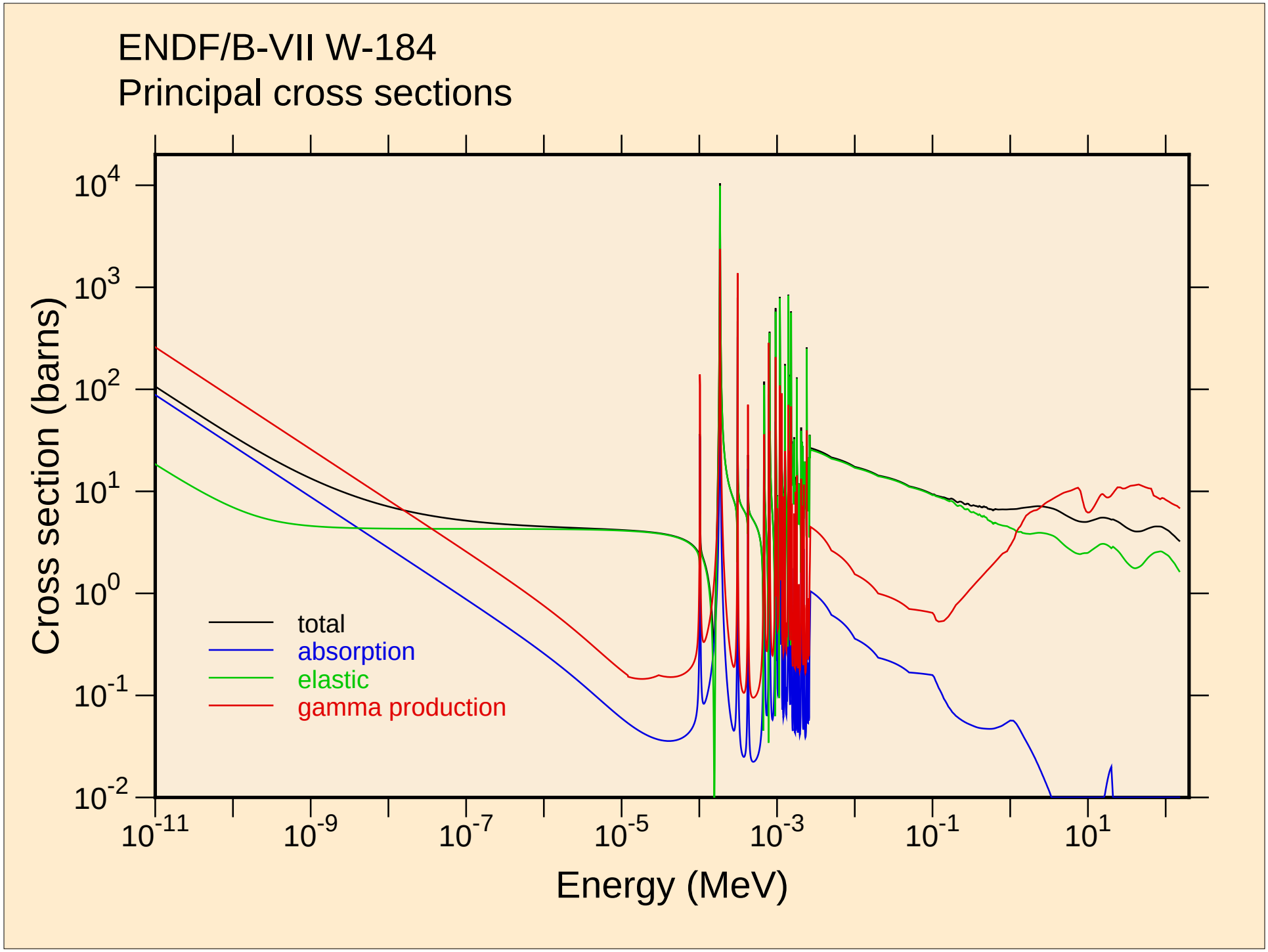
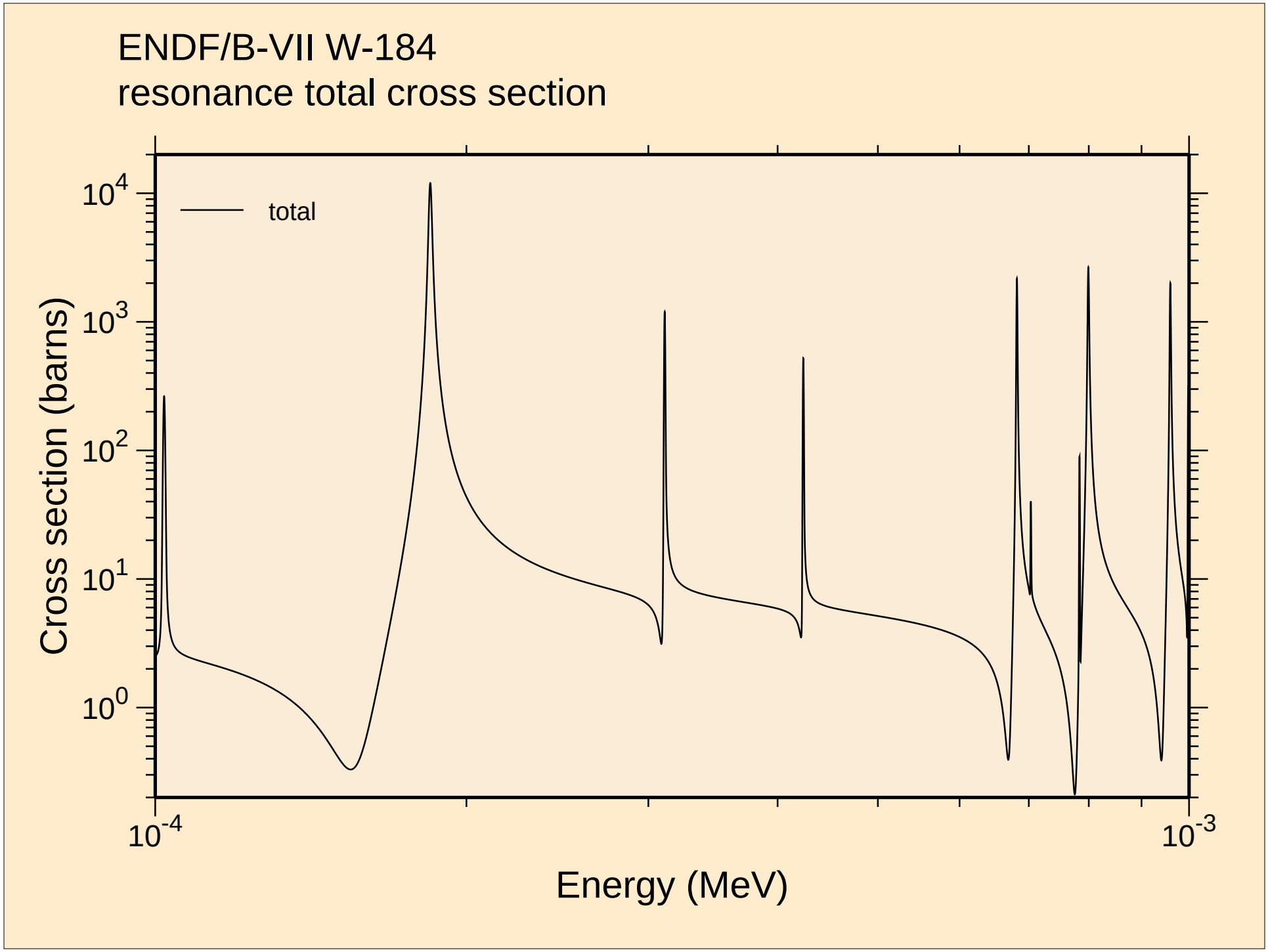
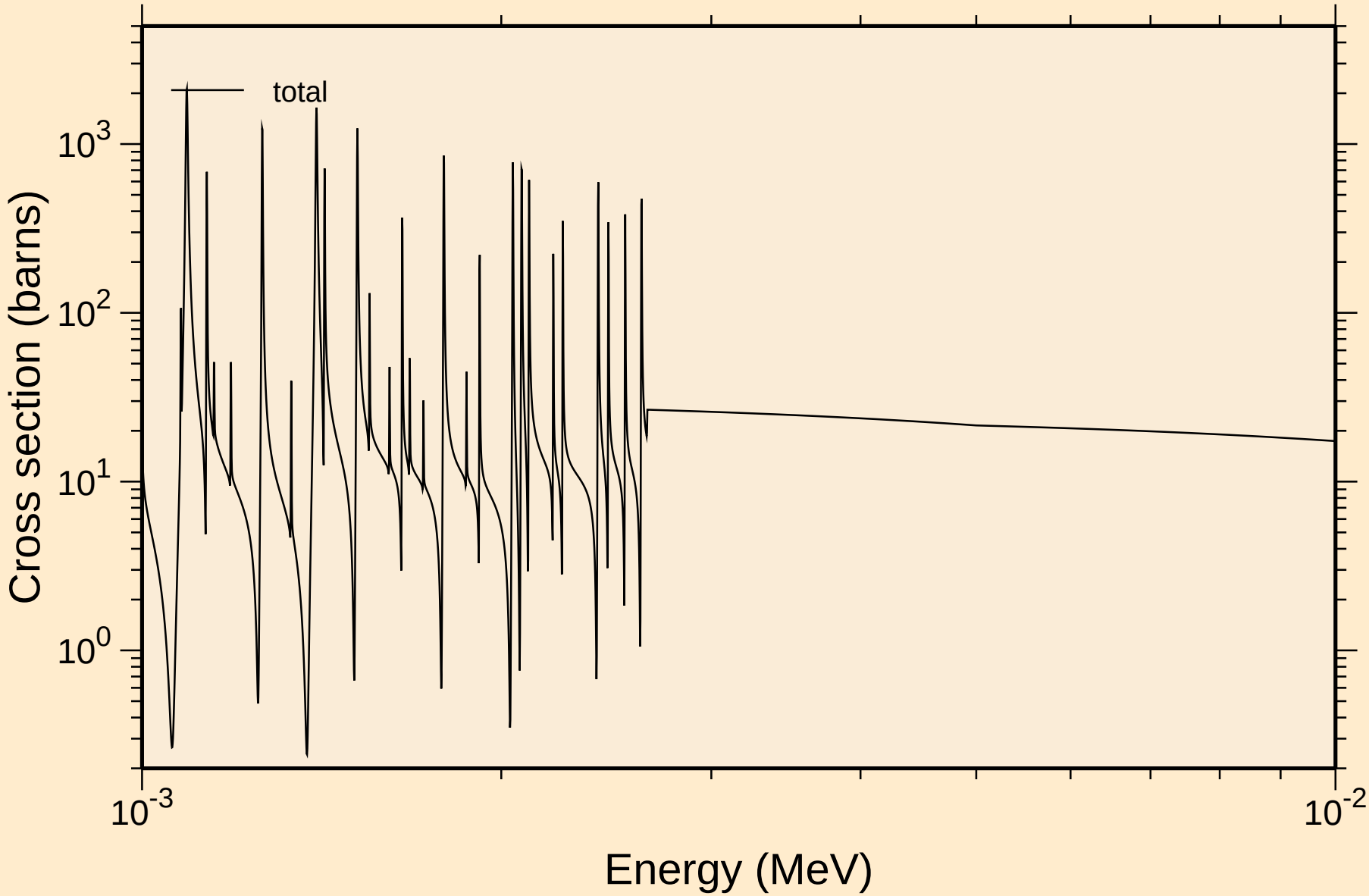
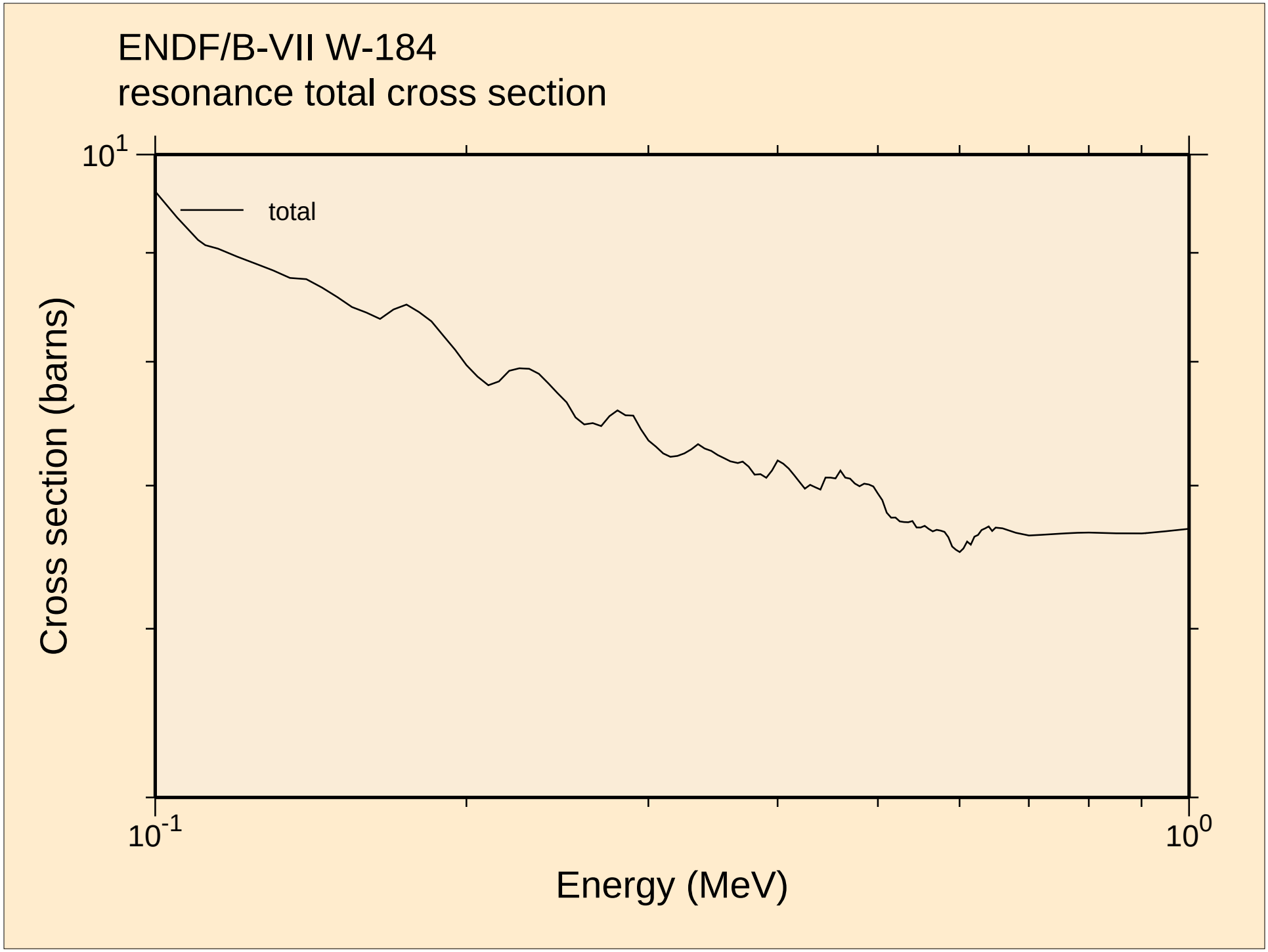
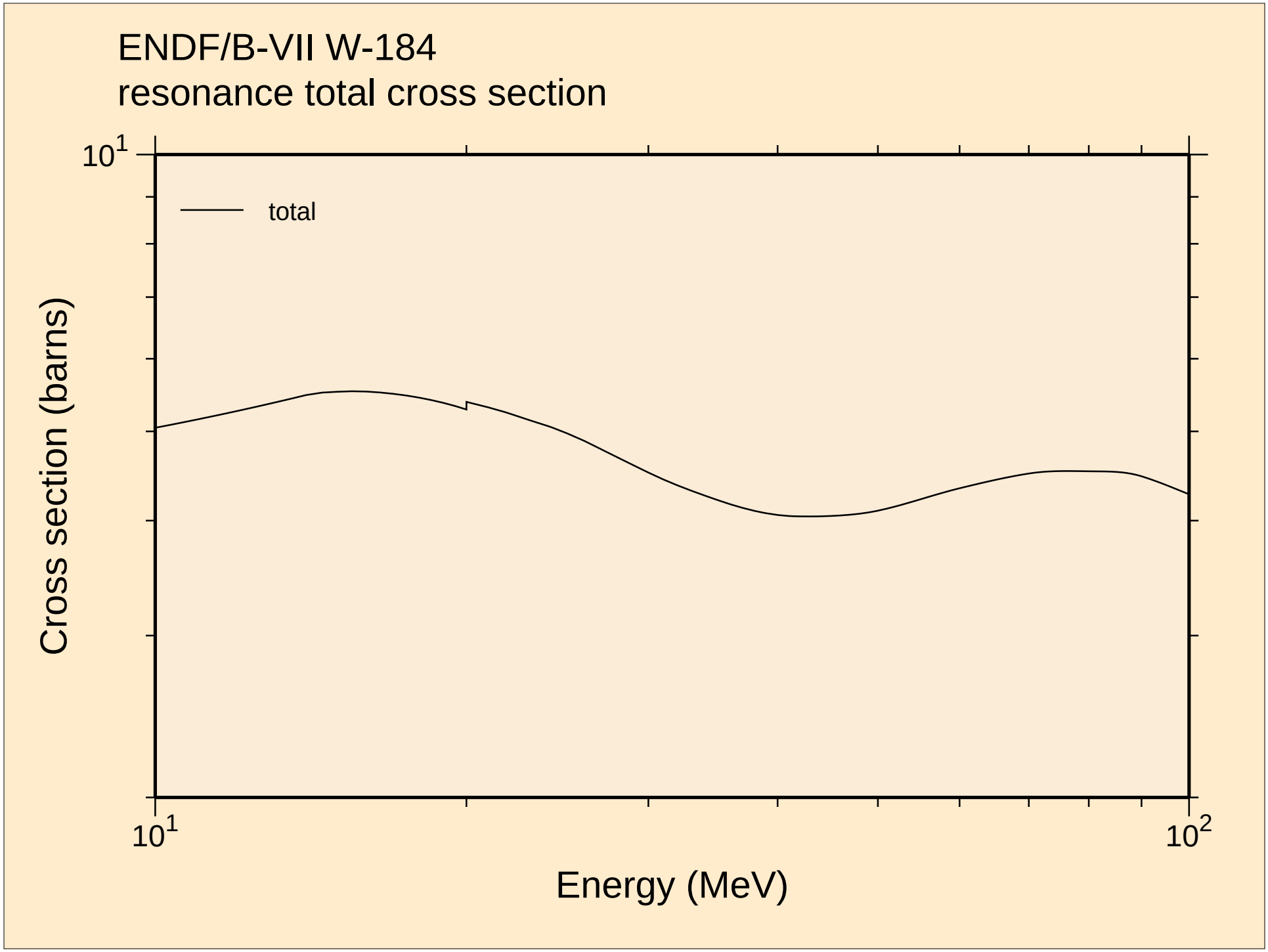

ENDF/B-VII W-184
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-11}
10^{-9}
10^{-7}
10^{-5}
10^{-3}
10^{-1}
10^{1}

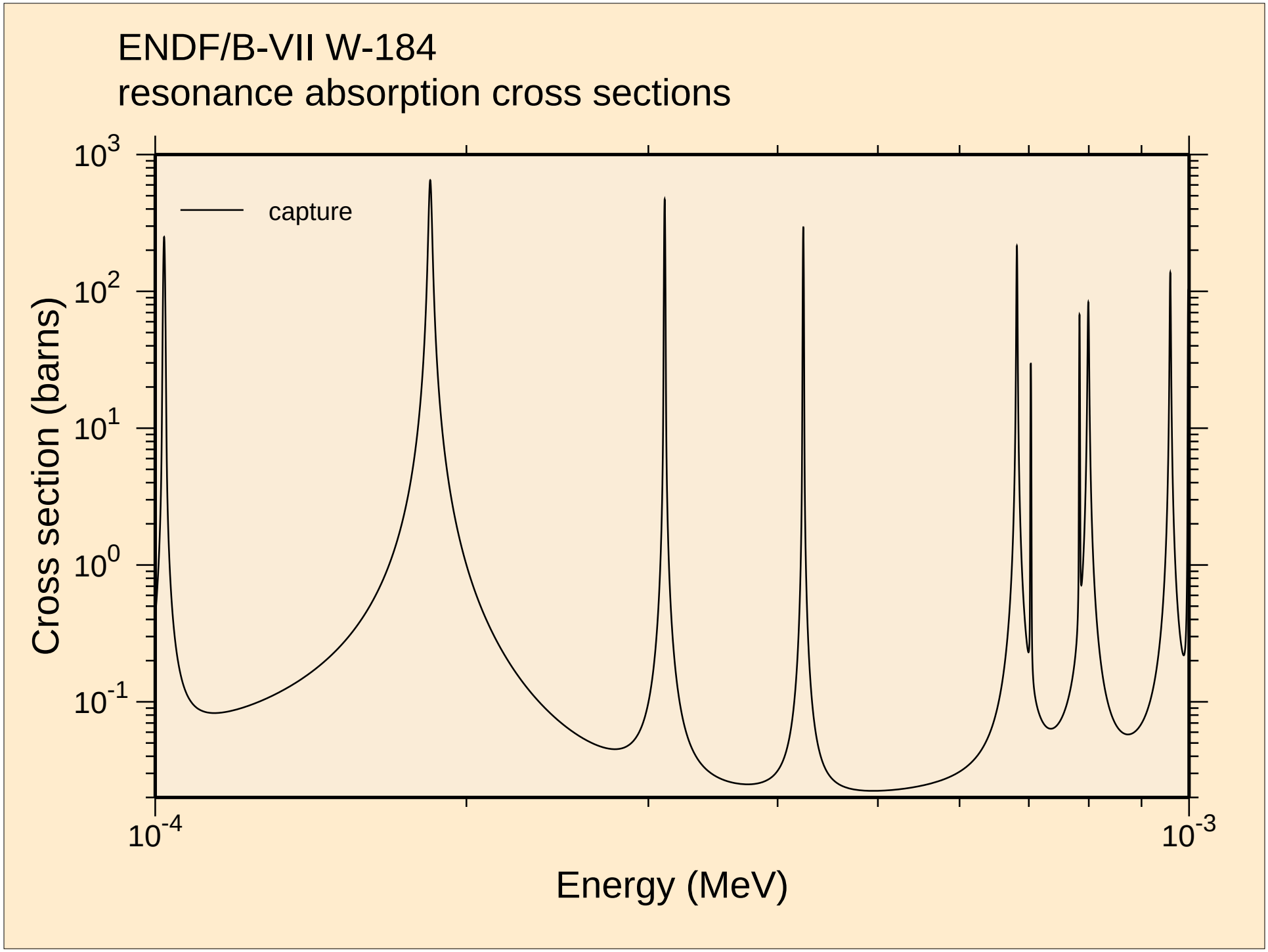

ENDF/B-VII W-184
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^0
10^{-4}
10^{-3}
Energy (MeV)

ENDF/B-VII W-184
resonance total cross section

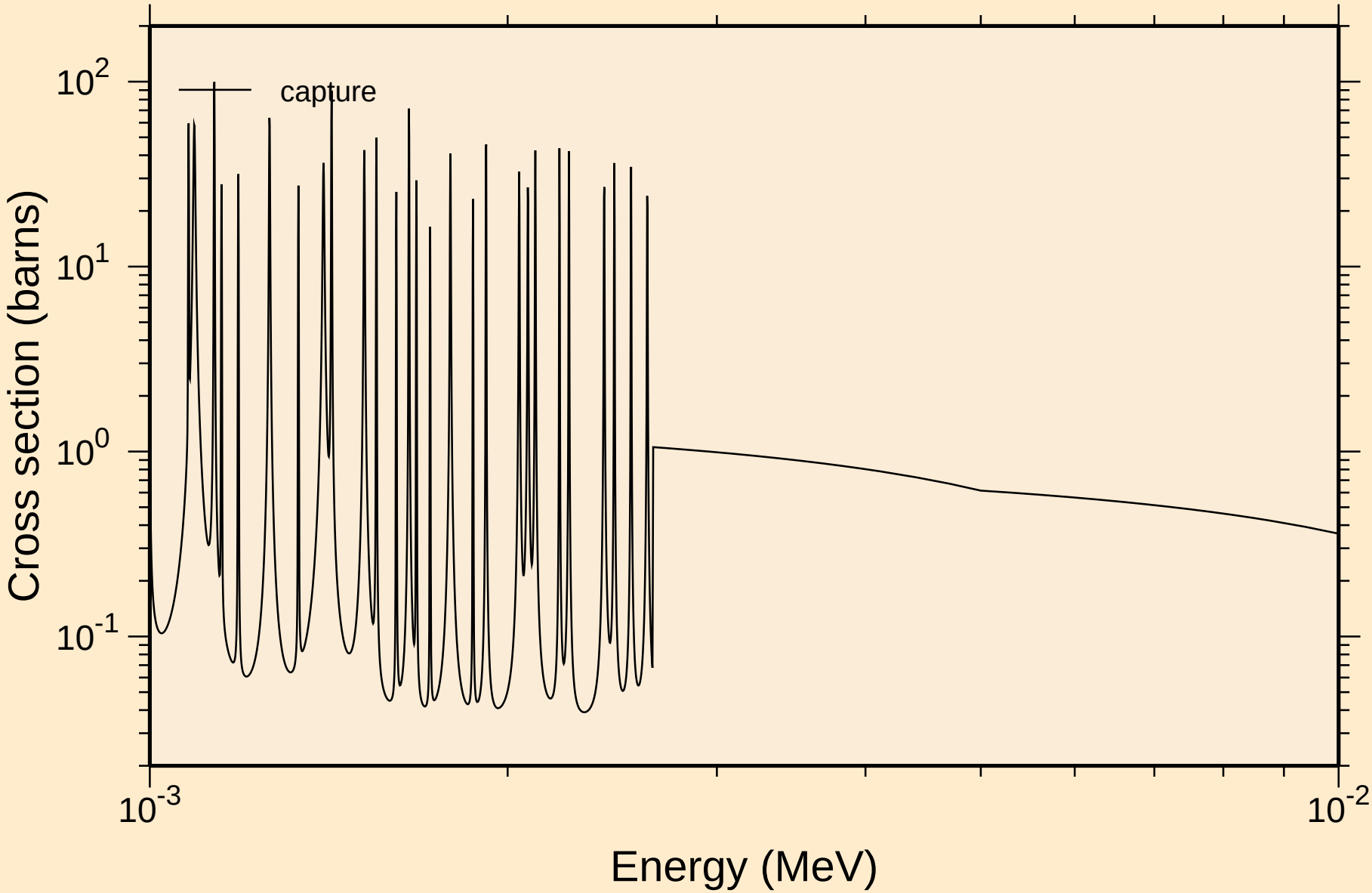



ENDF/B-VII W-184
resonance total cross section
total
Cross section (barns)
Energy (MeV)
10^{1}
10^{-1}
10^{0}

