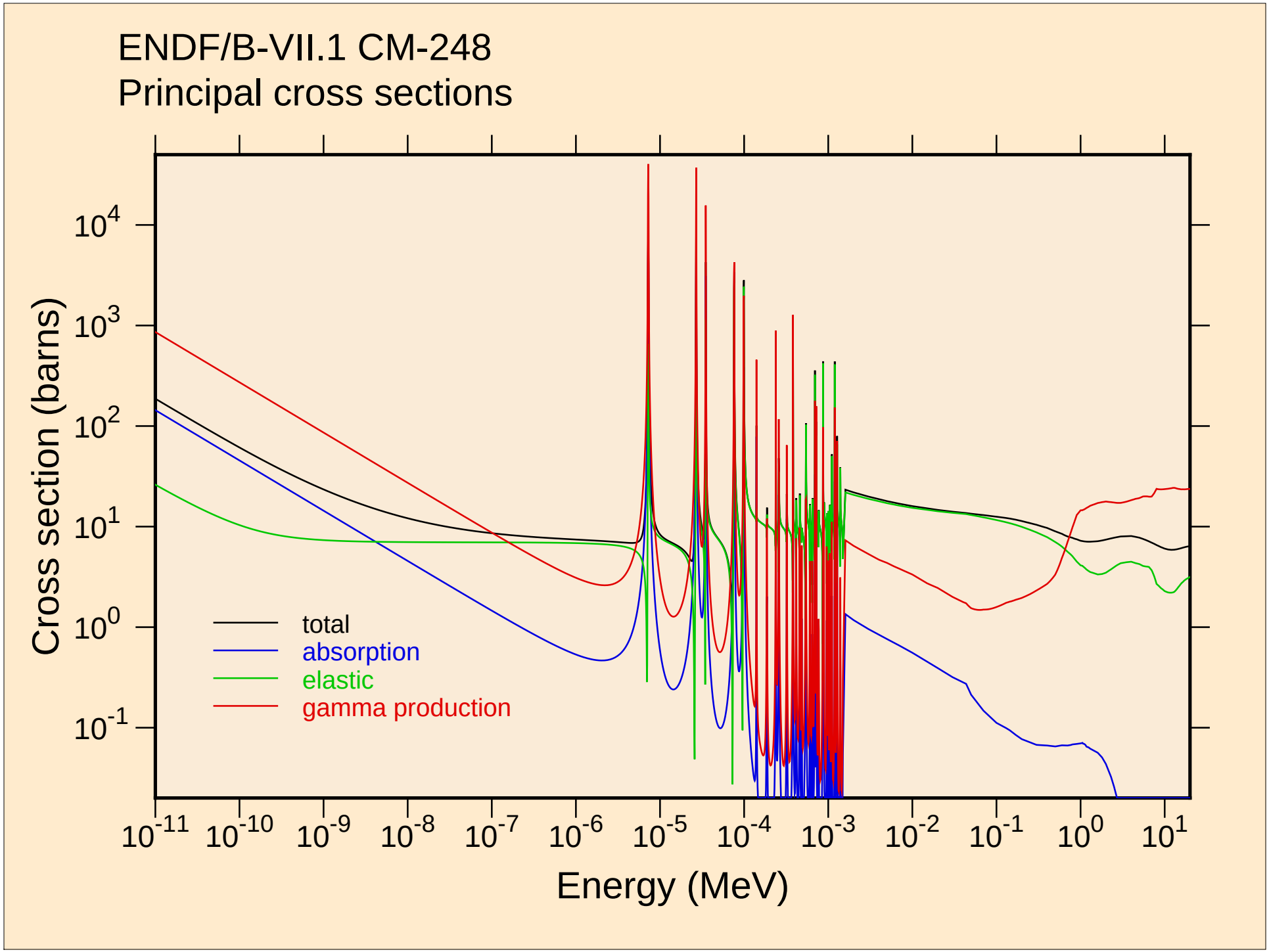
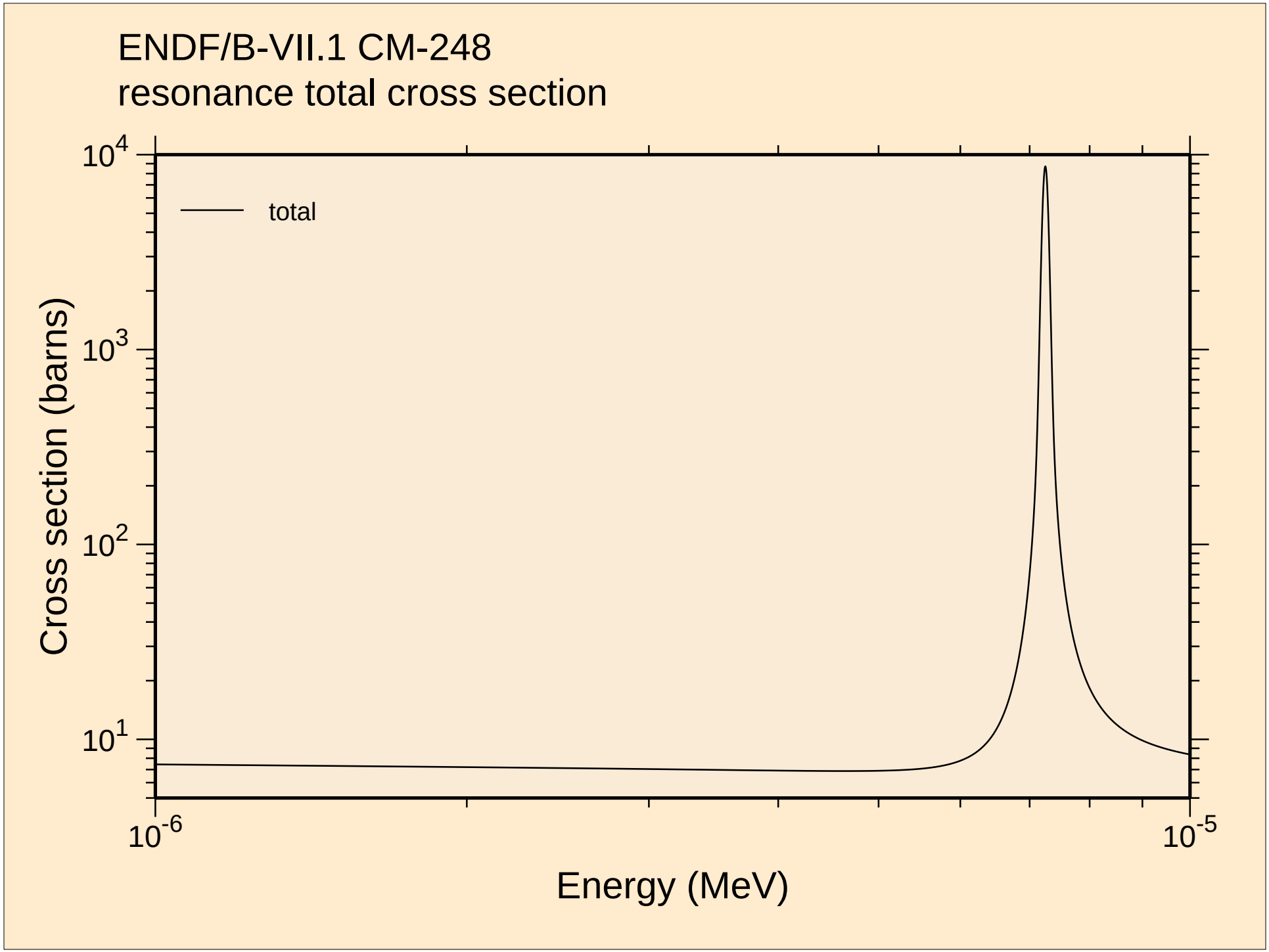
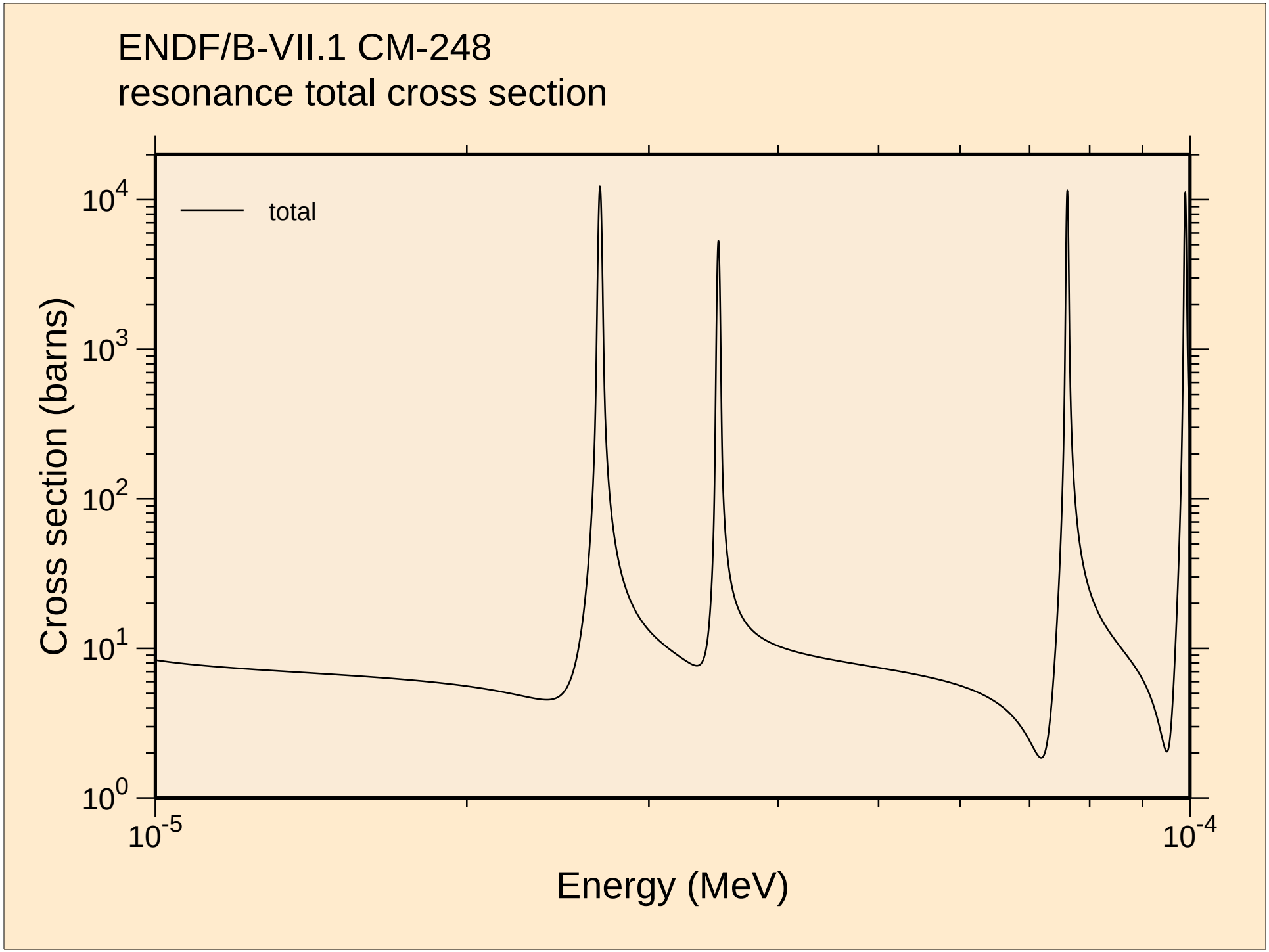
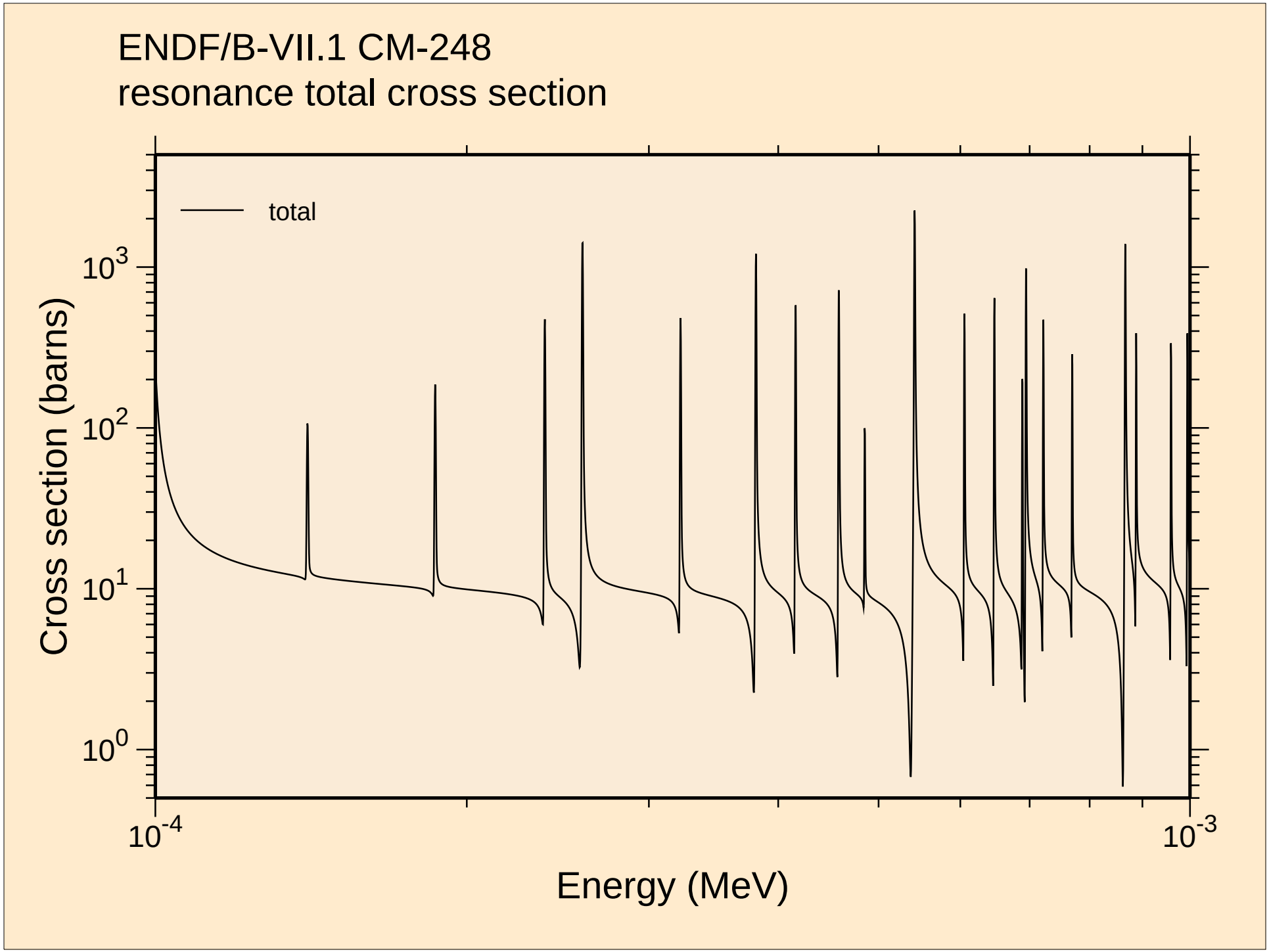
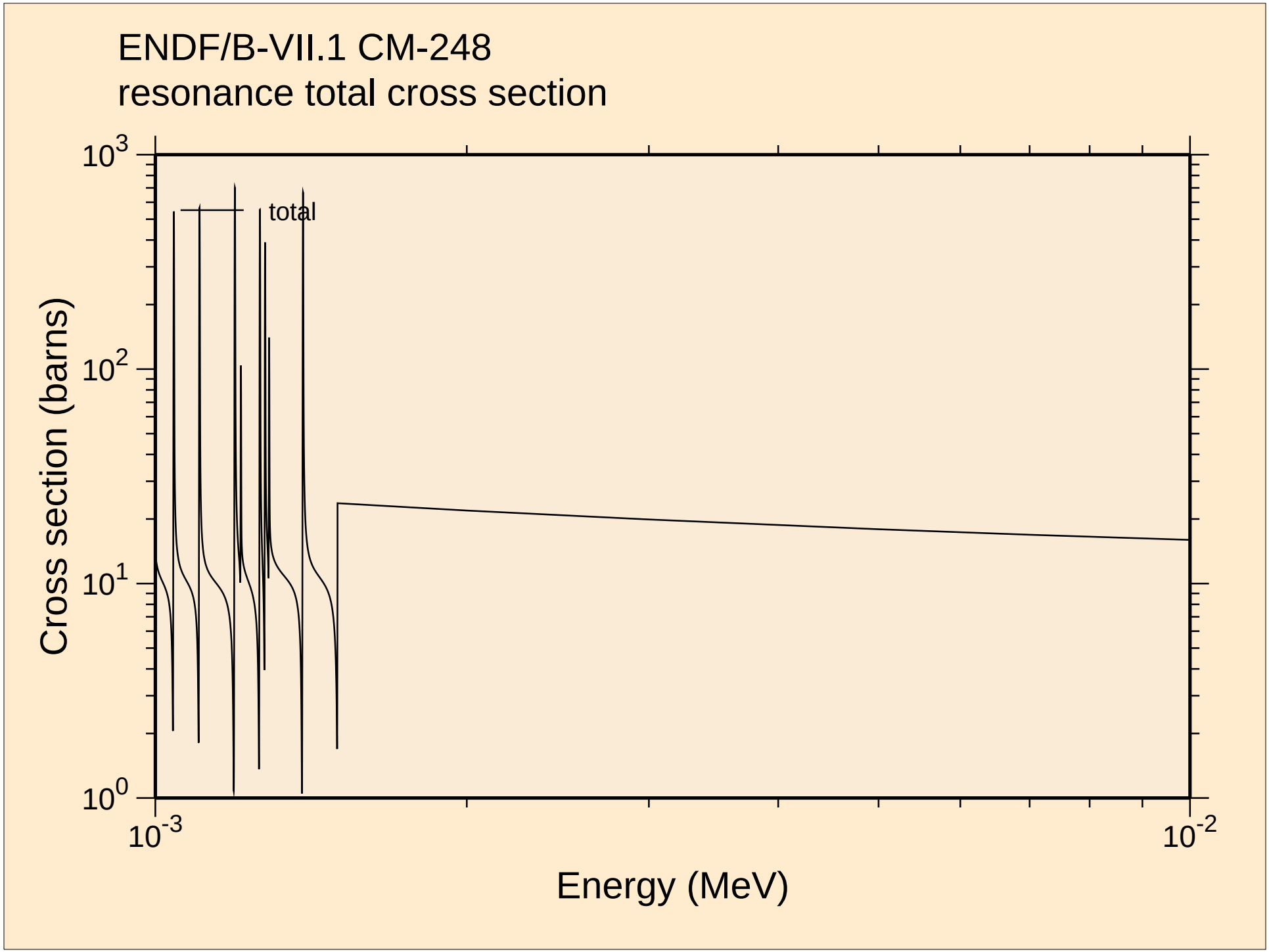
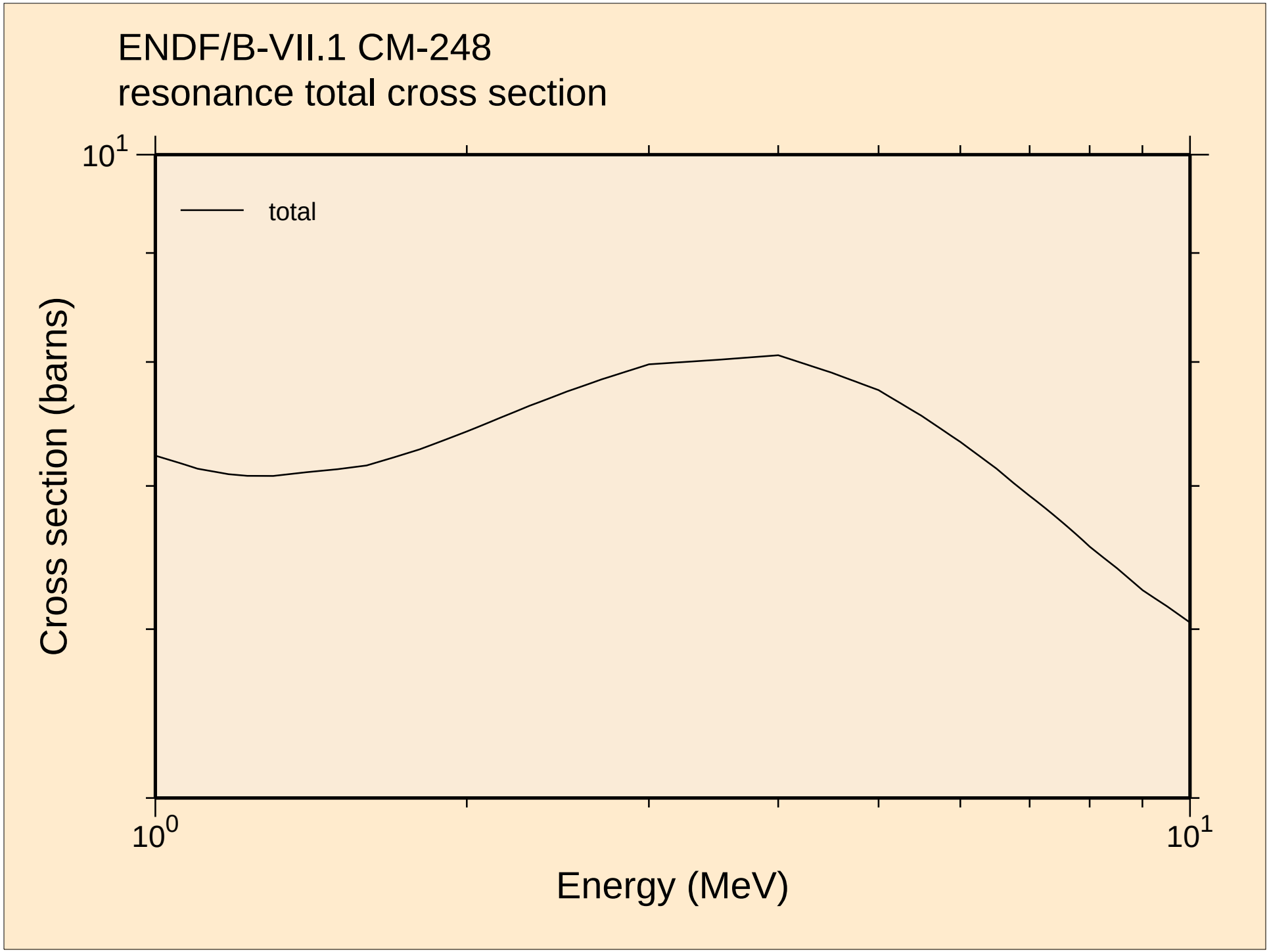

ENDF/B-VII.1 CM-248
Principal cross sections
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
total
absorption
elastic
gamma production
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

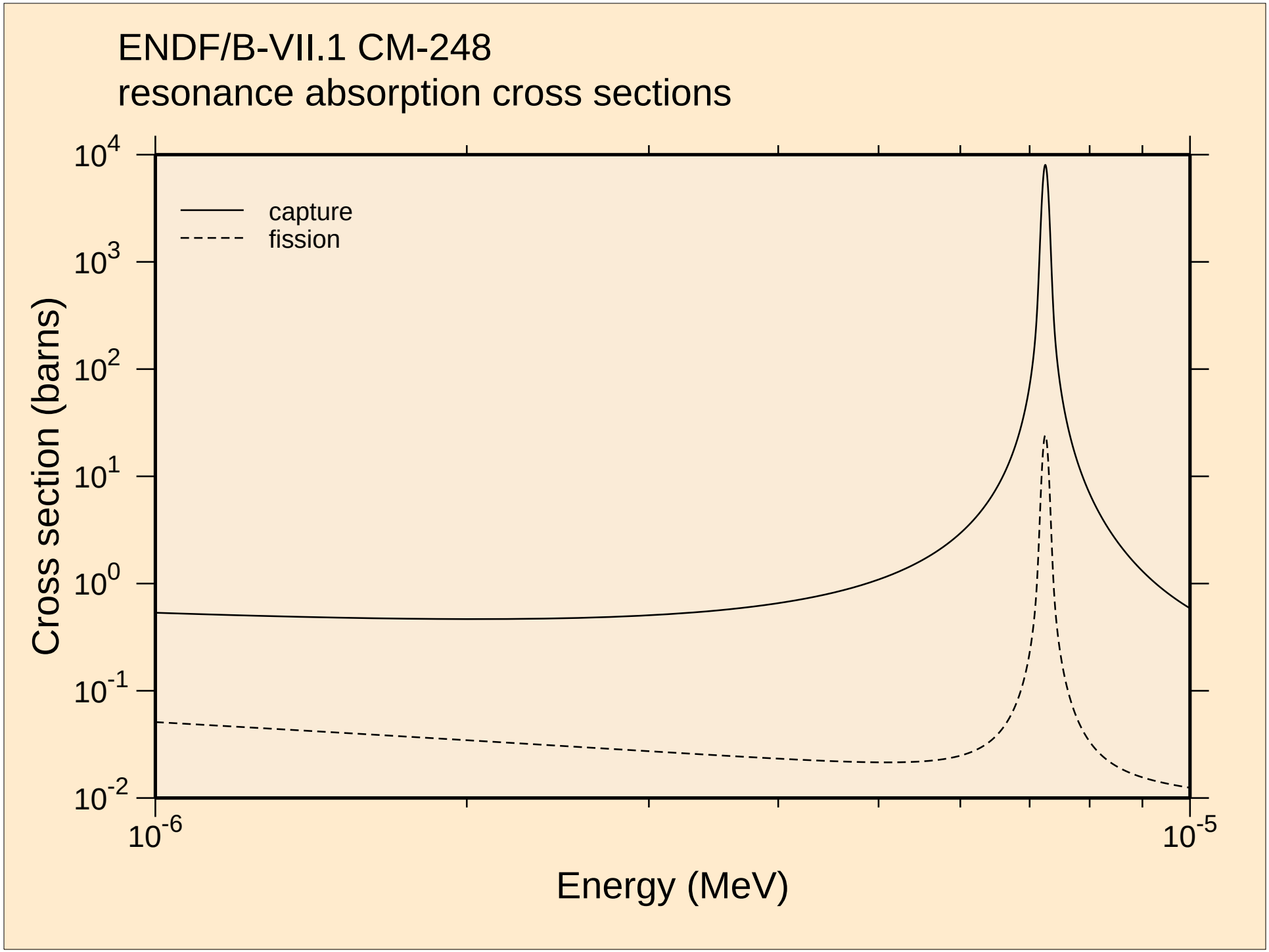

ENDF/B-VII.1 CM-248
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^{-6}
10^{-5}
Energy (MeV)

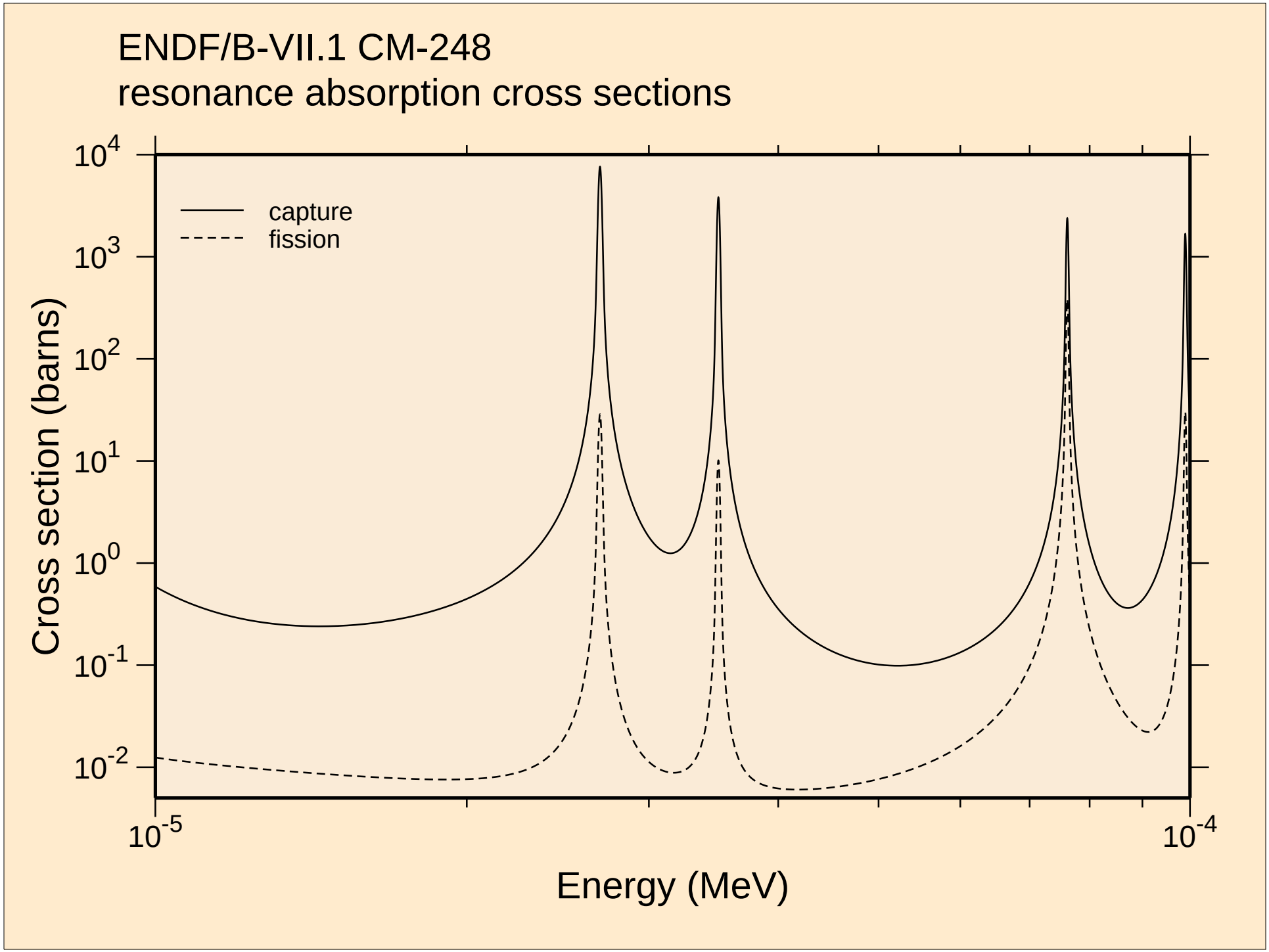

ENDF/B-VII.1 CM-248
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^0
10^{-5}
10^{-4}
Energy (MeV)

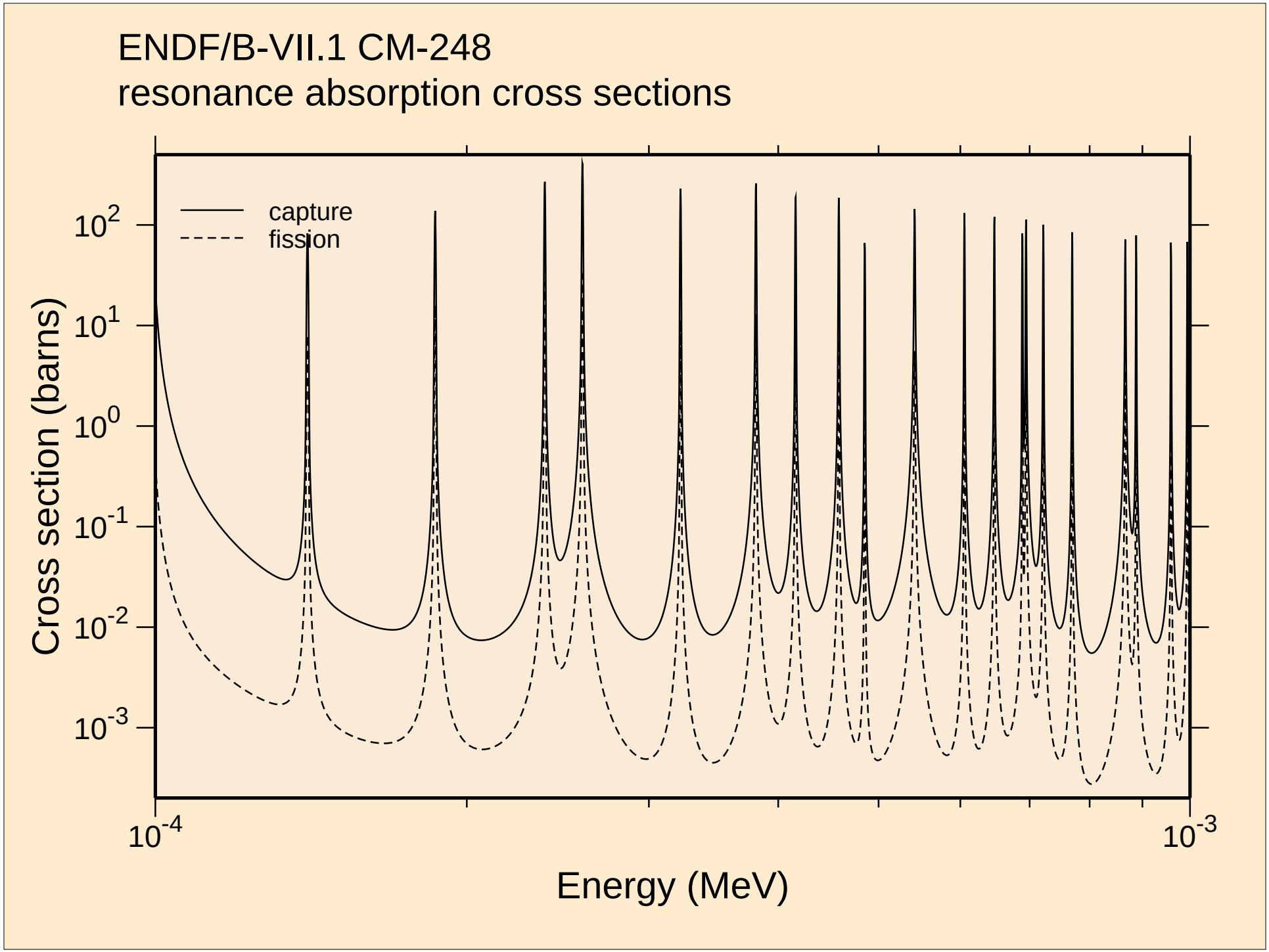

ENDF/B-VII.1 CM-248
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^0
10^{-4}
10^{-3}
Energy (MeV)

