Principal cross sections

Cross section (barns)

Energy (MeV)

- total
- absorption
- elastic
- gamma production
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance total cross section

![Graph showing total cross section vs. energy](image_url)
resonance total cross section
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
 resonance total cross section

Cross section (barns)

Energy (MeV)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance total cross section

![Graph showing total cross section vs. energy in MeV]
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance total cross section

Energy (MeV) vs. Cross section (barns)
Energy (MeV)

Cross section (barns)

10^4

10^{-8}

10^{-7}

capture
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance absorption cross sections

![Graph showing resonance absorption cross sections with energy on the x-axis (MeV) and cross section on the y-axis (barns). The graph has a peak at a certain energy and decreases as energy increases.]
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance absorption cross sections

Capture cross section as a function of energy (MeV).
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance absorption cross sections

Capture cross section plotted against energy (MeV) on a log-log scale.
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
resonance absorption cross sections

![Graph showing energy vs. cross section in barns for capture process.]
resonance absorption cross sections

capture
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
UR total cross section

Cross section (barns)

Energy (MeV)
UR elastic cross section

Energy (MeV) vs. Cross section (barns) graph showing different cross sections as a function of energy.
UR capture cross section

Energy (MeV) vs Cross section (barns)

- Inf. Dil.
- 100 b
- 1 b
Non-threshold reactions

Cross section (barns)

Energy (MeV)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+

Heating

Energy (MeV)

Heating (MeV/reaction)

0 5 10 15 20 25 30 35 40

0 50 100 150 200

heating
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
Damage

Damage (MeV-barns)

Energy (MeV)
Non-threshold reactions

Cross section (barns)

Energy (MeV)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
Inelastic levels

Cross section (barns)

Energy (MeV)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
Inelastic levels

Energy (MeV)

Cross section (barns)

(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
Inelastic levels

Cross section (barns)

Energy (MeV)

(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)
Inelastic levels

Cross section (barns)

Energy (MeV)

71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+

(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,x)
- (n,2n)
- (n,3n)
- (n,n*)
- (n,2n)
Threshold reactions

Cross section (barns)

Energy (MeV)

- (n,n*)p
- (n,n*)d
- (n,n*)t
- (n,2np)
- (n,n*c)
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,p)
- (n,d)
- (n,t)
- (n,he3)
- (n,xp)
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,xd)
- (n,xt)
- (n,xhe3)
- (n,p*c)
angular distribution for elastic
angular distribution for (n,n*1)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,n*2)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,n*3)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,n*4)
angular distribution for (n,n*5)
angular distribution for (n,n*6)
angular distribution for (n,n*7)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,n*8)
angular distribution for \((n,n^9)\)
angular distribution for (n,n*10)
angular distribution for (n,n*11)
angular distribution for (n,n*12)
angular distribution for (n,n*13)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,n*14)
angular distribution for (n,n*15)
angular distribution for (n,n*16)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,n*17)
angular distribution for (n,n*19)
angular distribution for (n,n*20)
Neutron emission for (n,x)
Neutron emission for (n,2n)
Neutron emission for (n,3n)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
Neutron emission for (n,n*)a
Neutron emission for (n,2n)a
Neutron emission for (n,n*)p
Neutron emission for \((n,n^*)d\)
Neutron emission for \((n,n^*)t\)
Neutron emission for (n,2np)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
Neutron emission for (n,n*\textit{c})
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 \((n,n^*)t\)
Photon emission for (n,2np)
Photon emission for (n,n*c)
Photon emission for (n,gma)
Photon emission for (n,p\*c)
Photon emission for (n,a*c)
Gamma Energy (MeV)

Gamma Prod (barns/MeV)

71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+ thermal capture photon spectrum
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
14 MeV photon spectrum

Gamma Energy (MeV)

Gamma Prod (barns/MeV)
Particle heating contributions

- Protons
- Deuterons
- Tritons
- He-3
- Alphas

Energy (MeV) vs. MeV/collision
Particle production cross sections

- Protons
- Deuterons
- Tritons
- He-3
- Alphas

Energy (MeV) vs. Cross section (barns)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+ protons from (n,x)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+ protons from (n,n*)p
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+ protons from (n,2np)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
protons from (n,p*c)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
deuterons from (n,x)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
deuterons from (n,n*)d
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
tritons from (n,x)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
tritons from \((n,n^*)t\)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
he3s from (n,x)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
alphas from (n,x)
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
alphas from (n,n*)a
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
alphas from (n,2n)a
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,a*0) alpha
angular distribution for (n, α*1) alpha
angular distribution for \((n, a^2)\) alpha

Probl/Cos

Cosine

Energy (MeV)

1.0 0.5 0.0 -0.5 -1.0 0 5 10 15 20
angular distribution for (n,a*3) alpha
angular distribution for (n,a*4) alpha

Energy (MeV) vs. Cosine vs. Probability
angular distribution for (n,a*5) alpha
angular distribution for \((n,a^6)\) alpha

\[\begin{array}{cccc}
\cos & 1.0 & 0.5 & 0.0 & -0.5 & -1.0 \\
\hline
\text{Prob}/\cos & 0.5 & 0.0 & 0.5 & 1.0 & 20 \\
\end{array}\]
angular distribution for (n, a^7) alpha
angular distribution for (n,a*8) alpha
angular distribution for (n,a*9) alpha
71-LU-176 FOR FENDL-3.2 PROCESSED BY NJOY2016.60+
angular distribution for (n,a*10) alpha