JEFF-3.1 HF-178
Principal cross sections

Energy (MeV)

Cross section (barns)

total
absorption
elastic
gamma production
JEFF-3.1 HF-178
resonance total cross section

Energy (MeV)

Cross section (barns)
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resonance total cross section

Cross section (barns) vs. Energy (MeV)
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resonance total cross section

Energy (MeV)

Cross section (barns)

total
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resonance absorption cross sections

Energy (MeV)

Cross section (barns)

capture
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resonance absorption cross sections

Energy (MeV)

Cross section (barns)

capture
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resonance absorption cross sections

Energy (MeV)

Cross section (barns)

capture

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

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

10^{3}
10^{4}
10^{5}
10^{6}
10^{7}

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resonance absorption cross sections

Cross section (barns)

Energy (MeV)
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UR elastic cross section

Energy (MeV)

Cross section (barns)

Inf. Dil.
100 b
1 b
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UR capture cross section

Cross section (barns)

Energy (MeV)

Inf. Dil.
100 b
1 b
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Heating

Energy (MeV)

Heating (MeV/reaction)

heating
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Damage

Energy (MeV)

Damage (MeV-barns)

damage
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Heating

![Graph showing the heating process with energy (MeV) on the x-axis and heating (MeV/reaction) on the y-axis. The graph has a peak around 5 MeV and a valley around 10 MeV.]
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Damage

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

- Energy (MeV) axis: 0 to 20
- Damage (MeV-barns) axis: 0 to 2.5 \times 10^{-3}
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Non-threshold reactions

Energy (MeV)

Cross section (barns)

$10^{-1}$

$(n,gma)$
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Inelastic levels

Energy (MeV)

Cross section (barns)

(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)
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Inelastic levels

Cross section (barns) vs. Energy (MeV)

- (n,n*11)
- (n,n*12)
- (n,n*13)
- (n,n*14)
- (n,n*15)
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angular distribution for elastic

Prob/Cos

10^1

10^-1

10^-3

0.0 0.5 1.0 2.0

Energy (MeV)

Cosine

0 -0.5 -1.0 0 5 10 15 20
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angular distribution for (n,n*1)
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angular distribution for (n,n*2)
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angular distribution for (n,n*3)
JEFF-3.1 HF-178
angular distribution for (n,n*4)
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angular distribution for \((n,n^*5)\)
JEFF-3.1 HF-178
angular distribution for (n,n*6)
JEFF-3.1 HF-178
angular distribution for (n,n*7)
JEFF-3.1 HF-178
angular distribution for (n,n*8)
JEFF-3.1 HF-178
angular distribution for (n,n*9)
JEFF-3.1 HF-178
angular distribution for (n,n*10)
JEFF-3.1 HF-178
angular distribution for (n,n\*11)
JEFF-3.1 HF-178
angular distribution for (n,n*12)
JEFF-3.1 HF-178
angular distribution for (n,n*13)
JEFF-3.1 HF-178
angular distribution for (n,n*14)
JEFF-3.1 HF-178
angular distribution for (n,n*15)
JEFF-3.1 HF-178
angular distribution for (n,n*16)
JEFF-3.1 HF-178
angular distribution for (n,n*17)
JEFF-3.1 HF-178
angular distribution for (n,n*18)
JEFF-3.1 HF-178
angular distribution for (n,n*19)
JEFF-3.1 HF-178
angular distribution for (n,n*20)
JEFF-3.1 HF-178
angular distribution for \((n,n^{*21})\)
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Neutron emission for (n,2n)
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Neutron emission for (n,3n)
JEFF-3.1 HF-178
Neutron emission for \((n,n^*c)\)
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Photon emission for (n,2n)
Photon emission for (n,3n)
JEFF-3.1 HF-178
Photon emission for \((n,n^*c)\)
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Photon emission for (n,gma)
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Photon emission for (n,p)
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Photon emission for (n,a)
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thermal capture photon spectrum

Gamma Energy (MeV)

Gamma Prod (barns/MeV)
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14 MeV photon spectrum

Gamma Prod (barns/MeV) vs. Gamma Energy (MeV)