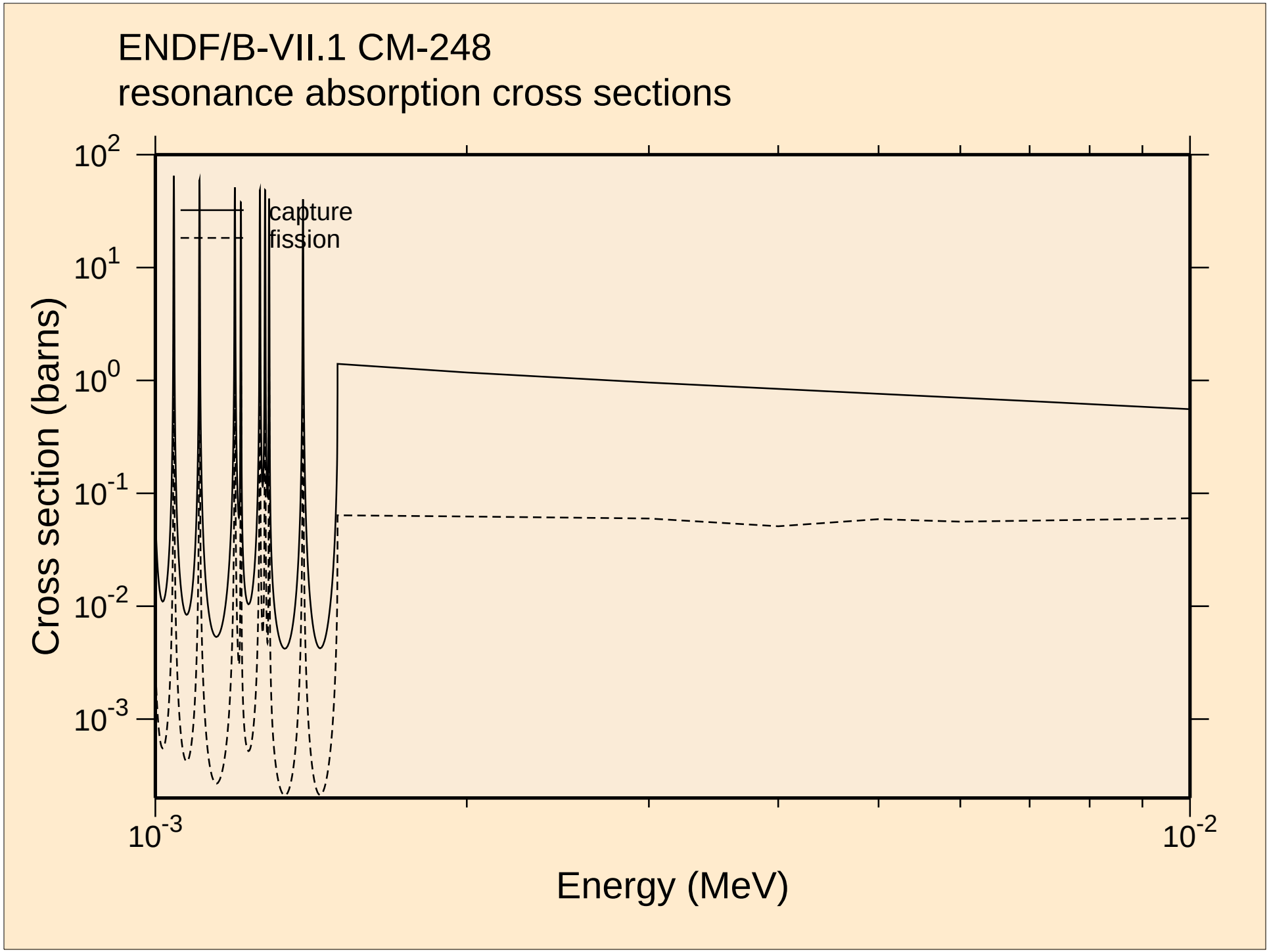

ENDF/B-VII.1 CM-248
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^0
10^{-3}
10^{-2}
Energy (MeV)


ENDF/B-VII.1 CM-248
resonance total cross section
10^1
total
Cross section (barns)
10^0
10^1
Energy (MeV)

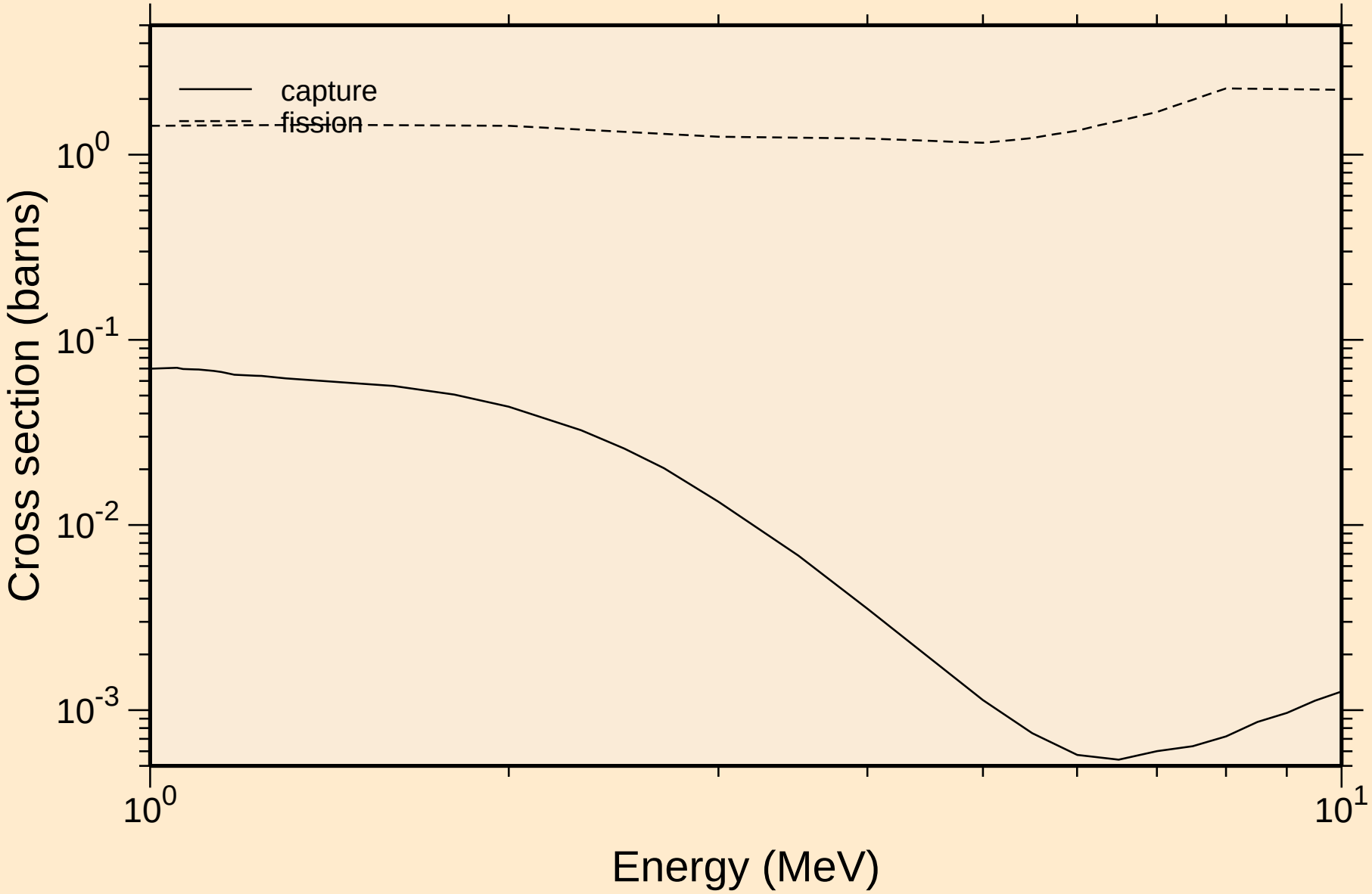

ENDF/B-VII.1 CM-248
resonance absorption cross sections
capture
fission
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-6}
10^{-5}
Energy (MeV)

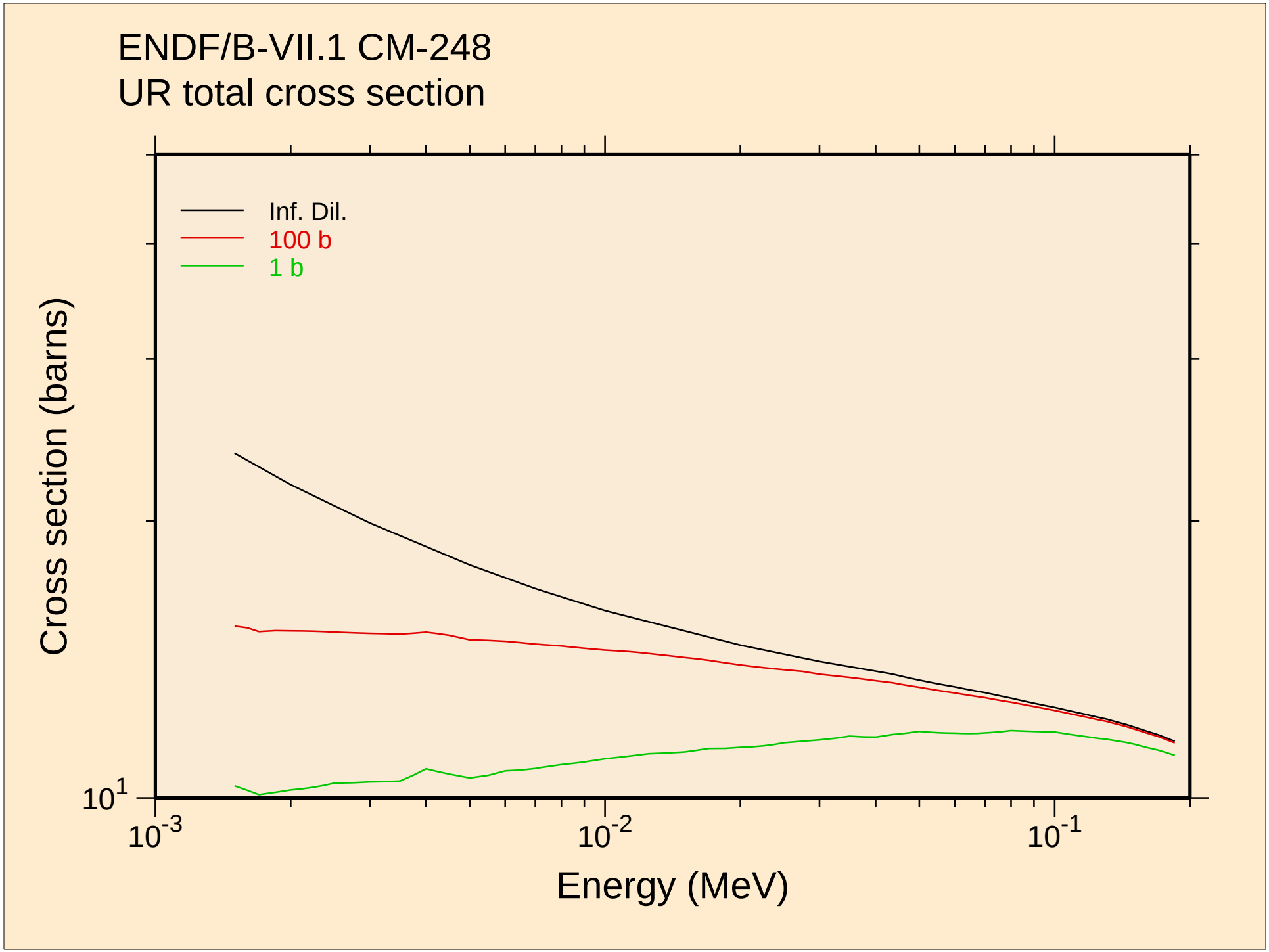

ENDF/B-VII.1 CM-248
resonance absorption cross sections
capture
fission
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-5}
10^{-4}
Energy (MeV)


ENDF/B-VII.1 CM-248
resonance absorption cross sections
capture
fission
Cross section (barns)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-3}
Energy (MeV)

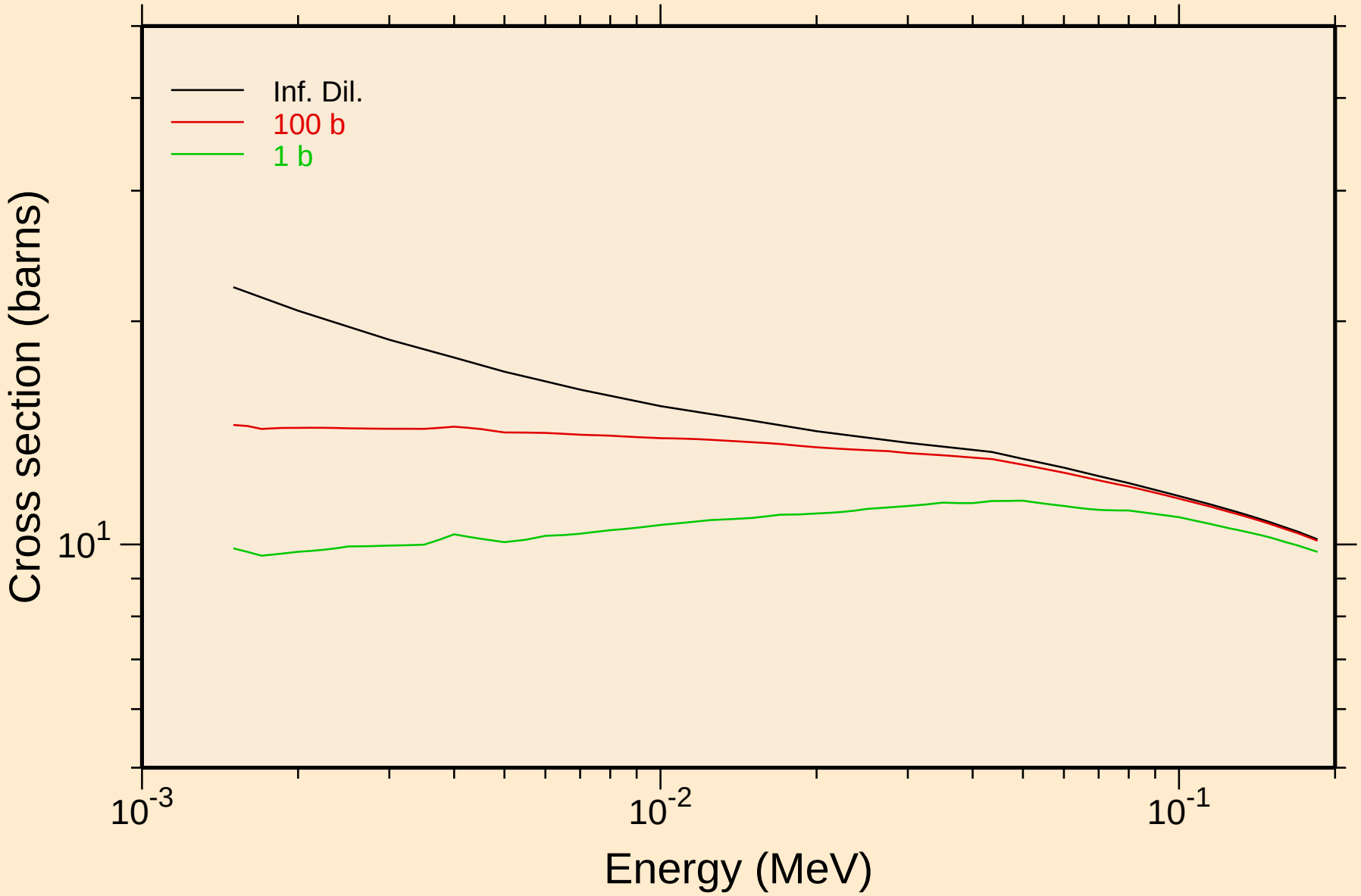

ENDF/B-VII.1 CM-248
resonance absorption cross sections
capture
fission
Cross section (barns)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-3}
10^{-2}
Energy (MeV)

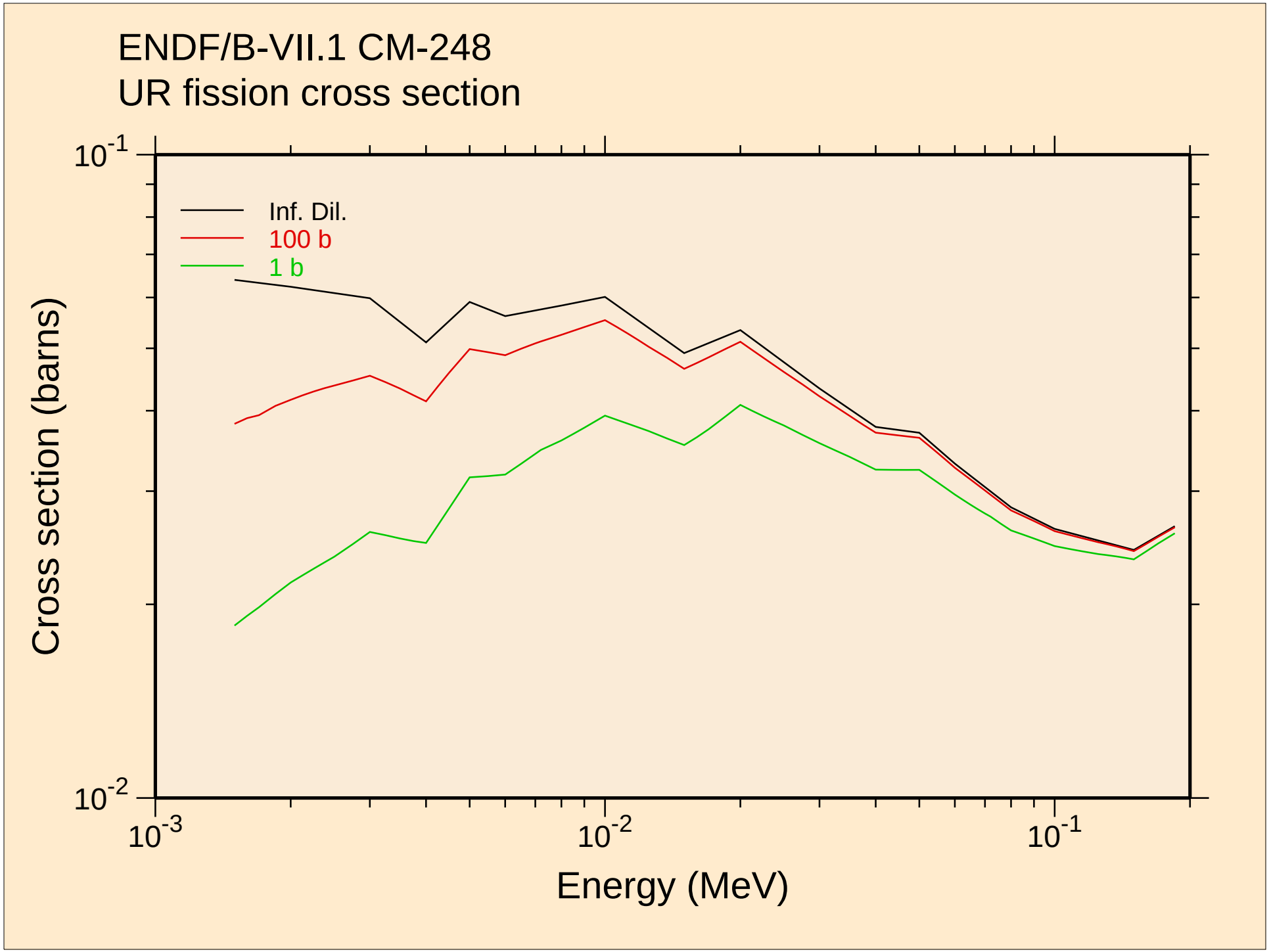
ENDF/B-VII.1 CM-248
resonance absorption cross sections

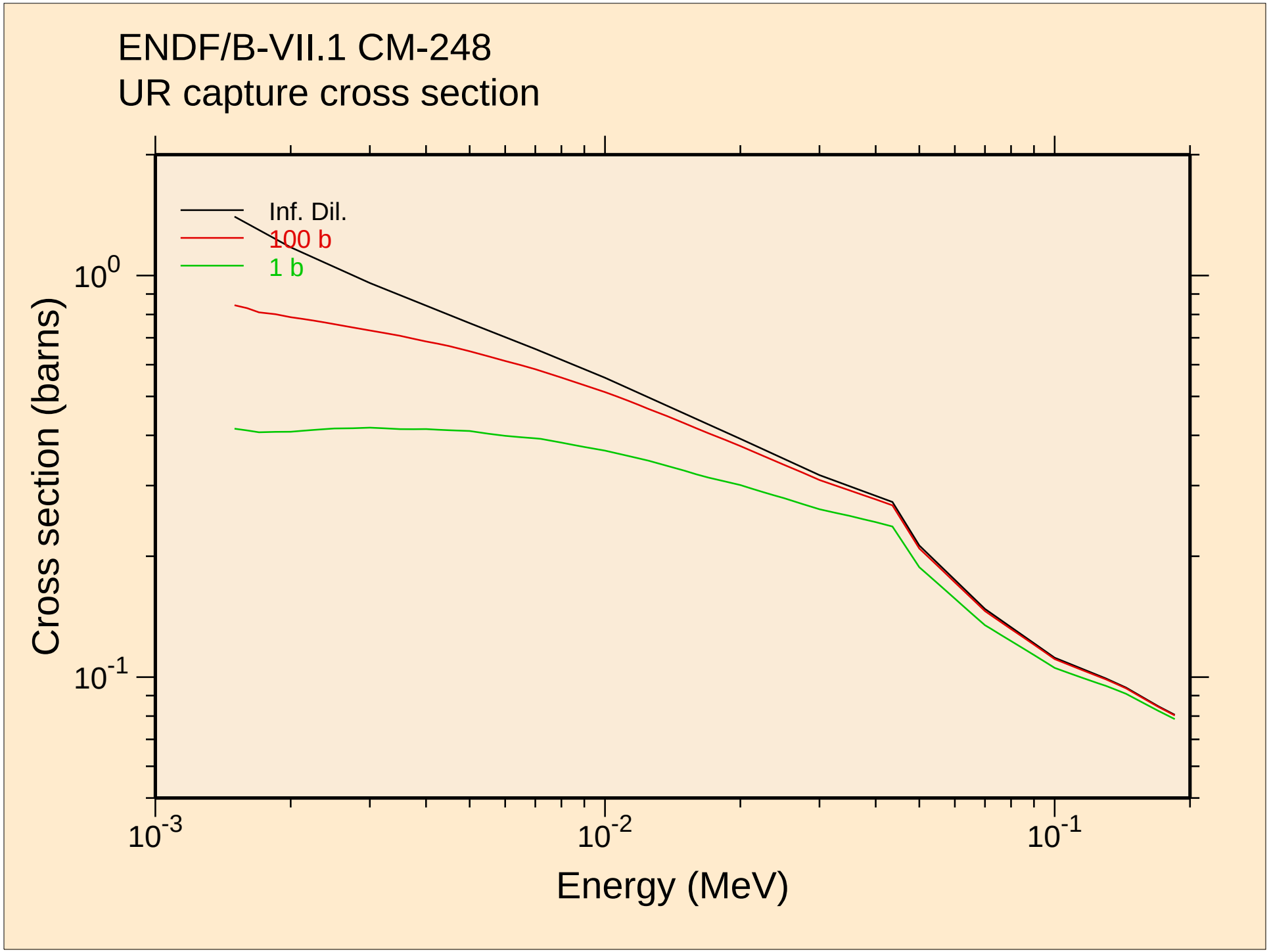


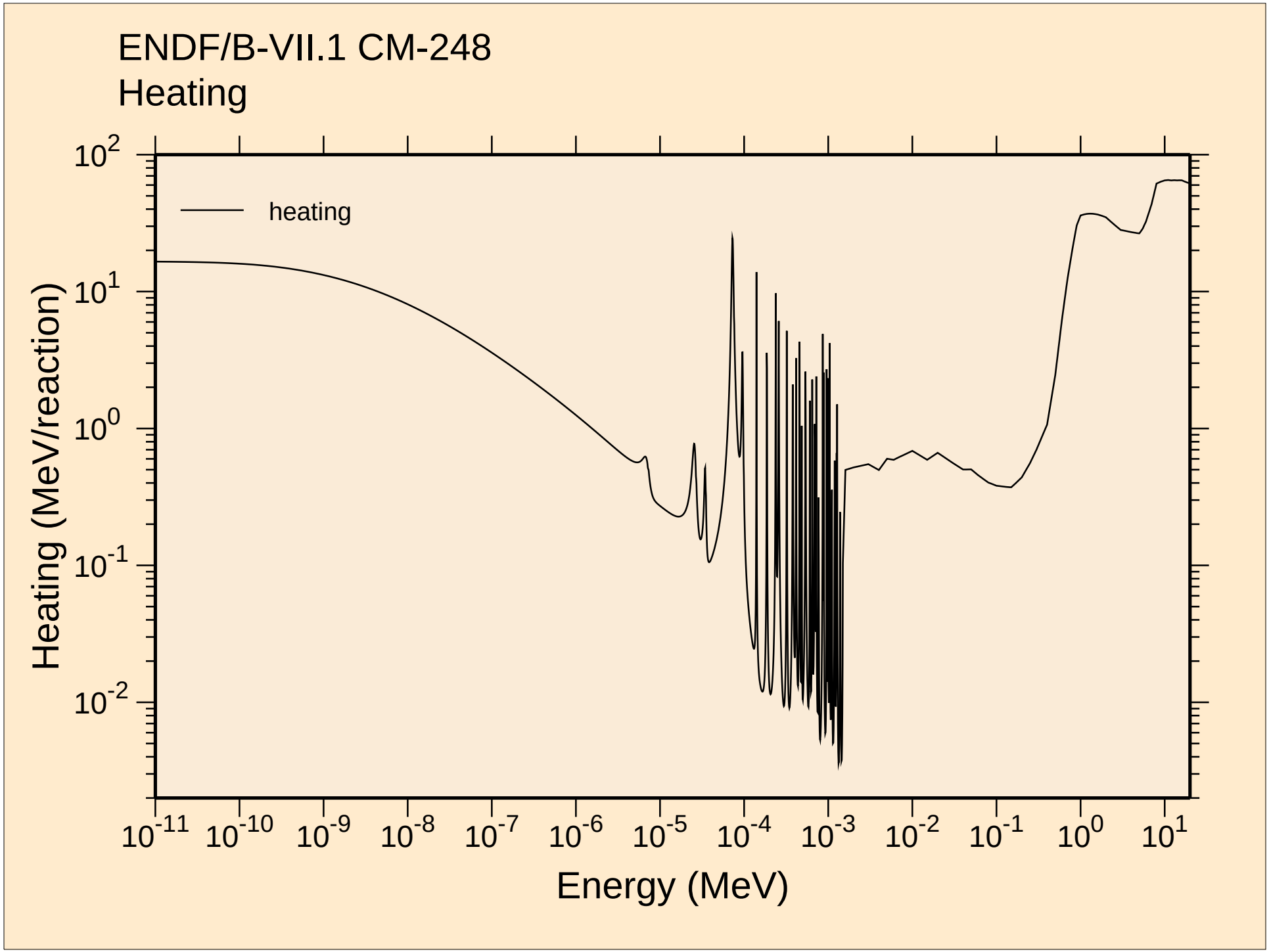

ENDF/B-VII.1 CM-248
UR total cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-3
10^-2
10^-1
Energy (MeV)

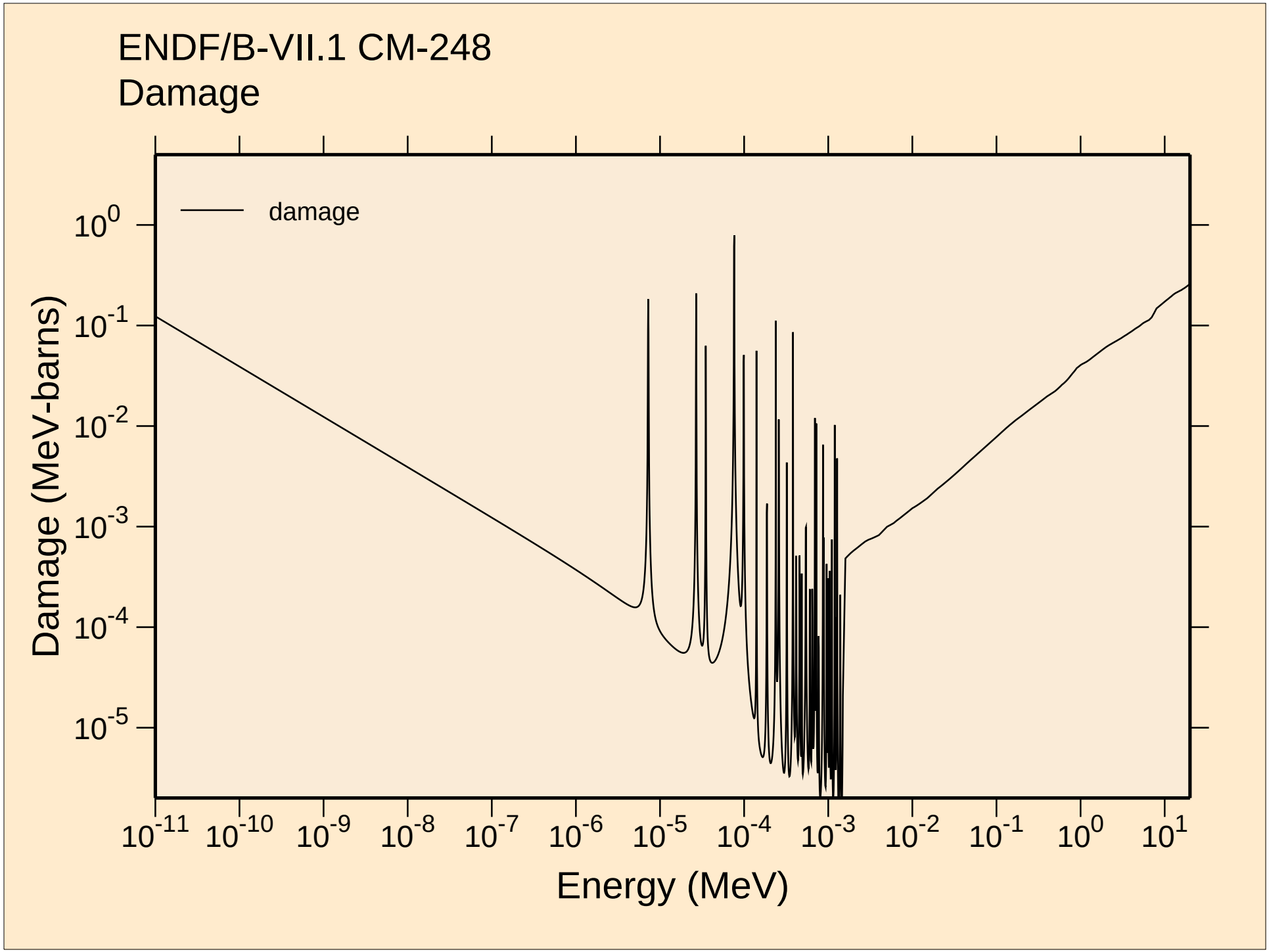
ENDF/B-VII.1 CM-248
UR elastic cross section

