ENDF/B-VII CA-42
Principal cross sections

Cross section (barns)

Energy (MeV)

Lines:
- total
- absorption
- elastic
- gamma production
ENDF/B-VII CA-42
resonance total cross section

Energy (MeV)

Cross section (barns)

10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2}

10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2}
ENDF/B-VII CA-42
resonance total cross section

Cross section (barns)

Energy (MeV)
E\nNDF/B-VII CA-42

resonance total cross section

Cross section (barns)

Energy (MeV)

10^0

10^1
ENDF/B-VII CA-42
resonance absorption cross sections
ENDF/B-VII CA-42
resonance absorption cross sections

EN

Energy (MeV)

Cross section (barns)

- capture
ENDF/B-VII CA-42
resonance absorption cross sections

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
resonance absorption cross sections

Capture cross section vs. energy (MeV)
ENDF/B-VII CA-42
Heating

Heating (MeV/reaction) vs. Energy (MeV)
ENDF/B-VII CA-42

Damage

Energy (MeV)

Damage (MeV-barns)
ENDF/B-VII CA-42
Non-threshold reactions

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
Principal cross sections

- Total
- Absorption
- Elastic
- Gamma production
ENDF/B-VII CA-42
Damage

Damage (MeV-barns) vs. Energy (MeV)

*10^{-3}

Energy (MeV)

Damage (MeV-barns)

0 20 40 60 80 100 120 140 160 180

0 100 200

damage
Endf/B-VII CA-42
Non-threshold reactions

Cross section (barns)

Energy (MeV)

(n,gma)
The graph shows the energy spectrum for inelastic levels of ENDF/B-VII CA-42. The x-axis represents energy in MeV, ranging from 0 to 20, while the y-axis represents cross-section in barns, ranging from $10^{-3}$ to 600. The graph includes multiple curves for different inelastic channels labeled as (n,n*1) to (n,n*5), each with a distinct color.
ENDF/B-VII CA-42
Inelastic levels

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
Inelastic levels

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
Inelastic levels

Energy (MeV)

Cross section (barns)

(\text{n,\text{n}^*16})
(\text{n,\text{n}^*17})
(\text{n,\text{n}^*18})
(\text{n,\text{n}^*19})
(\text{n,\text{n}^*20})
ENDF/B-VII CA-42
Threshold reactions

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
Threshold reactions

Cross section (barns) vs. Energy (MeV) for different reactions:
- \((n,n^*)d\)
- \((n,n^*c)\)
- \((n,p)\)
- \((n,d)\)
- \((n,t)\)
ENDF/B-VII CA-42
Threshold reactions

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
Threshold reactions

Cross section (barns)

Energy (MeV)

(n,pd)
(n,da)
ENDF/B-VII CA-42
Threshold reactions

Energy (MeV)

Cross section (barns)

- (n,p*0)
- (n,p*1)
- (n,p*2)
- (n,p*3)
- (n,p*4)
ENDF/B-VII CA-42
Threshold reactions

Energy (MeV)

Cross section (barns)

- (n,p*5)
- (n,p*6)
- (n,p*7)
- (n,p*8)
- (n,p*9)
ENDF/B-VII CA-42
Threshold reactions

Energy (MeV)

Cross section (barns)
ENDF/B-VII CA-42
Threshold reactions

Cross section (barns)

Energy (MeV)
Threshold reactions

ENDF/B-VII CA-42

Energy (MeV)

Cross section (barns)

- (n,he3*4)
- (n,he3*5)
- (n,he3*c)
- (n,a*0)
- (n,a*1)
ENDF/B-VII CA-42
Threshold reactions

![Graph showing threshold reactions with energy on the x-axis and cross section in barns on the y-axis. The graph includes multiple curves for different reactions, with labels such as (n,a*2), (n,a*3), (n,a*4), (n,a*5), and (n,a*6).]
ENDF/B-VII CA-42
Threshold reactions

Cross section (barns)

Energy (MeV)
ENDF/B-VII CA-42
angular distribution for elastic

Prob/Cos

Energy (MeV)

