ENDF/B-VII.1 PD-102
resonance total cross section
ENDF/B-VII.1 PD-102
resonance absorption cross sections

Energy (MeV)

Cross section (barns)

capture
ENDF/B-VII.1 PD-102
resonance absorption cross sections

Cross section (barns)

Energy (MeV)
ENDF/B-VII.1 PD-102
Damage

![Graph showing the relationship between energy (MeV) and damage (MeV-barns).](image-url)
ENDF/B-VII.1 PD-102
Principal cross sections

Energy (MeV)

Cross section (barns)

- total
- absorption
- elastic
- gamma production

Energy (MeV)
ENDF/B-VII.1 PD-102
Heating

![Graph showing the relationship between energy (MeV) and heating (MeV/reaction). The x-axis represents energy in MeV, ranging from 0 to 30. The y-axis represents heating in MeV/reaction, ranging from 0 to 3.5. The graph shows a gradual increase in heating as energy increases.]
ENDF/B-VII.1 PD-102
Non-threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,gma)
- (n,a)
- (n,xa)
ENDF/B-VII.1 PD-102
Inelastic levels

Energy (MeV)

Cross section (barns)

(n,n^6)
(n,n^7)
(n,n^8)
(n,n^9)
(n,n^10)

Energy (MeV)
ENDF/B-VII.1 PD-102
Inelastic levels

Cross section (barns) vs. Energy (MeV)

- (n,n*16)
- (n,n*17)
- (n,n*18)
- (n,n*19)
ENDF/B-VII.1 PD-102
Threshold reactions

Cross section (barns)

Energy (MeV)

- (n,xp)
- (n,xd)
- (n,p*0)
- (n,p*1)
- (n,p*2)
ENDF/B-VII.1 PD-102
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,d*11)
(n,d*12)
(n,d*13)
(n,d*14)
(n,d*15)
ENDF/B-VII.1 PD-102
angular distribution for elastic
ENDF/B-VII.1 PD-102
angular distribution for (n,n*1)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*2)
ENDF/B-VII.1 PD-102
angular distribution for \((n,n^*4)\)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*5)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*7)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*8)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*9)
ENDF/B-VII.1 PD-102
angular distribution for \((n,n^{*10})\)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*11)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*12)
Angular distribution for (n,n*13)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*14)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*15)
ENDF/B-VII.1 PD-102
angular distribution for (n,n*16)
ENDF/B-VII.1 PD-102
angular distribution for $(n,n^{*17})$
ENDF/B-VII.1 PD-102
angular distribution for (n,n*18)
angular distribution for (n,n*19)
ENDF/B-VII.1 PD-102
Neutron emission for (n,3n)
ENDF/B-VII.1 PD-102
Neutron emission for (n,n*)a
ENDF/B-VII.1 PD-102
Neutron emission for (n,2n)a
ENDF/B-VII.1 PD-102
Neutron emission for \((n,n^*)p\)
ENDF/B-VII.1 PD-102
Neutron emission for (n,n*)d
ENDF/B-VII.1 PD-102
Neutron emission for (n,2np)
ENDF/B-VII.1 PD-102
Neutron emission for (n,2np)
ENDF/B-VII.1 PD-102
Neutron emission for \((n,n^*c)\)
ENDF/B-VII.1 PD-102
Photon emission for \((n,\gamma)\)
ENDF/B-VII.1 PD-102
Photon emission for ($n,n^*$)a
ENDF/B-VII.1 PD-102
Photon emission for (n,2n)a
ENDF/B-VII.1 PD-102
Photon emission for \((n,n^*)p\)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*)d
Photon emission for (n,2np)
Photon emission for \((n,2np)\)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*1)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*2)
ENDF/B-VII.1 PD-102
Photon emission for (n,n\*3)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*4)
ENDF/B-VII.1 PD-102
Photon emission for (n,n\*5)

\[ \text{Prob/Mev} \]