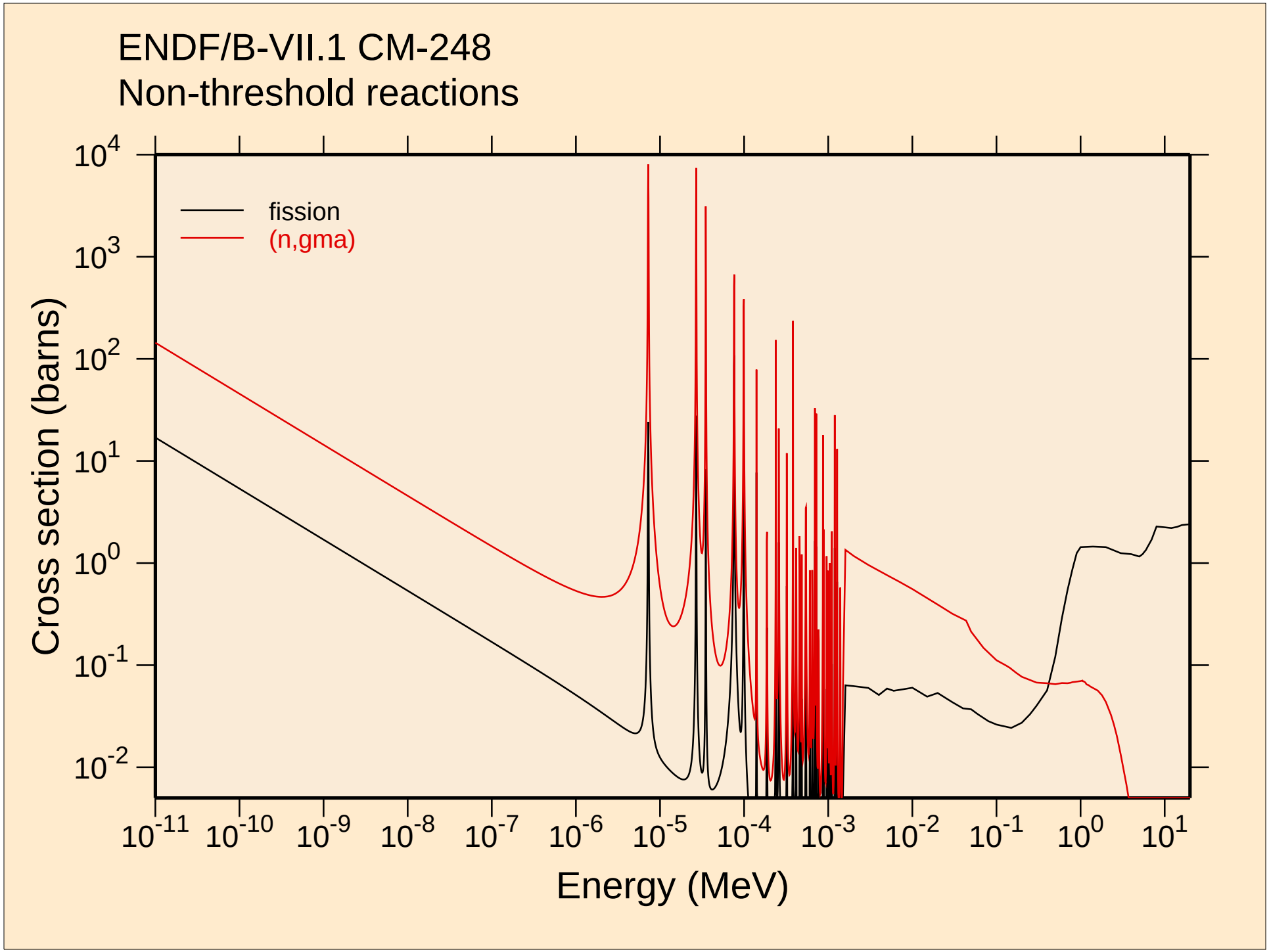


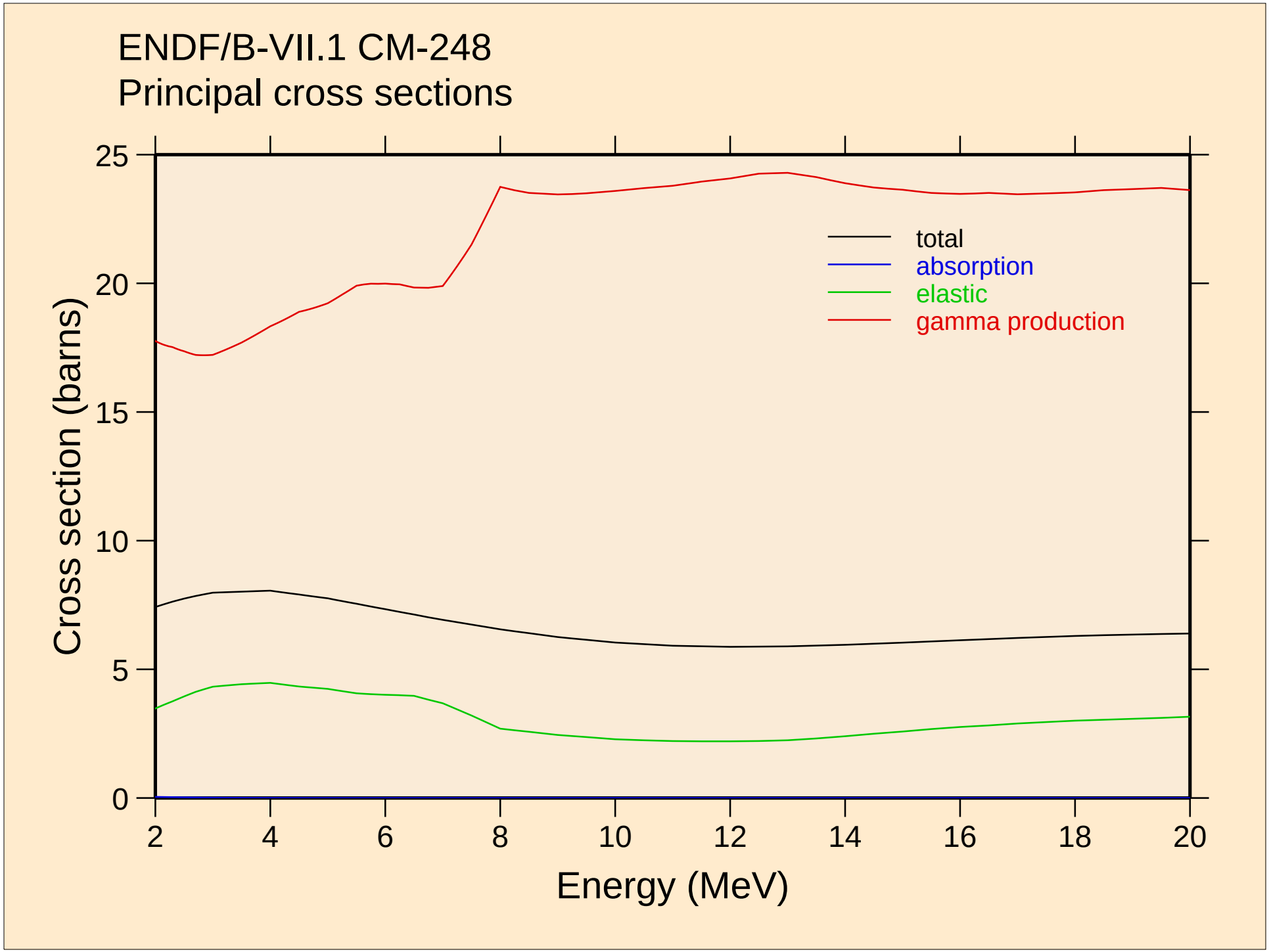

ENDF/B-VII.1 CM-248
UR fission cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
Energy (MeV)
10-1
10-2
10-3
10-2
10-1

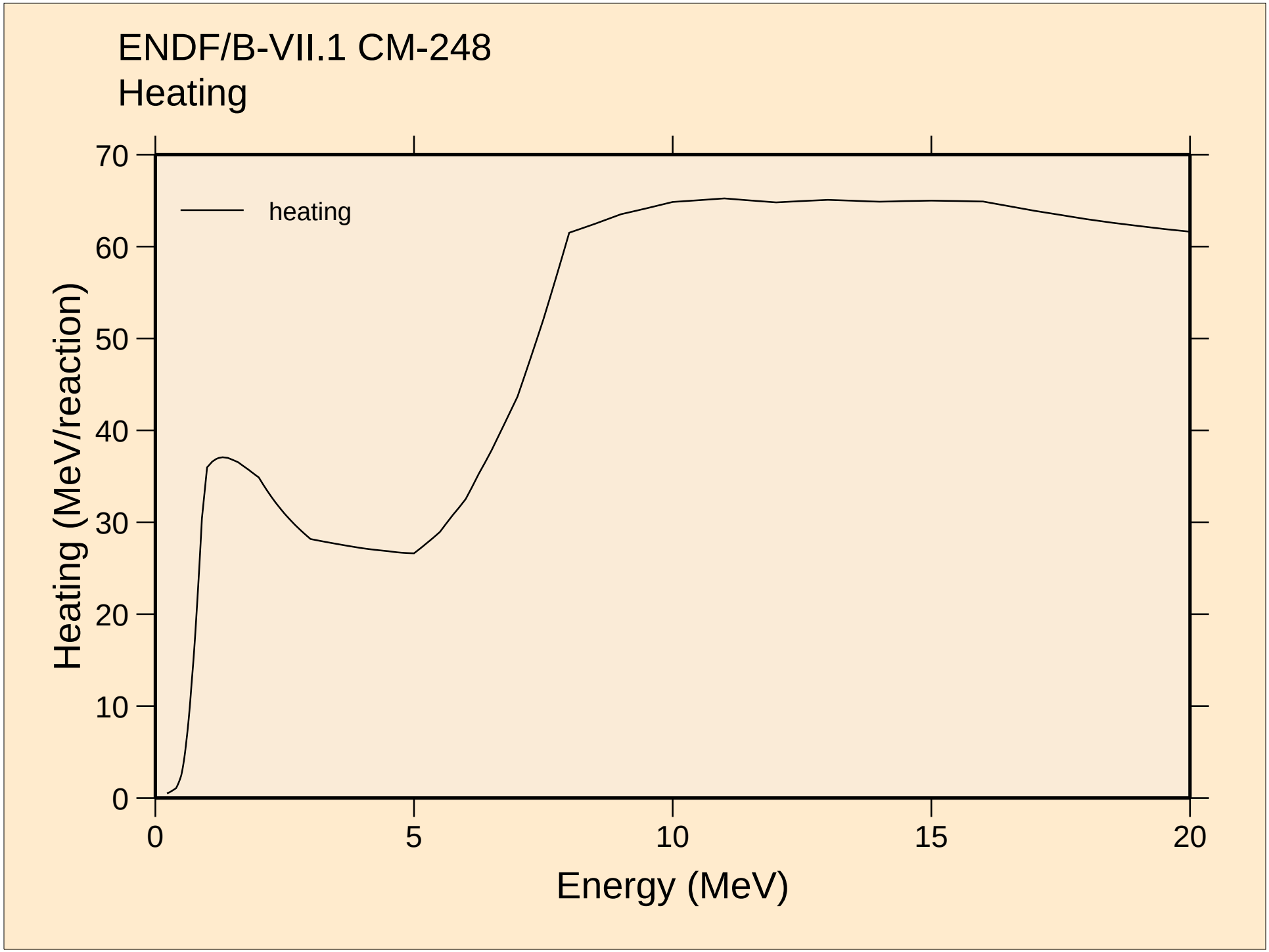

ENDF/B-VII.1 CM-248
UR capture cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^0
10^-1
10^-3
10^-2
10^-1
Energy (MeV)

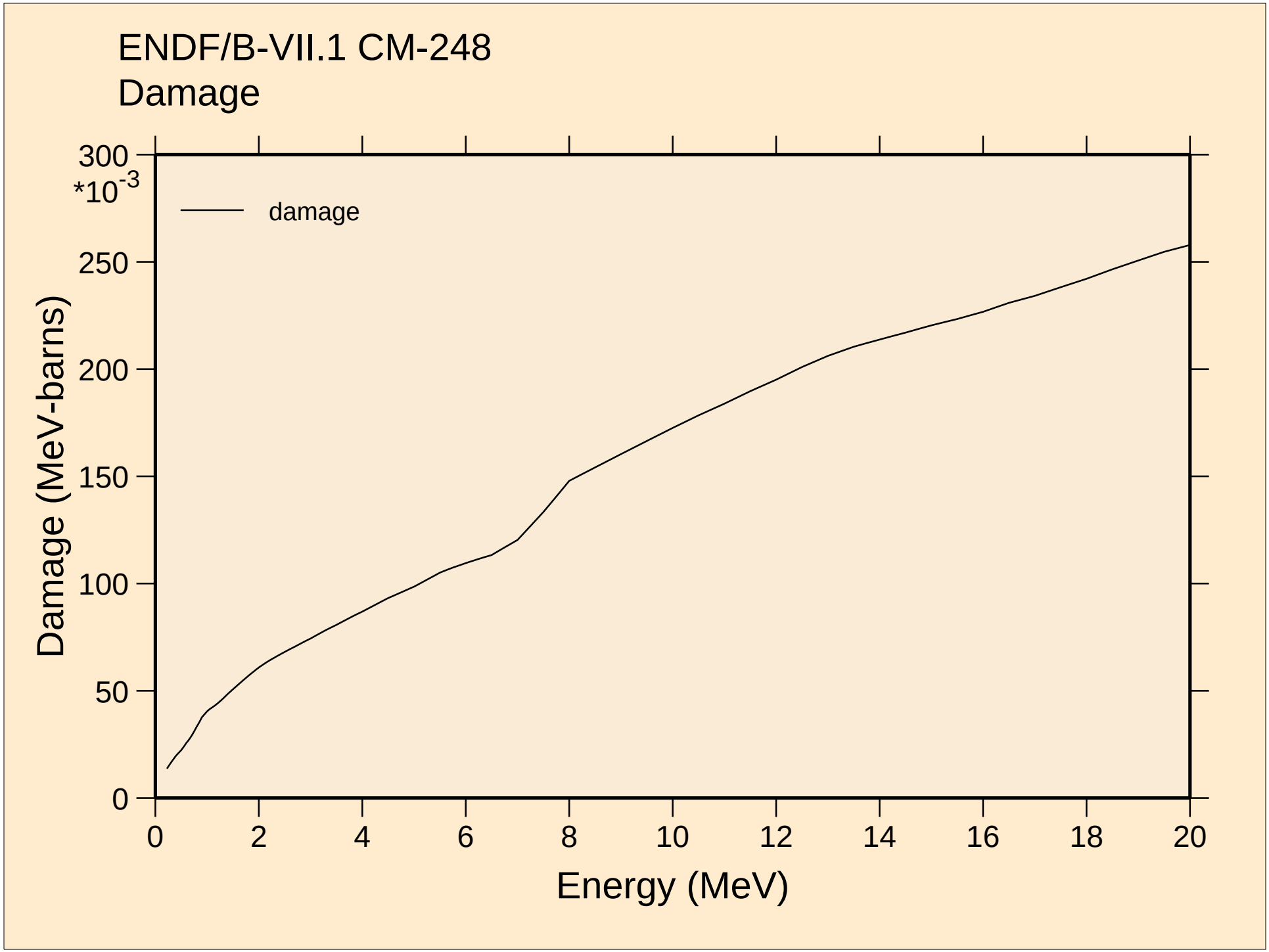

ENDF/B-VII.1 CM-248
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^2
10^1
10^0
10^-1
10^-2
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

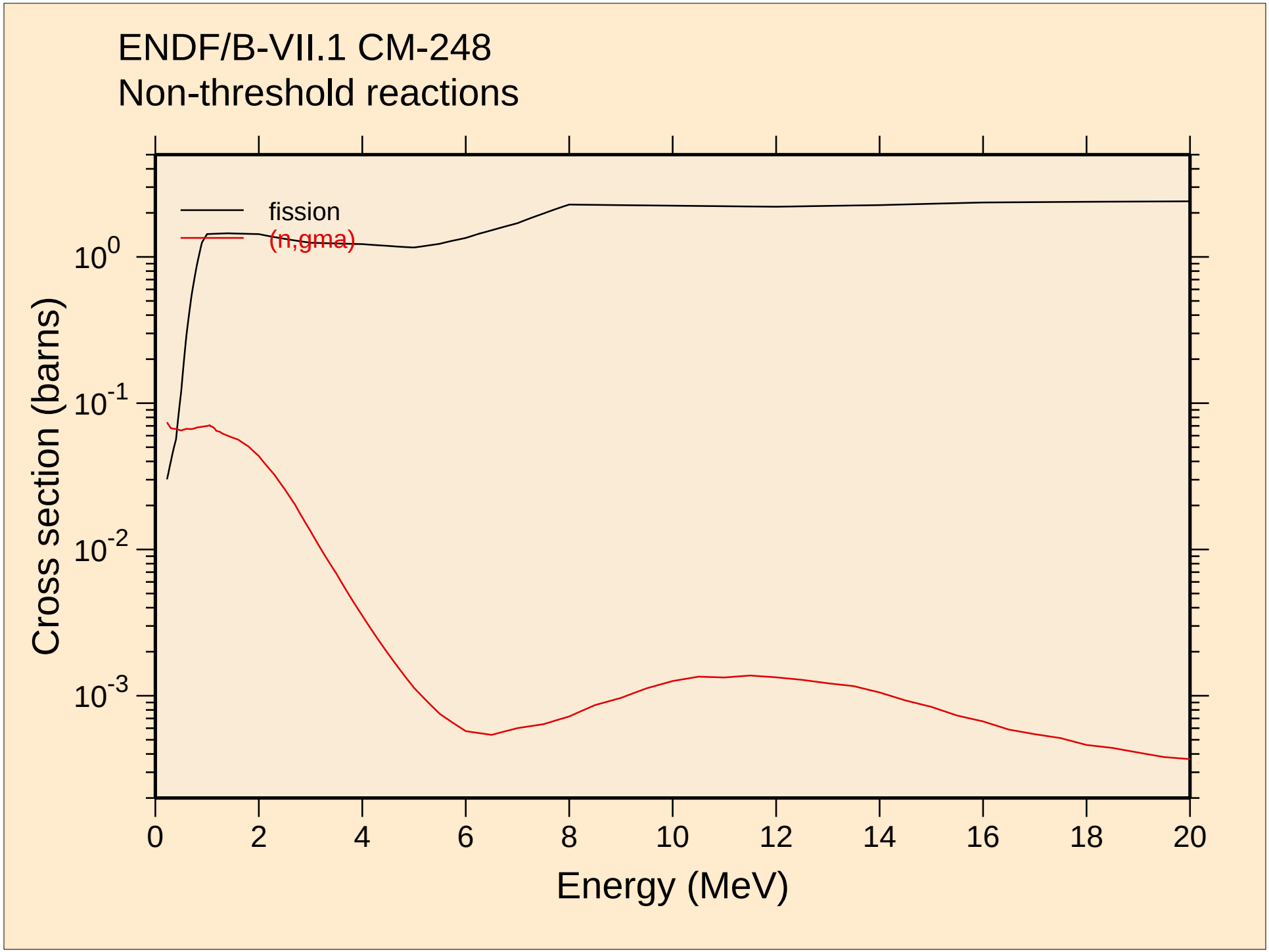

ENDF/B-VII.1 CM-248
Damage
damage
Damage (MeV-barns)
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

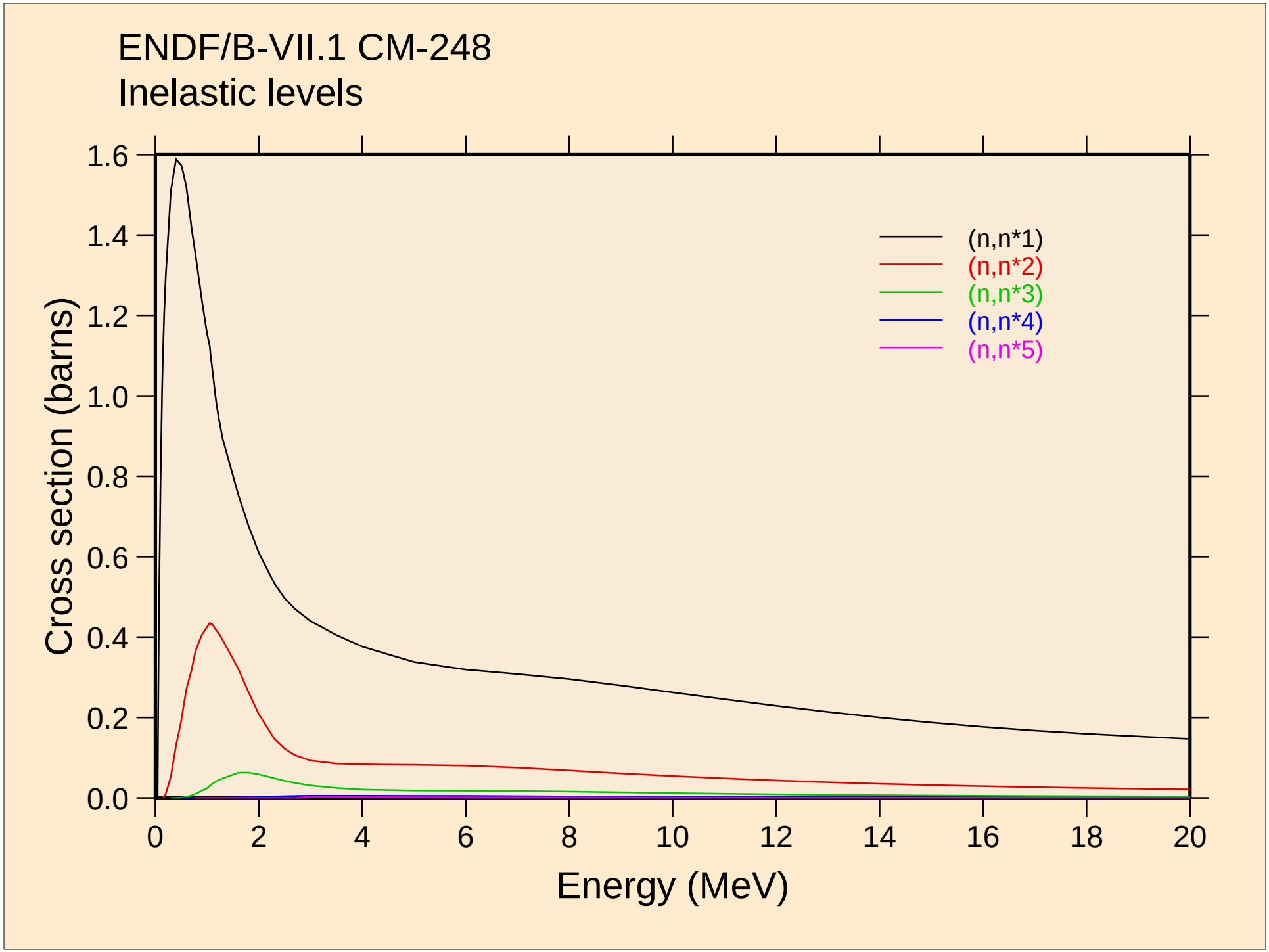

ENDF/B-VII.1 CM-248
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
Energy (MeV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

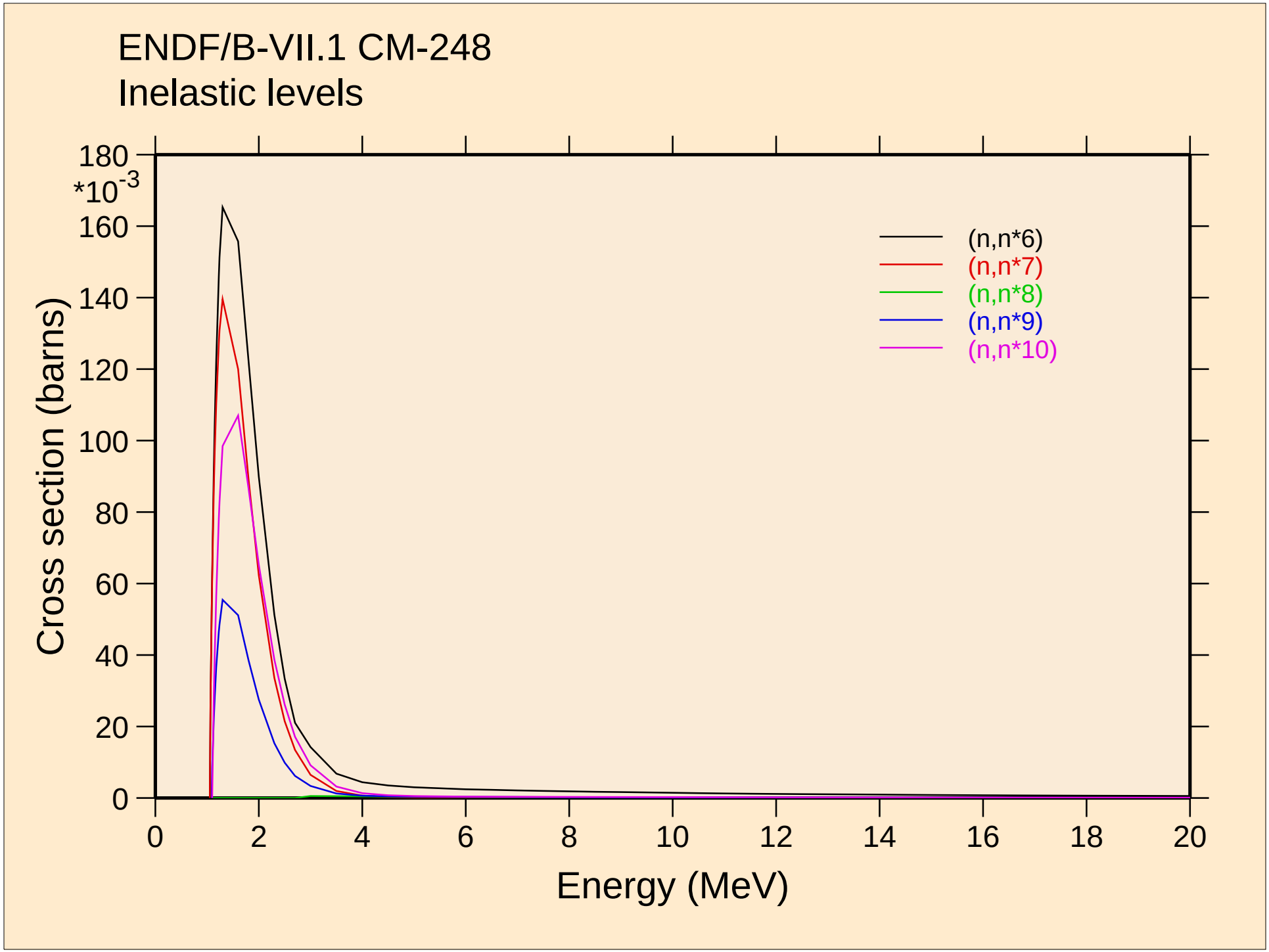

ENDF/B-VII.1 CM-248
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
5
10
15
20
25
2
4
6
8
10
12
14
16
18
20

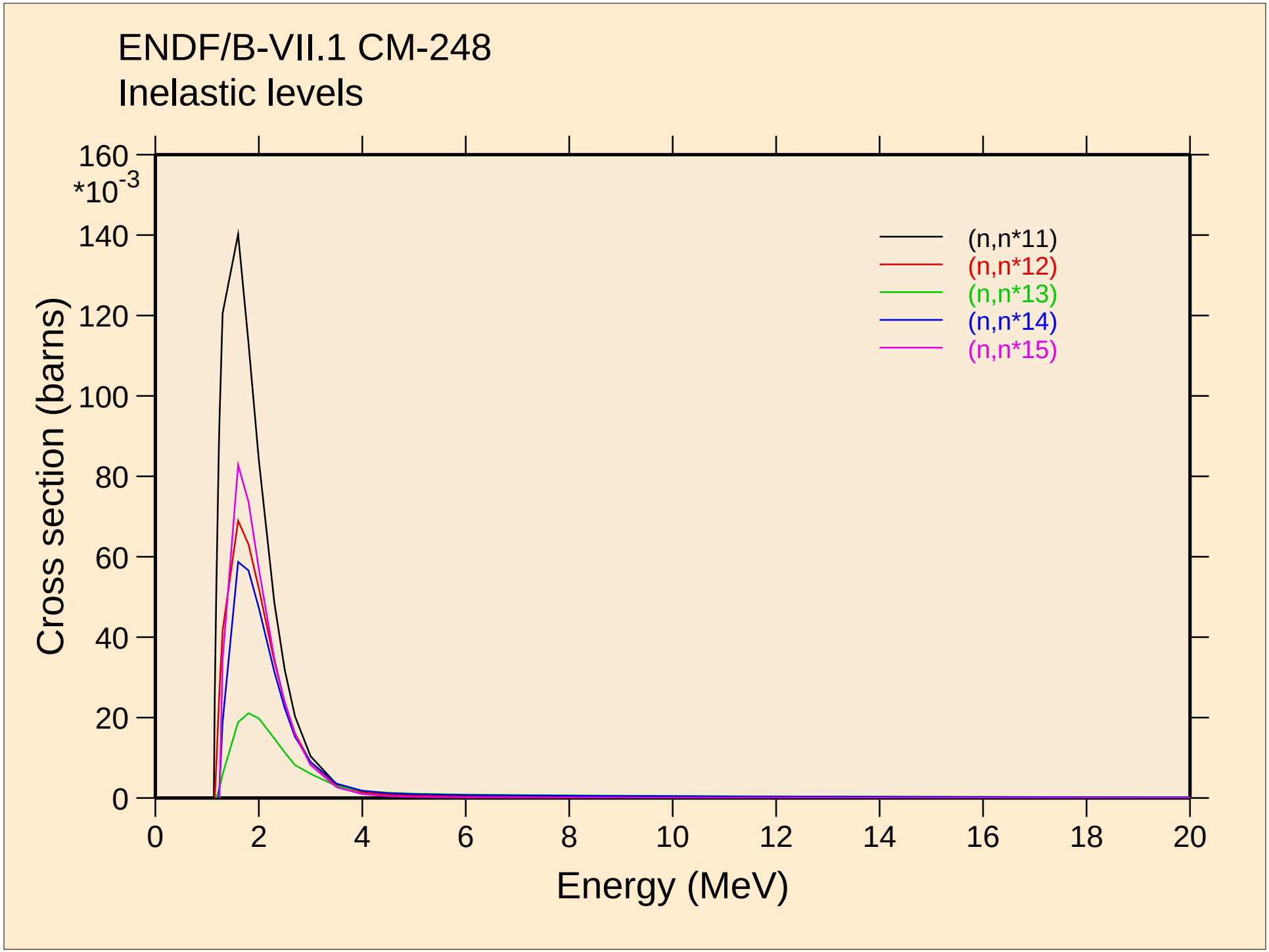

ENDF/B-VII.1 CM-248
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
10
20
30
40
50
60
70
0
5
10
15
20

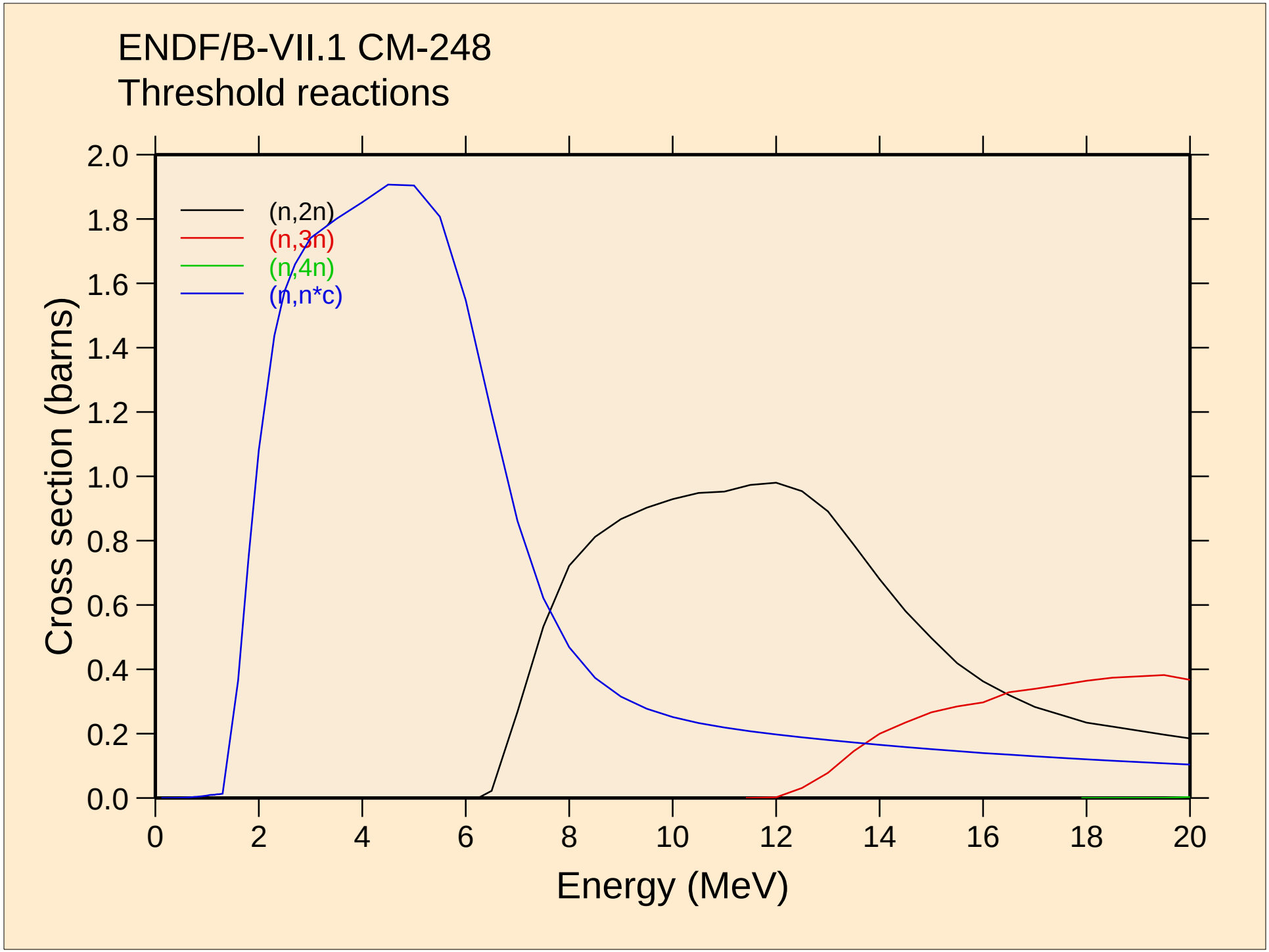

ENDF/B-VII.1 CM-248
Damage
300
*10-3
250
200
150
100
50
0
damage
Damage (MeV-barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

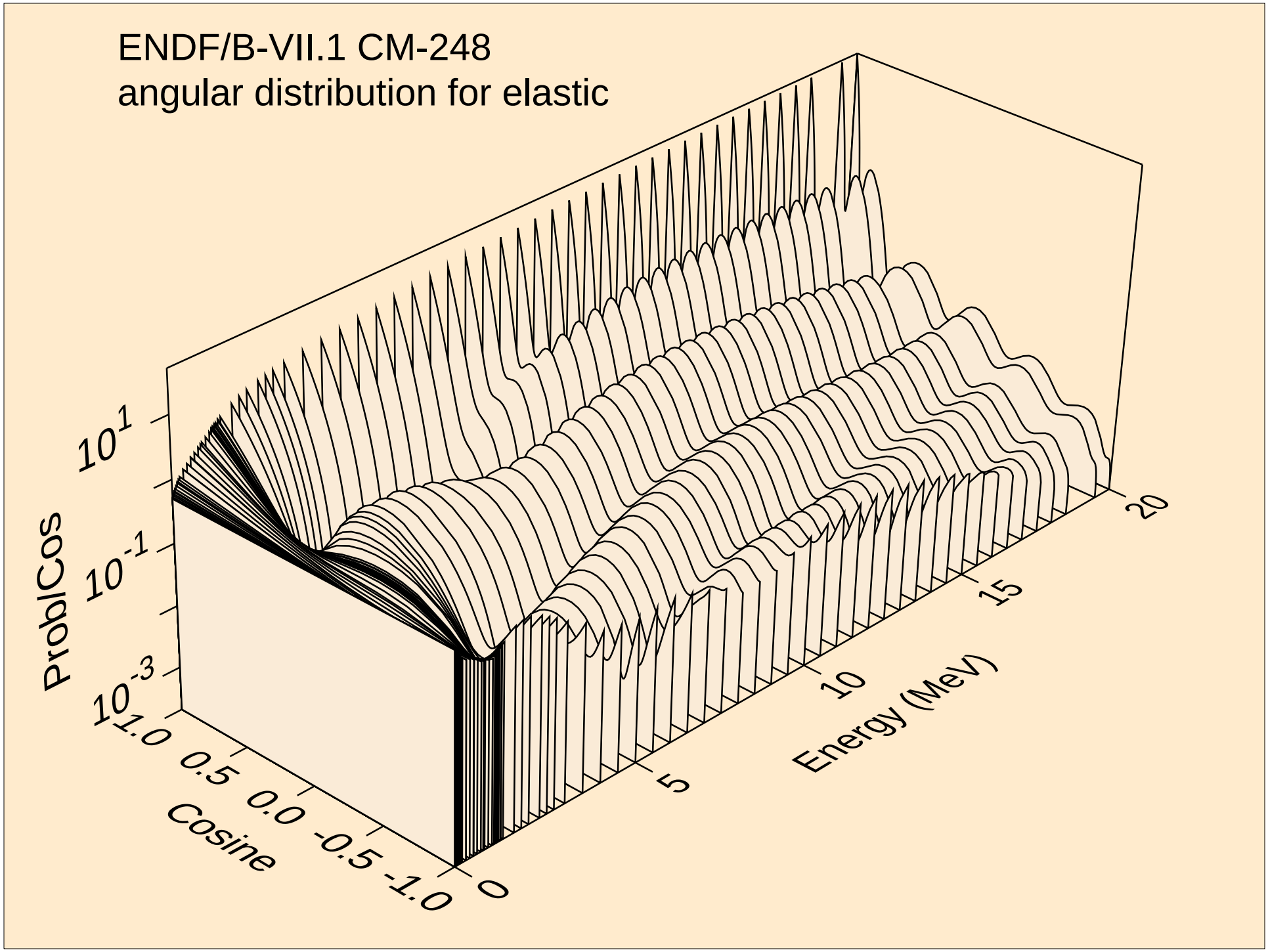

ENDF/B-VII.1 CM-248
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
10^{0}
10^{-1}
10^{-2}
10^{-3}
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

