ENDF/B-VII PD-104
resonance total cross section
ENDF/B-VII PD-104
resonance total cross section

Cross section (barns)

Energy (MeV)
ENDF/B-VII PD-104
resonance absorption cross sections
ENDF/B-VII PD-104
resonance absorption cross sections
ENDF/B-VII PD-104 resonance absorption cross sections

Cross section (barns) vs. Energy (MeV)
ENDF/B-VII PD-104
Non-threshold reactions

Energy (MeV) vs. Cross section (barns)

- (n,gma)
- (n,a)
- (n,xa)
ENDF/B-VII PD-104
Non-threshold reactions

Energy (MeV)

Cross section (barns)

(n,gma)
(n,a)
(n,xa)
ENDF/B-VII PD-104
Inelastic levels

Energy (MeV)

Cross section (barns)

(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)
ENDF/B-VII PD-104
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 PD-104

Threshold reactions

Energy (MeV)

Cross section (barns)

(n,2n)
(n,3n)
(n,n*)a
(n,2n)a
(n,n*)p
ENDF/B-VII PD-104
Threshold reactions

Cross section (barns)

Energy (MeV)
ENDF/B-VII PD-104
Threshold reactions

Cross section (barns) vs. Energy (MeV) for various threshold reactions:
- (n,p*7)
- (n,p*8)
- (n,p*9)
- (n,p*10)
- (n,p*11)
ENDF/B-VII PD-104
Threshold reactions

Energy (MeV)

Cross section (barns)

*10^{-6}

(n,d*11)
(n,d*12)
(n,d*13)
(n,d*14)
(n,d*15)
ENDF/B-VII PD-104
angular distribution for elastic
angular distribution for (n,n*2)

ENDF/B-VII PD-104

Energy (MeV) 20 15 10

Cosine 1.0 0.5 0.0 -0.5 -1.0

10^0 10^-1

Prob/Cos
ENDF/B-VII PD-104
angular distribution for (n,n*3)
ENDF/B-VII PD-104
angular distribution for \((n, n^*5)\)
ENDF/B-VII PD-104

angular distribution for (n,n^6)

Prob/Cos

Energy (MeV)

Cosine
ENDF/B-VII PD-104
angular distribution for (n,n*7)
ENDF/B-VII PD-104
angular distribution for (n,n*8)
ENDF/B-VII PD-104

angular distribution for (n,n^g)
ENDF/B-VII PD-104
angular distribution for (n,n^*10)
angular distribution for (n,n^12)

\begin{align*}
0 & \quad 0.5 & \quad 1.0 \\
0.0 & \quad 0.5 & \quad 1.0 \\
-0.5 & \quad -1.0 & \quad -1.0 \\
-1.0 & \quad -1.0 & \quad -1.0 \\
\end{align*}

ENDF/B-VII PD-104
ENDF/B-VII PD-104
angular distribution for (n,n*13)
ENDF/B-VII PD-104
angular distribution for \( (n,n^{*}14) \)
ENDF/B-VII PD-104
angular distribution for (n,n*15)
ENDF/B-VII PD-104
angular distribution for \((n,n*16)\)
ENDF/B-VII PD-104

Angular distribution for (n,n*17)
ENDF/B-VII PD-104
angular distribution for \((n,n^\ast18)\)
ENDF/B-VII PD-104
angular distribution for (n,n*19)
angular distribution for (n,n*20)
ENDF/B-VII PD-104
angular distribution for (n,n*21)
ENDF/B-VII PD-104
angular distribution for (n,n\*22)
ENDF/B-VII PD-104
angular distribution for (n,n*23)
ENDF/B-VII PD-104
angular distribution for \((n,n^{*}24)\)
ENDF/B-VII PD-104
Neutron emission for (n,2n)
ENDF/B-VII PD-104
Neutron emission for (n,3n)
ENDF/B-VII PD-104
Neutron emission for (n,n*)a
ENDF/B-VII PD-104
Neutron emission for (n,2n)a
Neutron emission for (n,n*)p
ENDF/B-VII PD-104
Neutron emission for (n,n*)d