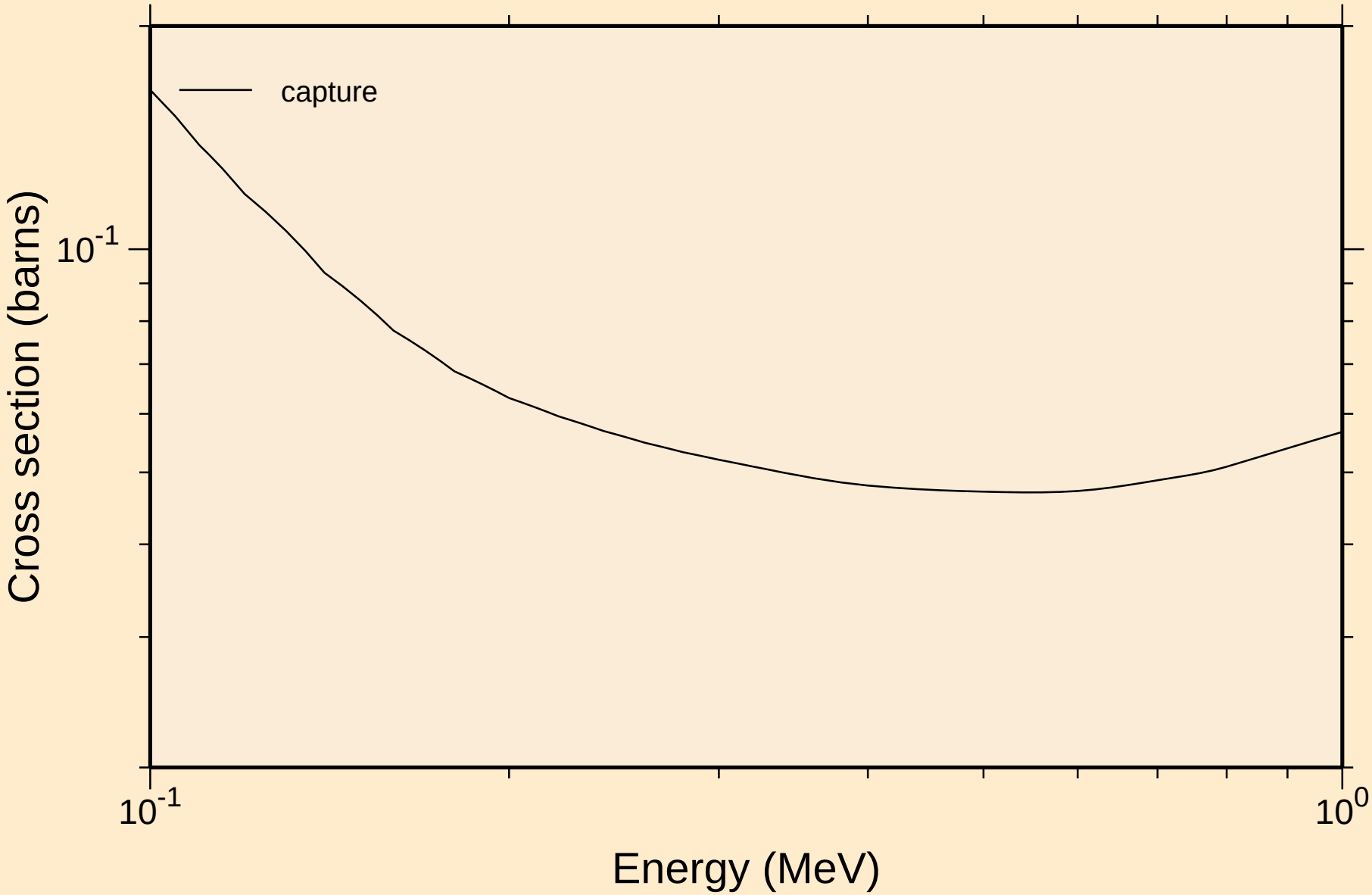

ENDF/B-VII W-184
resonance total cross section
total
Cross section (barns)
Energy (MeV)
10^1
10^1
10^2


ENDF/B-VII W-184
resonance absorption cross sections
capture
Cross section (barns)
10^3
10^2
10^1
10^0
10^{-1}
10^{-4}
10^{-3}
Energy (MeV)

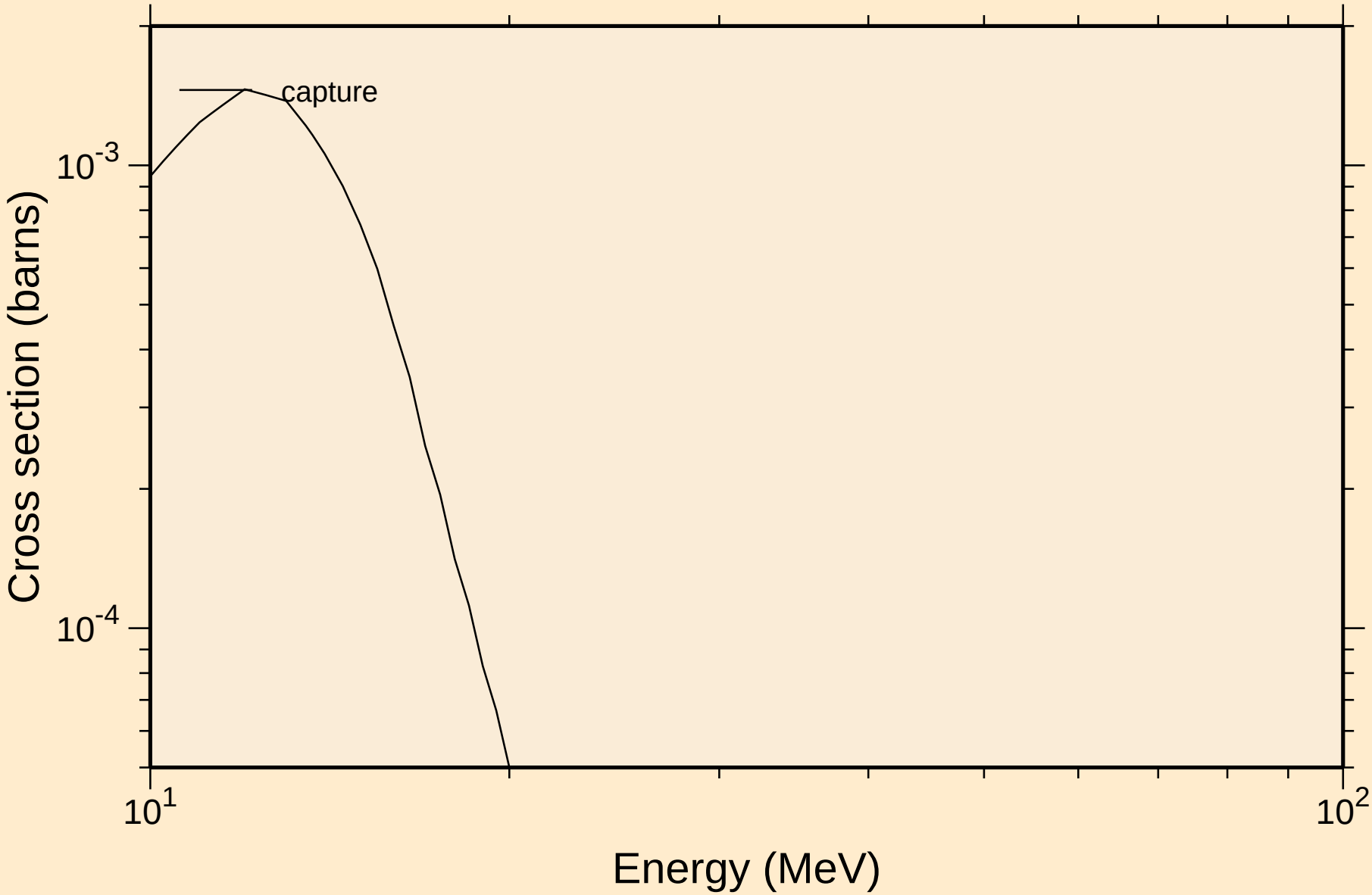
ENDF/B-VII W-184
resonance absorption cross sections

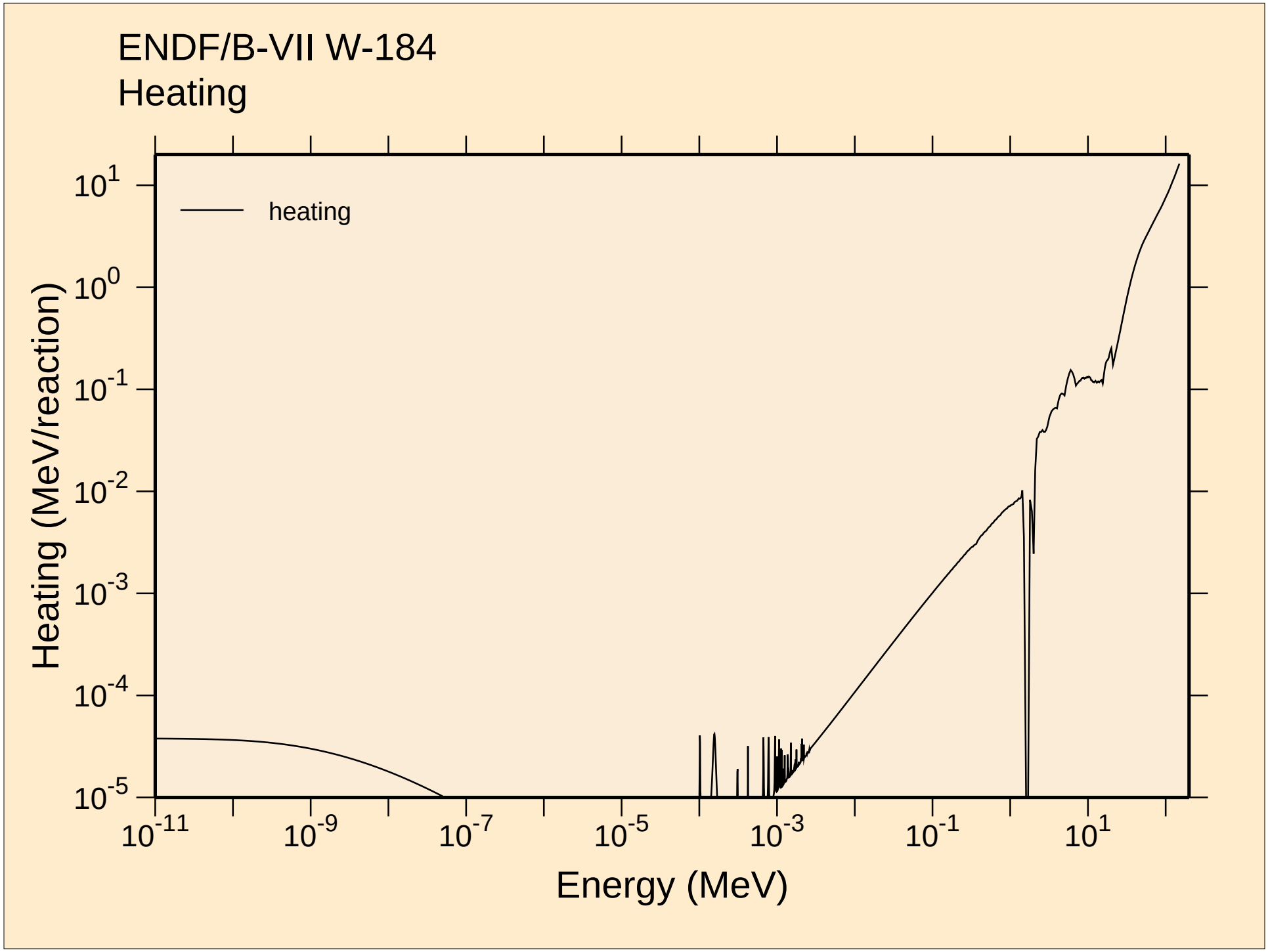


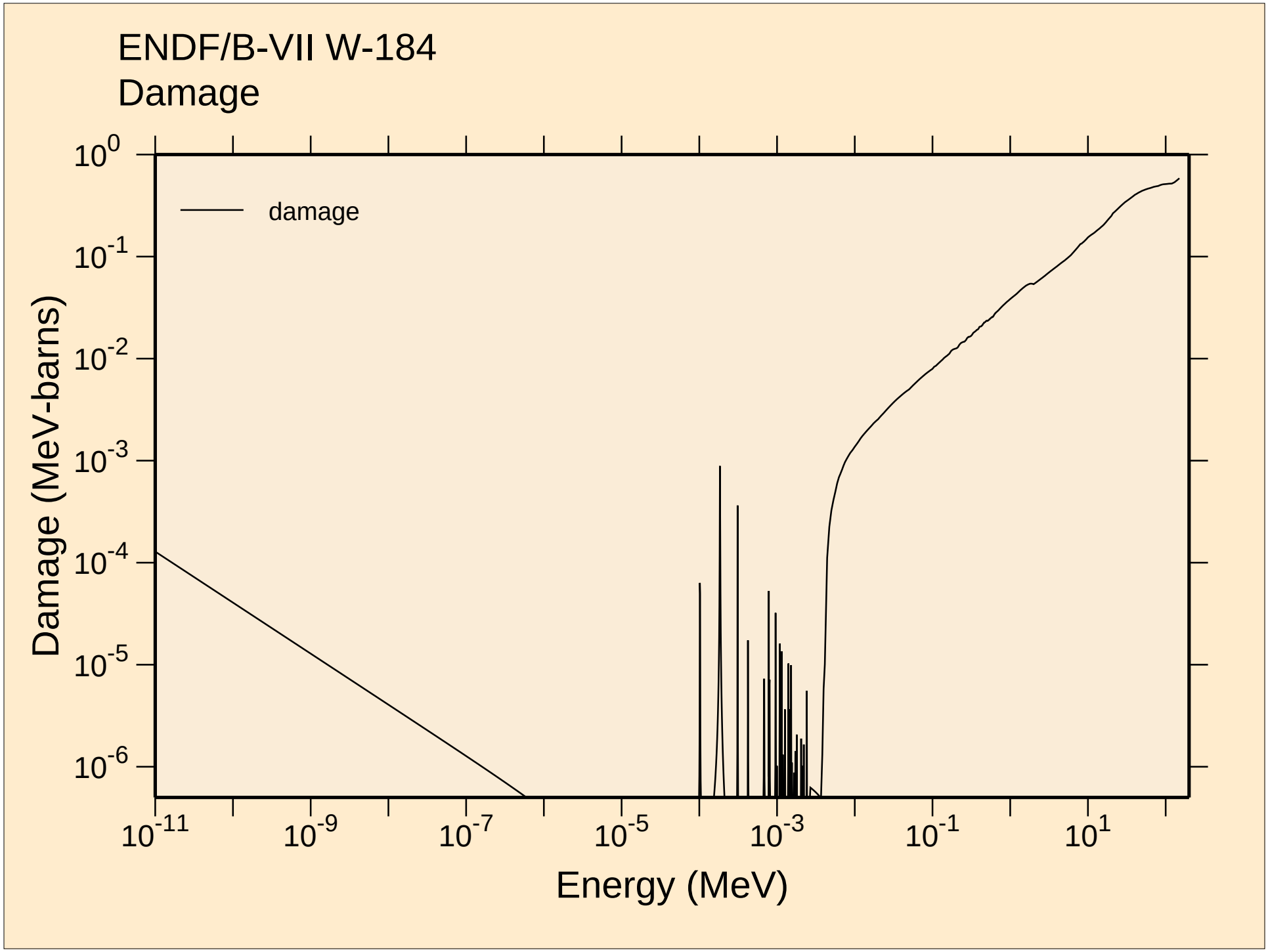
ENDF/B-VII W-184
resonance absorption cross sections

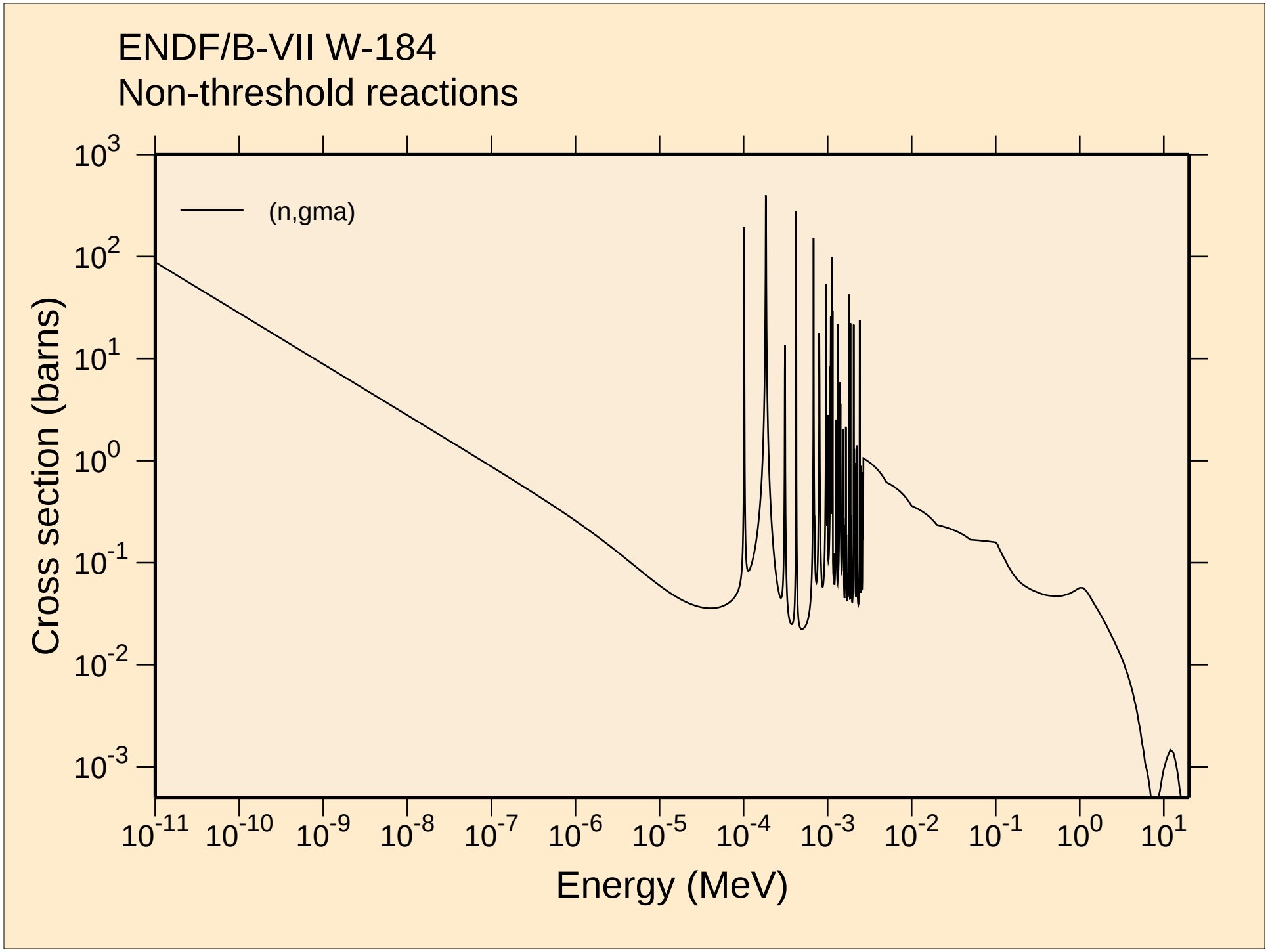


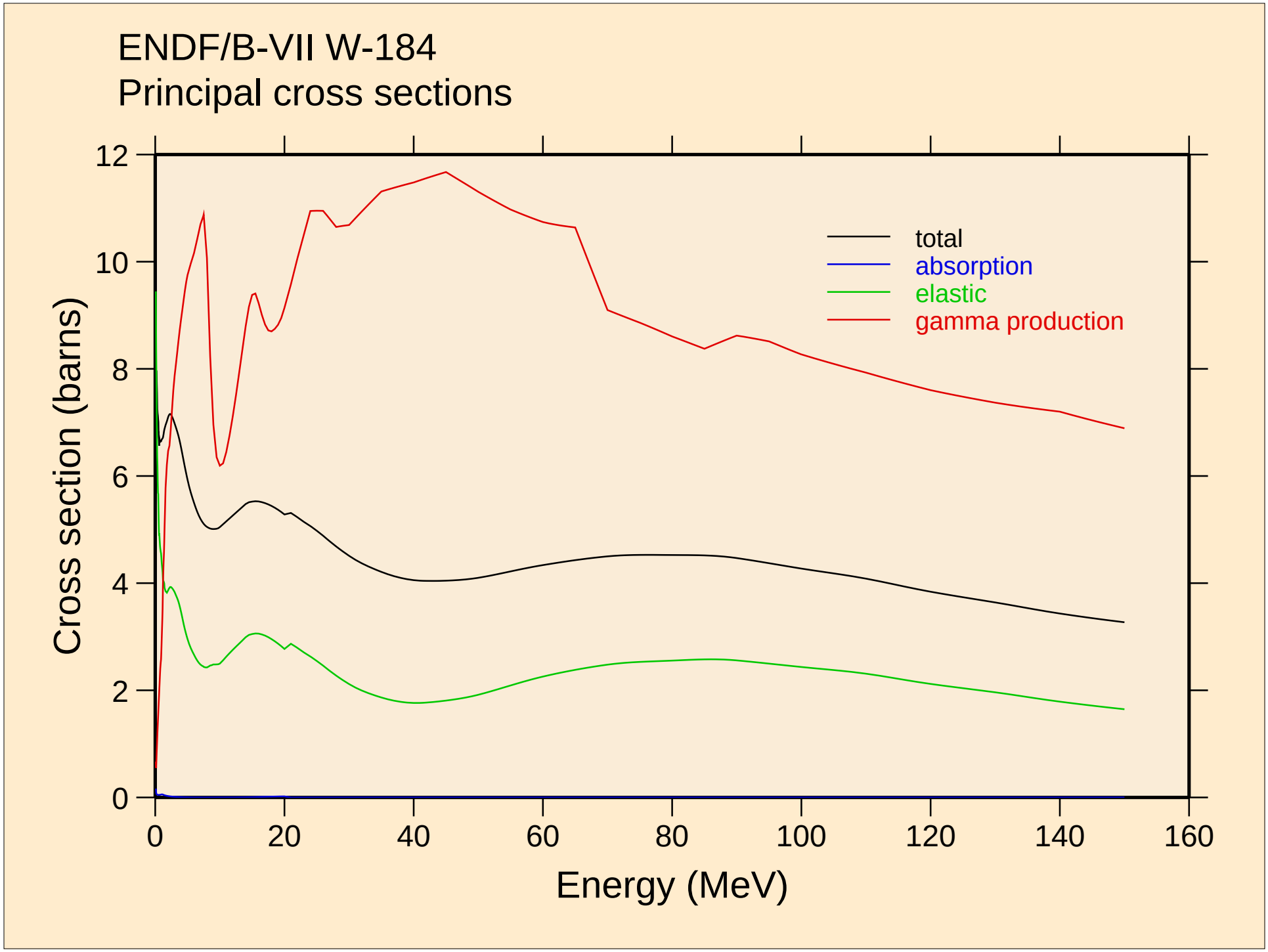
ENDF/B-VII W-184
resonance absorption cross sections