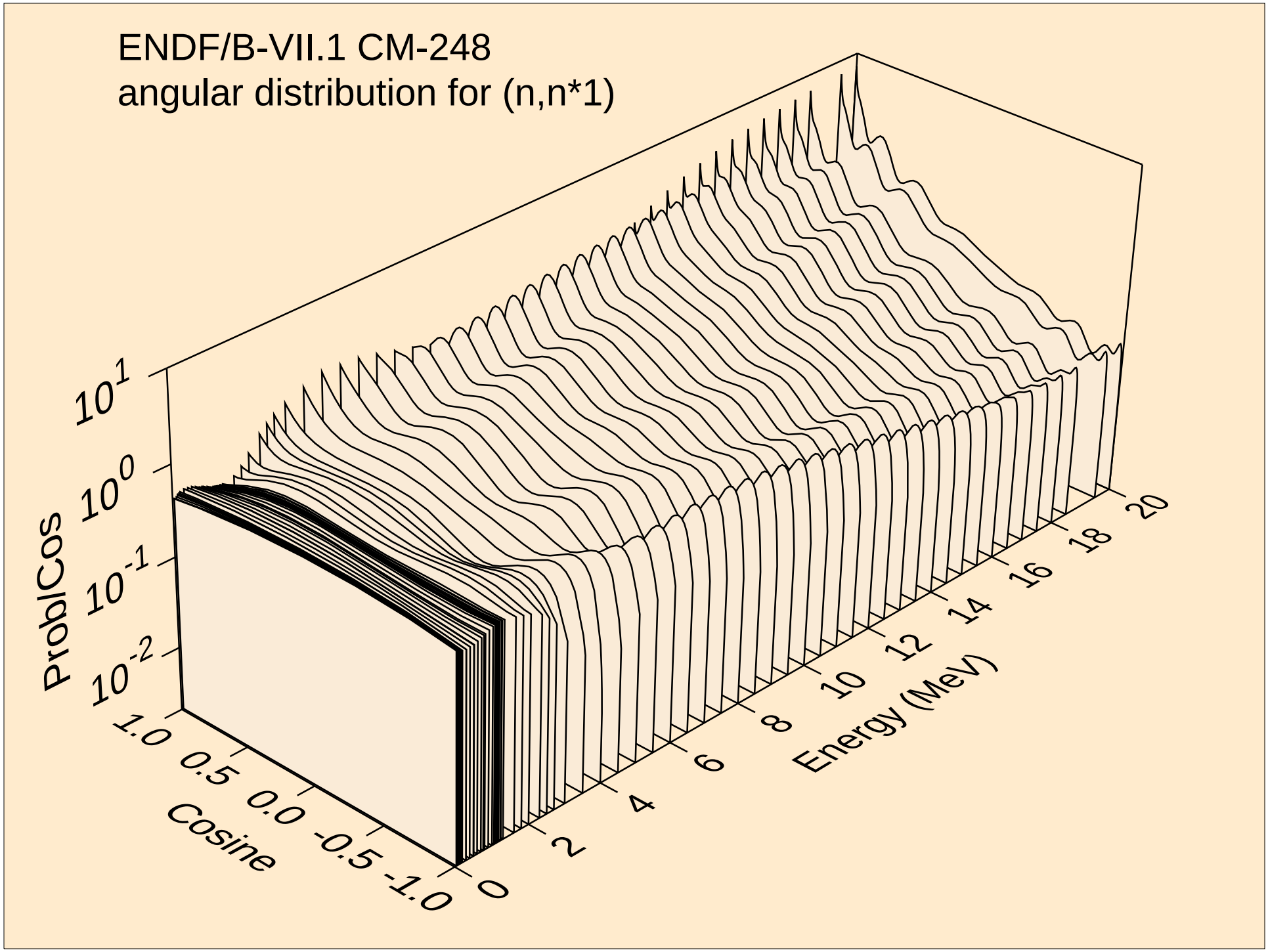

ENDF/B-VII.1 CM-248
Inelastic levels
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
2
4
6
8
10
12
14
16
18
20
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

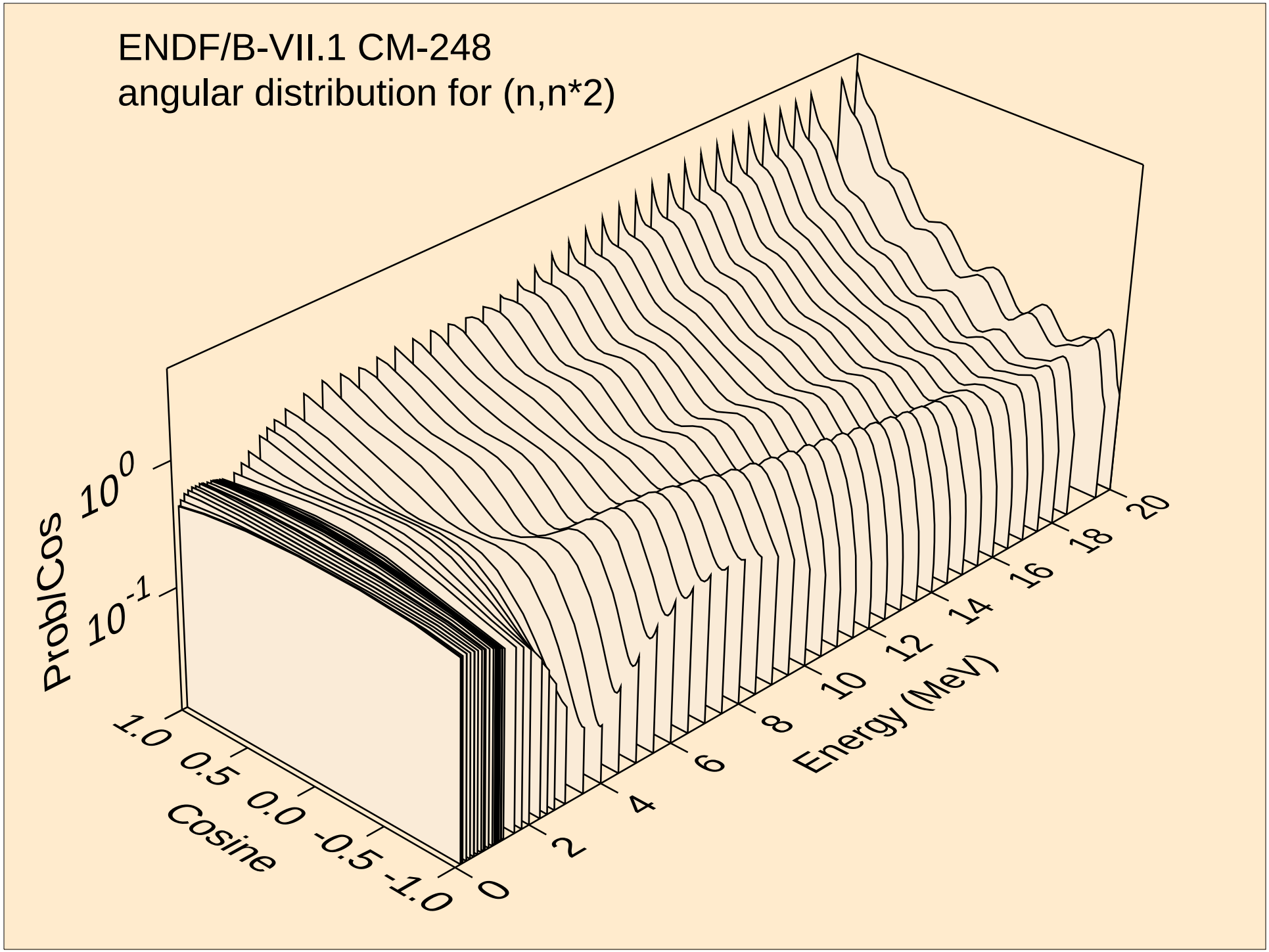

ENDF/B-VII.1 CM-248
Inelastic levels
Cross section (barns)
*10-3
180
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

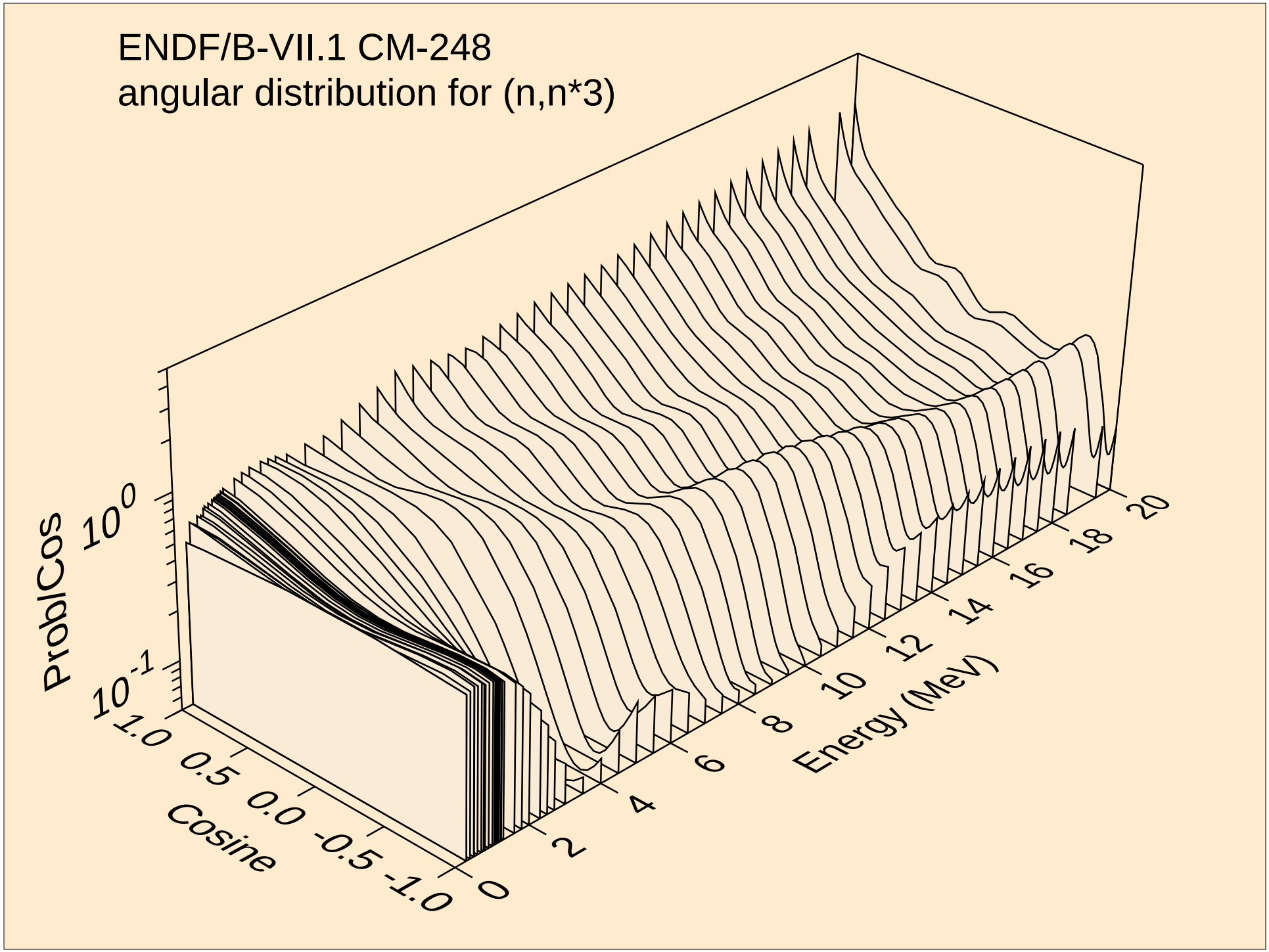

ENDF/B-VII.1 CM-248
Inelastic levels
Cross section (barns)
*10-3
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

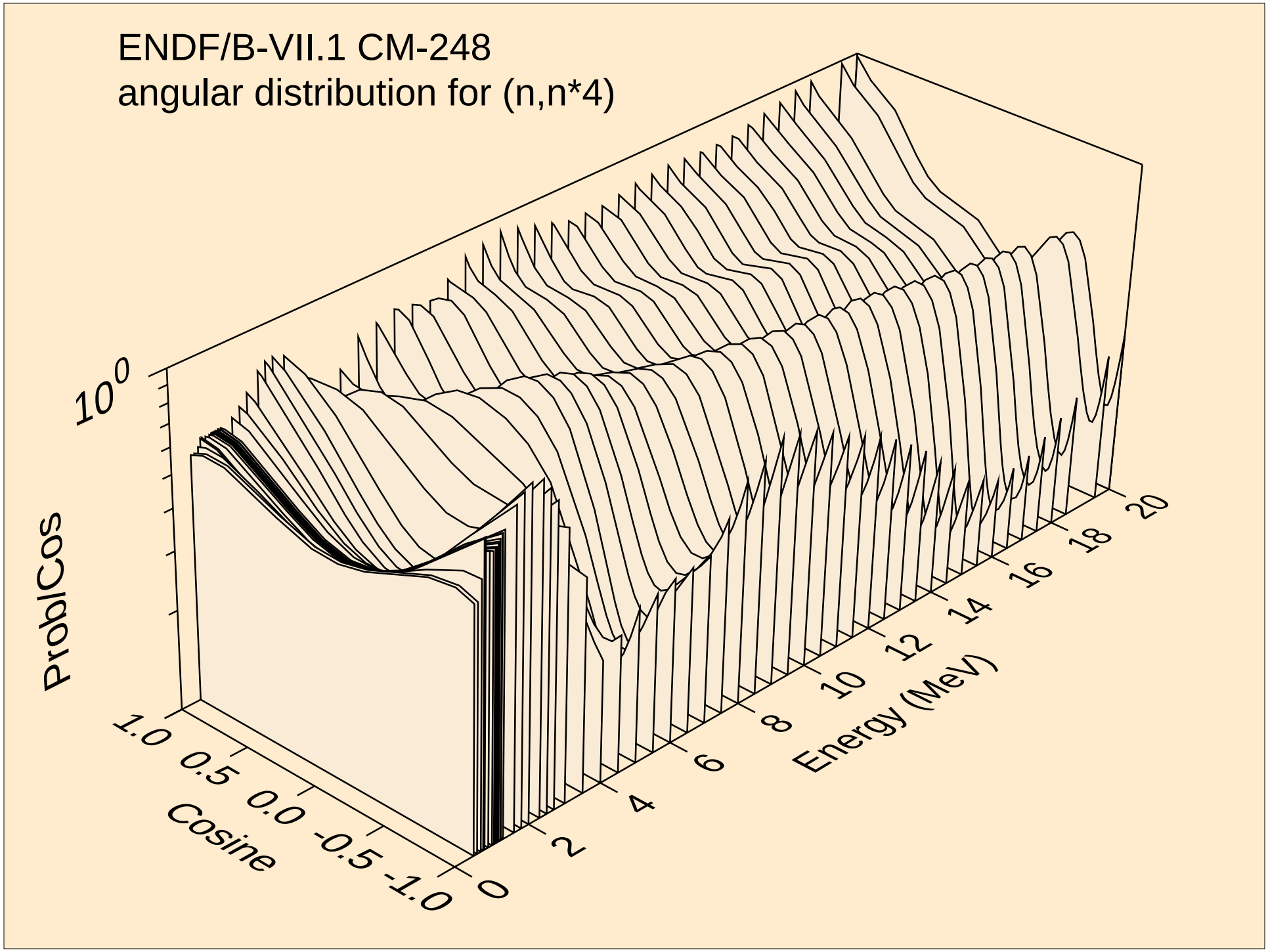

ENDF/B-VII.1 CM-248
Threshold reactions
(n,2n)
(n,3n)
(n,4n)
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
0
2
4
6
8
10
12
14
16
18
20

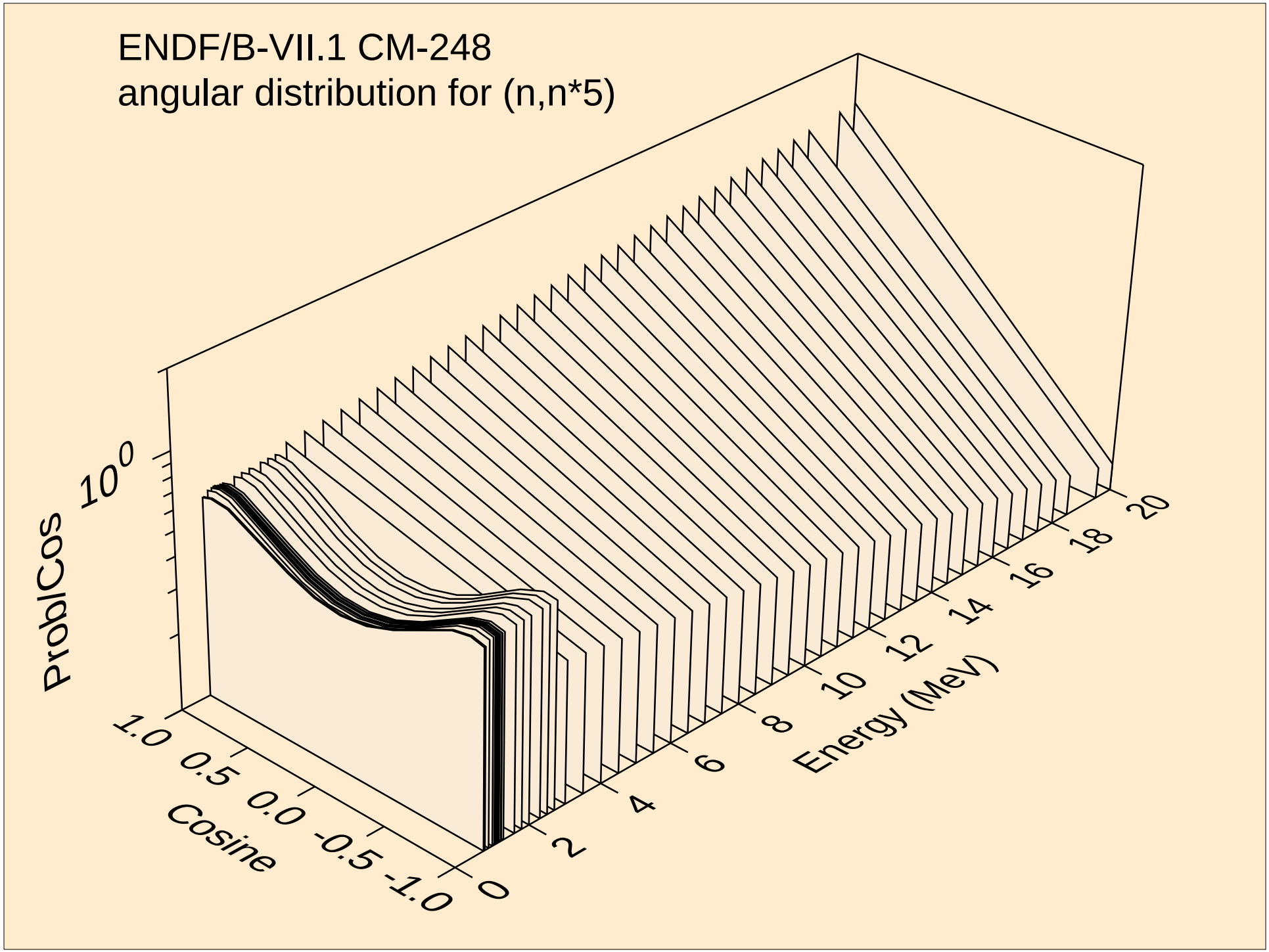

ENDF/B-VII.1 CM-248
angular distribution for elastic
ProbICos
10^{1}
10^{-1}
10^{-3}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

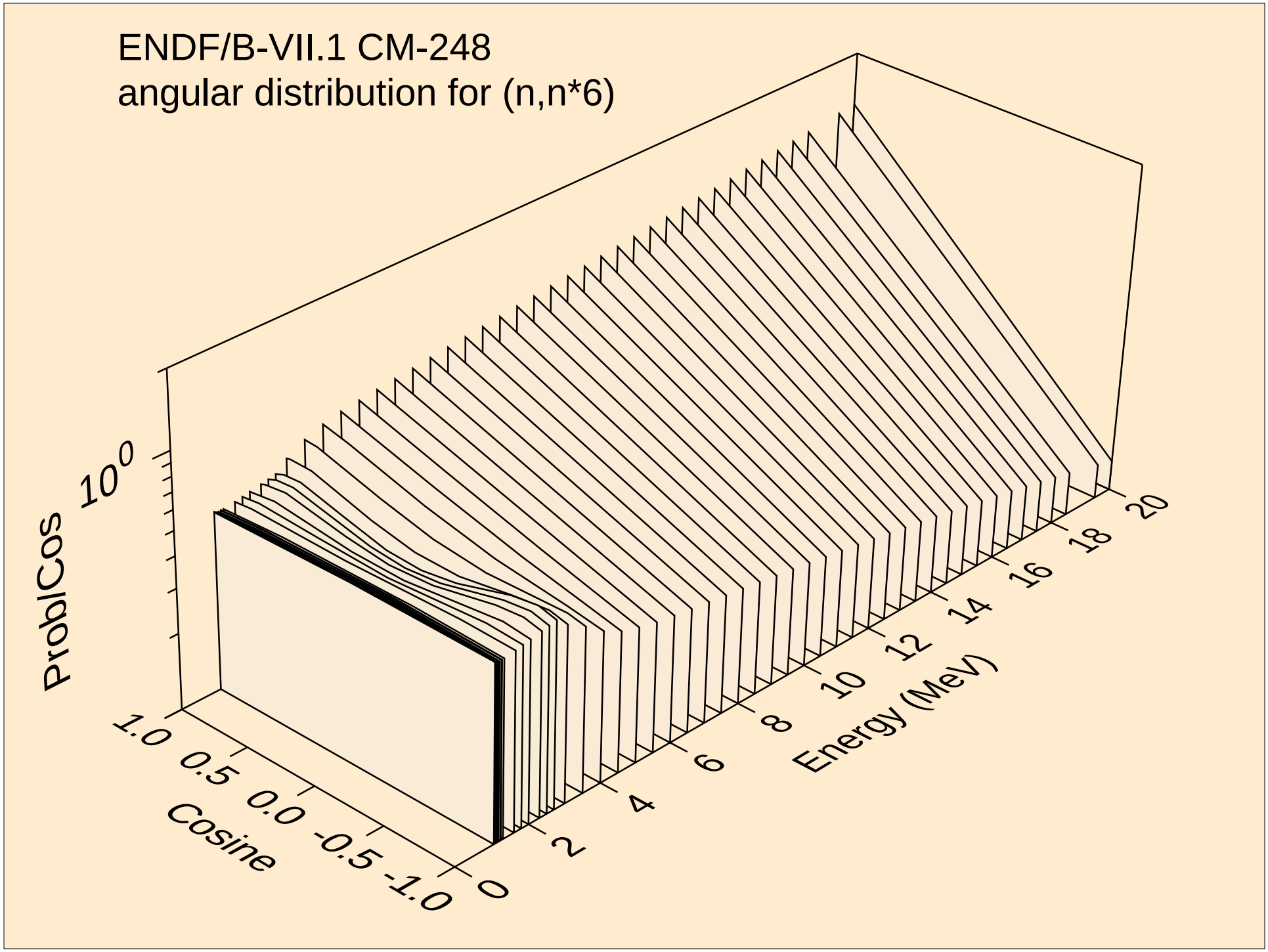

ENDF/B-VII.1 CM-248
angular distribution for (n,n*1)
Prob\Cos
10^{1}
10^{0}
10^{-1}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

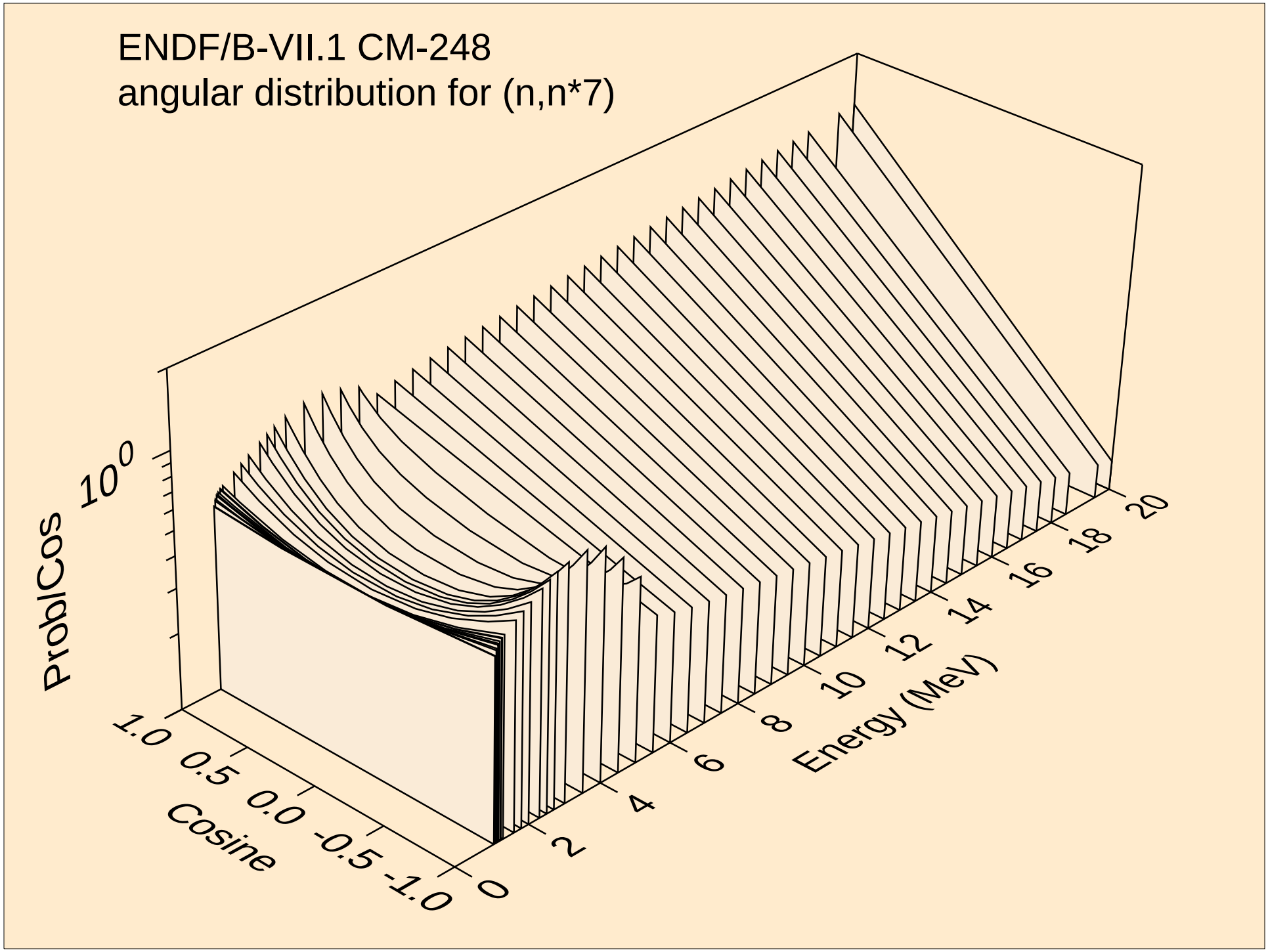

ENDF/B-VII.1 CM-248
angular distribution for (n,n*2)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

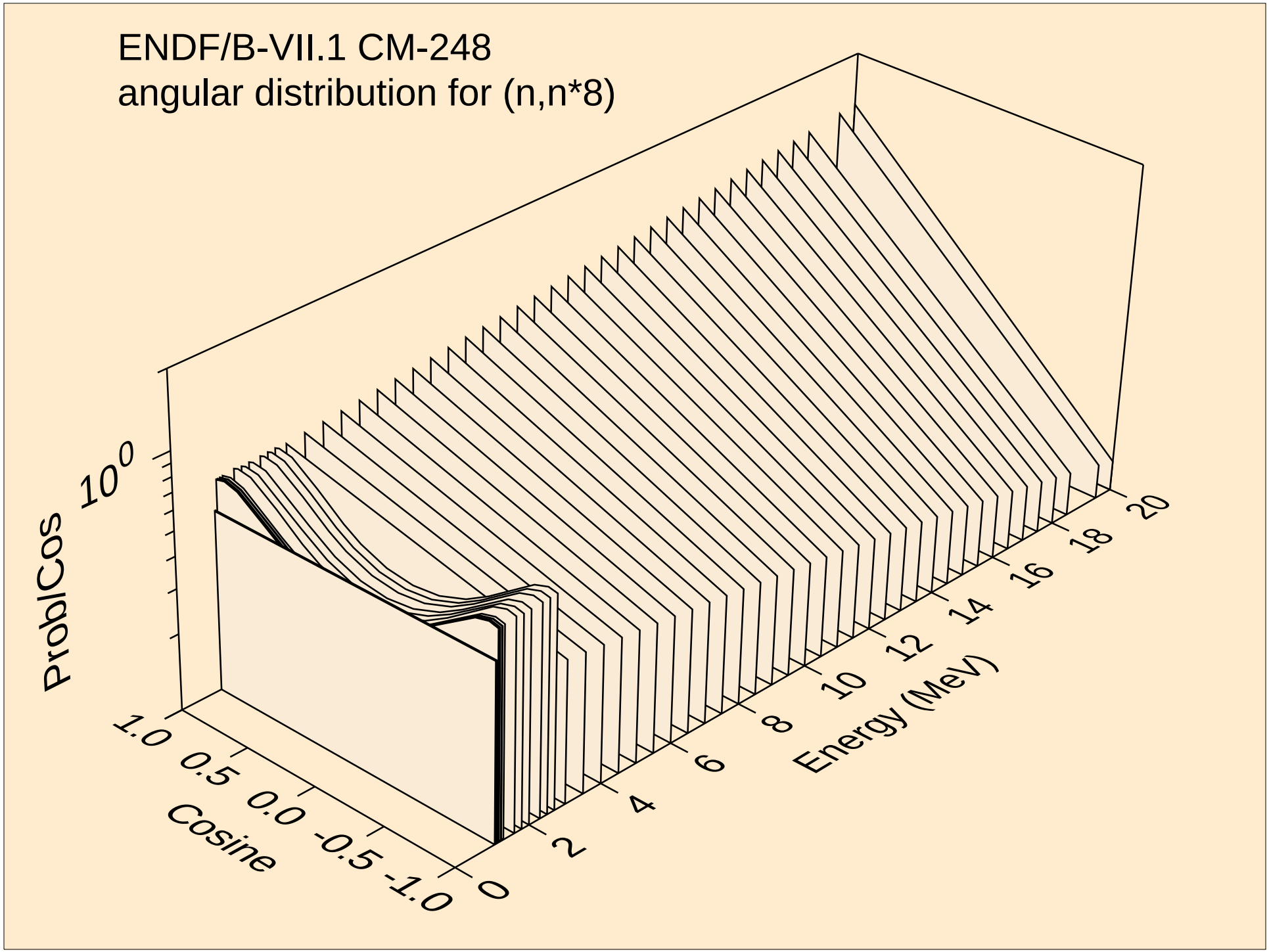

ENDF/B-VII.1 CM-248
angular distribution for (n,n*3)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

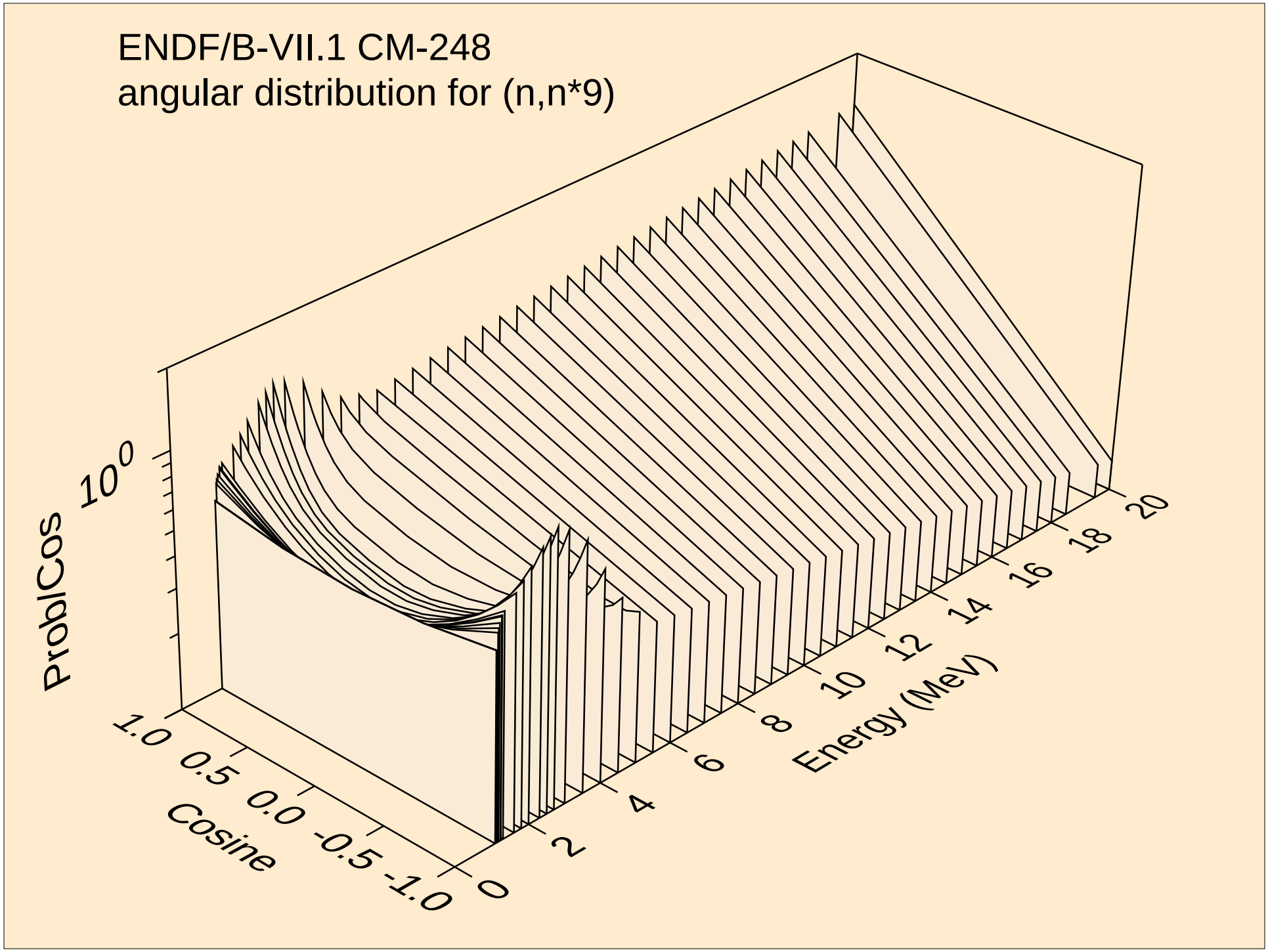

ENDF/B-VII.1 CM-248
angular distribution for (n,n*4)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