\[ 10^{-2} \quad 10^{-1} \quad 10^{0} \]

\[ E_\gamma (\text{MeV}) \]

\[ 0 \quad 1.0 \quad 1.5 \quad 2.5 \]

\[ E_n (\text{MeV}) \]

\[ 0 \quad 5 \quad 10 \quad 15 \quad 20 \quad 25 \quad 30 \]
ENDF/B-VII.1 PD-102
Photon emission for (n,n*6)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*7)
ENDF/B-VII.1 PD-102
Photon emission for \( (n,n^*8) \)
Photon emission for (n,n*9)
Photon emission for (n,n*10)
Photon emission for (n,n*11)
ENDF/B-VII.1 PD-102
Photon emission for (n,n^*12)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*14)
ENDF/B-VII.1 PD-102
Photon emission for \((n,n^{*15})\)
Photon emission for (n,n*16)
ENDF/B-VII.1 PD-102
Photon emission for (n,n*17)
Photon emission for (n,n*19)
ENDF/B-VII.1 PD-102
Photon emission for \((n,n^*c)\)
Photon emission for (n,2p)
Photon emission for (n,p*1)
ENDF/B-VII.1 PD-102
Photon emission for (n,p*2)
Photon emission for \((n,p^*3)\)
ENDF/B-VII.1 PD-102
Photon emission for (n,p*4)
ENDF/B-VII.1 PD-102
Photon emission for \( (n,p^*5) \)
Photon emission for (n,p*c)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*1)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*2)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*3)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*5)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*7)
Photon emission for (n,d*8)
Photon emission for (n,d*9)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*10)
Photon emission for \((n,d^{*11})\)
Photon emission for (n,d*12)
ENDF/B-VII.1 PD-102
Photon emission for (n,d\textsuperscript{*13})
Photon emission for (n,d*14)
ENDF/B-VII.1 PD-102
Photon emission for (n,d^16)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*17)
ENDF/B-VII.1 PD-102
Photon emission for (n,d*18)
Photon emission for (n,d*19)
Photon emission for (n,d*c)
ENDF/B-VII.1 PD-102
Photon emission for (n,a*1)
ENDF/B-VII.1 PD-102
Photon emission for \((n,a^*2)\)
Photon emission for (n,a*3)
Endf/b-vii.1 pd-102
photon emission for (n,a*4)
Photon emission for (n,a*5)
Photon emission for (n,a*6)
Photon emission for (n,a*7)

\[ \text{Prob/MeV} \]
\[ E_{\gamma} \text{(MeV)} \]
\[ E_n \text{(MeV)} \]
ENDF/B-VII.1 PD-102
Photon emission for (n,a*8)
Photon emission for (n,a*9)
ENDF/B-VII.1 PD-102
Photon emission for \((n,a*10)\)
ENDF/B-VII.1 PD-102
Photon emission for \((n,a^\ast 11)\)
Photon emission for (n, a*12)
ENDF/B-VII.1 PD-102
Photon emission for (n,a*13)
Photons emission for (n,a*14)

\[ P(E_{\gamma}) \propto \frac{1}{M E_{\gamma}} \]

\[ E_{\gamma} \text{ (MeV)} \]

\[ E_{n} \text{ (MeV)} \]
ENDF/B-VII.1 PD-102
Photon emission for (n,a*15)
ENDF/B-VII.1 PD-102
Photon emission for \( (n,a^{*16}) \)
Photon emission for $(n,a^{*17})$
ENDF/B-VII.1 PD-102
Photon emission for (n,a*18)
ENDF/B-VII.1 PD-102
Photon emission for (n,a*19)
Photon emission for (n,a*20)
Photon emission for (n,a*22)
ENDF/B-VII.1 PD-102
Photon emission for (n,a^23)
Photon emission for \( (n,a^*24) \)
Photon emission for (n,a*c)
ENDF/B-VII.1 PD-102
thermal capture photon spectrum