Energy (MeV)
ENDF/B-VII PD-104
Neutron emission for (n,4n)
ENDF/B-VII PD-104
Neutron emission for (n,2np)
Photon emission for (n,gma)
Photon emission for (n,2n)
ENDF/B-VII PD-104
Photon emission for (n,3n)
Photon emission for \( (n,2n)a \)
Photon emission for \((n,n^*)p\)
ENDF/B-VII PD-104
Photon emission for (n,n*)d
ENDORF/B-VII PD-104
Photon emission for (n,n*1)
ENDF/B-VII PD-104
Photon emission for (n,n*2)
ENDF/B-VII PD-104
Photon emission for (n,n*4)
ENDF/B-VII PD-104
Photon emission for \((n,n^*5)\)
Photon emission for (n,n*6)
Photon emission for (n,n*7)
ENDF/B-VII PD-104
Photon emission for (n,*8)
ENDF/B-VII PD-104
Photon emission for (n,n*9)
ENDF/B-VII PD-104
Photon emission for (n,n*10)
ENDF/B-VII PD-104
Photon emission for (n,n*11)
ENDF/B-VII PD-104
Photon emission for (n,n*12)
ENDF/B-VII PD-104
Photon emission for (n,n*13)
ENDF/B-VII PD-104
Photon emission for (n,n*14)
ENDF/B-VII PD-104
Photon emission for (n,n*15)
ENDF/B-VII PD-104
Photon emission for (n,n*16)
ENDF/B-VII PD-104
Photon emission for (n,n*17)
Photon emission for (n,n*19)
Photon emission for (n,n*20)
Photon emission for (n,n*21)
Photon emission for \((n,n^{*23})\)
ENDF/B-VII PD-104
Photon emission for (n,n*24)
ENDF/B-VII PD-104
Photon emission for (n,n\*c)
Photon emission for (n,p*1)
Photon emission for (n,p*2)

ENDF/B-VII PD-104

Photon emission for (n,p*2)
Photon emission for (n,p*)

ENDF/B-VII PD-104

Photon emission for (n,p*)
Photon emission for (n,p*4)

ENDF/B-VII PD-104
ENDF/B-VII PD-104
Photon emission for (n,p*5)
ENDF/B-VII PD-104
Photon emission for (n,p*8)
Photon emission for (n,p*9)

ENDF/B-VII PD-104
Photon emission for (n,p*10)
ENDF/B-VII PD-104
Photon emission for \((n,p^*11)\)
ENDF/B-VII PD-104
Photon emission for (n,p*12)
ENDF/B-VII PD-104
Photon emission for (n,p*13)
ENDF/B-VII PD-104
Photon emission for (n,p*14)
ENDF/B-VII PD-104
Photon emission for (n,d*2)
ENDF/B-VII PD-104
Photon emission for (n,d*3)
ENDF/B-VII PD-104
Photon emission for (n,d*4)
ENDF/B-VII PD-104
Photon emission for (n,d*5)
Photon emission for (n,d^6)

ENDF/B-VII PD-104

Prob/Mev

E_n (MeV)

E_\gamma (MeV)
ENDF/B-VII PD-104
Photon emission for (n,d*7)
ENDF/B-VII PD-104
Photon emission for (n,d*8)
ENDF/B-VII PD-104
Photon emission for (n,d*9)
ENDF/B-VII PD-104
Photon emission for (n,d*10)
ENDF/B-VII PD-104
Photon emission for (n,d*11)
ENDF/B-VII PD-104
Photon emission for (n,d*14)
ENDF/B-VII PD-104
Photon emission for (n,d*15)
Photon emission for (n,d*16)
ENDF/B-VII PD-104
Photon emission for (n,a3)
Photon emission for (n,a*4)

\[ P \text{/} M_e V \]

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

\[ E_n (\text{MeV}) \]
Photon emission for (n,a*5)
ENDF/B-VII PD-104
Photon emission for (n,a6)
ENDF/B-VII PD-104
Photon emission for (n,a*7)
ENDF/B-VII PD-104
Photon emission for (n,a*9)
ENDF/B-VII PD-104
Photon emission for (n,a*10)
ENDF/B-VII PD-104
Photon emission for \((n,a^*16)\)
ENDF/B-VII PD-104
Photon emission for (n,a*17)
Photon emission for \((n,a^*18)\)
ENDF/B-VII PD-104
Photon emission for (n,a*c)
ENDF/B-VII PD-104
thermal capture photon spectrum

Gamma Energy (MeV)

Gamma Prod (barns/MeV)
ENDF/B-VII PD-104
14 MeV photon spectrum

Gamma Energy (MeV)

Gamma Prod (barns/MeV)
Endfb/vii pd-104
recoil heating

Energy (MeV)

Heating (MeV/reaction)

*10^-3

recoil heating
ENDF/B-VII PD-104
Particle production cross sections

![Graph showing particle production cross sections as a function of energy. The graph includes curves for protons, deuterons, and alphas. The x-axis represents energy in MeV, ranging from 0 to 30, and the y-axis represents cross section in barns, ranging from 0 to 300.*10^-3. The curves show an increasing trend with energy.](attachment:particle_cross_sections.png)
protons from (n,n*)p
ENDF/B-VII PD-104 protons from (n,2np)
ENDF/B-VII PD-104
angular distribution for (n,p*0) proton
ENDF/B-VII PD-104
angular distribution for \((n,p^*_1)\) proton
angular distribution for (n,p*2) proton