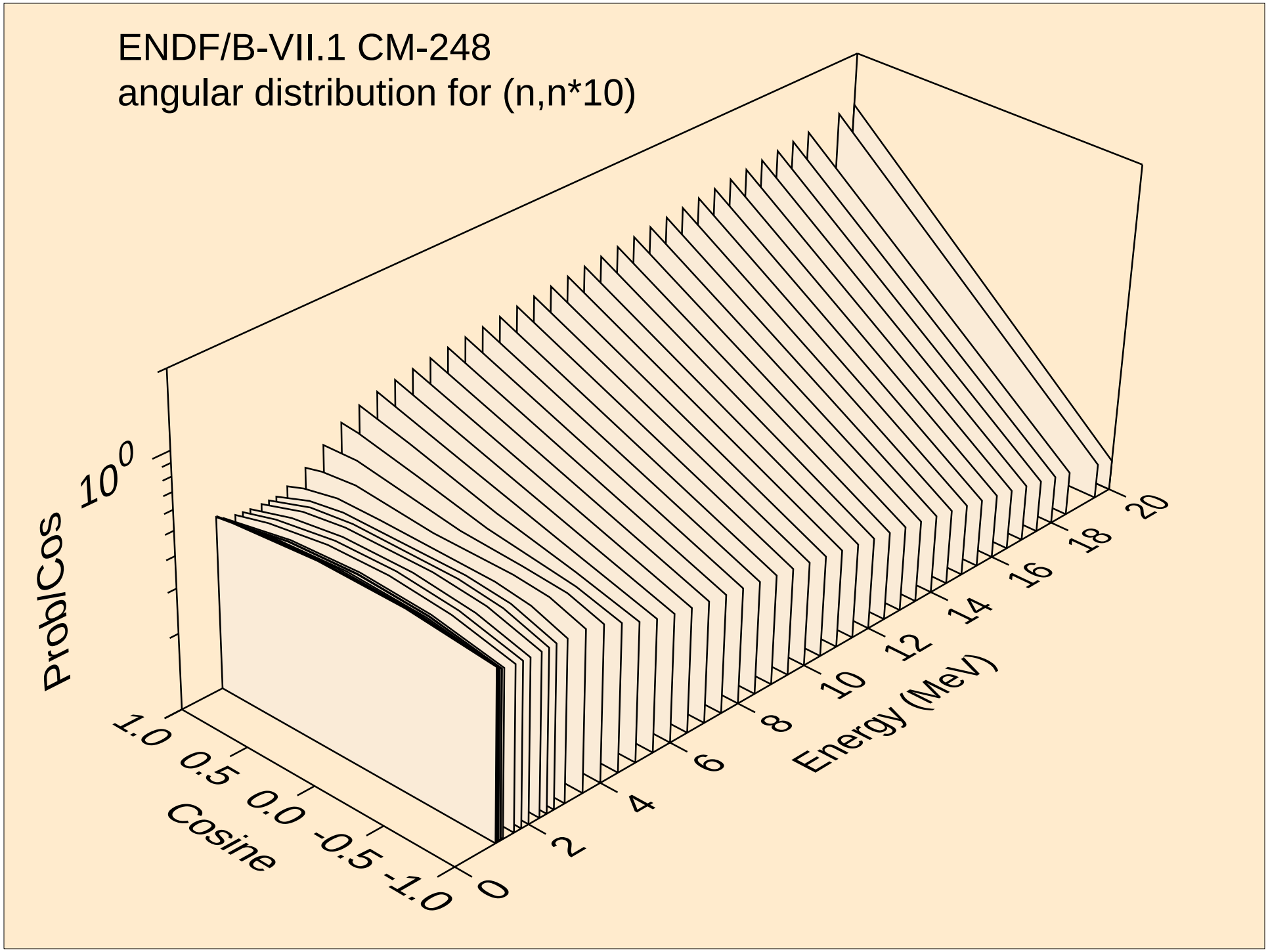

ENDF/B-VII.1 CM-248
angular distribution for (n,n*5)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

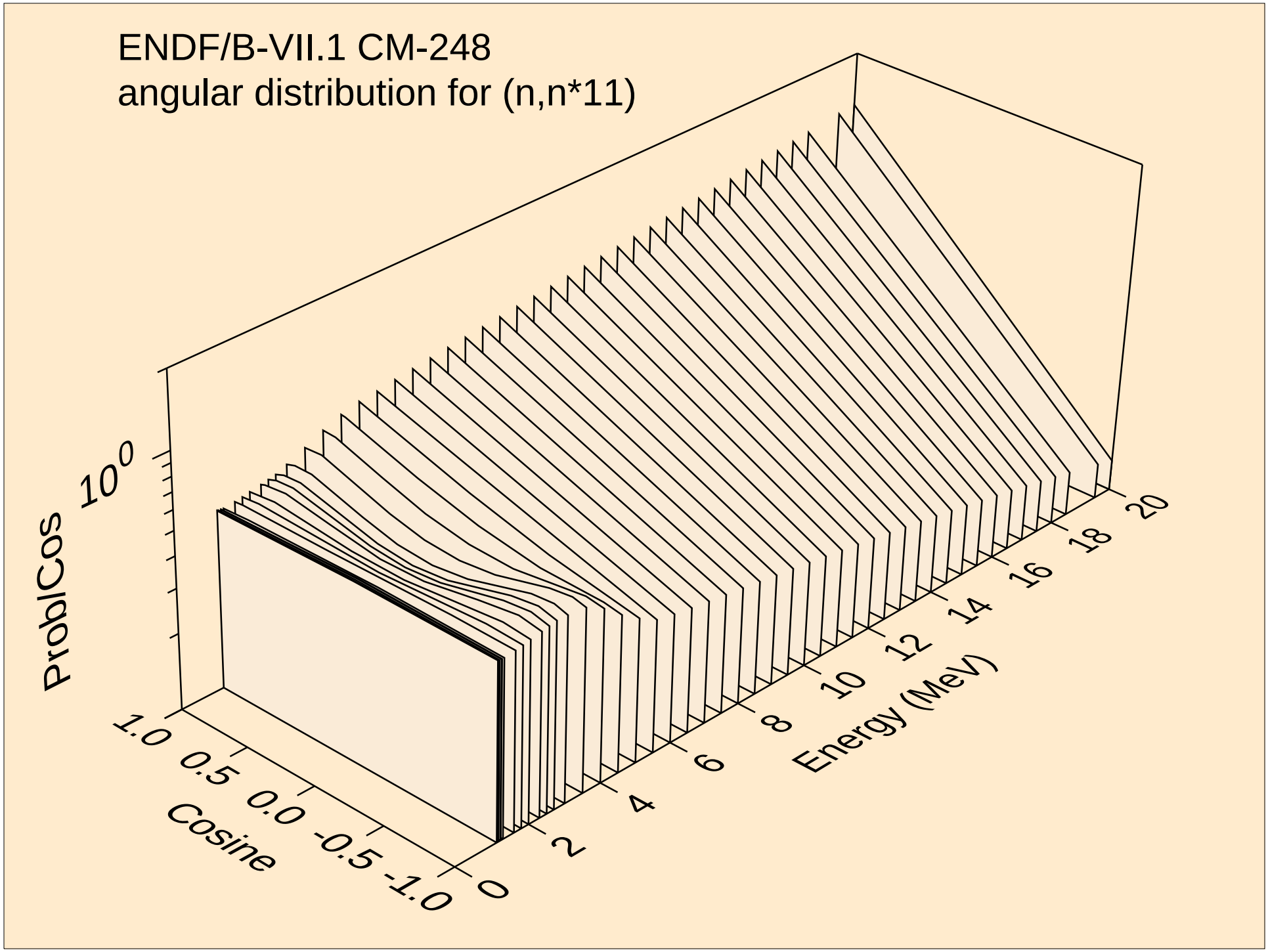

ENDF/B-VII.1 CM-248
angular distribution for (n,n*6)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

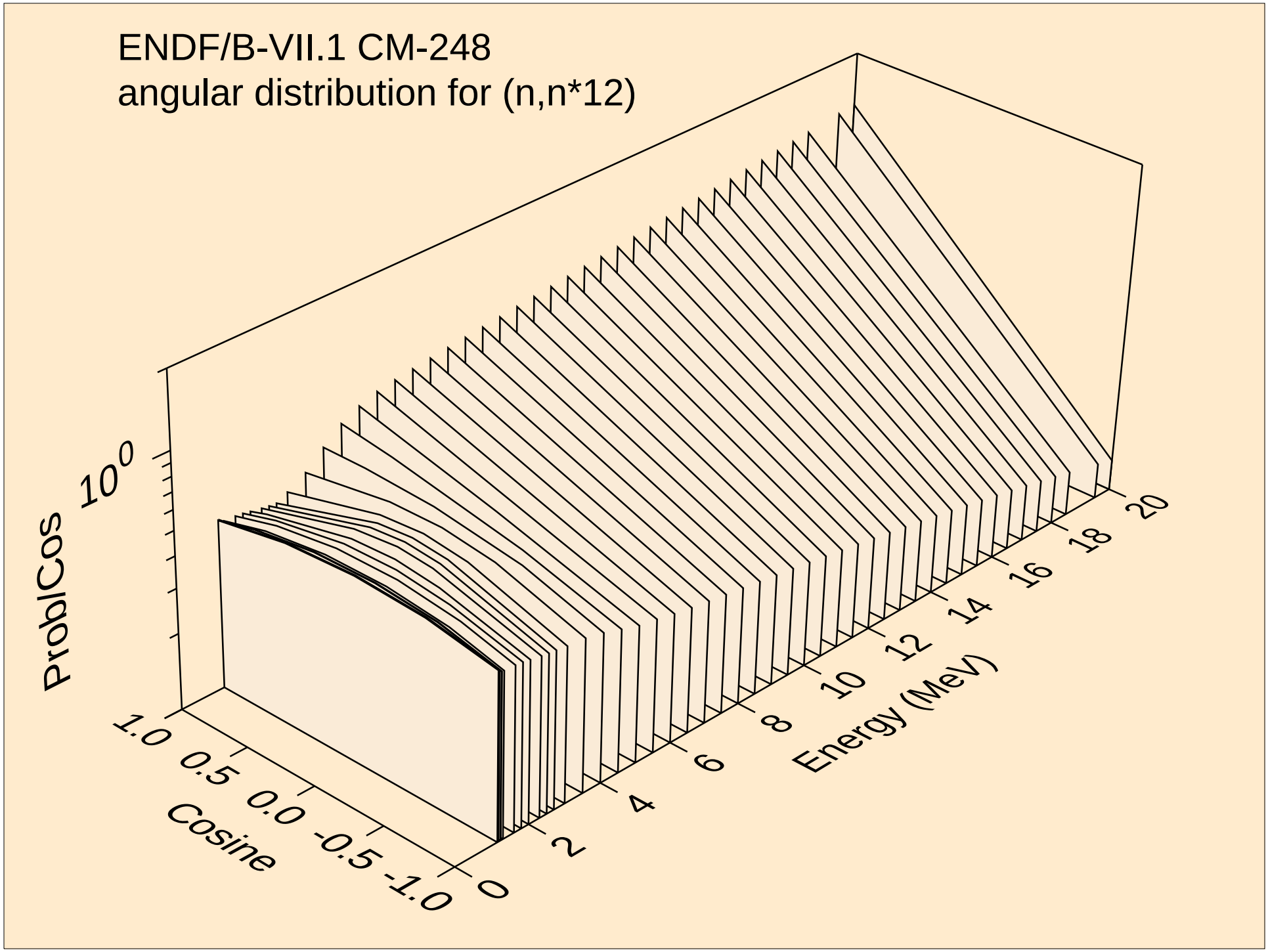

ENDF/B-VII.1 CM-248
angular distribution for (n,n*7)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

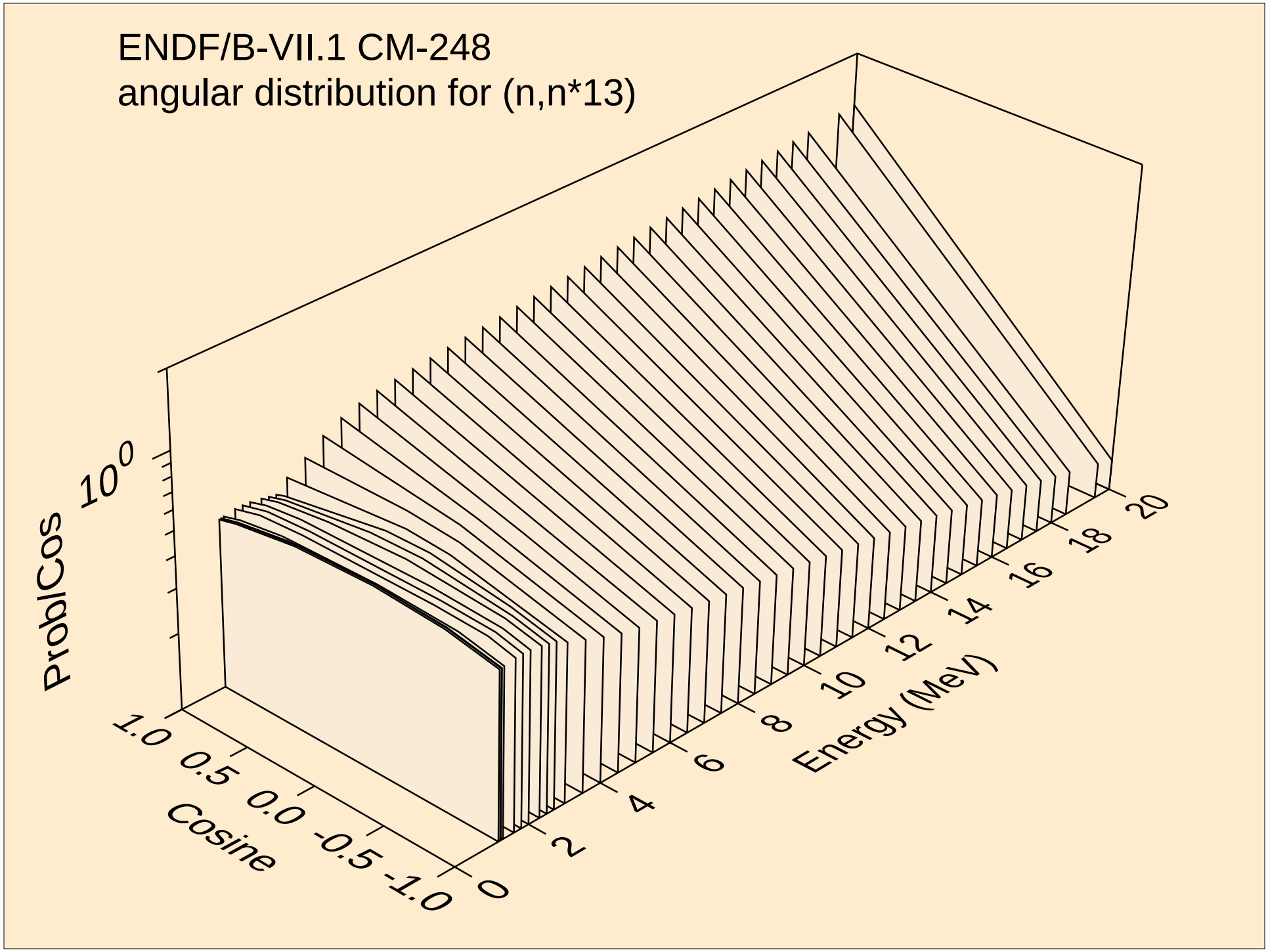

ENDF/B-VII.1 CM-248
angular distribution for (n,n*8)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

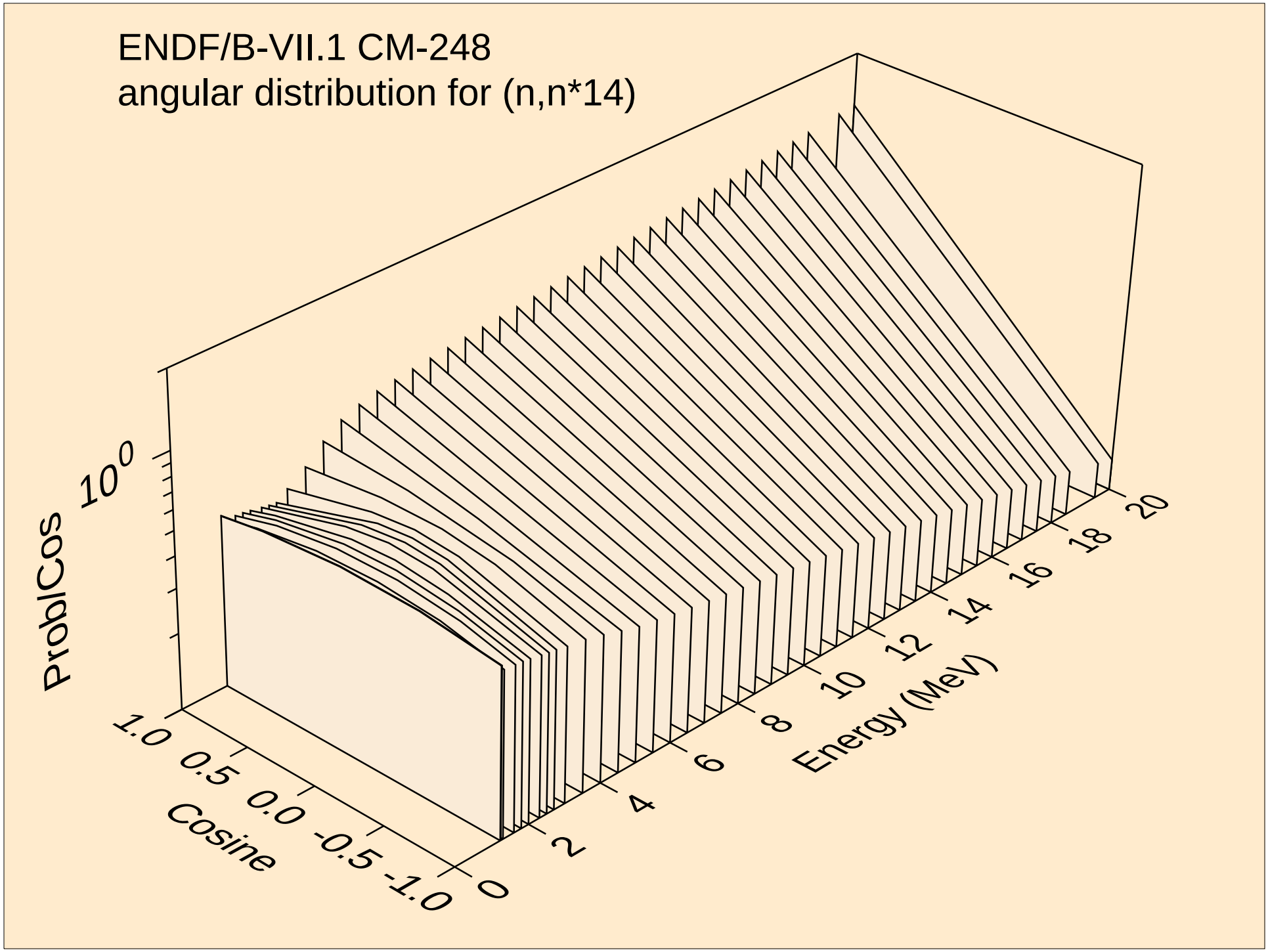

ENDF/B-VII.1 CM-248
angular distribution for (n,n*9)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

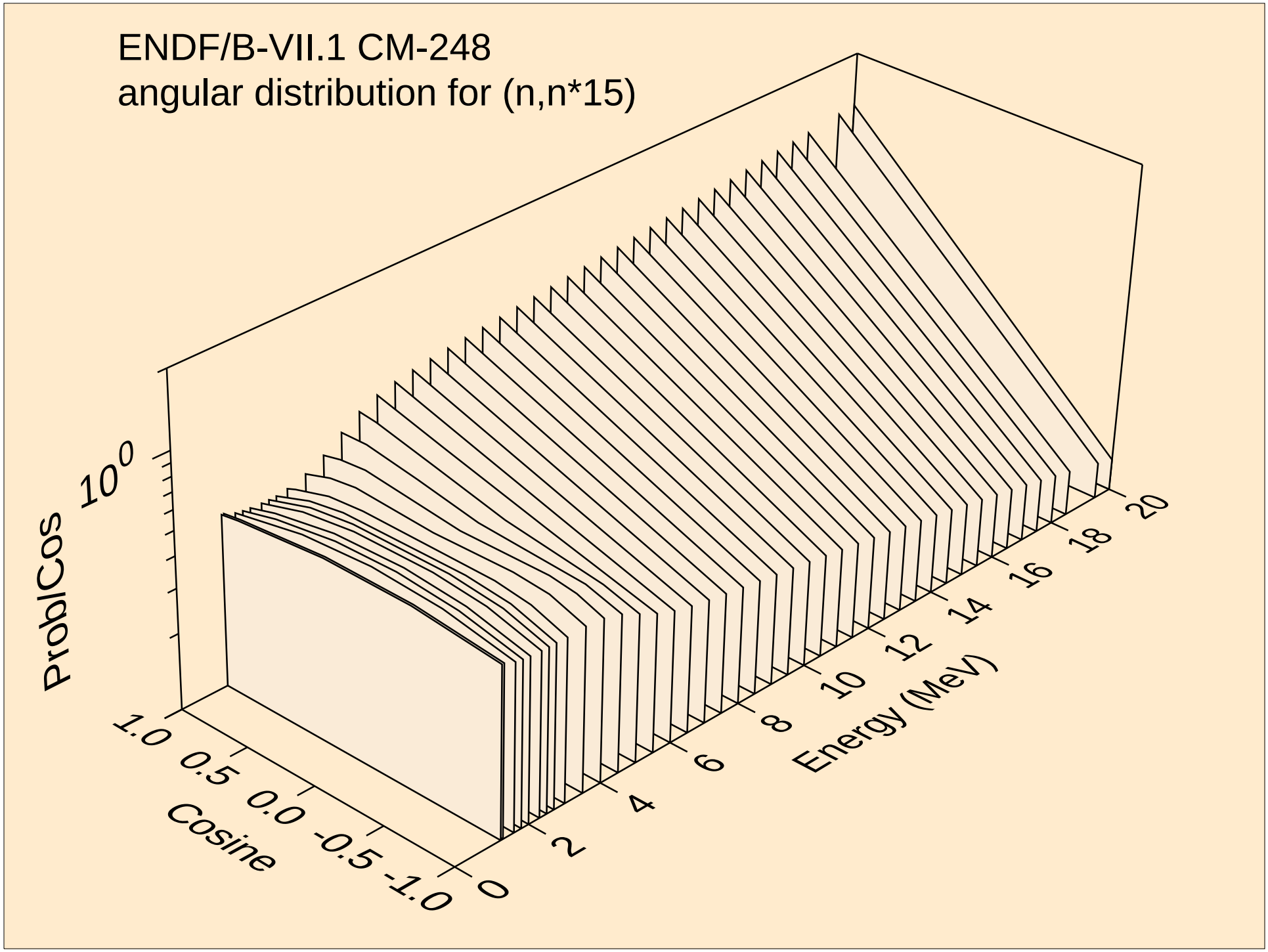

ENDF/B-VII.1 CM-248
angular distribution for (n,n*10)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

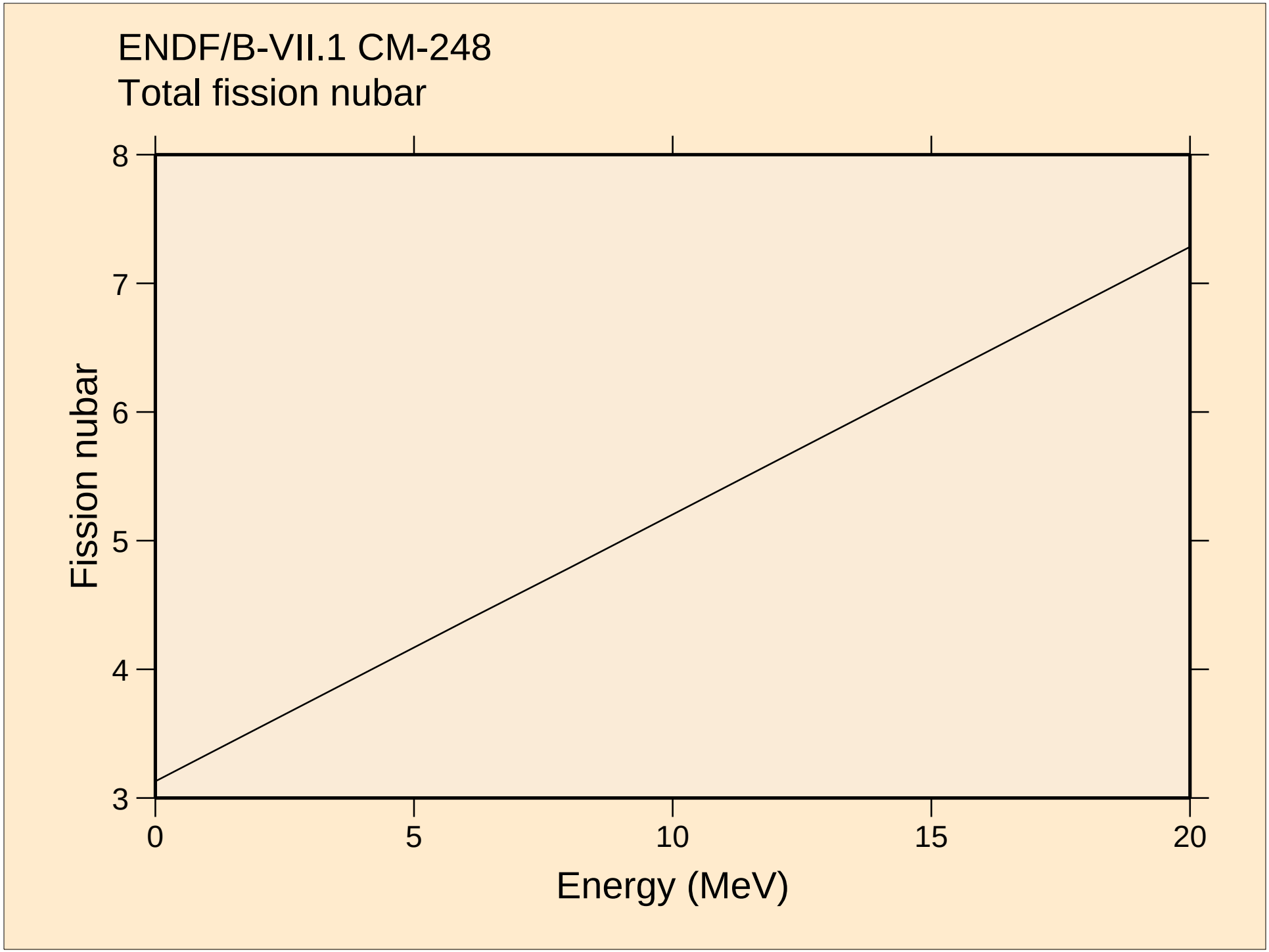

ENDF/B-VII.1 CM-248
angular distribution for (n,n*11)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

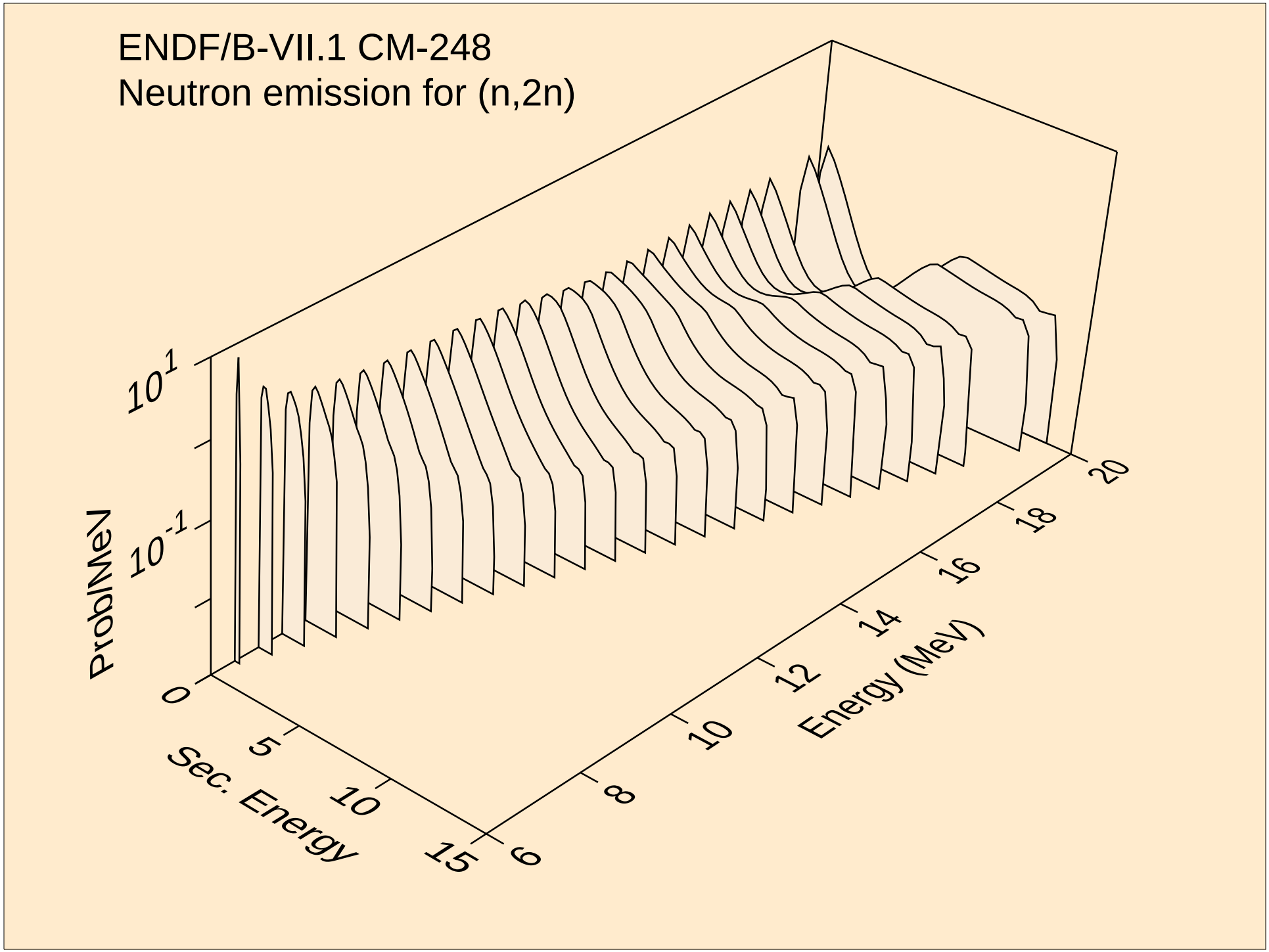

ENDF/B-VII.1 CM-248
angular distribution for (n,n*12)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

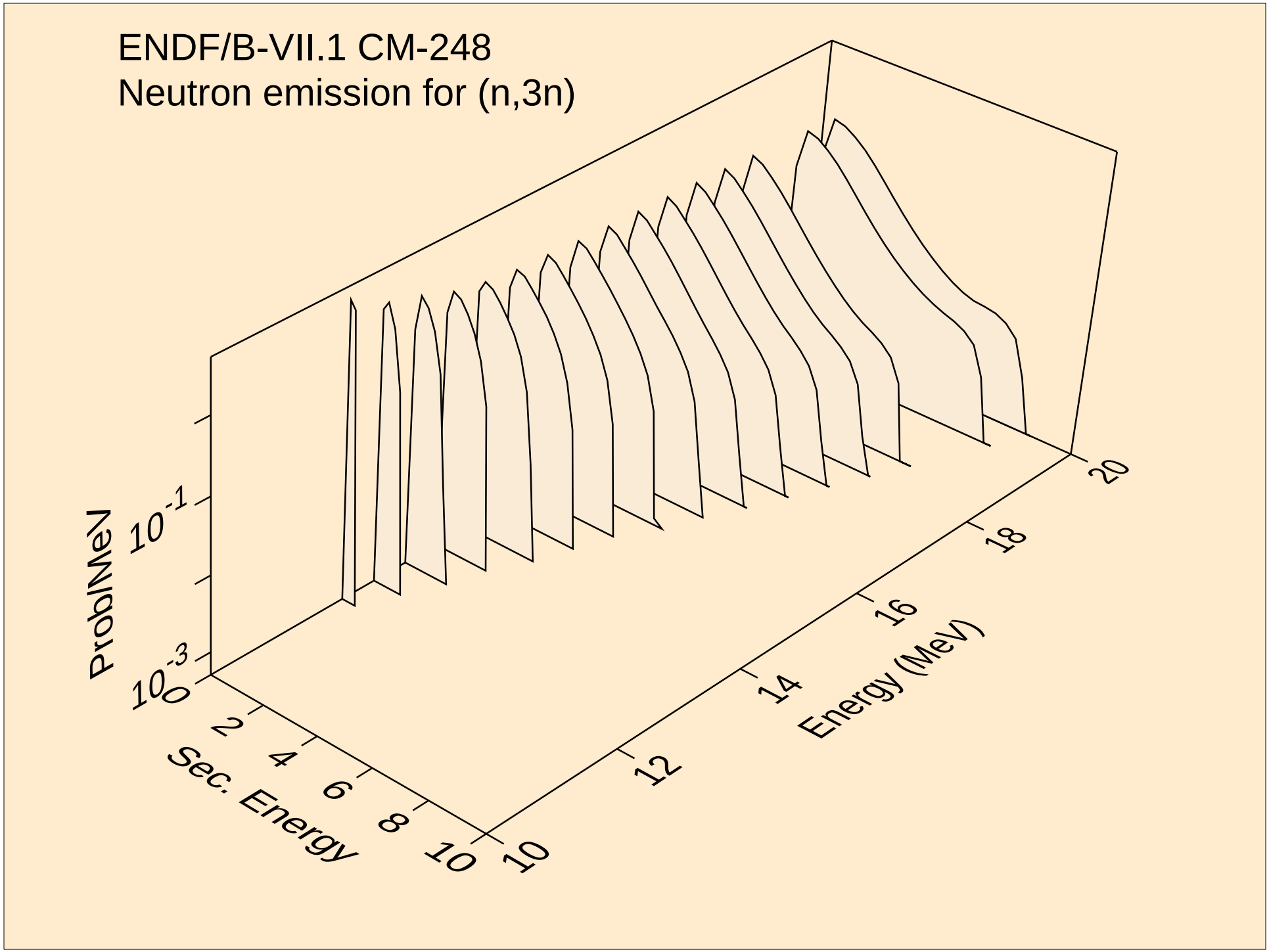

ENDF/B-VII.1 CM-248
angular distribution for (n,n*13)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

