Principal cross sections

Cross section (barns) vs. Energy (MeV) graph with the following sections:
- Total
- Absorption
- Elastic
- Gamma production

The graph covers a range of energies from $10^{-11}$ to $10^1$ MeV and cross sections from $10^{-3}$ to $10^2$ barns.
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

\begin{figure}
\centering
\includegraphics[width=\textwidth]{plot.png}
\caption{Total cross section for 22-TI-46 from FENDL-3.2.

- Energy (MeV) axis on a logarithmic scale.
- Cross section (barns) axis on a linear scale.
- The curve represents the total cross section.
}
\end{figure}
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

Energy (MeV)

Cross section (barns)
capture
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

Capture cross section as a function of energy (MeV).
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ resonance absorption cross sections

Energy (MeV)

Cross section (barns)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+ resonance absorption cross sections

Energy (MeV)

Cross section (barns)

Capture
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Heating

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

- Heating (MeV/reaction) on a log scale from $10^{-4}$ to $10^1$
- Energy (MeV) on a log scale from $10^{-11}$ to $10^1$
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Damage

![Graph showing the relationship between Energy (MeV) and Damage (MeV-barns).]
Non-threshold reactions
Principal cross sections

22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Energy (MeV)

Cross section (barns)

- total
- absorption
- elastic
- gamma production
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Damage

![Graph showing damage vs energy](image-url)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Non-threshold reactions

Energy (MeV)

Cross section (barns)

10^{-4}
10^{-3}

(n,gma)

0 2 4 6 8 10 12 14 16 18 20
Energy (MeV)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

Energy (MeV)

Cross section (barns)

Energy (MeV)

(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

Cross section (barns) vs. Energy (MeV)
(n,n^6), (n,n^7), (n,n^8), (n,n^9)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,x)
(n,2n)
(n,n*)a
(n,n*)p
(n,n*c)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Energy (MeV)

Cross section (barns)

- (n,p)
- (n,d)
- (n,t)
- (n,he3)
- (n,a)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

![Graph showing the cross section for the (n,2p) reaction as a function of energy (MeV). The x-axis represents energy in MeV ranging from 10 to 20, and the y-axis represents the cross section in barns, ranging from $10^{-3}$ to 18. The graph shows an upward trend as energy increases.]
Threshold reactions

22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Cross section (barns)

Energy (MeV)
angular distribution for elastic
angular distribution for elastic
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*1)
angular distribution for (n, n*2)
angular distribution for \((n,n^3)\)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n,n^*4)\)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n,n^*5)\)
angular distribution for \((n, n^*6)\)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*7)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*8)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*9)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,x)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for (n,2n)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Neutron emission for \( (n,n^*)a \)
Neutron emission for (n,n*)p
22-TI-46 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,n*)a
Photon emission for (n,n*)p
Photon emission for (n,n*c)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
thermal capture photon spectrum
Graph showing the gamma production (barns/MeV) versus gamma energy (MeV) for the 22-TI-46 isotope, taken from the FENDL-3.2 nuclear data library using the NJOY2016.60 code with an input of 14 MeV photon spectrum.
Particle heating contributions

Energy (MeV) vs. MeV/collision for protons, deuterons, tritons, and alphas.
Recoil Heating

Energy (MeV)

Heating (MeV/reaction)
Particle production cross sections

Energy (MeV)

Cross section (barns)

- protons
- deuterons
- tritons
- alphas
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
protons from (n,x)
22-TI-46 FOR FENDL-3.2 FROM FENDL 3.2 BY NJOY2016.60+ protons from (n,n*)p
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
deuterons from (n,x)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
tritons from (n,x)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60
alphas from (n,x)
22-TI-46 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
alphas from \( (n,n^*)a \)