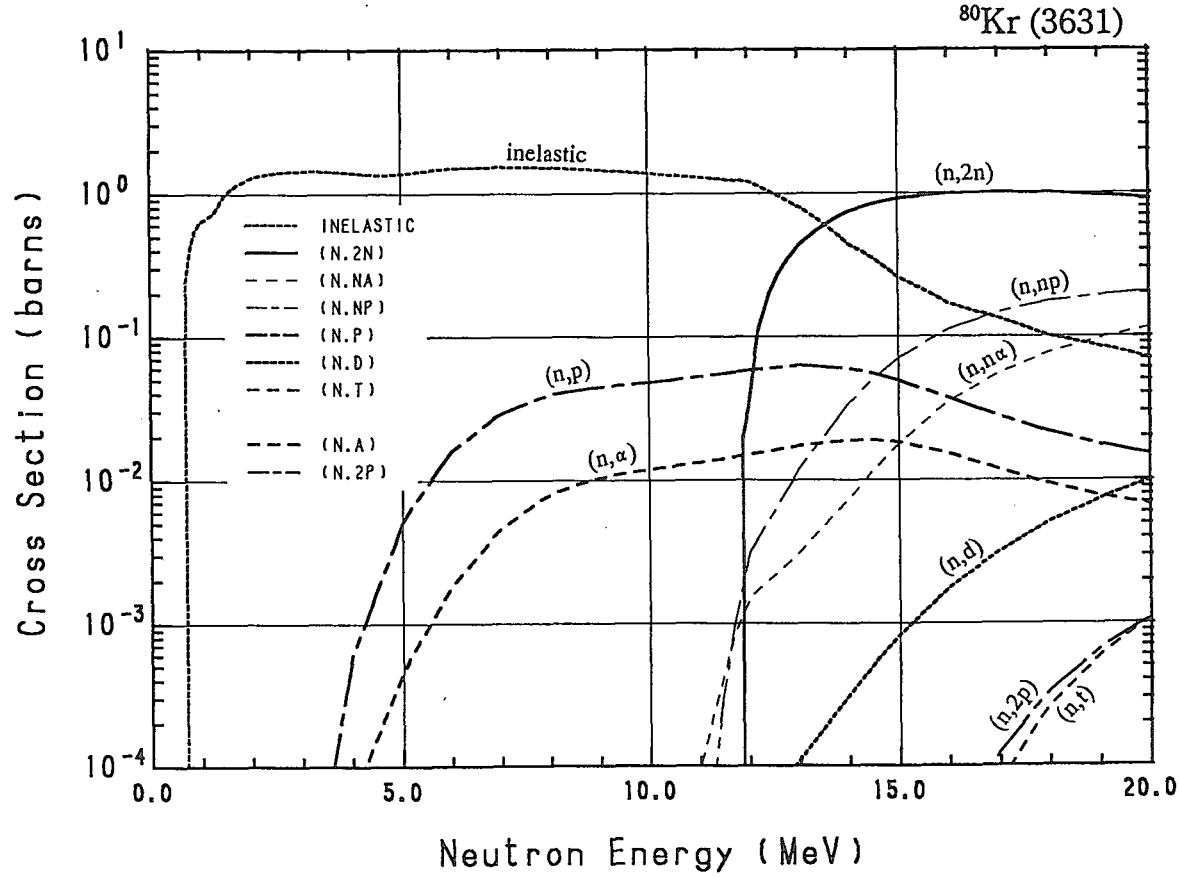

78Kr (3625)
inelastic
(n,p)
(n,α)
(n,np)
(n,nα)
(n,2p)
(n,d)
(n,2n)
(n,t)
(n,3He)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.HE-3)
(N.A)
(N.2P)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 80 (MAT=3631)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	18.79	17.48	–	3.842	4.932
elastic	–	7.290	7.288	–	2.543	3.947
inelastic	624.4 keV	–	–	–	441.4×10^{-3}	899.3×10^{-3}
(n,2n)	11.68 MeV	–	–	–	735.2×10^{-3}	112.4×10^{-6}
(n,nα)	5.124 MeV	–	–	–	7.418×10^{-3}	1.961×10^{-6}
(n,np)	9.236 MeV	–	–	–	33.77×10^{-3}	6.211×10^{-6}
capture	–	11.50	10.19	60.17	2.361×10^{-3}	82.86×10^{-3}
(n,p)	1.239 MeV	–	–	–	59.51×10^{-3}	1.187×10^{-3}
(n,d)	6.896 MeV	–	–	–	315.6×10^{-6}	95.50×10^{-9}
(n,t)	11.46 MeV	–	–	–	4.774×10^{-9}	1.335×10^{-9}
(n,He-3)	7.819 MeV	–	–	–	3.849×10^{-9}	17.69×10^{-12}
(n,α)	–	0.000	0.000	13.43×10^{-3}	18.76×10^{-3}	185.6×10^{-6}
(n,2p)	8.595 MeV	–	–	–	449.0×10^{-9}	1.956×10^{-9}

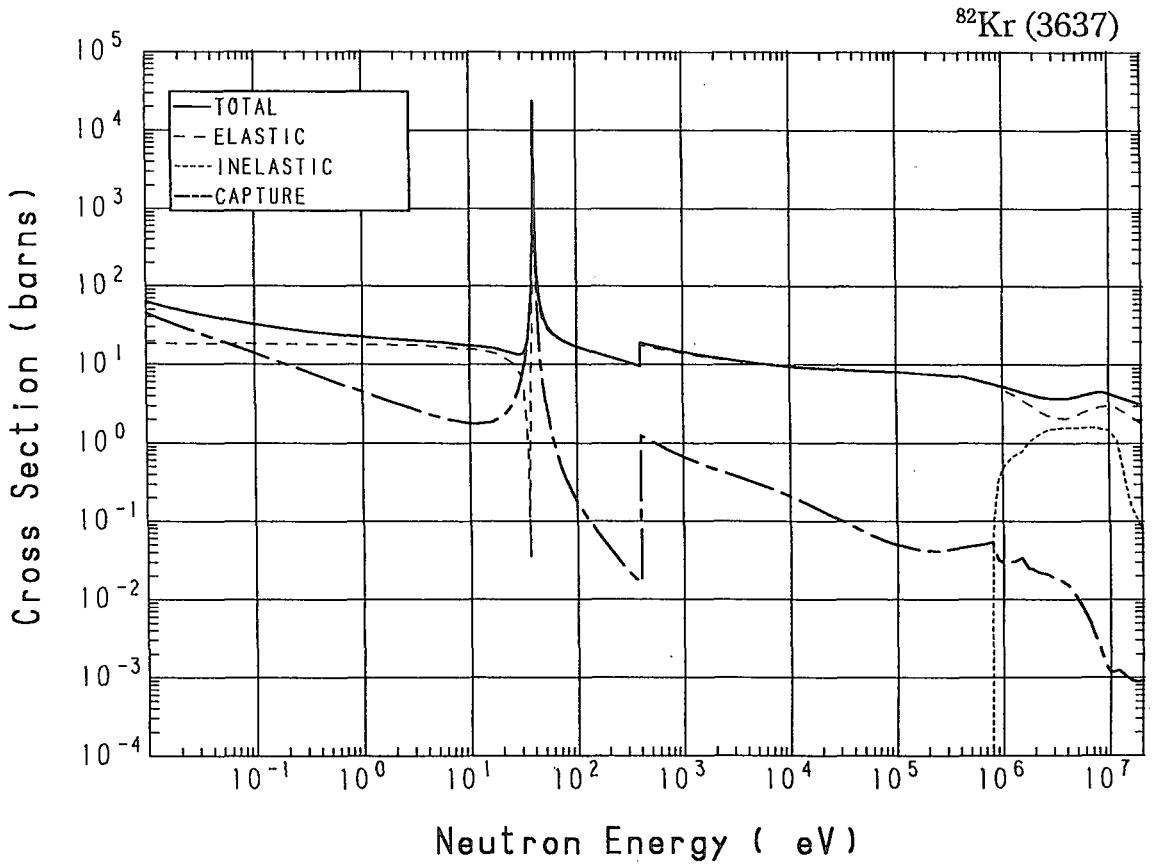


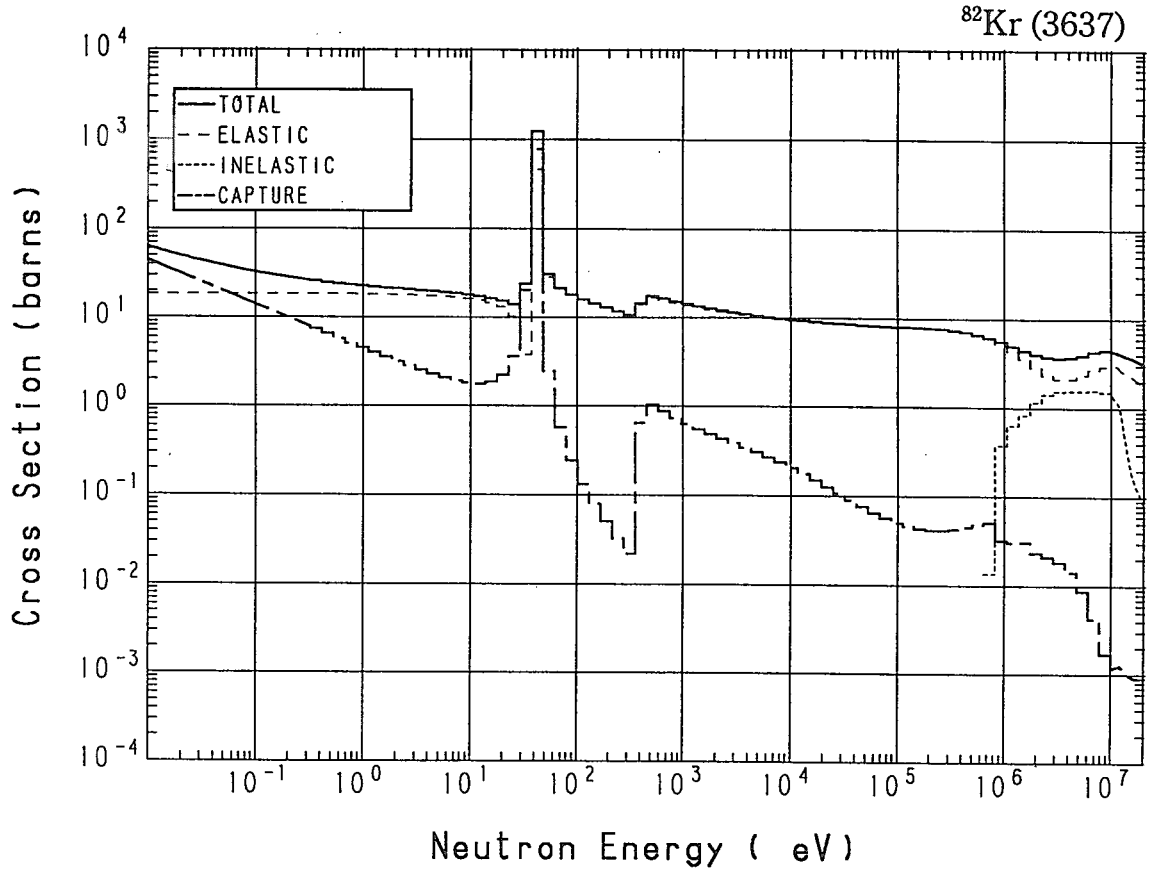

80Kr (3631)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

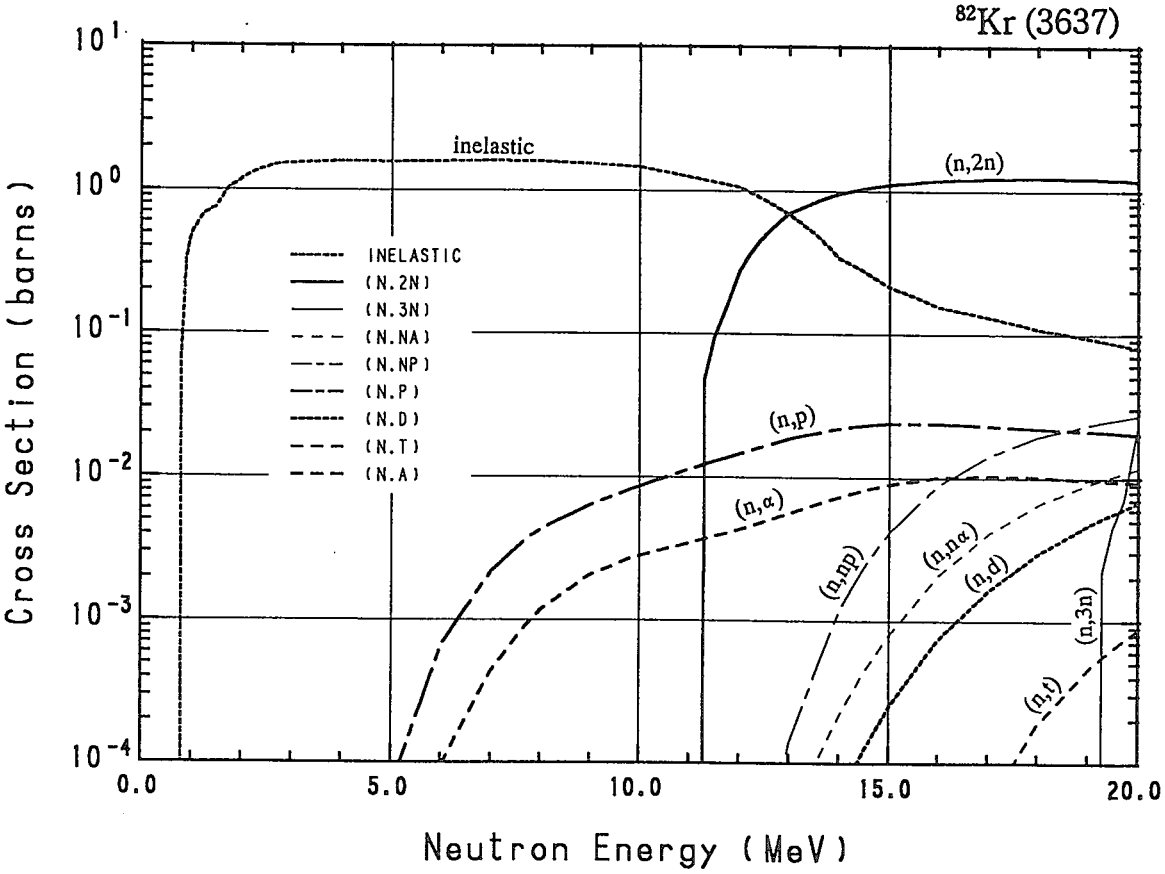

80Kr (3631)
inelastic
(n,2n)
(n,np)
(n,nα)
(n,p)
(n,α)
(n,d)
(n,2p)
(n,t)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(N.2P)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 82 (MAT=3637)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	46.46	43.28	–	3.841	4.934
elastic	–	18.46	18.46	–	2.508	4.046
inelastic	786.1 keV	–	–	–	339.4×10^{-3}	857.7×10^{-3}
(n,2n)	11.10 MeV	–	–	–	961.8×10^{-3}	202.8×10^{-6}
(n,3n)	19.08 MeV	–	–	–	–	2.473×10^{-9}
(n,nα)	6.055 MeV	–	–	–	217.3×10^{-6}	78.89×10^{-9}
(n,np)	10.03 MeV	–	–	–	1.196×10^{-3}	309.7×10^{-9}
capture	–	28.00	24.83	227.8	1.037×10^{-3}	29.26×10^{-3}
(n,p)	2.339 MeV	–	–	–	21.86×10^{-3}	88.88×10^{-6}
(n,d)	7.692 MeV	–	–	–	54.54×10^{-6}	29.03×10^{-9}
(n,t)	11.72 MeV	–	–	–	597.6×10^{-12}	936.9×10^{-12}
(n,α)	–	0.000	0.000	5.513×10^{-3}	7.324×10^{-3}	22.58×10^{-6}

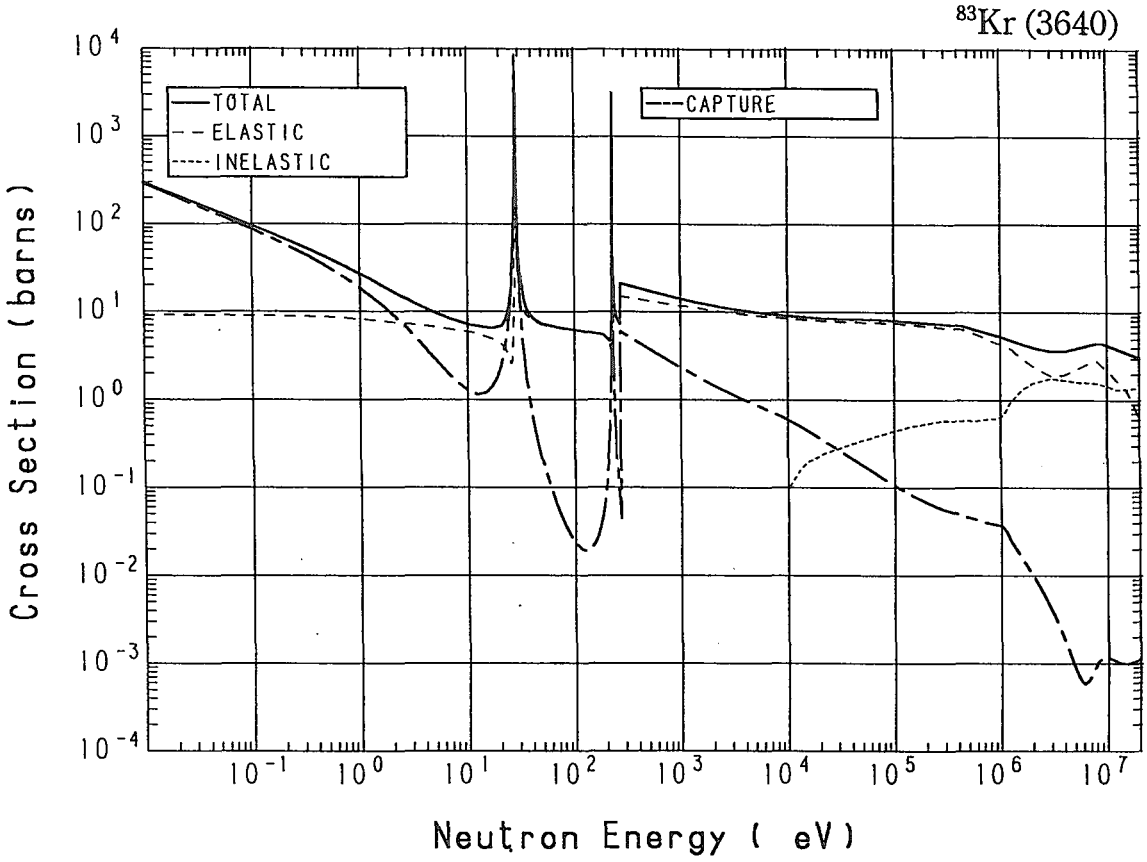


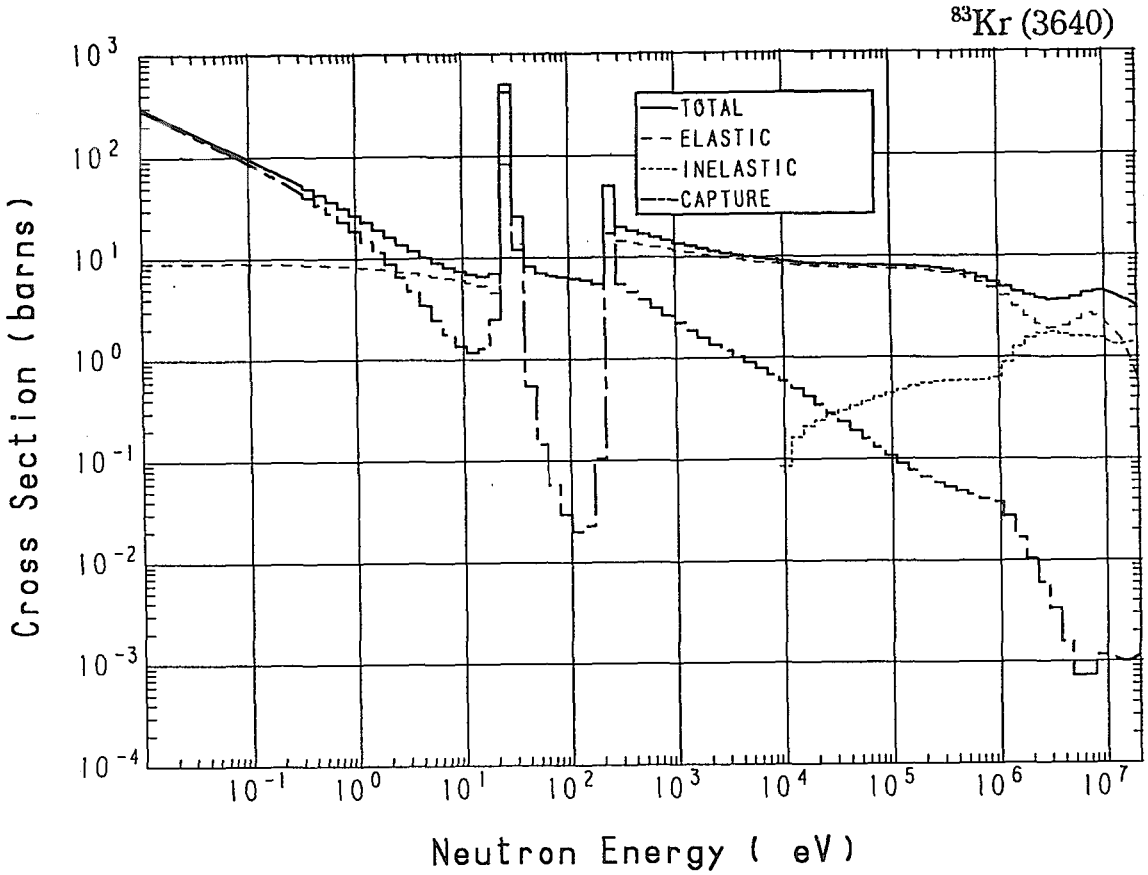

82Kr (3637)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

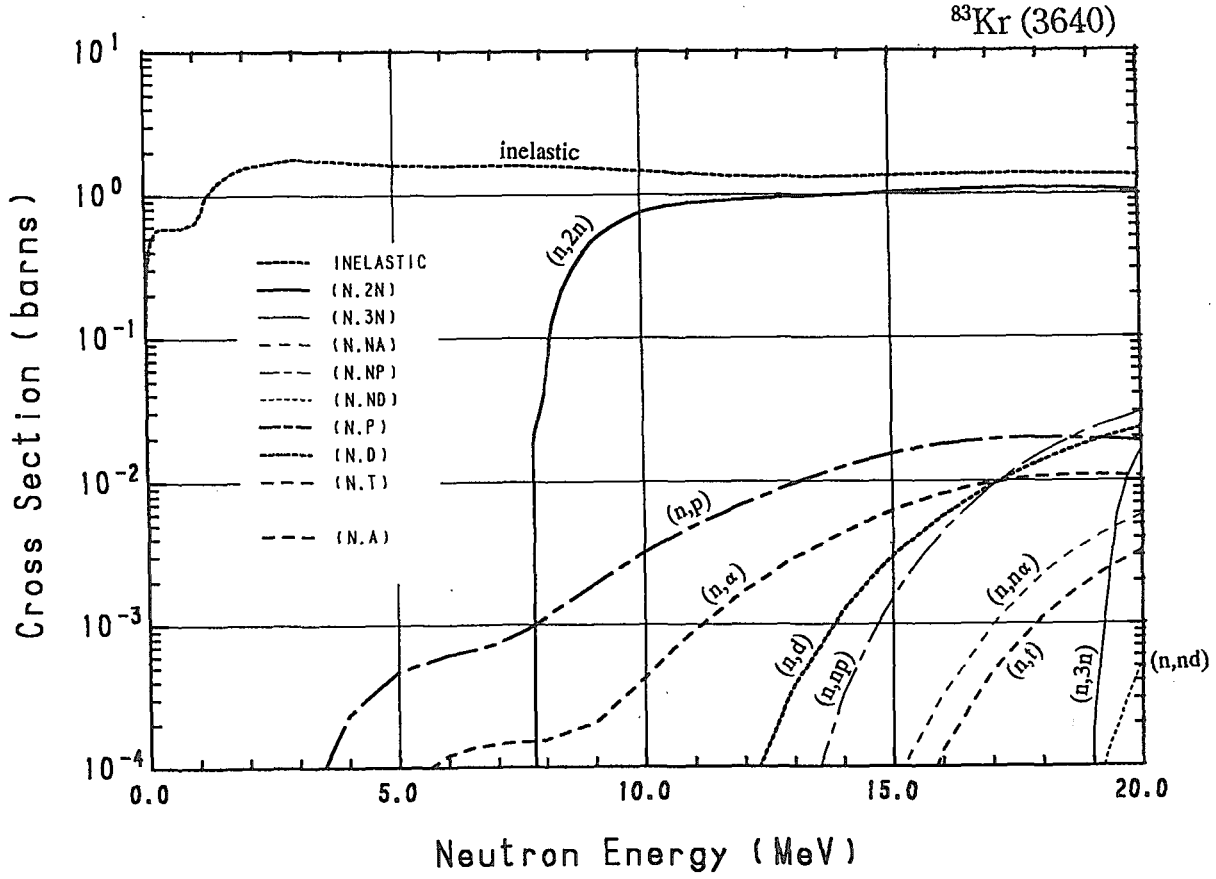

82Kr (3637)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,3n)
(n,t)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 83 (MAT=3640)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	188.9	167.5	–	3.841	4.939
elastic	–	9.080	9.051	–	1.522	3.714
inelastic	9.514 keV	–	–	–	1.319	1.195
(n,2n)	7.561 MeV	–	–	–	981.1×10^{-3}	2.803×10^{-3}
(n,3n)	18.65 MeV	–	–	–	–	2.609×10^{-9}
(n,nα)	6.565 MeV	–	–	–	11.13×10^{-6}	15.00×10^{-9}
(n,np)	9.899 MeV	–	–	–	323.4×10^{-6}	157.2×10^{-9}
(n,nd)	15.25 MeV	–	–	–	–	105.7×10^{-12}
capture	–	179.9	158.5	147.5	1.001×10^{-3}	24.29×10^{-3}
(n,p)	179.3 keV	–	–	–	12.49×10^{-3}	78.16×10^{-6}
(n,d)	7.561 MeV	–	–	–	1.251×10^{-3}	270.7×10^{-9}
(n,t)	8.991 MeV	–	–	–	965.7×10^{-9}	6.698×10^{-9}
(n,He-3)	10.58 MeV	–	–	–	3.813×10^{-18}	2.906×10^{-12}
(n,α)	–	0.000	0.000	3.847×10^{-3}	4.395×10^{-3}	12.71×10^{-6}
(n,2p)	9.018 MeV	–	–	–	129.0×10^{-12}	2.327×10^{-12}

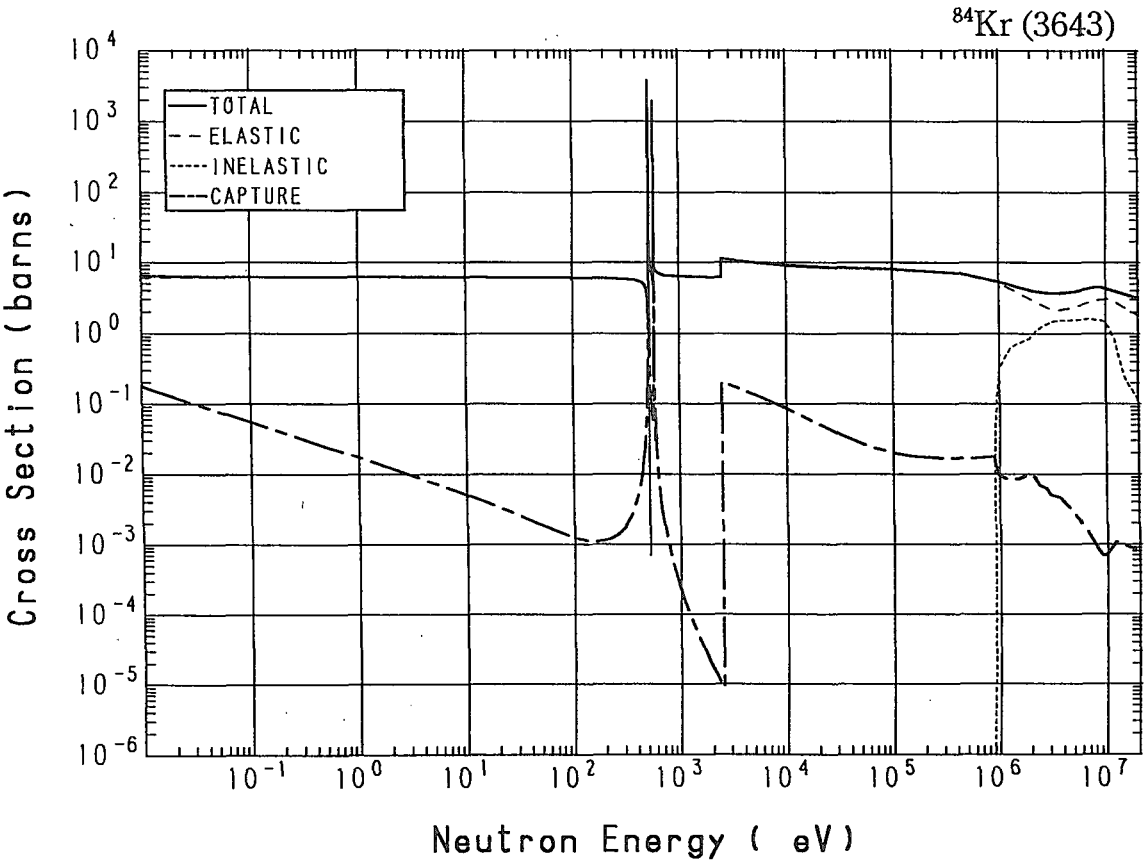


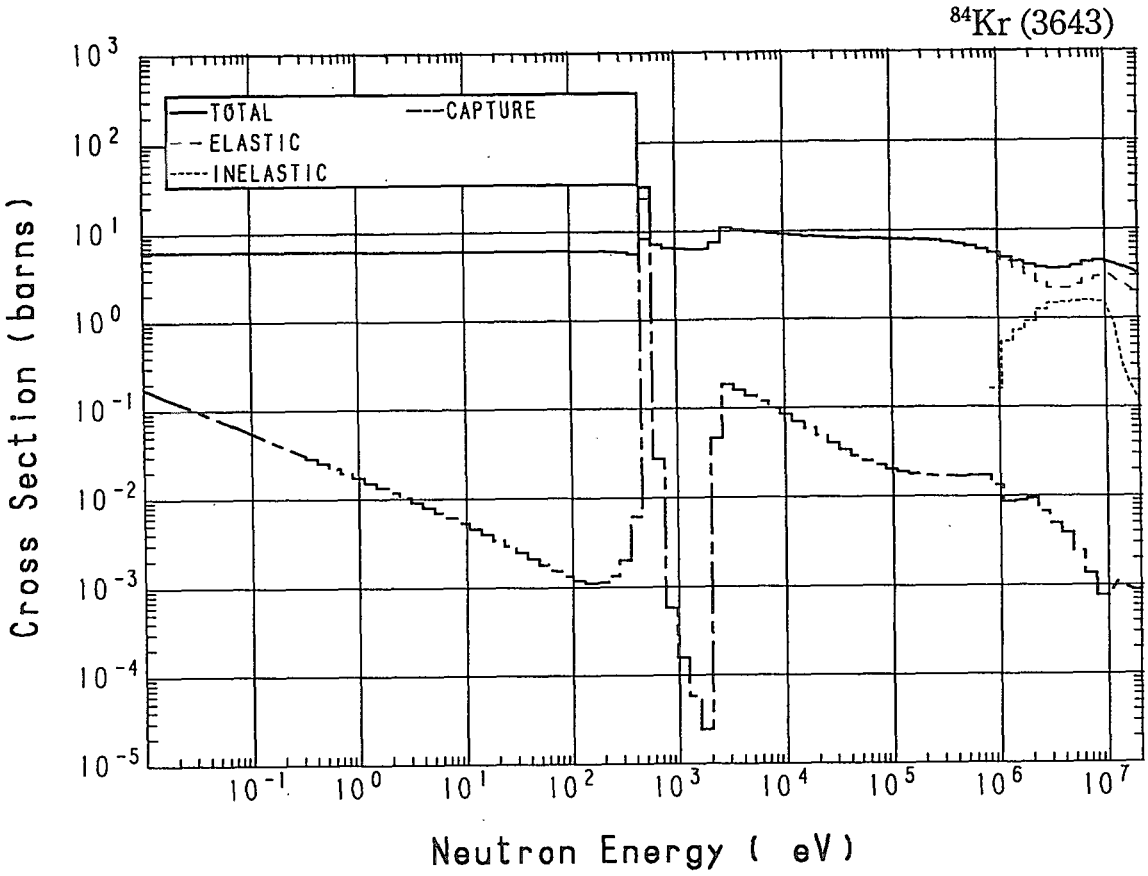

^{83}Kr (3640)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

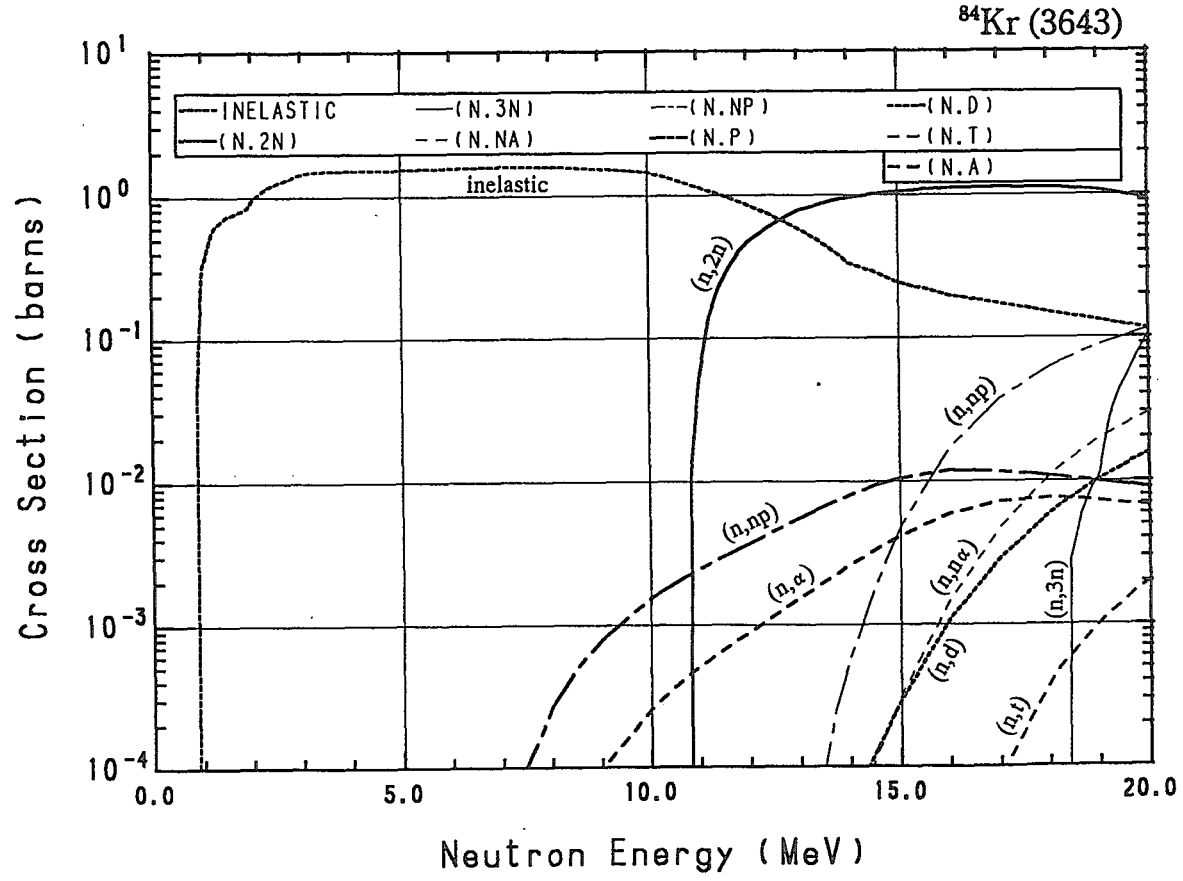

^{83}Kr (3640)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 84 (MAT=3643)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.269	6.257	–	3.842	4.933
elastic	–	6.159	6.159	–	2.541	4.162
inelastic	892.6 keV	–	–	–	334.7×10^{-3}	758.7×10^{-3}
(n,2n)	10.65 MeV	–	–	–	953.1×10^{-3}	275.5×10^{-6}
(n,3n)	18.21 MeV	–	–	–	–	25.41×10^{-9}
(n,nα)	7.178 MeV	–	–	–	38.03×10^{-6}	70.67×10^{-9}
(n,np)	10.83 MeV	–	–	–	592.4×10^{-6}	548.2×10^{-9}
capture	–	110.0×10^{-3}	97.51×10^{-3}	2.416	1.019×10^{-3}	10.01×10^{-3}
(n,p)	3.937 MeV	–	–	–	8.014×10^{-3}	7.977×10^{-6}
(n,d)	8.491 MeV	–	–	–	55.21×10^{-6}	46.44×10^{-9}
(n,t)	11.95 MeV	–	–	–	209.3×10^{-12}	1.952×10^{-9}
(n,α)	391.3 keV	–	–	–	2.611×10^{-3}	1.461×10^{-6}

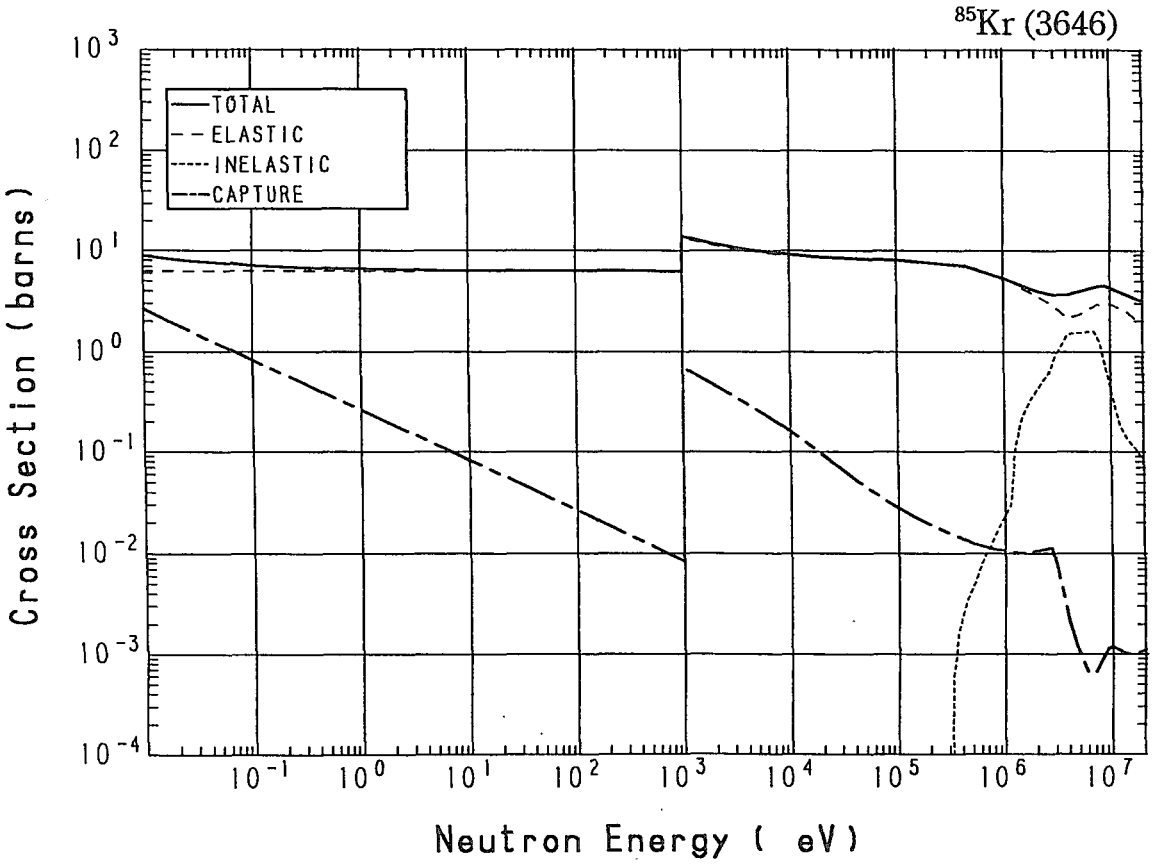


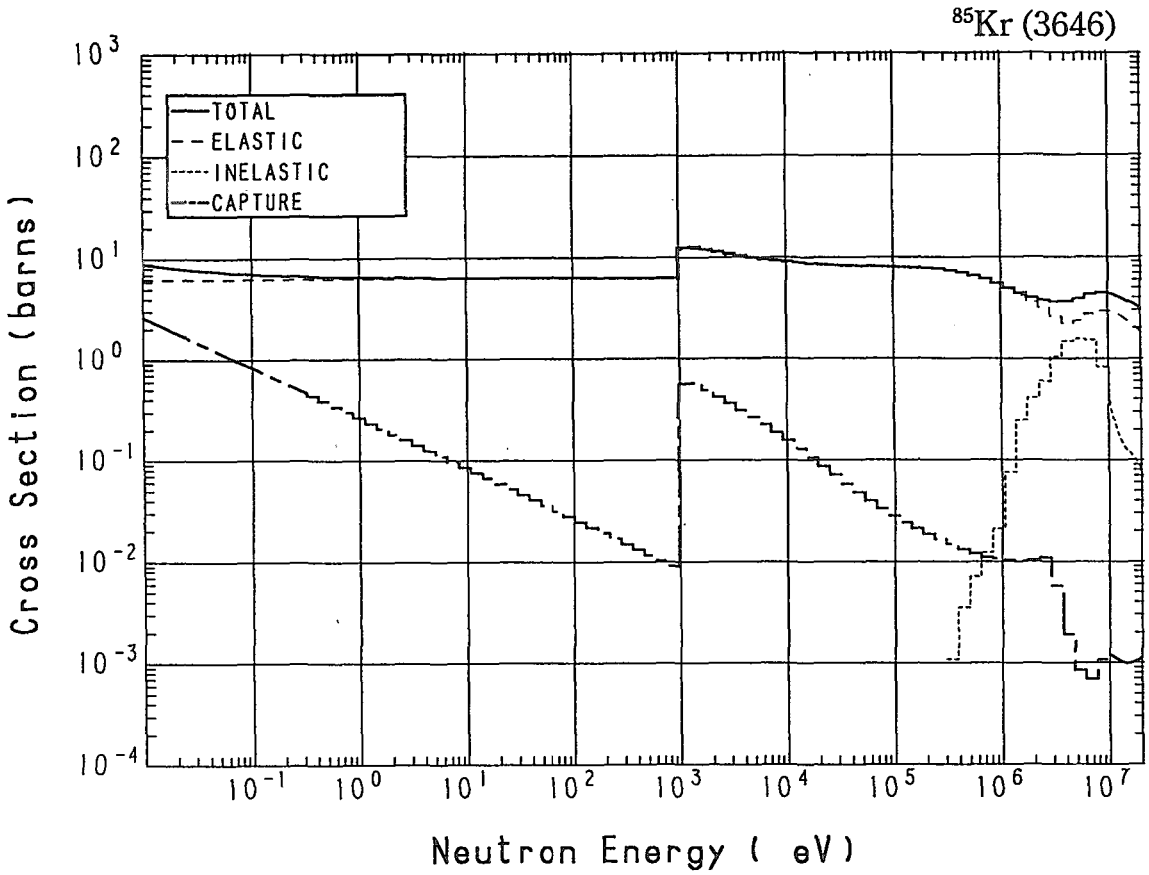

84Kr (3643)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

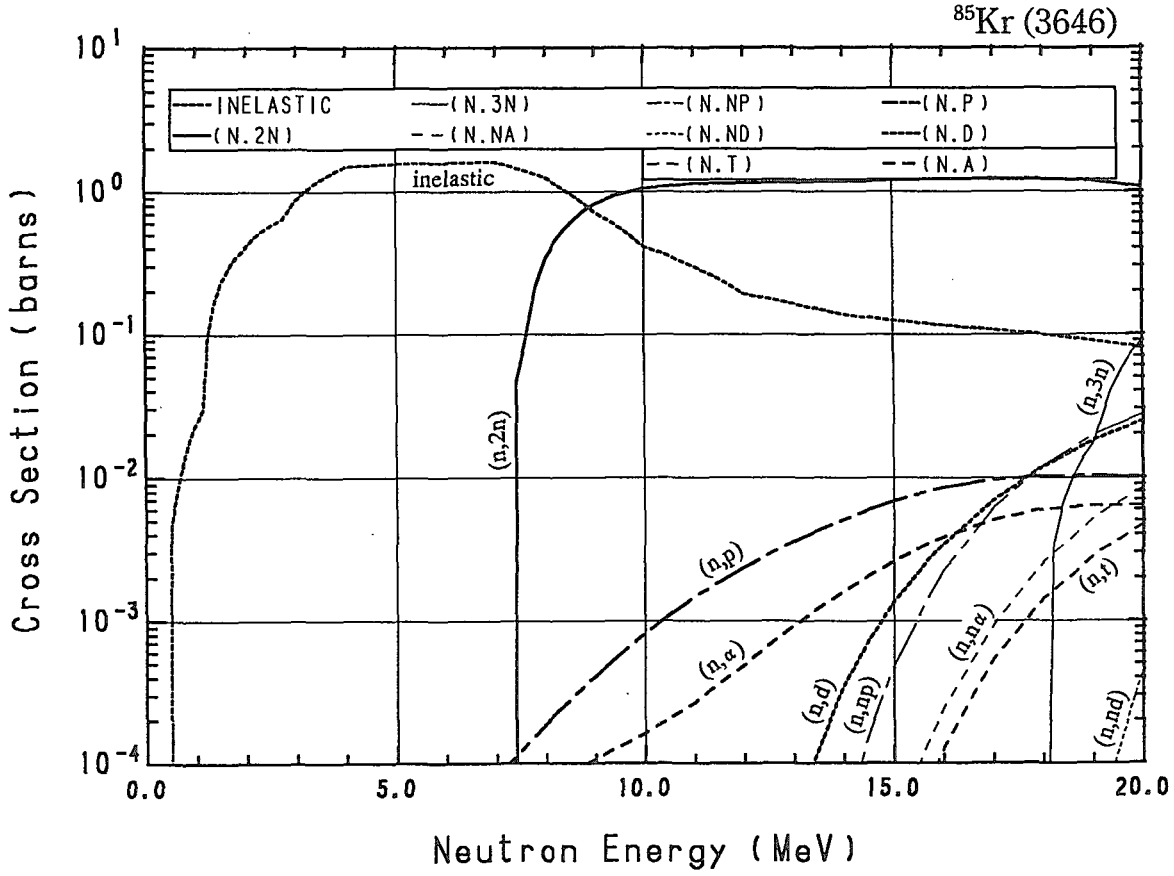

84Kr (3643)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,2n)
(n,np)
(n,nα)
(n,3n)
(n,α)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 85 (MAT=3646)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.916	7.765	–	3.842	4.937
elastic	–	6.256	6.256	–	2.531	4.457
inelastic	308.5 keV	–	–	–	136.9×10^{-3}	462.9×10^{-3}
(n,2n)	7.201 MeV	–	–	–	1.166	5.259×10^{-3}
(n,3n)	17.85 MeV	–	–	–	–	29.36×10^{-9}
(n,nα)	7.592 MeV	–	–	–	3.456×10^{-6}	14.85×10^{-9}
(n,np)	11.14 MeV	–	–	–	39.25×10^{-6}	86.21×10^{-9}
(n,nd)	15.69 MeV	–	–	–	–	67.39×10^{-12}
capture	–	1.660	1.472	1.824	1.001×10^{-3}	10.16×10^{-3}
(n,p)	2.043 MeV	–	–	–	5.101×10^{-3}	5.927×10^{-6}
(n,d)	8.800 MeV	–	–	–	348.5×10^{-6}	130.7×10^{-9}
(n,t)	9.432 MeV	–	–	–	930.1×10^{-9}	8.020×10^{-9}
(n,α)	–	0.000	0.000	1.833×10^{-3}	1.613×10^{-3}	1.696×10^{-6}

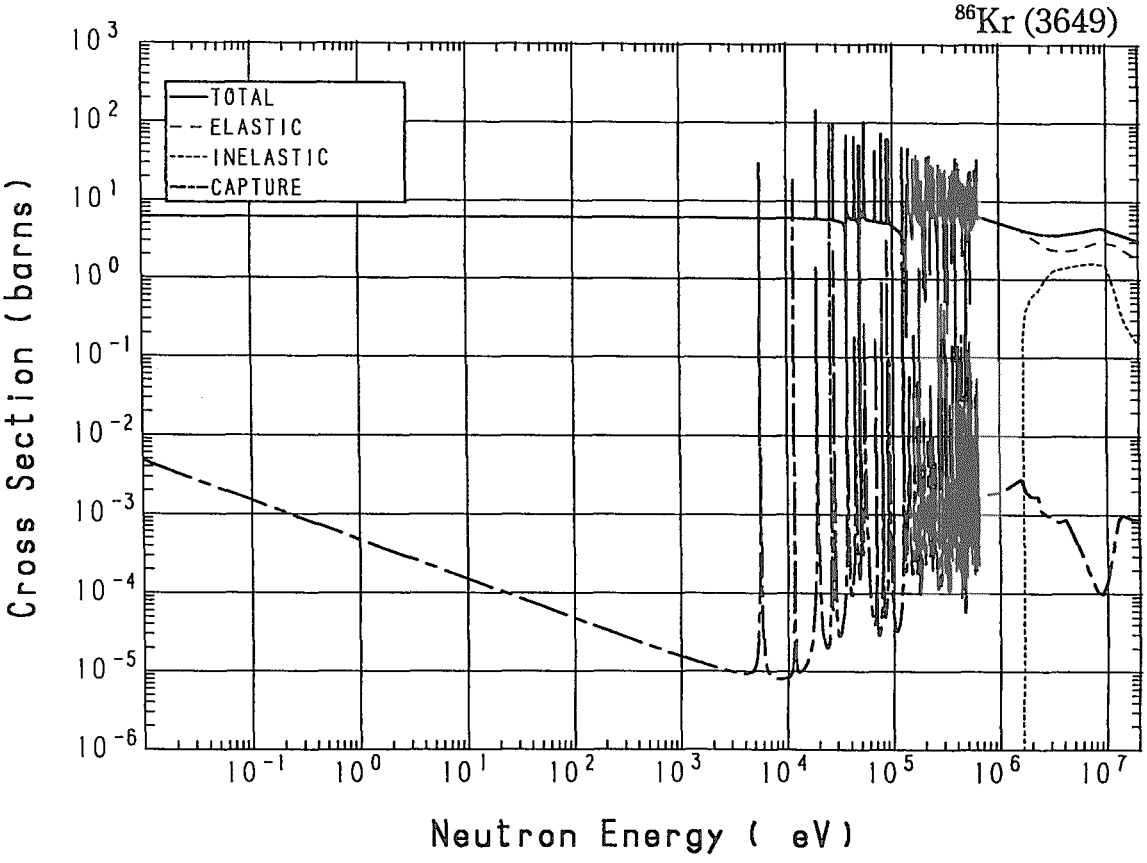


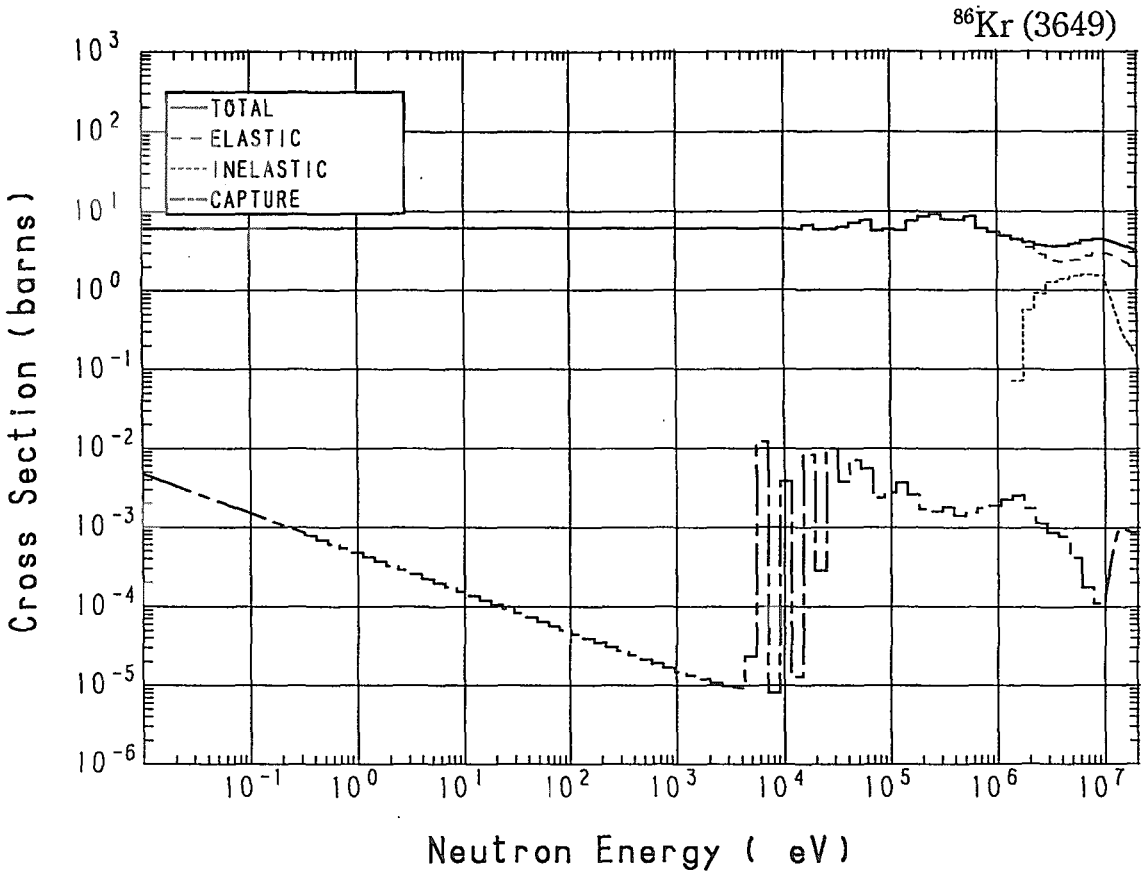

^{85}Kr (3646)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

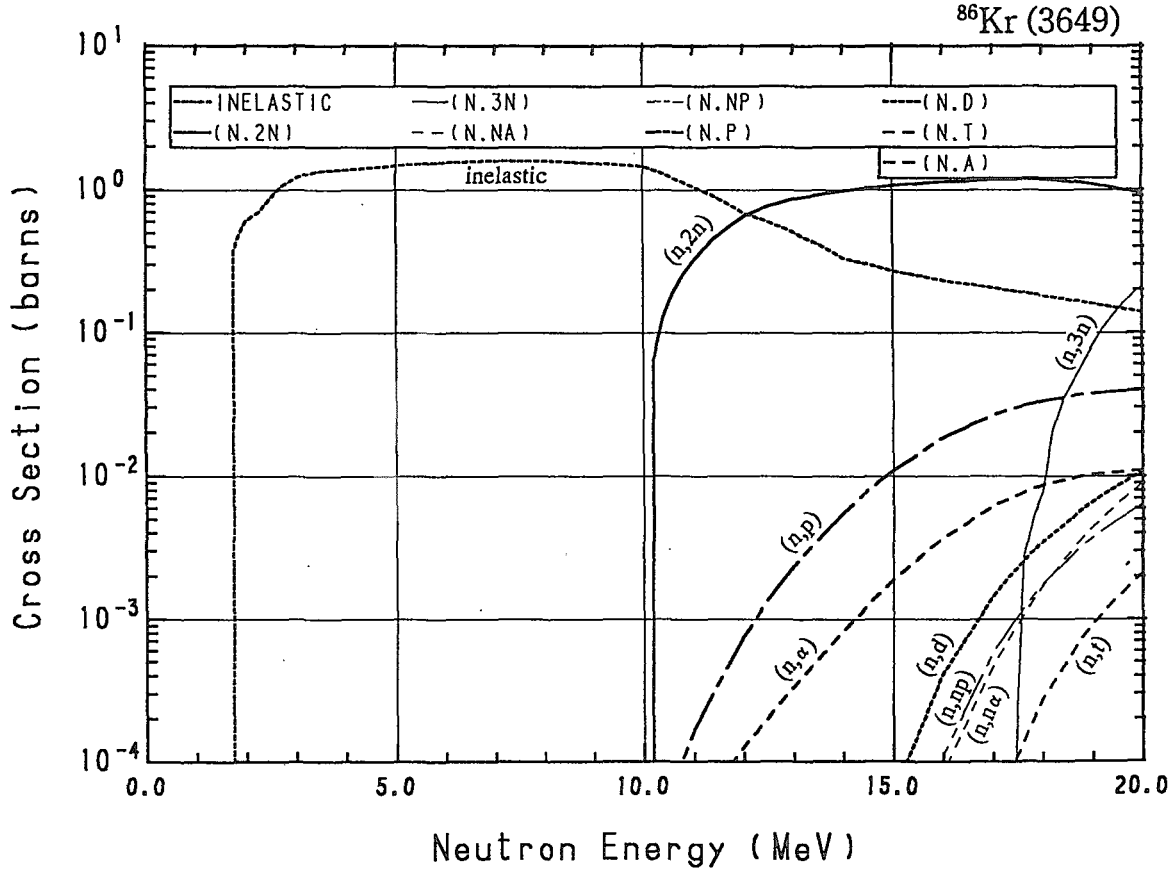

^{85}Kr (3646)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.T)
(N.P)
(N.D)
(N.A)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,γ)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

36-Kr- 86 (MAT=3649)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.153	6.152	–	3.842	5.070
elastic	–	6.150	6.150	–	2.516	4.562
inelastic	1.583 MeV	–	–	–	334.0×10^{-3}	505.9×10^{-3}
(n,2n)	9.983 MeV	–	–	–	984.1×10^{-3}	468.3×10^{-6}
(n,3n)	17.18 MeV	–	–	–	–	105.8×10^{-9}
(n,nα)	8.194 MeV	–	–	–	440.4×10^{-9}	9.532×10^{-9}
(n,np)	12.03 MeV	–	–	–	84.57×10^{-9}	9.326×10^{-9}
capture	–	2.999×10^{-3}	2.659×10^{-3}	23.23×10^{-3}	1.002×10^{-3}	1.615×10^{-3}
(n,p)	6.597 MeV	–	–	–	5.603×10^{-3}	1.243×10^{-6}
(n,d)	9.689 MeV	–	–	–	3.697×10^{-6}	21.12×10^{-9}
(n,t)	12.52 MeV	–	–	–	91.73×10^{-15}	1.508×10^{-9}
(n,α)	2.225 MeV	–	–	–	830.6×10^{-6}	236.9×10^{-9}

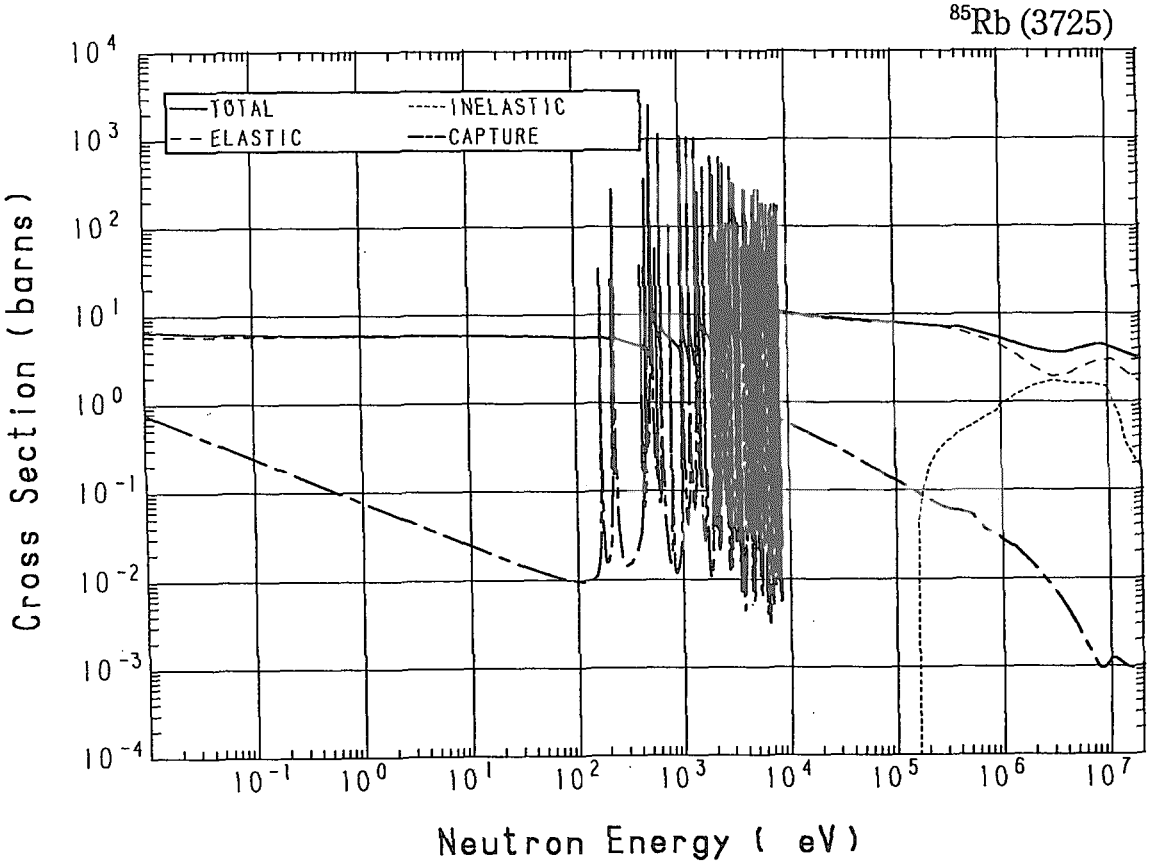


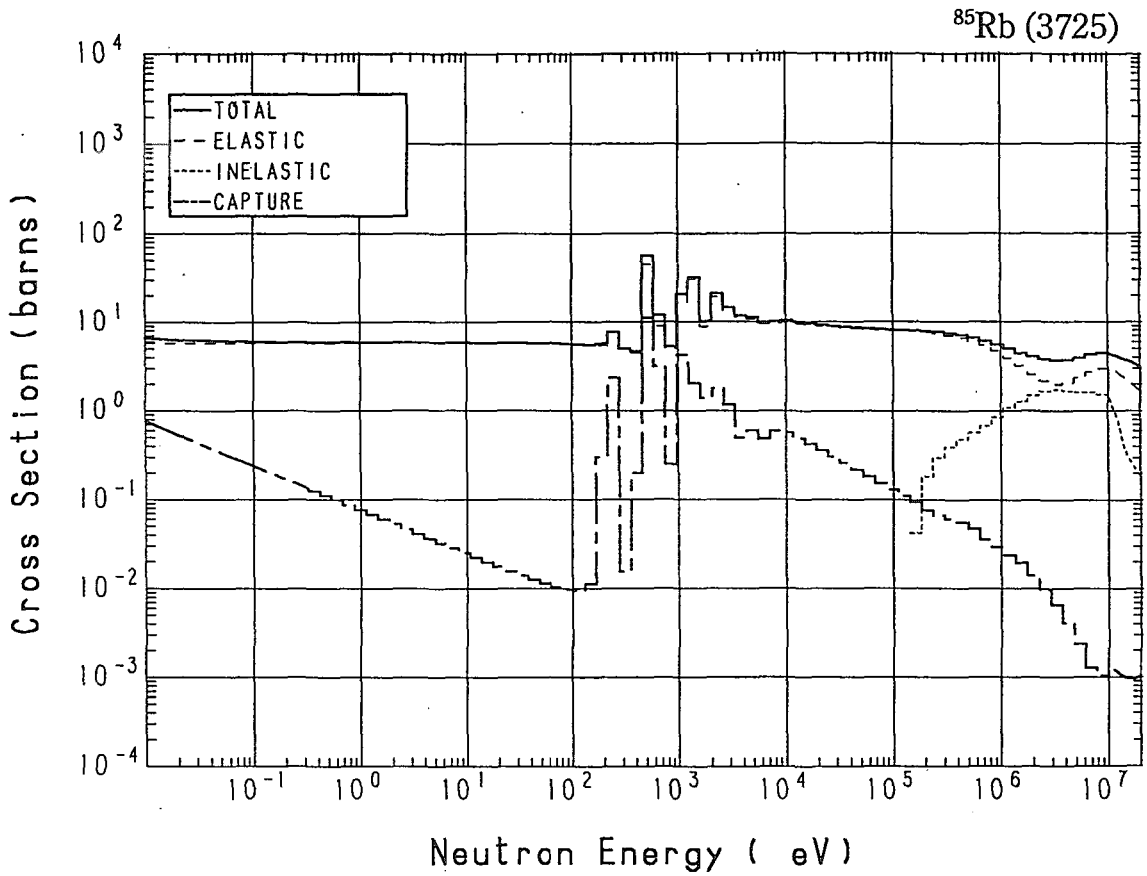

^{86}Kr (3649)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

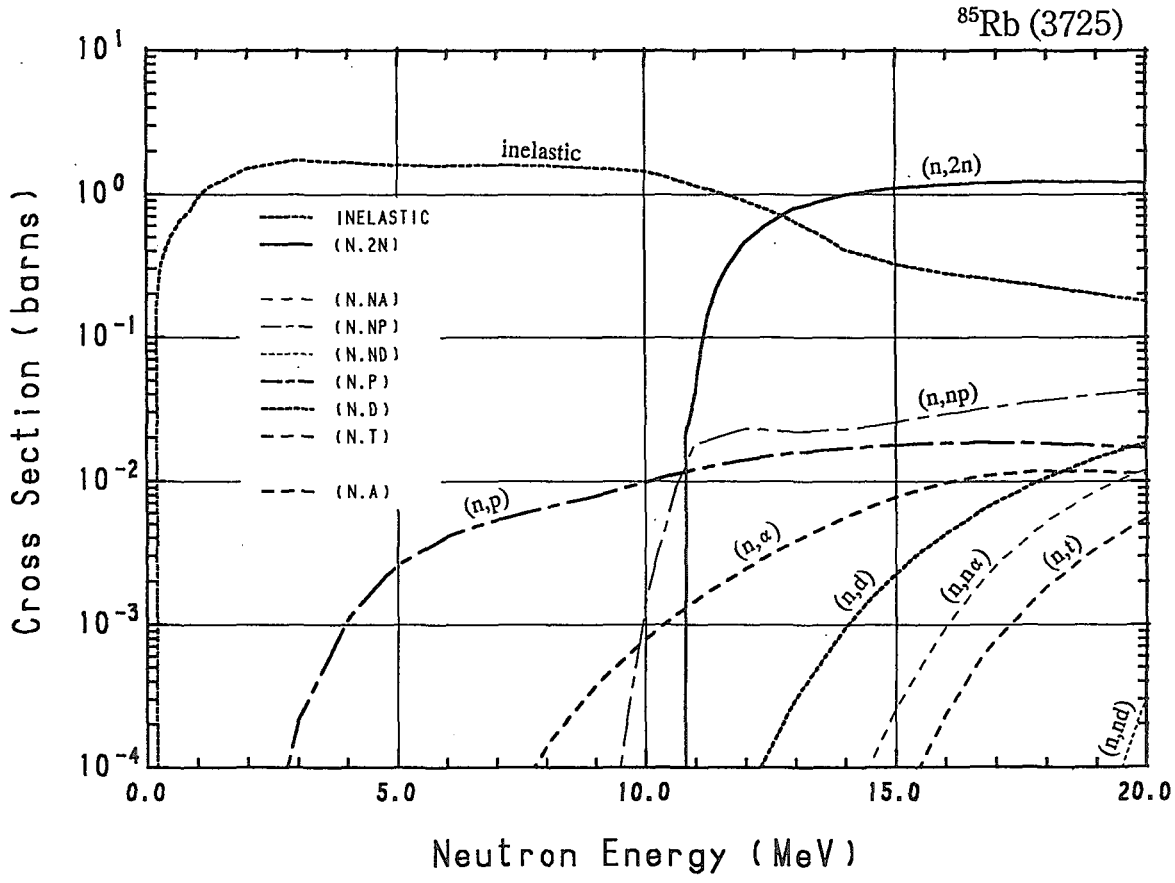

^{86}Kr (3649)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

37-Rb- 85 (MAT=3725)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.334	6.280	–	3.842	4.946
elastic	–	5.854	5.854	–	2.400	3.733
inelastic	153.1 keV	–	–	–	408.2×10^{-3}	1.184
(n,2n)	10.61 MeV	–	–	–	986.5×10^{-3}	276.8×10^{-6}
(n,3n)	19.55 MeV	–	–	–	–	67.52×10^{-12}
(n,nα)	6.683 MeV	–	–	–	41.87×10^{-6}	40.08×10^{-9}
(n,np)	7.104 MeV	–	–	–	23.02×10^{-3}	17.69×10^{-6}
(n,nd)	15.41 MeV	–	–	–	–	51.54×10^{-12}
capture	–	480.0×10^{-3}	425.5×10^{-3}	8.724	1.009×10^{-3}	26.36×10^{-3}
(n,p)	–	0.000	0.000	15.47×10^{-3}	16.91×10^{-3}	410.2×10^{-6}
(n,d)	4.766 MeV	–	–	–	959.9×10^{-6}	240.1×10^{-9}
(n,t)	9.156 MeV	–	–	–	1.940×10^{-6}	11.54×10^{-9}
(n,He-3)	10.11 MeV	–	–	–	19.99×10^{-15}	4.689×10^{-12}
(n,α)	–	0.000	0.000	4.521×10^{-3}	5.623×10^{-3}	4.836×10^{-6}

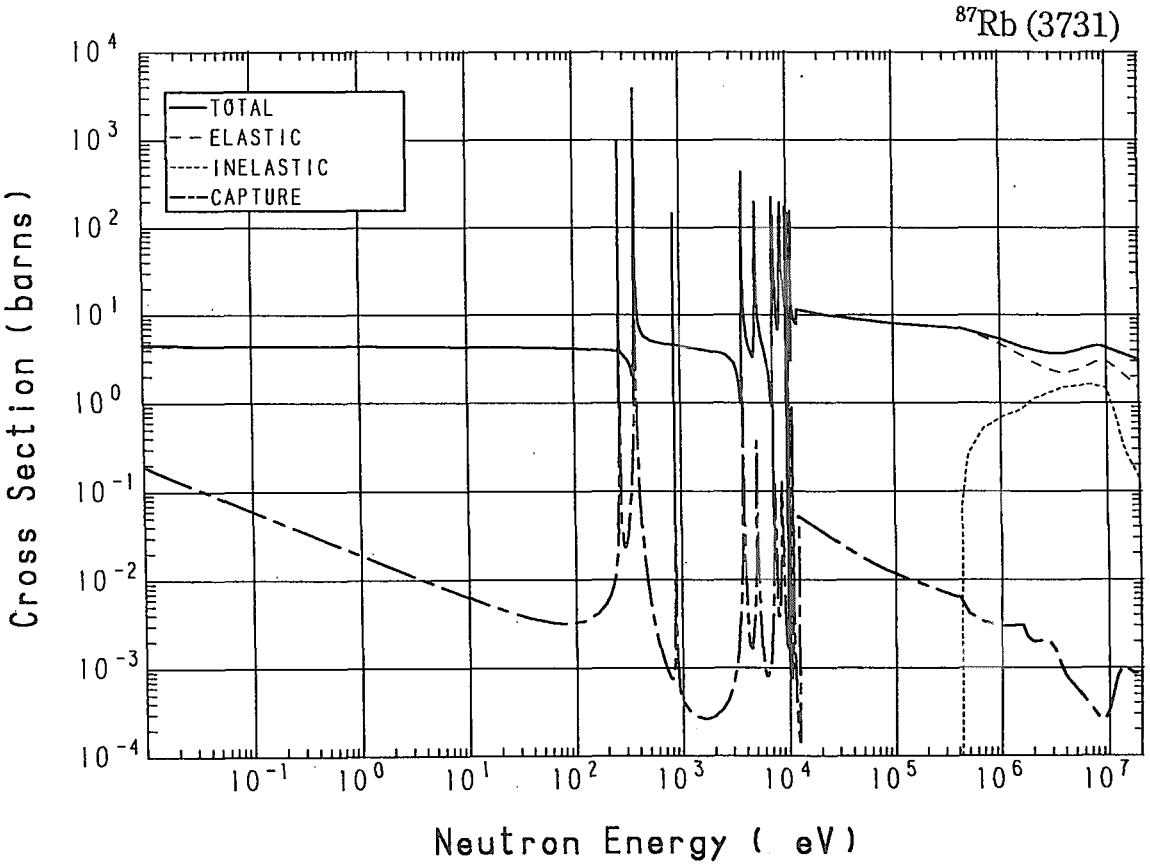


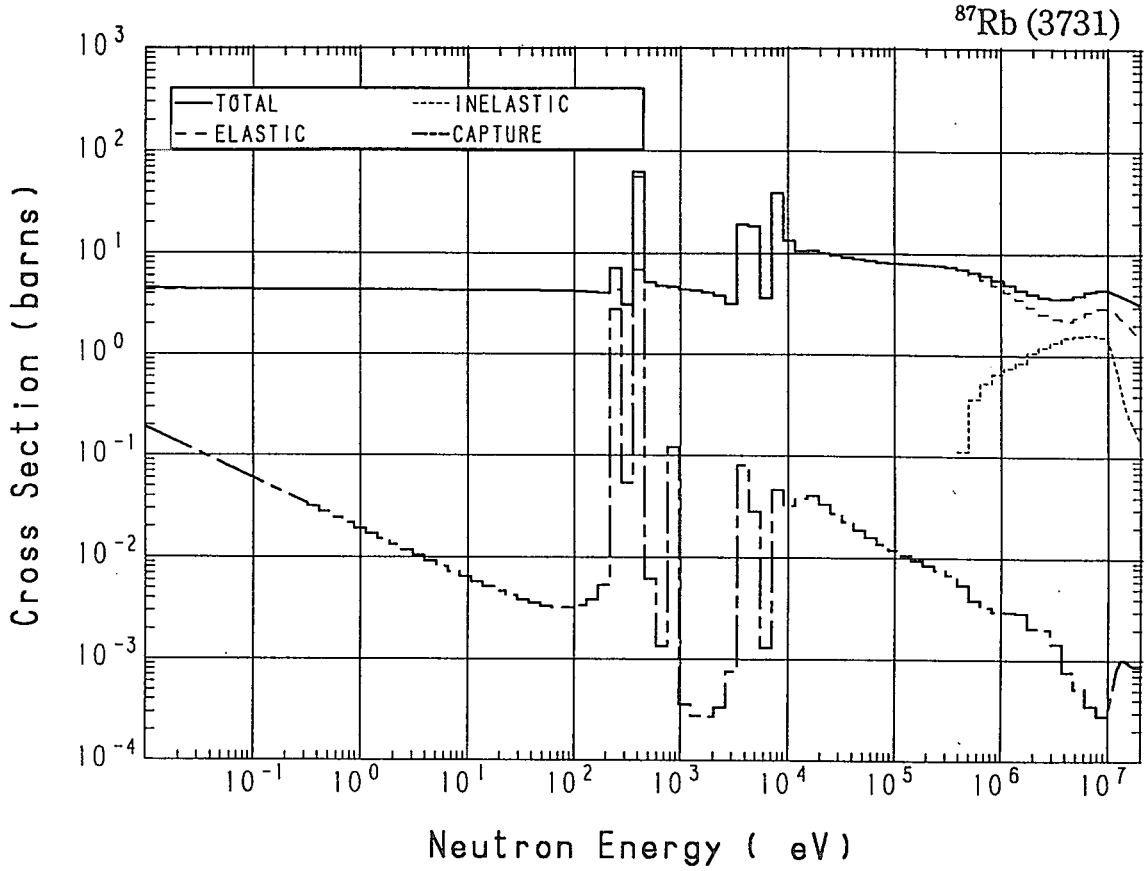

^{85}Rb (3725)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

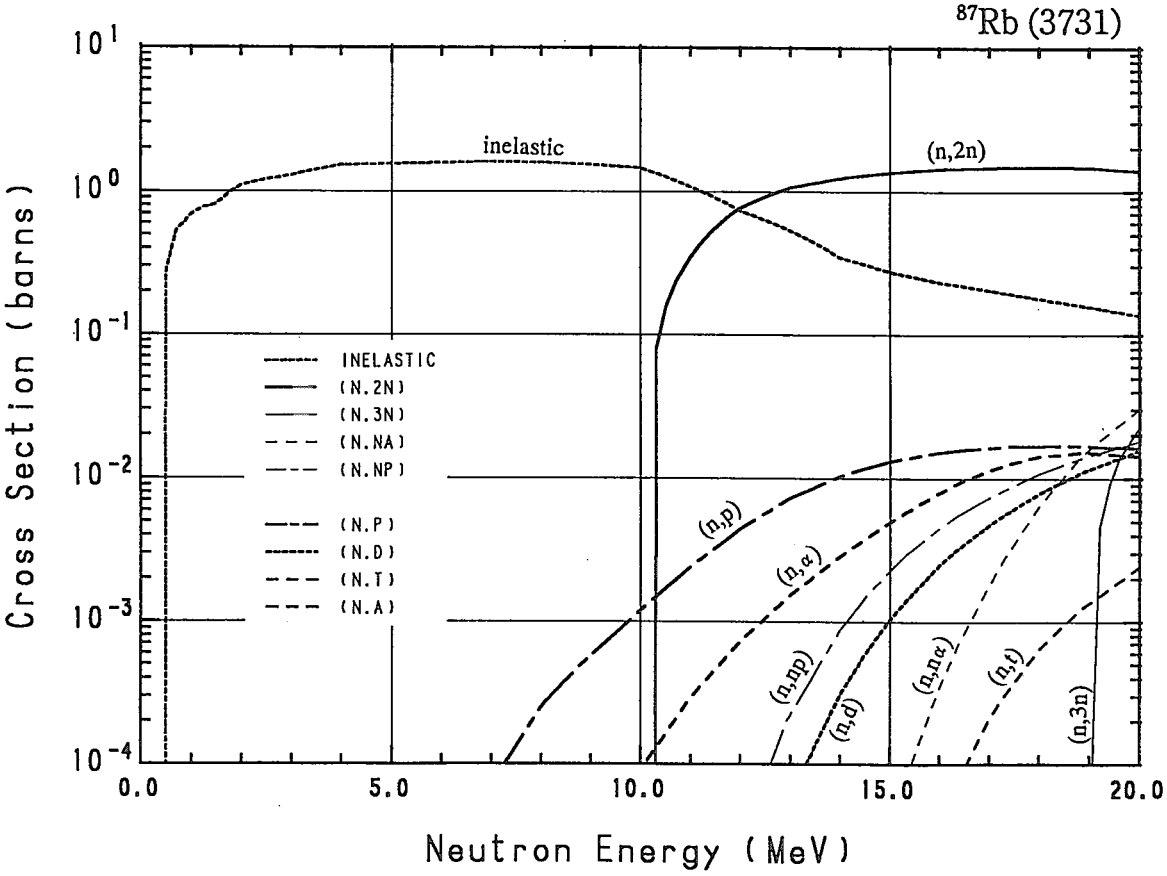

^{85}Rb (3725)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

37-Rb- 87 (MAT=3731)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.479	4.465	–	3.842	4.952
elastic	–	4.359	4.359	–	2.243	4.058
inelastic	407.7 keV	–	–	–	347.5×10^{-3}	888.8×10^{-3}
(n,2n)	10.05 MeV	–	–	–	1.237	535.6×10^{-6}
(n,3n)	18.80 MeV	–	–	–	–	4.564×10^{-9}
(n,nα)	8.085 MeV	–	–	–	1.804×10^{-6}	35.52×10^{-9}
(n,np)	8.726 MeV	–	–	–	881.5×10^{-6}	198.5×10^{-9}
(n,nd)	16.37 MeV	–	–	–	–	3.067×10^{-12}
capture	–	120.0×10^{-3}	106.4×10^{-3}	2.713	1.012×10^{-3}	3.046×10^{-3}
(n,p)	3.142 MeV	–	–	–	10.36×10^{-3}	8.032×10^{-6}
(n,d)	6.390 MeV	–	–	–	307.9×10^{-6}	101.7×10^{-9}
(n,t)	10.11 MeV	–	–	–	172.4×10^{-9}	3.381×10^{-9}
(n,α)	1.196 MeV	–	–	–	2.867×10^{-3}	925.0×10^{-9}

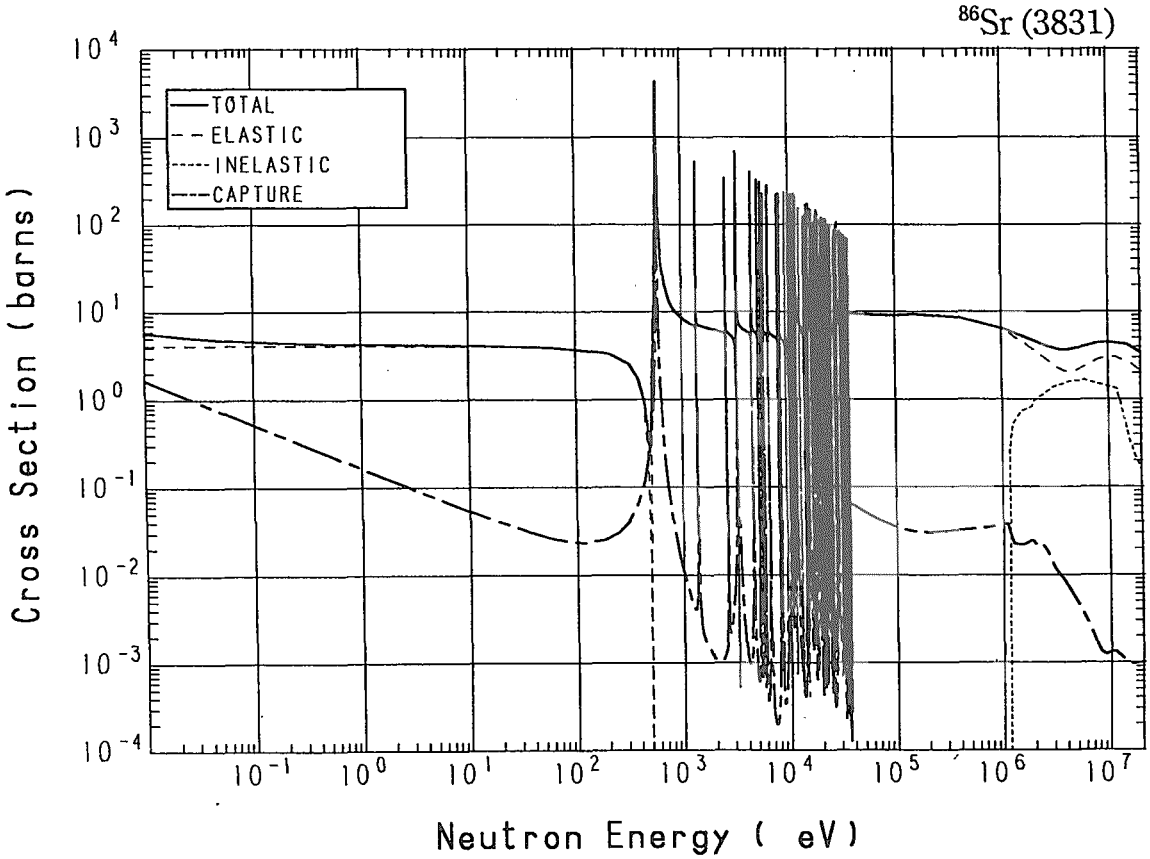


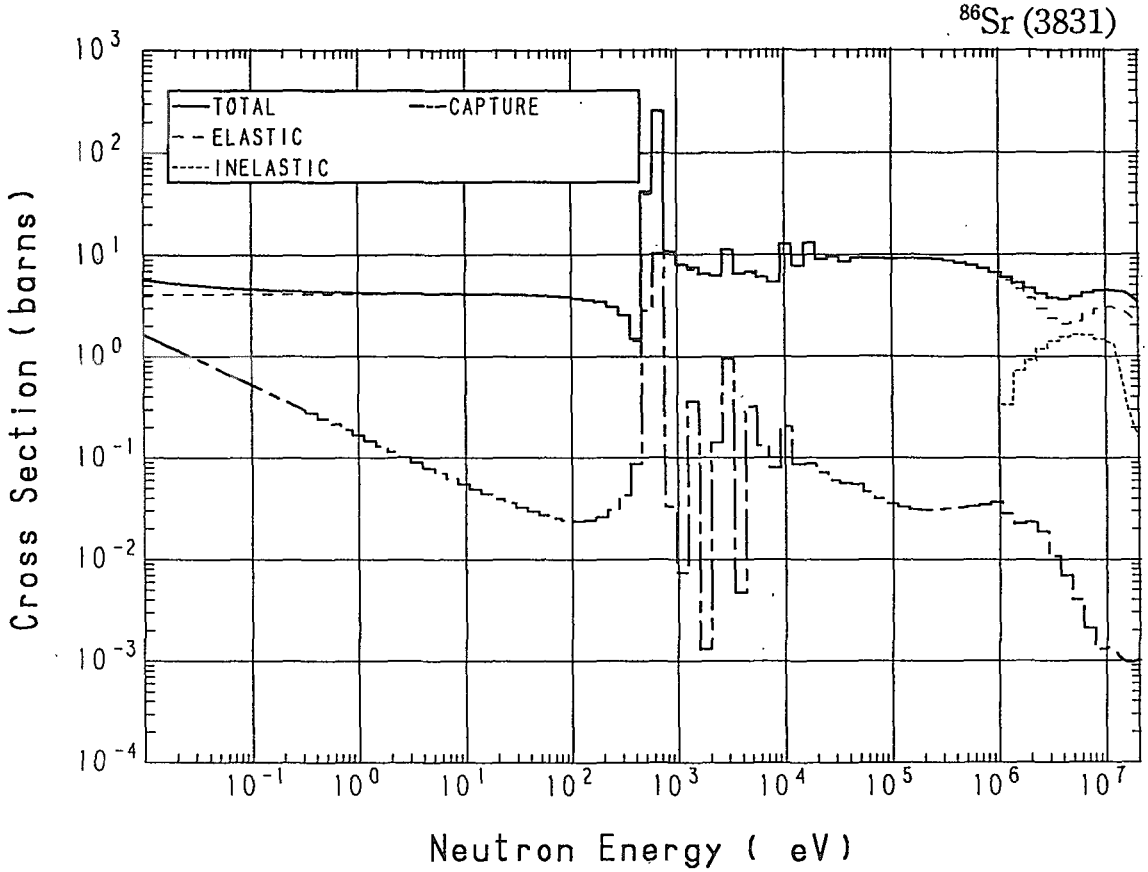

87Rb (3731)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

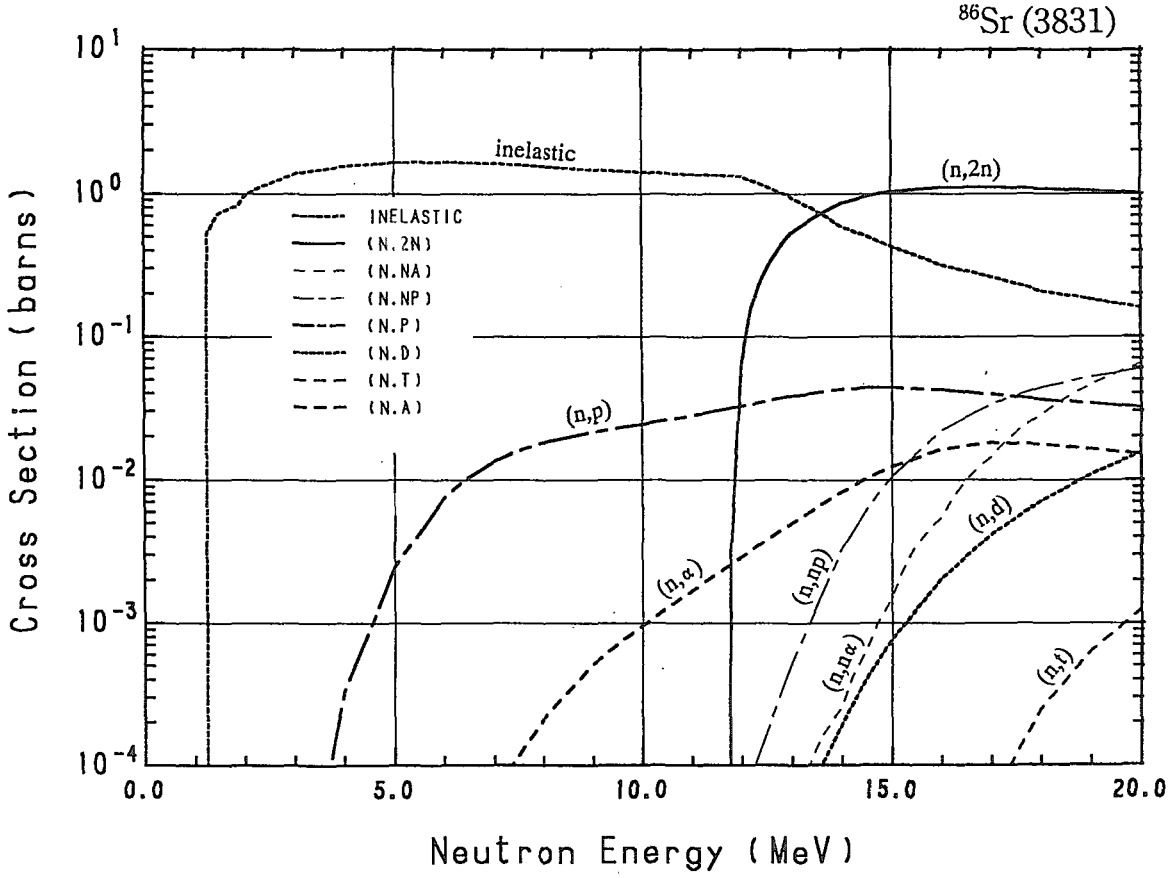

87Rb (3731)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,γ)
(n,3n)
Cross Section (barns)
Neutron Energy (MeV)

38-Sr- 86 (MAT=3831)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.173	5.055	–	4.334	5.665
elastic	–	4.133	4.133	–	2.831	4.920
inelastic	1.091 MeV	–	–	–	591.4×10^{-3}	719.7×10^{-3}
(n,2n)	11.63 MeV	–	–	–	856.2×10^{-3}	134.9×10^{-6}
(n,nα)	6.417 MeV	–	–	–	254.7×10^{-6}	237.8×10^{-9}
(n,np)	9.760 MeV	–	–	–	3.331×10^{-3}	798.5×10^{-9}
capture	–	1.040	922.0×10^{-3}	4.813	1.026×10^{-3}	23.16×10^{-3}
(n,p)	1.004 MeV	–	–	–	43.03×10^{-3}	571.8×10^{-6}
(n,d)	7.423 MeV	–	–	–	196.1×10^{-6}	80.57×10^{-9}
(n,t)	11.77 MeV	–	–	–	208.4×10^{-12}	1.231×10^{-9}
(n,α)	–	0.000	0.000	6.655×10^{-3}	8.312×10^{-3}	6.581×10^{-6}
(n,2p)	9.664 MeV	–	–	–	49.94×10^{-12}	8.423×10^{-12}

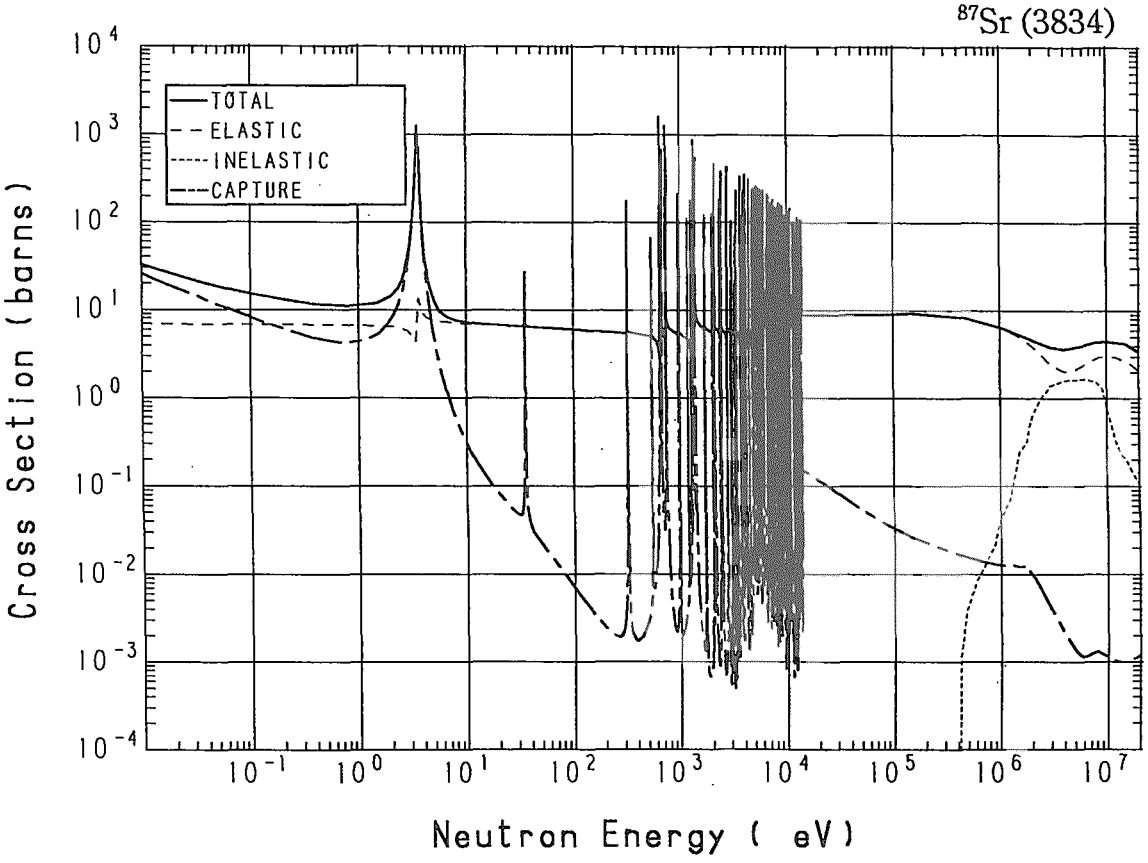


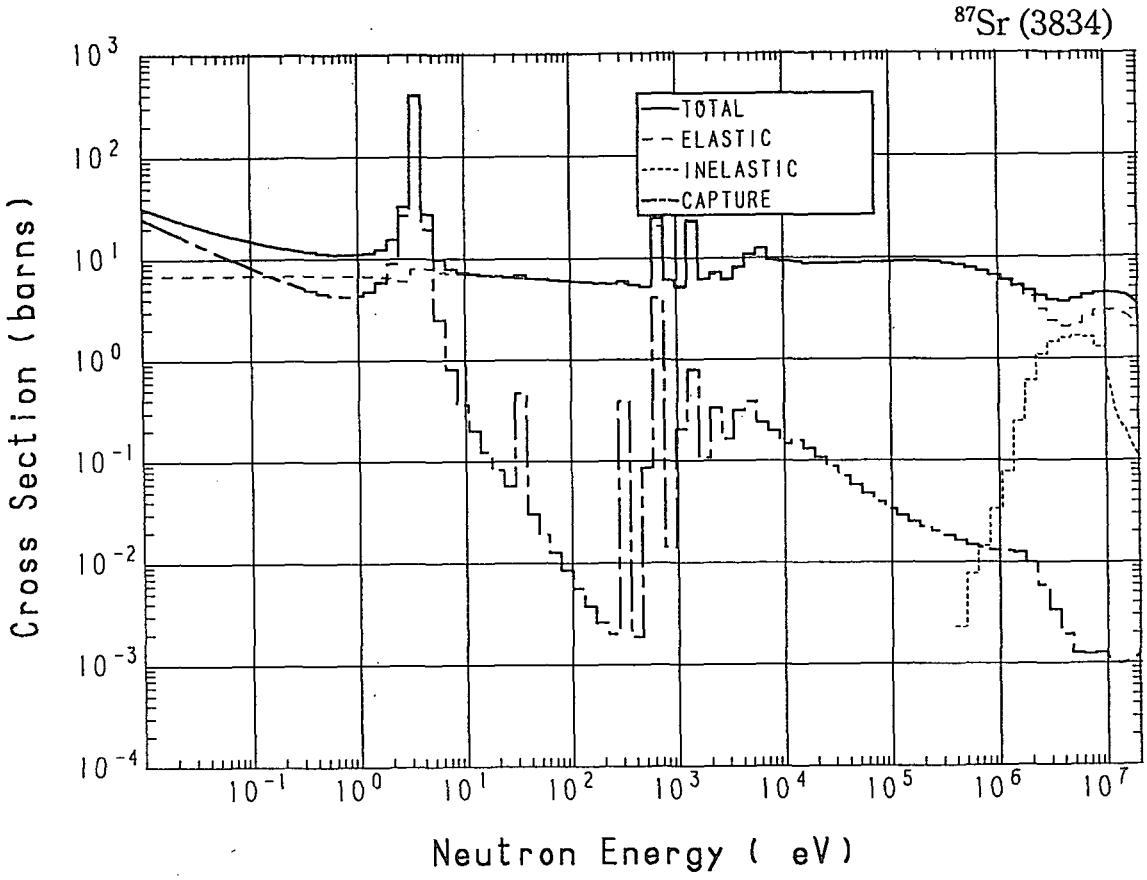

86Sr (3831)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

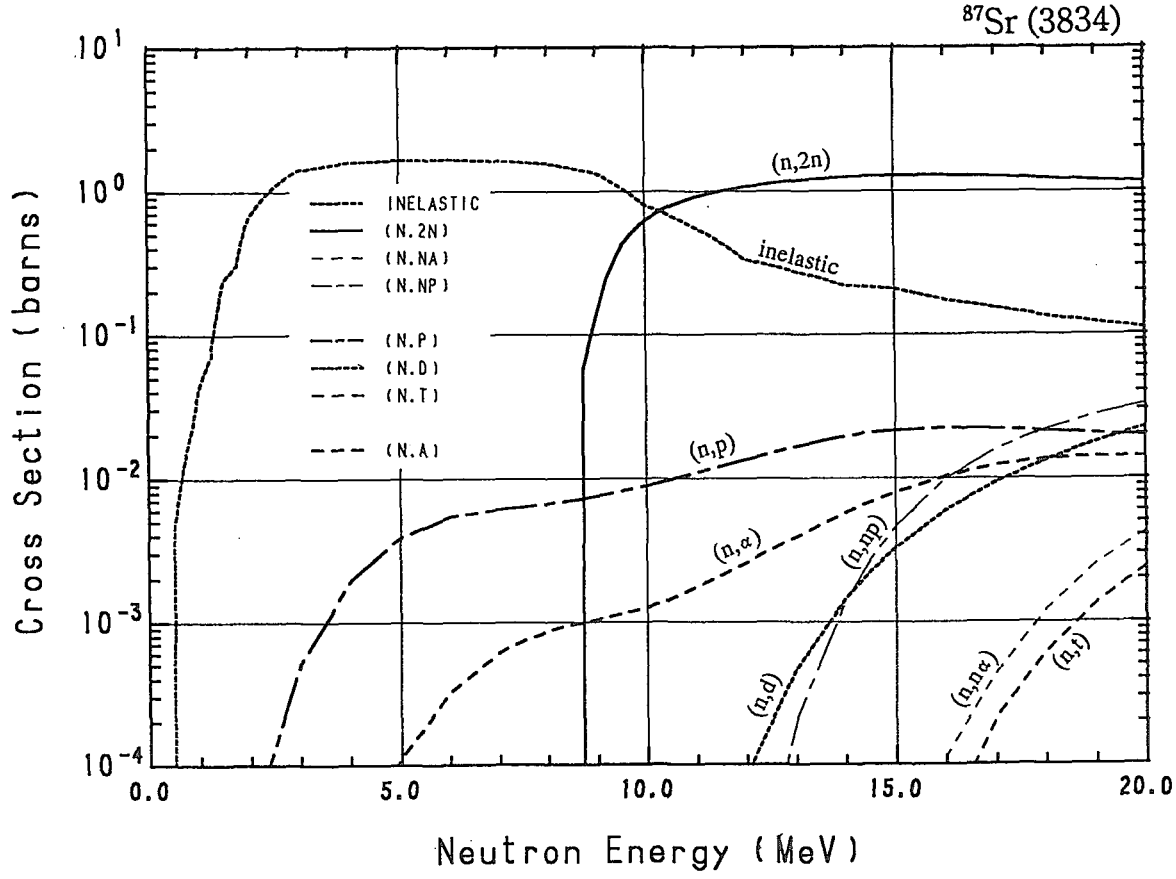

86Sr (3831)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

38-Sr- 87 (MAT=3834)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	22.90	21.16	–	4.334	5.669
elastic	–	6.897	6.895	–	2.837	5.051
inelastic	392.8 keV	–	–	–	219.4×10^{-3}	602.7×10^{-3}
(n,2n)	8.531 MeV	–	–	–	1.249	1.781×10^{-3}
(n,nα)	7.391 MeV	–	–	–	1.737×10^{-6}	7.060×10^{-9}
(n,np)	9.534 MeV	–	–	–	1.413×10^{-3}	353.8×10^{-9}
(n,nd)	15.95 MeV	–	–	–	–	11.24×10^{-12}
capture	–	16.00	14.27	121.0	1.002×10^{-3}	10.87×10^{-3}
(n,p)	–	0.000	0.000	17.32×10^{-3}	19.52×10^{-3}	601.8×10^{-6}
(n,d)	7.197 MeV	–	–	–	1.455×10^{-3}	300.8×10^{-9}
(n,t)	9.696 MeV	–	–	–	252.8×10^{-9}	3.306×10^{-9}
(n,He-3)	10.37 MeV	–	–	–	1.897×10^{-15}	2.882×10^{-12}
(n,α)	–	0.000	0.000	5.327×10^{-3}	5.761×10^{-3}	28.33×10^{-6}