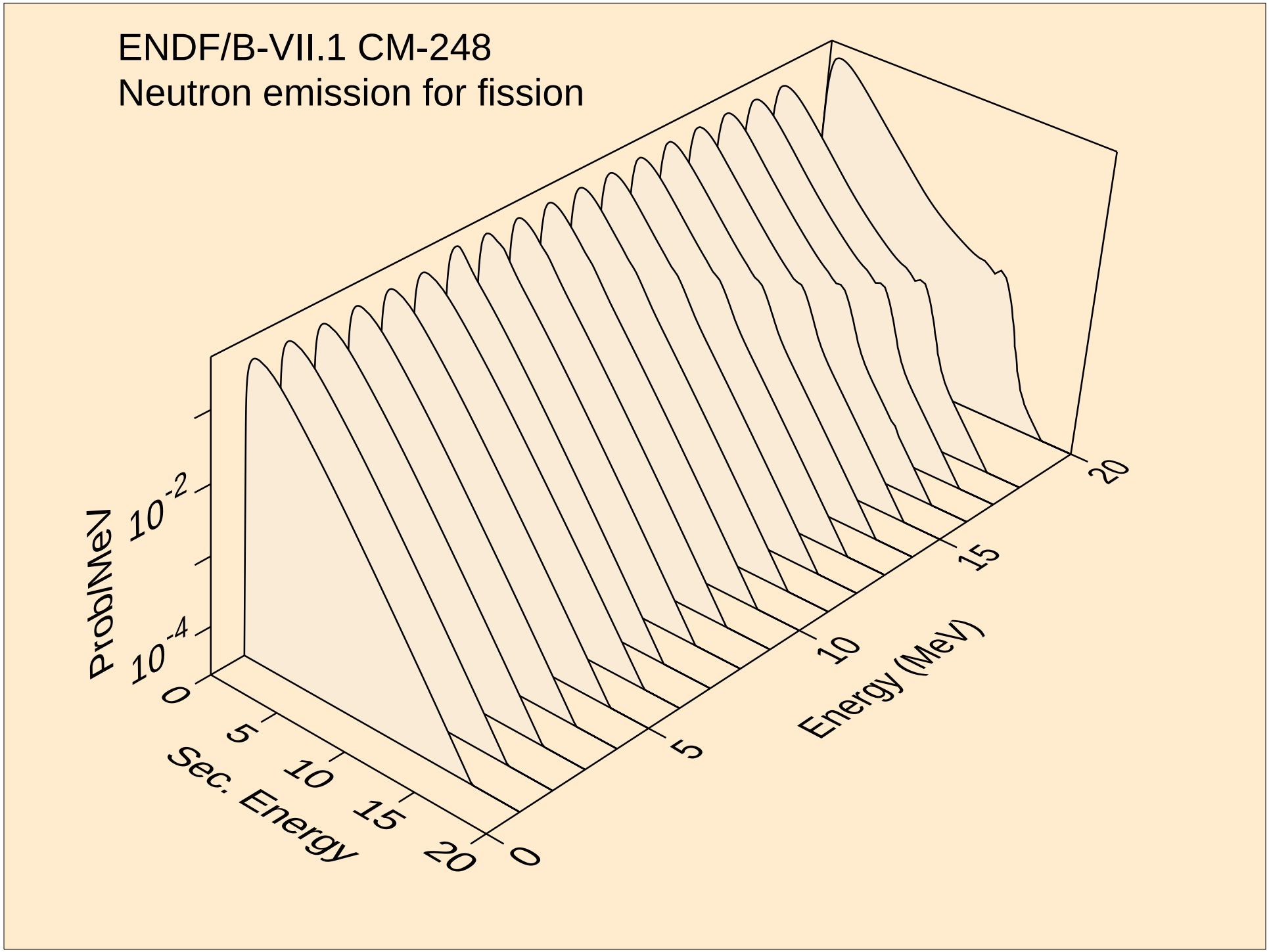

ENDF/B-VII.1 CM-248
angular distribution for (n,n*14)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

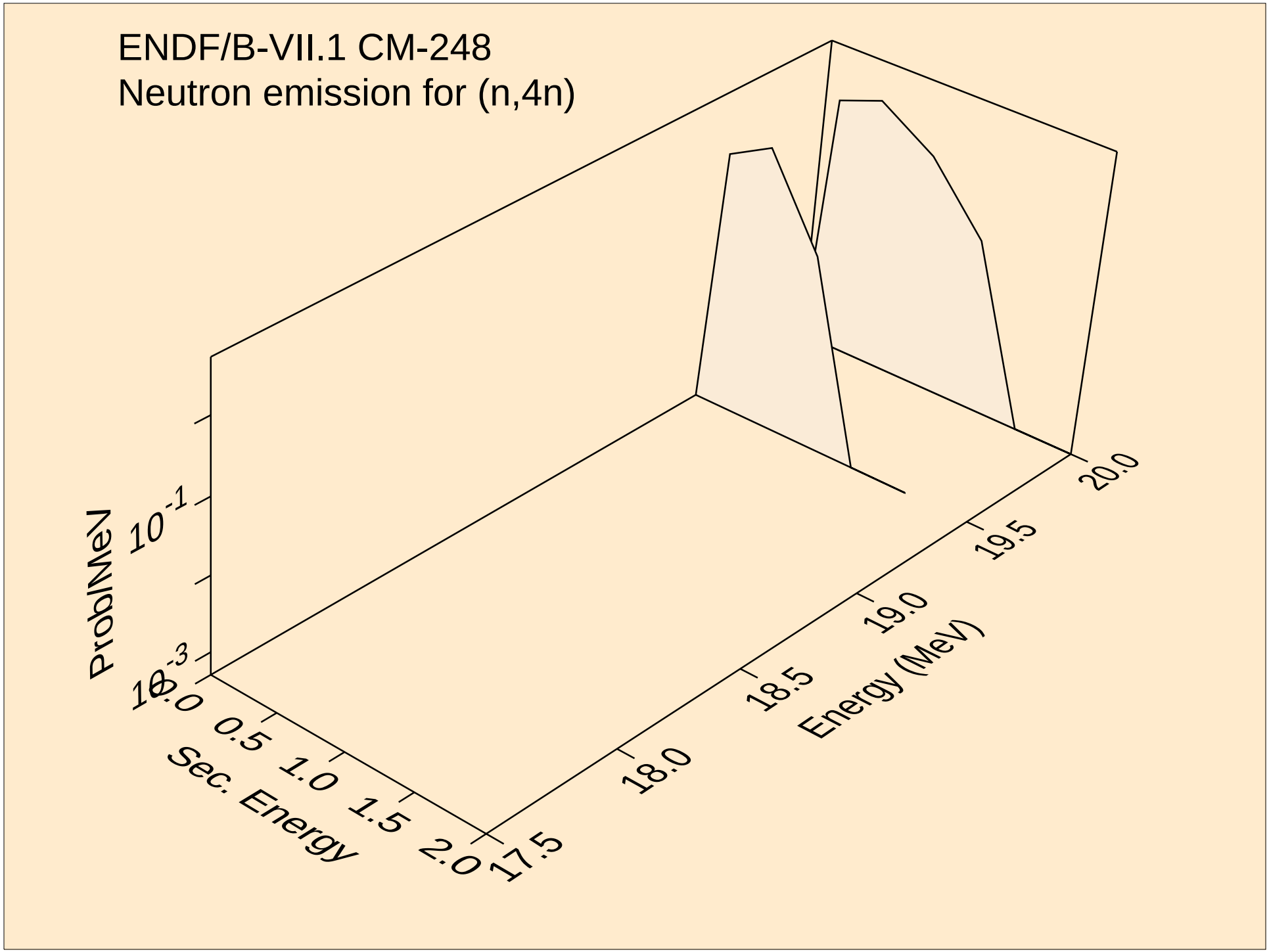

ENDF/B-VII.1 CM-248
angular distribution for (n,n*15)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

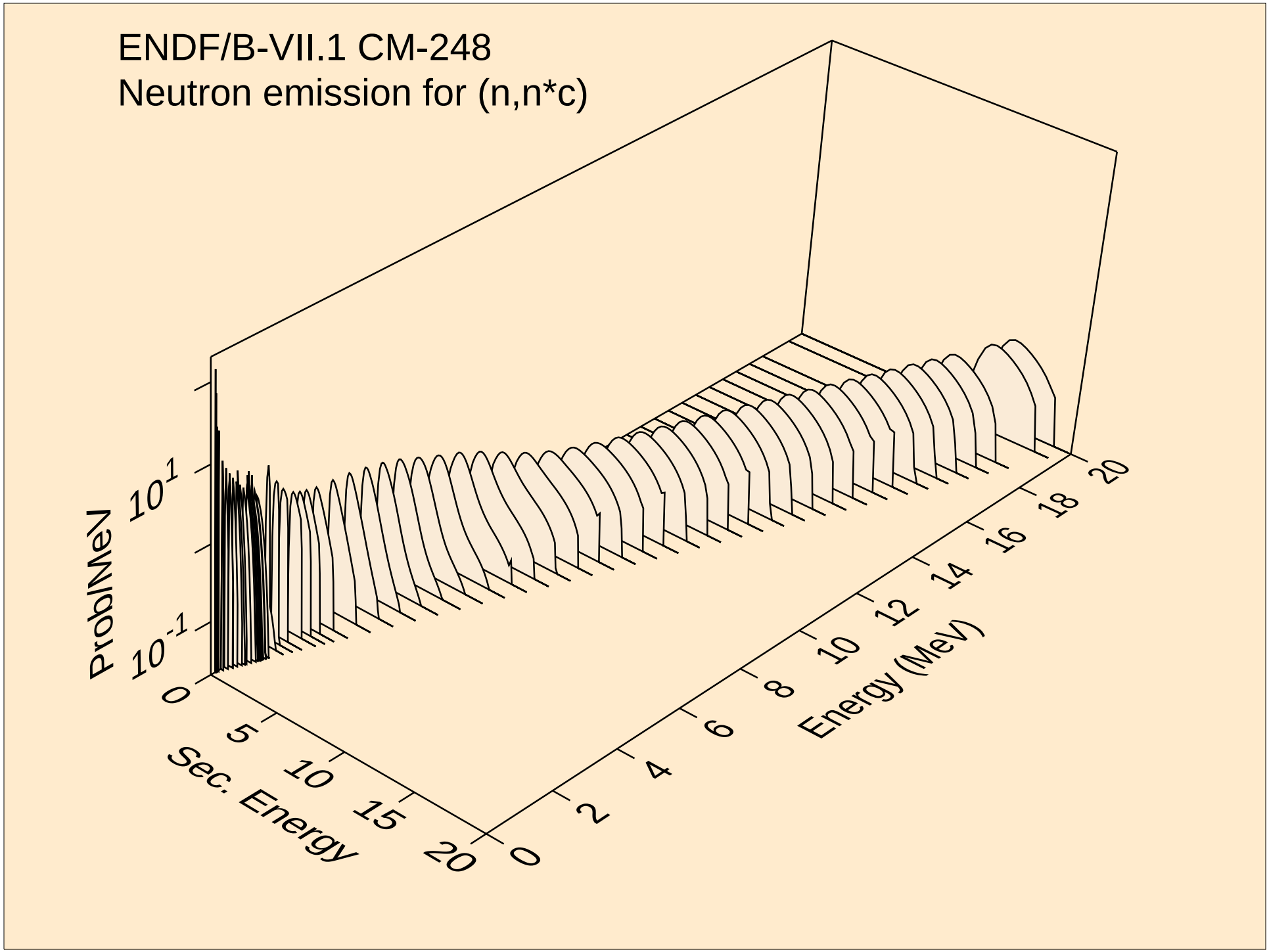

ENDF/B-VII.1 CM-248
Total fission nubar
Fission nubar
8
7
6
5
4
3
0
5
10
15
20
Energy (MeV)

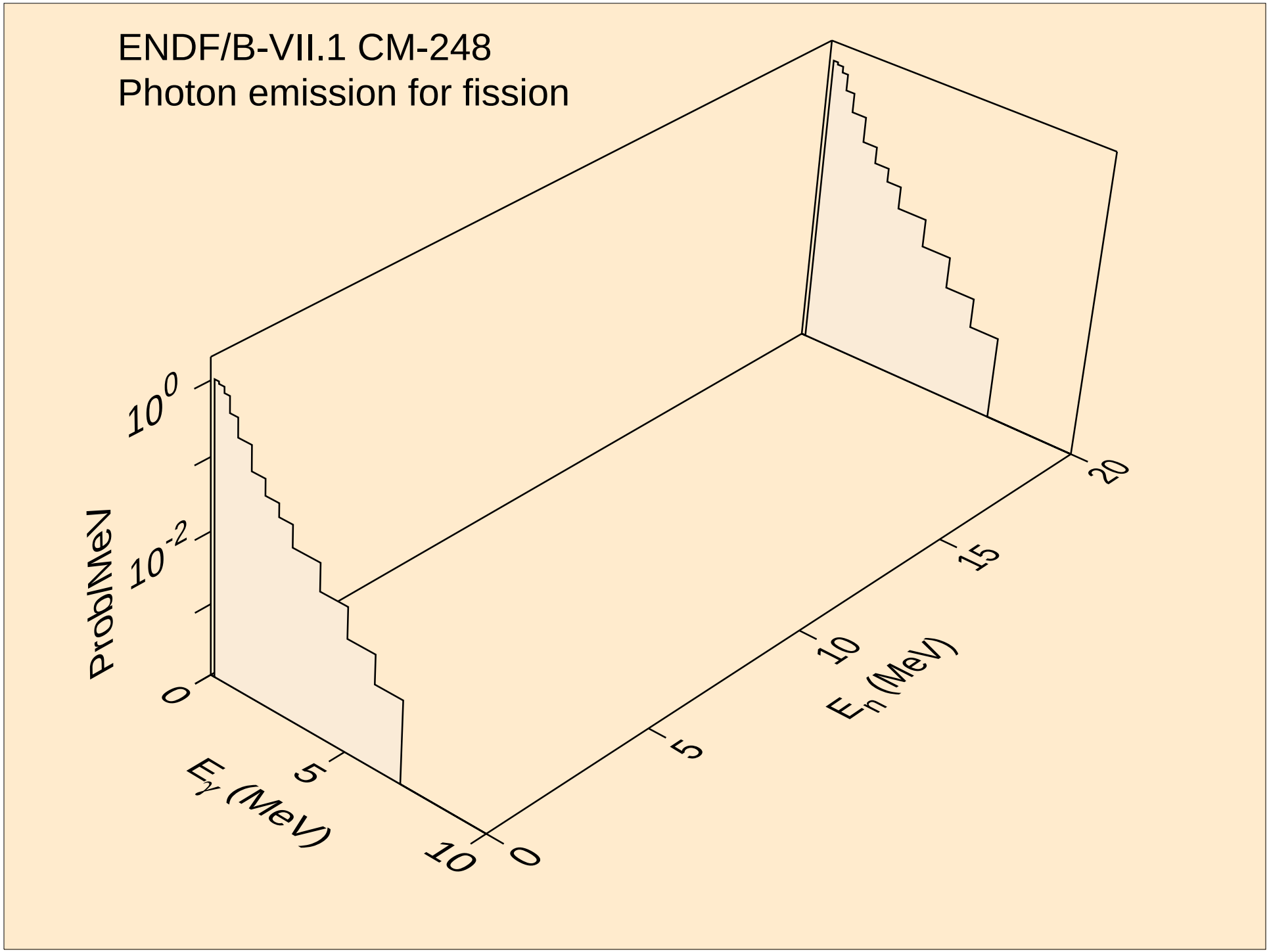

ENDF/B-VII.1 CM-248
Neutron emission for (n,2n)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

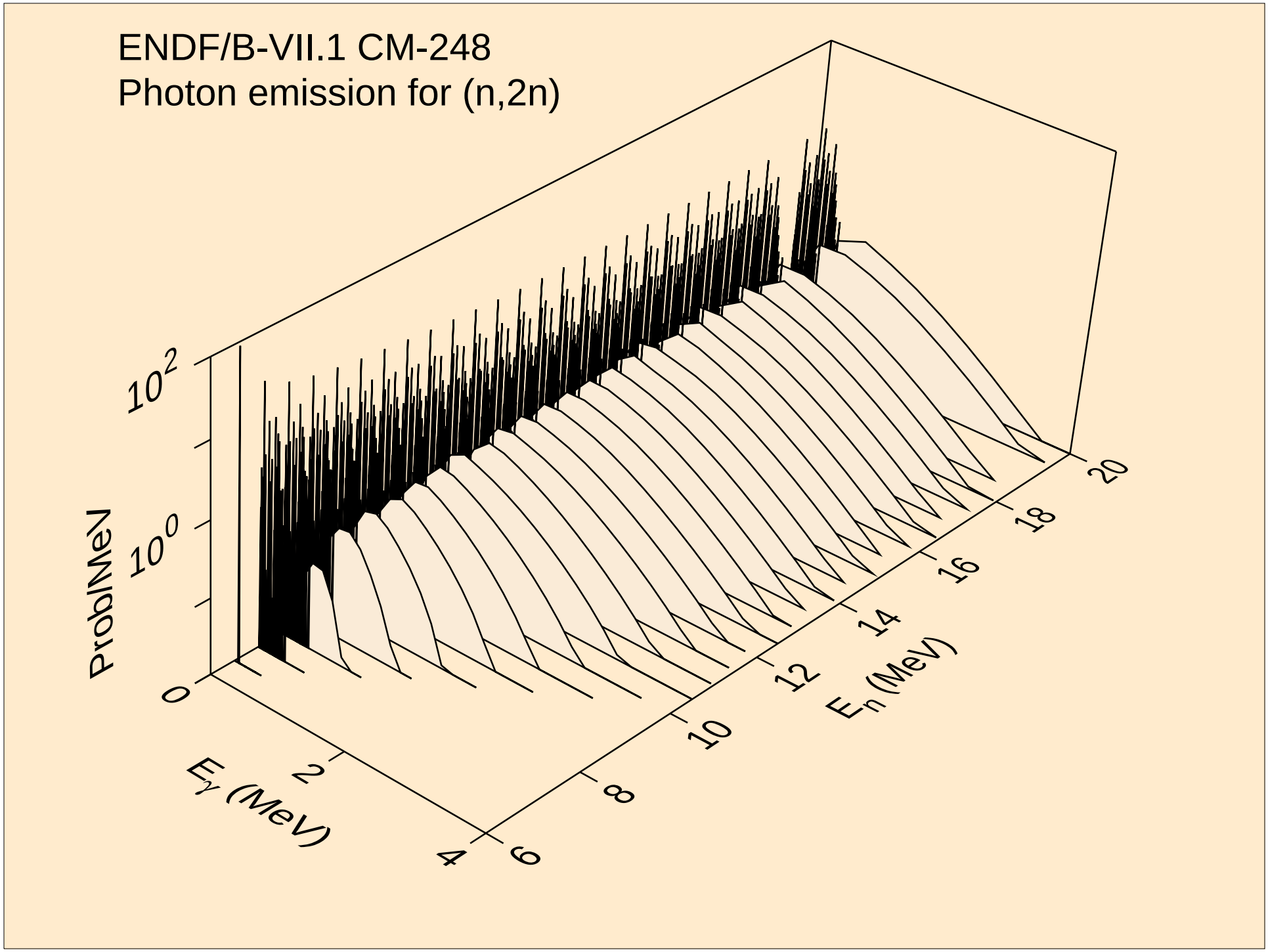

ENDF/B-VII.1 CM-248
Neutron emission for (n,3n)
Prob/MeV
10^-1
10^-3
0
2
4
6
8
10
Sec. Energy
10
12
14
16
18
20
Energy (MeV)

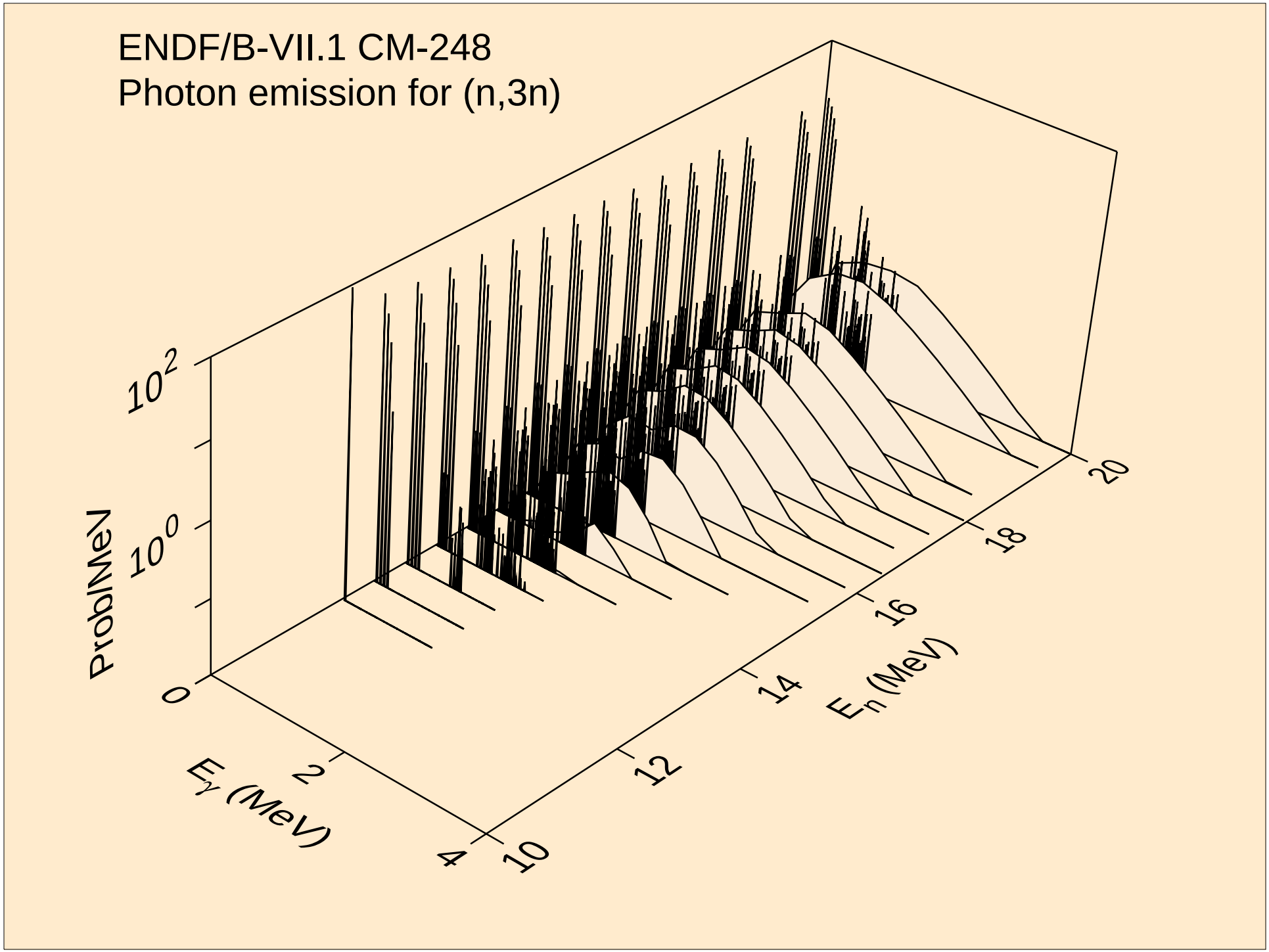

ENDF/B-VII.1 CM-248
Neutron emission for fission
Prob/MeV
10-2
10-4
0
5
10
15
20
Sec. Energy
0
5
10
15
20
Energy (MeV)

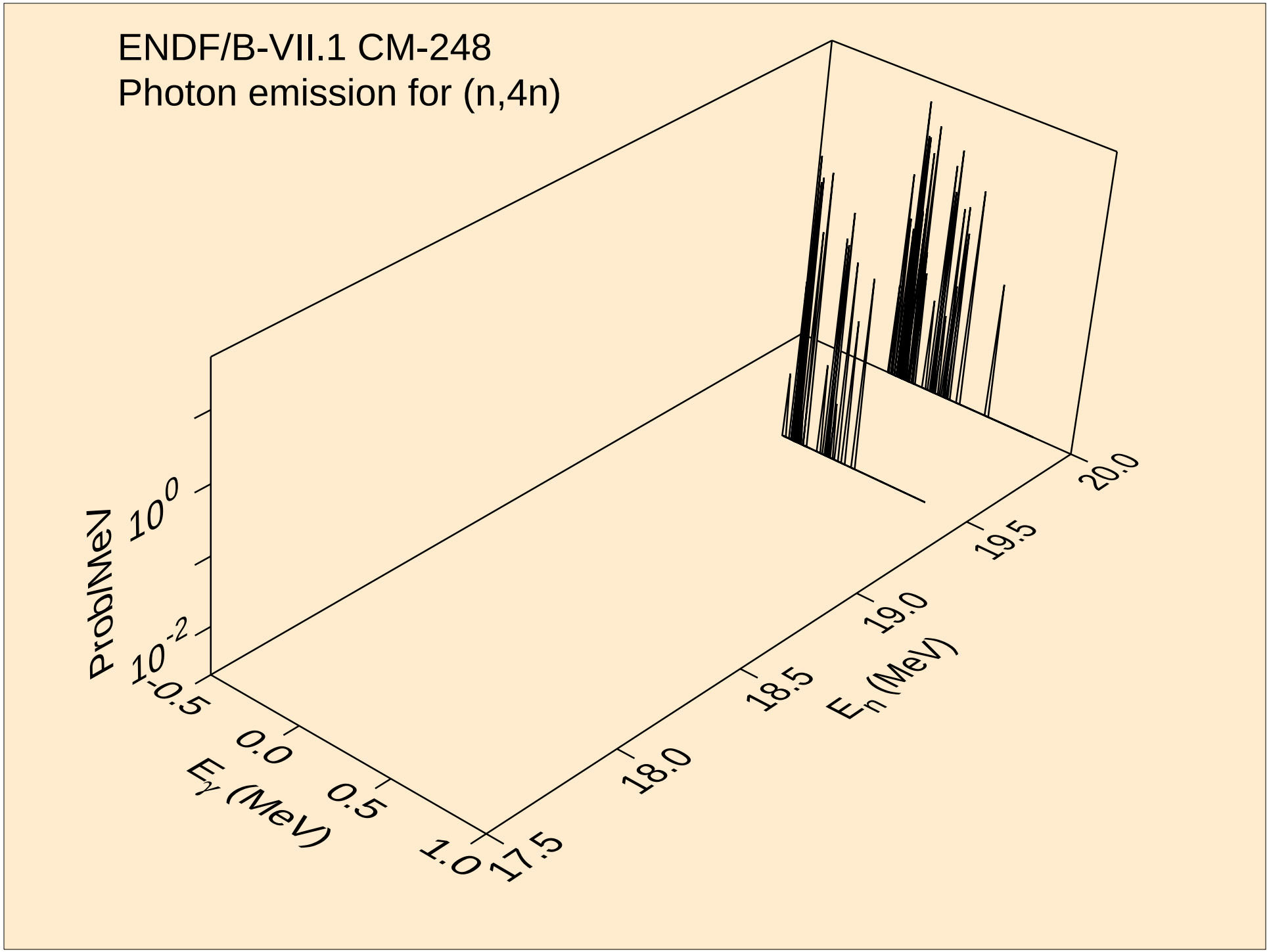

ENDF/B-VII.1 CM-248
Neutron emission for (n,4n)
Prob/MeV
10-1
10-3
0.0
0.5
1.0
1.5
2.0
Sec. Energy
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

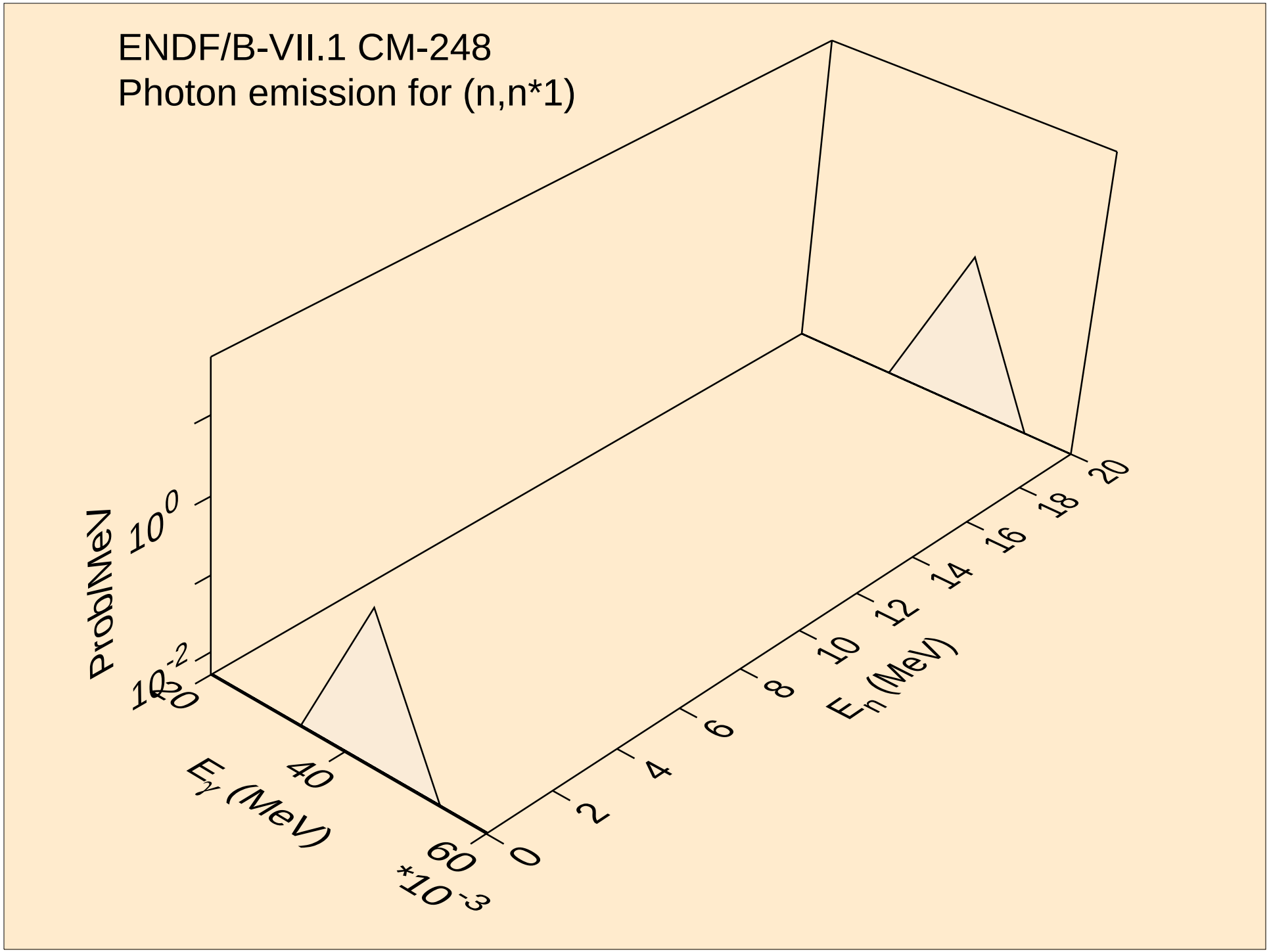

ENDF/B-VII.1 CM-248
Neutron emission for (n,n*c)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
20
Sec. Energy
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

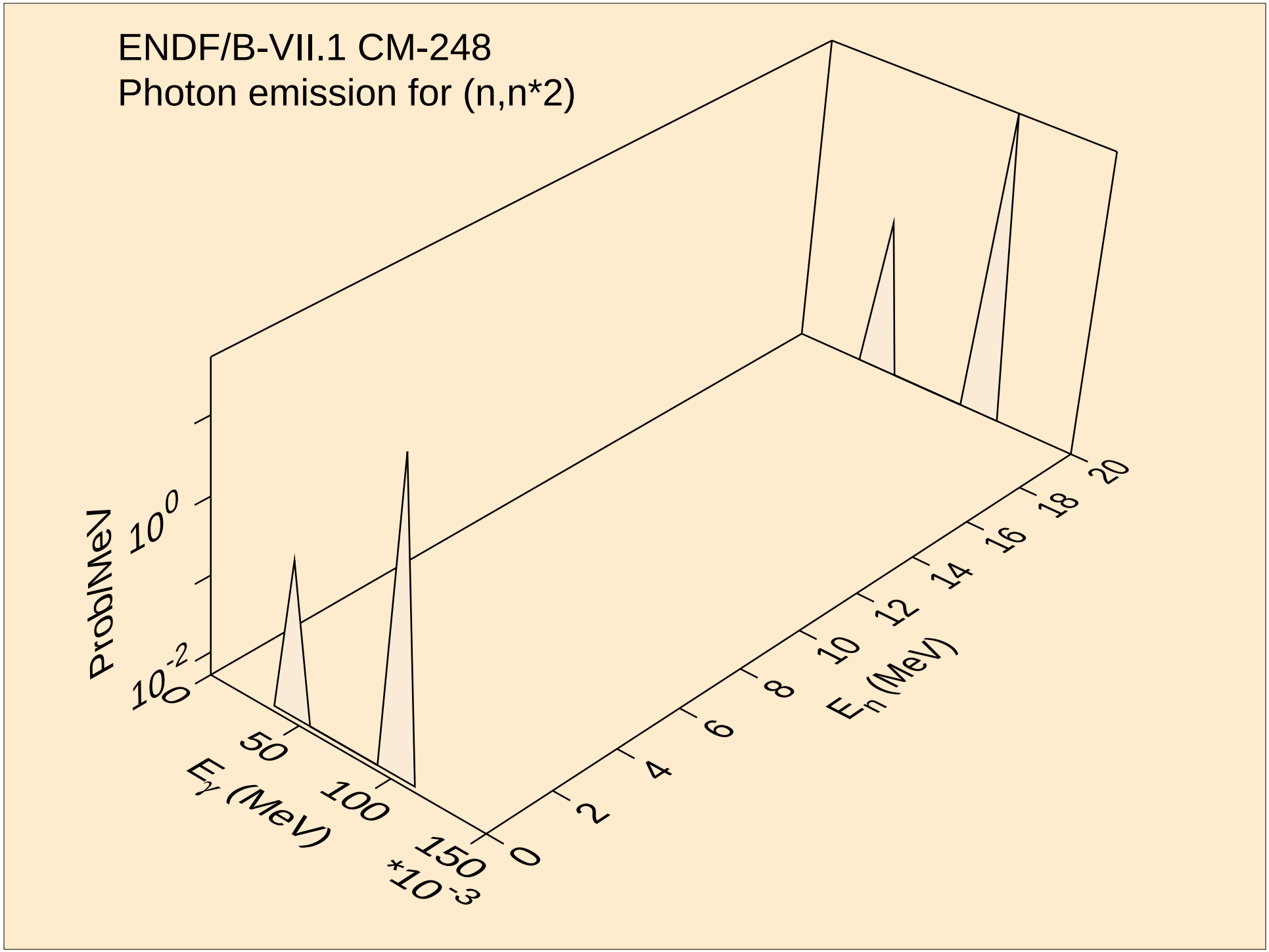

ENDF/B-VII.1 CM-248
Photon emission for fission
Prob/MeV
10^{0}
10^{-2}
0
5
10
E_γ (MeV)
0
5
10
15
20
E_n (MeV)

