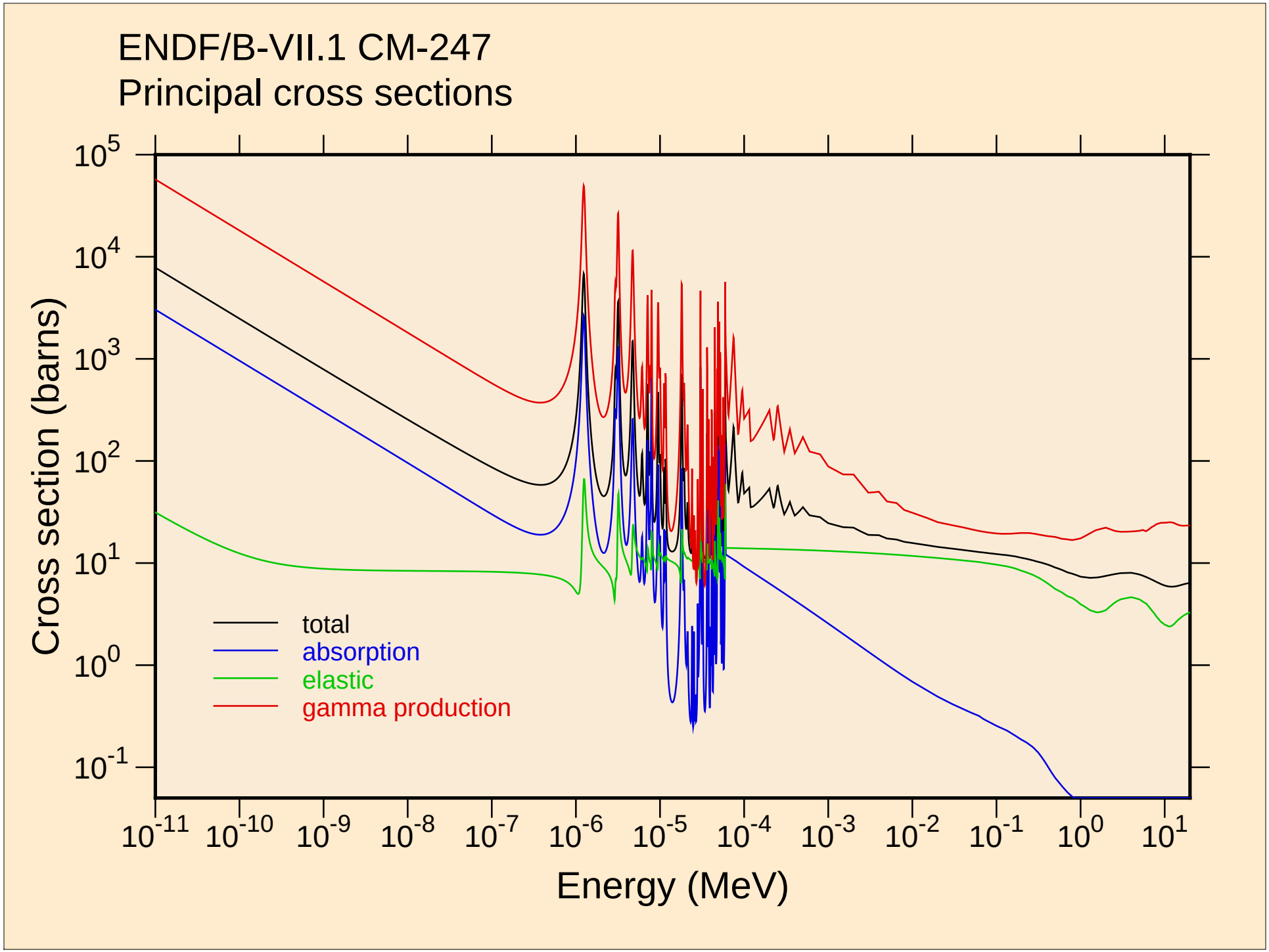
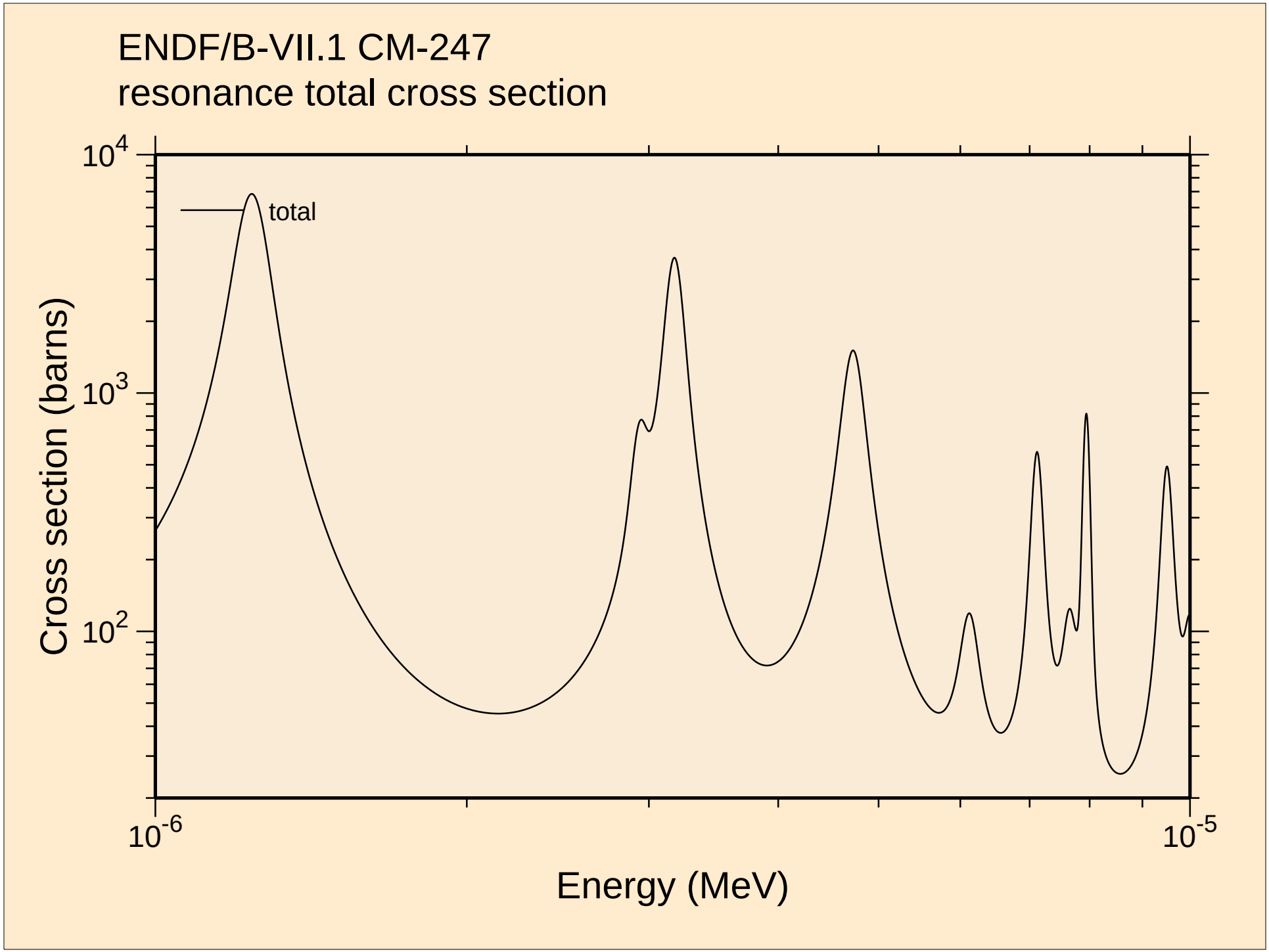
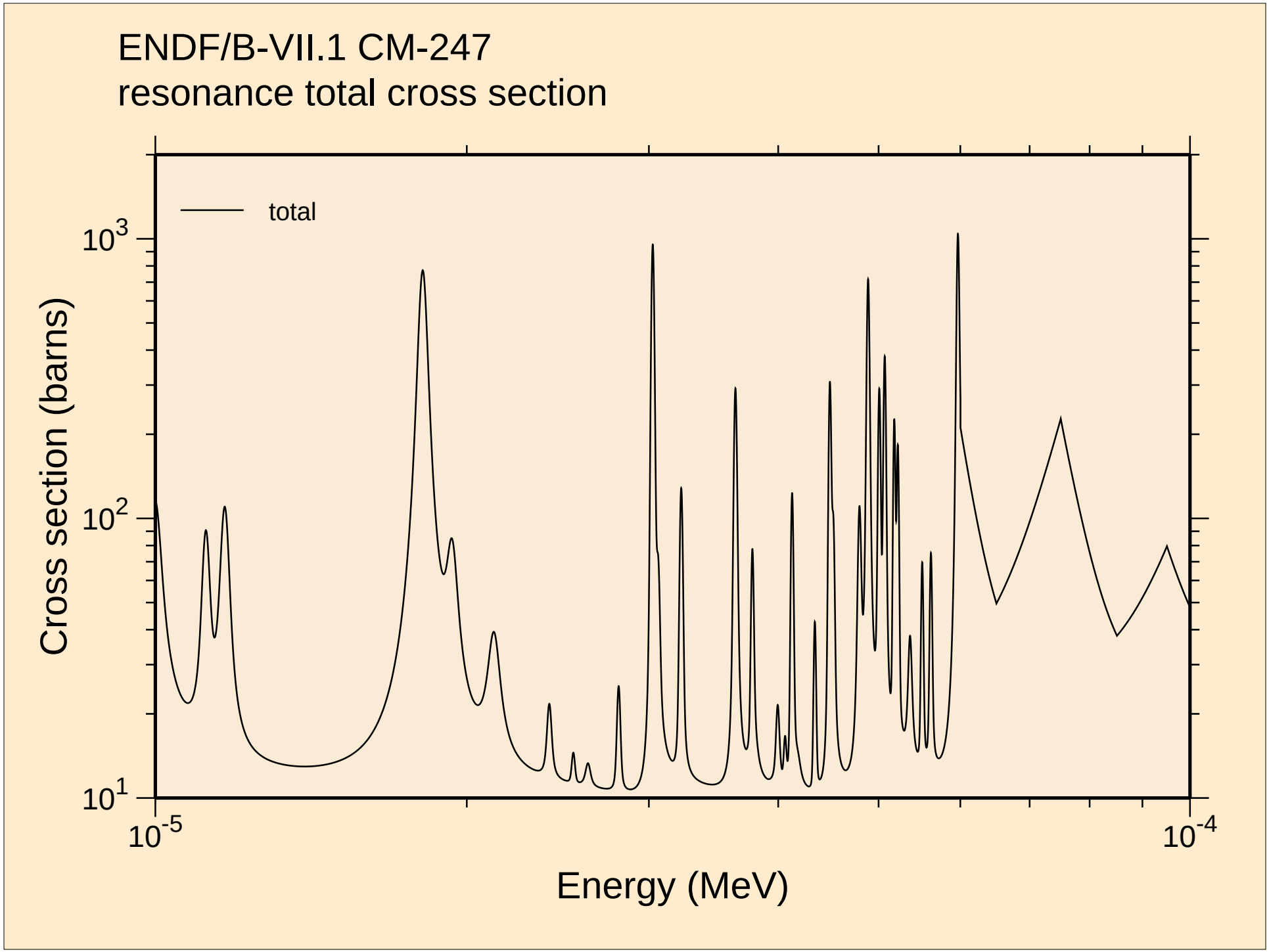
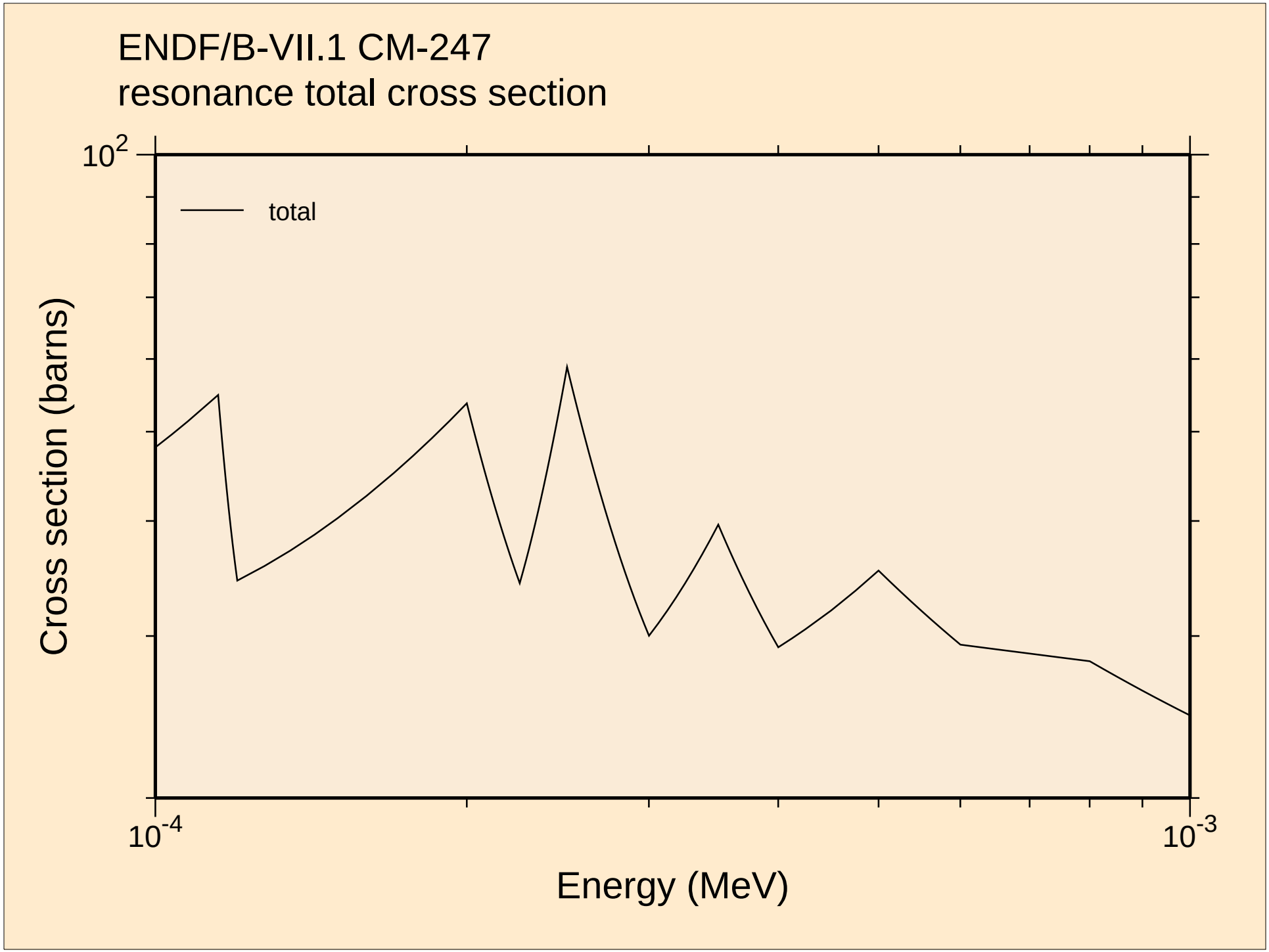
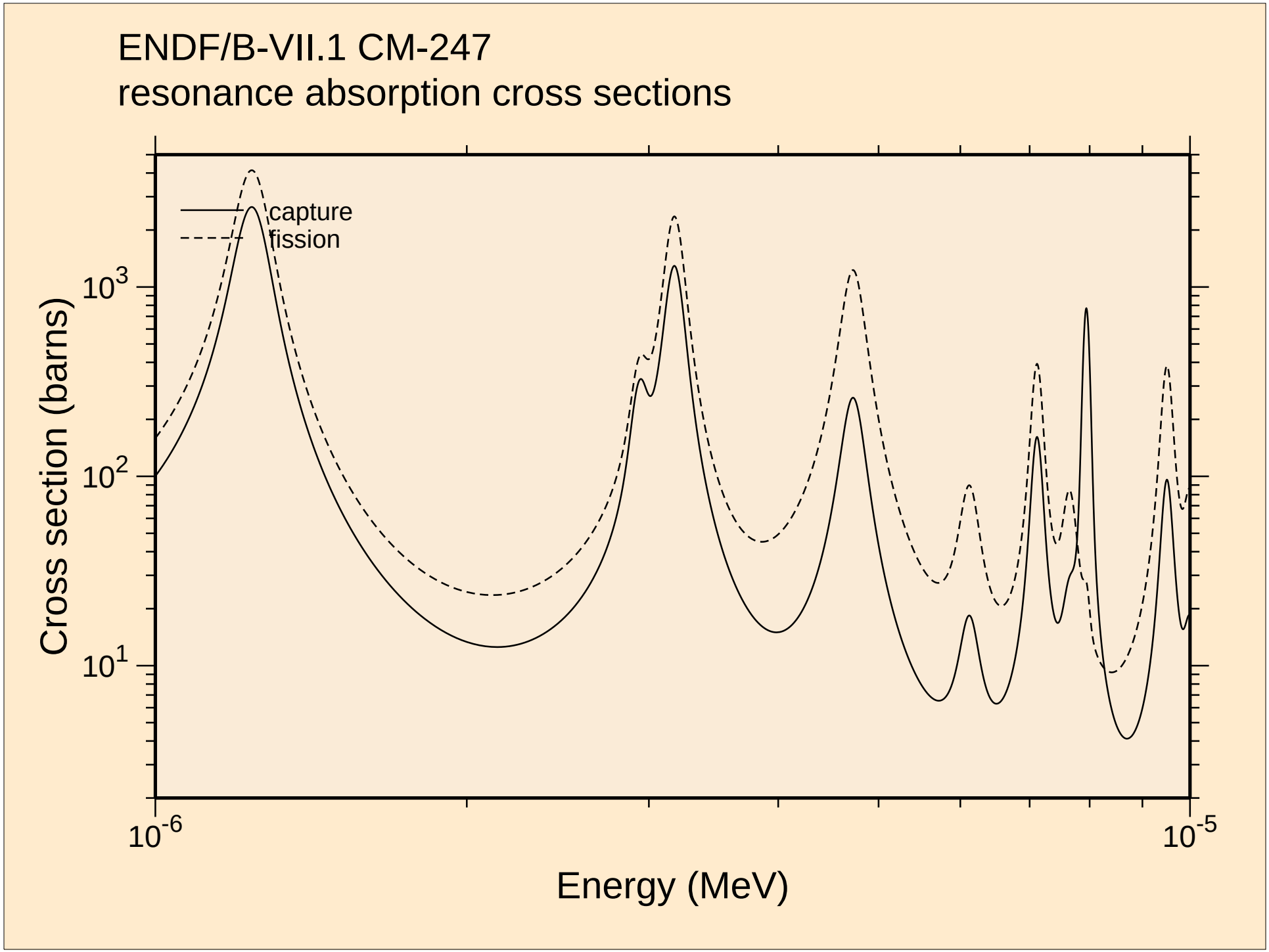

ENDF/B-VII.1 CM-247
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production

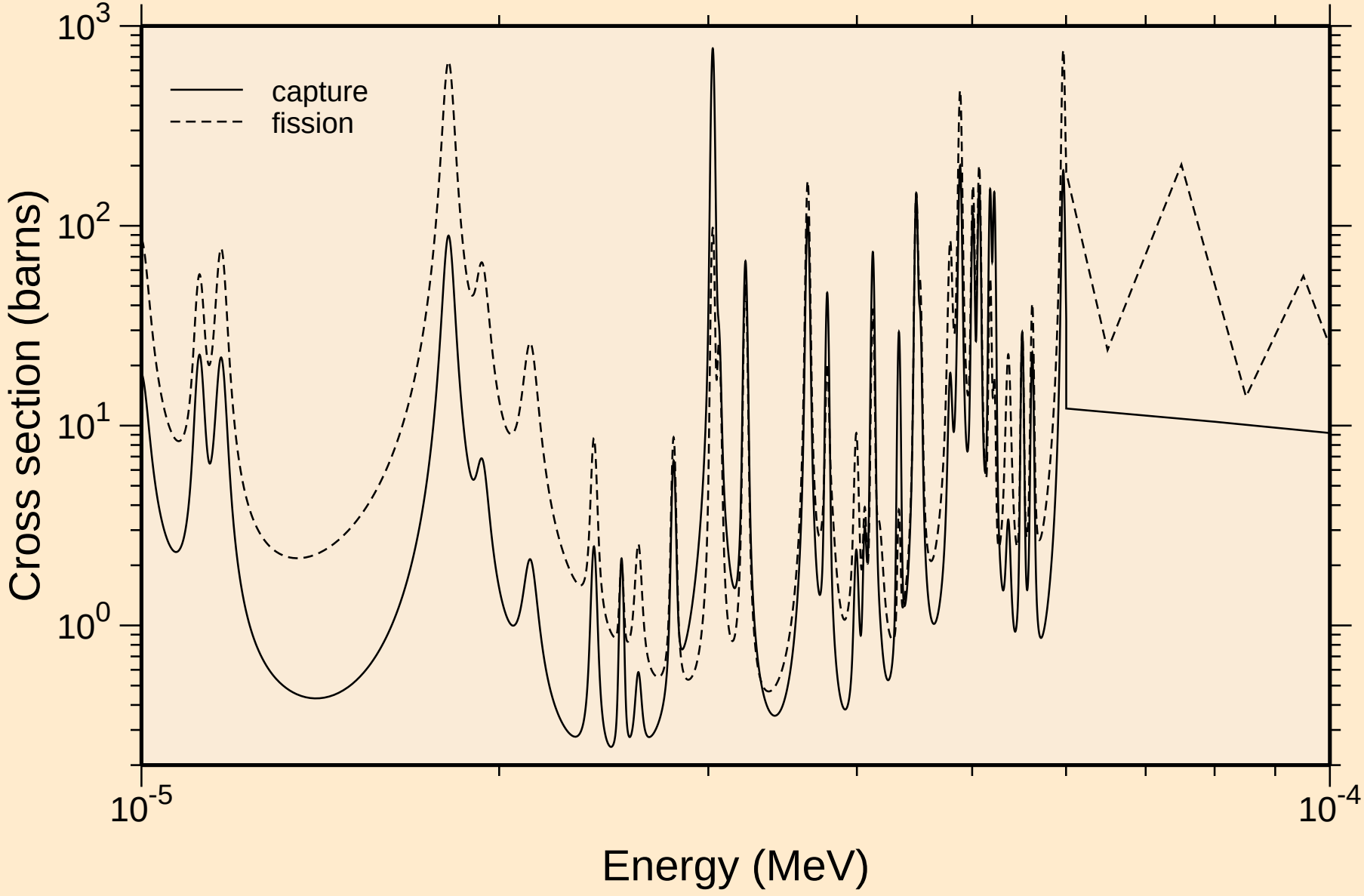

ENDF/B-VII.1 CM-247
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^{-6}
10^{-5}
Energy (MeV)


ENDF/B-VII.1 CM-247
resonance total cross section
total
10^3
10^2
10^1
Cross section (barns)
10^{-5}
10^{-4}
Energy (MeV)

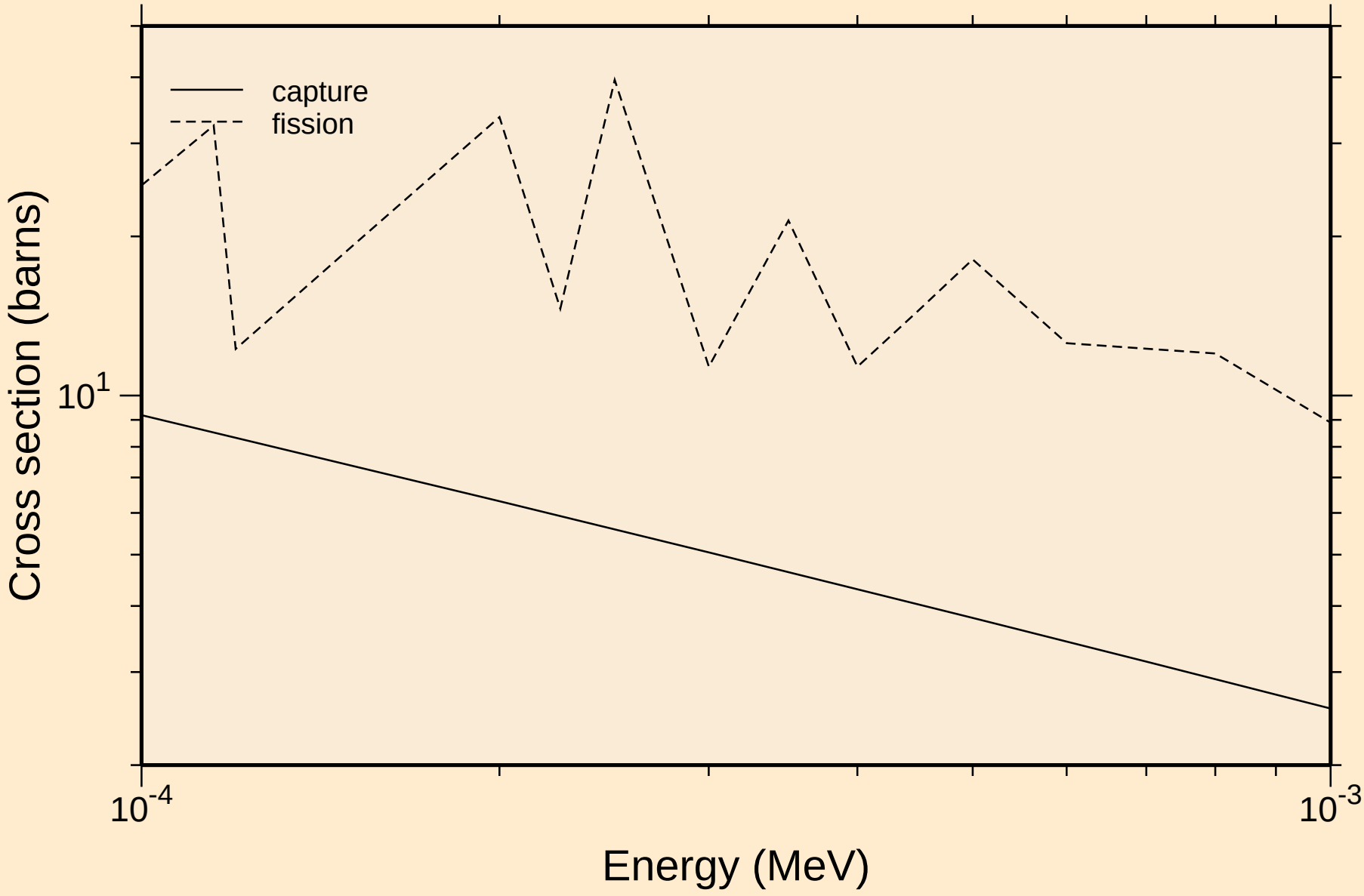

ENDF/B-VII.1 CM-247
resonance total cross section
10^2
total
Cross section (barns)
10^{-4}
10^{-3}
Energy (MeV)

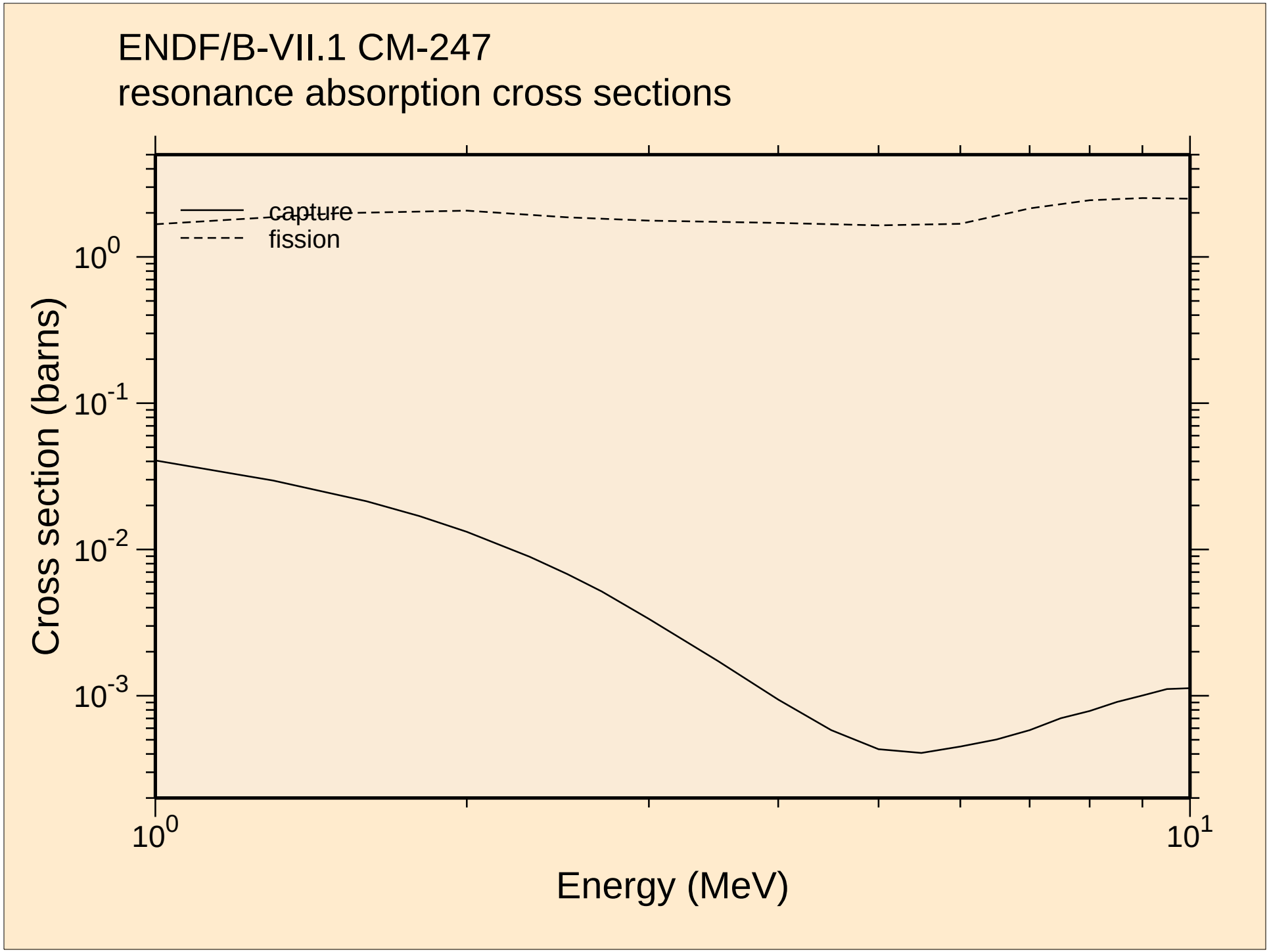

ENDF/B-VII.1 CM-247
resonance absorption cross sections
capture
fission
Cross section (barns)
10^3
10^2
10^1
10^{-6}
10^{-5}
Energy (MeV)

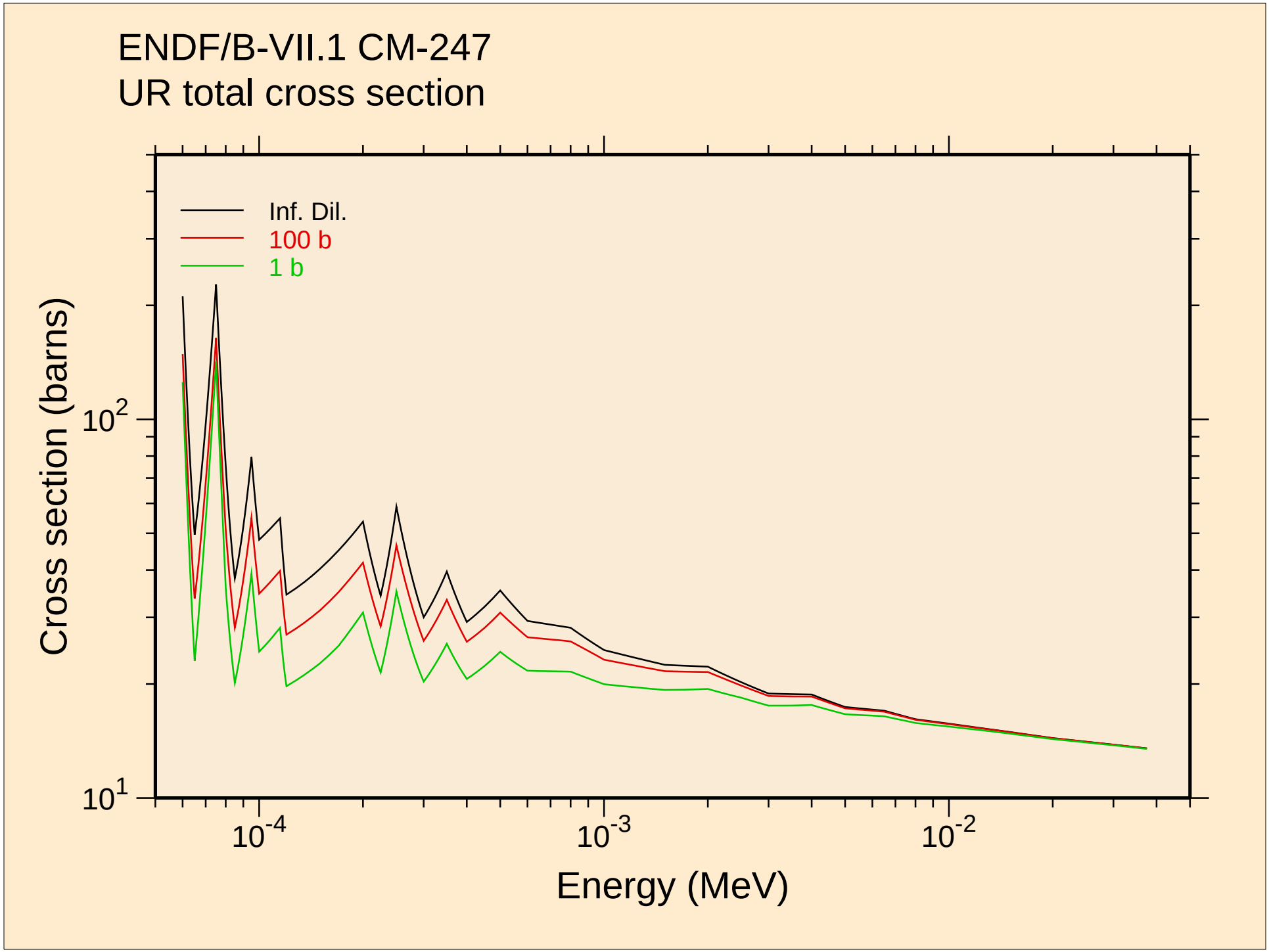
ENDF/B-VII.1 CM-247
resonance absorption cross sections

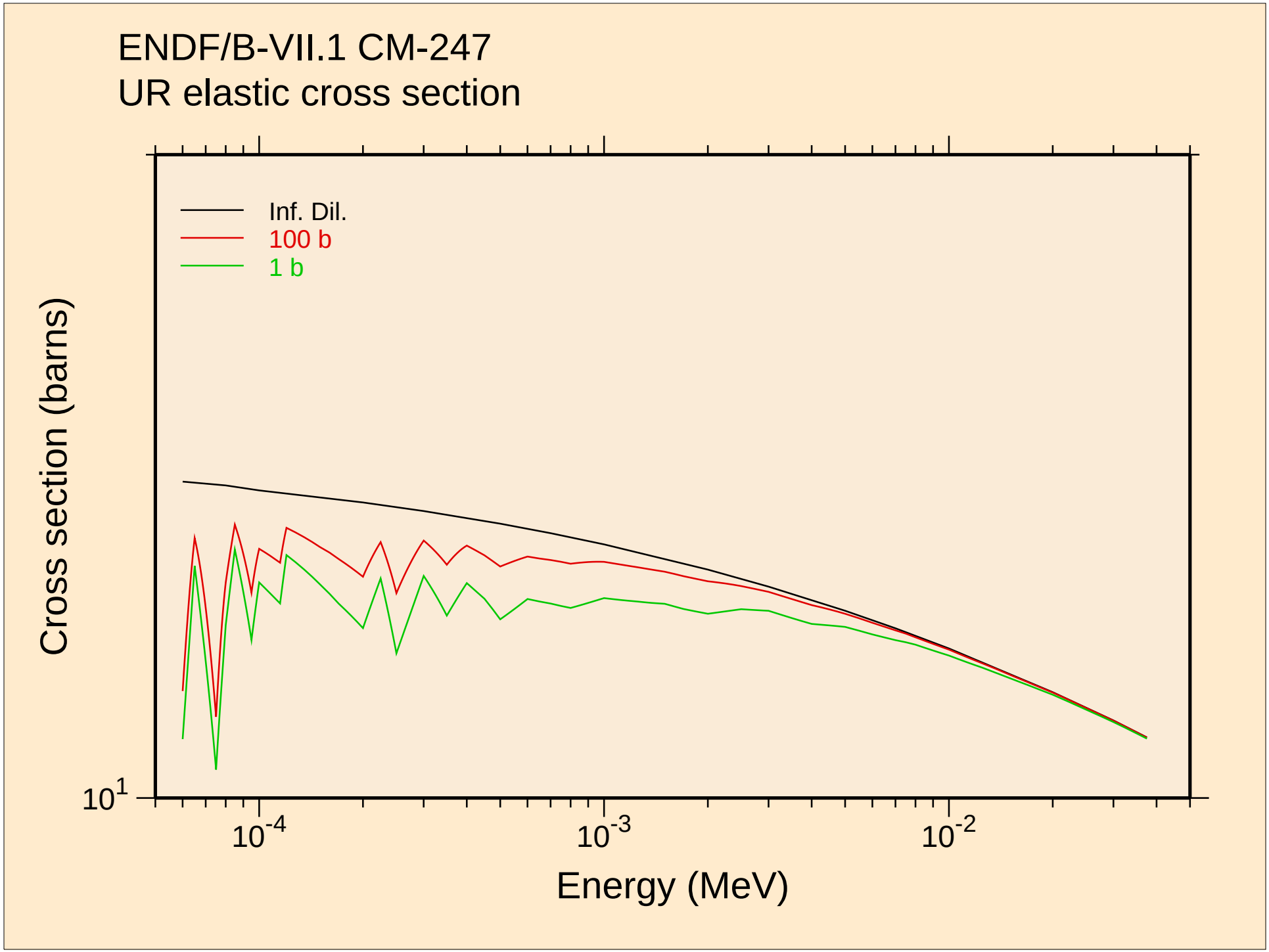


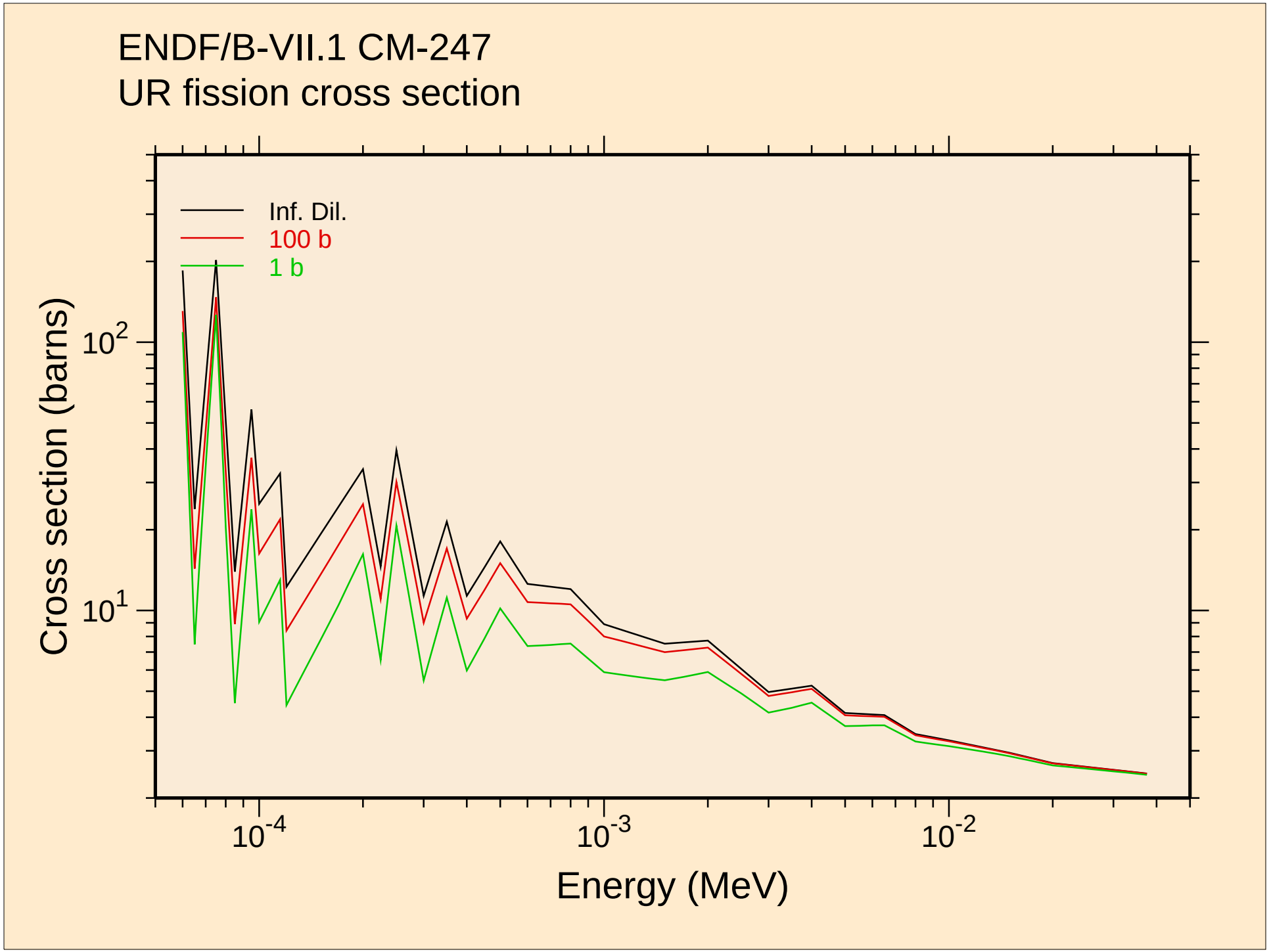
ENDF/B-VII.1 CM-247
resonance absorption cross sections