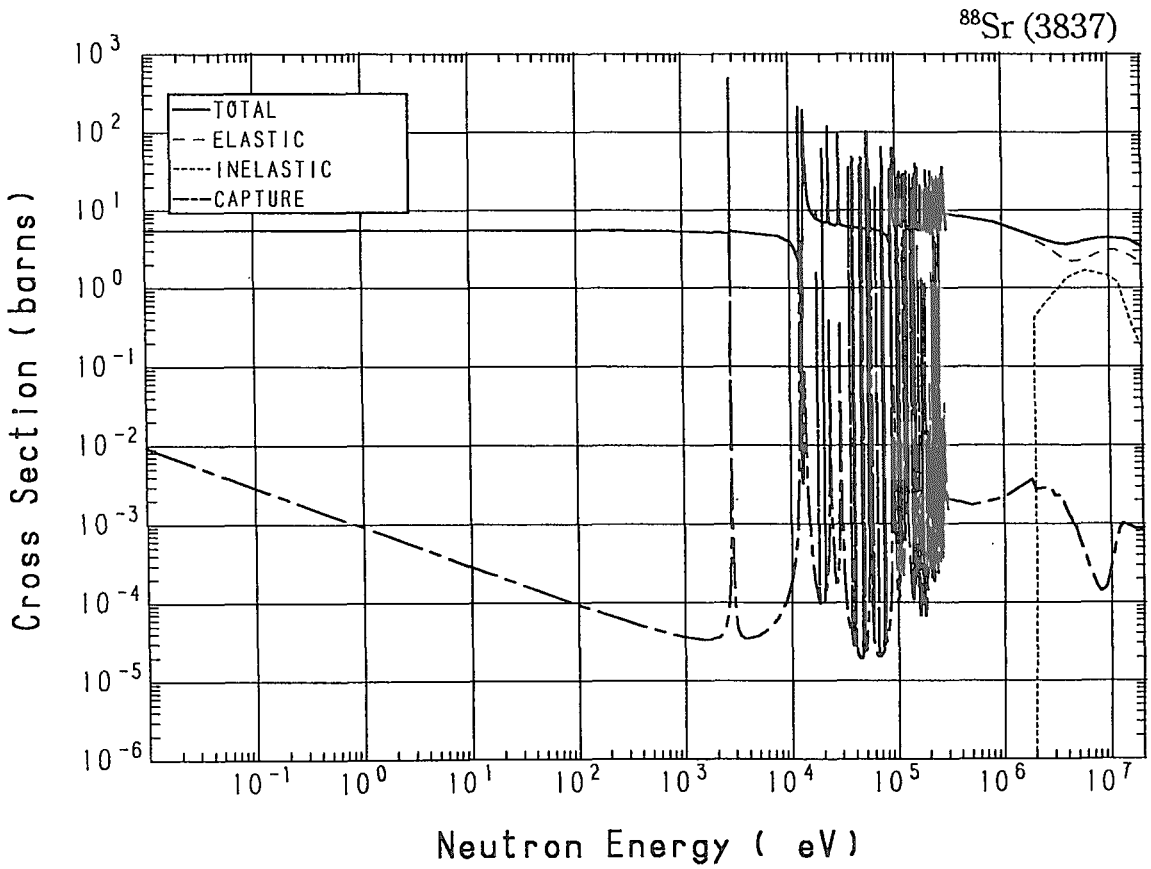


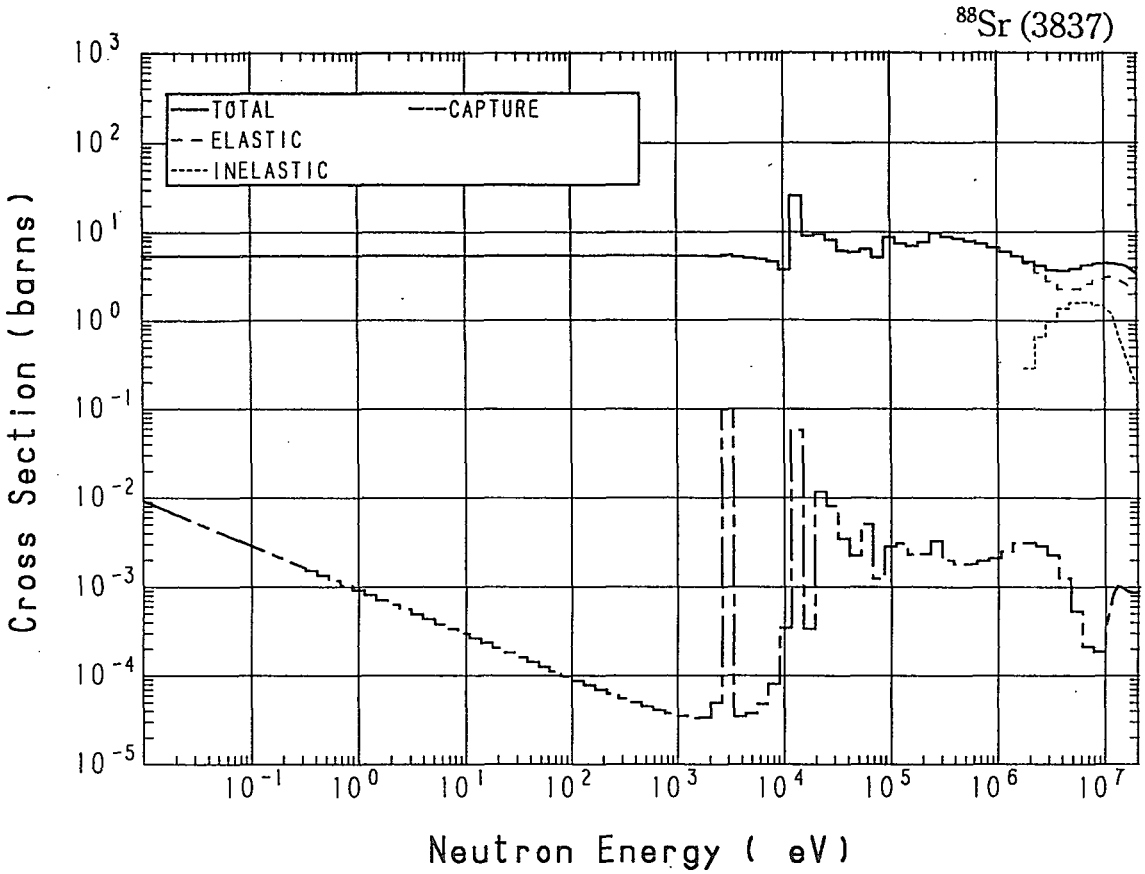

87Sr (3834)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

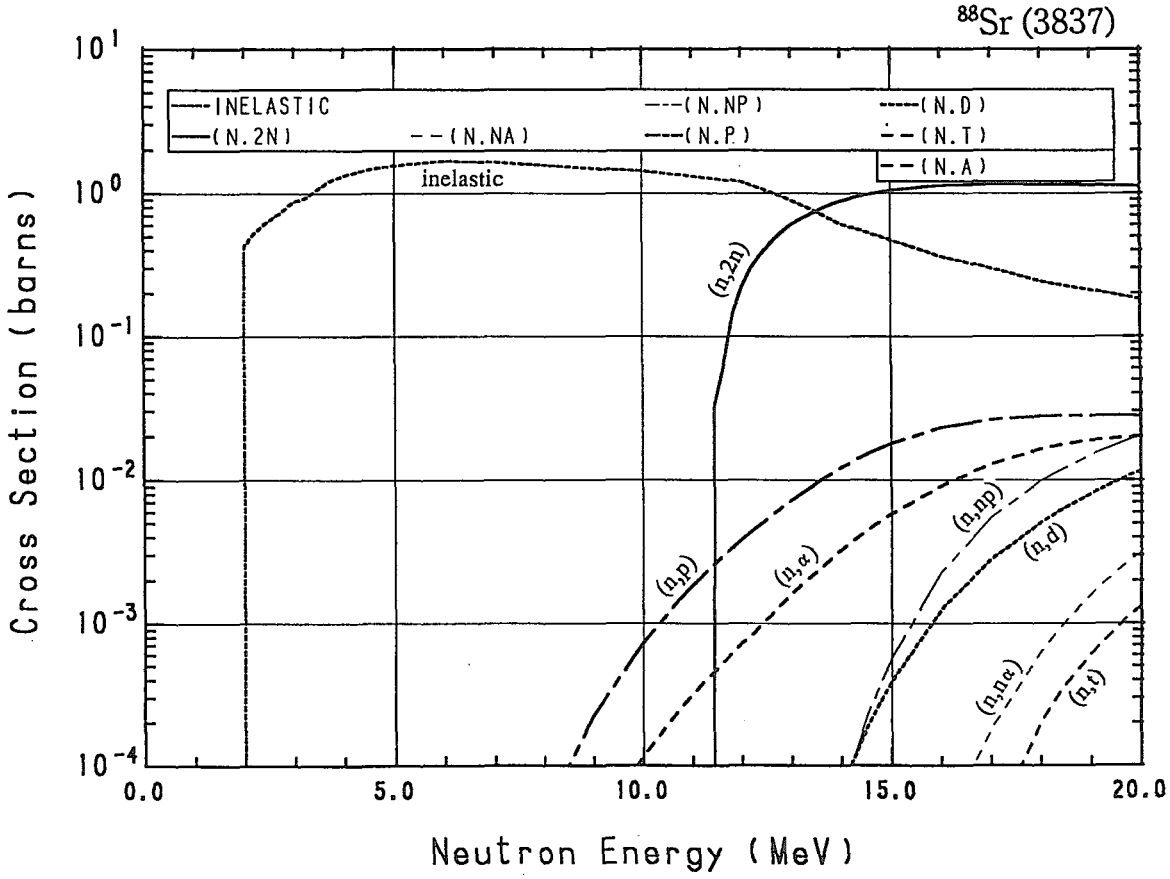

87Sr (3834)
INELASTIC
(N,2N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,2n)
inelastic
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

38-Sr- 88 (MAT=3837)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.437	5.436	–	4.335	5.589
elastic	–	5.431	5.431	–	2.827	5.175
inelastic	1.857 MeV	–	–	–	610.8×10^{-3}	408.2×10^{-3}
(n,2n)	11.25 MeV	–	–	–	881.2×10^{-3}	171.9×10^{-6}
(n,3n)	19.77 MeV	–	–	–	–	1.865×10^{-12}
(n,nα)	7.991 MeV	–	–	–	210.5×10^{-9}	3.519×10^{-9}
(n,np)	10.73 MeV	–	–	–	64.64×10^{-6}	78.93×10^{-9}
capture	–	5.800×10^{-3}	5.142×10^{-3}	63.17×10^{-3}	1.004×10^{-3}	2.357×10^{-3}
(n,p)	4.578 MeV	–	–	–	12.21×10^{-3}	4.942×10^{-6}
(n,d)	8.394 MeV	–	–	–	72.35×10^{-6}	45.99×10^{-9}
(n,t)	12.19 MeV	–	–	–	4.607×10^{-12}	1.060×10^{-9}
(n,α)	793.6 keV	–	–	–	3.282×10^{-3}	1.080×10^{-6}

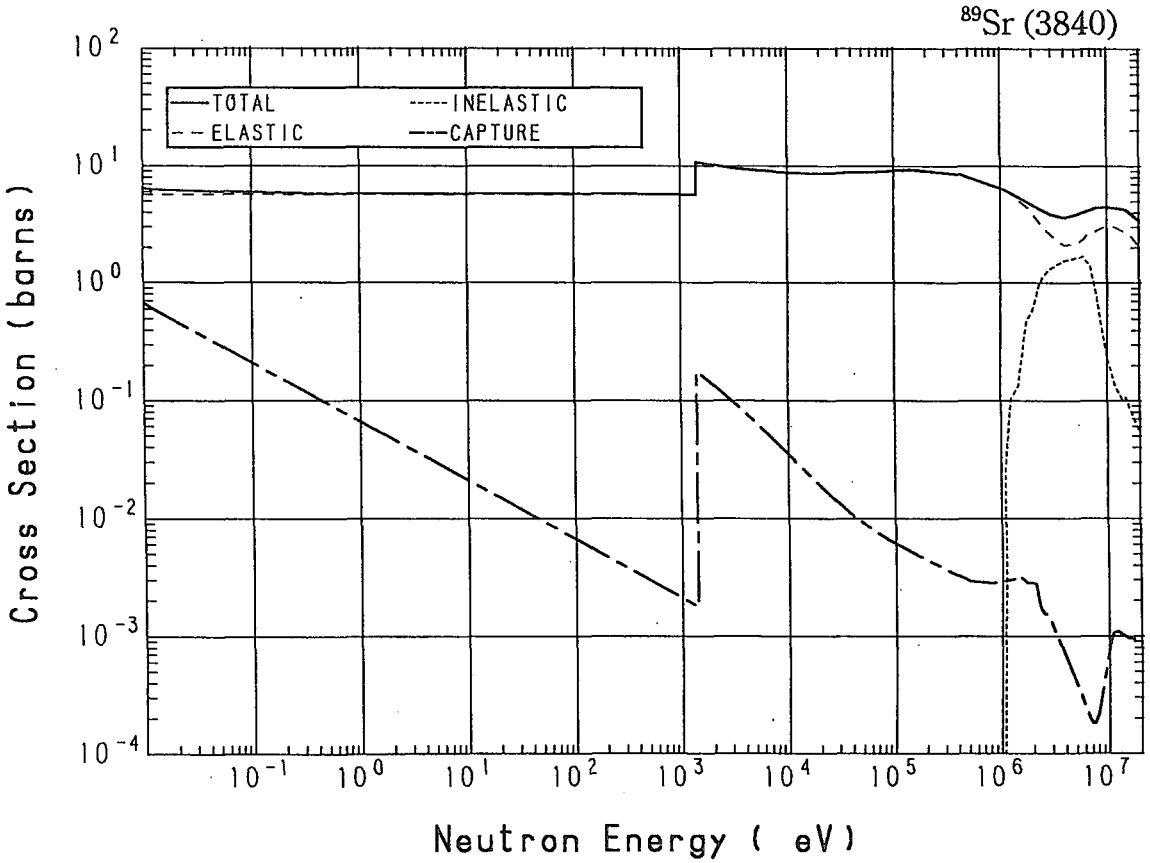


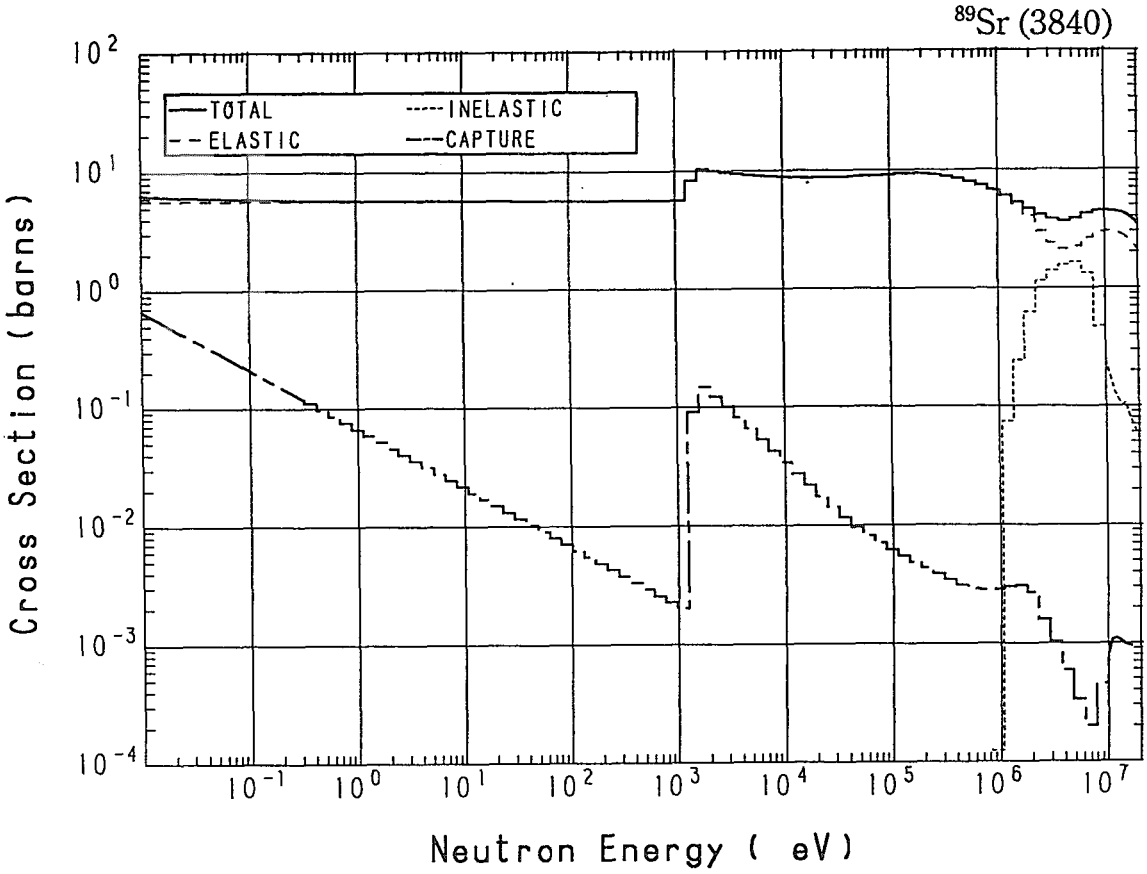

88Sr (3837)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

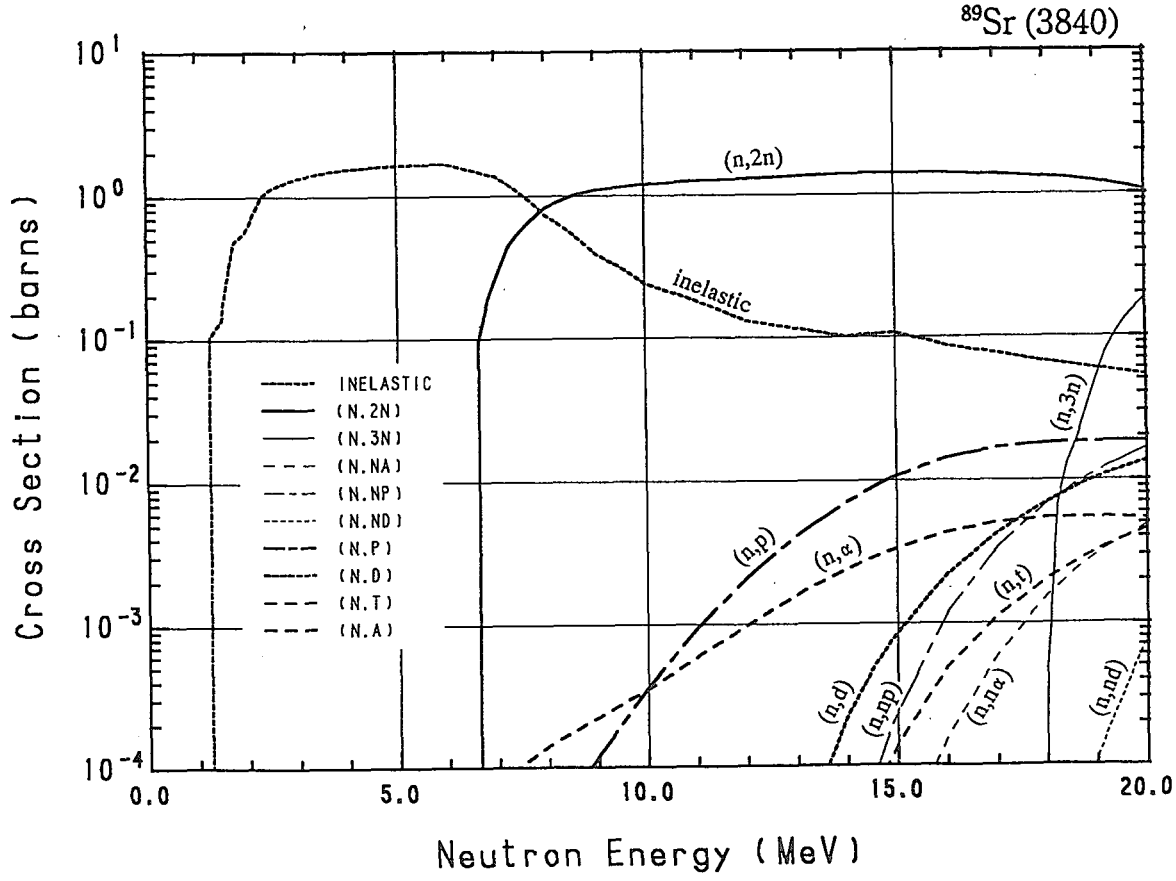

88Sr (3837)
INELASTIC
(N.NP)
(N.D)
(N.2N)
(N.NA)
(N.P)
(N.T)
(N.A)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

38-Sr- 89 (MAT=3840)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.120	6.104	–	4.336	5.662
elastic	–	5.700	5.700	–	2.835	5.061
inelastic	1.044 MeV	–	–	–	101.3×10^{-3}	586.5×10^{-3}
(n,2n)	6.441 MeV	–	–	–	1.388	10.98×10^{-3}
(n,3n)	17.68 MeV	–	–	–	–	67.62×10^{-9}
(n,nα)	7.234 MeV	–	–	–	2.736×10^{-6}	9.210×10^{-9}
(n,np)	11.02 MeV	–	–	–	18.58×10^{-6}	47.18×10^{-9}
(n,nd)	14.83 MeV	–	–	–	–	176.6×10^{-12}
capture	–	420.0×10^{-3}	372.4×10^{-3}	413.4×10^{-3}	1.001×10^{-3}	2.447×10^{-3}
(n,p)	3.746 MeV	–	–	–	7.100×10^{-3}	2.806×10^{-6}
(n,d)	8.682 MeV	–	–	–	222.0×10^{-6}	80.15×10^{-9}
(n,t)	8.578 MeV	–	–	–	21.01×10^{-6}	17.49×10^{-9}
(n,α)	–	0.000	0.000	2.035×10^{-3}	2.407×10^{-3}	4.255×10^{-6}

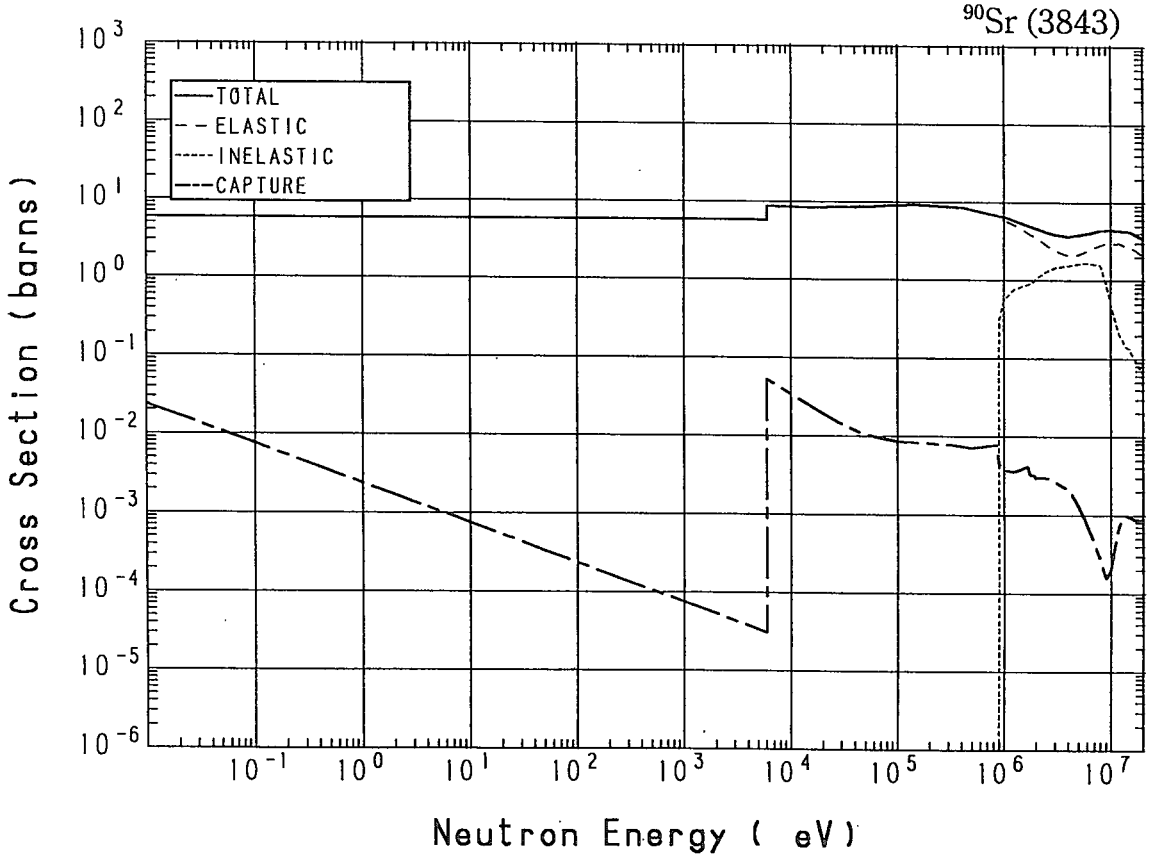


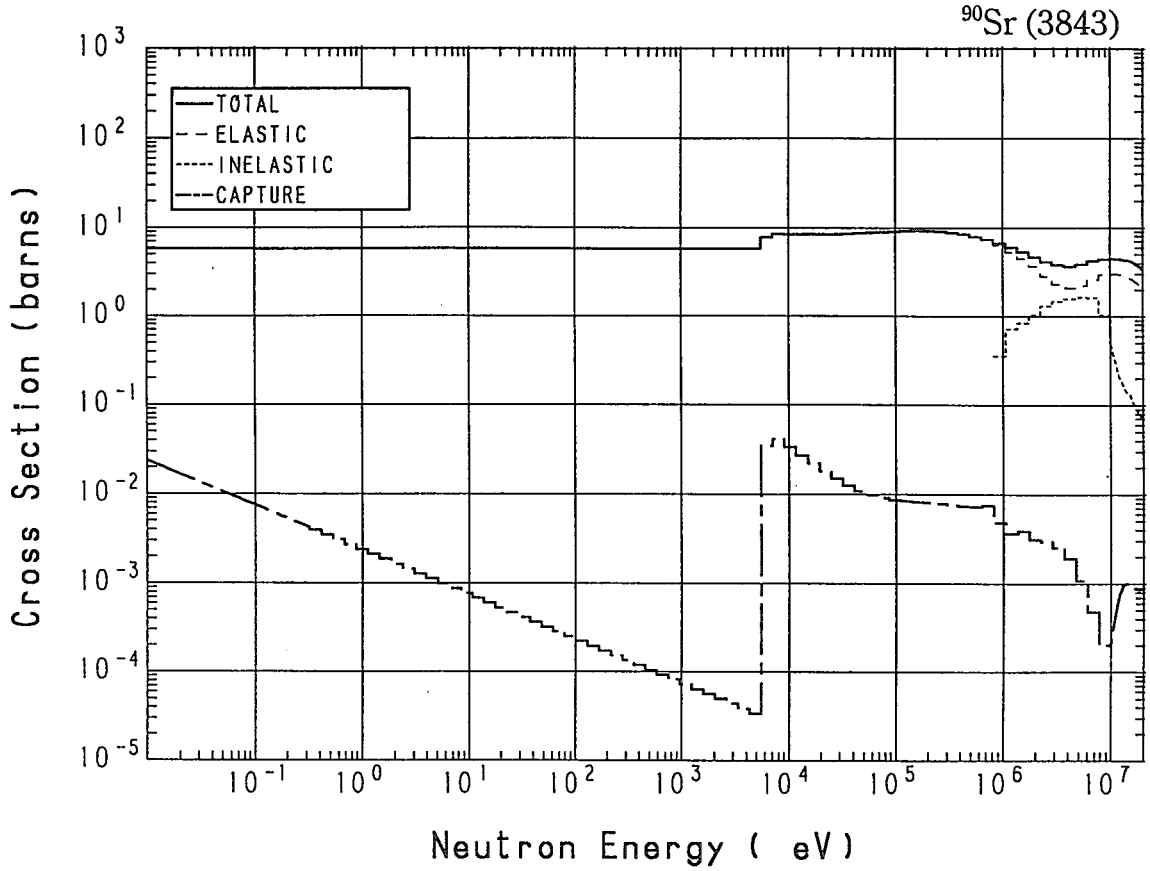

89Sr (3840)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

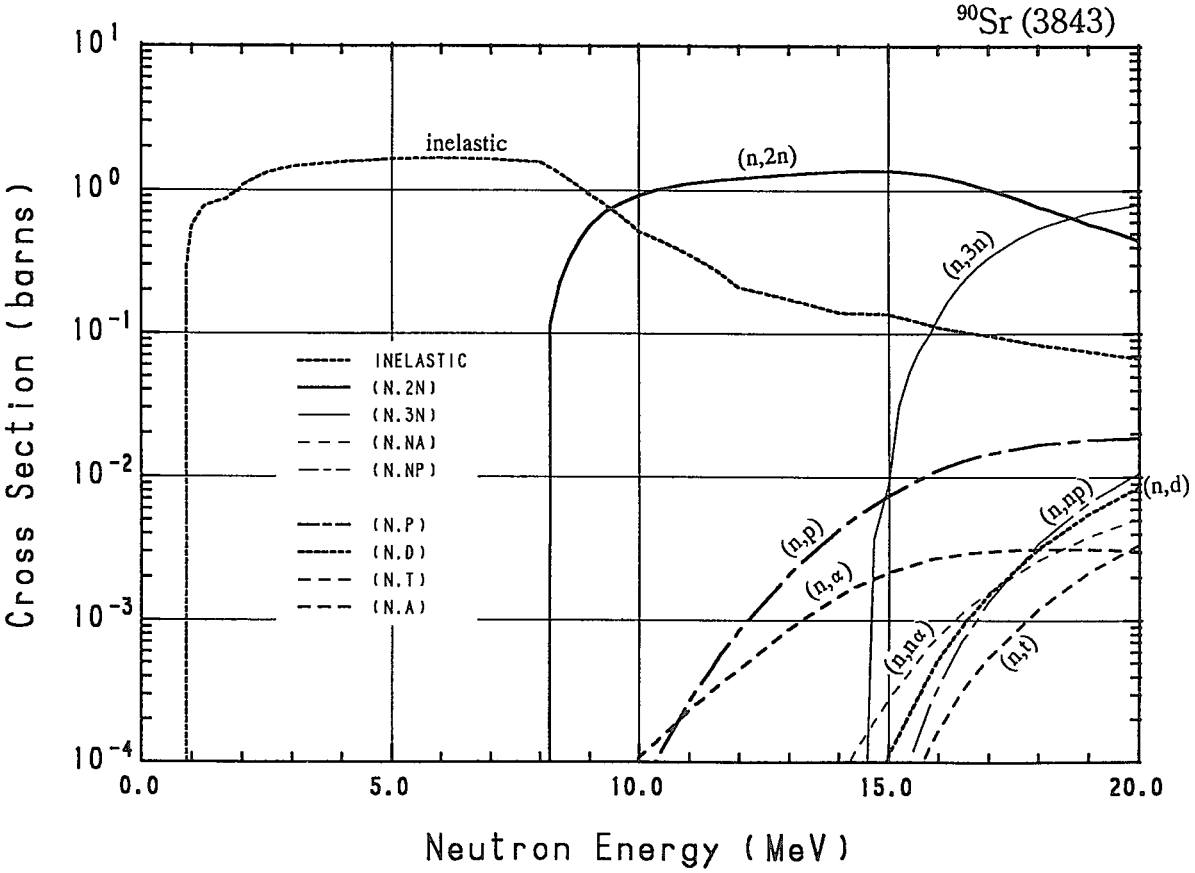

89Sr (3840)
(n,2n)
inelastic
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,3n)
(n,p)
(n,α)
(n,γ)
(n,d)
(n,np)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

38-Sr- 90 (MAT=3843)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.819	5.822	–	4.336	5.661
elastic	–	5.804	5.804	–	2.834	4.819
inelastic	841.0 keV	–	–	–	140.2×10^{-3}	832.4×10^{-3}
(n,2n)	7.895 MeV	–	–	–	1.356	3.344×10^{-3}
(n,3n)	14.34 MeV	–	–	–	–	4.040×10^{-6}
(n,nα)	5.151 MeV	–	–	–	75.33×10^{-6}	29.50×10^{-9}
(n,np)	11.64 MeV	–	–	–	1.029×10^{-6}	19.84×10^{-9}
(n,nd)	16.58 MeV	–	–	–	–	946.6×10^{-15}
capture	–	15.00×10^{-3}	13.30×10^{-3}	89.87×10^{-3}	1.003×10^{-3}	4.211×10^{-3}
(n,p)	5.645 MeV	–	–	–	4.321×10^{-3}	1.080×10^{-6}
(n,d)	9.304 MeV	–	–	–	10.73×10^{-6}	22.07×10^{-9}
(n,t)	10.32 MeV	–	–	–	1.450×10^{-6}	7.728×10^{-9}
(n,α)	–	0.000	0.000	1.158×10^{-3}	1.481×10^{-3}	752.9×10^{-9}

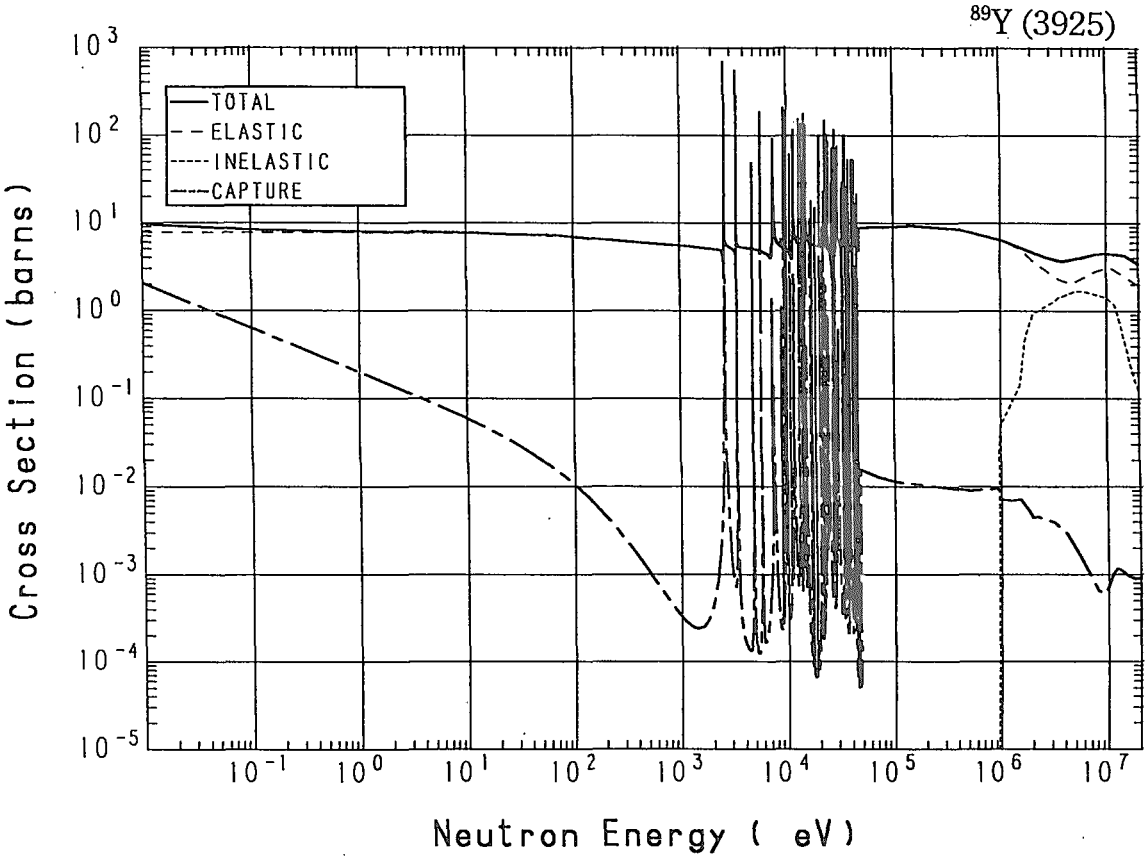


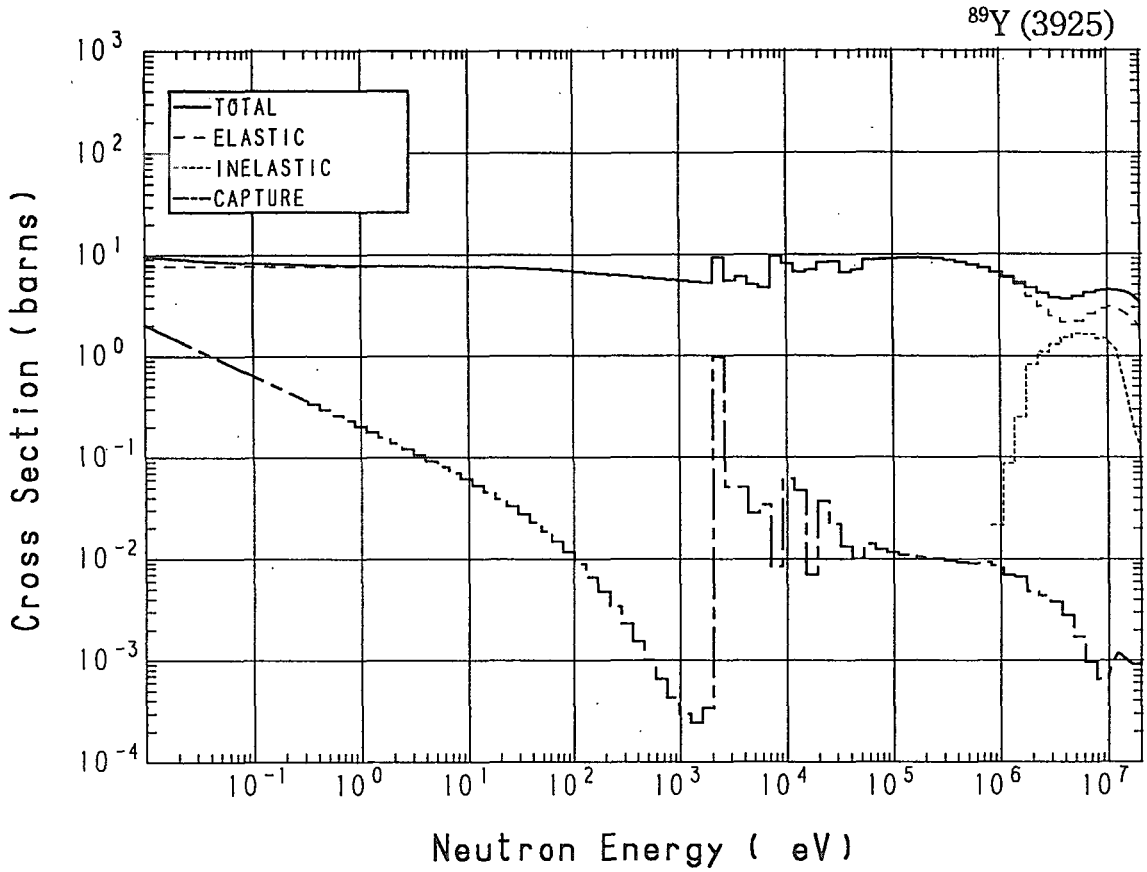

^{90}Sr (3843)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

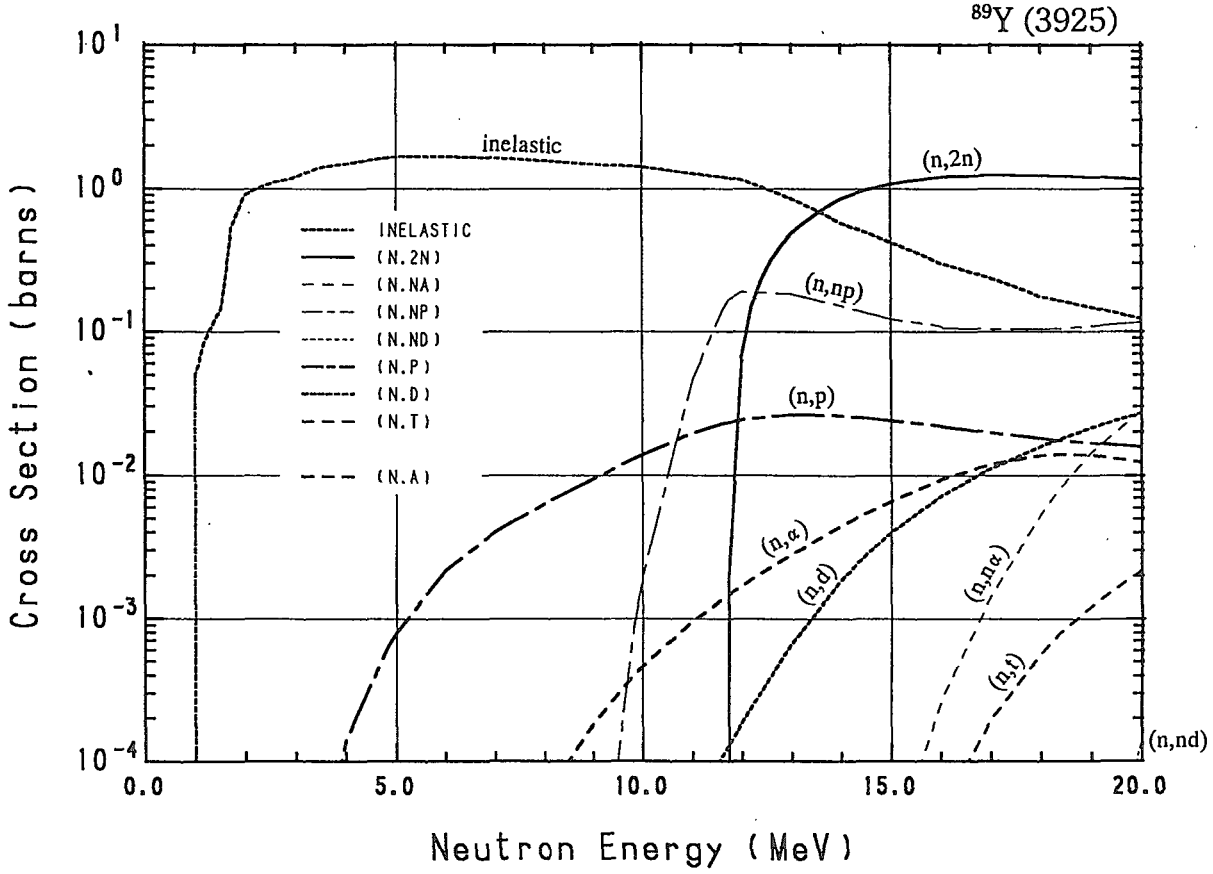

^{90}Sr (3843)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

39-Y - 89 (MAT=3925)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	8.990	8.845	–	4.336	5.653
elastic	–	7.713	7.712	–	2.725	5.036
inelastic	919.4 keV	–	–	–	577.5×10^{-3}	608.2×10^{-3}
(n,2n)	11.60 MeV	–	–	–	847.5×10^{-3}	133.5×10^{-6}
(n,nα)	8.049 MeV	–	–	–	1.018×10^{-6}	29.88×10^{-9}
(n,np)	7.159 MeV	–	–	–	152.3×10^{-3}	88.28×10^{-6}
(n,nd)	16.07 MeV	–	–	–	–	15.76×10^{-12}
capture	–	1.277	1.132	868.1×10^{-3}	1.058×10^{-3}	6.260×10^{-3}
(n,p)	717.9 keV	–	–	–	25.93×10^{-3}	204.5×10^{-6}
(n,d)	4.822 MeV	–	–	–	1.871×10^{-3}	446.1×10^{-9}
(n,t)	9.811 MeV	–	–	–	610.0×10^{-9}	3.241×10^{-9}
(n,He-3)	10.07 MeV	–	–	–	137.6×10^{-15}	6.036×10^{-12}
(n,α)	–	0.000	0.000	4.367×10^{-3}	4.482×10^{-3}	2.757×10^{-6}

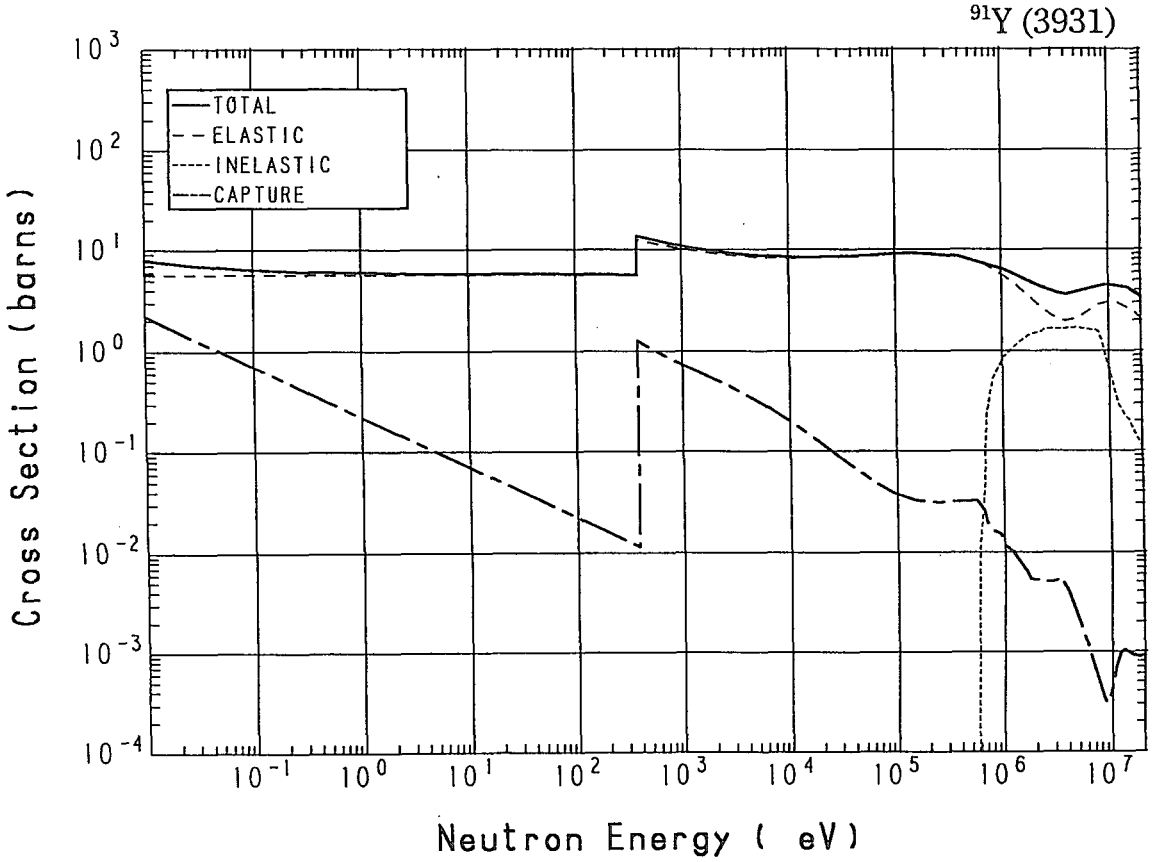


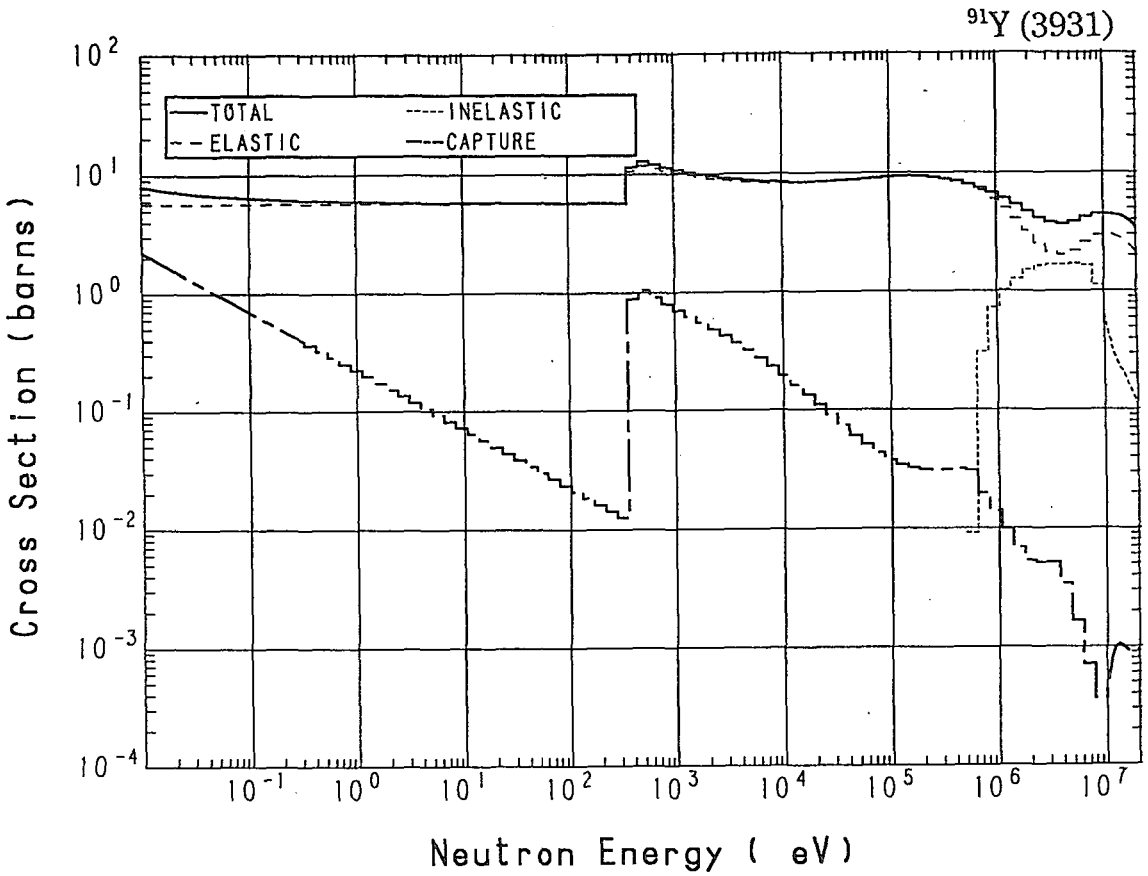

89Y (3925)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

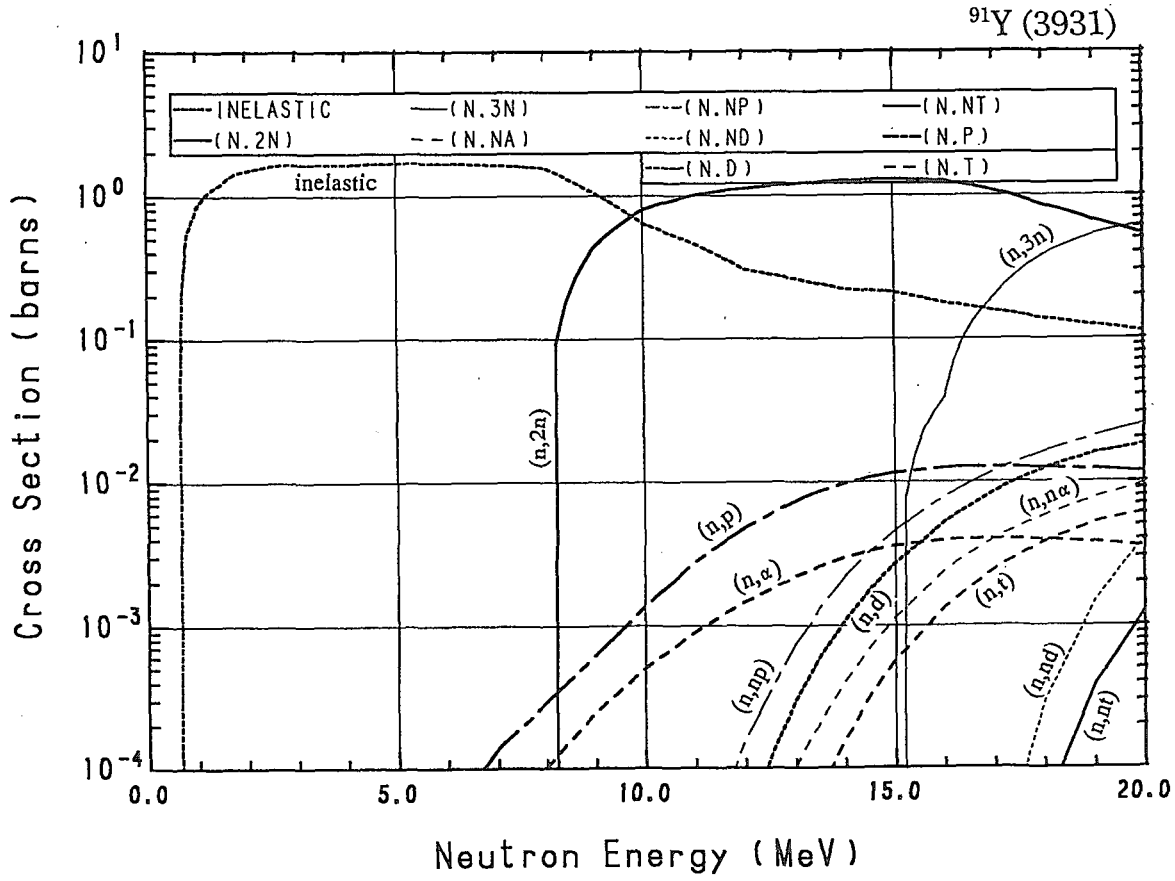

89Y (3925)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,nd)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

39-Y - 91 (MAT=3931)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.100	6.970	–	4.337	5.661
elastic	–	5.700	5.700	–	2.835	4.567
inelastic	561.8 keV	–	–	–	220.7×10^{-3}	1.078
(n,2n)	8.033 MeV	–	–	–	1.264	2.763×10^{-3}
(n,3n)	14.97 MeV	–	–	–	–	2.208×10^{-6}
(n,nα)	4.222 MeV	–	–	–	408.9×10^{-6}	102.8×10^{-9}
(n,np)	7.794 MeV	–	–	–	2.226×10^{-3}	438.1×10^{-9}
(n,nd)	13.35 MeV	–	–	–	0.000	2.022×10^{-9}
(n,nt)	13.54 MeV	–	–	–	0.000	504.9×10^{-12}
capture	–	1.400	1.241	2.843	1.006×10^{-3}	12.24×10^{-3}
(n,p)	1.922 MeV	–	–	–	9.747×10^{-3}	10.44×10^{-6}
(n,d)	5.458 MeV	–	–	–	1.096×10^{-3}	243.6×10^{-9}
(n,t)	7.099 MeV	–	–	–	160.2×10^{-6}	49.85×10^{-9}
(n,α)	–	0.000	0.000	1.908×10^{-3}	2.984×10^{-3}	3.301×10^{-6}

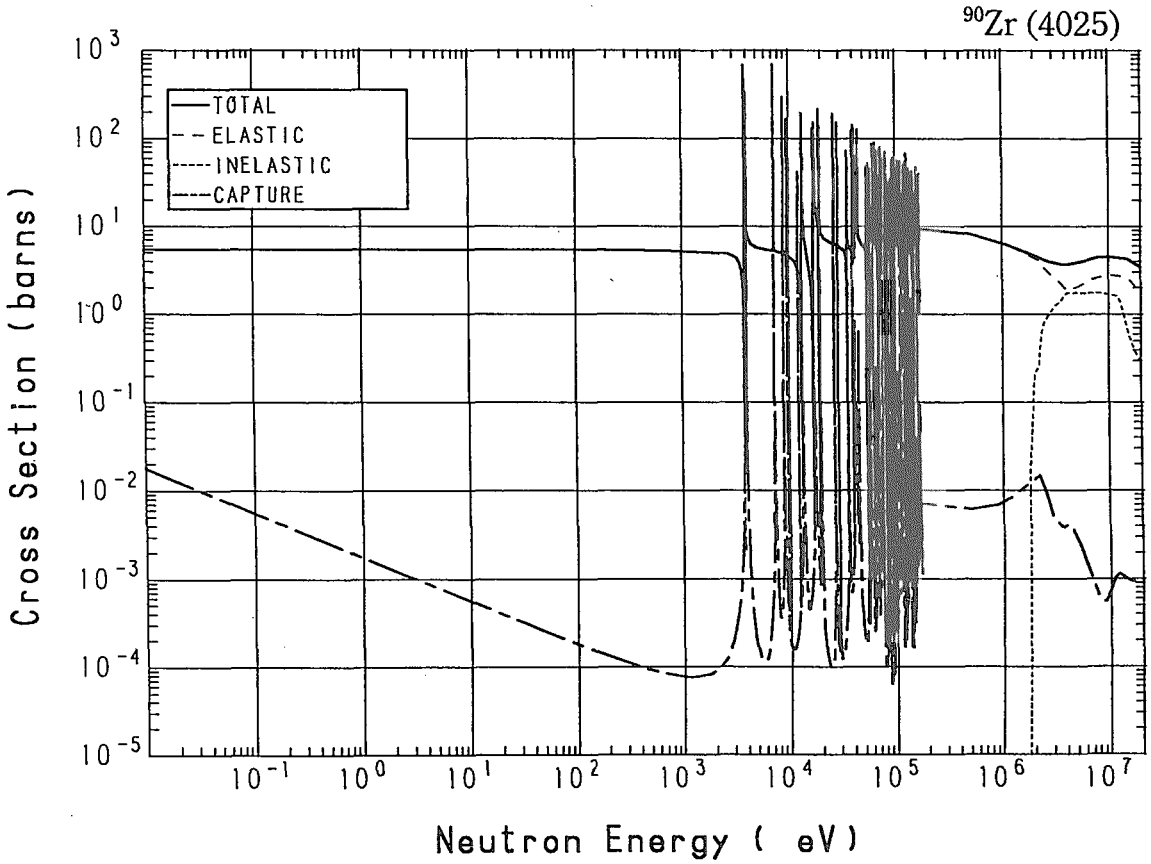


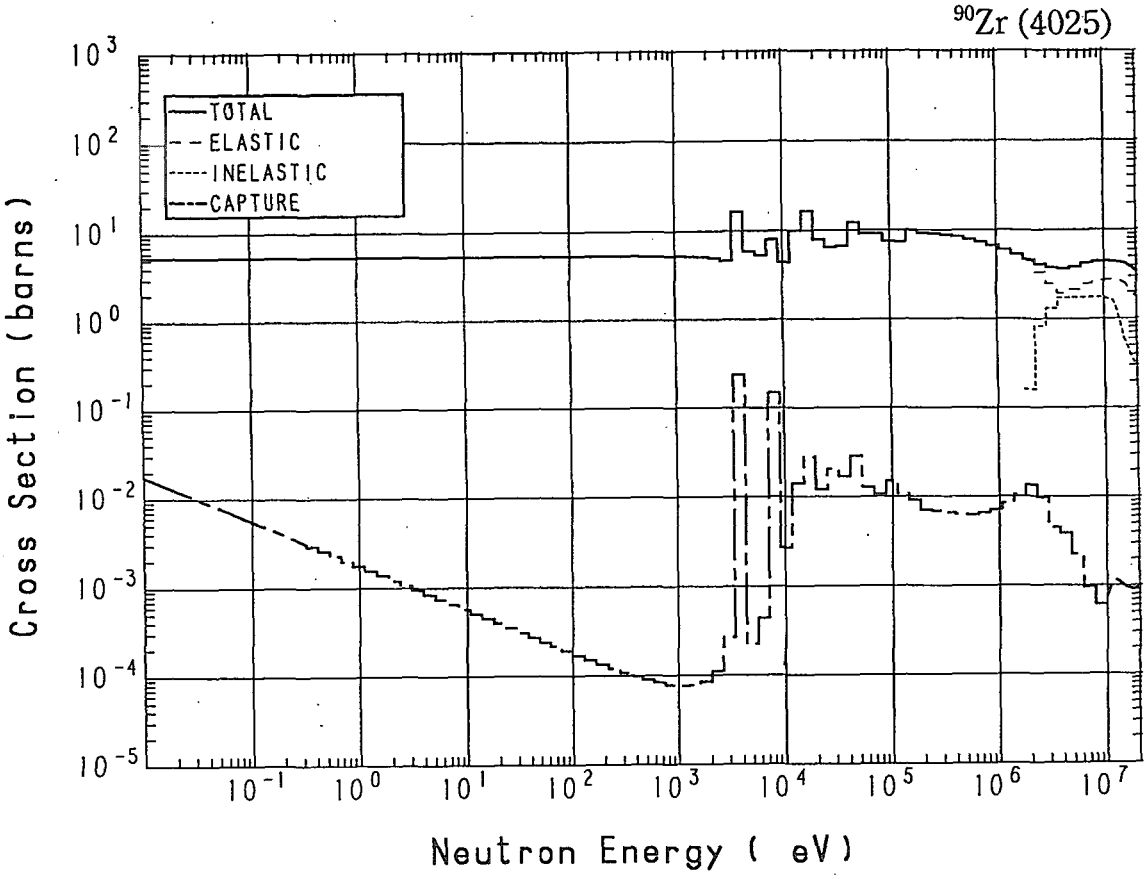

91Y (3931)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

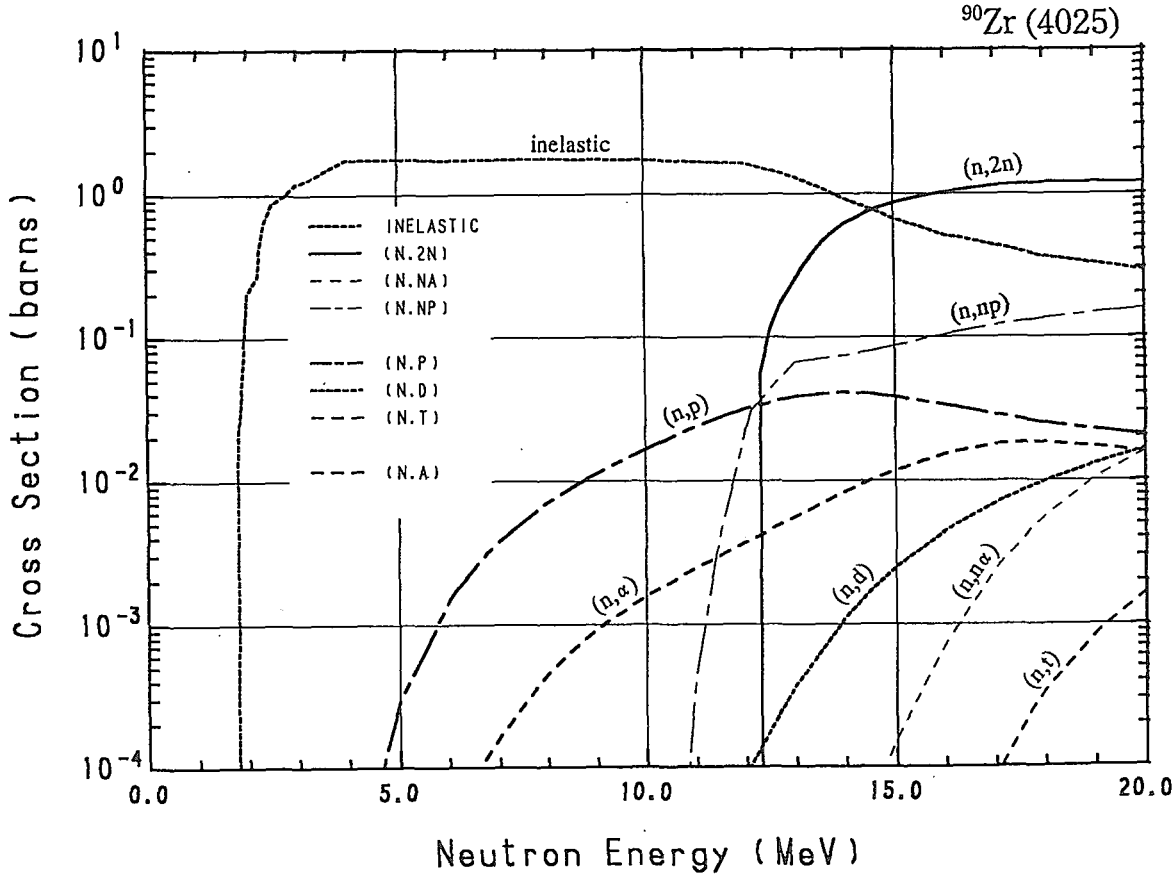

91Y (3931)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.D)
(N.NT)
(N.P)
(N.T)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,nd)
(n,nt)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 90 (MAT=4025)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.376	5.375	–	3.846	5.688
elastic	–	5.365	5.365	–	2.183	5.201
nonelastic	–	0.000	0.000	3.508	1.663	486.3×10^{-3}
inelastic	1.780 MeV	–	–	–	925.7×10^{-3}	480.1×10^{-3}
(n,2n)	12.12 MeV	–	–	–	611.3×10^{-3}	83.00×10^{-6}
(n,nα)	6.749 MeV	–	–	–	21.13×10^{-6}	36.71×10^{-9}
(n,np)	8.457 MeV	–	–	–	74.46×10^{-3}	16.94×10^{-6}
(n,nd)	17.81 MeV	–	–	–	–	499.4×10^{-15}
capture	–	11.12×10^{-3}	9.862×10^{-3}	168.8×10^{-3}	1.030×10^{-3}	6.304×10^{-3}
(n,p)	1.518 MeV	–	–	–	41.04×10^{-3}	174.5×10^{-6}
(n,d)	6.121 MeV	–	–	–	1.120×10^{-3}	243.3×10^{-9}
(n,t)	11.47 MeV	–	–	–	1.548×10^{-9}	1.729×10^{-9}
(n,He-3)	7.796 MeV	–	–	–	377.1×10^{-12}	28.19×10^{-12}
(n,α)	–	0.000	0.000	6.978×10^{-3}	8.385×10^{-3}	11.51×10^{-6}
(n,2p)	9.175 MeV	–	–	–	251.5×10^{-12}	28.61×10^{-12}

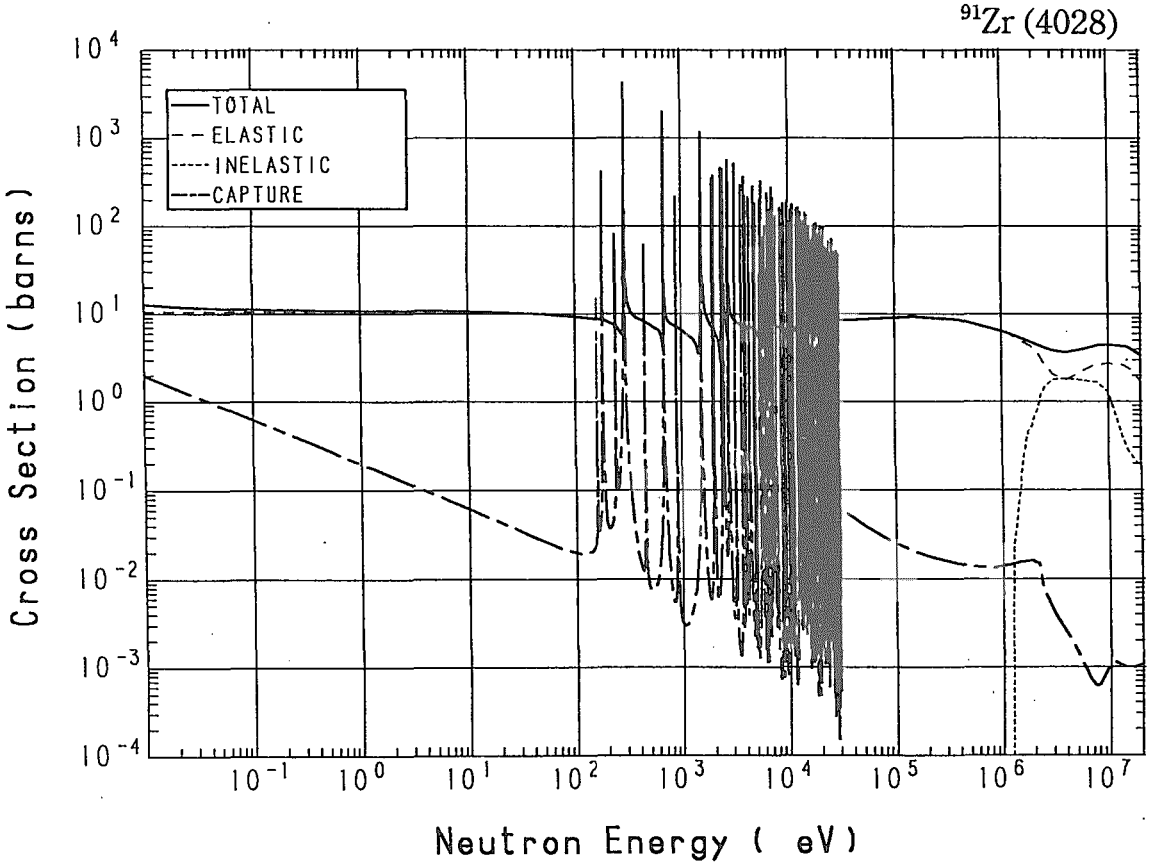


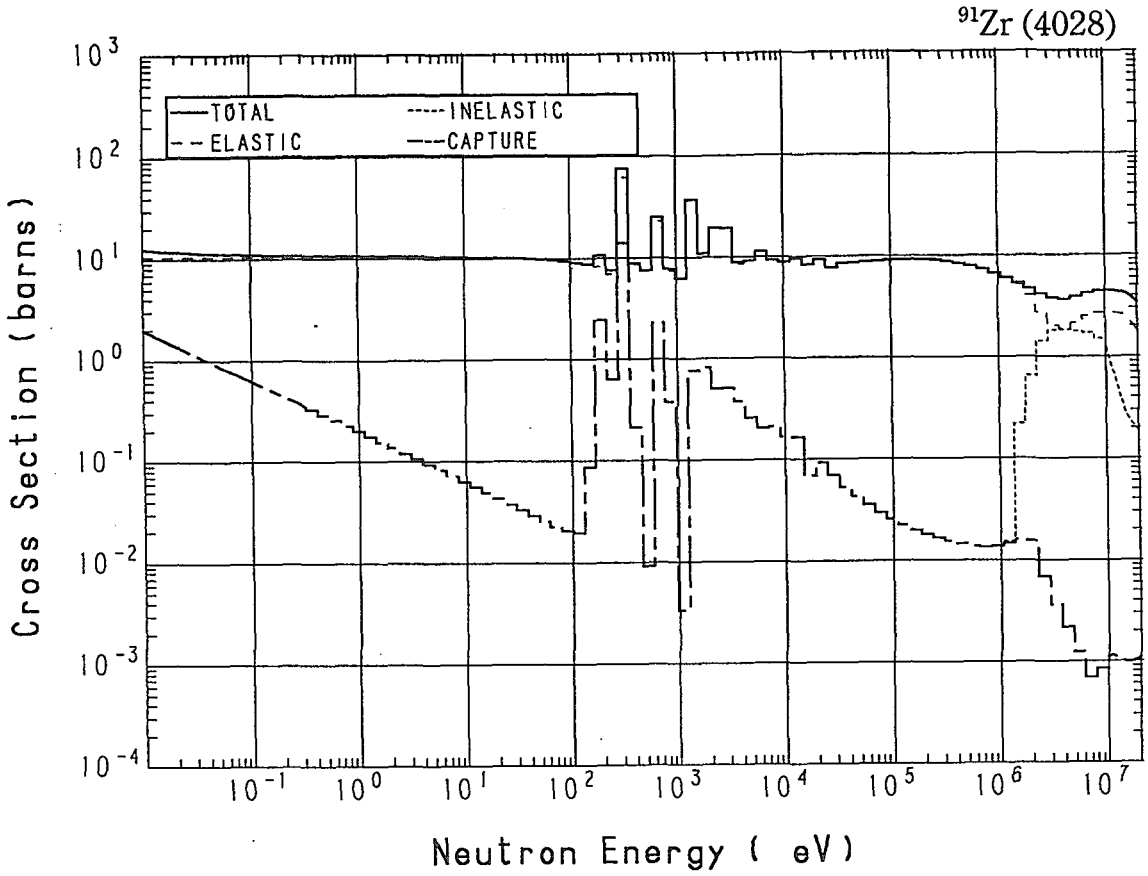

^{90}Zr (4025)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

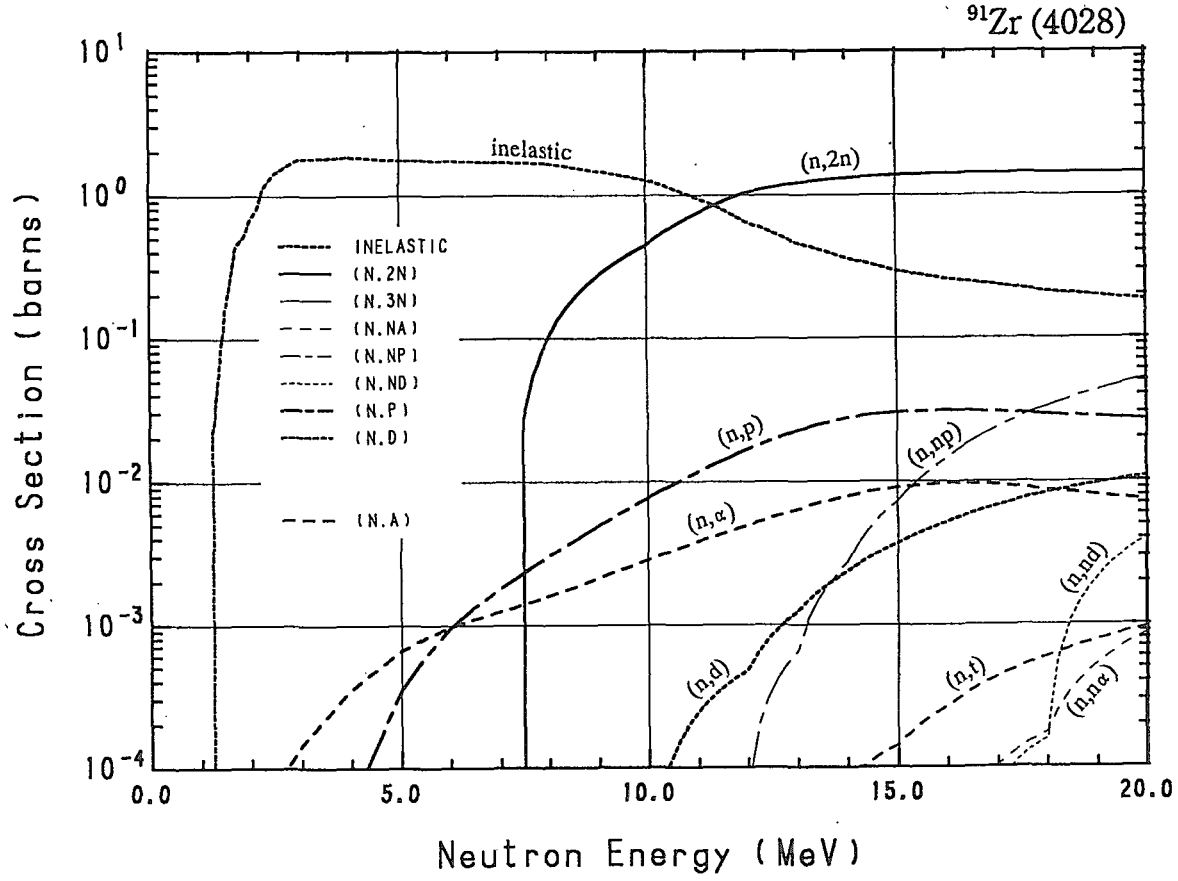

^{90}Zr (4025)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 91 (MAT=4028)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	11.83	11.69	–	3.846	5.697
elastic	–	10.59	10.59	–	2.140	4.996
nonelastic	–	0.000	0.000	4.021	1.706	700.3×10^{-3}
inelastic	1.218 MeV	–	–	–	360.3×10^{-3}	689.3×10^{-3}
(n,2n)	7.283 MeV	–	–	–	1.304	2.294×10^{-3}
(n,3n)	19.40 MeV	–	–	–	–	703.3×10^{-12}
(n,nα)	5.513 MeV	–	–	–	3.772×10^{-6}	2.126×10^{-9}
(n,np)	8.805 MeV	–	–	–	2.729×10^{-3}	673.9×10^{-9}
(n,nd)	13.49 MeV	–	–	–	0.000	2.898×10^{-9}
capture	–	1.247	1.106	6.934	1.002×10^{-3}	9.112×10^{-3}
(n,p)	769.0 keV	–	–	–	27.38×10^{-3}	100.2×10^{-6}
(n,d)	6.556 MeV	–	–	–	2.356×10^{-3}	641.4×10^{-9}
(n,t)	7.165 MeV	–	–	–	83.94×10^{-6}	18.22×10^{-9}
(n,He-3)	8.652 MeV	–	–	–	627.1×10^{-12}	7.323×10^{-12}
(n,α)	–	0.000	0.000	6.018×10^{-3}	7.865×10^{-3}	136.1×10^{-6}

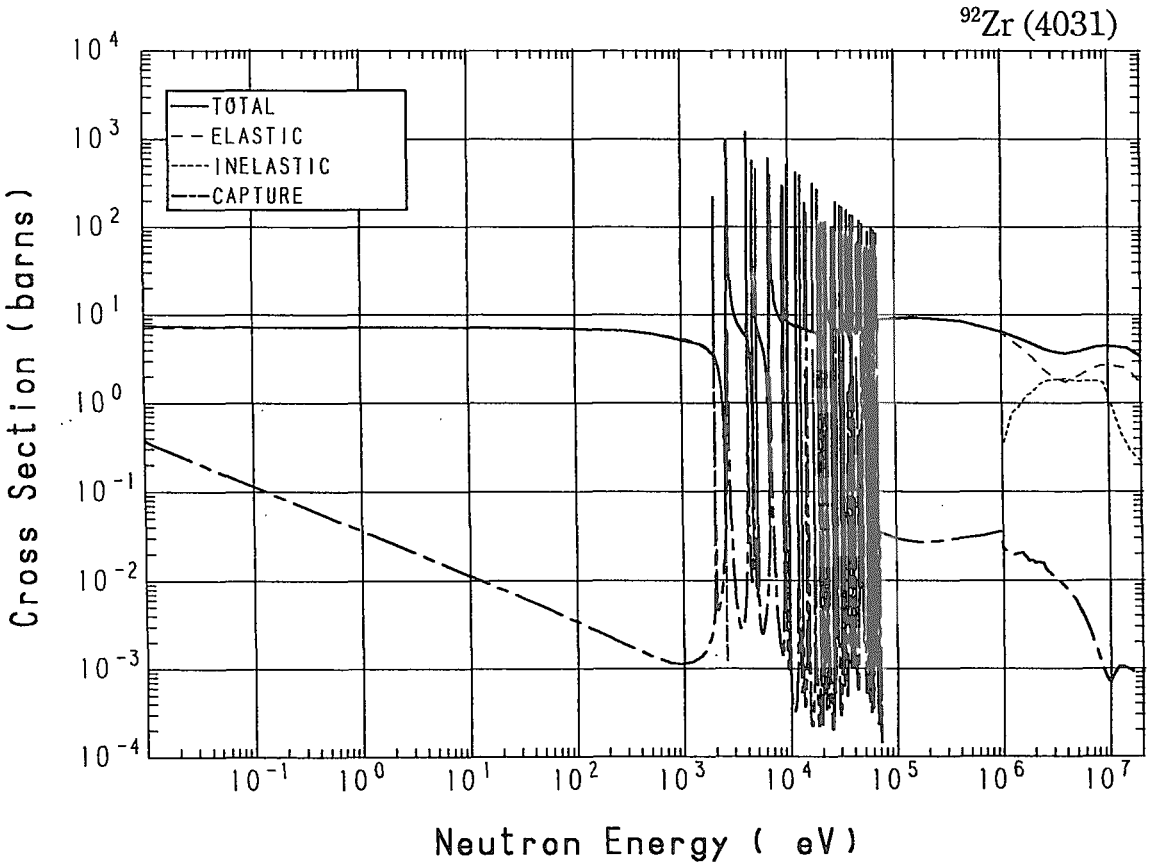


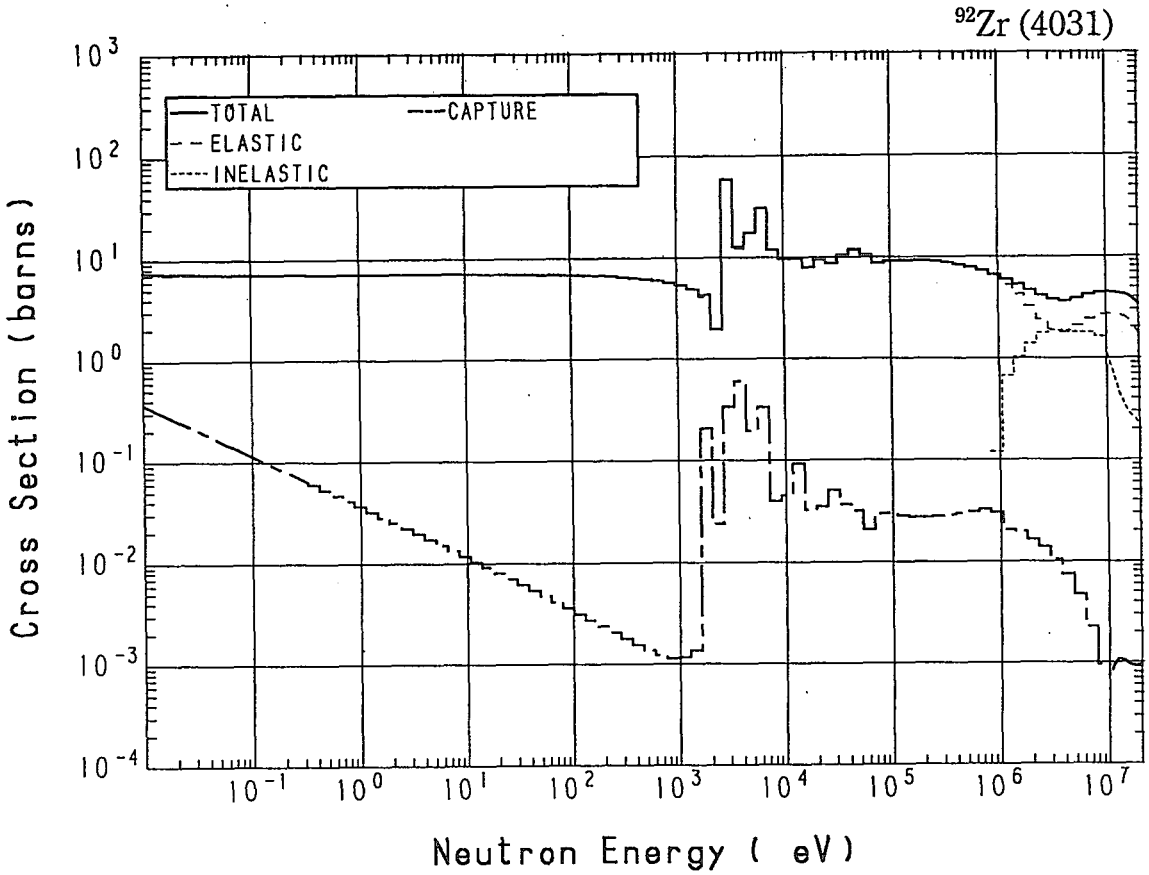

91Zr (4028)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

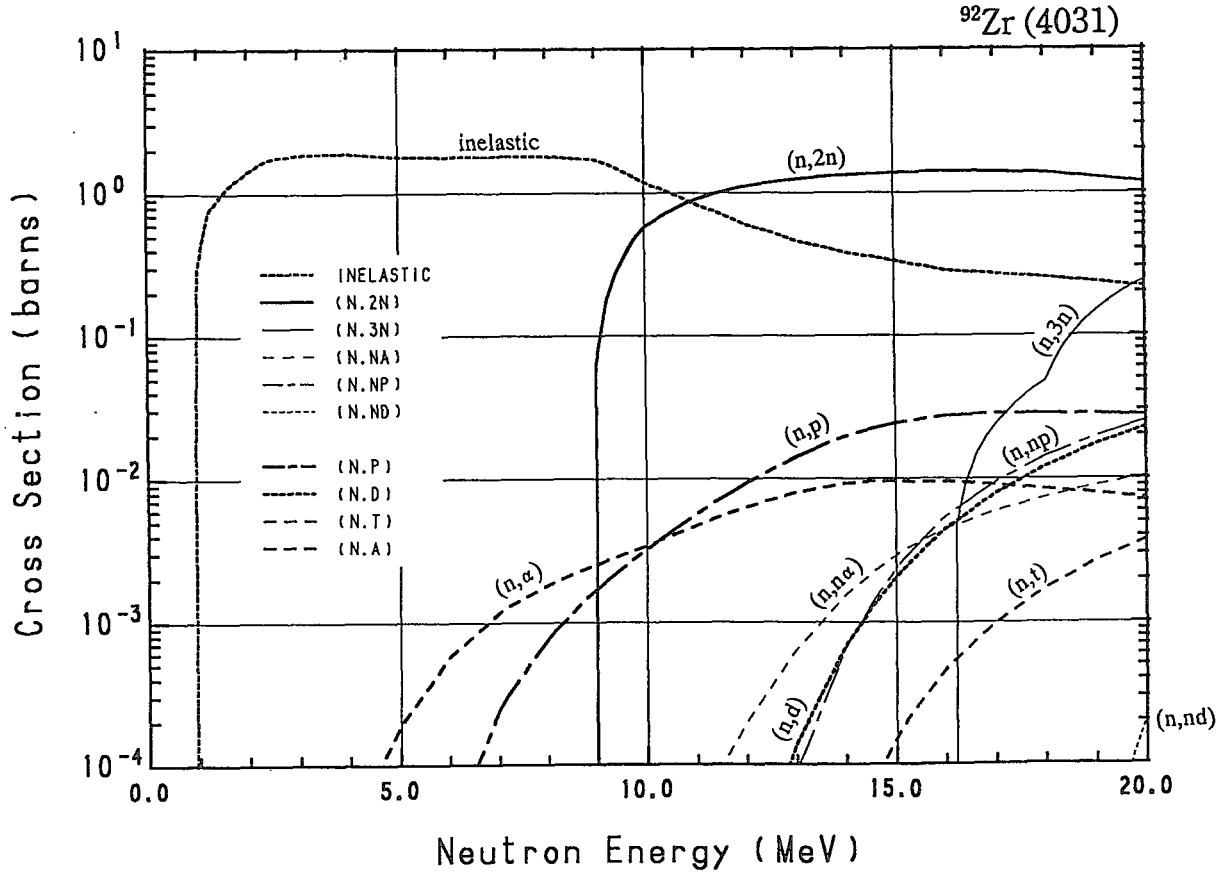

91Zr (4028)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,ND)
(N,P)
(N,D)
(N,A)
(n,p)
(n,np)
(n,α)
(n,nd)
(n,d)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 92 (MAT=4031)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.339	7.313	–	3.846	5.712
elastic	–	7.110	7.110	–	2.108	4.700
nonelastic	–	0.000	0.000	4.797	1.738	1.011
inelastic	944.8 keV	–	–	–	380.7×10^{-3}	994.9×10^{-3}
(n,2n)	8.730 MeV	–	–	–	1.324	1.601×10^{-3}
(n,3n)	16.01 MeV	–	–	–	–	321.0×10^{-9}
(n,nα)	3.000 MeV	–	–	–	1.561×10^{-3}	351.0×10^{-9}
(n,np)	9.503 MeV	–	–	–	676.1×10^{-6}	196.9×10^{-9}
(n,nd)	15.20 MeV	–	–	–	–	35.64×10^{-12}
(n,nt)	15.88 MeV	–	–	–	–	1.031×10^{-12}
capture	–	229.2×10^{-3}	203.2×10^{-3}	699.3×10^{-3}	1.020×10^{-3}	15.15×10^{-3}
(n,p)	2.883 MeV	–	–	–	19.58×10^{-3}	21.03×10^{-6}
(n,d)	7.168 MeV	–	–	–	692.2×10^{-6}	180.8×10^{-9}
(n,t)	8.947 MeV	–	–	–	27.46×10^{-6}	16.57×10^{-9}
(n,α)	–	0.000	0.000	6.206×10^{-3}	9.217×10^{-3}	55.64×10^{-6}

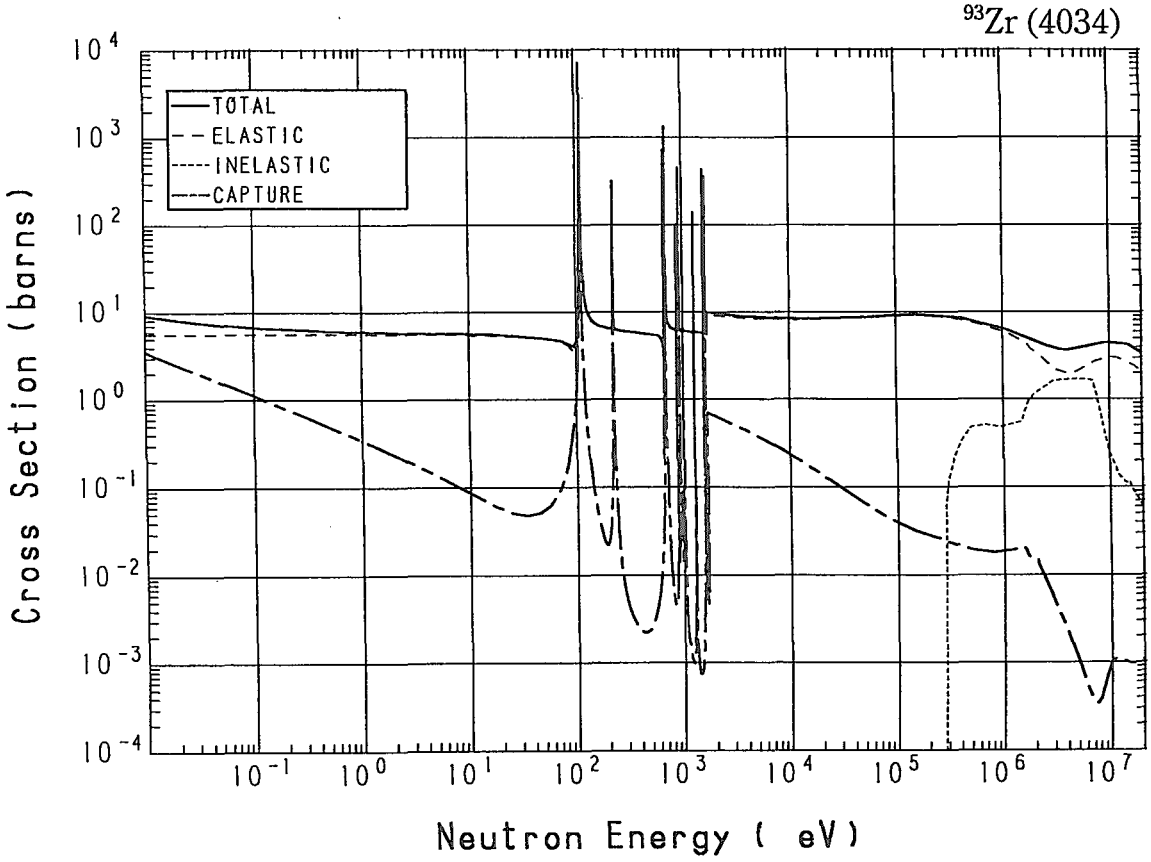


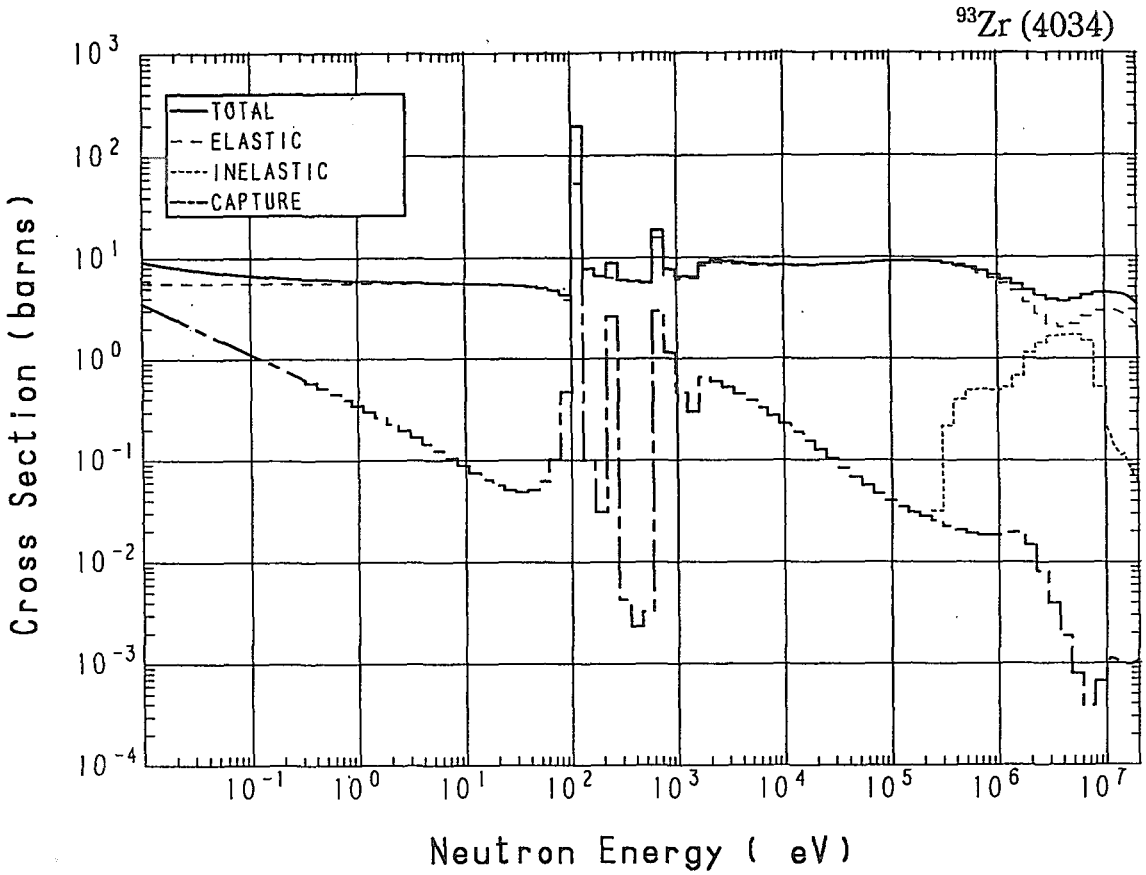

92Zr (4031)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

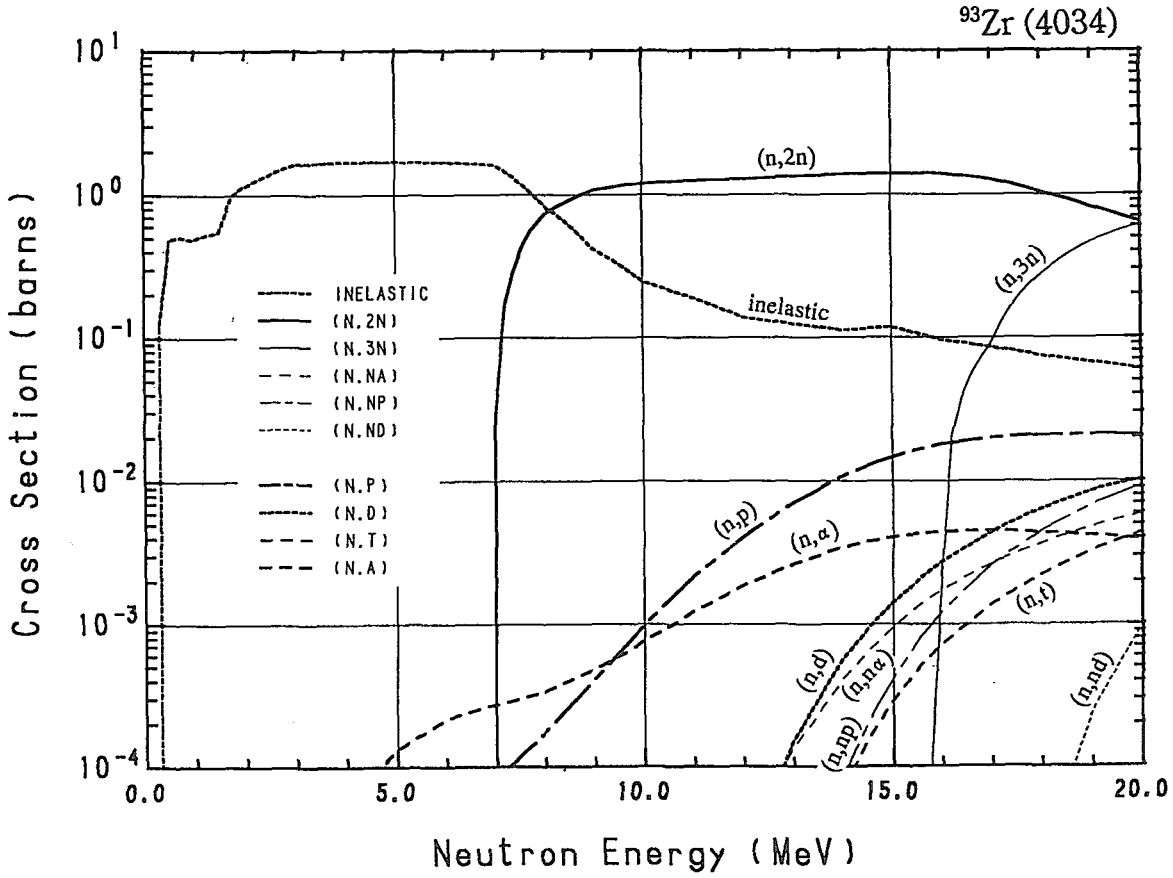

92Zr (4031)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,3n)
(n,p)
(n,np)
(n,α)
(n,nα)
(n,t)
(n,d)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 93 (MAT=4034)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.892	7.637	–	4.338	5.664
elastic	–	5.653	5.653	–	2.829	4.714
inelastic	270.0 keV	–	–	–	112.1×10^{-3}	924.8×10^{-3}
(n,2n)	6.810 MeV	–	–	–	1.380	8.597×10^{-3}
(n,3n)	15.54 MeV	–	–	–	–	1.269×10^{-6}
(n,nα)	3.372 MeV	–	–	–	415.6×10^{-6}	91.66×10^{-9}
(n,np)	9.692 MeV	–	–	–	87.95×10^{-6}	44.60×10^{-9}
(n,nd)	13.98 MeV	–	–	–	0.000	323.7×10^{-12}
(n,nt)	15.76 MeV	–	–	–	–	1.483×10^{-12}
capture	–	2.239	1.984	18.20	1.000×10^{-3}	14.79×10^{-3}
(n,p)	2.130 MeV	–	–	–	10.75×10^{-3}	7.673×10^{-6}
(n,d)	7.357 MeV	–	–	–	570.6×10^{-6}	123.7×10^{-9}
(n,t)	7.725 MeV	–	–	–	73.61×10^{-6}	26.59×10^{-9}
(n,α)	–	0.000	0.000	2.380×10^{-3}	3.450×10^{-3}	24.29×10^{-6}

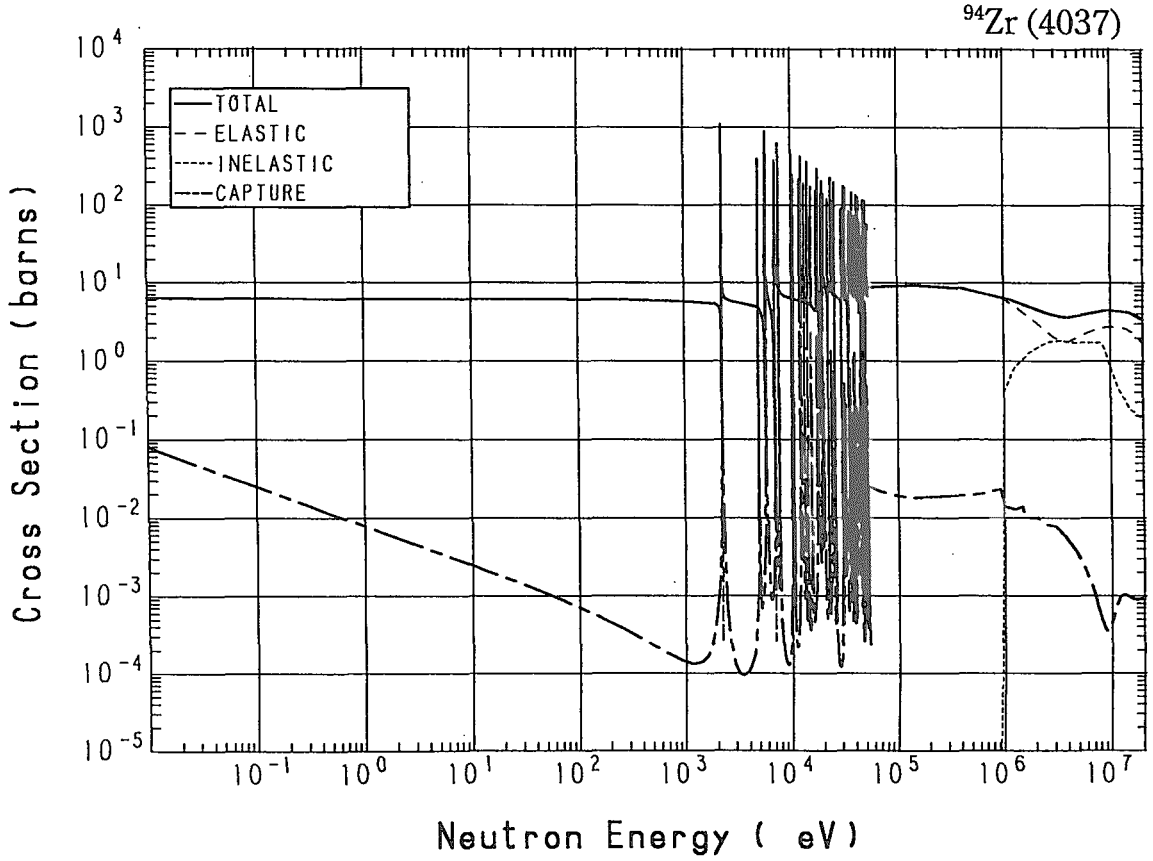


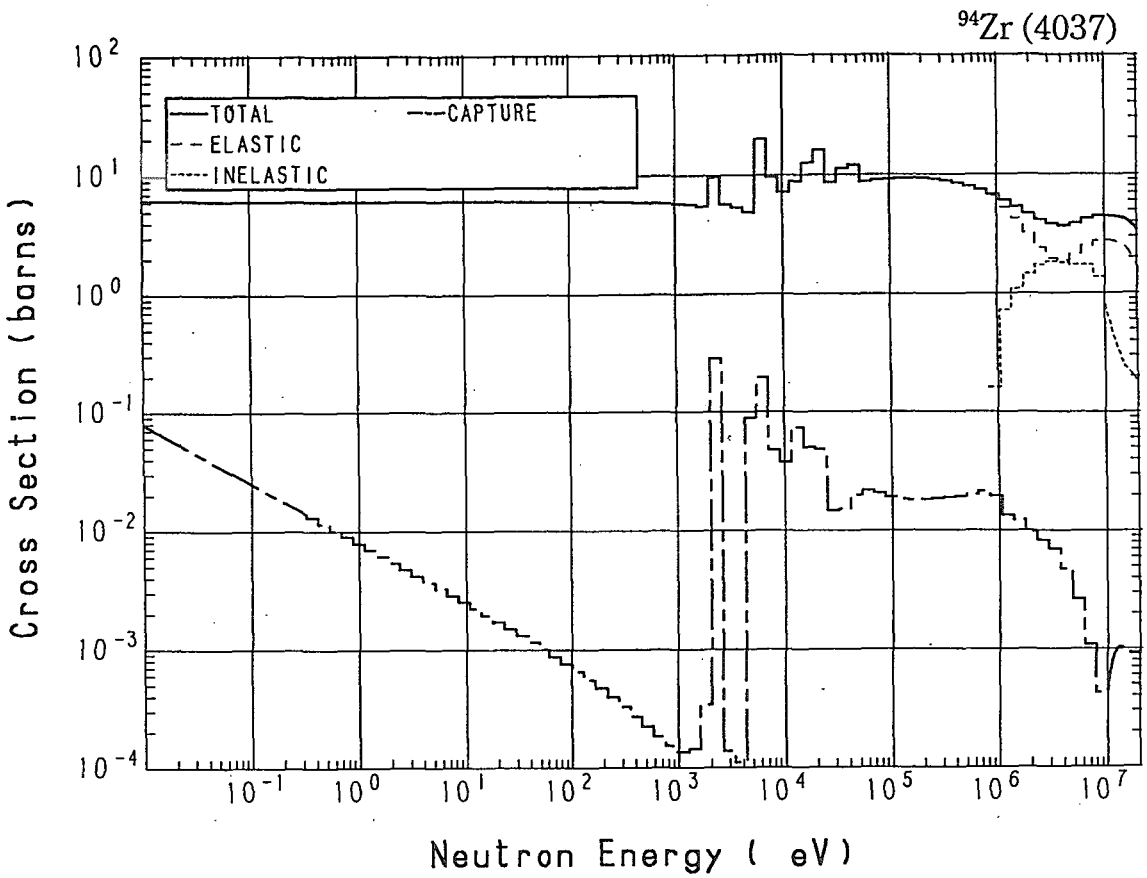

^{93}Zr (4034)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

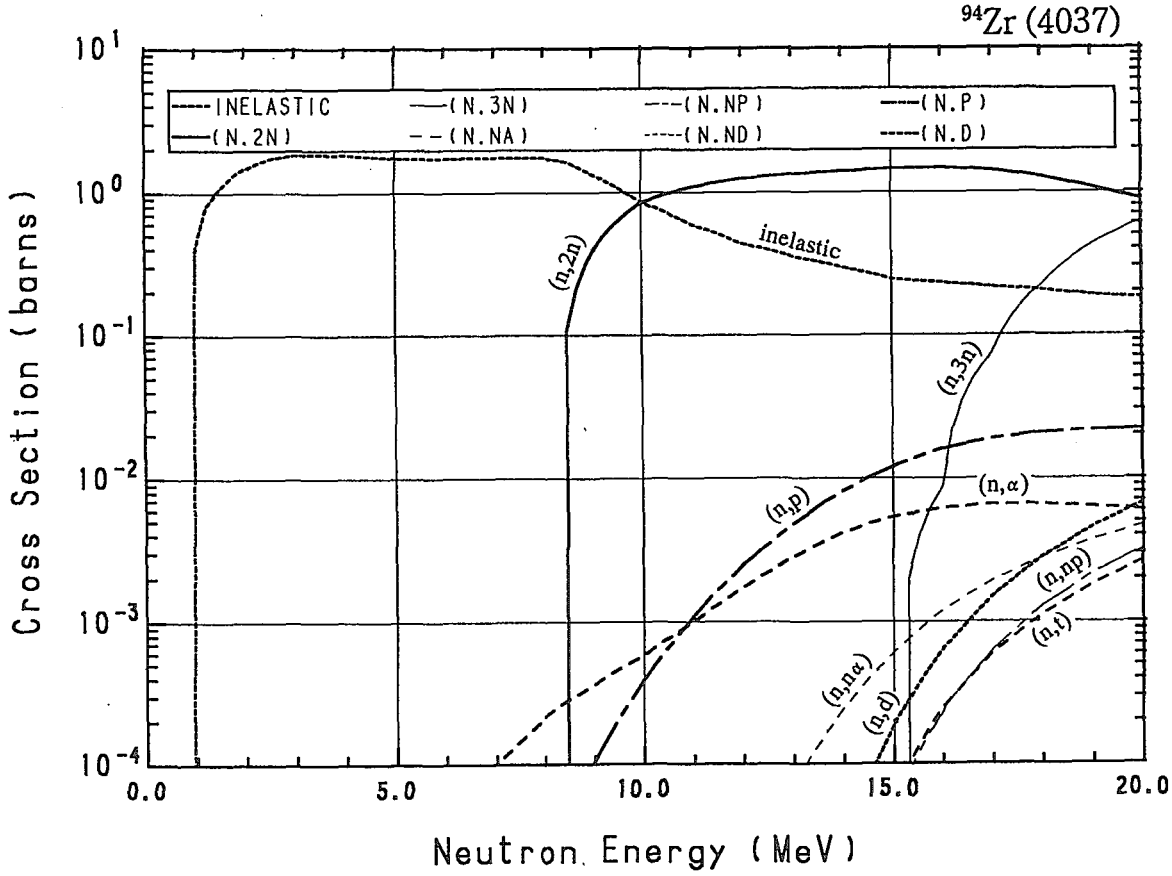

^{93}Zr (4034)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,ND)
(N,P)
(N,D)
(N,T)
(N,A)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,α)
(n,f)
(n,d)
(n,nα)
(n,np)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 94 (MAT=4037)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.202	6.196	–	3.846	5.710
elastic	–	6.152	6.152	–	2.140	4.693
nonelastic	–	0.000	0.000	4.737	1.706	1.016
inelastic	928.6 keV	–	–	–	297.0×10^{-3}	1.004
(n,2n)	8.279 MeV	–	–	–	1.396	2.654×10^{-3}
(n,3n)	15.11 MeV	–	–	–	–	1.143×10^{-6}
(n,nα)	3.791 MeV	–	–	–	245.8×10^{-6}	58.29×10^{-9}
(n,np)	10.44 MeV	–	–	–	6.552×10^{-6}	9.438×10^{-9}
(n,nd)	15.67 MeV	–	–	–	–	7.435×10^{-12}
capture	–	49.81×10^{-3}	44.15×10^{-3}	311.3×10^{-3}	1.002×10^{-3}	9.673×10^{-3}
(n,p)	4.143 MeV	–	–	–	8.114×10^{-3}	3.022×10^{-6}
(n,d)	8.107 MeV	–	–	–	29.82×10^{-6}	23.86×10^{-9}
(n,t)	9.416 MeV	–	–	–	8.044×10^{-6}	9.115×10^{-9}
(n,α)	–	0.000	0.000	2.869×10^{-3}	4.171×10^{-3}	5.700×10^{-6}

