40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Principal cross sections

![Graph showing cross sections vs. energy](image)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60 + resonance total cross section

![Graph showing total cross section vs energy]
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

Energy (MeV)

Cross section (barns)

- total
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

Energy (MeV)

Cross section (barns)

total

10^0   10^1

10^0   10^1

Energy (MeV)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

- Cross section (barns)
- Energy (MeV)

Capture resonance peaks at low and high energies.
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

![Graph showing energy vs. cross section](image-url)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

Cross section (barns) vs. Energy (MeV)

- Capture cross section

- Energy range: 10^{-4} to 10^{1} MeV

- Cross section range: 10^{-2} barns to 10^{0} barns
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
UR total cross section

![Graph showing energy vs. cross section (barns) for different dilutions: Inf. Dil., 100 b, and 1 b. The cross section increases with energy.](image)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
UR elastic cross section

Energy (MeV)

Cross section (barns)

Inf. Dil.
100 b
1 b

Energy (MeV)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
UR capture cross section

Energy (MeV)

Cross section (barns)

Inf. Dil.
100 b
1 b
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Heating

Heating (MeV/reaction) vs. Energy (MeV)

heating
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Damage

Energy (MeV)

Damage (MeV-barns)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Non-threshold reactions

Energy (MeV)

Cross section (barns)

\( \text{(n,gma)} \)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Principal cross sections

![Graph showing principal cross sections for 40-ZR-96. The x-axis represents energy (MeV) ranging from 0 to 160, and the y-axis represents cross section (barns) ranging from 0 to 8. The graph includes lines for total, absorption, elastic, and gamma production cross sections.](graph.png)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Heating

Heating (MeV/reaction)

Energy (MeV)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Non-threshold reactions

Cross section (barns)

Energy (MeV)

plot of cross section vs energy
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

![Graph showing cross section vs. energy for (n,n*6) and (n,n*7) reactions.](image-url)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,x)
(n,2n)
(n,3n)
(n,n*)a
(n,n*)p

Energy (MeV)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Cross section (barns)

Energy (MeV)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Cross section (barns)

Energy (MeV)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for elastic
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for elastic
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*1)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*2)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*3)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*4)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*5)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*6)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*7)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,x)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,2n)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,3n)
Neutron emission for \((n,n^*)a\)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,n*)p
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,n*c)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,2n)
Photon emission for (n,3n)
Photon emission for (n,n*)a

40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for \((n,n^*)p\)

\[
\begin{align*}
\text{Prob/MeV} & : 10^{-3} \\
E_Y (\text{MeV}) & : 0, 2, 4, 6, 10, 12, 14, 16, 18, 20 \\
E_n (\text{MeV}) & : 
\end{align*}
\]
Photon emission for (n,n^*c)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,gma)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,a)
Photon emission for (n,x)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
thermal capture photon spectrum

![Graph showing the gamma production rate as a function of gamma energy. The y-axis is labeled as Gamma Prod (barns/MeV) and the x-axis as Gamma Energy (MeV). The y-axis scales range from $10^{-4}$ to $10^{-2}$, and the x-axis ranges from 0 to 6 MeV. The graph is a step function, indicating discrete energy levels.]
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
14 MeV photon spectrum
Particle heating contributions

MeV/collision vs. Energy (MeV)

- protons
- deuterons
- tritons
- he-3
- alphas
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Recoil Heating

![Graph showing the relationship between energy (MeV) and heating (MeV/reaction). The graph indicates an increasing trend in heating as energy increases.]
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
protons from (n,x)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
tritons from (n,x)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
he3s from \( (n,x) \)
40-ZR-96 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ alphas from (n,x)