Cosine

10^1

10^0

10^-1

10^-2
ENDF/B-VII CA-42
angular distribution for elastic
ENDF/B-VII CA-42
angular distribution for (n,n*1)
ENDF/B-VII CA-42
angular distribution for (n,n*2)
ENDF/B-VII CA-42
angular distribution for (n,n*3)
ENDF/B-VII CA-42
angular distribution for (n,n*4)
ENDF/B-VII CA-42
angular distribution for (n,n*6)
ENDF/B-VII CA-42
angular distribution for (n,n*7)
ENDF/B-VII CA-42
angular distribution for (n,n*8)
ENDF/B-VII CA-42
angular distribution for \( (n,n^*9) \)
ENDF/B-VII CA-42
angular distribution for \((n,n^\ast 10)\)
ENDF/B-VII CA-42
angular distribution for (n,n*11)
ENDF/B-VII CA-42
angular distribution for \((n,n\times12)\)
ENDF/B-VII CA-42
angular distribution for (n,n*13)
ENFD/B-VII CA-42

angular distribution for (n,n*14)
ENDF/B-VII CA-42
angular distribution for \((n,n^*15)\)
ENDF/B-VII CA-42
angular distribution for (n,n*16)
ENDF/B-VII CA-42
angular distribution for (n,n*17)
ENDF/B-VII CA-42
angular distribution for (n,n*18)
ENDF/B-VII CA-42

angular distribution for \((n,n^*19)\)
ENDF/B-VII CA-42
angular distribution for (n,n*20)
ENDF/B-VII CA-42
Neutron emission for (n,x)
ENDF/B-VII CA-42
Neutron emission for \((n,n^*)a\)
ENDF/B-VII CA-42
Neutron emission for \((n,n^*)2a\)
ENDF/B-VII CA-42
Neutron emission for \((n,n^*)d\)
ENDF/B-VII CA-42
Neutron emission for \((n,n^*c)\)
ENDF/B-VII CA-42
Photon emission for (n,x)
ENDF/B-VII CA-42
Photon emission for \((n,n^*)\) a
ENDF/B-VII CA-42
Photon emission for \((n,n^*)p\)
ENDF/B-VII CA-42
Photon emission for \((n,n^*)2a\)
ENDF/B-VII CA-42
Photon emission for \((n,n^*)d\)
ENDF/B-VII CA-42
Photon emission for (n,n*1)
ENDF/B-VII CA-42
Photon emission for (n,*2)
ENDF/B-VII CA-42
Photon emission for (n,n'3)

$E_{\gamma}(\text{MeV})$

$E_{n}$(MeV)

$P_{\gamma}/\text{MeV}$
ENDF/B-VII CA-42
Photon emission for (n,n4)
ENDF/B-VII CA-42
Photon emission for (n,n*5)
ENDF/B-VII CA-42
Photon emission for (n,n*6)
ENDF/B-VII CA-42

Photon emission for (n,n*)

$E_{\gamma} (MeV) \quad E_{n} (MeV) \quad \frac{P_{\gamma}}{P_{n}}$
ENDF/B-VII CA-42
Photon emission for (n,n*8)
ENDF/B-VII CA-42
Photon emission for (n,n*9)
Photon emission for (n,n*10)
ENDF/B-VII CA-42
Photon emission for (n,n*11)
ENDF/B-VII CA-42
Photon emission for (n,n*13)
ENDF/B-VII CA-42
Photon emission for (n,n*14)
ENDF/B-VII CA-42
Photon emission for $(n,n^{*15})$
Photon emission for \((n,n'17)\)
Photon emission for (n,n\*18)
ENDF/B-VII CA-42
Photon emission for (n,n*19)
ENDF/B-VII CA-42
Photon emission for (n,n*20)
ENDF/B-VII CA-42
Photon emission for (n,n*c)
ENDF/B-VII CA-42
Photon emission for (n,gma)
ENDF/B-VII CA-42
Photon emission for (n,2α)
ENDF/B-VII CA-42
Photon emission for (n,2p)
ENDF/B-VII CA-42
Photon emission for (n,pa)
ENDF/B-VII CA-42
Photon emission for (n,da)
ENDF/B-VII CA-42
Photon emission for (n,p*1)
ENDF/B-VII CA-42
Photon emission for (n,p*2)
ENDF/B-VII CA-42
Photon emission for (n,p*3)
ENDF/B-VII CA-42
Photon emission for (n,p*4)
ENDF/B-VII CA-42
Photon emission for (n,p*5)
ENDF/B-VII CA-42
Photon emission for (n,p*7)
ENDF/B-VII CA-42
Photon emission for \((n,p^*8)\)
ENDF/B-VII CA-42
Photon emission for (n,p^9)
ENDF/B-VII CA-42
Photon emission for \((n, p^{*10})\)
ENDF/B-VII CA-42
Photon emission for (n,p*c)
ENFD/B-VII CA-42
Photon emission for (n,d*2)