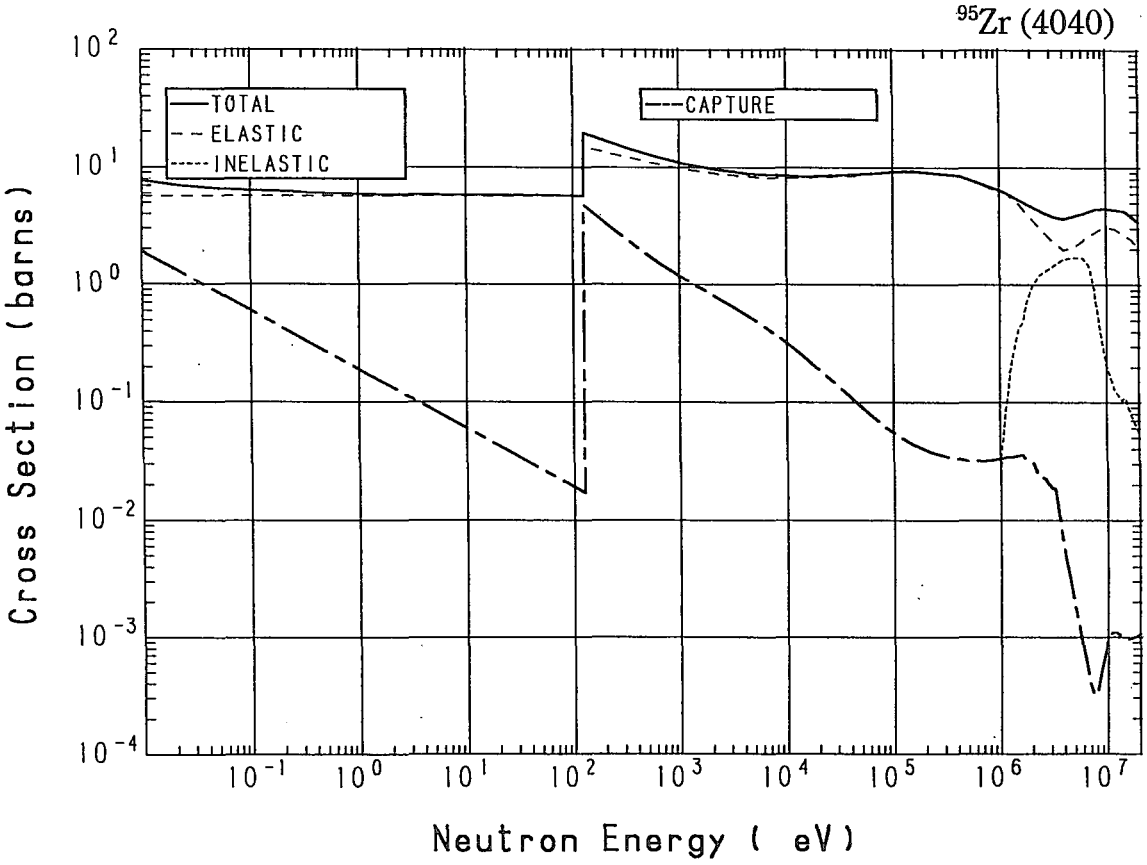


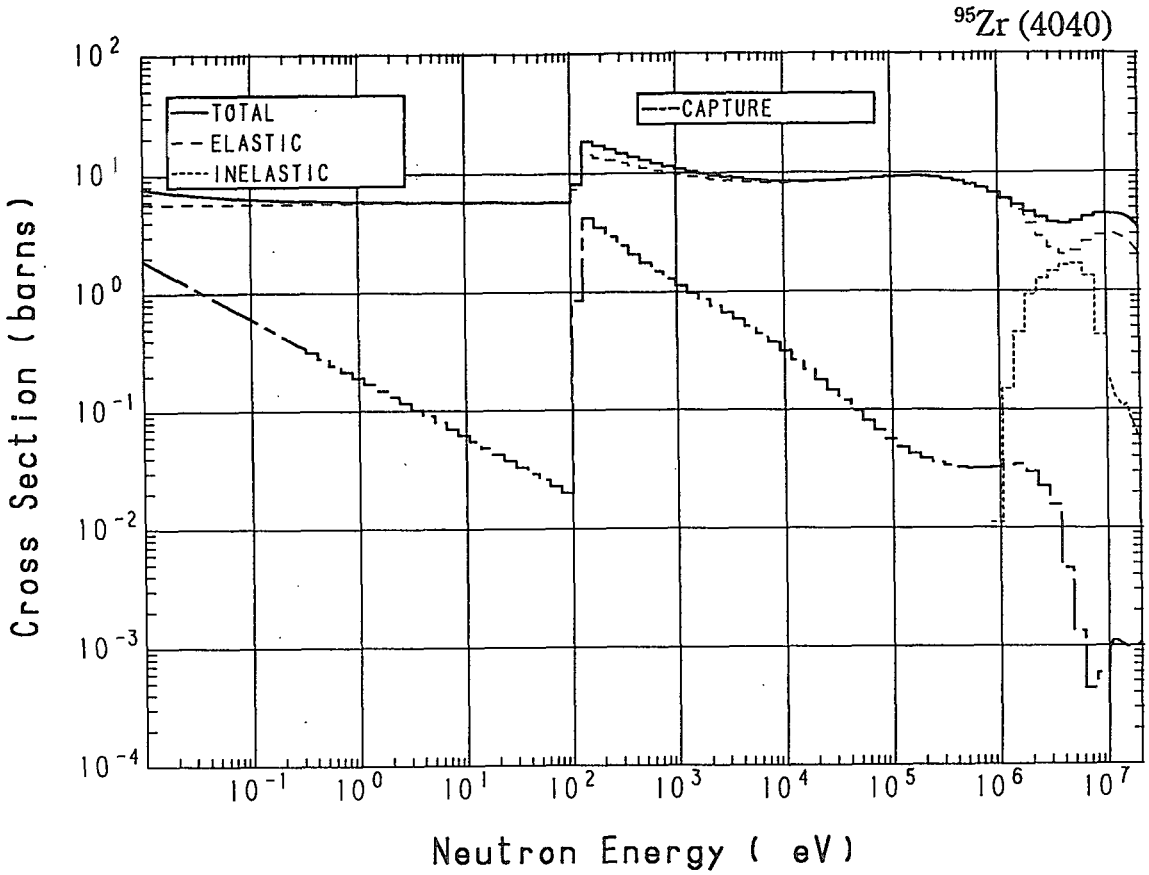

94Zr (4037)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

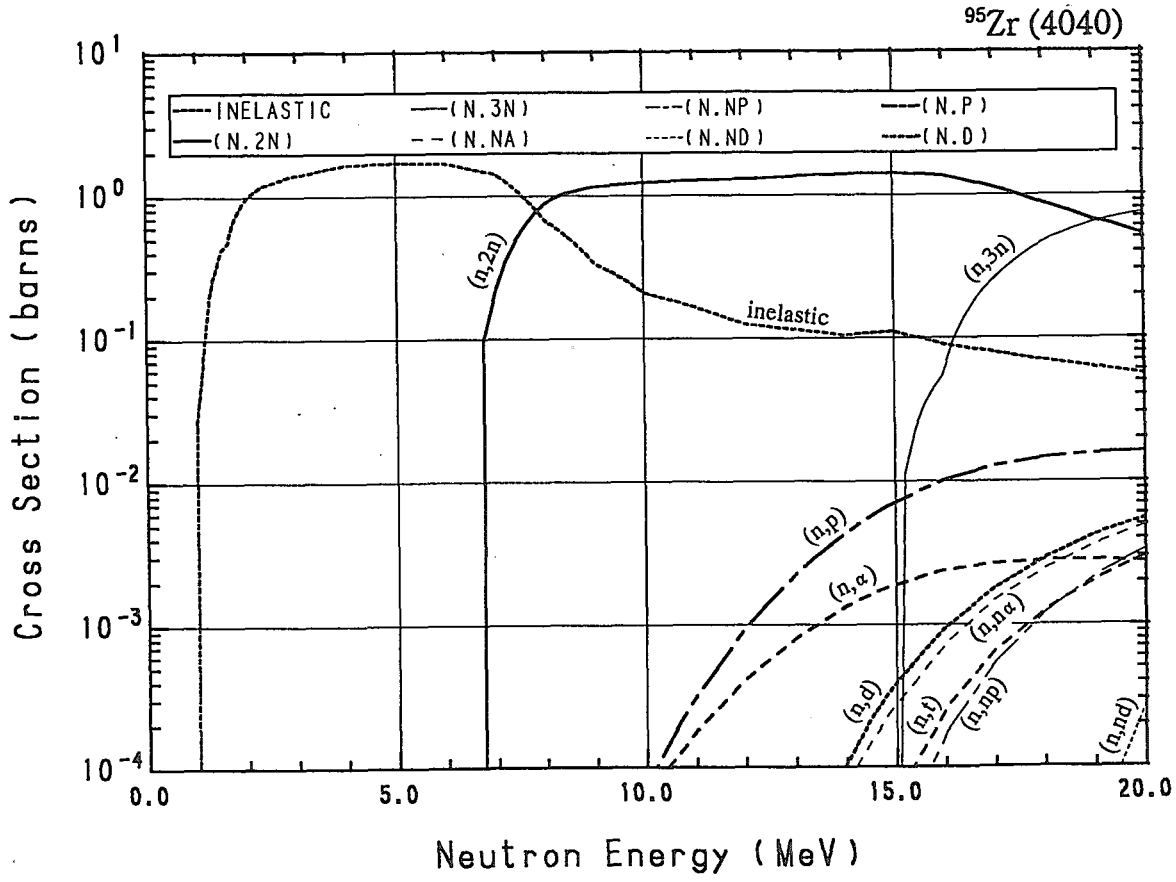

94Zr (4037)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
inelastic
(n,2n)
(n,3n)
(n,α)
(n,p)
(n,np)
(n,nα)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 95 (MAT=4040)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.904	6.789	–	4.338	5.660
elastic	–	5.703	5.703	–	2.833	4.939
inelastic	963.1 keV	–	–	–	104.6×10^{-3}	683.1×10^{-3}
(n,2n)	6.544 MeV	–	–	–	1.394	10.88×10^{-3}
(n,3n)	14.86 MeV	–	–	–	–	2.838×10^{-6}
(n,nα)	4.466 MeV	–	–	–	79.07×10^{-6}	28.88×10^{-9}
(n,np)	10.69 MeV	–	–	–	2.484×10^{-6}	7.795×10^{-9}
(n,nd)	14.65 MeV	–	–	–	–	59.47×10^{-12}
capture	–	1.200	1.064	7.777	1.001×10^{-3}	27.21×10^{-3}
(n,p)	3.687 MeV	–	–	–	4.358×10^{-3}	1.178×10^{-6}
(n,d)	8.353 MeV	–	–	–	106.7×10^{-6}	35.48×10^{-9}
(n,t)	8.399 MeV	–	–	–	7.278×10^{-6}	9.615×10^{-9}
(n,α)	–	0.000	0.000	1.025×10^{-3}	1.344×10^{-3}	829.9×10^{-9}

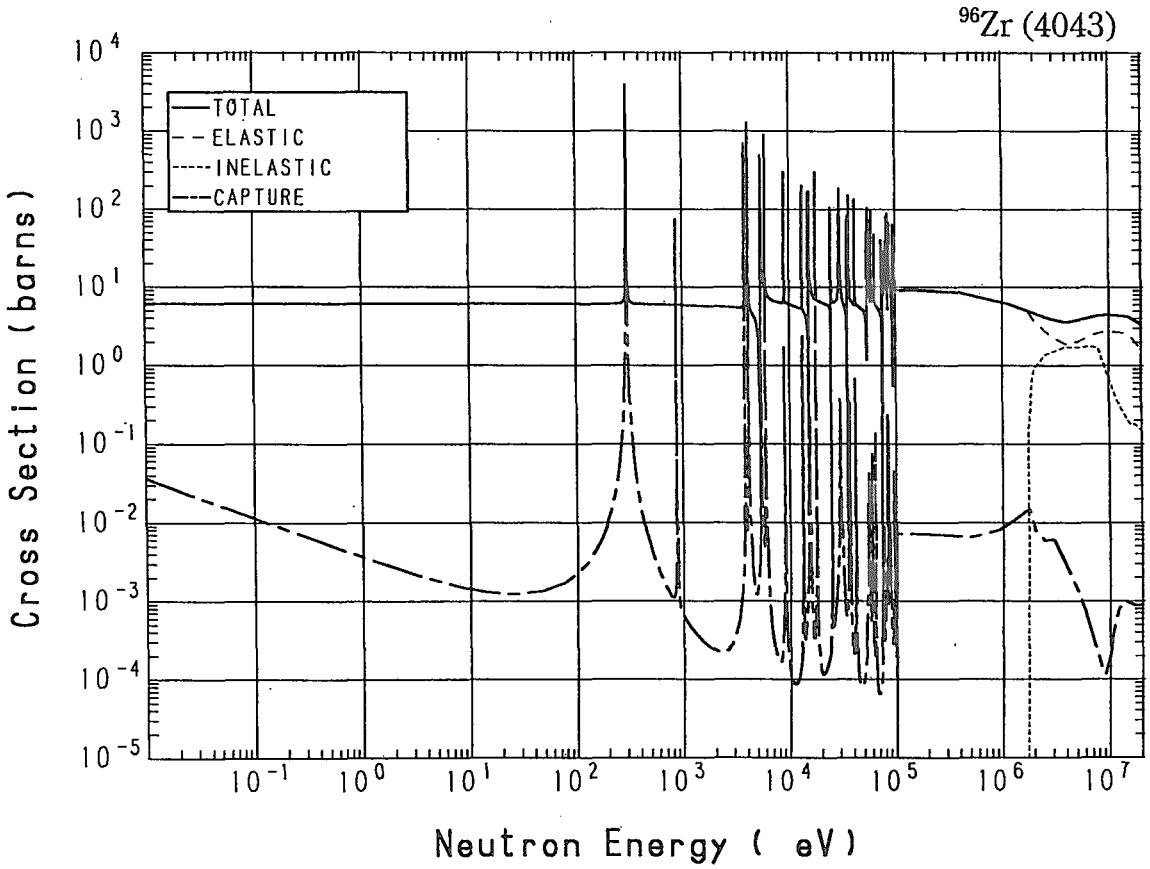


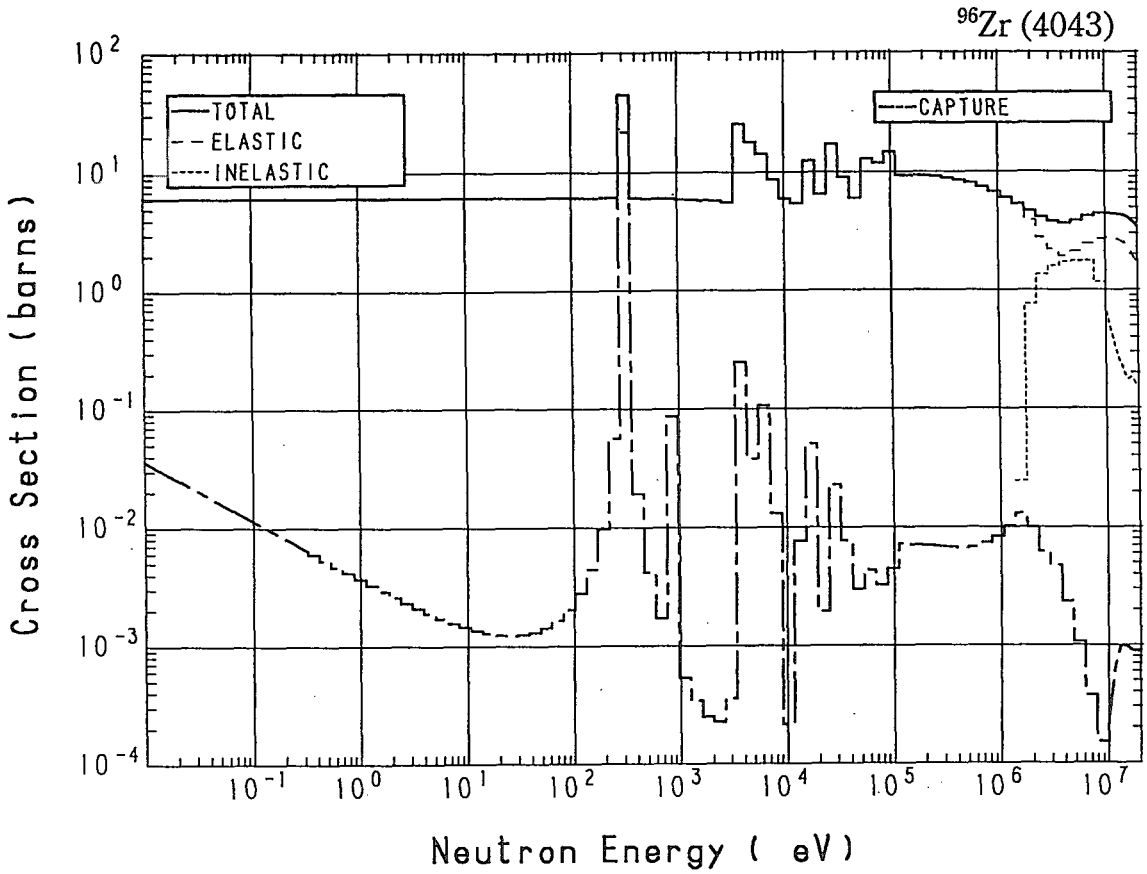

95Zr (4040)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

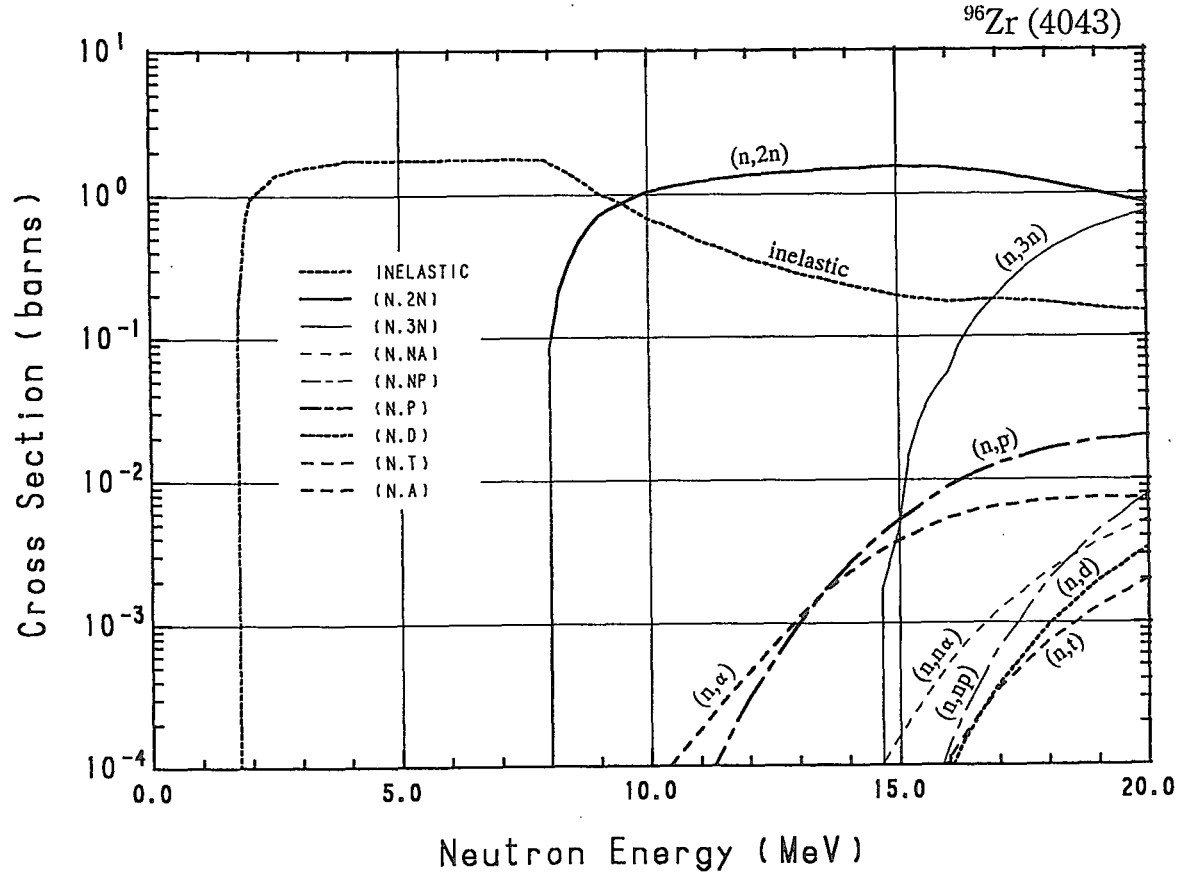

95Zr (4040)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,np)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

40-Zr- 96 (MAT=4043)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.154	6.151	–	3.846	5.744
elastic	–	6.131	6.131	–	2.115	5.092
nonelastic	–	0.000	0.000	3.905	1.731	651.6×10^{-3}
inelastic	1.611 MeV	–	–	–	229.3×10^{-3}	641.8×10^{-3}
(n,2n)	7.914 MeV	–	–	–	1.495	4.073×10^{-3}
(n,3n)	14.46 MeV	–	–	–	–	2.490×10^{-6}
(n,nα)	5.027 MeV	–	–	–	39.19×10^{-6}	21.09×10^{-9}
(n,np)	11.63 MeV	–	–	–	261.1×10^{-9}	11.00×10^{-9}
capture	–	22.80×10^{-3}	20.22×10^{-3}	5.858	1.001×10^{-3}	5.770×10^{-3}
(n,p)	6.298 MeV	–	–	–	2.602×10^{-3}	563.6×10^{-9}
(n,d)	9.292 MeV	–	–	–	397.1×10^{-9}	5.559×10^{-9}
(n,t)	10.04 MeV	–	–	–	1.220×10^{-6}	4.886×10^{-9}
(n,α)	–	0.000	0.000	2.253×10^{-3}	2.276×10^{-3}	751.3×10^{-9}

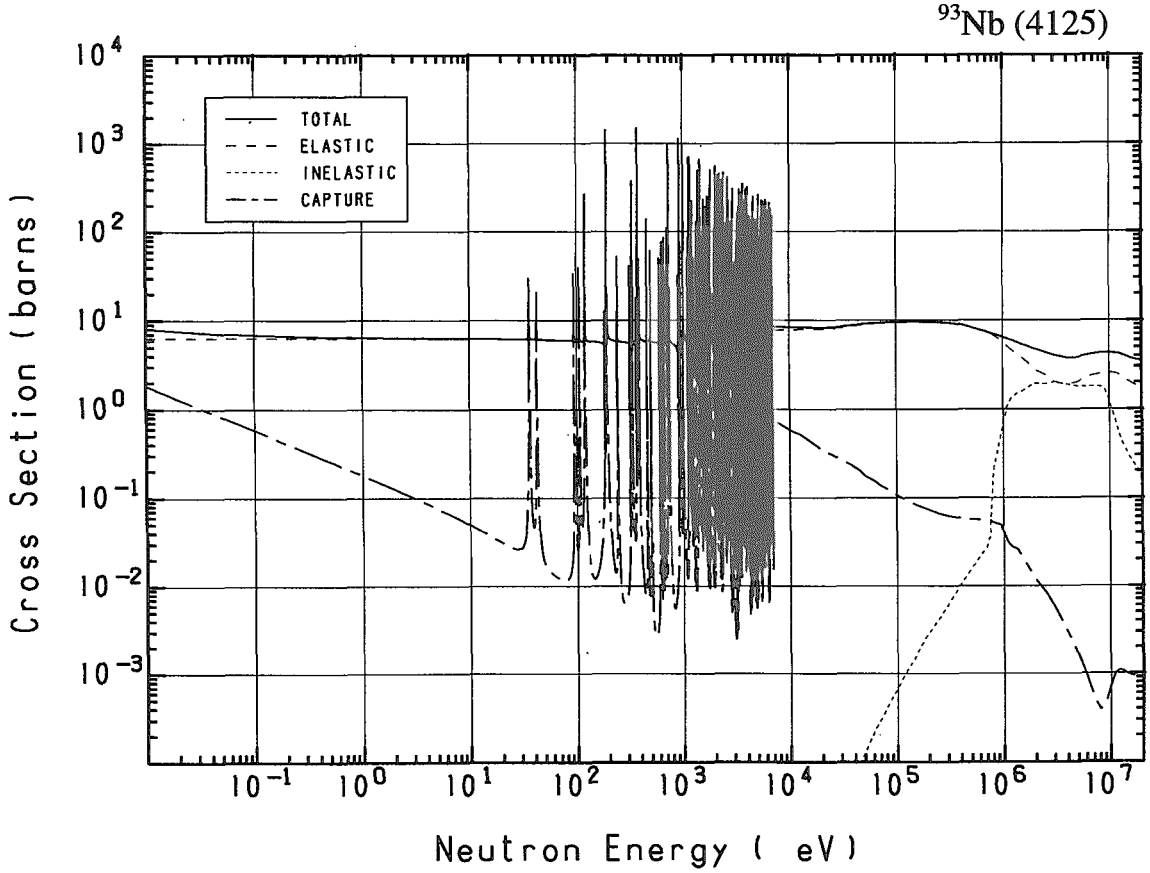


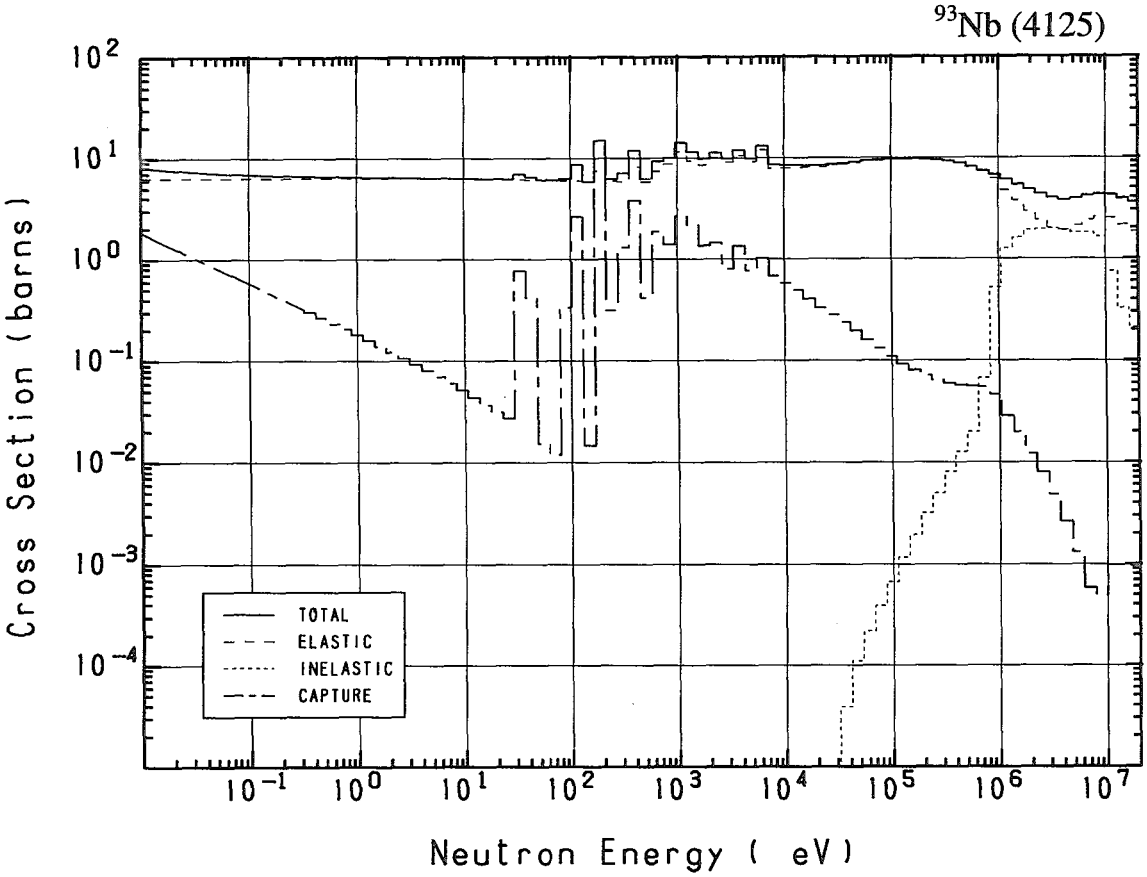

96Zr (4043)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

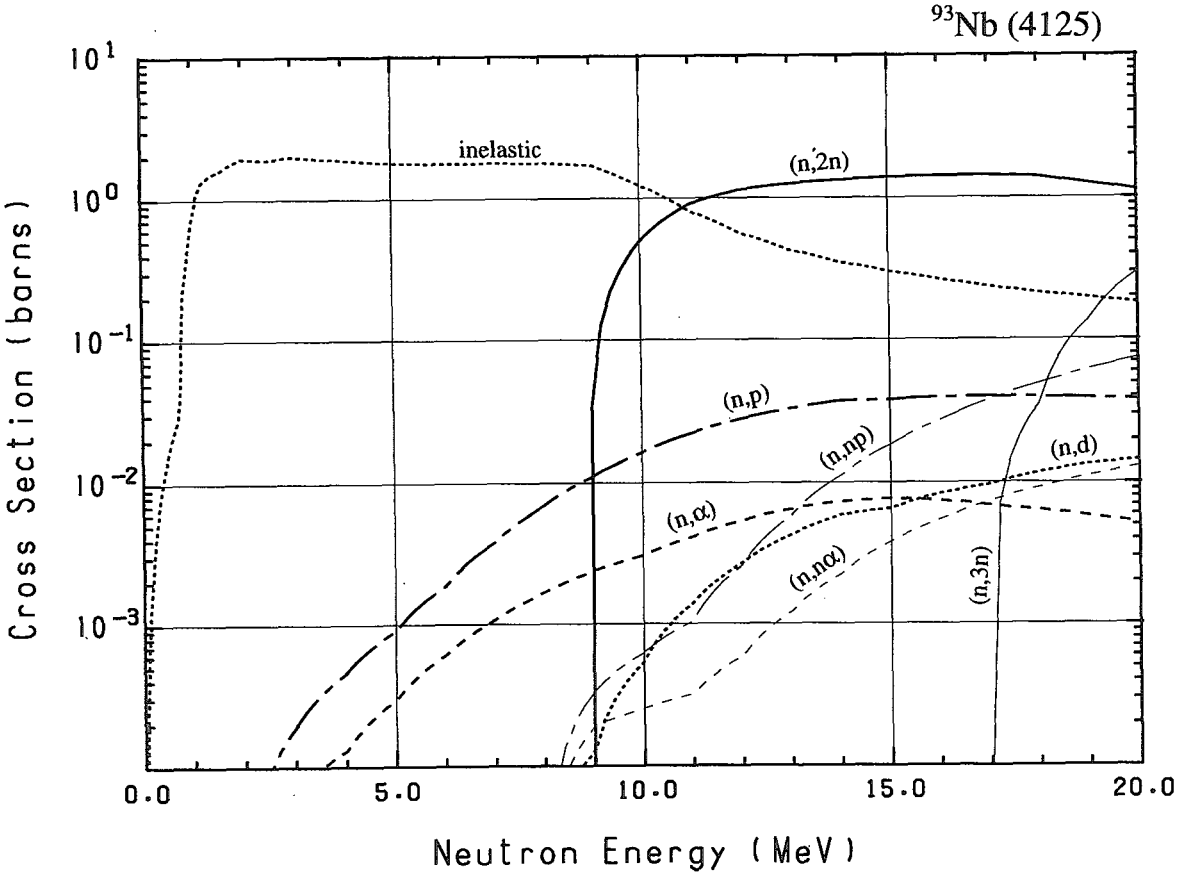

96Zr (4043)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,d)
(n,α)
(n,nα)
(n,np)
(n,f)
Cross Section (barns)
Neutron Energy (MeV)

41-Nb- 93 (MAT=4125)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.468	7.337	–	3.971	5.754
elastic	–	6.319	6.319	–	2.222	4.478
inelastic	30.73 keV	–	–	–	349.8×10^{-3}	1.246
(n,2n)	8.922 MeV	–	–	–	1.335	1.489×10^{-3}
(n,3n)	16.90 MeV	–	–	–	–	213.7×10^{-9}
(n,nα)	1.968 MeV	–	–	–	2.262×10^{-3}	1.474×10^{-6}
(n,np)	6.105 MeV	–	–	–	11.19×10^{-3}	4.516×10^{-6}
capture	–	1.149	1.018	9.428	1.002×10^{-3}	28.37×10^{-3}
(n,p)	–	0.000	0.000	27.16×10^{-3}	37.37×10^{-3}	284.0×10^{-6}
(n,d)	3.856 MeV	–	–	–	5.913×10^{-3}	3.195×10^{-6}
(n,α)	–	0.000	0.000	5.196×10^{-3}	7.339×10^{-3}	79.47×10^{-6}

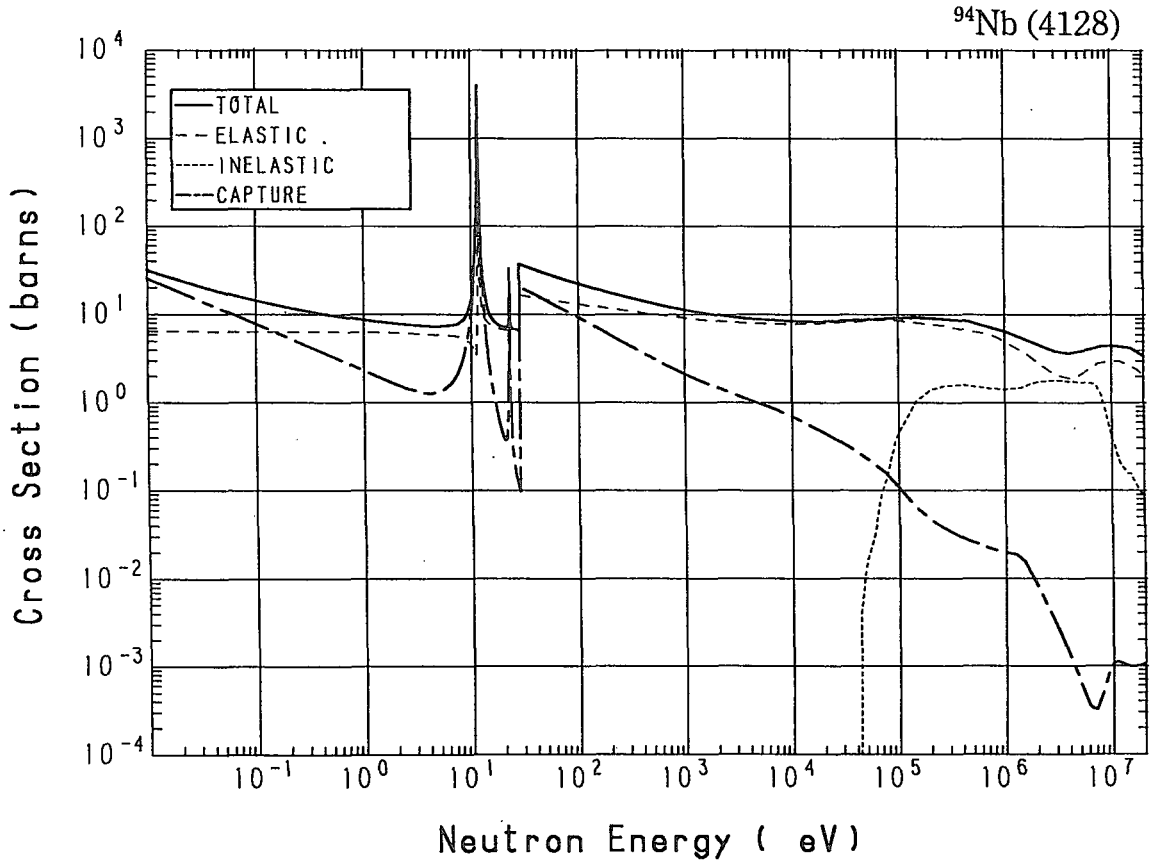


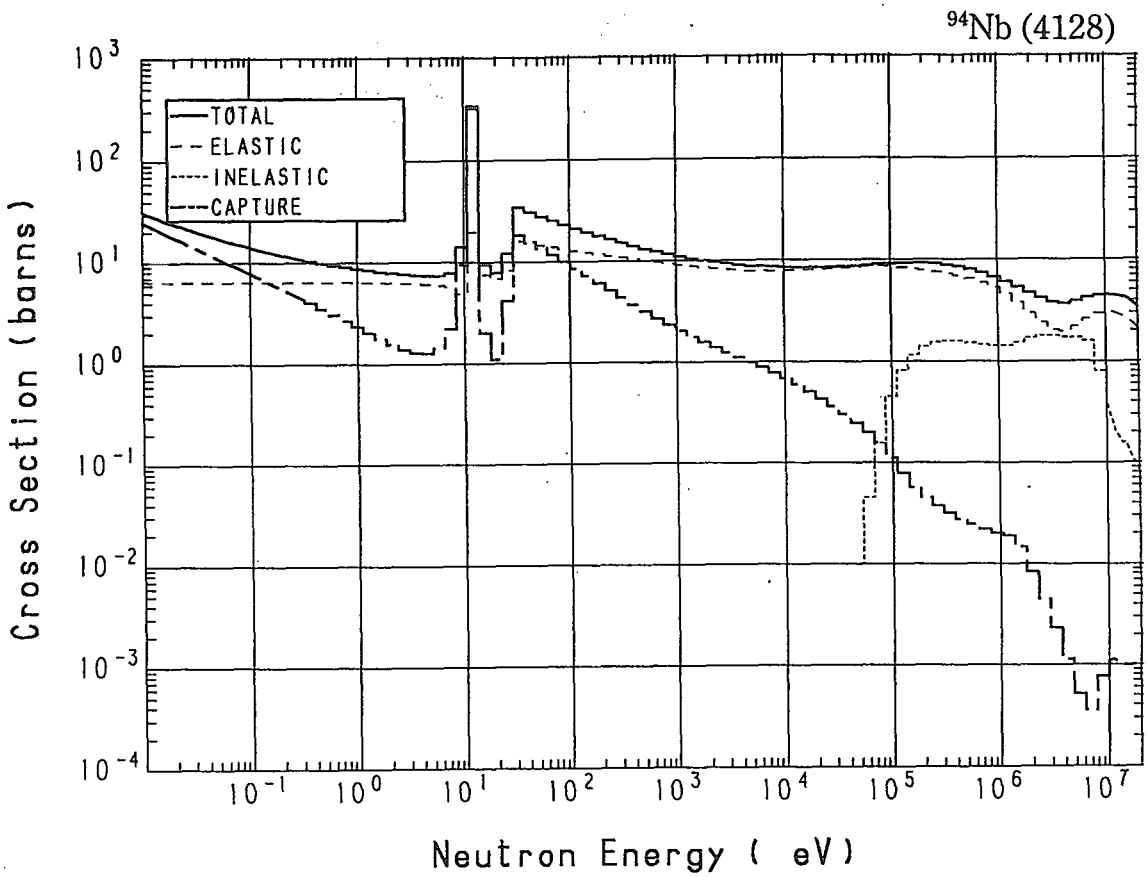

^{93}Nb (4125)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

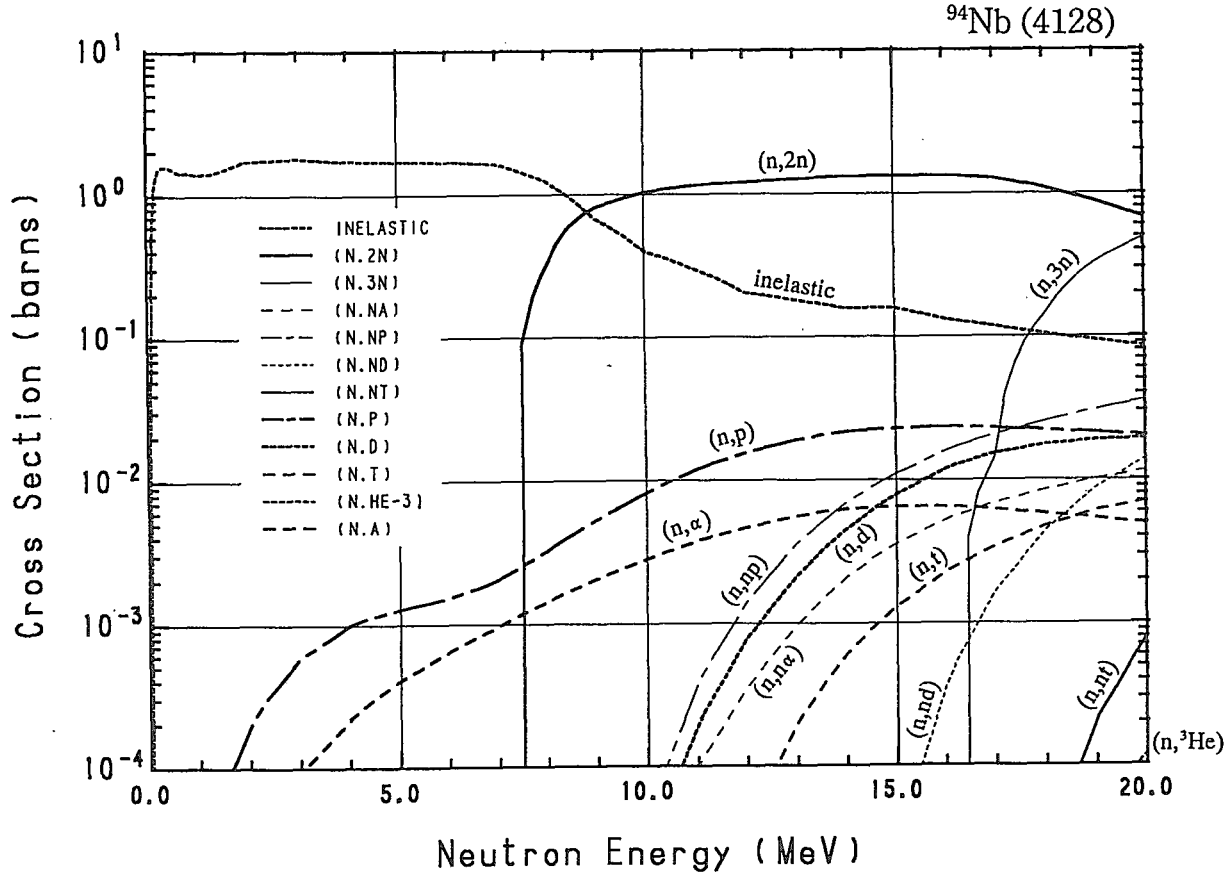

^{93}Nb (4125)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,np)
(n,d)
(n,α)
(n,nα)
(n,3n)

41-Nb- 94 (MAT=4128)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	22.22	20.41	–	4.338	5.671
elastic	–	6.453	6.450	–	2.827	4.077
inelastic	41.44 keV	–	–	–	157.3×10^{-3}	1.570
(n,2n)	7.312 MeV	–	–	–	1.311	5.230×10^{-3}
(n,3n)	16.24 MeV	–	–	–	–	607.6×10^{-9}
(n,nα)	2.333 MeV	–	–	–	2.104×10^{-3}	481.6×10^{-9}
(n,np)	6.614 MeV	–	–	–	6.941×10^{-3}	1.608×10^{-6}
(n,nd)	11.09 MeV	–	–	–	494.9×10^{-9}	24.12×10^{-9}
(n,nt)	13.57 MeV	–	–	–	0.000	276.6×10^{-12}
capture	–	15.77	13.96	125.4	1.001×10^{-3}	17.42×10^{-3}
(n,p)	–	0.000	0.000	15.67×10^{-3}	21.41×10^{-3}	362.8×10^{-6}
(n,d)	4.279 MeV	–	–	–	4.537×10^{-3}	1.010×10^{-6}
(n,t)	4.837 MeV	–	–	–	610.3×10^{-6}	122.2×10^{-9}
(n,He-3)	8.491 MeV	–	–	–	1.337×10^{-9}	91.59×10^{-12}
(n,α)	–	0.000	0.000	4.665×10^{-3}	6.260×10^{-3}	95.73×10^{-6}

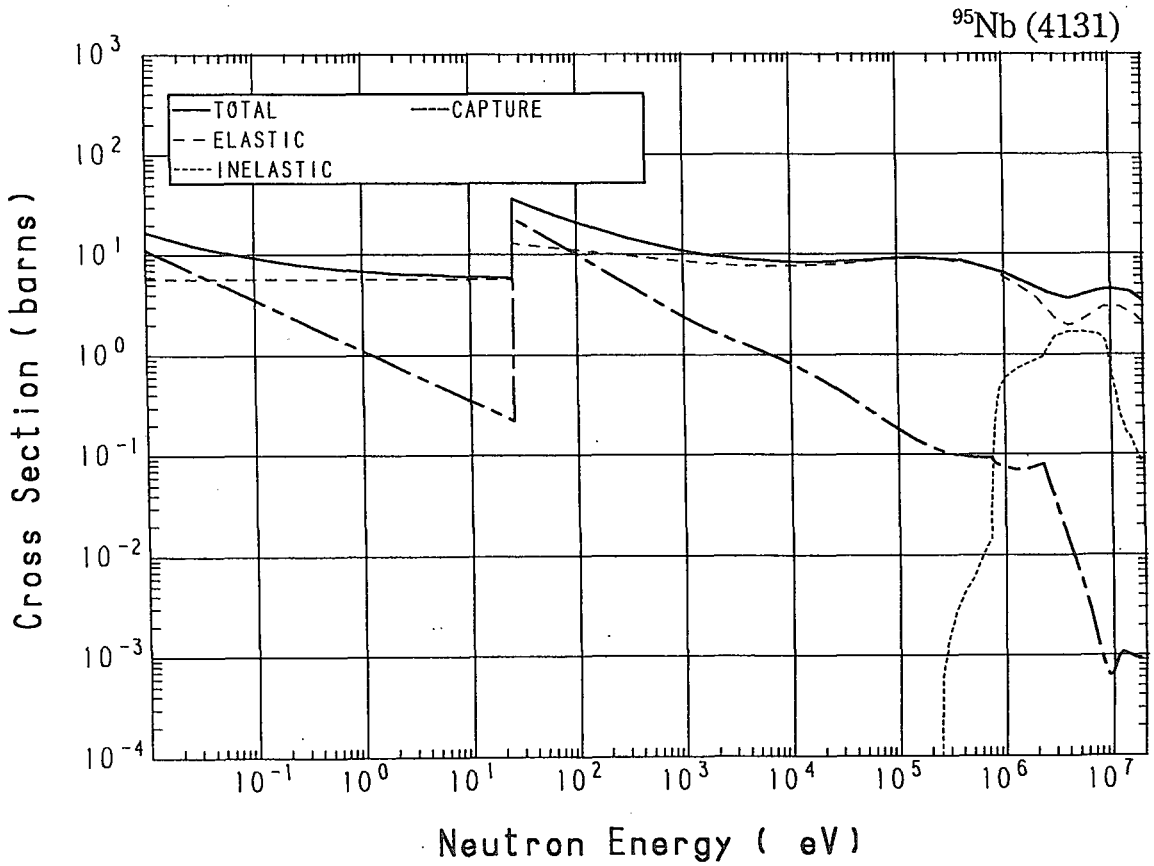


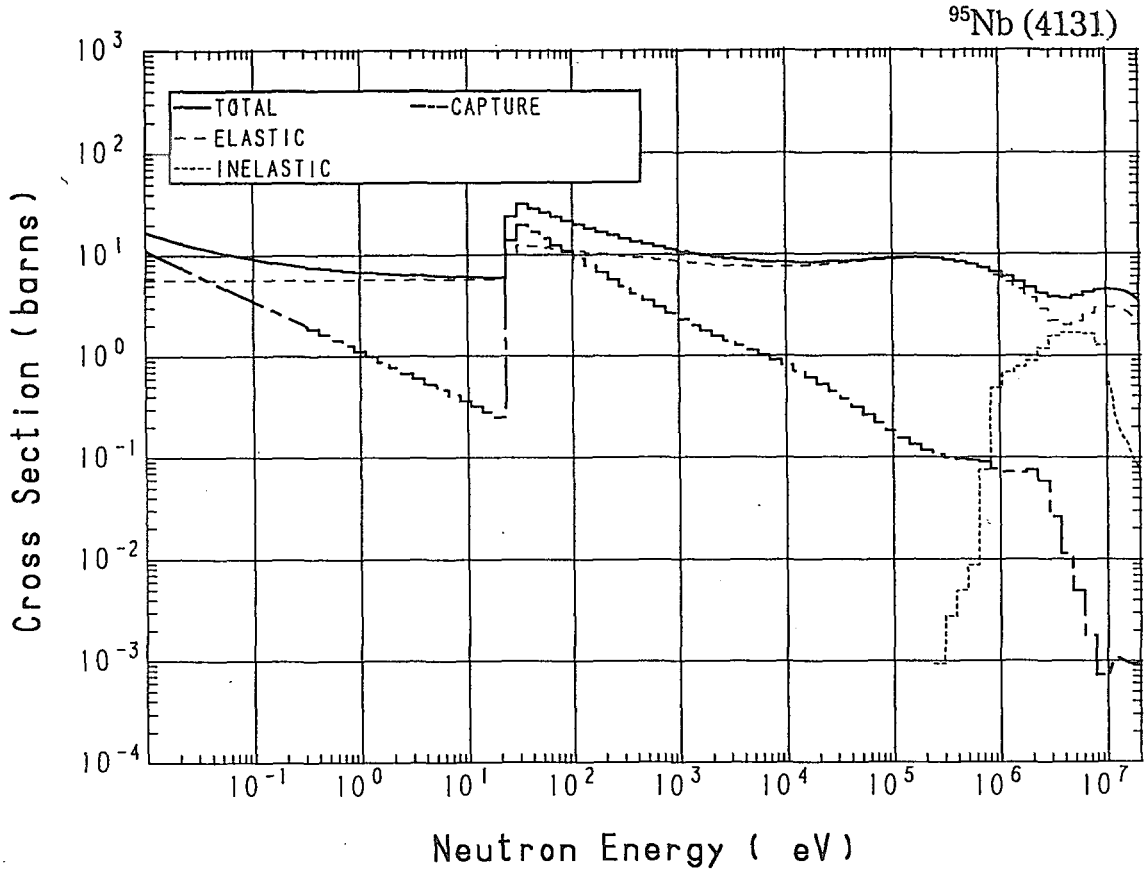

94Nb (4128)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

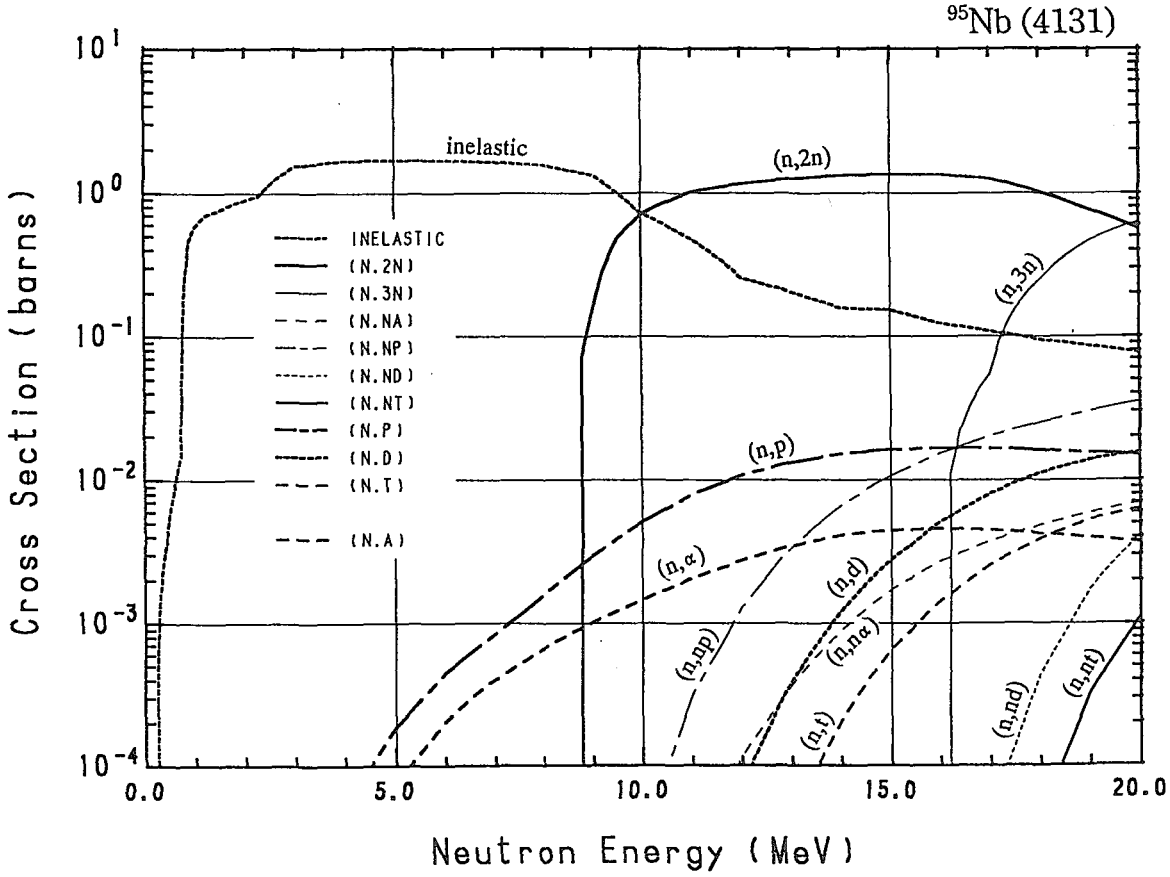

94Nb (4128)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.NT)
(N.P)
(N.D)
(N.T)
(N.HE-3)
(N.A)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,nd)
(n,nt)
(n,3He)
Cross Section (barns)
Neutron Energy (MeV)

41-Nb- 95 (MAT=4131)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	12.70	11.96	–	4.338	5.662
elastic	–	5.700	5.700	–	2.830	4.771
inelastic	238.2 keV	–	–	–	157.9×10^{-3}	820.0×10^{-3}
(n,2n)	8.586 MeV	–	–	–	1.321	1.966×10^{-3}
(n,3n)	15.90 MeV	–	–	–	–	1.075×10^{-6}
(n,nα)	2.889 MeV	–	–	–	897.3×10^{-6}	208.8×10^{-9}
(n,np)	6.889 MeV	–	–	–	6.670×10^{-3}	1.497×10^{-6}
(n,nd)	12.86 MeV	–	–	–	48.27×10^{-18}	2.586×10^{-9}
(n,nt)	13.42 MeV	–	–	–	0.000	433.9×10^{-12}
capture	–	7.000	6.206	41.78	1.007×10^{-3}	67.68×10^{-3}
(n,p)	344.3 keV	–	–	–	15.14×10^{-3}	55.17×10^{-6}
(n,d)	4.554 MeV	–	–	–	1.223×10^{-3}	264.2×10^{-9}
(n,t)	6.614 MeV	–	–	–	210.3×10^{-6}	56.96×10^{-9}
(n,He-3)	9.515 MeV	–	–	–	29.88×10^{-15}	3.749×10^{-12}
(n,α)	–	0.000	0.000	2.812×10^{-3}	4.123×10^{-3}	21.75×10^{-6}

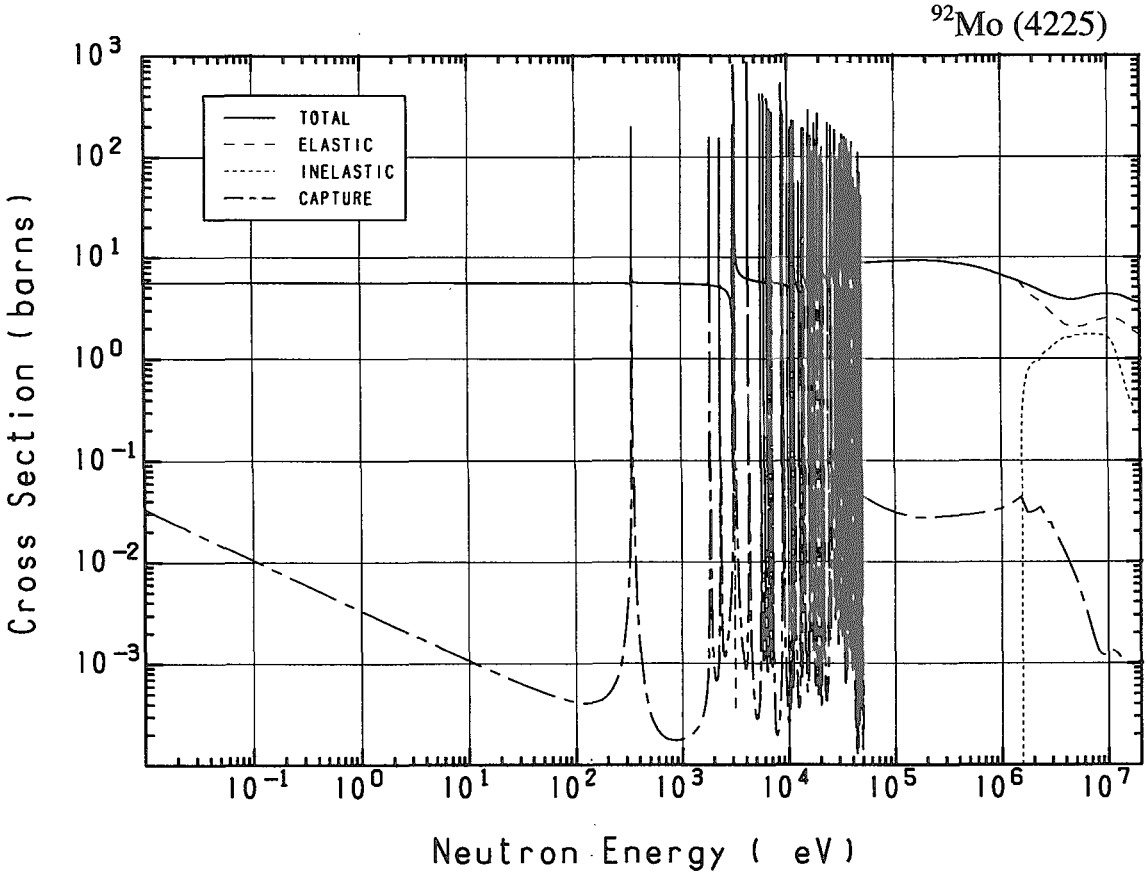


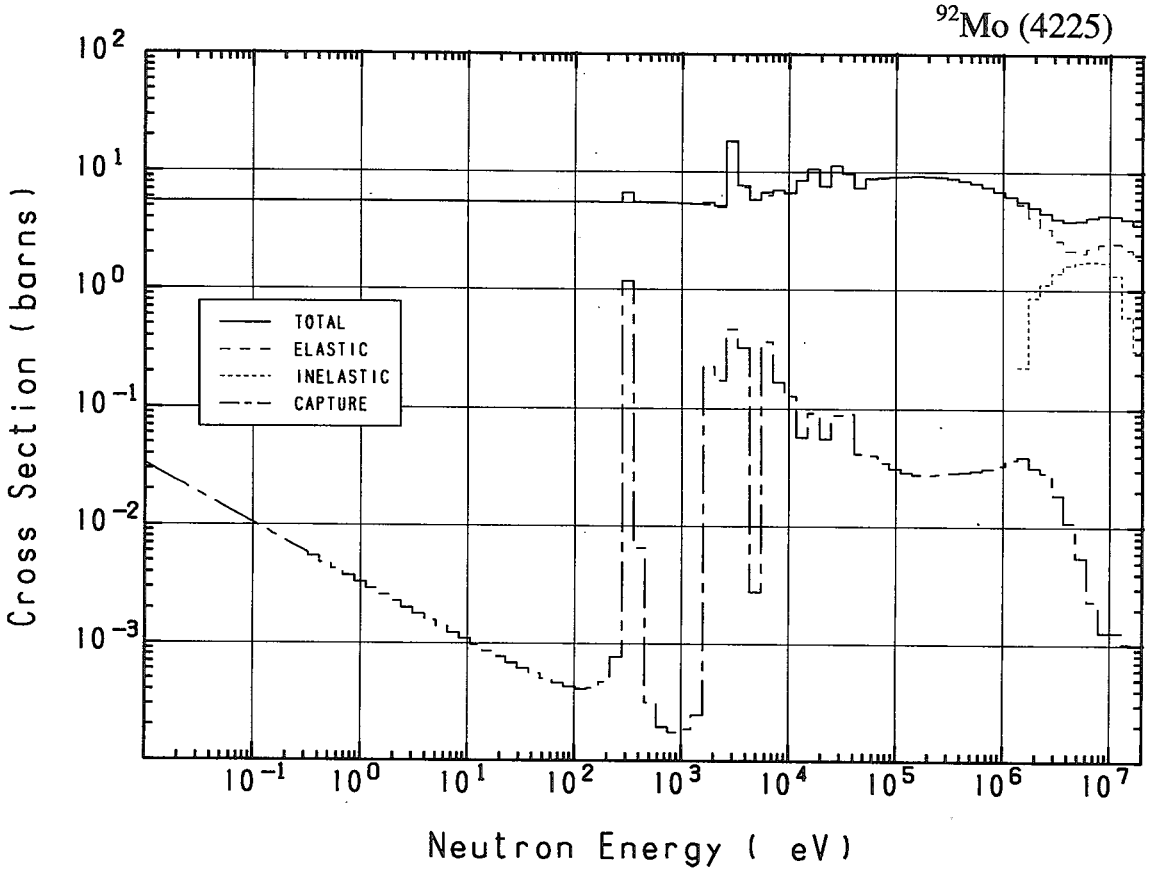

95Nb (4131)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

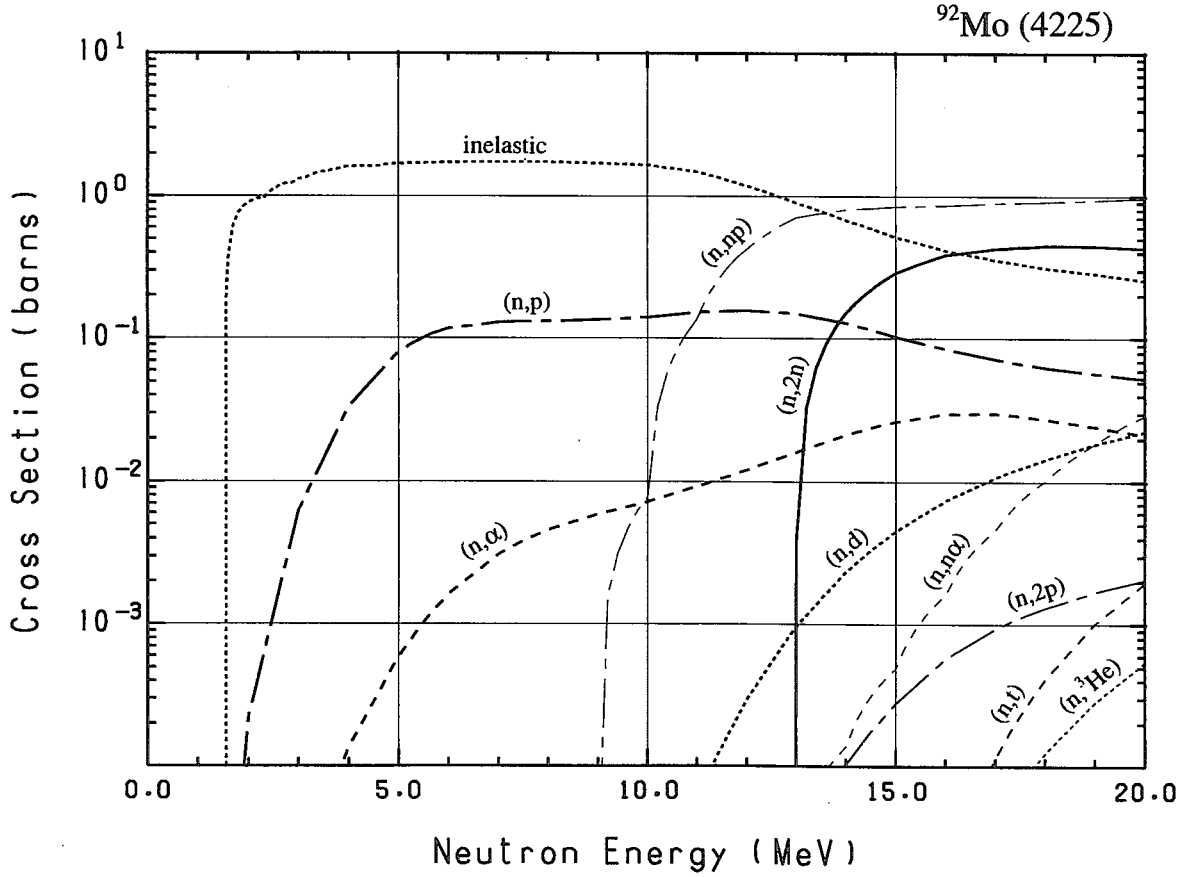

95Nb (4131)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,nd)
(n,nt)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.NT)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

42-Mo- 92 (MAT=4225)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.566	5.564	–	4.072	5.840
elastic	–	5.545	5.545	–	2.287	5.179
inelastic	1.526 MeV	–	–	–	677.4×10^{-3}	621.9×10^{-3}
(n,2n)	12.83 MeV	–	–	–	151.2×10^{-3}	18.73×10^{-6}
(n,nα)	5.685 MeV	–	–	–	137.2×10^{-6}	87.26×10^{-9}
(n,np)	7.548 MeV	–	–	–	803.1×10^{-3}	304.6×10^{-6}
capture	–	20.75×10^{-3}	18.40×10^{-3}	967.3×10^{-3}	1.045×10^{-3}	27.99×10^{-3}
(n,p)	–	0.000	0.000	180.2×10^{-3}	128.1×10^{-3}	11.06×10^{-3}
(n,d)	5.210 MeV	–	–	–	2.352×10^{-3}	508.7×10^{-9}
(n,t)	11.15 MeV	–	–	–	4.766×10^{-9}	2.117×10^{-9}
(n,He-3)	4.952 MeV	–	–	–	259.7×10^{-9}	755.9×10^{-12}
(n,α)	–	0.000	0.000	16.16×10^{-3}	21.40×10^{-3}	147.6×10^{-6}
(n,2p)	5.485 MeV	–	–	–	103.2×10^{-6}	24.79×10^{-9}

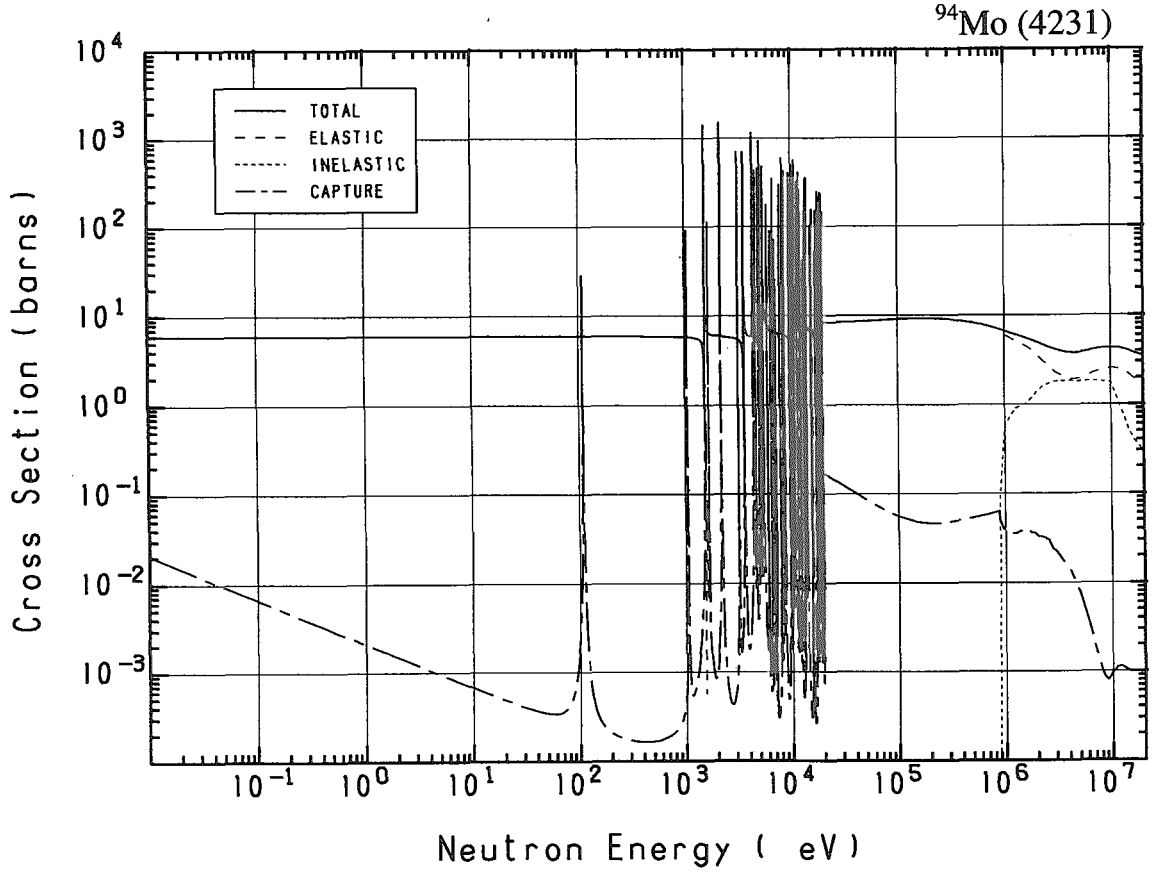


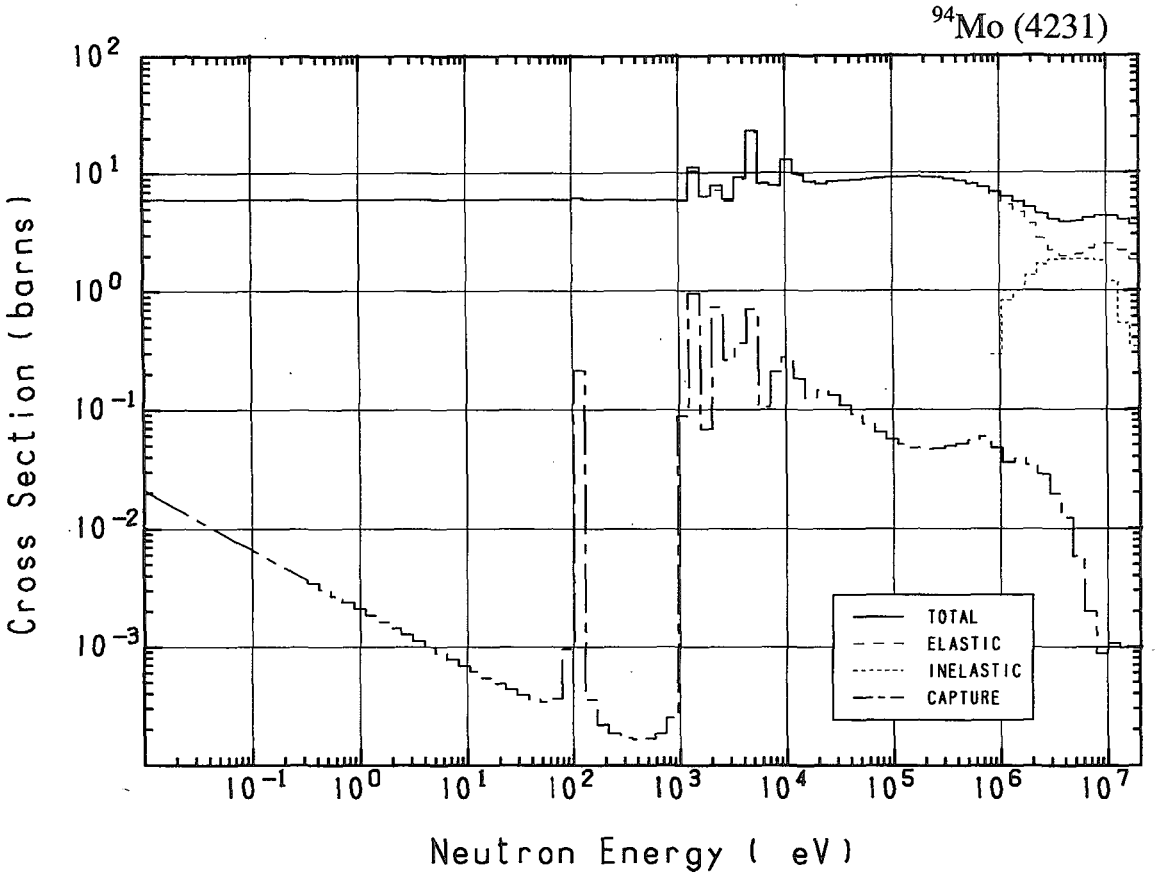

92Mo (4225)
Cross Section (barns)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Neutron Energy (eV)

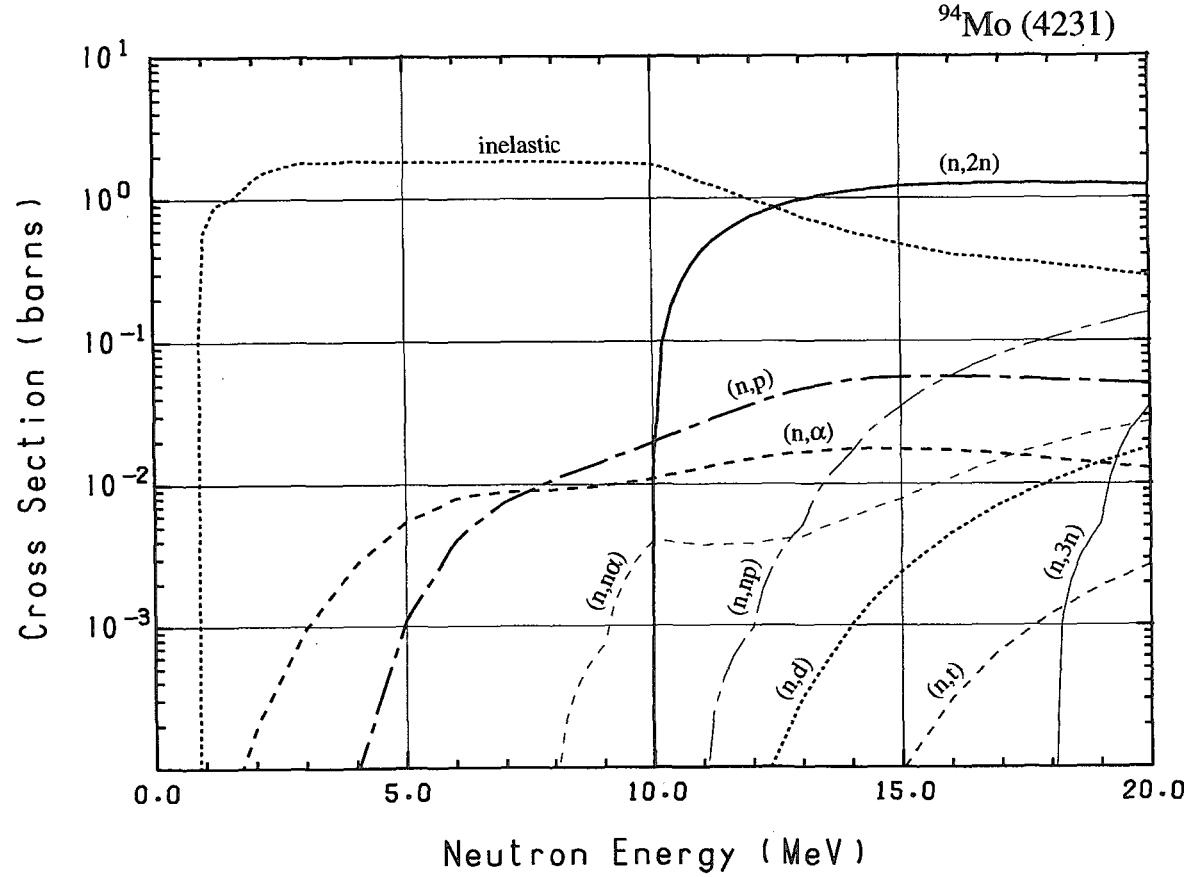

92Mo (4225)
Cross Section (barns)
inelastic
(n,np)
(n,p)
(n,2n)
(n,α)
(n,d)
(n,nα)
(n,2p)
(n,t)
(n,3He)
Neutron Energy (MeV)

42-Mo- 94 (MAT=4231)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.011	6.010	–	4.072	5.841
elastic	–	5.998	5.998	–	2.288	4.803
inelastic	880.5 keV	–	–	–	576.2×10^{-3}	999.8×10^{-3}
(n,2n)	9.776 MeV	–	–	–	1.113	568.2×10^{-6}
(n,3n)	17.94 MeV	–	–	–	–	10.67×10^{-9}
(n,nα)	2.095 MeV	–	–	–	5.860×10^{-3}	10.03×10^{-6}
(n,np)	8.583 MeV	–	–	–	16.42×10^{-3}	3.265×10^{-6}
capture	–	13.11×10^{-3}	11.62×10^{-3}	1.400	1.008×10^{-3}	35.39×10^{-3}
(n,p)	1.276 MeV	–	–	–	53.41×10^{-3}	325.2×10^{-6}
(n,d)	6.253 MeV	–	–	–	1.024×10^{-3}	219.1×10^{-9}
(n,t)	8.934 MeV	–	–	–	15.22×10^{-6}	10.77×10^{-9}
(n,He-3)	6.885 MeV	–	–	–	643.1×10^{-12}	59.73×10^{-12}
(n,α)	–	0.000	0.000	18.05×10^{-3}	17.51×10^{-3}	924.4×10^{-6}
(n,2p)	7.891 MeV	–	–	–	6.306×10^{-9}	25.96×10^{-12}

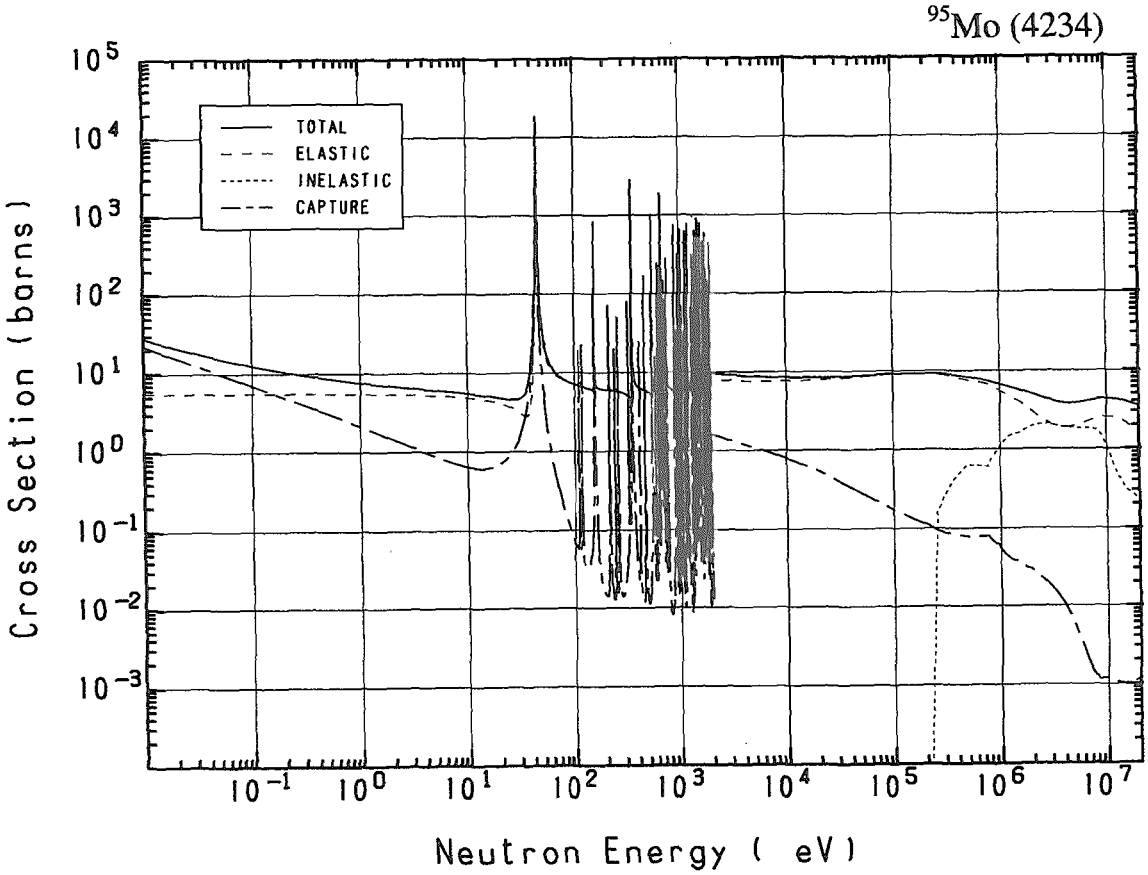


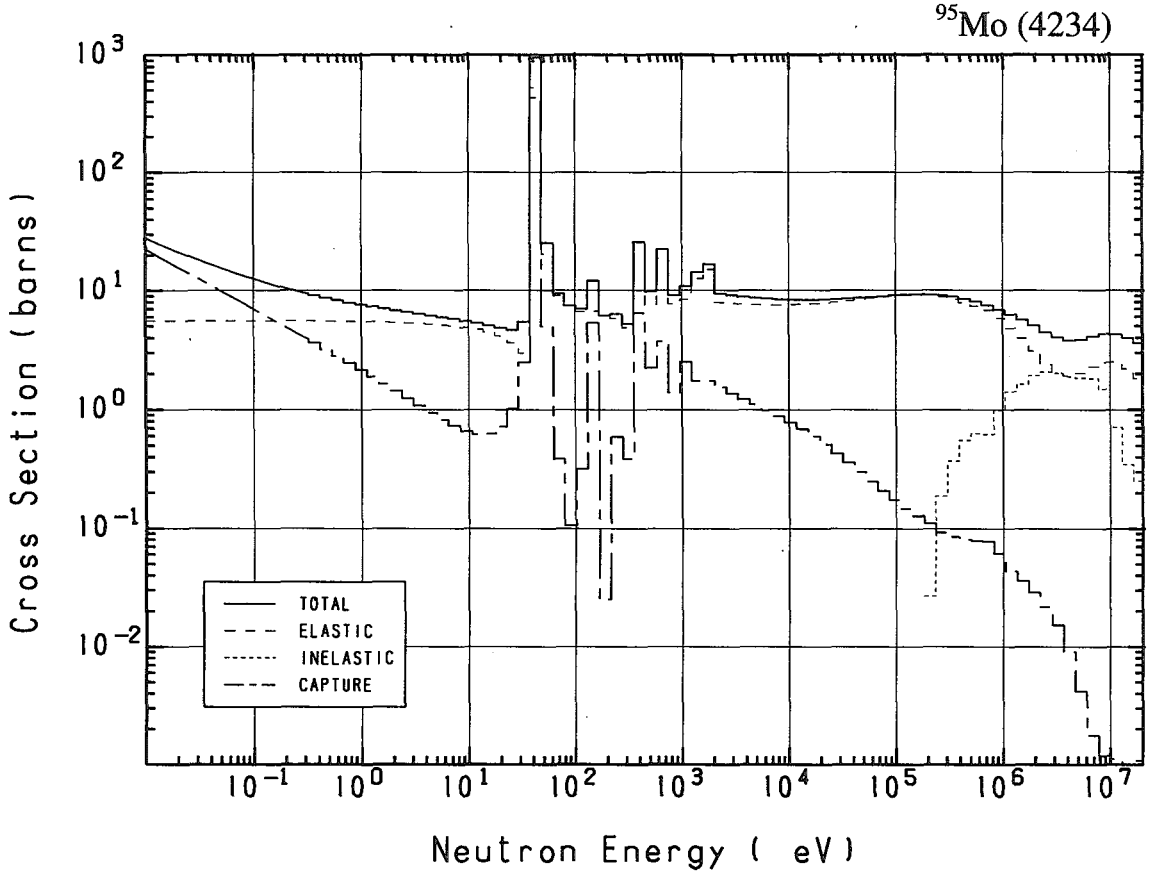

^{94}Mo (4231)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

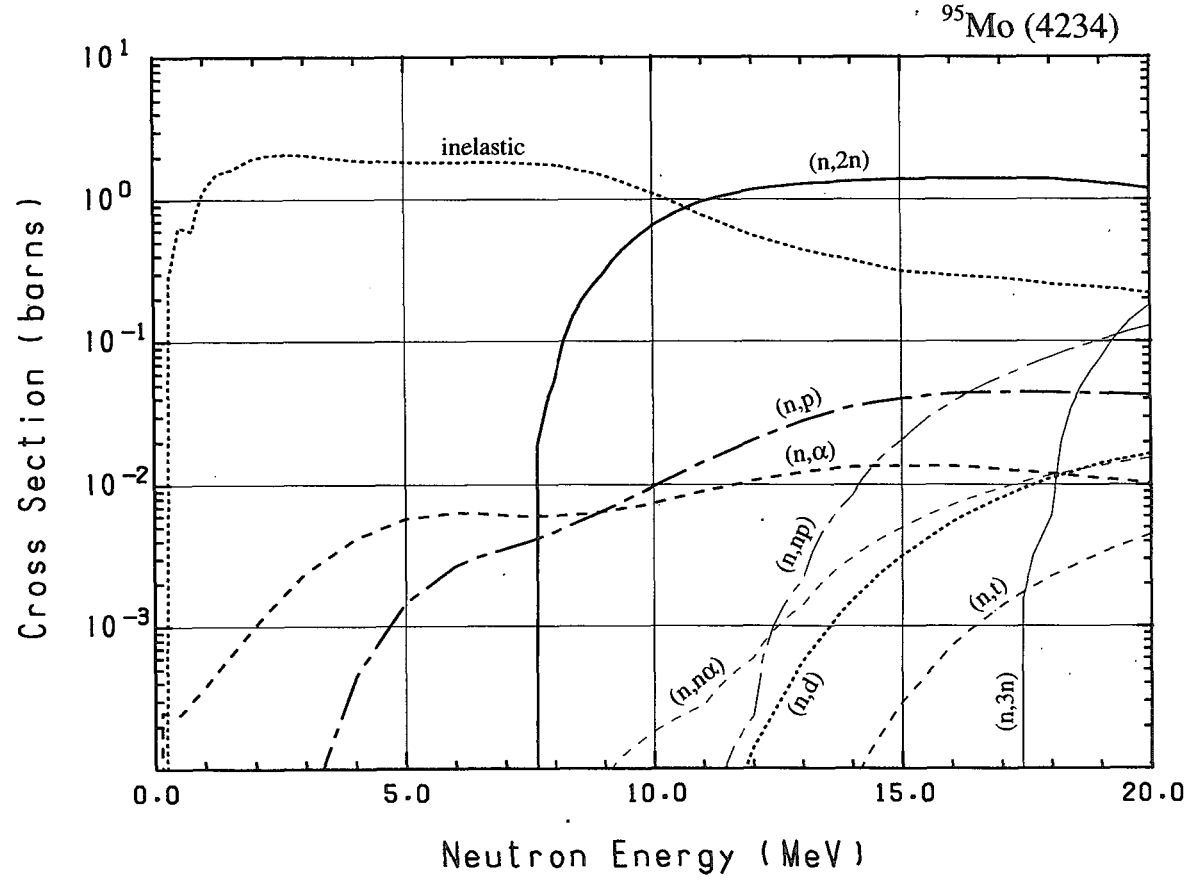

^{94}Mo (4231)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
(n,3n)

42-Mo- 95 (MAT=4234)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	19.56	17.96	–	4.072	5.839
elastic	–	5.566	5.563	–	2.293	4.368
inelastic	206.3 keV	–	–	–	371.5×10^{-3}	1.421
(n,2n)	7.453 MeV	–	–	–	1.346	2.517×10^{-3}
(n,3n)	17.23 MeV	–	–	–	–	98.24×10^{-9}
(n,nα)	2.269 MeV	–	–	–	3.044×10^{-3}	1.248×10^{-6}
(n,np)	8.730 MeV	–	–	–	8.369×10^{-3}	1.806×10^{-6}
capture	–	13.99	12.40	118.5	1.002×10^{-3}	45.45×10^{-3}
(n,p)	144.7 keV	–	–	–	35.23×10^{-3}	241.2×10^{-6}
(n,d)	6.396 MeV	–	–	–	1.538×10^{-3}	314.0×10^{-9}
(n,t)	7.456 MeV	–	–	–	80.32×10^{-6}	26.90×10^{-9}
(n,He-3)	7.530 MeV	–	–	–	433.9×10^{-12}	72.93×10^{-12}
(n,α)	–	0.000	0.000	15.92×10^{-3}	13.33×10^{-3}	1.504×10^{-3}

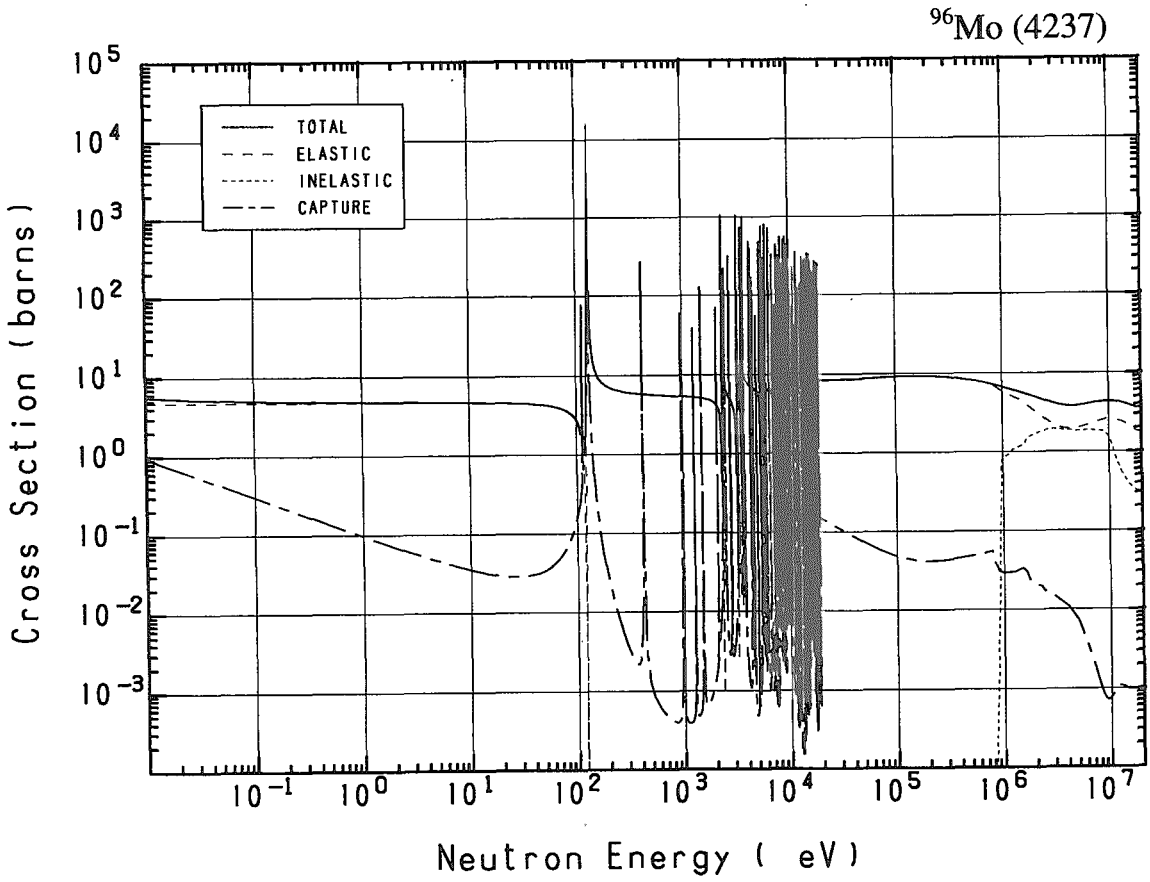


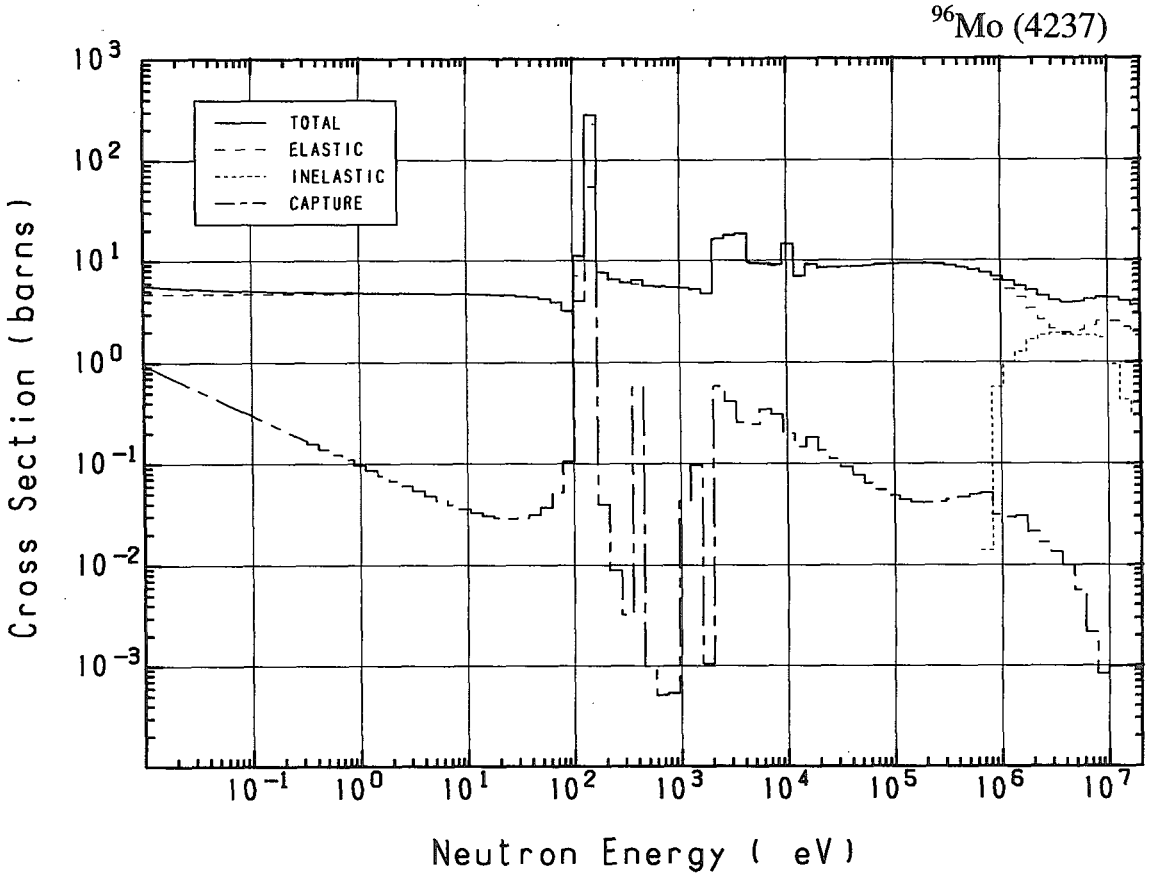

95Mo (4234)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

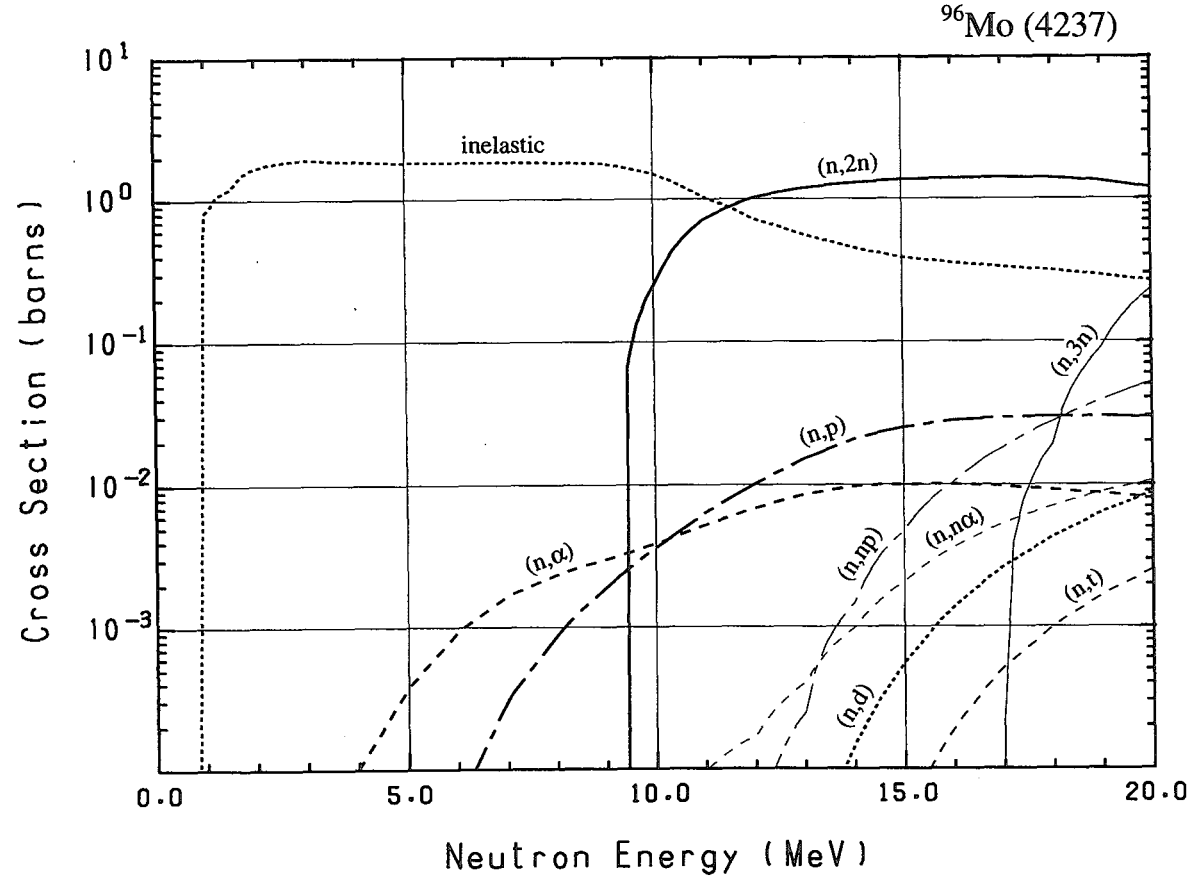

95Mo (4234)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,t)
(n,nα)
(n,d)
(n,3n)

42-Mo- 96 (MAT=4237)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.322	5.255	–	4.072	5.841
elastic	–	4.727	4.727	–	2.293	4.675
inelastic	786.4 keV	–	–	–	454.9×10^{-3}	1.137
(n,2n)	9.251 MeV	–	–	–	1.290	1.013×10^{-3}
(n,3n)	16.70 MeV	–	–	–	–	142.6×10^{-9}
(n,nα)	2.793 MeV	–	–	–	987.6×10^{-6}	426.2×10^{-9}
(n,np)	9.394 MeV	–	–	–	1.472×10^{-3}	428.0×10^{-9}
capture	–	595.4×10^{-3}	527.9×10^{-3}	17.53	1.006×10^{-3}	27.42×10^{-3}
(n,p)	2.430 MeV	–	–	–	20.65×10^{-3}	24.15×10^{-6}
(n,d)	7.065 MeV	–	–	–	150.8×10^{-6}	52.05×10^{-9}
(n,t)	9.400 MeV	–	–	–	4.706×10^{-6}	7.495×10^{-9}
(n,α)	–	0.000	0.000	6.936×10^{-3}	9.742×10^{-3}	85.66×10^{-6}