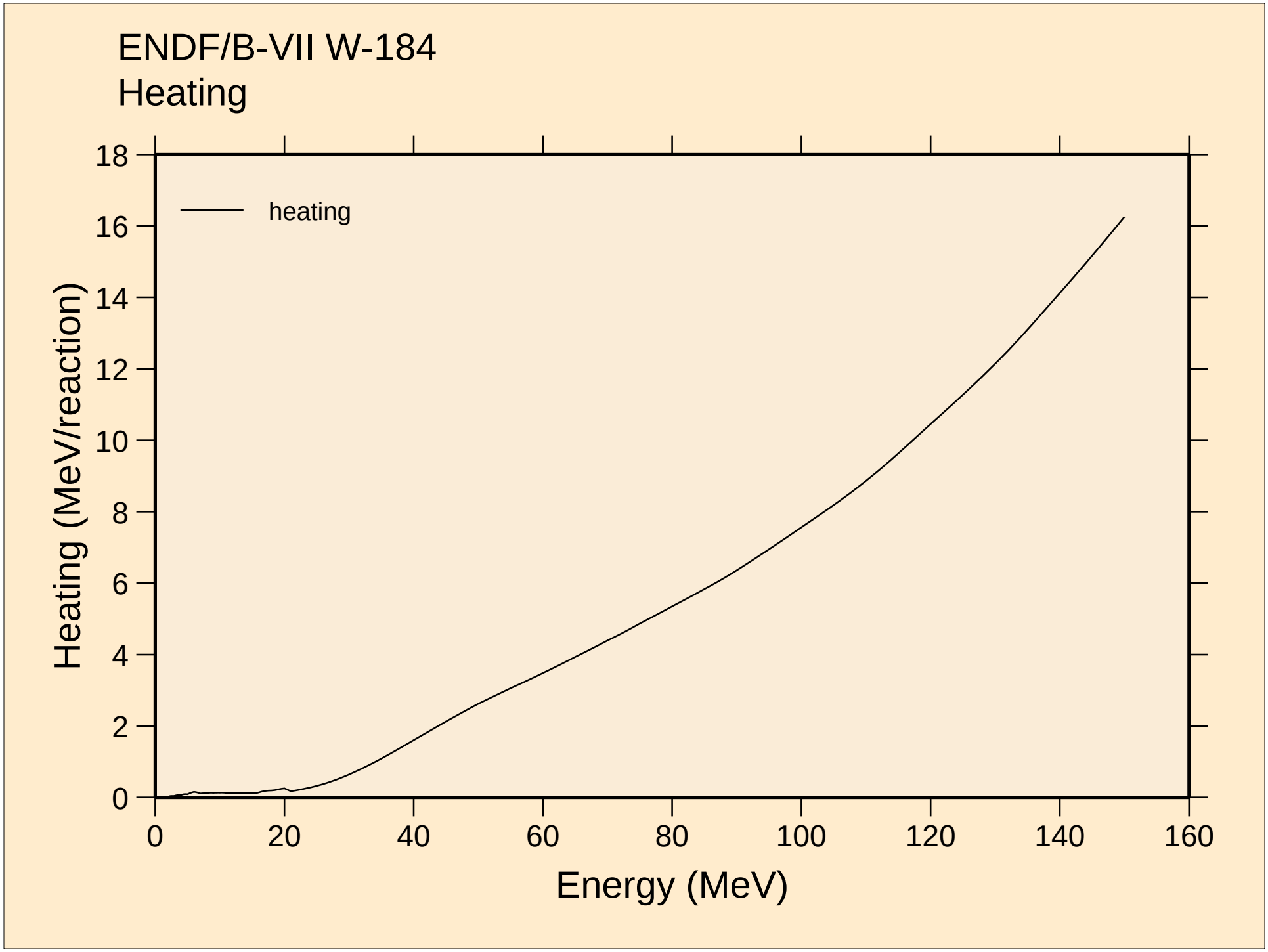


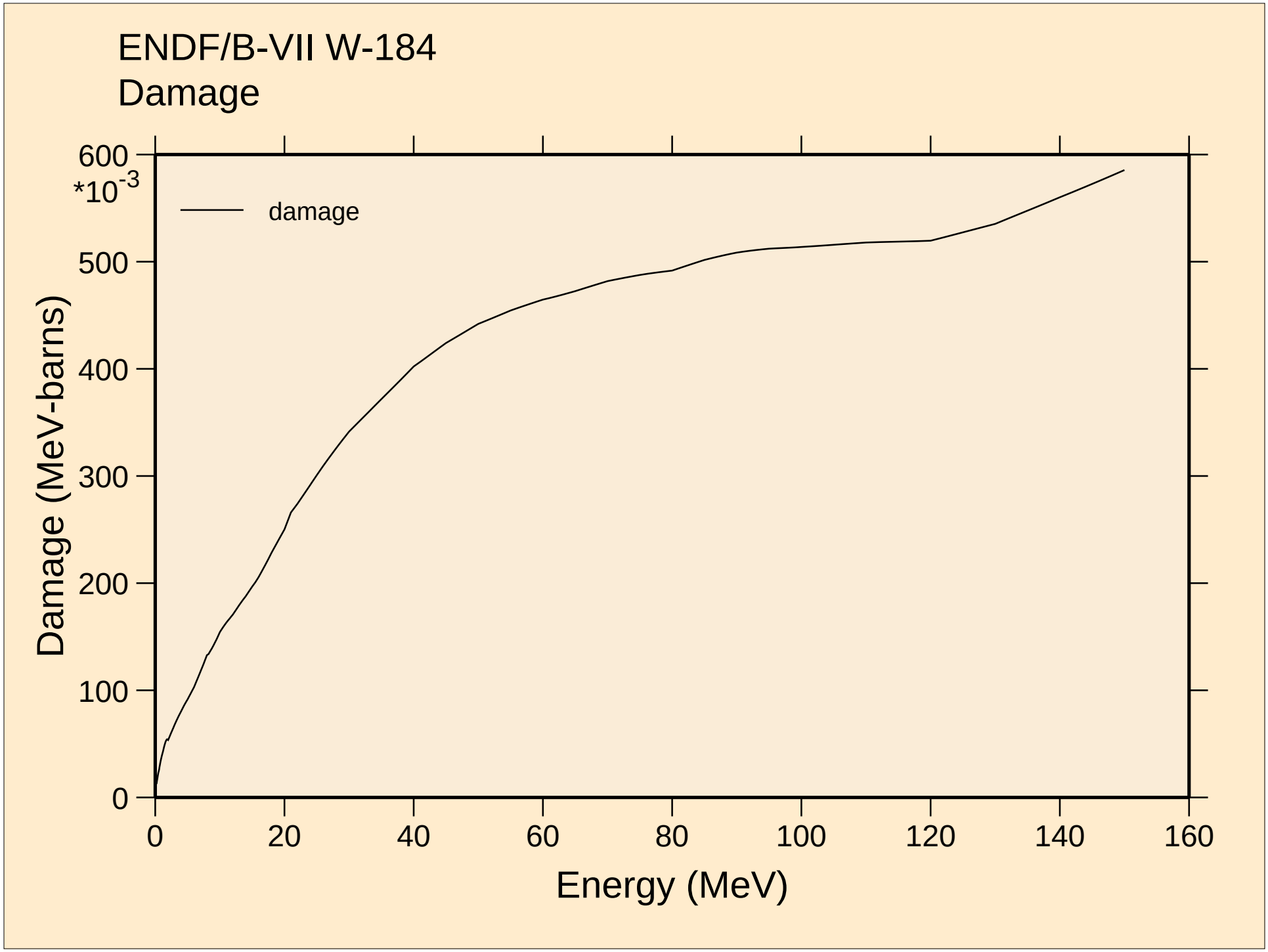

ENDF/B-VII W-184
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-11
10^-9
10^-7
10^-5
10^-3
10^-1
10^1

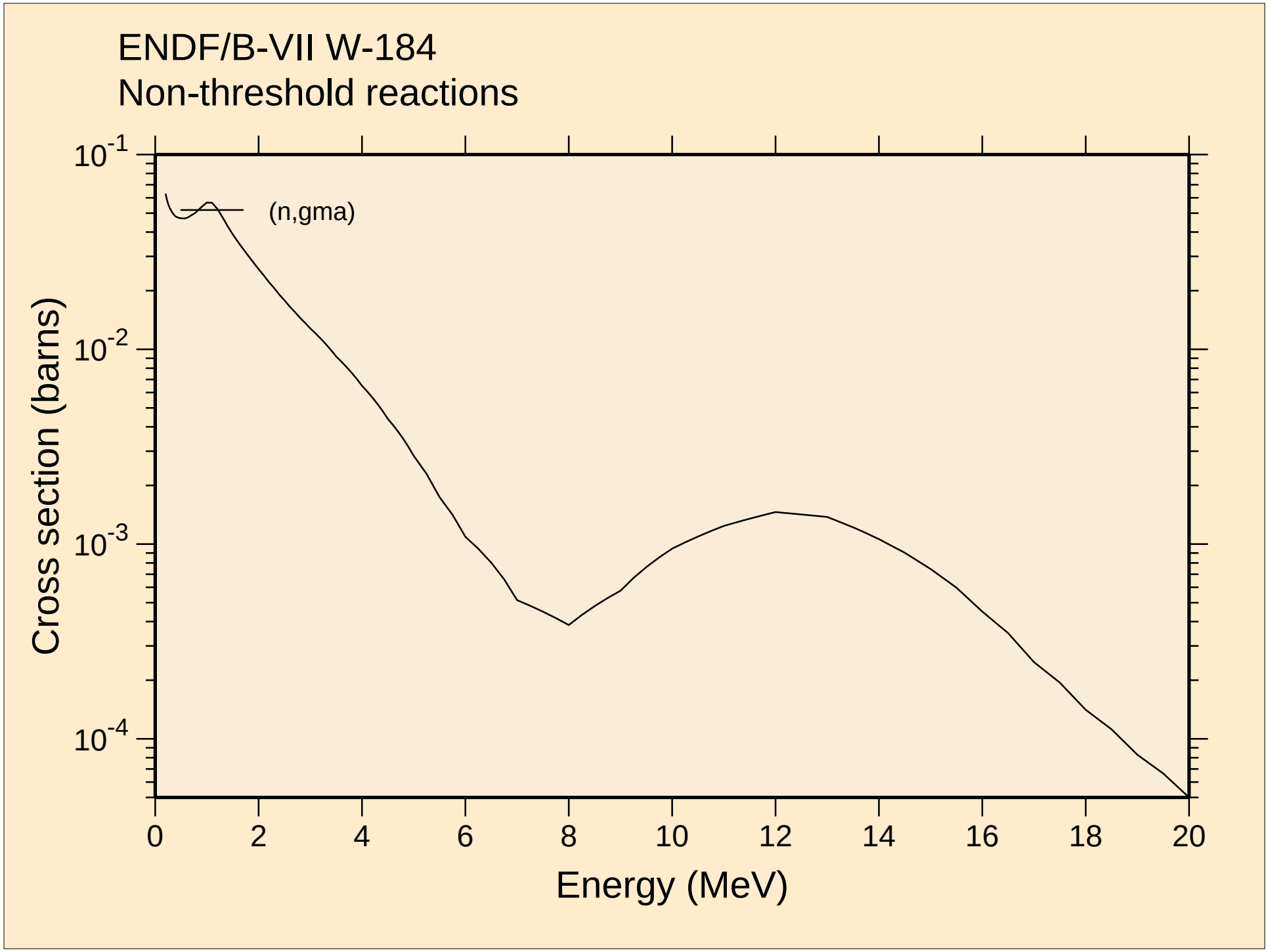

ENDF/B-VII W-184
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-11
10^-9
10^-7
10^-5
10^-3
10^-1
10^1

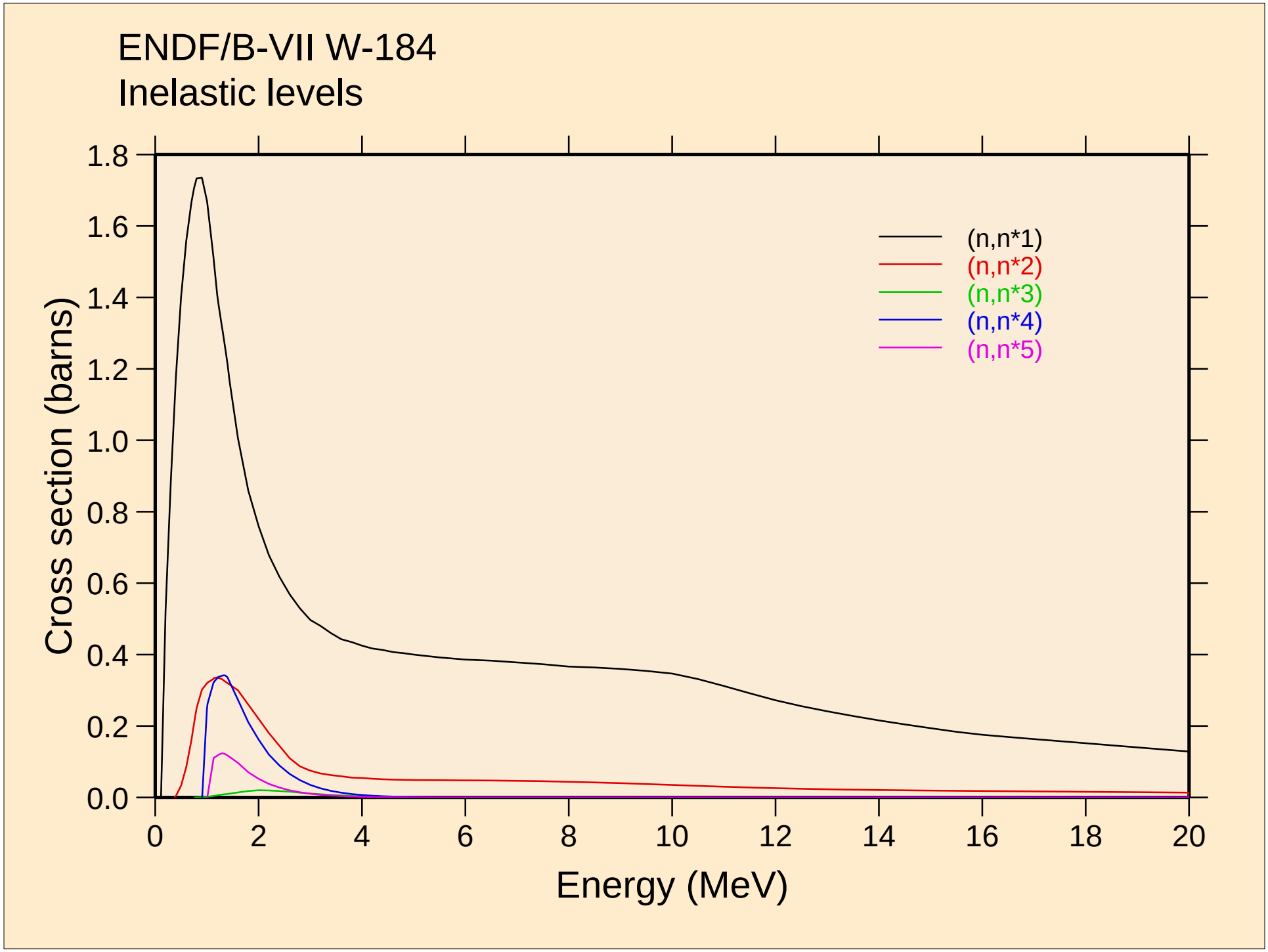

ENDF/B-VII W-184
Non-threshold reactions
(n,gma)
Cross section (barns)
Energy (MeV)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

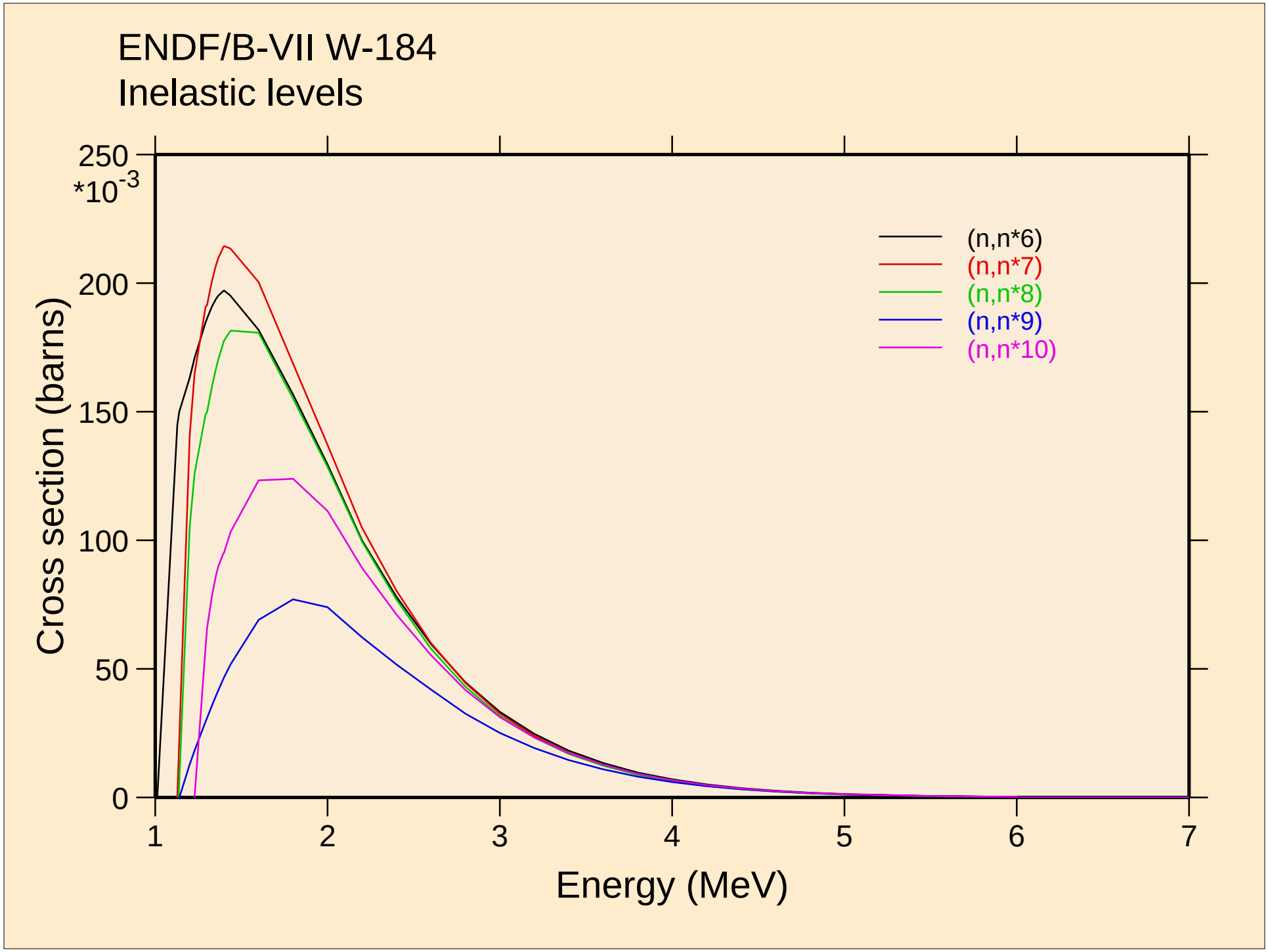

ENDF/B-VII W-184
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
160

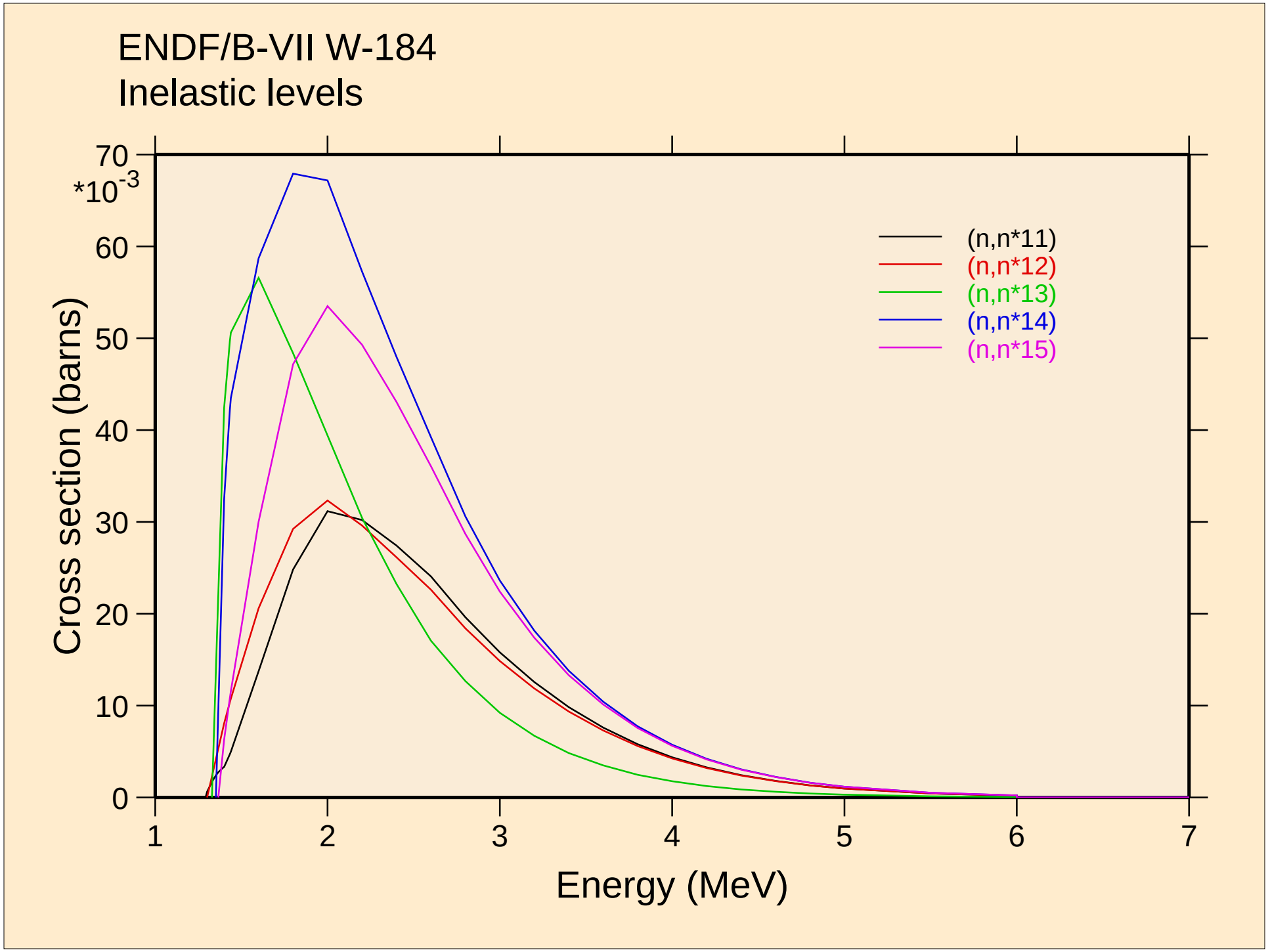

ENDF/B-VII W-184
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
140
160

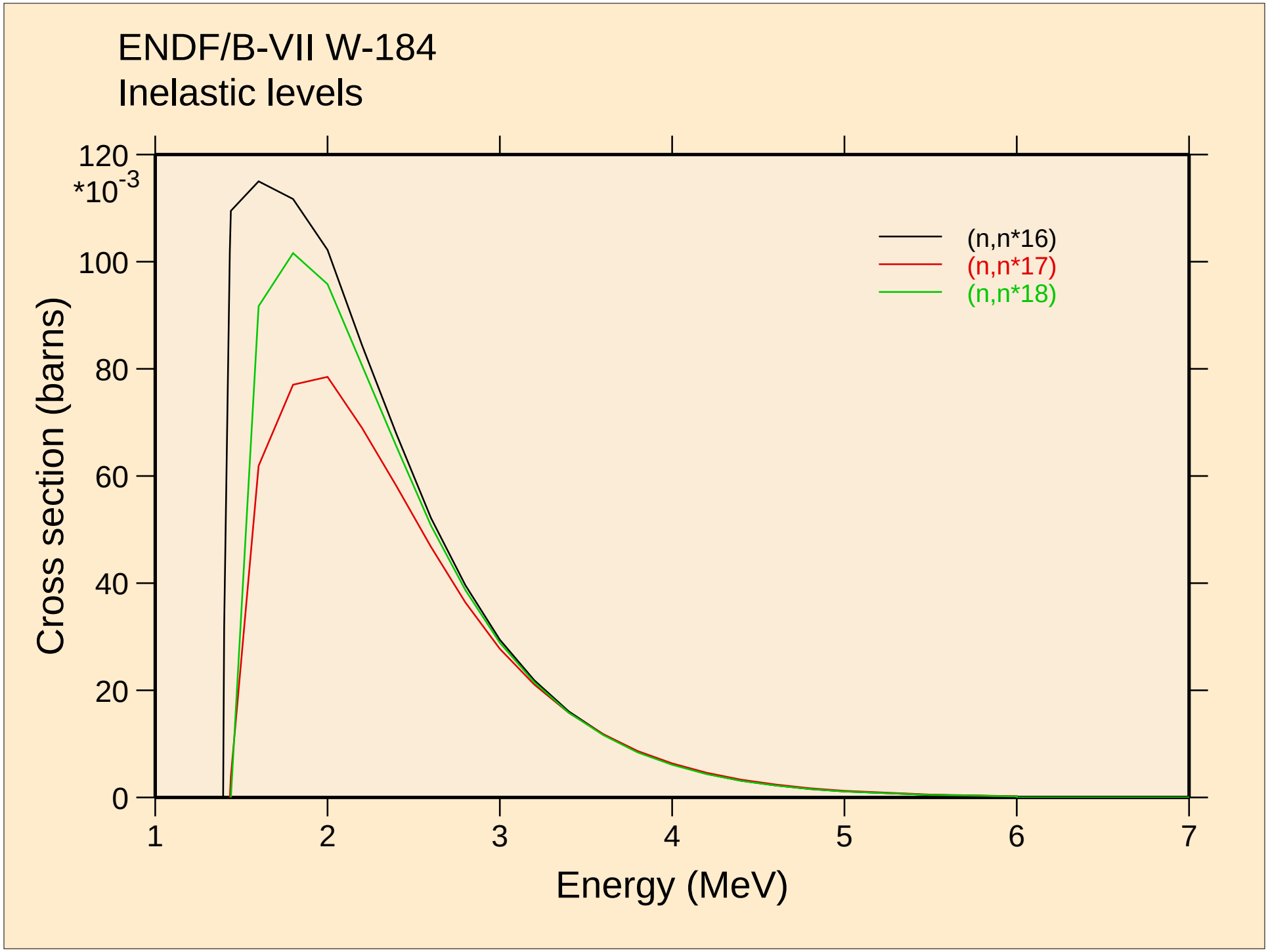

ENDF/B-VII W-184
Damage
damage
*10-3
600
500
400
300
200
100
0
Damage (MeV-barns)
0
20
40
60
80
100
120
140
160
Energy (MeV)