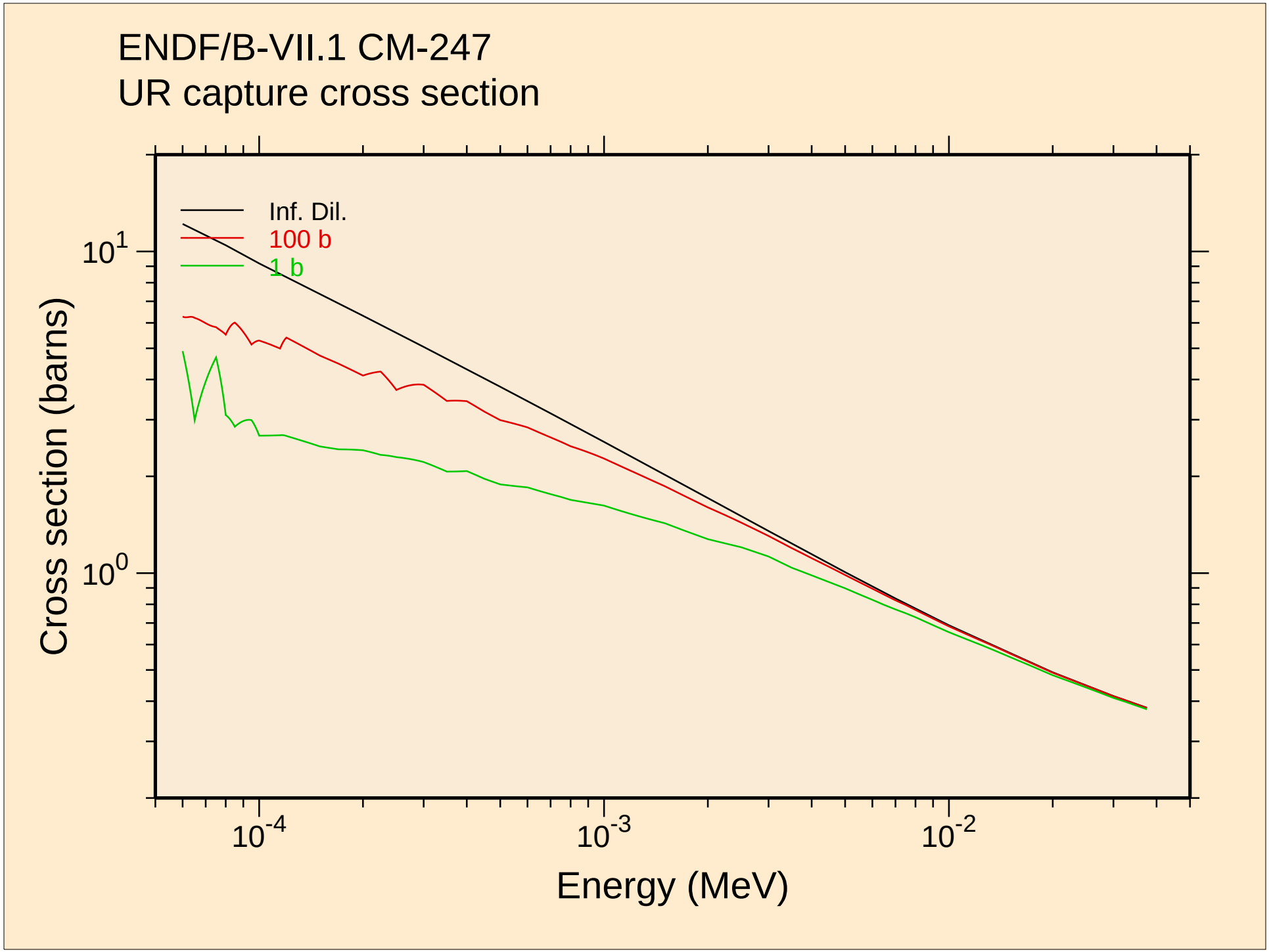


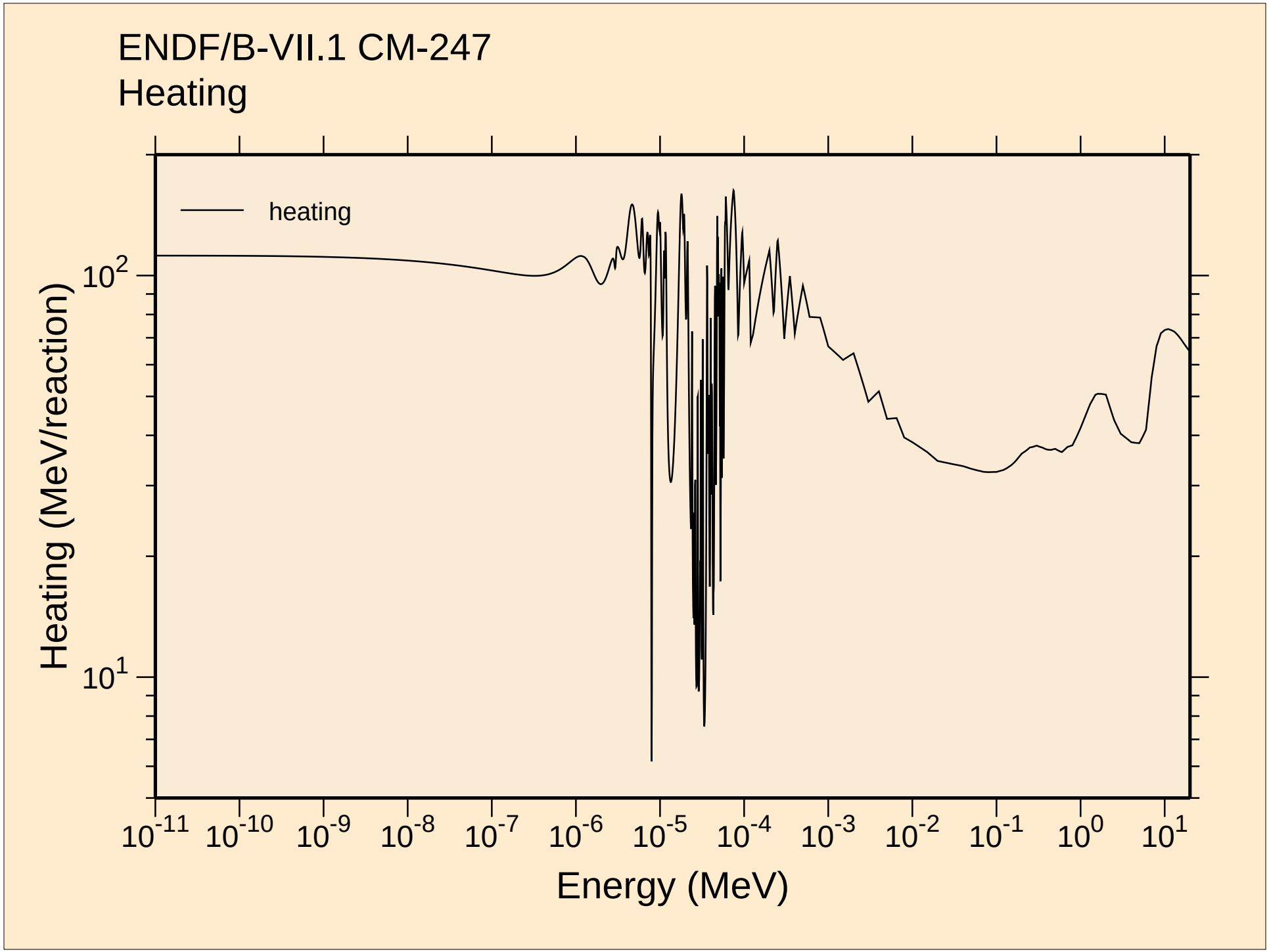

ENDF/B-VII.1 CM-247
resonance absorption cross sections
capture
fission
Cross section (barns)
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{0}
10^{1}
Energy (MeV)

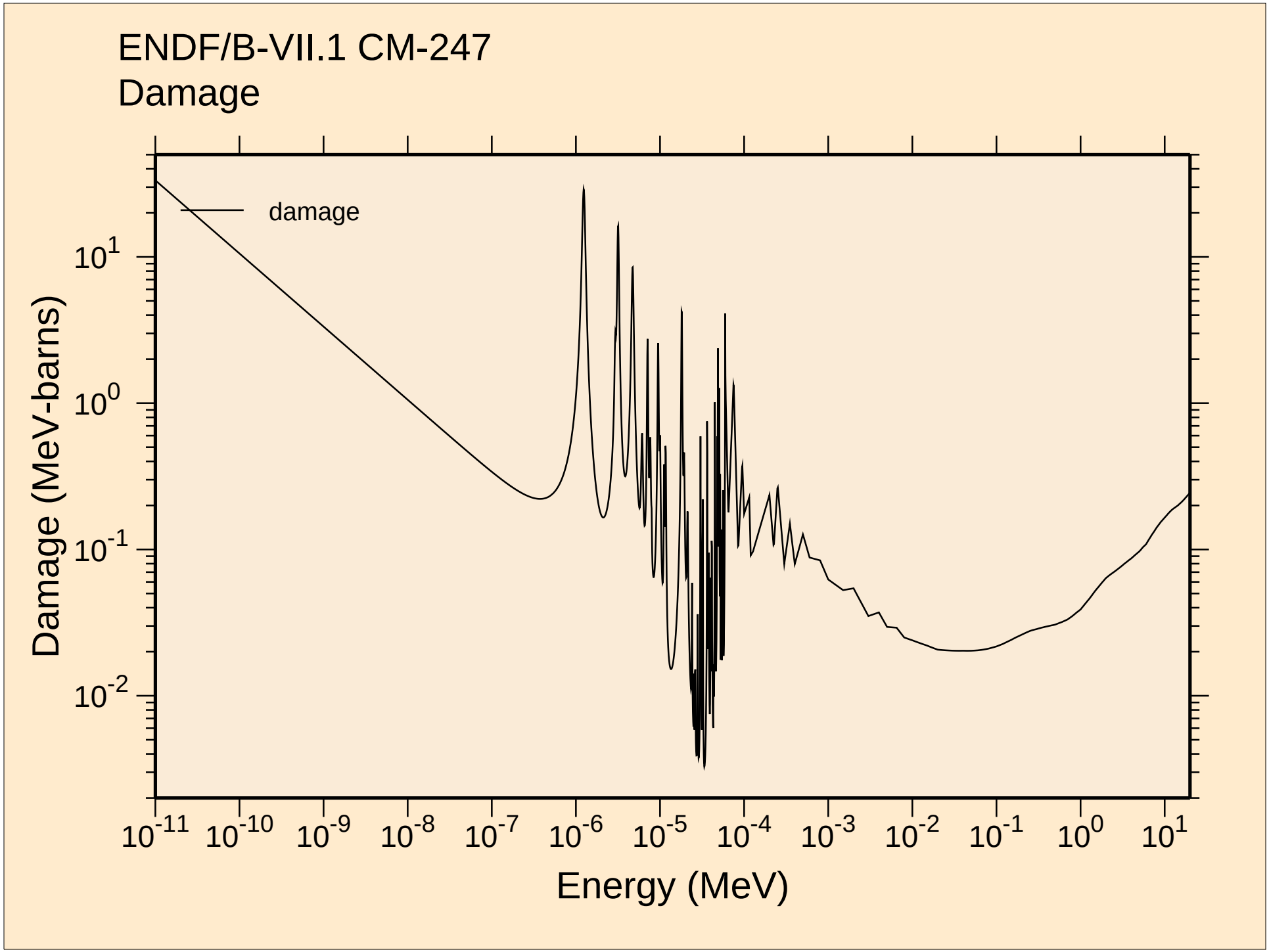

ENDF/B-VII.1 CM-247
UR total cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^2
10^1
10^-4
10^-3
10^-2
Energy (MeV)

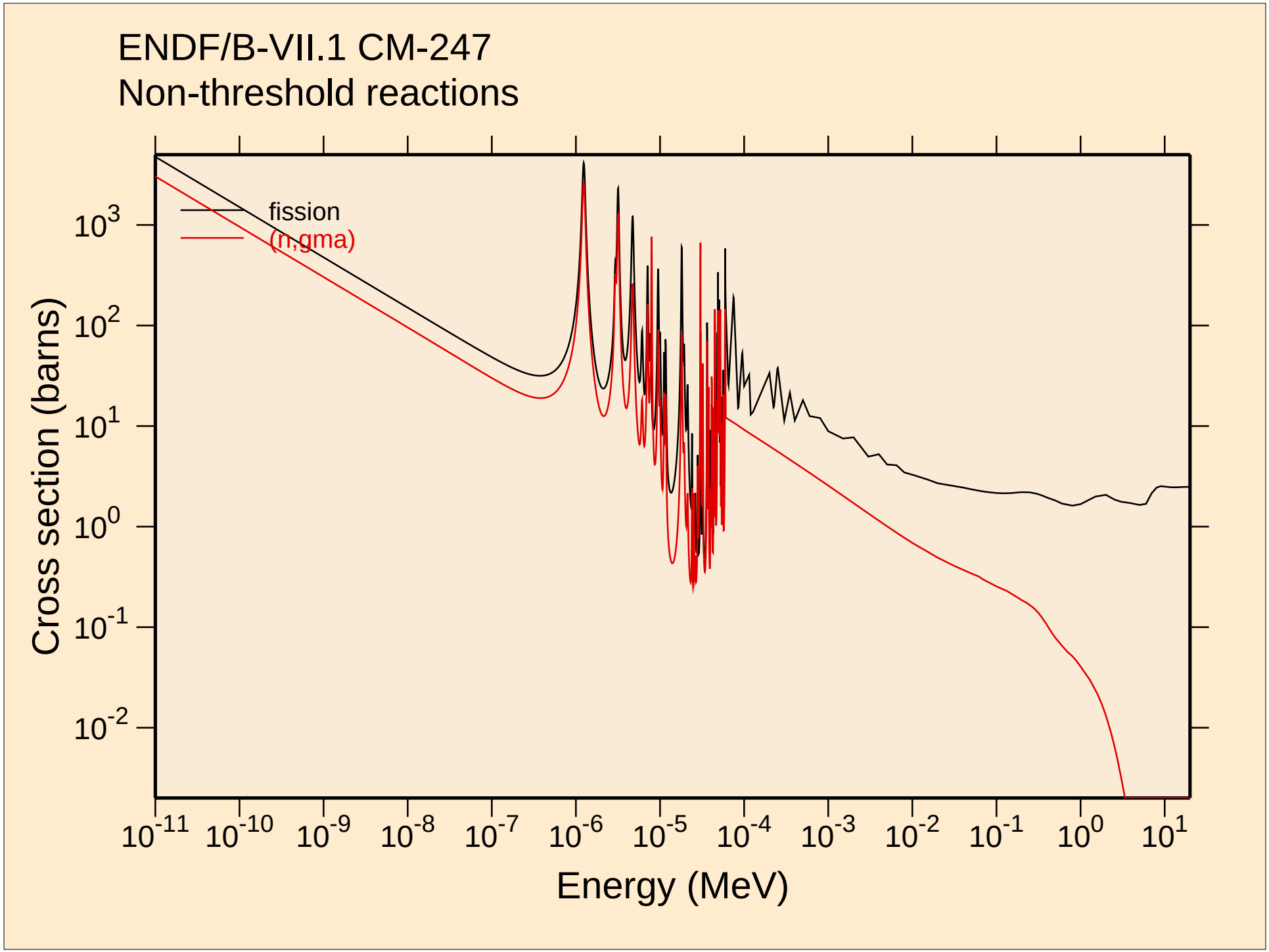

ENDF/B-VII.1 CM-247
UR elastic cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-4
10^-3
10^-2
Energy (MeV)

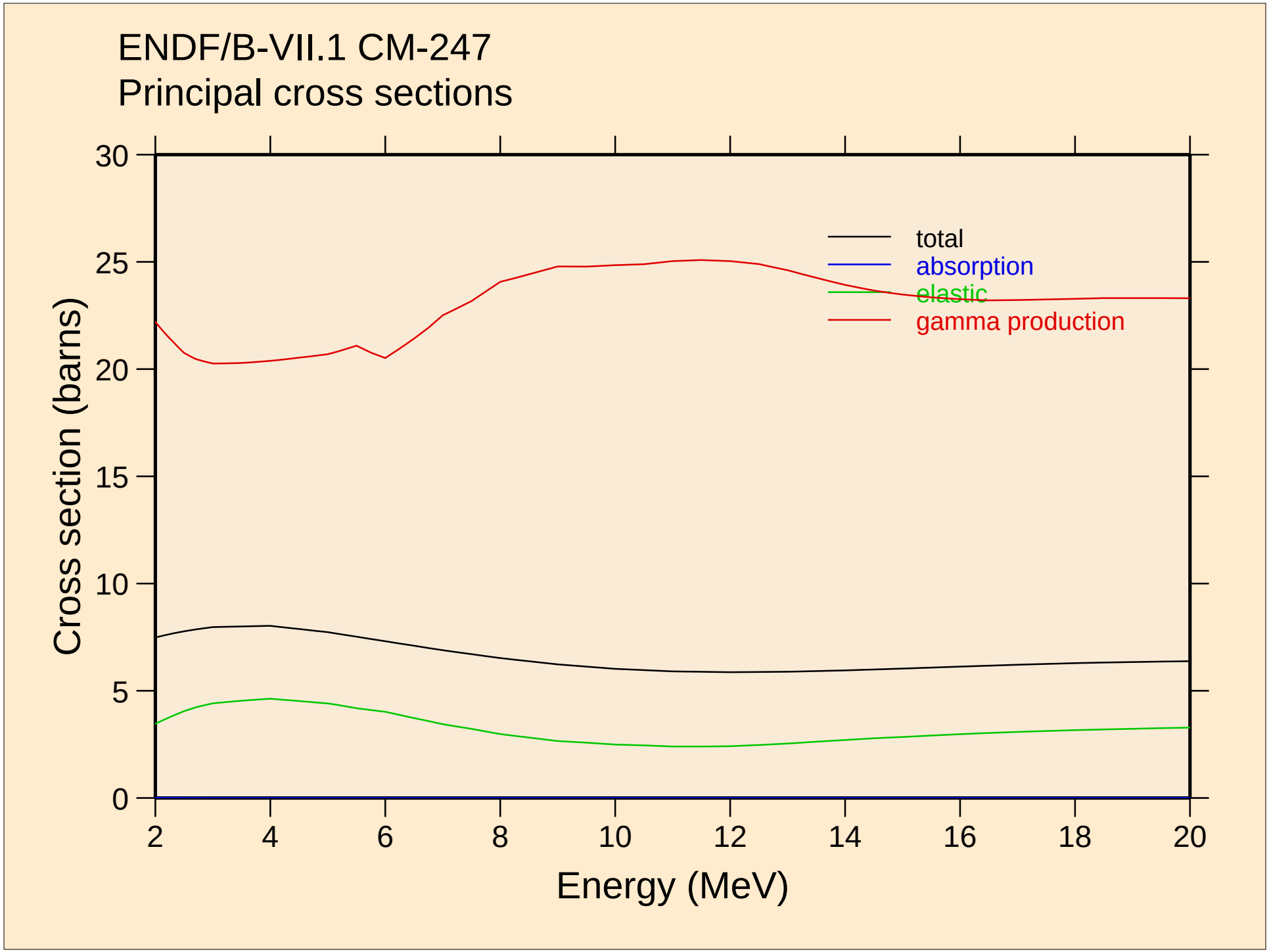

ENDF/B-VII.1 CM-247
UR fission cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^2
10^1
10^-4
10^-3
10^-2
Energy (MeV)

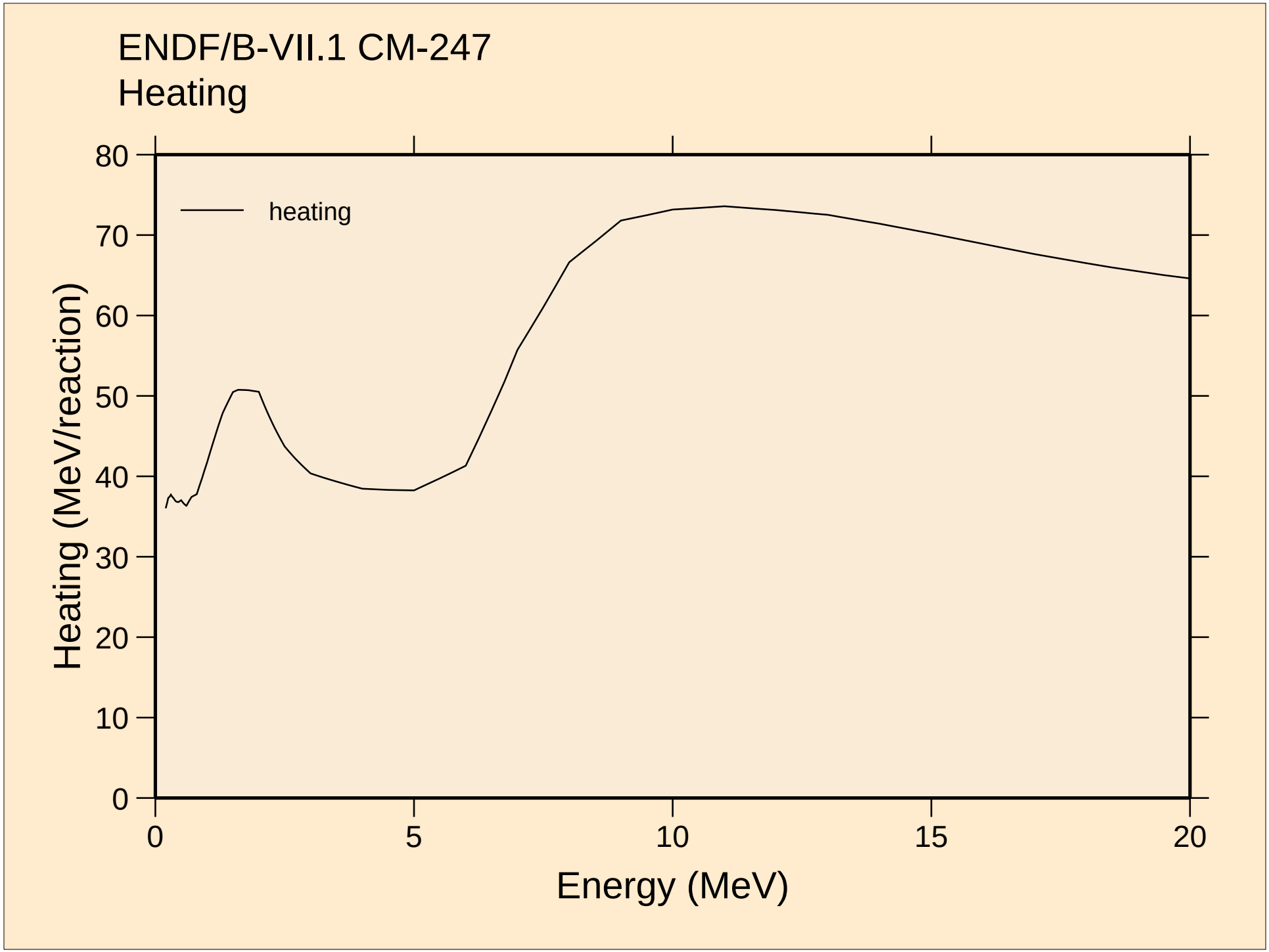

ENDF/B-VII.1 CM-247
UR capture cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^0
10^-4
10^-3
10^-2
Energy (MeV)

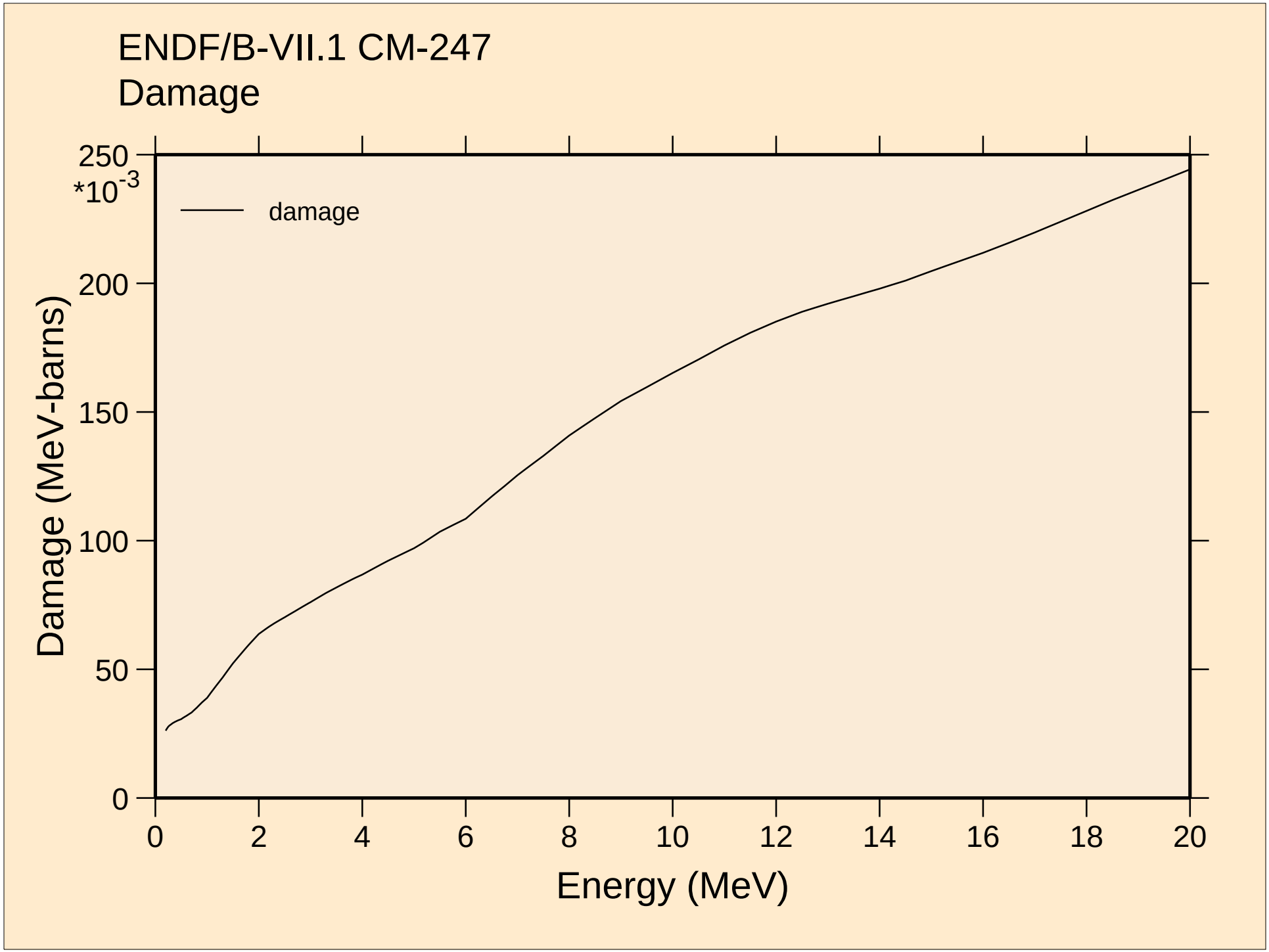

ENDF/B-VII.1 CM-247
Heating
heating
Heating (MeV/reaction)
10^2
10^1
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

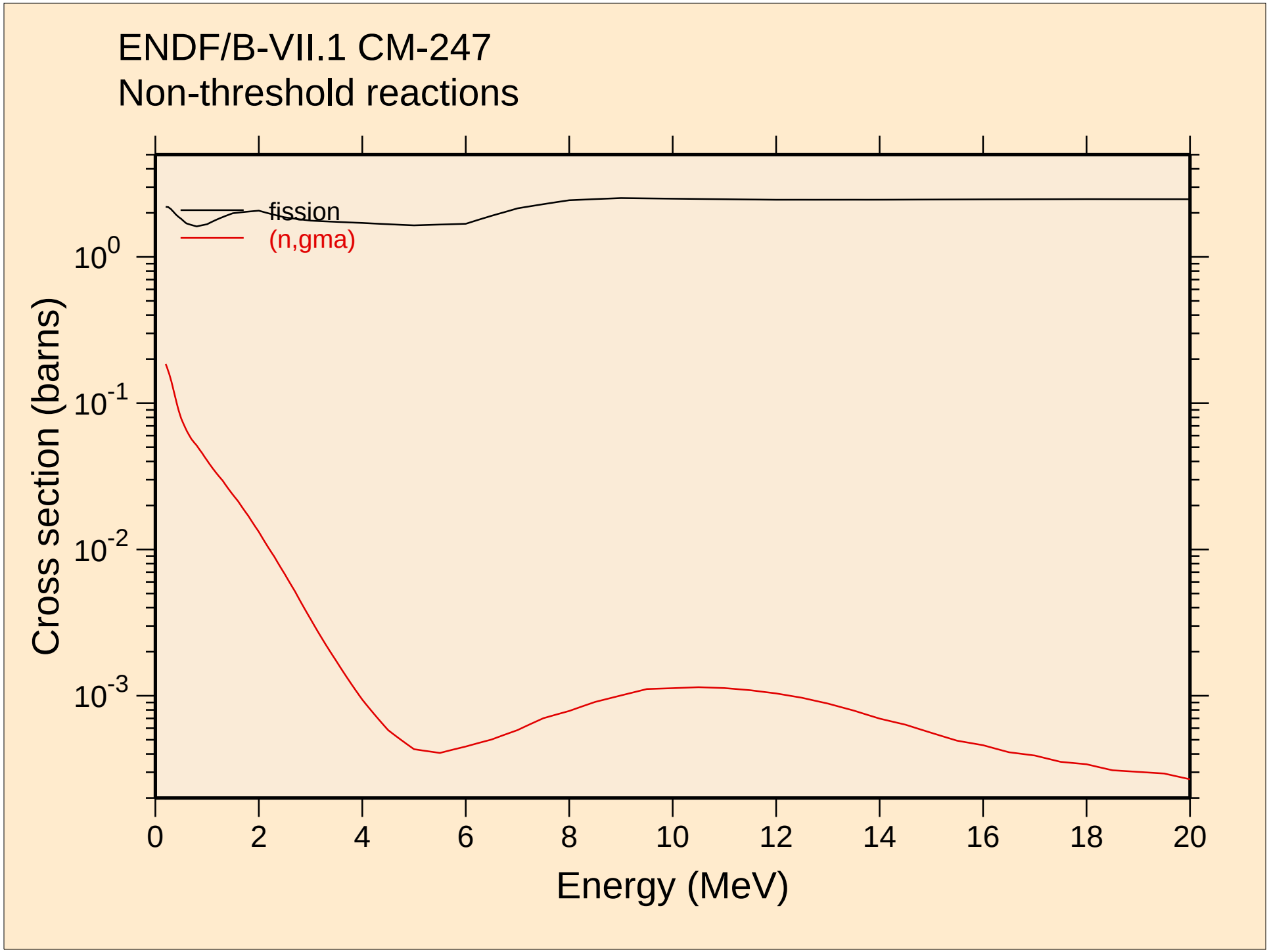

ENDF/B-VII.1 CM-247
Damage
damage
Damage (MeV-barns)
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

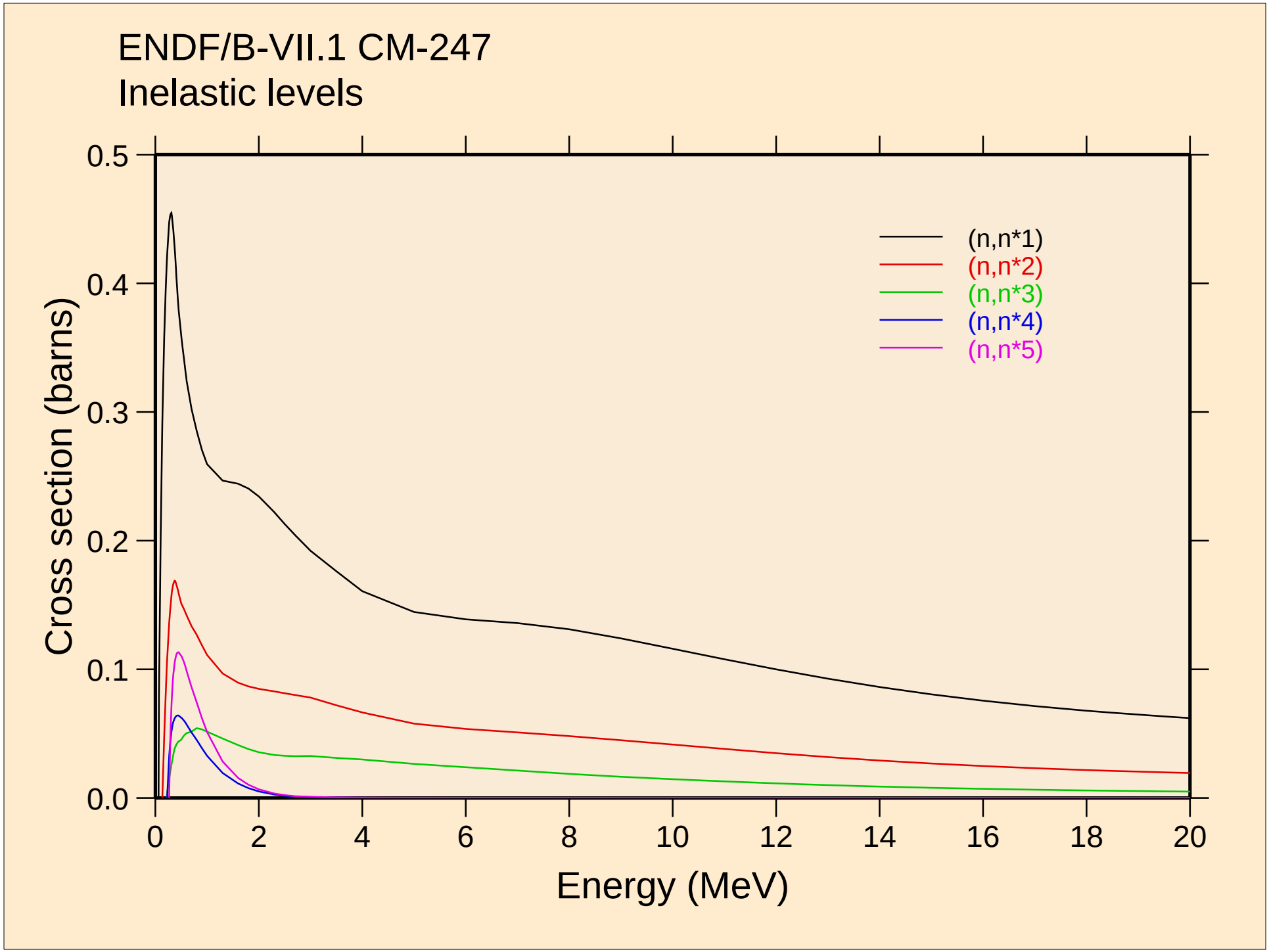

ENDF/B-VII.1 CM-247
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

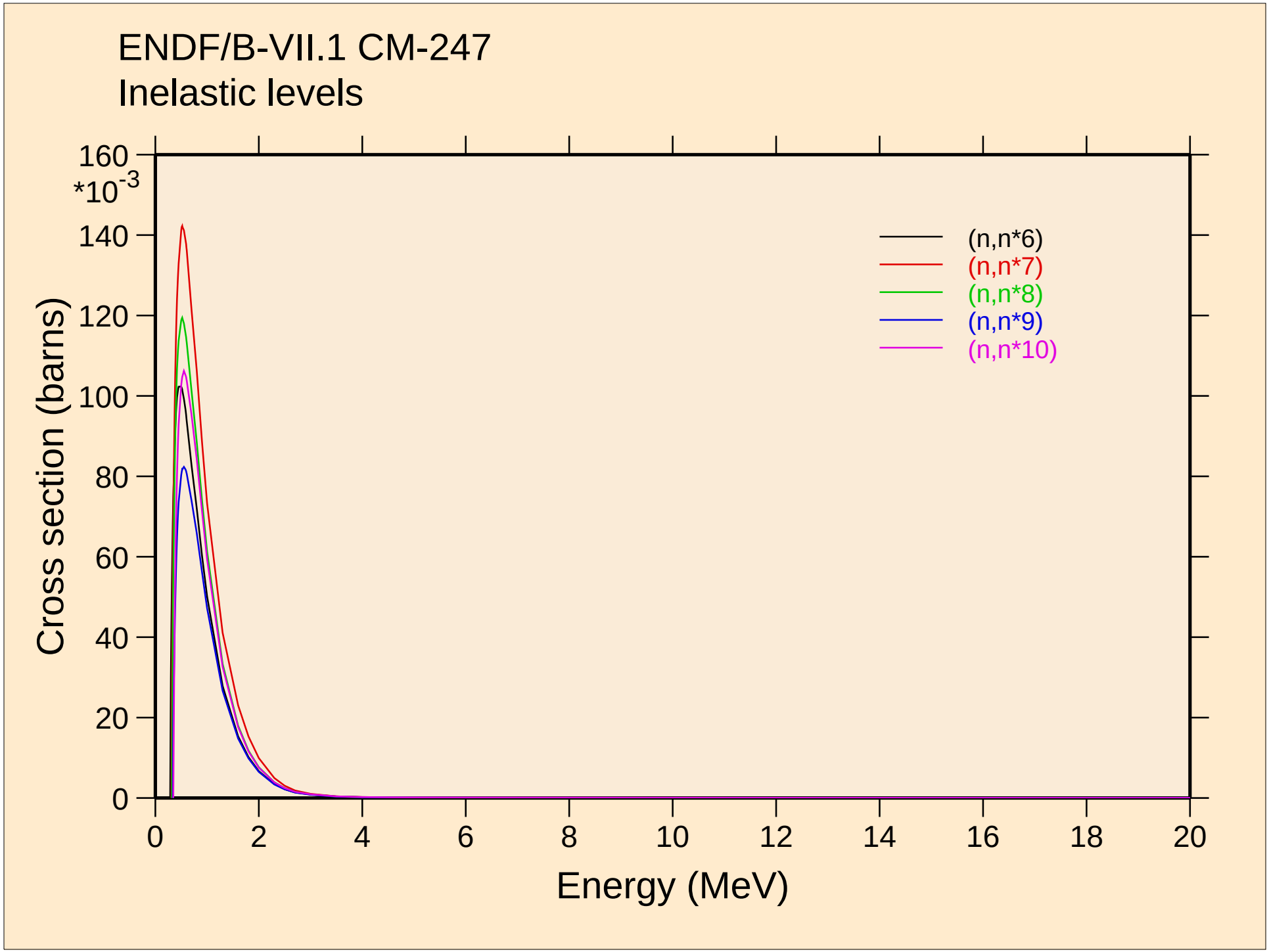

ENDF/B-VII.1 CM-247
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
5
10
15
20
25
30
2
4
6
8
10
12
14
16
18
20

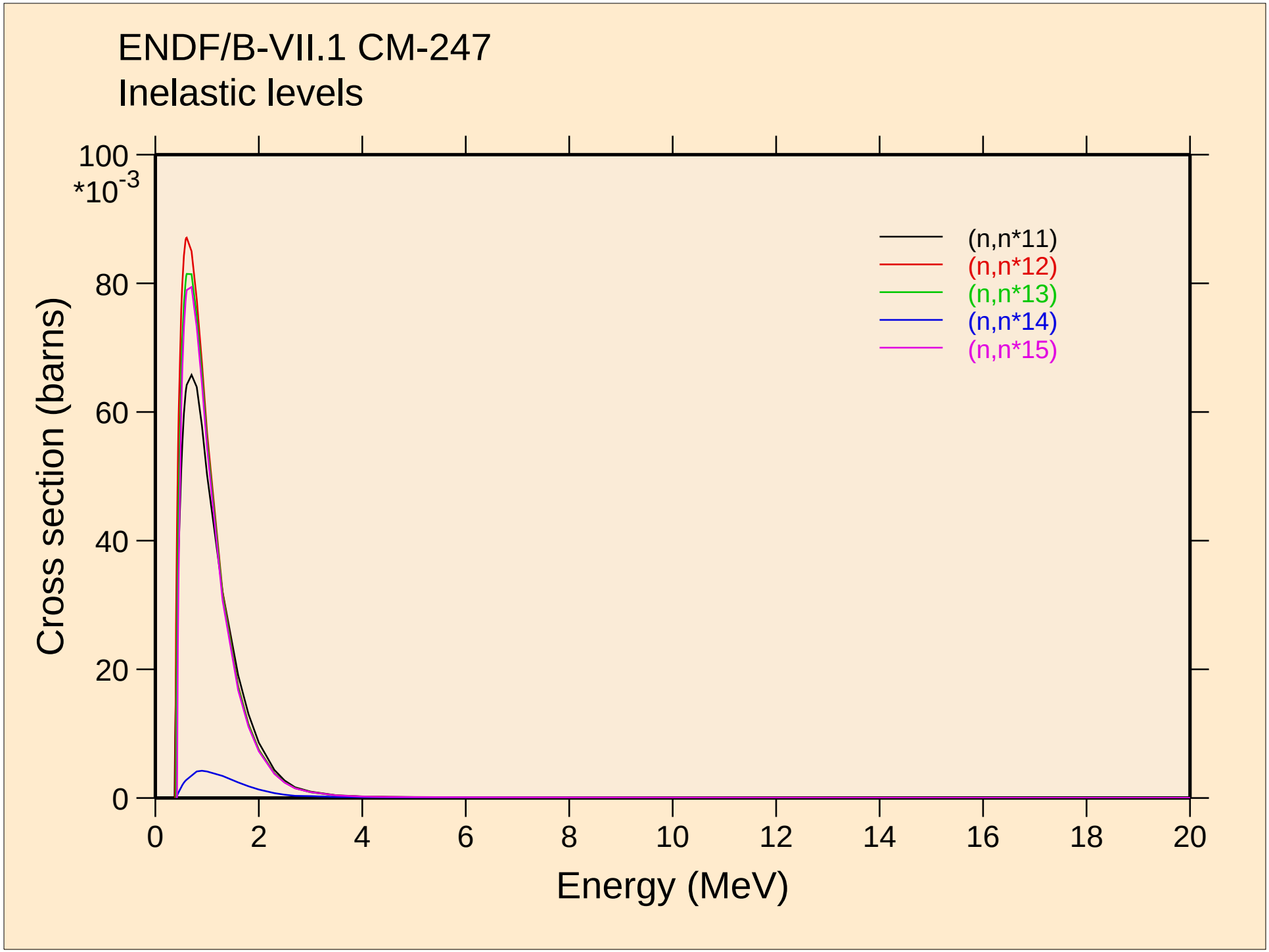

ENDF/B-VII.1 CM-247
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
10
20
30
40
50
60
70
80
0
5
10
15
20

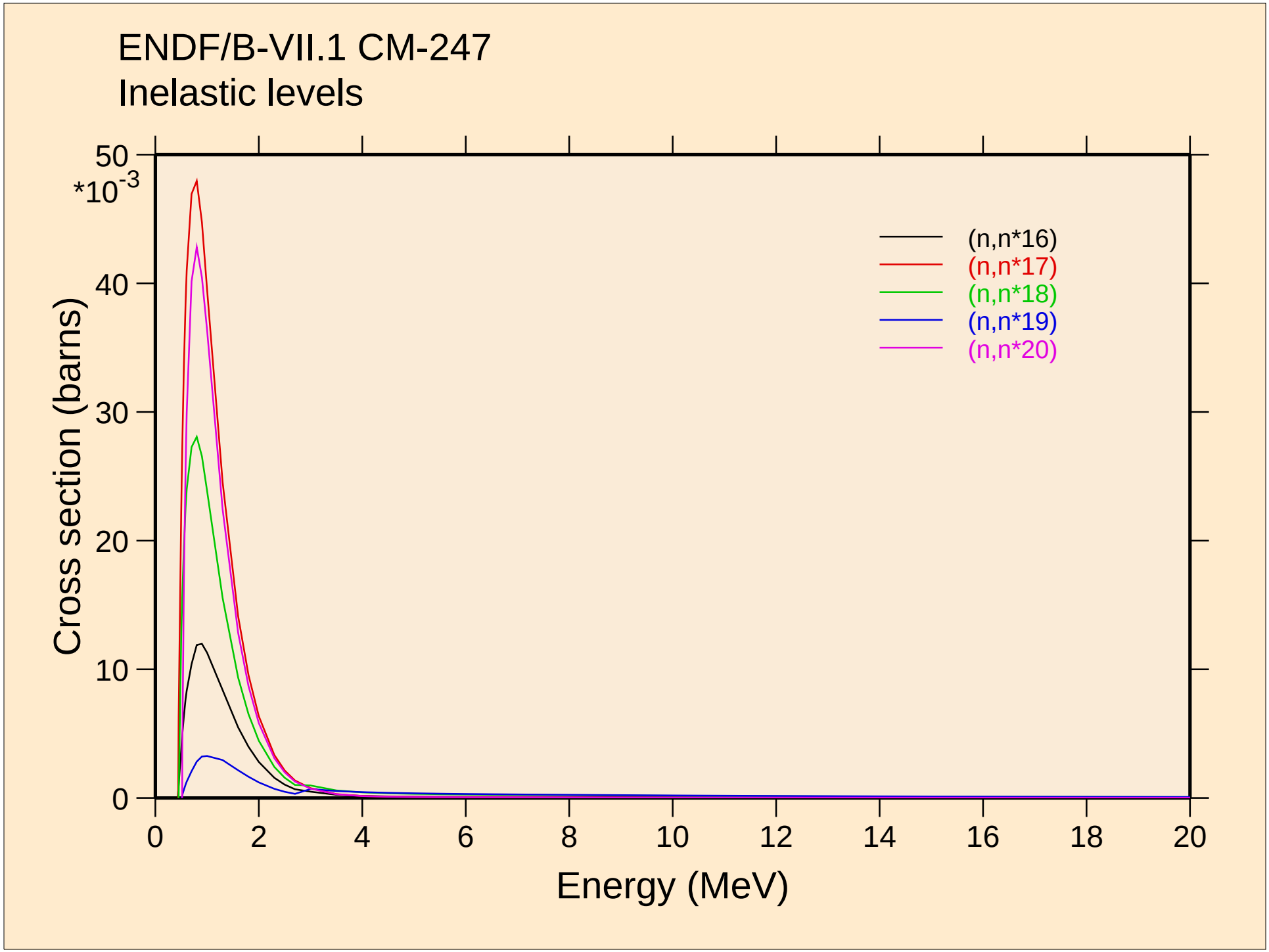

ENDF/B-VII.1 CM-247
Damage
250
*10-3
damage
200
150
100
50
0
Damage (MeV-barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