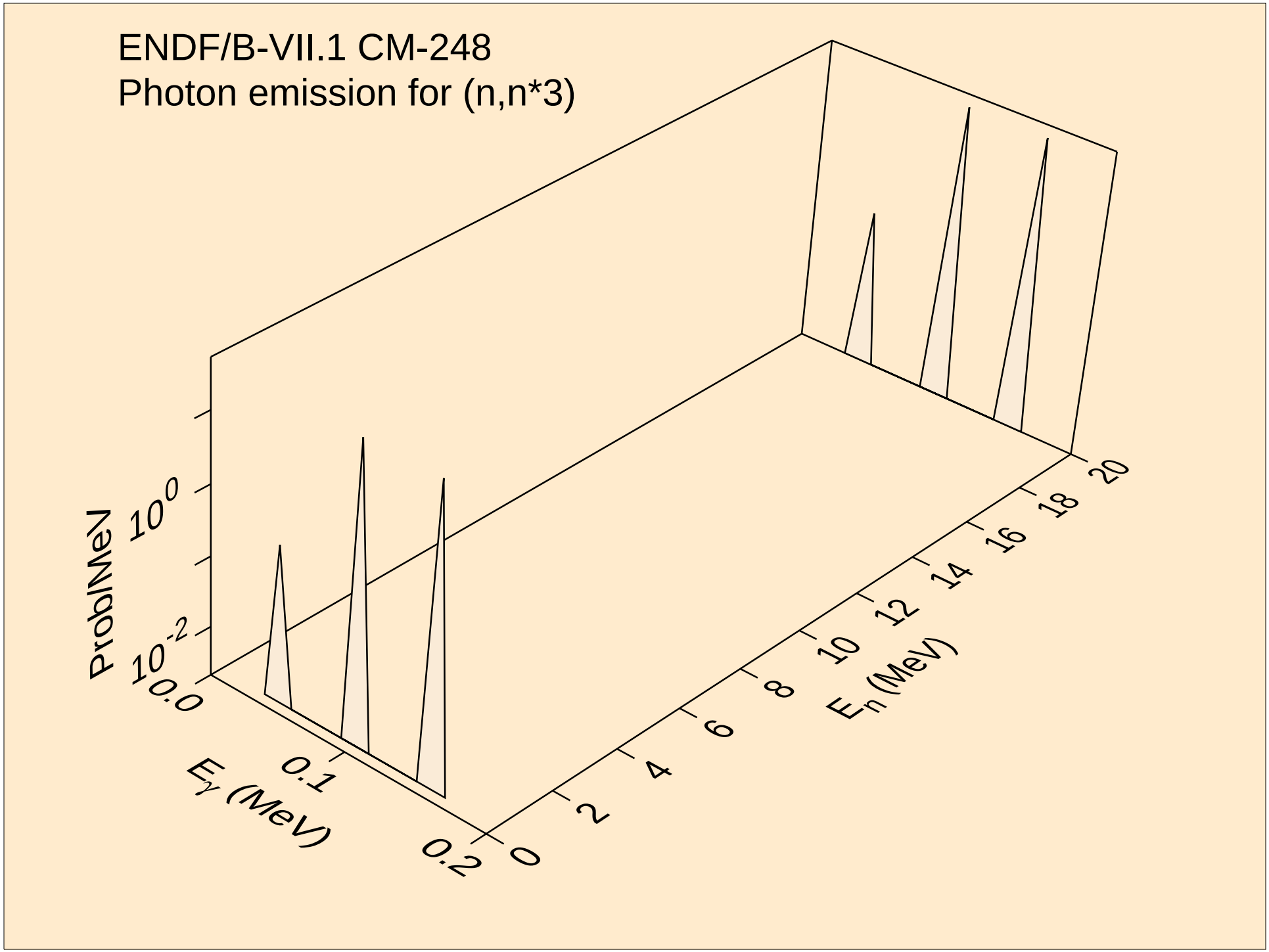

ENDF/B-VII.1 CM-248
Photon emission for (n,2n)
Prob/MeV
10^2
10^0
0
E_γ (MeV)
2
4
6
8
10
12
E_n (MeV)
14
16
18
20

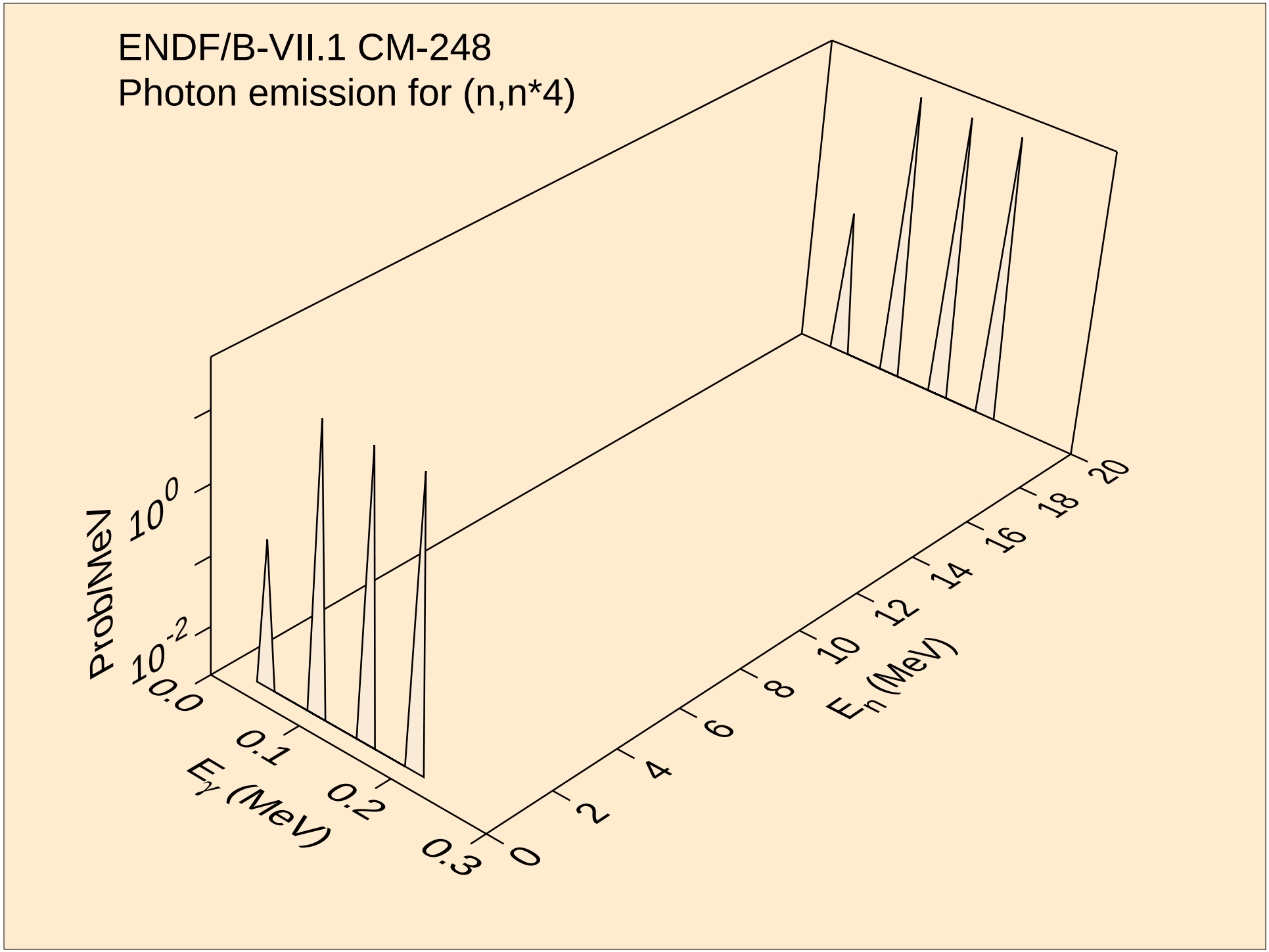

ENDF/B-VII.1 CM-248
Photon emission for (n,3n)
Prob/MeV
10^2
10^0
0
2
4
E_γ (MeV)
10
12
14
16
18
20
E_n (MeV)

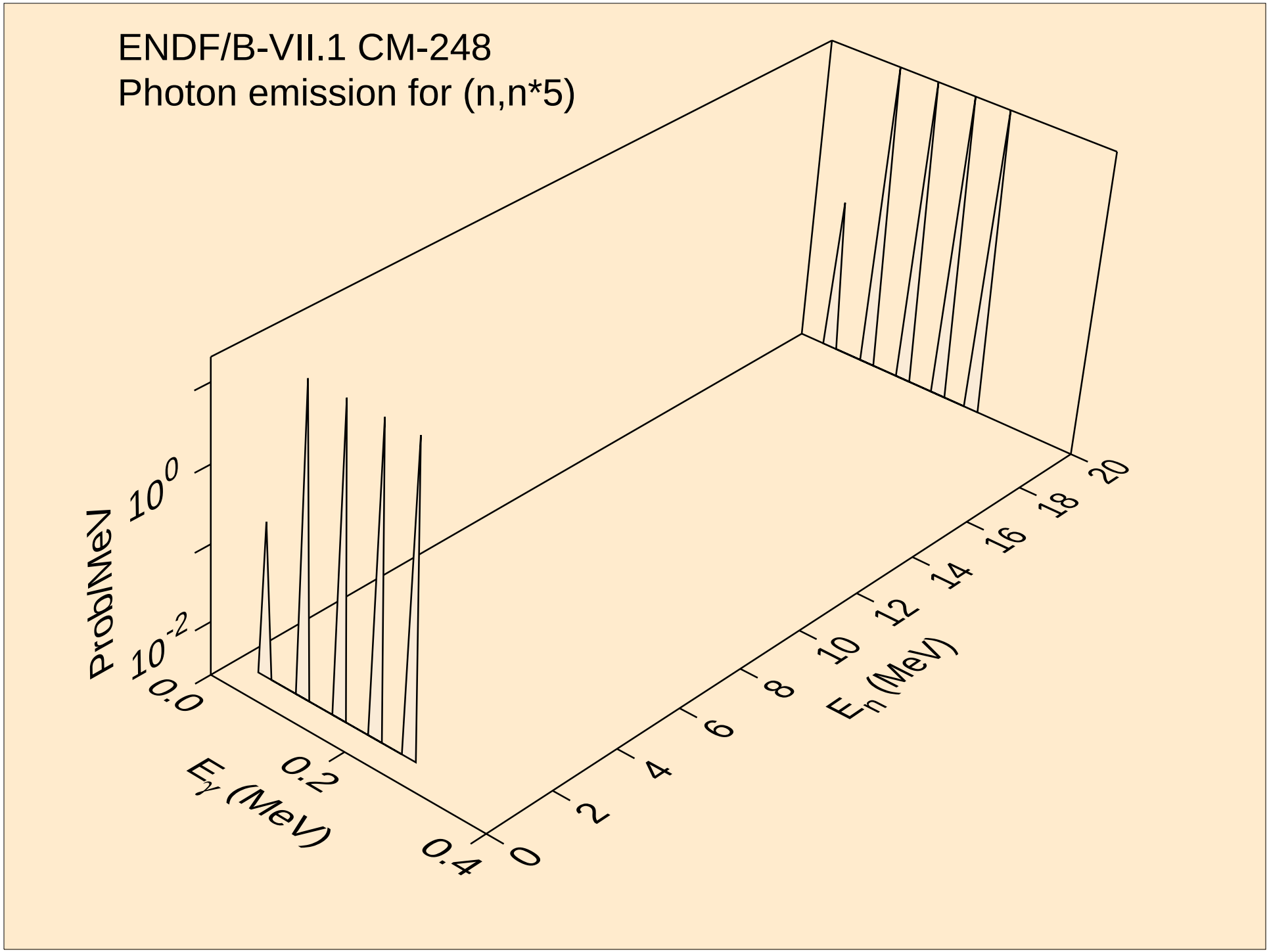

ENDF/B-VII.1 CM-248
Photon emission for (n,4n)
Prob/MeV
10^{0}
10^{-2}
-0.5
0.0
0.5
1.0
E_γ (MeV)
17.5
18.0
18.5
19.0
19.5
20.0
E_n (MeV)

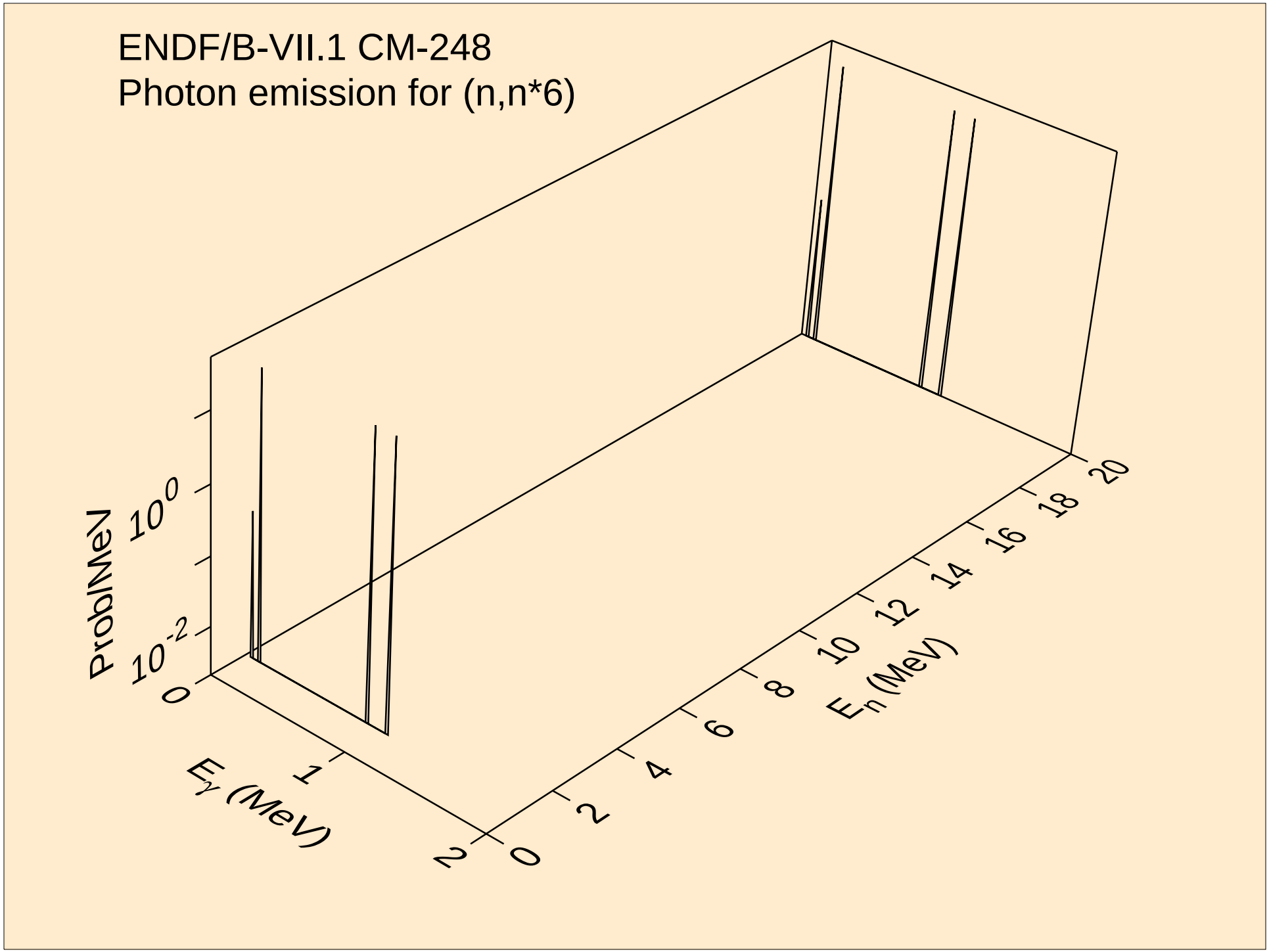

ENDF/B-VII.1 CM-248
Photon emission for (n,n*1)
Prob/MeV
10^0
10^-2
0
20
40
60
*10^-3
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

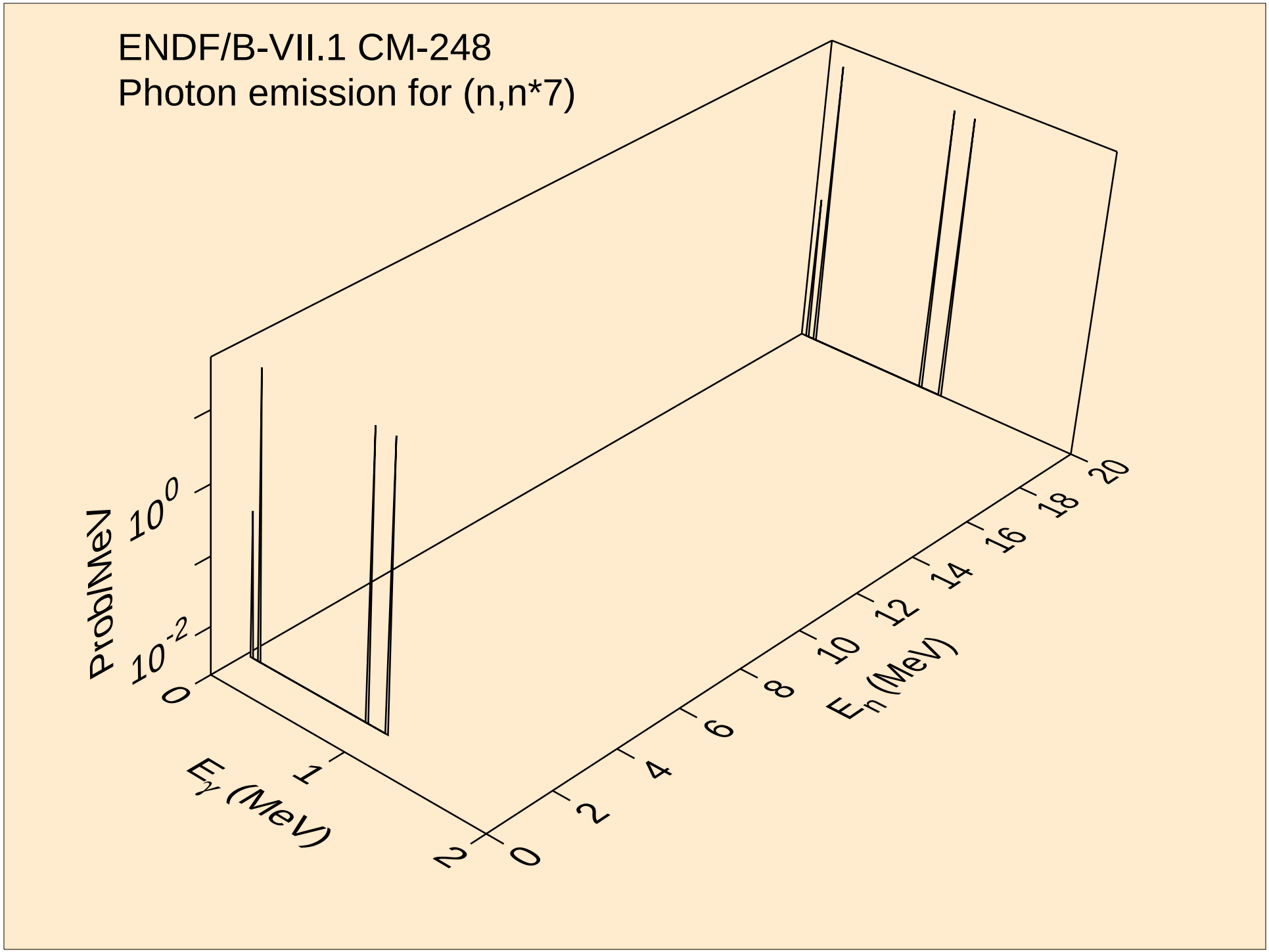

ENDF/B-VII.1 CM-248
Photon emission for (n,n*2)
Prob/MeV
10^0
10^-2
0
50
100
150
E_γ (MeV)
*10^-3
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

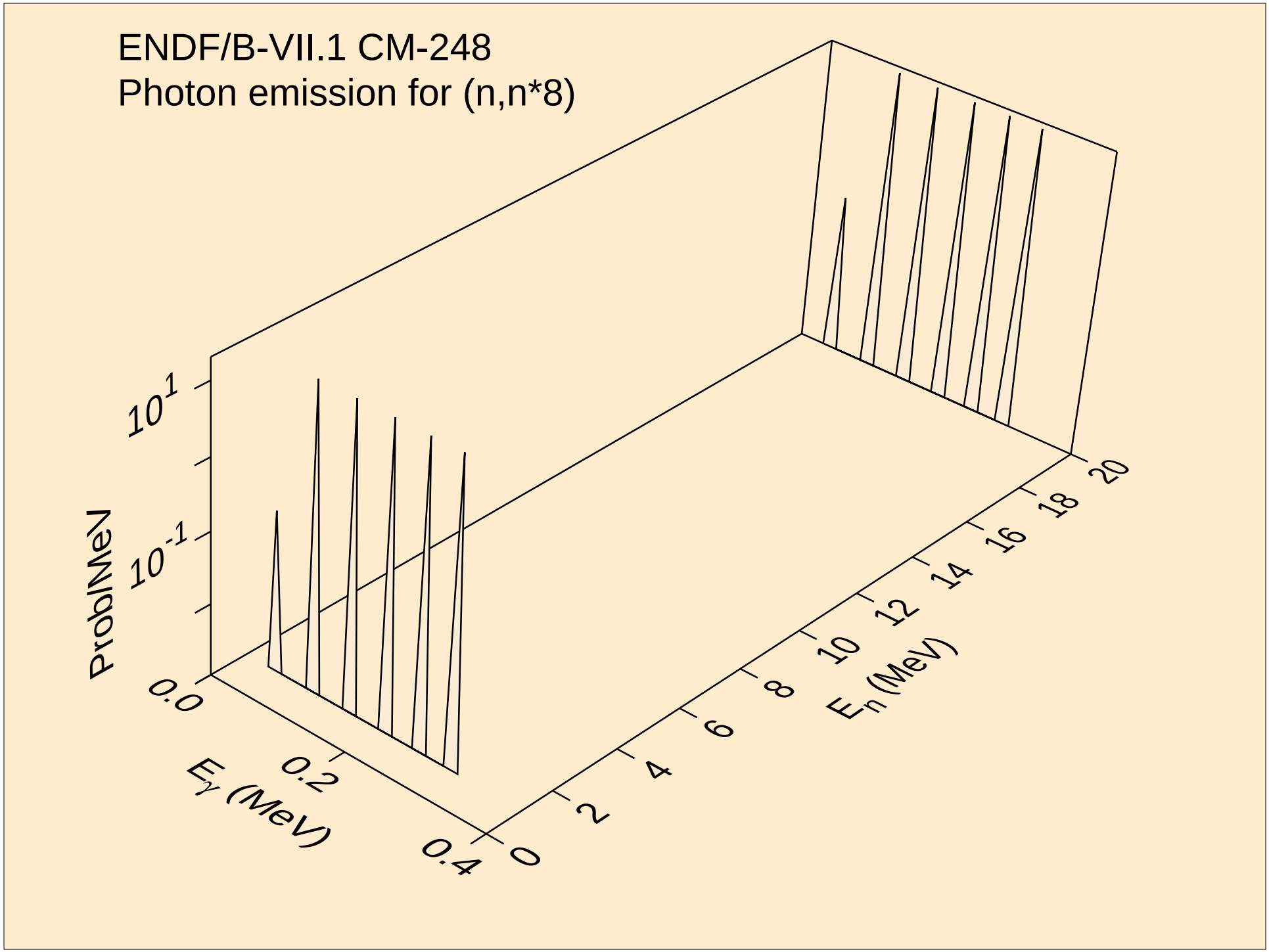

ENDF/B-VII.1 CM-248
Photon emission for (n,n*3)
Prob/MeV
10^{0}
10^{-2}
0.0
0.1
0.2
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

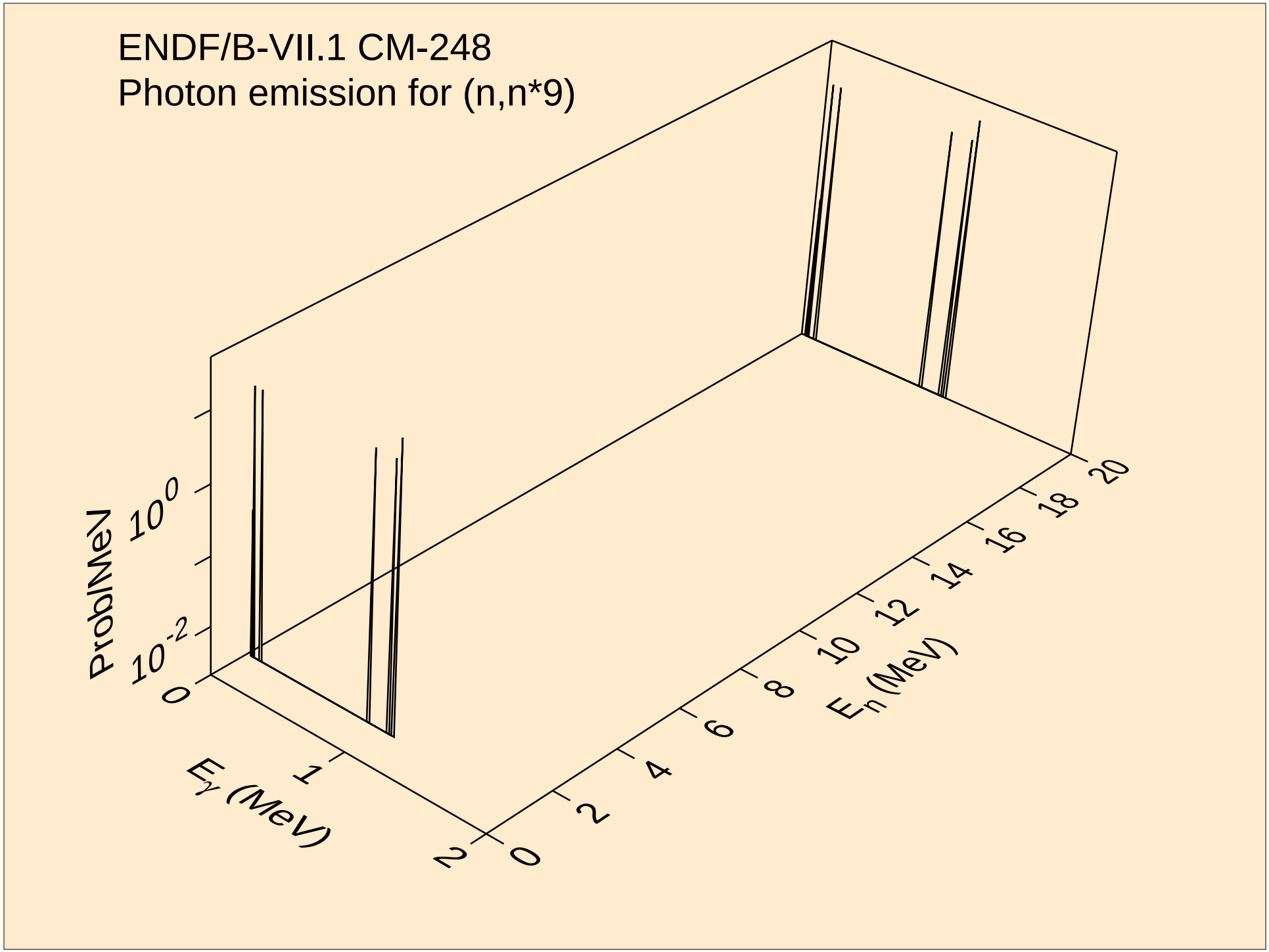

ENDF/B-VII.1 CM-248
Photon emission for (n,n*4)
Prob/MeV
10^{0}
10^{-2}
0.0
0.1
0.2
0.3
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

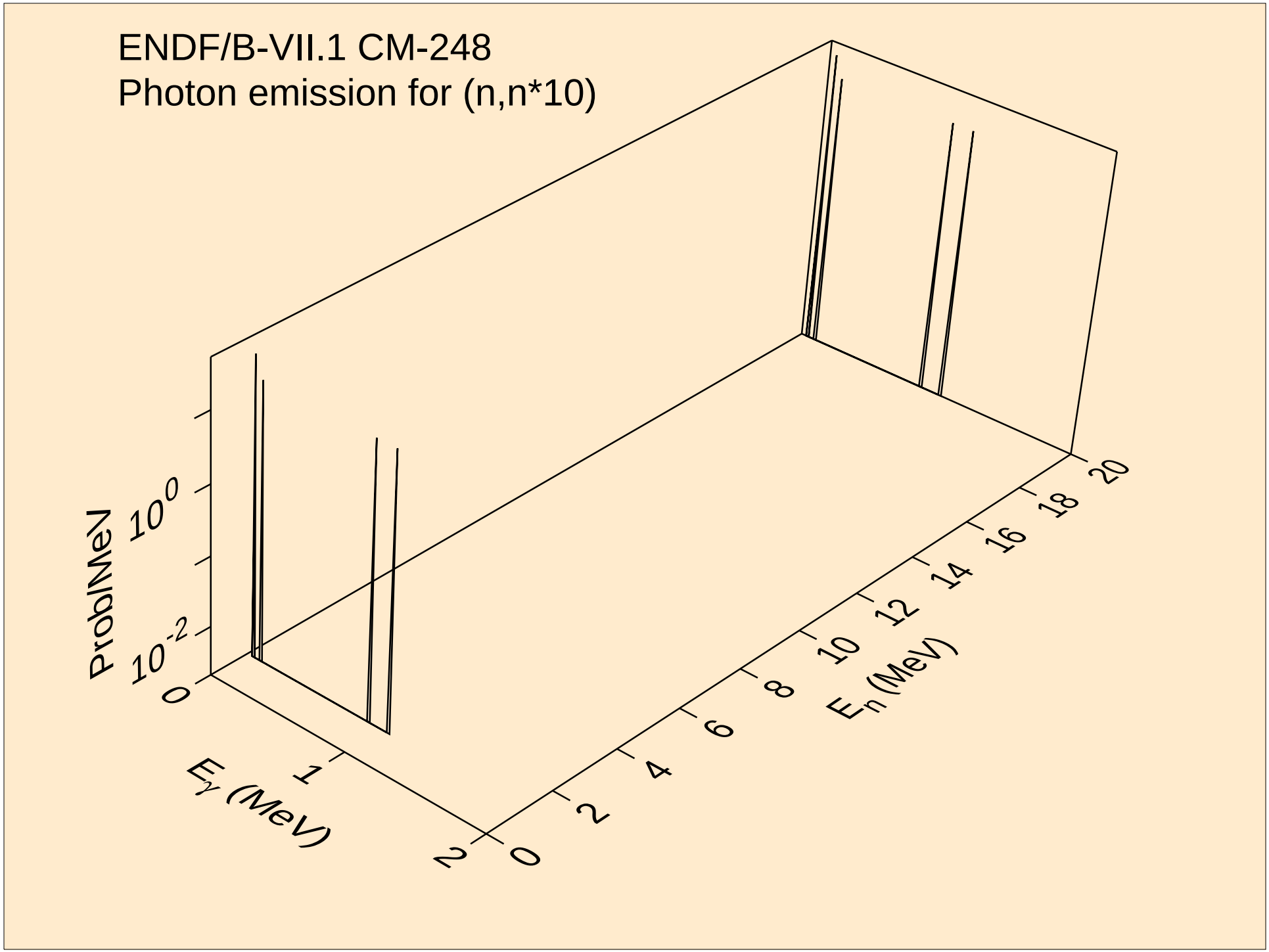

ENDF/B-VII.1 CM-248
Photon emission for (n,n*5)
Prob/MeV
10^0
10^-2
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