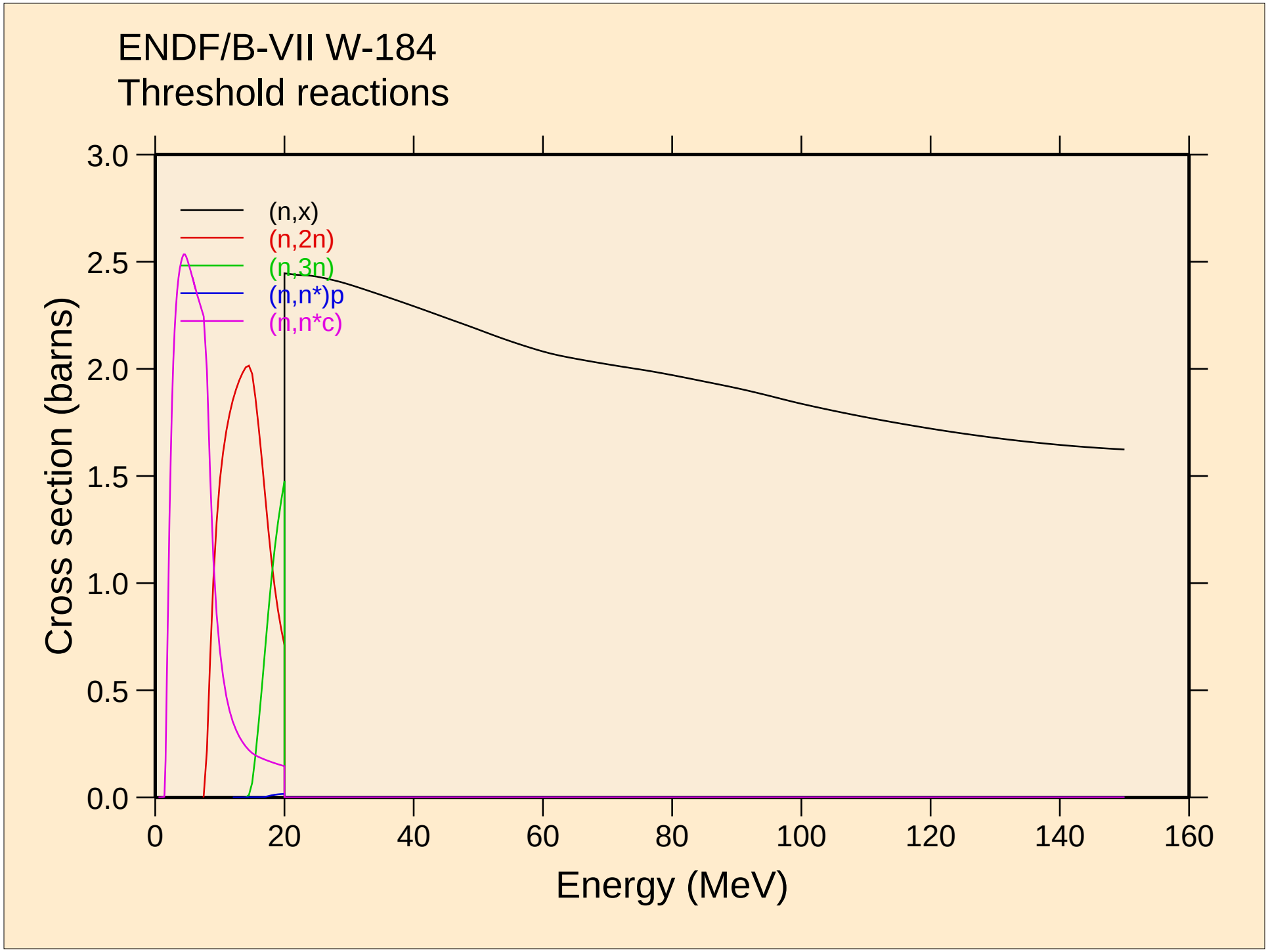

ENDF/B-VII W-184
Non-threshold reactions
(n,gma)
Cross section (barns)
10-1
10-2
10-3
10-4
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

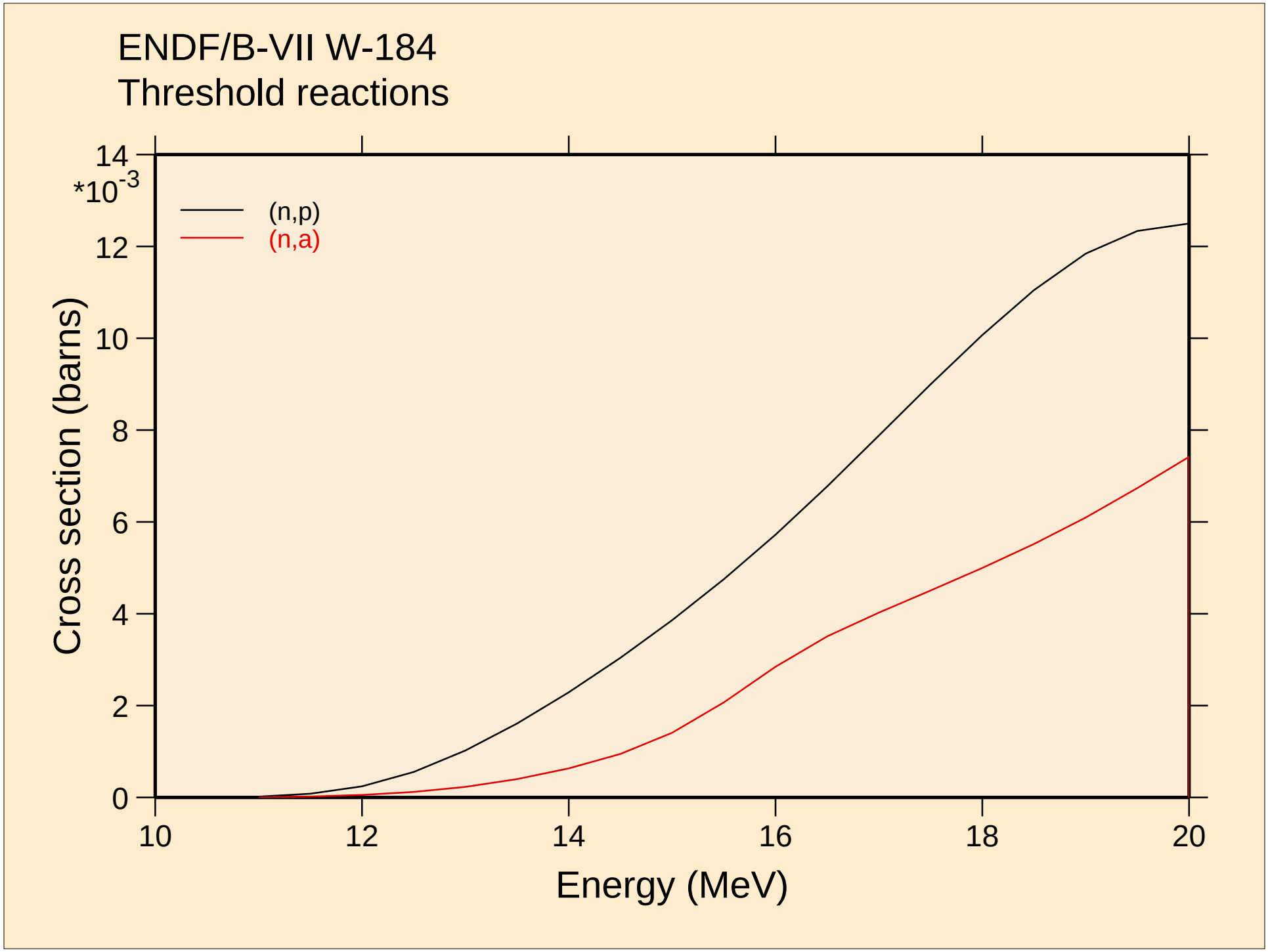

ENDF/B-VII W-184
Inelastic levels
Cross section (barns)
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
0
2
4
6
8
10
12
14
16
18
20

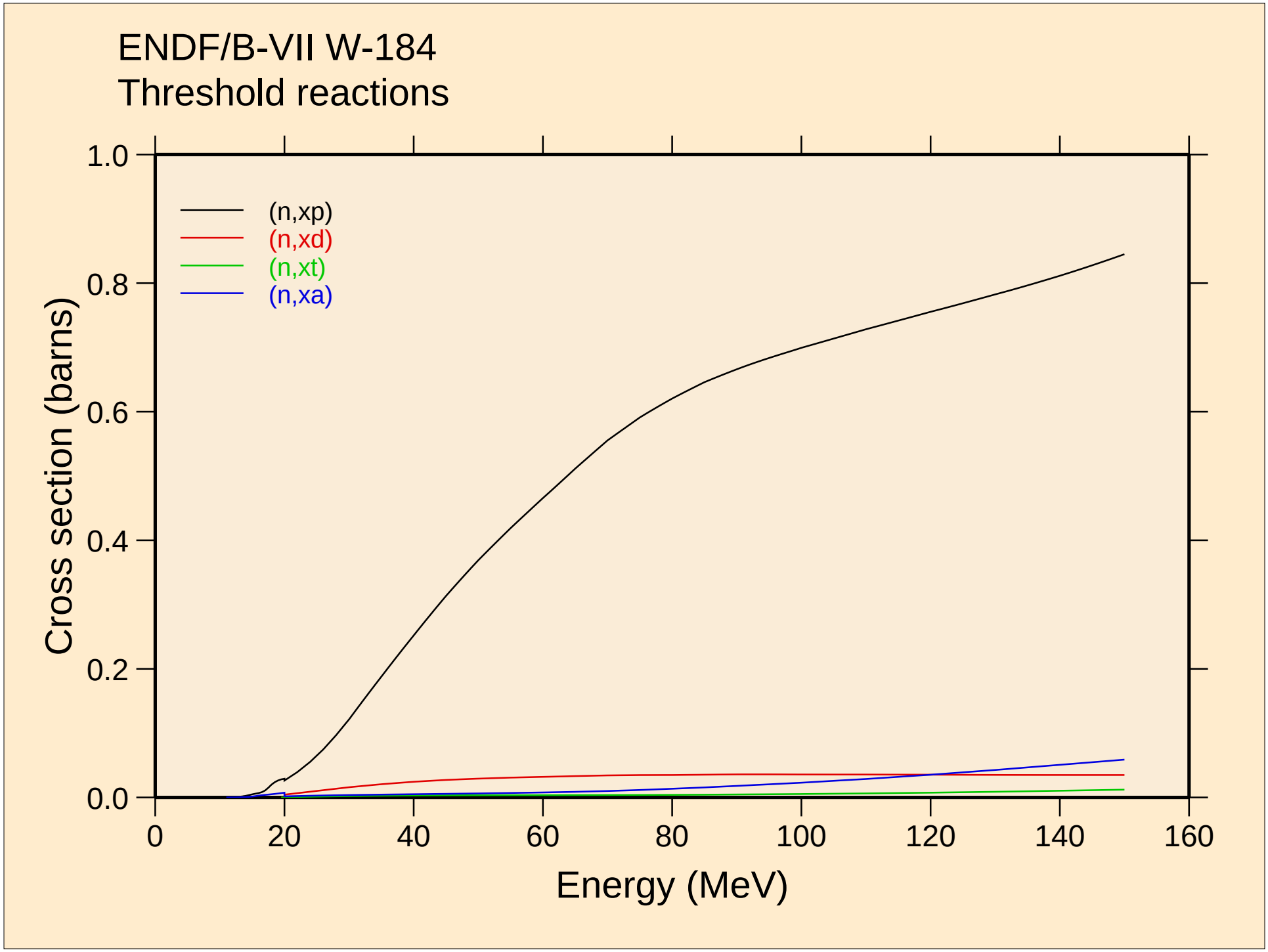

ENDF/B-VII W-184
Inelastic levels
250
*10-3
200
150
100
50
0
Cross section (barns)
1
2
3
4
5
6
7
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)


ENDF/B-VII W-184
Inelastic levels
Cross section (barns)
*10^-3
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

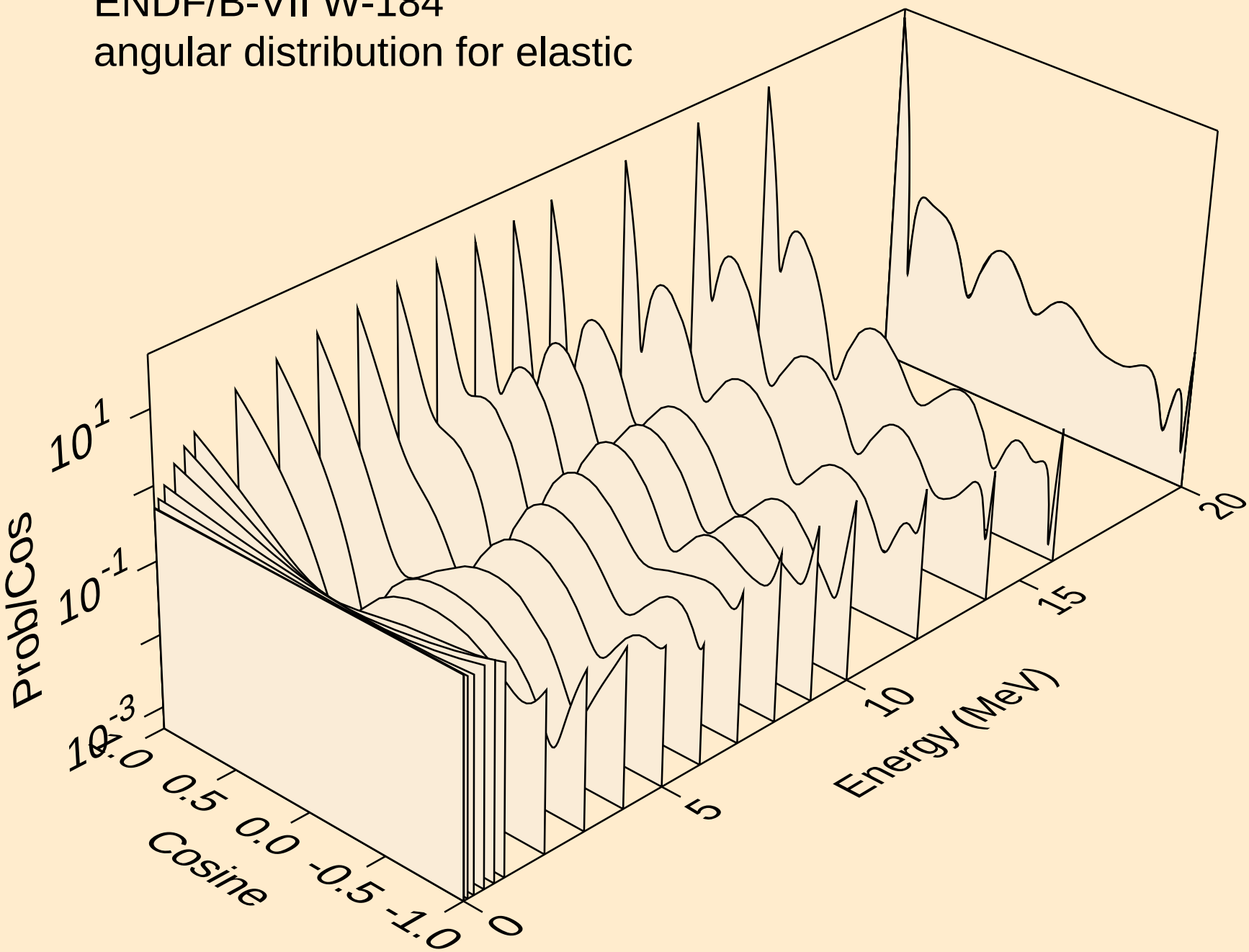

ENDF/B-VII W-184
Inelastic levels
120
*10-3
100
80
60
40
20
0
Cross section (barns)
1
2
3
4
5
6
7
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)

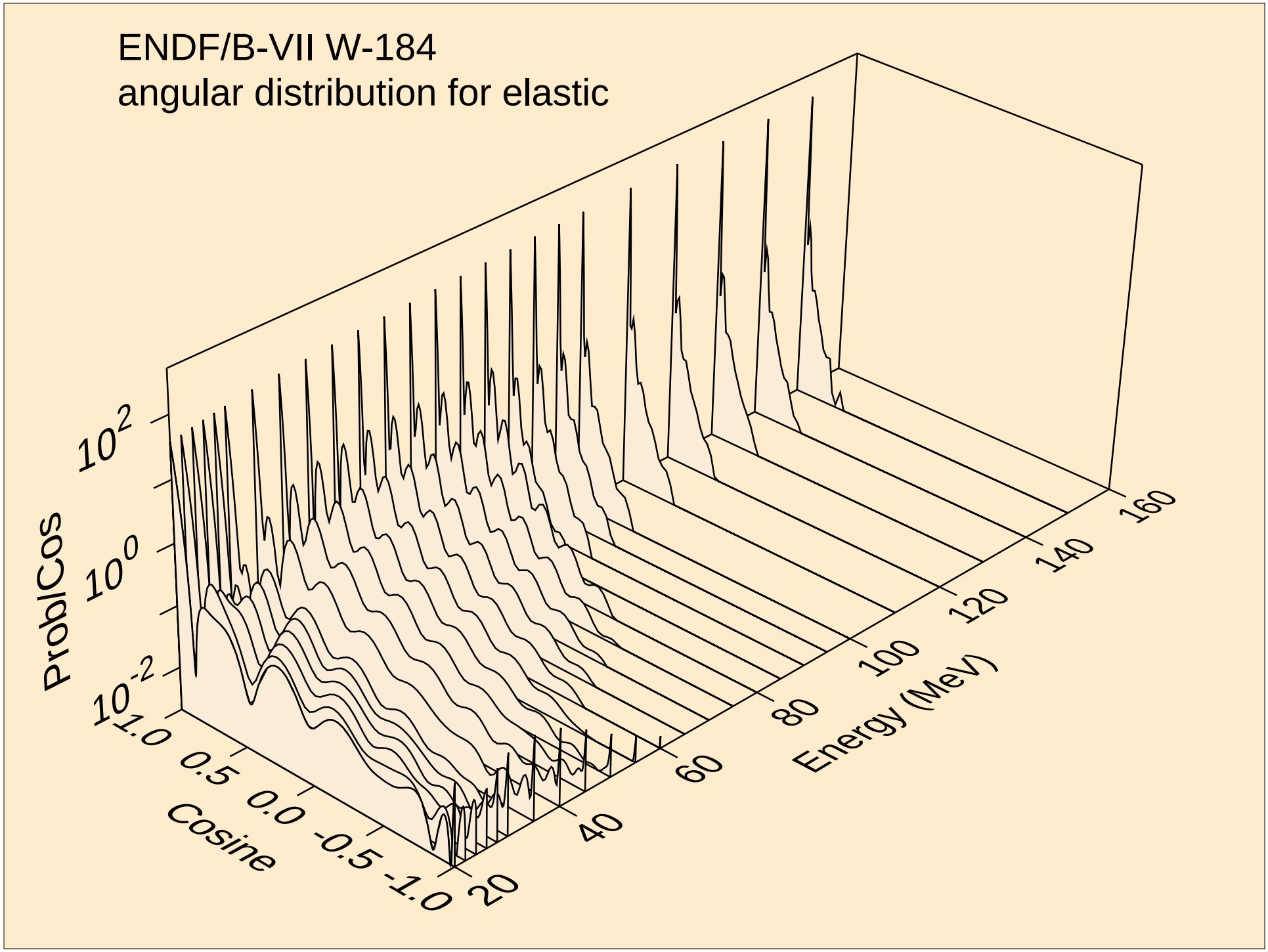

ENDF/B-VII W-184
Threshold reactions
(n,x)
(n,2n)
(n,3n)
(n,n*)p
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
20
40
60
80
100
120
140
160

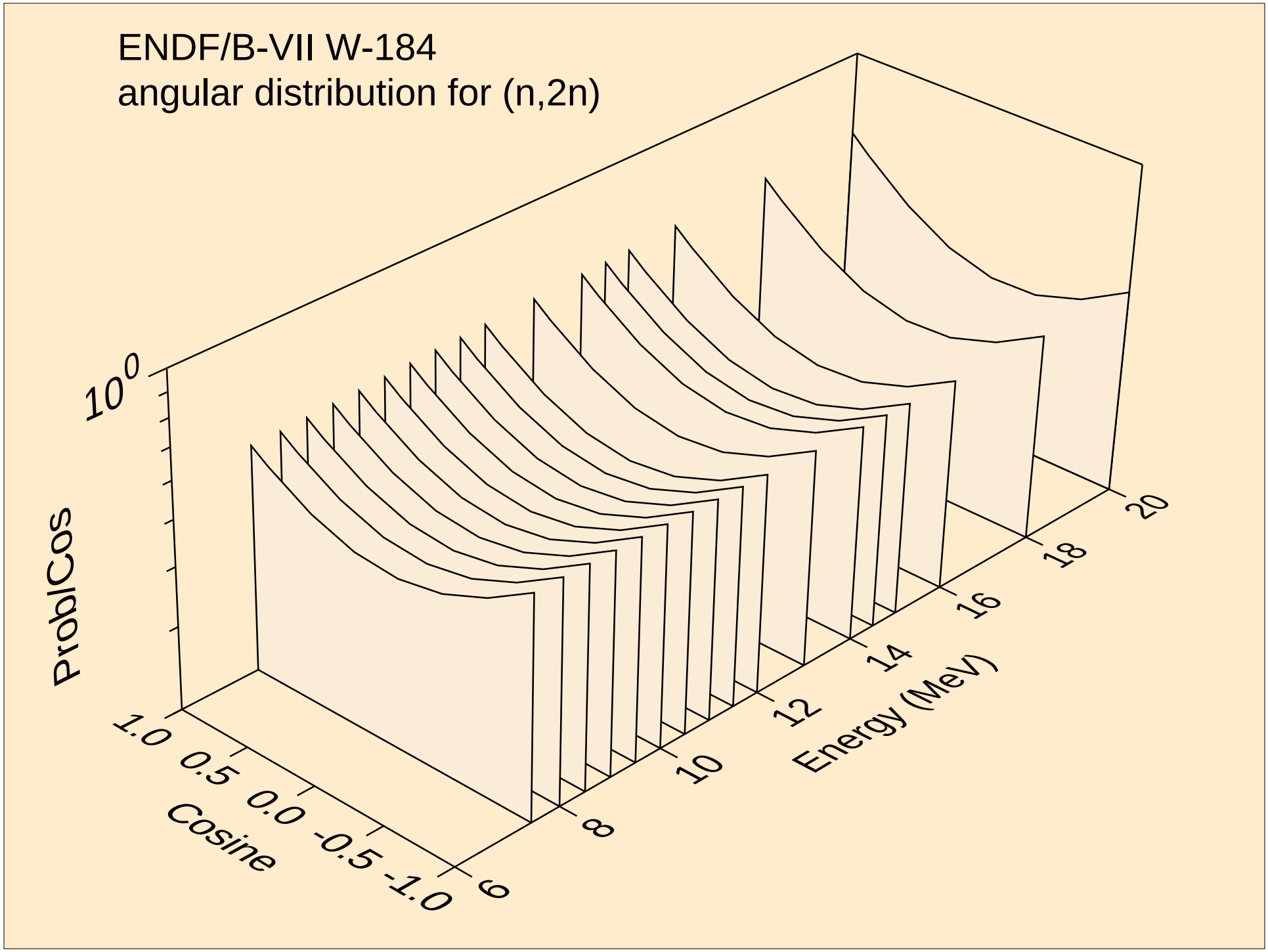

ENDF/B-VII W-184
Threshold reactions
*10-3
(n,p)
(n,a)
Cross section (barns)
Energy (MeV)
0
2
4
6
8
10
12
14
10
12
14
16
18
20