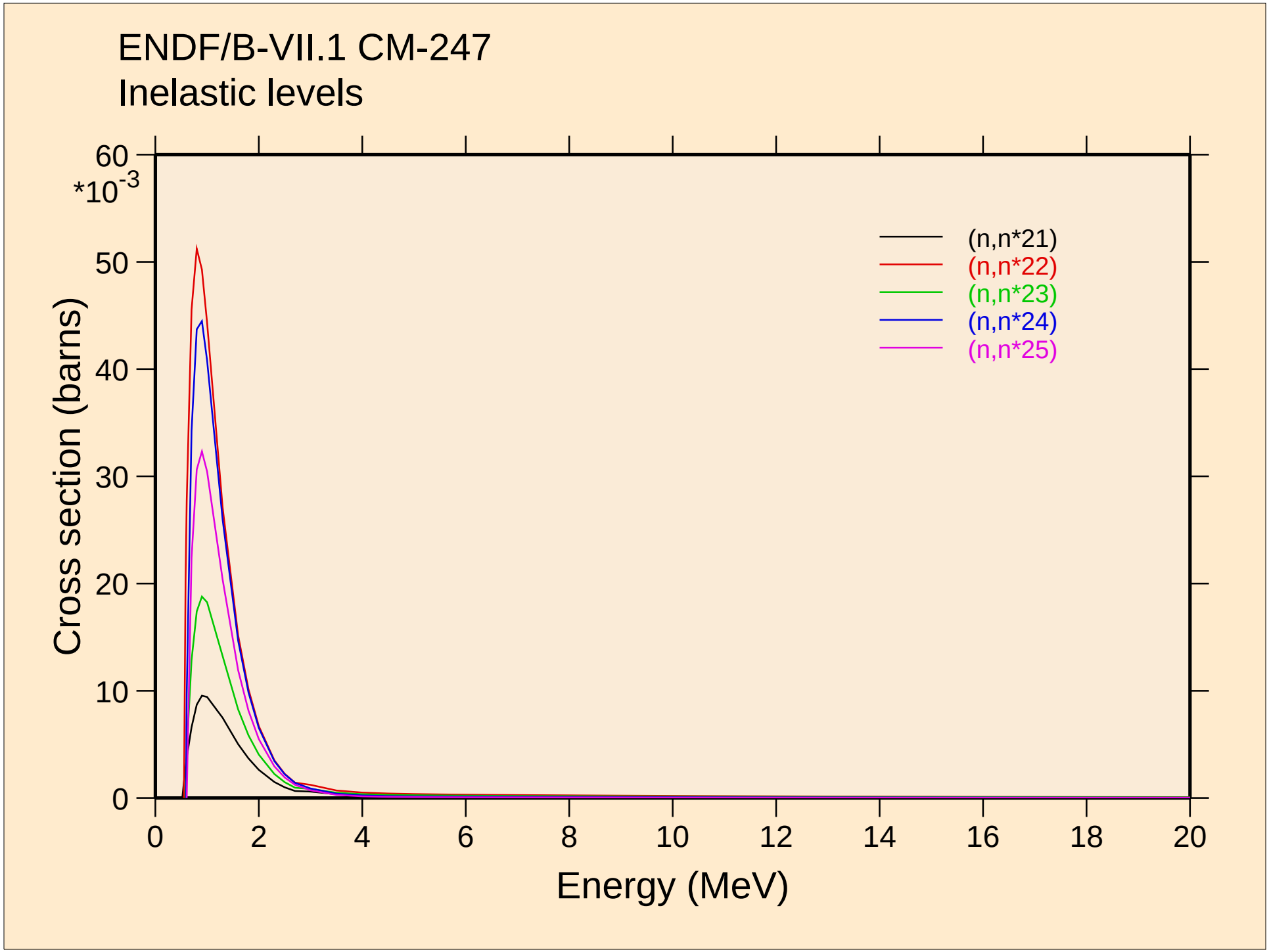

ENDF/B-VII.1 CM-247
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
10^0
10^-1
10^-2
10^-3
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

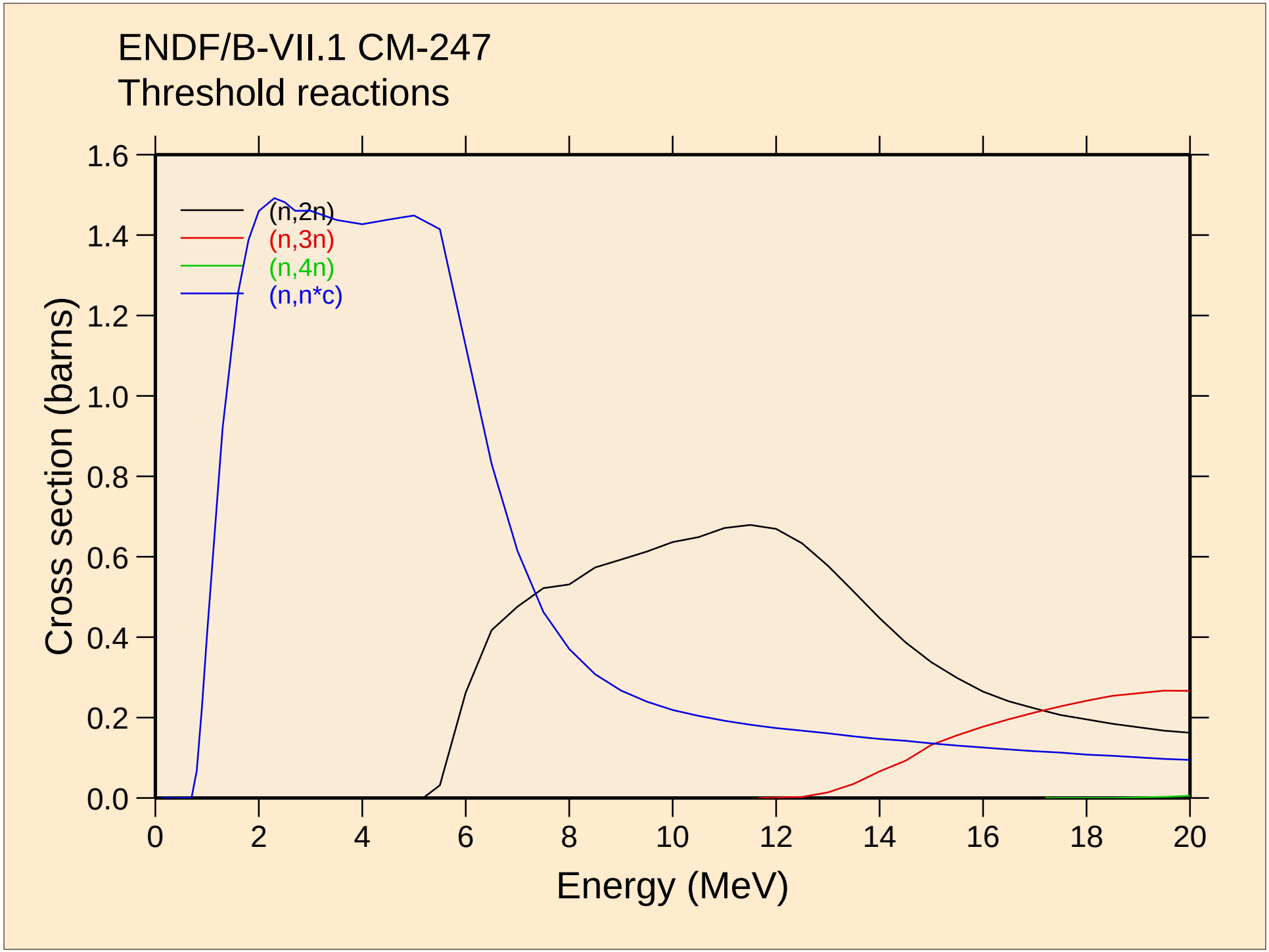

ENDF/B-VII.1 CM-247
Inelastic levels
Cross section (barns)
Energy (MeV)
0.0
0.1
0.2
0.3
0.4
0.5
0
2
4
6
8
10
12
14
16
18
20
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

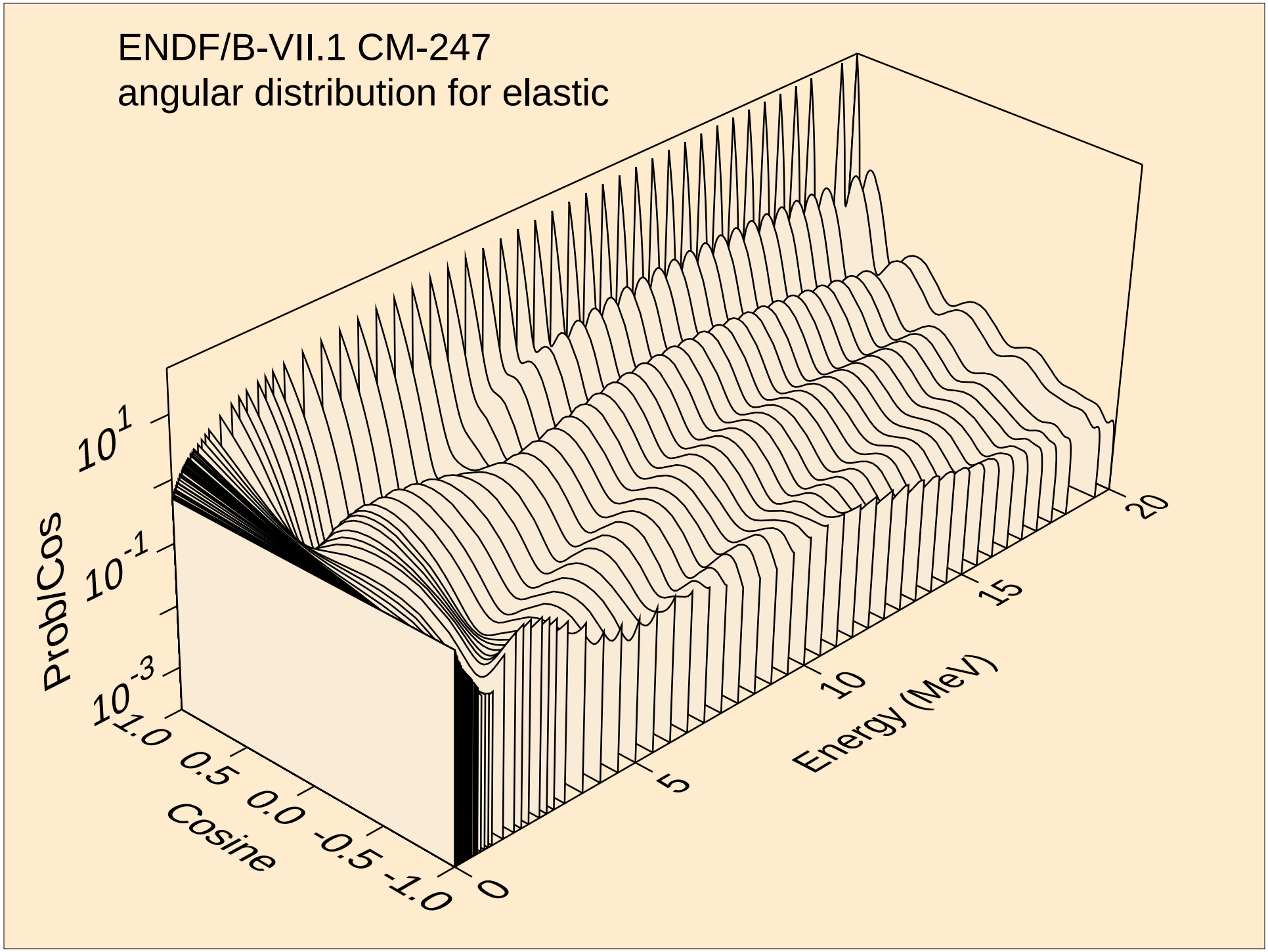

ENDF/B-VII.1 CM-247
Inelastic levels
Cross section (barns)
*10-3
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

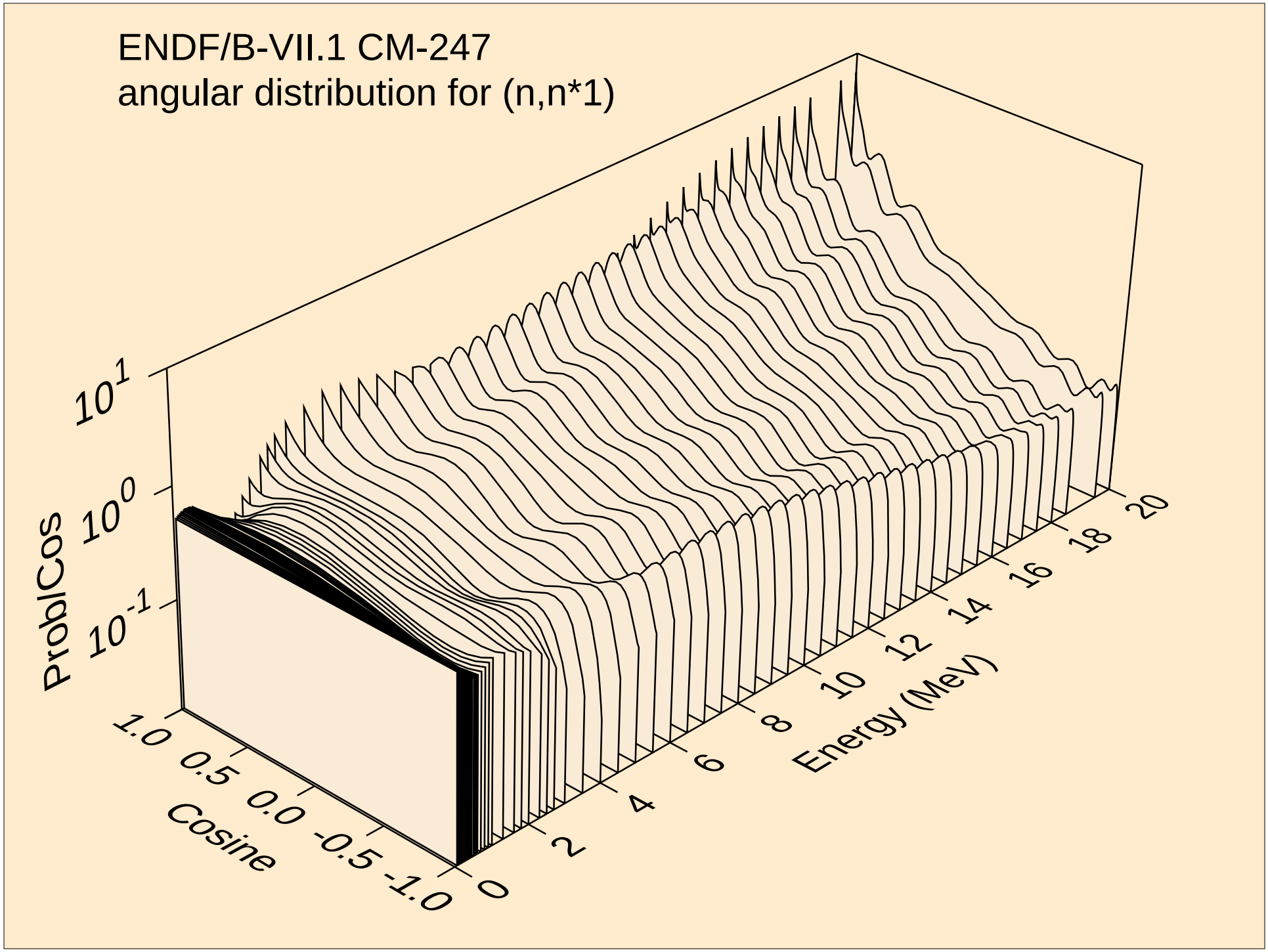

ENDF/B-VII.1 CM-247
Inelastic levels
100
*10-3
80
60
40
20
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

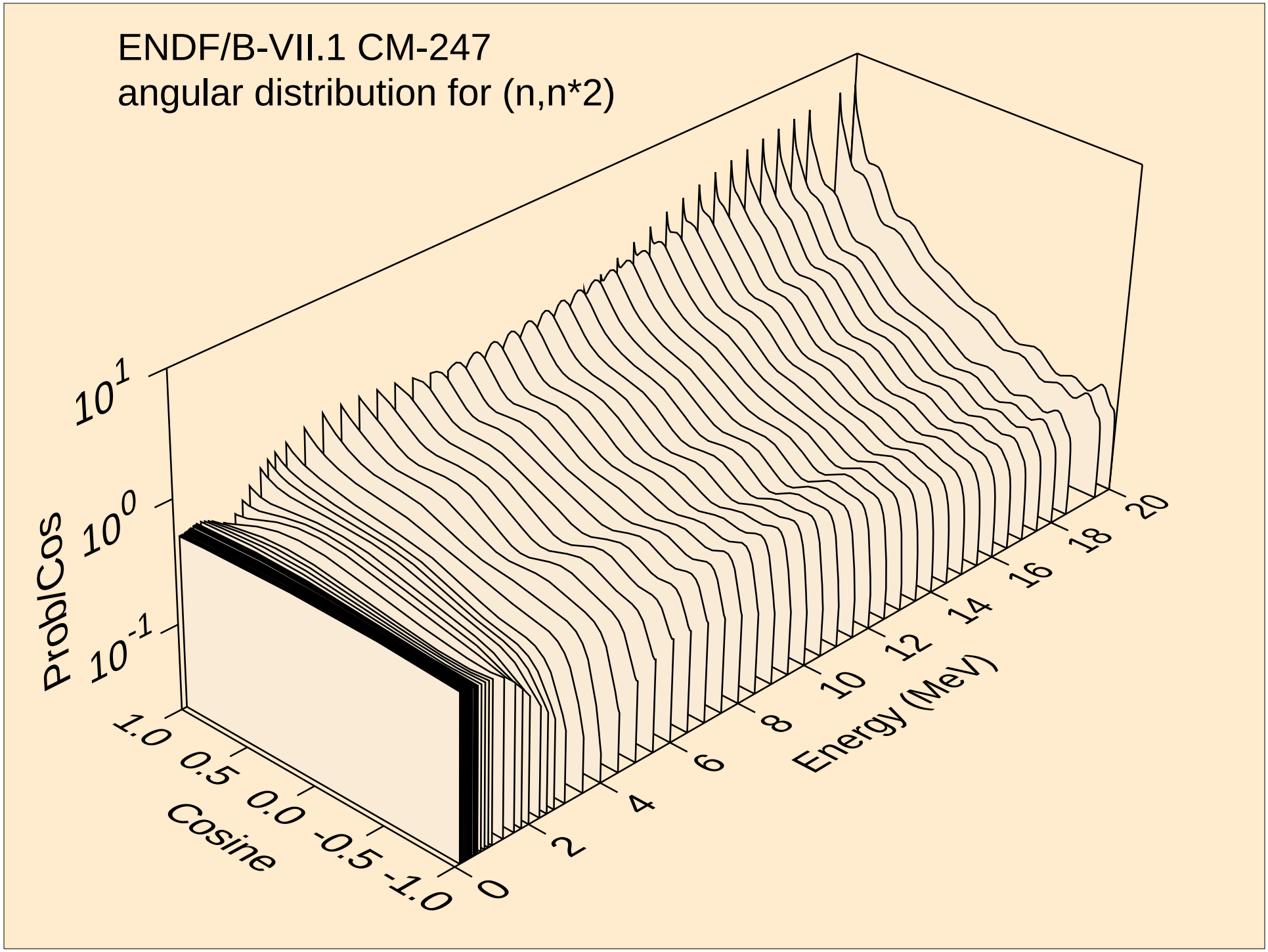

ENDF/B-VII.1 CM-247
Inelastic levels
Cross section (barns)
*10-3
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

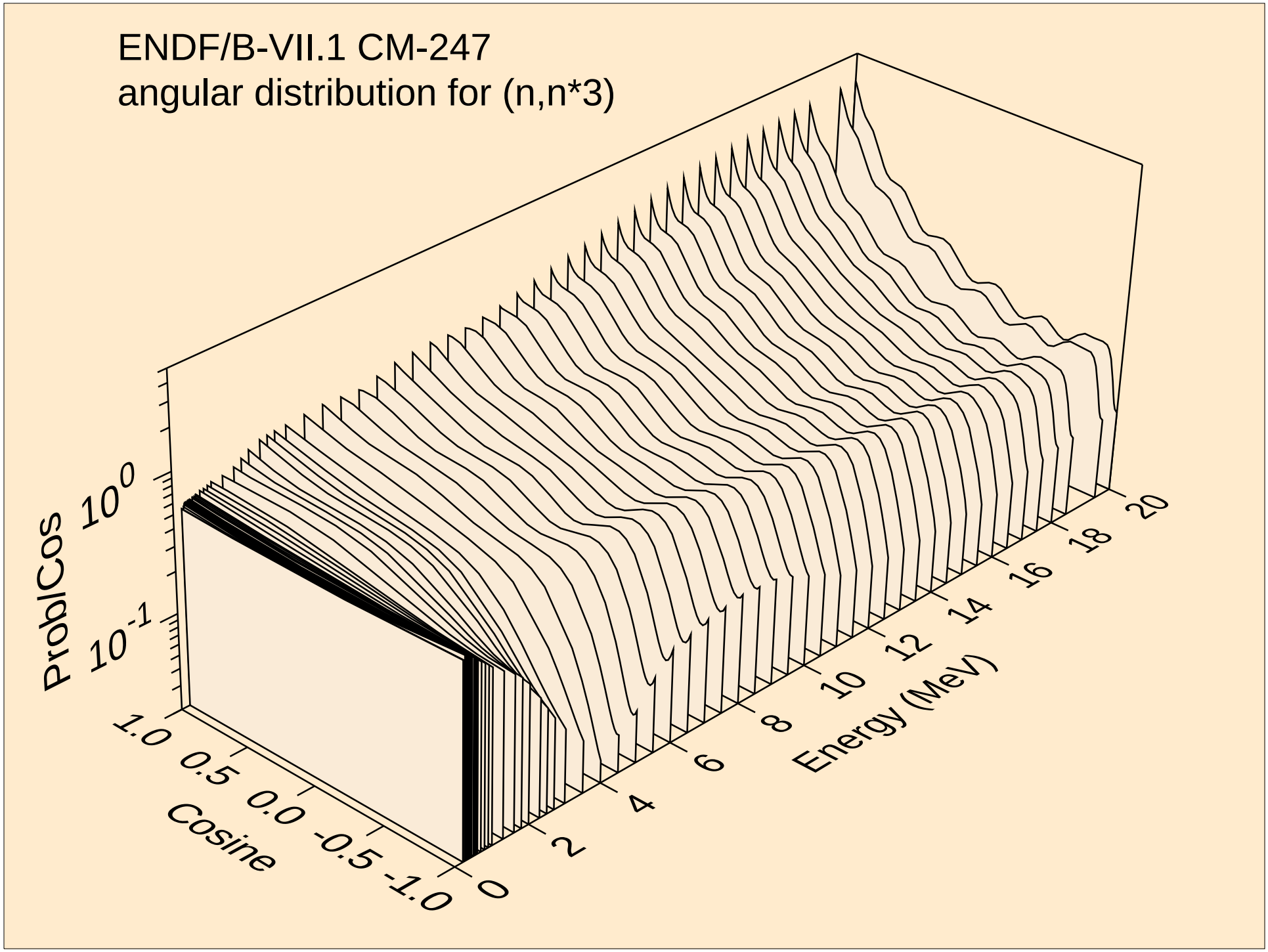

ENDF/B-VII.1 CM-247
Inelastic levels
Cross section (barns)
*10-3
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)

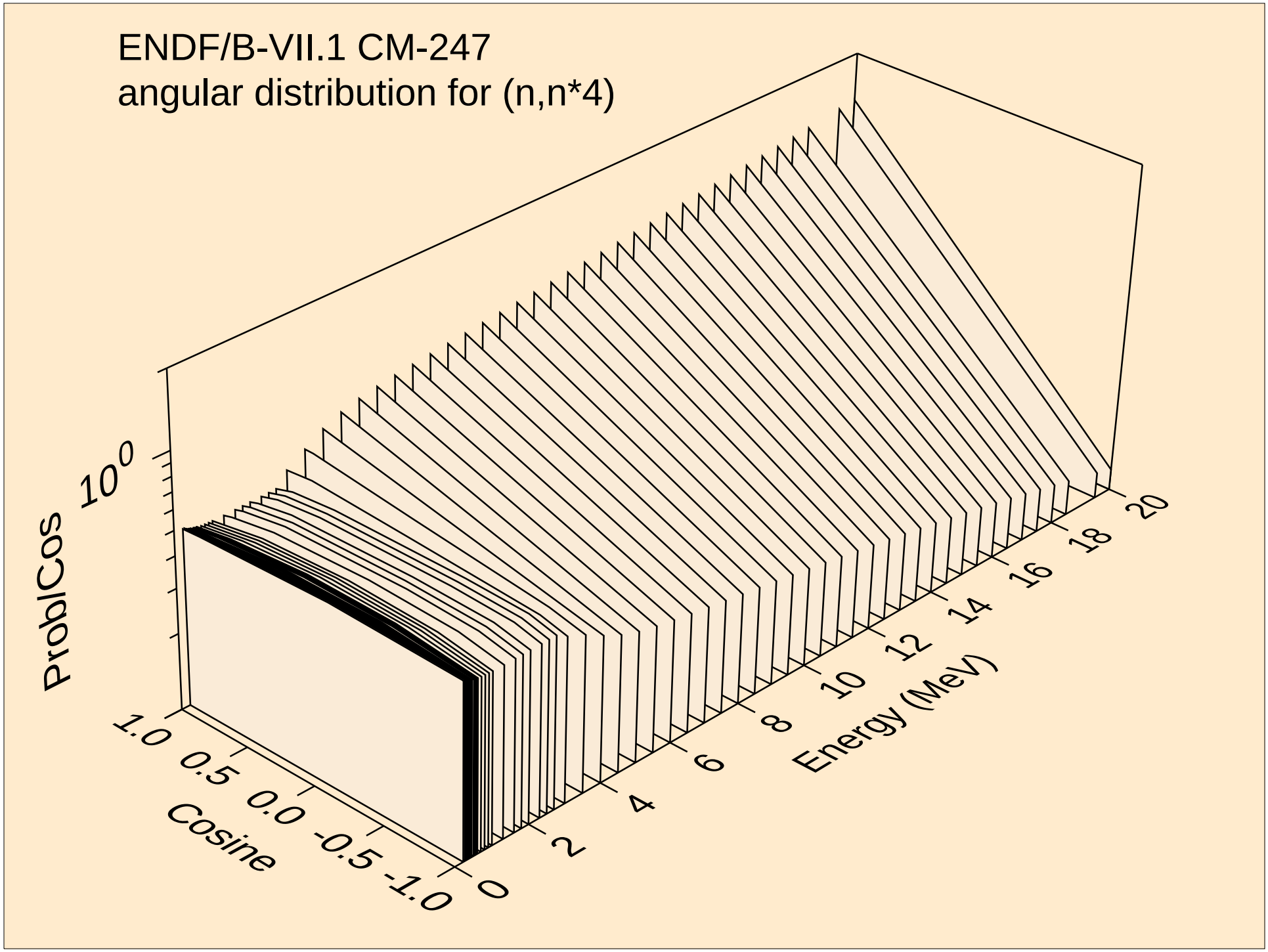

ENDF/B-VII.1 CM-247
Threshold reactions
(n,2n)
(n,3n)
(n,4n)
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
2
4
6
8
10
12
14
16
18
20

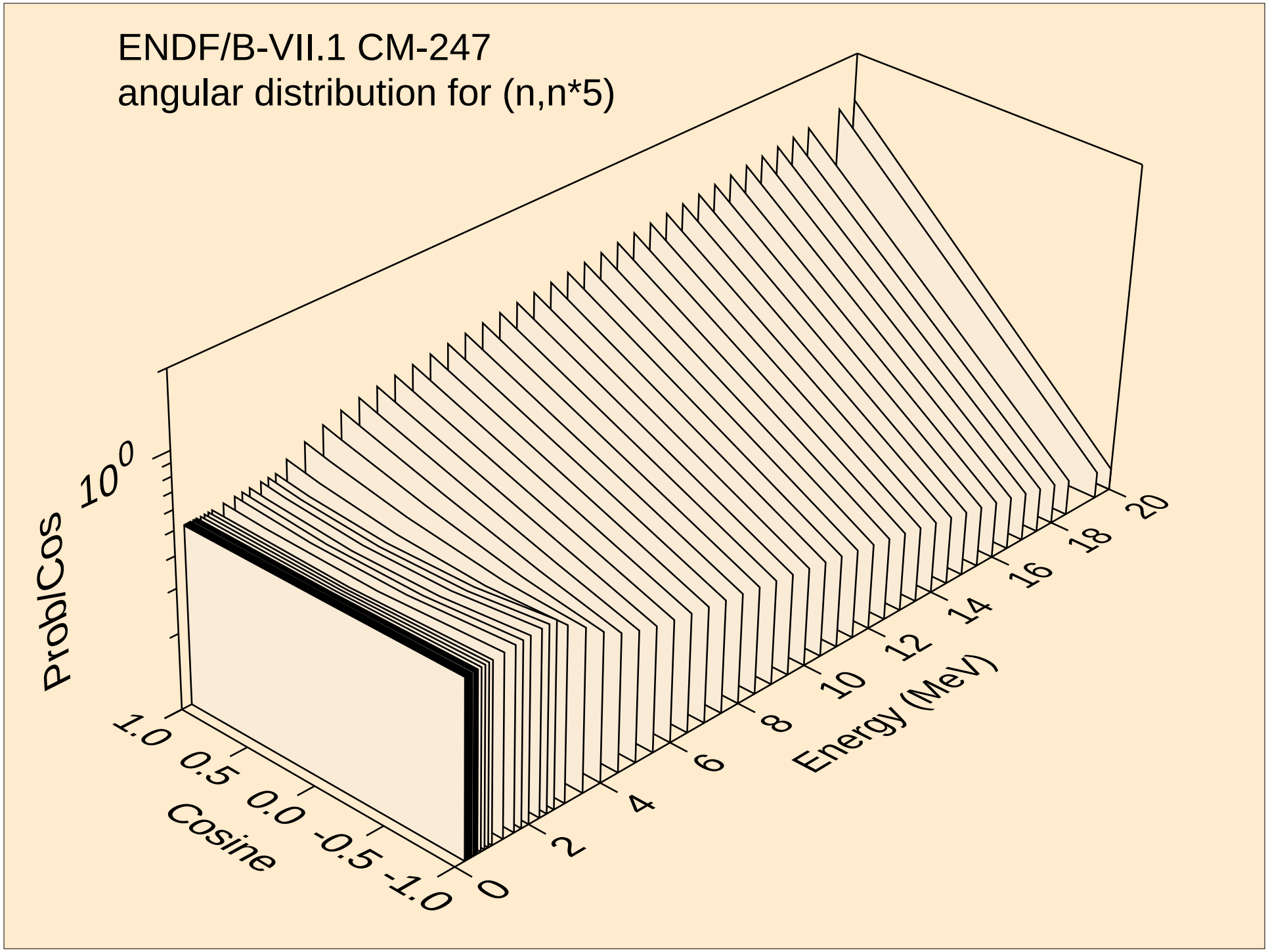

ENDF/B-VII.1 CM-247
angular distribution for elastic
ProbICos
10^{1}
10^{-1}
10^{-3}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

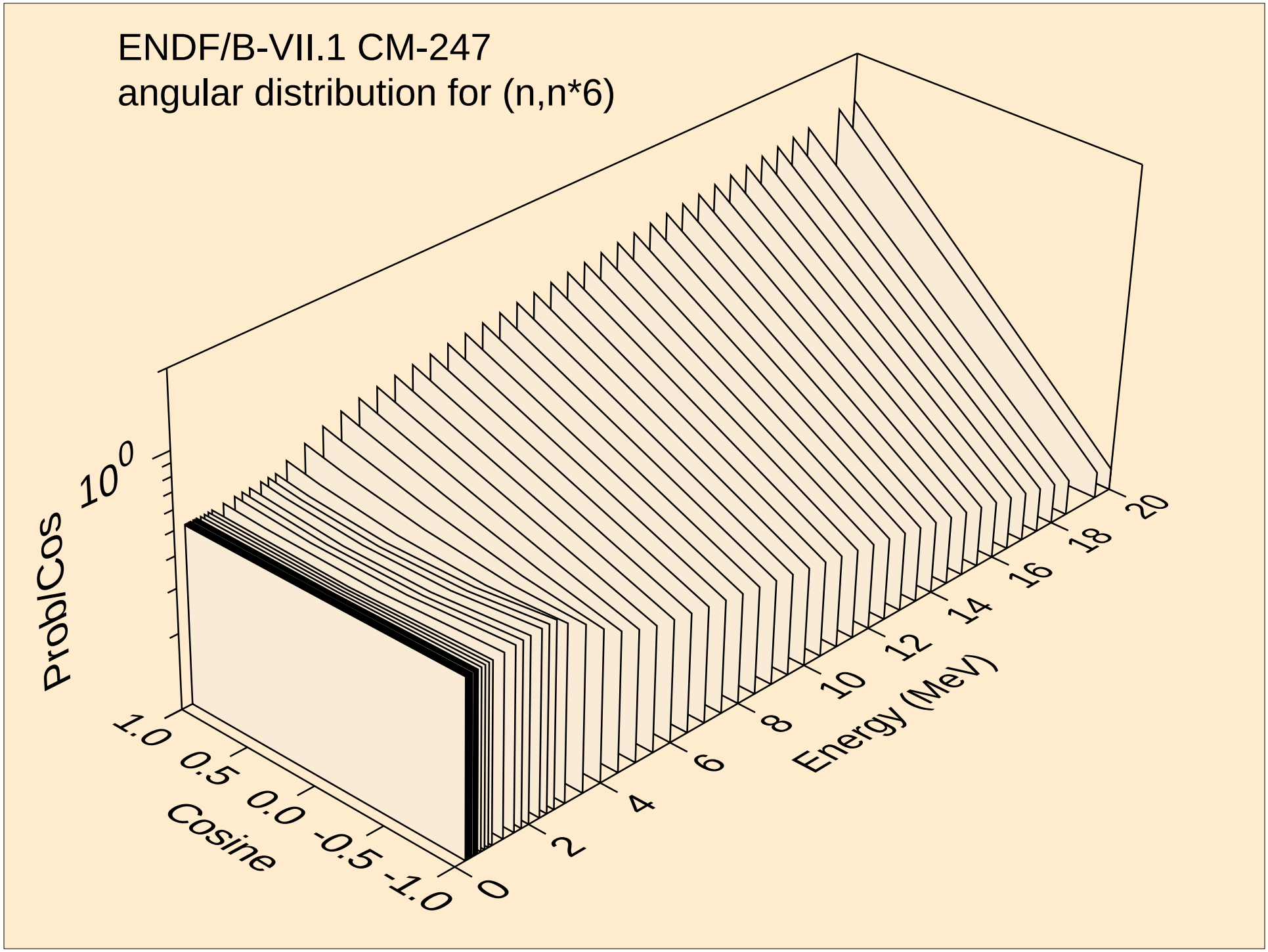

ENDF/B-VII.1 CM-247
angular distribution for (n,n*1)
ProbICos
10^{1}
10^{0}
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

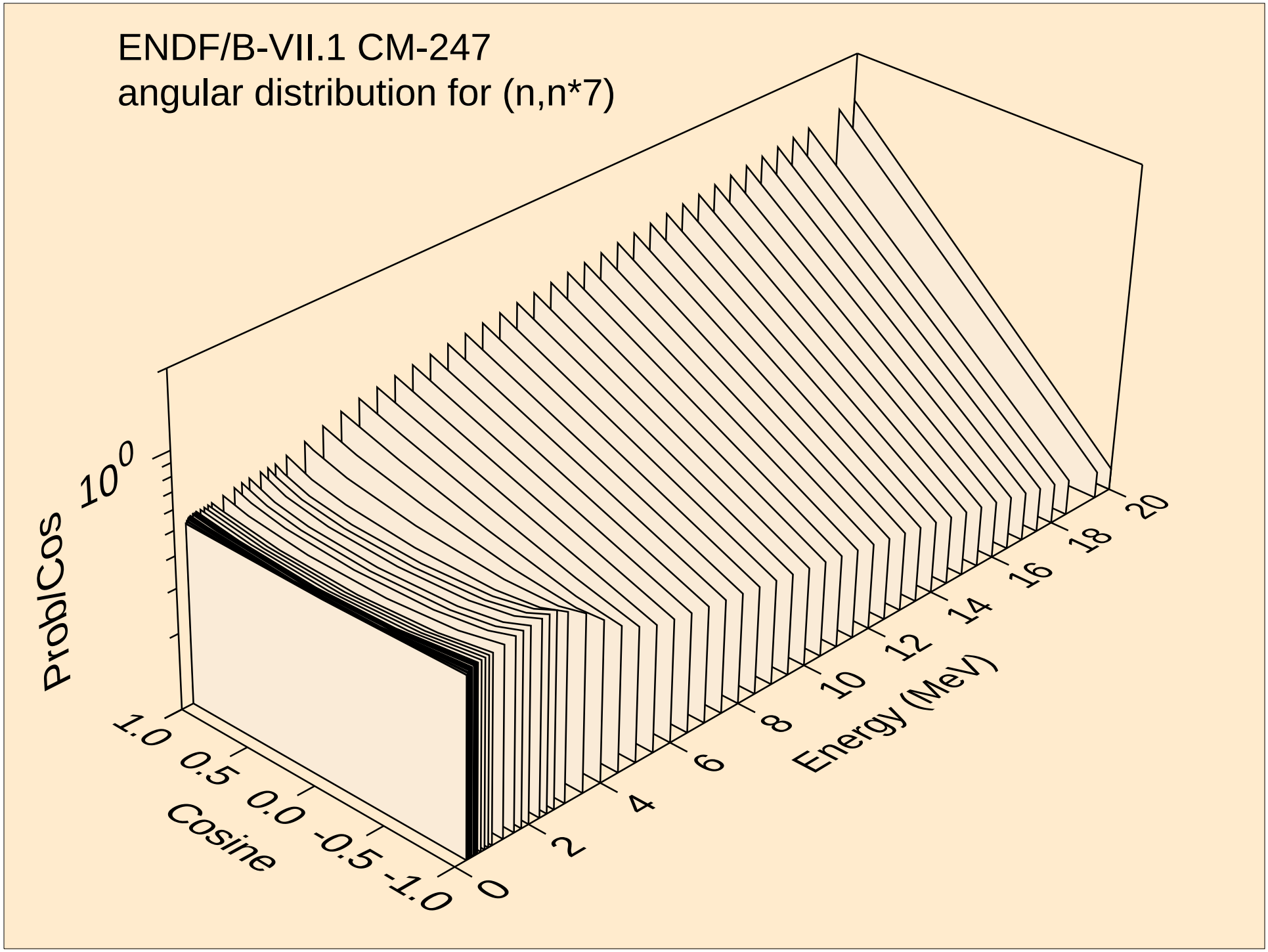

ENDF/B-VII.1 CM-247
angular distribution for (n,n*2)
ProbICos
10^{1}
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

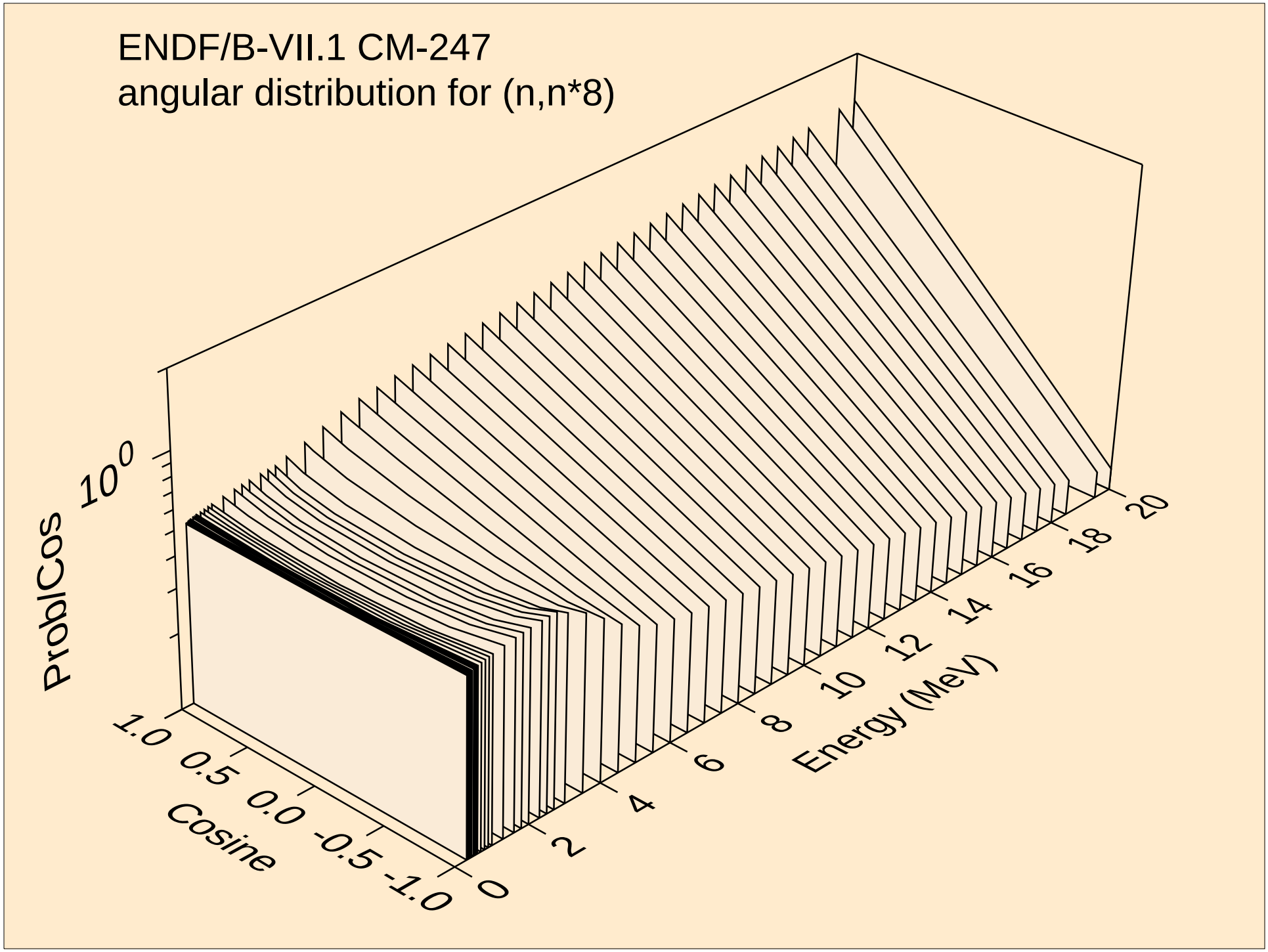

ENDF/B-VII.1 CM-247
angular distribution for (n,n*3)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