ENDF/B-VII PD-104
ENDF/B-VII PD-104
angular distribution for (n,p*3) proton
ENDF/B-VII PD-104
angular distribution for \( (n,p^*4) \) proton

\[
\begin{align*}
\text{Cosine} & \quad 0.0 \quad 0.5 \quad 1.0 \\
\text{Probl/Cos} & \quad 1.0 \quad 1.1 \quad 10.0
\end{align*}
\]

Energy (MeV)

- Energy range: 0 to 30 MeV
- Cosine range: -1.0 to 1.0
- Probability/Cosine range: 1.0 to 10.0
ENDF/B-VII PD-104
angular distribution for (n,p*5) proton

[Diagram showing angular distribution with axes labeled: Probl/Cos on the y-axis, Cosine on the x-axis, and Energy (MeV) on the z-axis. The distribution is shaded and shows a peak at a specific energy.]
Angular distribution for (n,p*6) proton
ENDF/B-VII PD-104
angular distribution for (n,p*7) proton
ENDF/B-VII PD-104
angular distribution for (n,p*9) proton
ENDF/B-VII PD-104
angular distribution for \((n,p^*10)\) proton
ENDF/B-VII PD-104
angular distribution for (n, p*11) proton
ENDF/B-VII PD-104
angular distribution for (n,p*12) proton

Energy (MeV)
0 10 20

Cosine
-1 -0.5 0 0.5 1

Prob/Cos
10^-1 10^-2 10^-3 10^-4

0 30 60 90
ENDF/B-VII PD-104
angular distribution for \((n,p^{*13})\) proton
ENDF/B-VII PD-104
angular distribution for \((n,p^*14)\) proton
ENDF/B-VII PD-104
protons from (n,p*^c)

![Graph showing the probability of protons from (n,p*^c) as a function of secondary energy and energy (MeV). The graph is a 3D visualization with the y-axis labeled as "Prob/MeV," the x-axis as "Sec. Energy," and the z-axis as "Energy (MeV)." The graph displays a series of peaks representing the probability distribution across different energy levels.]
ENDF/B-VII PD-104
deuterons from \((n,n^*)d\)
ENDF/B-VII PD-104 angular distribution for \((n,d^*0)\) deuteron
angular distribution for (n,d*1) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d^2) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*4) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*5) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*7) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*8) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*9) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*10) deuteron
ENDF/B-VII PD-104
angular distribution for \(n,d^{*11}\) deuteron

![Graph showing the angular distribution for \(n,d^{*11}\) deuteron. The x-axis represents the cosine of the angle, the y-axis represents the probability, and the z-axis represents energy in MeV. The graph shows a 3D plot with shaded regions indicating the distribution.]
ENDF/B-VII PD-104
angular distribution for \( (n,d^{*12}) \) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*13) deuteron
ENDF/B-VII PD-104
angular distribution for (n, d*14) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*15) deuteron
ENDF/B-VII PD-104
angular distribution for (n,d*16) deuteron
ENDF/B-VII PD-104 deuterons from (n,d*c)
ENDF/B-VII PD-104
alphas from \((n,n^*)a\)
ENDF/B-VII PD-104
alphas from (n,2n)a
ENDF/B-VII PD-104
angular distribution for (n,a*1) alpha
ENDF/B-VII PD-104
angular distribution for \((n,a^*2)\) alpha
angular distribution for (n,a*3) alpha

Energy (MeV)

Cosine

Prob/Cos
ENDF/B-VII PD-104
angular distribution for (n,a*4) alpha
angular distribution for (n,a*5) alpha
ENDF/B-VII PD-104
angular distribution for (n,a*6) alpha
angular distribution for (n,a*7) alpha

ENDF/B-VII PD-104
ENDF/B-VII PD-104
angular distribution for (n,a*8) alpha
ENDF/B-VII PD-104
angular distribution for \((n,a^9)\) alpha
ENDF/B-VII PD-104
angular distribution for (n,a*10) alpha
angular distribution for (n,a*11) alpha
ENDF/B-VII PD-104
angular distribution for (n,a*12) alpha
ENDF/B-VII PD-104
angular distribution for (n,a*13) alpha
ENDF/B-VII PD-104

Angular distribution for (n,a*15) alpha

Energy (MeV)

Cosine

Prob/Cos

10^0 10^-1 10^1 10^2 10^3

Prob/Cos

0.5 0.0 0.5 1.0
ENDF/B-VII PD-104
angular distribution for (n,a*16) alpha
ENDF/B-VII PD-104
angular distribution for (n,a*17) alpha
angular distribution for (n,a*19) alpha

ENDF/B-VII PD-104

energy (MeV)

1.0 0.5 0.0 -0.5 -1.0

cosine

1.0 1.0 0.5 0.0 -0.5 -1.0

Prob/cos

0.0 0.5 1.0

30 0 30
ENDF/B-VII PD-104
alphas from (n,a*c)