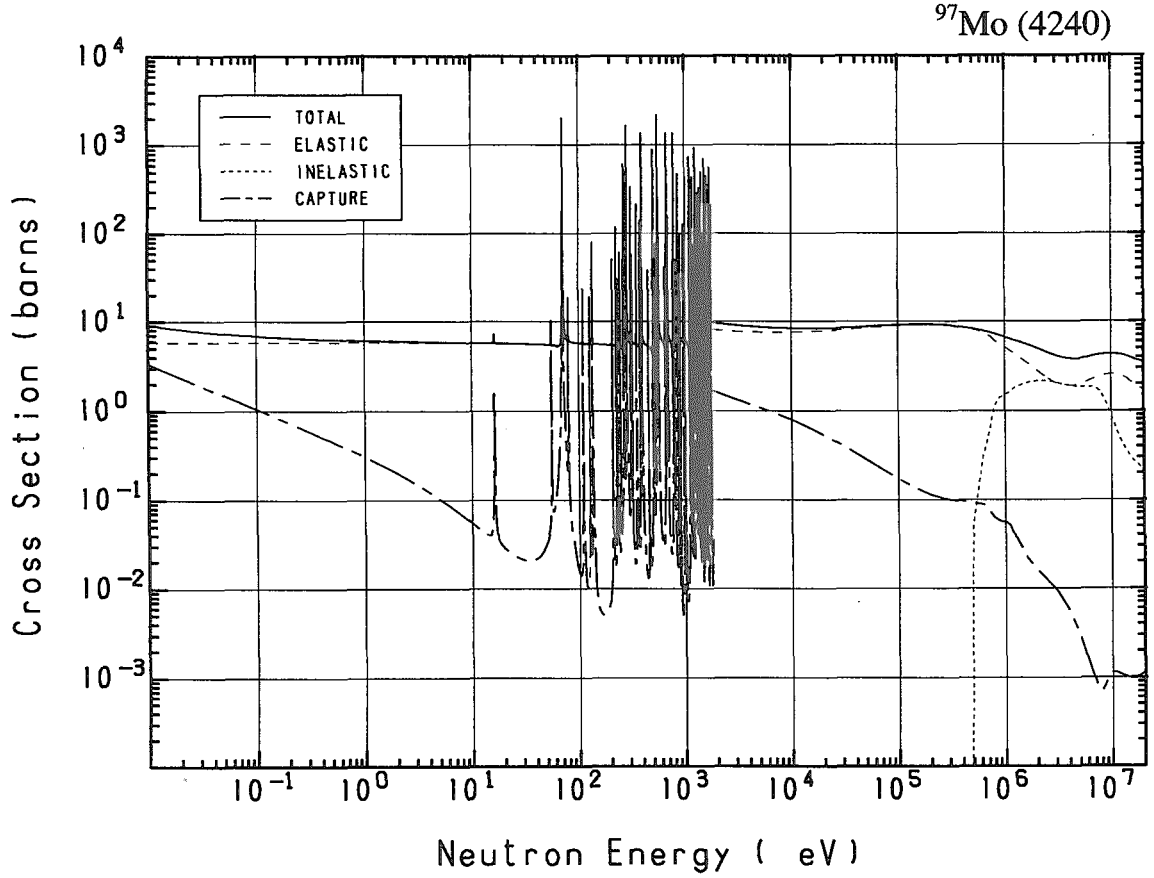


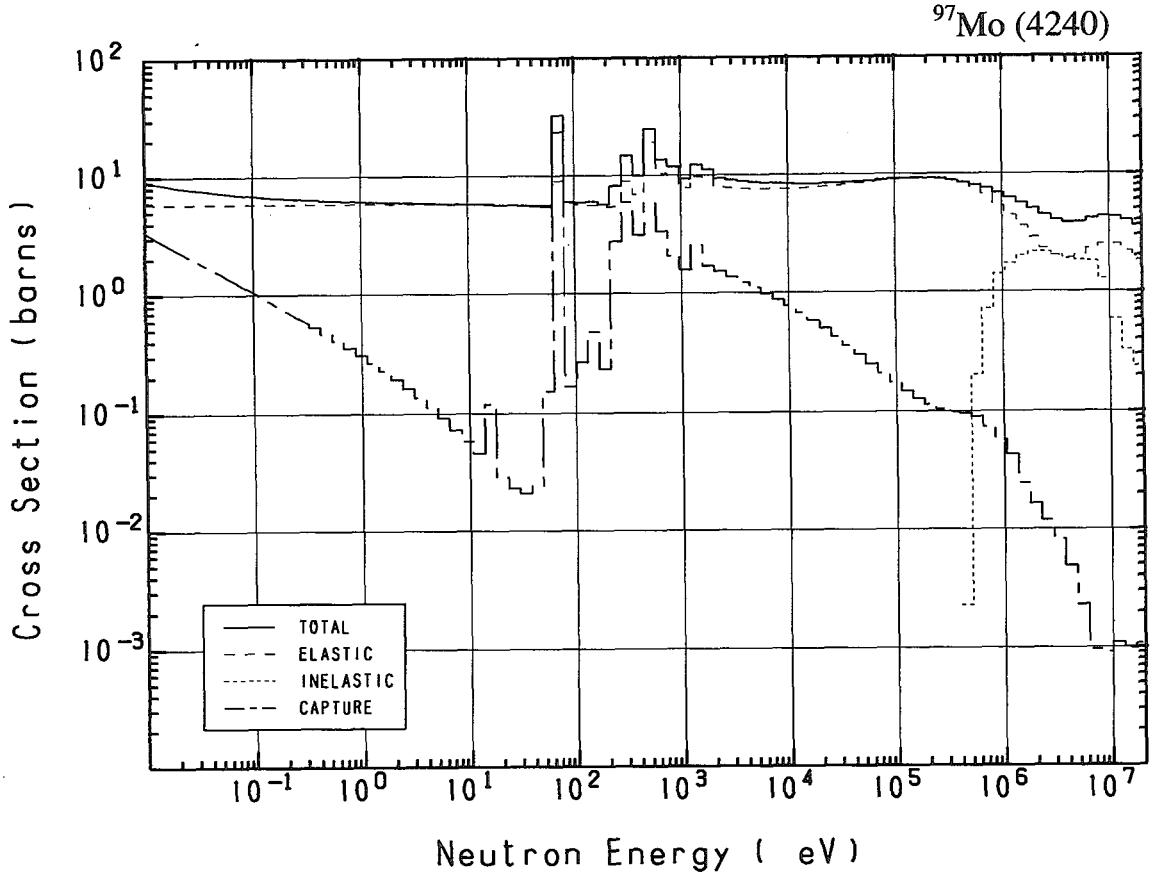

96Mo (4237)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

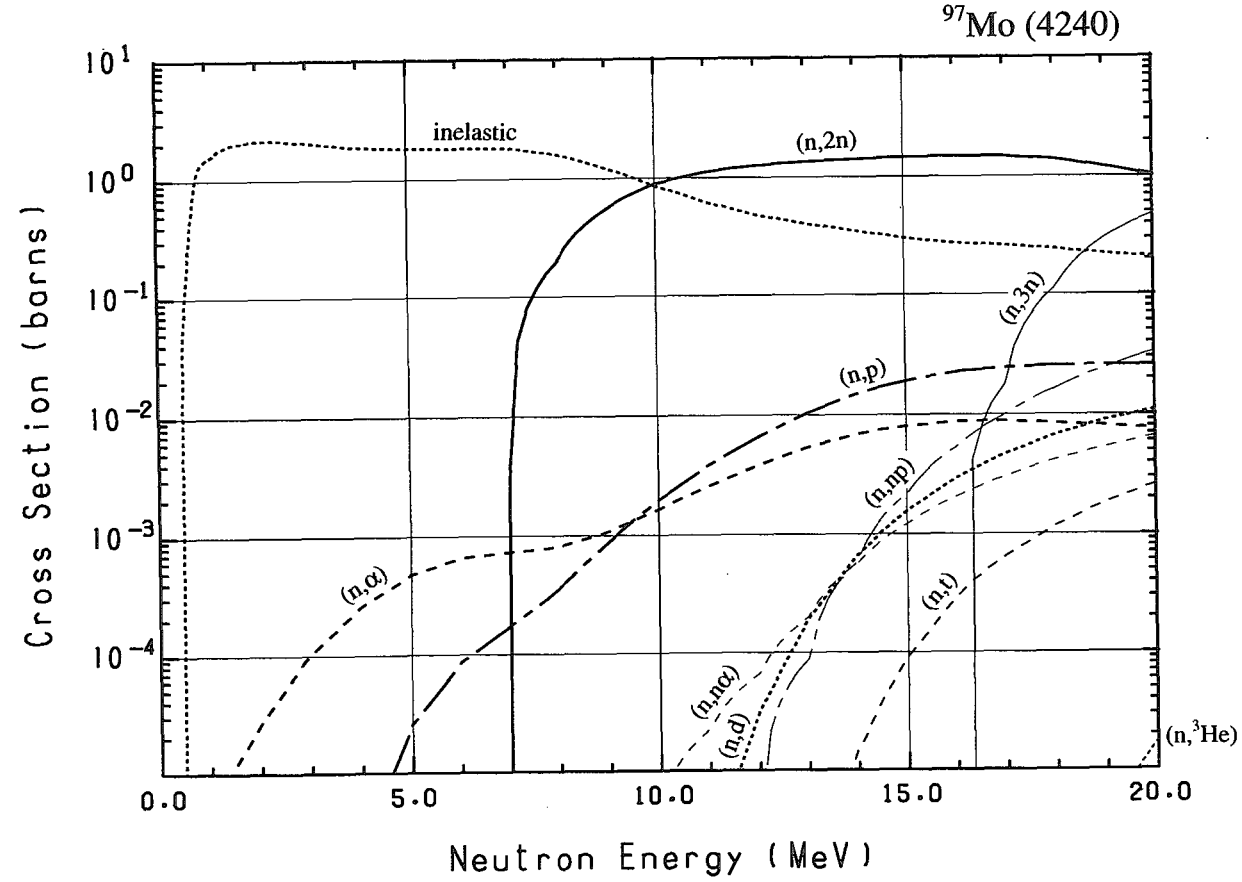

96Mo (4237)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,t)
(n,d)
Cross Section (barns)
Neutron Energy (MeV)

42-Mo- 97 (MAT=4240)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.957	7.716	–	4.072	5.839
elastic	–	5.857	5.856	–	2.286	4.276
inelastic	485.9 keV	–	–	–	349.9×10^{-3}	1.518
(n,2n)	6.887 MeV	–	–	–	1.412	4.272×10^{-3}
(n,3n)	16.14 MeV	–	–	–	–	548.0×10^{-9}
(n,nα)	2.851 MeV	–	–	–	563.5×10^{-6}	145.6×10^{-9}
(n,np)	9.316 MeV	–	–	–	584.4×10^{-6}	212.4×10^{-9}
capture	–	2.100	1.860	17.13	1.001×10^{-3}	41.44×10^{-3}
(n,p)	1.162 MeV	–	–	–	14.80×10^{-3}	15.44×10^{-6}
(n,d)	6.992 MeV	–	–	–	658.5×10^{-6}	139.5×10^{-9}
(n,t)	7.712 MeV	–	–	–	15.09×10^{-6}	10.53×10^{-9}
(n,He-3)	8.828 MeV	–	–	–	154.6×10^{-15}	6.937×10^{-12}
(n,α)	–	0.000	0.000	4.922×10^{-3}	6.881×10^{-3}	91.51×10^{-6}

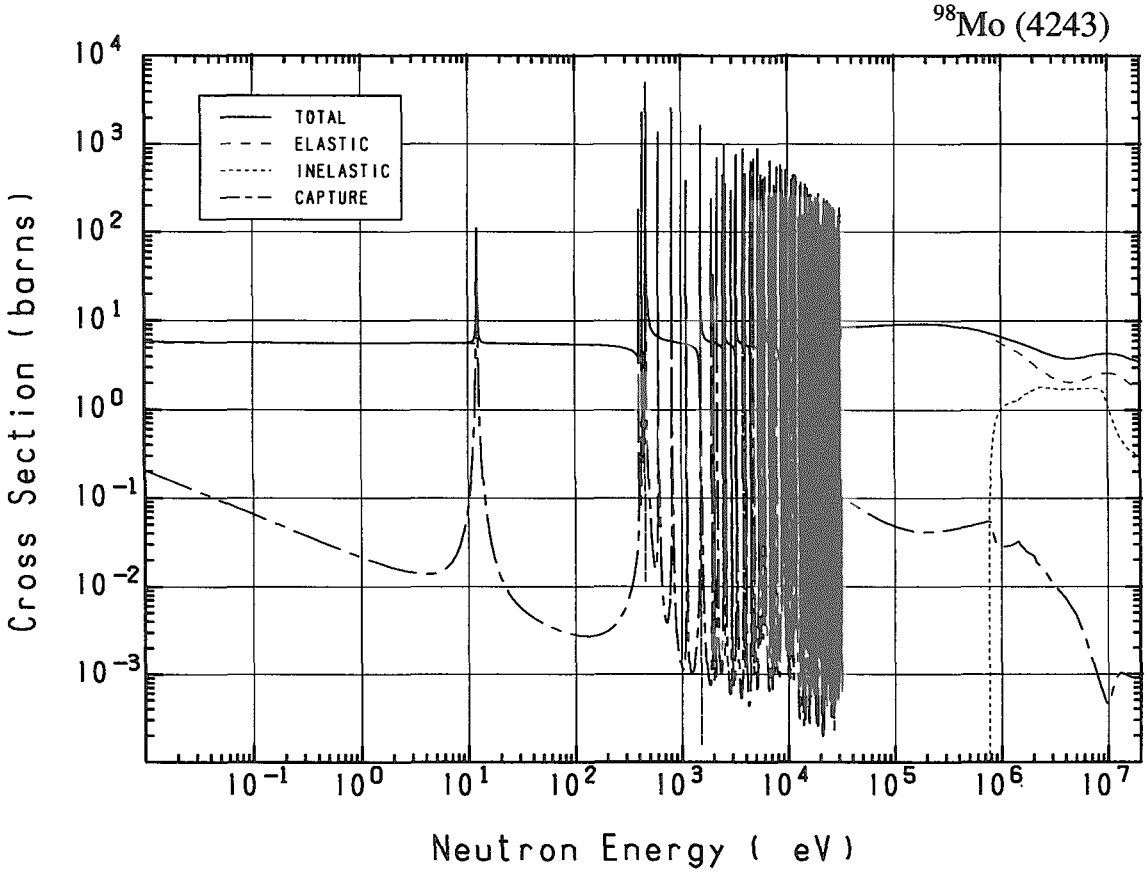


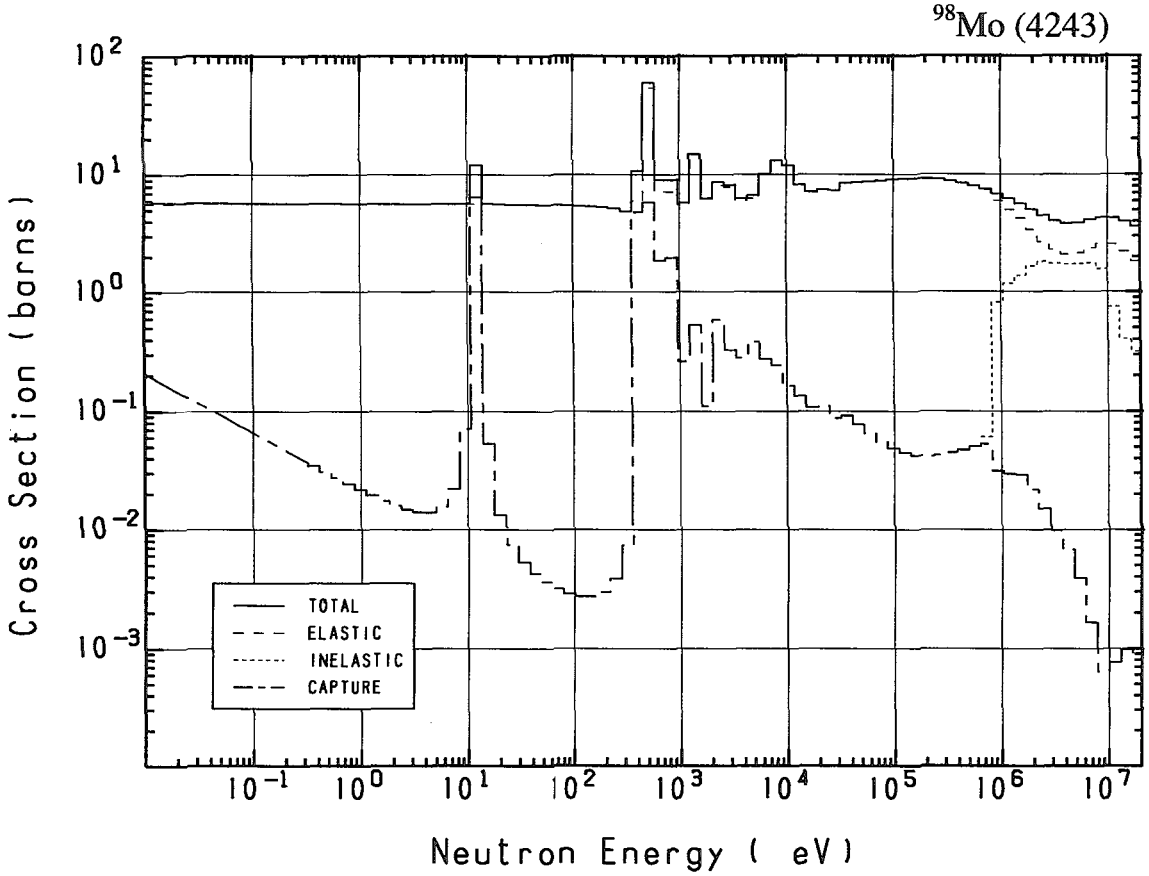

97Mo (4240)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

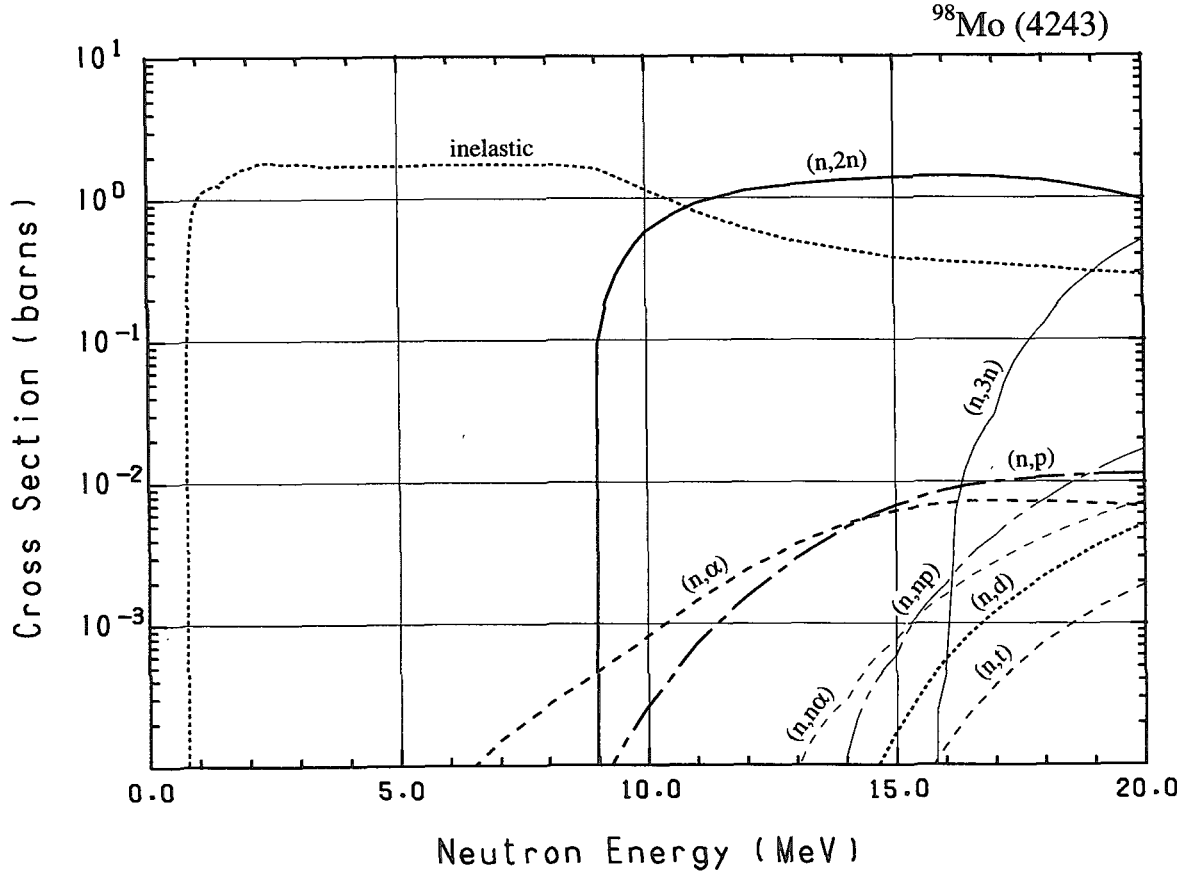

97Mo (4240)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,3He)

42-Mo- 98 (MAT=4243)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.772	5.757	–	4.072	5.838
elastic	–	5.642	5.642	–	2.298	4.659
inelastic	742.4 keV	–	–	–	432.7×10^{-3}	1.151
(n,2n)	8.731 MeV	–	–	–	1.330	1.650×10^{-3}
(n,3n)	15.62 MeV	–	–	–	–	639.3×10^{-9}
(n,nα)	3.306 MeV	–	–	–	290.9×10^{-6}	87.55×10^{-9}
(n,np)	9.896 MeV	–	–	–	117.0×10^{-6}	74.31×10^{-9}
capture	–	130.0×10^{-3}	115.3×10^{-3}	6.553	1.012×10^{-3}	26.52×10^{-3}
(n,p)	3.842 MeV	–	–	–	4.786×10^{-3}	1.875×10^{-6}
(n,d)	7.564 MeV	–	–	–	31.67×10^{-6}	20.18×10^{-9}
(n,t)	9.479 MeV	–	–	–	2.762×10^{-6}	5.376×10^{-9}
(n,α)	–	0.000	0.000	3.405×10^{-3}	5.081×10^{-3}	8.922×10^{-6}

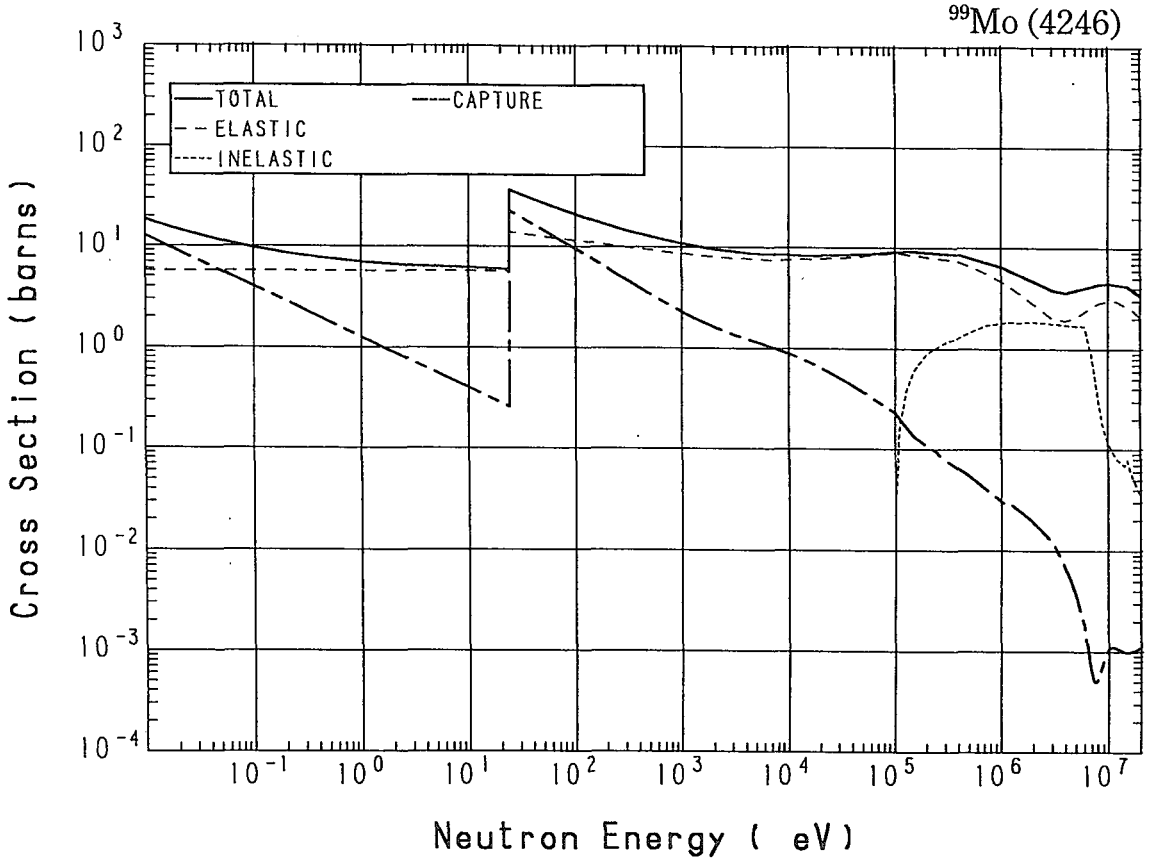


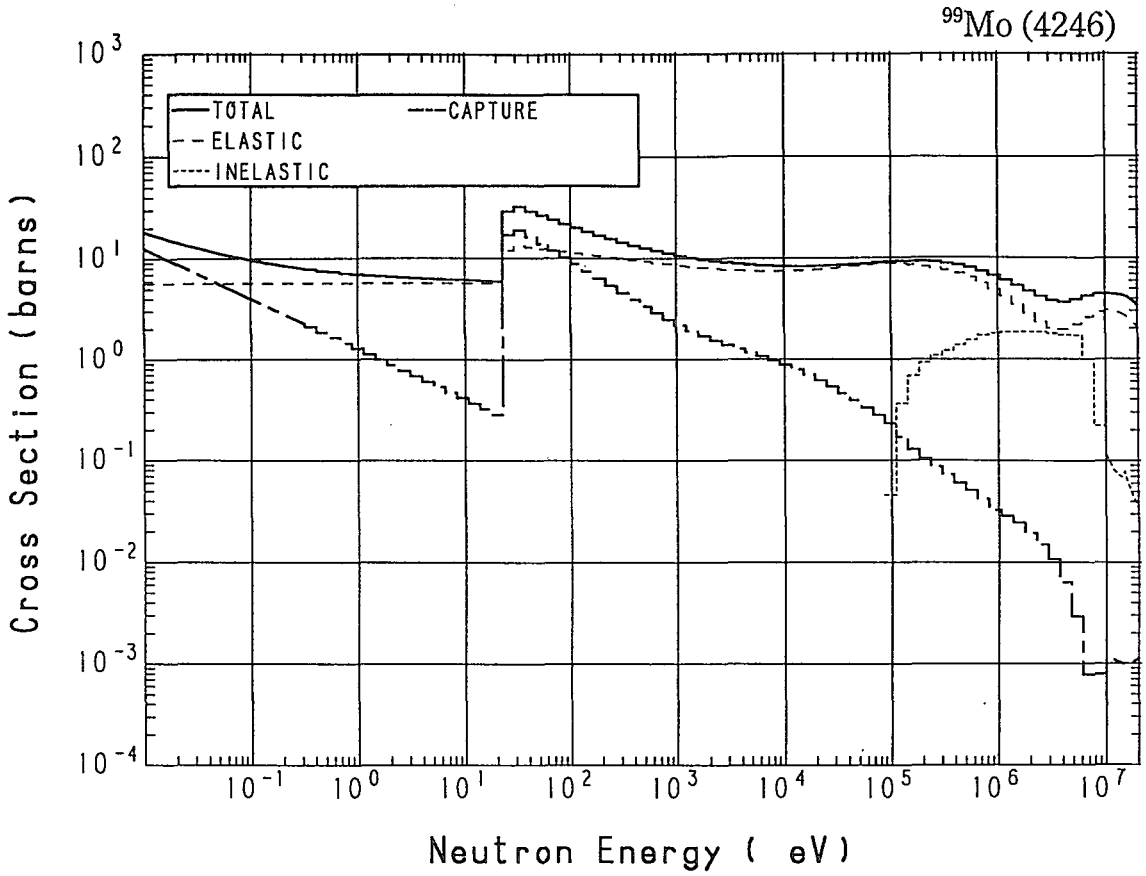

98Mo (4243)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

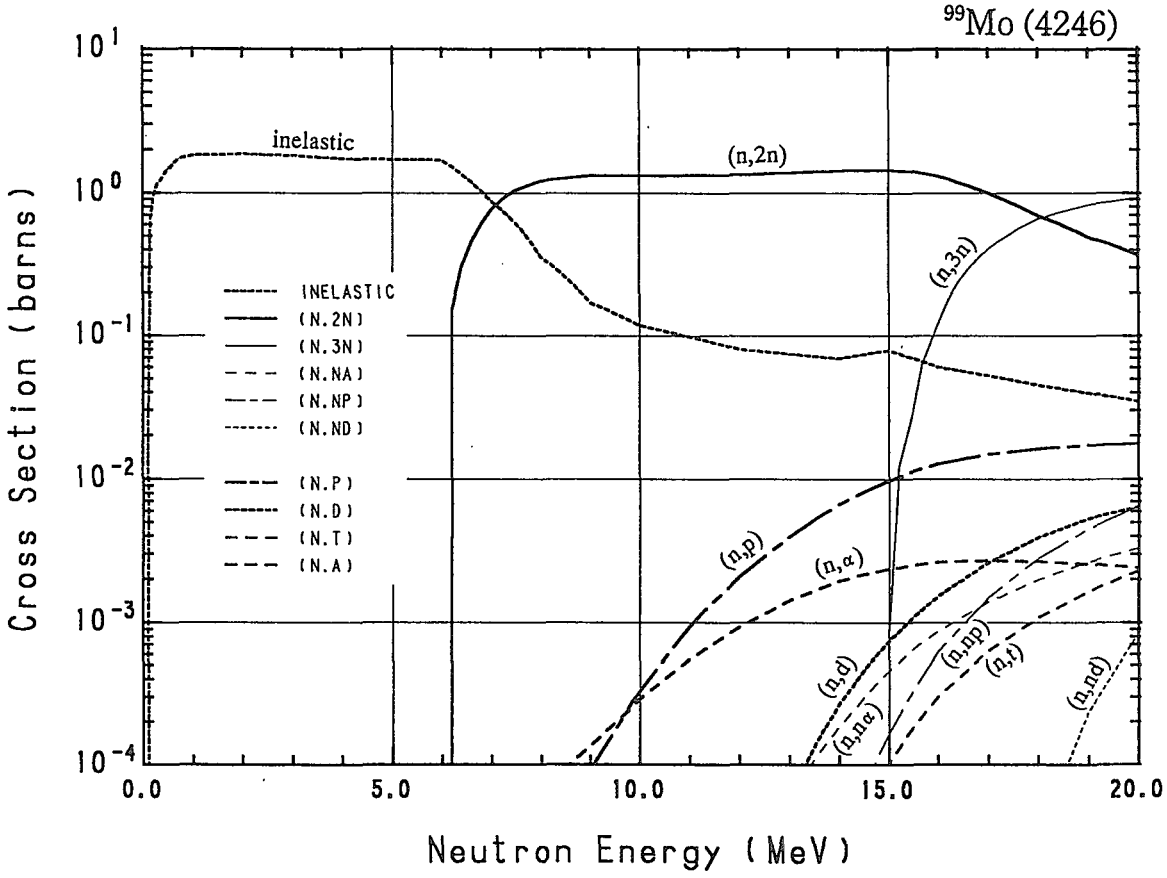

98Mo (4243)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,t)
(n,nα)

42-Mo- 99 (MAT=4246)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	13.70	12.85	–	4.340	5.671
elastic	–	5.700	5.700	–	2.832	3.950
inelastic	99.00 keV	–	–	–	69.42×10^{-3}	1.665
(n,2n)	5.991 MeV	–	–	–	1.429	19.54×10^{-3}
(n,3n)	14.73 MeV	–	–	–	–	4.293×10^{-6}
(n,nα)	2.756 MeV	–	–	–	187.6×10^{-6}	45.18×10^{-9}
(n,np)	9.832 MeV	–	–	–	23.39×10^{-6}	23.05×10^{-9}
(n,nd)	13.55 MeV	–	–	–	0.000	315.3×10^{-12}
(n,nt)	15.47 MeV	–	–	–	–	1.129×10^{-12}
capture	–	8.000	7.093	41.57	1.001×10^{-3}	34.38×10^{-3}
(n,p)	2.870 MeV	–	–	–	6.708×10^{-3}	2.657×10^{-6}
(n,d)	7.499 MeV	–	–	–	267.8×10^{-6}	64.36×10^{-9}
(n,t)	7.306 MeV	–	–	–	20.41×10^{-6}	10.83×10^{-9}
(n,α)	–	0.000	0.000	1.279×10^{-3}	1.950×10^{-3}	6.853×10^{-6}

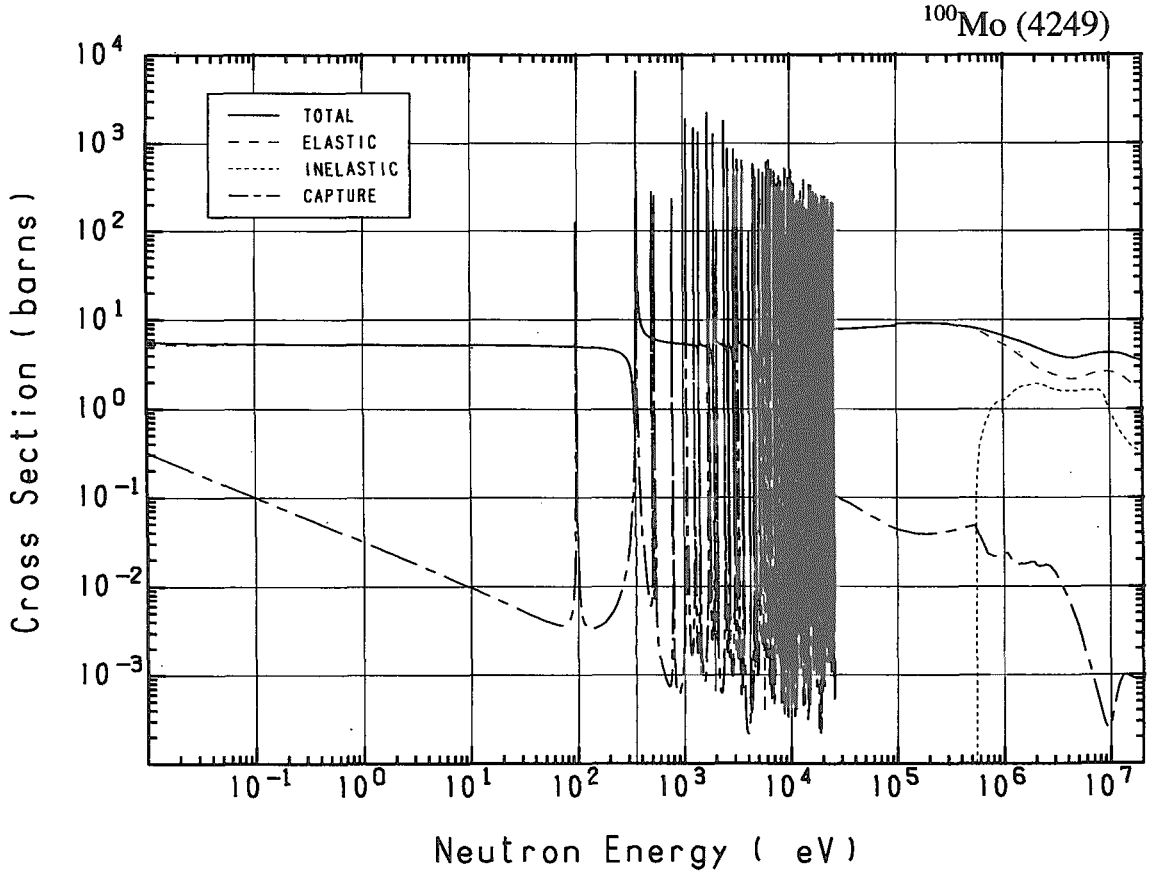


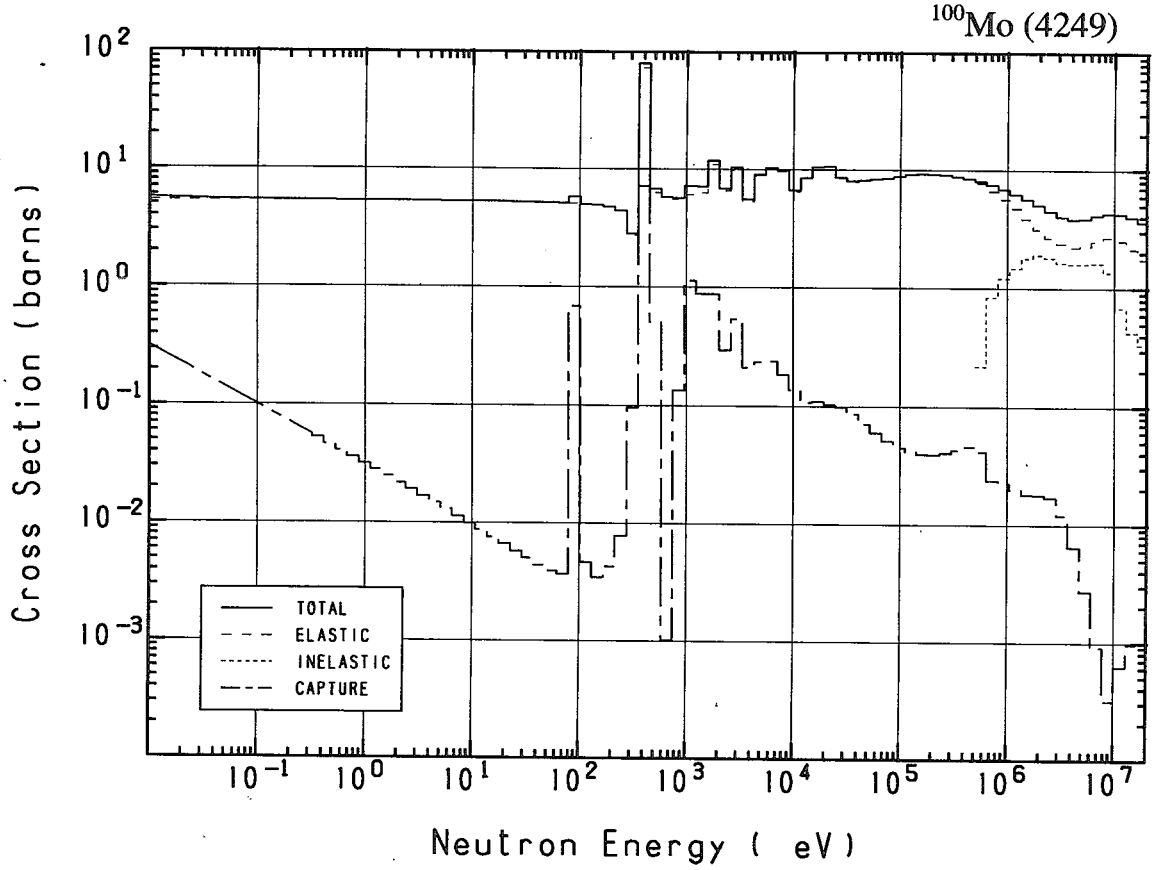

99Mo (4246)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

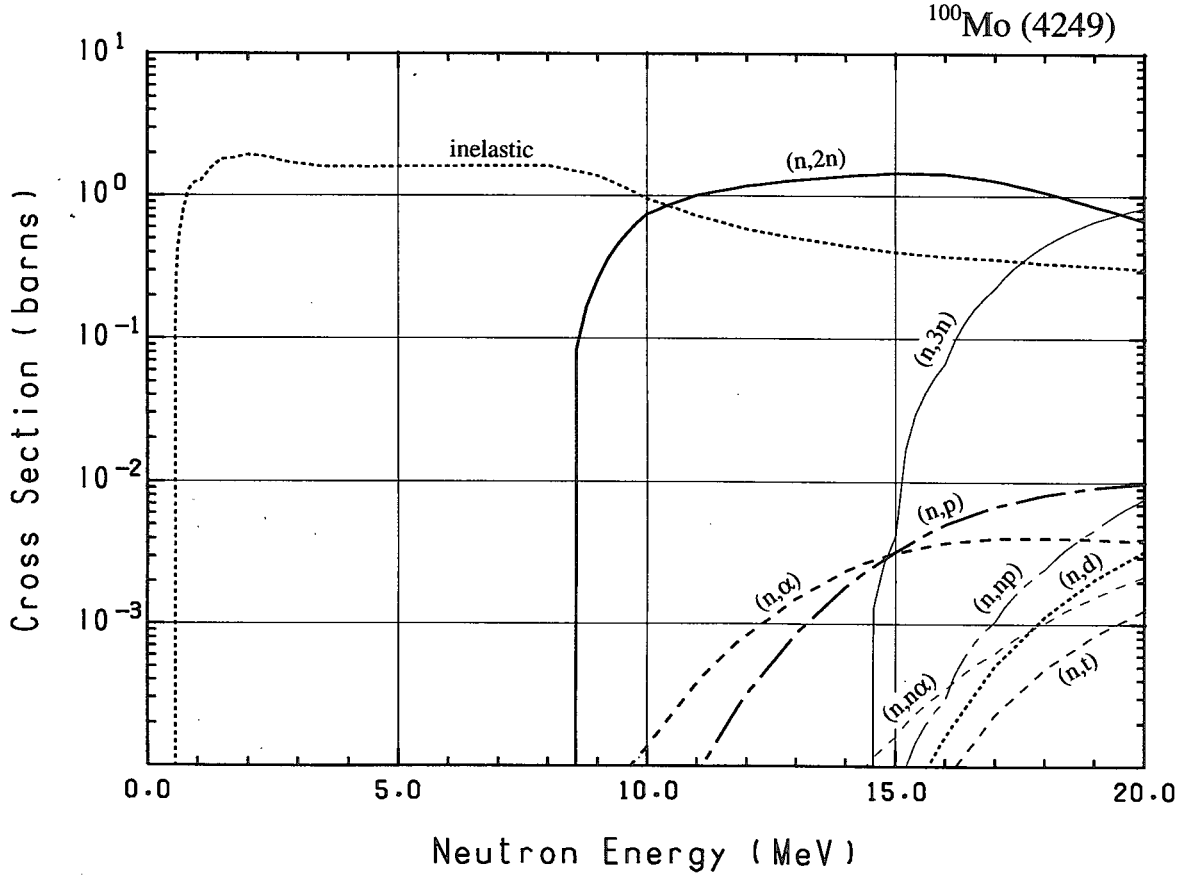

99Mo (4246)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,d)
(n,np)
(n,t)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

42-Mo-100 (MAT=4249)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.499	5.477	–	4.072	5.836
elastic	–	5.300	5.300	–	2.234	4.492
inelastic	541.0 keV	–	–	–	448.0×10^{-3}	1.321
(n,2n)	8.385 MeV	–	–	–	1.385	2.205×10^{-3}
(n,3n)	14.36 MeV	–	–	–	–	2.883×10^{-6}
(n,nα)	3.216 MeV	–	–	–	57.77×10^{-6}	18.74×10^{-9}
(n,np)	10.72 MeV	–	–	–	3.100×10^{-6}	16.58×10^{-9}
capture	–	199.0×10^{-3}	176.4×10^{-3}	3.903	1.008×10^{-3}	20.96×10^{-3}
(n,p)	5.502 MeV	–	–	–	1.838×10^{-3}	424.9×10^{-9}
(n,d)	8.916 MeV	–	–	–	2.235×10^{-6}	7.354×10^{-9}
(n,t)	9.630 MeV	–	–	–	1.259×10^{-6}	3.270×10^{-9}
(n,α)	–	0.000	0.000	1.630×10^{-3}	2.385×10^{-3}	1.159×10^{-6}

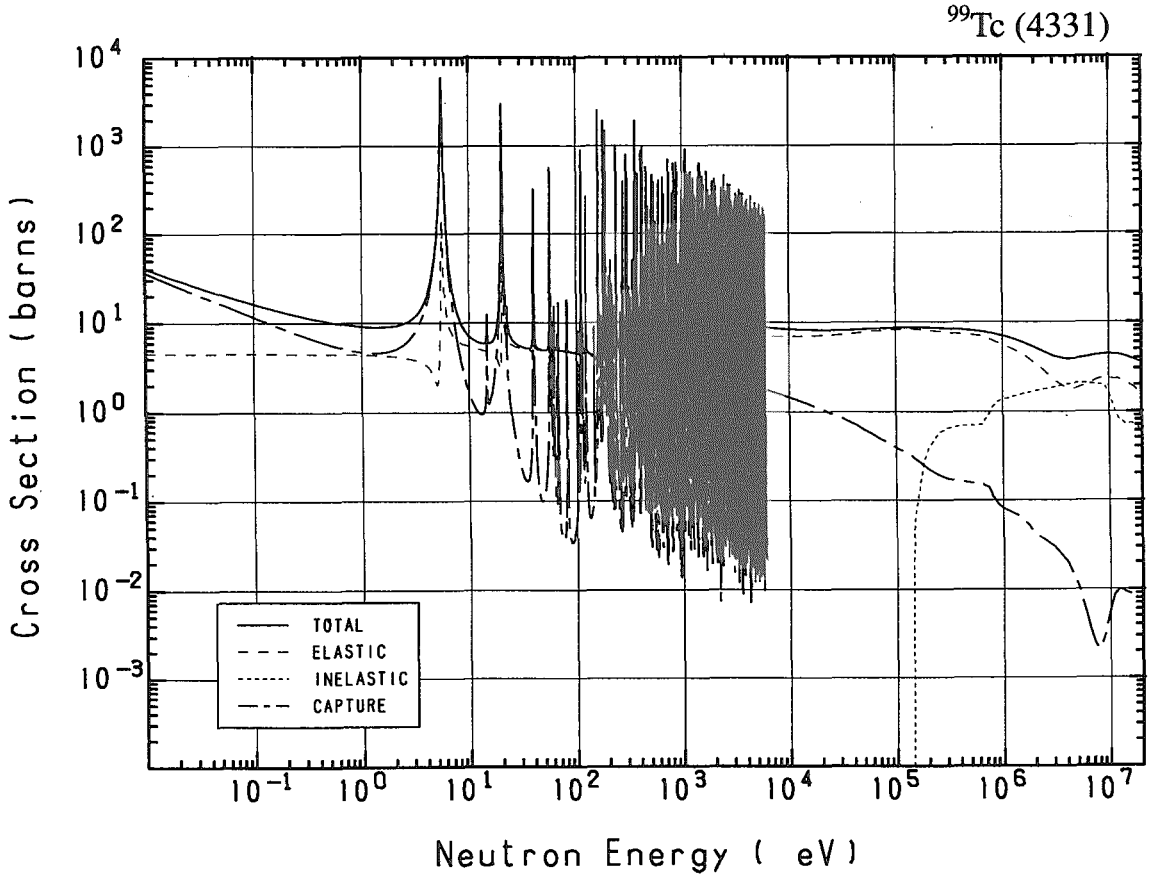


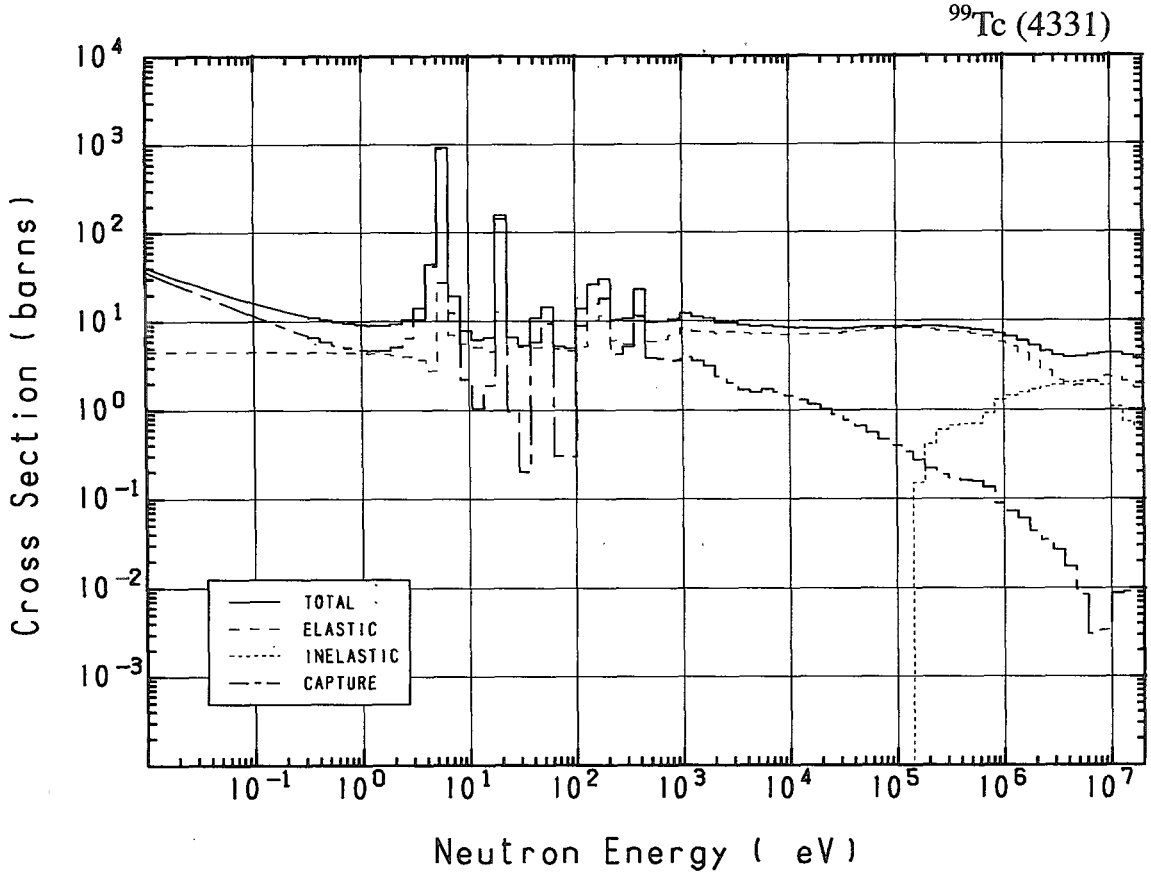

100Mo (4249)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

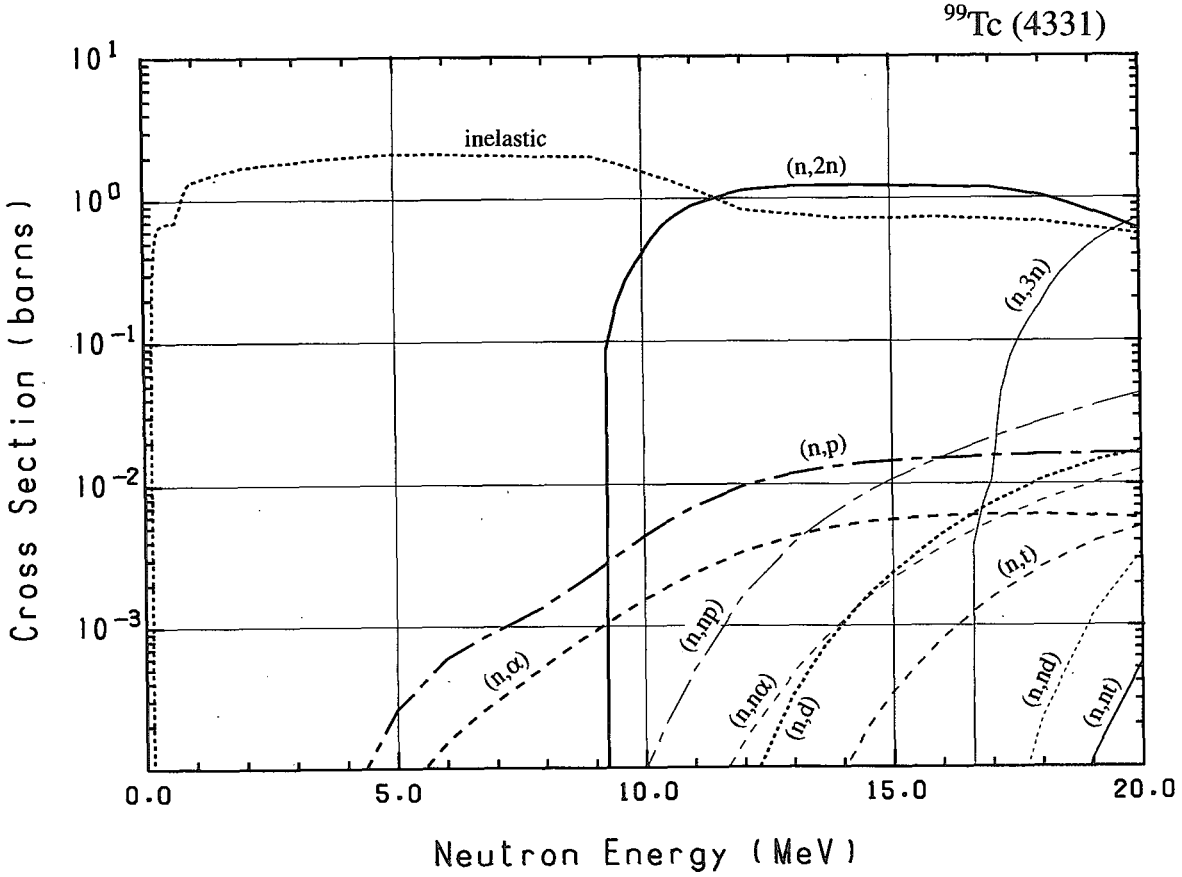

100Mo (4249)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)

43-Tc- 99 (MAT=4331)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	27.33	24.80	–	4.169	5.953
elastic	–	4.563	4.559	–	2.178	4.422
inelastic	141.9 keV	–	–	–	721.1×10^{-3}	1.444
(n,2n)	9.060 MeV	–	–	–	1.233	1.336×10^{-3}
(n,3n)	16.42 MeV	–	–	–	–	792.2×10^{-9}
(n,nα)	2.992 MeV	–	–	–	1.101×10^{-3}	263.7×10^{-9}
(n,np)	6.571 MeV	–	–	–	6.887×10^{-3}	1.793×10^{-6}
(n,nd)	12.97 MeV	–	–	–	2.497×10^{-18}	1.606×10^{-9}
(n,nt)	13.62 MeV	–	–	–	0.000	156.0×10^{-12}
capture	–	22.77	20.24	323.5	9.255×10^{-3}	81.91×10^{-3}
(n,p)	580.1 keV	–	–	–	13.41×10^{-3}	58.09×10^{-6}
(n,d)	4.237 MeV	–	–	–	1.050×10^{-3}	228.5×10^{-9}
(n,t)	6.724 MeV	–	–	–	94.79×10^{-6}	31.24×10^{-9}
(n,He-3)	8.658 MeV	–	–	–	107.8×10^{-15}	5.945×10^{-12}
(n,α)	–	0.000	0.000	3.487×10^{-3}	5.086×10^{-3}	18.58×10^{-6}

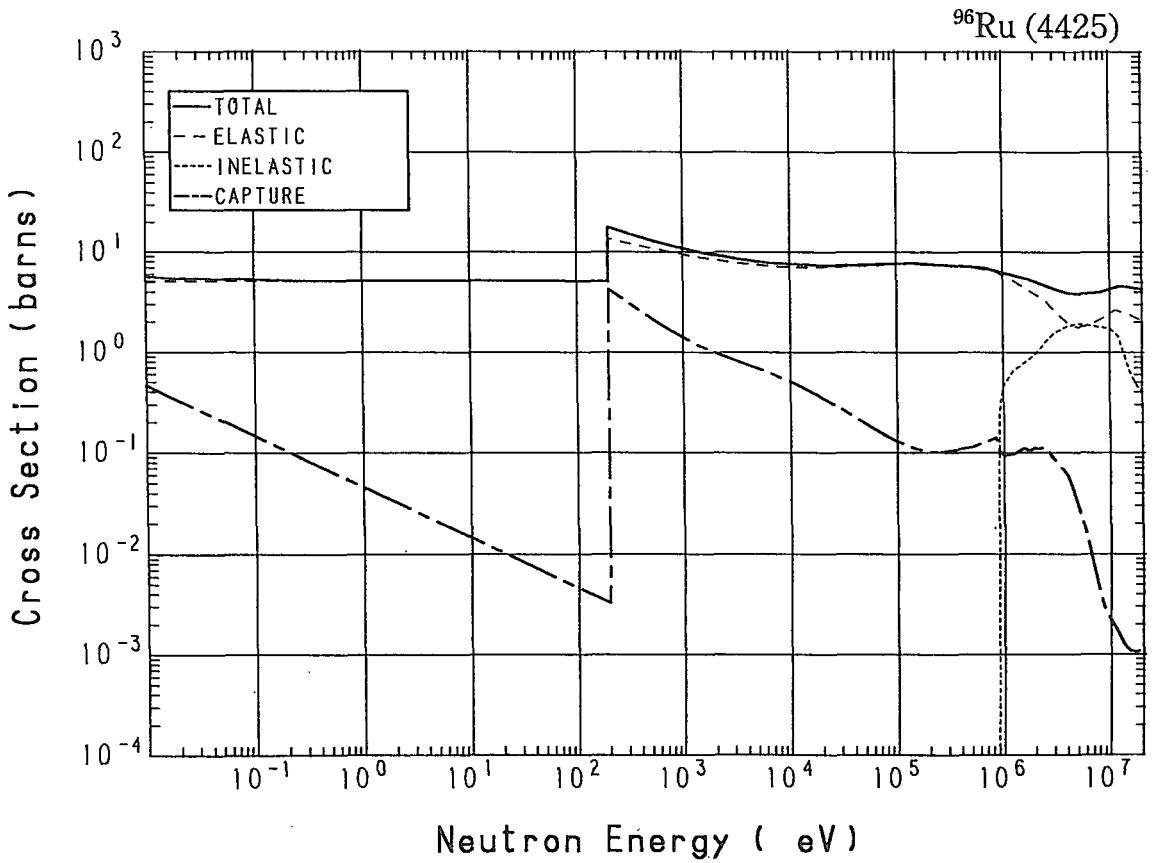


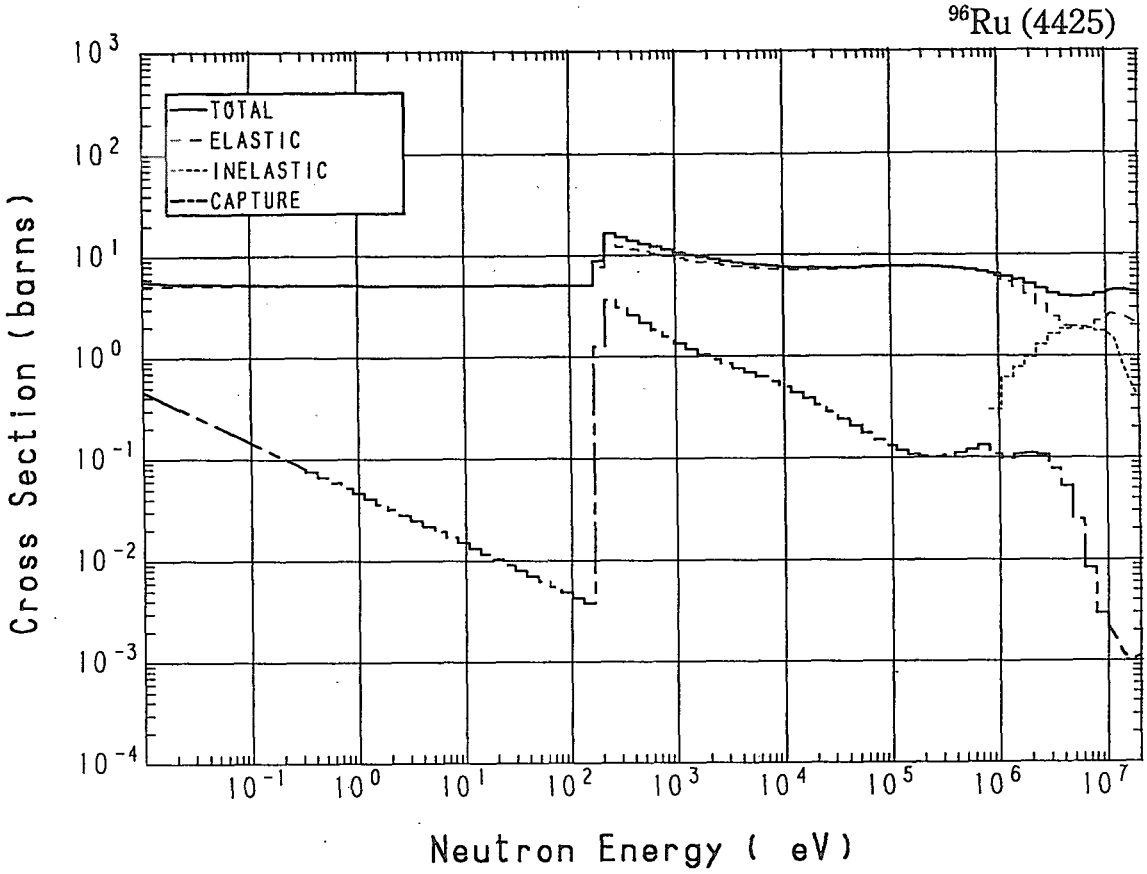

99Tc (4331)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

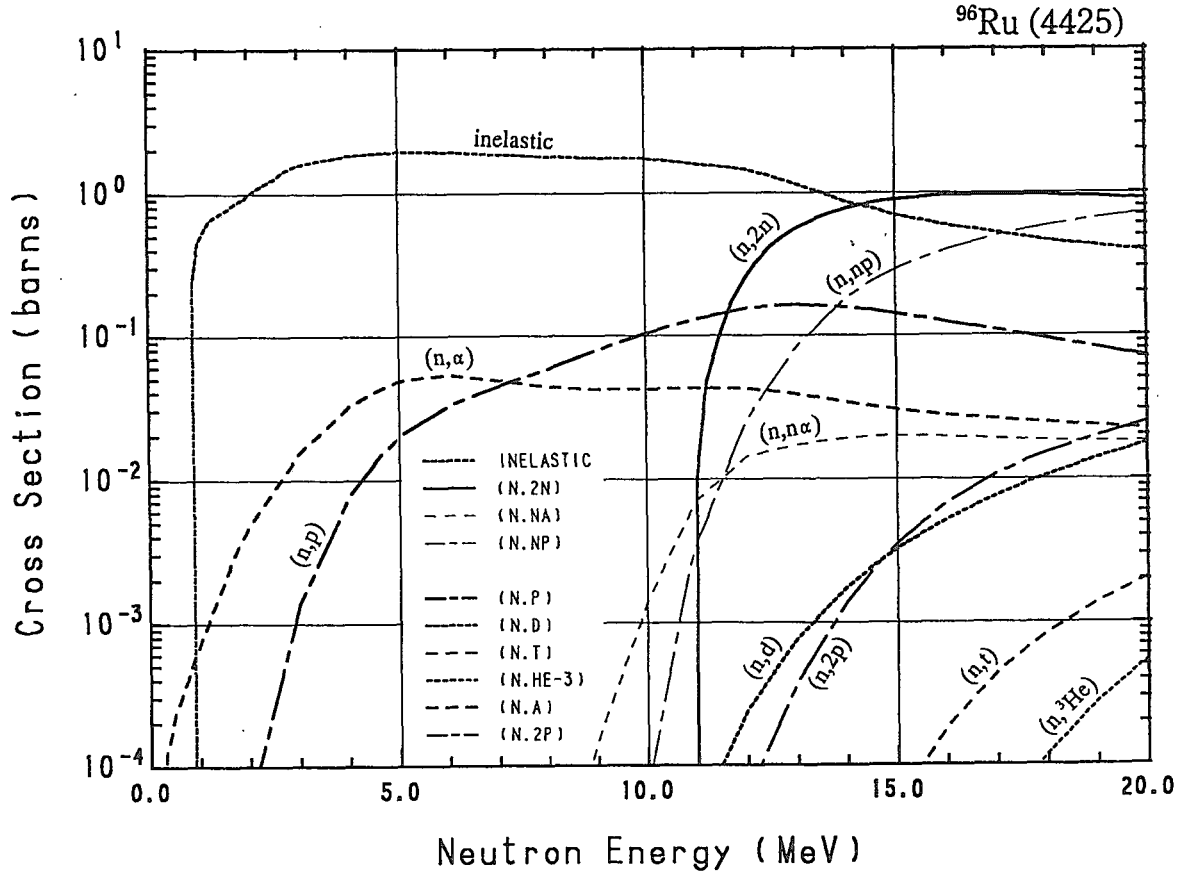

99Tc (4331)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)
(n,nd)
(n,nt)

44-Ru- 96 (MAT=4425)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.390	5.383	–	4.539	5.614
elastic	–	5.100	5.100	–	2.506	4.648
inelastic	841.4 keV	–	–	–	868.6×10^{-3}	853.4×10^{-3}
(n,2n)	10.81 MeV	–	–	–	770.0×10^{-3}	176.6×10^{-6}
(n,nα)	1.708 MeV	–	–	–	19.06×10^{-3}	10.77×10^{-6}
(n,np)	7.433 MeV	–	–	–	179.9×10^{-3}	33.61×10^{-6}
(n,nd)	15.14 MeV	–	–	–	–	12.51×10^{-12}
capture	–	290.0×10^{-3}	257.1×10^{-3}	7.280	1.171×10^{-3}	97.79×10^{-3}
(n,p)	–	0.000	0.000	127.5×10^{-3}	156.8×10^{-3}	3.279×10^{-3}
(n,d)	5.099 MeV	–	–	–	1.770×10^{-3}	381.7×10^{-9}
(n,t)	8.886 MeV	–	–	–	8.094×10^{-6}	6.970×10^{-9}
(n,He-3)	4.566 MeV	–	–	–	257.2×10^{-9}	743.8×10^{-12}
(n,α)	–	0.000	0.000	77.11×10^{-3}	34.04×10^{-3}	9.710×10^{-3}
(n,2p)	4.925 MeV	–	–	–	1.412×10^{-3}	310.3×10^{-9}

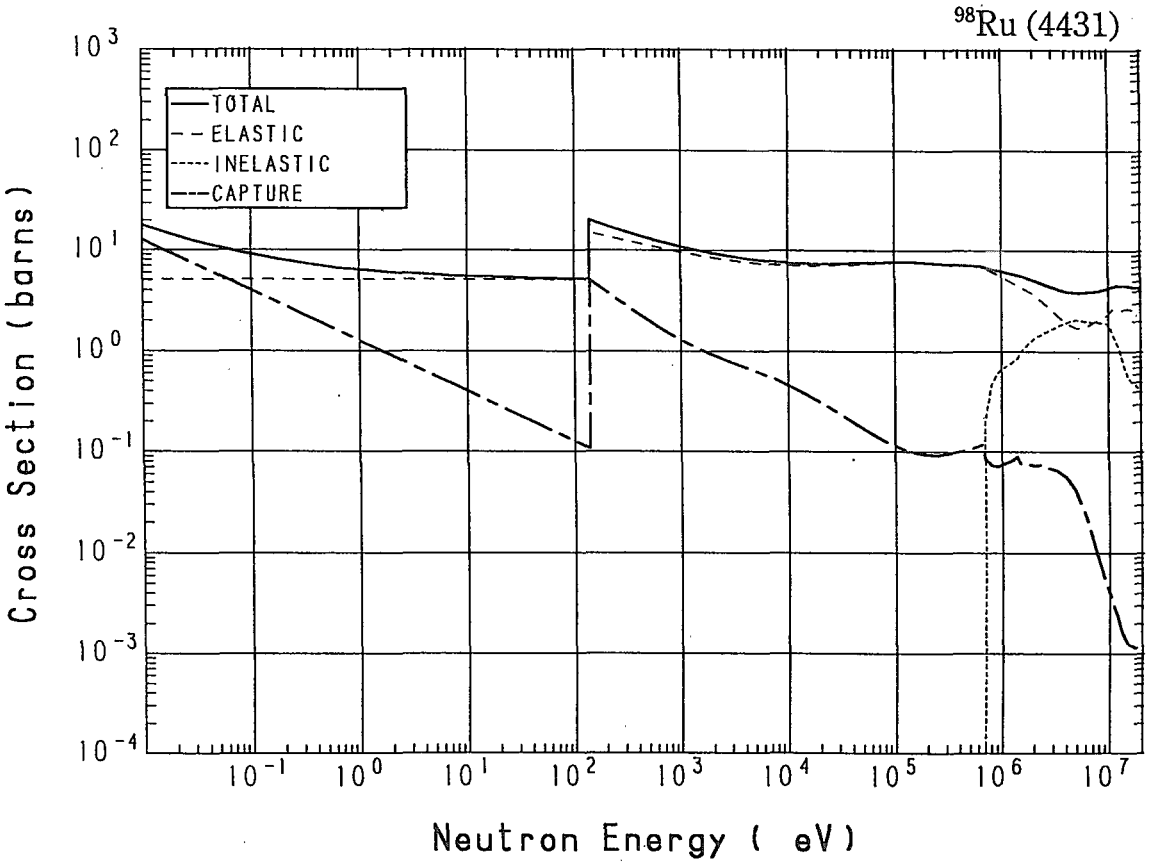


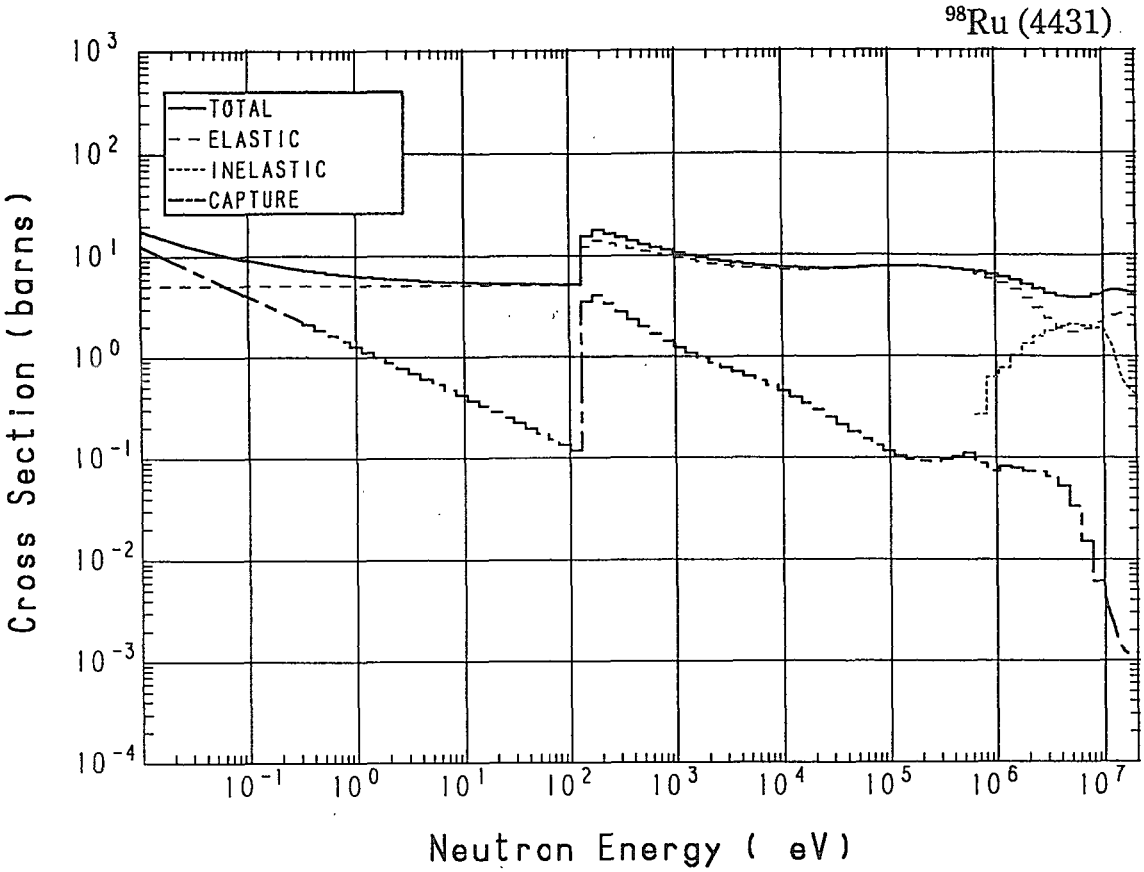

96Ru (4425)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

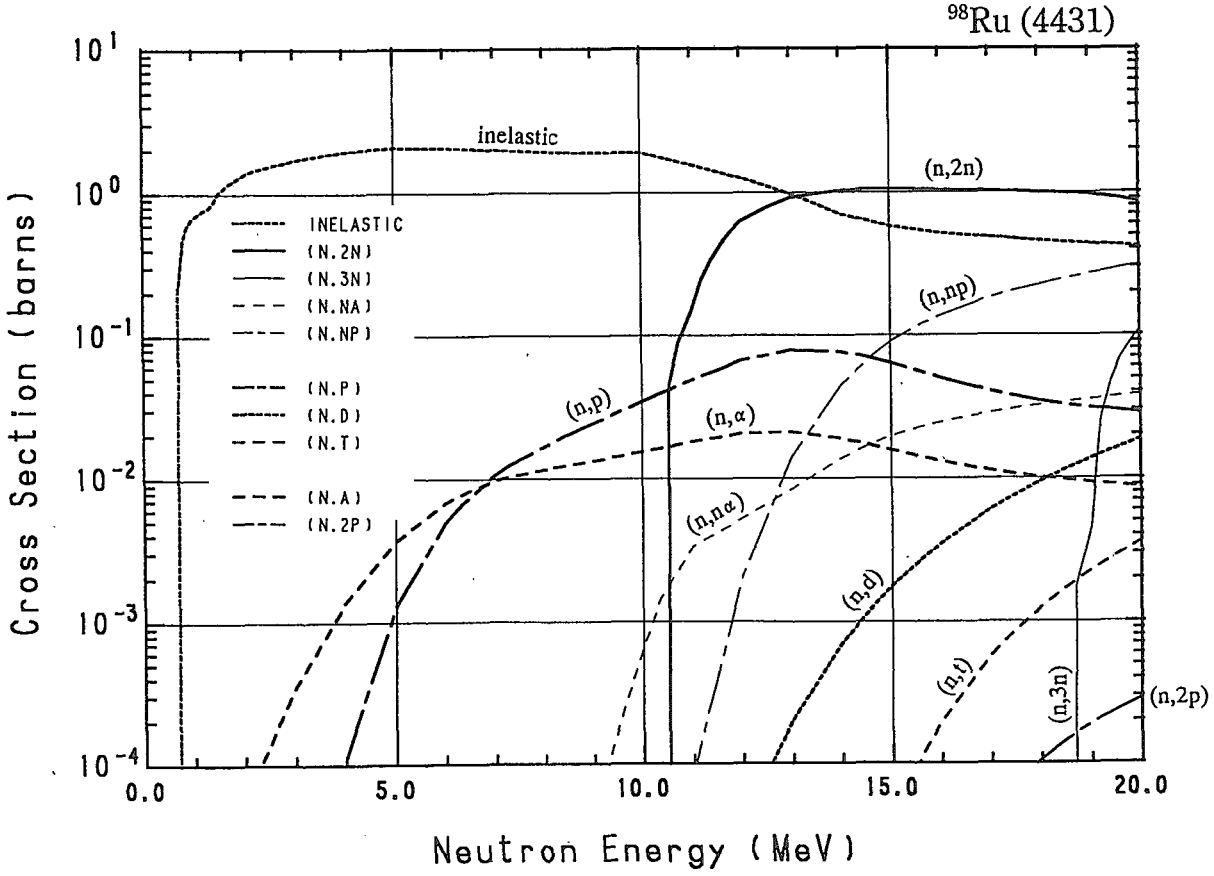

96Ru (4425)
inelastic
(n,2n)
(n,np)
(n,α)
(n,nα)
(n,p)
(n,d)
(n,2p)
(n,t)
(n,3He)
INELASTIC
(N.2N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.HE-3)
(N.A)
(N.2P)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru- 98 (MAT=4431)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	13.10	12.26	–	4.538	5.614
elastic	–	5.100	5.100	–	2.653	4.491
inelastic	659.1 keV	–	–	–	702.3×10^{-3}	1.042
(n,2n)	10.34 MeV	–	–	–	1.027	363.9×10^{-6}
(n,3n)	18.49 MeV	–	–	–	–	23.84×10^{-9}
(n,nα)	2.259 MeV	–	–	–	13.72×10^{-3}	5.489×10^{-6}
(n,np)	8.381 MeV	–	–	–	44.60×10^{-3}	7.522×10^{-6}
(n,nd)	15.62 MeV	–	–	–	–	8.944×10^{-12}
capture	–	8.000	7.092	11.50	1.389×10^{-3}	76.79×10^{-3}
(n,p)	1.020 MeV	–	–	–	76.29×10^{-3}	466.8×10^{-6}
(n,d)	6.047 MeV	–	–	–	706.0×10^{-6}	170.1×10^{-9}
(n,t)	9.375 MeV	–	–	–	3.897×10^{-6}	8.601×10^{-9}
(n,He-3)	6.352 MeV	–	–	–	1.254×10^{-9}	38.46×10^{-12}
(n,α)	–	0.000	0.000	18.16×10^{-3}	18.75×10^{-3}	649.1×10^{-6}
(n,2p)	7.267 MeV	–	–	–	431.3×10^{-9}	706.7×10^{-12}

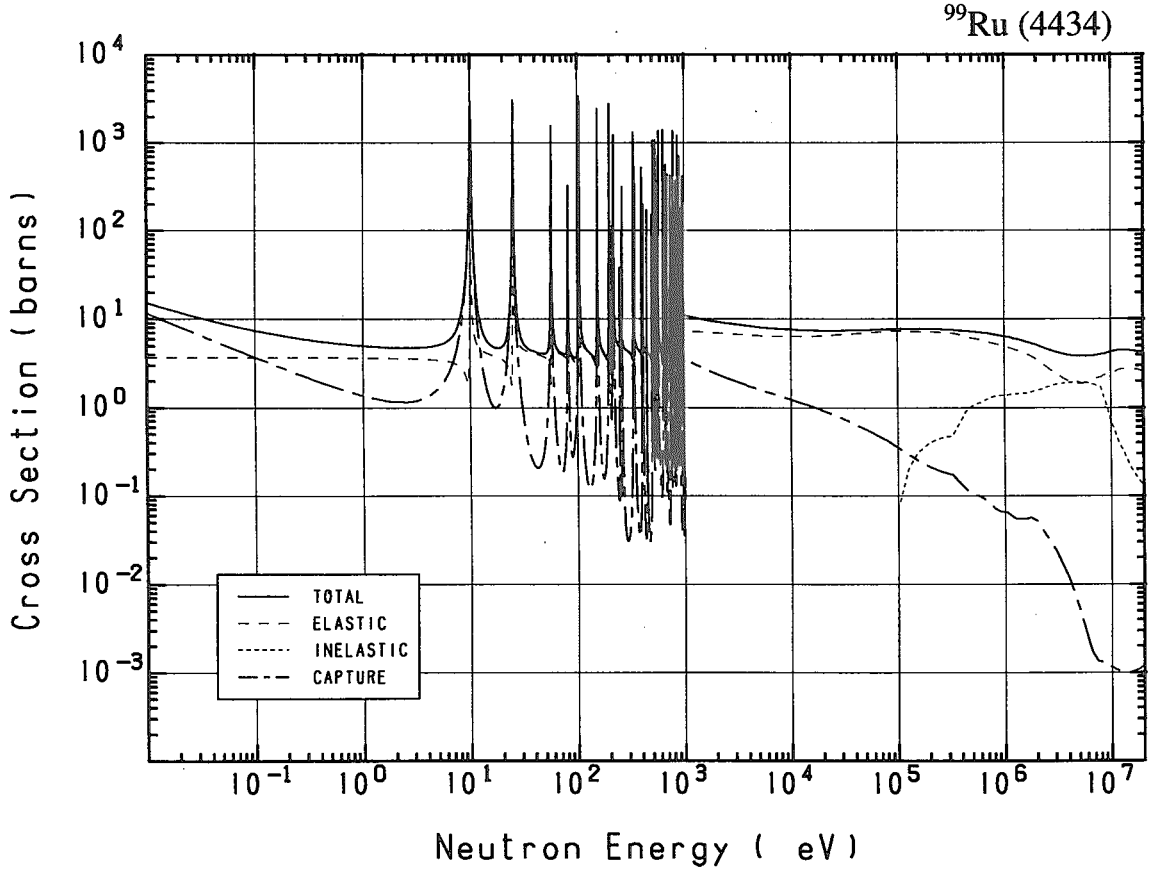


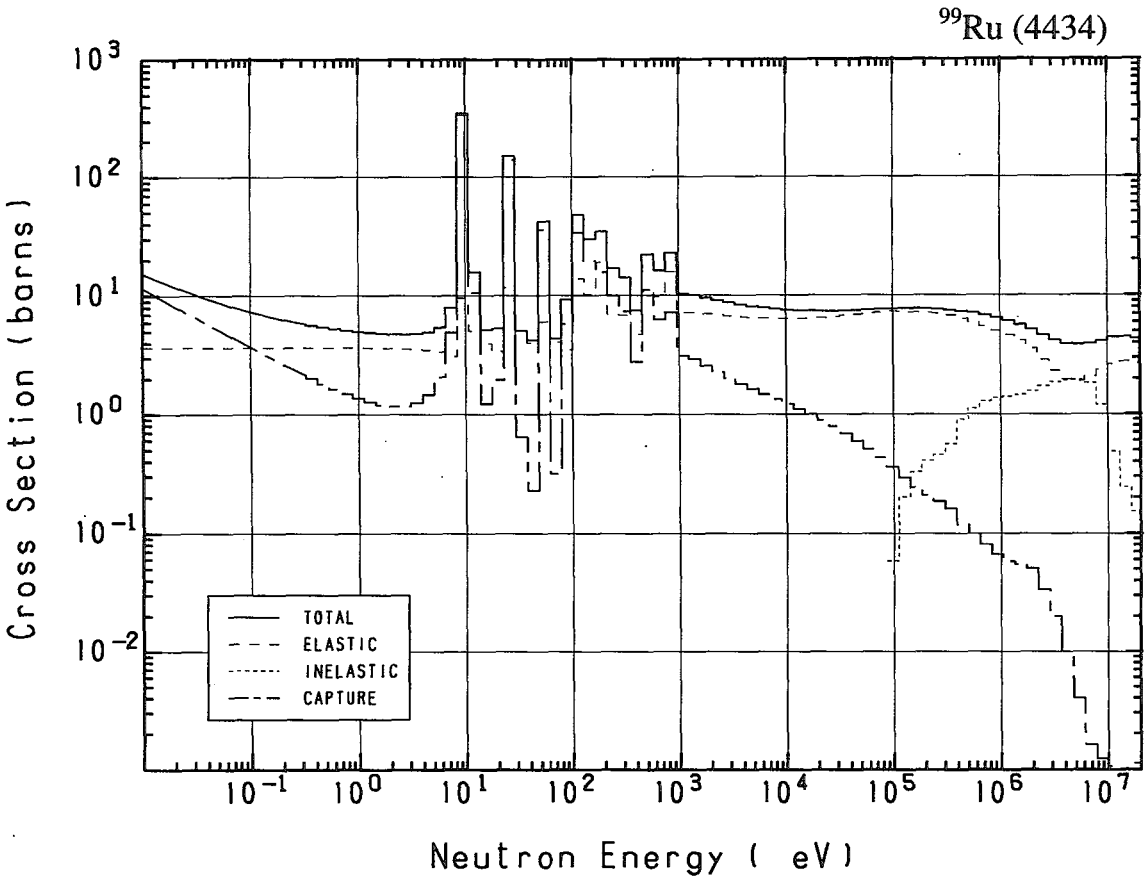

98Ru (4431)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

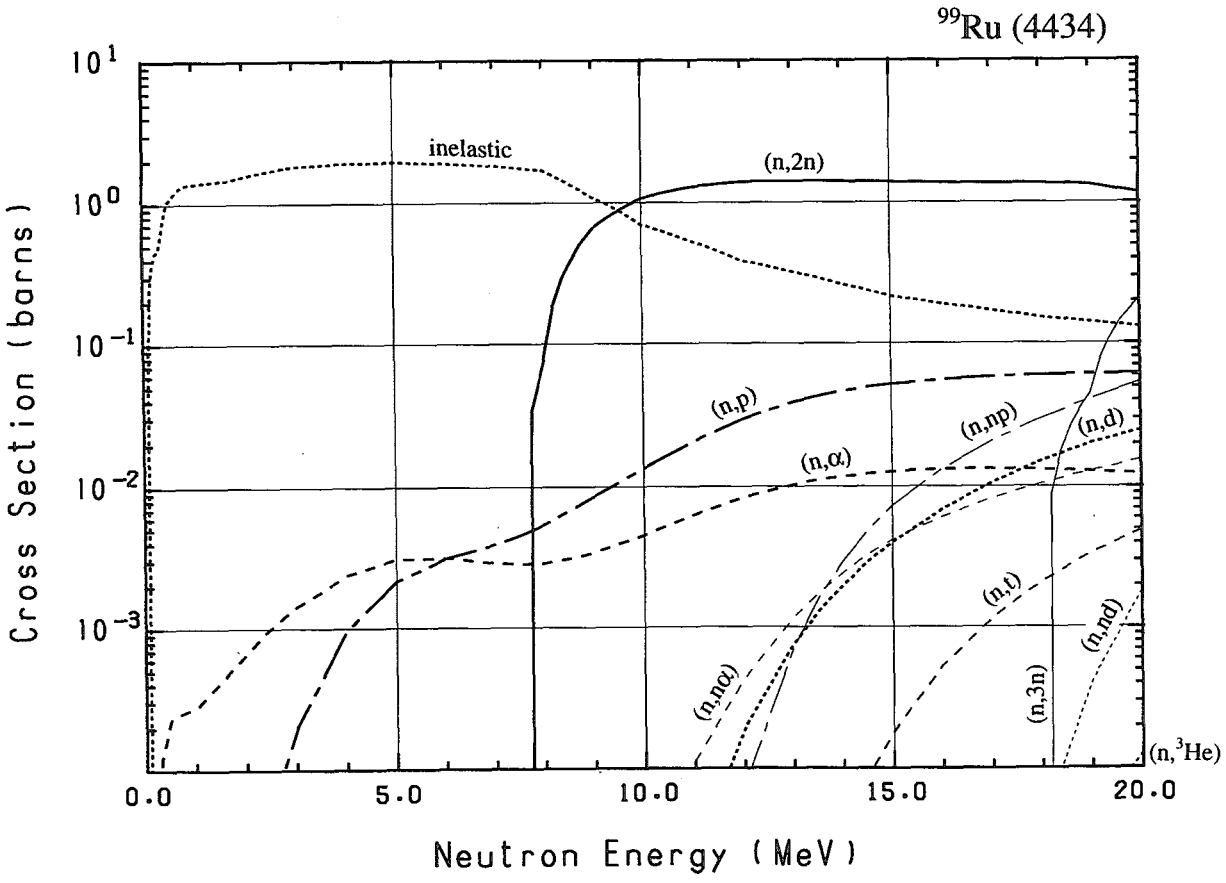

98Ru (4431)
inelastic
(n,2n)
(n,np)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,3n)
(n,2p)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(N.2P)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru- 99 (MAT=4434)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	10.99	10.18	–	4.537	5.615
elastic	–	3.686	3.685	–	2.798	4.100
inelastic	90.31 keV	–	–	–	265.1×10^{-3}	1.440
(n,2n)	7.546 MeV	–	–	–	1.408	4.021×10^{-3}
(n,3n)	17.88 MeV	–	–	–	–	72.33×10^{-9}
(n,nα)	2.353 MeV	–	–	–	2.441×10^{-3}	557.0×10^{-9}
(n,np)	8.566 MeV	–	–	–	2.901×10^{-3}	599.3×10^{-9}
(n,nd)	13.59 MeV	–	–	–	0.000	565.6×10^{-12}
capture	–	7.309	6.492	170.9	1.001×10^{-3}	67.87×10^{-3}
(n,p)	–	0.000	0.000	33.81×10^{-3}	46.45×10^{-3}	361.6×10^{-6}
(n,d)	6.232 MeV	–	–	–	1.987×10^{-3}	411.4×10^{-9}
(n,t)	7.344 MeV	–	–	–	36.19×10^{-6}	19.72×10^{-9}
(n,He-3)	7.002 MeV	–	–	–	1.034×10^{-9}	81.65×10^{-12}
(n,α)	–	0.000	0.000	11.64×10^{-3}	11.75×10^{-3}	895.3×10^{-6}

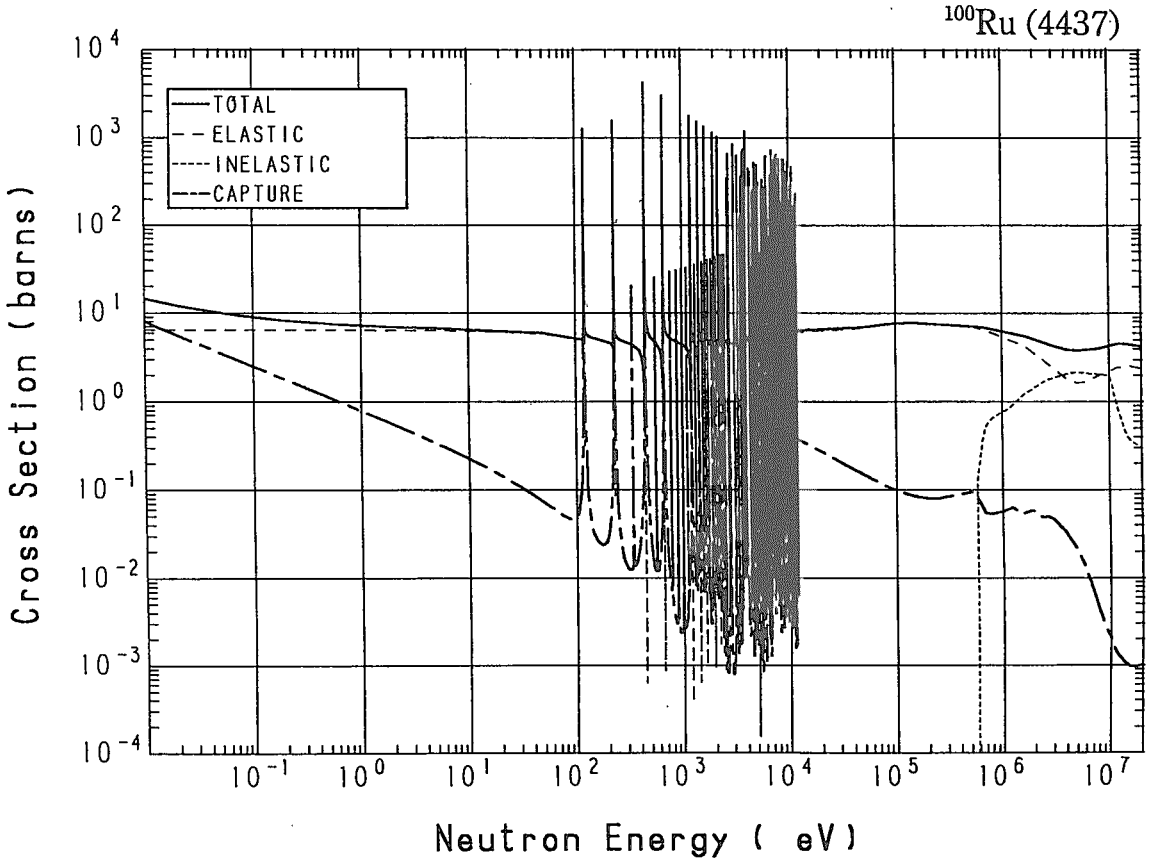


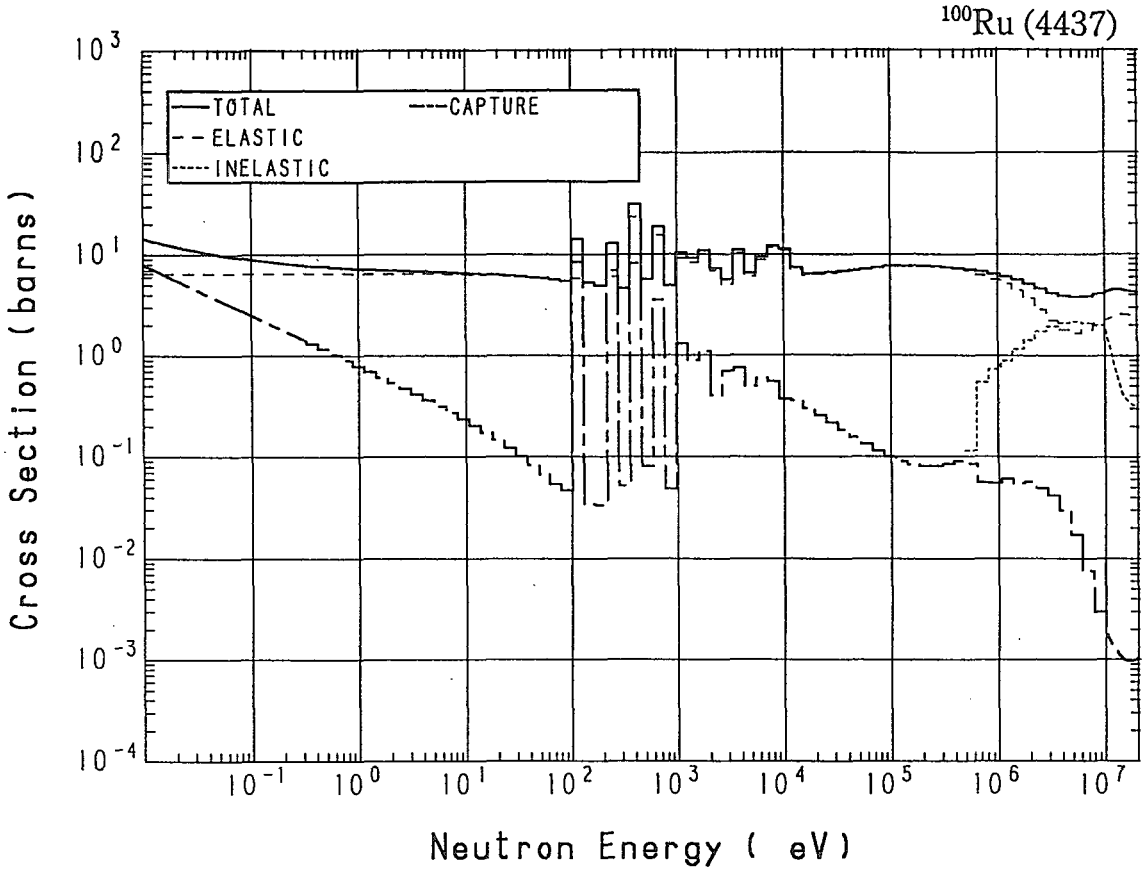

99Ru (4434)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

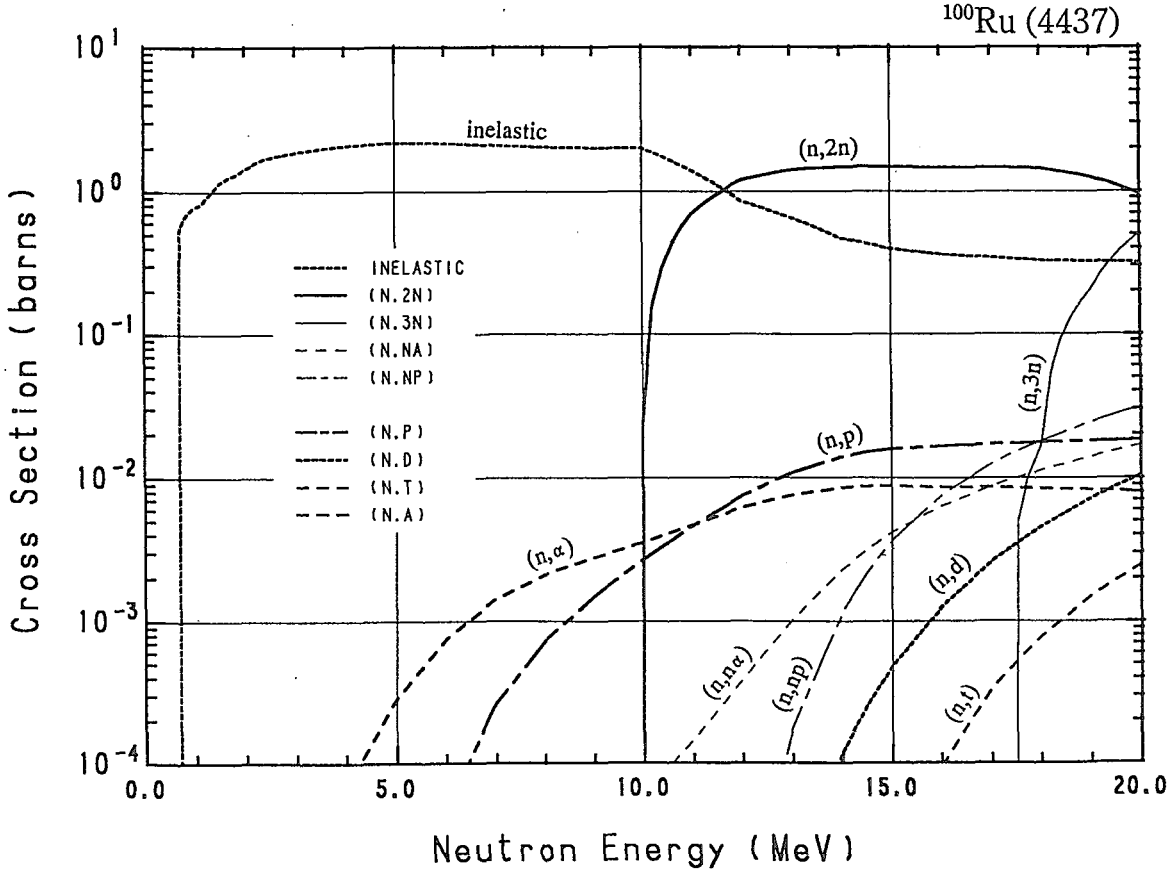

99Ru (4434)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,t)
(n,nα)
(n,3n)
(n,nd)
(n,3He)

44-Ru-100 (MAT=4437)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	11.49	10.92	–	4.537	5.611
elastic	–	6.465	6.465	–	2.567	4.386
inelastic	545.0 keV	–	–	–	471.0×10^{-3}	1.166
(n,2n)	9.776 MeV	–	–	–	1.472	871.4×10^{-6}
(n,3n)	17.32 MeV	–	–	–	–	266.5×10^{-9}
(n,nα)	2.877 MeV	–	–	–	2.303×10^{-3}	594.5×10^{-9}
(n,np)	9.282 MeV	–	–	–	1.159×10^{-3}	285.6×10^{-9}
(n,nd)	16.01 MeV	–	–	–	–	1.065×10^{-12}
capture	–	5.022	4.451	11.19	1.053×10^{-3}	55.92×10^{-3}
(n,p)	2.445 MeV	–	–	–	13.88×10^{-3}	18.44×10^{-6}
(n,d)	6.948 MeV	–	–	–	120.0×10^{-6}	48.44×10^{-9}
(n,t)	9.760 MeV	–	–	–	941.9×10^{-9}	4.827×10^{-9}
(n,α)	–	0.000	0.000	6.175×10^{-3}	8.501×10^{-3}	69.82×10^{-6}

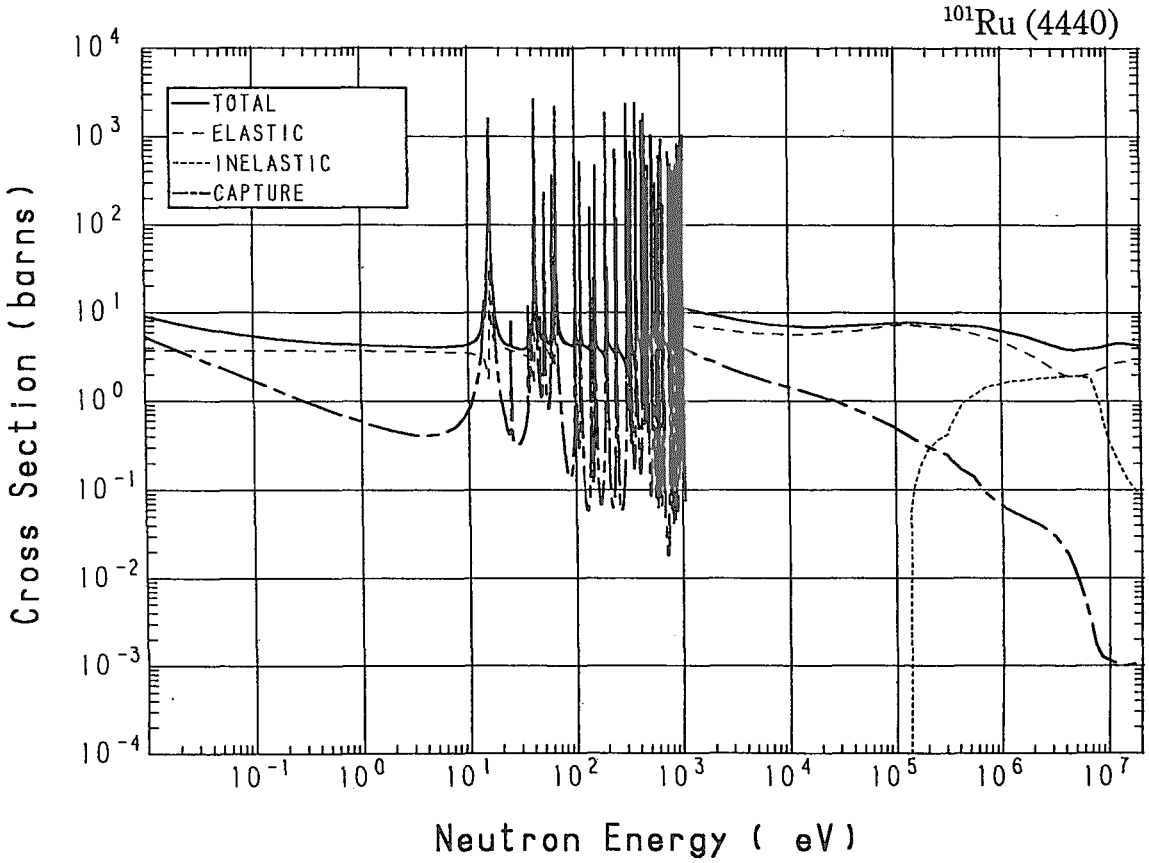


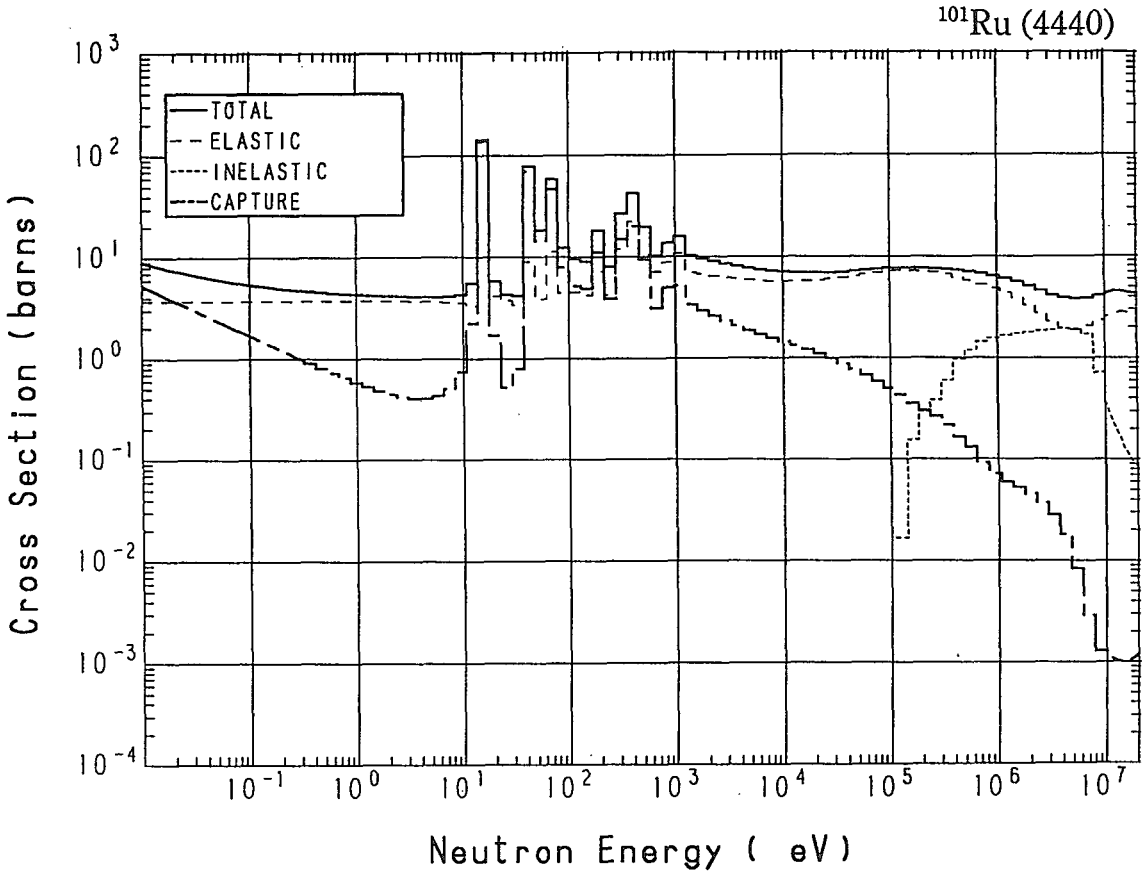

100Ru (4437)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

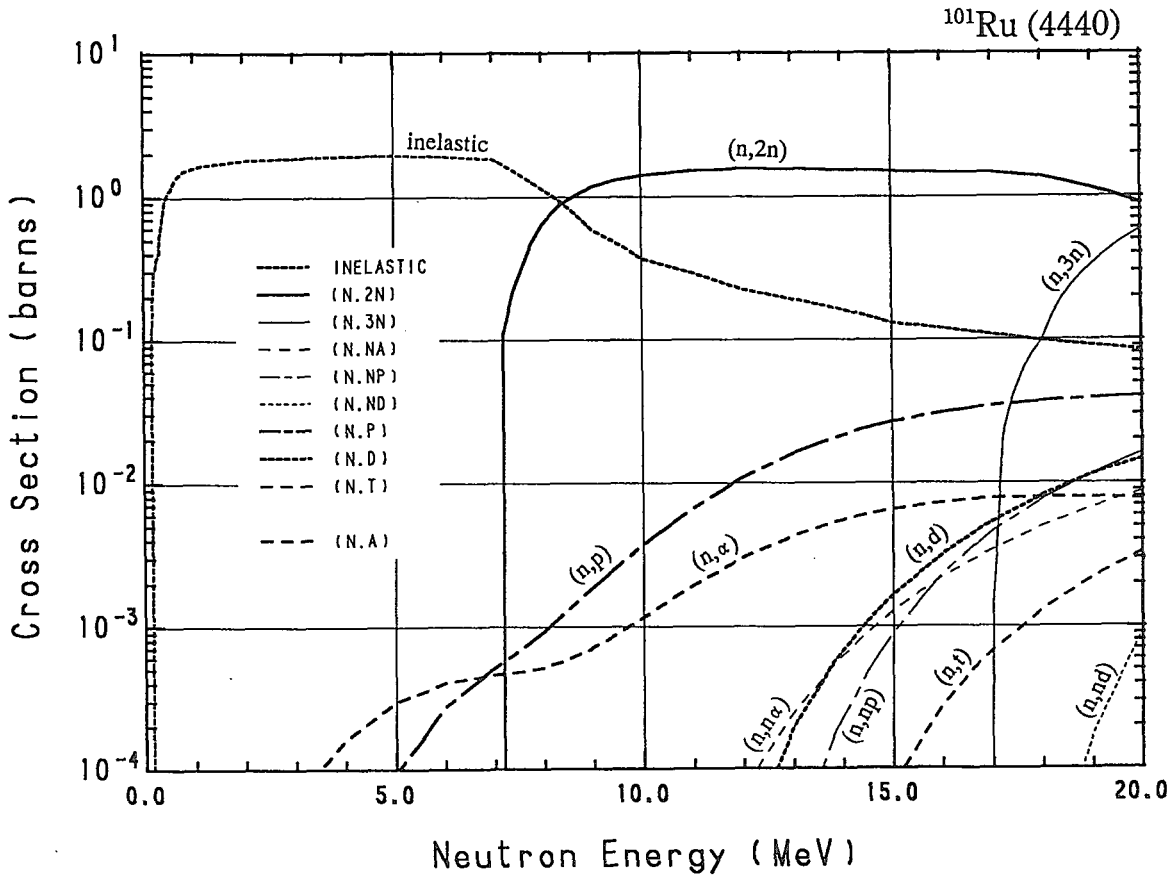

100Ru (4437)
inelastic
(n,2n)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,np)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru-101 (MAT=4440)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.100	6.722	–	4.537	5.611
elastic	–	3.741	3.740	–	2.818	3.951
inelastic	128.5 keV	–	–	–	161.6×10^{-3}	1.566
(n,2n)	6.874 MeV	–	–	–	1.527	8.553×10^{-3}
(n,3n)	16.65 MeV	–	–	–	–	517.8×10^{-9}
(n,nα)	2.857 MeV	–	–	–	623.6×10^{-6}	141.9×10^{-9}
(n,np)	9.319 MeV	–	–	–	231.0×10^{-6}	86.53×10^{-9}
(n,nd)	13.82 MeV	–	–	–	0.000	248.6×10^{-12}
capture	–	3.359	2.981	100.2	1.002×10^{-3}	82.57×10^{-3}
(n,p)	850.6 keV	–	–	–	21.31×10^{-3}	35.62×10^{-6}
(n,d)	6.985 MeV	–	–	–	680.2×10^{-6}	150.8×10^{-9}
(n,t)	7.575 MeV	–	–	–	11.42×10^{-6}	10.65×10^{-9}
(n,He-3)	8.926 MeV	–	–	–	15.91×10^{-15}	3.880×10^{-12}
(n,α)	–	0.000	0.000	4.074×10^{-3}	5.513×10^{-3}	58.81×10^{-6}