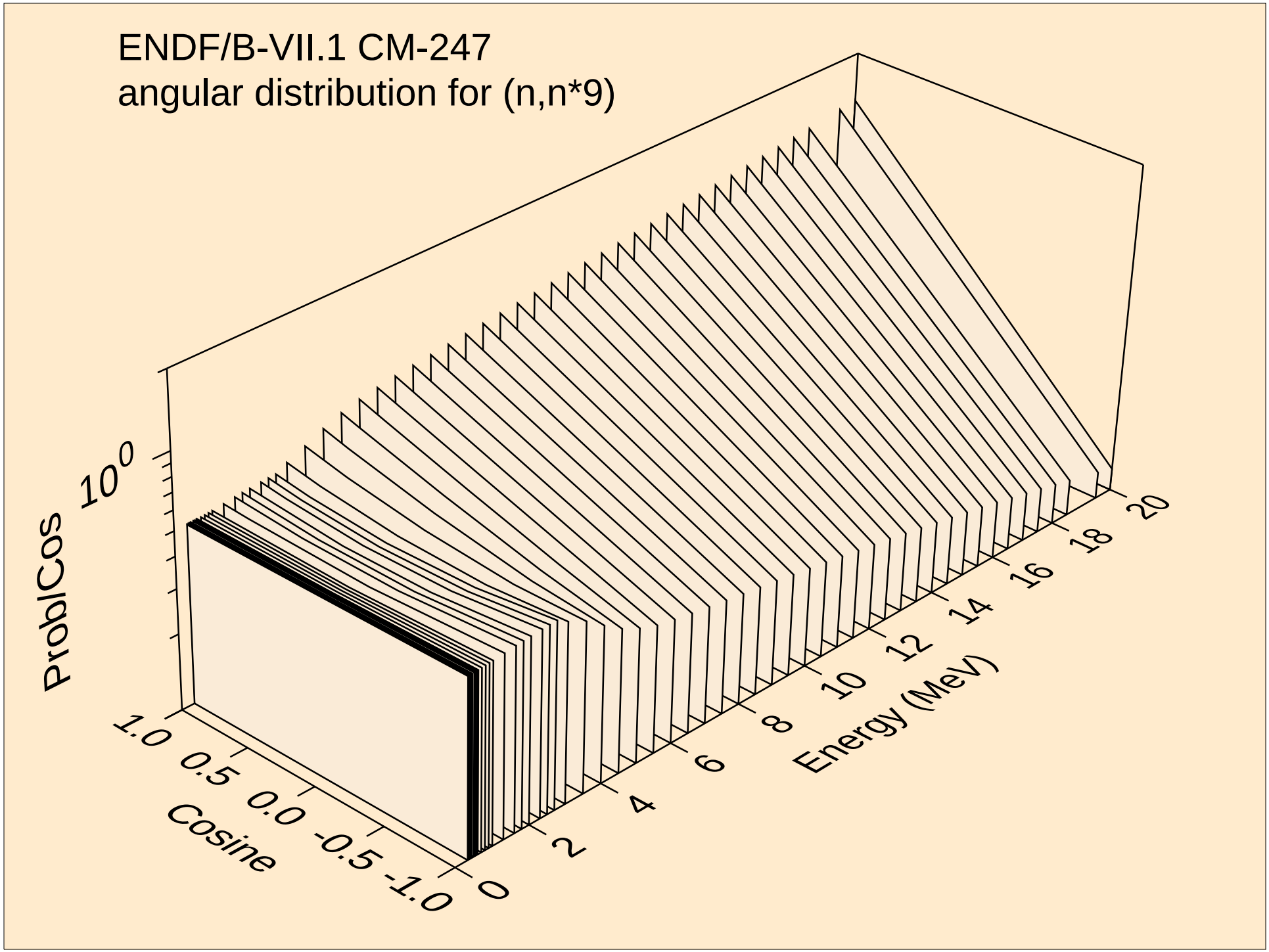

ENDF/B-VII.1 CM-247
angular distribution for (n,n*4)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

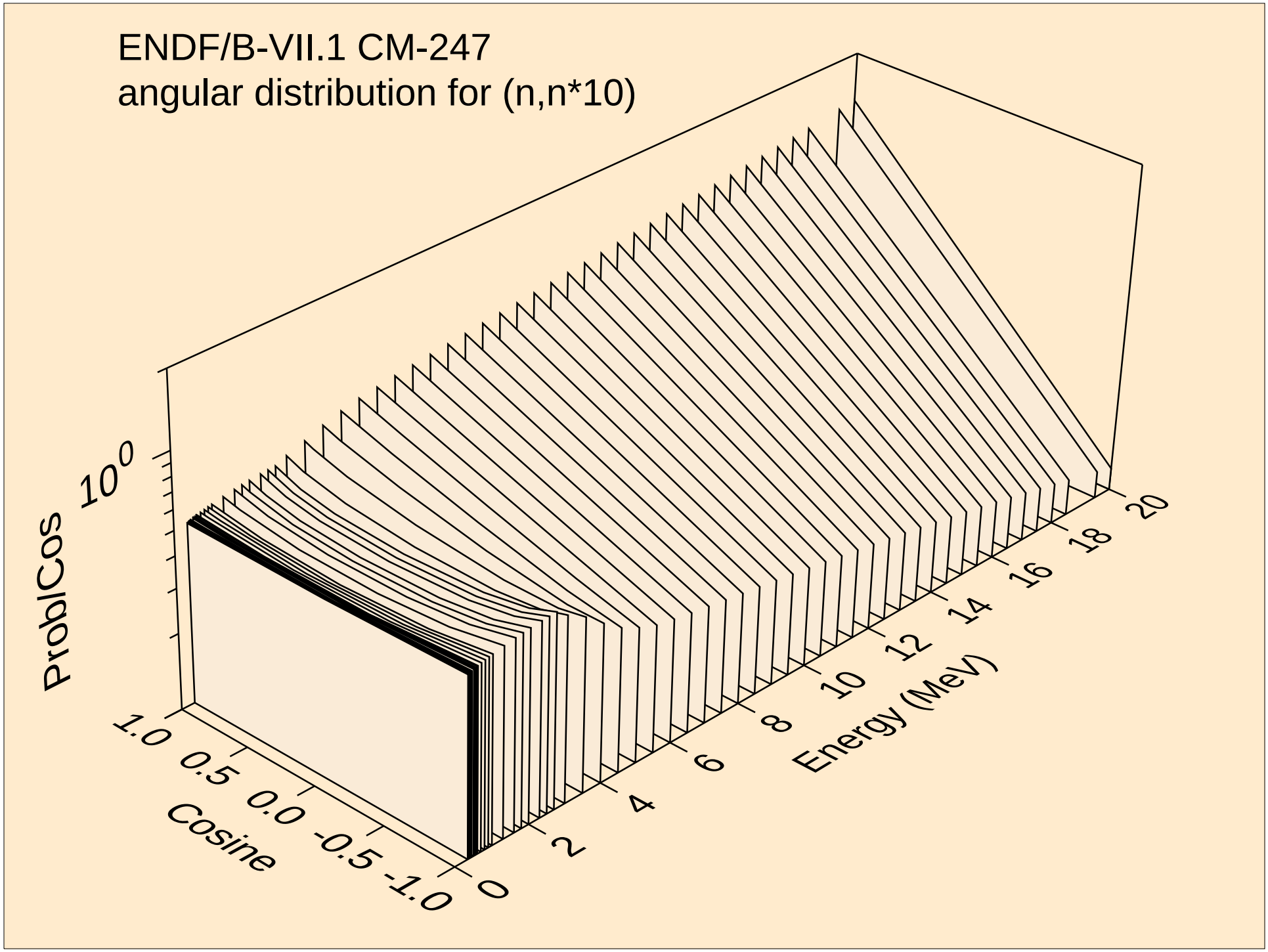

ENDF/B-VII.1 CM-247
angular distribution for (n,n*5)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

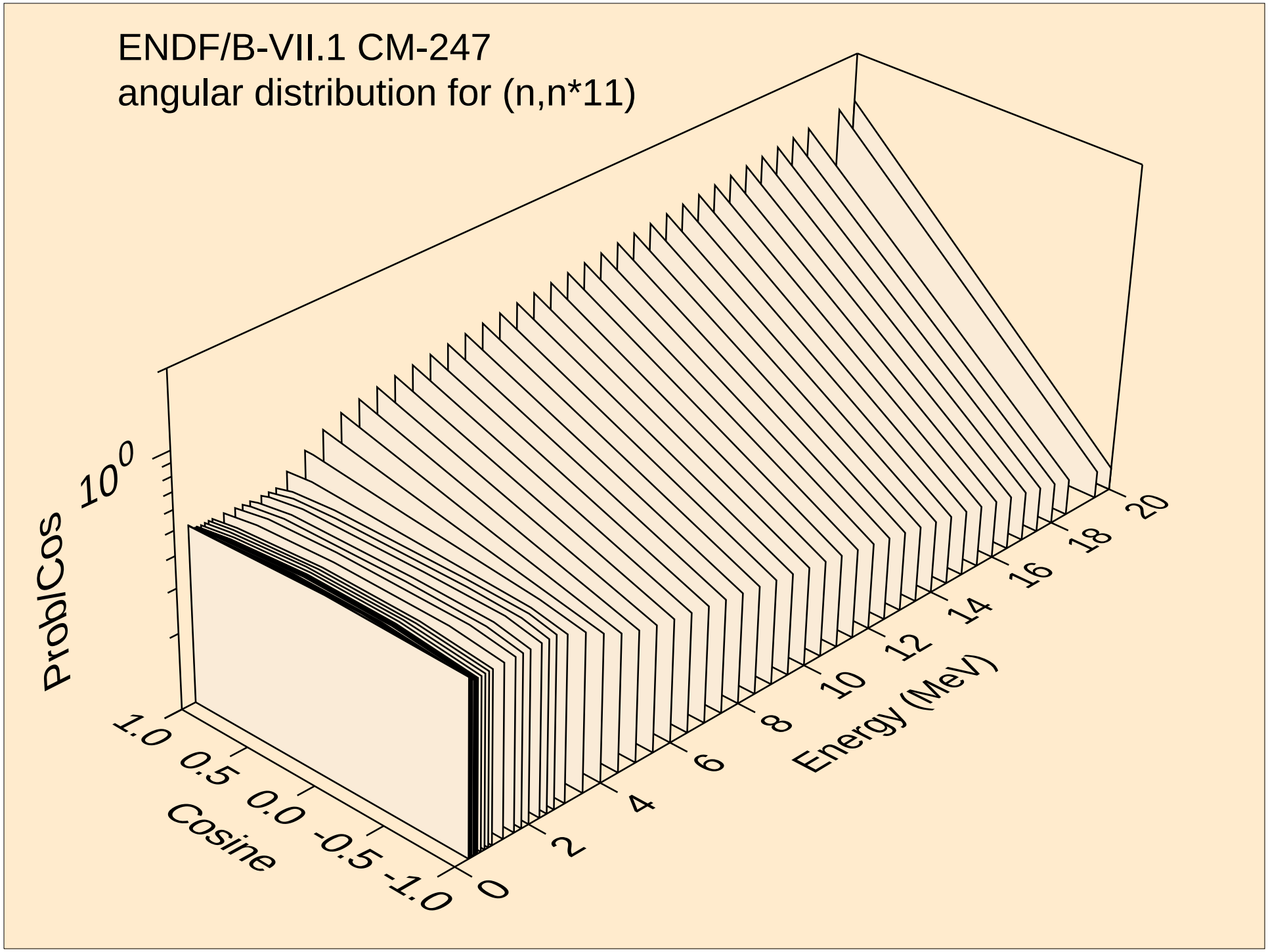

ENDF/B-VII.1 CM-247
angular distribution for (n,n*6)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

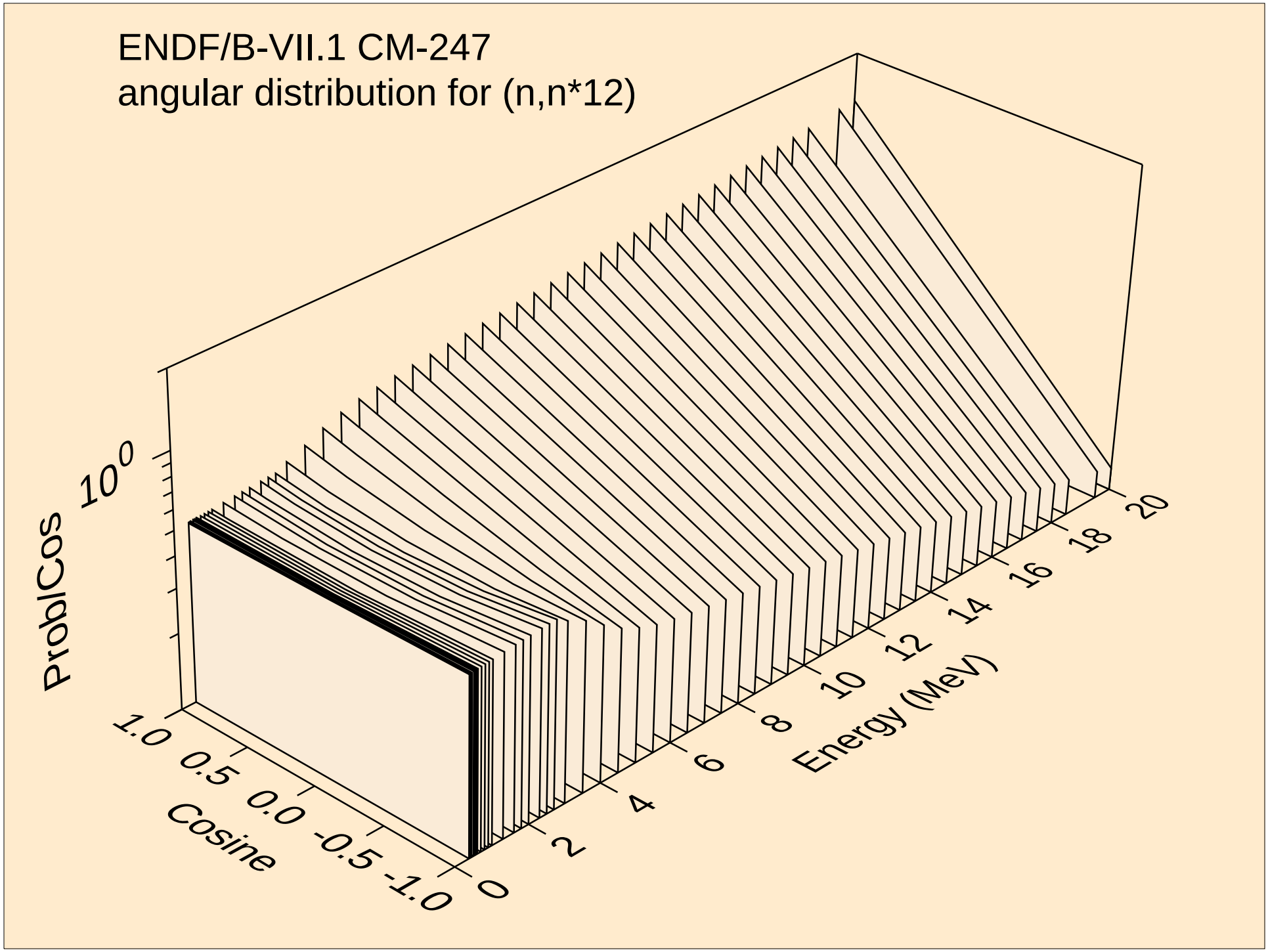

ENDF/B-VII.1 CM-247
angular distribution for (n,n*7)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

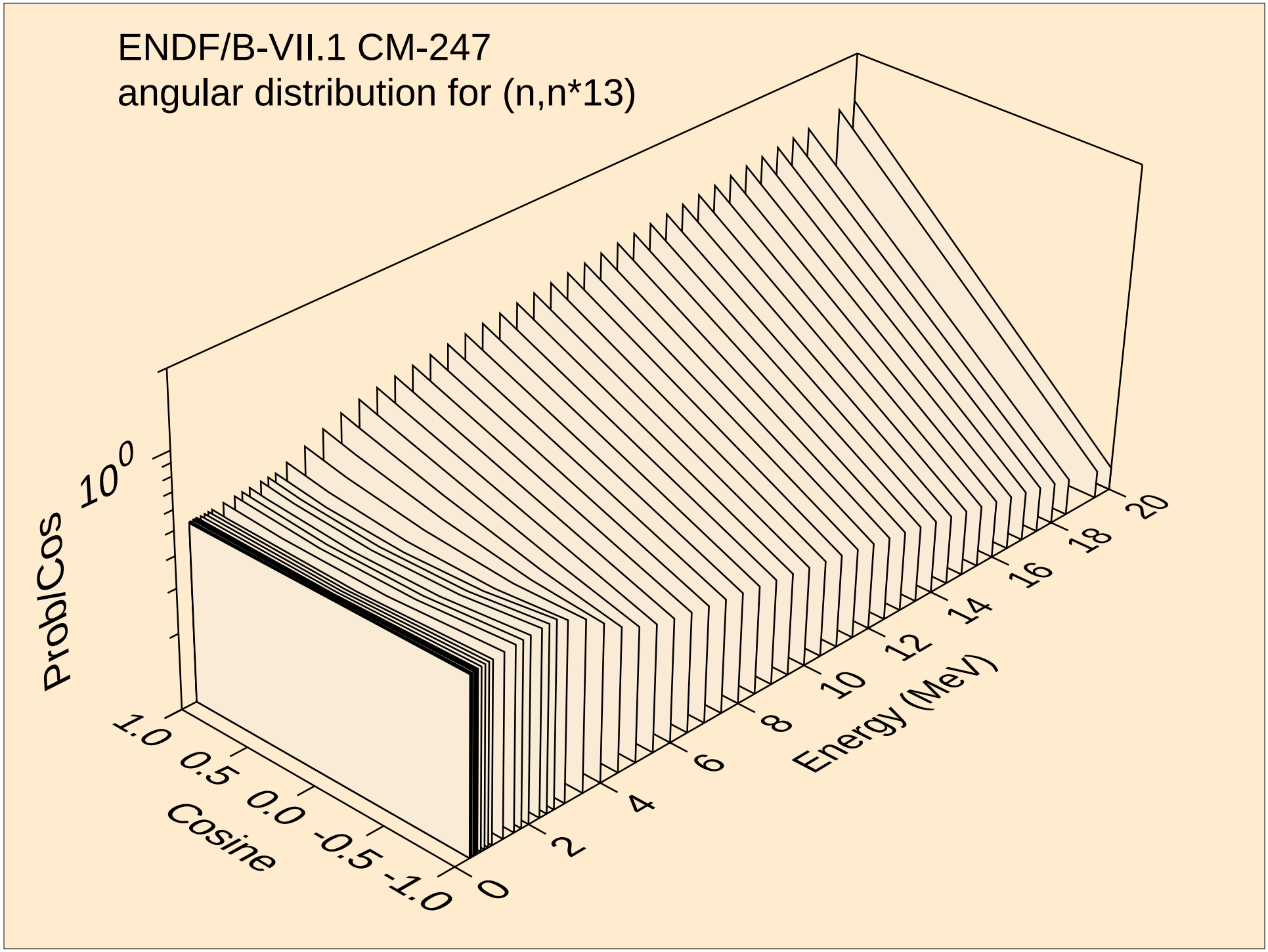

ENDF/B-VII.1 CM-247
angular distribution for (n,n*8)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

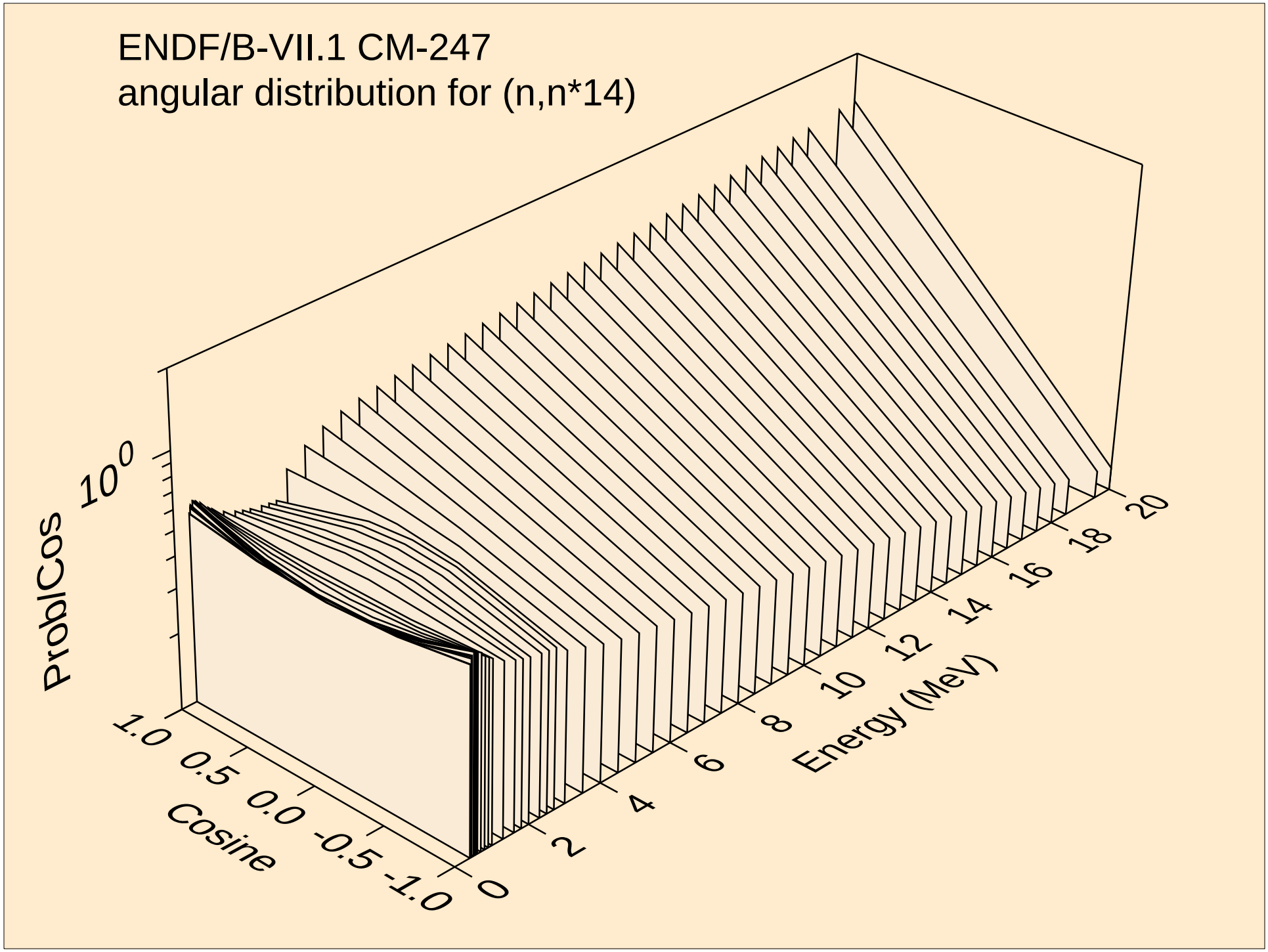

ENDF/B-VII.1 CM-247
angular distribution for (n,n*9)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

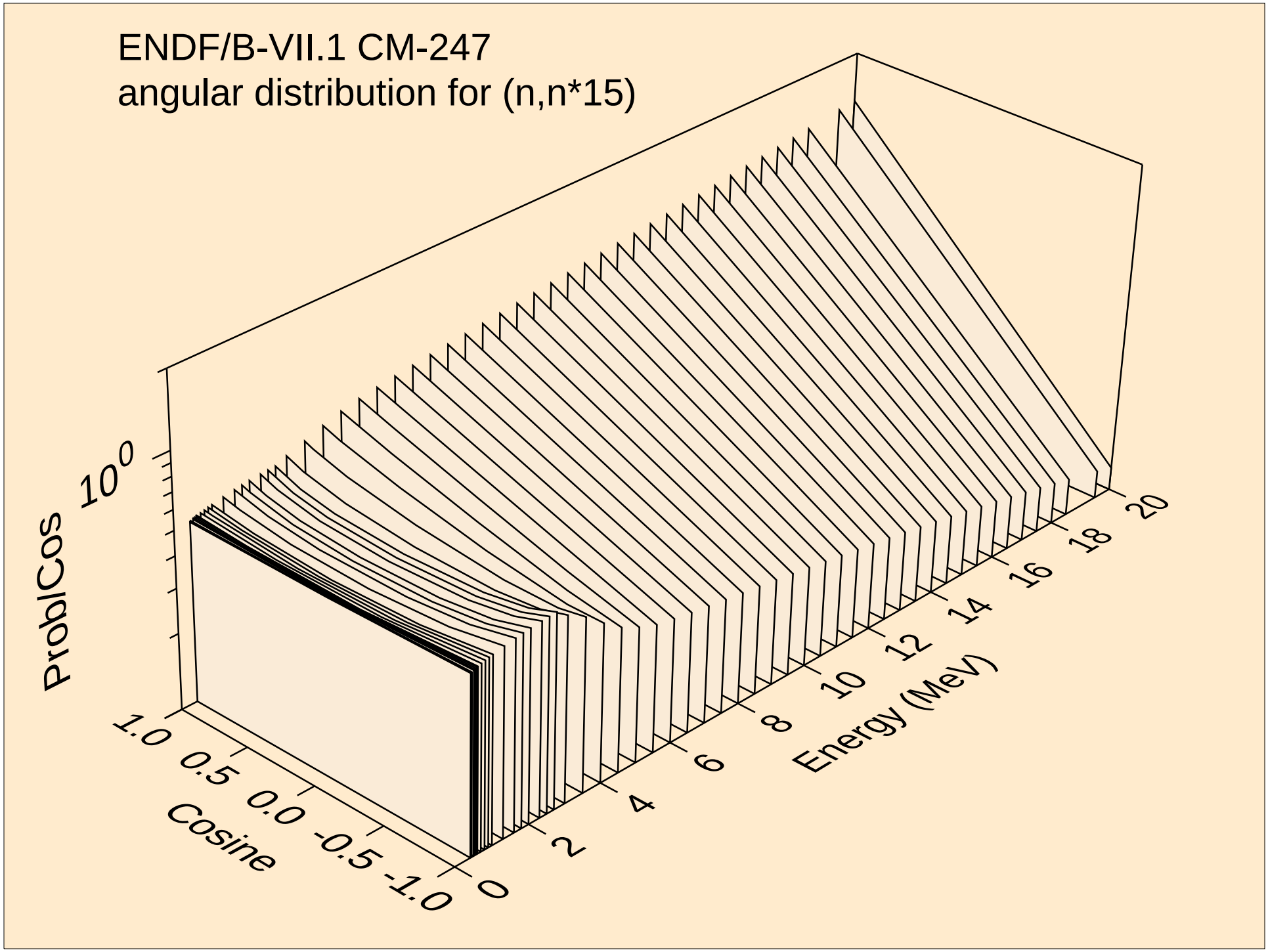

ENDF/B-VII.1 CM-247
angular distribution for (n,n*10)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

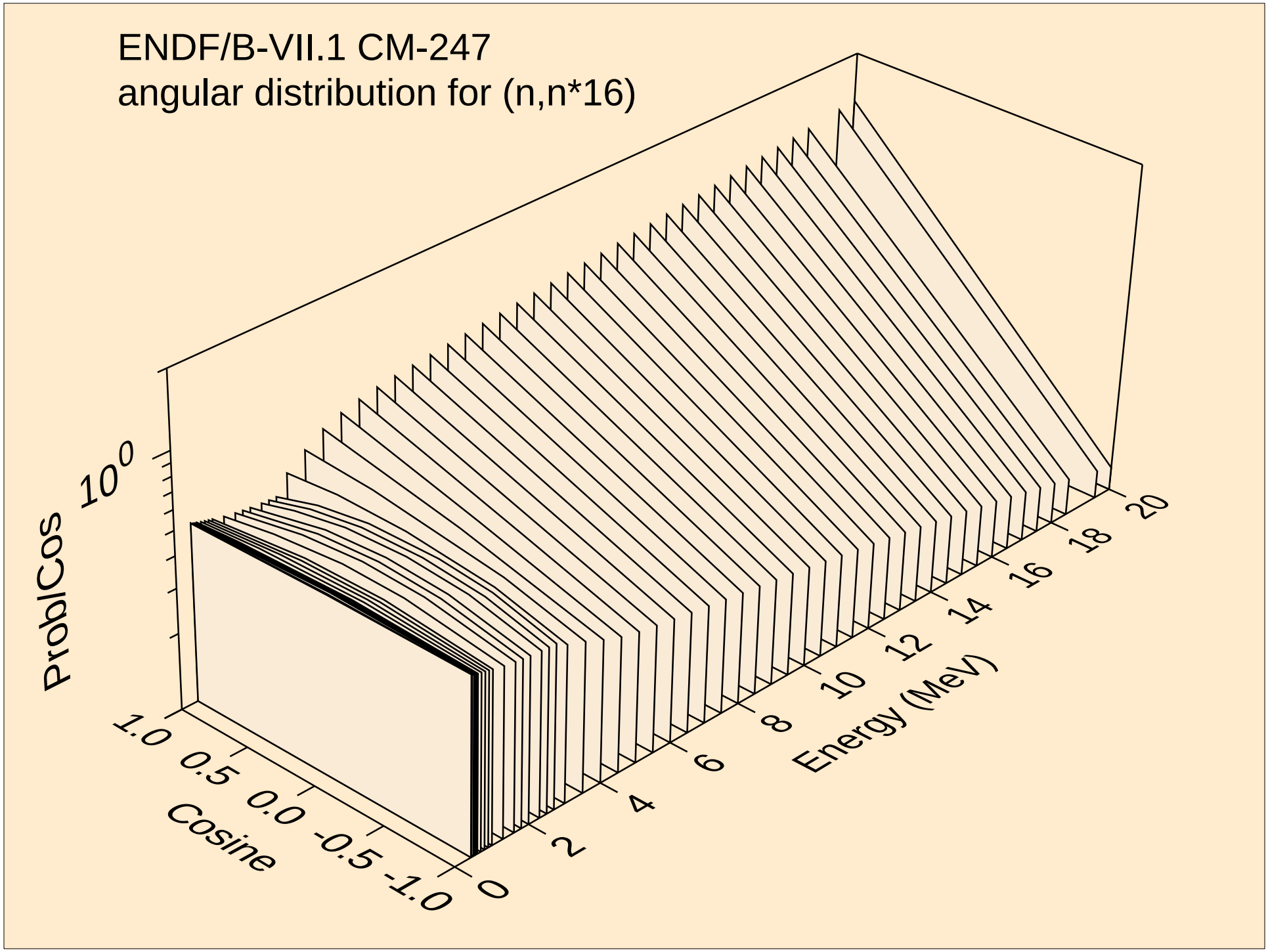

ENDF/B-VII.1 CM-247
angular distribution for (n,n*11)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

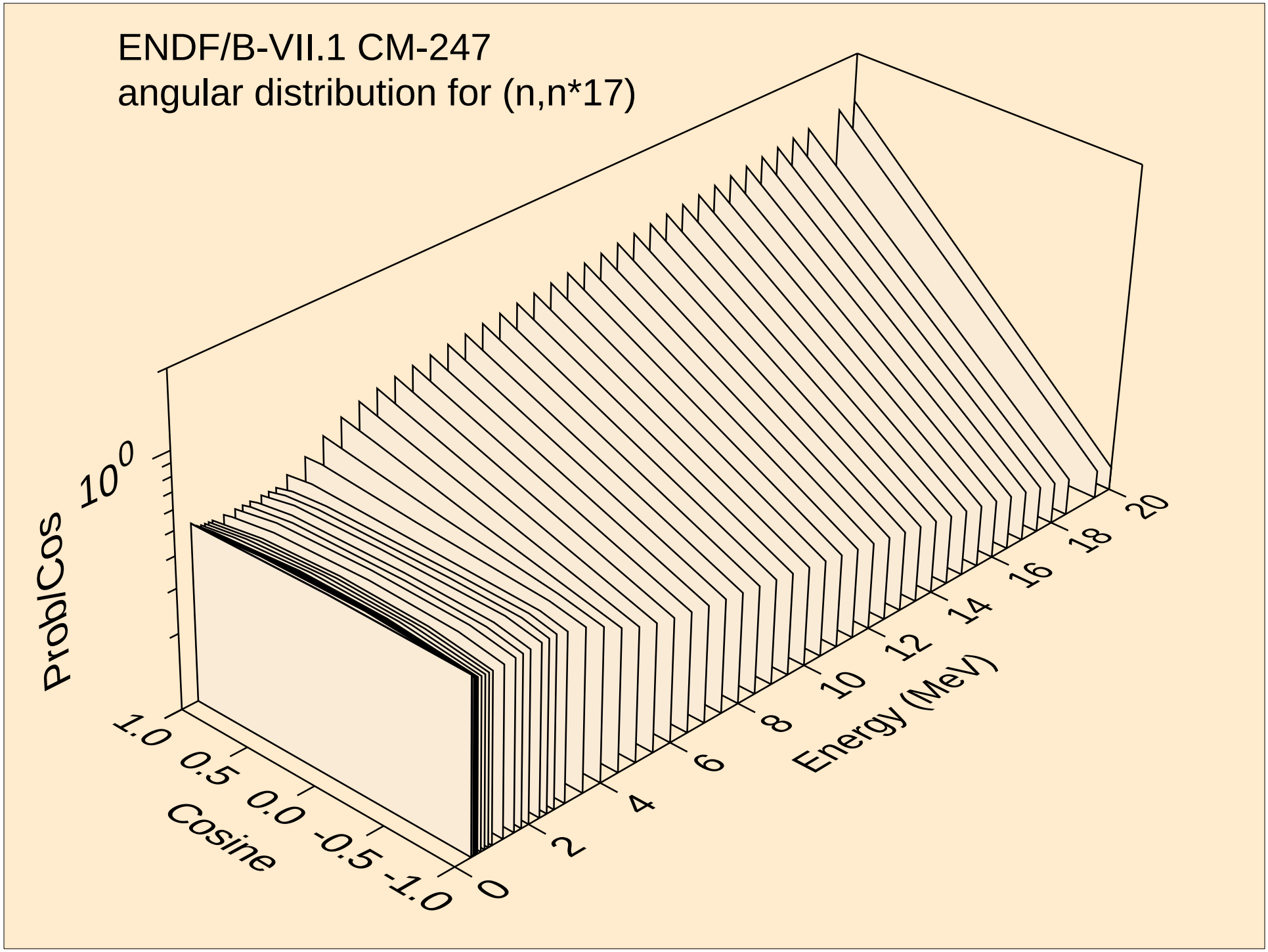

ENDF/B-VII.1 CM-247
angular distribution for (n,n*12)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

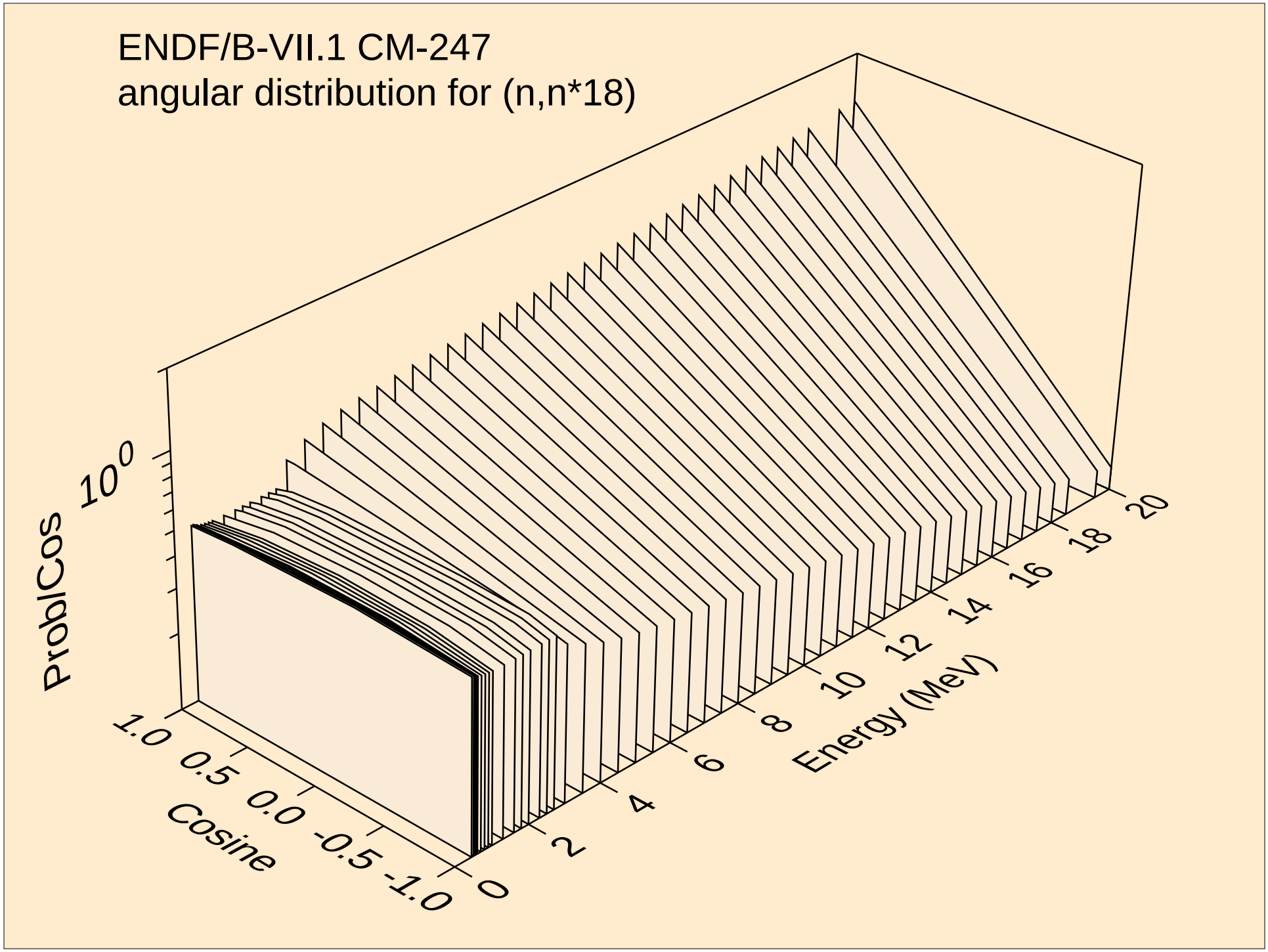

ENDF/B-VII.1 CM-247
angular distribution for (n,n*13)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

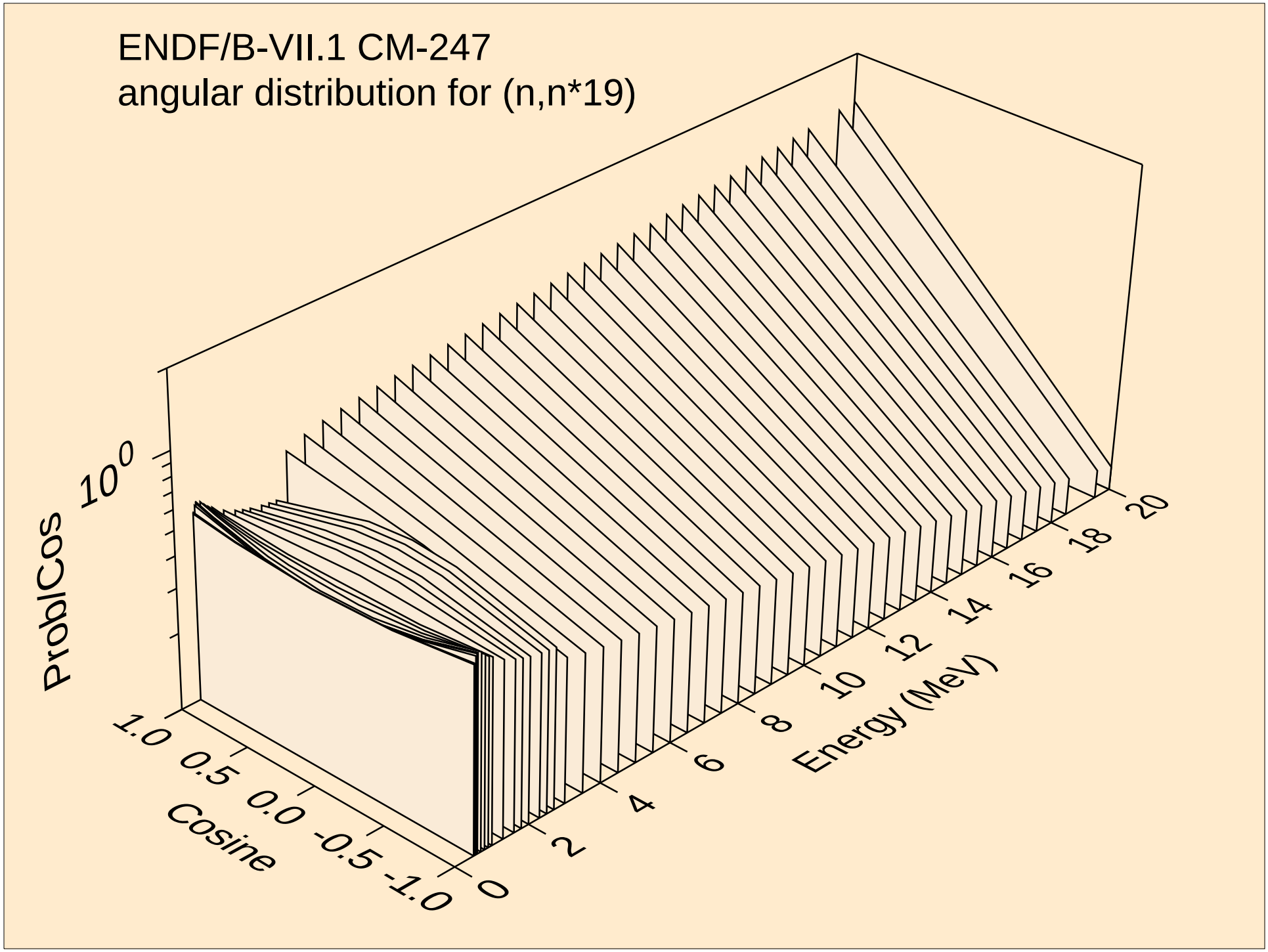

ENDF/B-VII.1 CM-247
angular distribution for (n,n*14)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

