Principal cross sections

Cross section (barns)

Energy (MeV)

- total
- absorption
- elastic
- gamma production
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

Energy (MeV) vs. Cross section (barns)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

Energy (MeV)

Cross section (barns)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

Energy (MeV)

Cross section (barns)

total
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ resonance total cross section

Cross section (barns)

Energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

![Graph of cross section vs energy](image)

- Cross section (barns)
- Energy (MeV)
- Capture curve
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

Capture cross section as a function of energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

capture
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

capture

Energy (MeV)
Cross section (barns)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
UR total cross section
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
UR elastic cross section

![Graph showing cross section vs. energy]
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
UR capture cross section
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ Damage

Energy (MeV)

Damage (MeV-barns)

damage

Energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Non-threshold reactions

![Graph showing cross section versus energy for non-threshold reactions. The x-axis represents energy in MeV, ranging from $10^{-11}$ to $10^1$, and the y-axis represents cross section in barns, ranging from $10^{-1}$ to $10^3$. The graph includes curves for (n,gma), (n,a), and (n,xa).]
Principal cross sections

<table>
<thead>
<tr>
<th>Energy (MeV)</th>
<th>Cross section (barns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>8</td>
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<td>3</td>
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<tr>
<td>120</td>
<td>2</td>
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<tr>
<td>140</td>
<td>1</td>
</tr>
<tr>
<td>160</td>
<td>0.5</td>
</tr>
<tr>
<td>180</td>
<td>0.3</td>
</tr>
<tr>
<td>200</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Legend:
- **total**
- **absorption**
- **elastic**
- **gamma production**
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Heating

![Graph showing the relationship between energy (MeV) and heating (MeV/reaction). The graph displays a curve that increases as energy increases, indicating a positive correlation between energy and heating.]
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Damage

Energy (MeV)

Damage (MeV-barns)

0.0
0.1
0.2
0.3
0.4
0.5
0.6

0 50 100 150 200

Energy (MeV)
Non-threshold reactions

Energy (MeV)

Cross section (barns)

(n,gma)

(n,a)

(n,xa)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

Cross section (barns) vs. Energy (MeV)

- (n,n*11)
- (n,n*12)
- (n,n*13)
- (n,n*14)
- (n,n*15)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

![Graph](image_url)

Cross section (barns) vs. Energy (MeV)

- (n,n*16)
- (n,n*17)
- (n,n*18)
- (n,n*19)
- (n,n*20)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

![Graph showing cross section versus energy for different inelastic levels: (n,n^21), (n,n^22), (n,n^23), (n,n^24), and (n,n^25).](image-url)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60

Threshold reactions

Cross section (barns)

Energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,n*)p
- (n,n*)d
- (n,2np)
- (n,n*c)
- (n,p)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,d)
(n,t)
(n,he3)
(n,2a)
(n,2p)

Energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

![Graph showing cross section (barns) vs. Energy (MeV) for (n,pa) and (n,pd) reactions.](image)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,xp)
- (n,xd)
- (n,xt)
- (n,xhe3)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for elastic

![Diagram showing angular distribution](image-url)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for elastic
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*1)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n,n^*2)\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*3)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*4)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*5)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*6)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*7)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*8)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*9)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*10)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*11)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*12)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*13)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*14)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*15)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*16)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ angular distribution for (n,n*17)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*18)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*19)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*20)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*21)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n, n\cdot22)\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*23)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n,n^{*24})\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ angular distribution for \((n,n^*25)\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,x)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,3n)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,n\*)a

[Graph showing neutron emission probability as a function of energy (MeV) and secondary energy]
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,2n)a

![3D graph showing neutron emission probability vs. energy]
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,n*)p
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for \((n,n^*)d\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,2np)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,n*c)
Photon emission for (n,x)
Photon emission for (n,2n)
Photon emission for (n,3n)
Photon emission for (n,n*)a
Photon emission for (n,2n)a
Photon emission for \((n,n^*)p\)
Photon emission for (n,n*)d
Photon emission for (n,2np)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*1)
Photon emission for (n,n*2)
Photon emission for (n,n^3)
Photon emission for (n,n*4)
Photon emission for (n,n\*5)
Photon emission for (n,n*6)
Photon emission for \((n,n^*7)\)
Photon emission for \((n,n^*8)\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*9)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*11)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*12)
Photon emission for \((n,n^{*13})\)
Photon emission for (n,n*14)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n\textsuperscript{*15})
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*16)
Photon emission for (n,n*17)
Photon emission for (n,n*18)
Photon emission for (n,n*19)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*20)
Photon emission for \((n,n^*21)\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n^22)
Photon emission for (n,n\^{23})

Prob/MeV

$E_{\gamma} \text{ (MeV)}$

$E_{\nu} \text{ (MeV)}$

$10^0$

$10^2$

$2.5$

$3.0$

$3.5$

$0$

$20$ $40$ $60$ $80$ $100$ $120$ $140$ $160$ $180$ $200$
Photon emission for (n,n*24)
Photon emission for \((n,n*25)\)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*c)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
thermal capture photon spectrum
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
14 MeV photon spectrum
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Particle heating contributions

![Graph showing particle heating contributions](image-url)

- **protons**
- **deuterons**
- **tritons**
- **he-3**
- **alphas**

**Axes:**
- **Y-axis:** MeV/collision
- **X-axis:** Energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Recoil Heating

Recoil heating

Heating (MeV/reaction)

Energy (MeV)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ protons from (n,n*)p
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
protons from (n,2np)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
deuterons from (n,x)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
deuterons from (n,n*)d
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
tritons from (n,x)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+he3s from (n,x)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
alphas from (n,x)
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ alphas from (n,n*)a
50-SN-112 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
alphas from (n,2n)a