ENDF/B-VII.1 CA-46
Principal cross sections

Cross section (barns)

Energy (MeV)

- total
- absorption
- elastic
- gamma production
ENDF/B-VII.1 CA-46
Non-threshold reactions

Energy (MeV)

Cross section (barns)

$^{(n,gma)}$
ENDF/B-VII.1 CA-46 Damage

Energy (MeV)

Damage (MeV-barns)
ENDF/B-VII.1 CA-46
Non-threshold reactions

Energy (MeV) vs. Cross section (barns)

- (n,gma)

Energy (MeV) range: 0 to 20
Cross section (barns) range: $10^{-3}$ to high values
ENDF/B-VII.1 CA-46
Inelastic levels

Energy (MeV)

Cross section (barns)

- (n,n*6)
- (n,n*7)
- (n,n*8)
- (n,n*9)
- (n,n*10)

Energy (MeV)
ENDF/B-VII.1 CA-46
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,xp)
- (n,xd)
- (n,xt)
- (n,xhe3)
- (n,xa)
ENDF/B-VII.1 CA-46 Threshold reactions

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**Graph Description:**

- **Title:** ENDF/B-VII.1 CA-46 Threshold reactions
- **Y-axis:** Cross section (barns)
- **X-axis:** Energy (MeV)
- **Legend:**
  - (n,p*5)
  - (n,p*6)
  - (n,p*7)
  - (n,p*8)
  - (n,p*9)

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**Graph Details:**

- The graph shows the variation of cross sections for different reactions with energy.
- The reactions are compared at various energy levels, ranging from 8 to 20 MeV.
- Each reaction has a distinct line color for easy identification.
- The cross sections are measured in barns, a unit of cross-sectional area used in nuclear physics.
- The energy scale is marked in MeV, with values ranging from 8 to 20 MeV.

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**Analysis:**

The graph provides a visual representation of the threshold reactions for the given energy levels, allowing for a clearer understanding of how the cross sections change with energy.

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**Notes:**

- The data points are not explicitly listed, but the graph gives a comprehensive overview of the reactions.
- For detailed analysis, further examination of the graph is recommended.

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ENDF/B-VII.1 CA-46
Threshold reactions

Cross section (barns)

Energy (MeV)
ENDF/B-VII.1 CA-46
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,d\textsuperscript{3})
(n,d\textsuperscript{4})
(n,d\textsuperscript{5})
(n,d\textsuperscript{c})
(n,t\textsuperscript{0})

Energy (MeV)
ENDF/B-VII.1 CA-46
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,t*1)
(n,t*2)
(n,t*3)
(n,t*4)
(n,t*5)
ENDF/B-VII.1 CA-46
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,a*4)
- (n,a*c)
ENDF/B-VII.1 CA-46
angular distribution for elastic
ENDF/B-VII.1 CA-46
angular distribution for elastic
ENDF/B-VII.1 CA-46
angular distribution for (n,n*1)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*2)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*3)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*4)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*5)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*6)
ENDF/B-VII.1 CA-46
angular distribution for \((n,n^*7)\)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*8)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*9)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*10)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*11)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*12)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*13)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*14)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*15)
ENDF/B-VII.1 CA-46
angular distribution for \((n,n^{*}17)\)
ENDF/B-VII.1 CA-46
angular distribution for (n, n*18)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*19)
ENDF/B-VII.1 CA-46
angular distribution for (n,n*20)
ENDF/B-VII.1 CA-46
Neutron emission for (n,x)
ENDF/B-VII.1 CA-46
Neutron emission for (n,2n)
ENDF/B-VII.1 CA-46
Neutron emission for (n,3n)
ENDF/B-VII.1 CA-46
Neutron emission for \((n,n^*)a\)
ENDF/B-VII.1 CA-46
Neutron emission for \((n,n^*)p\)
Neutron emission for (n,n*c)
ENDF/B-VII.1 CA-46
Photon emission for (n,x)
ENDF/B-VII.1 CA-46
Photon emission for (n,2n)
ENDF/B-VII.1 CA-46
Photon emission for \((n,3n)\)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*)a
ENDF/B-VII.1 CA-46
Photon emission for \((n,n^*)p\)
ENDF/B-VII.1 CA-46
Photon emission for \((n,n^*1)\)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*2)
ENDF/B-VII.1 CA-46
Photon emission for \( (n, n^*3) \)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*5)
ENDF/B-VII.1 CA-46
Photon emission for \((n,n^*6)\)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*7)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*8)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*9)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*10)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*11)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*12)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*13)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*14)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*16)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*17)
ENDF/B-VII.1 CA-46
Photon emission for $(n,n^{*18})$
Photon emission for (n,n*19)
ENDF/B-VII.1 CA-46
Photon emission for (n,n*c)
ENDF/B-VII.1 CA-46
Photon emission for (n,gma)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*1)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*2)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*3)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*4)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*5)
ENDF/B-VII.1 CA-46
Photon emission for $(n,p^6)$
ENDF/B-VII.1 CA-46
Photon emission for (n,p*7)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*8)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*9)
ENDF/B-VII.1 CA-46
Photon emission for \((n,p^*10)\)
ENDF/B-VII.1 CA-46
Photon emission for (n,p*^c)
ENDF/B-VII.1 CA-46
Photon emission for (n,d*1)
ENDF/B-VII.1 CA-46
Photon emission for (n,d*2)
ENDF/B-VII.1 CA-46
Photon emission for (n,d*3)
ENDF/B-VII.1 CA-46
Photon emission for (n,d*4)
ENDF/B-VII.1 CA-46
Photon emission for (n,d*5)
ENDF/B-VII.1 CA-46
Photon emission for (n,d*c)
ENDF/B-VII.1 CA-46
Photon emission for (n,t*1)
ENDF/B-VII.1 CA-46
Photon emission for (n,t*2)
ENDF/B-VII.1 CA-46
Photon emission for \((n,t*3)\)
ENDF/B-VII.1 CA-46
Photon emission for (n,t*4)
Photon emission for (n,t*5)
ENDF/B-VII.1 CA-46
Photon emission for \( (n,t^*c) \)
ENDF/B-VII.1 CA-46
Photon emission for (n,a*1)
ENDF/B-VII.1 CA-46
Photon emission for (n,a*2)
ENDF/B-VII.1 CA-46
Photon emission for \( (n,a^*3) \)
ENDF/B-VII.1 CA-46
Photon emission for \((n,a^*4)\)
ENDF/B-VII.1 CA-46
Photon emission for (n,a*c)
ENDF/B-VII.1 CA-46
thermal capture photon spectrum