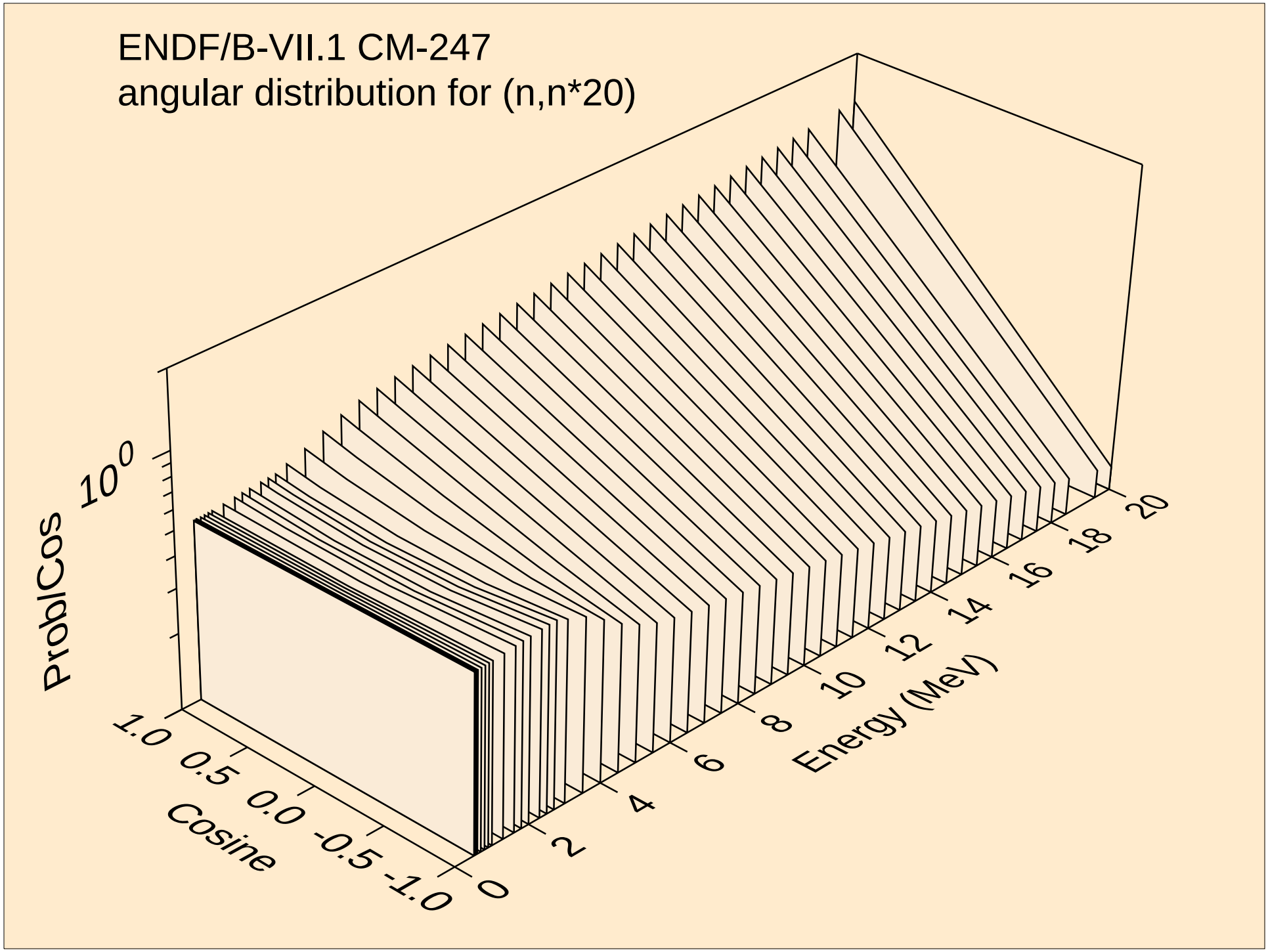

ENDF/B-VII.1 CM-247
angular distribution for (n,n*15)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

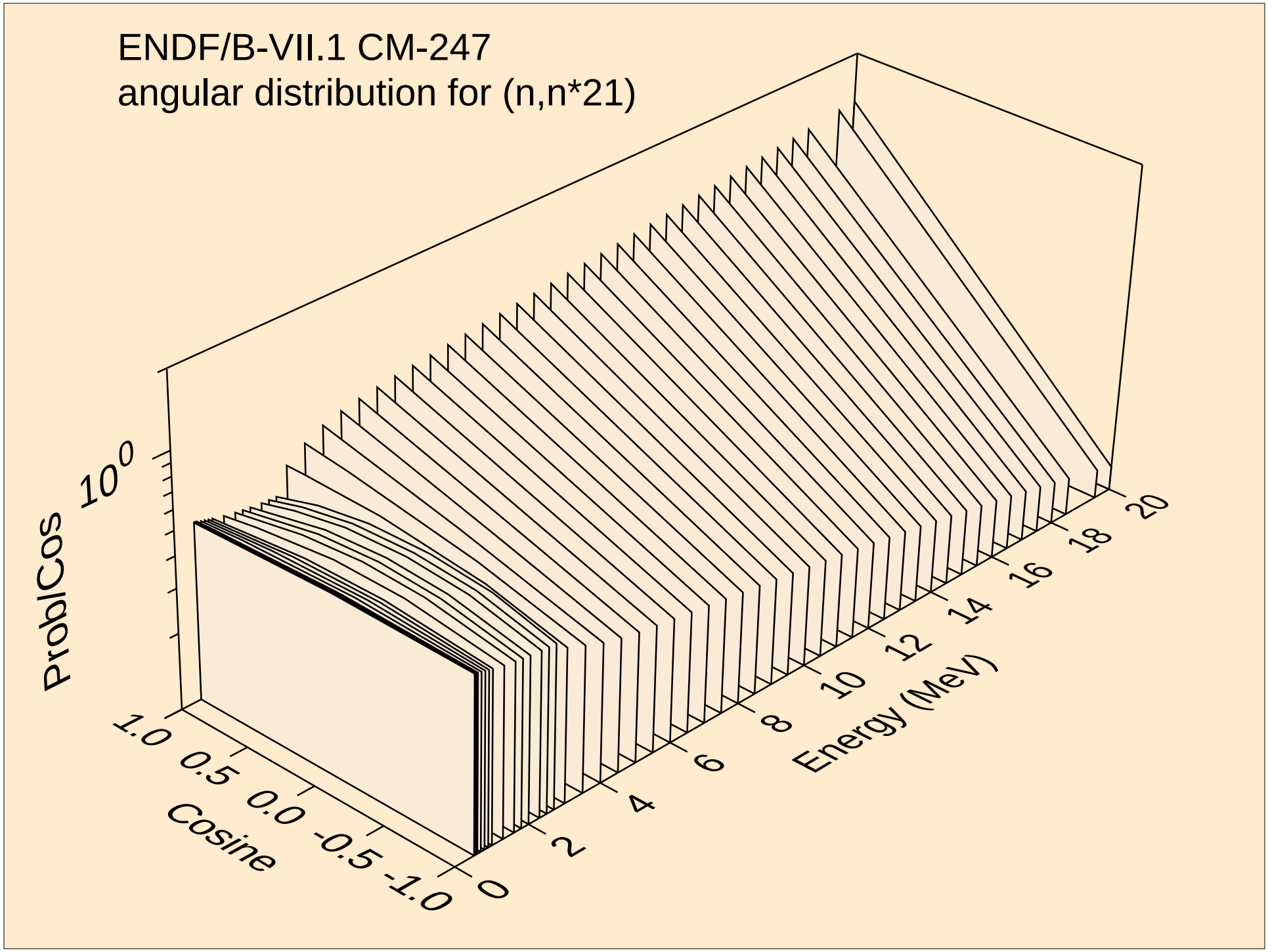

ENDF/B-VII.1 CM-247
angular distribution for (n,n*16)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

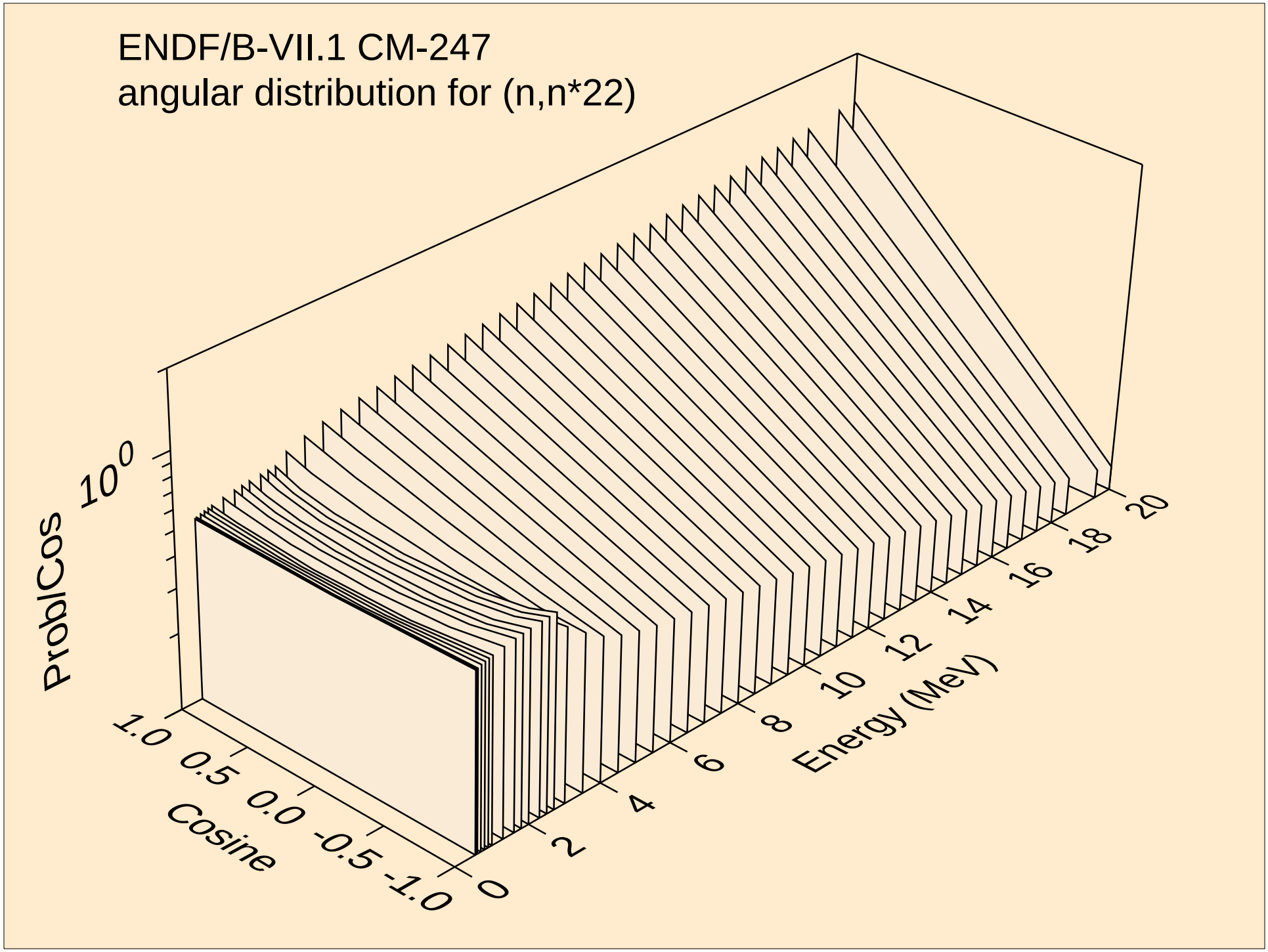

ENDF/B-VII.1 CM-247
angular distribution for (n,n*17)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

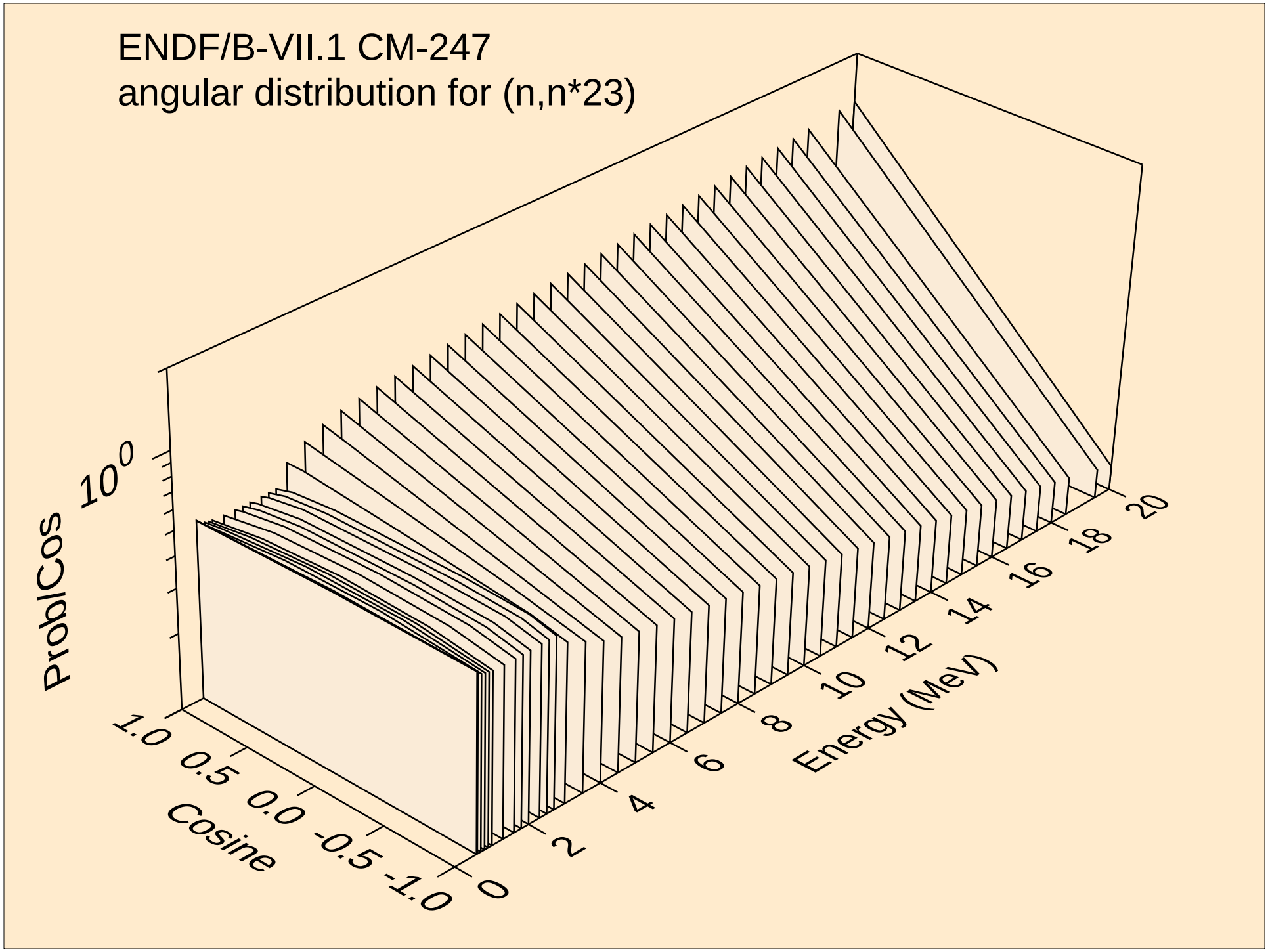

ENDF/B-VII.1 CM-247
angular distribution for (n,n*18)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

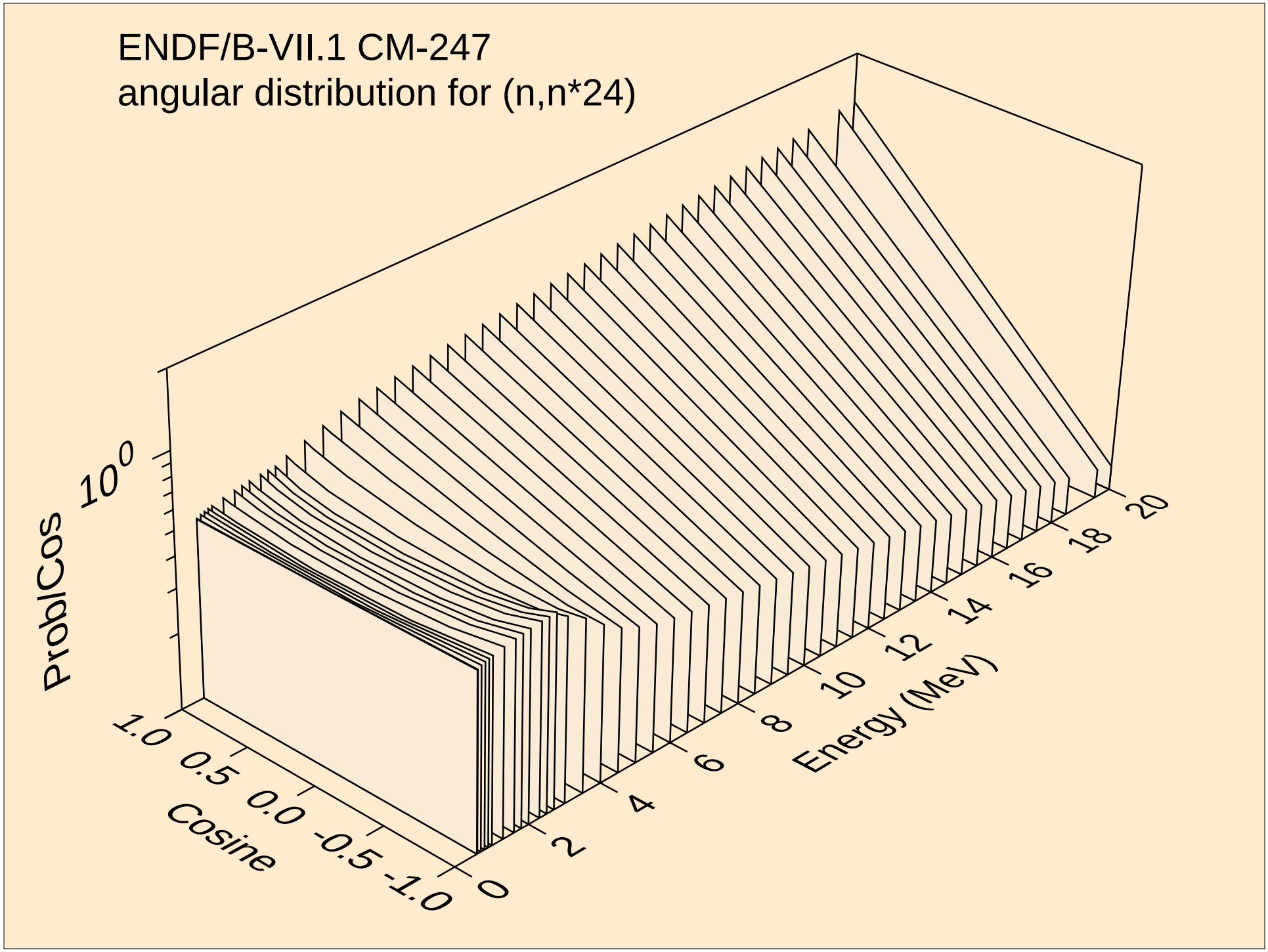

ENDF/B-VII.1 CM-247
angular distribution for (n,n*19)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

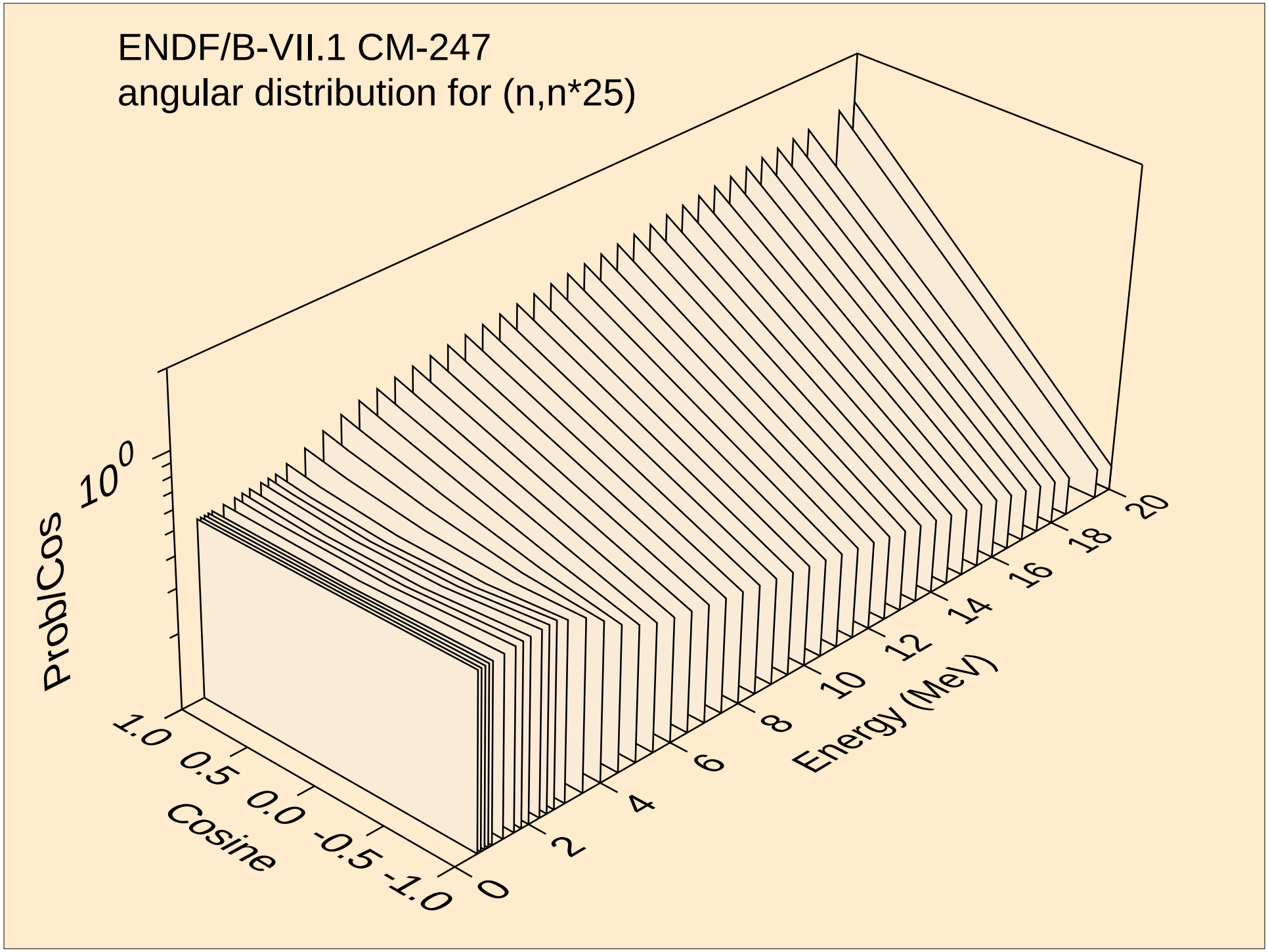

ENDF/B-VII.1 CM-247
angular distribution for (n,n*20)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

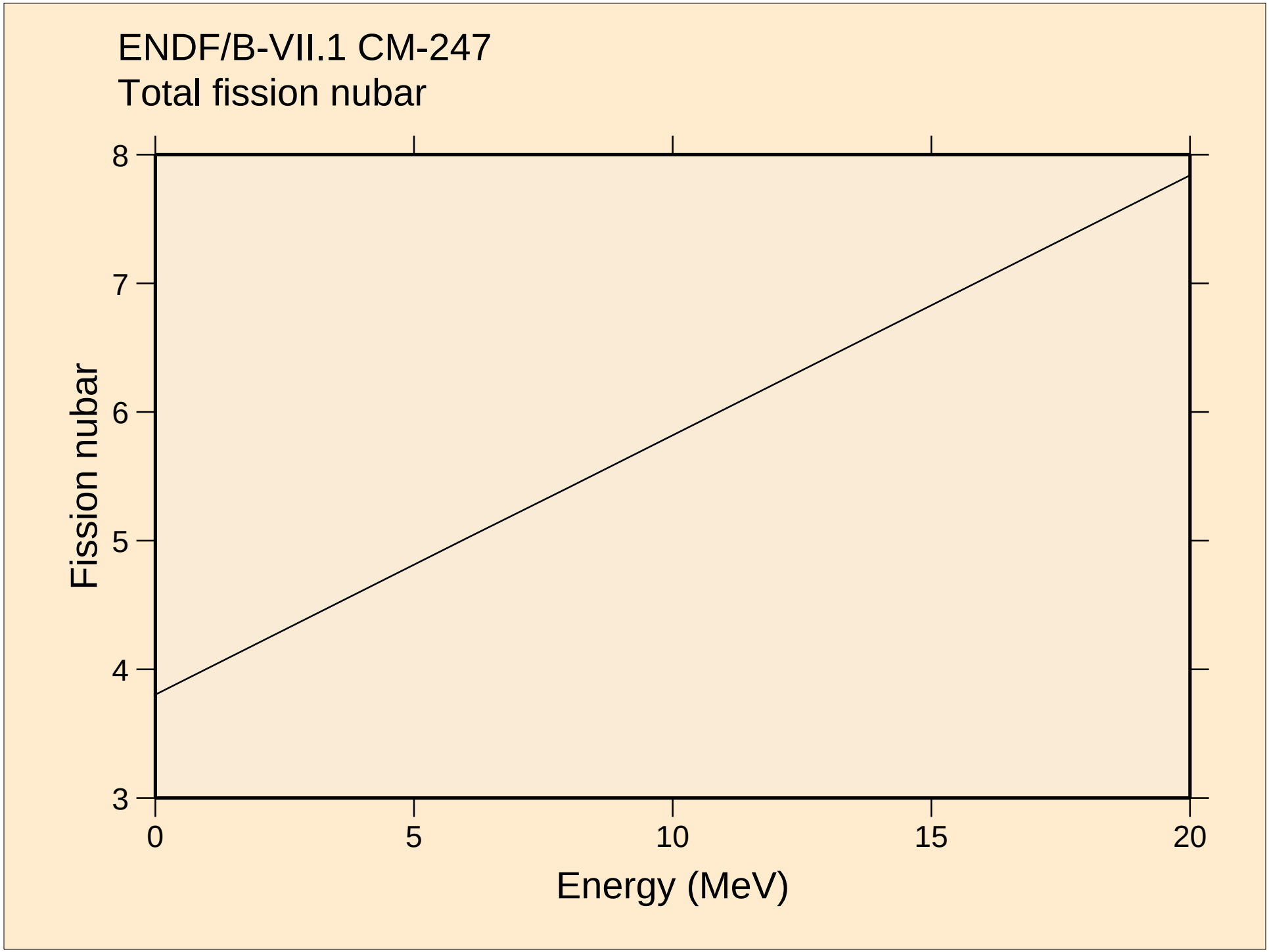

ENDF/B-VII.1 CM-247
angular distribution for (n,n*21)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

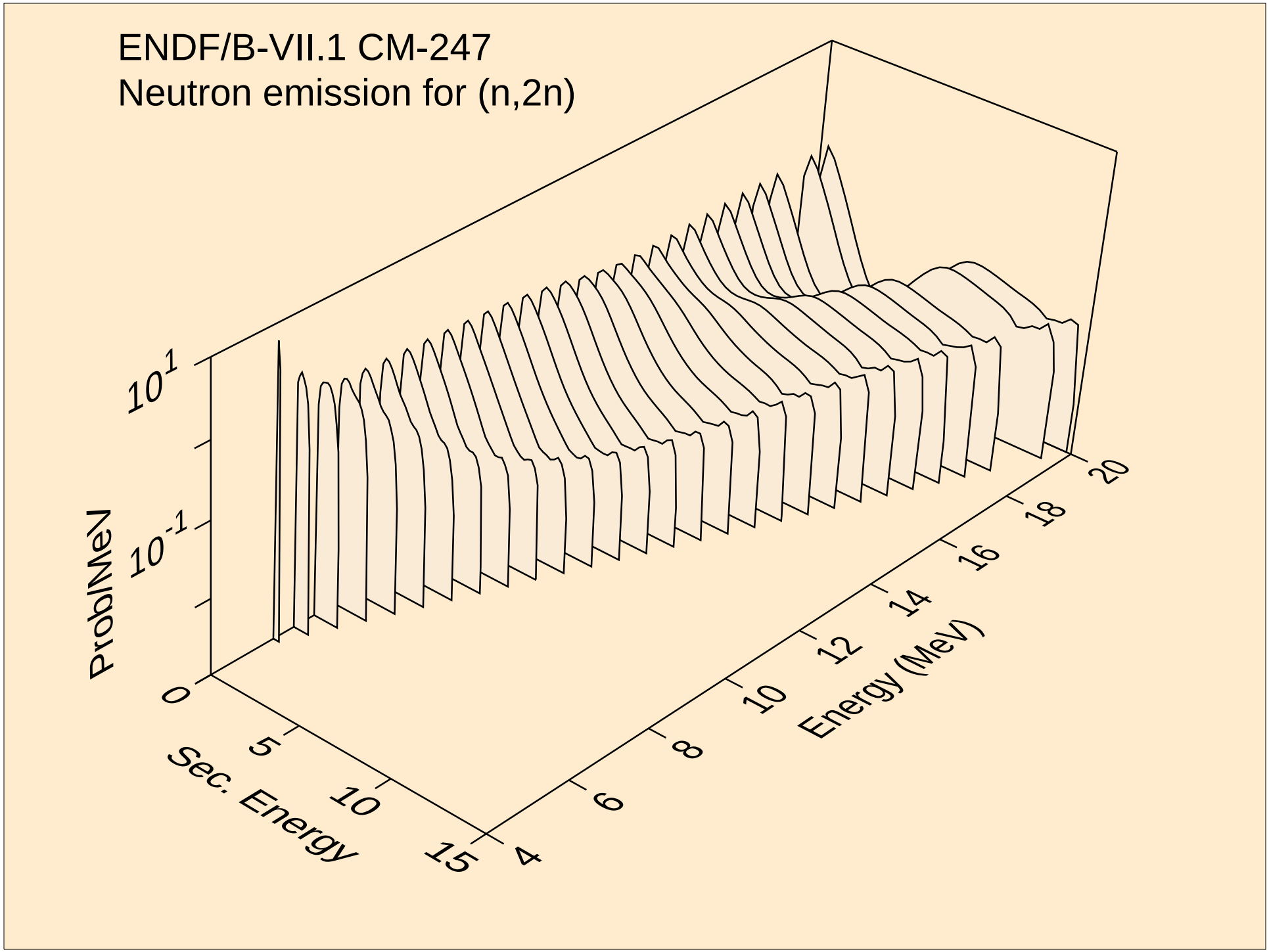

ENDF/B-VII.1 CM-247
angular distribution for (n,n*22)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

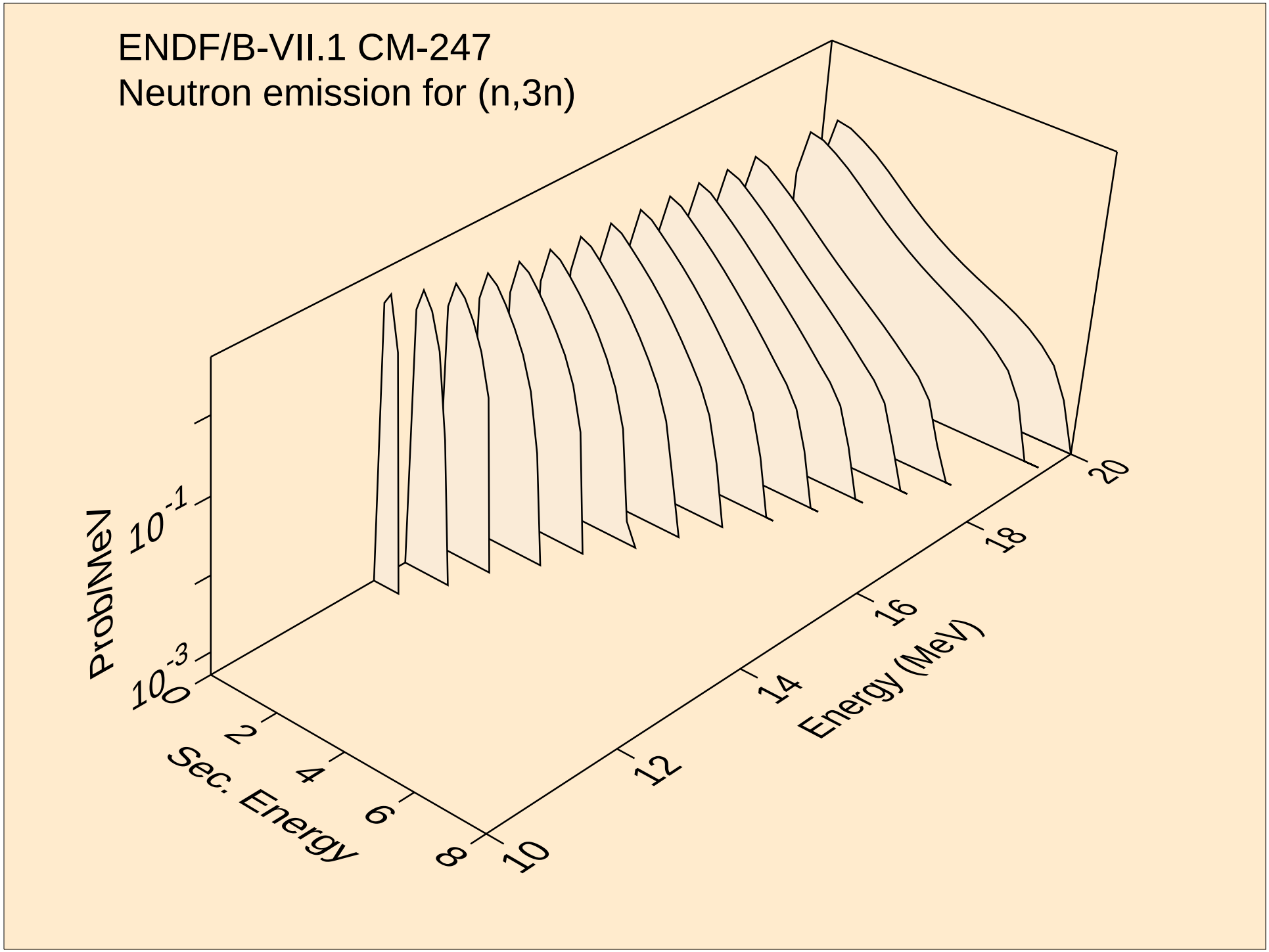

ENDF/B-VII.1 CM-247
angular distribution for (n,n*23)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

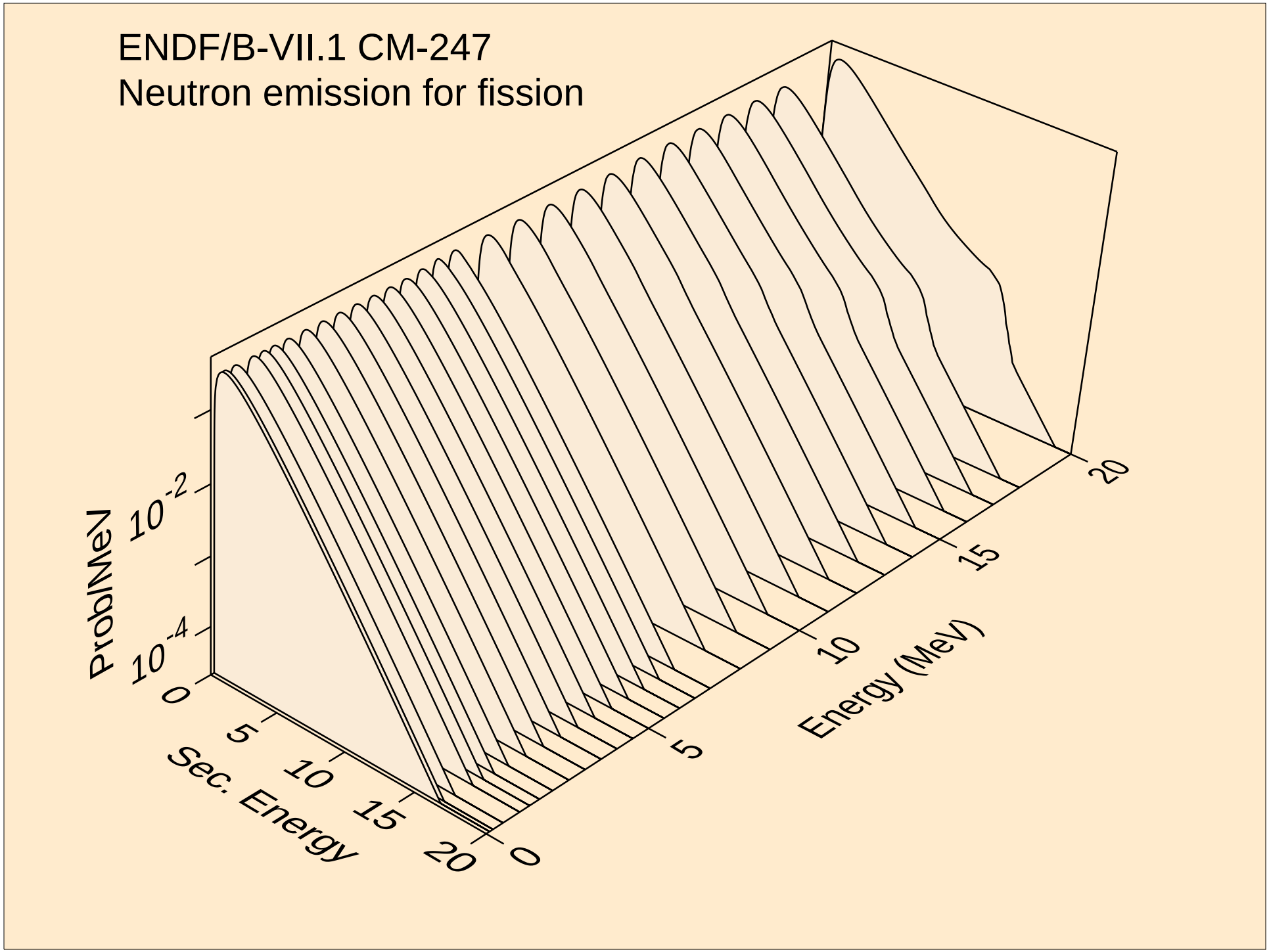

ENDF/B-VII.1 CM-247
angular distribution for (n,n*24)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

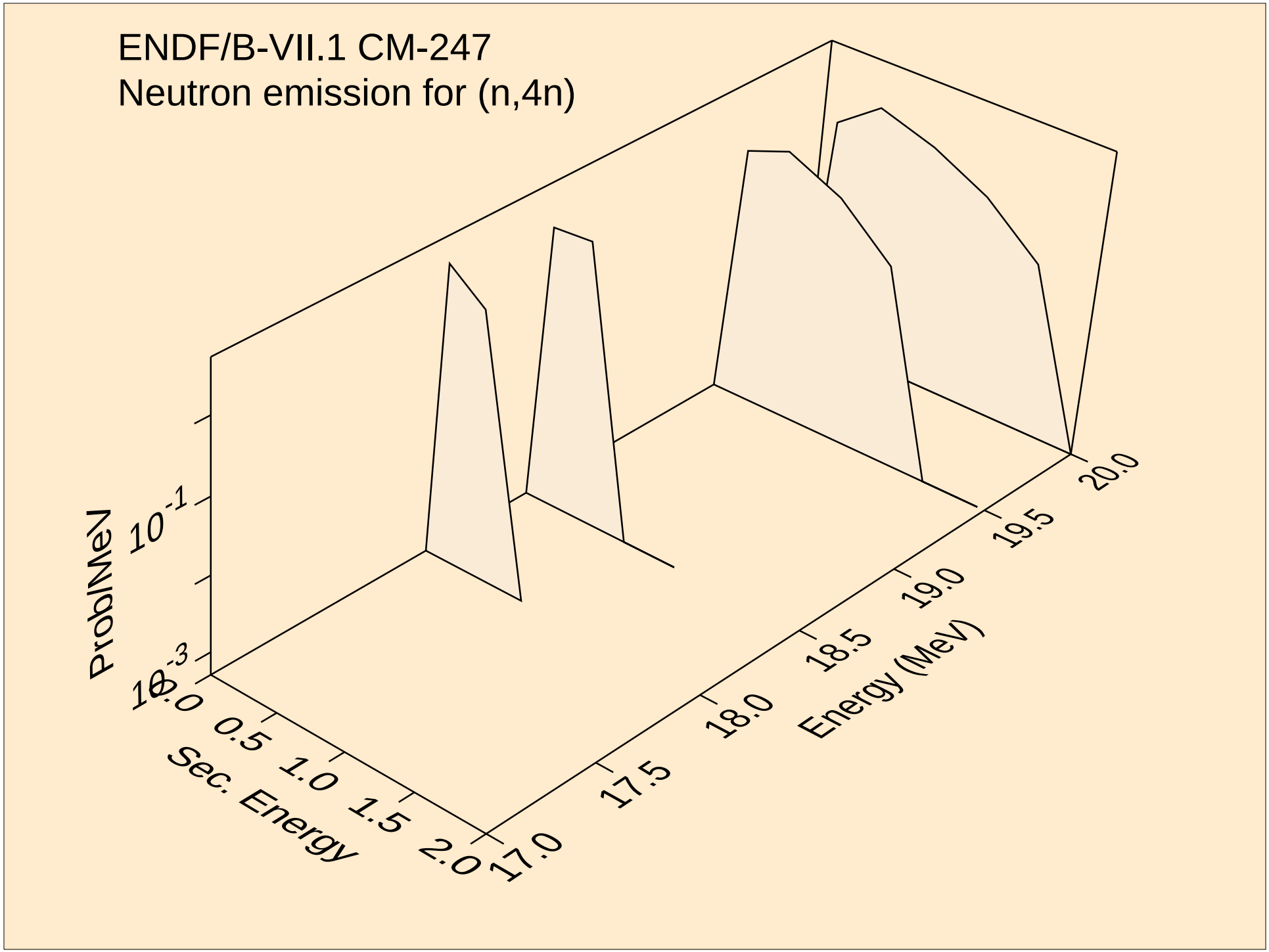

ENDF/B-VII.1 CM-247
angular distribution for (n,n*25)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

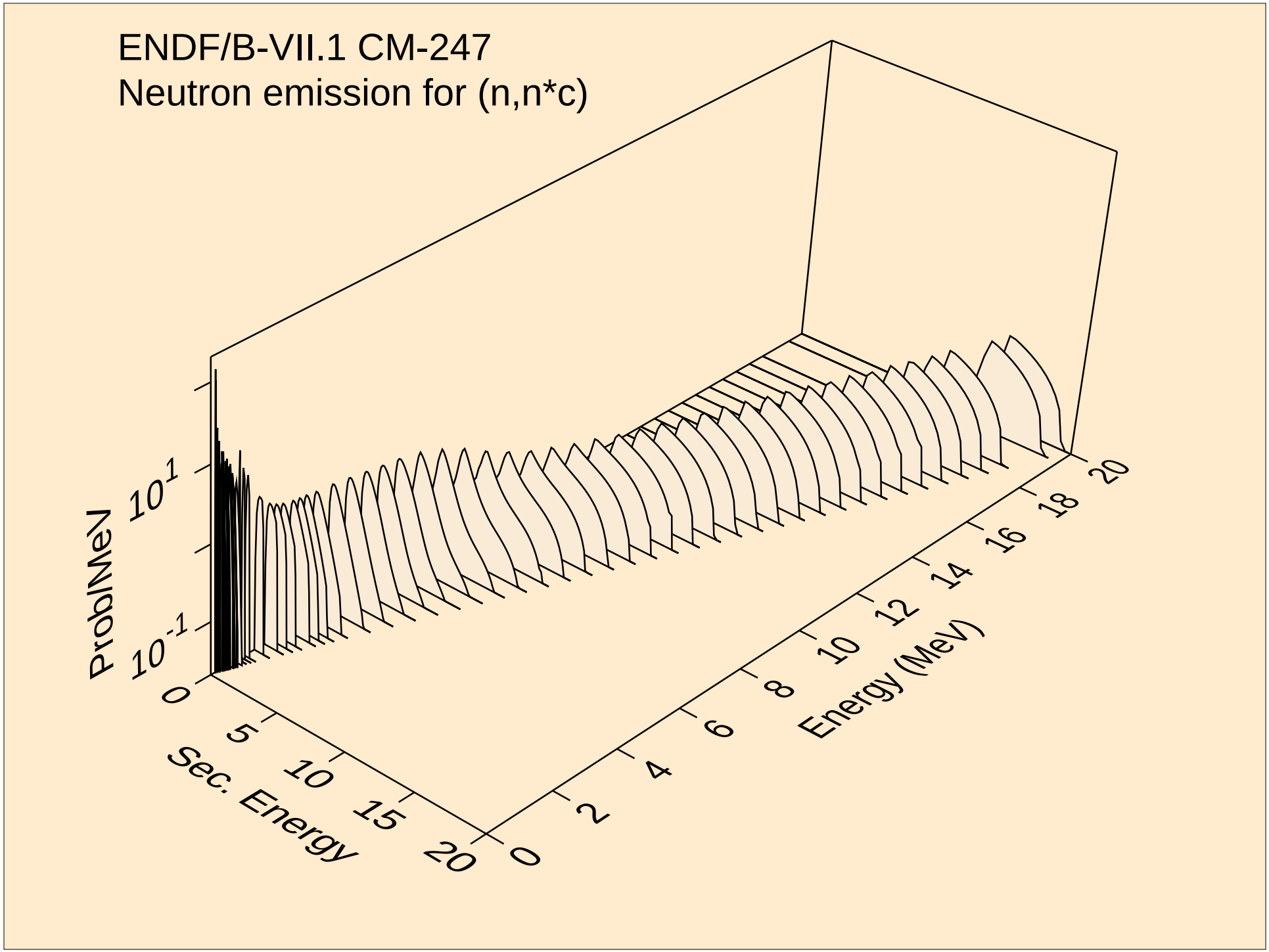

ENDF/B-VII.1 CM-247
Total fission nubar
Fission nubar
8
7
6
5
4
3
0
5
10
15
20
Energy (MeV)