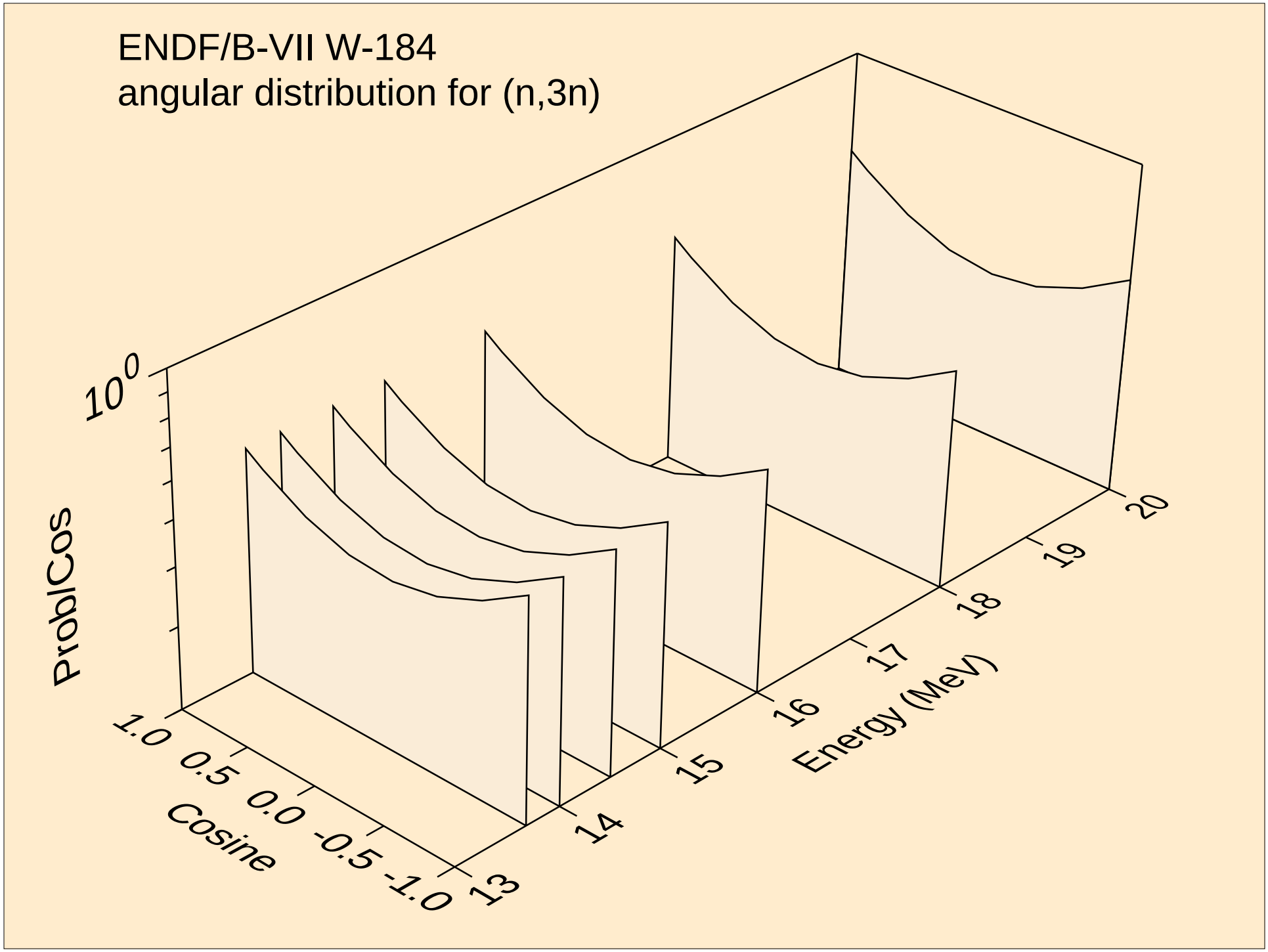

ENDF/B-VII W-184
Threshold reactions
(n,xp)
(n,xd)
(n,xt)
(n,xa)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
0
20
40
60
80
100
120
140
160

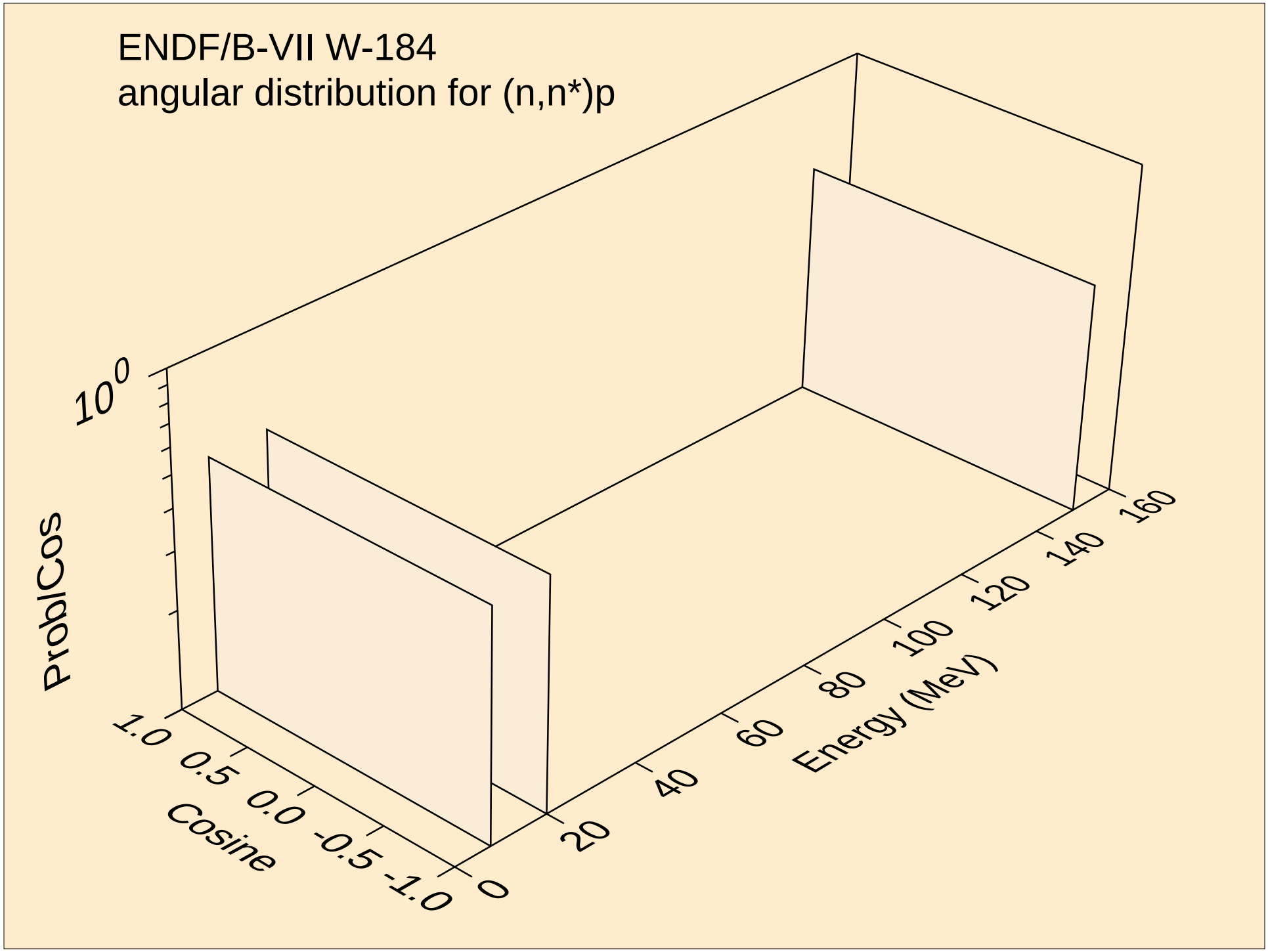
ENDF/B-VII W-184
angular distribution for elastic

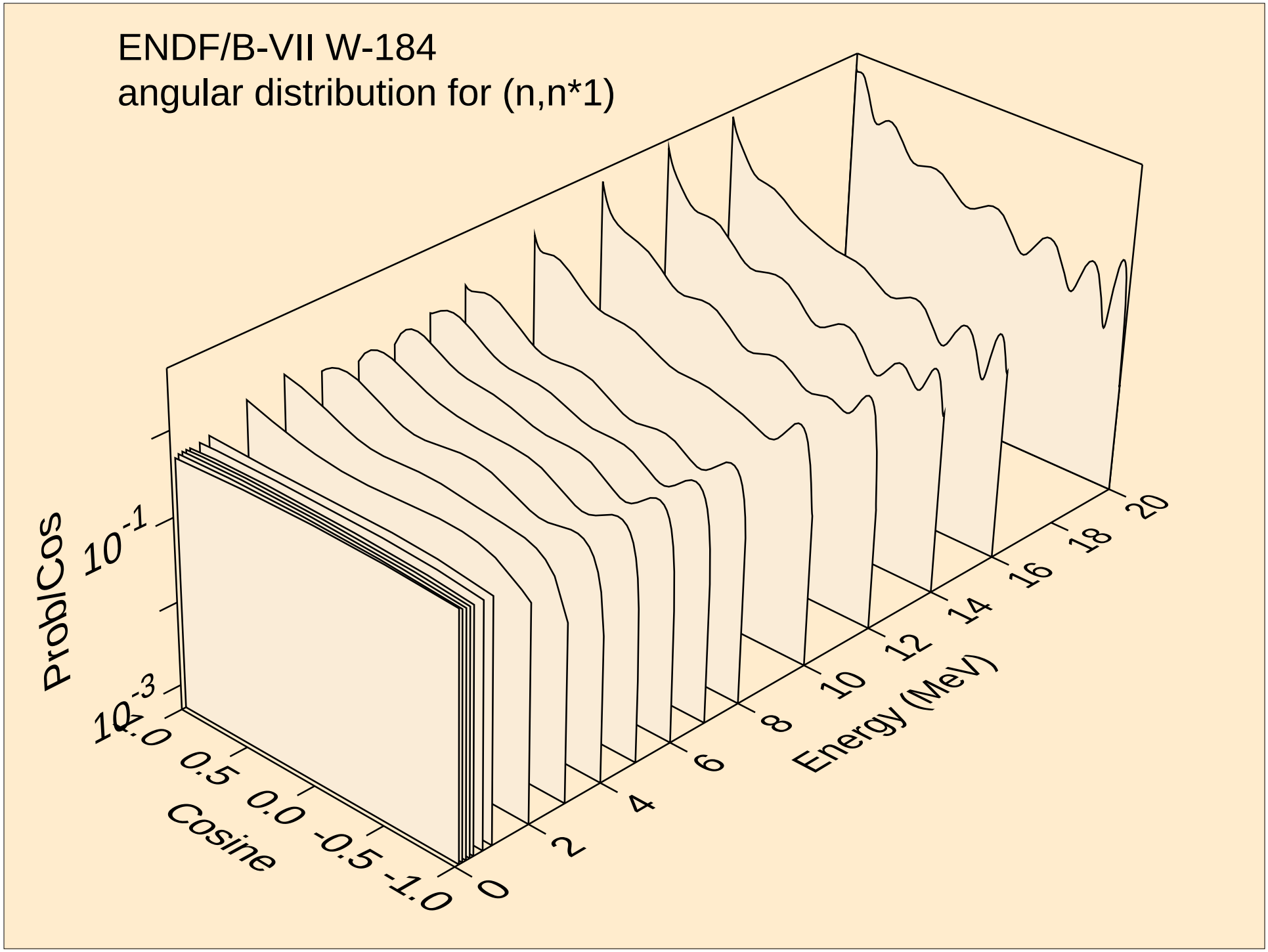


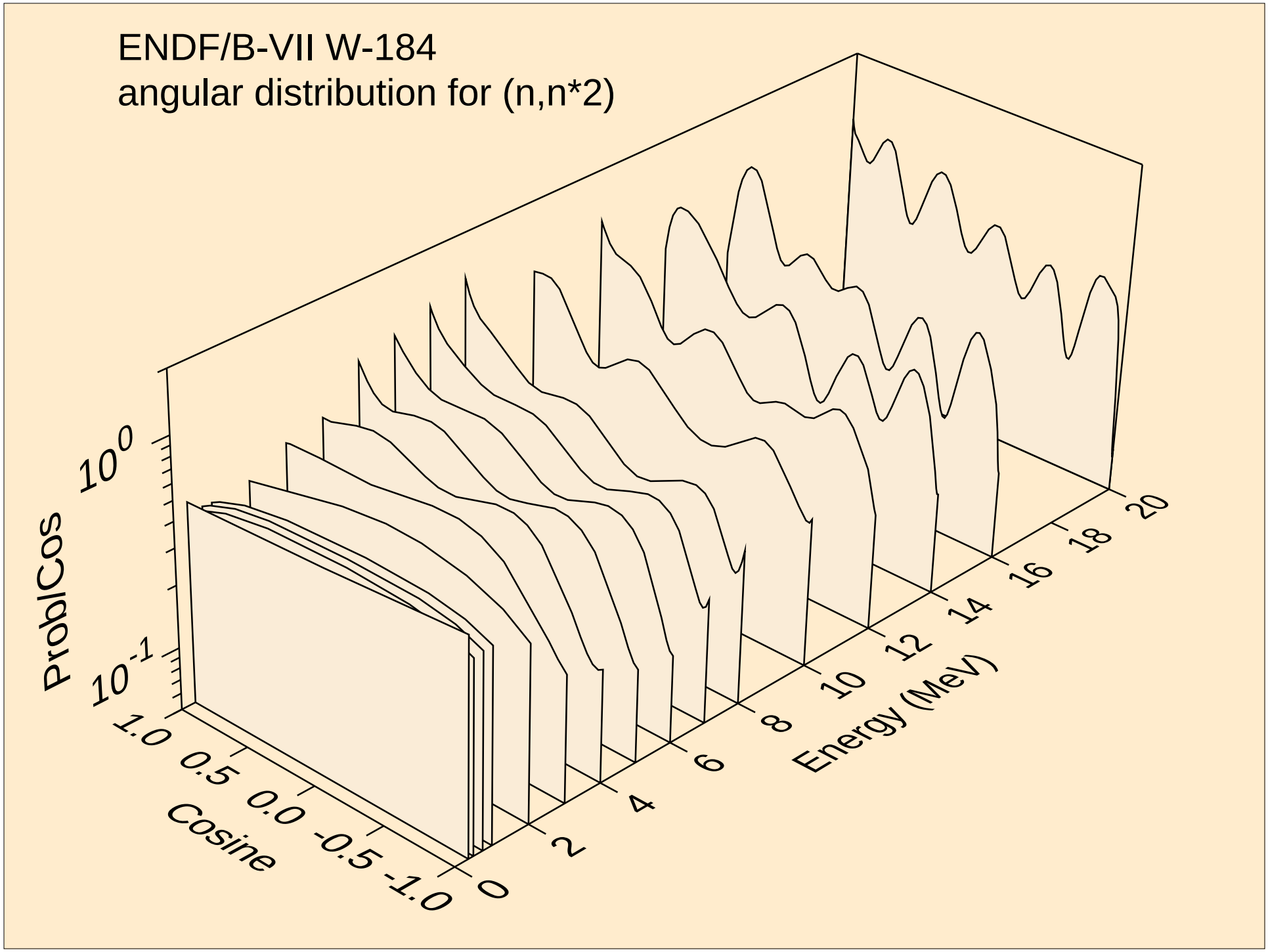

ENDF/B-VII W-184
angular distribution for elastic
ProbCos
10^2
10^0
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
20
40
60
80
100
120
140
160

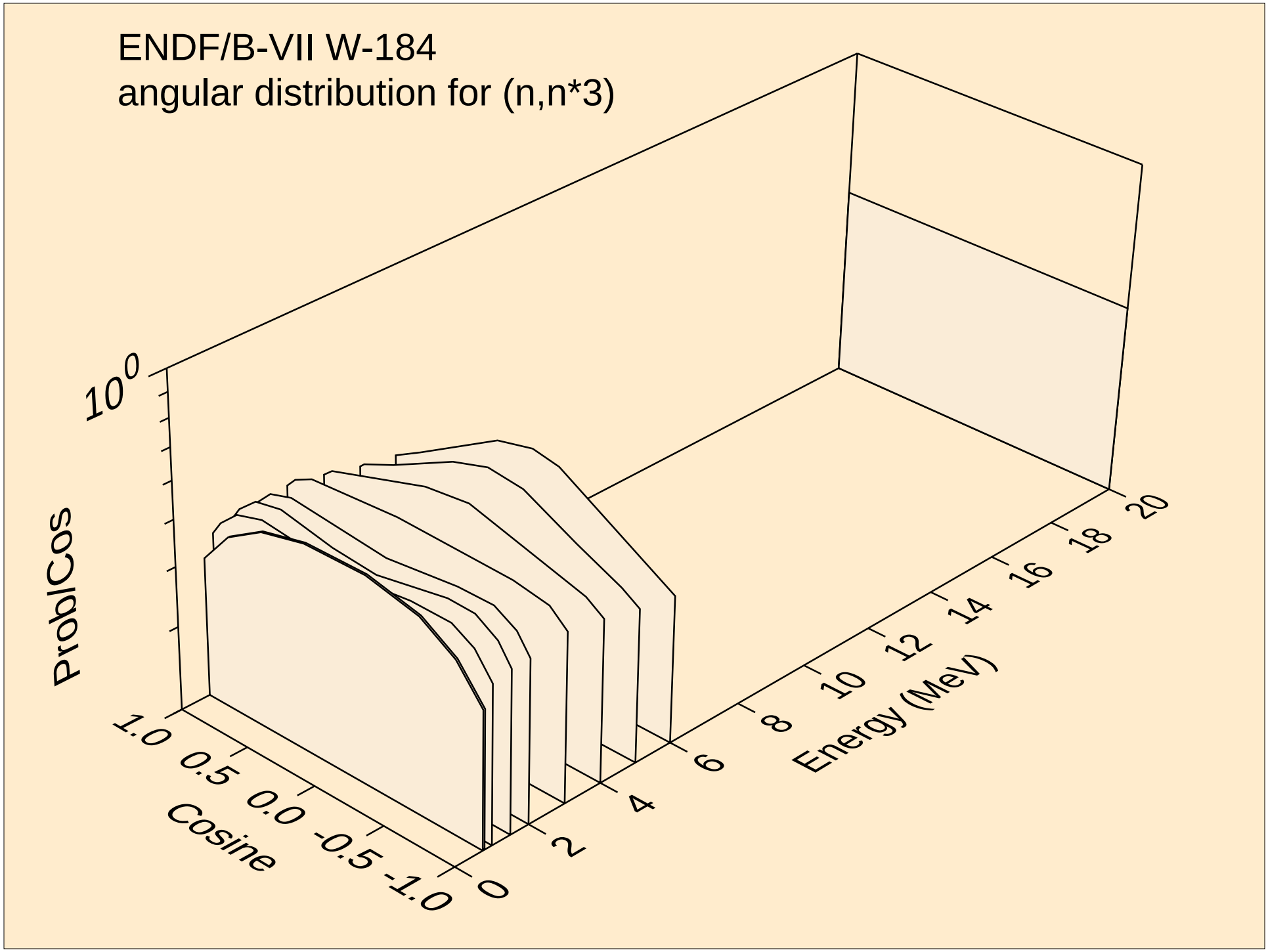

ENDF/B-VII W-184
angular distribution for (n,2n)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
6
8
10
12
14
16
18
20
Energy (MeV)

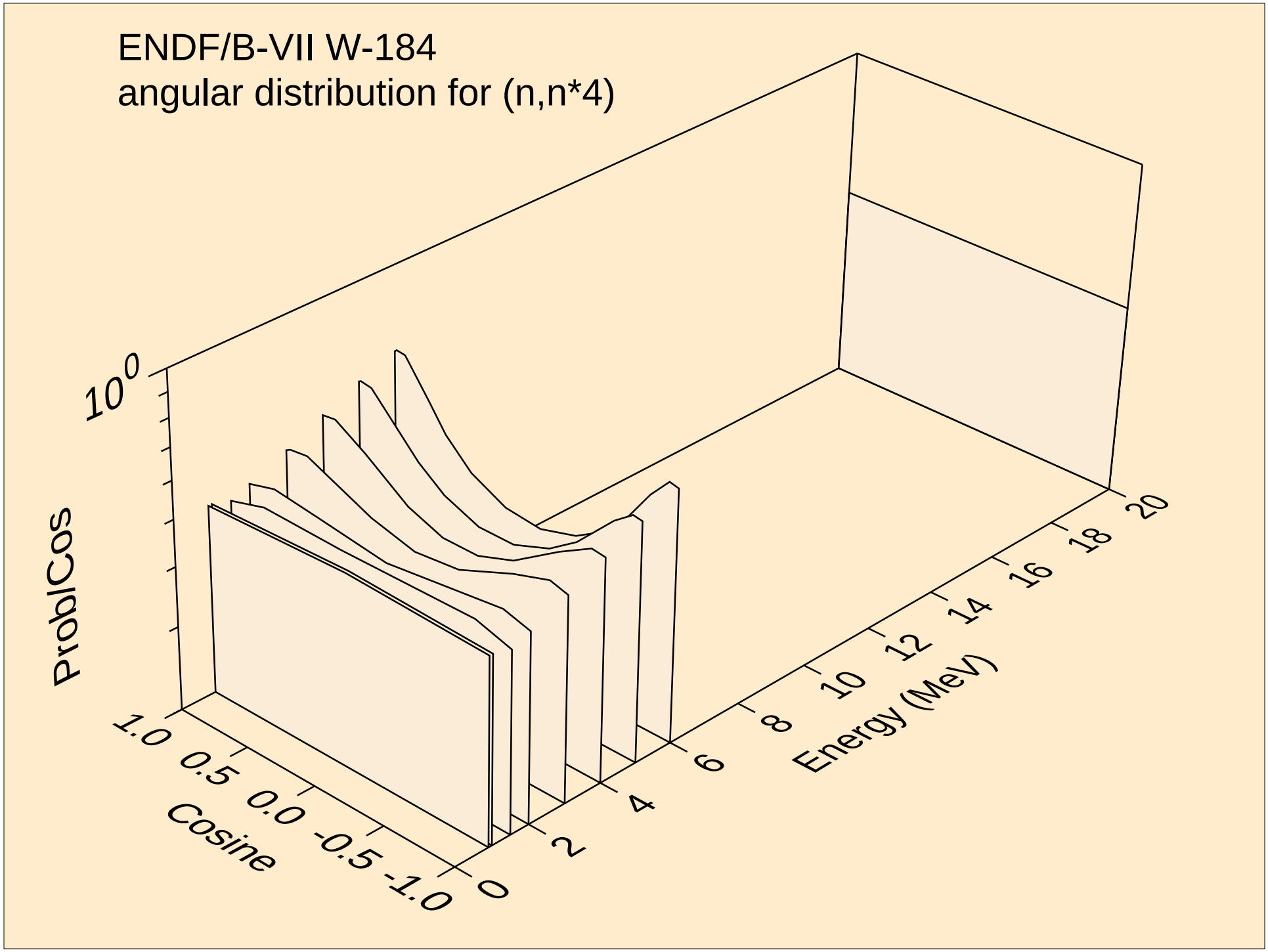

ENDF/B-VII W-184
angular distribution for (n,3n)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
13
14
15
16
17
18
19
20
Energy (MeV)

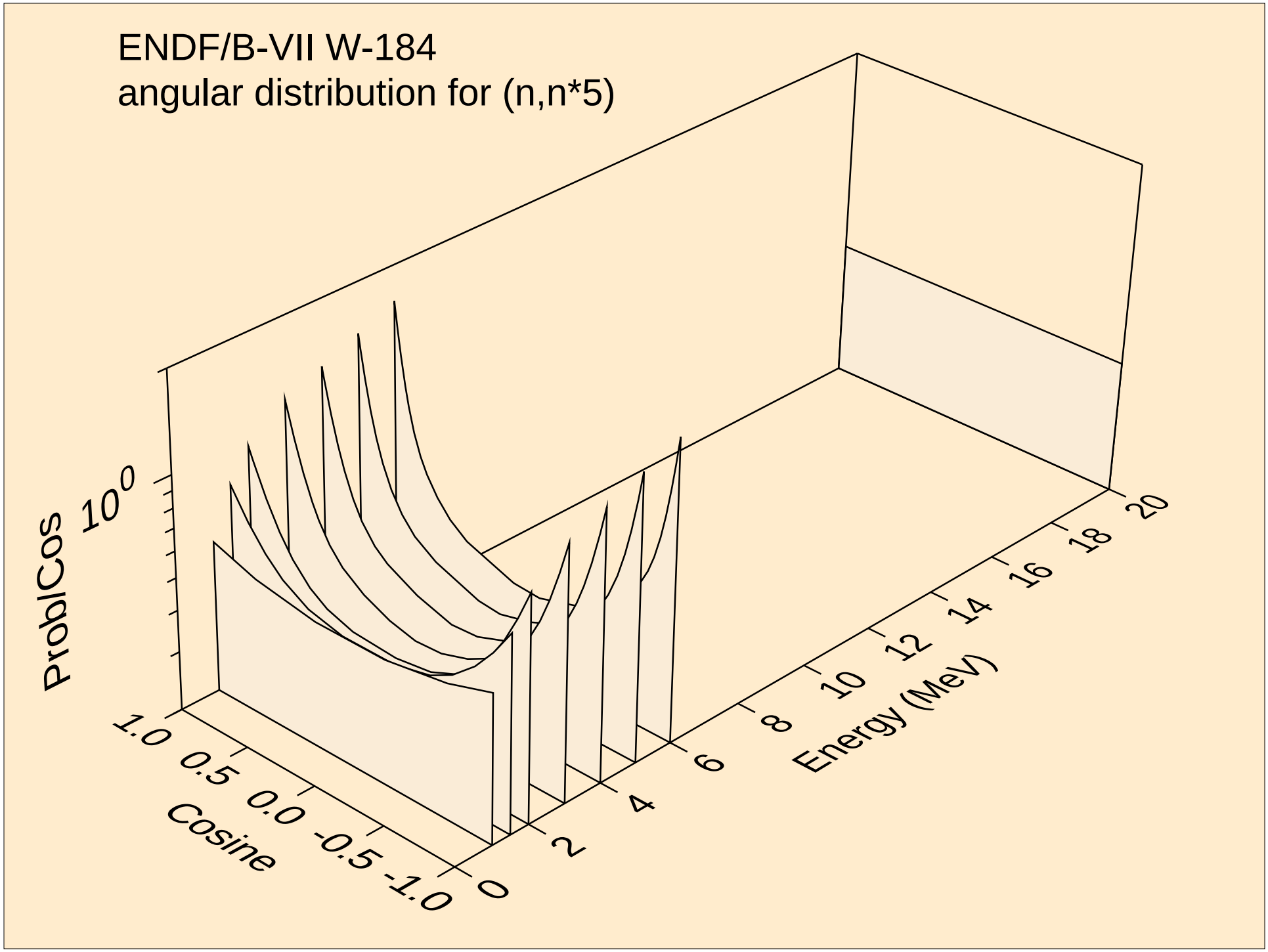

ENDF/B-VII W-184
angular distribution for (n,n*)p
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