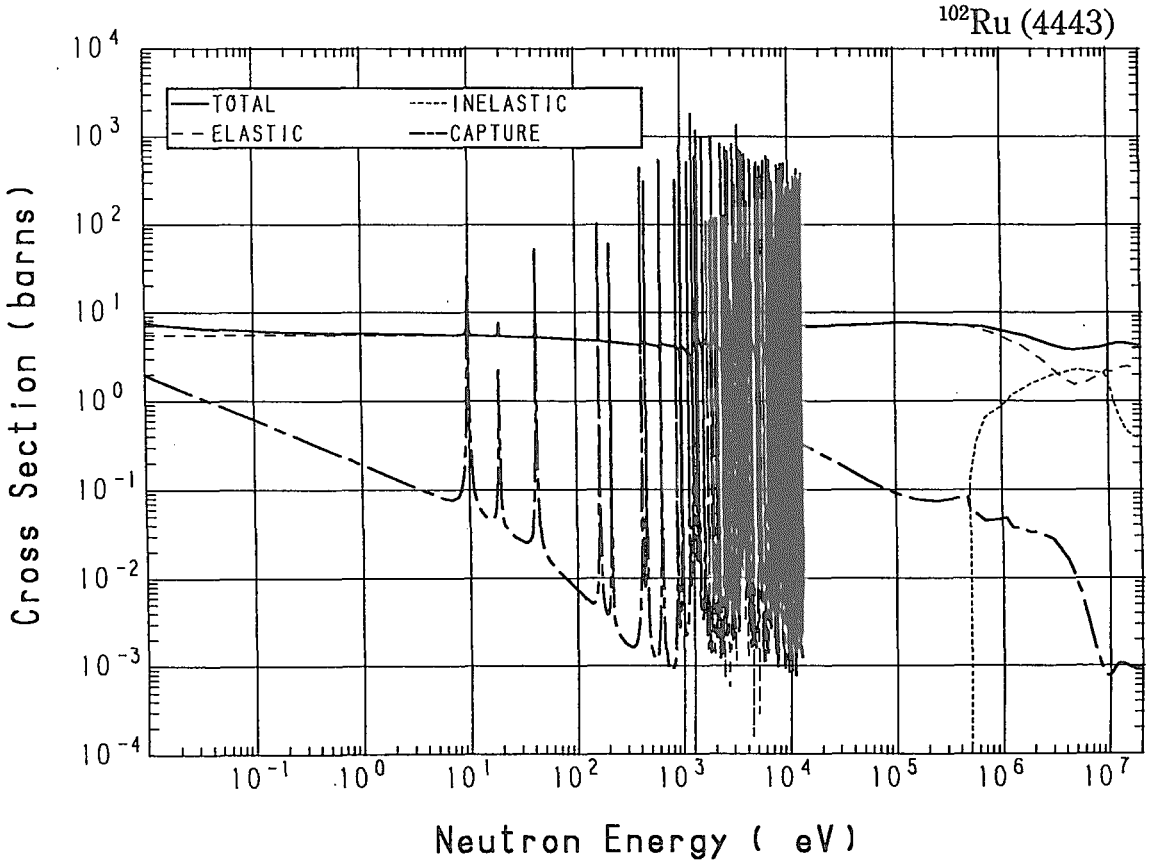


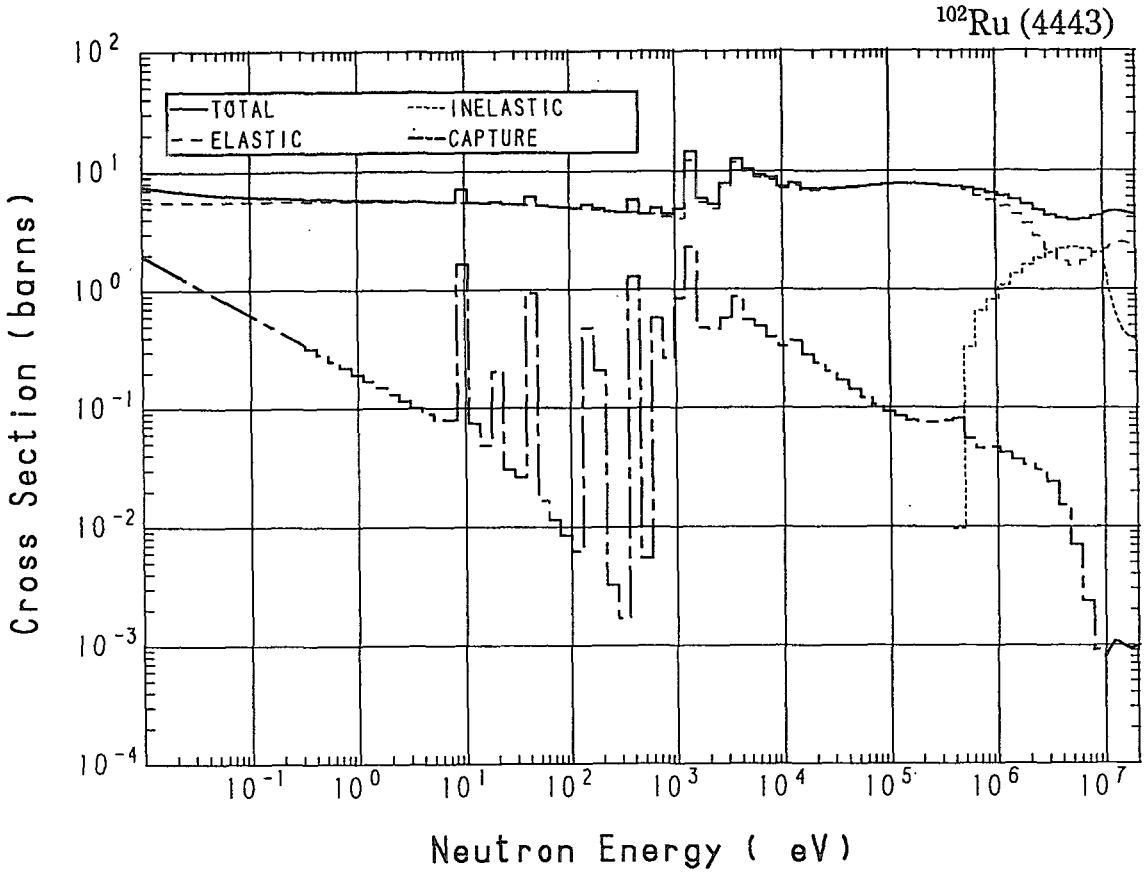

^{101}Ru (4440)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

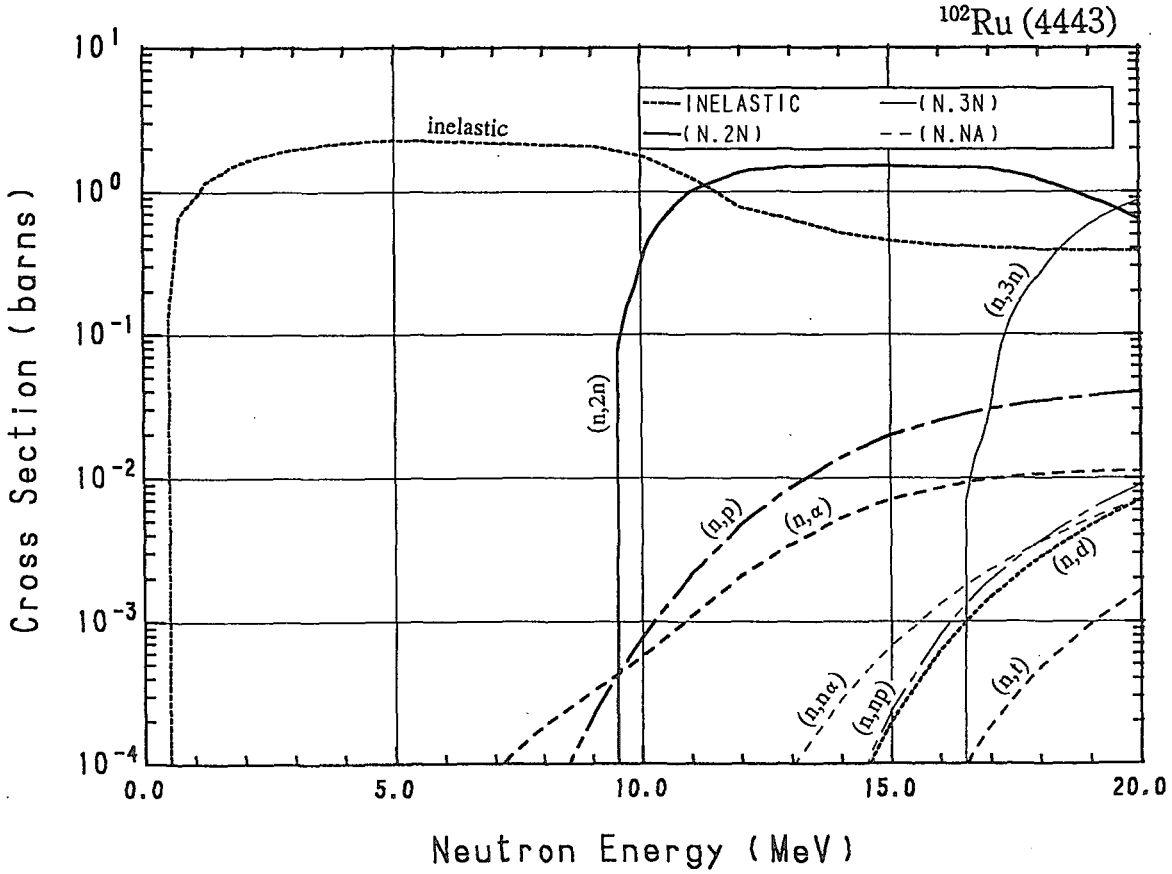

^{101}Ru (4440)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,np)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru-102 (MAT=4443)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.791	6.651	–	4.536	5.611
elastic	–	5.561	5.561	–	2.485	4.285
inelastic	479.8 keV	–	–	–	515.9×10^{-3}	1.284
(n,2n)	9.316 MeV	–	–	–	1.515	1.305×10^{-3}
(n,3n)	16.19 MeV	–	–	–	–	1.114×10^{-6}
(n,nα)	3.441 MeV	–	–	–	283.8×10^{-6}	70.85×10^{-9}
(n,np)	10.17 MeV	–	–	–	36.35×10^{-6}	30.79×10^{-9}
capture	–	1.229	1.090	4.311	1.019×10^{-3}	39.66×10^{-3}
(n,p)	3.755 MeV	–	–	–	13.81×10^{-3}	5.625×10^{-6}
(n,d)	7.834 MeV	–	–	–	35.39×10^{-6}	24.23×10^{-9}
(n,t)	10.05 MeV	–	–	–	250.6×10^{-9}	2.781×10^{-9}
(n,α)	–	0.000	0.000	4.077×10^{-3}	5.269×10^{-3}	5.681×10^{-6}

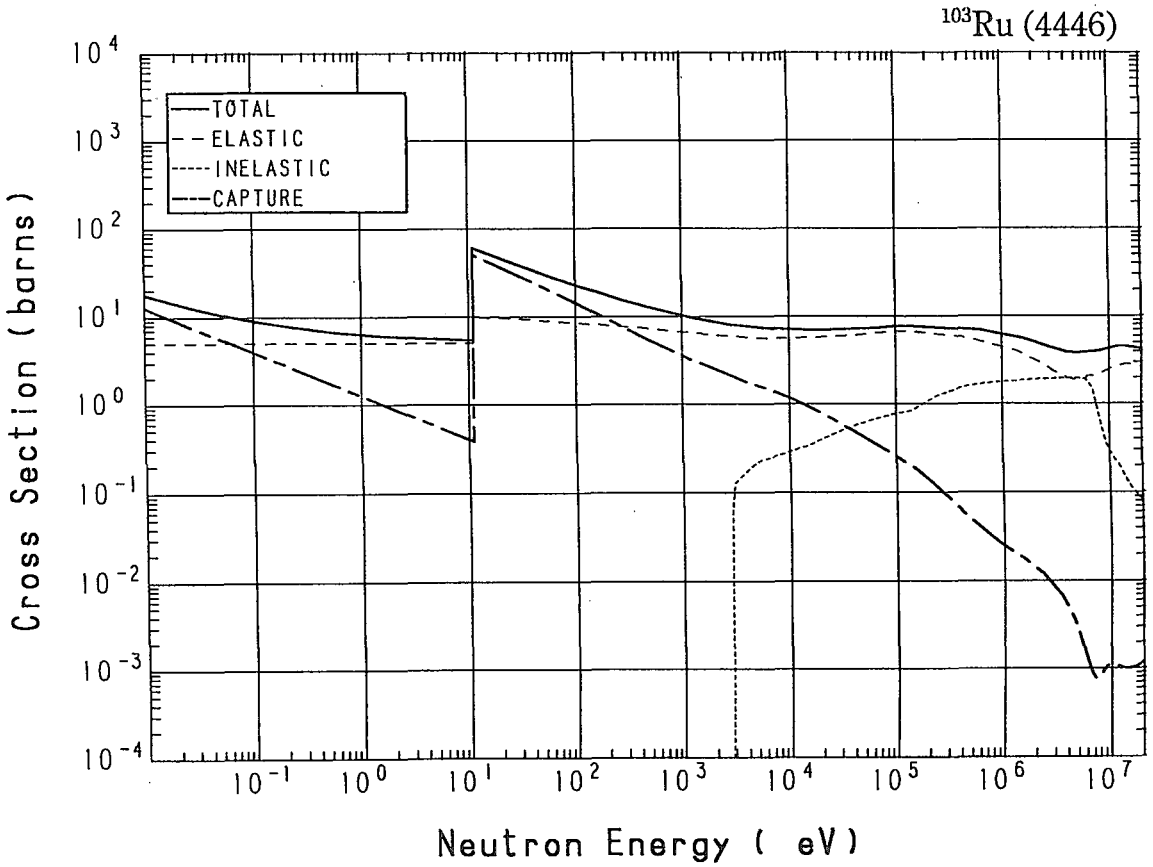


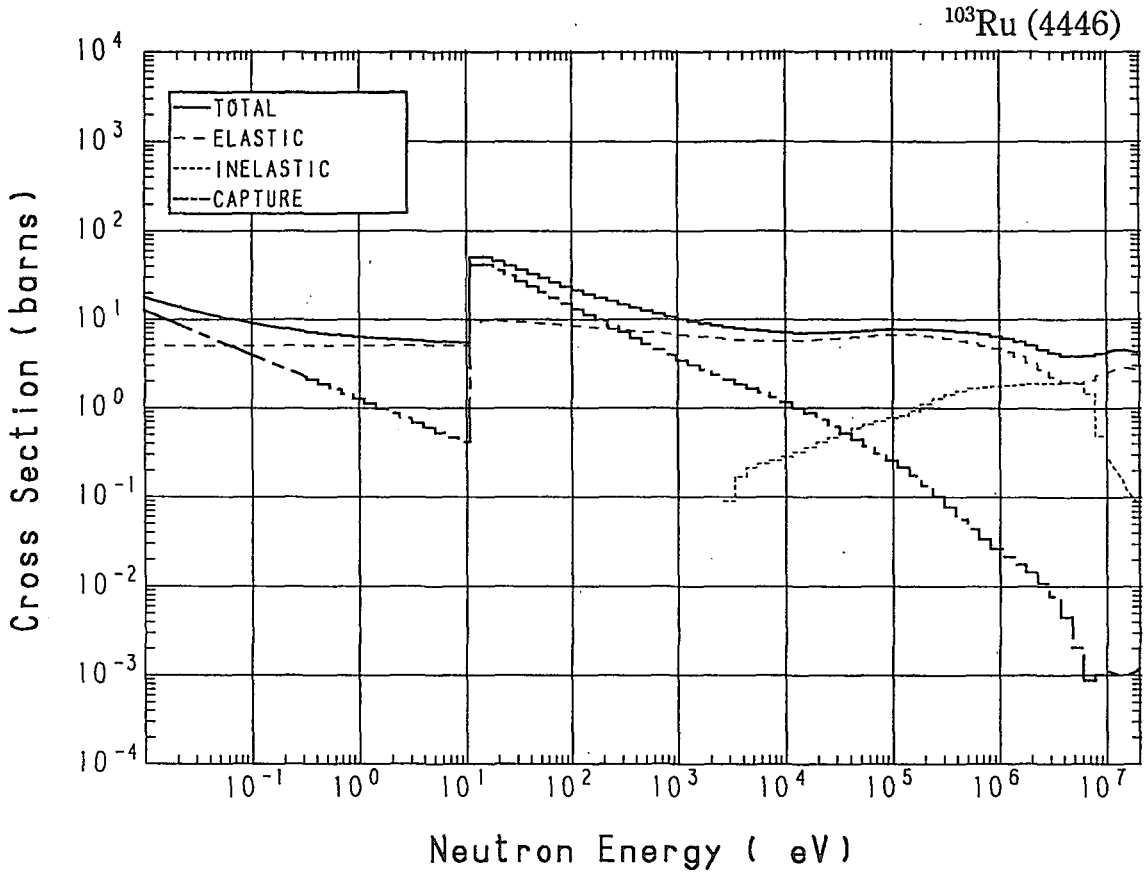

^{102}Ru (4443)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

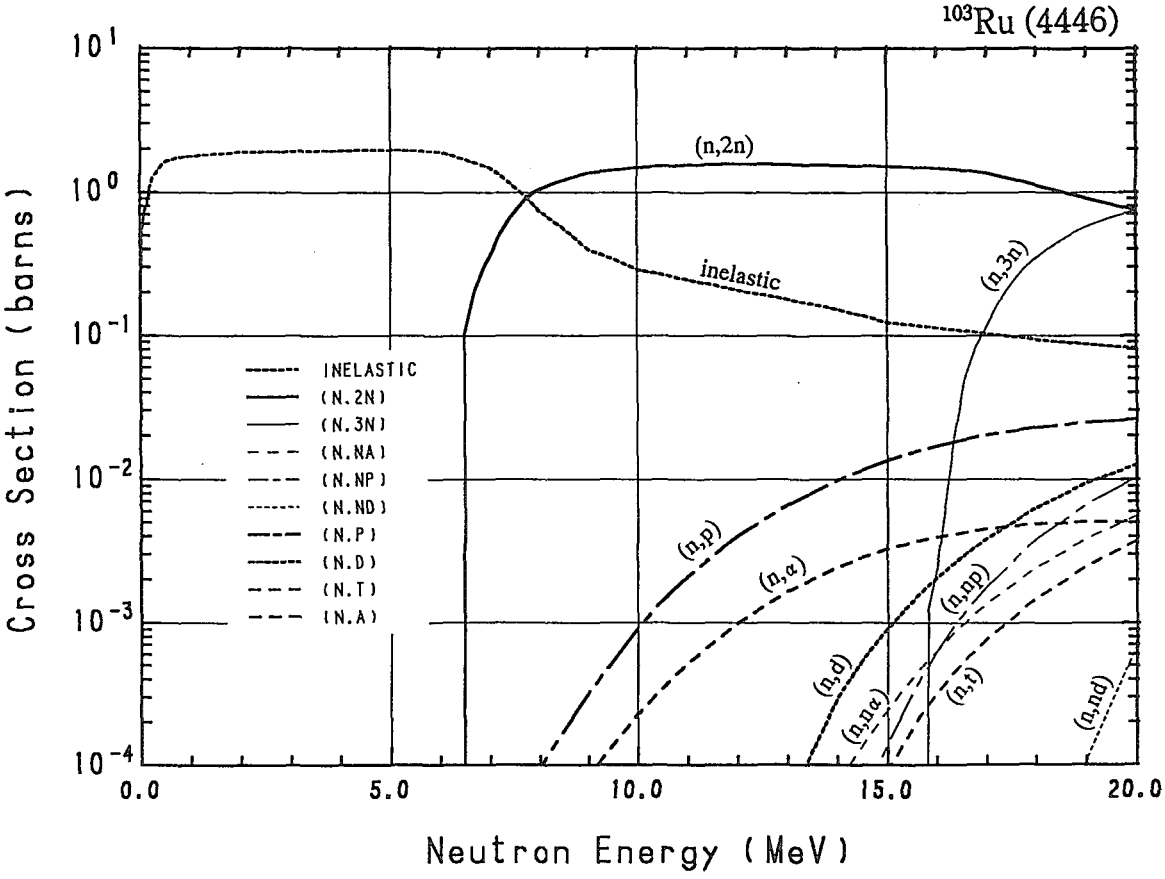

^{102}Ru (4443)
INELASTIC
(N.3N)
(N.2N)
(N.NA)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,np)
(n,f)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru-103 (MAT=4446)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	13.10	12.24	–	4.536	5.611
elastic	–	5.100	5.100	–	2.829	3.799
inelastic	2.726 keV	–	–	–	153.5×10^{-3}	1.761
(n,2n)	6.298 MeV	–	–	–	1.540	14.13×10^{-3}
(n,3n)	15.61 MeV	–	–	–	–	1.527×10^{-6}
(n,nα)	3.750 MeV	–	–	–	76.73×10^{-6}	28.30×10^{-9}
(n,np)	10.05 MeV	–	–	–	17.31×10^{-6}	27.26×10^{-9}
(n,nd)	14.13 MeV	–	–	–	–	163.7×10^{-12}
capture	–	8.000	7.093	91.14	1.000×10^{-3}	32.59×10^{-3}
(n,p)	1.584 MeV	–	–	–	9.826×10^{-3}	6.169×10^{-6}
(n,d)	7.720 MeV	–	–	–	292.0×10^{-6}	83.66×10^{-9}
(n,t)	7.885 MeV	–	–	–	13.59×10^{-6}	12.36×10^{-9}
(n,α)	–	0.000	0.000	1.871×10^{-3}	2.443×10^{-3}	2.384×10^{-6}

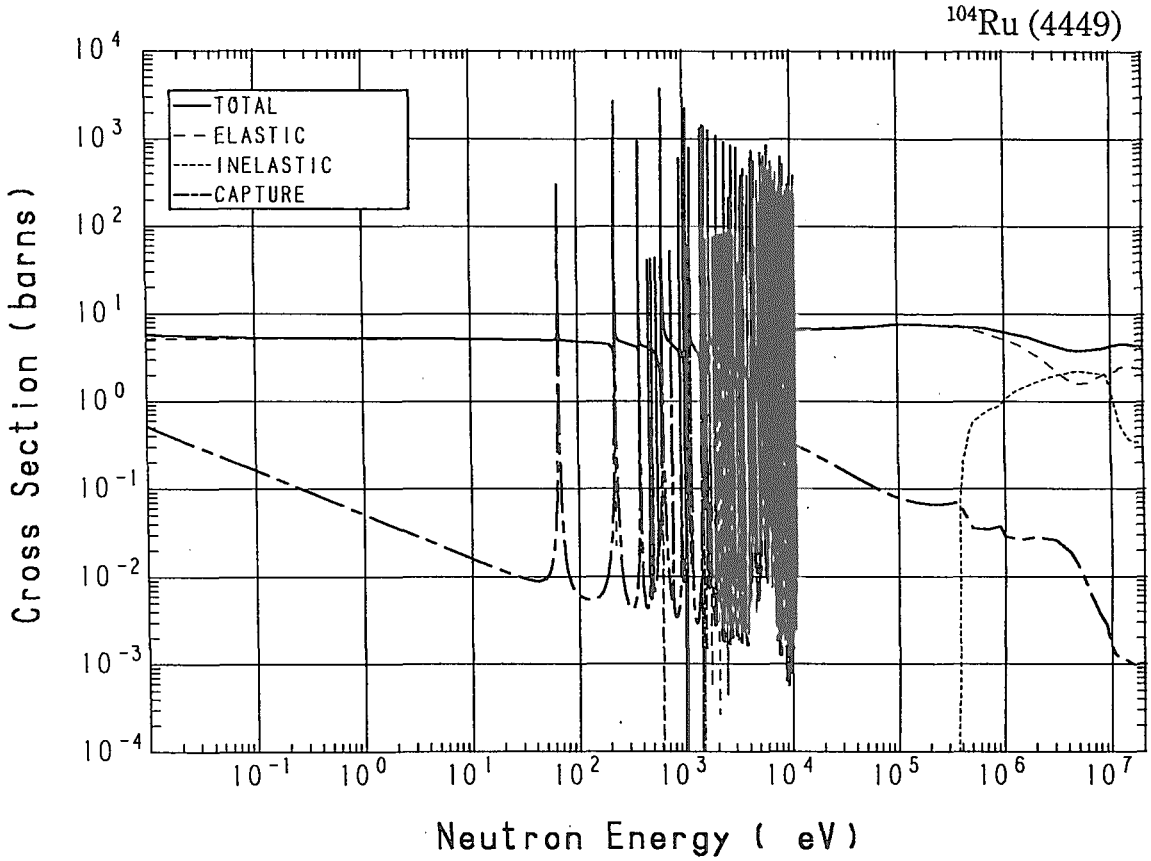


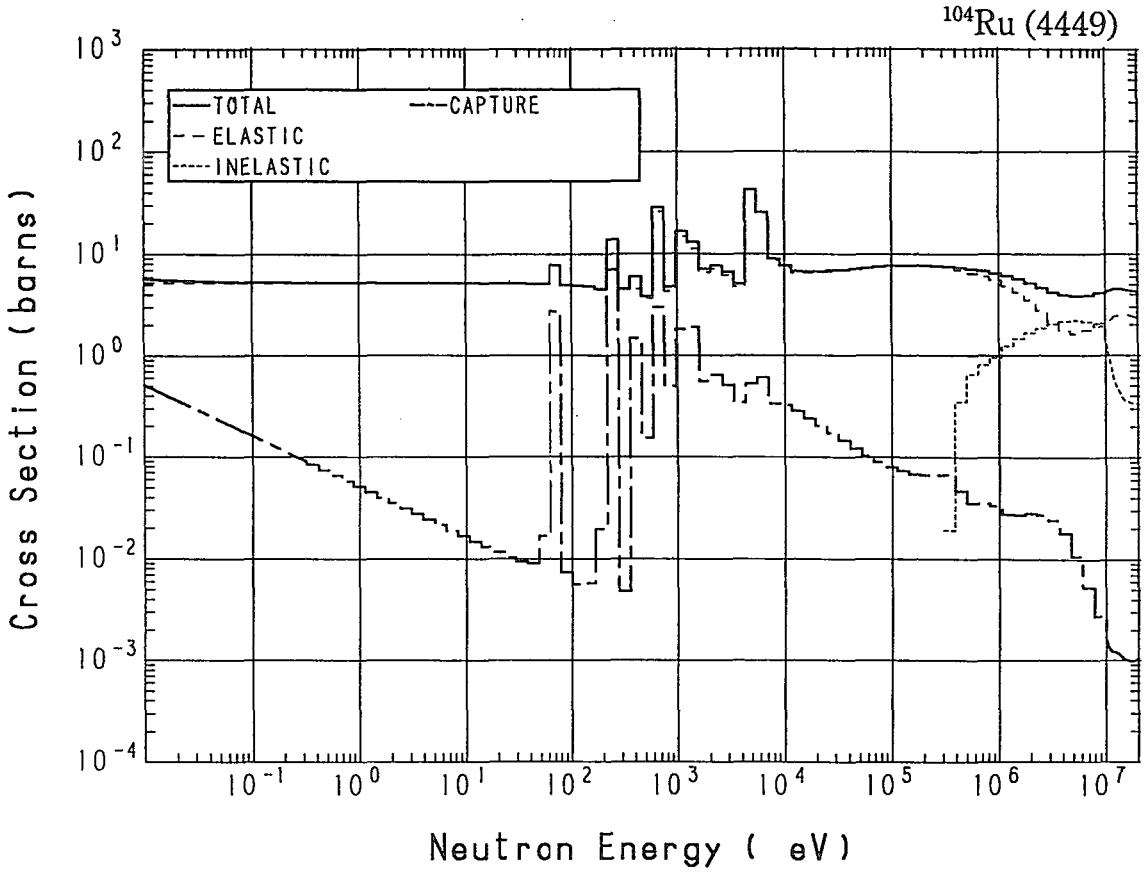

103Ru (4446)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

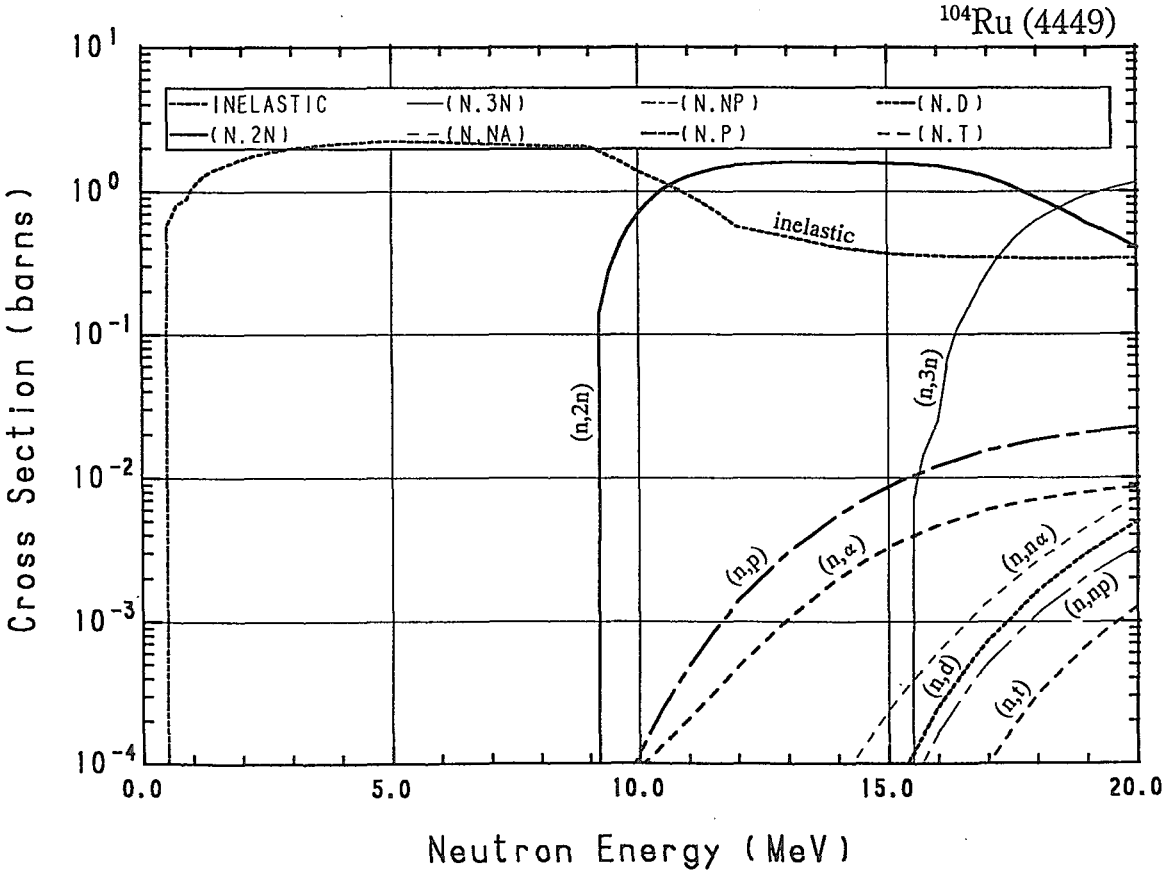

103Ru (4446)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,ND)
(N,P)
(N,D)
(N,T)
(N,A)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru-104 (MAT=4449)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.558	5.522	–	4.535	5.612
elastic	–	5.236	5.236	–	2.533	4.209
inelastic	361.5 keV	–	–	–	404.3×10^{-3}	1.365
(n,2n)	9.000 MeV	–	–	–	1.589	2.001×10^{-3}
(n,3n)	15.30 MeV	–	–	–	–	3.061×10^{-6}
(n,nα)	4.374 MeV	–	–	–	71.85×10^{-6}	27.88×10^{-9}
(n,np)	10.58 MeV	–	–	–	3.100×10^{-6}	7.623×10^{-9}
capture	–	322.6×10^{-3}	286.0×10^{-3}	6.560	1.093×10^{-3}	31.99×10^{-3}
(n,p)	4.661 MeV	–	–	–	5.496×10^{-3}	1.560×10^{-6}
(n,d)	8.252 MeV	–	–	–	5.564×10^{-6}	11.20×10^{-9}
(n,t)	10.47 MeV	–	–	–	32.42×10^{-9}	1.676×10^{-9}
(n,α)	–	0.000	0.000	2.181×10^{-3}	1.988×10^{-3}	821.2×10^{-9}

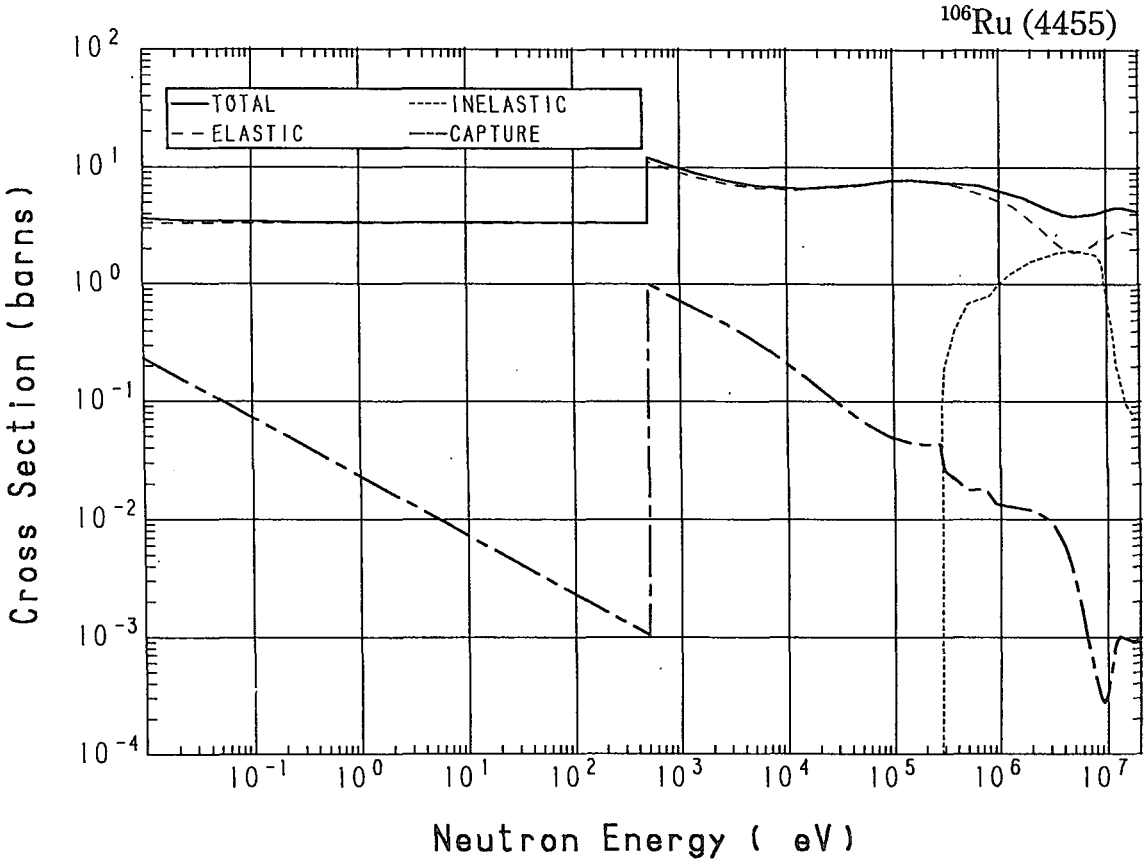


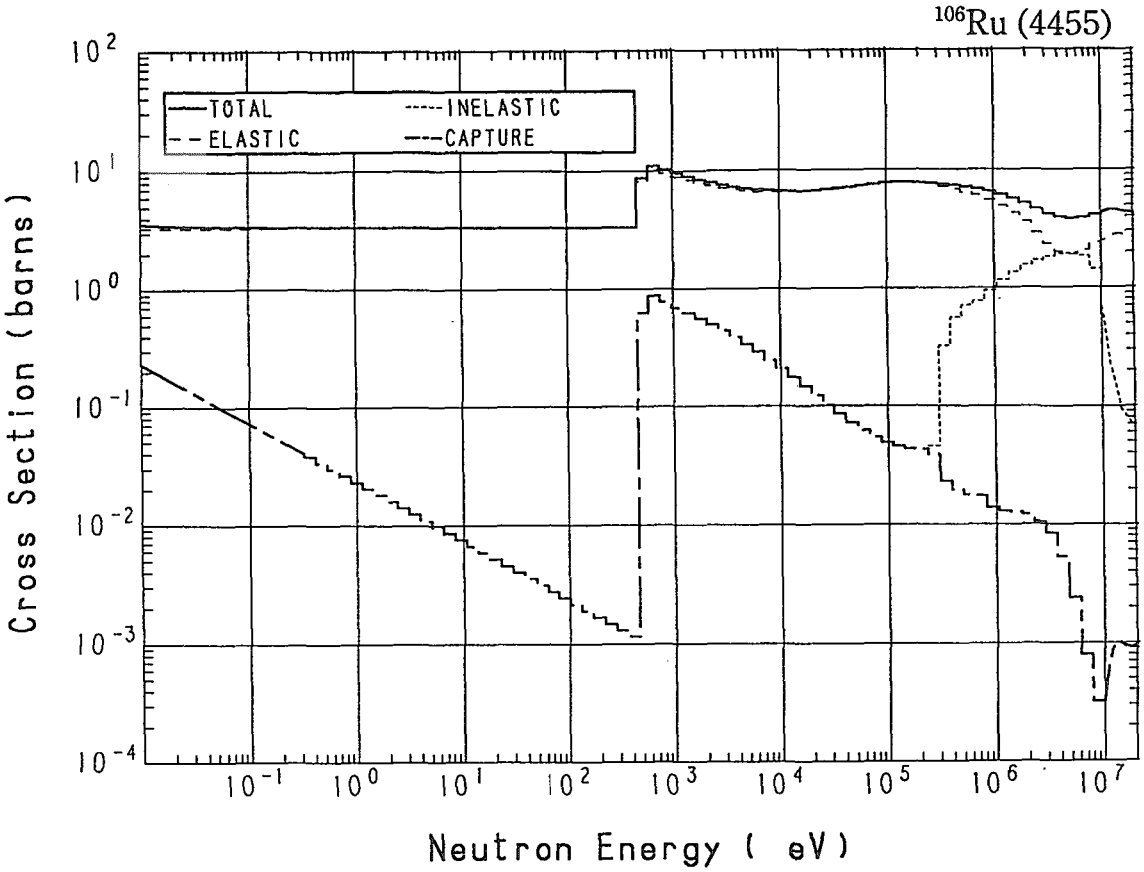

104Ru (4449)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

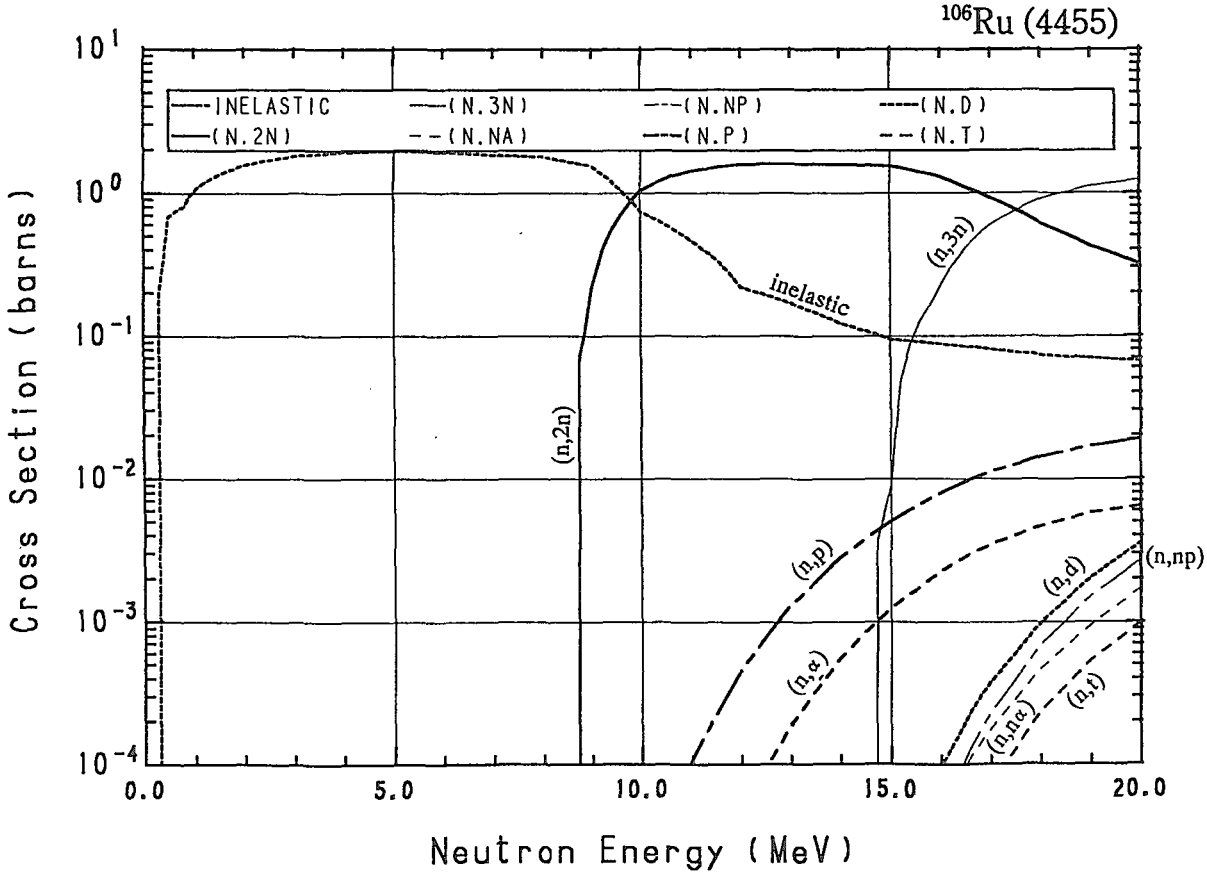

104Ru (4449)
INELASTIC
(N.3N)
(N.NP)
(N.D)
(N.2N)
(N.NA)
(N.P)
(N.T)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

44-Ru-106 (MAT=4455)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.487	3.485	–	4.534	5.606
elastic	–	3.342	3.342	–	2.829	4.304
inelastic	272.9 keV	–	–	–	123.9×10^{-3}	1.279
(n,2n)	8.552 MeV	–	–	–	1.577	2.712×10^{-3}
(n,3n)	14.52 MeV	–	–	–	–	6.762×10^{-6}
(n,nα)	5.242 MeV	–	–	–	2.298×10^{-6}	3.053×10^{-9}
(n,np)	11.19 MeV	–	–	–	158.0×10^{-9}	3.787×10^{-9}
capture	–	146.0×10^{-3}	129.4×10^{-3}	2.002	1.003×10^{-3}	14.31×10^{-3}
(n,p)	5.573 MeV	–	–	–	2.830×10^{-3}	641.4×10^{-9}
(n,d)	8.860 MeV	–	–	–	676.0×10^{-9}	5.832×10^{-9}
(n,t)	10.61 MeV	–	–	–	14.86×10^{-9}	1.245×10^{-9}
(n,α)	69.44 keV	–	–	–	559.1×10^{-6}	127.4×10^{-9}

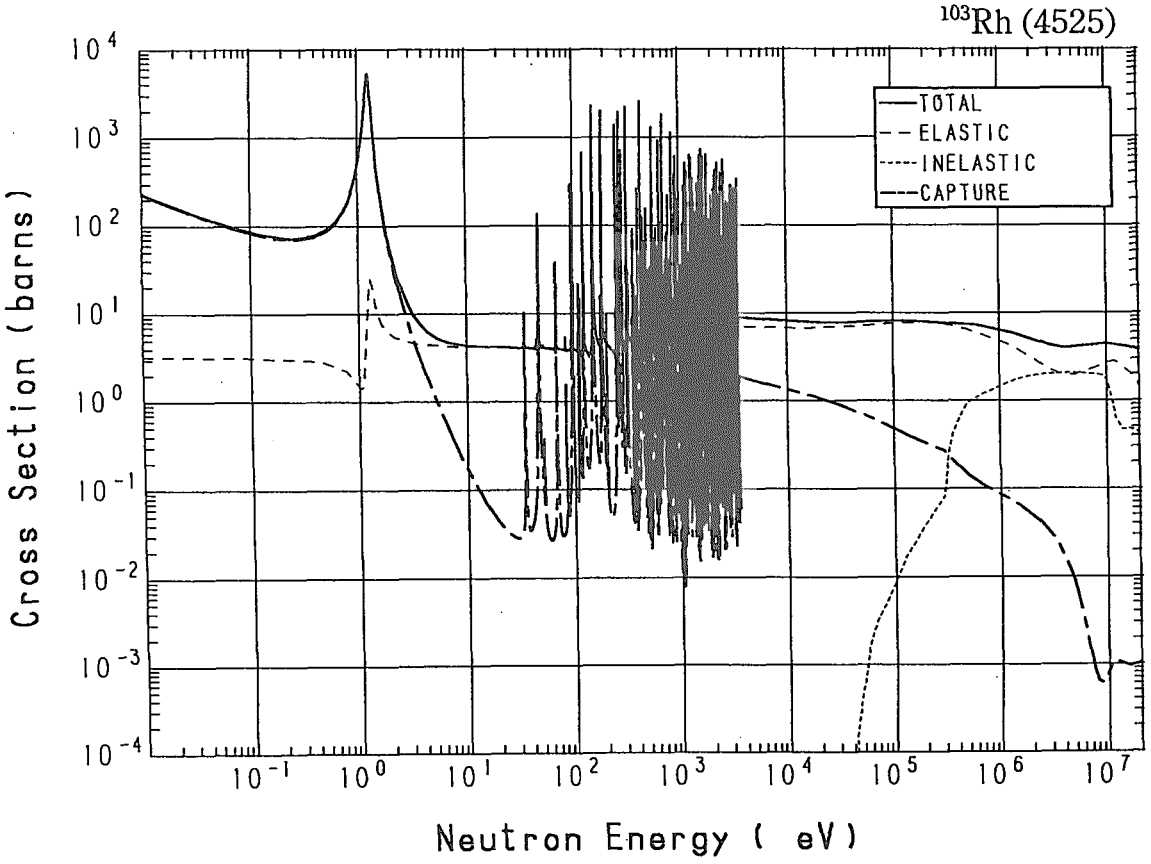


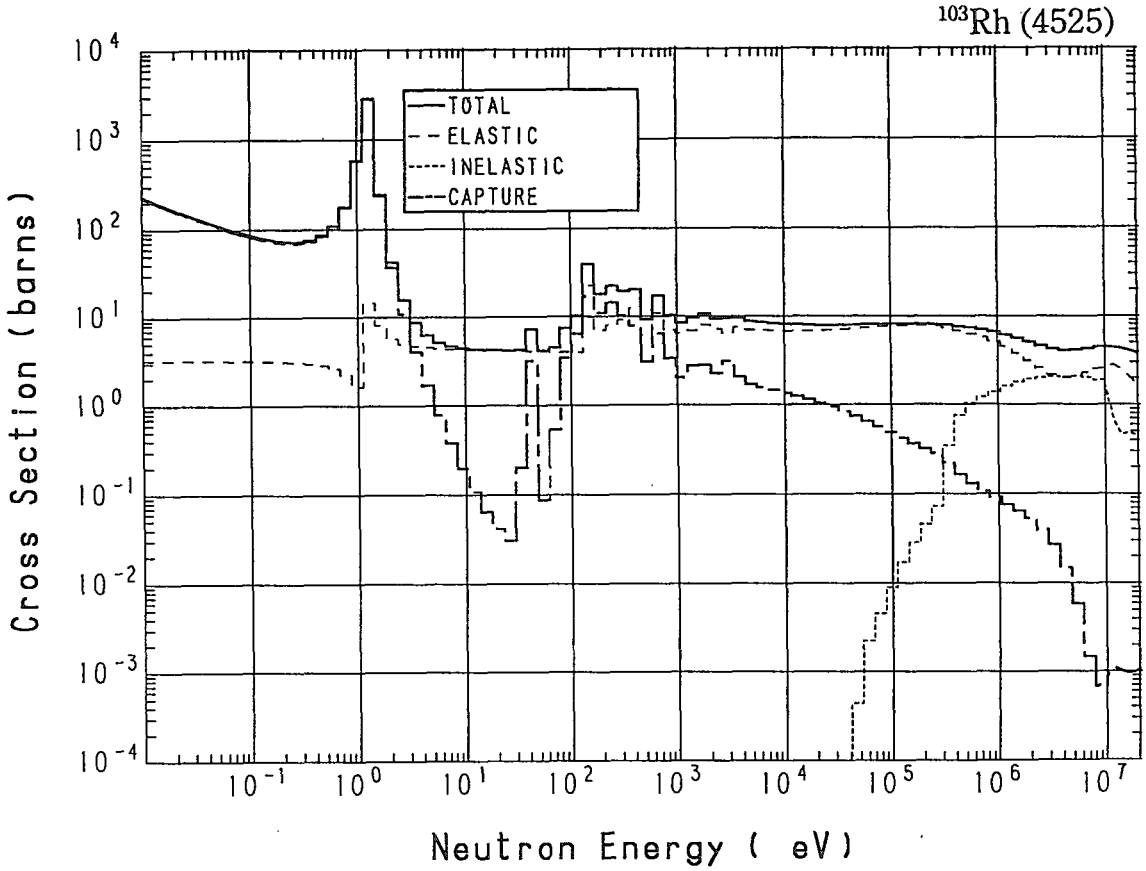

106Ru (4455)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

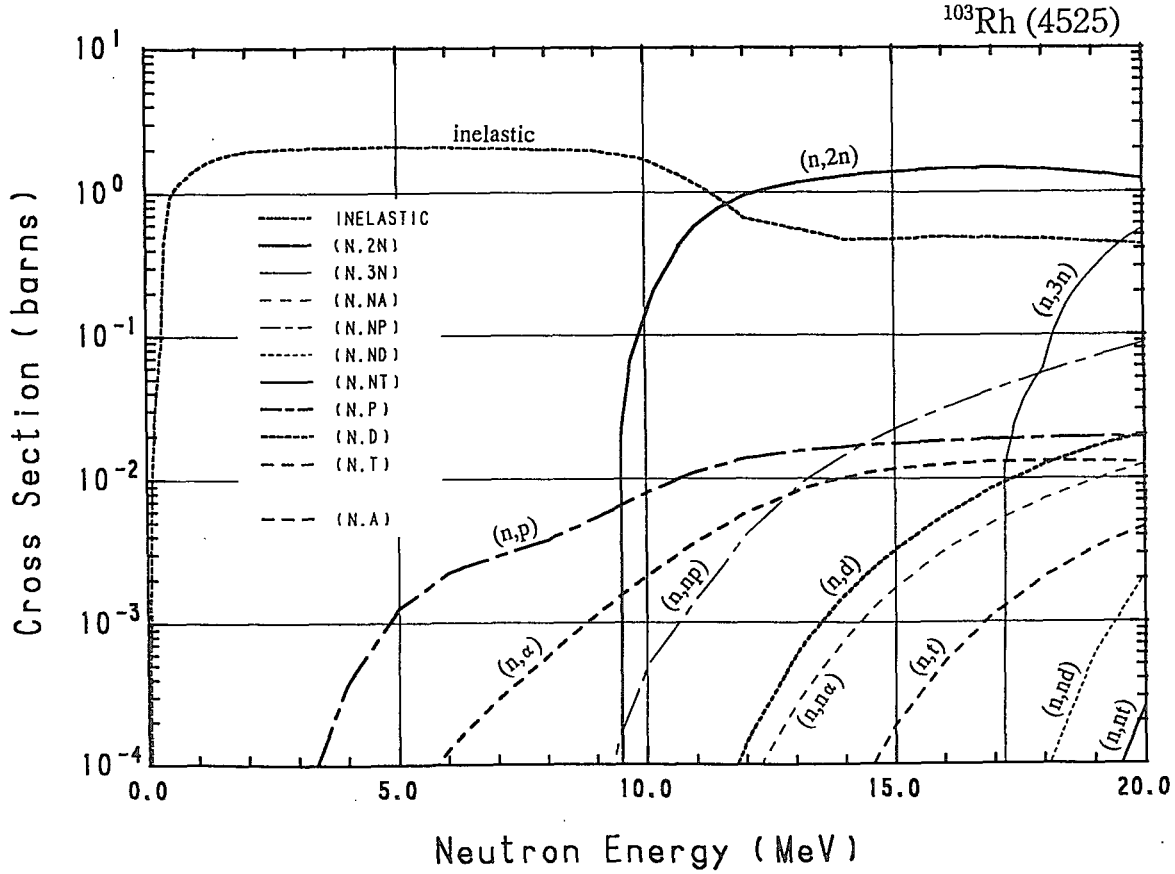

106Ru (4455)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,t)
(n,nα)
(n,np)
Cross Section (barns)
Neutron Energy (MeV)

45-Rh-103 (MAT=4525)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	149.9	136.2	–	4.337	5.717
elastic	–	3.260	3.243	–	2.539	4.044
inelastic	40.14 keV	–	–	–	468.3×10^{-3}	1.579
(n,2n)	9.414 MeV	–	–	–	1.285	802.1×10^{-6}
(n,3n)	16.93 MeV	–	–	–	–	413.9×10^{-9}
(n,nα)	3.150 MeV	–	–	–	782.3×10^{-6}	175.7×10^{-9}
(n,np)	6.278 MeV	–	–	–	14.57×10^{-3}	4.410×10^{-6}
(n,nd)	13.26 MeV	–	–	–	0.000	806.9×10^{-12}
(n,nt)	13.89 MeV	–	–	–	0.000	56.53×10^{-12}
capture	–	146.6	132.9	$1.043\times10^{+3}$	1.004×10^{-3}	88.97×10^{-3}
(n,p)	–	0.000	0.000	13.44×10^{-3}	16.51×10^{-3}	200.5×10^{-6}
(n,d)	3.945 MeV	–	–	–	1.559×10^{-3}	332.0×10^{-9}
(n,t)	7.015 MeV	–	–	–	40.55×10^{-6}	20.00×10^{-9}
(n,He-3)	8.637 MeV	–	–	–	304.6×10^{-15}	7.358×10^{-12}
(n,α)	–	0.000	0.000	6.686×10^{-3}	10.16×10^{-3}	19.52×10^{-6}

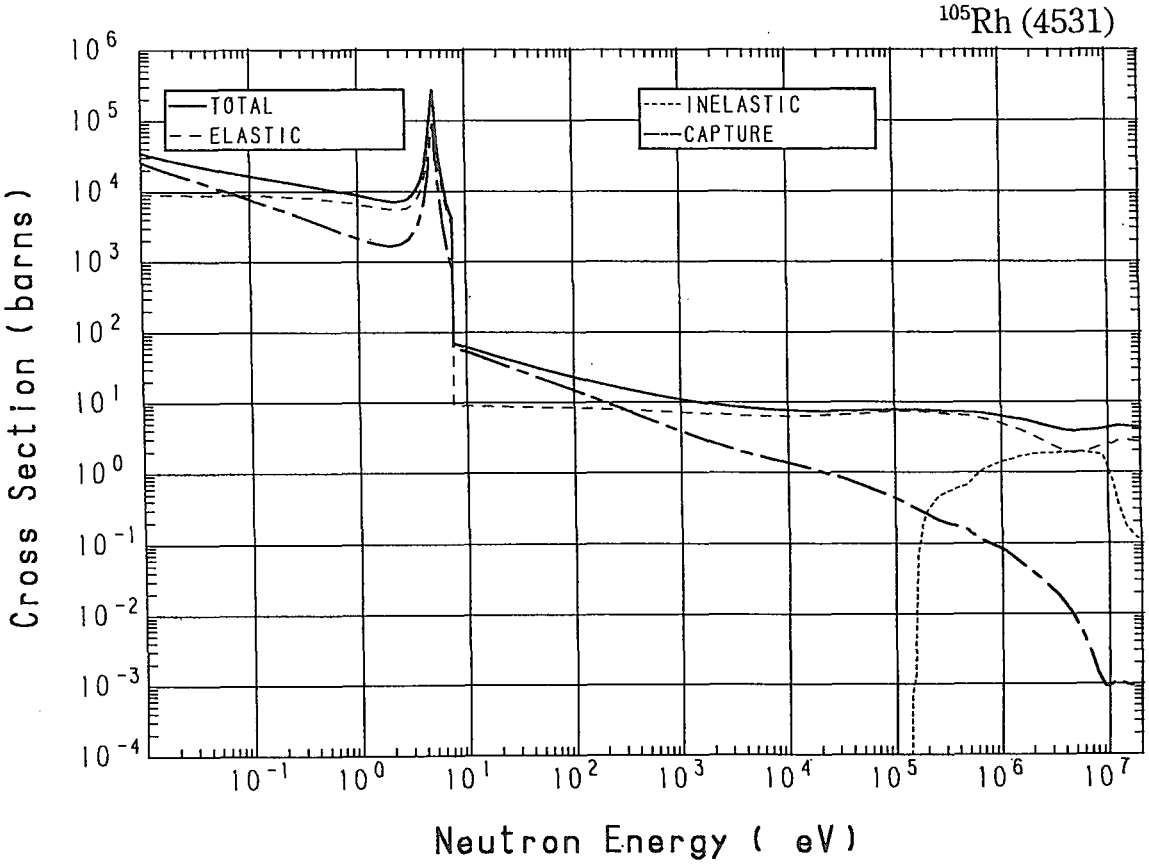


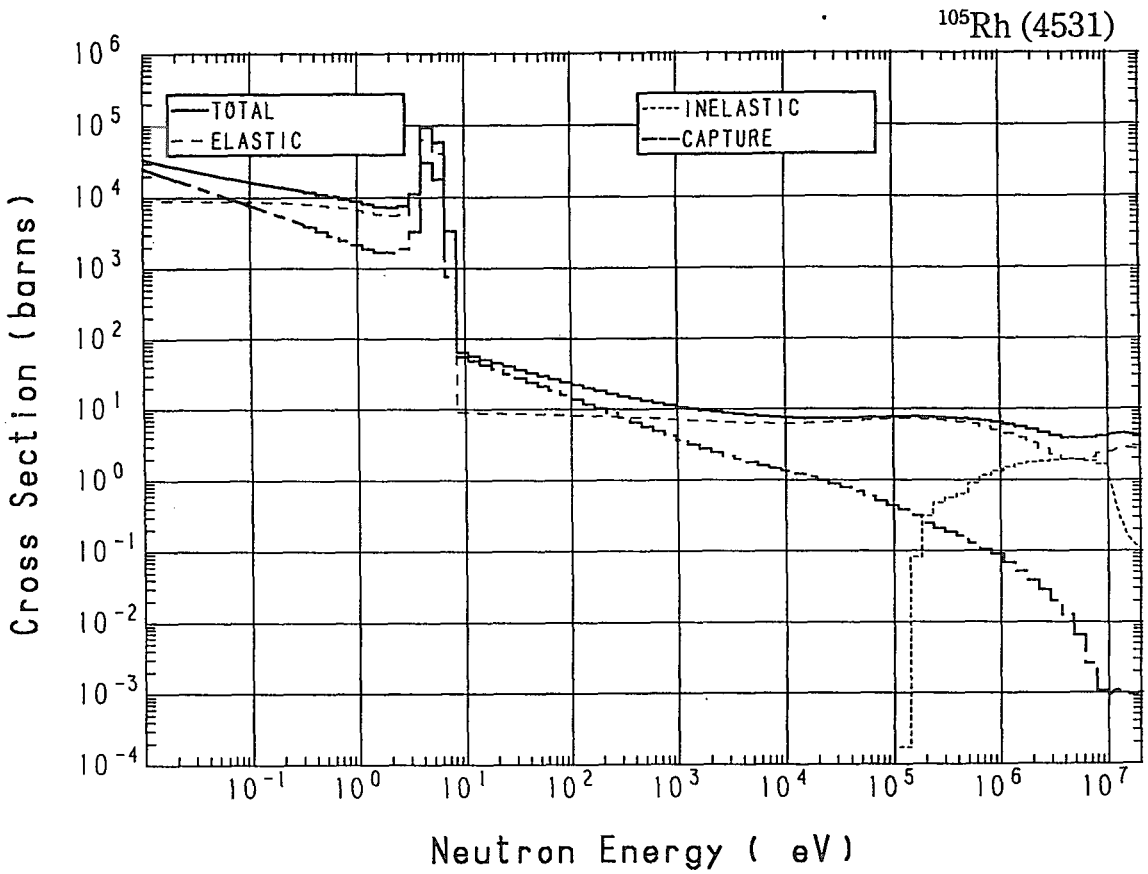

103Rh (4525)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

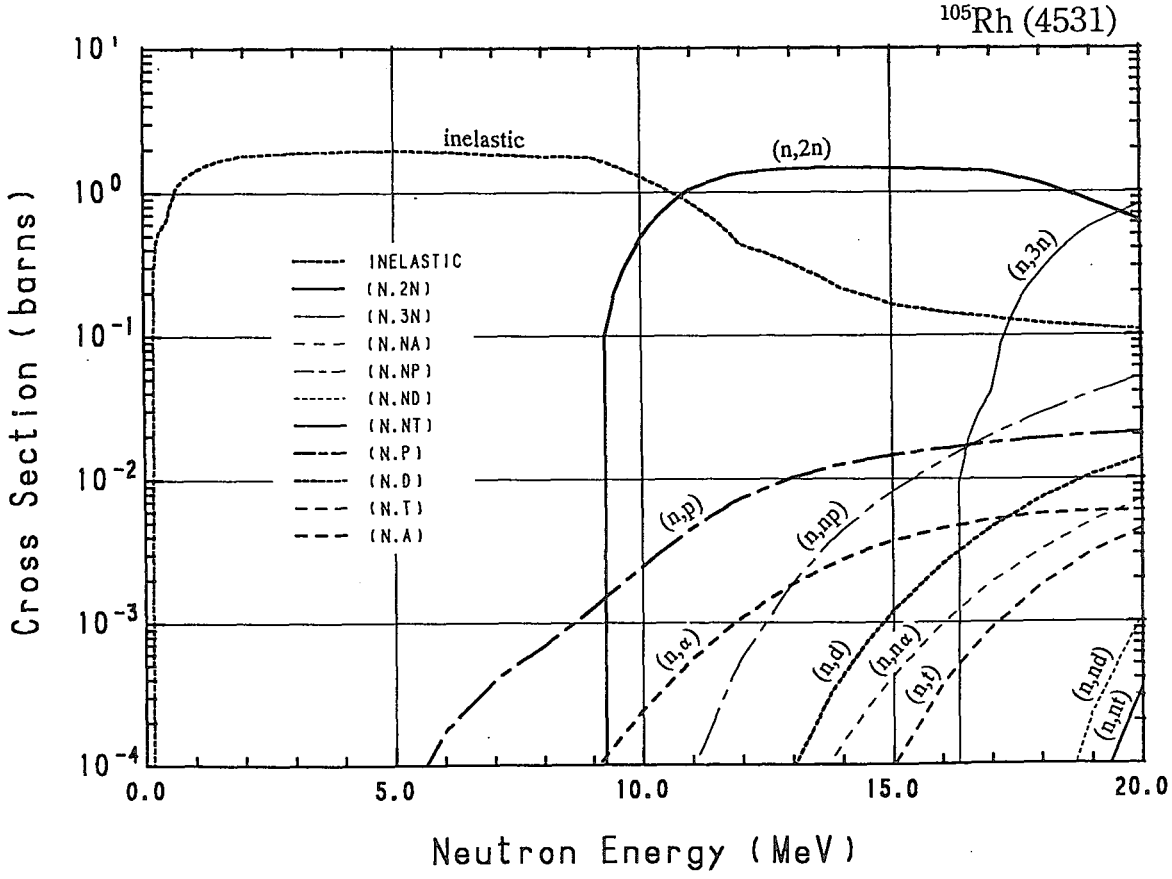

103Rh (4525)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,d)
(n,nd)
(n,t)
(n,nt)
(n,α)
(n,nα)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.NT)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

45-Rh-105 (MAT=4531)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	$24.82\times10^{+3}$	$22.90\times10^{+3}$	–	4.535	5.612
elastic	–	$8.990\times10^{+3}$	$8.910\times10^{+3}$	–	2.827	4.036
inelastic	130.8 keV	–	–	–	213.3×10^{-3}	1.492
(n,2n)	9.065 MeV	–	–	–	1.473	1.551×10^{-3}
(n,3n)	16.14 MeV	–	–	–	–	1.155×10^{-6}
(n,nα)	3.988 MeV	–	–	–	146.8×10^{-6}	43.74×10^{-9}
(n,np)	7.117 MeV	–	–	–	4.405×10^{-3}	935.9×10^{-9}
(n,nd)	13.78 MeV	–	–	–	0.000	315.1×10^{-12}
(n,nt)	13.84 MeV	–	–	–	0.000	78.15×10^{-12}
capture	–	$15.83\times10^{+3}$	$13.99\times10^{+3}$	$17.00\times10^{+3}$	1.012×10^{-3}	78.04×10^{-3}
(n,p)	1.145 MeV	–	–	–	12.56×10^{-3}	23.03×10^{-6}
(n,d)	4.785 MeV	–	–	–	423.5×10^{-6}	109.6×10^{-9}
(n,t)	7.540 MeV	–	–	–	13.49×10^{-6}	14.24×10^{-9}
(n,α)	–	0.000	0.000	2.123×10^{-3}	2.761×10^{-3}	1.645×10^{-6}

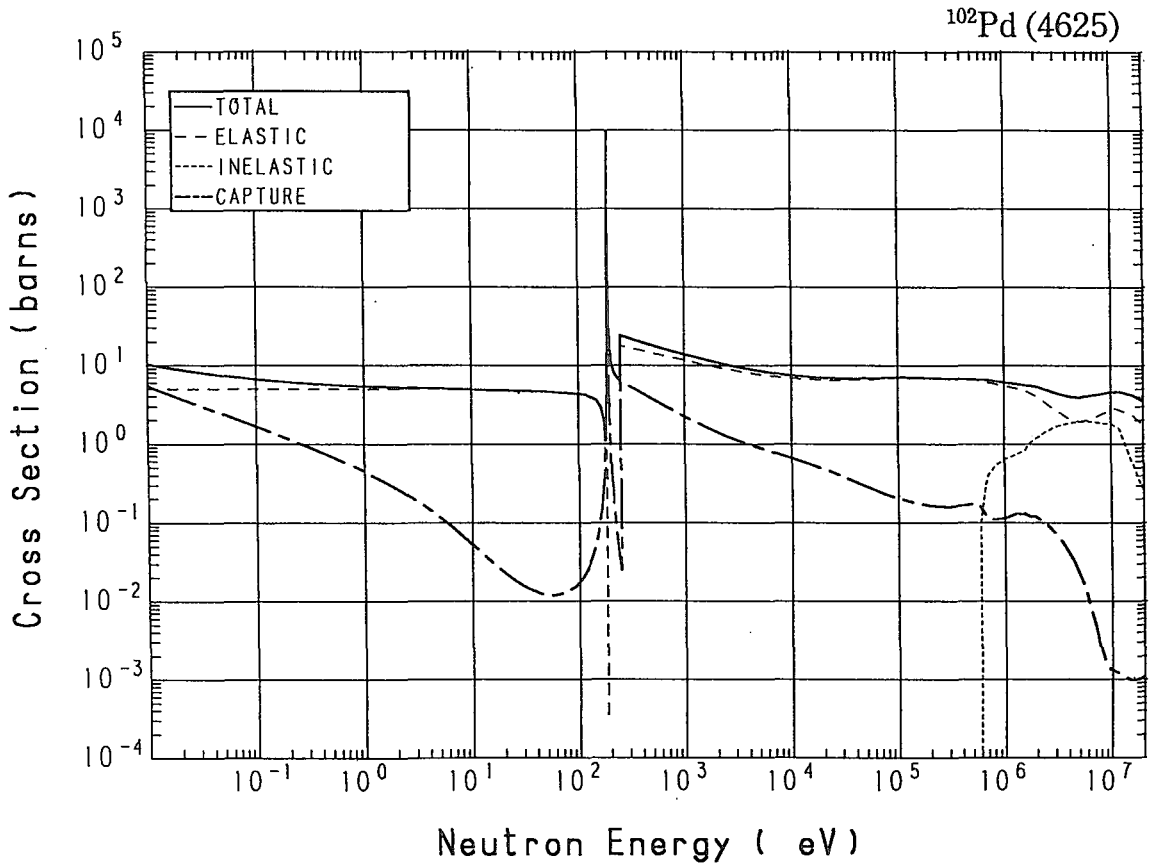


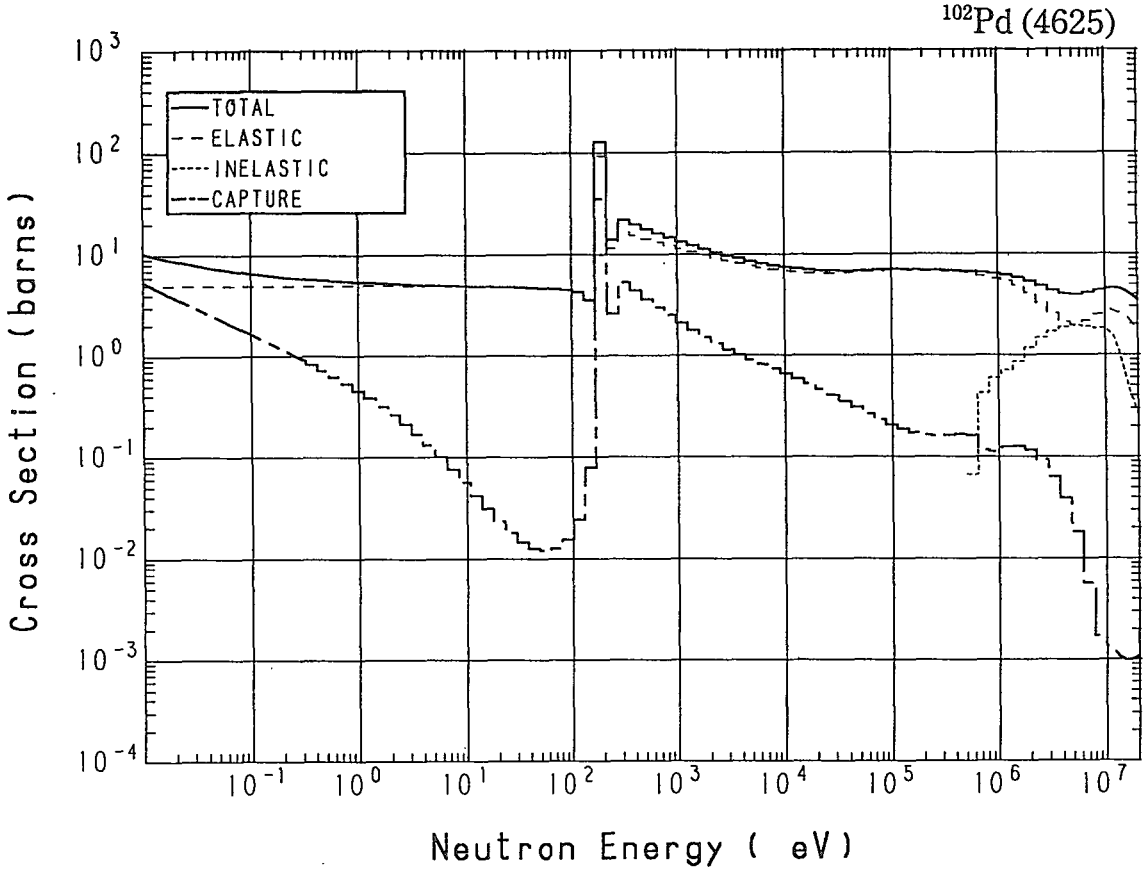

105Rh (4531)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

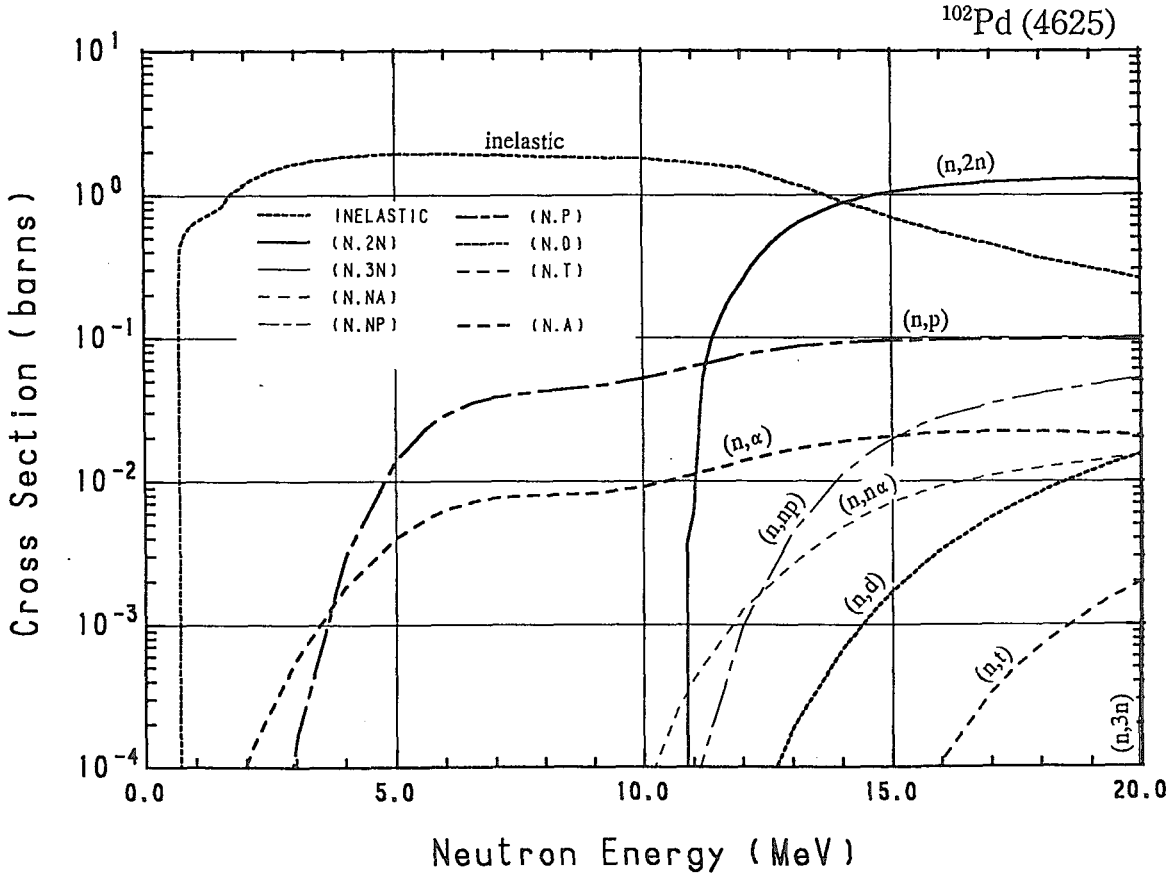

105Rh (4531)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,np)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,nd)
(n,nt)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.NT)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-102 (MAT=4625)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	8.387	7.998	–	4.480	5.579
elastic	–	5.024	5.024	–	2.582	4.486
inelastic	562.0 keV	–	–	–	898.0×10^{-3}	980.0×10^{-3}
(n,2n)	10.68 MeV	–	–	–	871.9×10^{-3}	192.2×10^{-6}
(n,3n)	19.03 MeV	–	–	–	–	8.030×10^{-9}
(n,nα)	2.142 MeV	–	–	–	4.778×10^{-3}	1.254×10^{-6}
(n,np)	7.886 MeV	–	–	–	11.17×10^{-3}	1.900×10^{-6}
(n,nd)	15.54 MeV	–	–	–	–	1.795×10^{-12}
capture	–	3.363	2.974	19.50	1.019×10^{-3}	108.9×10^{-3}
(n,p)	369.2 keV	–	–	–	92.05×10^{-3}	2.098×10^{-3}
(n,d)	5.553 MeV	–	–	–	679.5×10^{-6}	154.4×10^{-9}
(n,t)	9.299 MeV	–	–	–	1.984×10^{-6}	4.879×10^{-9}
(n,He-3)	5.614 MeV	–	–	–	517.6×10^{-12}	51.61×10^{-12}
(n,α)	–	0.000	0.000	18.05×10^{-3}	18.74×10^{-3}	672.2×10^{-6}
(n,2p)	6.549 MeV	–	–	–	613.3×10^{-9}	393.1×10^{-12}

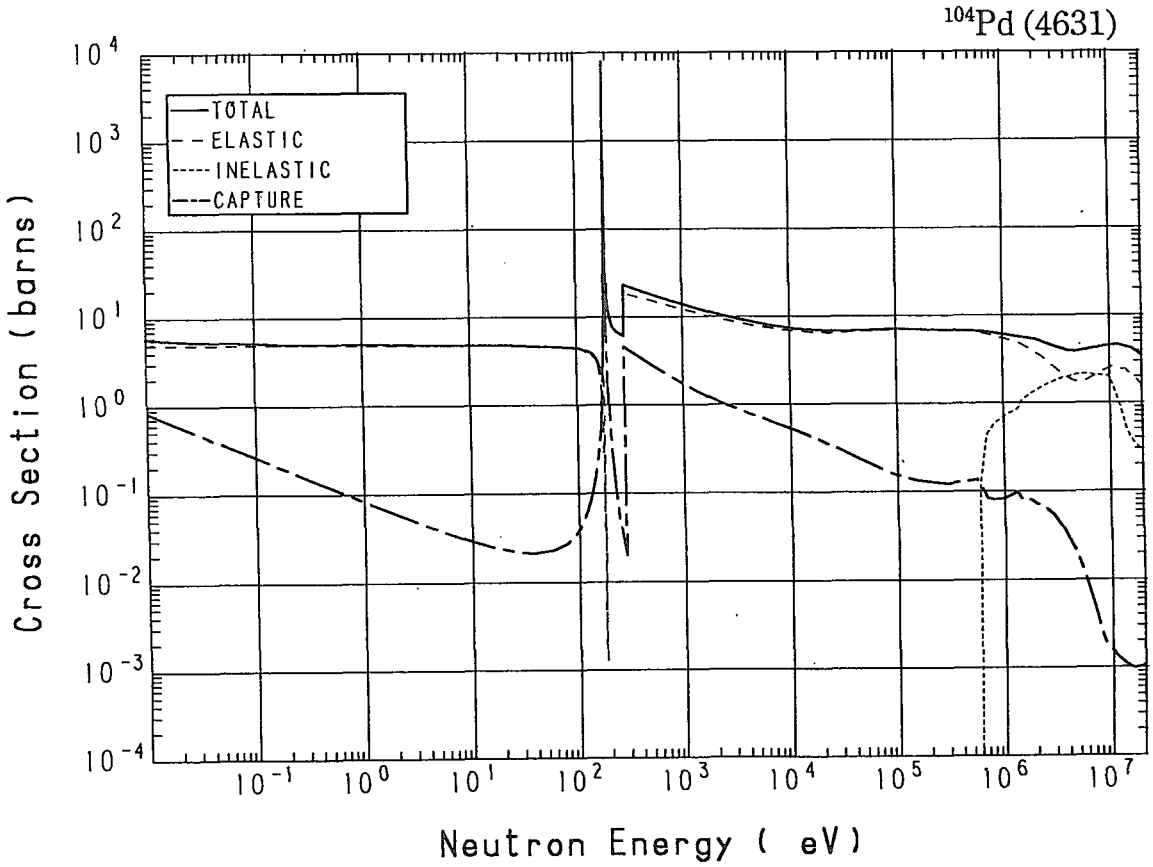


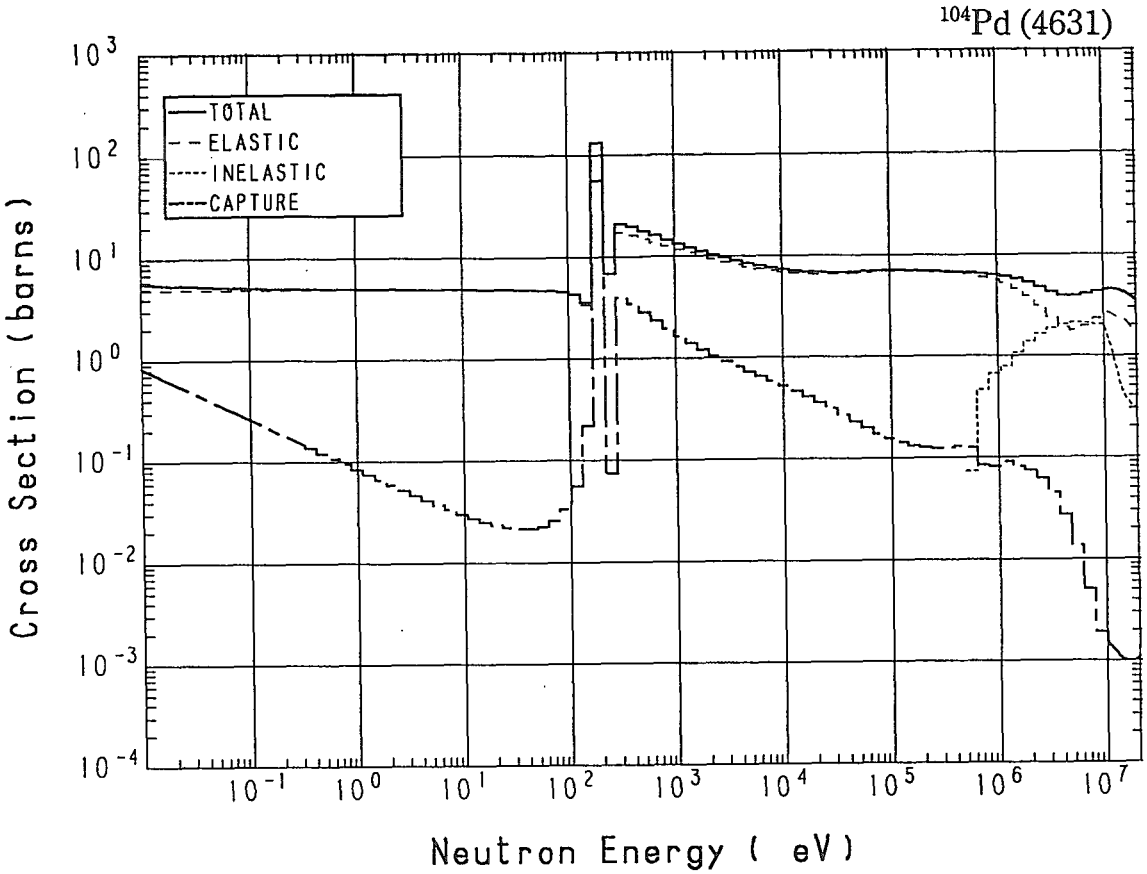

^{102}Pd (4625)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

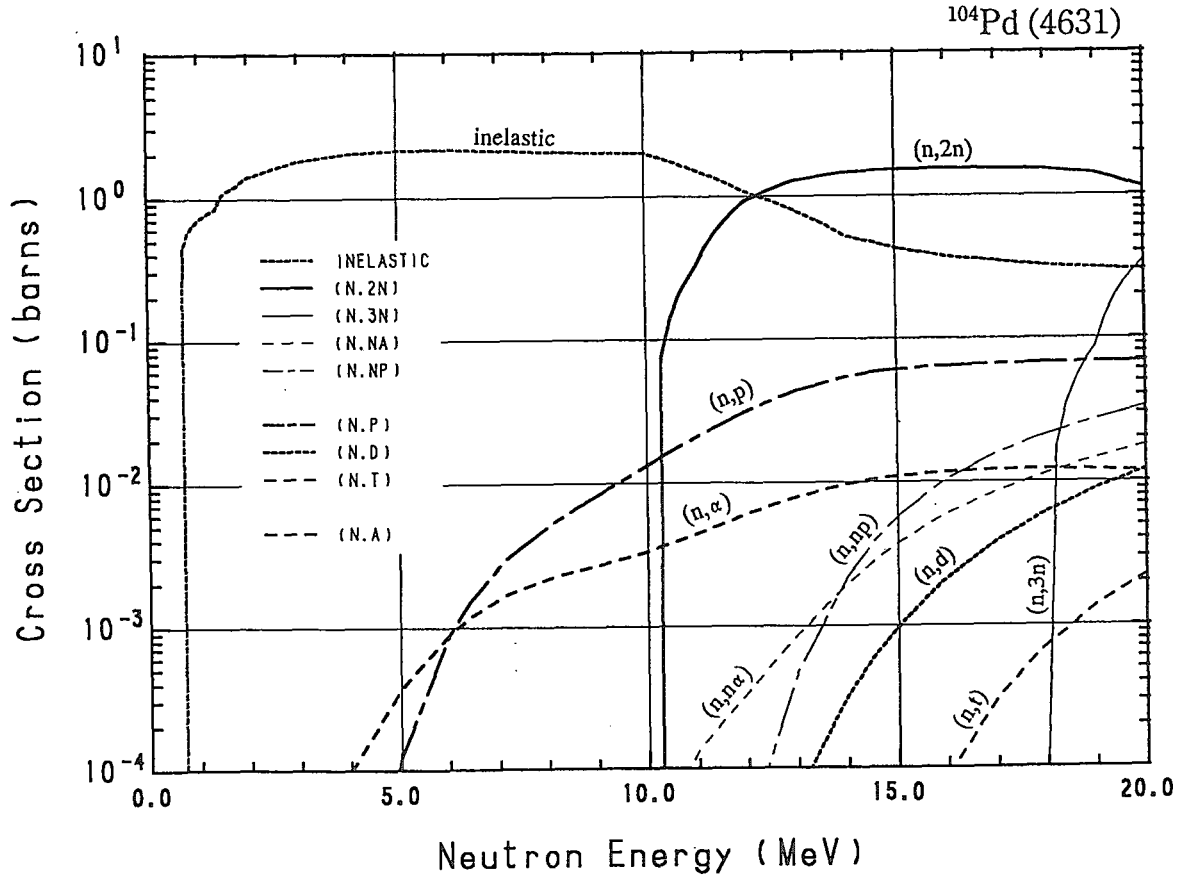

^{102}Pd (4625)
inelastic
(n,2n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-104 (MAT=4631)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.440	5.381	–	4.480	5.577
elastic	–	4.917	4.917	–	2.437	4.387
inelastic	561.2 keV	–	–	–	523.8×10^{-3}	1.109
(n,2n)	10.10 MeV	–	–	–	1.450	591.7×10^{-6}
(n,3n)	17.80 MeV	–	–	–	–	131.4×10^{-9}
(n,nα)	2.626 MeV	–	–	–	1.978×10^{-3}	504.8×10^{-9}
(n,np)	8.754 MeV	–	–	–	2.222×10^{-3}	443.8×10^{-9}
(n,nd)	15.83 MeV	–	–	–	–	918.7×10^{-15}
capture	–	523.0×10^{-3}	463.8×10^{-3}	21.89	1.038×10^{-3}	77.24×10^{-3}
(n,p)	1.682 MeV	–	–	–	54.30×10^{-3}	126.5×10^{-6}
(n,d)	6.421 MeV	–	–	–	328.7×10^{-6}	87.89×10^{-9}
(n,t)	9.590 MeV	–	–	–	869.9×10^{-9}	4.476×10^{-9}
(n,He-3)	7.225 MeV	–	–	–	8.095×10^{-12}	7.859×10^{-12}
(n,α)	–	0.000	0.000	7.345×10^{-3}	9.709×10^{-3}	81.06×10^{-6}

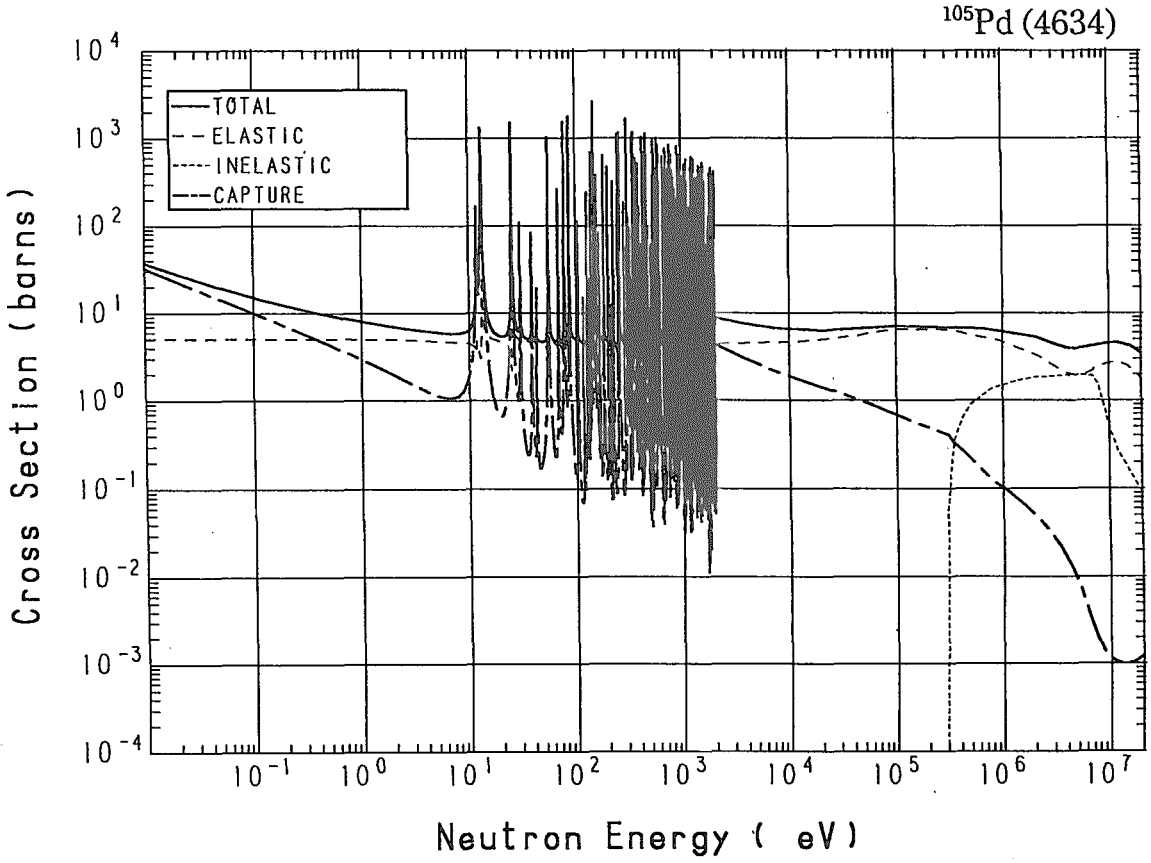


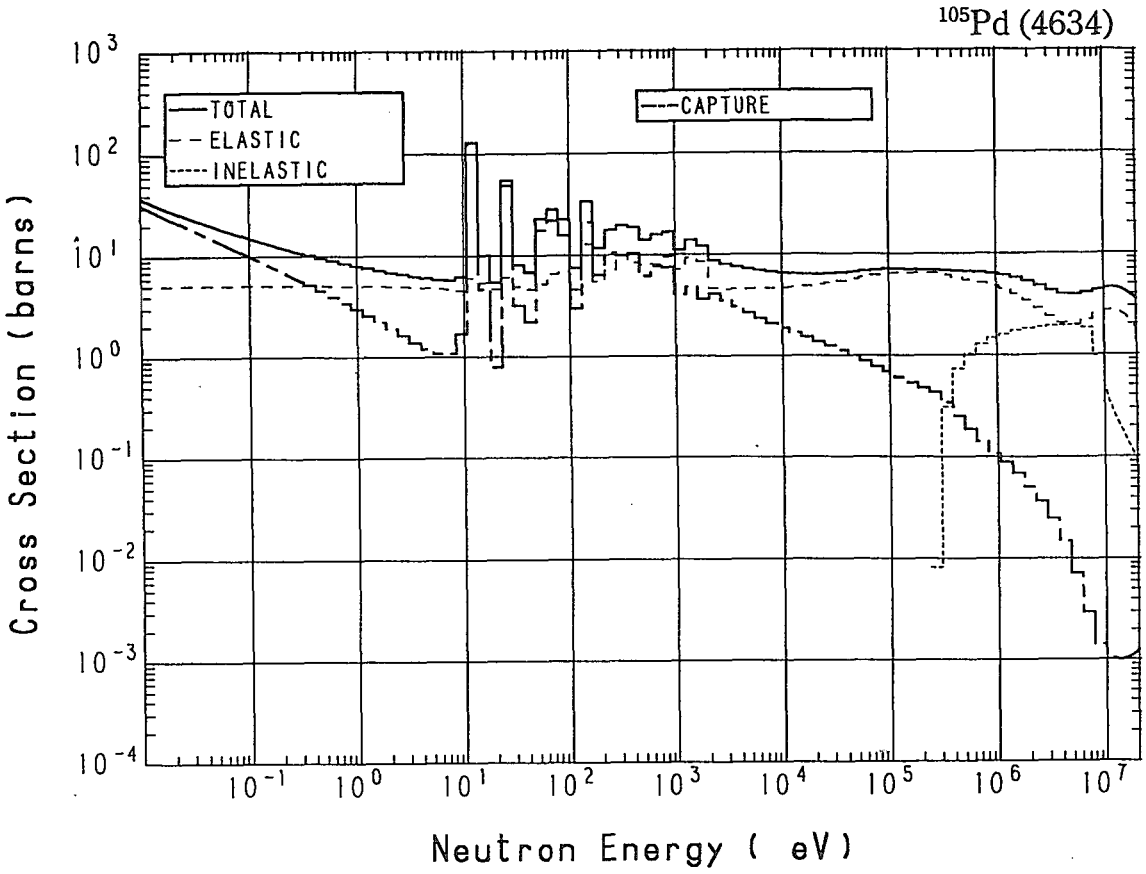

104Pd (4631)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

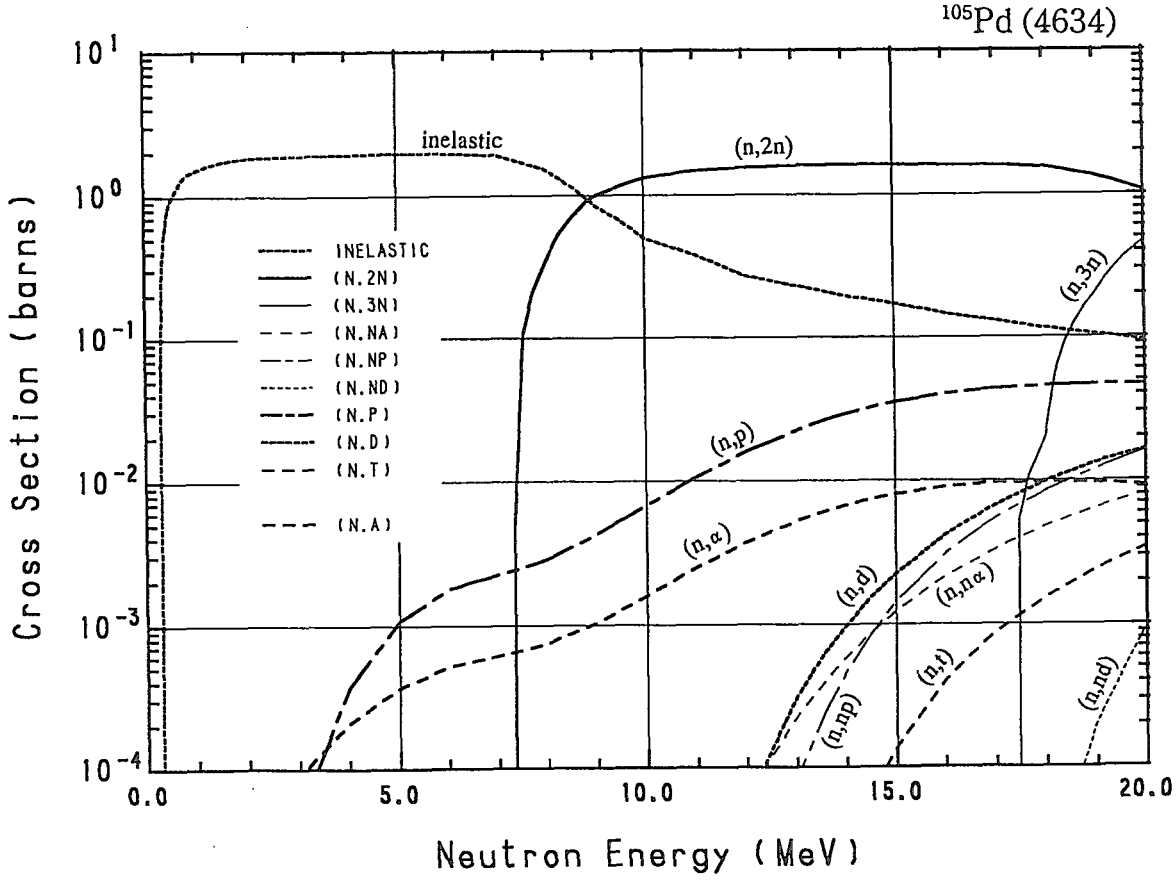

104Pd (4631)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,np)
(n,d)
(n,3n)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-105 (MAT=4634)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	25.37	23.06	–	4.480	5.572
elastic	–	5.126	5.125	–	2.642	3.929
inelastic	283.2 keV	–	–	–	194.6×10^{-3}	1.519
(n,2n)	7.166 MeV	–	–	–	1.605	6.262×10^{-3}
(n,3n)	17.26 MeV	–	–	–	–	259.9×10^{-9}
(n,nα)	2.920 MeV	–	–	–	589.1×10^{-6}	131.2×10^{-9}
(n,np)	8.848 MeV	–	–	–	465.3×10^{-6}	123.0×10^{-9}
(n,nd)	13.59 MeV	–	–	–	0.000	284.8×10^{-12}
capture	–	20.25	17.93	96.72	1.003×10^{-3}	114.8×10^{-3}
(n,p)	–	0.000	0.000	21.91×10^{-3}	28.82×10^{-3}	174.1×10^{-6}
(n,d)	6.516 MeV	–	–	–	978.8×10^{-6}	209.0×10^{-9}
(n,t)	7.342 MeV	–	–	–	28.45×10^{-6}	14.90×10^{-9}
(n,He-3)	8.094 MeV	–	–	–	1.002×10^{-12}	9.537×10^{-12}
(n,α)	–	0.000	0.000	5.063×10^{-3}	6.704×10^{-3}	79.55×10^{-6}

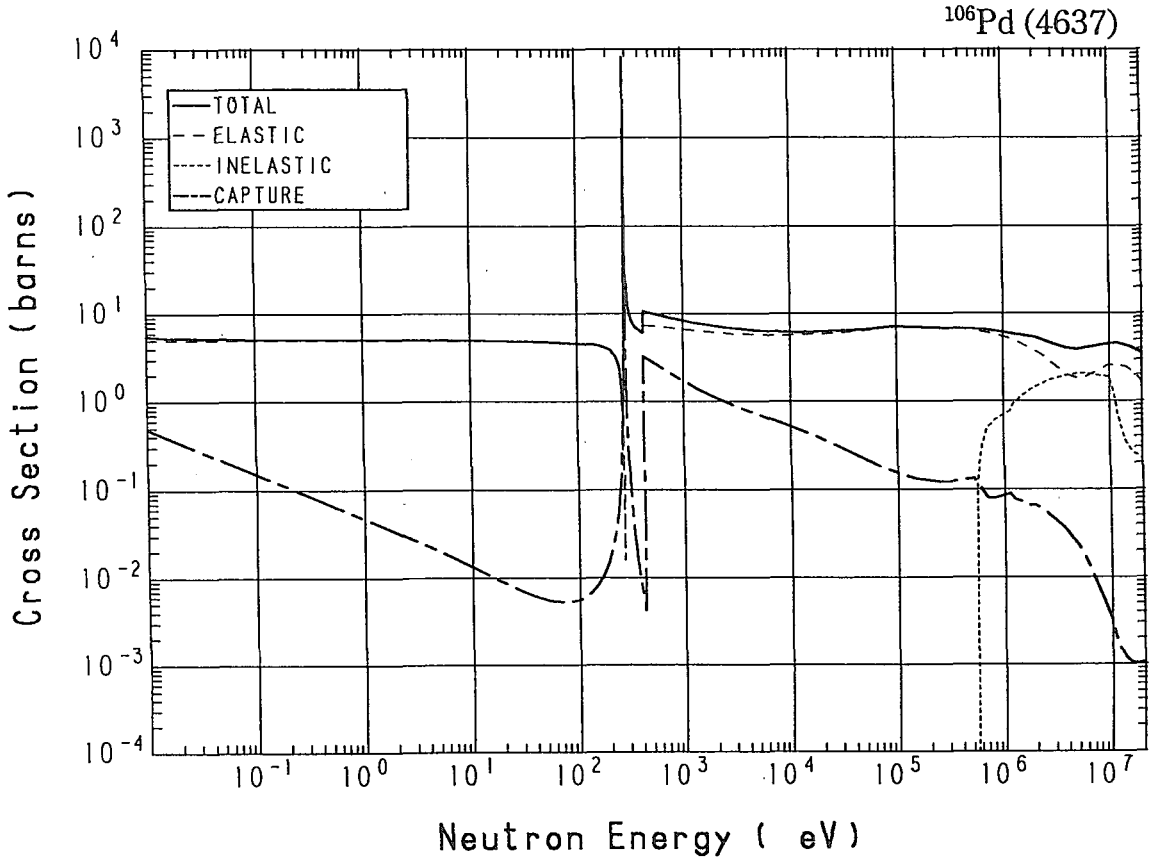


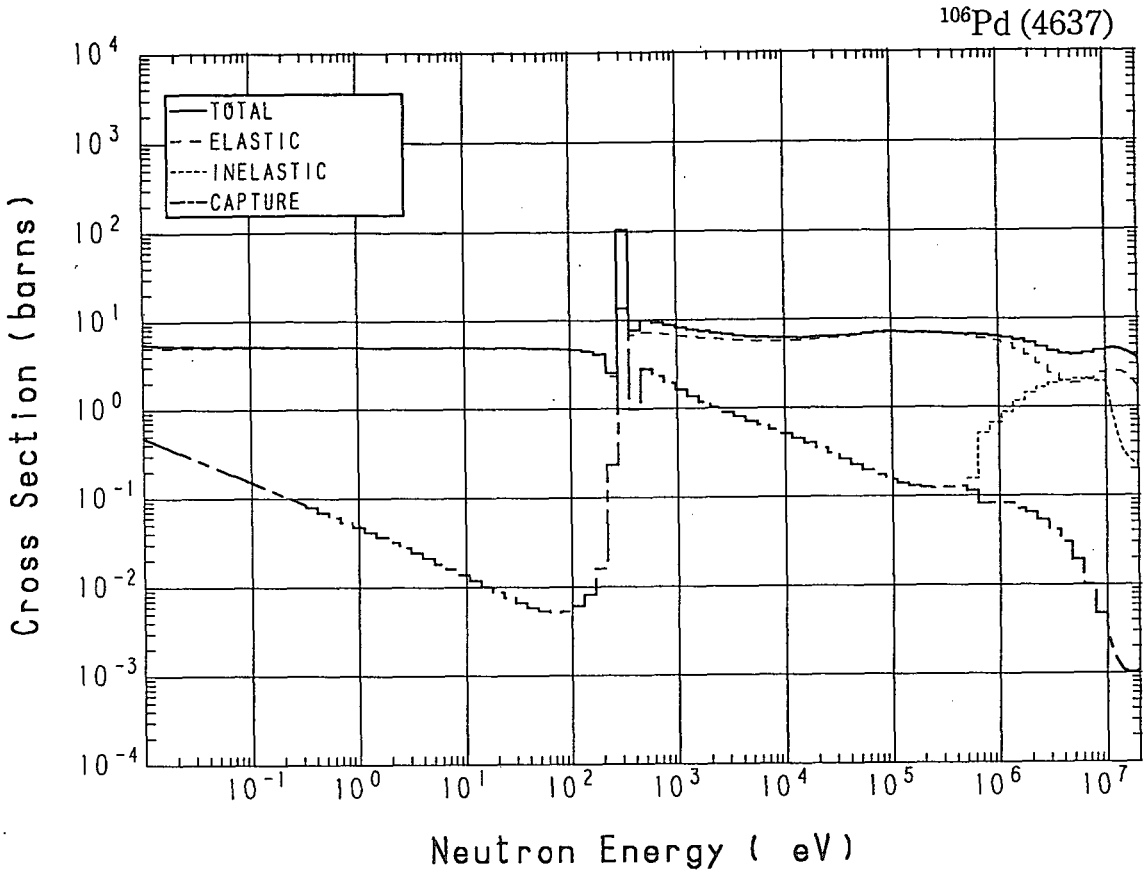

105Pd (4634)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

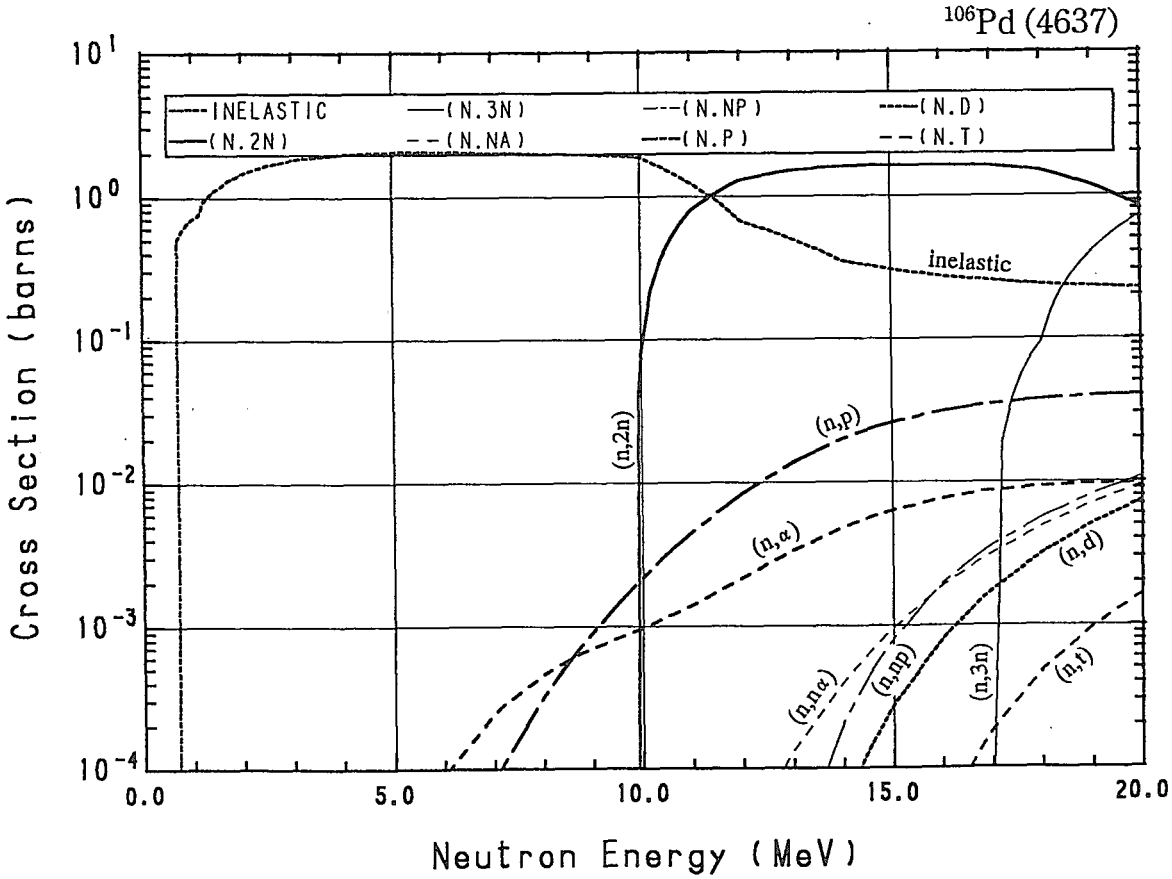

105Pd (4634)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,np)
(n,nd)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-106 (MAT=4637)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.304	5.269	–	4.480	5.574
elastic	–	5.001	5.001	–	2.508	4.362
inelastic	516.7 keV	–	–	–	349.2×10^{-3}	1.136
(n,2n)	9.658 MeV	–	–	–	1.597	989.4×10^{-6}
(n,3n)	16.82 MeV	–	–	–	–	579.5×10^{-9}
(n,nα)	3.265 MeV	–	–	–	401.9×10^{-6}	99.72×10^{-9}
(n,np)	9.441 MeV	–	–	–	211.3×10^{-6}	70.50×10^{-9}
capture	–	303.0×10^{-3}	268.5×10^{-3}	9.295	1.123×10^{-3}	72.70×10^{-3}
(n,p)	2.785 MeV	–	–	–	19.90×10^{-3}	13.57×10^{-6}
(n,d)	7.109 MeV	–	–	–	57.23×10^{-6}	30.24×10^{-9}
(n,t)	9.929 MeV	–	–	–	236.0×10^{-9}	2.751×10^{-9}
(n,α)	–	0.000	0.000	3.866×10^{-3}	4.826×10^{-3}	11.68×10^{-6}