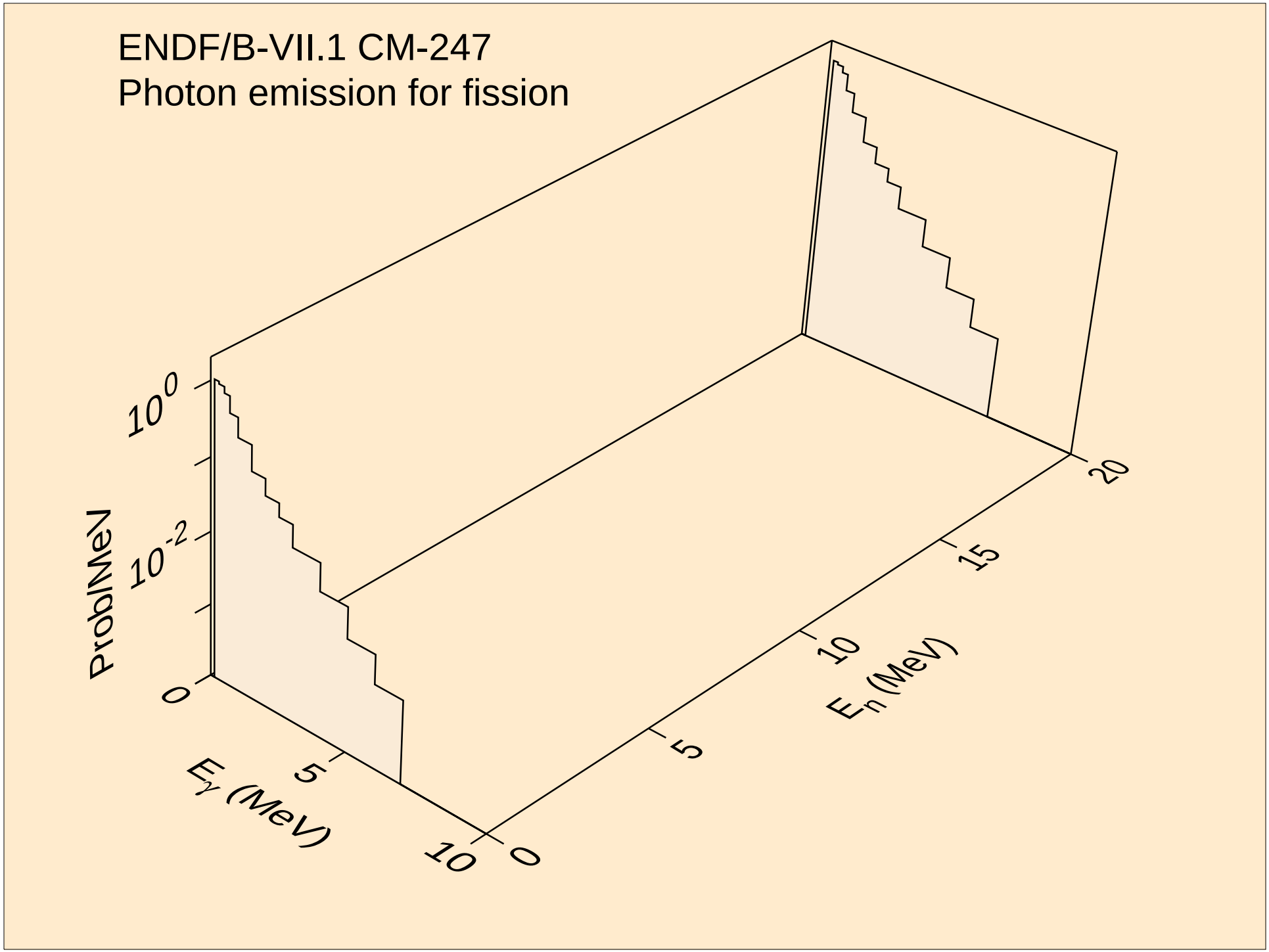

ENDF/B-VII.1 CM-247
Neutron emission for (n,2n)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
Sec. Energy
4
6
8
10
12
14
16
18
20
Energy (MeV)

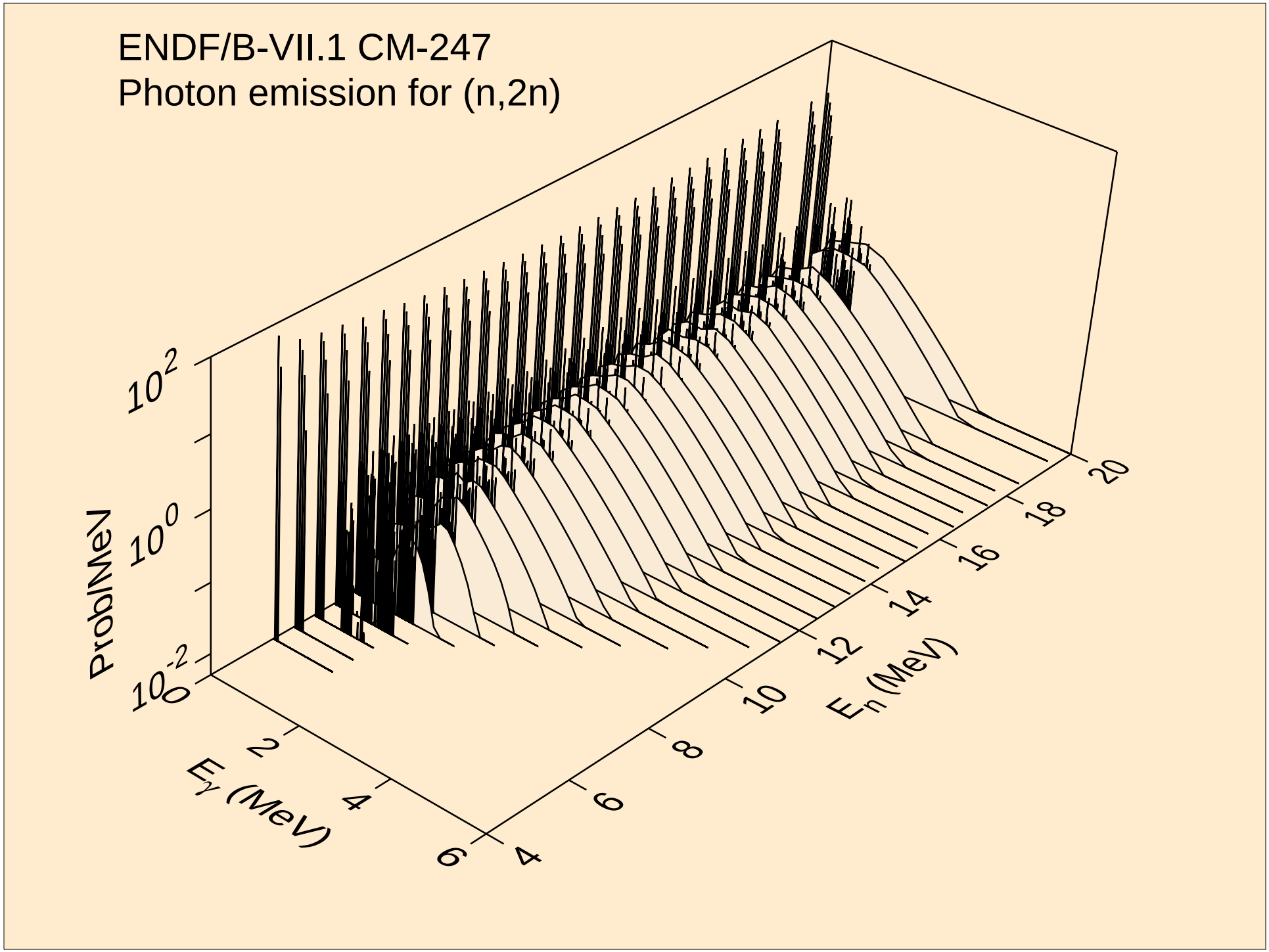

ENDF/B-VII.1 CM-247
Neutron emission for (n,3n)
Prob/MeV
10^-1
10^-3
0
2
4
6
8
10
Sec. Energy
12
14
16
18
20
Energy (MeV)

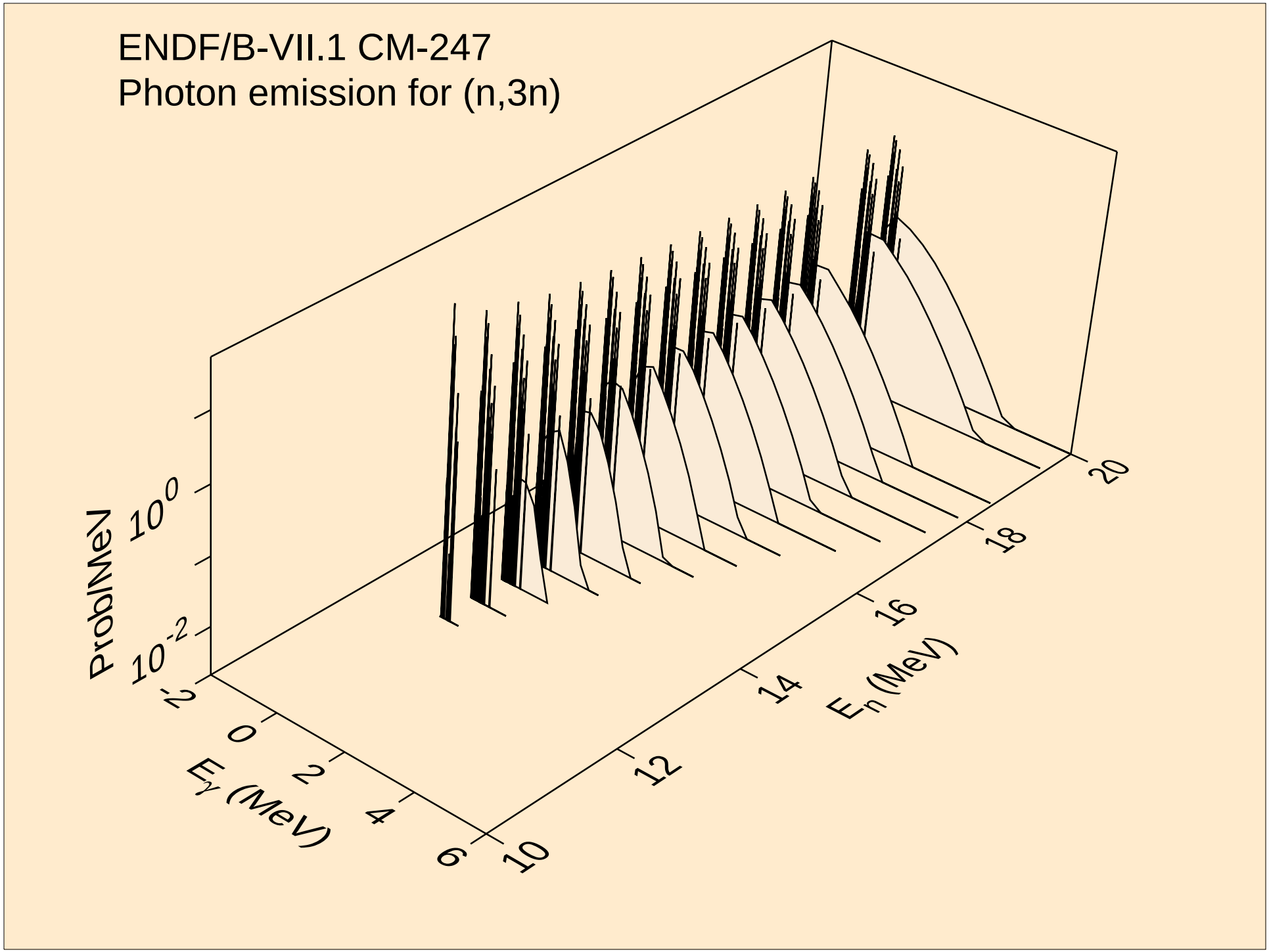

ENDF/B-VII.1 CM-247
Neutron emission for fission
Prob/MeV
10-2
10-4
0
5
10
15
20
Sec. Energy
0
5
10
15
20
Energy (MeV)

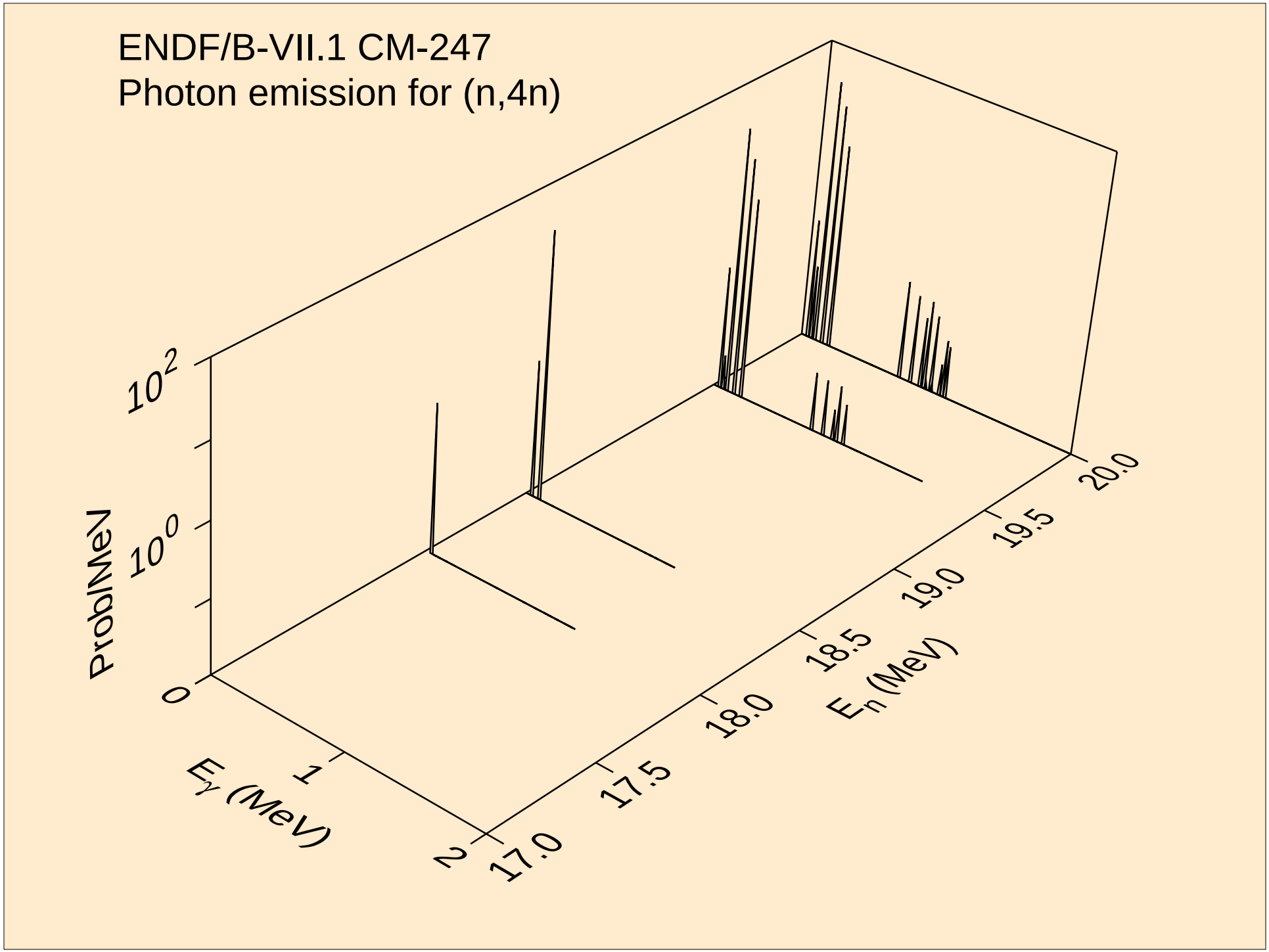

ENDF/B-VII.1 CM-247
Neutron emission for (n,4n)
Prob/MeV
10-1
10-3
0.0
0.5
1.0
1.5
2.0
Sec. Energy
17.0
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

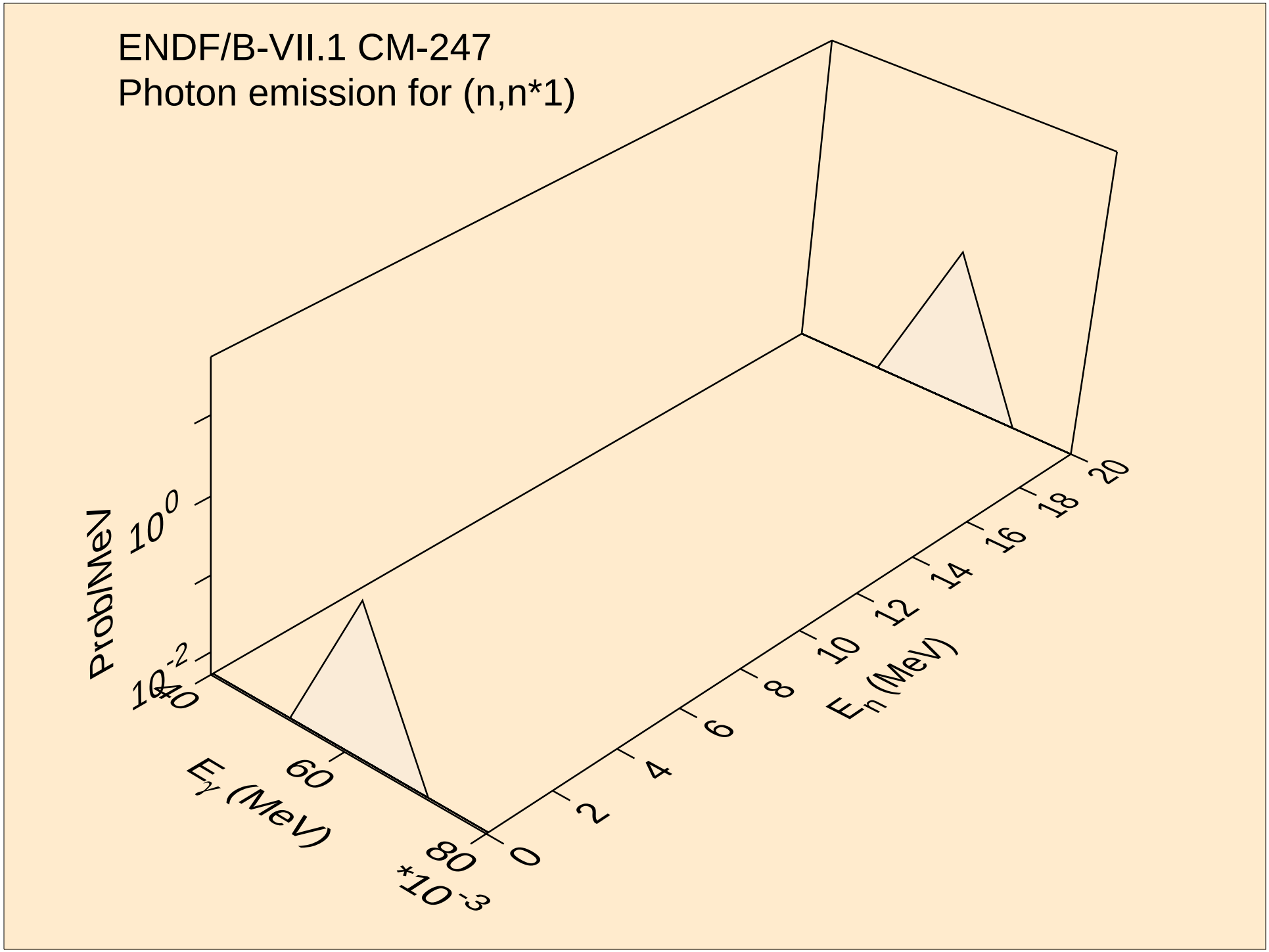

ENDF/B-VII.1 CM-247
Neutron emission for (n,n*c)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
20
Sec. Energy
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

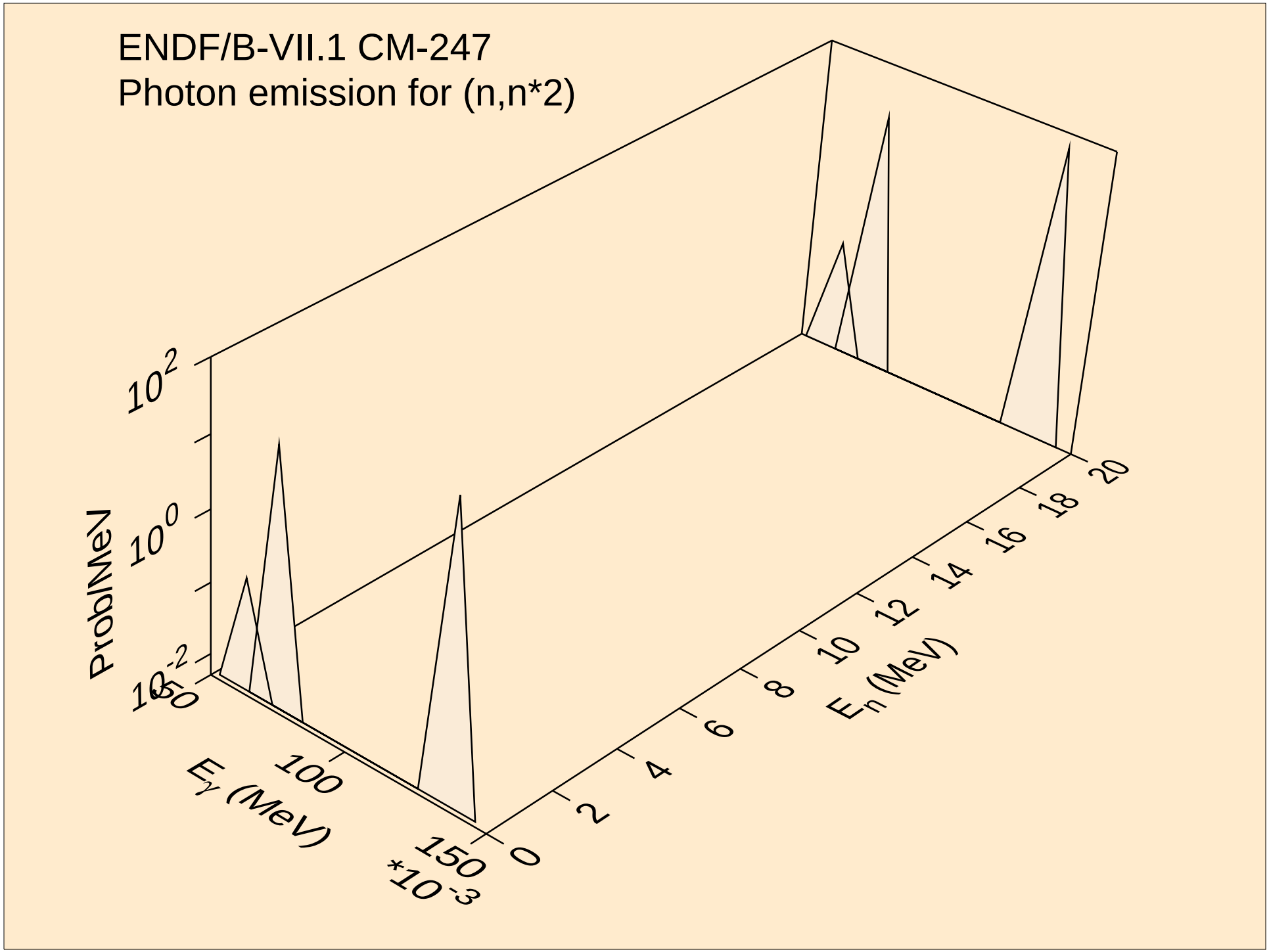

ENDF/B-VII.1 CM-247
Photon emission for fission
Prob/MeV
10^{0}
10^{-2}
0
5
10
E_γ (MeV)
0
5
10
15
20
E_n (MeV)

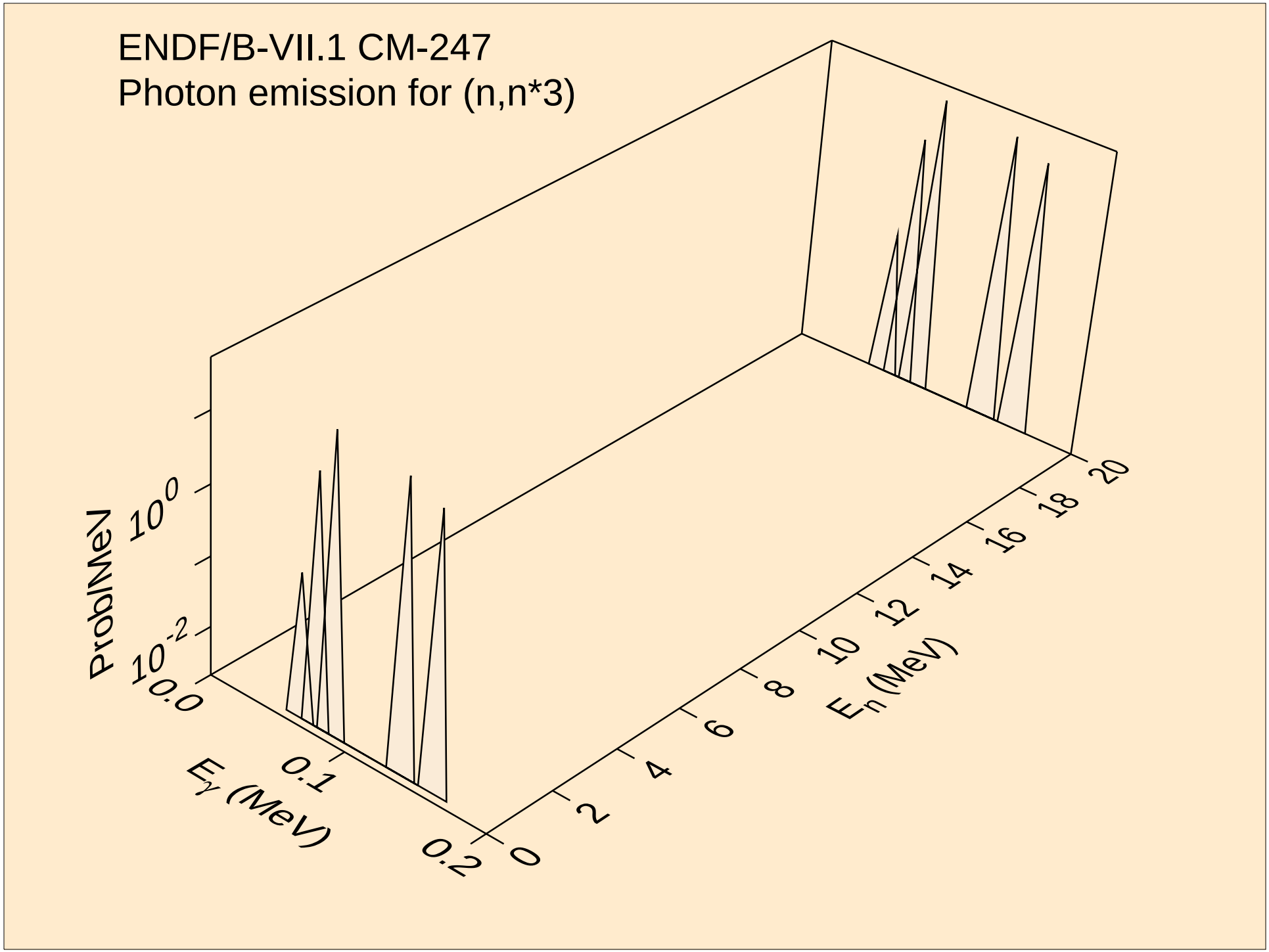

ENDF/B-VII.1 CM-247
Photon emission for (n,2n)
Prob/MeV
10^{2}
10^{0}
10^{-2}
0
2
4
6
E_γ (MeV)
4
6
8
10
12
14
16
18
20
E_n (MeV)

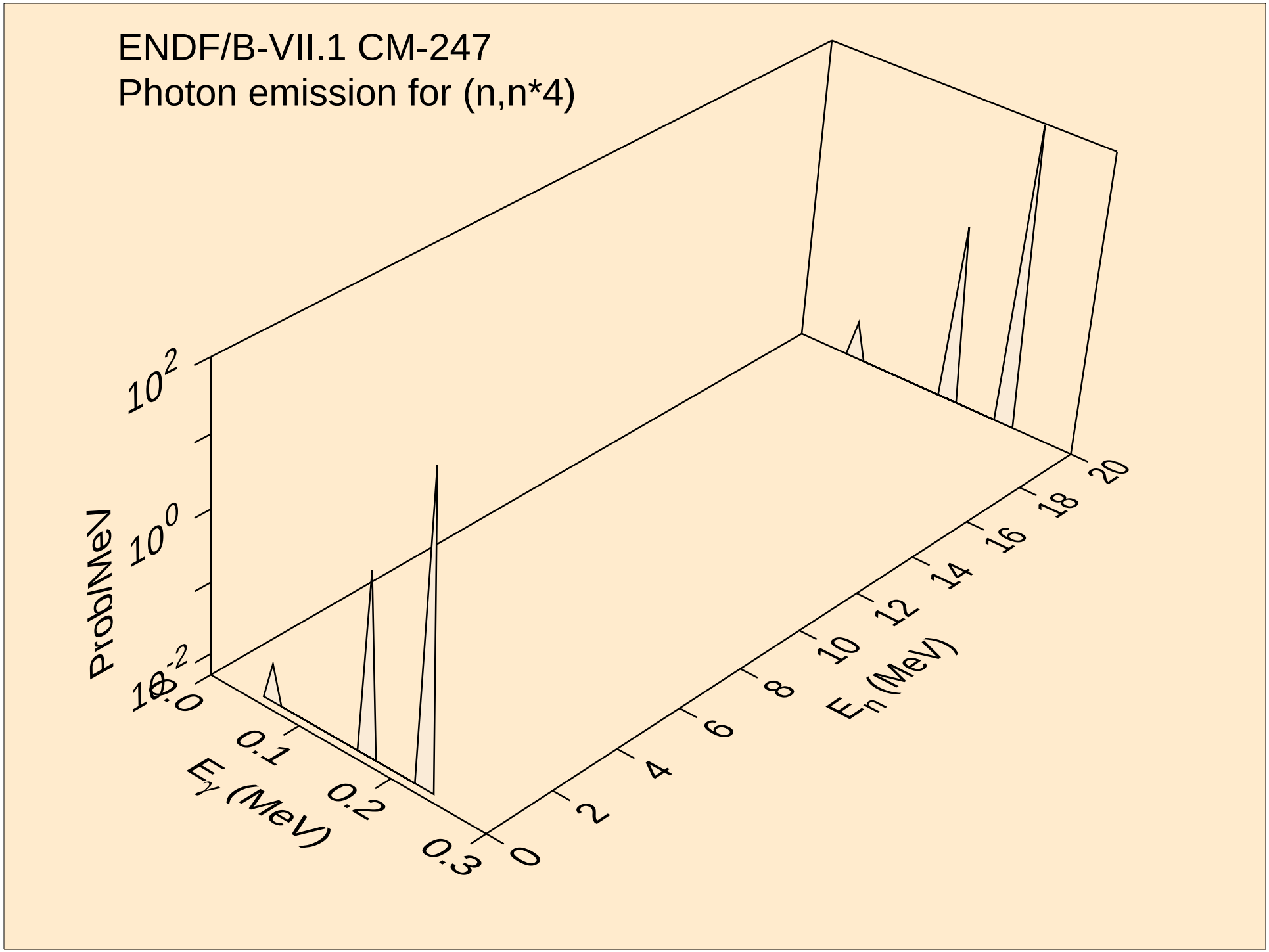

ENDF/B-VII.1 CM-247
Photon emission for (n,3n)
Prob/MeV
10^{0}
10^{-2}
-2
0
2
4
6
E_γ (MeV)
10
12
14
16
18
20
E_n (MeV)

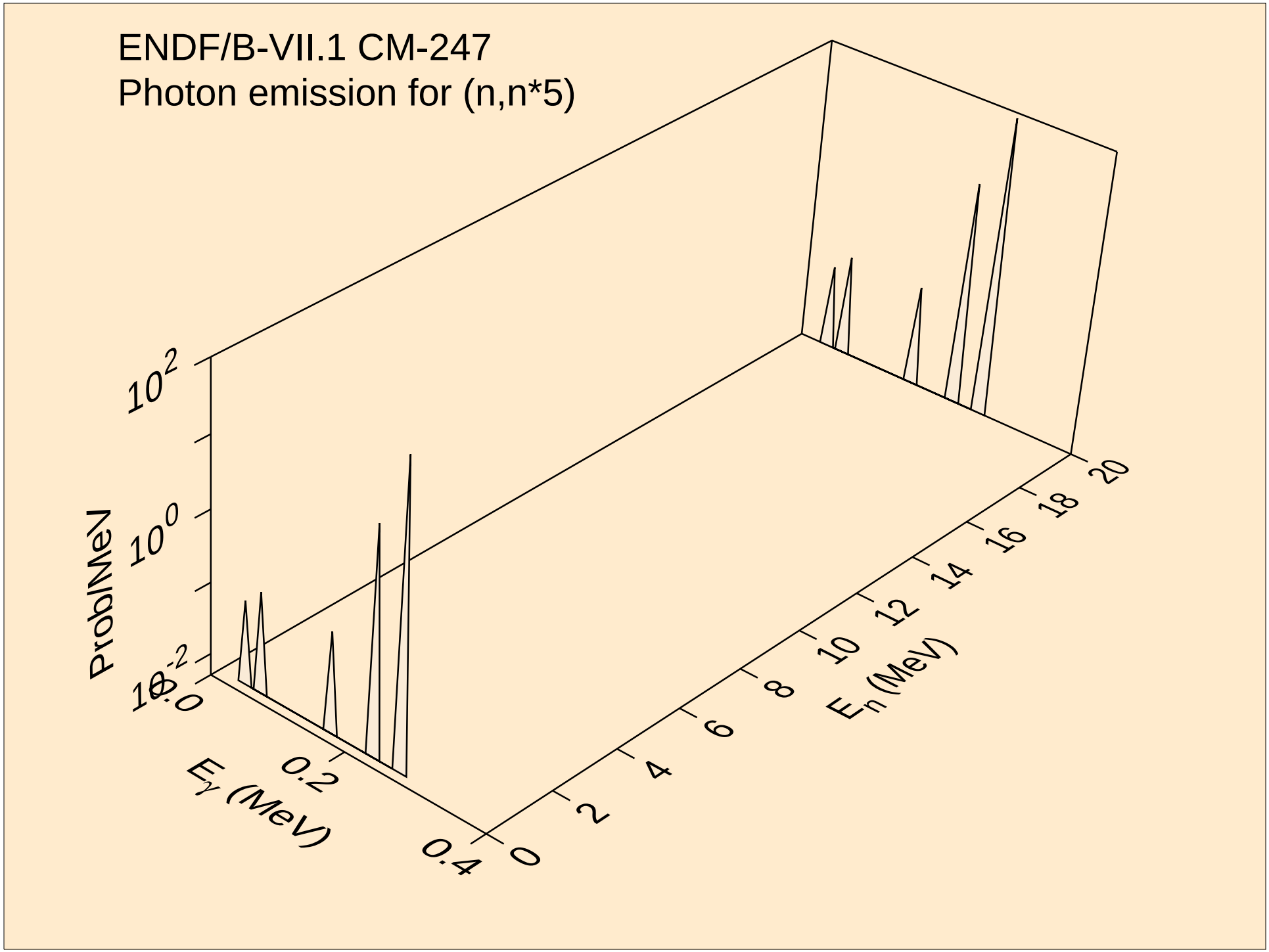

ENDF/B-VII.1 CM-247
Photon emission for (n,4n)
Prob/MeV
10^2
10^0
0
1
2
E_γ (MeV)
17.0
17.5
18.0
18.5
19.0
19.5
20.0
E_n (MeV)

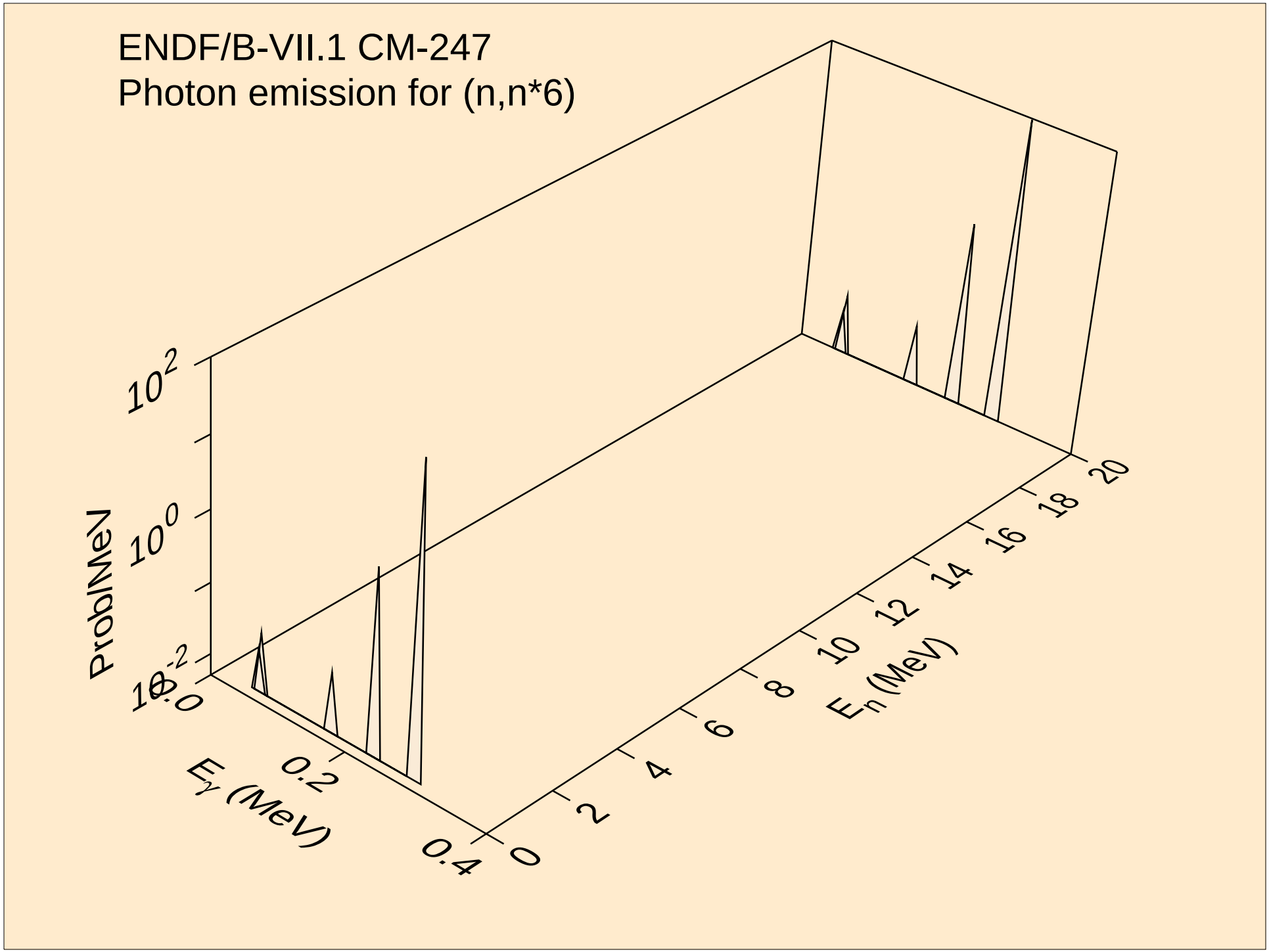

ENDF/B-VII.1 CM-247
Photon emission for (n,n*1)
Prob/MeV
10^0
10^-2
40
60
80
*10^-3
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

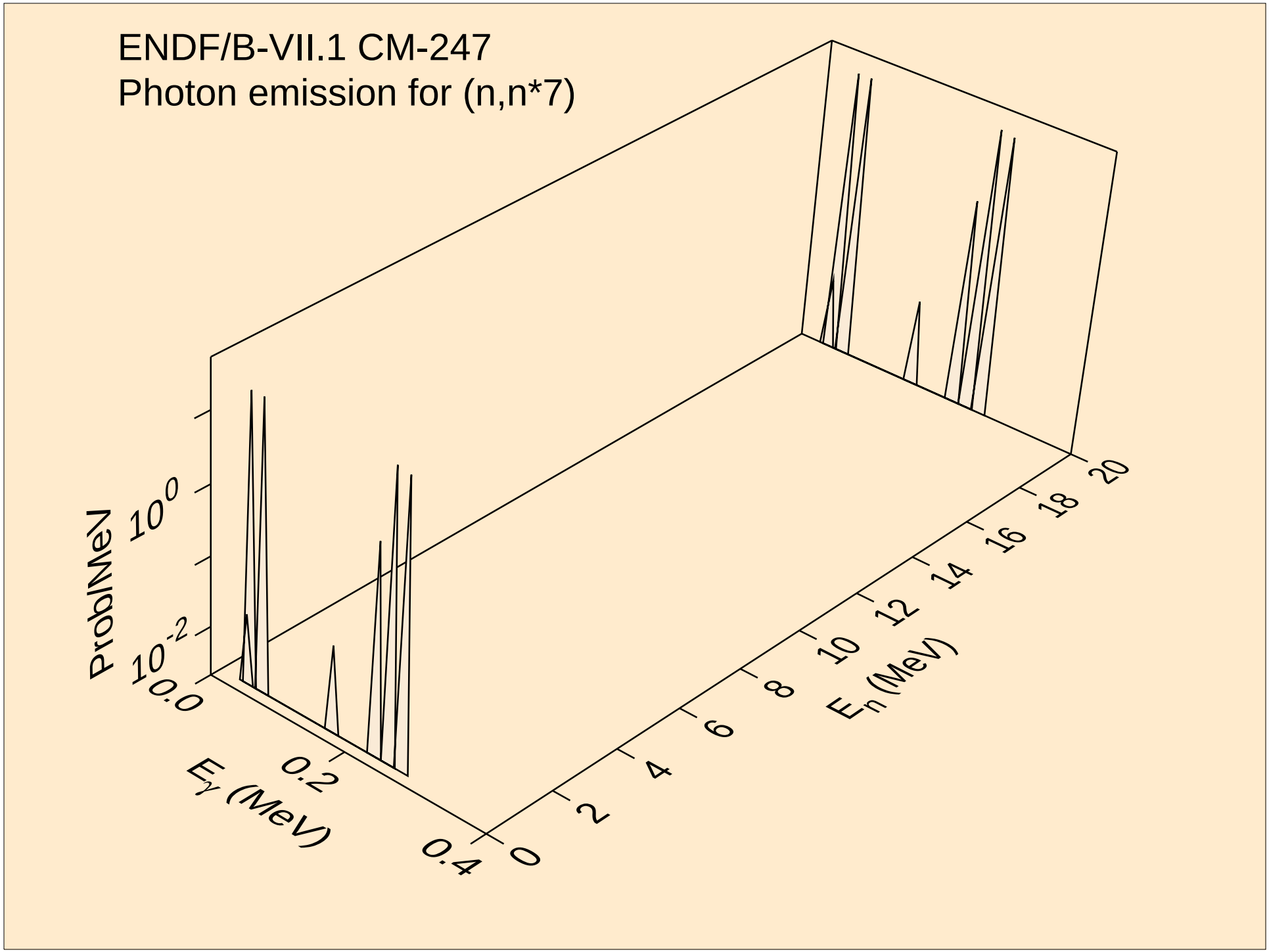

ENDF/B-VII.1 CM-247
Photon emission for (n,n*2)
Prob/MeV
10^{2}
10^{0}
10^{-2}
50
100
150
E_γ (MeV)
*10 -3
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