![Gamma Energy (MeV) vs. Gamma Prod (barns/MeV)](image-url)
ENDF/B-VII.1 PD-102
14 MeV photon spectrum
ENDF/B-VII.1 PD-102
Particle production cross sections

Energy (MeV)

Cross section (barns)

- protons
- deuterons
- alphas

Energy (MeV)
ENDF/B-VII.1 PD-102
protons from (n,2np)
ENDF/B-VII.1 PD-102
protons from (n,2p)
ENDF/B-VII.1 PD-102
angular distribution for (n,p*0) proton
ENDF/B-VII.1 PD-102
angular distribution for (n,p*1) proton
ENDF/B-VII.1 PD-102
angular distribution for (n,p^2) proton
ENDF/B-VII.1 PD-102
angular distribution for (n,p*3) proton
ENDF/B-VII.1 PD-102
angular distribution for \((n,p^*4)\) proton

\[
\frac{P_{\text{prob/Cos}}}{E_{\text{ergy (MeV)}}}
\]

\[
\begin{array}{c|c|c}
\text{Energy (MeV)} & \text{Cosine} & \text{Prob/Cos} \\
\hline
0 & 1.0 & 1.0 \\
0.5 & 0.5 & 0.5 \\
1.0 & 0.0 & 0.0 \\
1.5 & -0.5 & -0.5 \\
2.0 & -1.0 & -1.0 \\
2.5 & 1.5 & 1.5 \\
3.0 & 2.0 & 2.0 \\
\end{array}
\]
ENDF/B-VII.1 PD-102
angular distribution for (n,p*5) proton
ENDF/B-VII.1 PD-102
protons from (n,p*c)
ENDF/B-VII.1 PD-102
deuterons from \((n,n^*)d\)
ENDF/B-VII.1 PD-102
angular distribution for (n,d*0) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*1) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*2) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*3) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*4) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*5) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*6) deuteron
ENDF/B-VII.1 PD-102
angular distribution for \((n,d^*7)\) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*8) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*9) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*10) deuteron
ENDF/B-VII.1 PD-102
angular distribution for \((n,d^{*11})\) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*12) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*13) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d^14) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*15) deuteron

Energy (MeV)

Prob/Cos

Cosine

1.0 0.5 0.0 -0.5 -1.0

10.0 1.0 0.1 0.01
ENDF/B-VII.1 PD-102
angular distribution for (n,d*16) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*17) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d^18) deuteron
ENDF/B-VII.1 PD-102
angular distribution for (n,d*19) deuteron
ENDF/B-VII.1 PD-102
deuterons from \((n,d^*c)\)
ENDF/B-VII.1 PD-102
alphas from \((n,n^*)a\)
ENDF/B-VII.1 PD-102
alphas from (n,2n)a
ENDF/B-VII.1 PD-102
angular distribution for (n,a*1) alpha

Energy (MeV)

Cosine

Prob/Cos

-1.0 -0.5 0.0 0.5 1.0

10^{-1} 10^{0}
ENDF/B-VII.1 PD-102
angular distribution for (n,a^2) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*3) alpha
ENDF/B-VII.1 PD-102
angular distribution for \( (n,a^*4) \) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*5) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,α*6) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*7) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*8) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*9) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*10) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*11) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*12) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*13) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*14) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*15) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*16) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*17) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*18) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*19) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*20) alpha

Energy (MeV)

Prob/Cos

Cosine

0.5
0.0
-0.5
-1.0

0.1
1.0
10.0
10.0

ENDF/B-VII.1 PD-102
Angular distribution for (n, a*21) alpha

Proba/Cos

Energy (MeV)

Cosine

Prob/Cos

1.0 0.5 0.0 -0.5 -1.0 0

10^0 10^-1 10^-2
ENDF/B-VII.1 PD-102
angular distribution for (n,α^22) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*23) alpha
ENDF/B-VII.1 PD-102
angular distribution for (n,a*24) alpha
ENDF/B-VII.1 PD-102
alphas from (n,a*c)