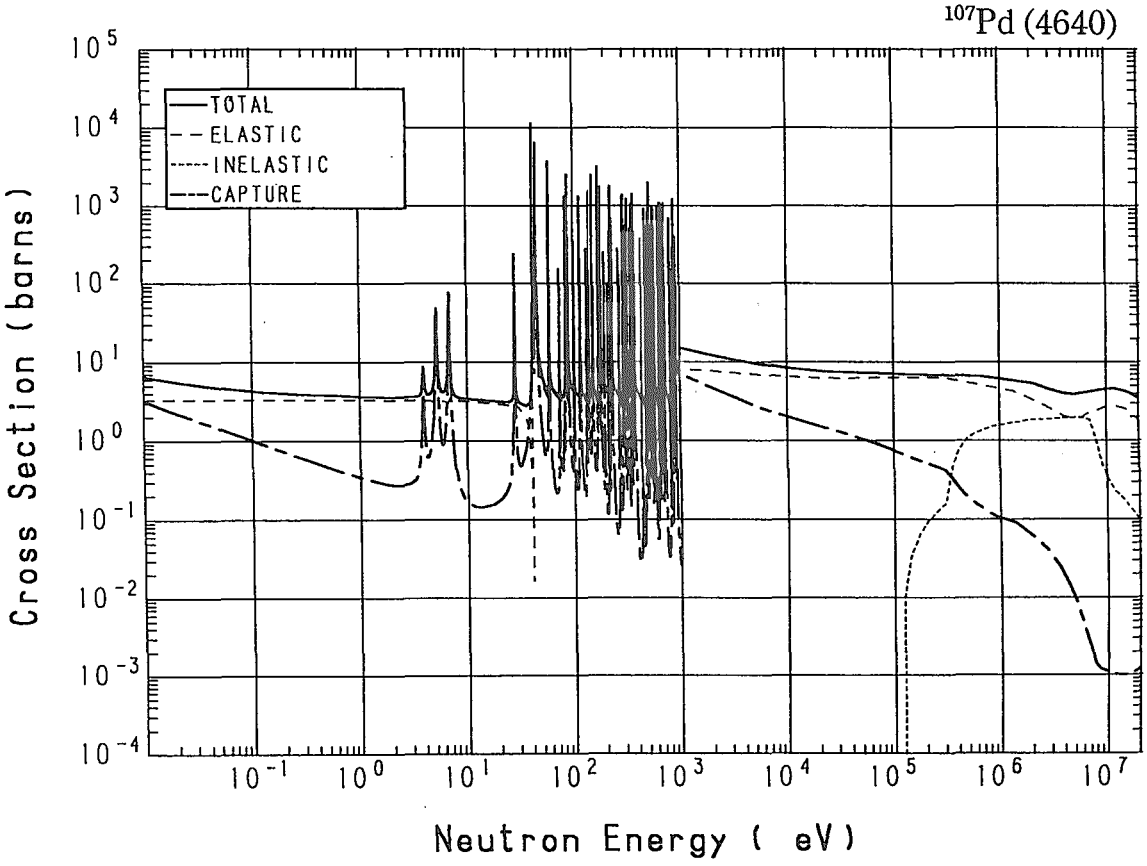


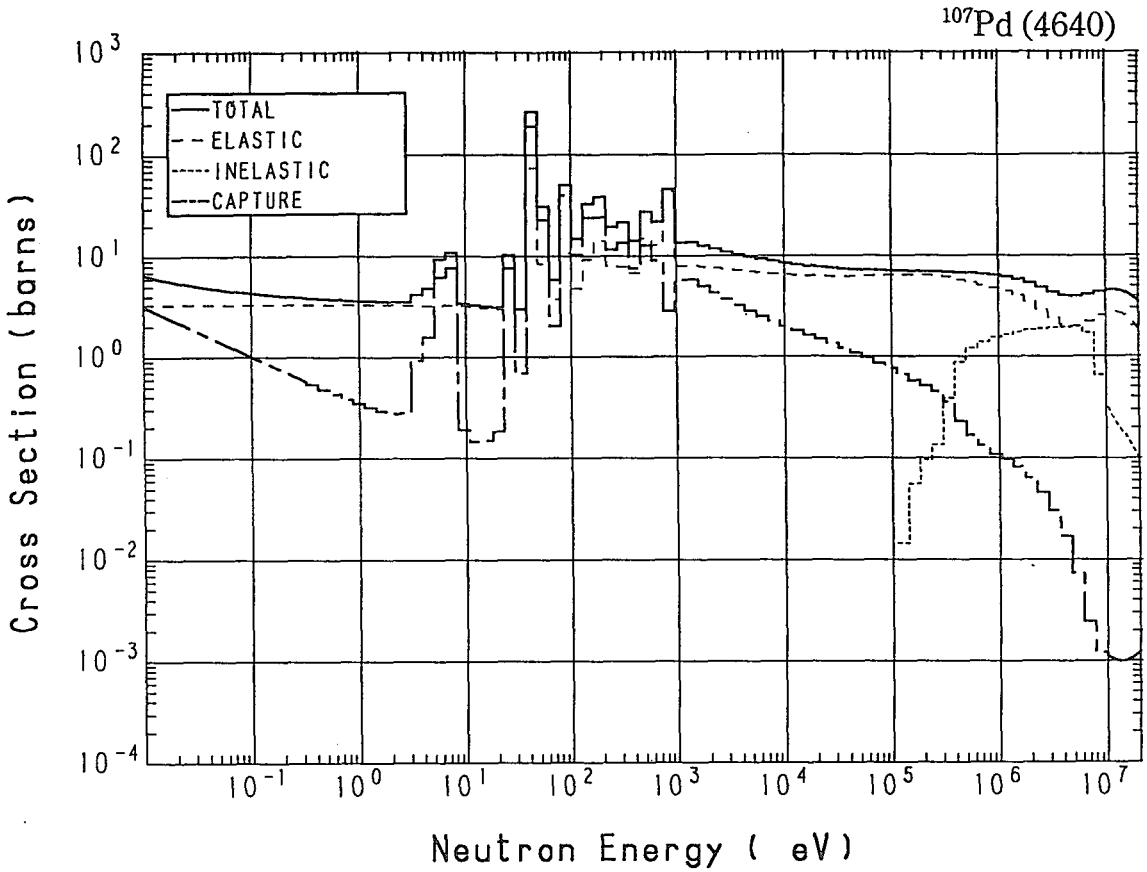

106Pd (4637)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

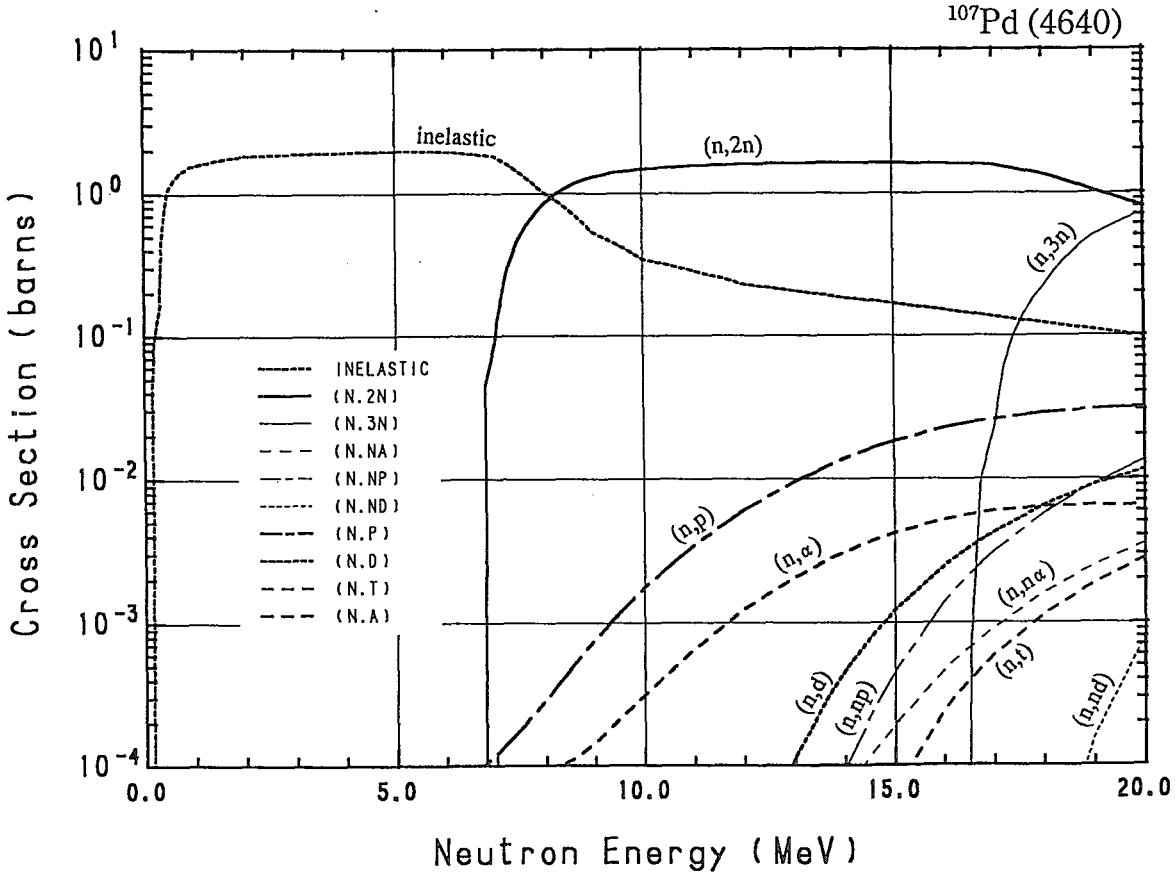

106Pd (4637)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,3n)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-107 (MAT=4640)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.326	5.100	–	4.480	5.580
elastic	–	3.318	3.318	–	2.657	3.897
inelastic	116.8 keV	–	–	–	183.6×10^{-3}	1.547
(n,2n)	6.596 MeV	–	–	–	1.621	10.78×10^{-3}
(n,3n)	16.25 MeV	–	–	–	–	912.3×10^{-9}
(n,nα)	3.565 MeV	–	–	–	68.51×10^{-6}	21.22×10^{-9}
(n,np)	9.380 MeV	–	–	–	94.77×10^{-6}	52.97×10^{-9}
(n,nd)	13.70 MeV	–	–	–	0.000	224.6×10^{-12}
capture	–	2.007	1.781	112.2	1.002×10^{-3}	121.5×10^{-3}
(n,p)	735.4 keV	–	–	–	13.68×10^{-3}	13.14×10^{-6}
(n,d)	7.048 MeV	–	–	–	458.9×10^{-6}	108.6×10^{-9}
(n,t)	7.460 MeV	–	–	–	9.925×10^{-6}	9.261×10^{-9}
(n,α)	–	0.000	0.000	2.446×10^{-3}	3.091×10^{-3}	8.857×10^{-6}

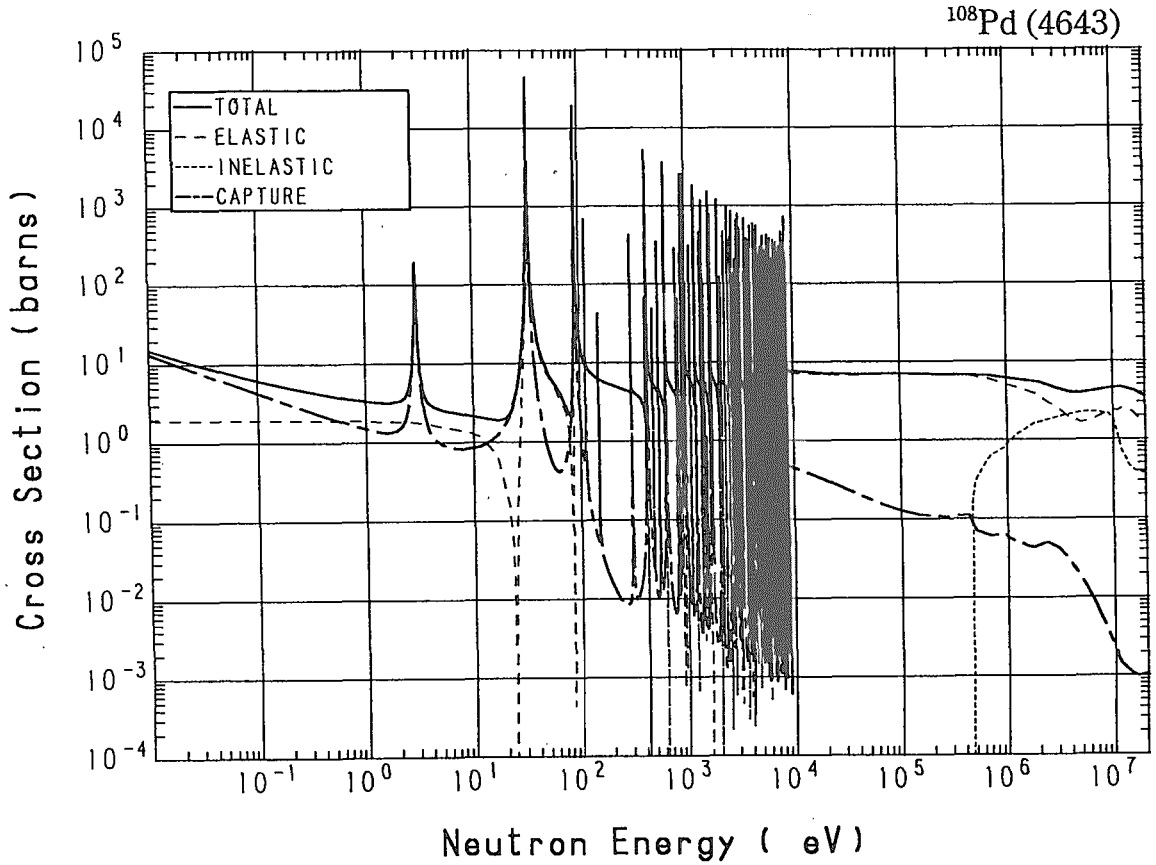


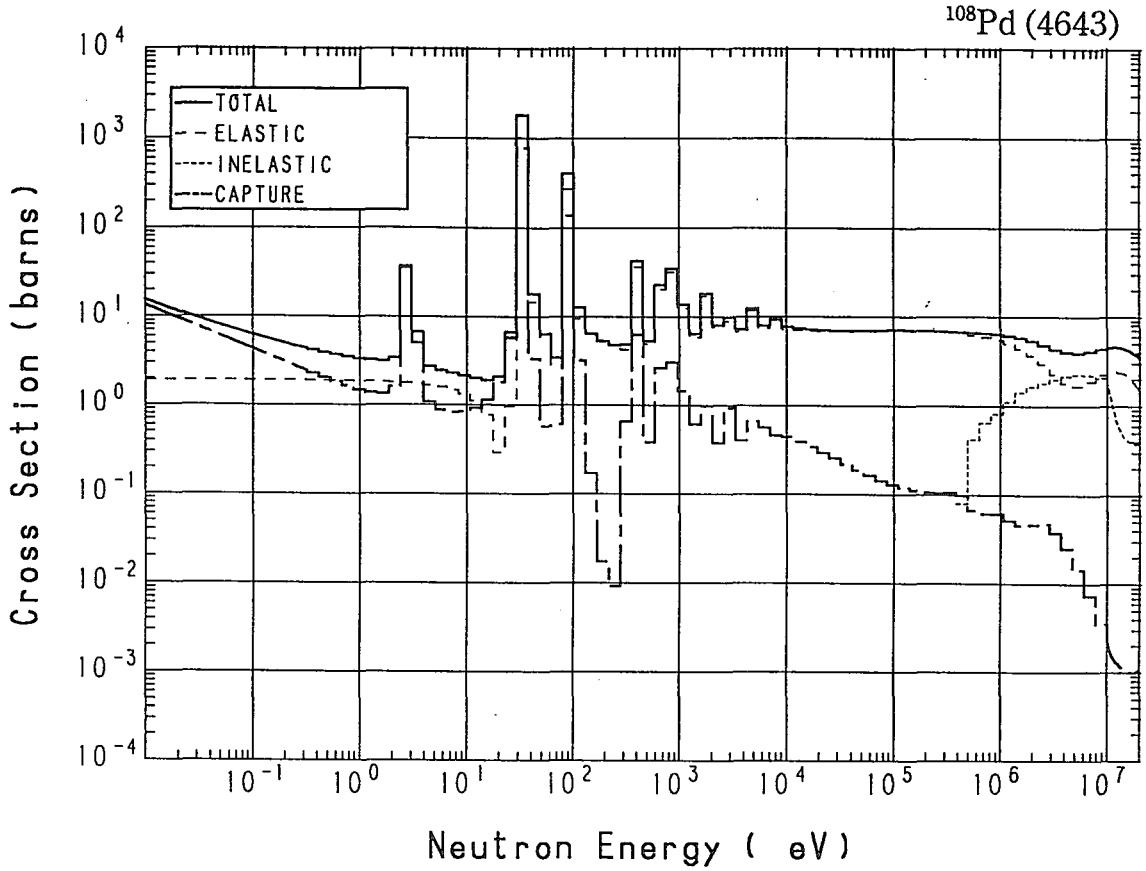

107Pd (4640)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

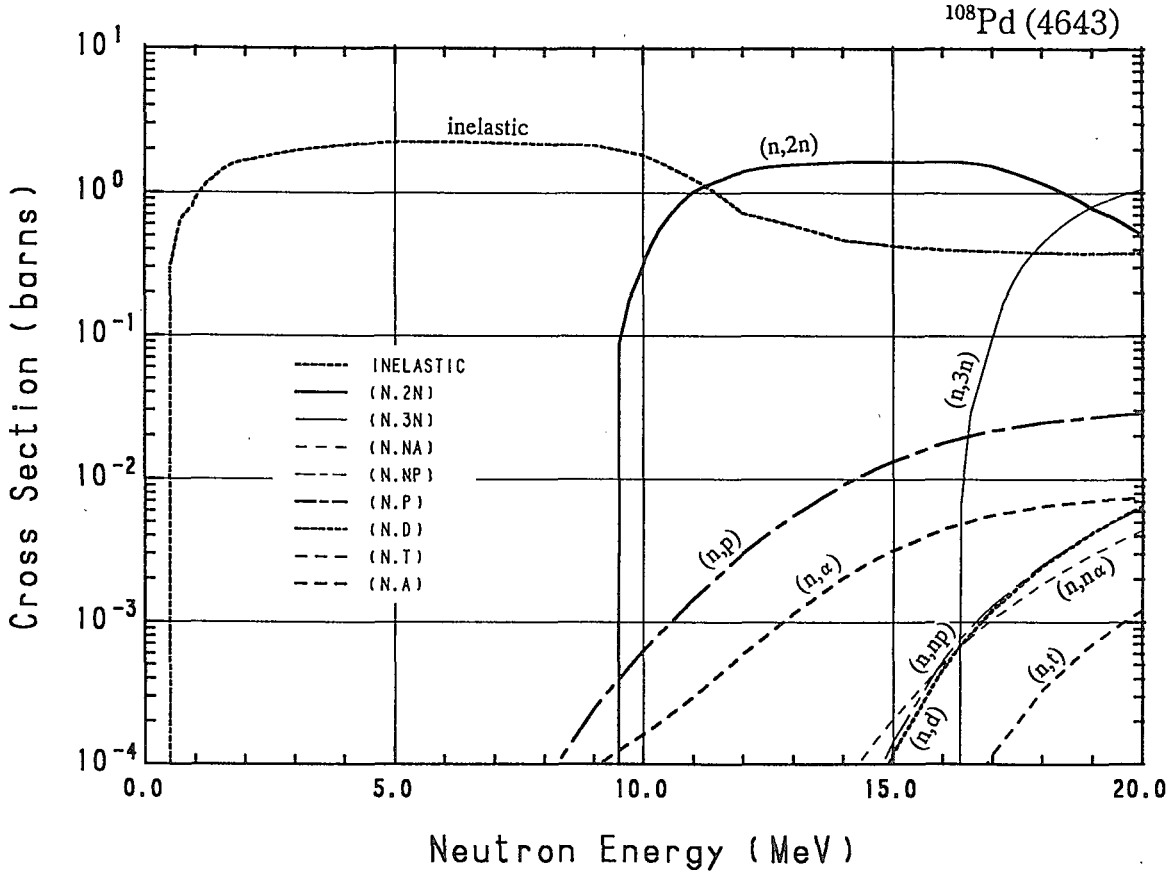

107Pd (4640)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,np)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-108 (MAT=4643)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	10.42	9.465	–	4.480	5.579
elastic	–	1.921	1.919	–	2.364	4.219
inelastic	438.1 keV	–	–	–	467.3×10^{-3}	1.301
(n,2n)	9.314 MeV	–	–	–	1.637	1.348×10^{-3}
(n,3n)	15.91 MeV	–	–	–	–	1.795×10^{-6}
(n,nα)	3.882 MeV	–	–	–	71.64×10^{-6}	23.07×10^{-9}
(n,np)	10.05 MeV	–	–	–	21.48×10^{-6}	20.35×10^{-9}
capture	–	8.503	7.546	252.1	1.097×10^{-3}	54.28×10^{-3}
(n,p)	3.755 MeV	–	–	–	9.123×10^{-3}	4.316×10^{-6}
(n,d)	7.718 MeV	–	–	–	16.18×10^{-6}	18.53×10^{-9}
(n,t)	10.12 MeV	–	–	–	81.58×10^{-9}	1.835×10^{-9}
(n,α)	–	0.000	0.000	2.082×10^{-3}	2.045×10^{-3}	1.493×10^{-6}

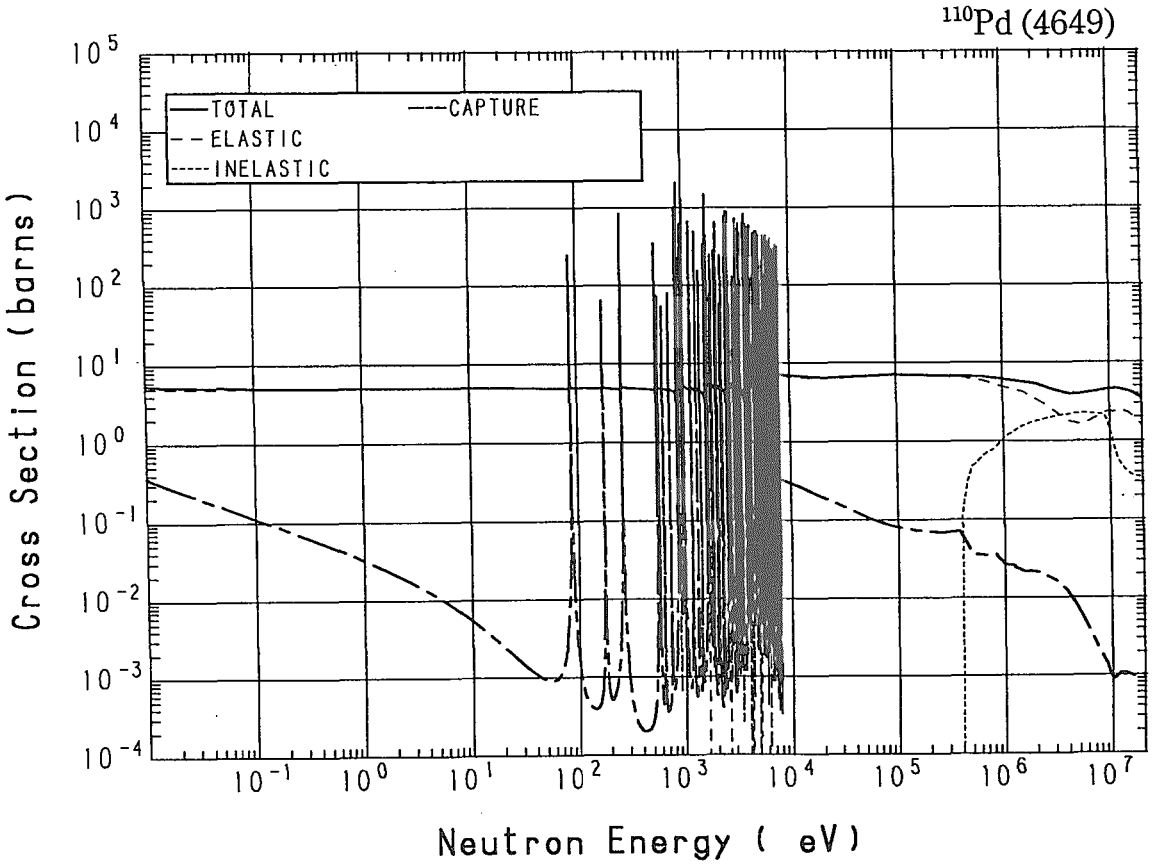


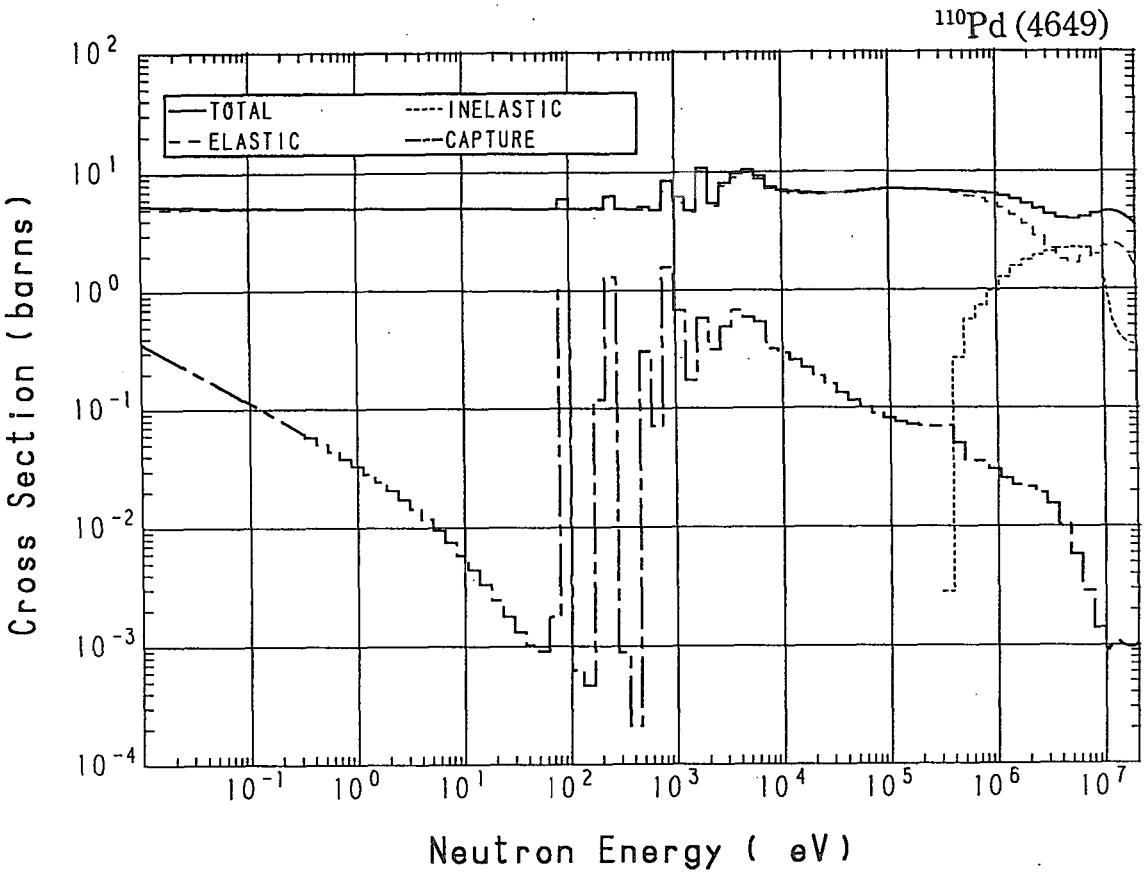

108Pd (4643)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

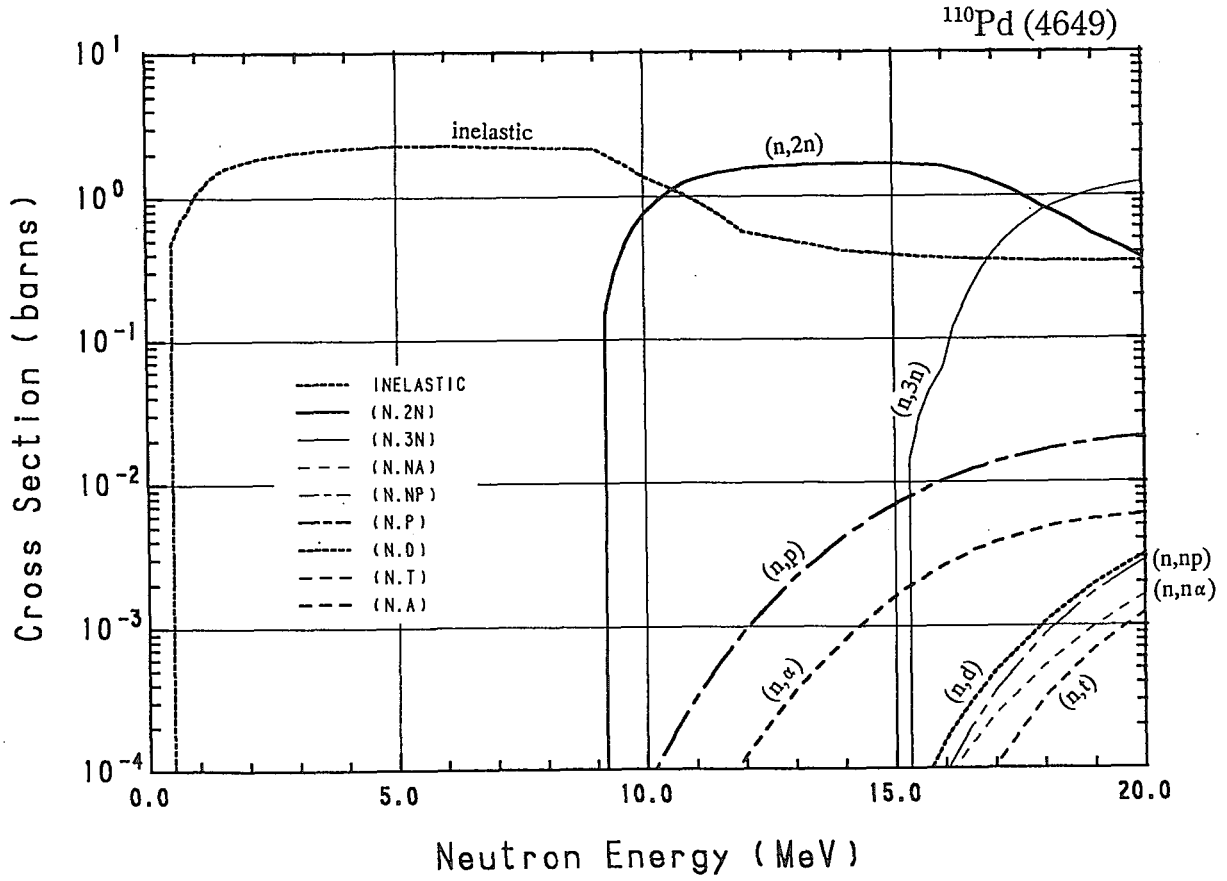

108Pd (4643)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(n,3n)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,t)
(n,d)
Cross Section (barns)
Neutron Energy (MeV)

46-Pd-110 (MAT=4649)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.222	5.195	–	4.480	5.572
elastic	–	4.995	4.995	–	2.387	4.133
inelastic	377.2 keV	–	–	–	412.7×10^{-3}	1.405
(n,2n)	8.886 MeV	–	–	–	1.675	2.096×10^{-3}
(n,3n)	15.10 MeV	–	–	–	–	4.281×10^{-6}
(n,nα)	4.464 MeV	–	–	–	5.884×10^{-6}	4.093×10^{-9}
(n,np)	10.62 MeV	–	–	–	984.4×10^{-9}	5.234×10^{-9}
capture	–	227.0×10^{-3}	201.0×10^{-3}	2.814	1.031×10^{-3}	27.78×10^{-3}
(n,p)	4.665 MeV	–	–	–	4.267×10^{-3}	1.159×10^{-6}
(n,d)	8.284 MeV	–	–	–	3.000×10^{-6}	7.104×10^{-9}
(n,t)	10.28 MeV	–	–	–	44.76×10^{-9}	1.699×10^{-9}
(n,α)	–	0.000	0.000	1.300×10^{-3}	812.0×10^{-6}	238.2×10^{-9}

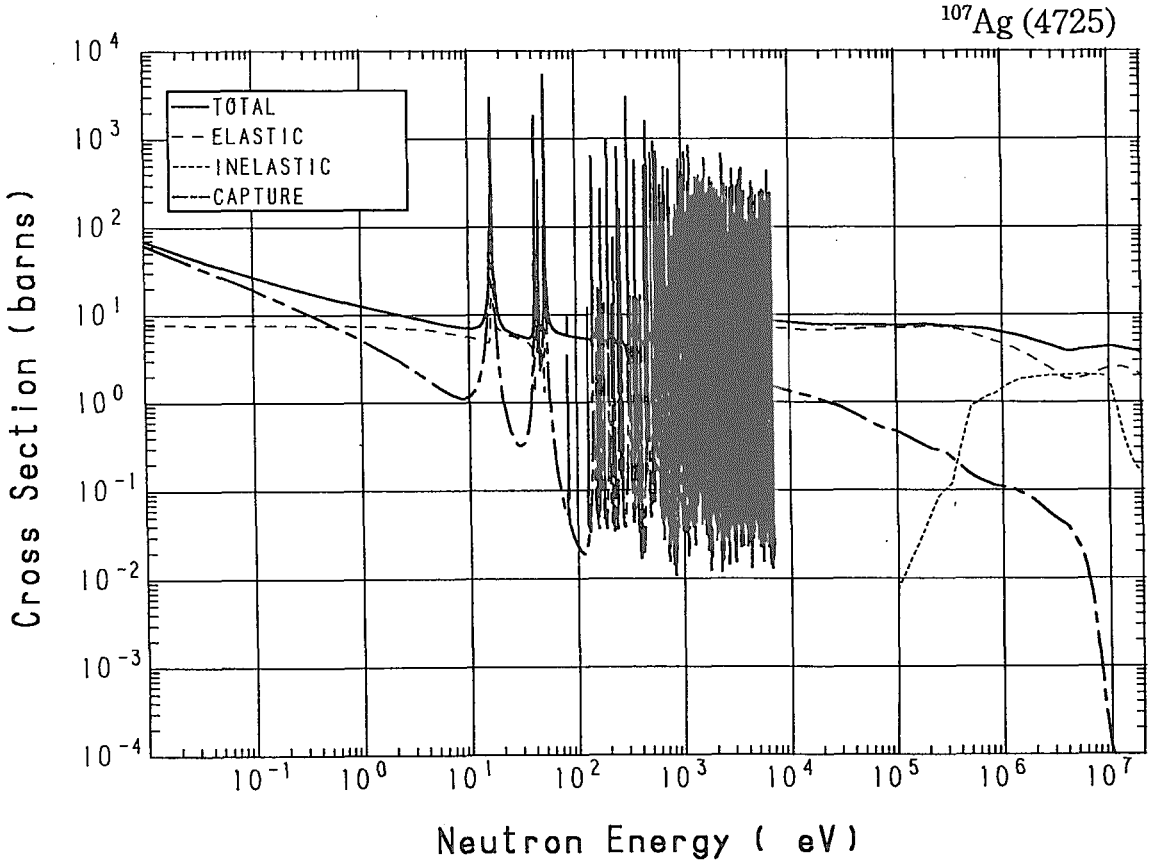


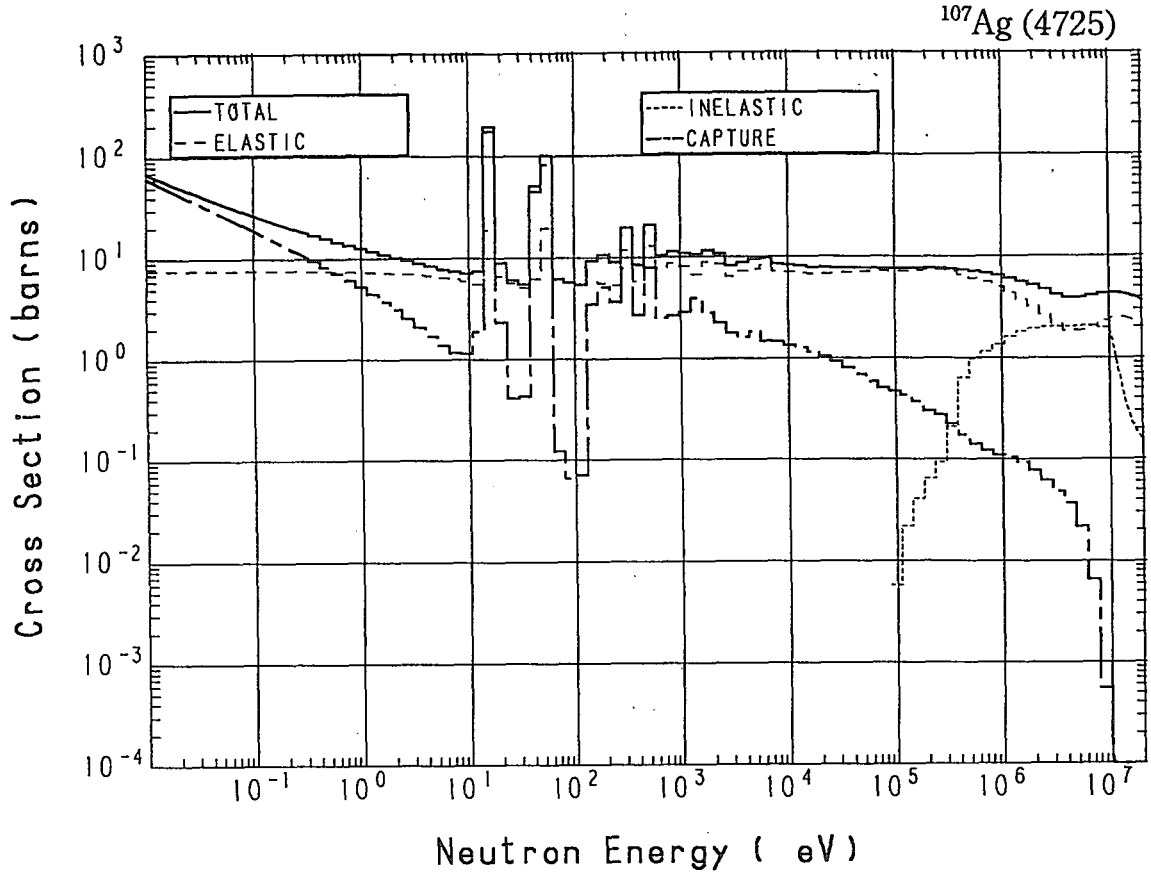

110Pd (4649)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

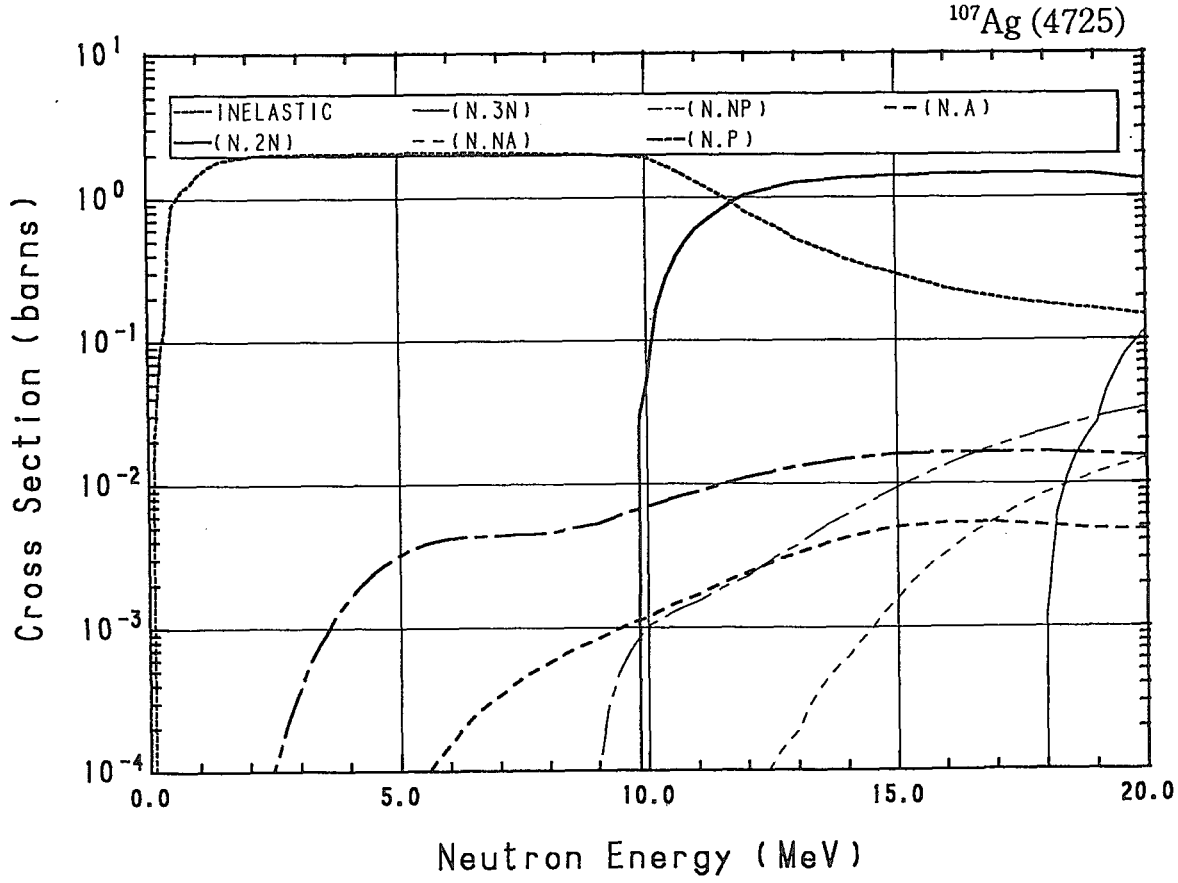

110Pd (4649)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,t)
(n,np)
(n,nα)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

47-Ag-107 (MAT=4725)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	46.31	41.85	–	4.258	5.658
elastic	–	7.687	7.679	–	2.514	3.980
inelastic	93.88 keV	–	–	–	367.8×10^{-3}	1.569
(n,2n)	9.637 MeV	–	–	–	1.351	787.8×10^{-6}
(n,3n)	17.64 MeV	–	–	–	–	42.75×10^{-9}
(n,nα)	2.831 MeV	–	–	–	623.8×10^{-6}	211.9×10^{-9}
(n,np)	5.835 MeV	–	–	–	6.100×10^{-3}	4.466×10^{-6}
capture	–	38.62	34.17	103.9	78.43×10^{-6}	107.7×10^{-3}
(n,p)	–	0.000	0.000	13.36×10^{-3}	14.74×10^{-3}	490.1×10^{-6}
(n,α)	–	0.000	0.000	2.914×10^{-3}	4.215×10^{-3}	16.83×10^{-6}

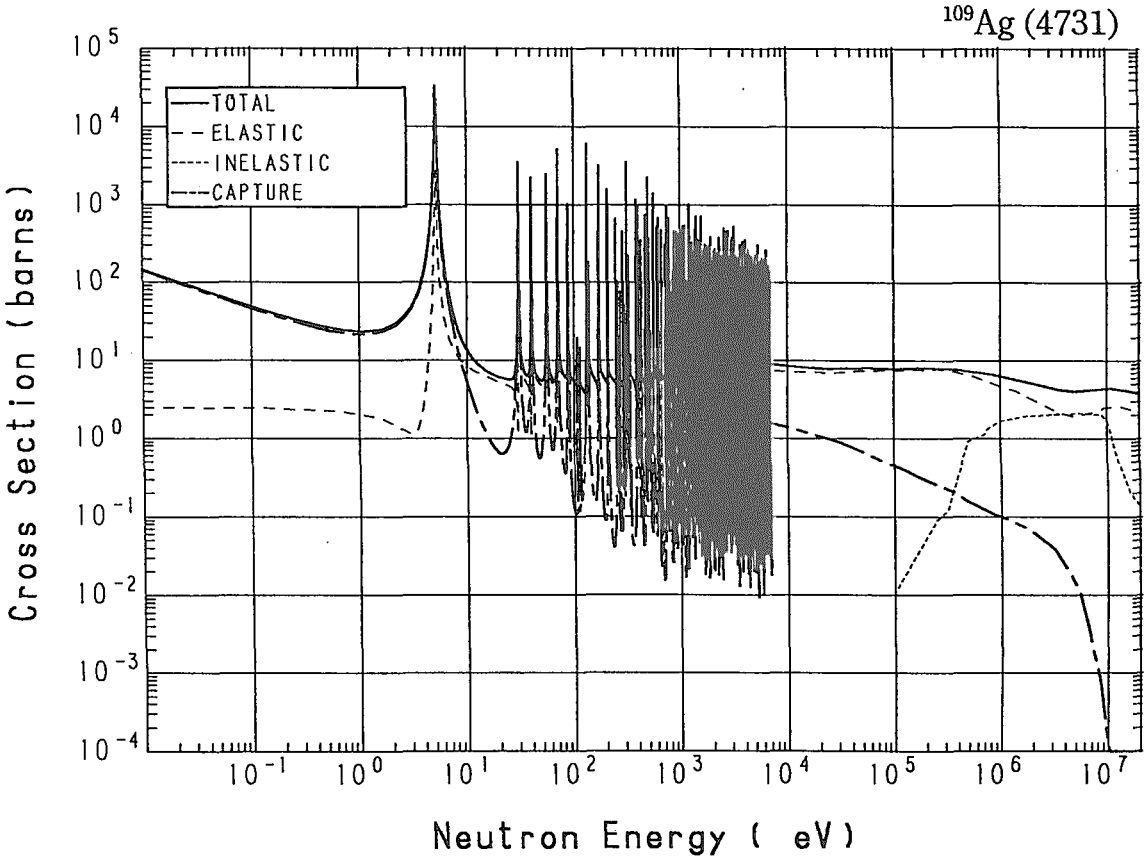


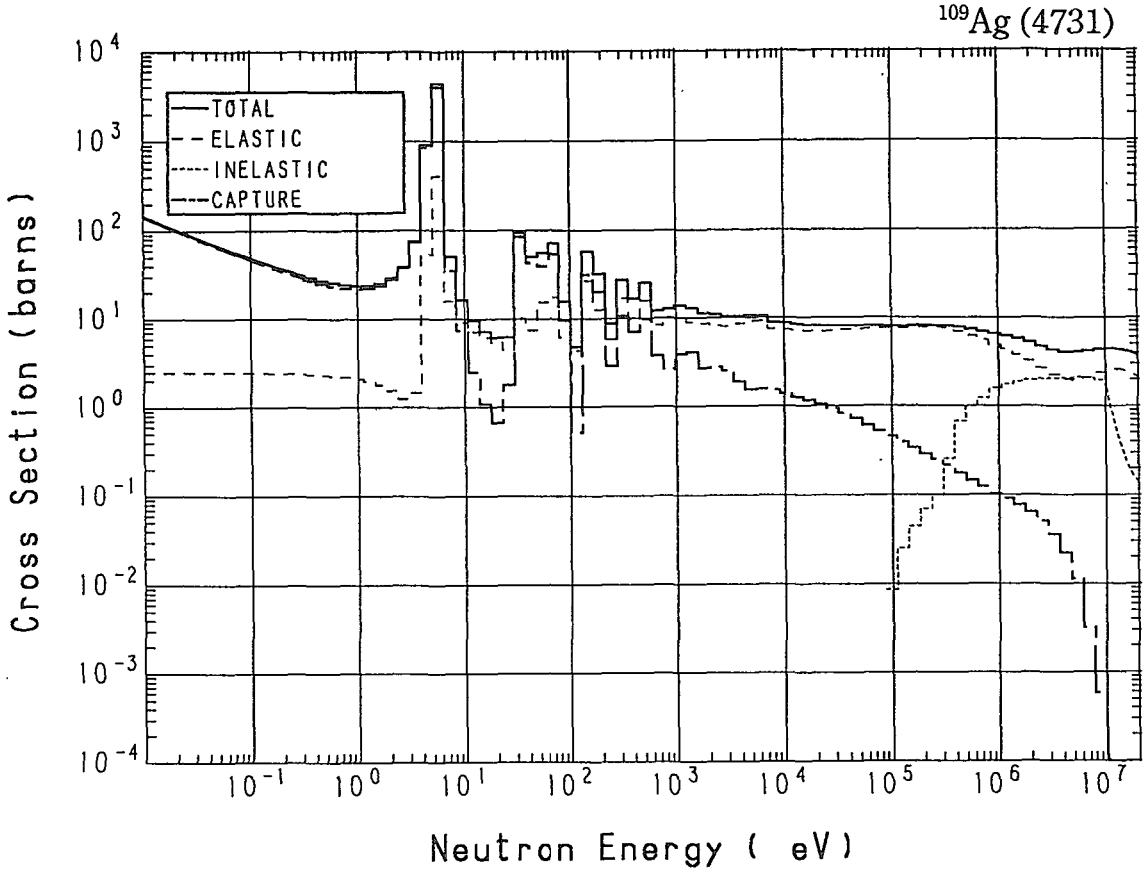

107Ag (4725)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

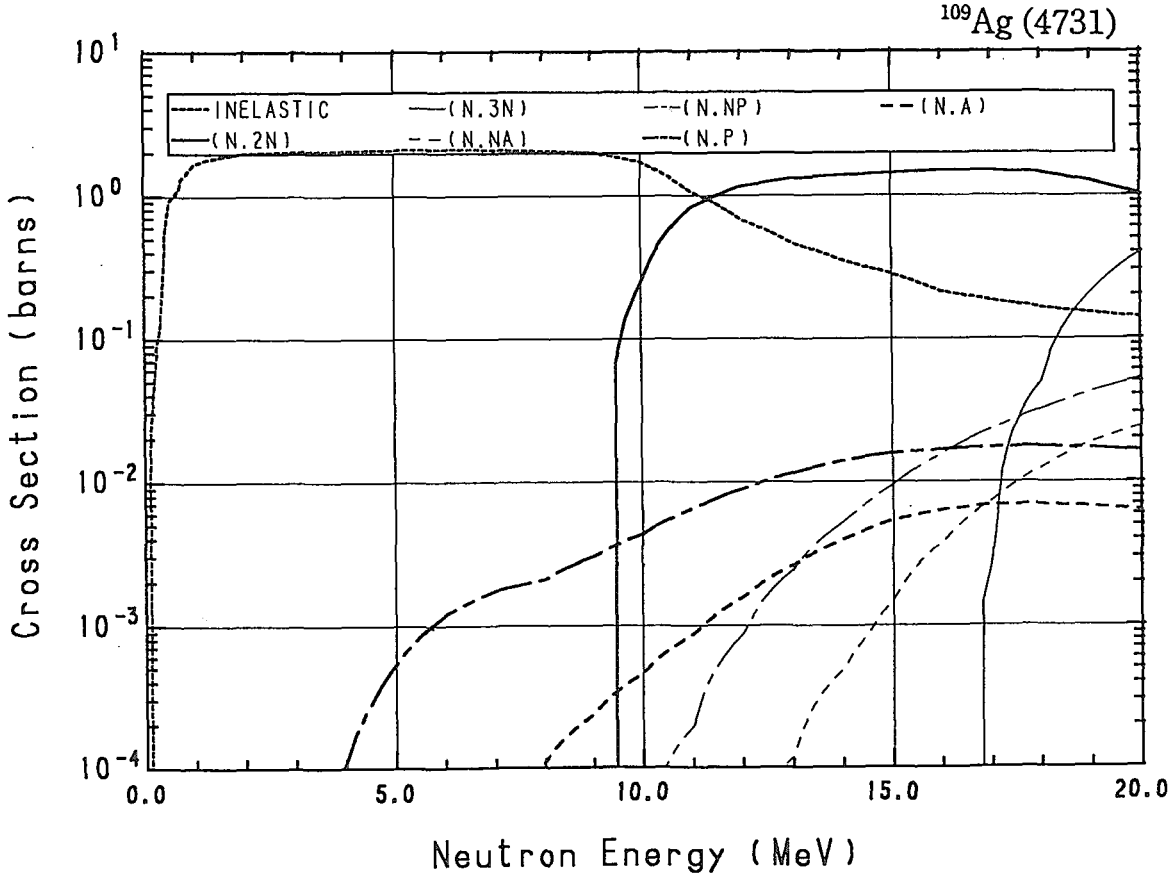

107Ag (4725)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,A)
Cross Section (barns)
Neutron Energy (MeV)

47-Ag-109 (MAT=4731)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	93.02	83.13	–	4.335	5.775
elastic	–	2.483	2.474	–	2.578	4.053
inelastic	88.81 keV	–	–	–	351.5×10^{-3}	1.624
(n,2n)	9.277 MeV	–	–	–	1.382	1.107×10^{-3}
(n,3n)	16.61 MeV	–	–	–	–	314.9×10^{-9}
(n,nα)	3.322 MeV	–	–	–	495.4×10^{-6}	206.1×10^{-9}
(n,np)	6.548 MeV	–	–	–	5.243×10^{-3}	1.306×10^{-6}
capture	–	90.53	80.66	$1.471\times10^{+3}$	53.80×10^{-6}	97.17×10^{-3}
(n,p)	336.6 keV	–	–	–	13.92×10^{-3}	100.0×10^{-6}
(n,α)	–	0.000	0.000	2.851×10^{-3}	3.955×10^{-3}	3.598×10^{-6}

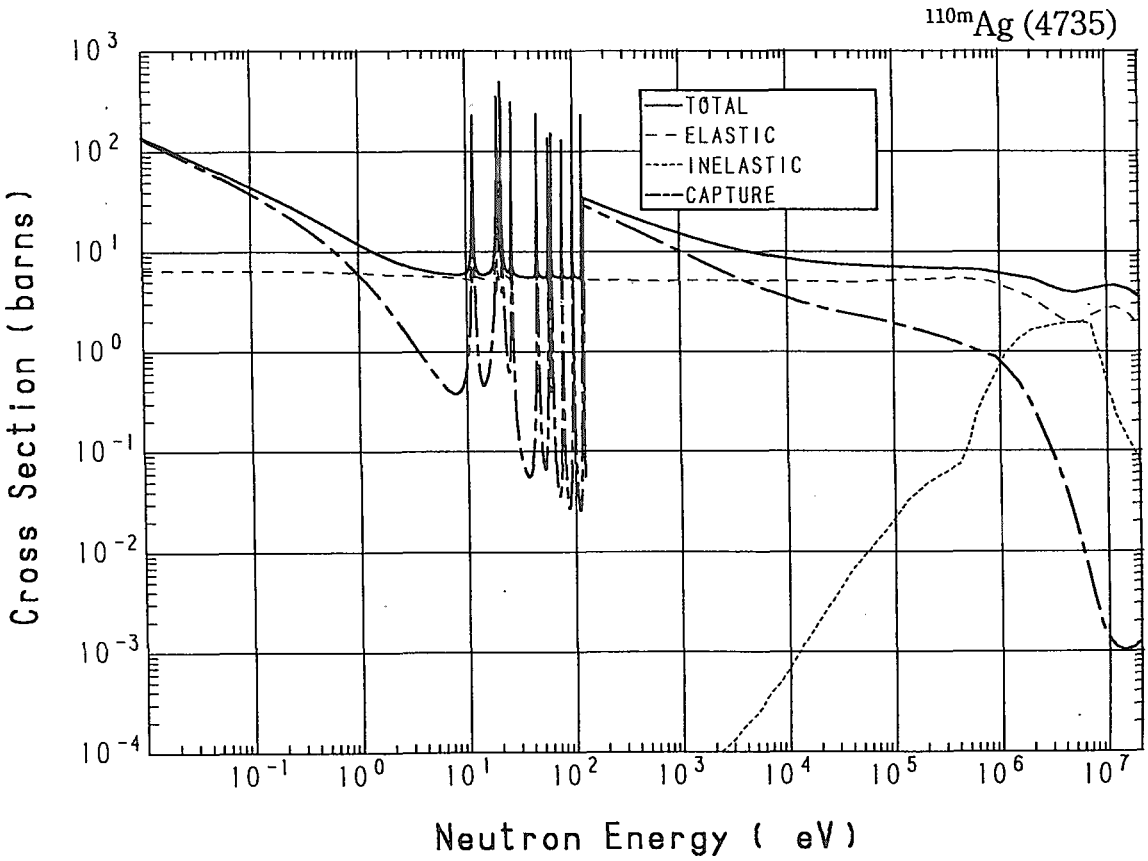


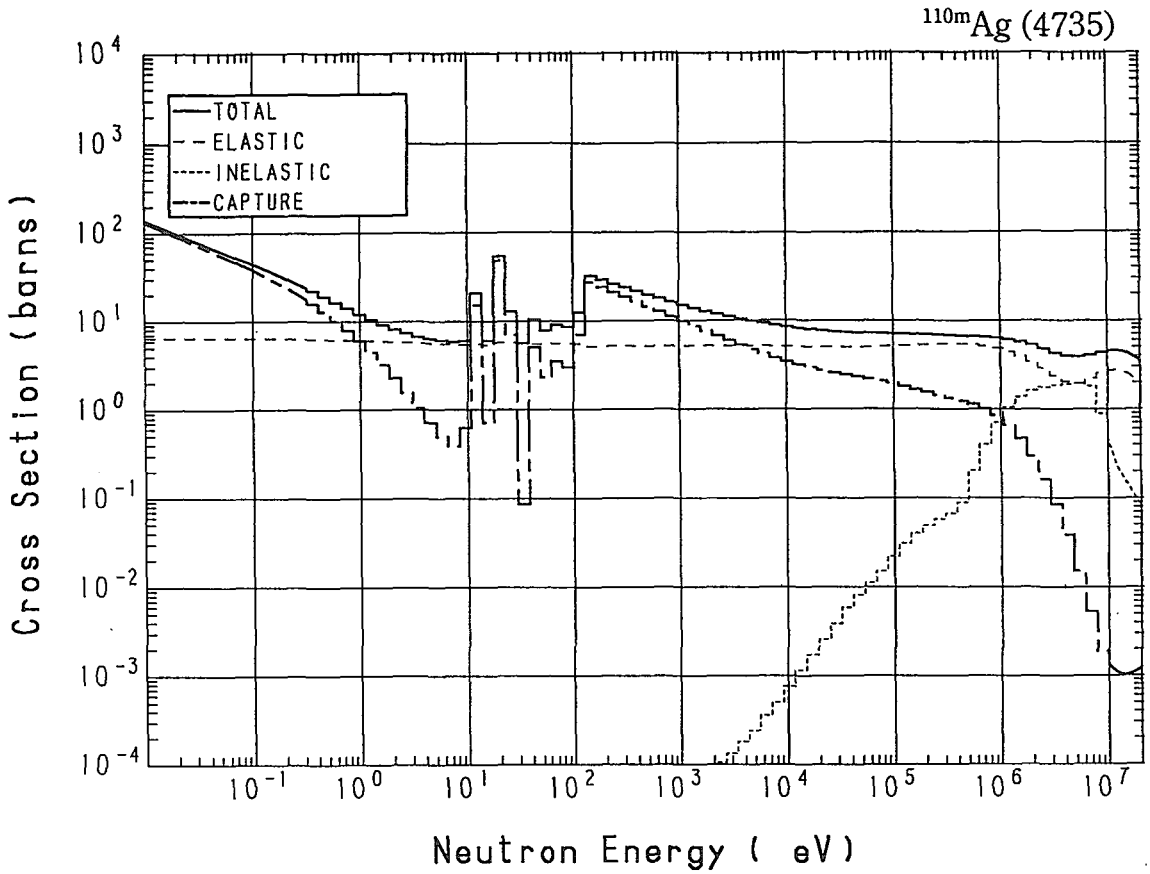

109Ag (4731)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

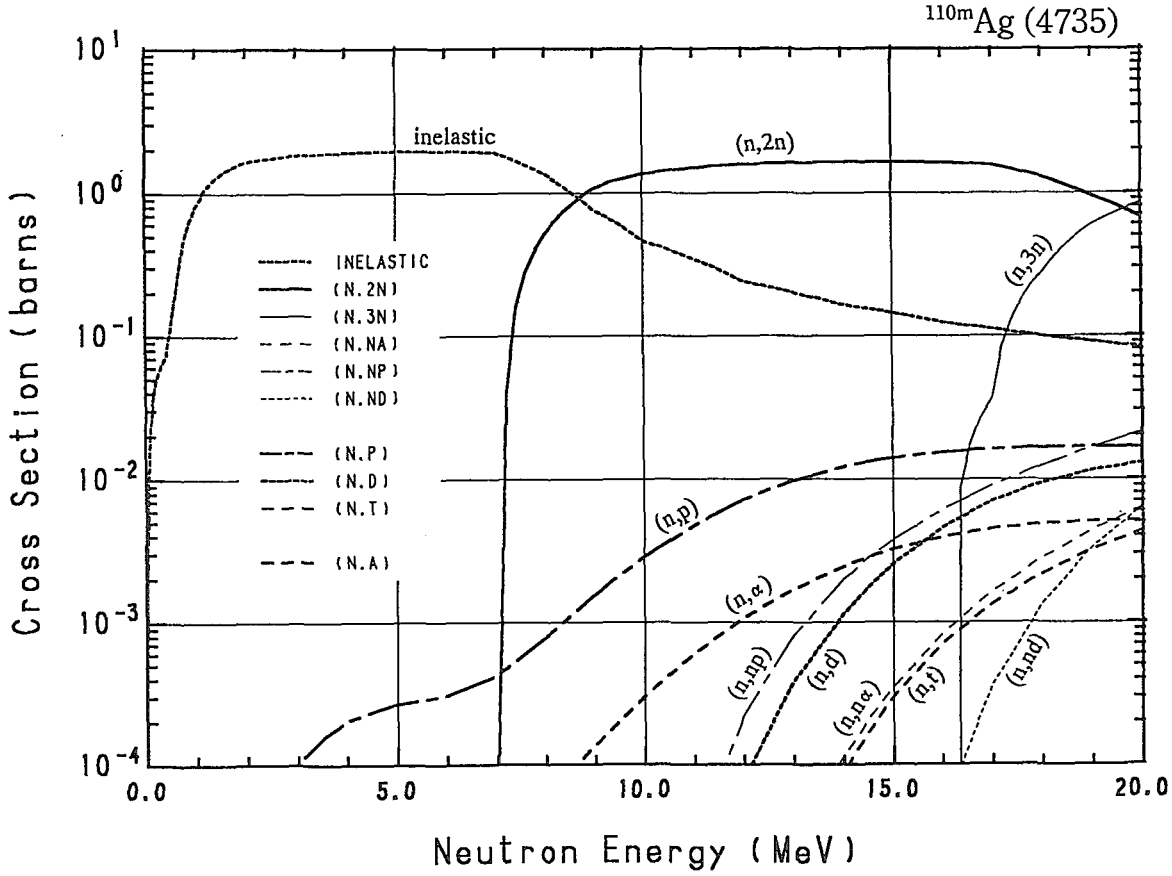

109Ag (4731)
INELASTIC
(N,3N)
(N,NP)
(N,A)
(N,2N)
(N,NA)
(N,P)
Cross Section (barns)
Neutron Energy (MeV)

47-Ag-110m (MAT=4735)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	88.47	78.31	–	4.480	5.578
elastic	–	6.468	6.454	–	2.659	3.807
inelastic	–	0.000	0.000	4.135	165.0×10^{-3}	1.196
(n,2n)	6.873 MeV	–	–	–	1.638	7.517×10^{-3}
(n,3n)	16.15 MeV	–	–	–	–	1.171×10^{-6}
(n,nα)	3.538 MeV	–	–	–	118.1×10^{-6}	36.24×10^{-9}
(n,np)	7.209 MeV	–	–	–	1.998×10^{-3}	402.4×10^{-9}
(n,nd)	11.09 MeV	–	–	–	14.55×10^{-9}	6.874×10^{-9}
(n,nt)	14.16 MeV	–	–	–	–	16.99×10^{-12}
capture	–	82.00	71.85	93.89	1.043×10^{-3}	564.1×10^{-3}
(n,p)	–	0.000	0.000	8.494×10^{-3}	12.11×10^{-3}	72.80×10^{-6}
(n,d)	4.878 MeV	–	–	–	1.140×10^{-3}	236.0×10^{-9}
(n,t)	4.852 MeV	–	–	–	87.68×10^{-6}	27.38×10^{-9}
(n,He-3)	9.377 MeV	–	–	–	177.5×10^{-15}	4.187×10^{-12}
(n,α)	–	0.000	0.000	1.895×10^{-3}	2.447×10^{-3}	2.897×10^{-6}

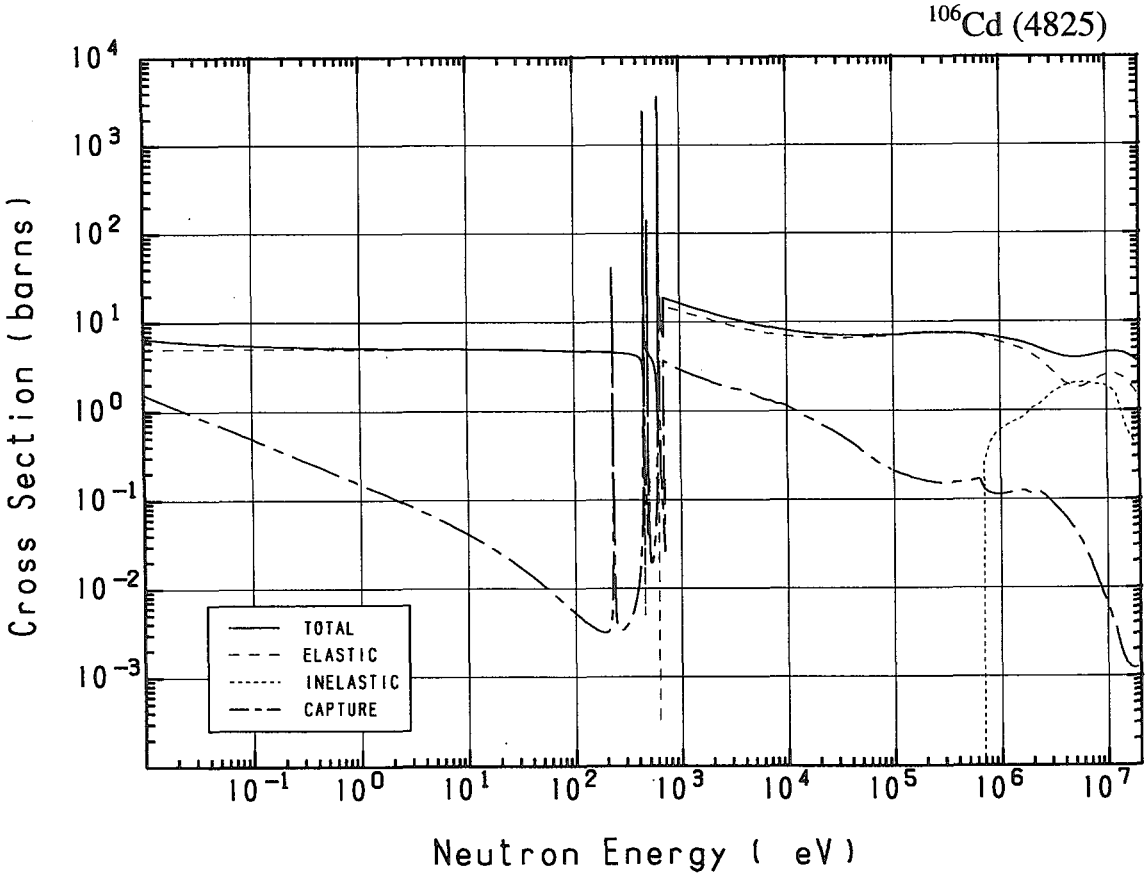


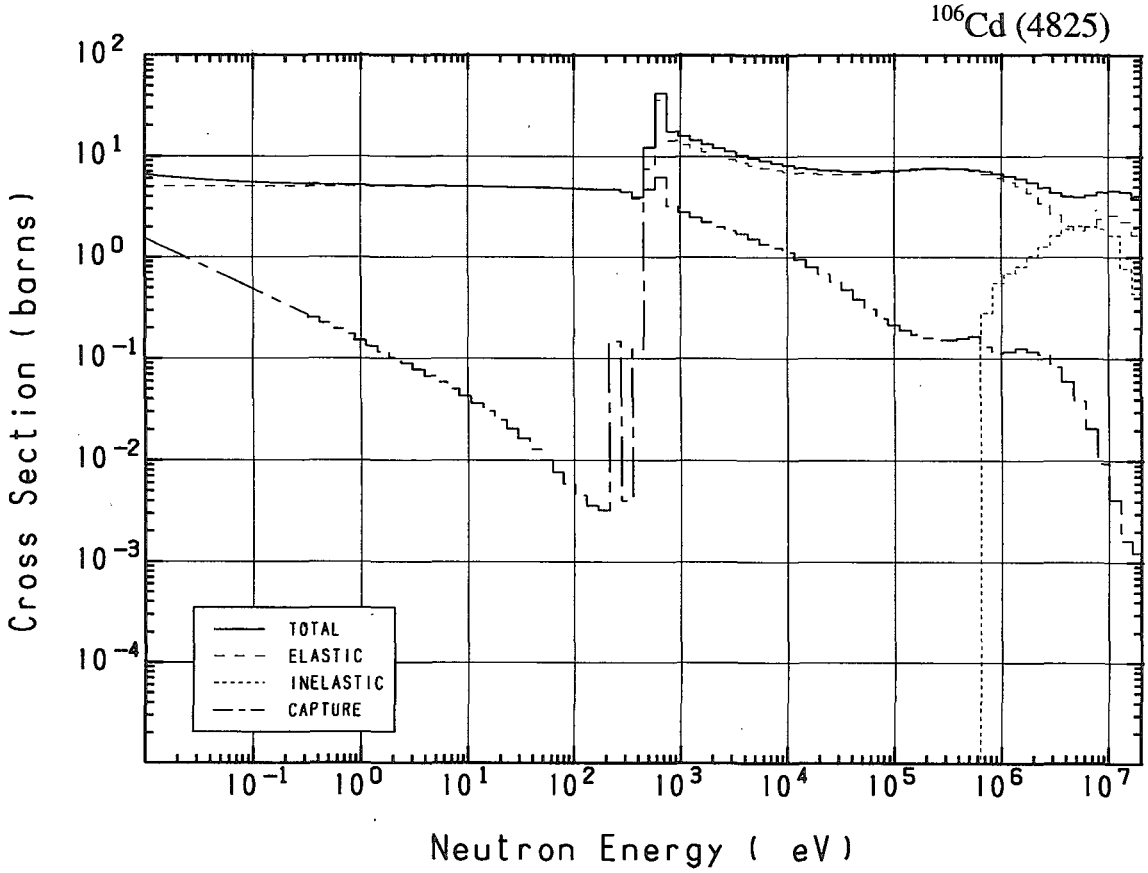

110mAg (4735)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

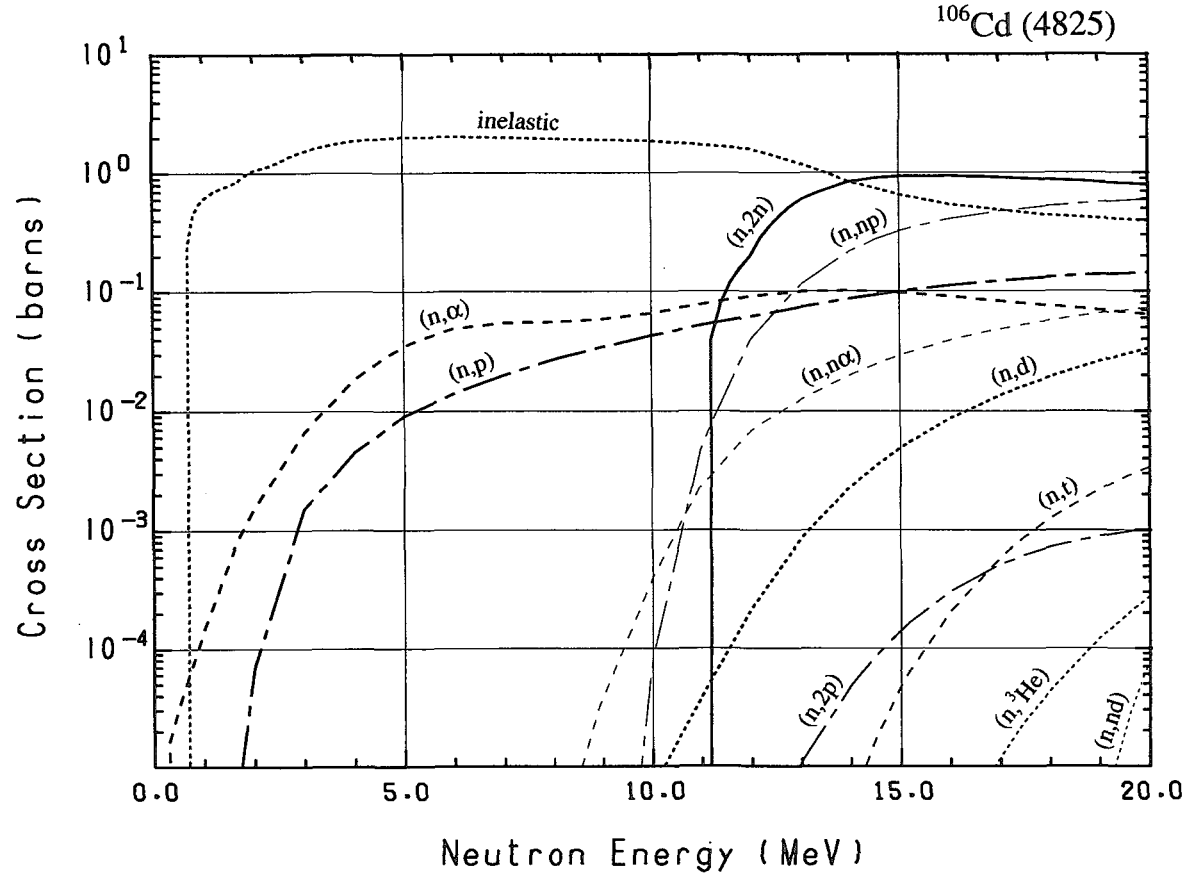

110mAg (4735)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,np)
(n,d)
(n,nα)
(n,t)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

48-Cd-106 (MAT=4825)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.003	5.893	–	4.480	5.764
elastic	–	5.034	5.034	–	2.371	4.724
inelastic	638.7 keV	–	–	–	838.3×10^{-3}	916.2×10^{-3}
(n,2n)	10.97 MeV	–	–	–	841.4×10^{-3}	172.9×10^{-6}
(n,3n)	19.62 MeV	–	–	–	–	48.81×10^{-12}
(n,nα)	1.643 MeV	–	–	–	19.97×10^{-3}	6.080×10^{-6}
(n,np)	7.420 MeV	–	–	–	216.3×10^{-3}	41.55×10^{-6}
(n,nd)	15.18 MeV	–	–	–	–	10.73×10^{-12}
capture	–	969.5×10^{-3}	859.3×10^{-3}	10.40	1.701×10^{-3}	115.9×10^{-3}
(n,p)	–	0.000	0.000	80.95×10^{-3}	87.00×10^{-3}	1.646×10^{-3}
(n,d)	5.088 MeV	–	–	–	2.316×10^{-3}	505.8×10^{-9}
(n,t)	8.940 MeV	–	–	–	5.068×10^{-6}	8.705×10^{-9}
(n,He-3)	4.631 MeV	–	–	–	23.94×10^{-9}	257.8×10^{-12}
(n,α)	–	0.000	0.000	106.7×10^{-3}	102.0×10^{-3}	6.072×10^{-3}
(n,2p)	5.270 MeV	–	–	–	48.03×10^{-6}	12.09×10^{-9}

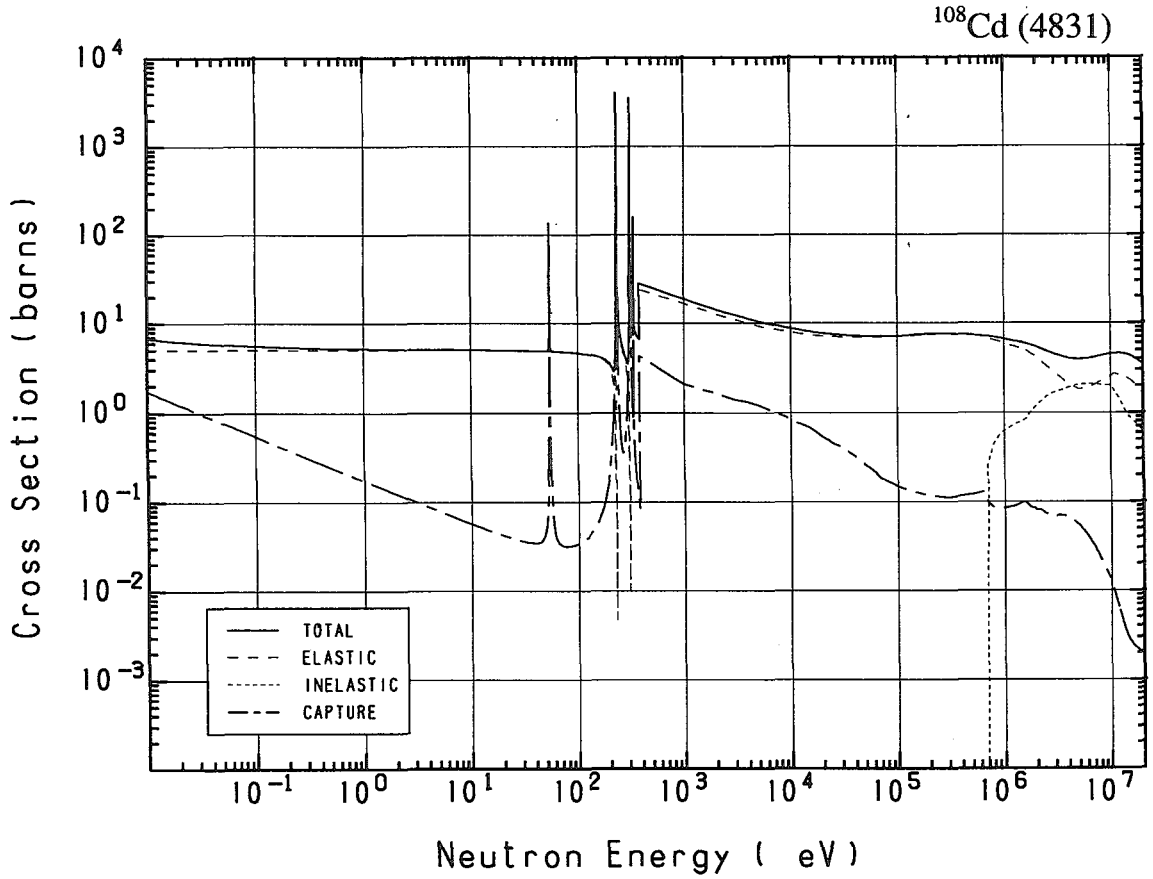


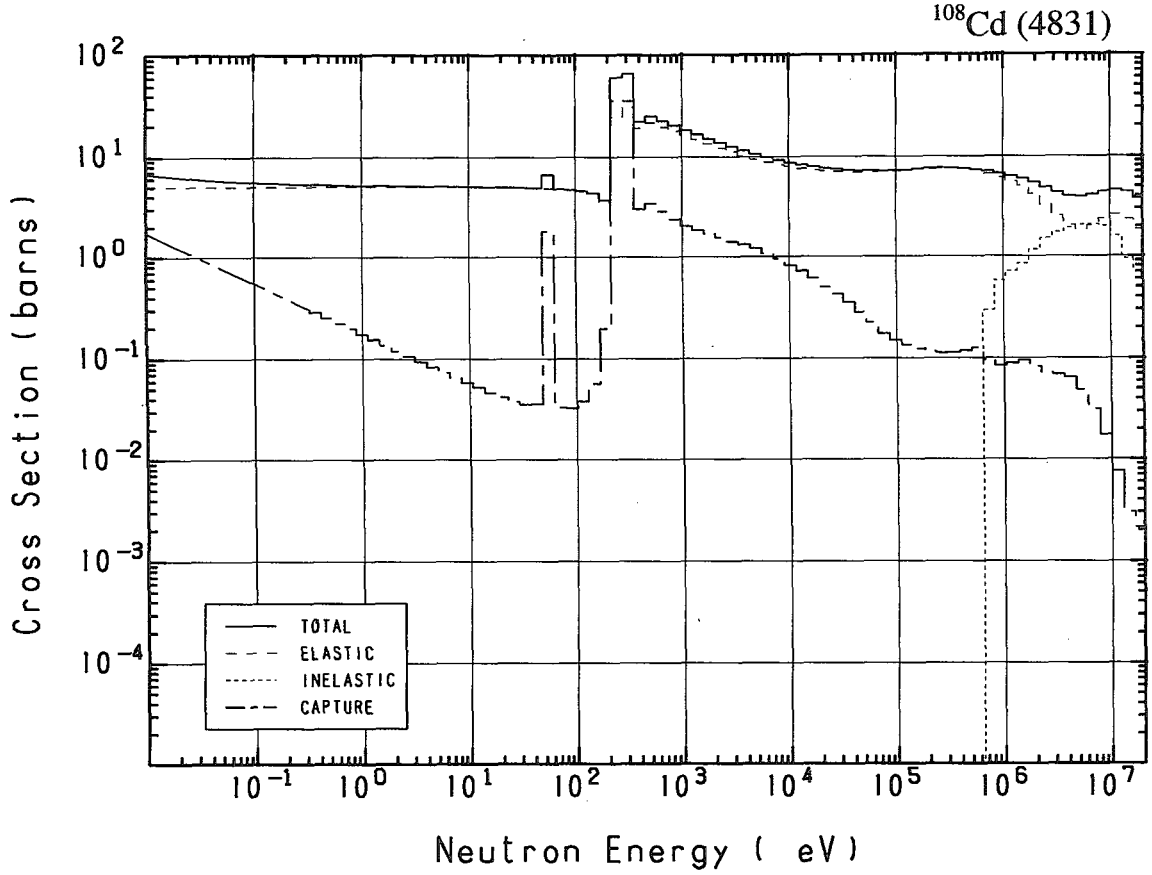

106Cd (4825)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

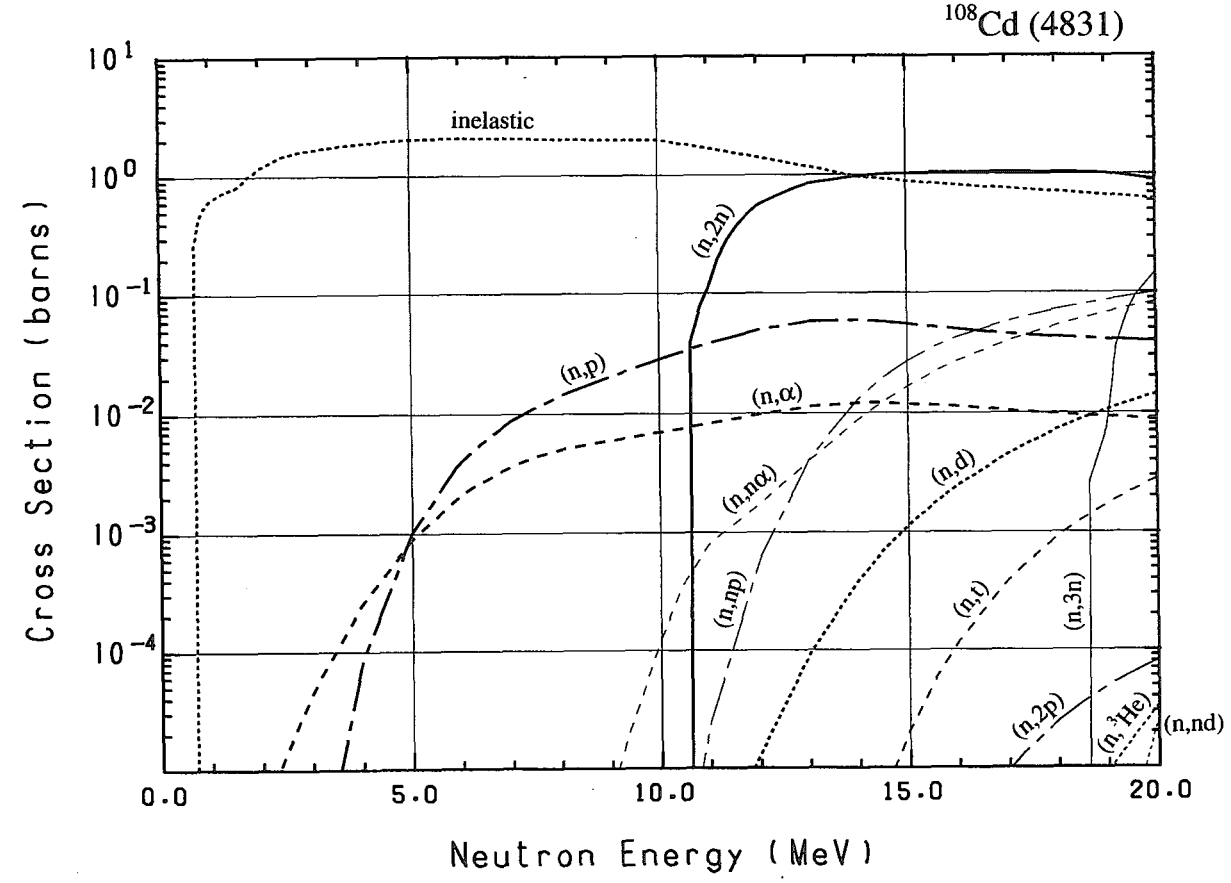

106Cd (4825)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,np)
(n,α)
(n,p)
(n,nα)
(n,d)
(n,t)
(n,2p)
(n,3He)
(n,nd)

48-Cd-108 (MAT=4831)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.130	6.007	–	4.480	5.766
elastic	–	5.044	5.043	–	2.446	4.695
inelastic	638.9 keV	–	–	–	970.6×10^{-3}	982.0×10^{-3}
(n,2n)	10.44 MeV	–	–	–	966.9×10^{-3}	322.1×10^{-6}
(n,3n)	18.44 MeV	–	–	–	–	33.00×10^{-9}
(n,nα)	2.294 MeV	–	–	–	8.694×10^{-3}	2.412×10^{-6}
(n,np)	8.217 MeV	–	–	–	13.01×10^{-3}	2.253×10^{-6}
(n,nd)	15.53 MeV	–	–	–	–	2.815×10^{-12}
capture	–	1.087	963.3×10^{-3}	26.92	3.151×10^{-3}	87.96×10^{-3}
(n,p)	874.6 keV	–	–	–	59.38×10^{-3}	380.9×10^{-6}
(n,d)	5.885 MeV	–	–	–	392.5×10^{-6}	105.9×10^{-9}
(n,t)	9.282 MeV	–	–	–	1.563×10^{-6}	5.748×10^{-9}
(n,He-3)	6.252 MeV	–	–	–	199.5×10^{-12}	14.56×10^{-12}
(n,α)	–	0.000	0.000	9.728×10^{-3}	12.08×10^{-3}	188.4×10^{-6}
(n,2p)	7.460 MeV	–	–	–	38.94×10^{-9}	147.4×10^{-12}

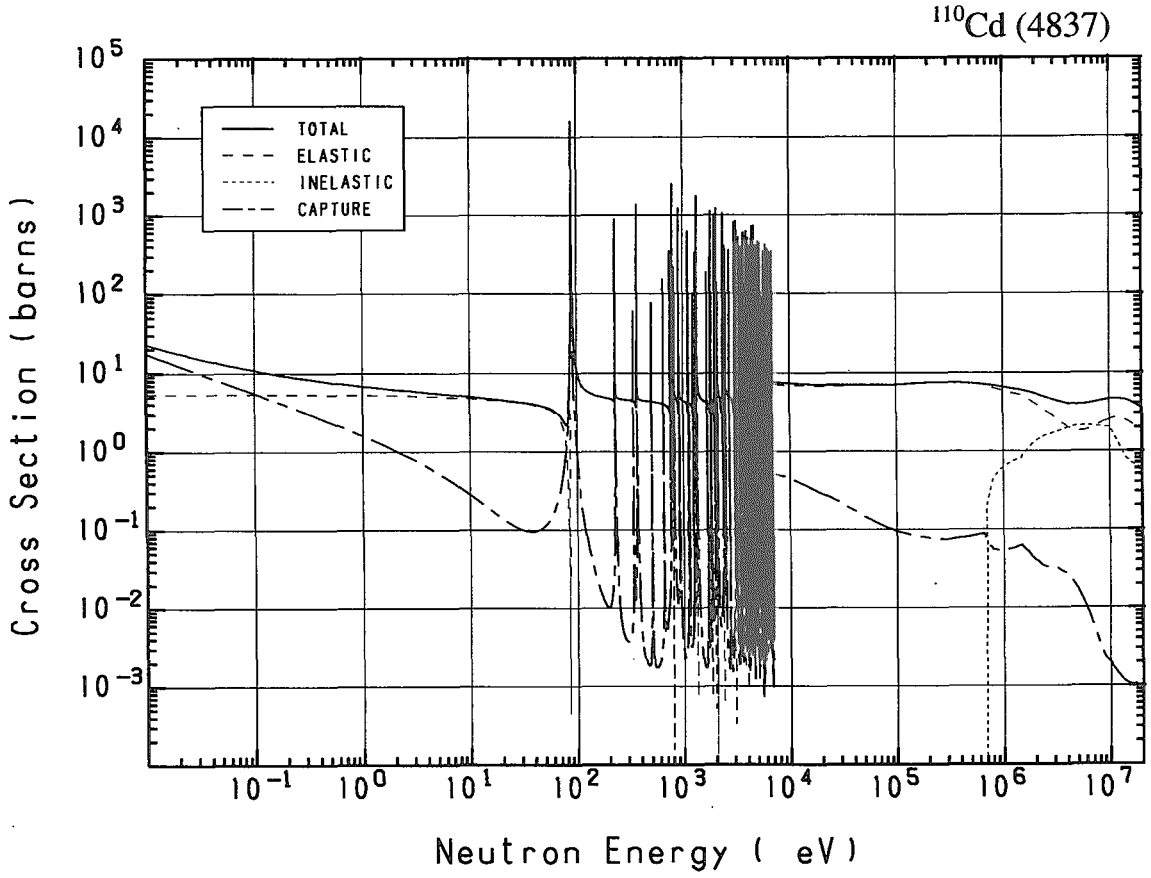


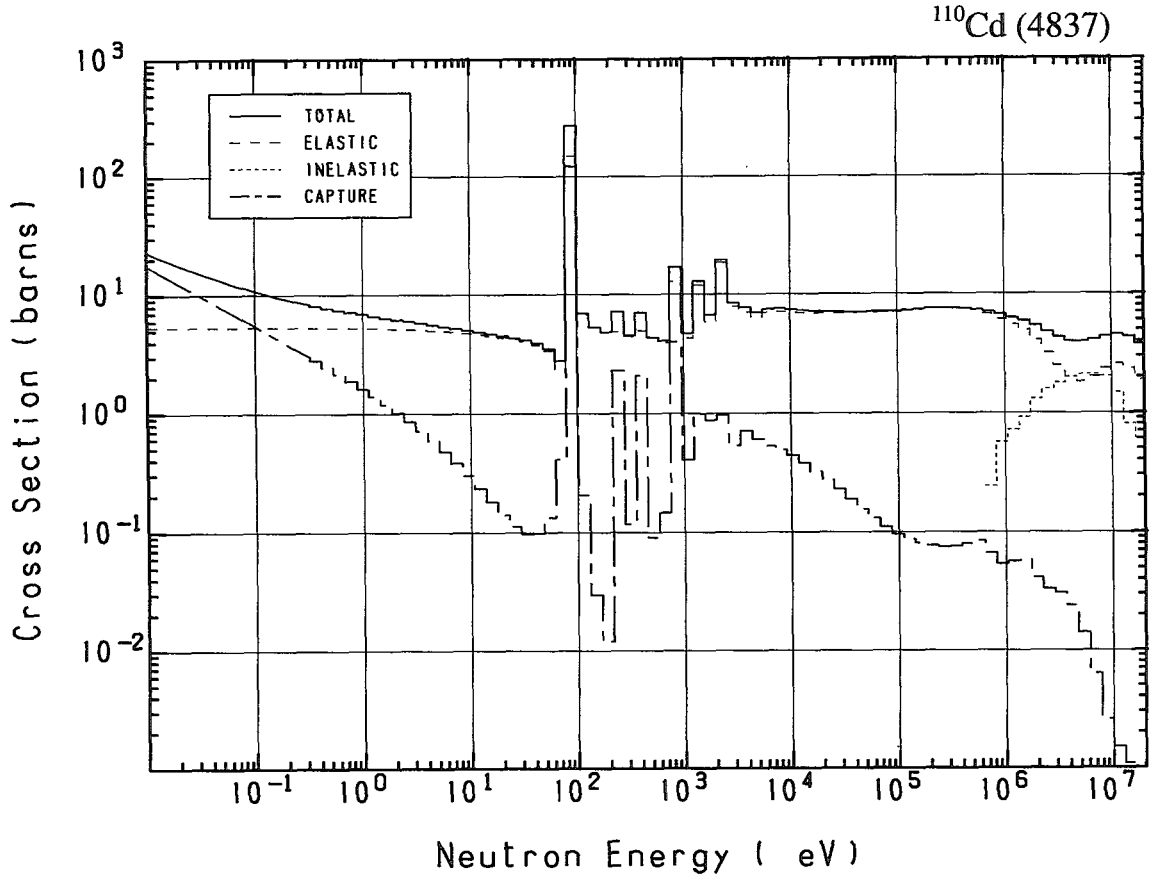

108Cd (4831)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

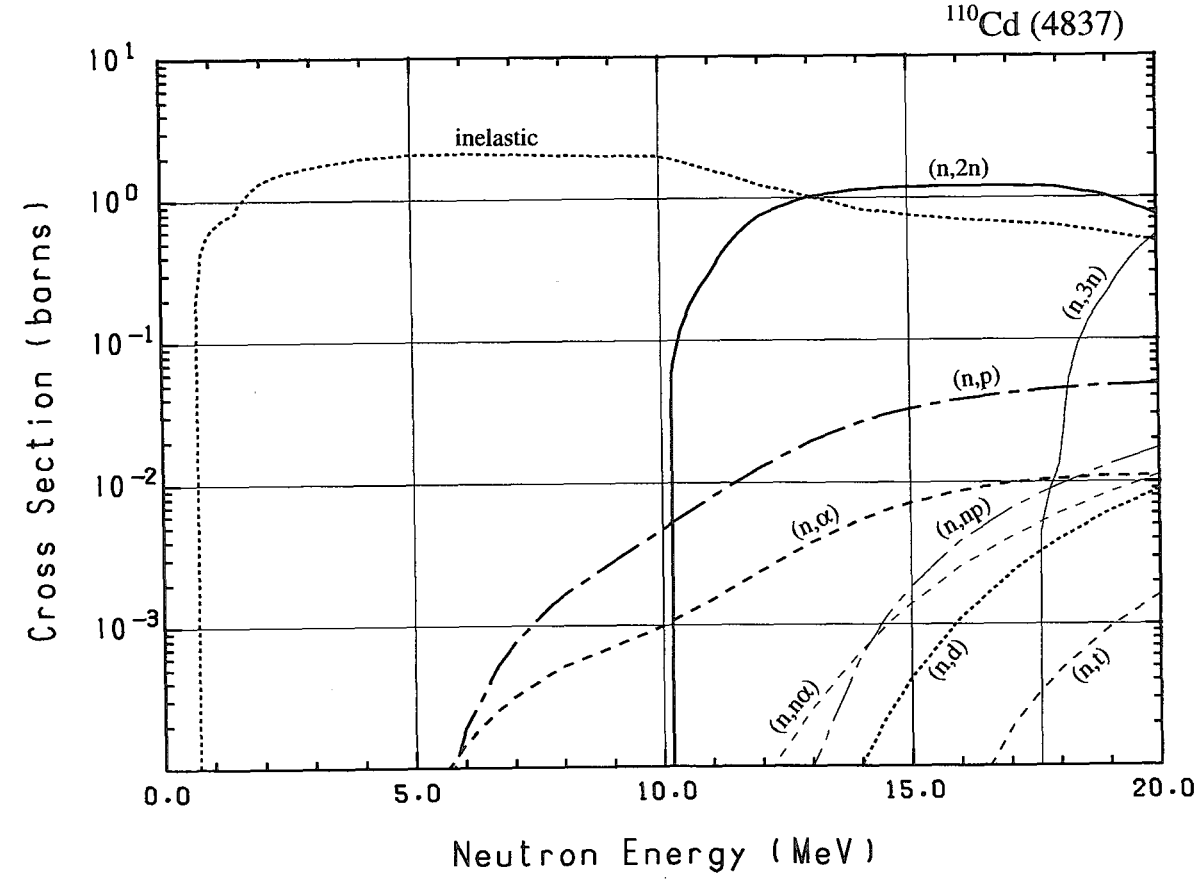

108Cd (4831)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,np)
(n,t)
(n,3n)
(n,2p)
(n,3He)
(n,nd)

48-Cd-110 (MAT=4837)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	16.42	15.16	–	4.480	5.763
elastic	–	5.370	5.367	–	2.474	4.683
inelastic	663.7 keV	–	–	–	832.1×10^{-3}	1.029
(n,2n)	9.976 MeV	–	–	–	1.139	503.3×10^{-6}
(n,3n)	17.41 MeV	–	–	–	–	274.3×10^{-9}
(n,nα)	2.884 MeV	–	–	–	658.7×10^{-6}	159.1×10^{-9}
(n,np)	9.003 MeV	–	–	–	607.0×10^{-6}	149.0×10^{-9}
capture	–	11.05	9.788	39.11	1.096×10^{-3}	50.06×10^{-3}
(n,p)	2.130 MeV	–	–	–	26.42×10^{-3}	40.32×10^{-6}
(n,d)	6.671 MeV	–	–	–	104.0×10^{-6}	42.21×10^{-9}
(n,t)	9.710 MeV	–	–	–	296.0×10^{-9}	2.714×10^{-9}
(n,α)	–	0.000	0.000	4.372×10^{-3}	5.478×10^{-3}	15.48×10^{-6}