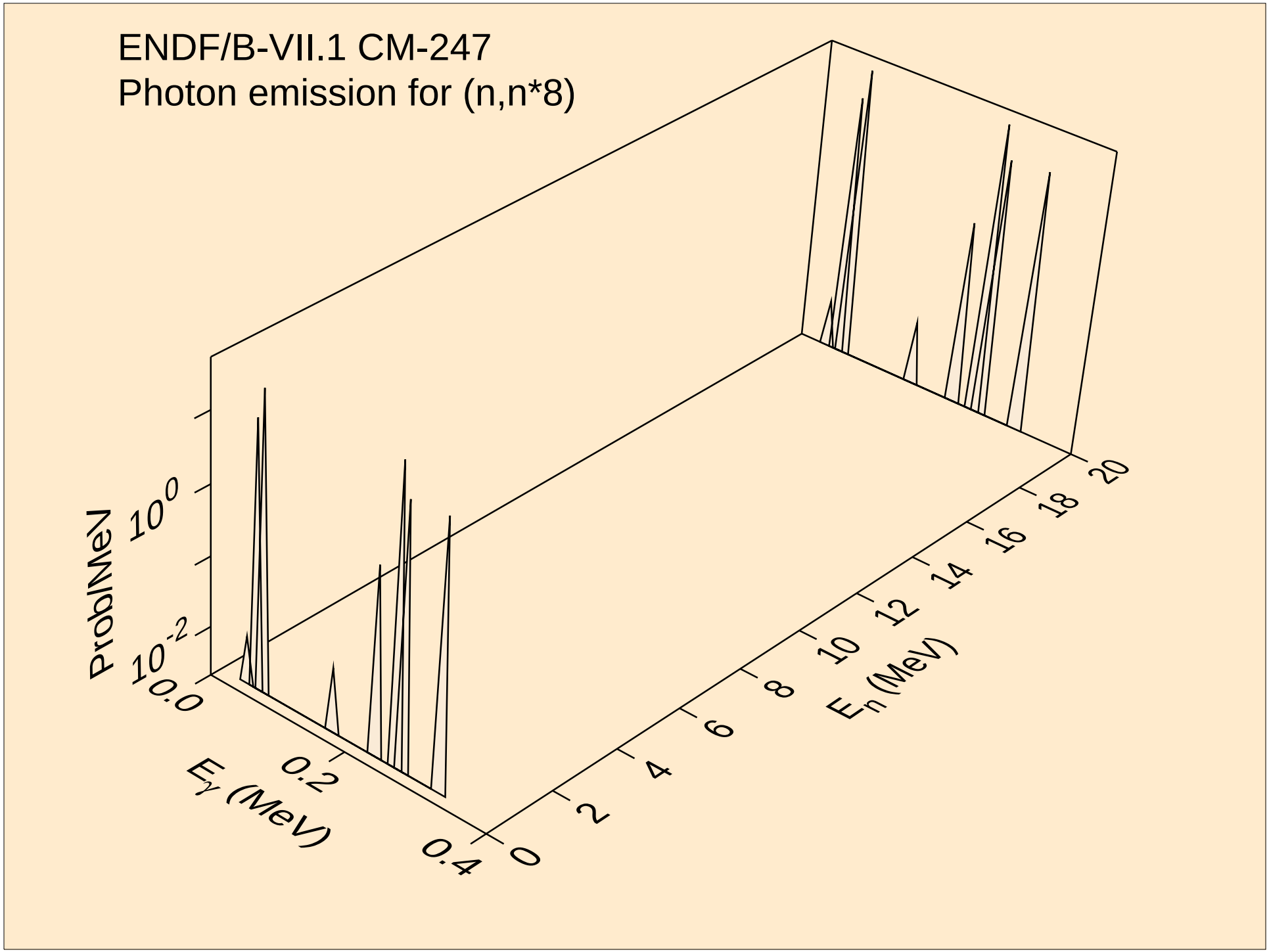

ENDF/B-VII.1 CM-247
Photon emission for (n,n*3)
Prob/MeV
10^{0}
10^{-2}
0.0
0.1
0.2
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

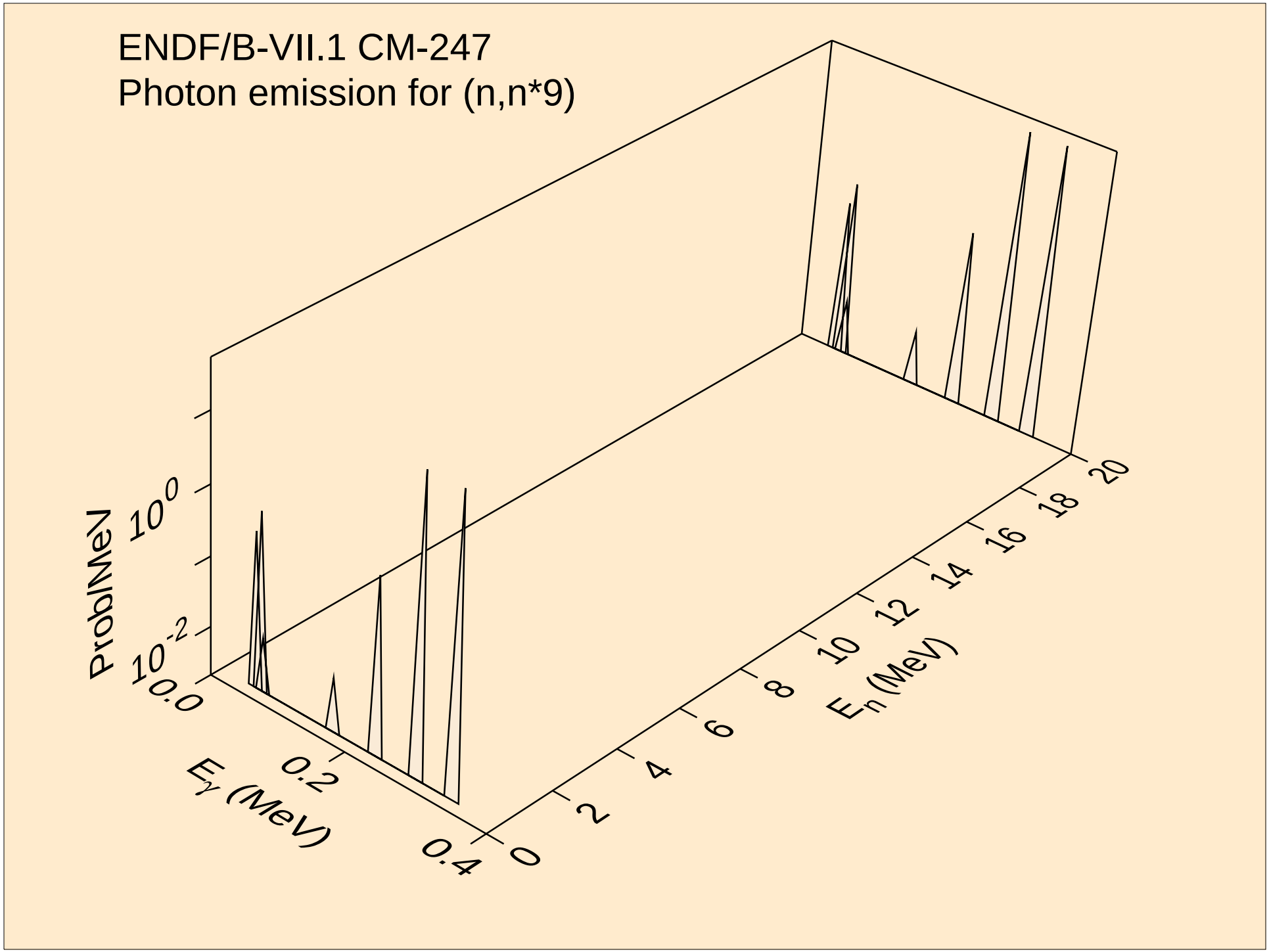

ENDF/B-VII.1 CM-247
Photon emission for (n,n*4)
Prob/MeV
10^2
10^0
10^{-2}
0.0
0.1
0.2
0.3
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

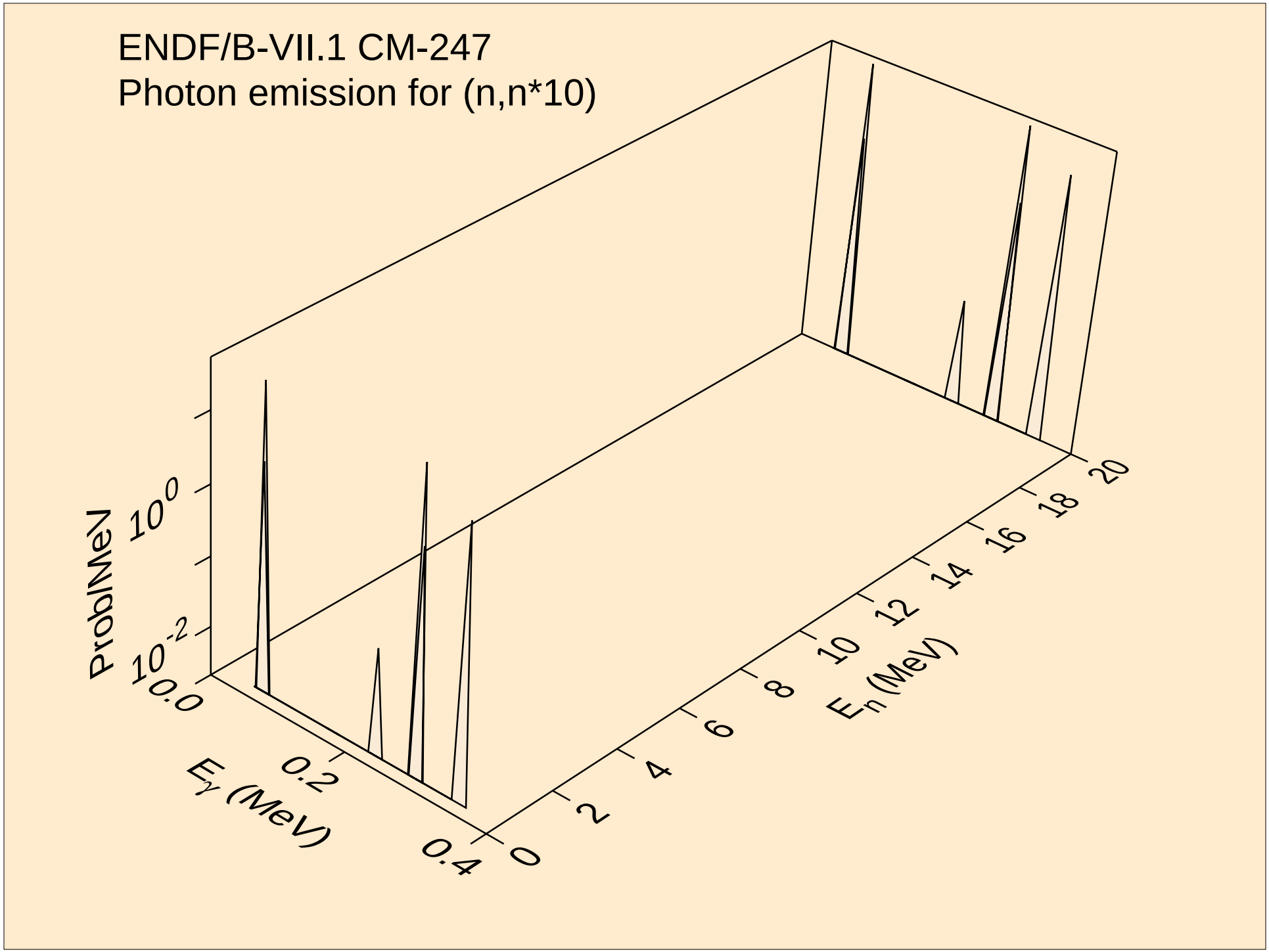

ENDF/B-VII.1 CM-247
Photon emission for (n,n*5)
Prob/MeV
10^2
10^0
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

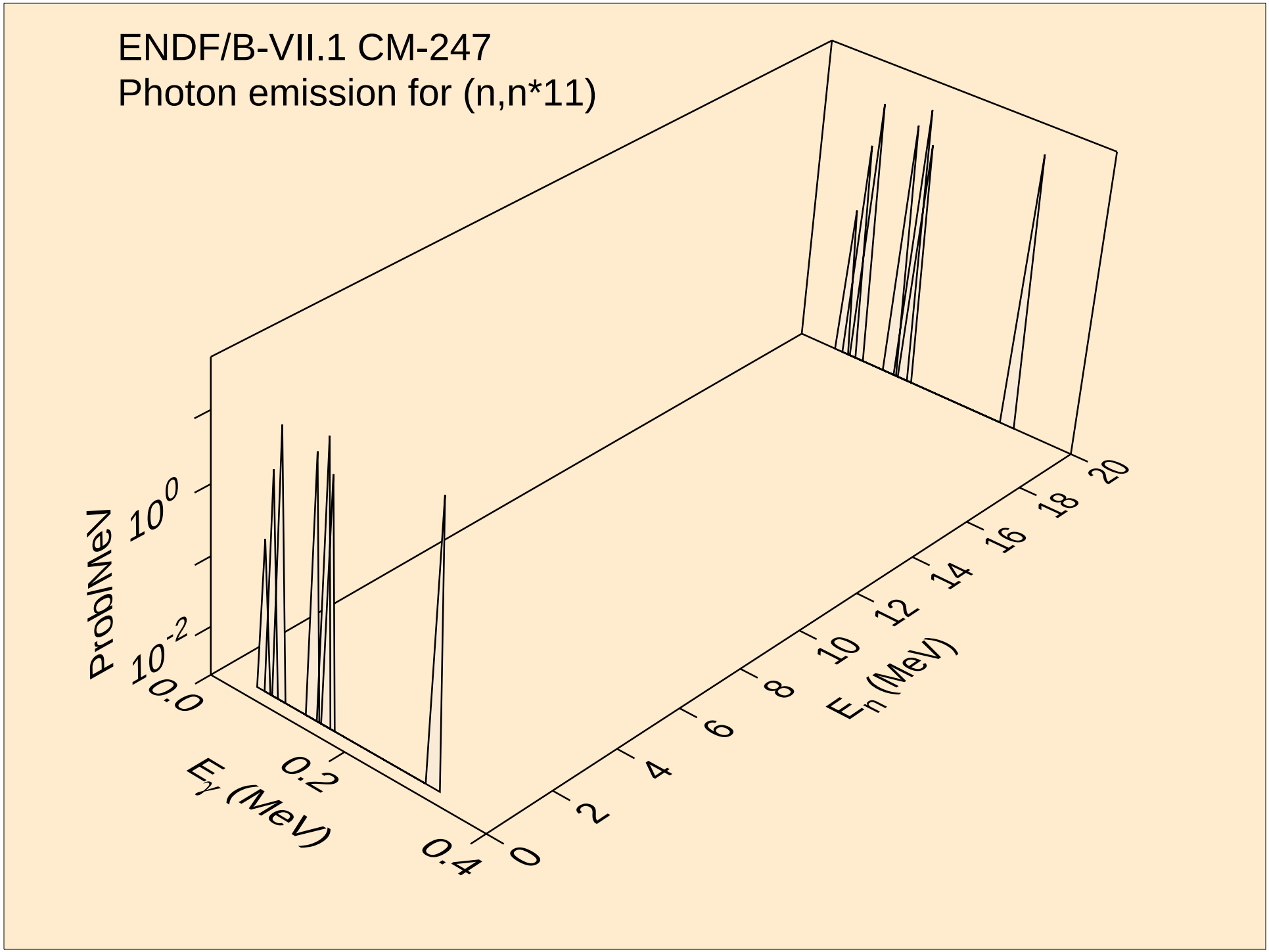

ENDF/B-VII.1 CM-247
Photon emission for (n,n*6)
Prob/MeV
10^{2}
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

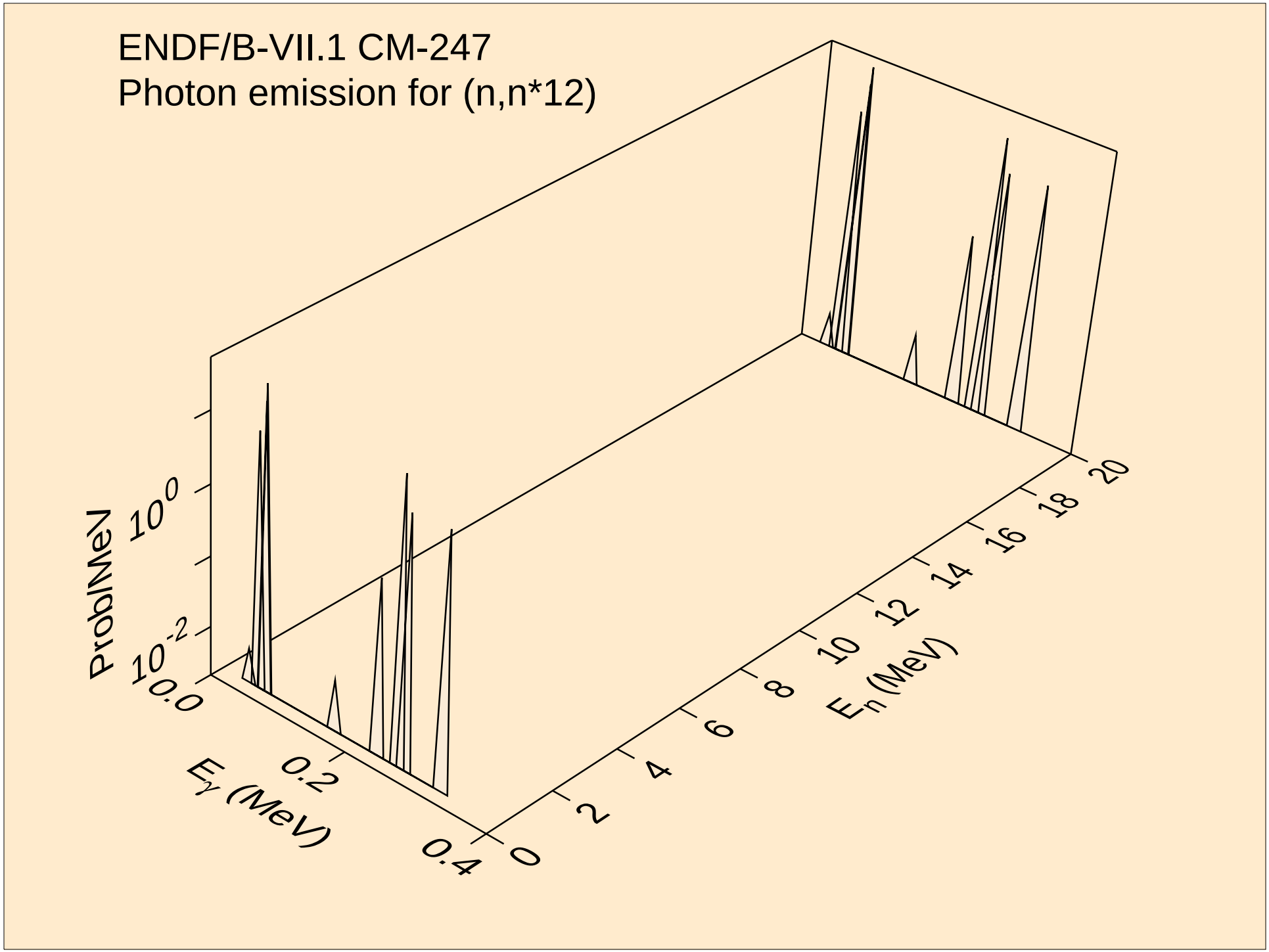

ENDF/B-VII.1 CM-247
Photon emission for (n,n*7)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

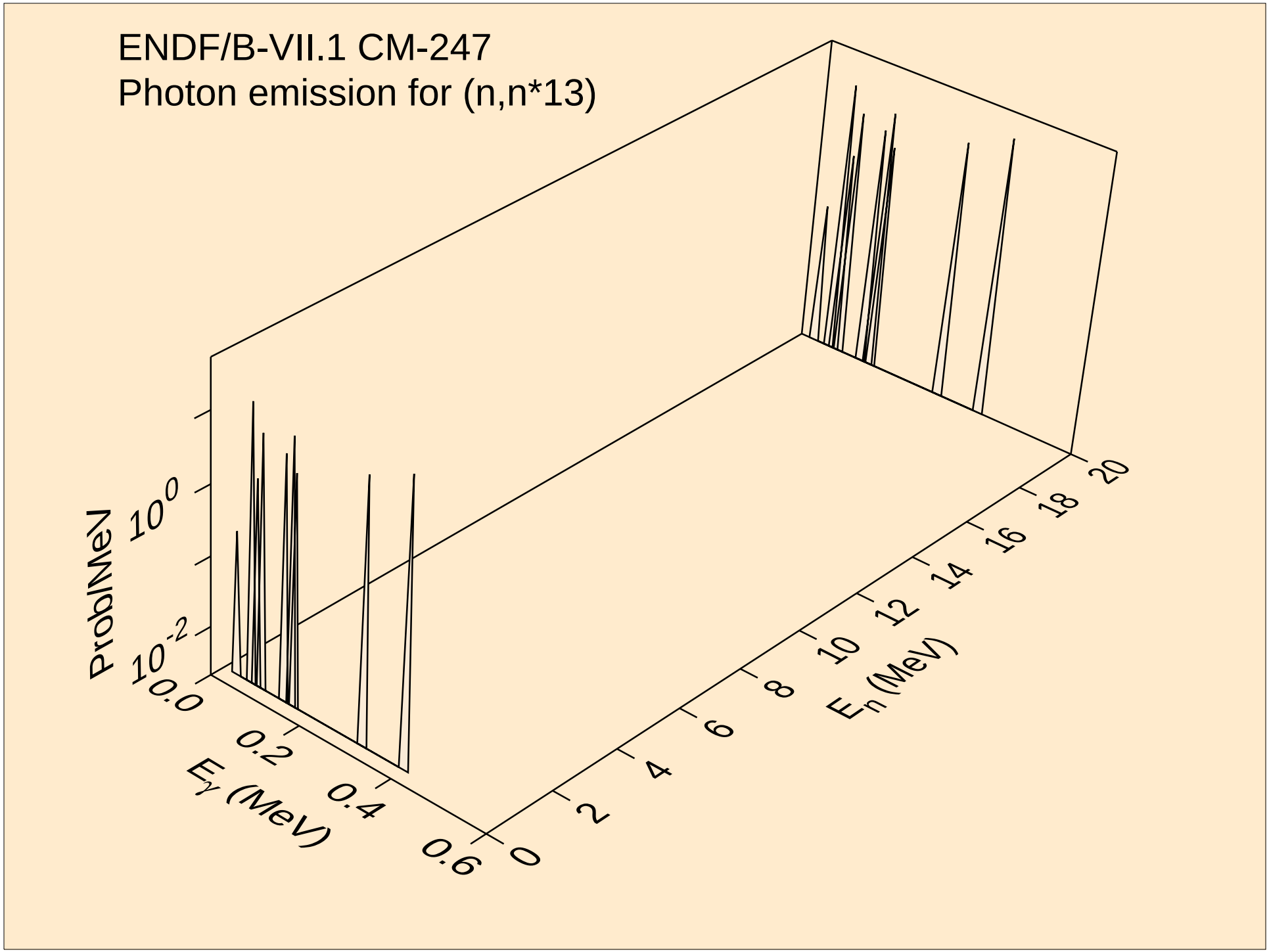

ENDF/B-VII.1 CM-247
Photon emission for (n,n*8)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

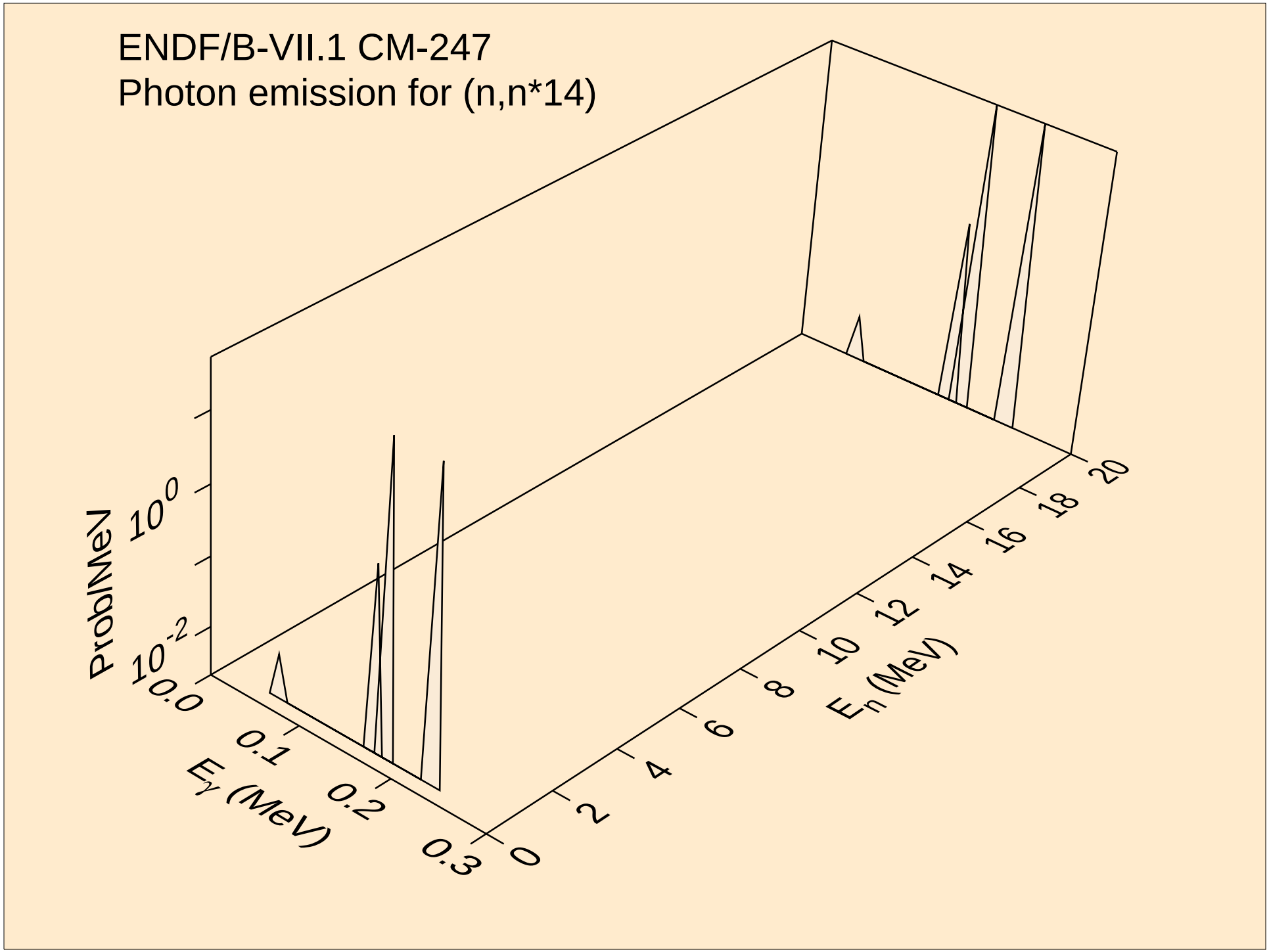

ENDF/B-VII.1 CM-247
Photon emission for (n,n*9)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

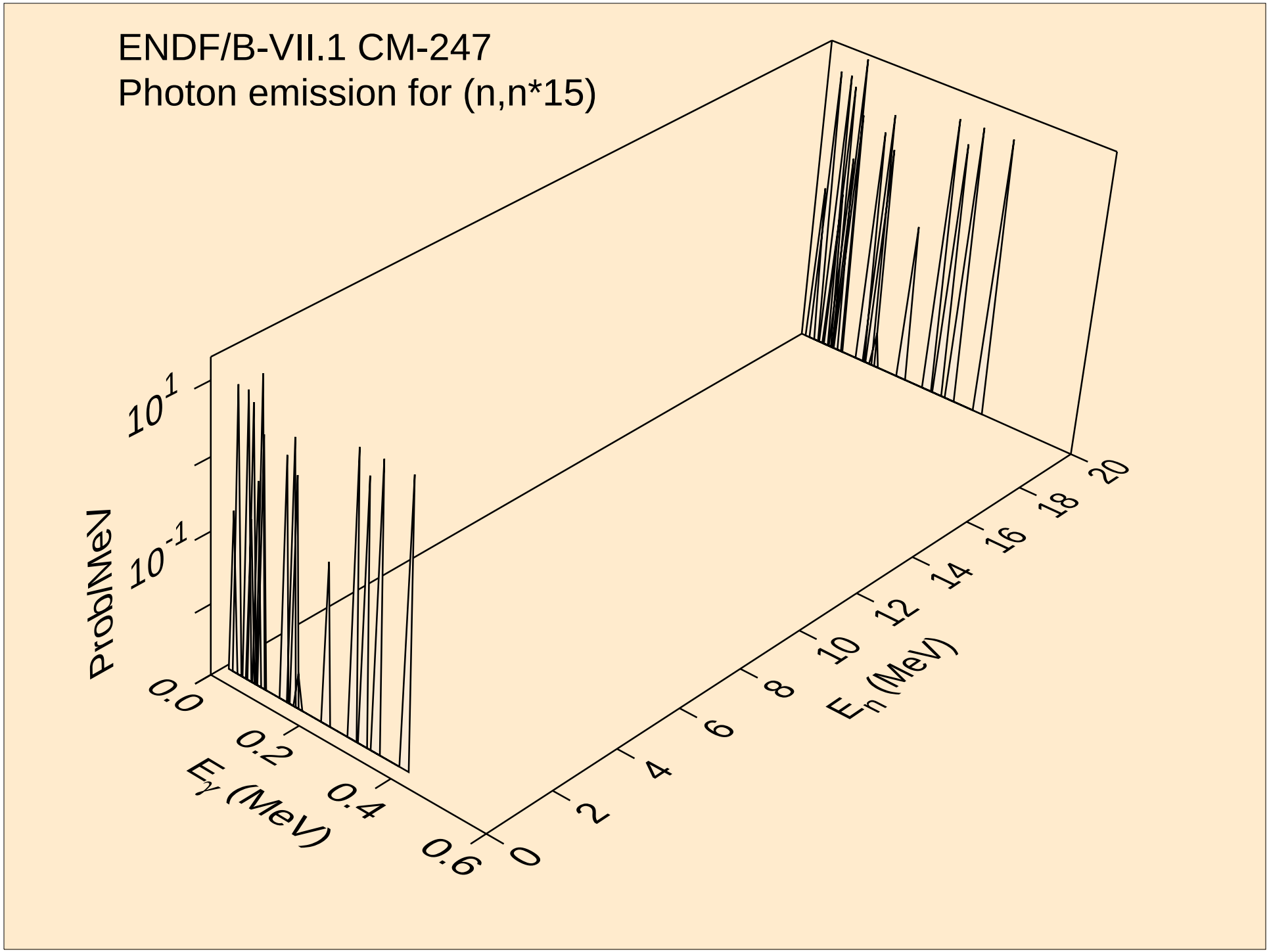

ENDF/B-VII.1 CM-247
Photon emission for (n,n*10)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

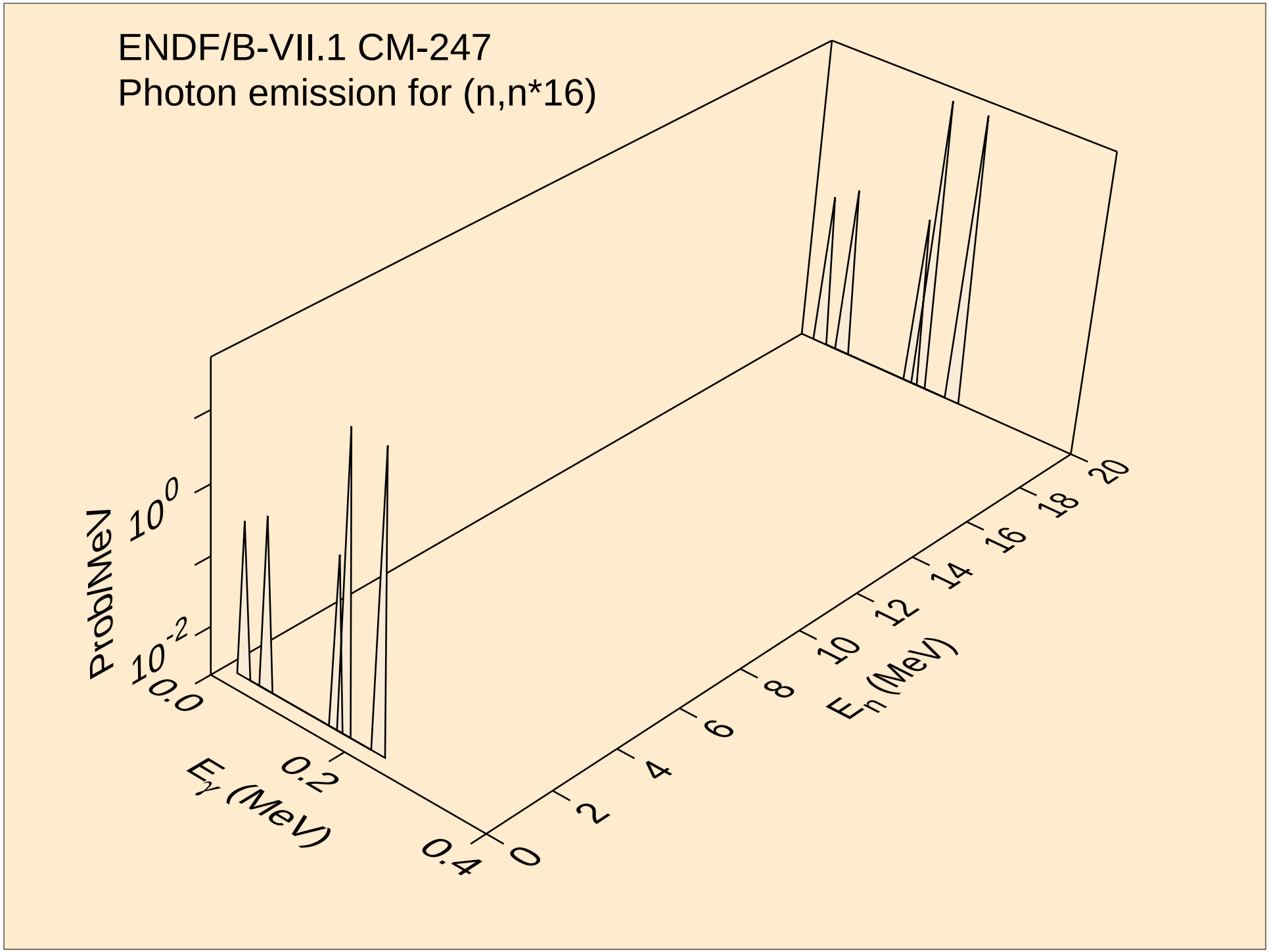

ENDF/B-VII.1 CM-247
Photon emission for (n,n*11)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

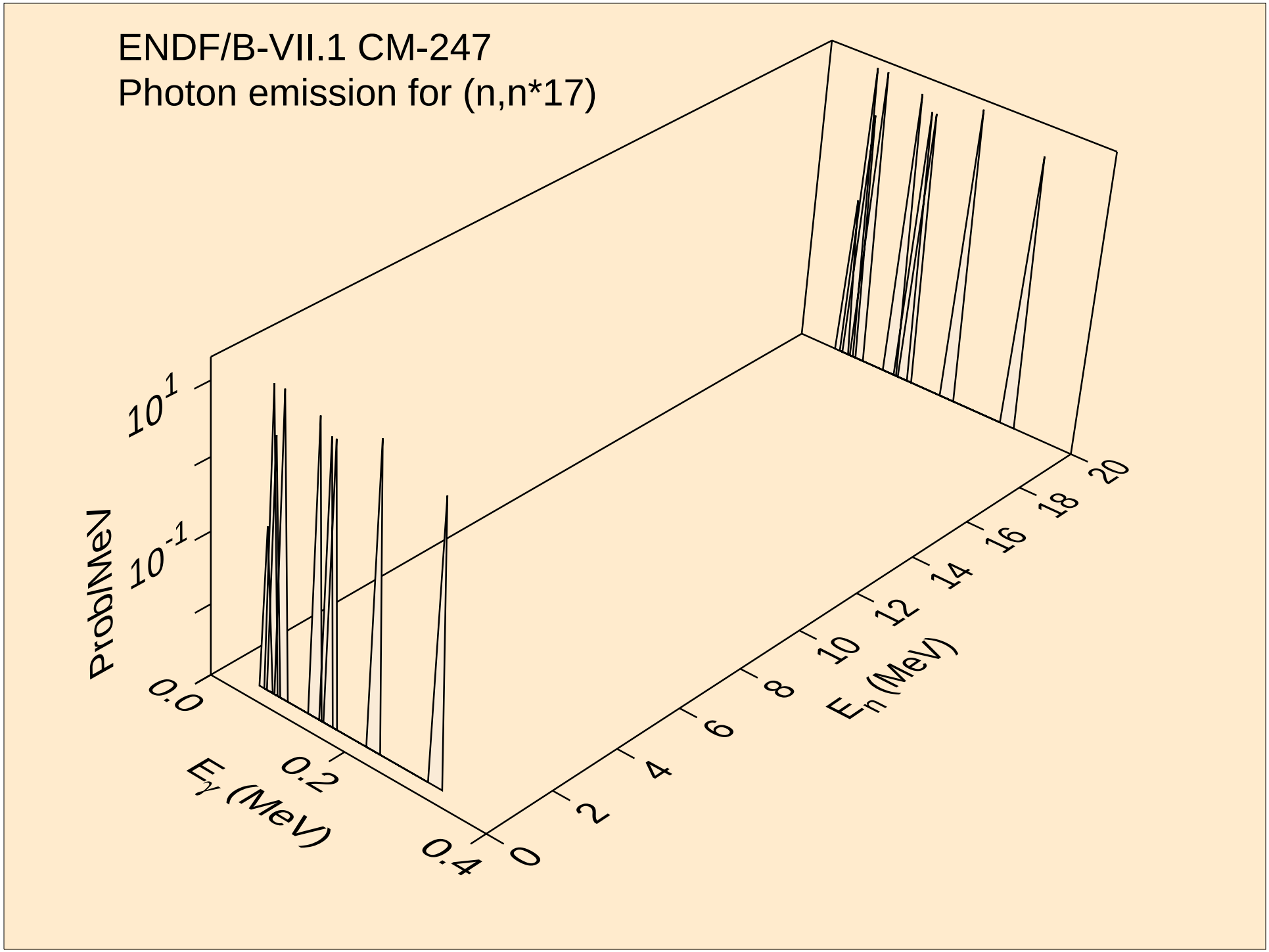

ENDF/B-VII.1 CM-247
Photon emission for (n,n*12)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

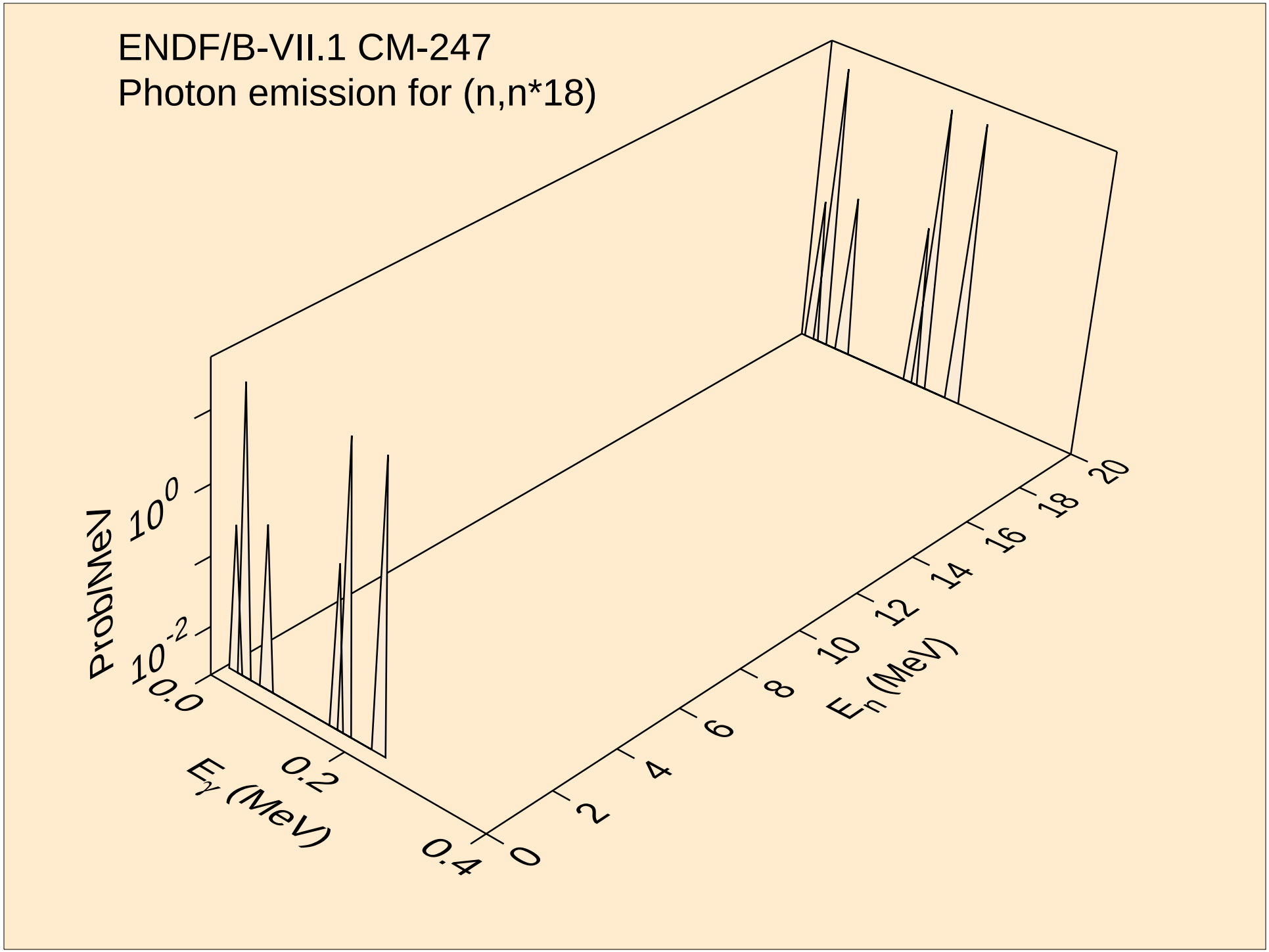

ENDF/B-VII.1 CM-247
Photon emission for (n,n*13)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
0.6
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