\[ E_\gamma (\text{MeV}) \]

\[ E_n (\text{MeV}) \]

\[ P_{\text{prob}/\text{MeV}} \]
ENDF/B-VII CA-42
Photon emission for (n,d*3)
ENDF/B-VII CA-42
Photon emission for (n,d*4)
ENDF/B-VII CA-42
Photon emission for (n,d*5)
Photon emission for \((n,d^*c)\)
ENDF/B-VII CA-42
Photon emission for \((n,t^*1)\)
ENDF/B-VII CA-42
Photon emission for \((n, t^*2)\)
ENDF/B-VII CA-42
Photon emission for (n,t*3)
ENDF/B-VII CA-42
Photon emission for (n,t*4)
ENDF/B-VII CA-42
Photon emission for \((n,t^*5)\)
ENDF/B-VII CA-42
Photon emission for (n,t*c)
ENDF/B-VII CA-42
Photon emission for $(n,he3*2)$
ENDF/B-VII CA-42
Photon emission for (n,he3*3)
ENDF/B-VII CA-42
Photon emission for (n,he3*4)
ENDF/B-VII CA-42
Photon emission for (n,he3*5)
ENDF/B-VII CA-42
Photon emission for (n,he3*c)
ENDF/B-VII CA-42
Photon emission for \((n,a^*1)\)
ENDF/B-VII CA-42
Photon emission for \((n,a*2)\)
ENDF/B-VII CA-42
Photon emission for (n,a*3)
ENDF/B-VII CA-42
Photon emission for \((n,a^*4)\)
ENDF/B-VII CA-42
Photon emission for \((n,a^*5)\)
ENDF/B-VII CA-42
Photon emission for \((n,a^*6)\)
ENDF/B-VII CA-42
Photon emission for (n,a*7)
ENDF/B-VII CA-42
Photon emission for (n,a*9)
ENDF/B-VII CA-42
Photon emission for (n,a*10)
ENDF/B-VII CA-42
Photon emission for \( (n,a^*c) \)
ENDF/B-VII CA-42
thermal capture photon spectrum
ENDF/B-VII CA-42
14 MeV photon spectrum
ENDF/B-VII CA-42
Recoil Heating

![Graph showing the relationship between energy (MeV) and heating (MeV/reaction). The graph indicates an exponential increase in heating with energy, peaking around 1.2 MeV/reaction at an energy of 150 MeV.]
ENDF/B-VII CA-42
protons from (n,x)

Energy (MeV)

Sec. Energy

Prob/Mev

10^1

10^0

10^-1

10^-2

10^-3

10^-4
ENDF/B-VII CA-42
protons from \((n,n^*)p\)
ENDF/B-VII CA-42
protons from (n,2p)
ENDF/B-VII CA-42
protons from (n,pa)
ENDF/B-VII CA-42
protons from (n,pd)
angular distribution for (n,p*0) proton
ENDF/B-VII CA-42
angular distribution for (n,p*1) proton
ENDF/B-VII CA-42
angular distribution for \((n,p^*2)\) proton
ENDF/B-VII CA-42
angular distribution for (n,p*3) proton
ENDF/B-VII CA-42
angular distribution for \((n, p^*4)\) proton
ENDF/B-VII CA-42
angular distribution for (n,p*5) proton
ENDF/B-VII CA-42
angular distribution for \( (n,p^*6) \) proton
ENFD/B-VII CA-42
angular distribution for \((n,p^*7)\) proton
angular distribution for (n,p*8) proton
ENDF/B-VII CA-42
angular distribution for \((n,p^*9)\) proton
ENDF/B-VII CA-42

angular distribution for (n,p*10) proton

Energy (MeV)