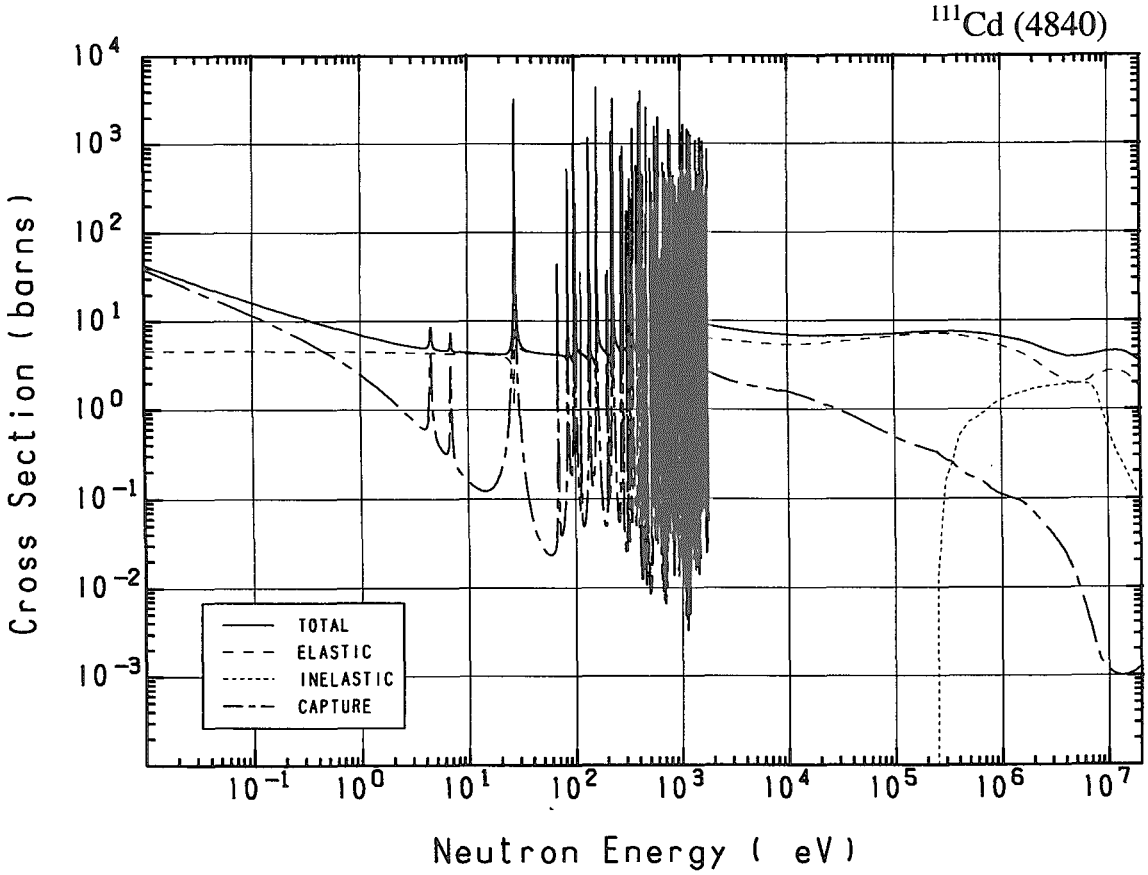


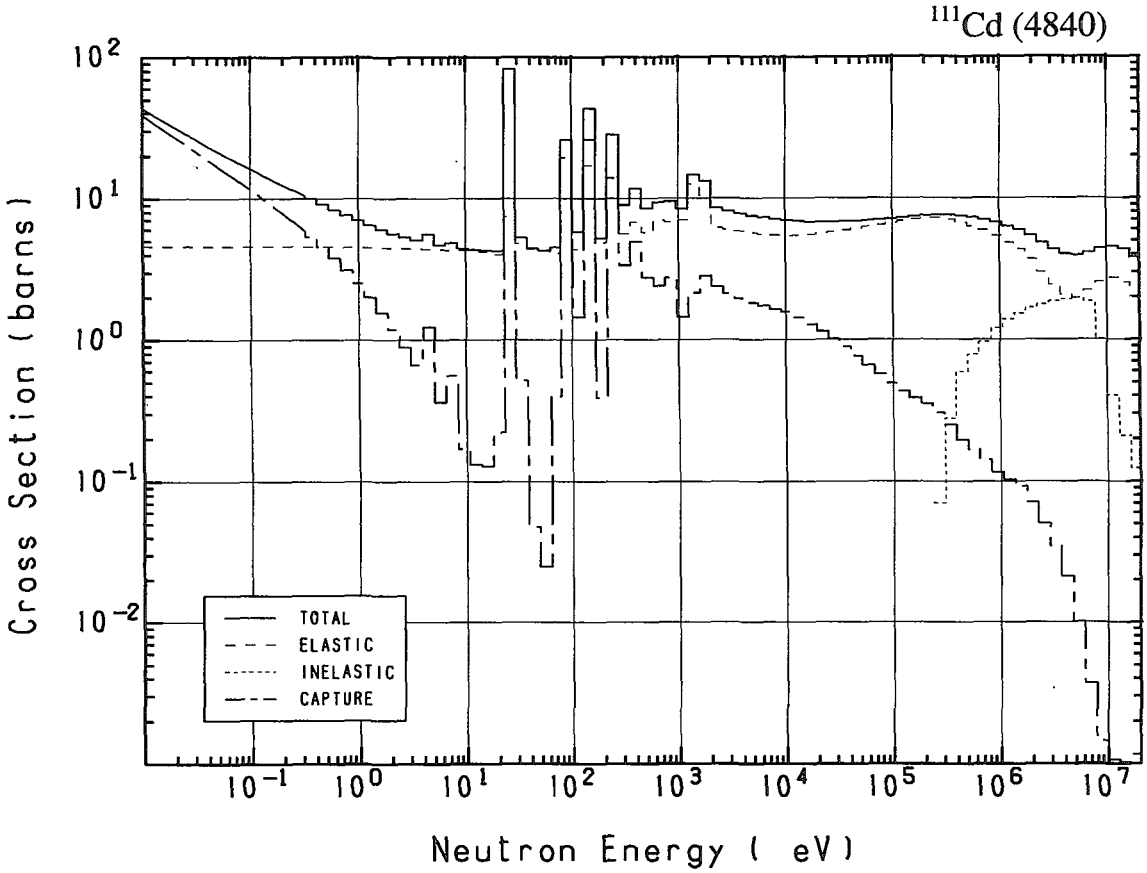

^{110}Cd (4837)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

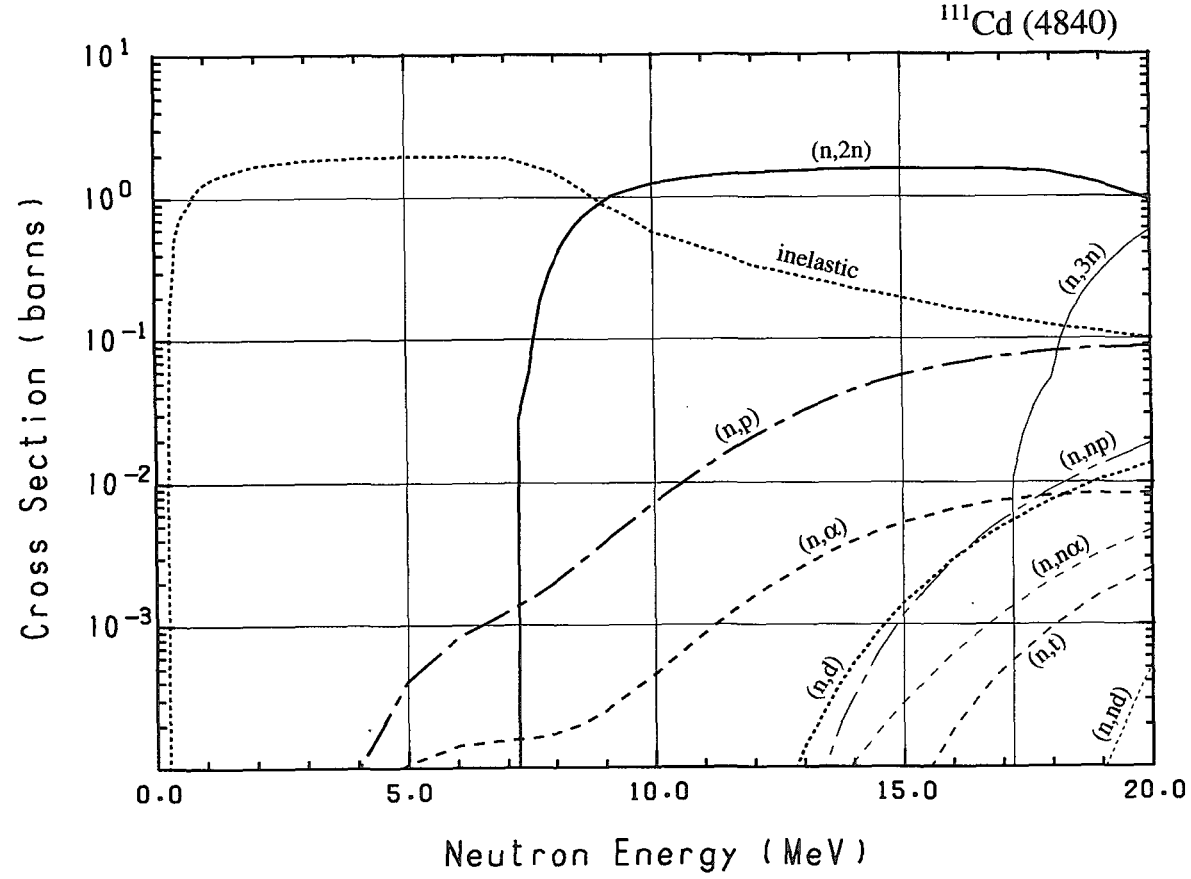

^{110}Cd (4837)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

48-Cd-111 (MAT=4840)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	28.55	25.70	–	4.480	5.761
elastic	–	4.606	4.604	–	2.629	4.268
inelastic	247.6 keV	–	–	–	227.2×10^{-3}	1.377
(n,2n)	7.045 MeV	–	–	–	1.575	6.184×10^{-3}
(n,3n)	17.02 MeV	–	–	–	–	407.4×10^{-9}
(n,nα)	3.335 MeV	–	–	–	108.9×10^{-6}	30.43×10^{-9}
(n,np)	9.174 MeV	–	–	–	311.3×10^{-6}	106.6×10^{-9}
(n,nd)	13.72 MeV	–	–	–	0.000	132.1×10^{-12}
capture	–	23.94	21.10	49.34	1.006×10^{-3}	108.9×10^{-3}
(n,p)	247.8 keV	–	–	–	43.82×10^{-3}	93.57×10^{-6}
(n,d)	6.843 MeV	–	–	–	538.1×10^{-6}	127.0×10^{-9}
(n,t)	7.474 MeV	–	–	–	5.914×10^{-6}	7.300×10^{-9}
(n,α)	–	0.000	0.000	3.160×10^{-3}	3.853×10^{-3}	21.24×10^{-6}

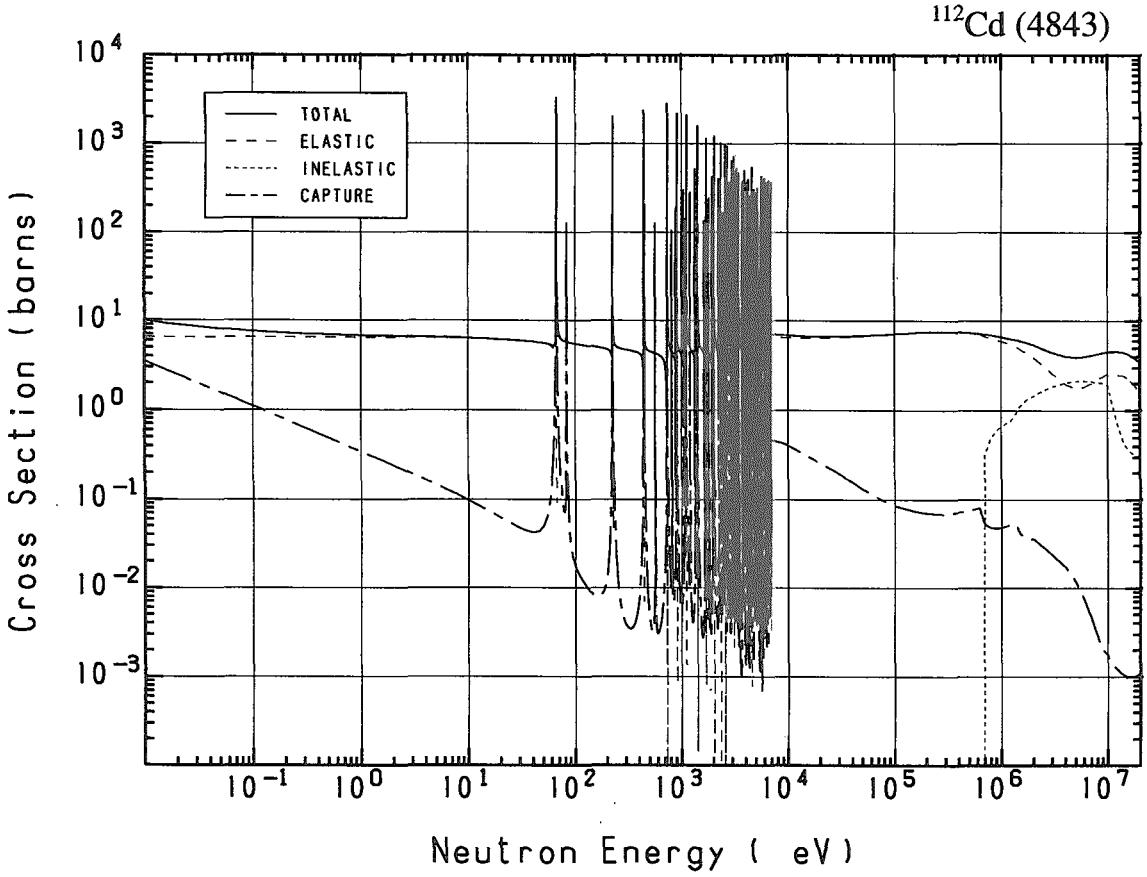


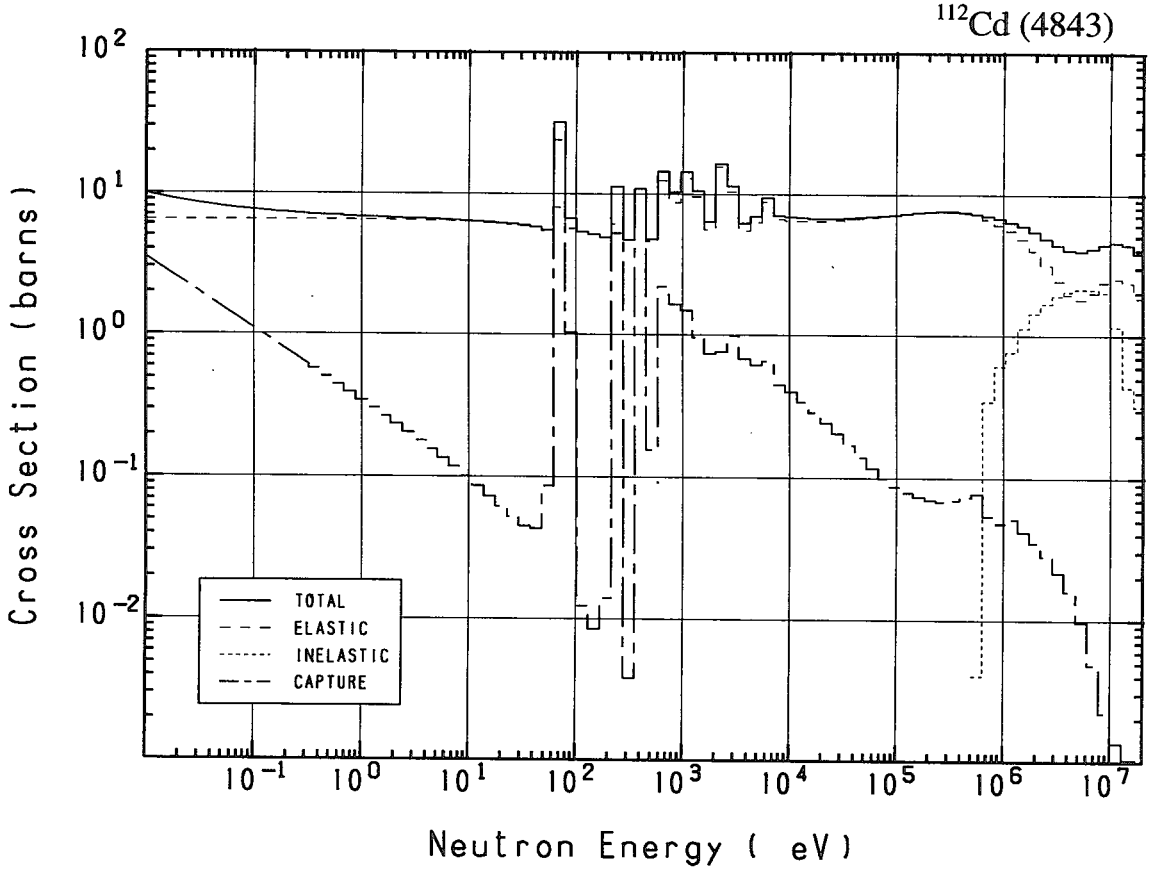

111Cd (4840)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

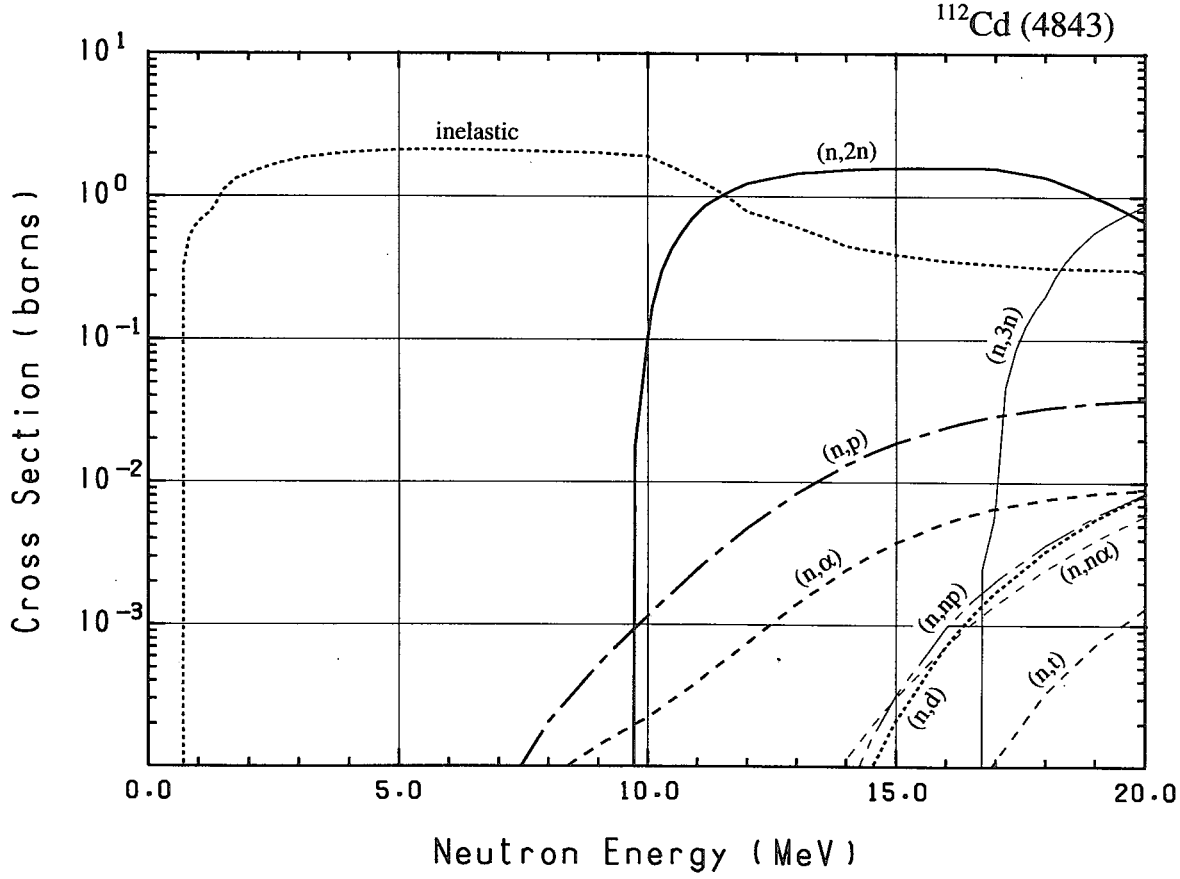

111Cd (4840)
Cross Section (barns)
Neutron Energy (MeV)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,np)
(n,α)
(n,nα)
(n,d)
(n,t)
(n,nd)

48-Cd-112 (MAT=4843)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	8.659	8.409	–	4.480	5.760
elastic	–	6.467	6.466	–	2.453	4.609
inelastic	623.0 keV	–	–	–	450.4×10^{-3}	1.108
(n,2n)	9.485 MeV	–	–	–	1.560	984.3×10^{-6}
(n,3n)	16.53 MeV	–	–	–	–	925.2×10^{-9}
(n,nα)	3.508 MeV	–	–	–	112.6×10^{-6}	33.49×10^{-9}
(n,np)	9.732 MeV	–	–	–	62.53×10^{-6}	34.72×10^{-9}
capture	–	2.192	1.943	13.24	1.046×10^{-3}	42.22×10^{-3}
(n,p)	3.204 MeV	–	–	–	13.26×10^{-3}	7.921×10^{-6}
(n,d)	7.402 MeV	–	–	–	36.59×10^{-6}	27.68×10^{-9}
(n,t)	10.09 MeV	–	–	–	61.90×10^{-9}	1.796×10^{-9}
(n,α)	–	0.000	0.000	2.495×10^{-3}	2.460×10^{-3}	2.379×10^{-6}

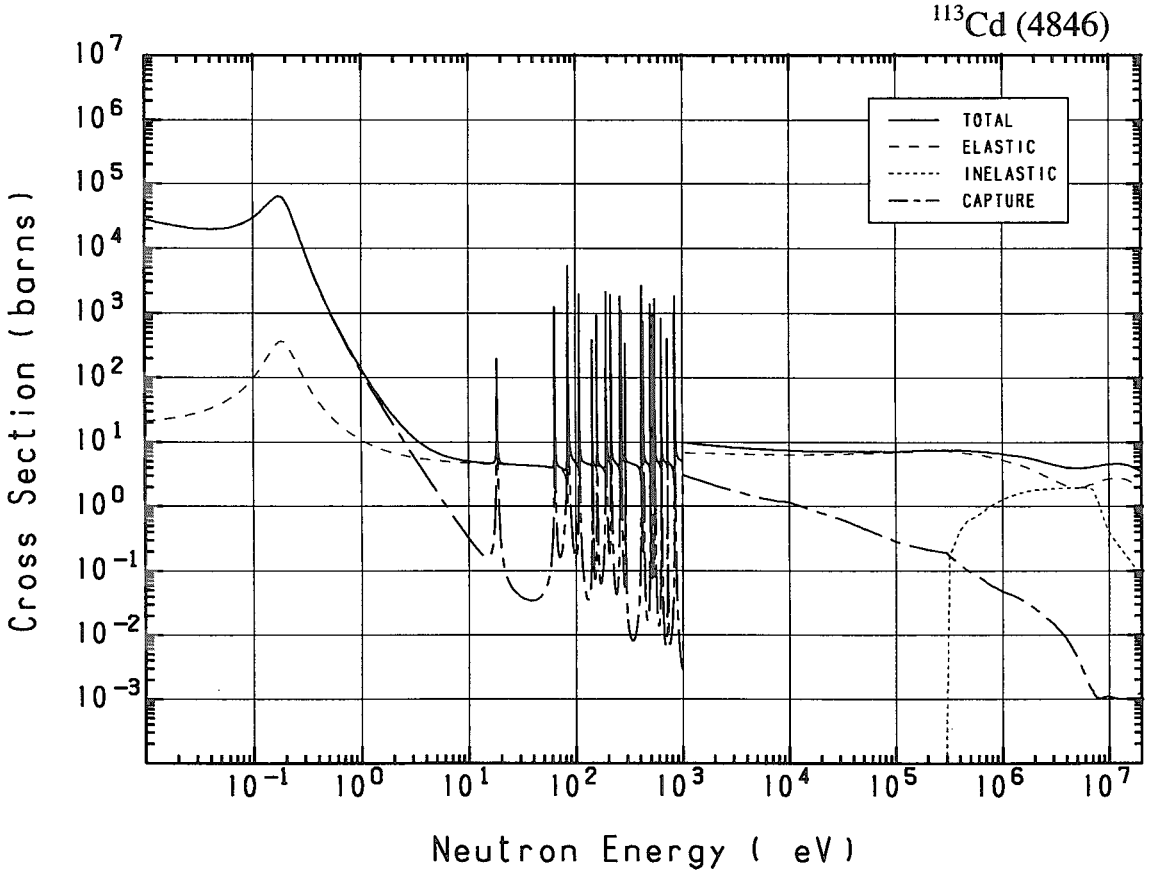


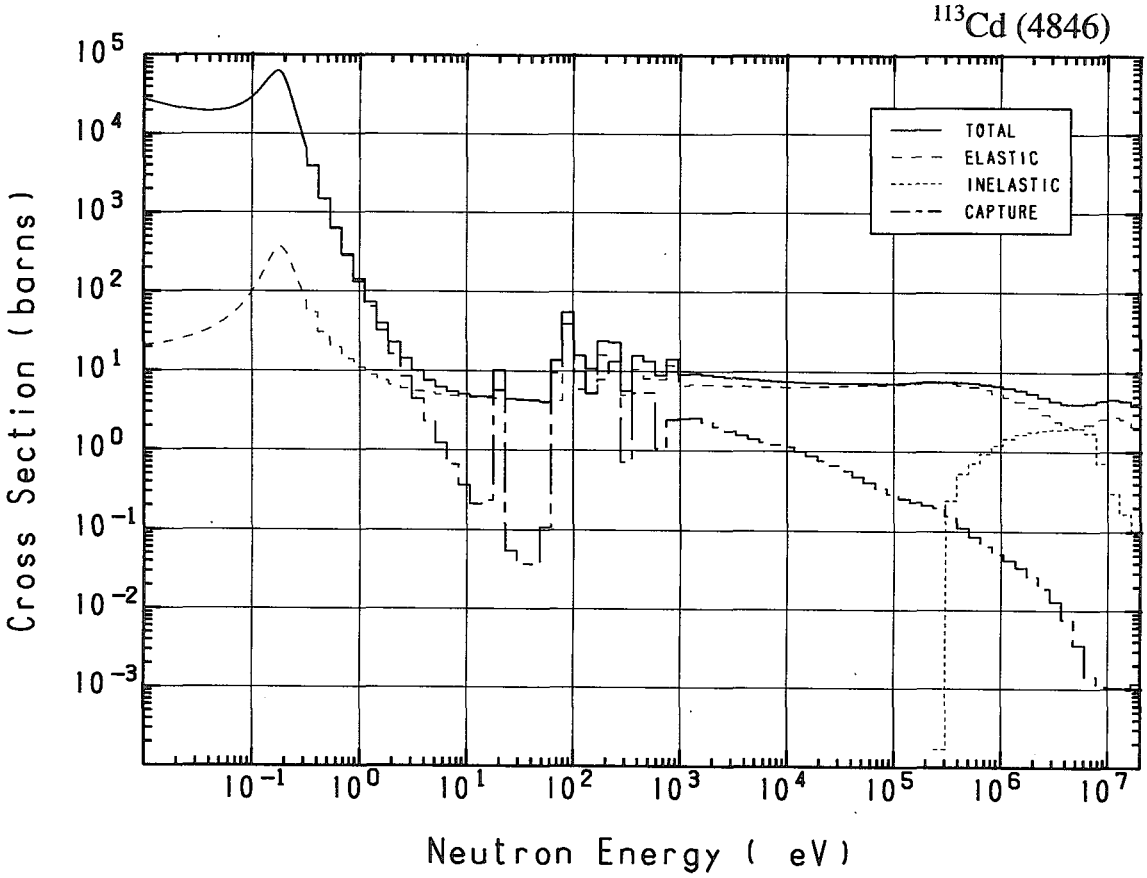

112Cd (4843)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

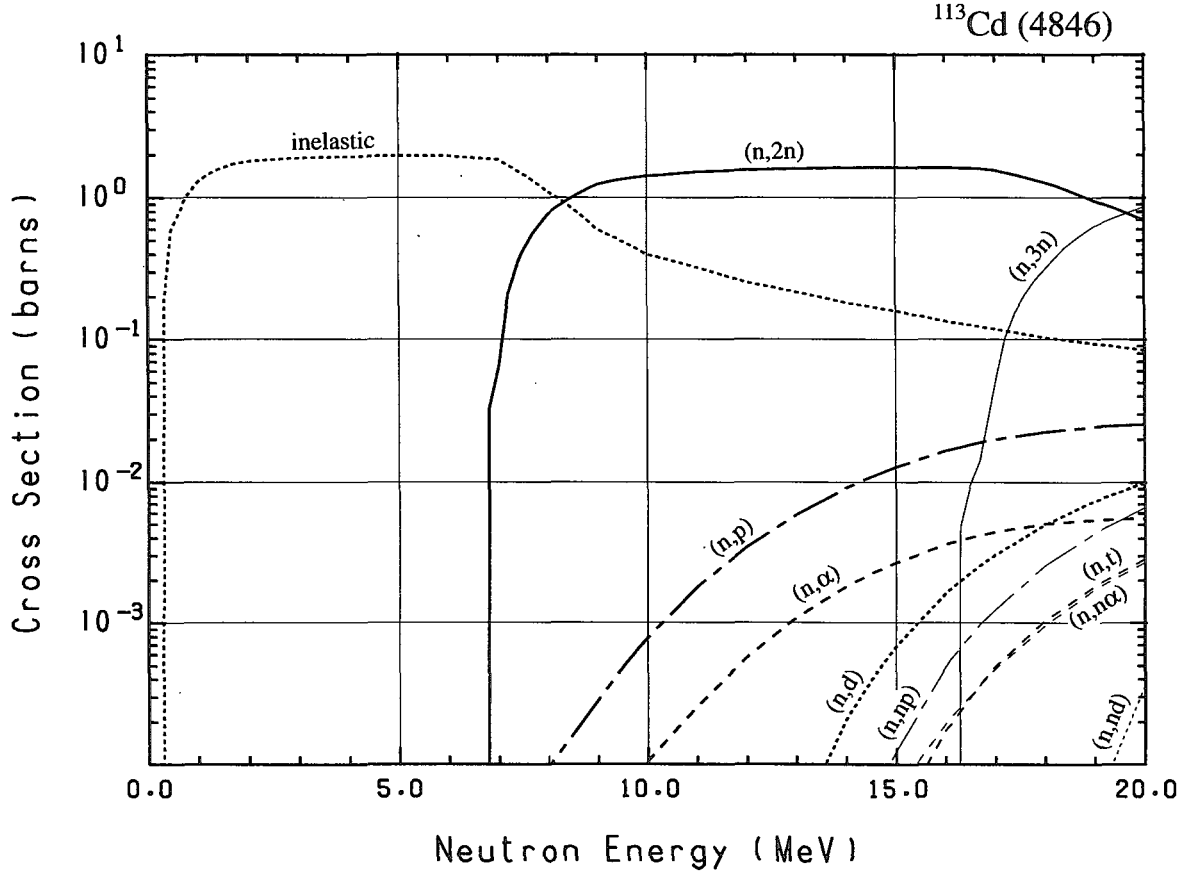

112Cd (4843)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,np)
(n,nα)
(n,d)
(n,t)

48-Cd-113 (MAT=4846)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	$20.67\times10^{+3}$	$24.44\times10^{+3}$	–	4.480	5.764
elastic	–	26.17	51.57	–	2.657	4.286
inelastic	266.0 keV	–	–	–	182.7×10^{-3}	1.414
(n,2n)	6.607 MeV	–	–	–	1.628	9.860×10^{-3}
(n,3n)	16.09 MeV	–	–	–	–	1.261×10^{-6}
(n,nα)	3.901 MeV	–	–	–	19.46×10^{-6}	8.962×10^{-9}
(n,np)	9.811 MeV	–	–	–	17.94×10^{-6}	19.33×10^{-9}
(n,nd)	14.01 MeV	–	–	–	–	79.18×10^{-12}
capture	–	$20.65\times10^{+3}$	$24.39\times10^{+3}$	393.3	1.001×10^{-3}	53.64×10^{-3}
(n,p)	1.239 MeV	–	–	–	9.097×10^{-3}	5.923×10^{-6}
(n,d)	7.480 MeV	–	–	–	208.2×10^{-6}	63.15×10^{-9}
(n,t)	7.768 MeV	–	–	–	4.299×10^{-6}	7.306×10^{-9}
(n,α)	–	0.000	0.000	1.674×10^{-3}	1.809×10^{-3}	2.270×10^{-6}

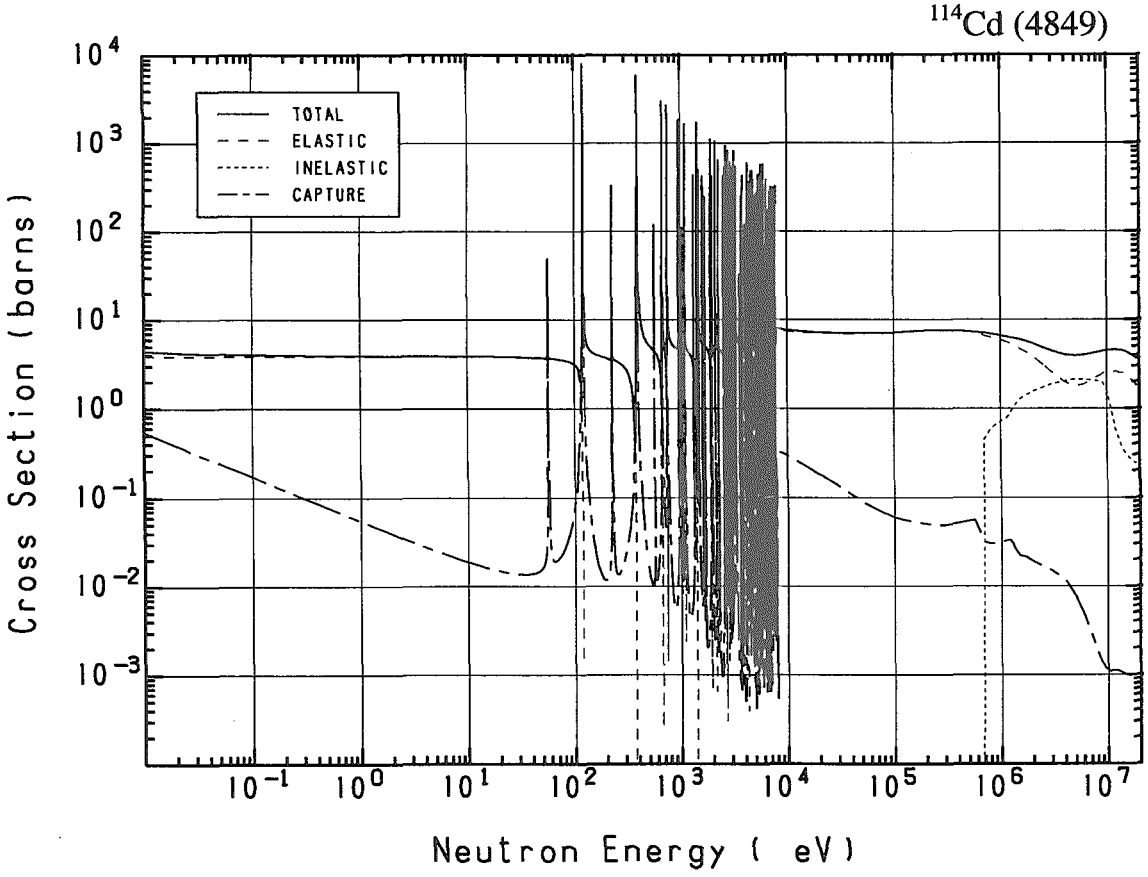


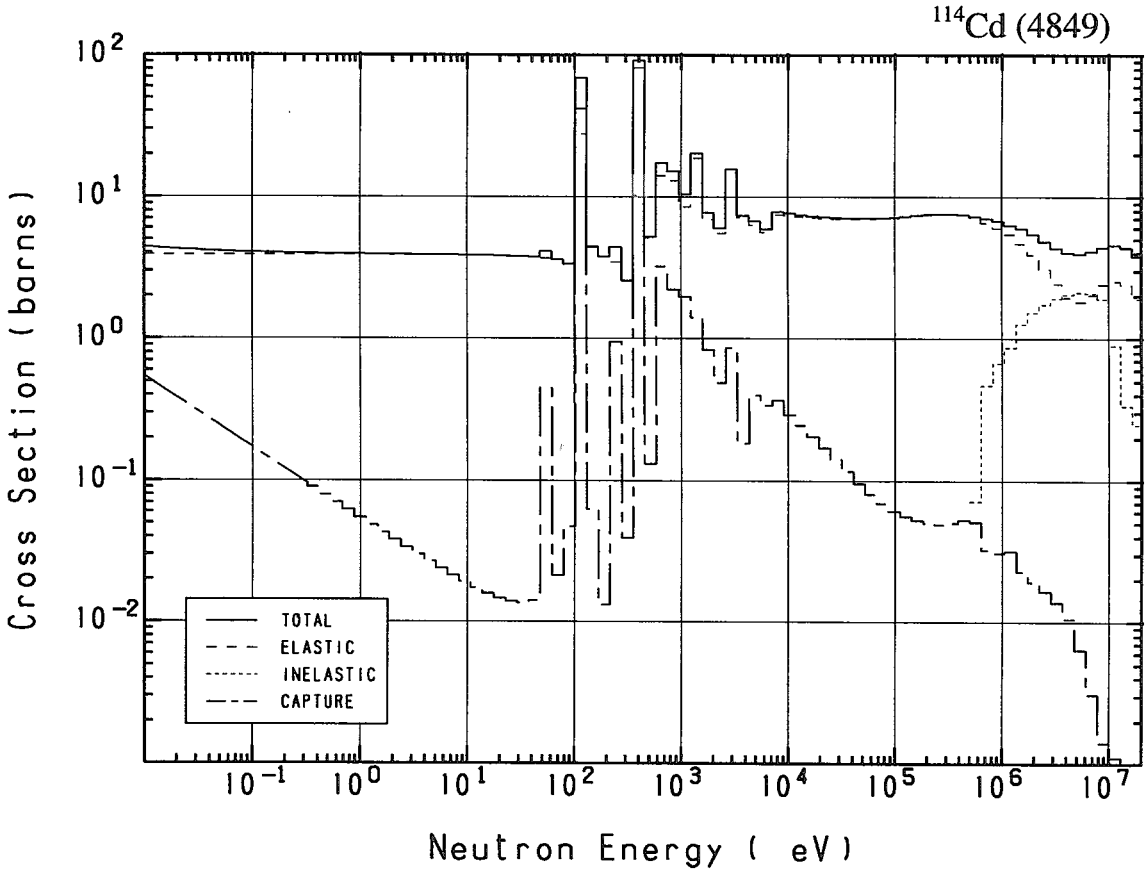

113Cd (4846)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

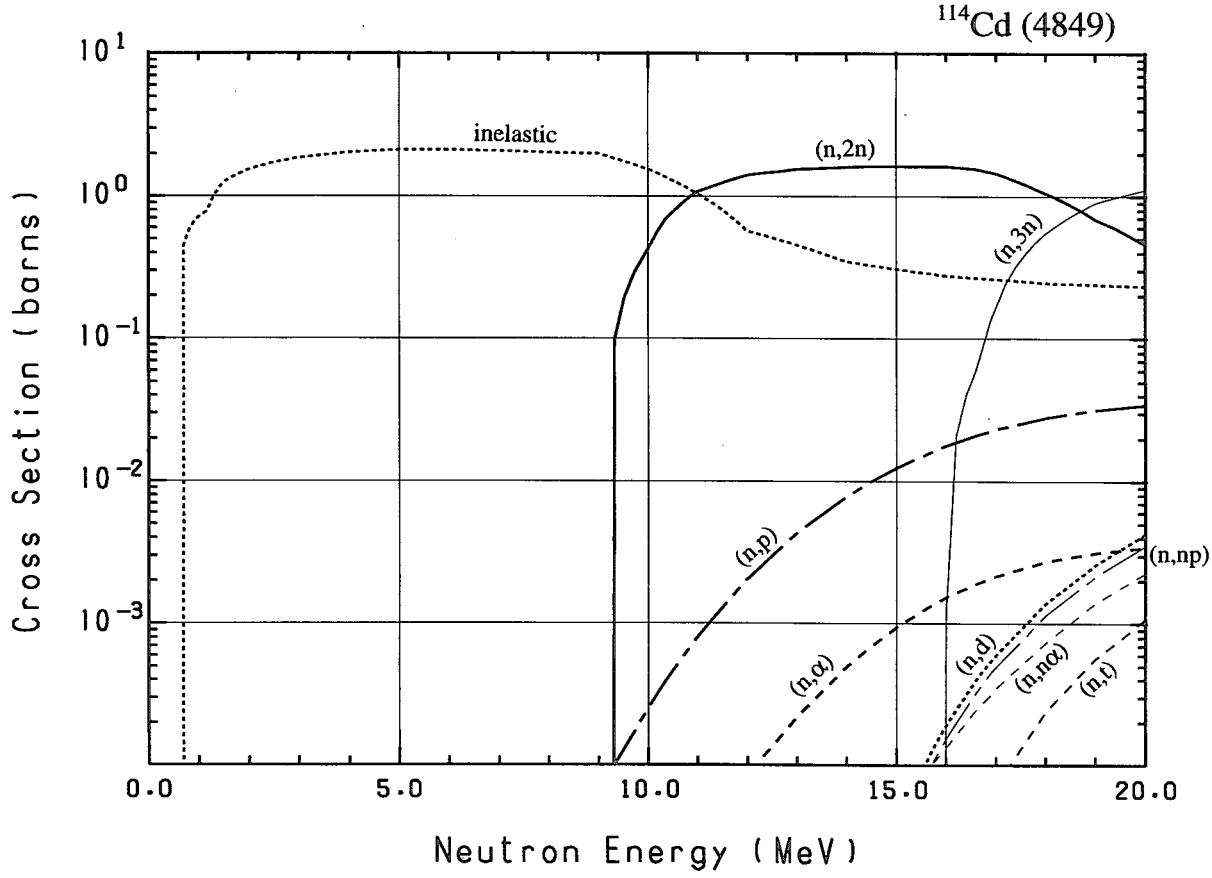

113Cd (4846)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,t)
(n,nα)
(n,d)
(n,np)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

48-Cd-114 (MAT=4849)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.214	4.175	–	4.480	5.763
elastic	–	3.874	3.873	–	2.506	4.569
inelastic	563.2 keV	–	–	–	346.9×10^{-3}	1.166
(n,2n)	9.126 MeV	–	–	–	1.618	1.540×10^{-3}
(n,3n)	15.73 MeV	–	–	–	–	2.293×10^{-6}
(n,nα)	4.143 MeV	–	–	–	12.77×10^{-6}	6.498×10^{-9}
(n,np)	10.36 MeV	–	–	–	2.764×10^{-6}	7.400×10^{-9}
capture	–	340.4×10^{-3}	301.8×10^{-3}	16.87	1.020×10^{-3}	26.64×10^{-3}
(n,p)	4.113 MeV	–	–	–	7.816×10^{-3}	2.512×10^{-6}
(n,d)	8.034 MeV	–	–	–	3.255×10^{-6}	9.031×10^{-9}
(n,t)	10.36 MeV	–	–	–	13.79×10^{-9}	1.255×10^{-9}
(n,α)	–	0.000	0.000	749.1×10^{-6}	495.6×10^{-6}	162.7×10^{-9}

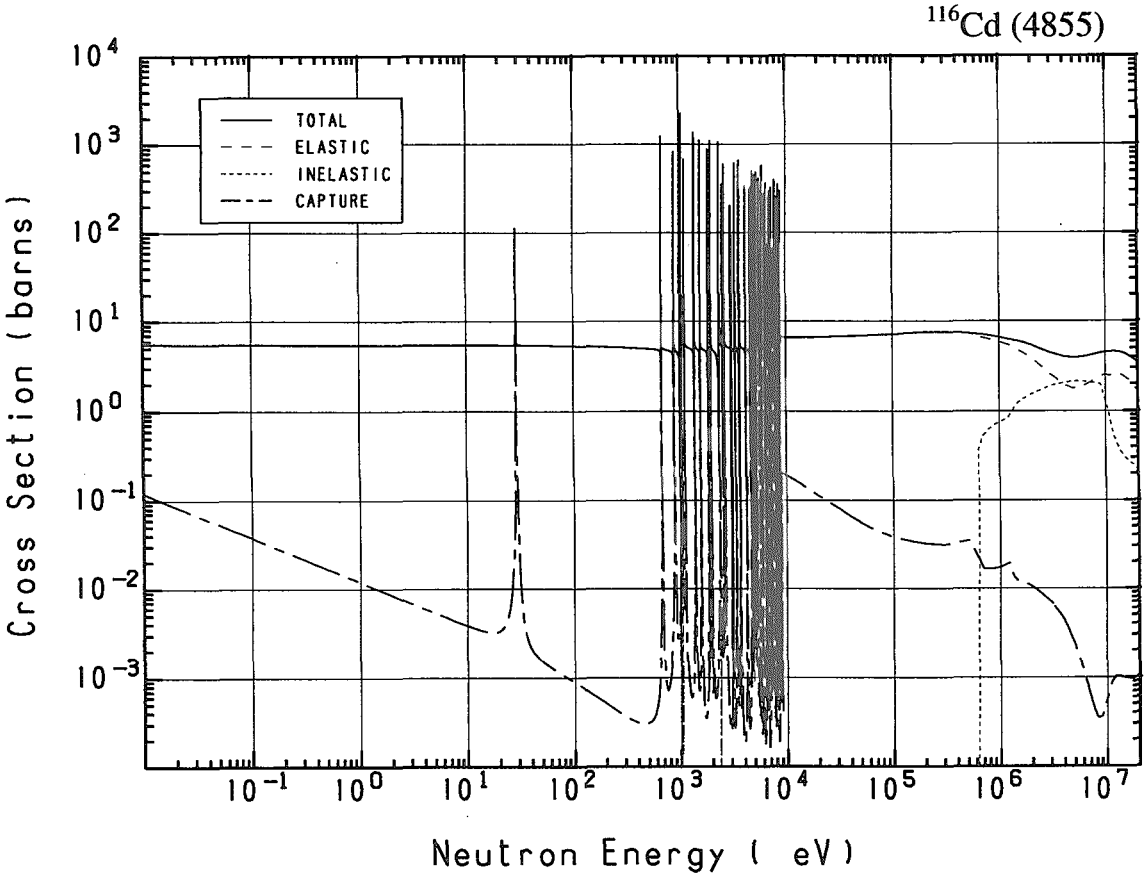


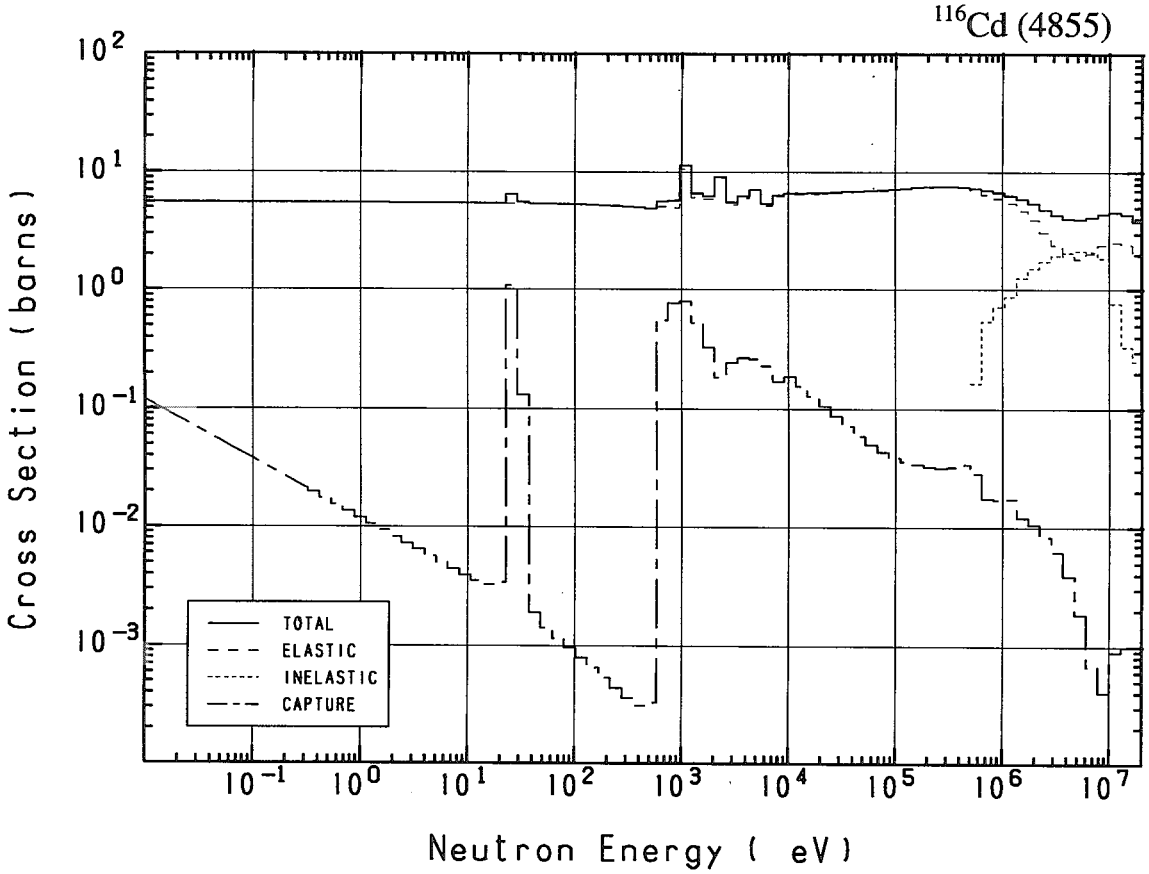

114Cd (4849)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

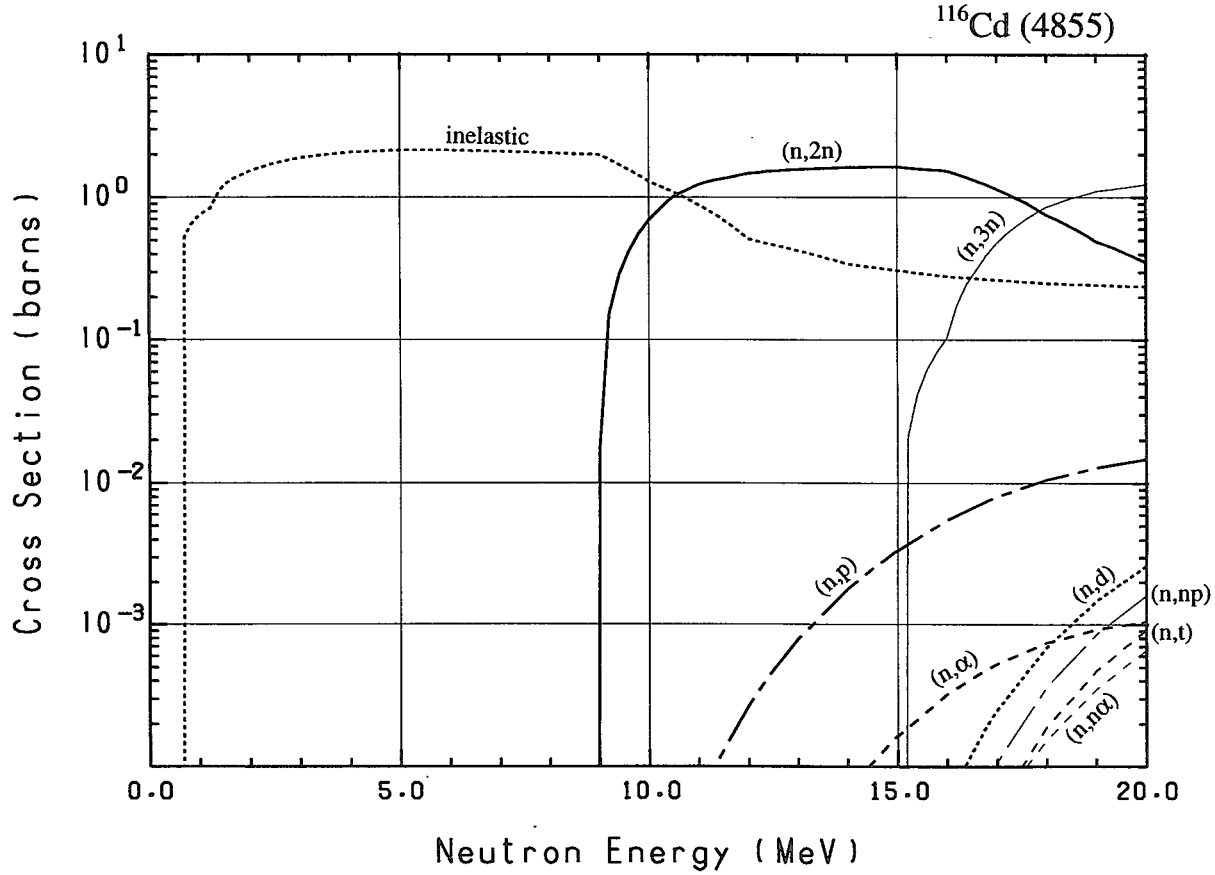

114Cd (4849)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,np)

48-Cd-116 (MAT=4855)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.549	5.540	–	4.480	5.760
elastic	–	5.474	5.474	–	2.511	4.563
inelastic	517.6 keV	–	–	–	343.0×10^{-3}	1.180
(n,2n)	8.776 MeV	–	–	–	1.623	1.975×10^{-3}
(n,3n)	14.98 MeV	–	–	–	–	5.146×10^{-6}
(n,nα)	4.855 MeV	–	–	–	375.3×10^{-9}	932.6×10^{-12}
(n,np)	11.20 MeV	–	–	–	29.08×10^{-9}	1.906×10^{-9}
capture	–	74.84×10^{-3}	66.35×10^{-3}	1.696	1.002×10^{-3}	14.72×10^{-3}
(n,p)	5.361 MeV	–	–	–	1.788×10^{-3}	404.3×10^{-9}
(n,d)	8.868 MeV	–	–	–	314.2×10^{-9}	3.916×10^{-9}
(n,t)	10.52 MeV	–	–	–	5.894×10^{-9}	987.1×10^{-12}
(n,α)	–	0.000	0.000	183.8×10^{-6}	67.82×10^{-6}	16.52×10^{-9}

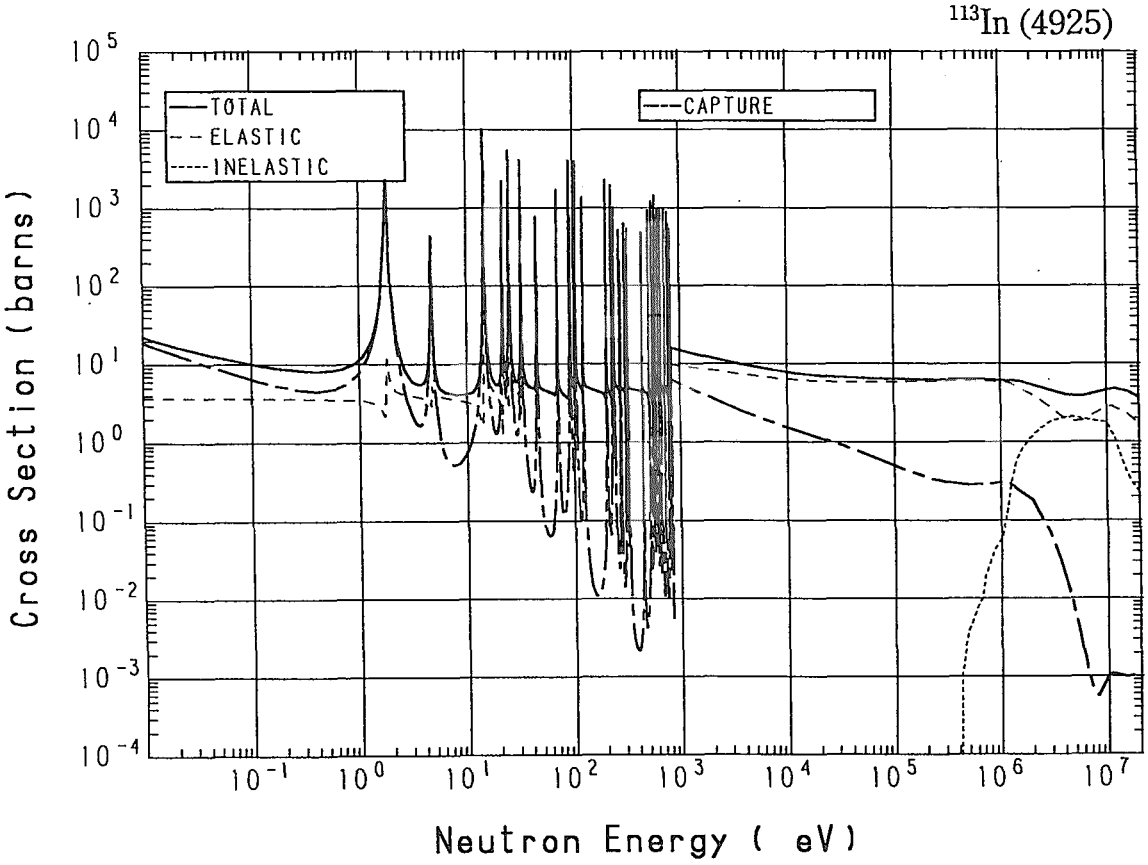


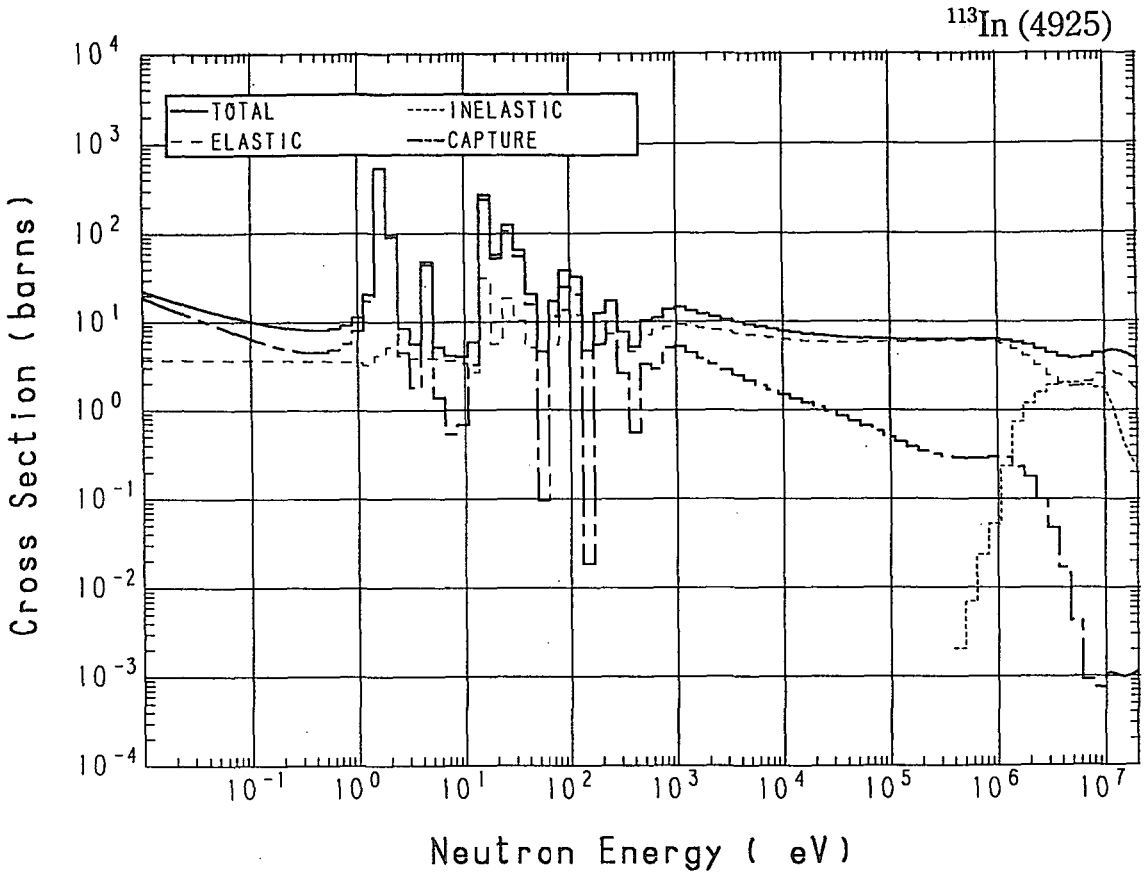

116Cd (4855)
Cross Section (barns)
Neutron Energy (eV)
TOTAL
ELASTIC
INELASTIC
CAPTURE

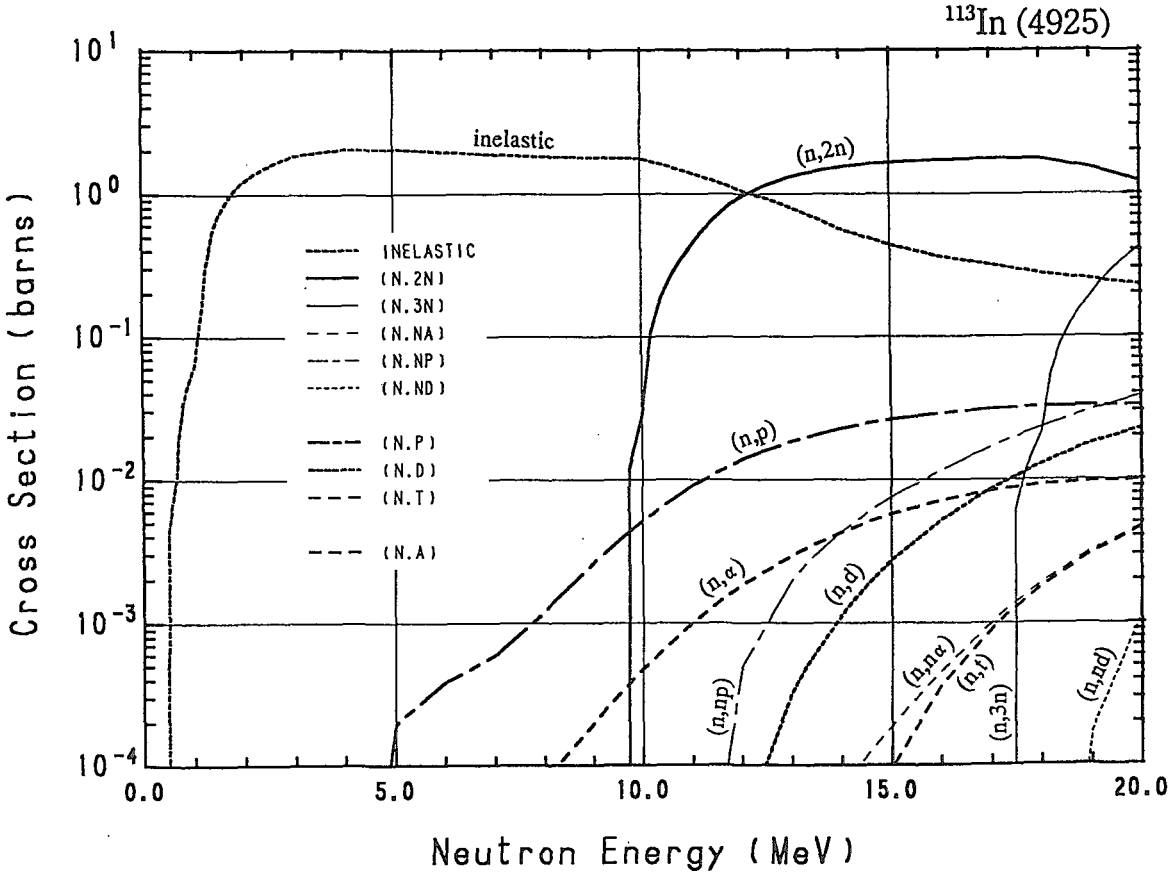

116Cd (4855)
Cross Section (barns)
Neutron Energy (MeV)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,d)
(n,np)
(n,t)
(n,α)
(n,nα)

49-In-113 (MAT=4925)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ.	14-MeV	FissSp Av
total	–	15.75	14.51	–	4.640	5.527
elastic	–	3.679	3.676	–	2.511	4.424
inelastic	395.2 keV	–	–	–	565.3×10^{-3}	900.6×10^{-3}
(n,2n)	9.533 MeV	–	–	–	1.530	695.1×10^{-6}
(n,3n)	17.27 MeV	–	–	–	–	248.4×10^{-9}
(n,nα)	3.099 MeV	–	–	–	70.93×10^{-6}	22.90×10^{-9}
(n,np)	6.142 MeV	–	–	–	4.319×10^{-3}	802.6×10^{-9}
(n,nd)	13.30 MeV	–	–	–	0.000	229.2×10^{-12}
(n,nt)	14.10 MeV	–	–	–	–	3.313×10^{-12}
capture	–	12.07	10.83	325.1	1.001×10^{-3}	198.2×10^{-3}
(n,p)	–	0.000	0.000	15.80×10^{-3}	22.60×10^{-3}	45.83×10^{-6}
(n,d)	3.811 MeV	–	–	–	1.135×10^{-3}	241.8×10^{-9}
(n,t)	7.055 MeV	–	–	–	10.09×10^{-6}	13.86×10^{-9}
(n,He-3)	8.073 MeV	–	–	–	283.6×10^{-18}	5.831×10^{-12}
(n,α)	–	0.000	0.000	3.441×10^{-3}	4.270×10^{-3}	3.725×10^{-6}

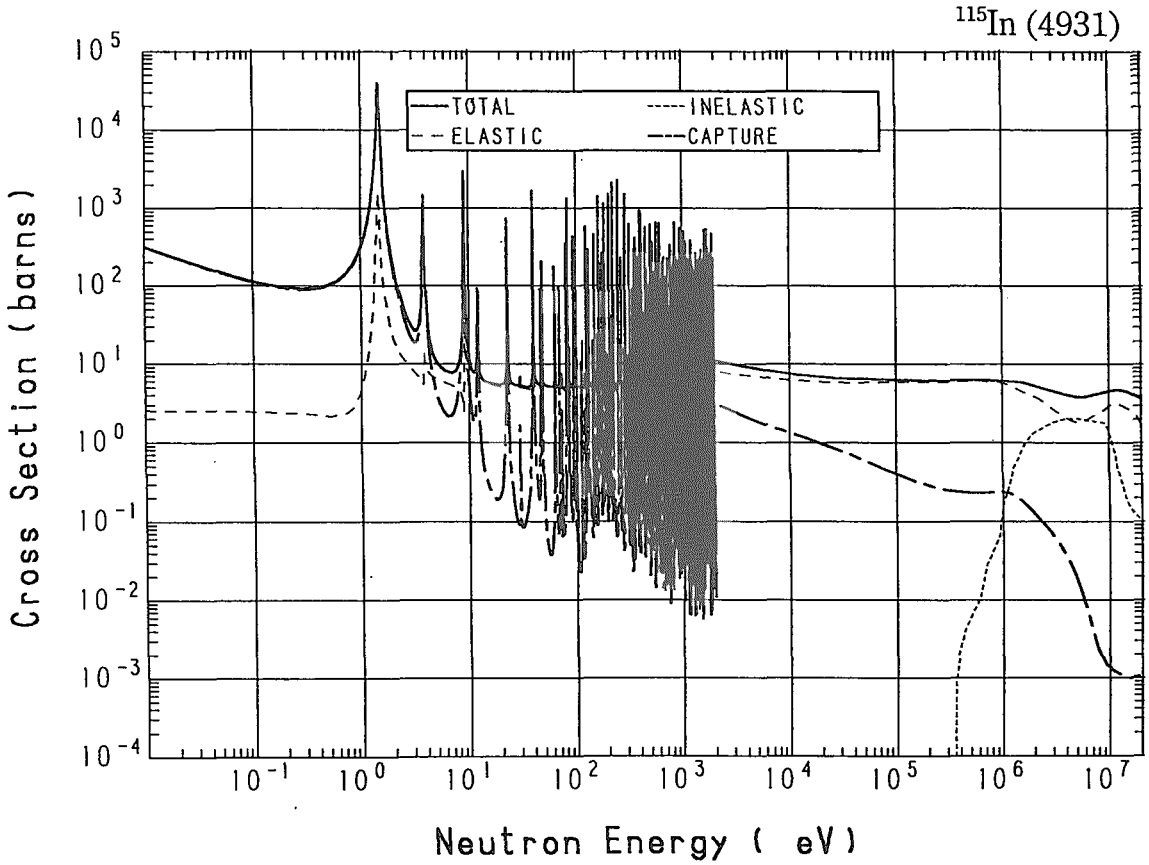


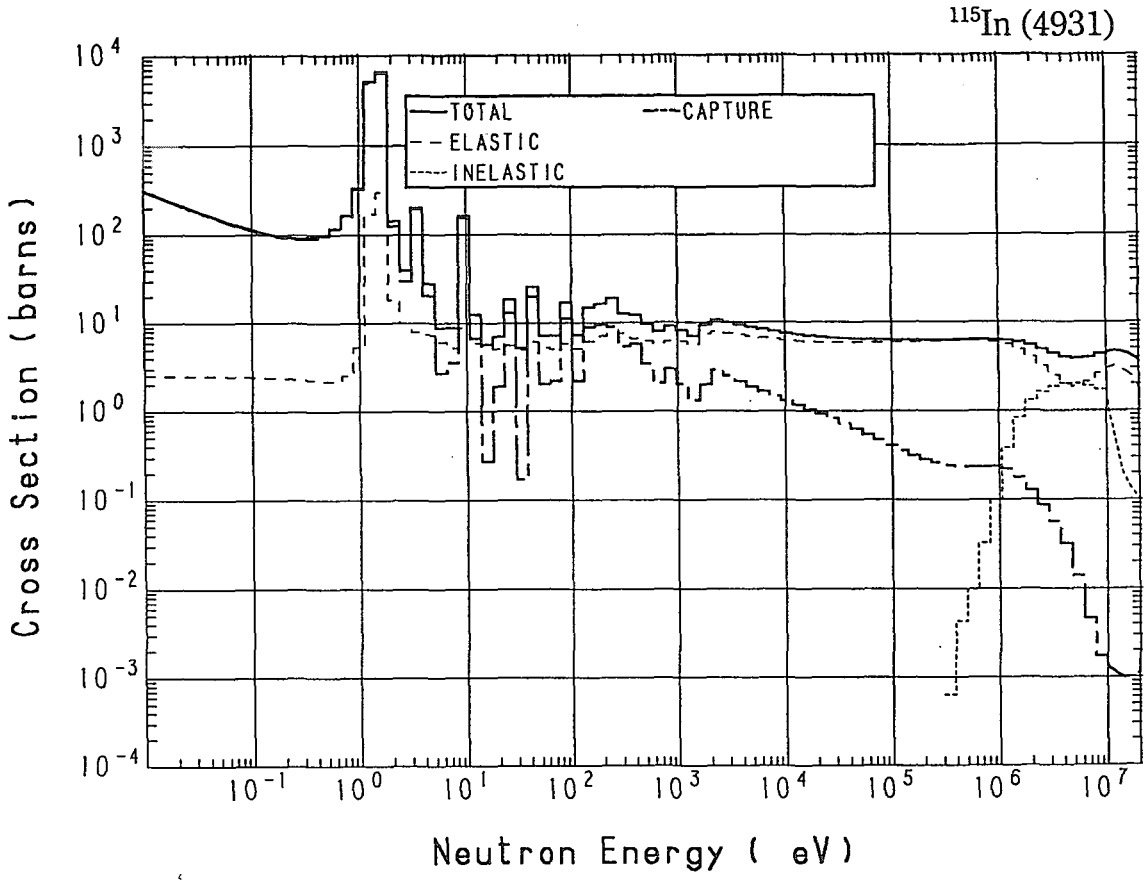

113In (4925)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

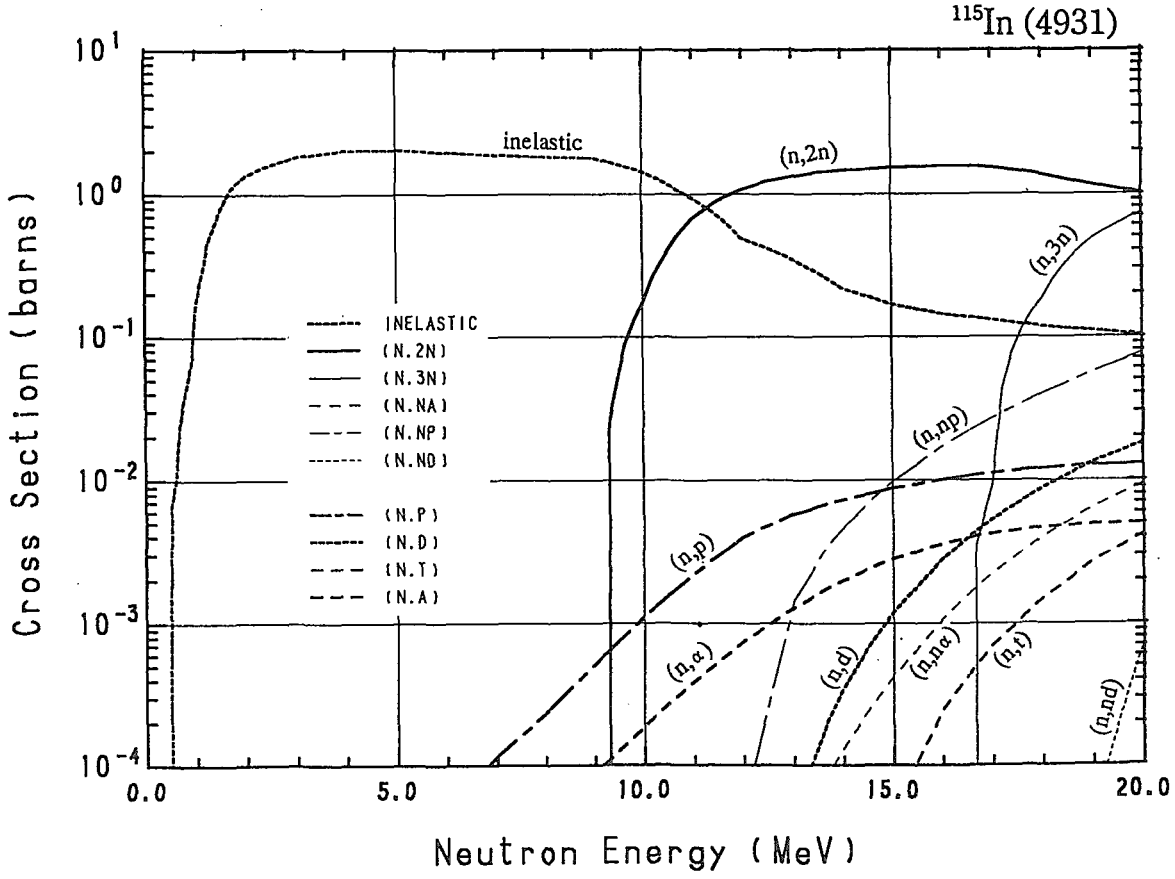

113In (4925)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

49-In-115 (MAT=4931)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	203.5	184.1	–	4.639	5.526
elastic	–	2.526	2.504	–	2.946	4.418
inelastic	339.2 keV	–	–	–	218.0×10^{-3}	942.6×10^{-3}
(n,2n)	9.120 MeV	–	–	–	1.460	960.7×10^{-6}
(n,3n)	16.46 MeV	–	–	–	–	815.0×10^{-9}
(n,nα)	3.770 MeV	–	–	–	134.3×10^{-6}	45.52×10^{-9}
(n,np)	6.875 MeV	–	–	–	4.652×10^{-3}	850.6×10^{-9}
(n,nd)	13.67 MeV	–	–	–	0.000	104.0×10^{-12}
(n,nt)	14.04 MeV	–	–	–	–	5.348×10^{-12}
capture	–	201.0	181.6	$3.208\times10^{+3}$	1.021×10^{-3}	160.6×10^{-3}
(n,p)	671.4 keV	–	–	–	7.280×10^{-3}	7.896×10^{-6}
(n,d)	4.544 MeV	–	–	–	350.6×10^{-6}	108.2×10^{-9}
(n,t)	7.430 MeV	–	–	–	2.515×10^{-6}	10.25×10^{-9}
(n,α)	–	0.000	0.000	1.675×10^{-3}	1.999×10^{-3}	1.441×10^{-6}

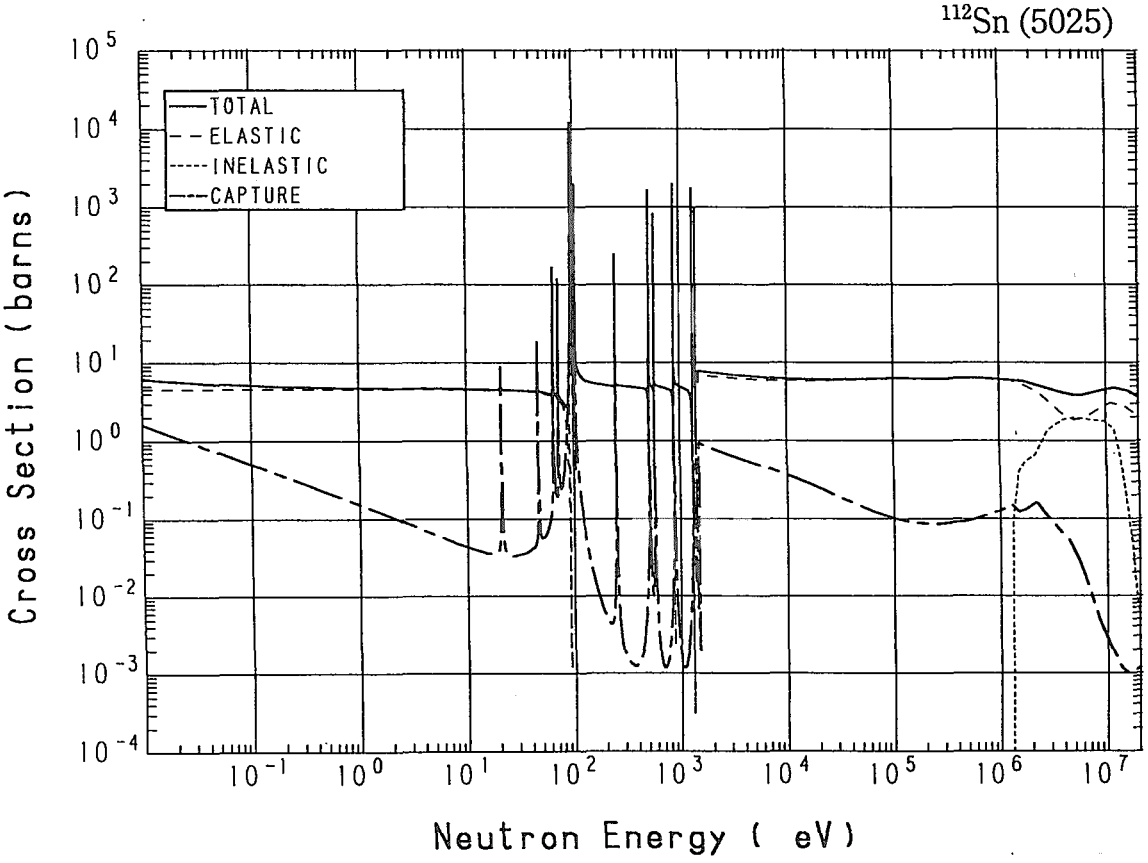


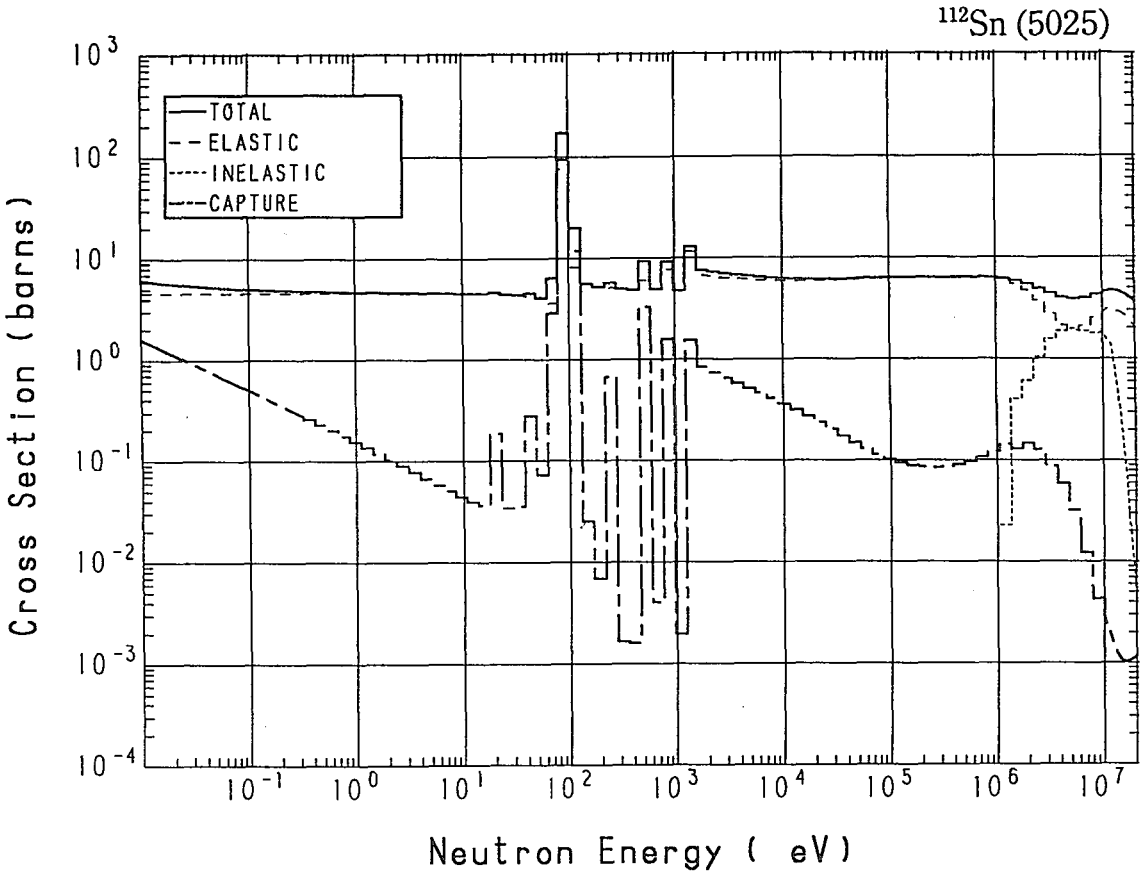

115In (4931)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

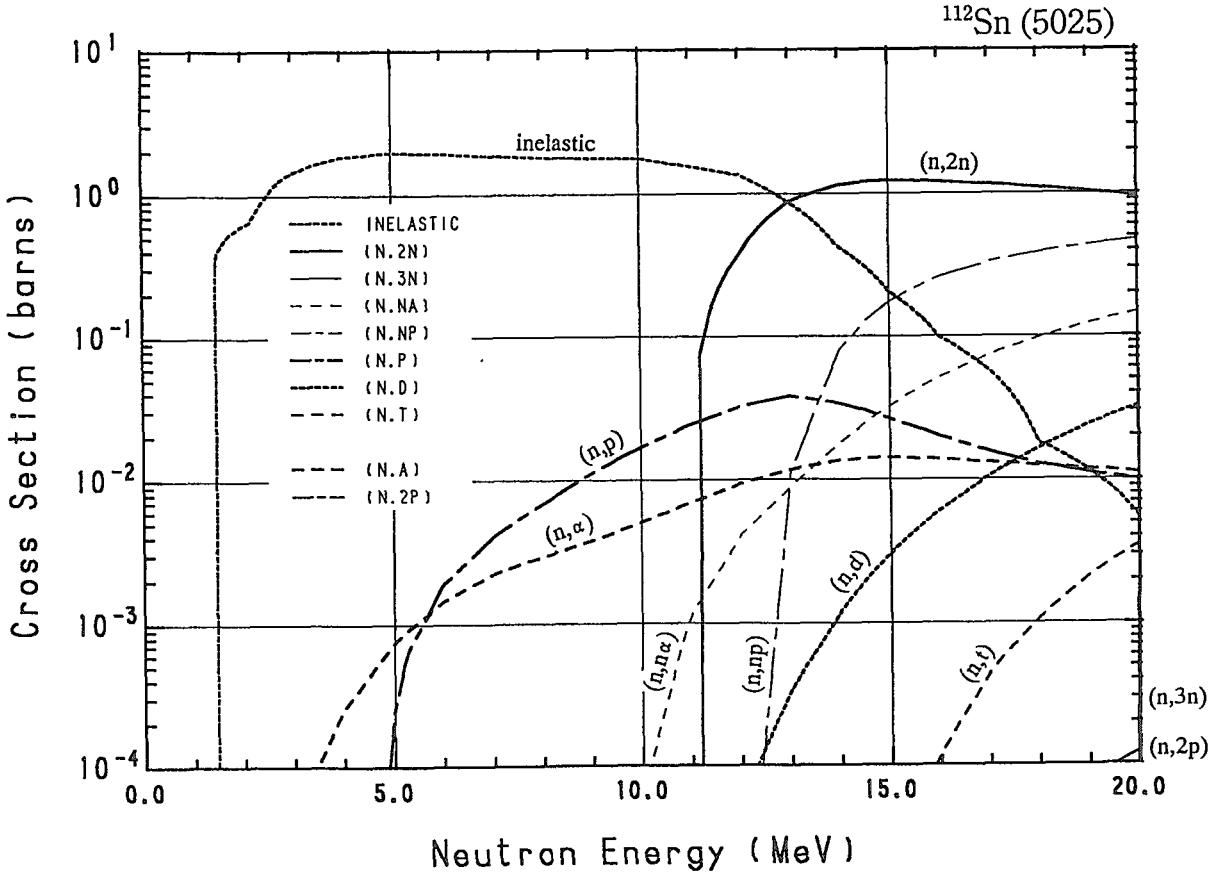

115In (4931)
inelastic
(n,2n)
(n,3n)
(n,np)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,t)
(n,nd)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-112 (MAT=5025)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.597	5.482	–	4.640	5.523
elastic	–	4.588	4.588	–	2.930	4.759
inelastic	1.268 MeV	–	–	–	418.4×10^{-3}	652.6×10^{-3}
(n,2n)	10.89 MeV	–	–	–	1.143	262.9×10^{-6}
(n,3n)	19.15 MeV	–	–	–	–	1.922×10^{-9}
(n,nα)	1.845 MeV	–	–	–	17.91×10^{-3}	4.525×10^{-6}
(n,np)	7.615 MeV	–	–	–	80.86×10^{-3}	11.39×10^{-6}
capture	–	1.009	894.1×10^{-3}	30.49	1.115×10^{-3}	109.5×10^{-3}
(n,p)	–	0.000	0.000	20.23×10^{-3}	33.71×10^{-3}	182.1×10^{-6}
(n,d)	5.284 MeV	–	–	–	1.223×10^{-3}	289.6×10^{-9}
(n,t)	9.206 MeV	–	–	–	57.09×10^{-9}	6.499×10^{-9}
(n,He-3)	5.211 MeV	–	–	–	735.8×10^{-12}	50.86×10^{-12}
(n,α)	–	0.000	0.000	9.476×10^{-3}	13.44×10^{-3}	138.8×10^{-6}
(n,2p)	5.969 MeV	–	–	–	105.1×10^{-15}	167.5×10^{-12}

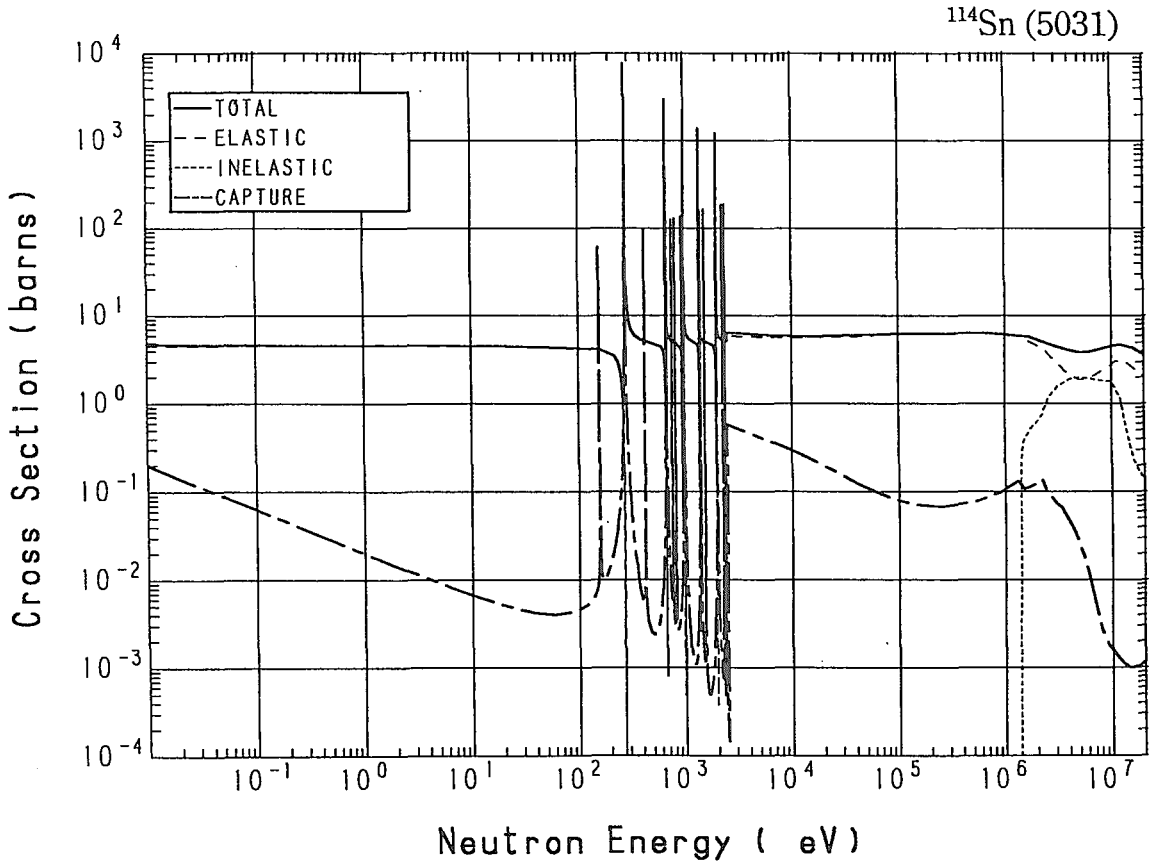


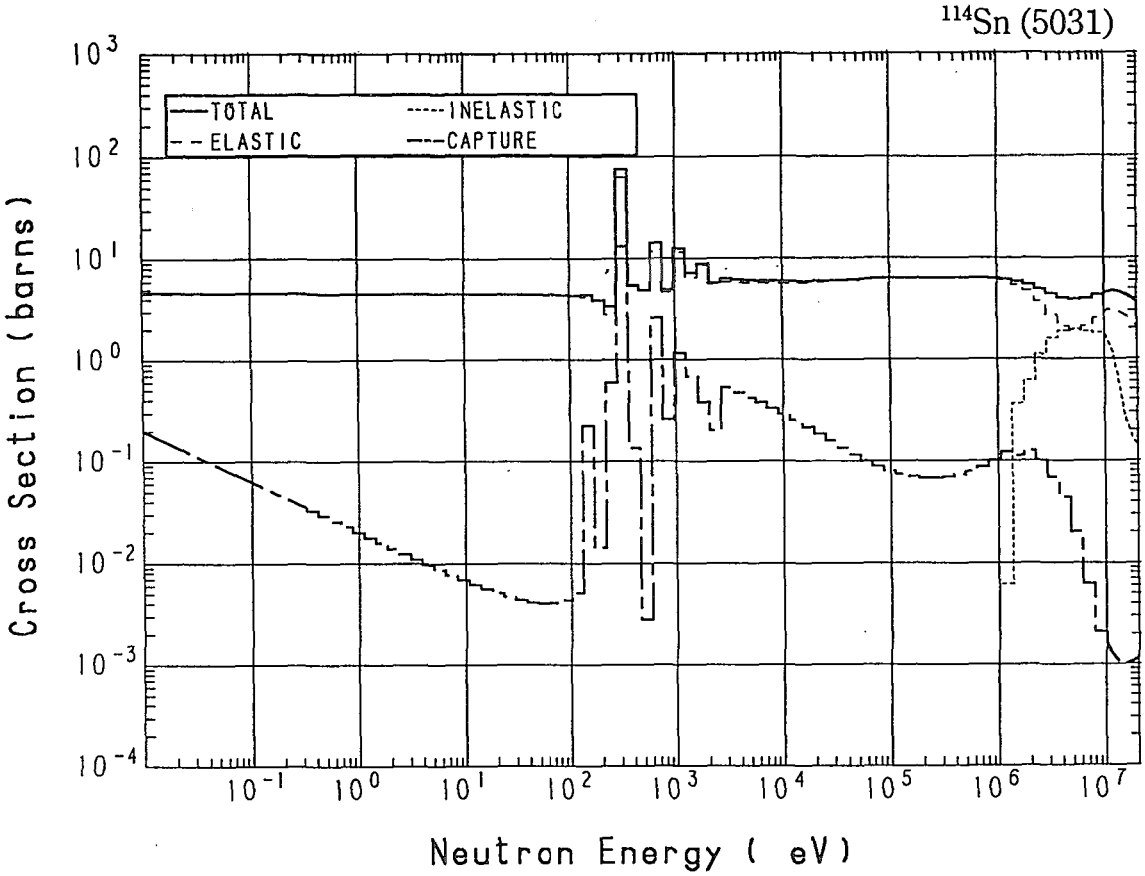

112Sn (5025)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

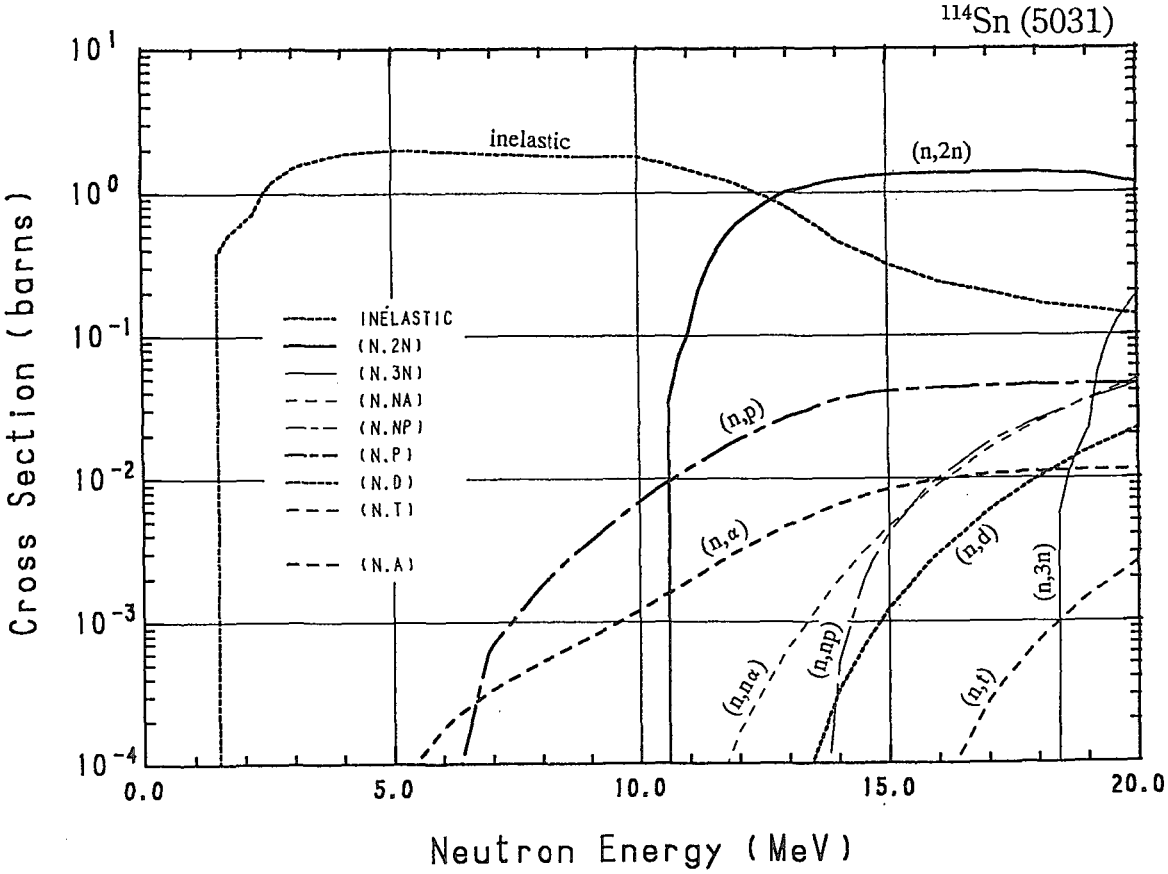

112Sn (5025)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(N.2P)
(n,p)
(n,α)
(n,nα)
(n,np)
(n,d)
(n,t)
(n,3n)
(n,2p)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-114 (MAT=5031)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.671	4.657	–	4.639	5.522
elastic	–	4.546	4.546	–	2.914	4.767
inelastic	1.311 MeV	–	–	–	456.8×10^{-3}	663.2×10^{-3}
(n,2n)	10.40 MeV	–	–	–	1.223	370.9×10^{-6}
(n,3n)	18.21 MeV	–	–	–	–	50.55×10^{-9}
(n,nα)	2.656 MeV	–	–	–	1.993×10^{-3}	476.5×10^{-9}
(n,np)	8.557 MeV	–	–	–	526.9×10^{-6}	310.4×10^{-9}
capture	–	125.3×10^{-3}	111.1×10^{-3}	6.666	1.025×10^{-3}	89.85×10^{-3}
(n,p)	1.212 MeV	–	–	–	35.71×10^{-3}	44.58×10^{-6}
(n,d)	6.226 MeV	–	–	–	330.3×10^{-6}	113.8×10^{-9}
(n,t)	9.518 MeV	–	–	–	1.753×10^{-9}	4.115×10^{-9}
(n,He-3)	6.898 MeV	–	–	–	143.4×10^{-15}	3.951×10^{-12}
(n,α)	–	0.000	0.000	4.928×10^{-3}	6.619×10^{-3}	18.11×10^{-6}

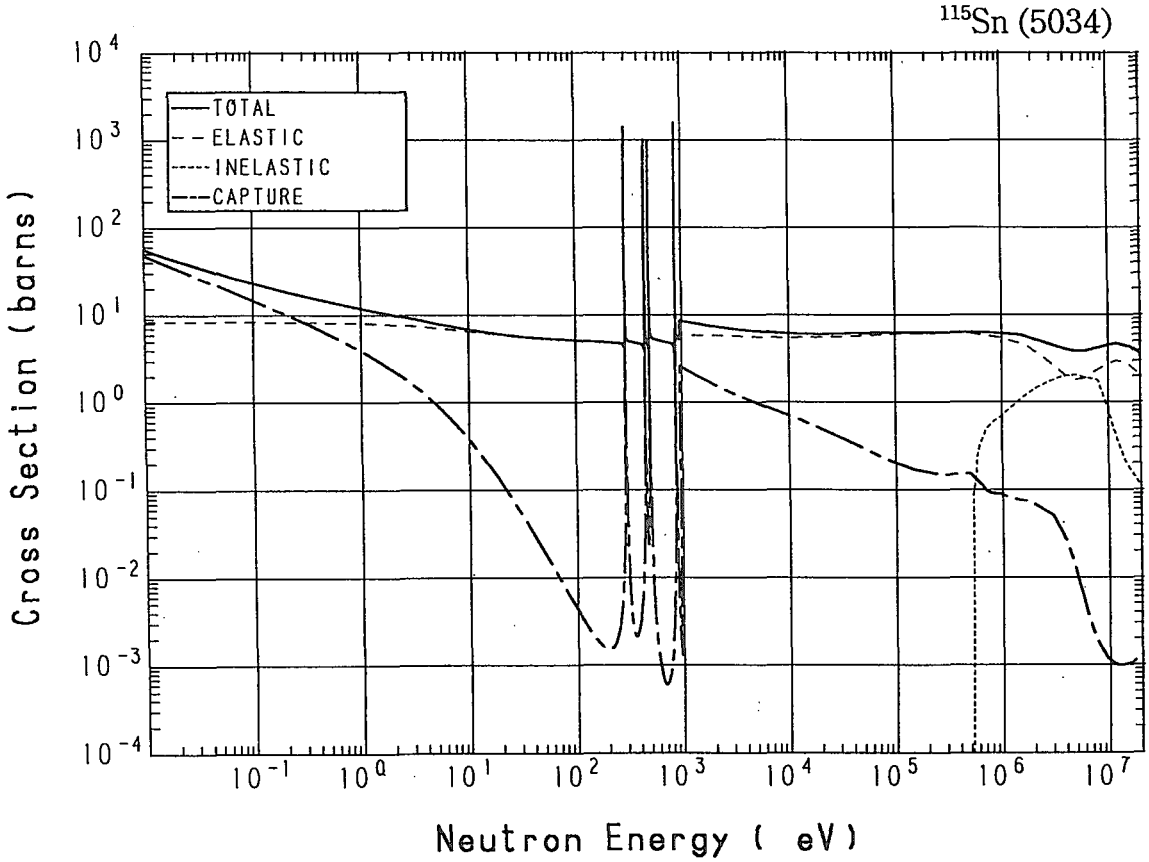


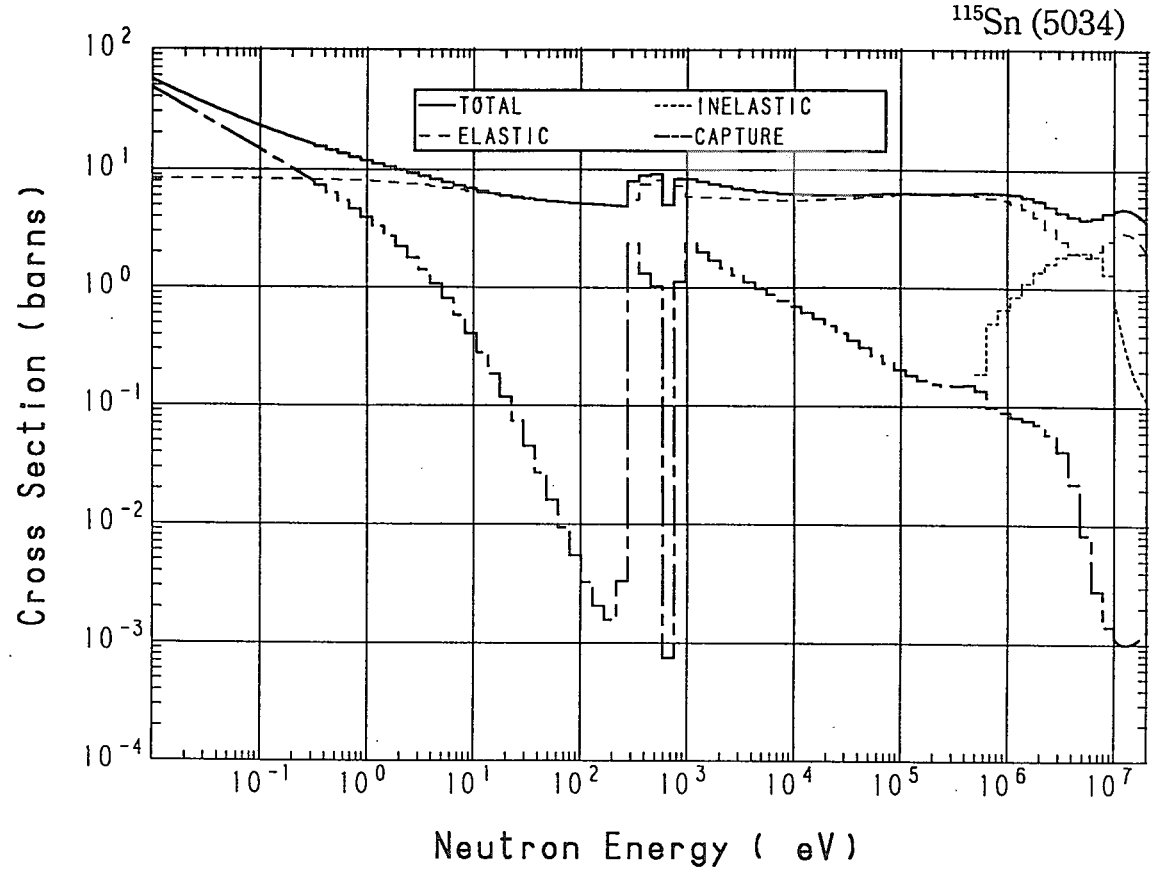

114Sn (5031)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

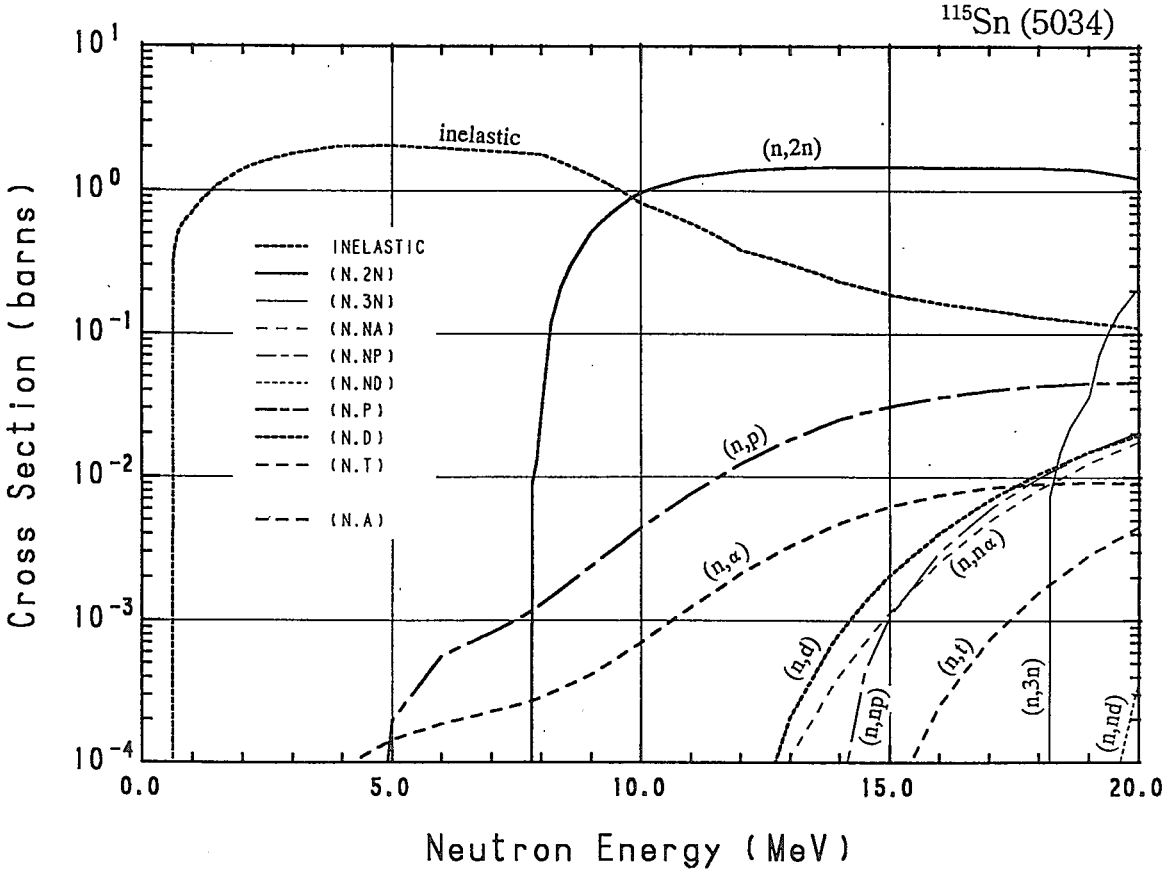

114Sn (5031)
inelastic
(n,2n)
(n,p)
(n,α)
(n,d)
(n,3n)
(n,nα)
(n,np)
(n,t)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-115 (MAT=5034)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	38.22	34.76	–	4.639	5.523
elastic	–	8.370	8.360	–	2.918	4.328
inelastic	501.7 keV	–	–	–	232.0×10^{-3}	1.109
(n,2n)	7.617 MeV	–	–	–	1.458	3.409×10^{-3}
(n,3n)	18.01 MeV	–	–	–	–	67.43×10^{-9}
(n,nα)	3.231 MeV	–	–	–	414.2×10^{-6}	114.4×10^{-9}
(n,np)	8.830 MeV	–	–	–	52.57×10^{-6}	95.66×10^{-9}
(n,nd)	13.84 MeV	–	–	–	0.000	38.65×10^{-12}
capture	–	29.85	26.40	13.81	1.003×10^{-3}	79.56×10^{-3}
(n,p)	–	0.000	0.000	18.54×10^{-3}	24.91×10^{-3}	49.67×10^{-6}
(n,d)	6.499 MeV	–	–	–	816.2×10^{-6}	180.8×10^{-9}
(n,t)	7.604 MeV	–	–	–	2.678×10^{-6}	10.72×10^{-9}
(n,He-3)	7.909 MeV	–	–	–	736.4×10^{-18}	5.496×10^{-12}
(n,α)	–	0.000	0.000	3.747×10^{-3}	4.739×10^{-3}	29.82×10^{-6}