Gamma Prod (barns/MeV)

Gamma Energy (MeV)
ENDF/B-VII.1 CA-46
14 MeV photon spectrum

Gamma Energy (MeV)
Gamma Prod (barns/MeV)
ENDF/B-VII.1 CA-46
Particle heating contributions

- protons
- deuterons
- tritons
- he-3
- alphas
Recoil Heating

Energy (MeV)

Heating (MeV/reaction)

recoil heating
ENDF/B-VII.1 CA-46
protons from (n,x)
ENDF/B-VII.1 CA-46
protons from (n,n*)p
ENDF/B-VII.1 CA-46
angular distribution for (n,p*0) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*1) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*2) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*3) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*4) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*5) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*6) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*7) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p*8) proton
ENDF/B-VII.1 CA-46
angular distribution for (n,p^9) proton

Energy (MeV)

Cosine

Prob/Cos
ENDF/B-VII.1 CA-46
angular distribution for (n,p*10) proton
ENDF/B-VII.1 CA-46
protons from (n,p*c)
ENDF/B-VII.1 CA-46
deuterons from (n,x)
ENDF/B-VII.1 CA-46
angular distribution for (n,d*0) deuteron
ENDF/B-VII.1 CA-46
angular distribution for (n,d*1) deuteron
ENDF/B-VII.1 CA-46
angular distribution for (n,d*2) deuteron
ENDF/B-VII.1 CA-46
angular distribution for (n,d*3) deuteron
ENDF/B-VII.1 CA-46
angular distribution for (n,d*4) deuteron
ENDF/B-VII.1 CA-46
angular distribution for (n,d*5) deuteron
ENDF/B-VII.1 CA-46
deuteron from (n,d*c)
ENDF/B-VII.1 CA-46
tritons from (n,x)
ENDF/B-VII.1 CA-46
angular distribution for (n,t*0) triton
ENDF/B-VII.1 CA-46
angular distribution for (n,t*1) triton
ENDF/B-VII.1 CA-46
angular distribution for (n,t*2) triton

Energy (MeV)

Cosine

Probl/Cos

10^0
ENDF/B-VII.1 CA-46
angular distribution for (n,t*3) triton
ENDF/B-VII.1 CA-46
angular distribution for (n,t\*4) triton
ENDF/B-VII.1 CA-46
angular distribution for (n,t*5) triton
ENDF/B-VII.1 CA-46
tritons from (n,t*c)
ENDF/B-VII.1 CA-46
he3s from (n,x)
ENDF/B-VII.1 CA-46
alphas from (n,x)
ENDF/B-VII.1 CA-46
alphas from \((n,n^*)a\)
ENDF/B-VII.1 CA-46
angular distribution for (n,a^0) alpha
ENDF/B-VII.1 CA-46
angular distribution for (n,a*1) alpha
ENDF/B-VII.1 CA-46
angular distribution for (n,a*2) alpha

Energy (MeV)

Cosine

Prob/Cos
ENDF/B-VII.1 CA-46
angular distribution for (n,a*3) alpha
ENDF/B-VII.1 CA-46
alphas from \((n,a^*c)\)