Cosine

Probability

Enery (MeV)
ENDF/B-VII CA-42
protons from (n,p*c)
ENDF/B-VII CA-42
deuterons from (n,x)
ENDF/B-VII CA-42
deuteron from (n,n*)d

Energy (MeV)

Sec. Energy

Primary

0.5

1.0

1.5

2.0

Energy (MeV)

19.0

19.2

19.4

19.6

19.8

18.8

18.4

18.0
ENDF/B-VII CA-42
deuterons from (n,da)
ENDF/B-VII CA-42
angular distribution for (n,d*0) deuteron
ENDF/B-VII CA-42
angular distribution for (n,d*1) deuteron
ENDF/B-VII CA-42
angular distribution for (n,d*2) deuteron
ENDF/B-VII CA-42
angular distribution for (n,d*3) deuteron
ENDF/B-VII CA-42
angular distribution for \((n,d^*4)\) deuteron
ENDF/B-VII CA-42
angular distribution for $(n,d^*5)$ deuteron
ENDF/B-VII CA-42 deuterons from \((n,d^*c)\)

Energy (MeV)

Sec. Energy

Primary

Sect.

Energy (MeV)
ENDF/B-VII CA-42
tritons from (n,x)
ENFD/B-VII CA-42

angular distribution for (n,t*0) triton
ENDF/B-VII CA-42
angular distribution for (n,t*1) triton
ENDF/B-VII CA-42
angular distribution for (n,t*2) triton
ENDF/B-VII CA-42
angular distribution for (n,t*3) triton
ENDF/B-VII CA-42
angular distribution for (n,t*4) triton
ENDF/B-VII CA-42

Angular distribution for (n,t*5) triton

Energy (MeV)
ENDF/B-VII CA-42
he3s from (n,x)

Prob/MeV

Energy (MeV)

Sec. Energy

100

200

50

10

0
ENDF/B-VII CA-42
angular distribution for (n,he3*0) 3he
ENDF/B-VII CA-42
angular distribution for (n,he3*1) 3he
ENDF/B-VII CA-42
angular distribution for (n,he3*2) 3he
ENDF/B-VII CA-42
angular distribution for (n,he3*3) 3he
ENDF/B-VII CA-42

angular distribution for (n,he3*4) 3he
ENDF/B-VII CA-42
angular distribution for (n,he3*5) 3he
ENDF/B-VII CA-42
he3s from (n,he3*c)
ENDF/B-VII CA-42
alphas from (n,x)
ENDF/B-VII CA-42
alphas from (n,n*)a
ENDF/B-VII CA-42
alphas from \((n,n^*)2a\)
ENDF/B-VII CA-42 alphas from (n,2a)
ENDF/B-VII CA-42
alphas from (n,pa)
ENDF/B-VII CA-42
angular distribution for \((n,a^*0)\) alpha
ENDF/B-VII CA-42
angular distribution for (n,a^1) alpha
ENDF/B-VII CA-42
angular distribution for (n,a*2) alpha
ENDF/B-VII CA-42
angular distribution for (n,a*3) alpha
ENDF/B-VII CA-42
angular distribution for (n,a*4) alpha
ENDF/B-VII CA-42
angular distribution for \((n,a^*5)\) alpha
ENDF/B-VII CA-42
angular distribution for (n,a*6) alpha
ENDF/B-VII CA-42
angular distribution for (n,a*7) alpha
ENDF/B-VII CA-42
angular distribution for (n,a*8) alpha
ENDF/B-VII CA-42
angular distribution for \((n,a^*10)\) alpha
ENDF/B-VII CA-42
alphas from \((n,a^*c)\)