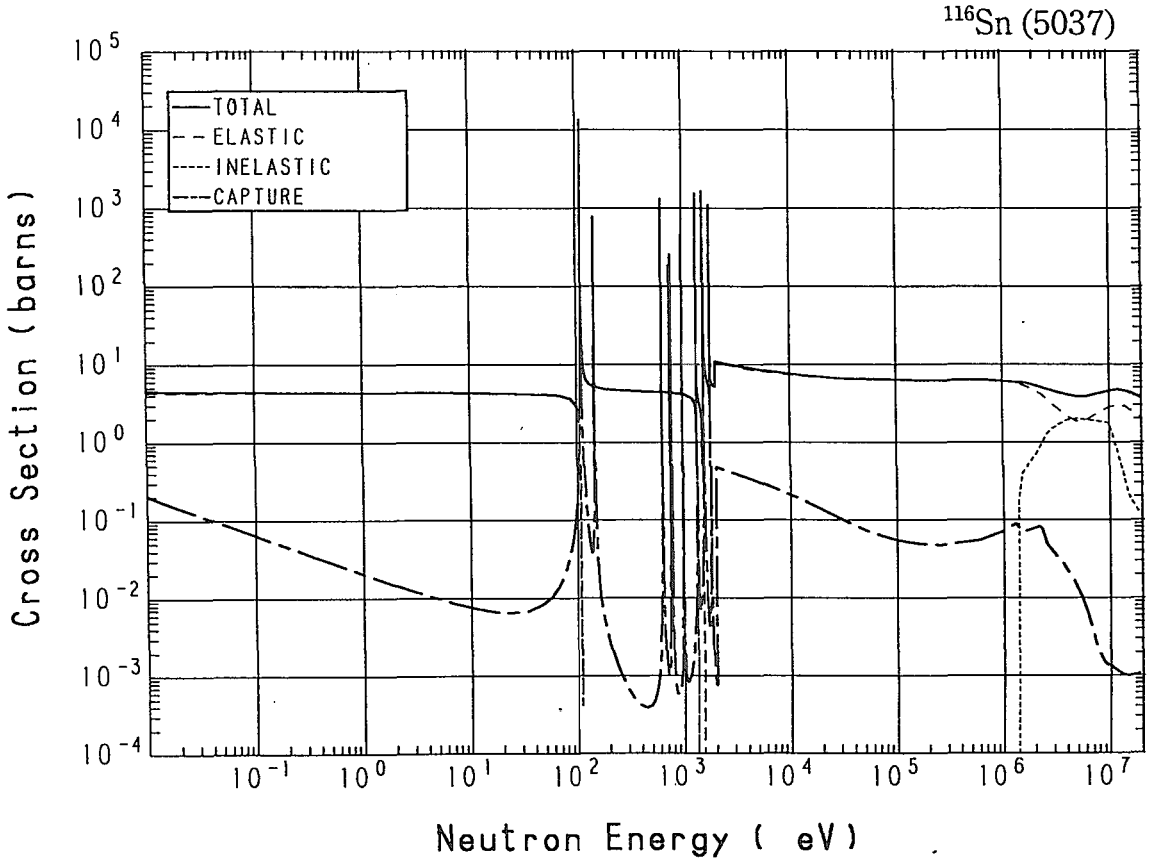


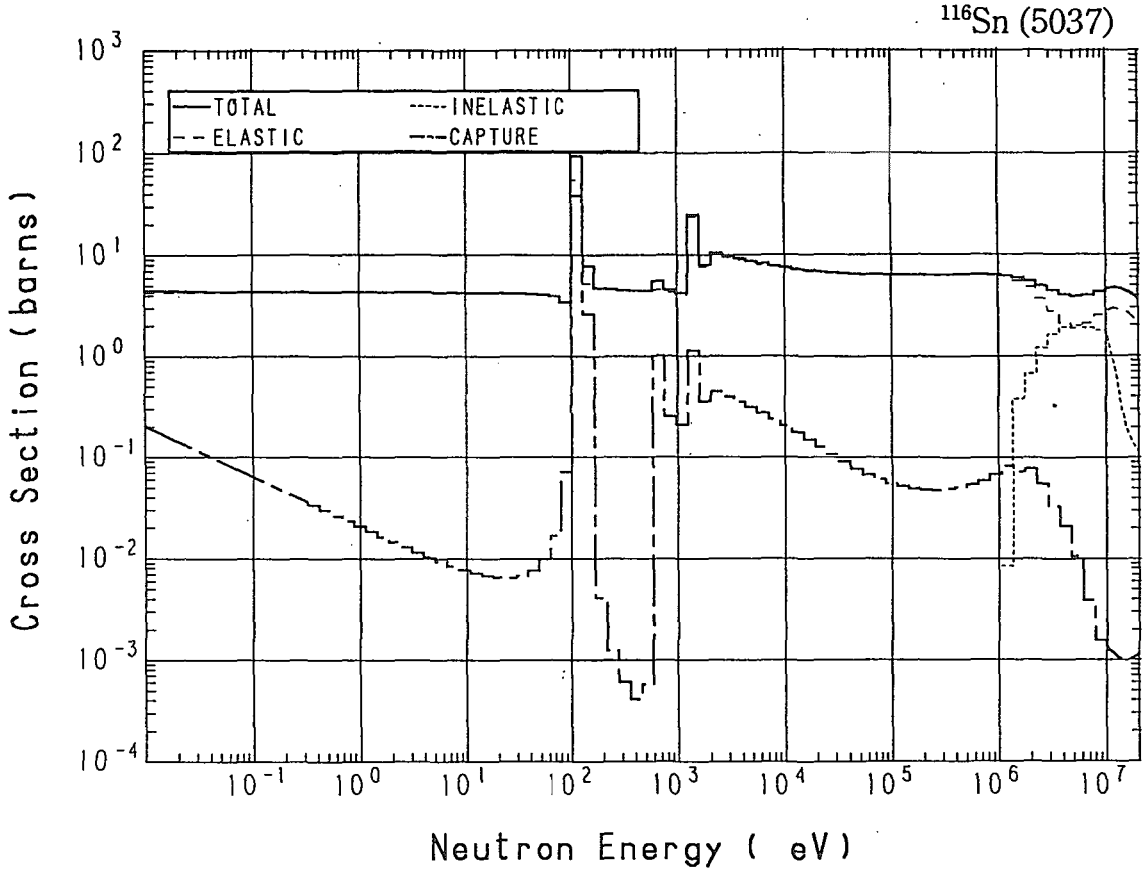

115Sn (5034)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

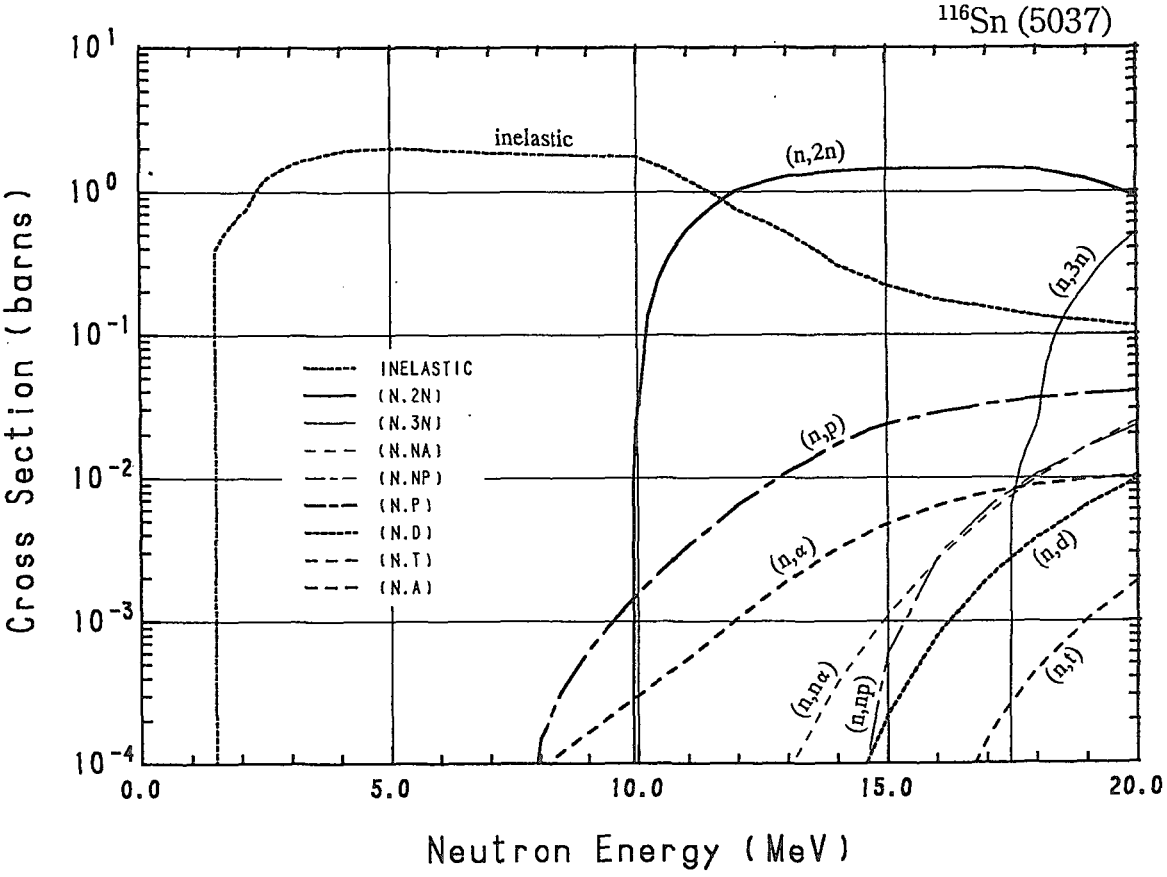

115Sn (5034)
inelastic
(n,2n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,nα)
(n,d)
(n,np)
(n,t)
(n,3n)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-116 (MAT=5037)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.439	4.425	–	4.639	5.528
elastic	–	4.312	4.312	–	2.921	4.780
inelastic	1.305 MeV	–	–	–	304.8×10^{-3}	689.0×10^{-3}
(n,2n)	9.650 MeV	–	–	–	1.392	737.1×10^{-6}
(n,3n)	17.27 MeV	–	–	–	–	288.2×10^{-9}
(n,nα)	3.399 MeV	–	–	–	371.5×10^{-6}	118.4×10^{-9}
(n,np)	9.359 MeV	–	–	–	873.2×10^{-9}	83.46×10^{-9}
capture	–	127.7×10^{-3}	113.2×10^{-3}	12.38	1.014×10^{-3}	56.18×10^{-3}
(n,p)	2.512 MeV	–	–	–	16.94×10^{-3}	8.959×10^{-6}
(n,d)	7.029 MeV	–	–	–	25.07×10^{-6}	30.07×10^{-9}
(n,t)	9.910 MeV	–	–	–	34.80×10^{-12}	2.424×10^{-9}
(n,α)	–	0.000	0.000	3.012×10^{-3}	3.186×10^{-3}	2.747×10^{-6}

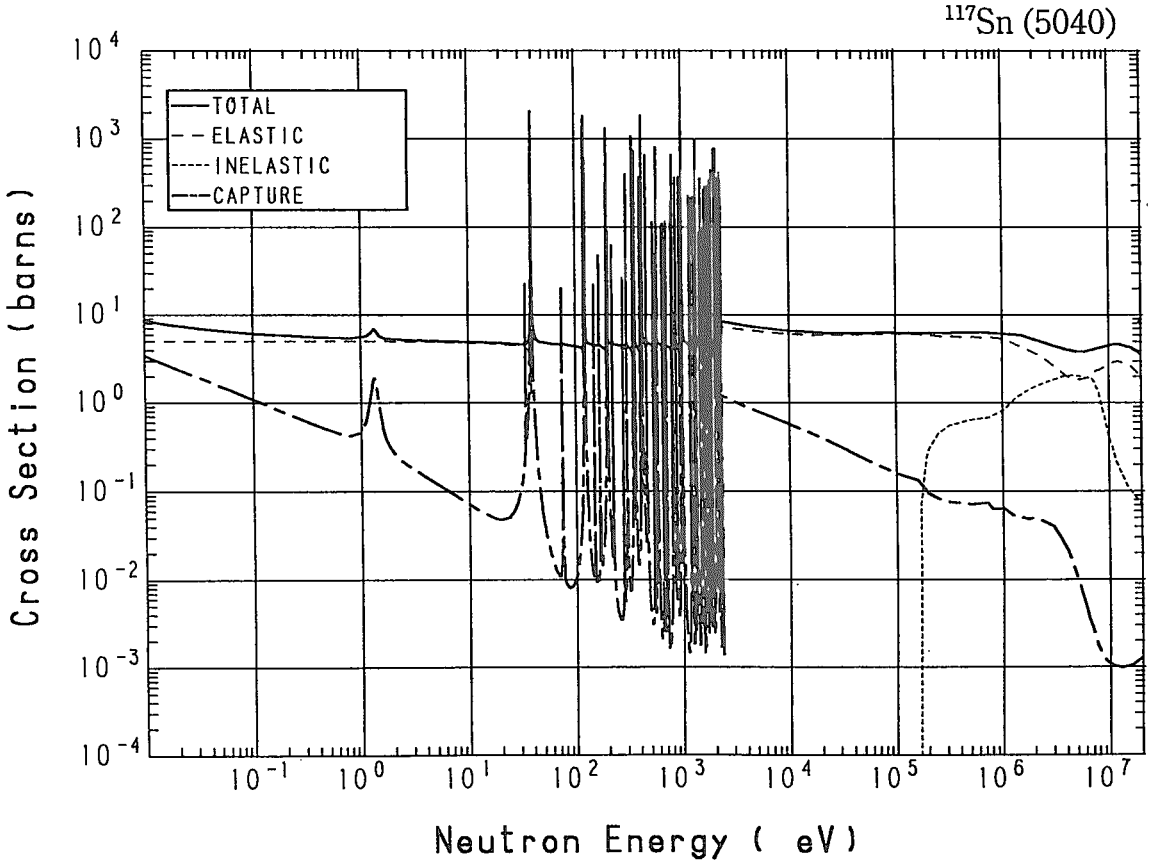


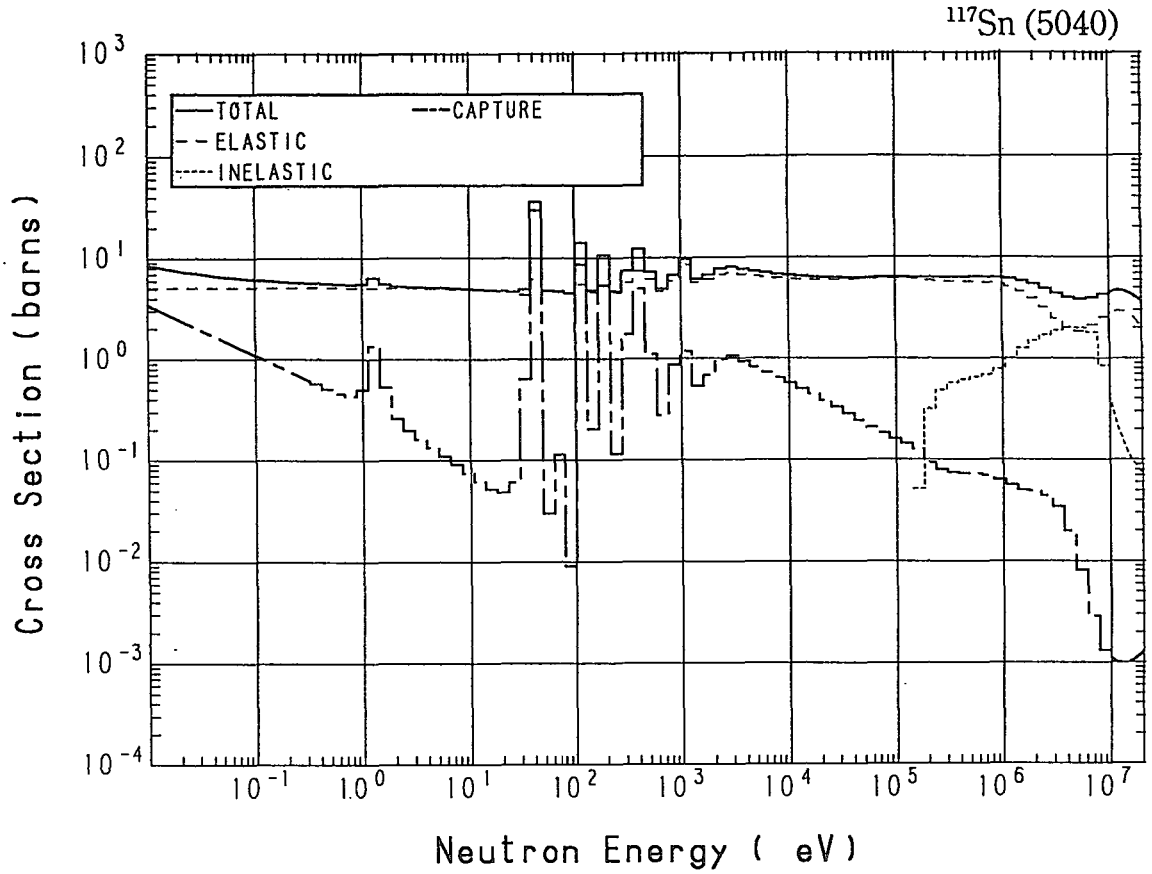

116Sn (5037)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

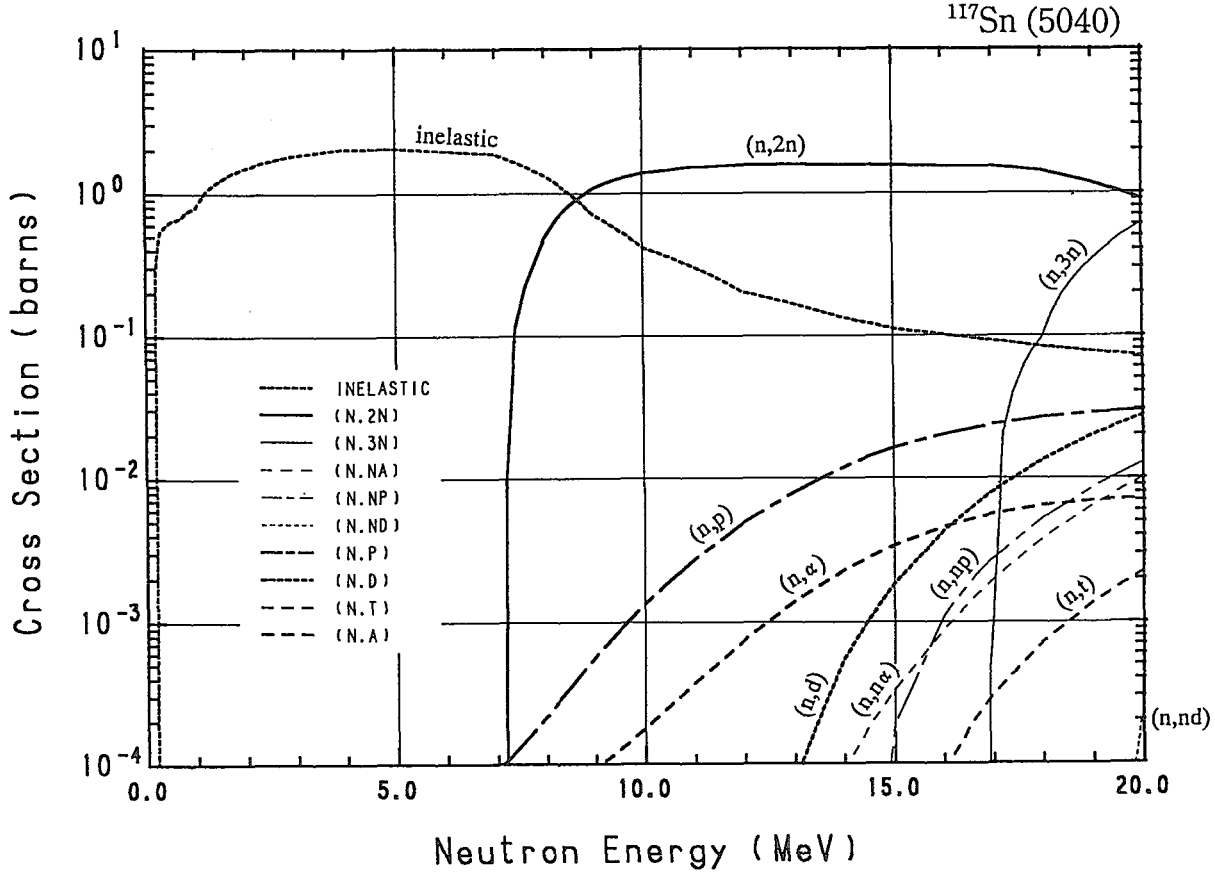

116Sn (5037)
inelastic
(n,2n)
(n,3n)
(n,p)
(n,α)
(n,d)
(n,nα)
(n,np)
(n,t)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-117 (MAT=5040)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.277	7.029	–	4.639	5.523
elastic	–	5.104	5.103	–	2.925	4.199
inelastic	160.0 keV	–	–	–	134.0×10^{-3}	1.260
(n,2n)	7.009 MeV	–	–	–	1.565	7.324×10^{-3}
(n,3n)	16.66 MeV	–	–	–	–	525.2×10^{-9}
(n,nα)	3.803 MeV	–	–	–	97.30×10^{-6}	38.24×10^{-9}
(n,np)	9.521 MeV	–	–	–	102.6×10^{-9}	37.27×10^{-9}
(n,nd)	14.04 MeV	–	–	–	–	17.96×10^{-12}
capture	–	2.173	1.926	18.15	1.003×10^{-3}	53.99×10^{-3}
(n,p)	678.2 keV	–	–	–	11.80×10^{-3}	9.014×10^{-6}
(n,d)	7.191 MeV	–	–	–	553.2×10^{-6}	163.3×10^{-9}
(n,t)	7.799 MeV	–	–	–	76.12×10^{-9}	4.434×10^{-9}
(n,α)	–	0.000	0.000	2.156×10^{-3}	2.289×10^{-3}	3.636×10^{-6}

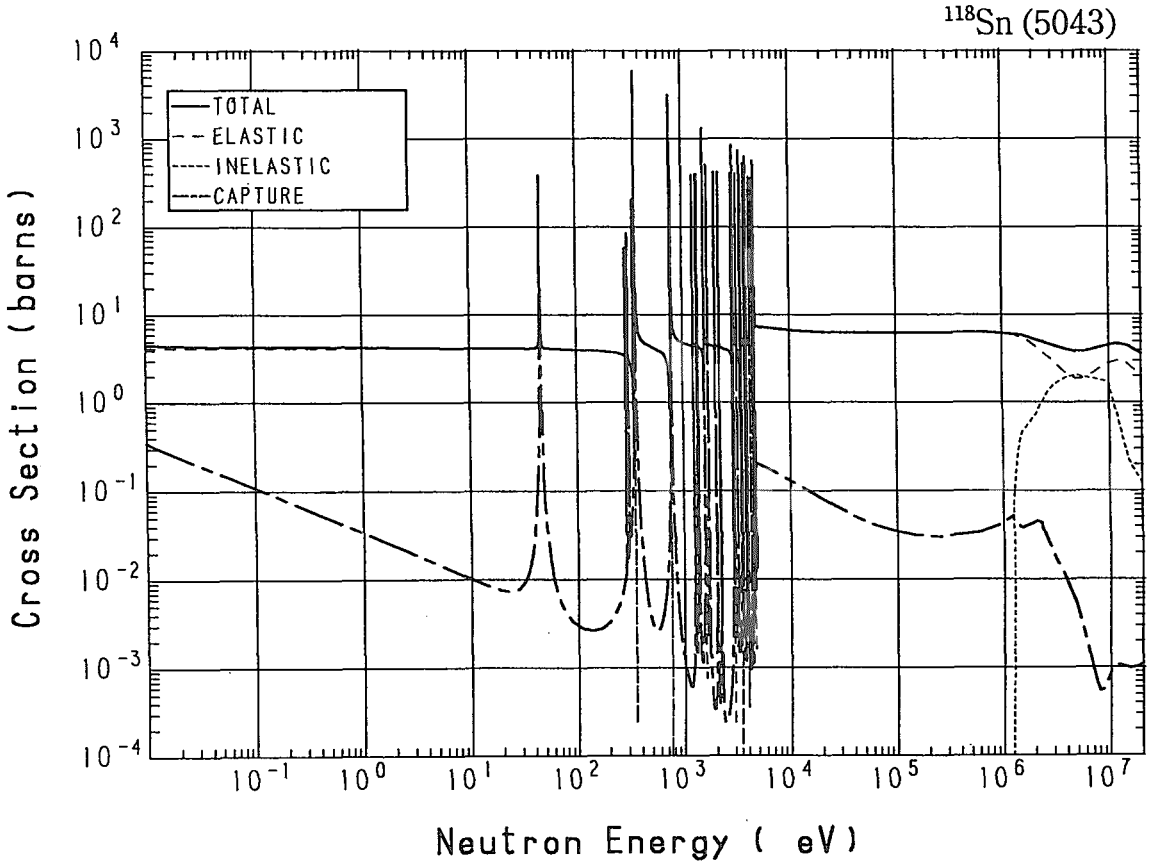


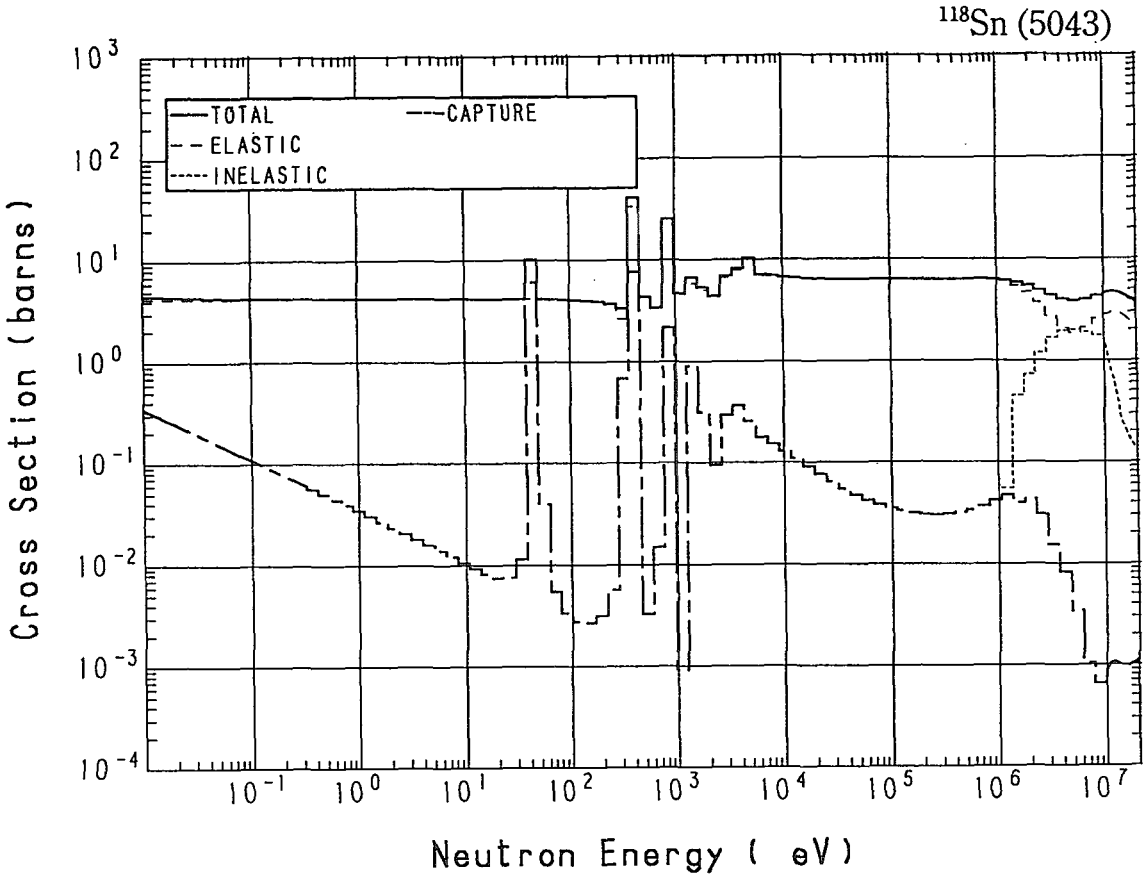

117Sn (5040)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

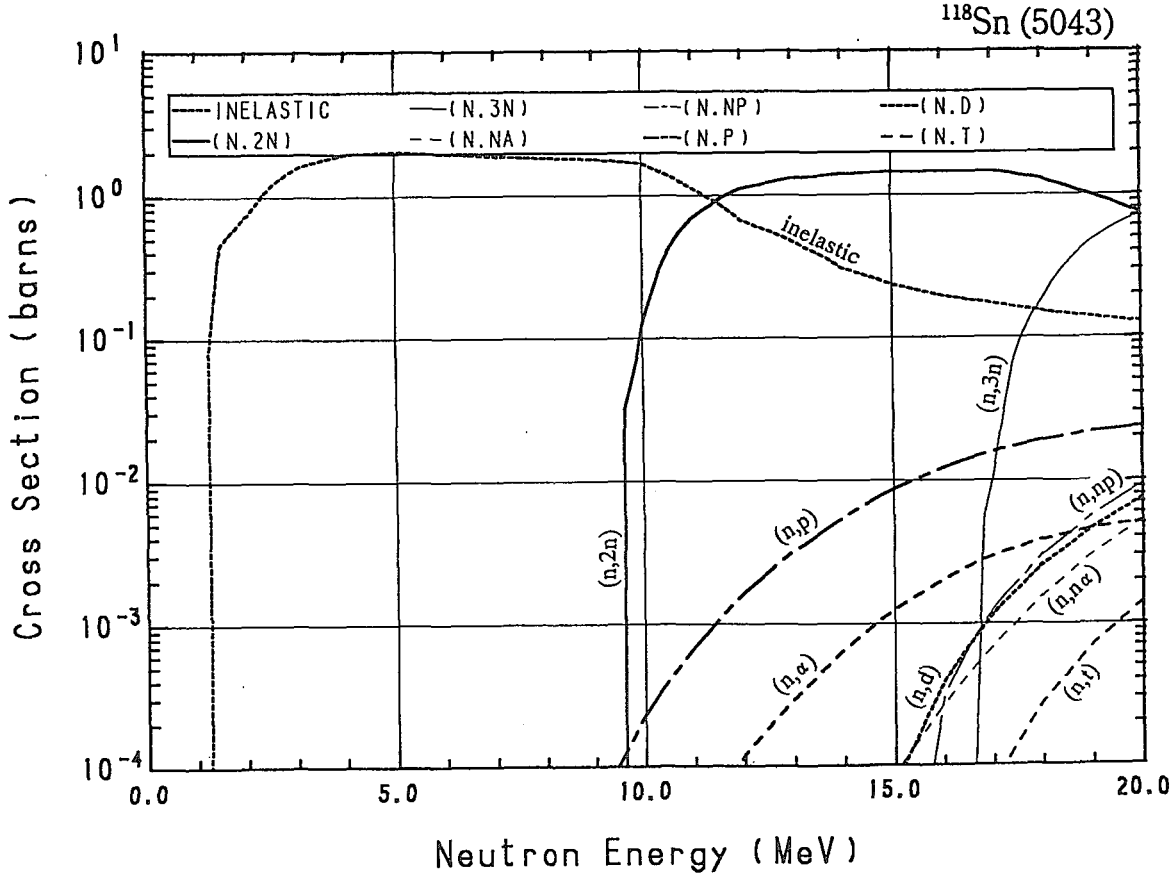

117Sn (5040)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.ND)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,pp)
(n,t)
(n,d)
(n,nα)
(n,nd)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-118 (MAT=5043)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.440	4.415	–	4.639	5.524
elastic	–	4.222	4.222	–	2.928	4.774
inelastic	1.240 MeV	–	–	–	306.7×10^{-3}	713.1×10^{-3}
(n,2n)	9.411 MeV	–	–	–	1.397	903.2×10^{-6}
(n,3n)	16.42 MeV	–	–	–	–	773.5×10^{-9}
(n,nα)	4.091 MeV	–	–	–	22.92×10^{-6}	13.02×10^{-9}
(n,np)	10.09 MeV	–	–	–	198.4×10^{-12}	16.68×10^{-9}
capture	–	217.8×10^{-3}	193.1×10^{-3}	5.341	1.002×10^{-3}	31.89×10^{-3}
(n,p)	3.450 MeV	–	–	–	5.531×10^{-3}	1.867×10^{-6}
(n,d)	7.759 MeV	–	–	–	1.634×10^{-6}	16.89×10^{-9}
(n,t)	10.36 MeV	–	–	–	297.1×10^{-15}	1.428×10^{-9}
(n,α)	–	0.000	0.000	1.053×10^{-3}	660.7×10^{-6}	222.1×10^{-9}

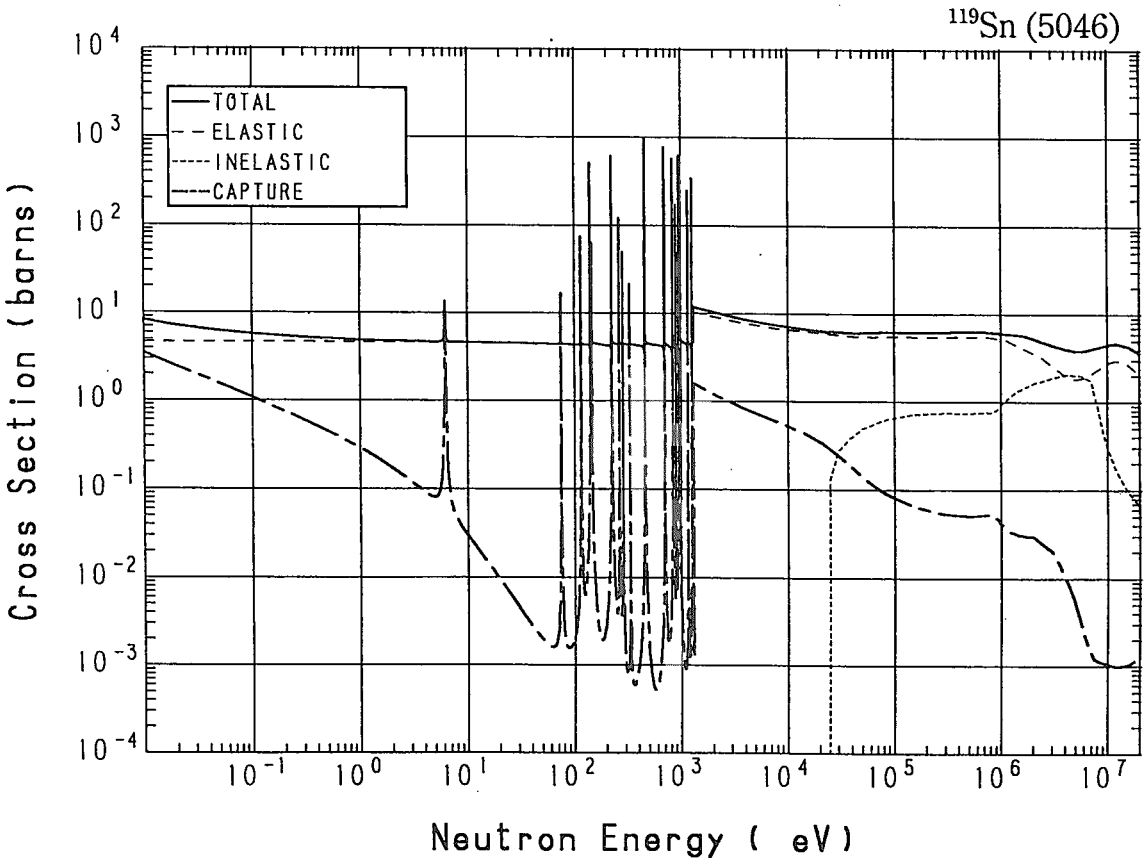


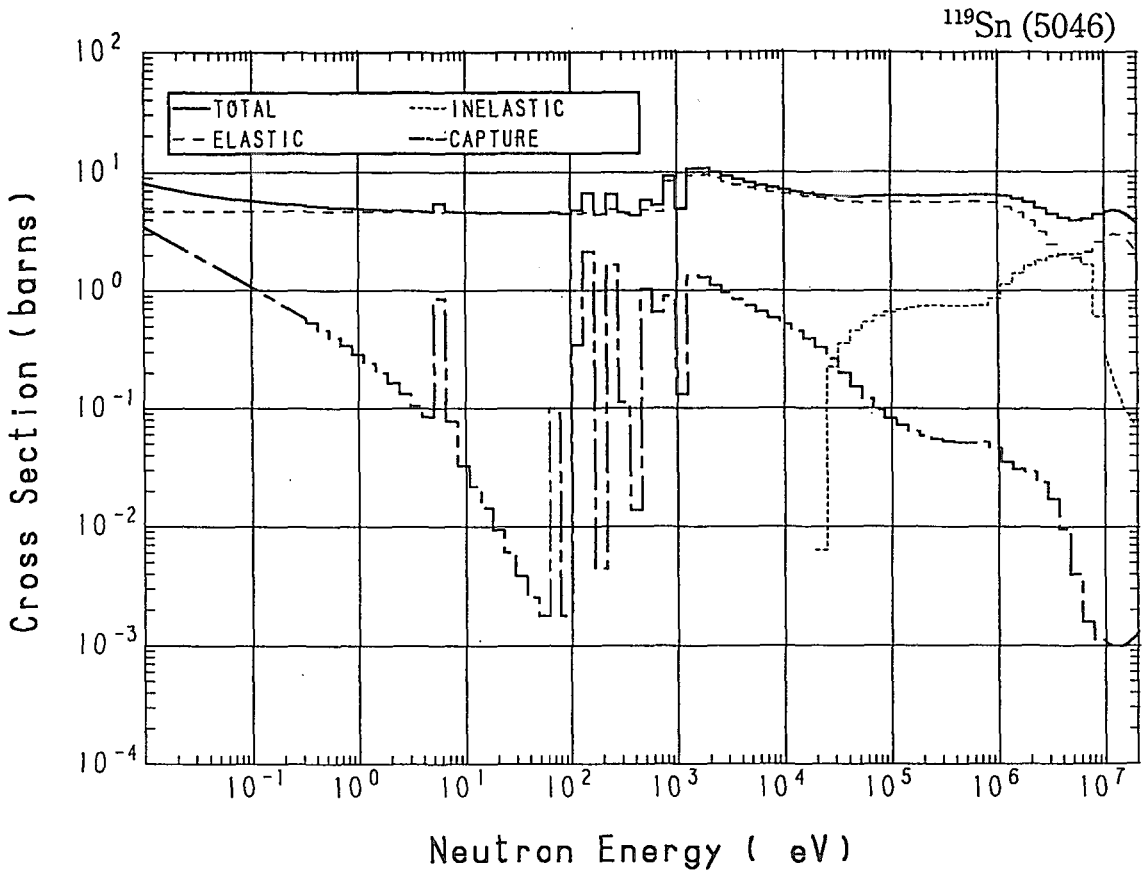

118Sn (5043)
TOTAL
CAPTURE
ELASTIC
INELASTIC
Cross Section (barns)
Neutron Energy (eV)

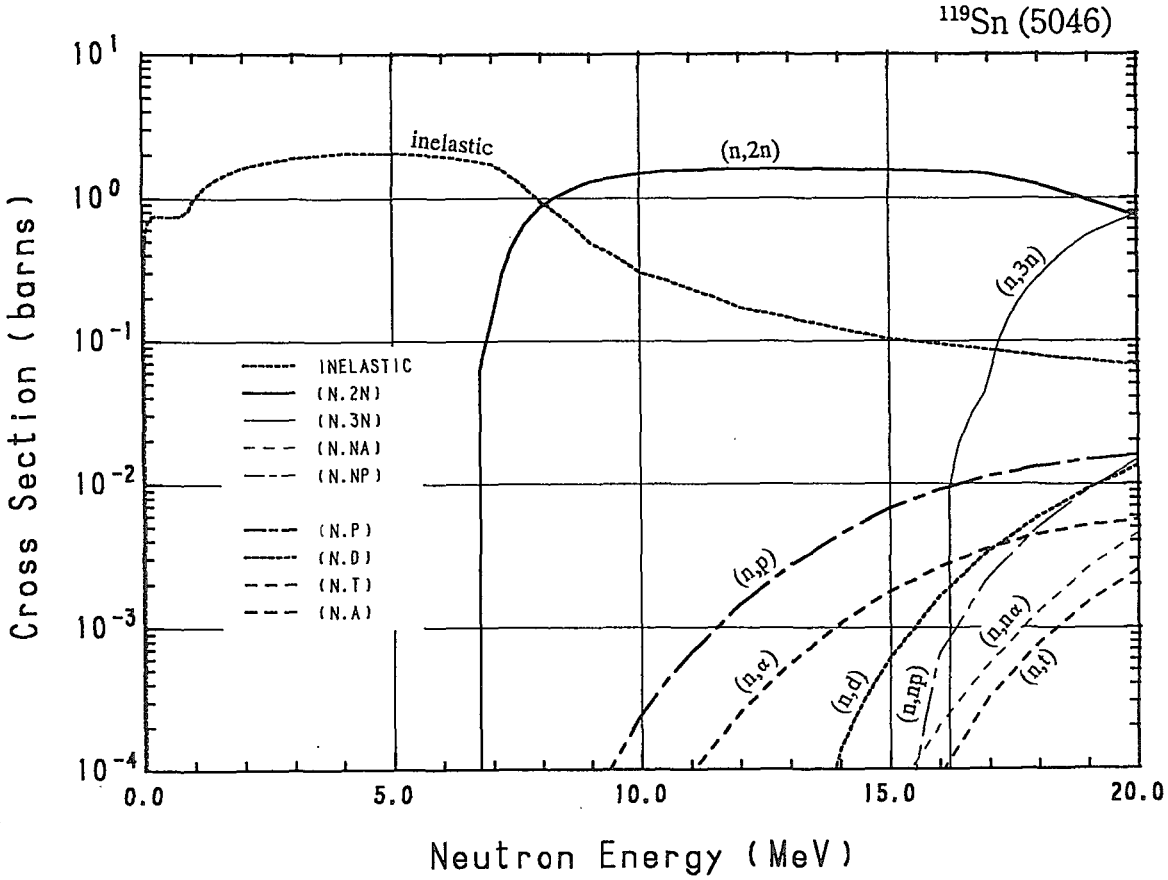

118Sn (5043)
INELASTIC
(N.3N)
(N.NP)
(N.D)
(N.2N)
(N.NA)
(N.P)
(N.T)
inelastic
(n,3n)
(n,2n)
(n,p)
(n,np)
(n,nα)
(n,α)
(n,d)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-119 (MAT=5046)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	6.852	6.599	–	4.639	5.522
elastic	–	4.676	4.675	–	2.931	4.107
inelastic	24.10 keV	–	–	–	121.8×10^{-3}	1.367
(n,2n)	6.544 MeV	–	–	–	1.579	11.22×10^{-3}
(n,3n)	15.95 MeV	–	–	–	–	1.198×10^{-6}
(n,nα)	4.433 MeV	–	–	–	13.83×10^{-6}	10.06×10^{-9}
(n,np)	9.994 MeV	–	–	–	1.442×10^{-9}	29.18×10^{-9}
(n,nd)	14.30 MeV	–	–	–	–	6.184×10^{-12}
capture	–	2.176	1.924	5.324	1.001×10^{-3}	34.05×10^{-3}
(n,p)	1.567 MeV	–	–	–	4.424×10^{-3}	1.764×10^{-6}
(n,d)	7.665 MeV	–	–	–	140.5×10^{-6}	60.38×10^{-9}
(n,t)	8.065 MeV	–	–	–	33.53×10^{-9}	4.709×10^{-9}
(n,α)	–	0.000	0.000	1.307×10^{-3}	1.070×10^{-3}	526.9×10^{-9}

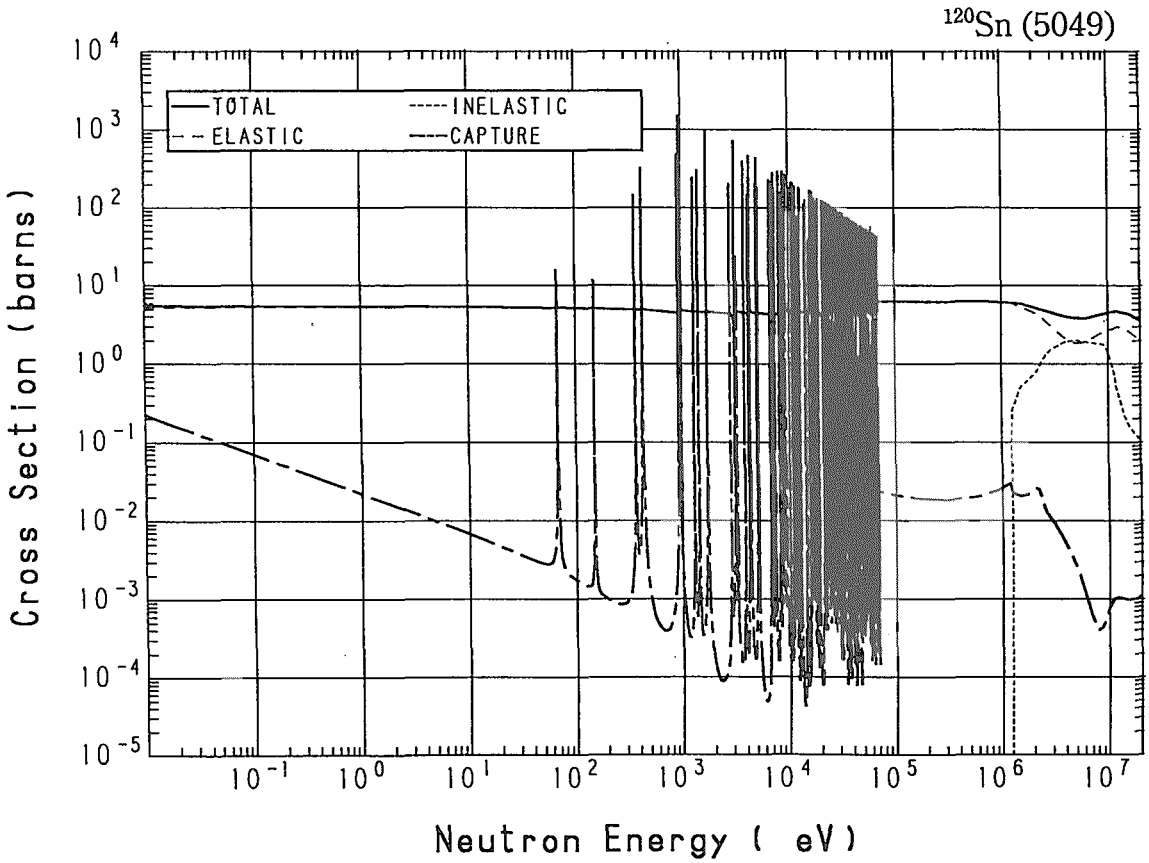


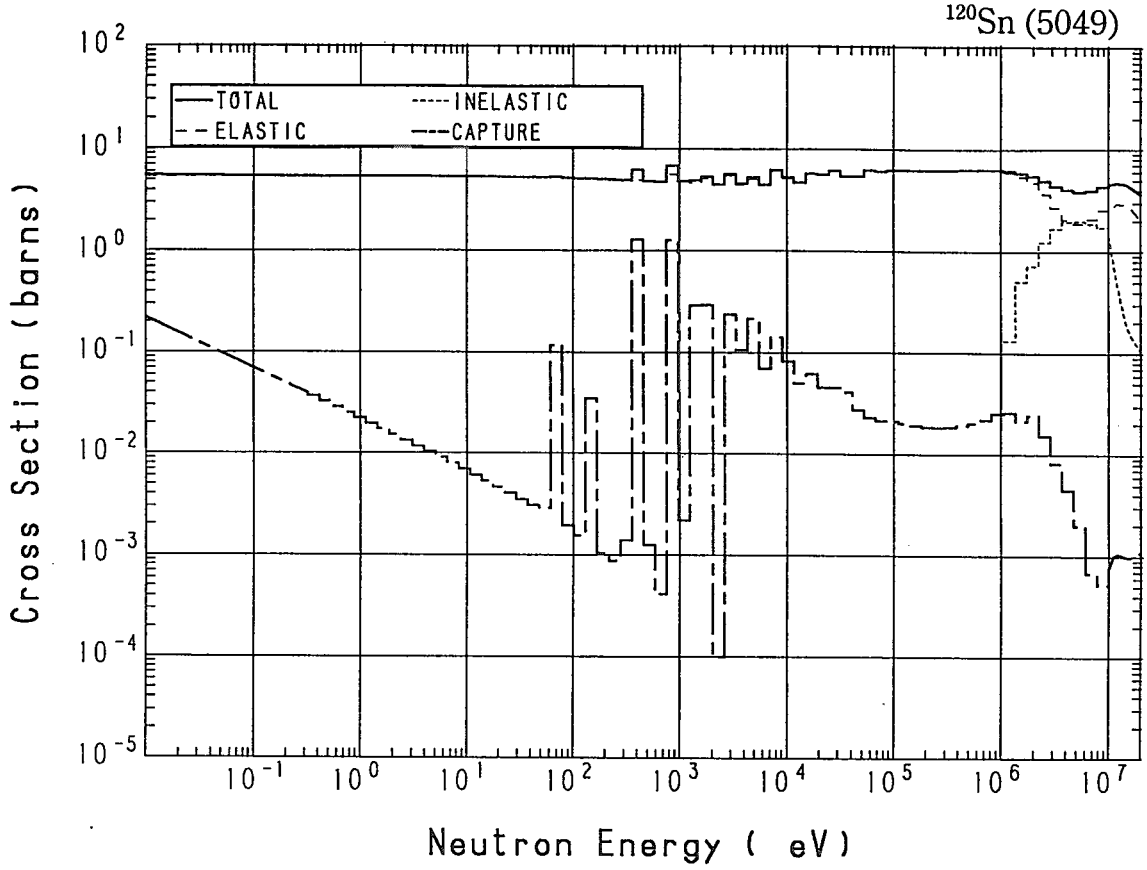

119Sn (5046)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

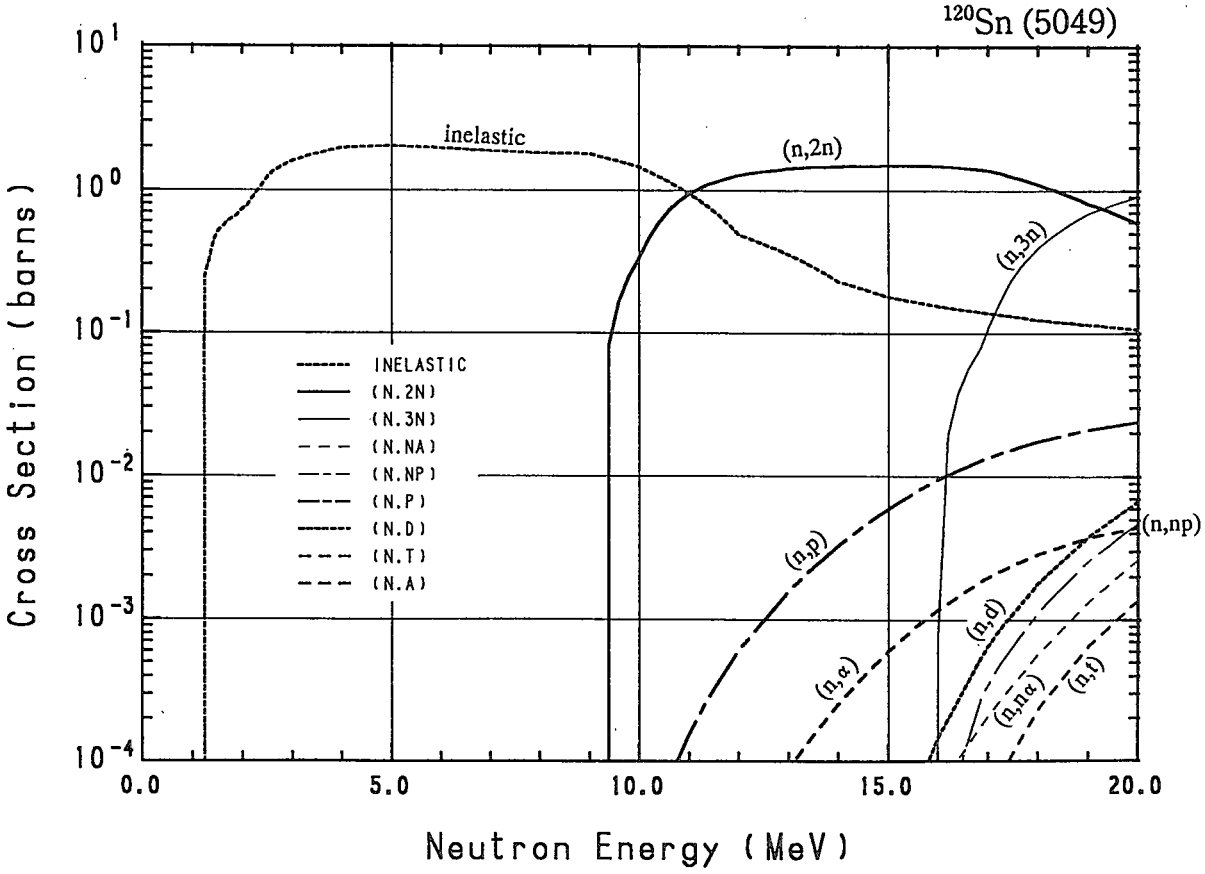

119Sn (5046)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,α)
(n,d)
(n,np)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-120 (MAT=5049)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	5.479	5.463	–	4.639	5.519
elastic	–	5.340	5.340	–	2.928	4.764
inelastic	1.181 MeV	–	–	–	230.0×10^{-3}	734.5×10^{-3}
(n,2n)	9.188 MeV	–	–	–	1.476	1.318×10^{-3}
(n,3n)	15.73 MeV	–	–	–	–	1.699×10^{-6}
(n,nα)	4.847 MeV	–	–	–	2.767×10^{-6}	3.878×10^{-9}
(n,np)	10.76 MeV	–	–	–	326.1×10^{-15}	5.568×10^{-9}
capture	–	139.2×10^{-3}	123.4×10^{-3}	1.220	1.001×10^{-3}	17.85×10^{-3}
(n,p)	4.658 MeV	–	–	–	3.309×10^{-3}	777.3×10^{-9}
(n,d)	8.426 MeV	–	–	–	19.57×10^{-9}	9.915×10^{-9}
(n,t)	10.61 MeV	–	–	–	27.46×10^{-15}	1.200×10^{-9}
(n,α)	–	0.000	0.000	721.3×10^{-6}	254.0×10^{-6}	71.87×10^{-9}

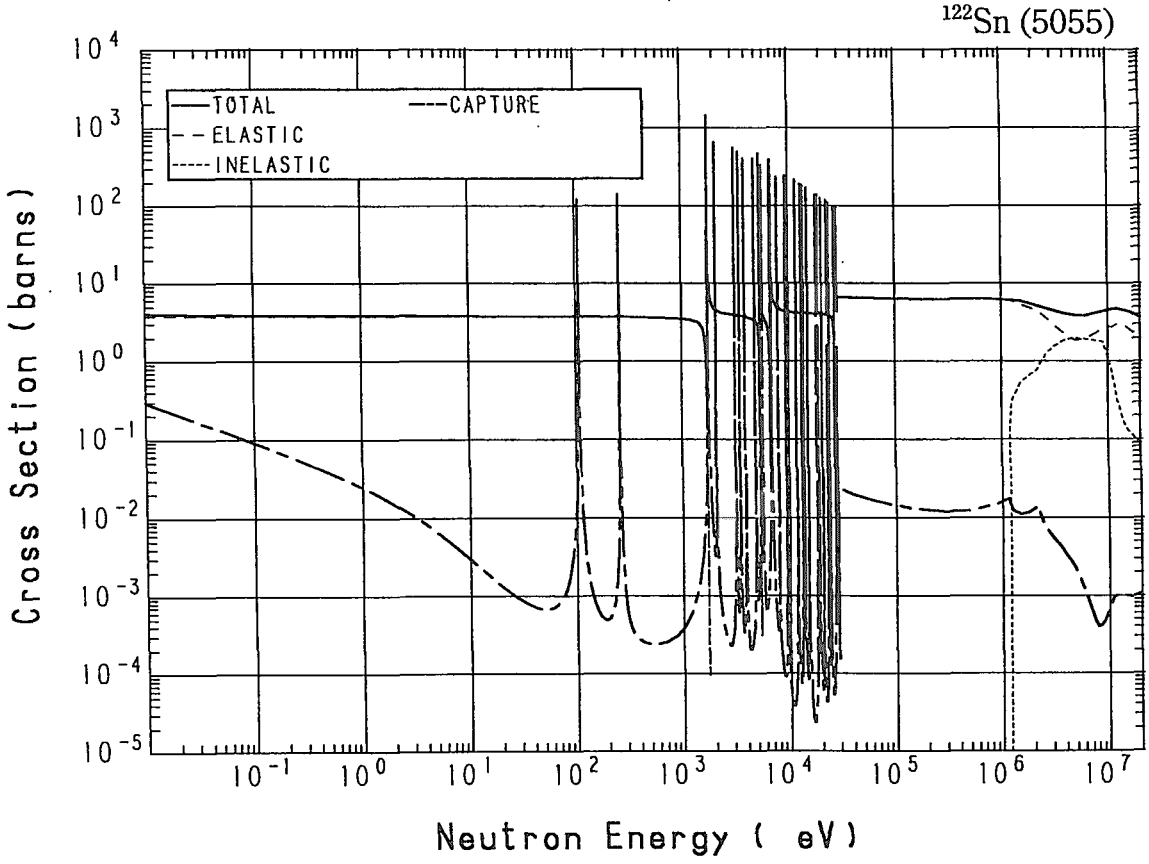


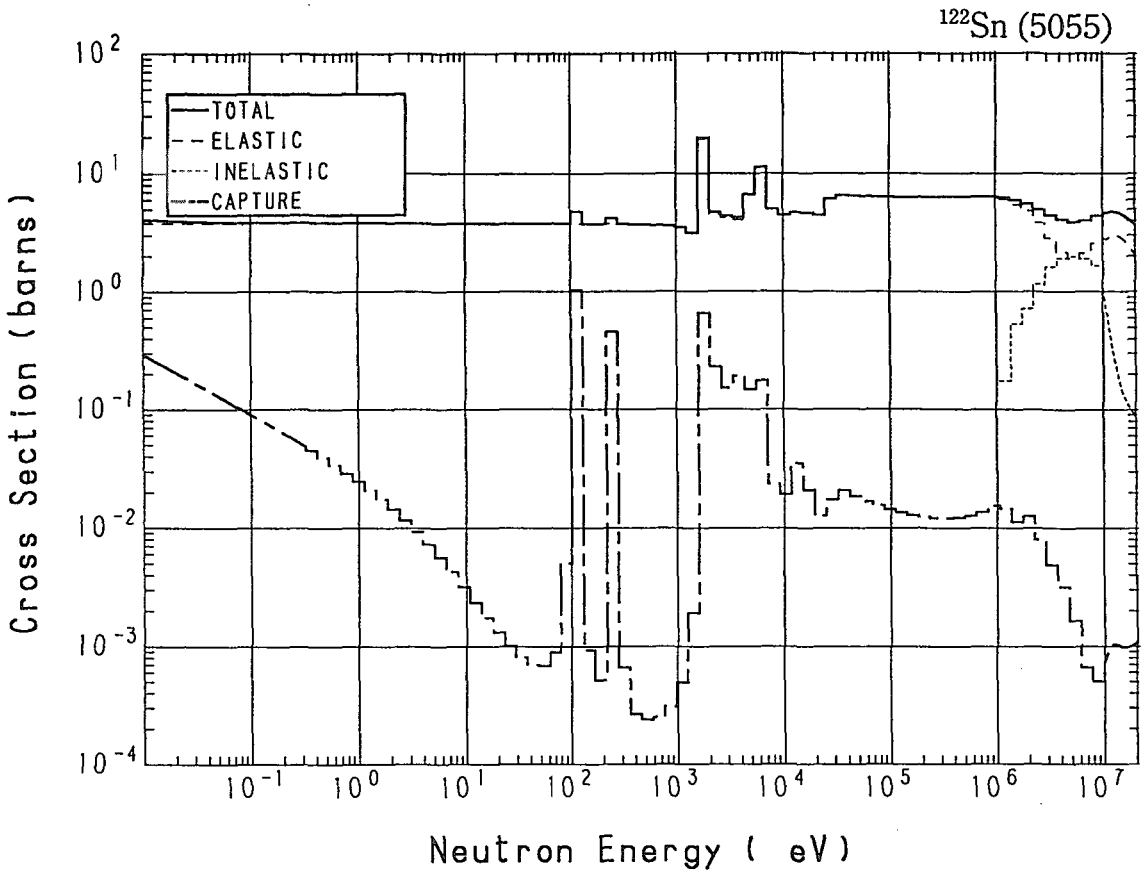

120Sn (5049)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

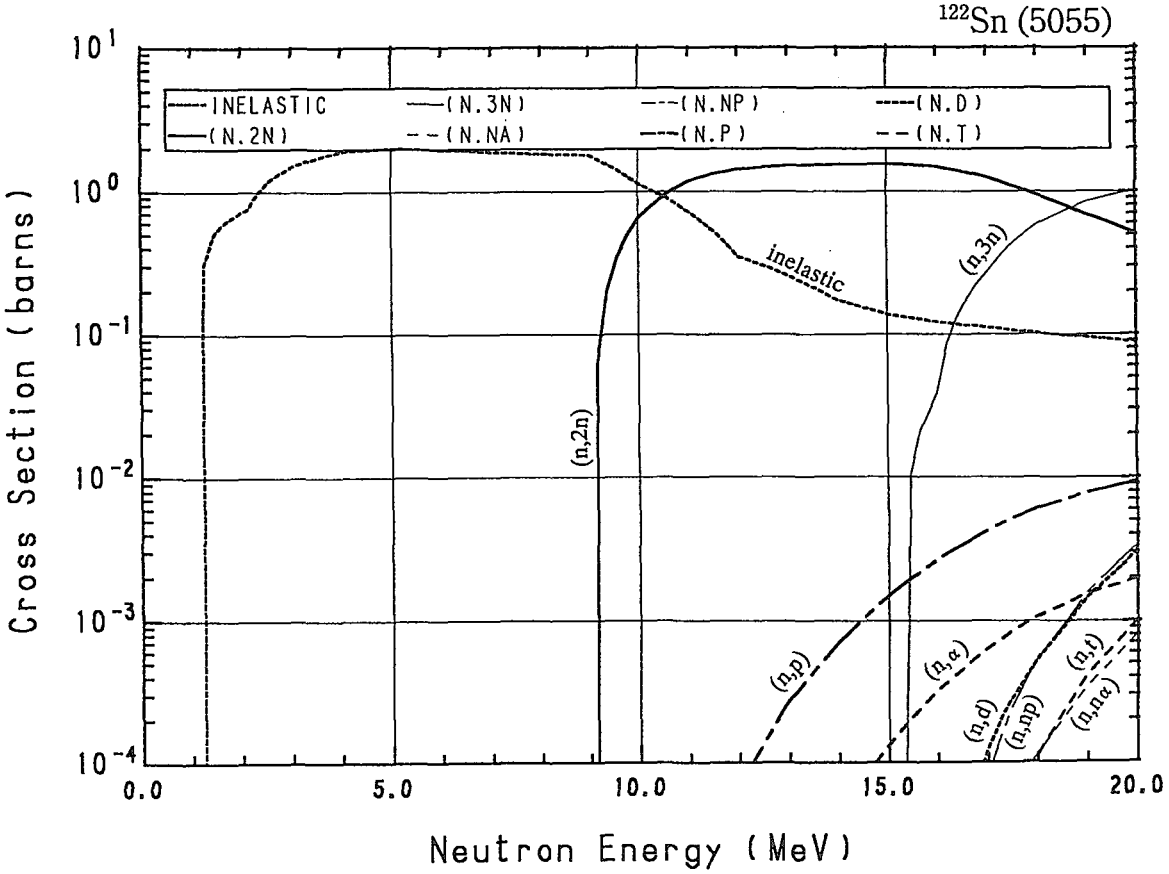

120Sn (5049)
inelastic
(n,2n)
(n,3n)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(N.A)
(n,p)
(n,np)
(n,d)
(n,α)
(n,nα)
(n,t)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-122 (MAT=5055)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	3.979	3.958	–	4.639	5.521
elastic	–	3.795	3.795	–	2.930	4.792
inelastic	1.150 MeV	–	–	–	172.3×10^{-3}	715.0×10^{-3}
(n,2n)	8.893 MeV	–	–	–	1.535	1.818×10^{-3}
(n,3n)	15.12 MeV	–	–	–	–	3.054×10^{-6}
(n,nα)	5.708 MeV	–	–	–	97.86×10^{-9}	727.3×10^{-12}
(n,np)	11.49 MeV	–	–	–	357.0×10^{-18}	2.648×10^{-9}
capture	–	183.7×10^{-3}	162.5×10^{-3}	931.6×10^{-3}	1.001×10^{-3}	10.33×10^{-3}
(n,p)	5.610 MeV	–	–	–	714.5×10^{-6}	153.1×10^{-9}
(n,d)	9.163 MeV	–	–	–	345.7×10^{-12}	2.749×10^{-9}
(n,t)	11.21 MeV	–	–	–	124.6×10^{-18}	644.5×10^{-12}
(n,α)	62.30 keV	–	–	–	44.19×10^{-6}	14.83×10^{-9}

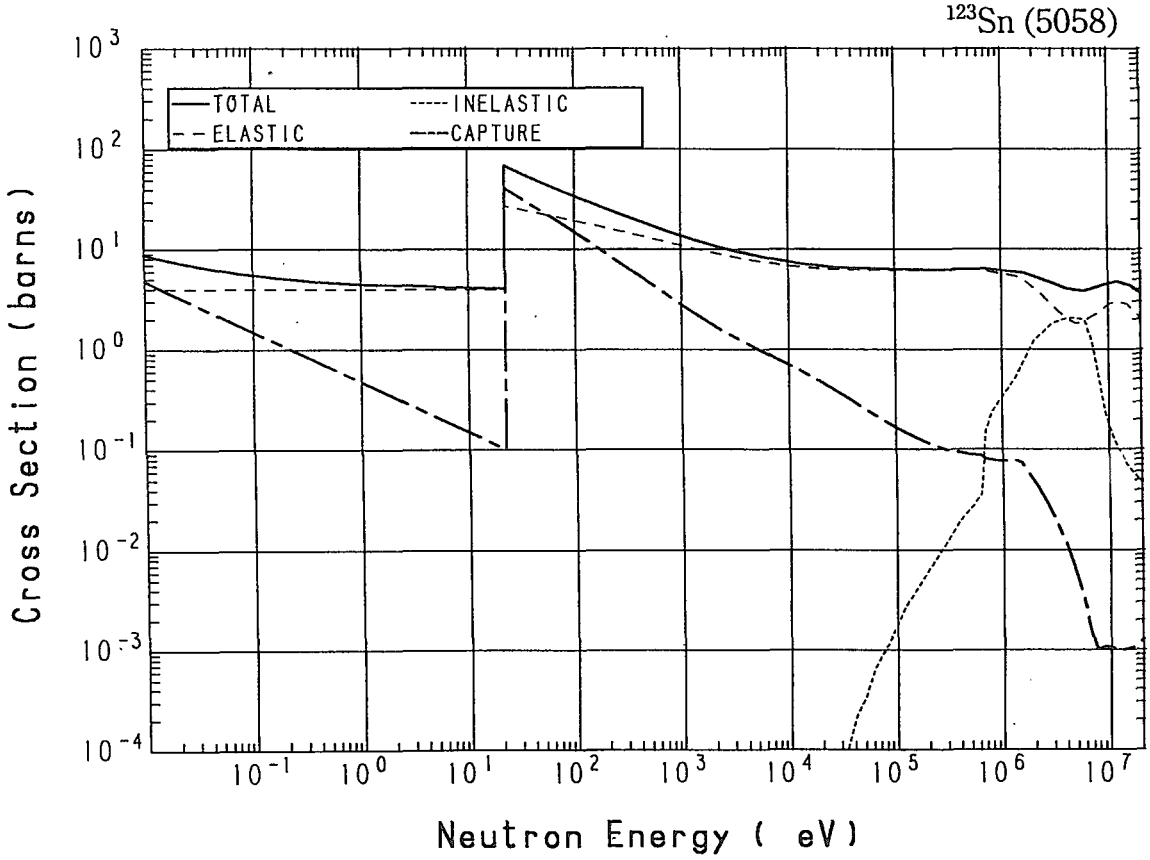


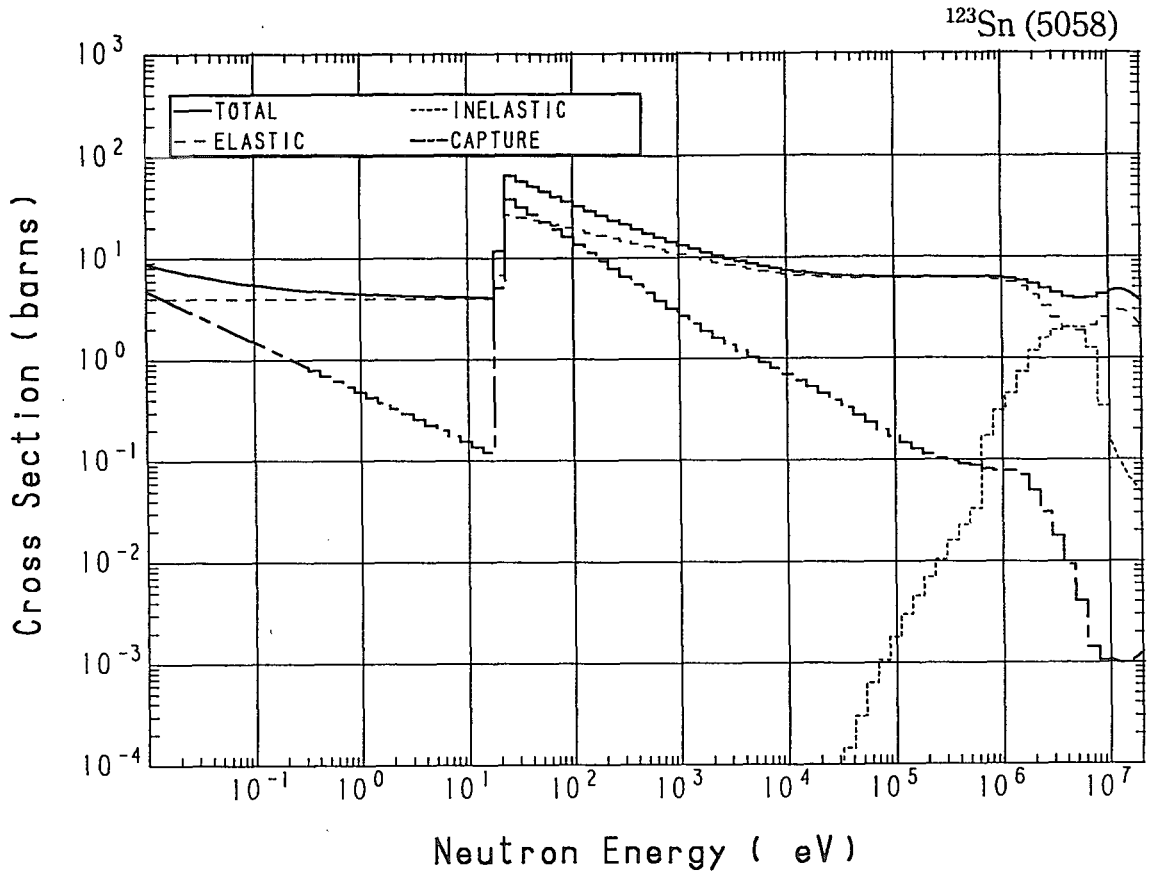

122Sn (5055)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

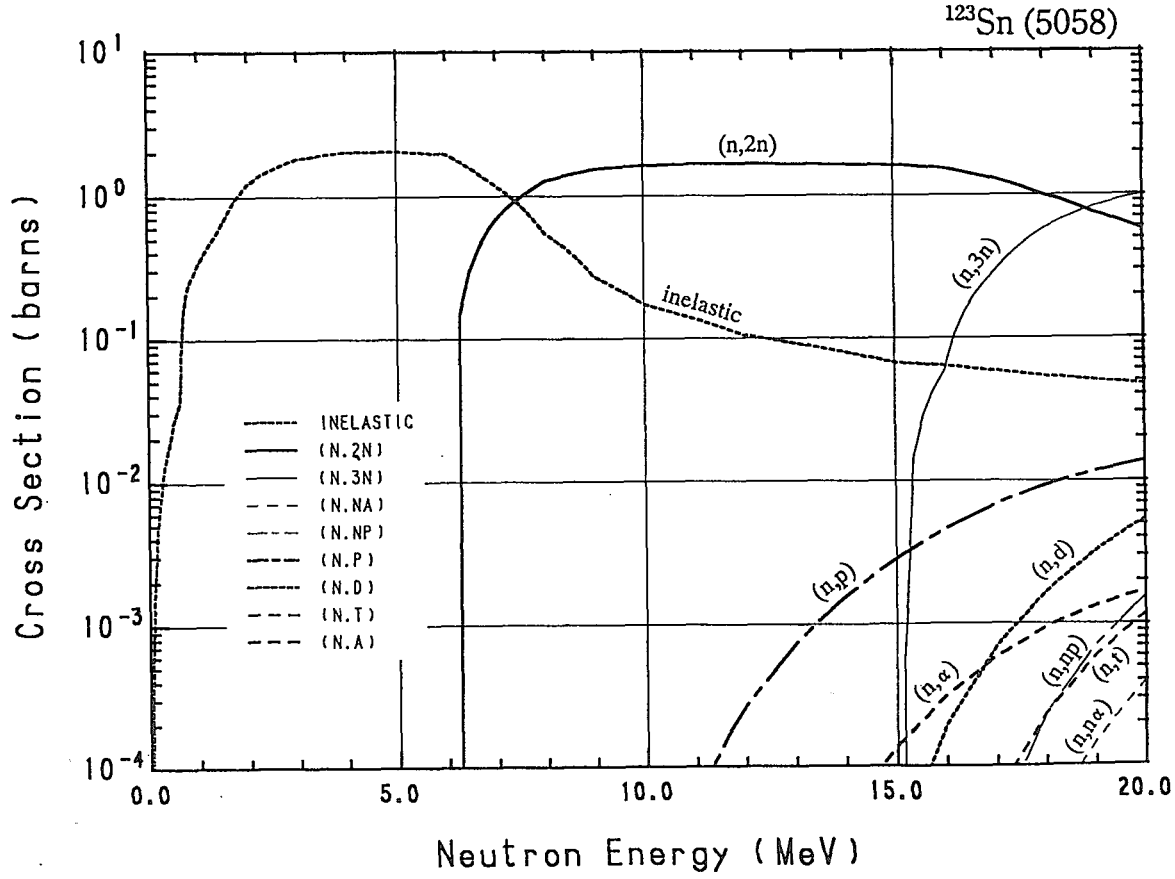

122Sn (5055)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
inelastic
(n,3n)
(n,2n)
(n,p)
(n,α)
(n,d)
(n,np)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-123 (MAT=5058)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	7.000	6.687	–	4.638	5.523
elastic	–	4.000	4.000	–	2.929	4.510
inelastic	24.80 keV	–	–	–	79.63×10^{-3}	930.3×10^{-3}
(n,2n)	6.000 MeV	–	–	–	1.627	19.56×10^{-3}
(n,3n)	14.89 MeV	–	–	–	–	3.280×10^{-6}
(n,nα)	6.062 MeV	–	–	–	7.614×10^{-9}	275.4×10^{-12}
(n,np)	11.61 MeV	–	–	–	29.58×10^{-18}	1.149×10^{-9}
capture	–	3.000	2.660	62.75	1.002×10^{-3}	59.43×10^{-3}
(n,p)	3.628 MeV	–	–	–	1.570×10^{-3}	361.4×10^{-9}
(n,d)	9.280 MeV	–	–	–	33.38×10^{-9}	9.865×10^{-9}
(n,t)	8.926 MeV	–	–	–	258.4×10^{-12}	1.184×10^{-9}
(n,α)	–	0.000	0.000	229.1×10^{-6}	48.65×10^{-6}	14.23×10^{-9}

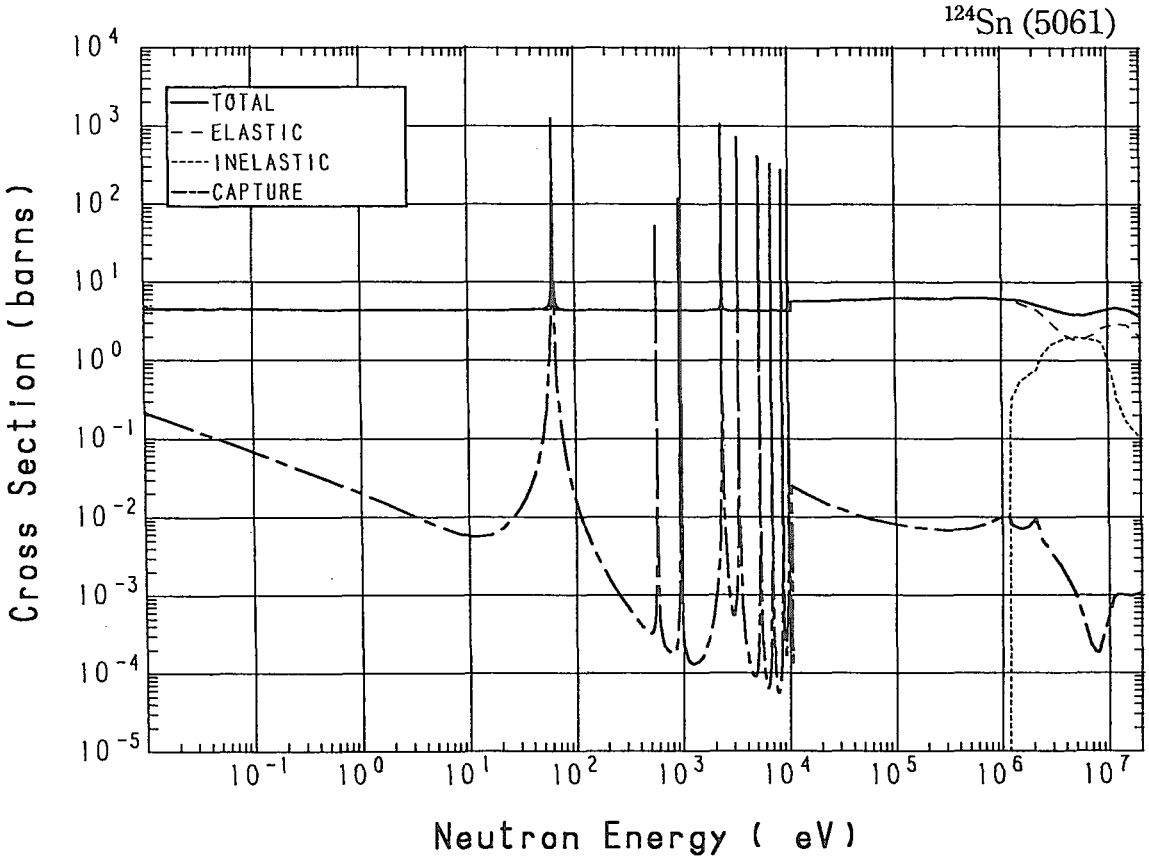


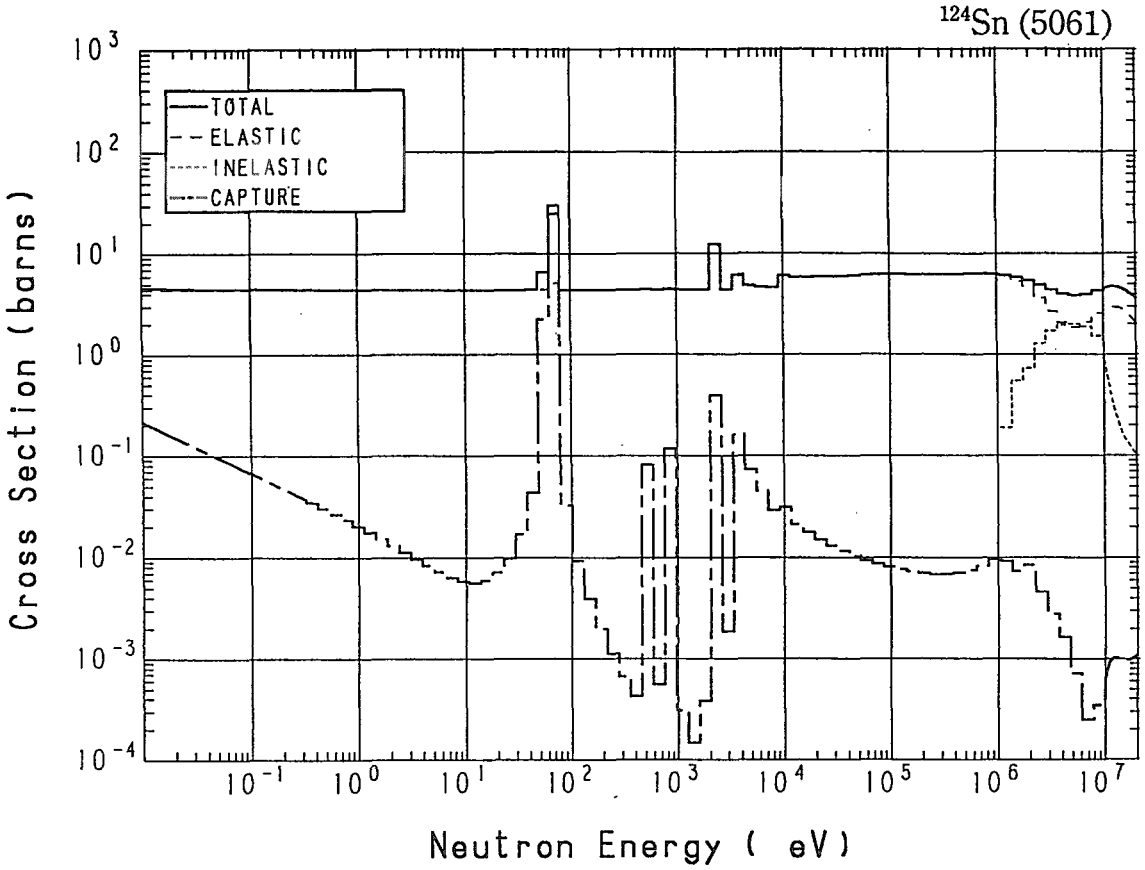

123Sn (5058)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

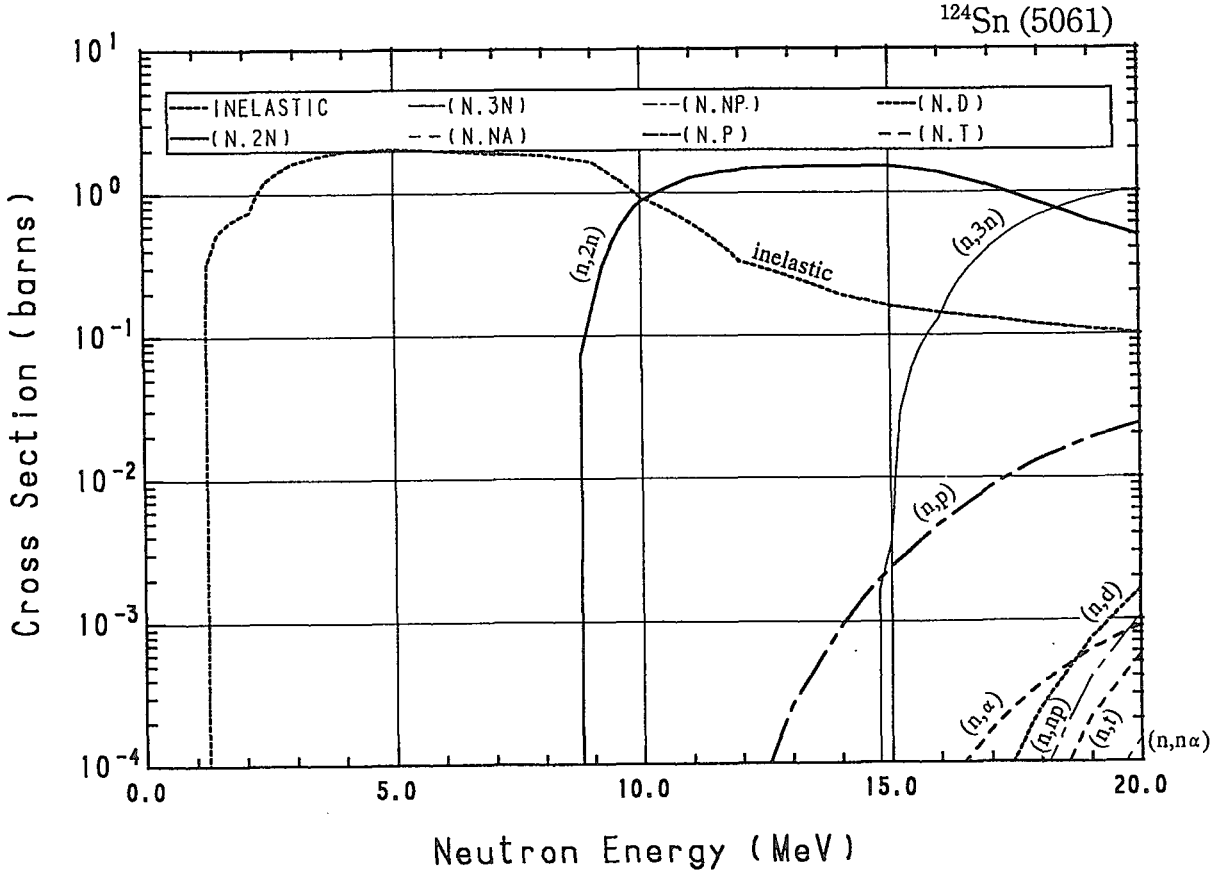

123Sn (5058)
INELASTIC
(N,2N)
(N,3N)
(N,NA)
(N,NP)
(N,P)
(N,D)
(N,T)
(N,A)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,d)
(n,α)
(n,np)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-124 (MAT=5061)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.535	4.520	–	4.638	5.519
elastic	–	4.400	4.400	–	2.929	4.758
inelastic	1.141 MeV	–	–	–	192.0×10^{-3}	750.8×10^{-3}
(n,2n)	8.564 MeV	–	–	–	1.515	2.352×10^{-3}
(n,3n)	14.56 MeV	–	–	–	–	4.699×10^{-6}
(n,nα)	6.735 MeV	–	–	–	101.6×10^{-12}	72.78×10^{-12}
(n,np)	12.19 MeV	–	–	–	68.32×10^{-21}	524.2×10^{-12}
capture	–	135.5×10^{-3}	120.0×10^{-3}	7.848	1.000×10^{-3}	6.319×10^{-3}
(n,p)	6.409 MeV	–	–	–	951.7×10^{-6}	218.9×10^{-9}
(n,d)	9.863 MeV	–	–	–	55.41×10^{-15}	1.221×10^{-9}
(n,t)	11.61 MeV	–	–	–	1.093×10^{-18}	292.1×10^{-12}
(n,α)	1.268 MeV	–	–	–	4.269×10^{-6}	2.820×10^{-9}

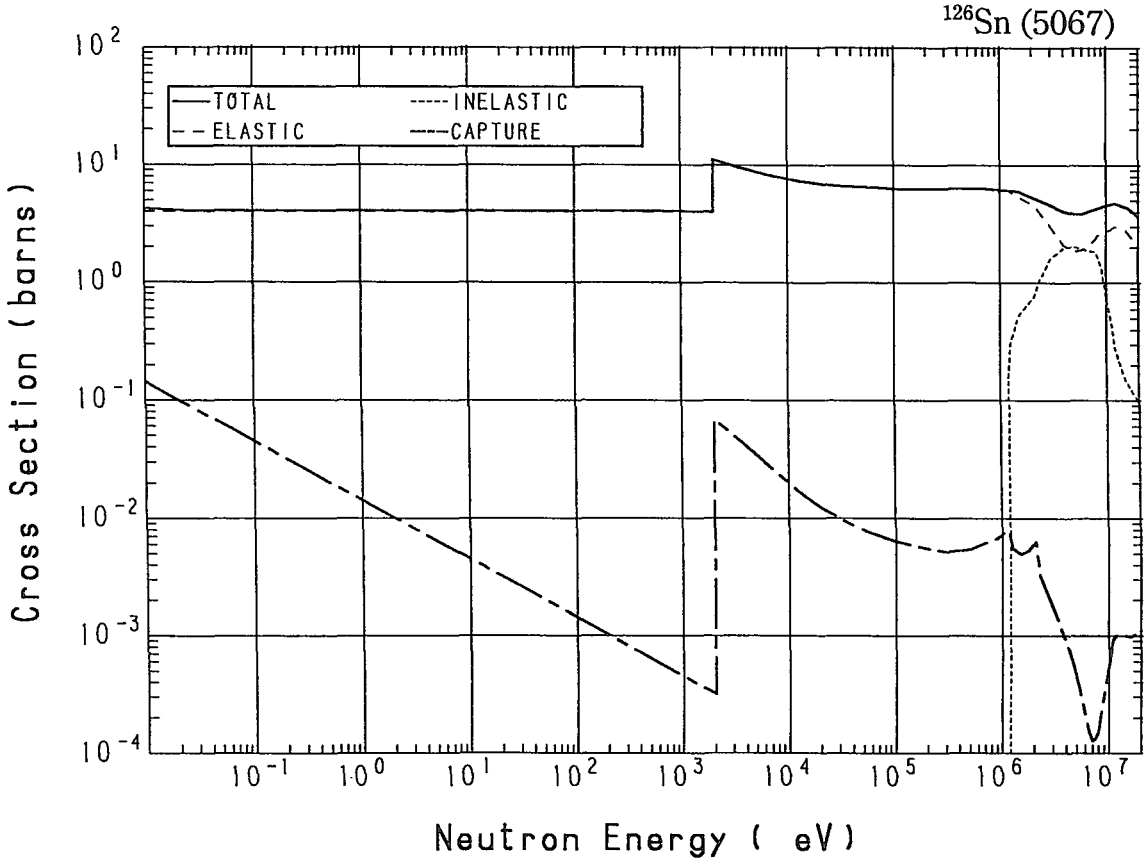


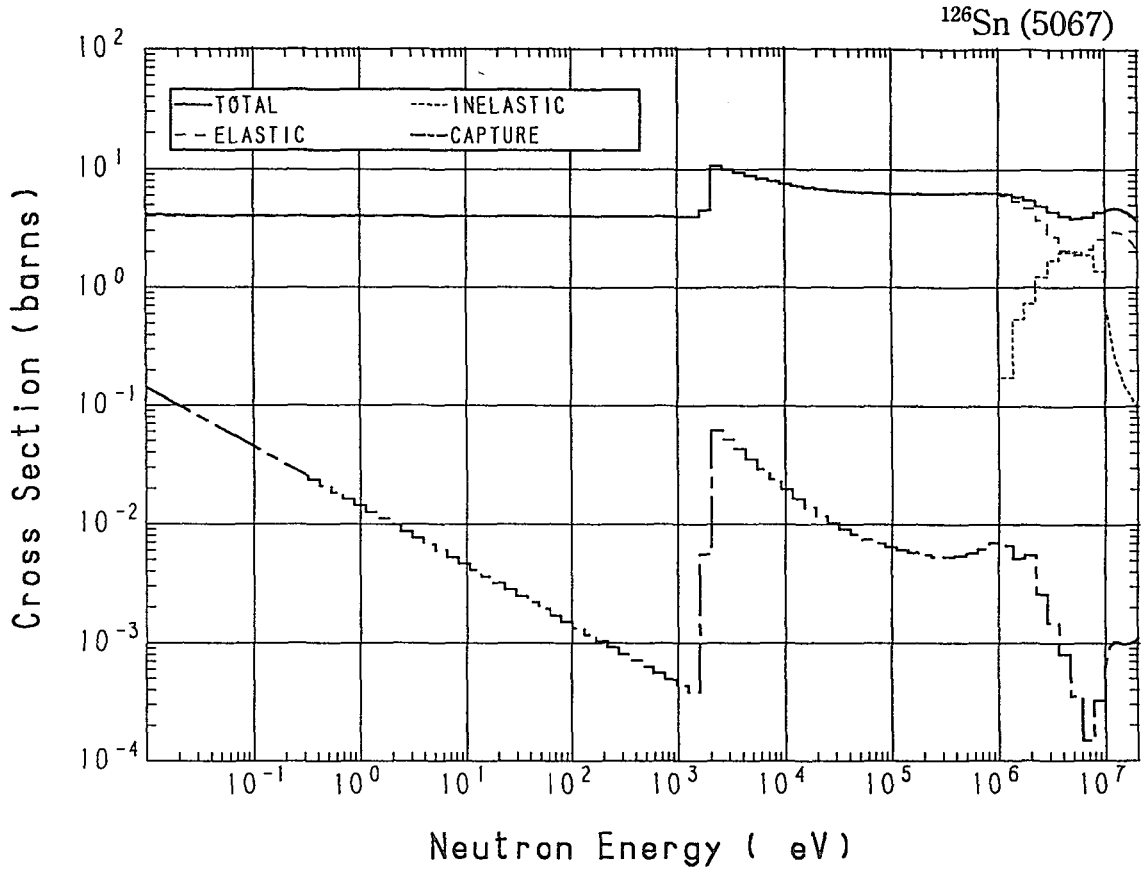

124Sn (5061)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)

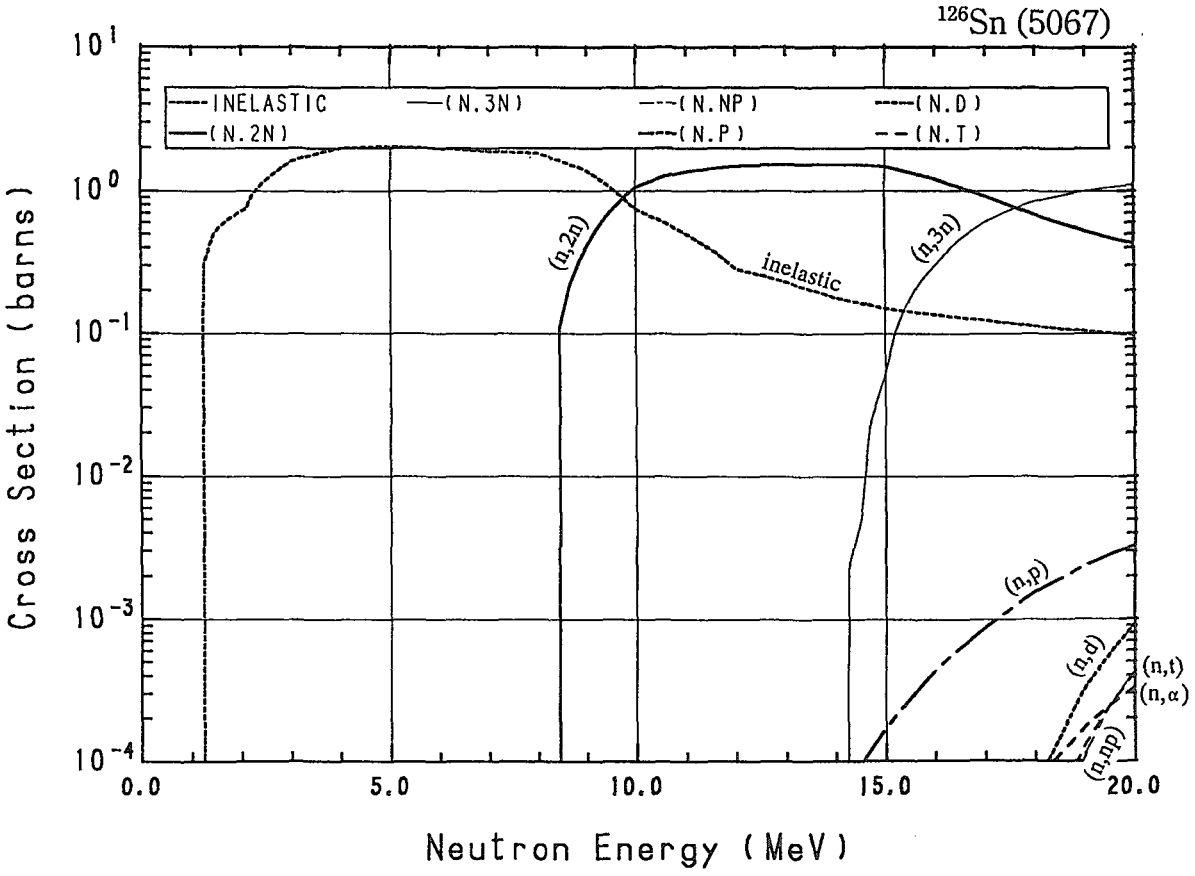

124Sn (5061)
INELASTIC
(N.2N)
(N.3N)
(N.NA)
(N.NP)
(N.P)
(N.D)
(N.T)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,d)
(n,α)
(n,np)
(n,t)
(n,nα)
Cross Section (barns)
Neutron Energy (MeV)

50-Sn-126 (MAT=5067)

Reactions	E-thresh	0.0253-eV	Maxw. Av	Res. integ	14-MeV	FissSp Av
total	–	4.090	4.099	–	4.638	5.522
elastic	–	4.000	4.000	–	2.930	4.773
inelastic	1.150 MeV	–	–	–	178.7×10^{-3}	740.5×10^{-3}
(n,2n)	8.264 MeV	–	–	–	1.529	3.124×10^{-3}
(n,3n)	14.05 MeV	–	–	–	–	7.990×10^{-6}
(n,nα)	7.758 MeV	–	–	–	319.9×10^{-15}	10.58×10^{-12}
(n,np)	12.92 MeV	–	–	–	0.000	140.4×10^{-12}
capture	–	90.00×10^{-3}	79.79×10^{-3}	149.8×10^{-3}	1.000×10^{-3}	4.385×10^{-3}
(n,p)	7.400 MeV	–	–	–	46.82×10^{-6}	16.63×10^{-9}
(n,d)	10.59 MeV	–	–	–	33.98×10^{-18}	450.7×10^{-12}
(n,t)	11.89 MeV	–	–	–	67.84×10^{-21}	183.8×10^{-12}
(n,α)	2.809 MeV	–	–	–	147.1×10^{-9}	442.5×10^{-12}




126Sn (5067)
TOTAL
ELASTIC
INELASTIC
CAPTURE
Cross Section (barns)
Neutron Energy (eV)


126Sn (5067)
INELASTIC
(N.2N)
(N.3N)
(N.NP)
(N.P)
(N.D)
(N.T)
(n,2n)
inelastic
(n,3n)
(n,p)
(n,d)
(n,t)
(n,α)
(n,np)
Cross Section (barns)
Neutron Energy (MeV)

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国際単位系 (SI) と換算表

表1　SI基本単位および補助単位

量	名称	記号
長さ	メートル	m
質量	キログラム	kg
時間	秒	s
電流	アンペア	A
熱力学温度	ケルビン	K
物質量	モル	mol
光度	カンデラ	cd
平面角	ラジアン	rad
立体角	ステラジアン	sr

表2　SIと併用される単位

名称	記号
分，時，日	min，h，d
度，分，秒	°，′，″
リットル	l，L
トン	t
電子ボルト	eV
原子質量単位	u

1 eV=1.60218×10^{-19}J

1 u=1.66054×10^{-27} kg

表3　固有の名称をもつSI組立単位

量	名称	記号	他のSI単位による表現
周波数	ヘルツ	Hz	s^{-1}
力	ニュートン	N	$m\cdot kg/s^2$
圧力，応力	パスカル	Pa	N/m^2
エネルギー，仕事，熱量	ジュール	J	N·m
工率，放射束	ワット	W	J/s
電気量，電荷	クーロン	C	A·s
電位，電圧，起電力	ボルト	V	W/A
静電容量	ファラド	F	C/V
電気抵抗	オーム	Ω	V/A
コンダクタンス	ジーメンス	S	A/V
磁束	ウェーバ	Wb	V·s
磁束密度	テスラ	T	Wb/m^2
インダクタンス	ヘンリー	H	Wb/A
セルシウス温度	セルシウス度	℃	
光束	ルーメン	lm	cd·sr
照度	ルクス	lx	lm/m^2
放射能	ベクレル	Bq	s^{-1}
吸収線量	グレイ	Gy	J/kg
線量当量	シーベルト	Sv	J/kg

表4　SIと共に暫定的に維持される単位

名称	記号
オングストローム	Å
バーン	b
バール	bar
ガル	Gal
キュリー	Ci
レントゲン	R
ラド	rad
レム	rem

1 Å=0.1 nm=10^{-10}m

1 b=100 fm^2=10^{-28} m^2

1 bar=0.1 MPa=10^5Pa

1 Gal=1 cm/s^2=10^{-2} m/s^2

1 Ci=3.7×10^{10}Bq

1 R=2.58×10^{-4}C/kg

1 rad=1 cGy=10^{-2}Gy

1 rem=1 cSv=10^{-2}Sv

表5　SI接頭語

倍数	接頭語	記号
10^{18}	エクサ	E
10^{15}	ペタ	P
10^{12}	テラ	T
10^{9}	ギガ	G
10^{6}	メガ	M
10^{3}	キロ	k
10^{2}	ヘクト	h
10^{1}	デカ	da
10^{-1}	デシ	d
10^{-2}	センチ	c
10^{-3}	ミリ	m
10^{-6}	マイクロ	μ
10^{-9}	ナノ	n
10^{-12}	ピコ	p
10^{-15}	フェムト	f
10^{-18}	アト	a

（注）

1. 表1－5は「国際単位系」第5版，国際度量衡局 1985年刊行による。ただし，1 eVおよび1 uの値はCODATAの1986年推奨値によった。
2. 表4には海里，ノット，アール，ヘクタールも含まれているが日常の単位なのでここでは省略した。
3. barは，JISでは流体の圧力を表わす場合に限り表2のカテゴリーに分類されている。
4. EC閣僚理事会指令ではbar，barnおよび「血圧の単位」mmHgを表2のカテゴリーに入れている。

換　算　表

力	N(=10^5dyn)	kgf	lbf
	1	0.101972	0.224809
	9.80665	1	2.20462
	4.44822	0.453592	1

粘度　1 Pa·s(N·s/m^2)=10 P(ポアズ)(g/(cm·s))

動粘度　1 m^2/s=10^4St(ストークス)(cm^2/s)

圧力	MPa(=10 bar)	kgf/cm^2	atm	mmHg(Torr)	lbf/in^2(psi)
	1	10.1972	9.86923	7.50062×10^3	145.038
	0.0980665	1	0.967841	735.559	14.2233
	0.101325	1.03323	1	760	14.6959
	1.33322×10^{-4}	1.35951×10^{-3}	1.31579×10^{-3}	1	1.93368×10^{-2}
	6.89476×10^{-3}	7.03070×10^{-2}	6.80460×10^{-2}	51.7149	1

エネルギー・仕事・熱量	J(=10^7erg)	kgf·m	kW·h	cal(計量法)	Btu	ft·lbf	eV
	1	0.101972	2.77778×10^{-7}	0.238889	9.47813×10^{-4}	0.737562	6.24150×10^{18}
	9.80665	1	2.72407×10^{-6}	2.34270	9.29487×10^{-3}	7.23301	6.12082×10^{19}
	3.6×10^6	3.67098×10^5	1	8.59999×10^5	3412.13	2.65522×10^6	2.24694×10^{25}
	4.18605	0.426858	1.16279×10^{-6}	1	3.96759×10^{-3}	3.08747	2.61272×10^{19}
	1055.06	107.586	2.93072×10^{-4}	252.042	1	778.172	6.58515×10^{21}
	1.35582	0.138255	3.76616×10^{-7}	0.323890	1.28506×10^{-3}	1	8.46233×10^{18}
	1.60218×10^{-19}	1.63377×10^{-20}	4.45050×10^{-26}	3.82743×10^{-20}	1.51857×10^{-22}	1.18171×10^{-19}	1

1 cal = 4.18605 J（計量法）
= 4.184 J （熱化学）
= 4.1855 J （15 °C）
= 4.1868 J（国際蒸気表）

仕事率　1 PS（仏馬力）
= 75 kgf·m/s
= 735.499 W

放射能	Bq	Ci
	1	2.70270×10^{-11}
	3.7×10^{10}	1

吸収線量	Gy	rad
	1	100
	0.01	1

照射線量	C/kg	R
	1	3876
	2.58×10^{-4}	1

線量当量	Sv	rem
	1	100
	0.01	1

（86年12月26日現在）

Curves and Tables of Neutron Cross Sections in JENDL-3.3 Part I (Z=1-50)

R10
古紙配合率100%
白色度70%再生紙を使用しています