20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

Energy (MeV)

Cross section (barns)

total
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

![Graph showing total cross section vs. Energy (MeV). The x-axis represents energy in MeV, and the y-axis represents cross section in barns, with a logarithmic scale. The graph shows oscillations and dips at various energy levels.](image-url)
$^{20}$-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance total cross section

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

- Total curve.

Energy range: $10^0$ to $10^1$ MeV.

Cross section values range from approximately 0 to 1 barns.
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

capture
Cross section (barns) vs. Energy (MeV)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
resonance absorption cross sections

![Graph of resonance absorption cross sections](image-url)
Energy (MeV) vs. Heating (MeV/reaction)
Damage
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Non-threshold reactions

![Graph showing cross section (barns) vs. energy (MeV)]

- Cross section (barns) on a logarithmic scale:
  - 10^-4 to 10^1

- Energy (MeV) on a logarithmic scale:
  - 10^-11 to 10^1

- Key features:
  - (n,gma) reaction indicated with a straight line.
  - Peaks and dips in the cross section curve at various energies.
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Principal cross sections
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Heating

Heating (MeV/reaction)

Energy (MeV)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Damage

Energy (MeV)

Damage (MeV-barns)

- damage
Non-threshold reactions

20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60

Cross section (barns)

Energy (MeV)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60

Inelastic levels

![Graph showing cross sections versus energy for different inelastic levels]
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Inelastic levels

Cross section (barns)

Energy (MeV)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+

Inelastic levels

Energy (MeV)

Cross section (barns)

*10^3

(n,n^21)
(n,n^22)
(n,n^23)
(n,n^24)
(n,n^25)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

Energy (MeV)

Cross section (barns)

*(n,n*26) *(n,n*27) *(n,n*28) *(n,n*29) *(n,n*30)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

![Graph showing inelastic levels with various cross-sections vs. energy in MeV.](image-url)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Inelastic levels

![Graph showing cross section vs. energy for different inelastic levels (n,n*36), (n,n*37), (n,n*38), and (n,n*39). The graph plots energy in MeV on the x-axis and cross section in barns on the y-axis, with cross sections diminishing as energy increases.](image)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

![Graph showing cross section vs. energy for different reactions]

- (n,n*c)
- (n,p)
- (n,a)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Energy (MeV) vs Cross section (barns)

- (n,xp)
- (n,xd)
- (n,xt)
- (n,xa)
- (n,p^0)
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,a*1)
- (n,a*2)
- (n,a*3)
- (n,a*4)
- (n,a*5)
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,a\(^{16}\))
- (n,a\(^{17}\))
- (n,a\(^{18}\))
- (n,a\(^{19}\))
- (n,a\(^{20}\))
Threshold reactions

Cross section (barns)

Energy (MeV)

(n,a*21)
(n,a*22)
(n,a*23)
(n,a*24)
(n,a*25)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Threshold reactions

Cross section (barns)

Energy (MeV)

- (n,a*26)
- (n,a*27)
- (n,a*28)
- (n,a*29)
- (n,a*c)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for elastic
angular distribution for elastic
angular distribution for (n,n*1)
angular distribution for (n,n*2)
angular distribution for (n,n*3)
angular distribution for (n,n*4)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*5)
angular distribution for (n,n*6)
angular distribution for \((n,n^*7)\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*8)
angular distribution for (n,n*9)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*10)
angular distribution for (n,n*11)
angular distribution for \((n,n^*12)\)
angular distribution for (n,n*13)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*14)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*15)
angular distribution for (n,n*16)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*17)
angular distribution for \((n,n^*18)\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*19)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*20)

ProblCos

10^0

1.0 0.5 0.0 -0.5 -1.0

Cosine

4 6 8 10 12 14 16 18 20

Energy (MeV)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*21)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*22)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n,n^*23)\)
angular distribution for (n,n*24)
angular distribution for \((n,n^{*25})\)
angular distribution for (n,n*26)
angular distribution for (n,n*27)
angular distribution for \((n,n^*28)\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*29)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*30)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*31)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for \((n,n^*32)\)
angular distribution for \((n,n'33)\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*34)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*35)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*36)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*37)
angular distribution for \((n,n^*38)\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
angular distribution for (n,n*39)
Neutron emission for (n,x)
Neutron emission for (n,2n)
Neutron emission for (n,3n)

Prob/MeV

0.1

0.01

Energy (MeV)

19.6 19.7 19.8 19.9 20.0

0.2 0.4 0.6 1.9 1.95

Sec. Energy
Neutron emission for (n,n*)a
Neutron emission for \((n,n^*)p\)

![Diagram showing neutron emission probabilities](image)
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*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)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for \((n,n^*8)\)
Photon emission for \((n,n^*9)\)
Photon emission for (n,n*10)
Photon emission for (n,n*11)
Photon emission for \((n,n^{*13})\)
Photon emission for (n,n*14)
Photon emission for (n,n*16)
Photon emission for $(n,n'18)$
Photon emission for (n,n*19)
Photon emission for (n,n*21)
Photon emission for (n, n*22)
Photon emission for (n,n*23)
Photon emission for (n,n*24)
Photon emission for (n,n*25)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Photon emission for (n,n*26)
Photon emission for (n,n*27)
Photon emission for (n,n*28)
Photon emission for (n,n*29)
Photon emission for (n,n*31)
Photon emission for (n,n*34)
Photon emission for (n,n*35)
Photon emission for (n,n*37)
Photon emission for (n,n*38)
Photon emission for (n,n*39)
Photon emission for (n,n*c)
Photon emission for (n,gma)
Photon emission for (n,p*1)
Photon emission for (n,p*2)
Photon emission for (n,p*3)
Photon emission for (n,p*c)
Photon emission for (n,a*1)
Photon emission for (n,a*2)
Photon emission for (n,a*3)
Photon emission for (n,a*4)
Photon emission for (n,a*6)
Photon emission for (n,a^9)
Photon emission for (n,a*12)
Photon emission for \((n,a^*14)\)
Photon emission for $(n,a^{*15})$
Photon emission for (n,a*c)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
thermal capture photon spectrum
Particle heating contributions

- Protons
- Deuterons
- Tritons
- Alphas
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
Recoil Heating

Recoil heating

Heating (MeV/reaction)

Energy (MeV)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
protons from (n,x)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
protons from \((n,n^*)p\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
protons from (n,p*c)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
deuterons from (n,x)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
alphas from (n,x)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
alphas from \((n,n^*)a\)
20-CA-44 FOR FENDL-3.2 FROM FENDL-3.2 BY NJOY2016.60+
aphas from (n,a*c)