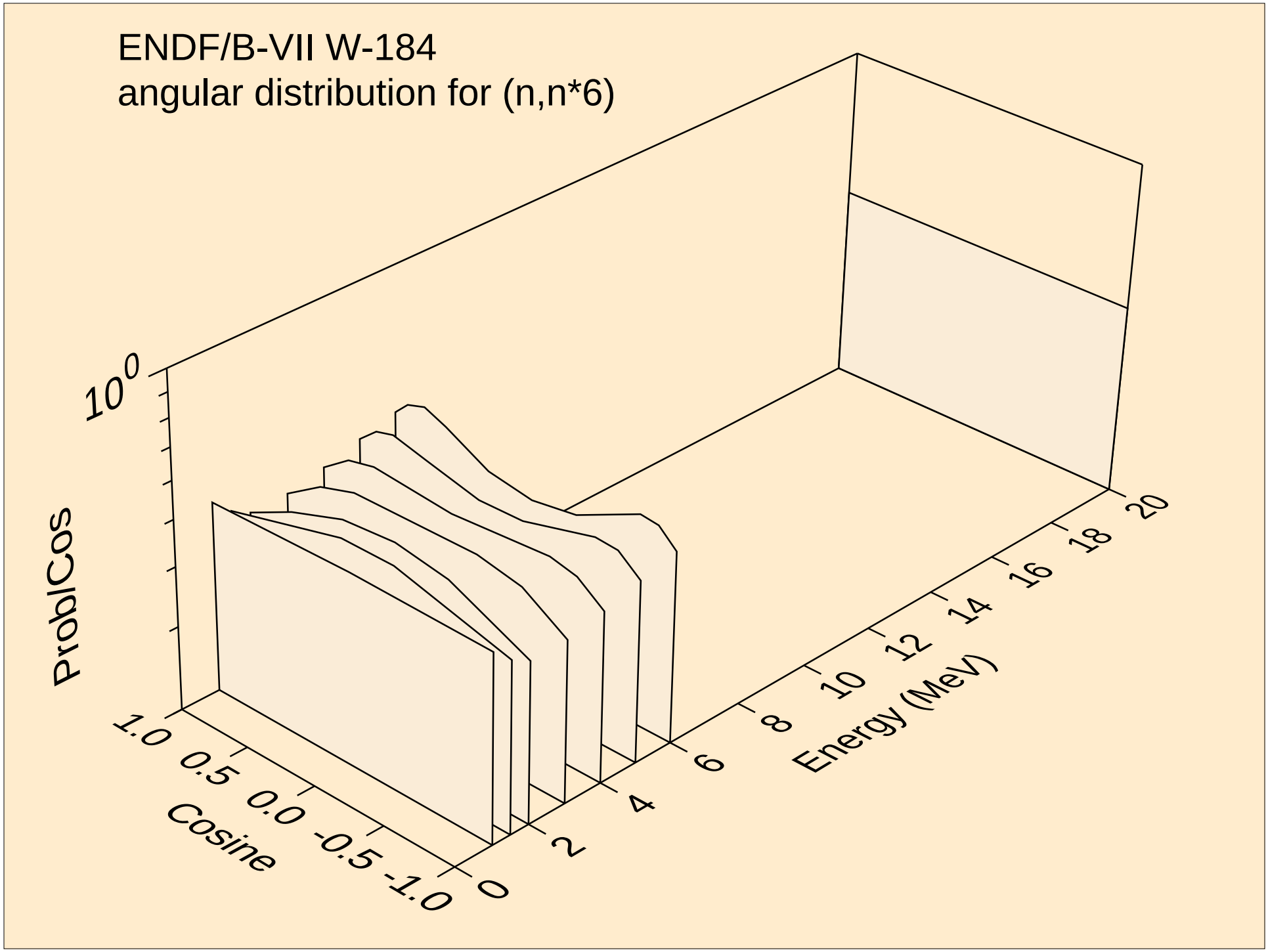

ENDF/B-VII W-184
angular distribution for (n,n*1)
ProbCos
10^-1
10^-3
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

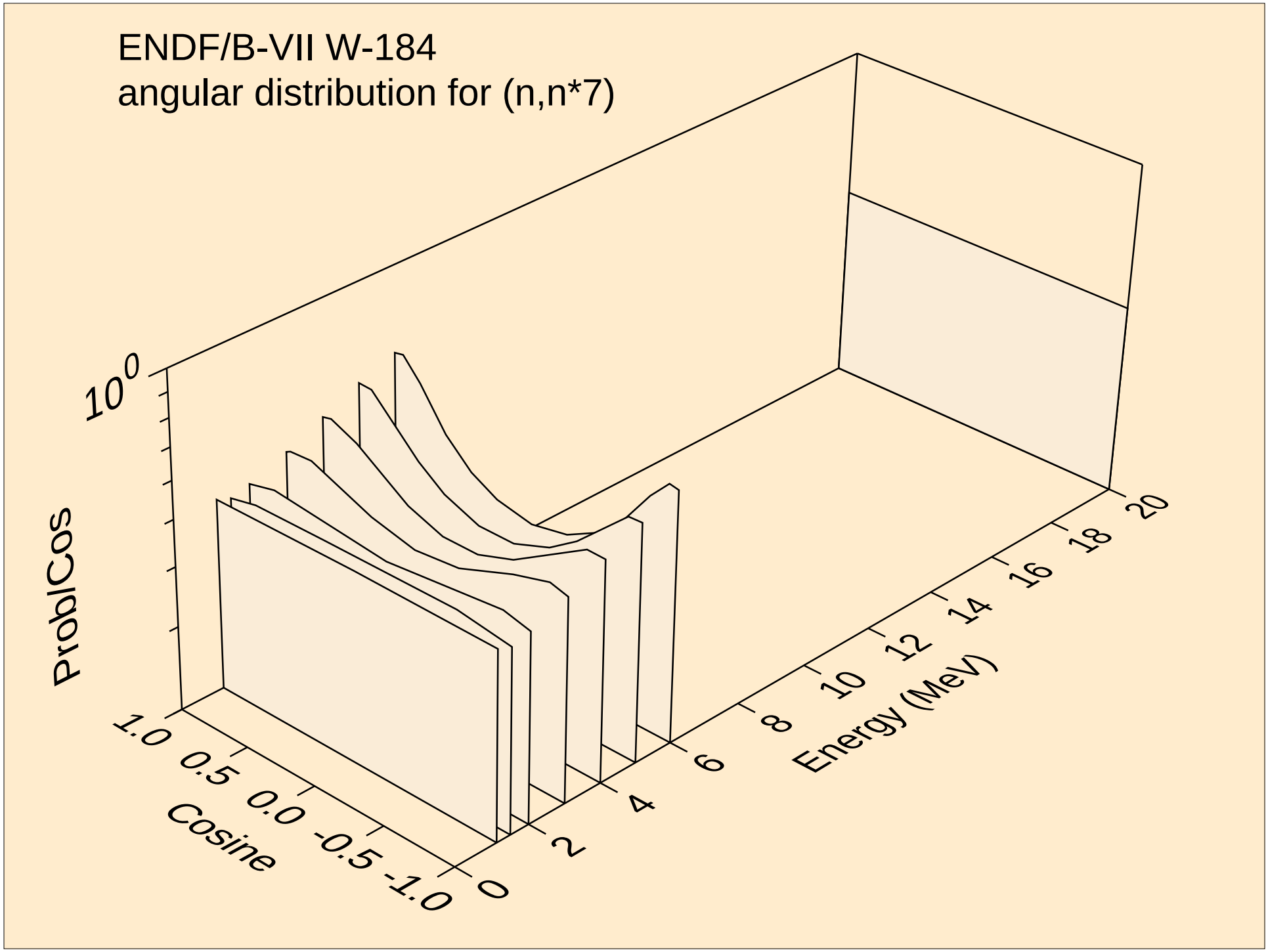

ENDF/B-VII W-184
angular distribution for (n,n*2)
ProbCos
10^0
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

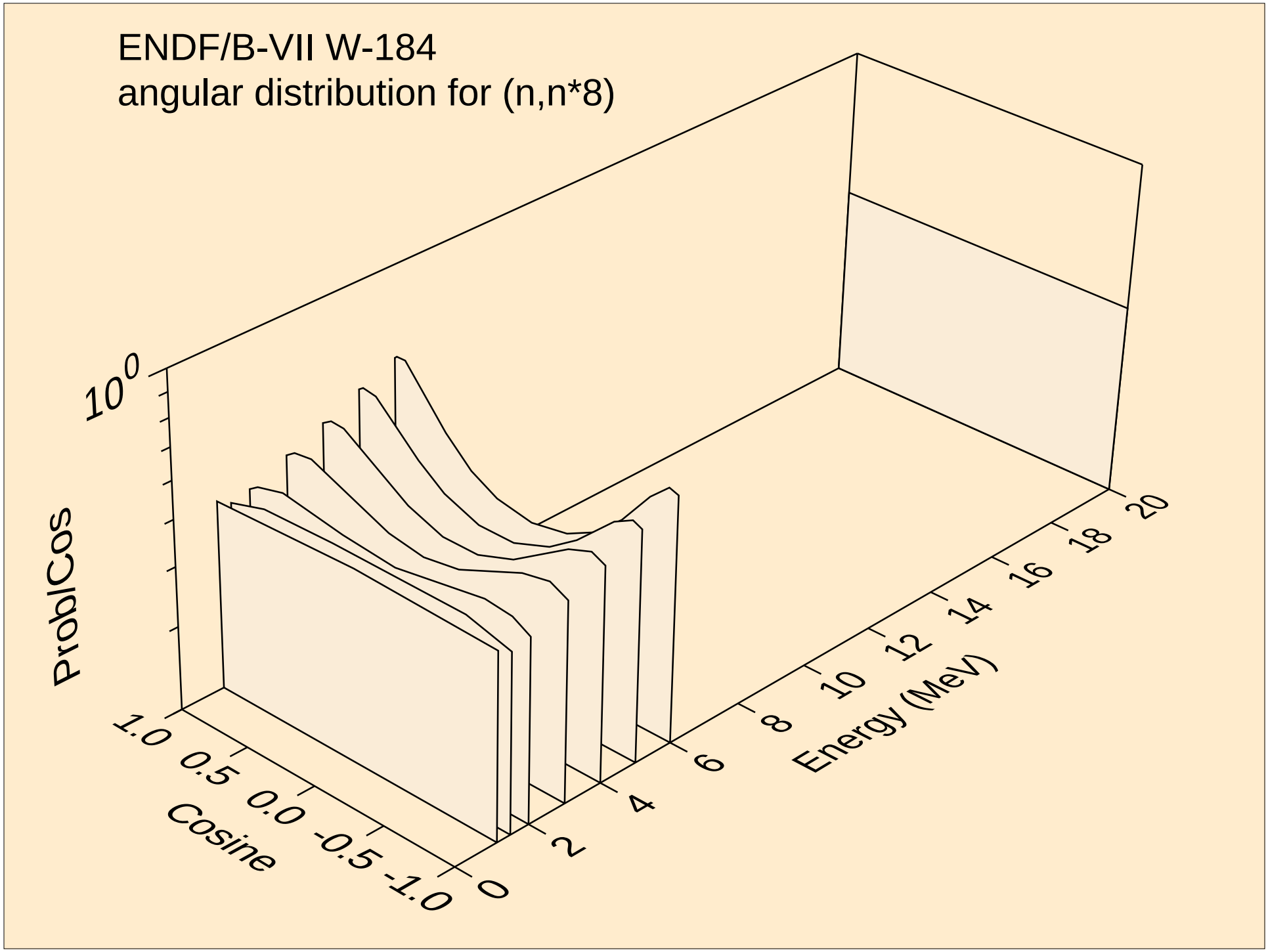

ENDF/B-VII W-184
angular distribution for (n,n*3)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

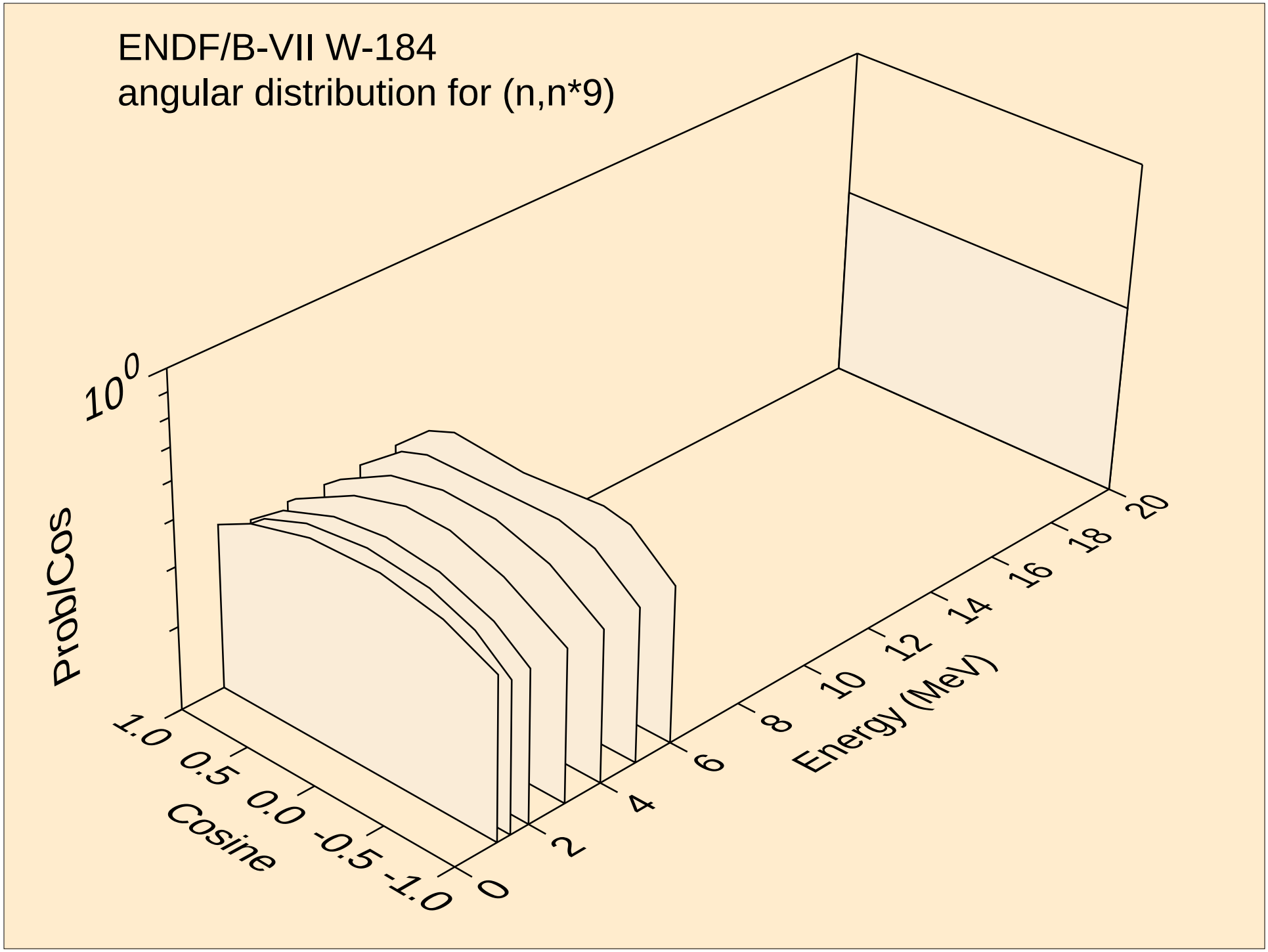

ENDF/B-VII W-184
angular distribution for (n,n*4)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

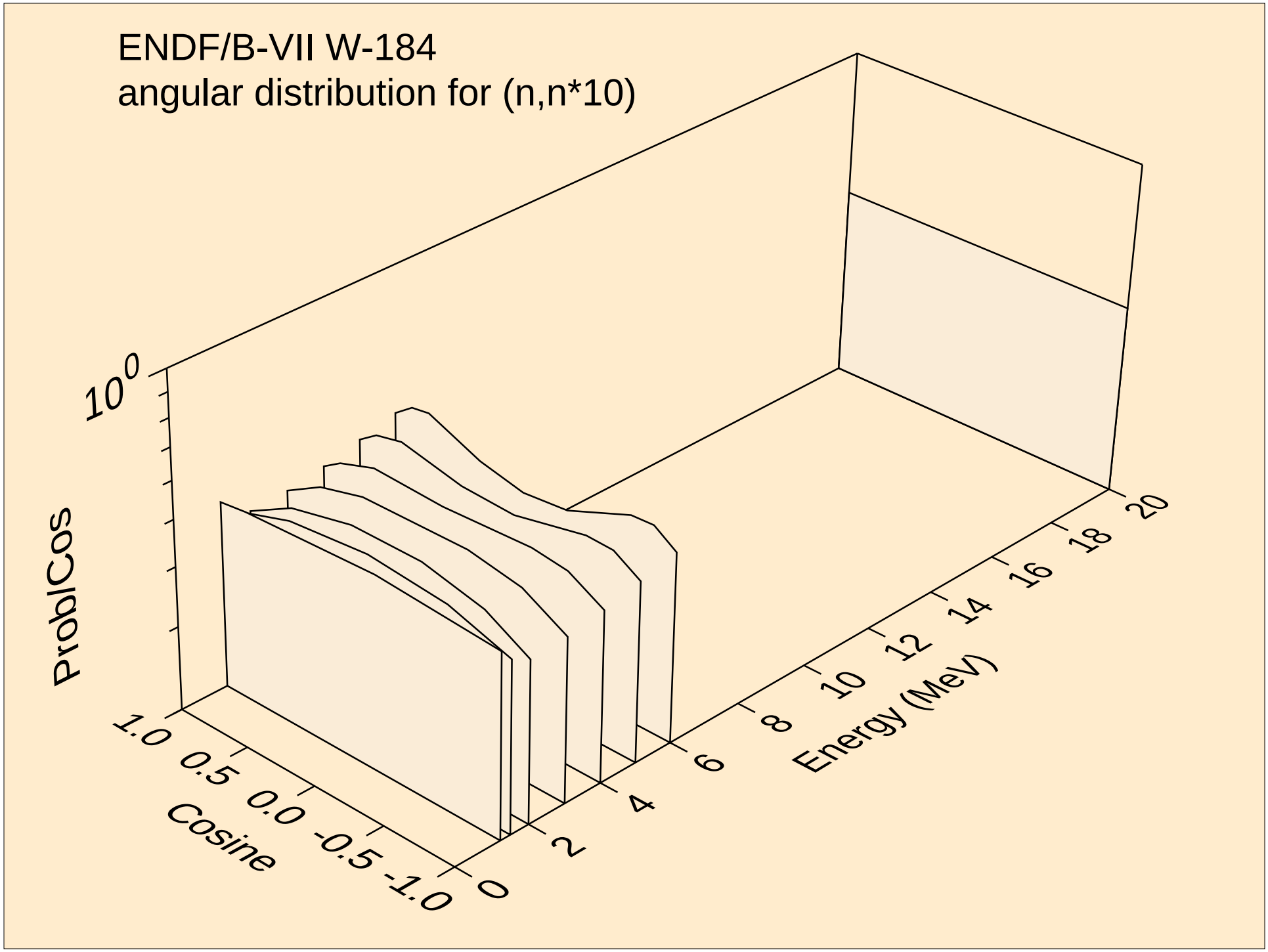

ENDF/B-VII W-184
angular distribution for (n,n*5)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

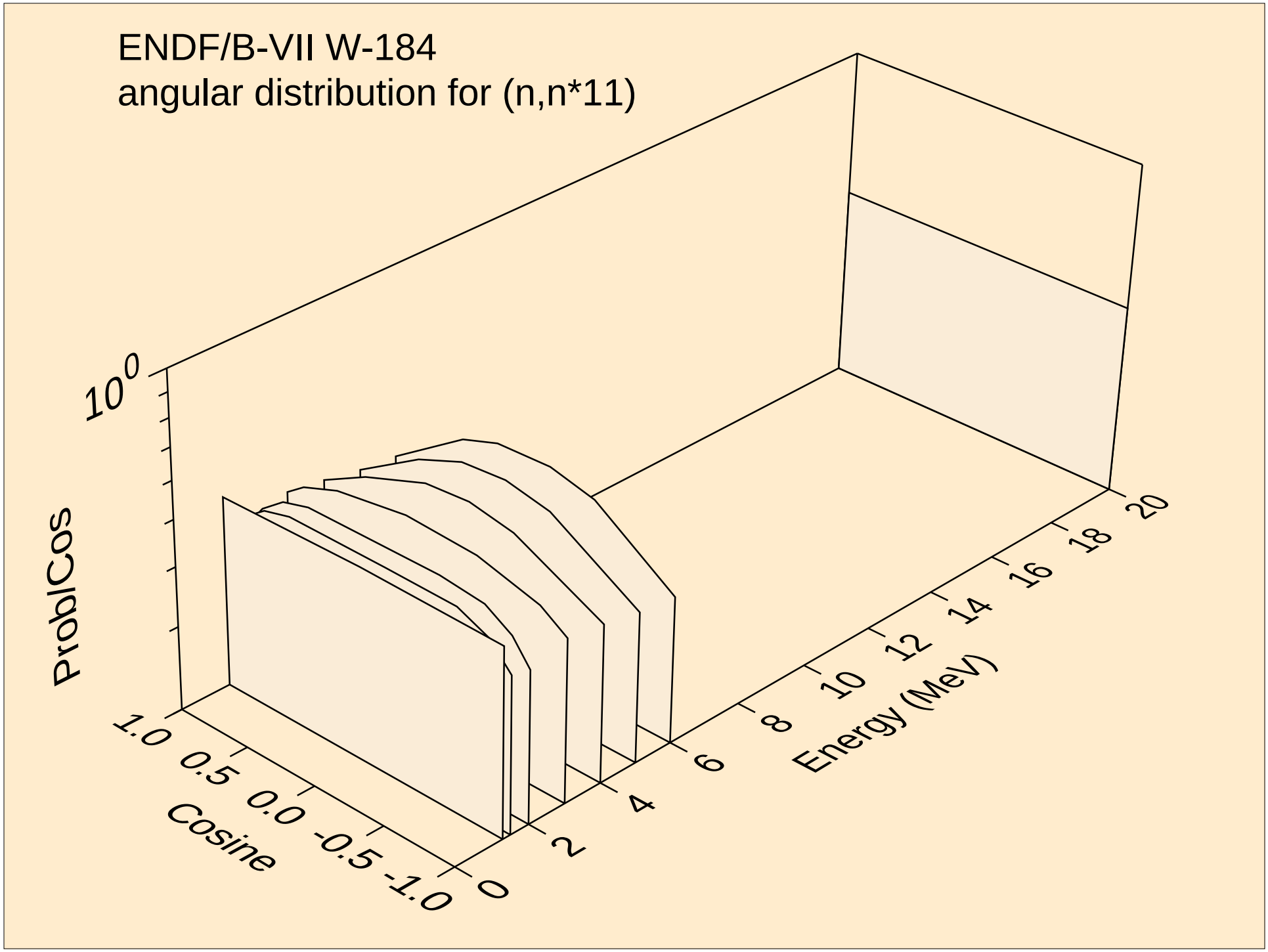

ENDF/B-VII W-184
angular distribution for (n,n*6)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

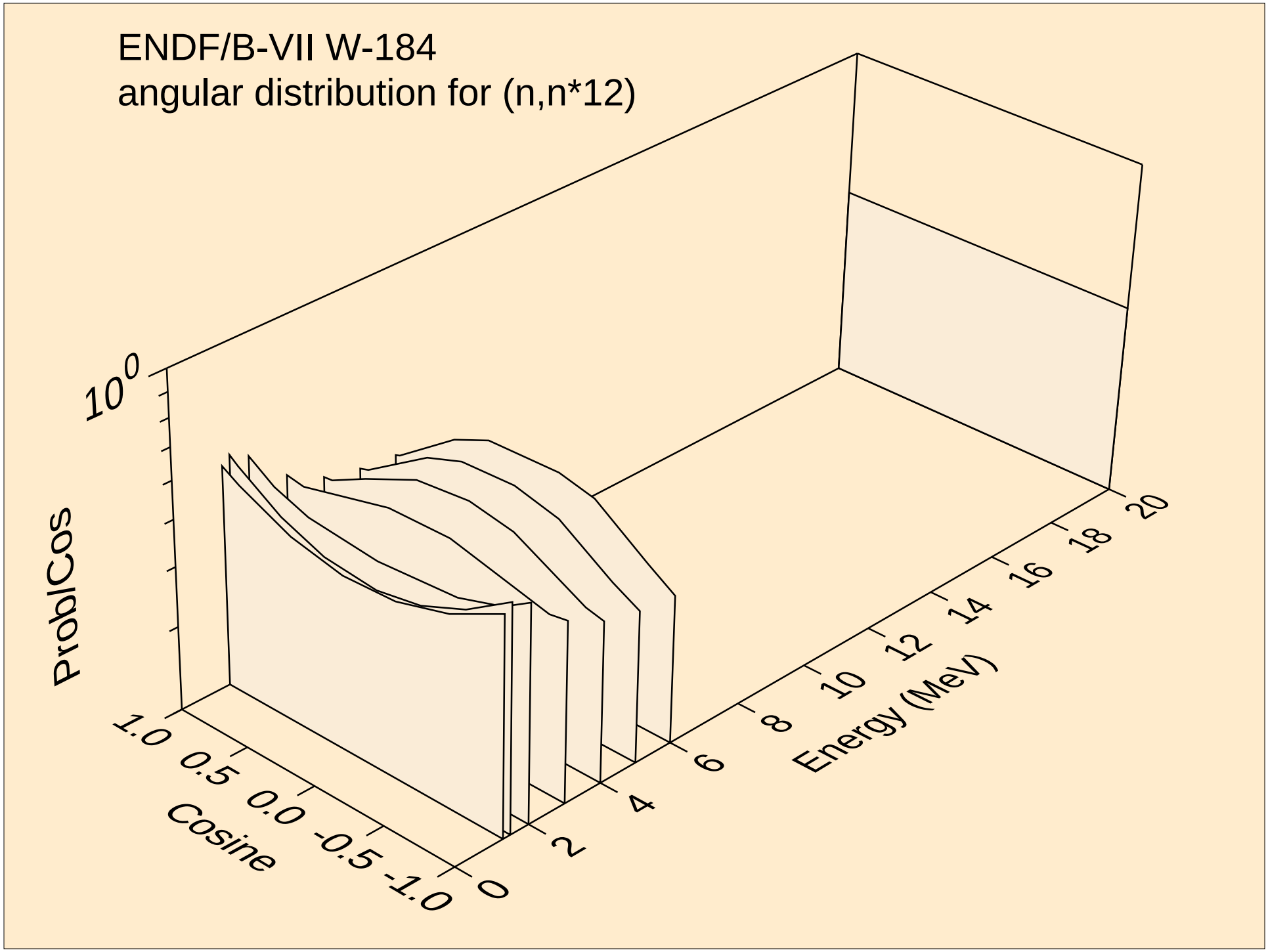

ENDF/B-VII W-184
angular distribution for (n,n*7)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