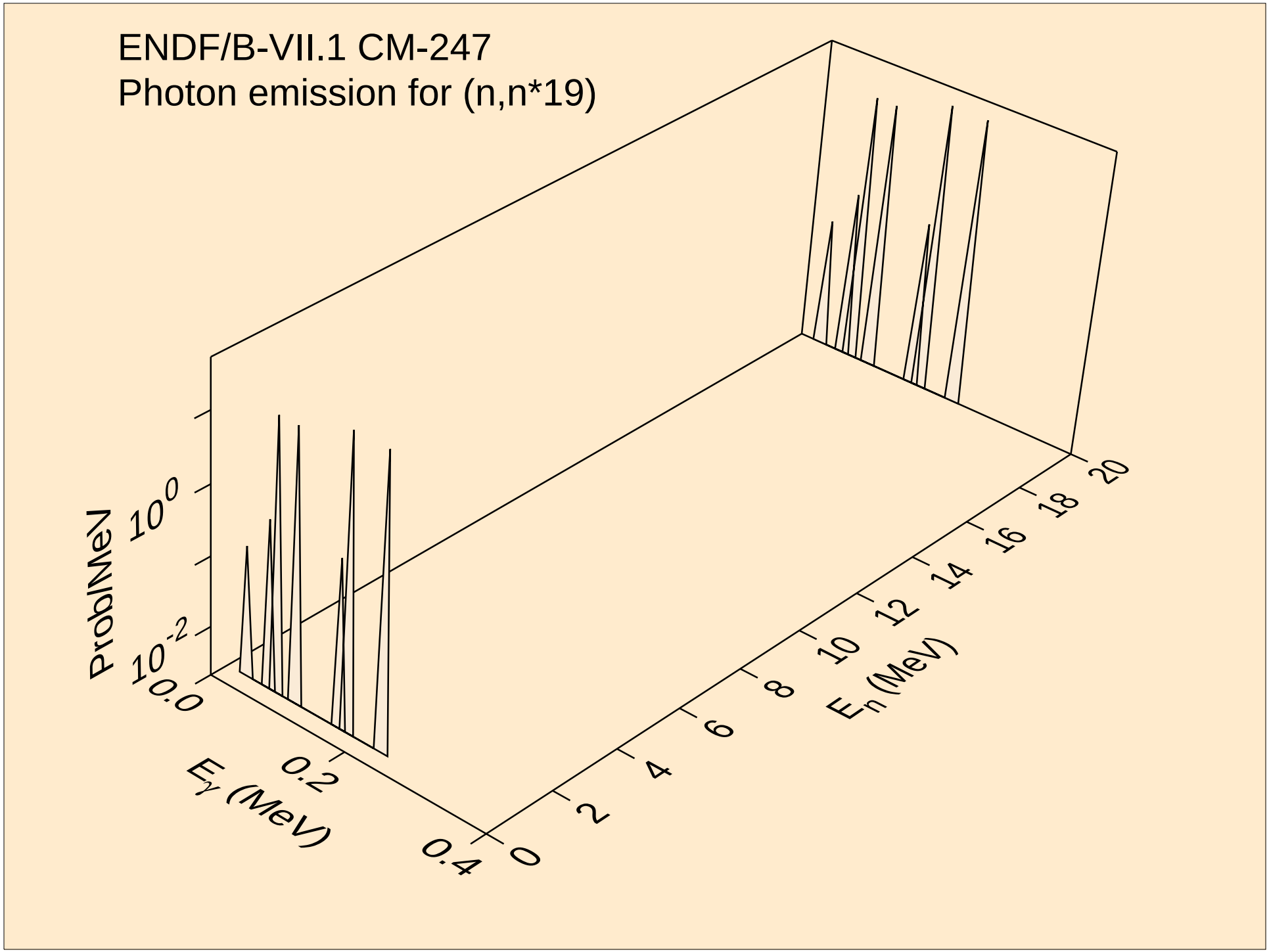

ENDF/B-VII.1 CM-247
Photon emission for (n,n*14)
Prob/MeV
10^{0}
10^{-2}
0.0
0.1
0.2
0.3
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

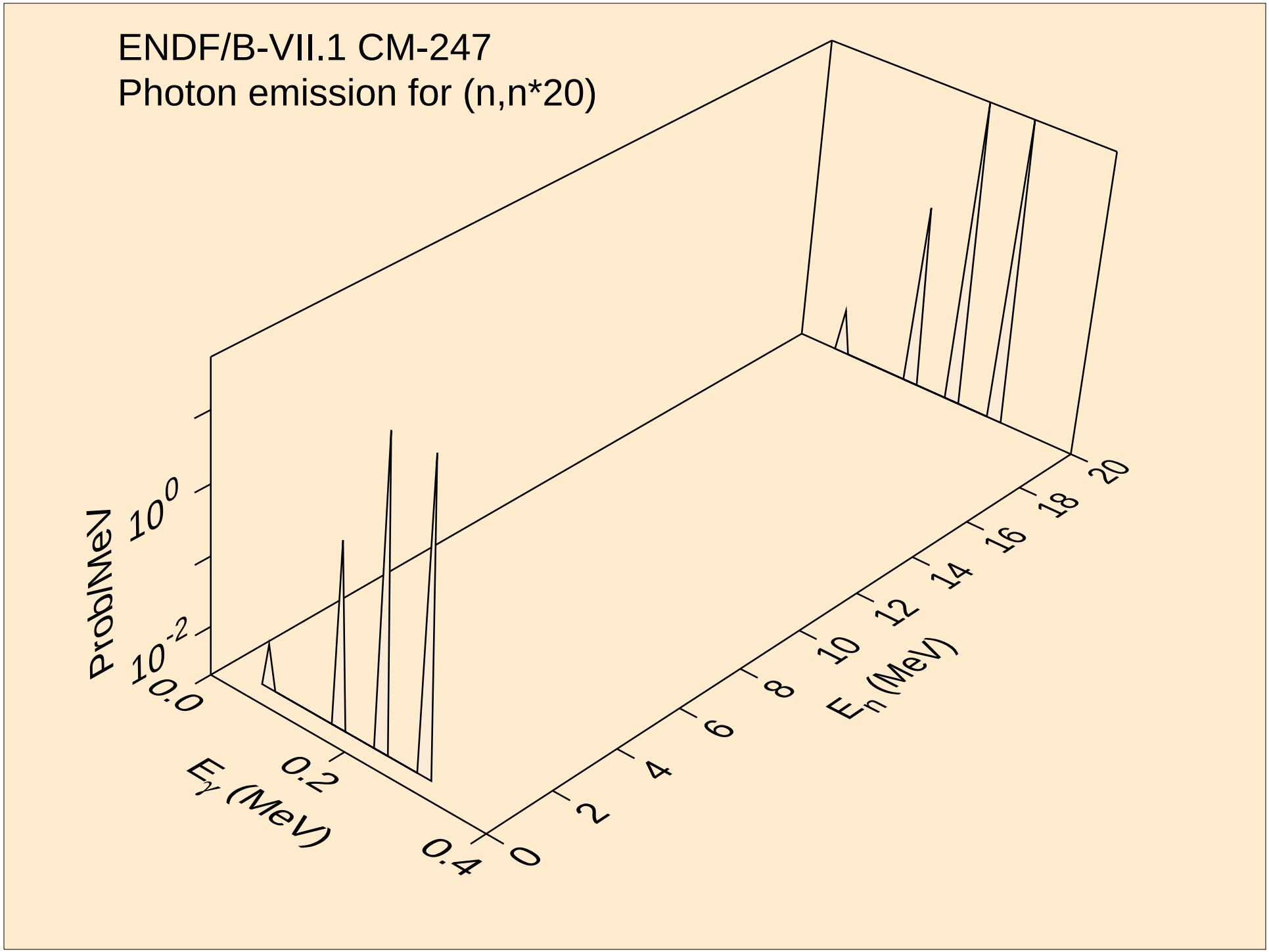

ENDF/B-VII.1 CM-247
Photon emission for (n,n*15)
Prob/MeV
10^{1}
10^{-1}
0.0
0.2
0.4
0.6
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

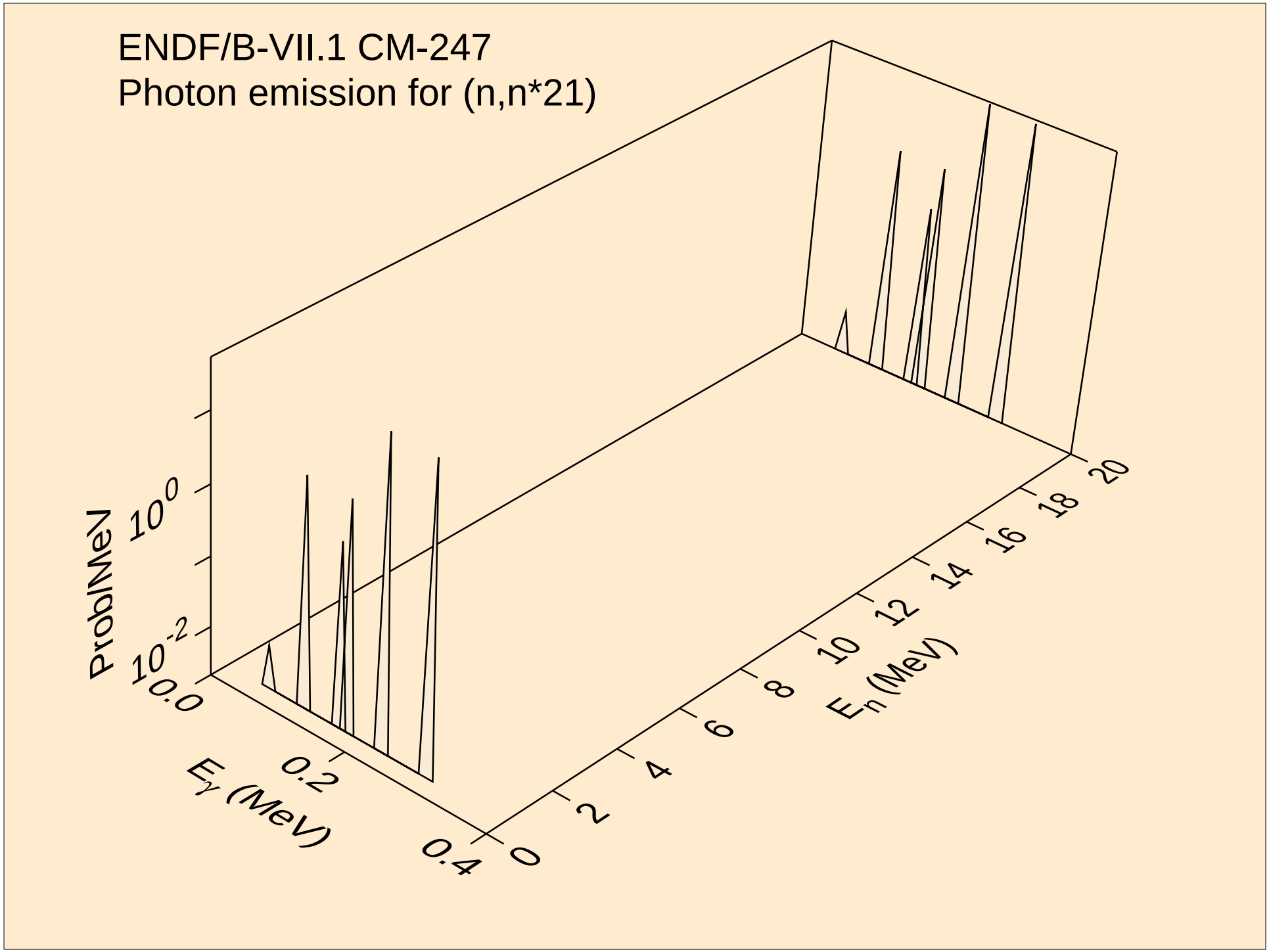

ENDF/B-VII.1 CM-247
Photon emission for (n,n*16)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

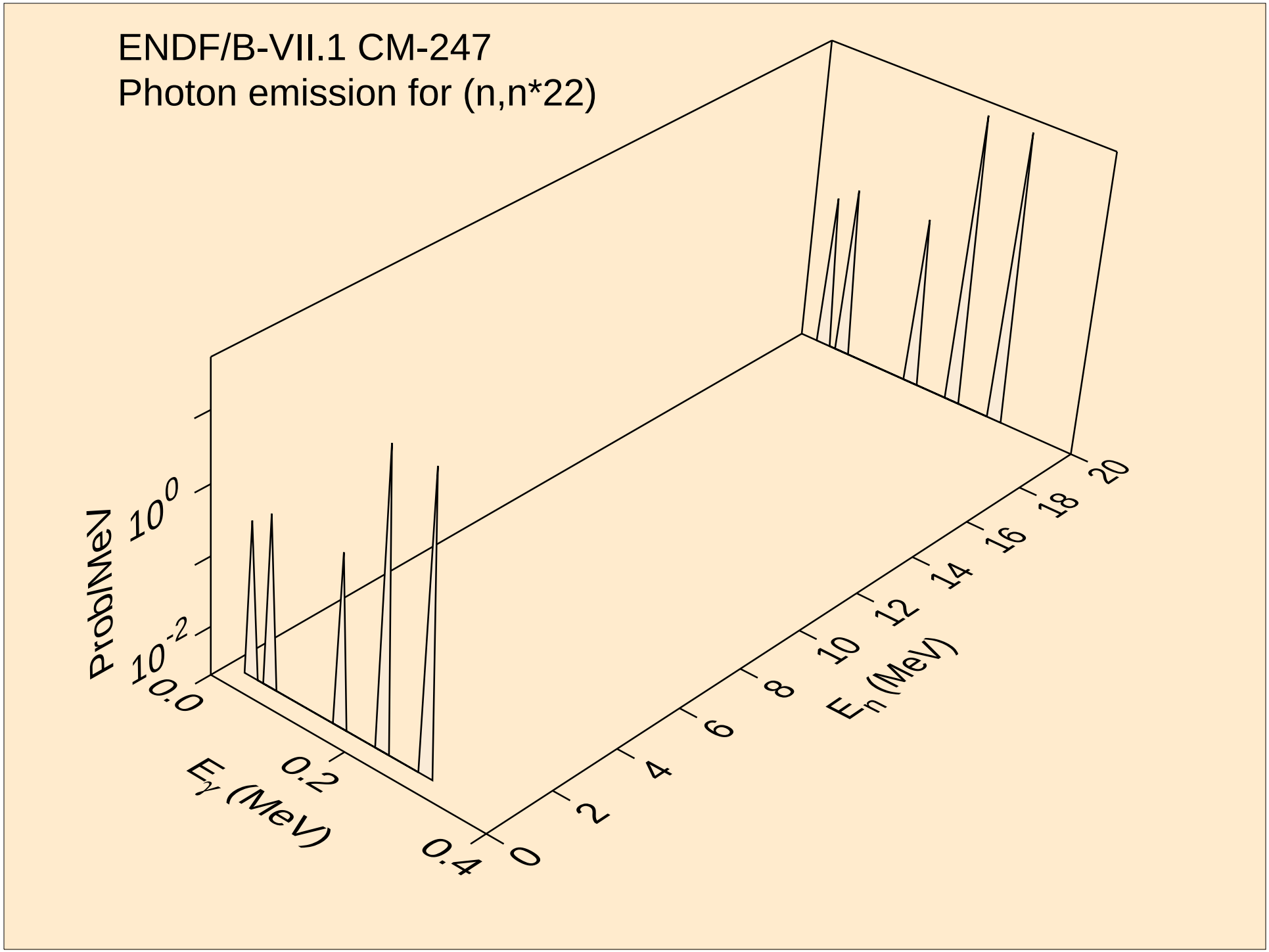

ENDF/B-VII.1 CM-247
Photon emission for (n,n*17)
Prob/MeV
10^{1}
10^{-1}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

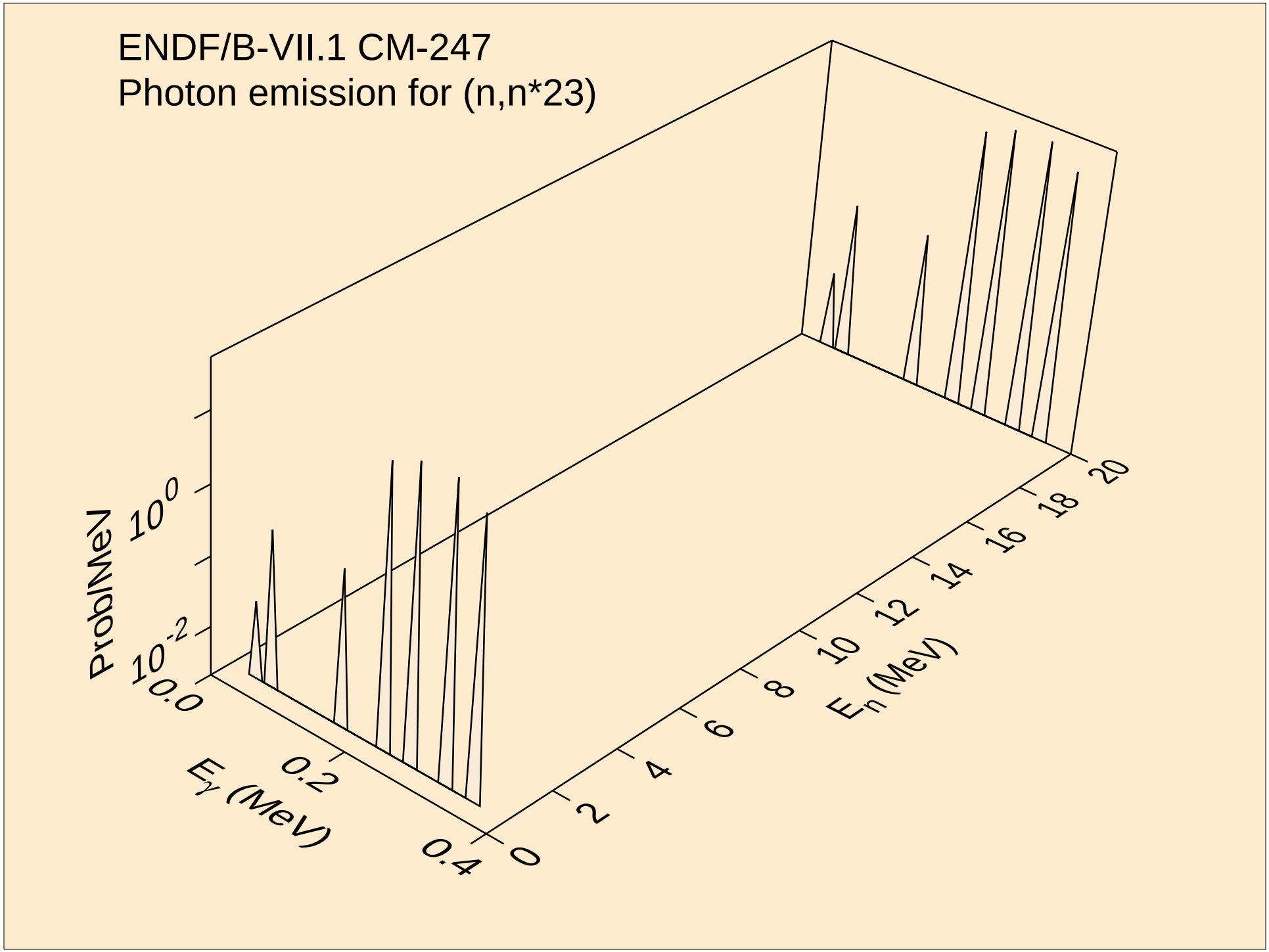

ENDF/B-VII.1 CM-247
Photon emission for (n,n*18)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

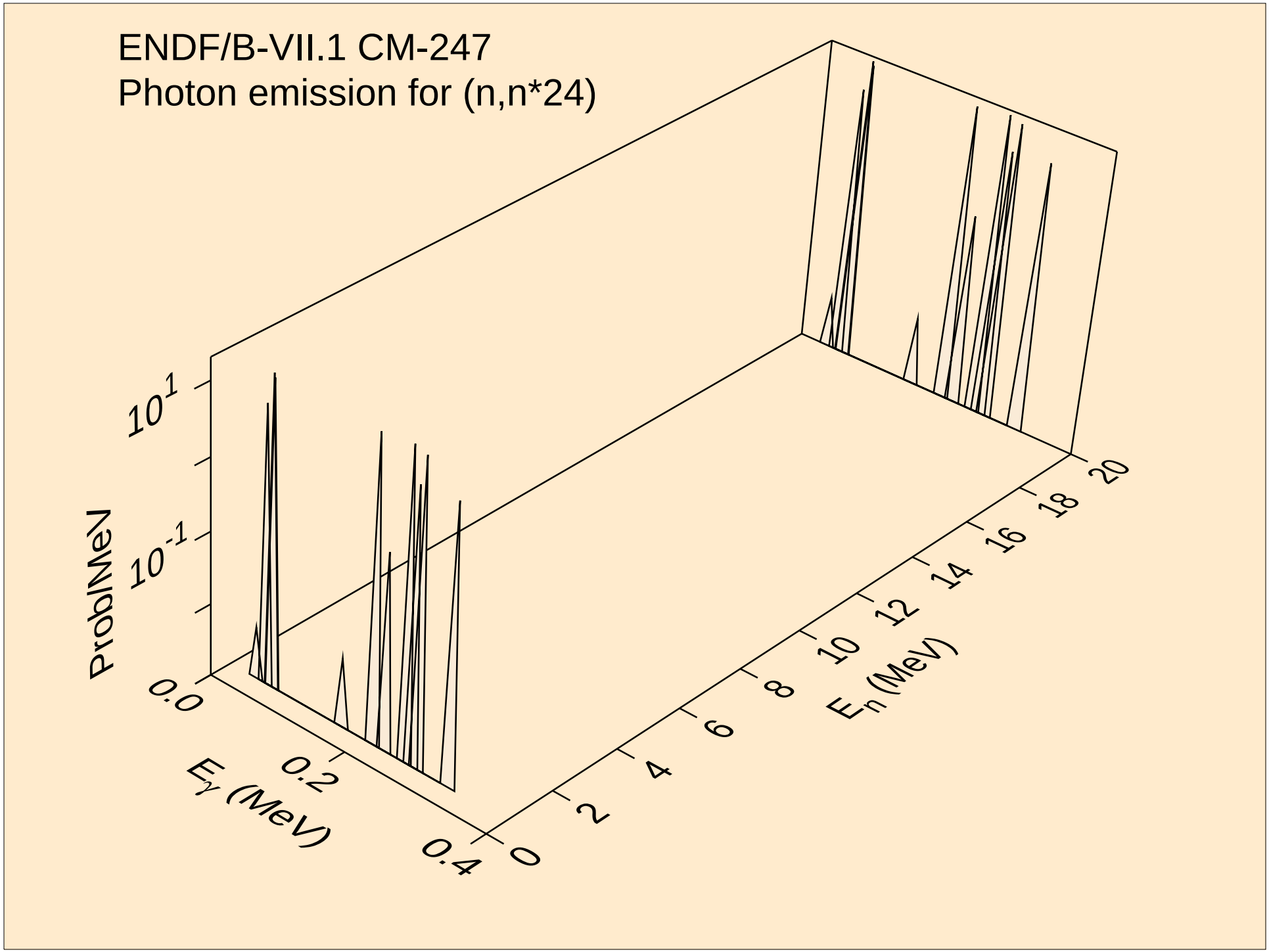

ENDF/B-VII.1 CM-247
Photon emission for (n,n*19)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

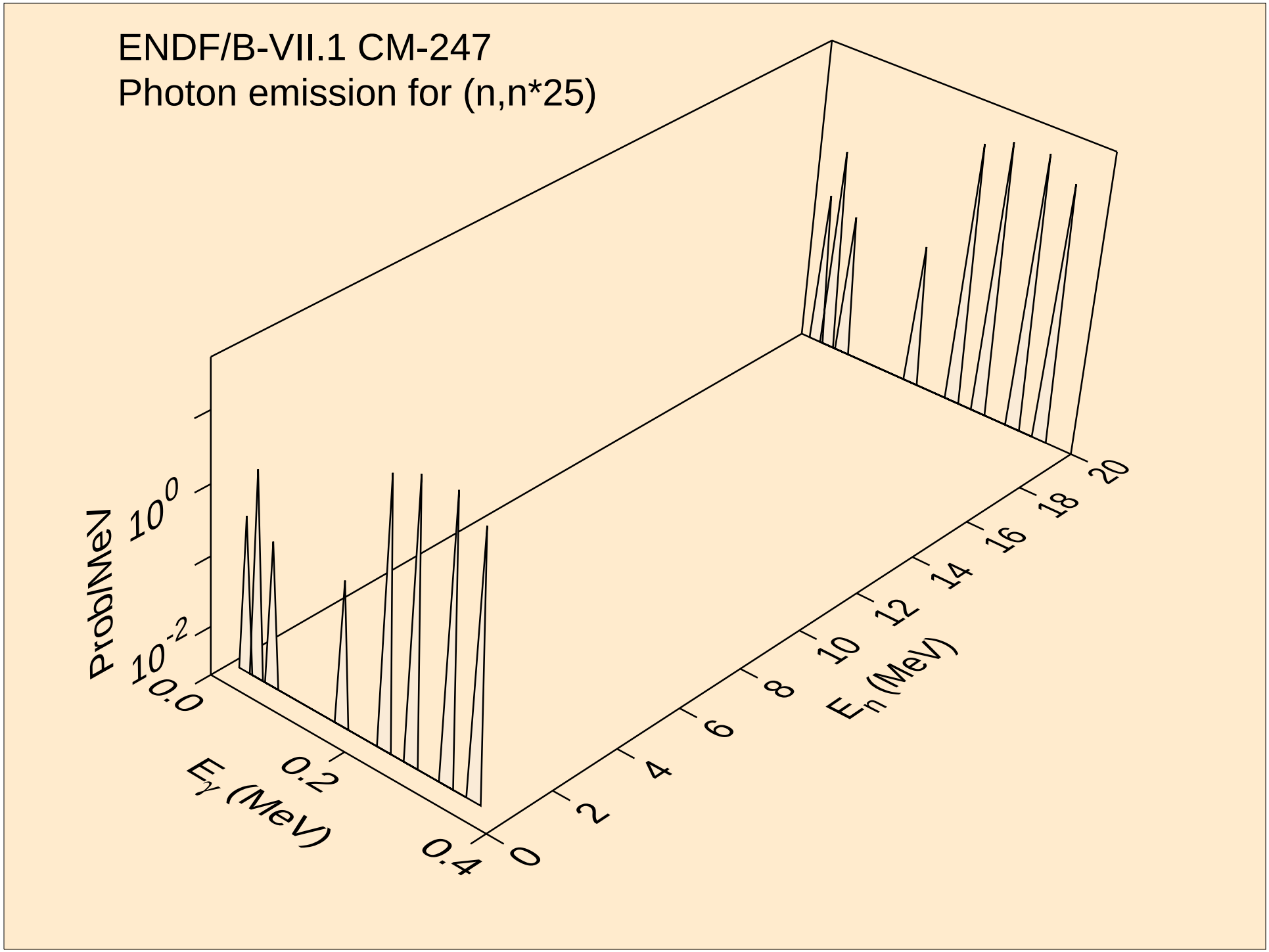

ENDF/B-VII.1 CM-247
Photon emission for (n,n*20)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

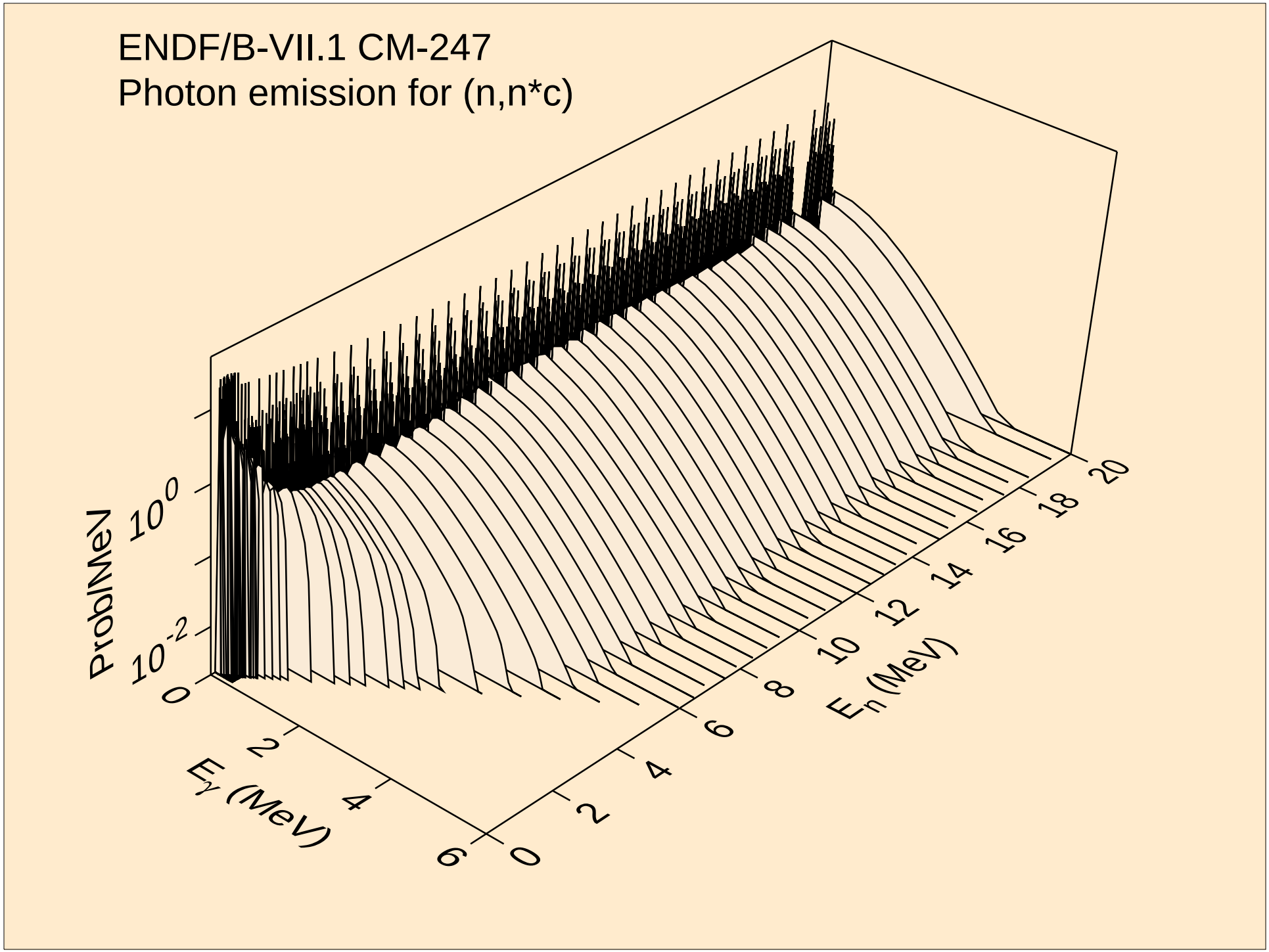

ENDF/B-VII.1 CM-247
Photon emission for (n,n*21)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

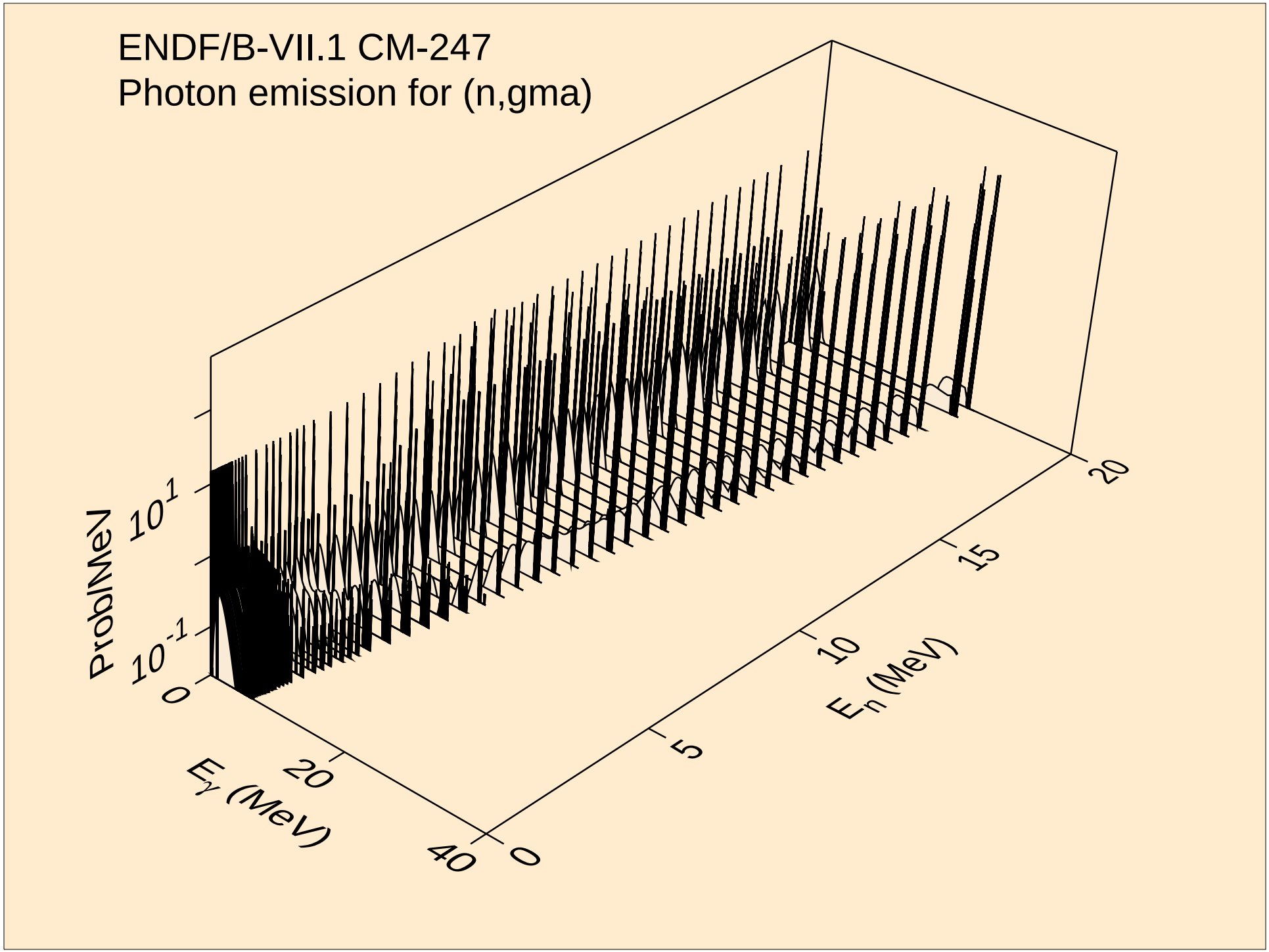

ENDF/B-VII.1 CM-247
Photon emission for (n,n*22)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

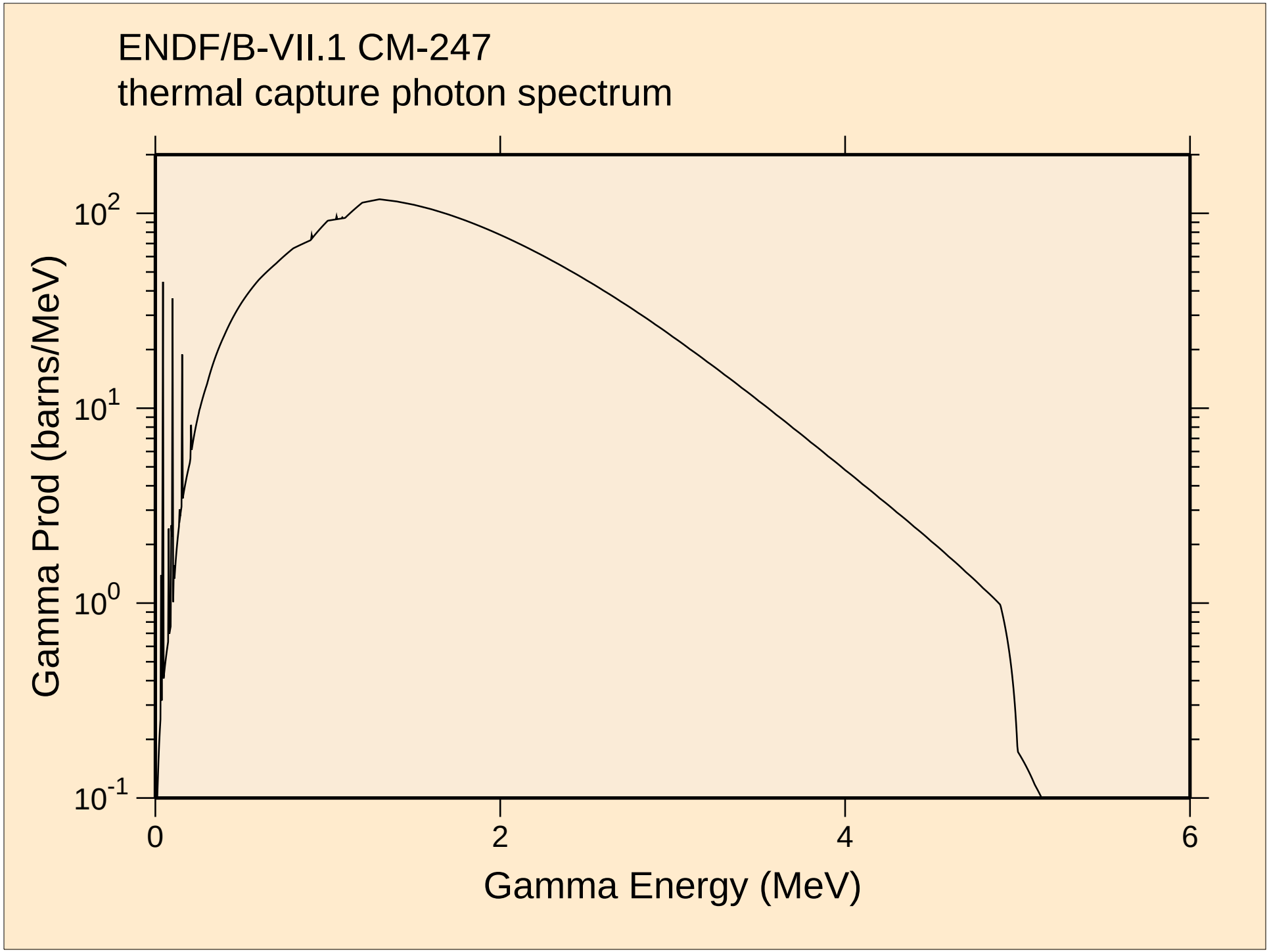

ENDF/B-VII.1 CM-247
Photon emission for (n,n*23)
Prob/MeV
10^{0}
10^{-2}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

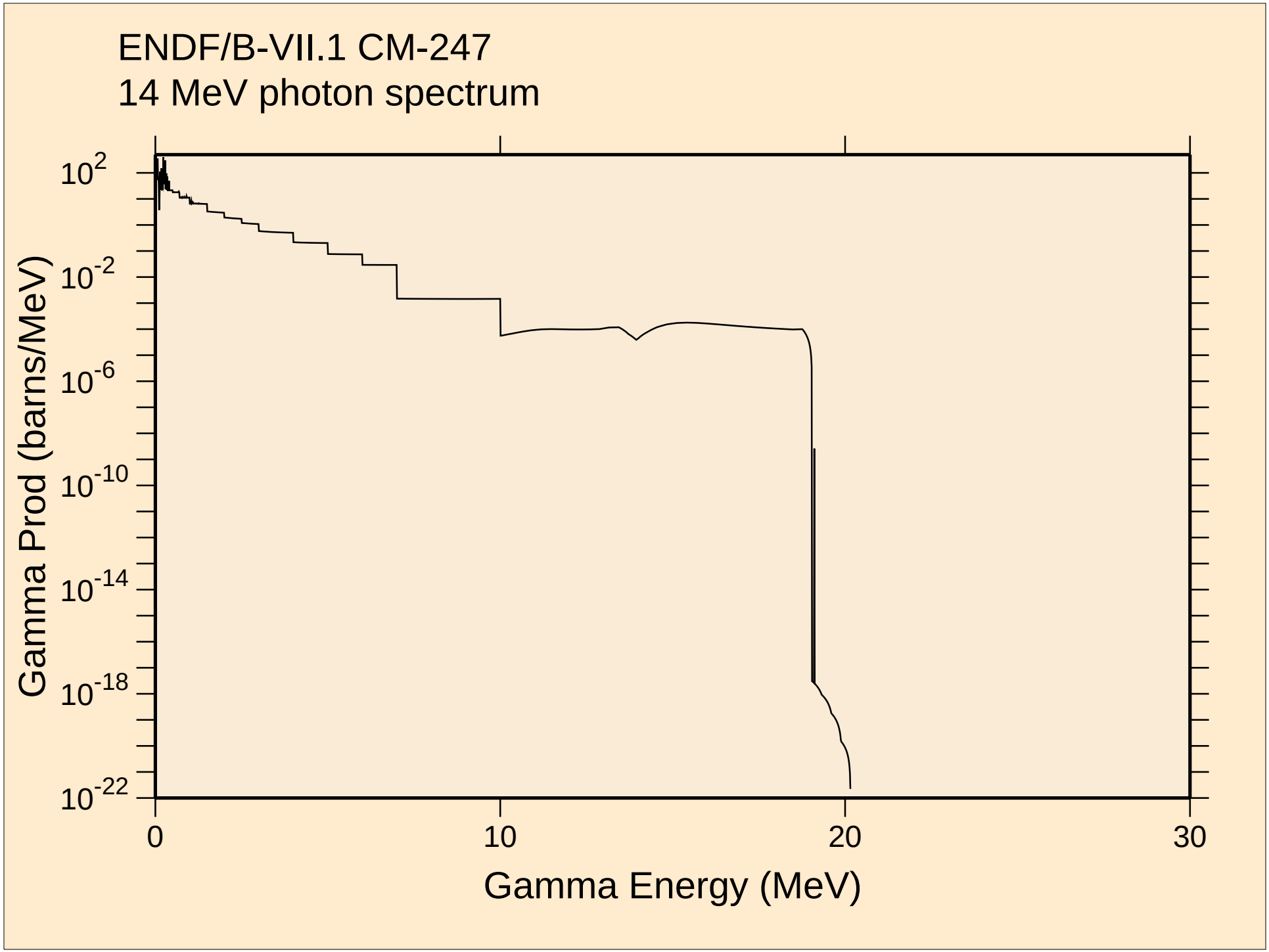

ENDF/B-VII.1 CM-247
Photon emission for (n,n*24)
Prob/MeV
10^{1}
10^{-1}
0.0
0.2
0.4
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)


ENDF/B-VII.1 CM-247
Photon emission for (n,n*25)
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-247
Photon emission for (n,n*c)
Prob/MeV
10^{0}
10^{-2}
0
2
4
6
E_γ (MeV)
0
2
4
6
8
10
12
14
16
18
20
E_n (MeV)


ENDF/B-VII.1 CM-247
Photon emission for (n,gma)
Prob/MeV
10^1
10^-1
0
E_γ (MeV)
20
40
0
5
10
15
20
E_n (MeV)


ENDF/B-VII.1 CM-247
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-247
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^2
10^-2
10^-6
10^-10
10^-14
10^-18
10^-22
0
10
20
30
Gamma Energy (MeV)