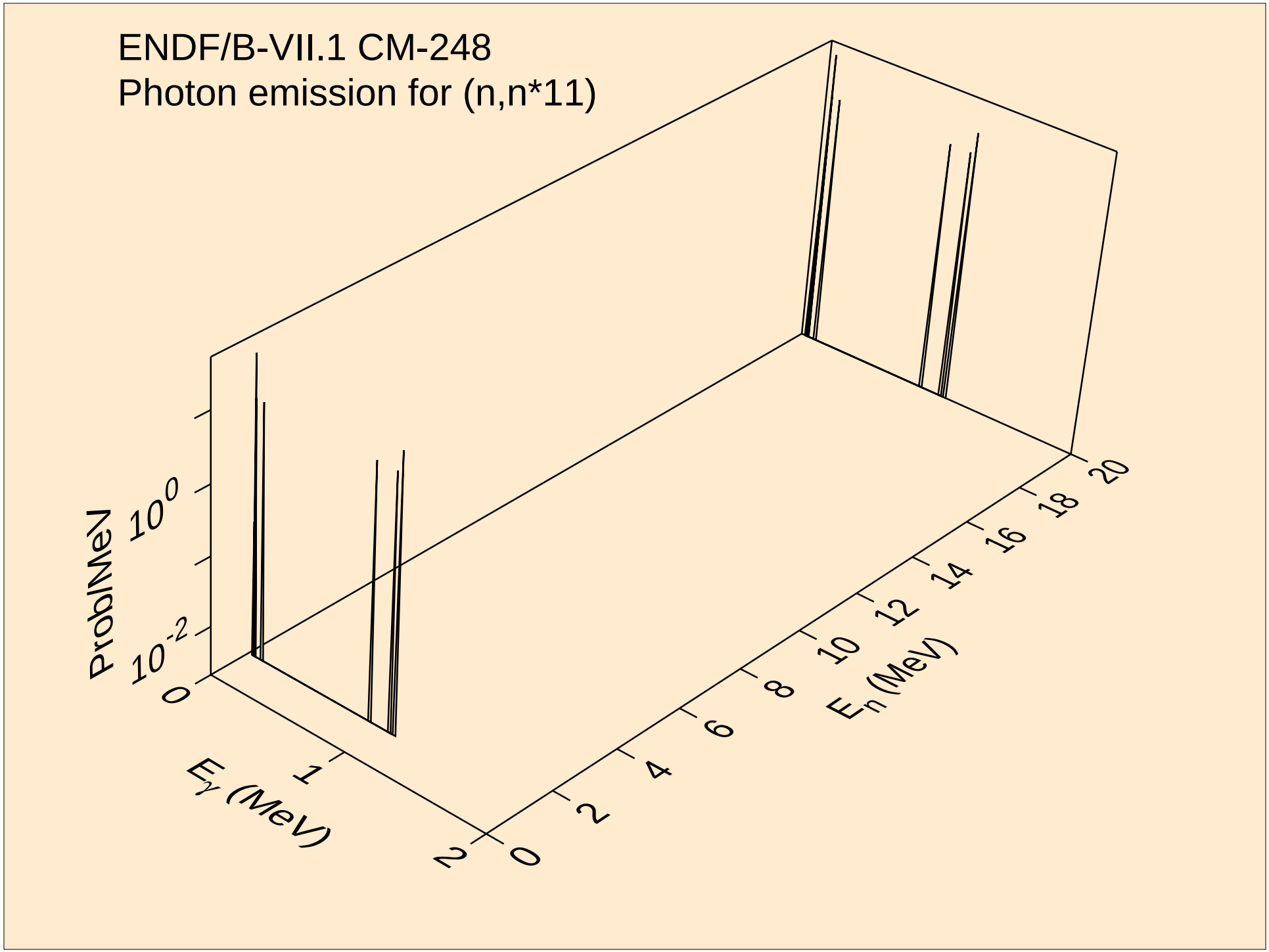

ENDF/B-VII.1 CM-248
Photon emission for (n,n*6)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

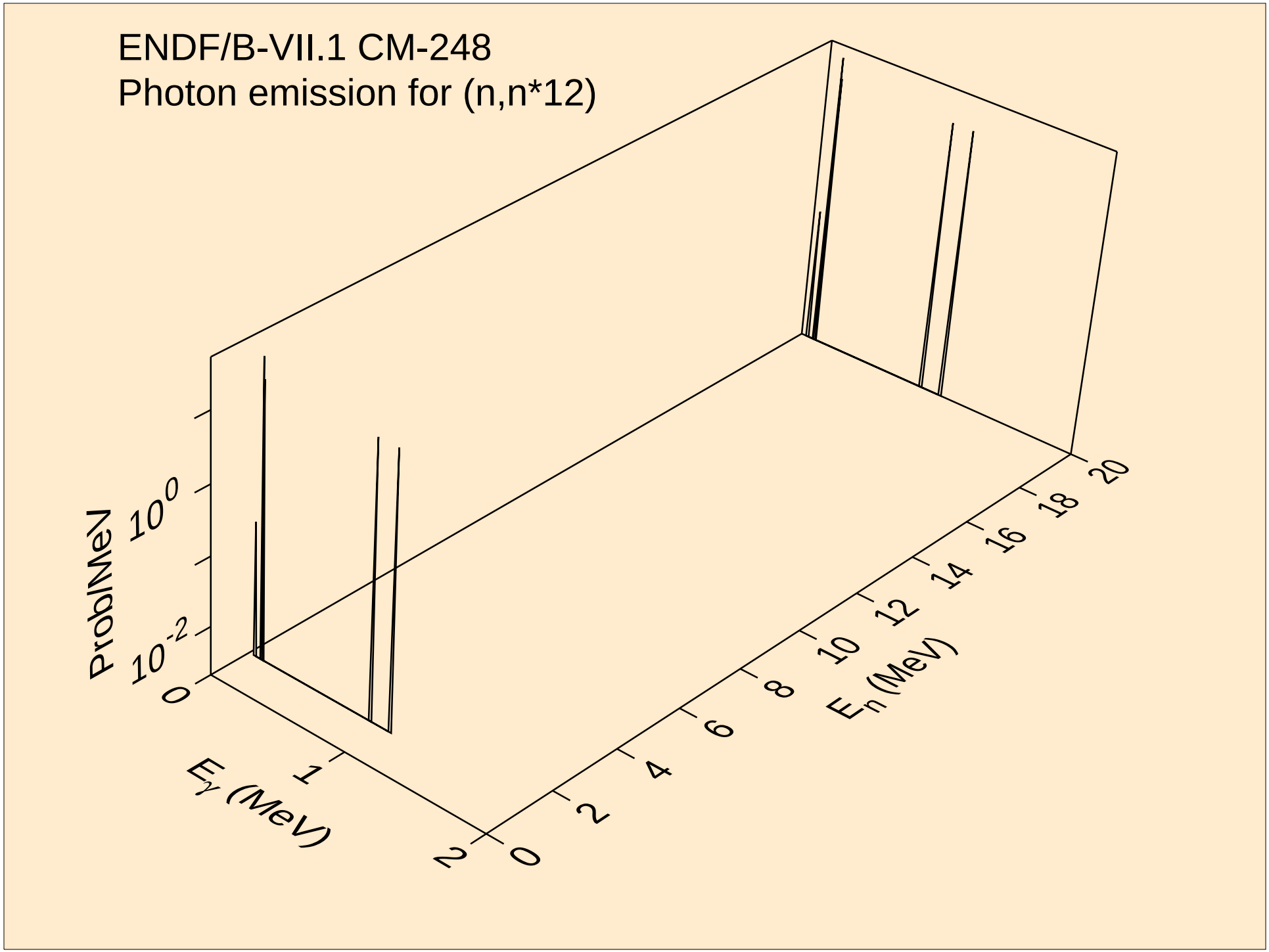

ENDF/B-VII.1 CM-248
Photon emission for (n,n*7)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

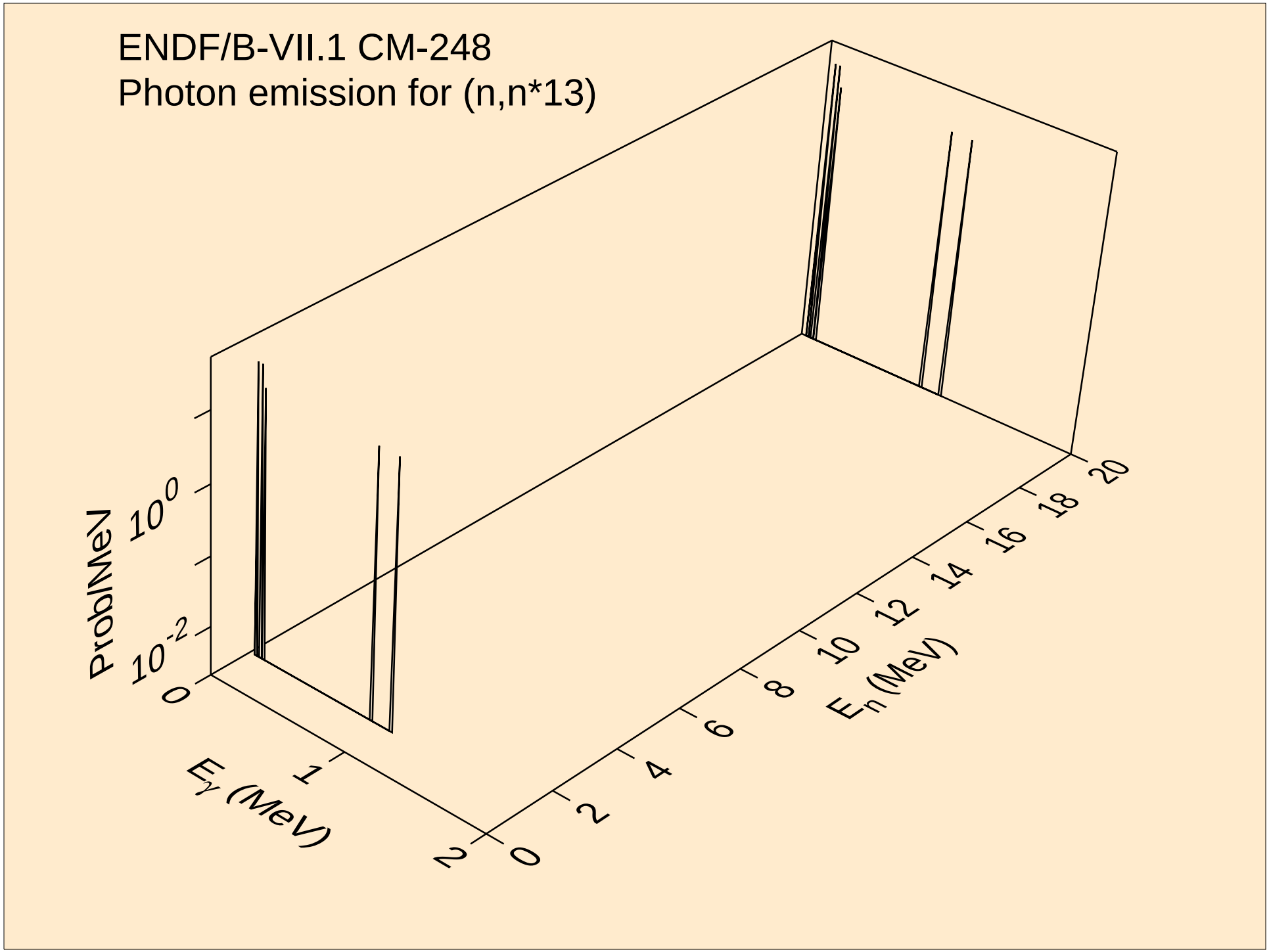

ENDF/B-VII.1 CM-248
Photon emission for (n,n*8)
Prob/MeV
10^{1}
10^{-1}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

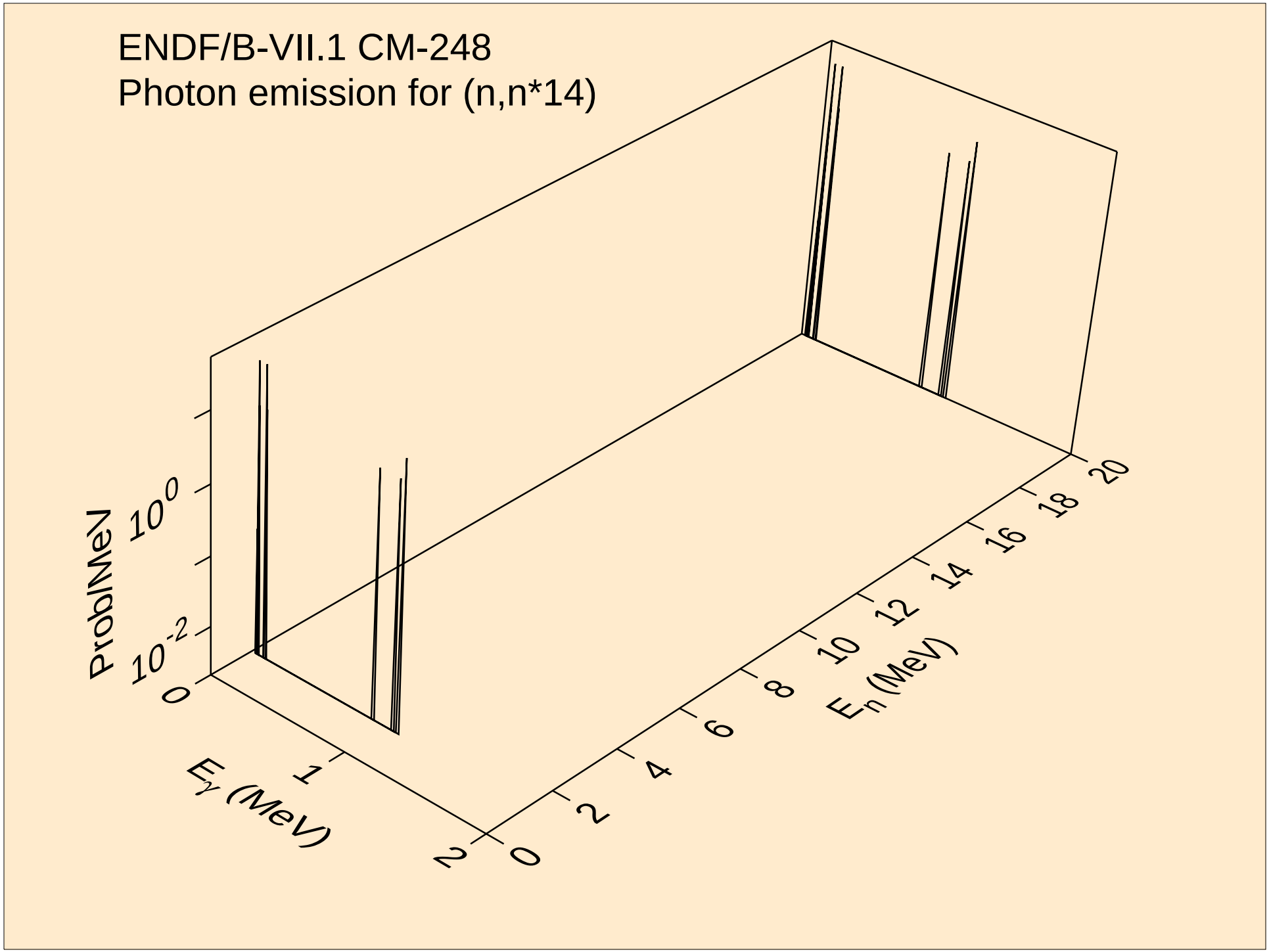

ENDF/B-VII.1 CM-248
Photon emission for (n,n*9)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

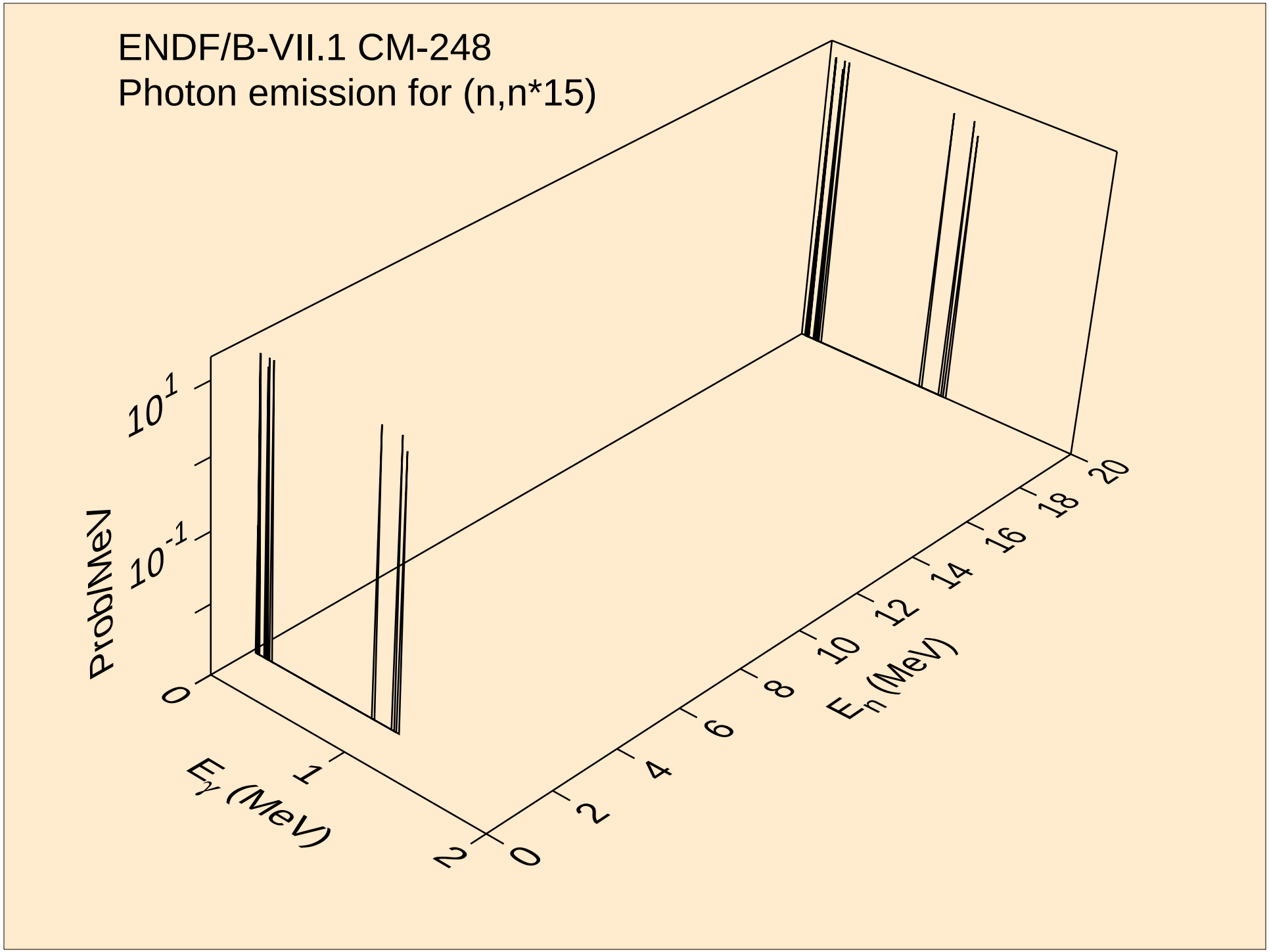

ENDF/B-VII.1 CM-248
Photon emission for (n,n*10)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

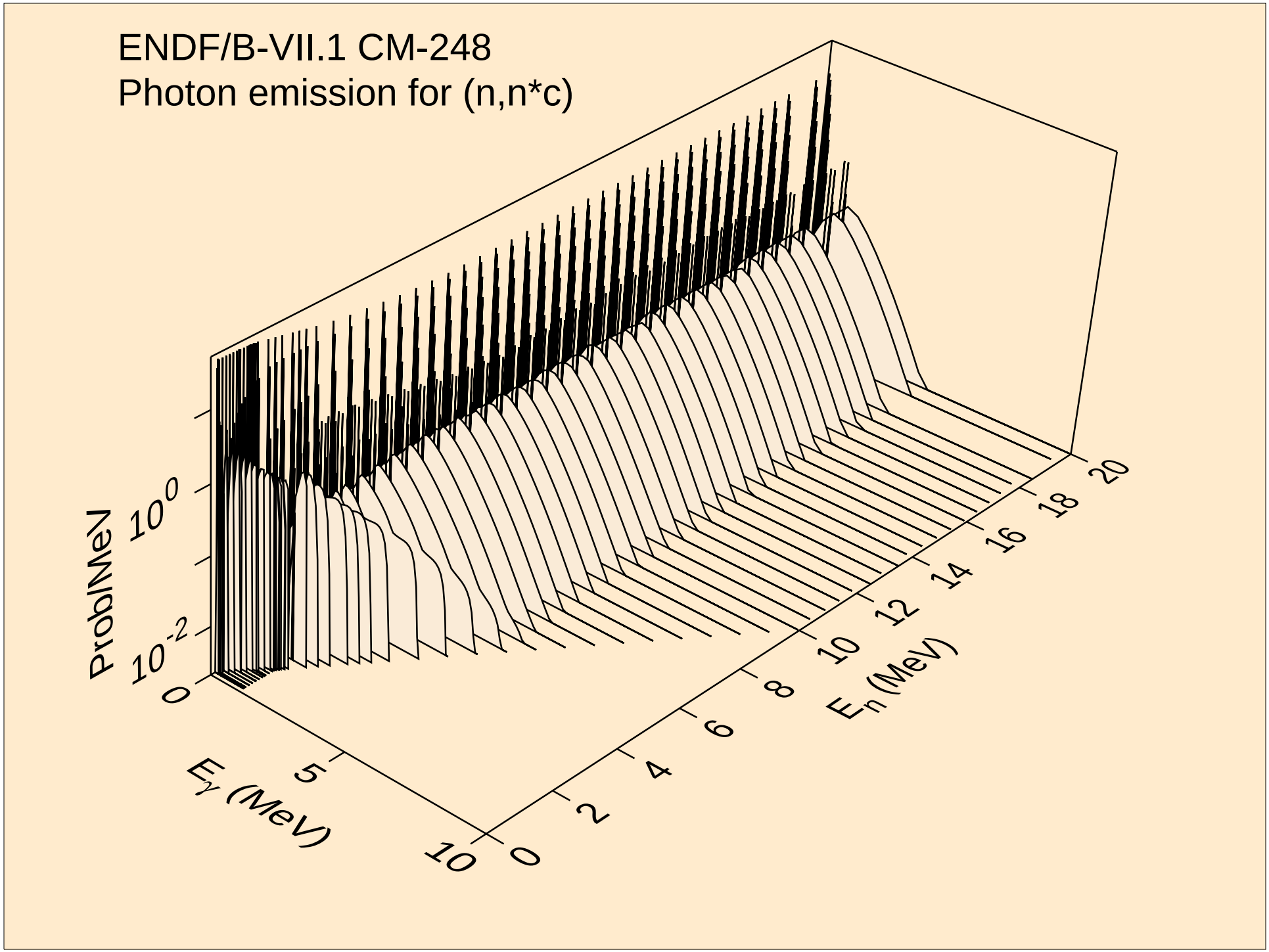

ENDF/B-VII.1 CM-248
Photon emission for (n,n*11)
Prob/MeV
10^0
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

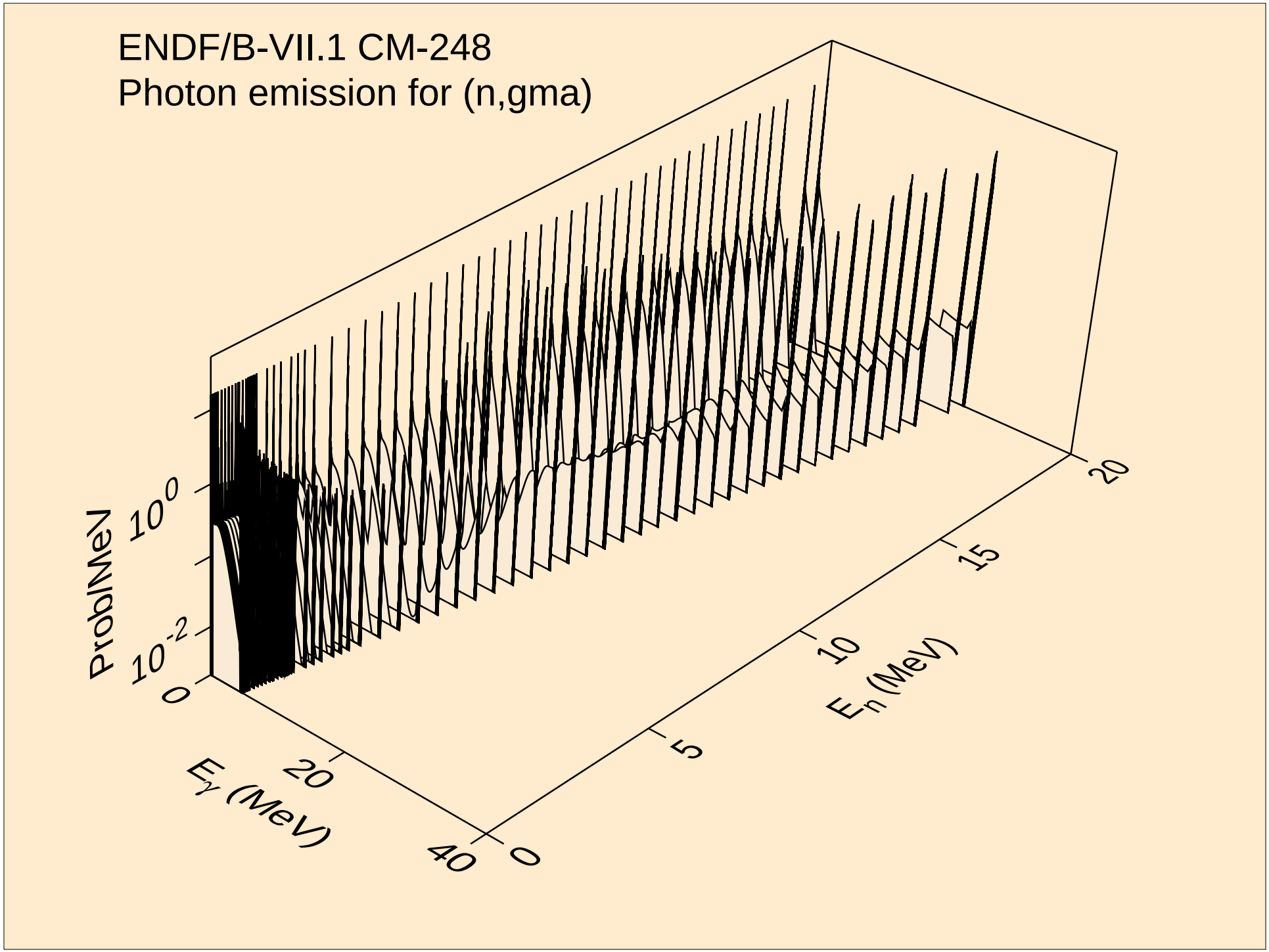

ENDF/B-VII.1 CM-248
Photon emission for (n,n*12)
Prob/MeV
10^{0}
10^{-2}
0
1
2
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

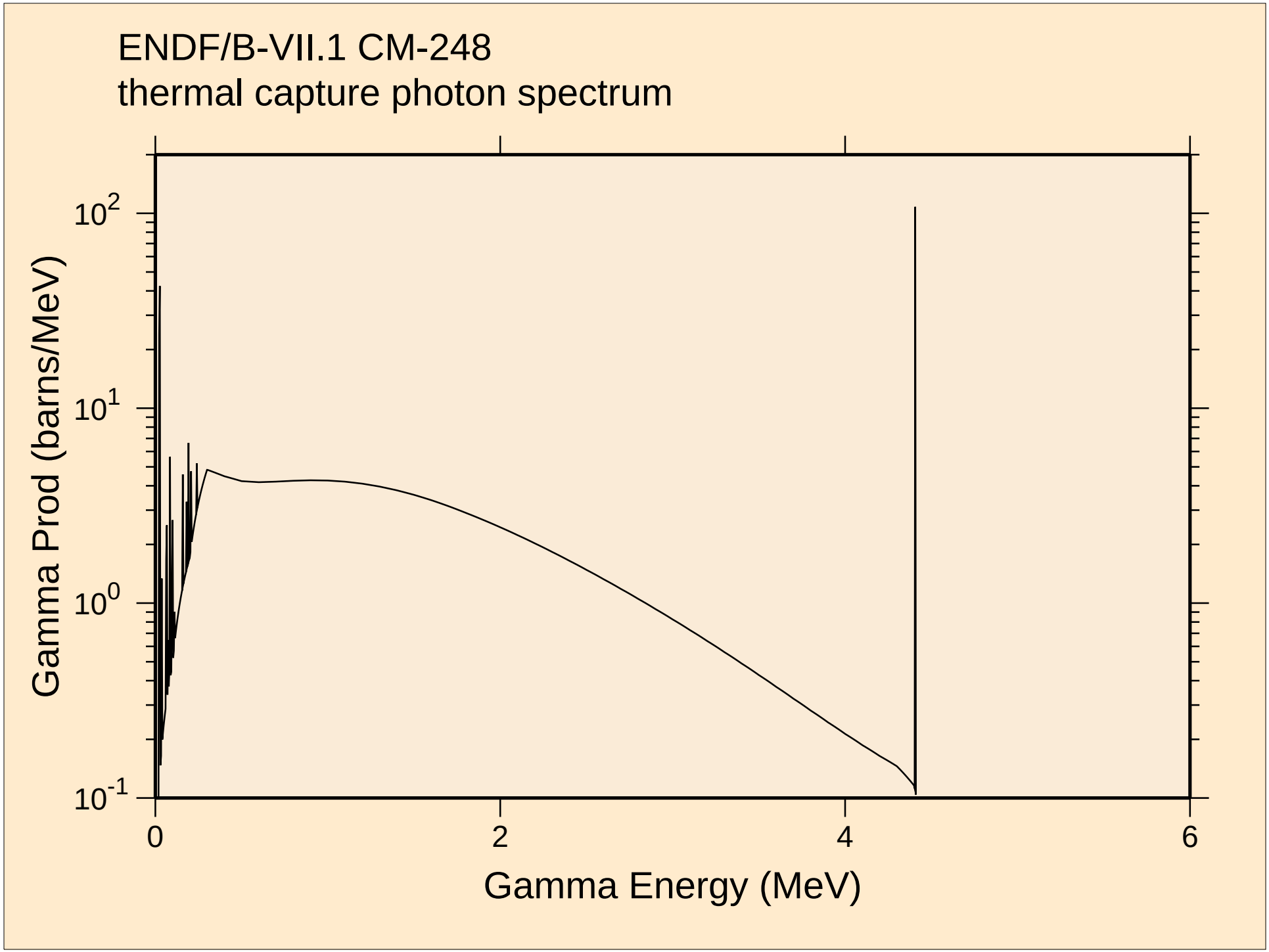

ENDF/B-VII.1 CM-248
Photon emission for (n,n*13)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

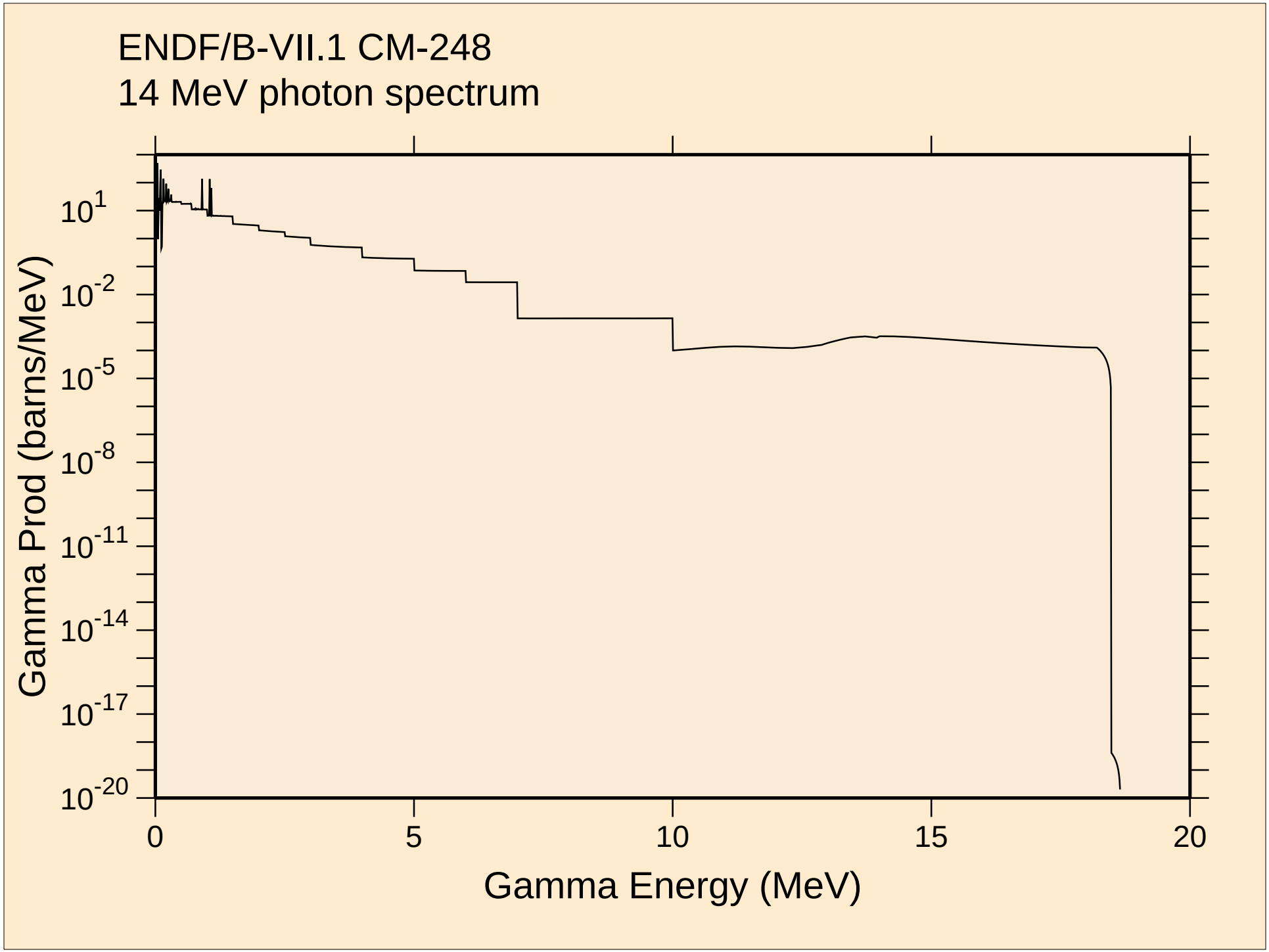

ENDF/B-VII.1 CM-248
Photon emission for (n,n*14)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)


ENDF/B-VII.1 CM-248
Photon emission for (n,n*15)
Prob/MeV
10^{1}
10^{-1}
0
E_γ (MeV)
1
2
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)


ENDF/B-VII.1 CM-248
Photon emission for (n,n*c)
Prob/MeV
10^{0}
10^{-2}
0
E_γ (MeV)
0
5
10
E_n (MeV)
0
2
4
6
8
10
12
14
16
18
20


ENDF/B-VII.1 CM-248
Photon emission for (n,gma)
Prob/MeV
10^0
10^-2
0
20
40
E_γ (MeV)
0
5
10
15
20
E_n (MeV)


ENDF/B-VII.1 CM-248
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^{2}
10^{1}
10^{0}
10^{-1}
0
2
4
6
Gamma Energy (MeV)


ENDF/B-VII.1 CM-248
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^1
10^-2
10^-5
10^-8
10^-11
10^-14
10^-17
10^-20
0
5
10
15
20
Gamma Energy (MeV)