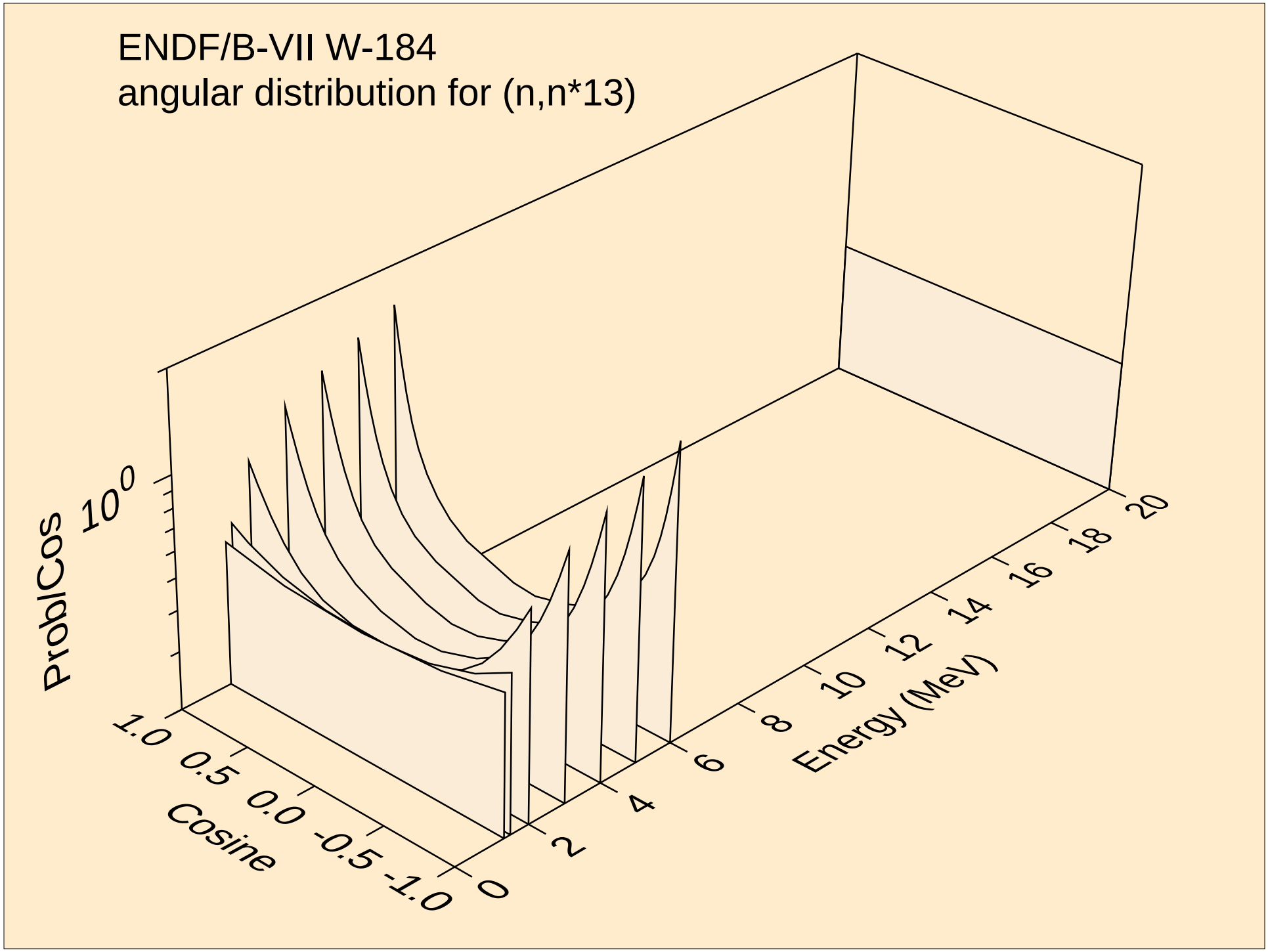

ENDF/B-VII W-184
angular distribution for (n,n*8)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

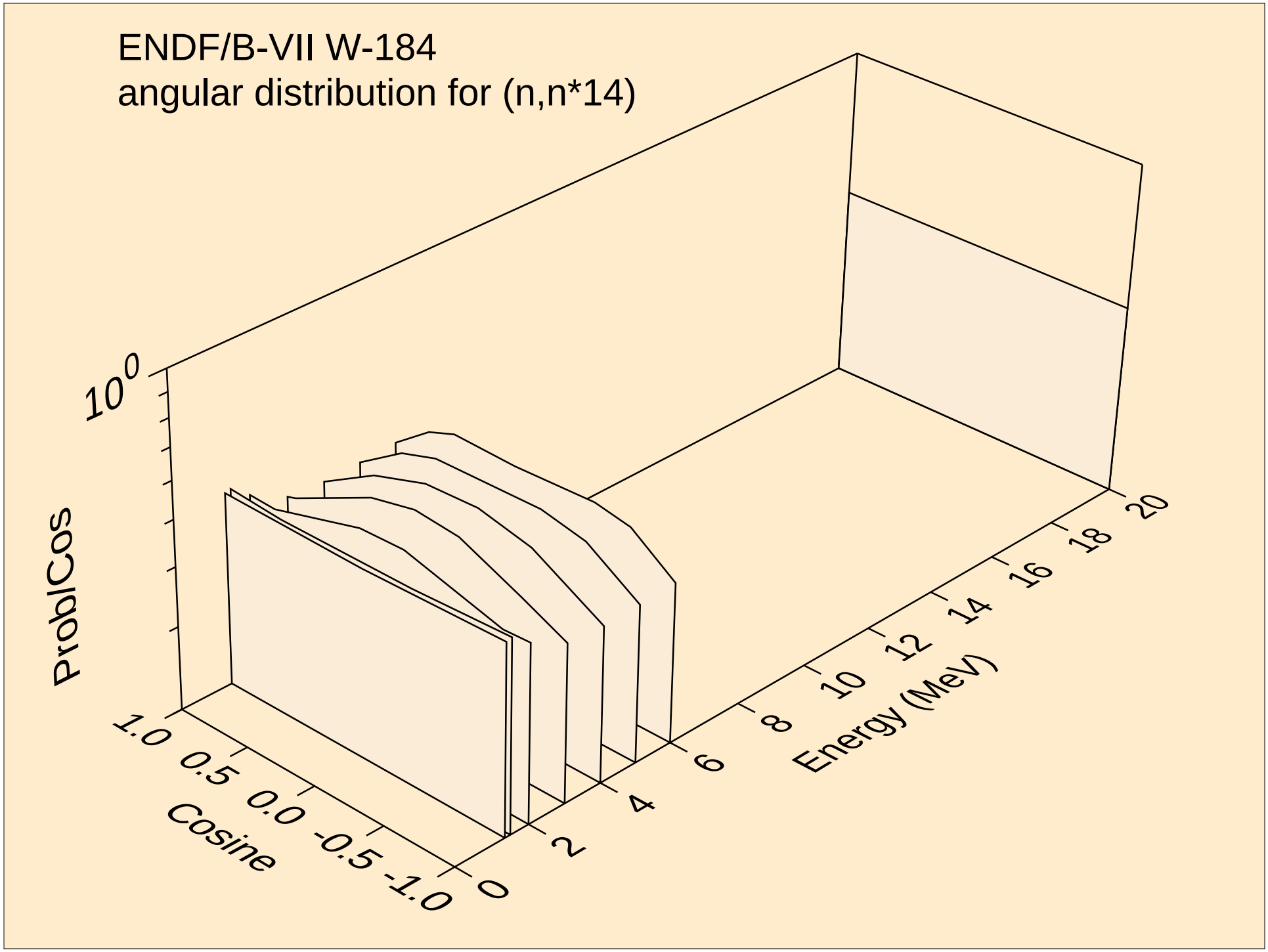

ENDF/B-VII W-184
angular distribution for (n,n*9)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

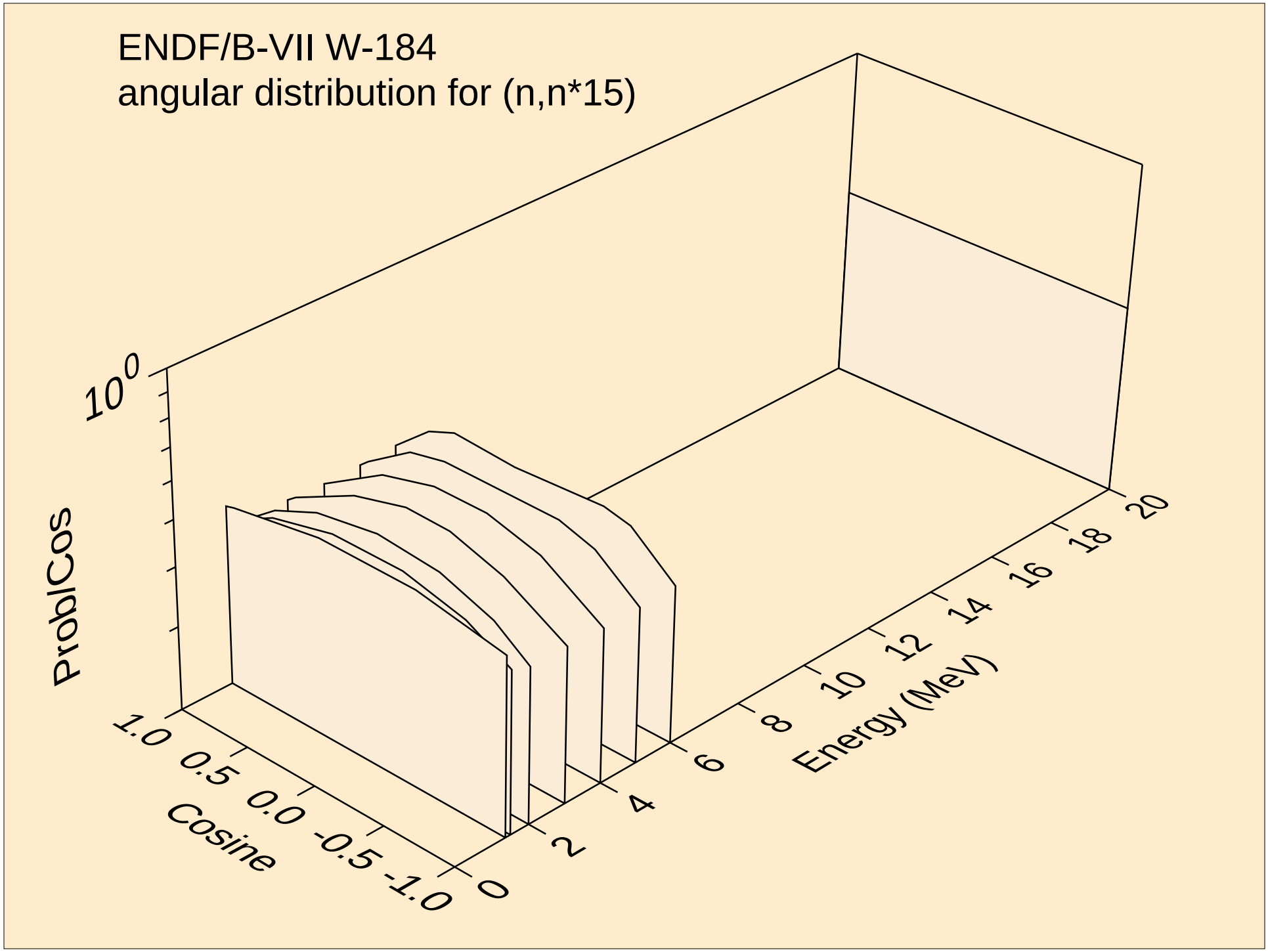

ENDF/B-VII W-184
angular distribution for (n,n*10)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

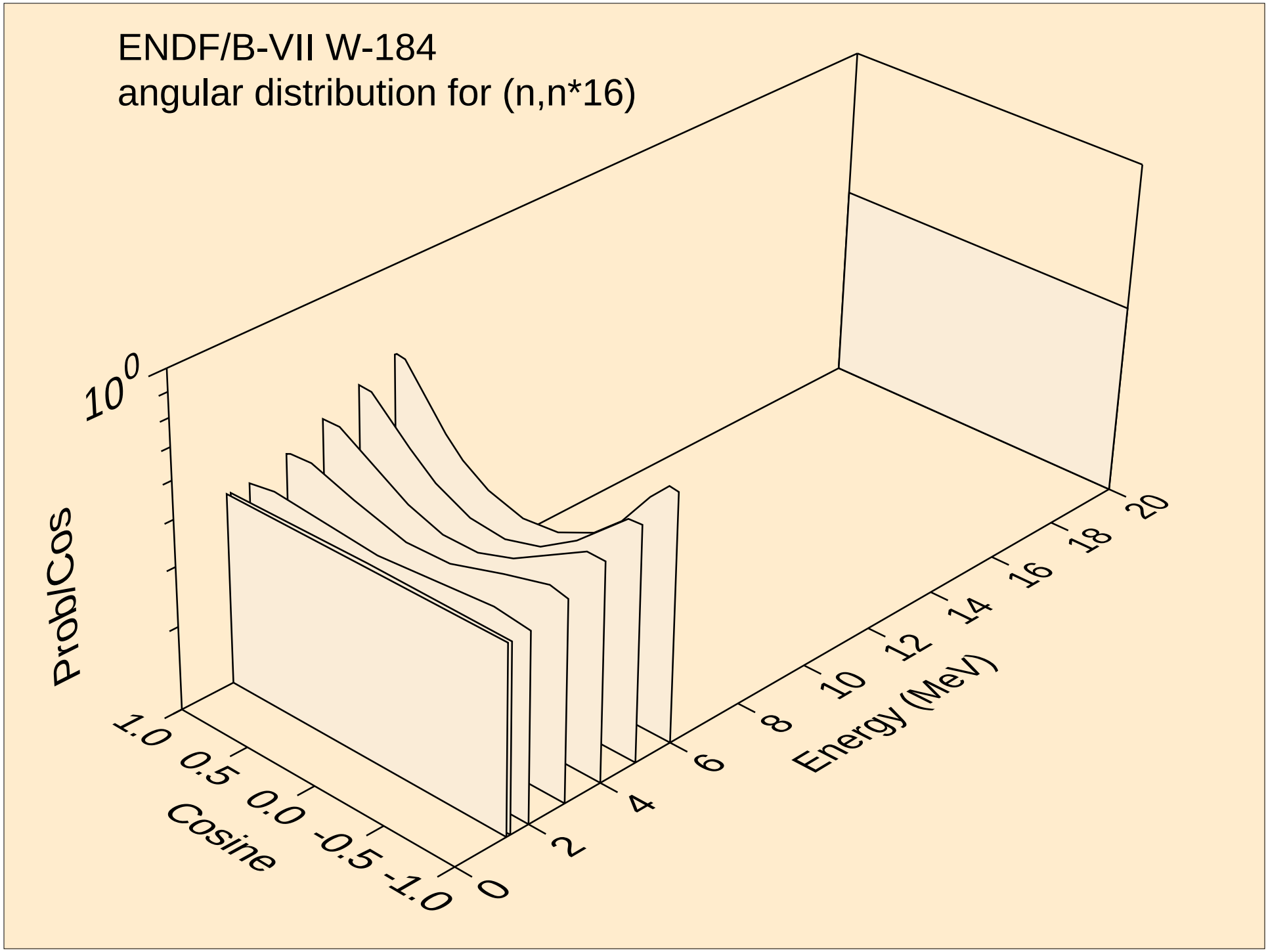

ENDF/B-VII W-184
angular distribution for (n,n*11)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

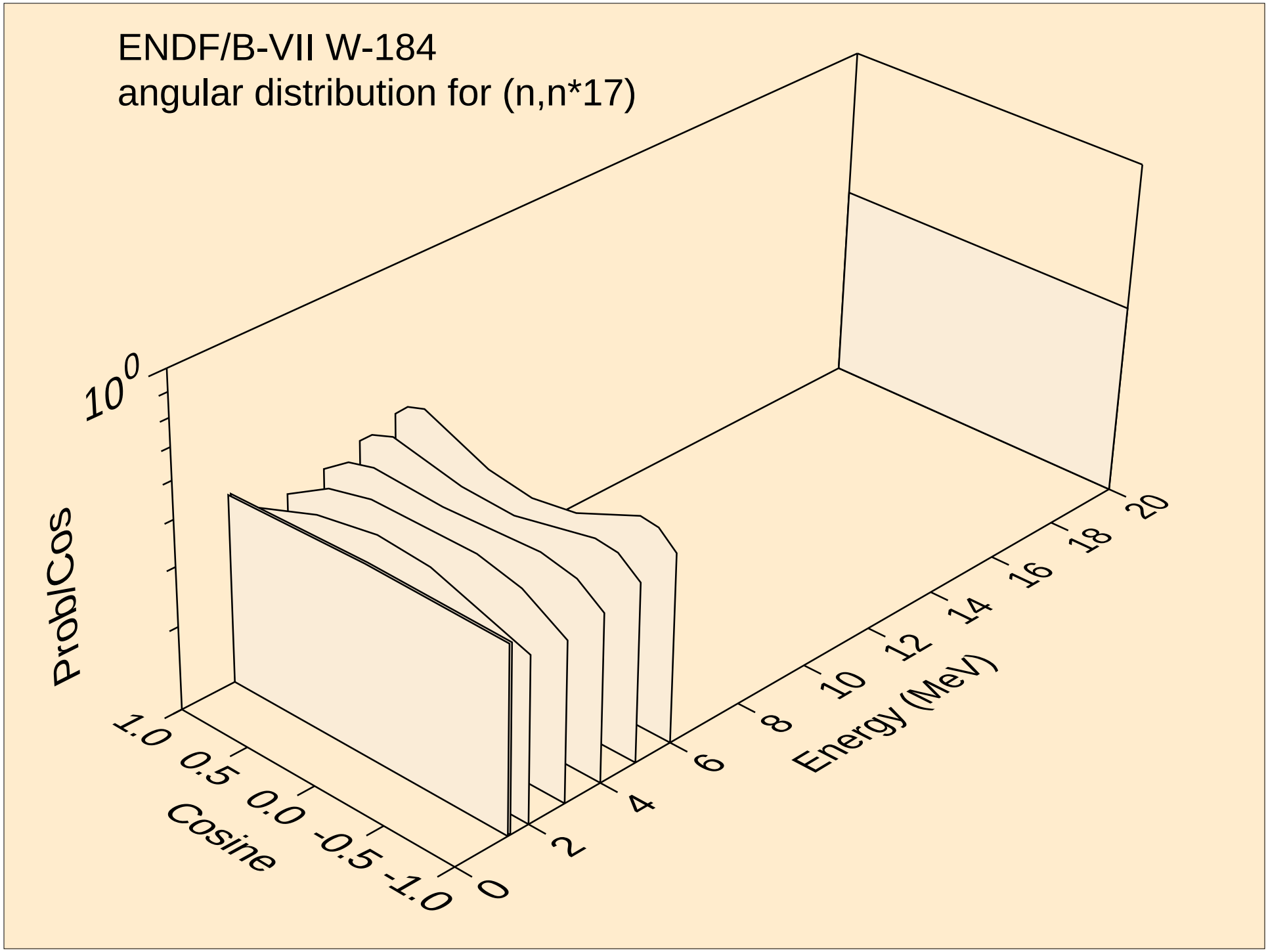

ENDF/B-VII W-184
angular distribution for (n,n*12)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

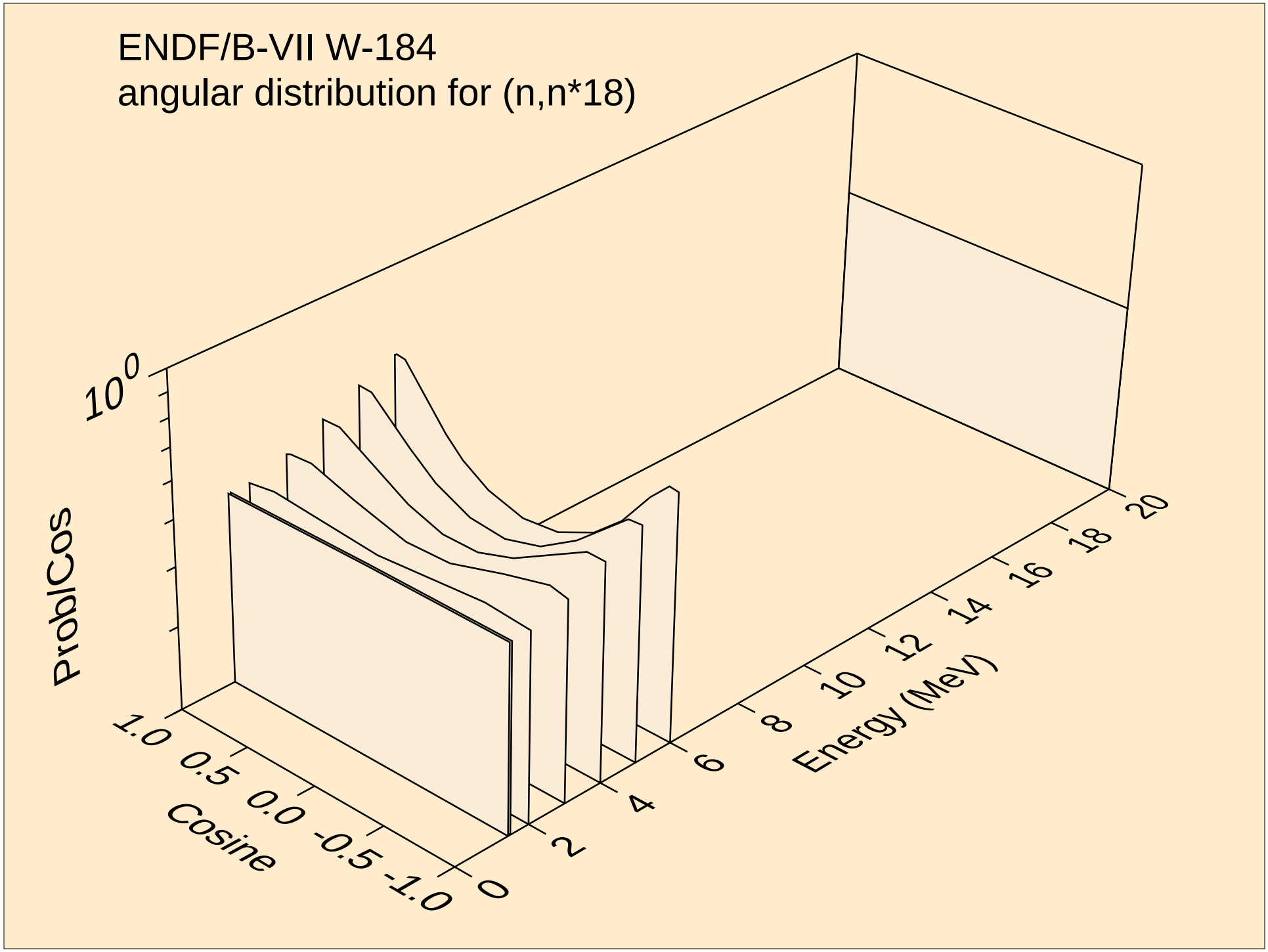

ENDF/B-VII W-184
angular distribution for (n,n*13)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

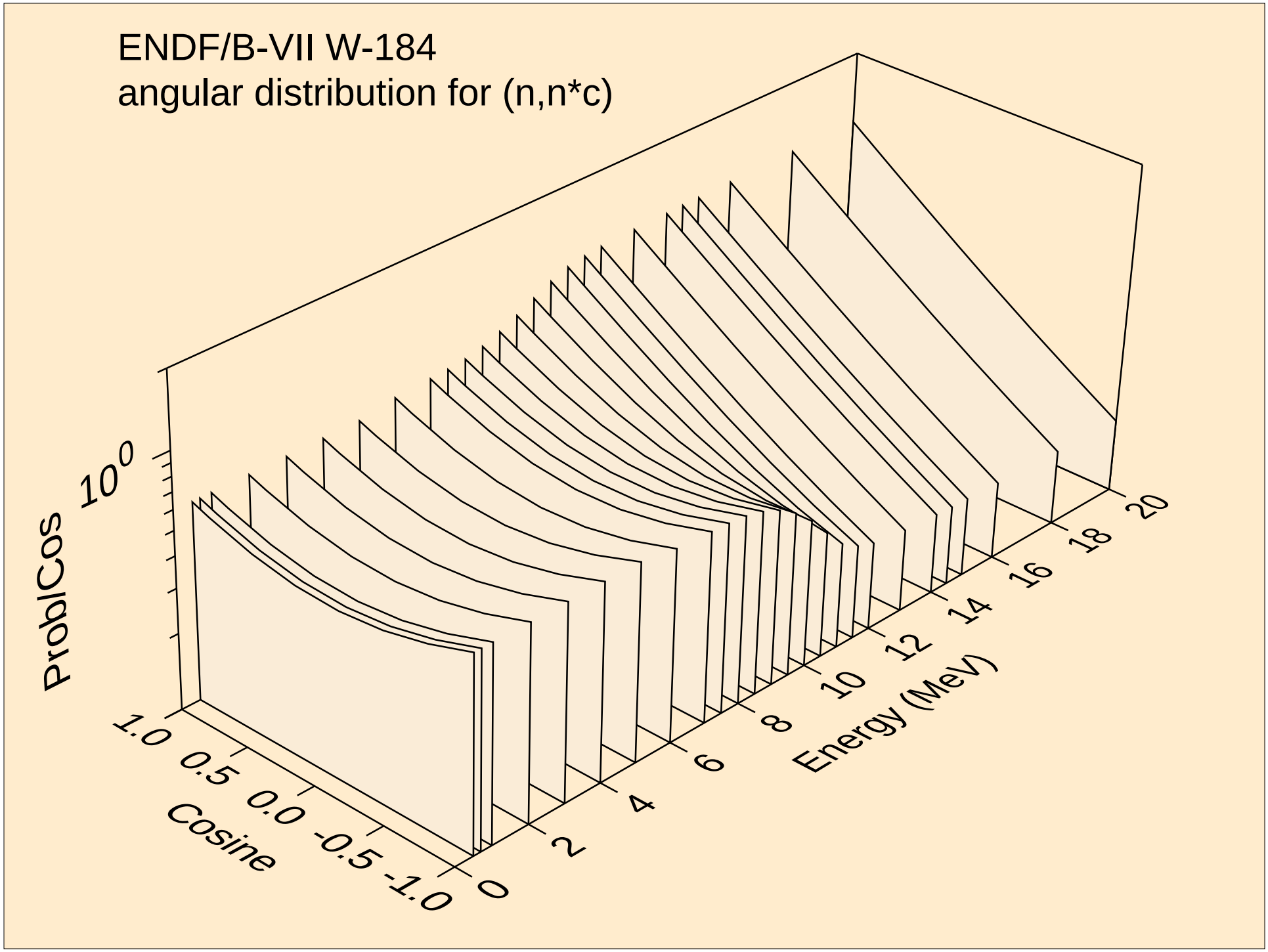

ENDF/B-VII W-184
angular distribution for (n,n*14)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

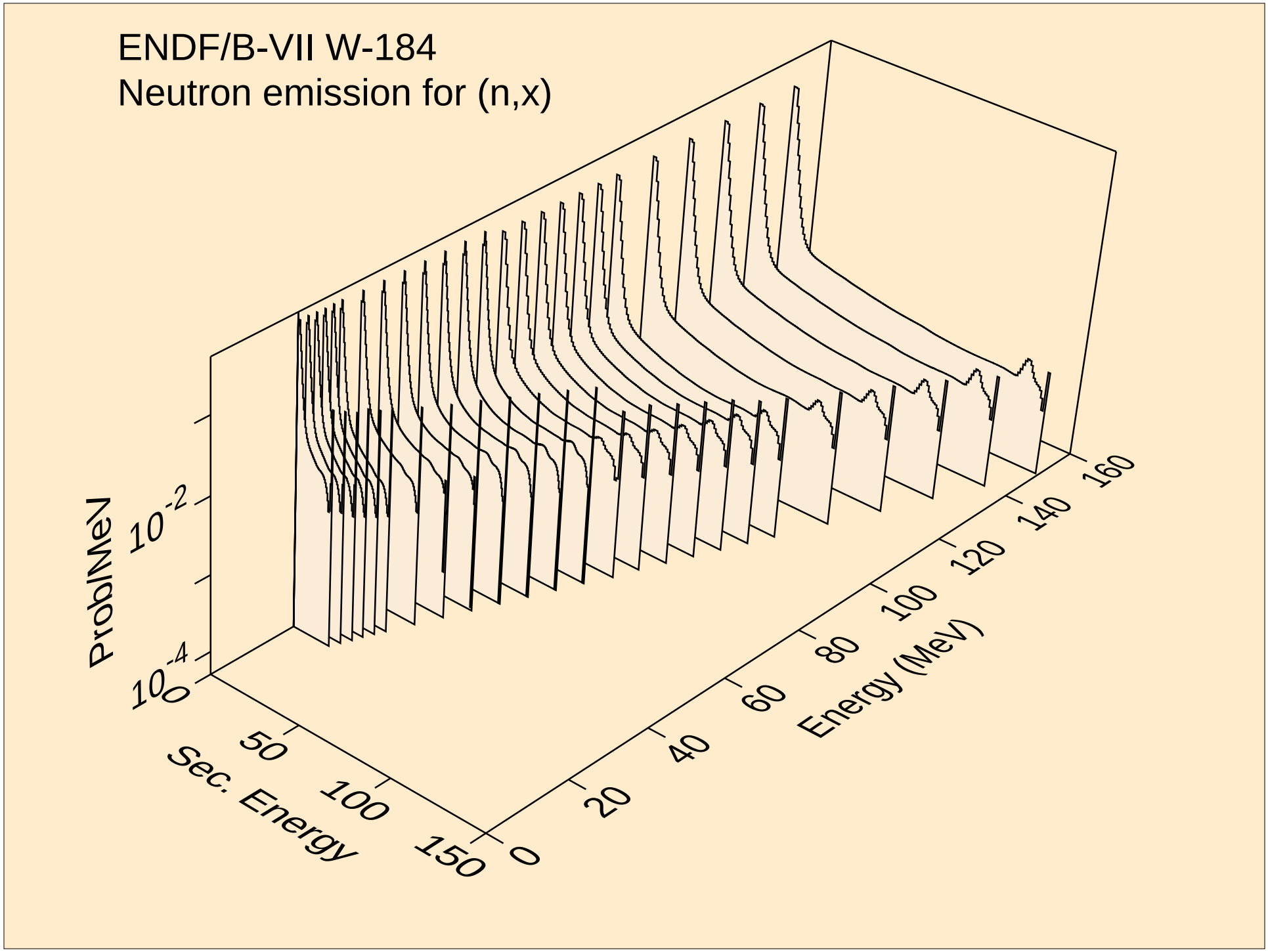

ENDF/B-VII W-184
angular distribution for (n,n*15)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

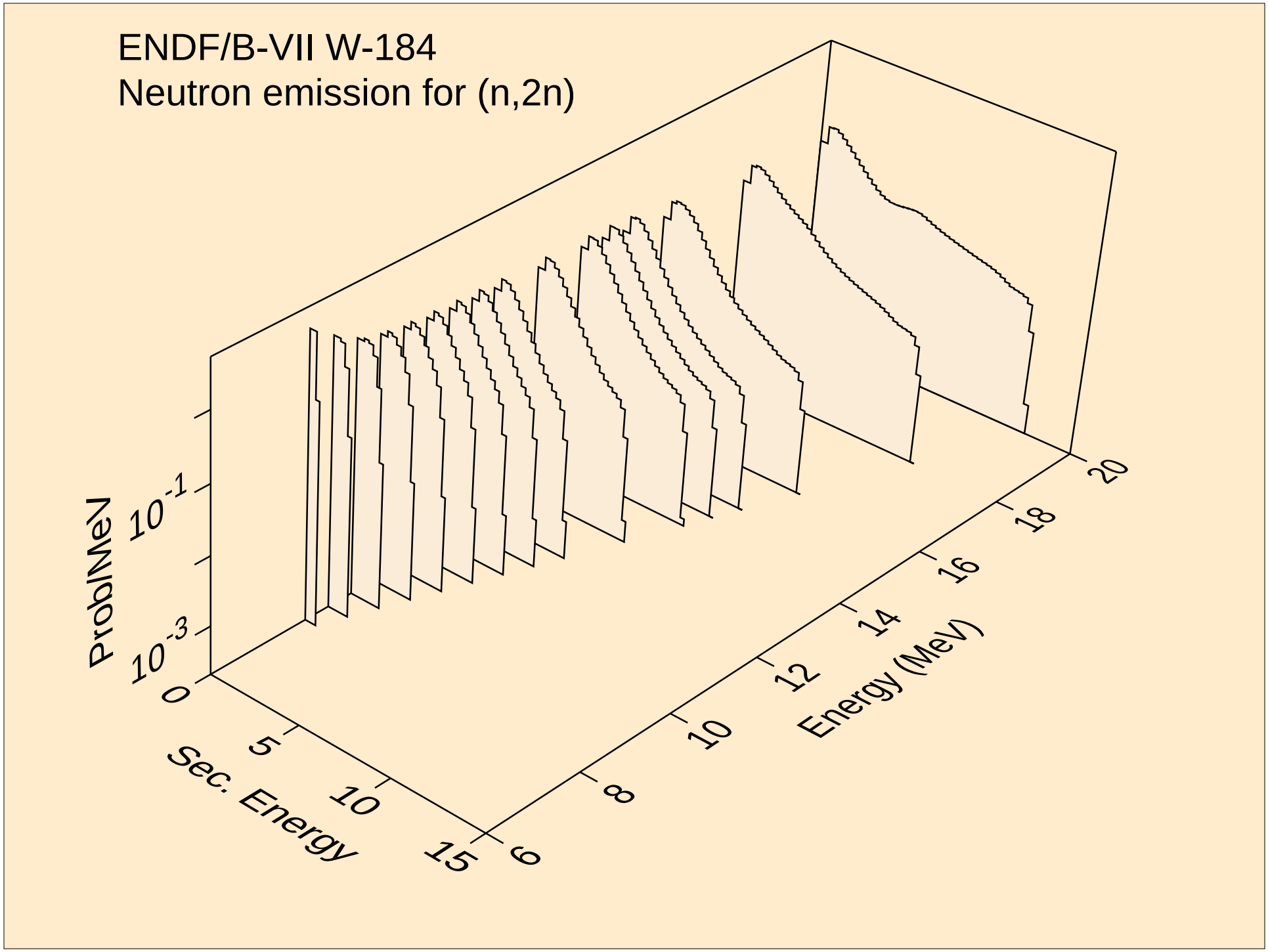

ENDF/B-VII W-184
angular distribution for (n,n*16)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

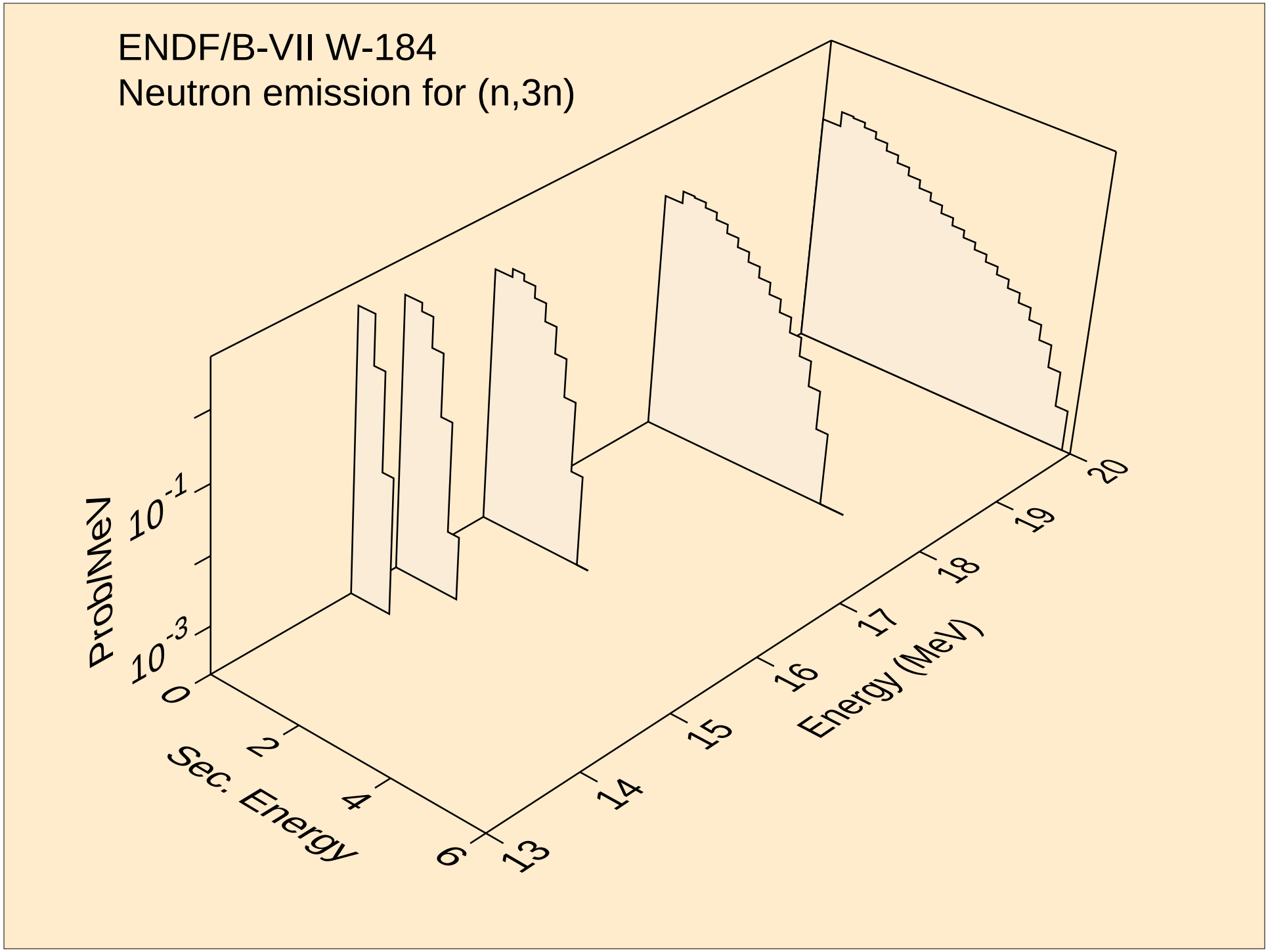

ENDF/B-VII W-184
angular distribution for (n,n*17)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

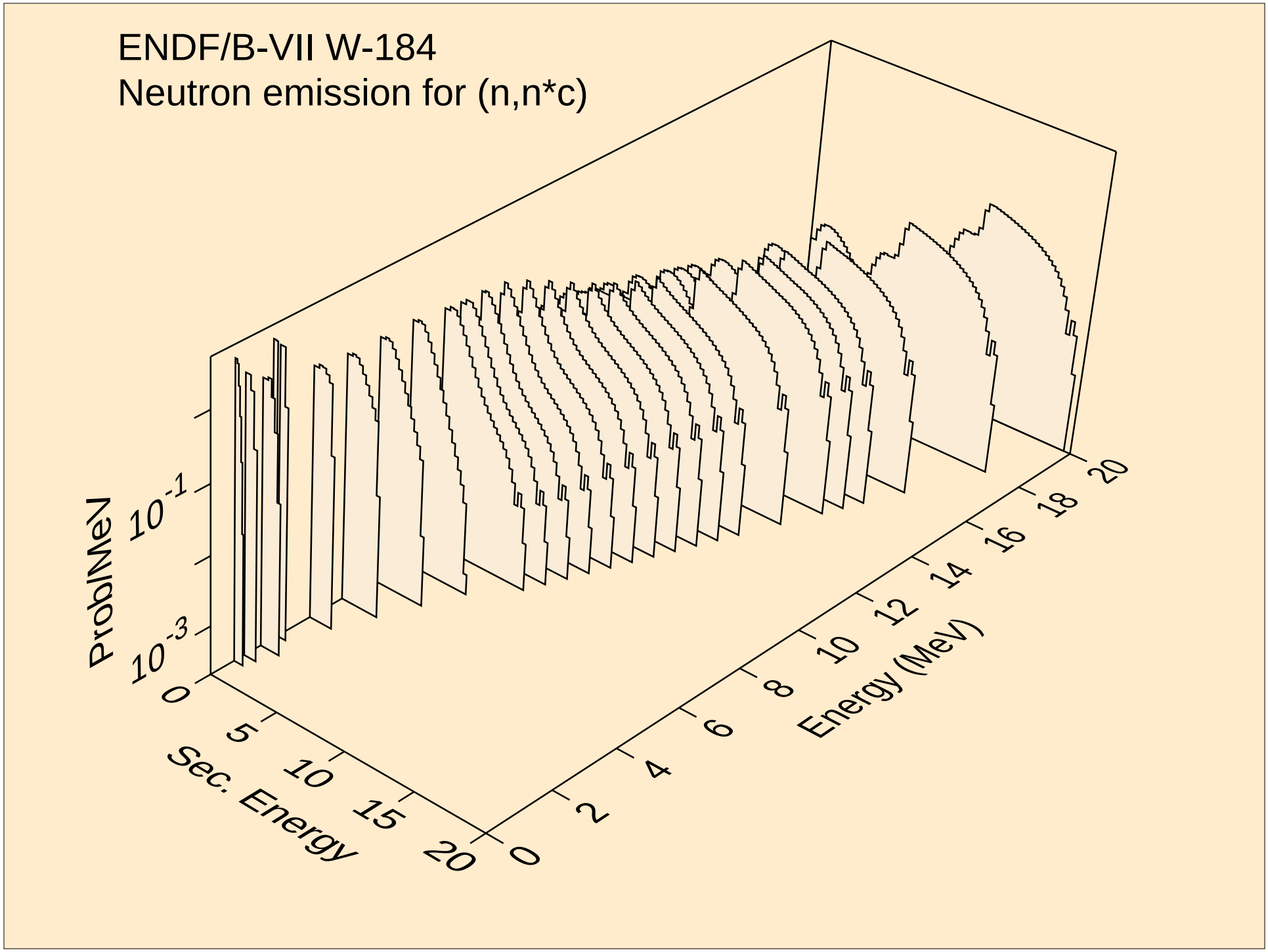

ENDF/B-VII W-184
angular distribution for (n,n*18)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

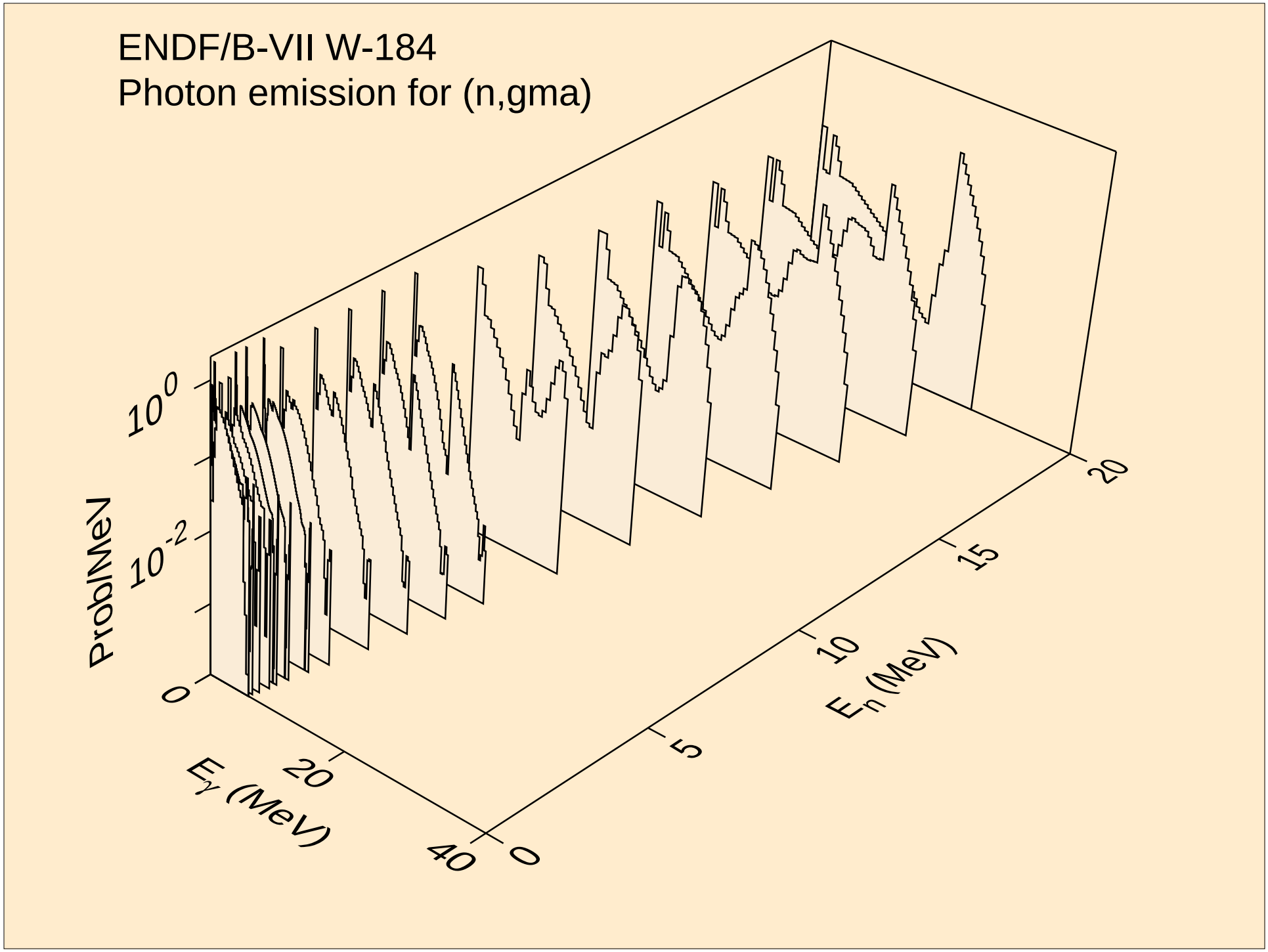

ENDF/B-VII W-184
angular distribution for (n,n*c)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


ENDF/B-VII W-184
Neutron emission for (n,x)
Prob/MeV
10^{-2}
10^{-4}
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

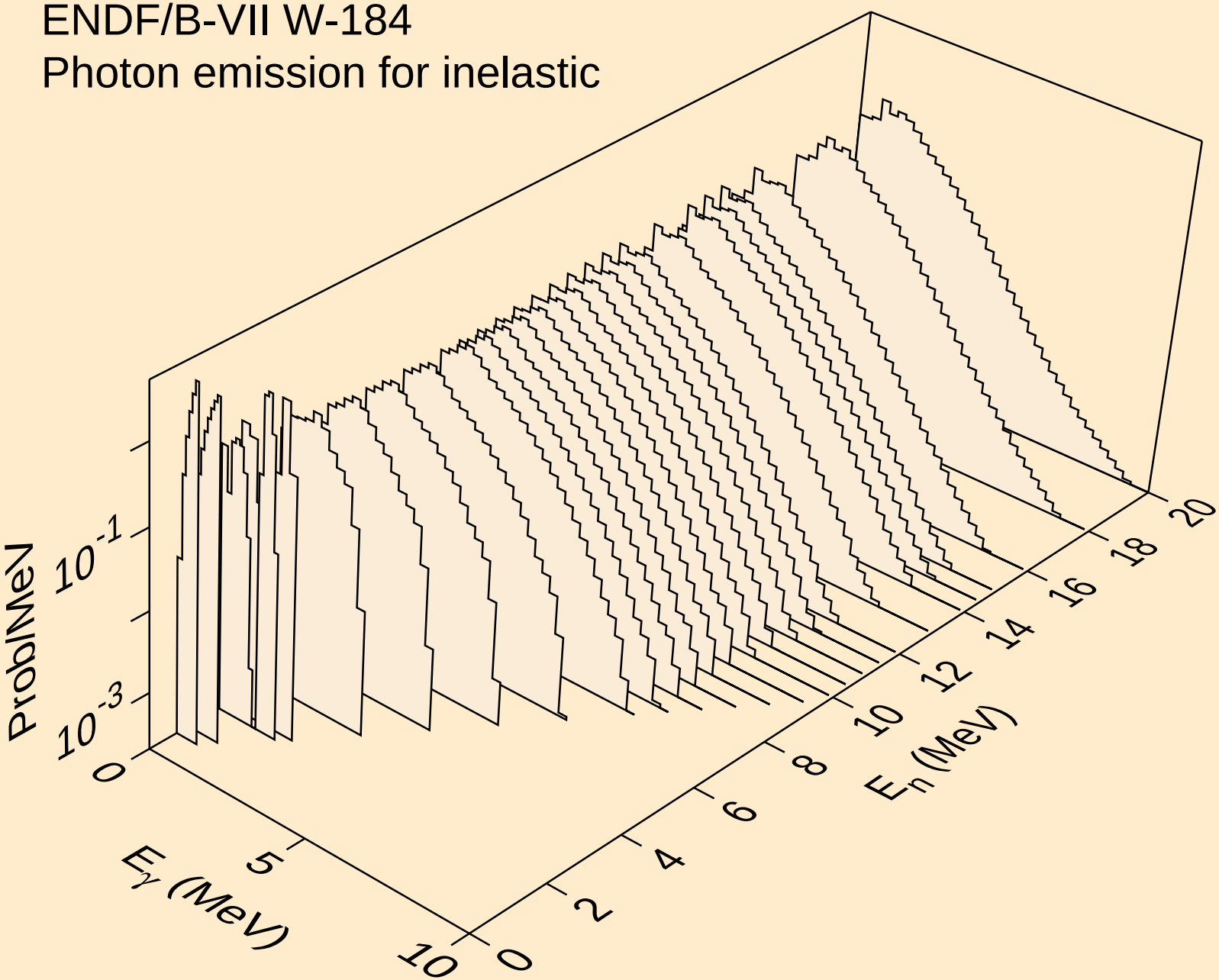

ENDF/B-VII W-184
Neutron emission for (n,2n)
Prob/MeV
10^-1
10^-3
0
5
10
15
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

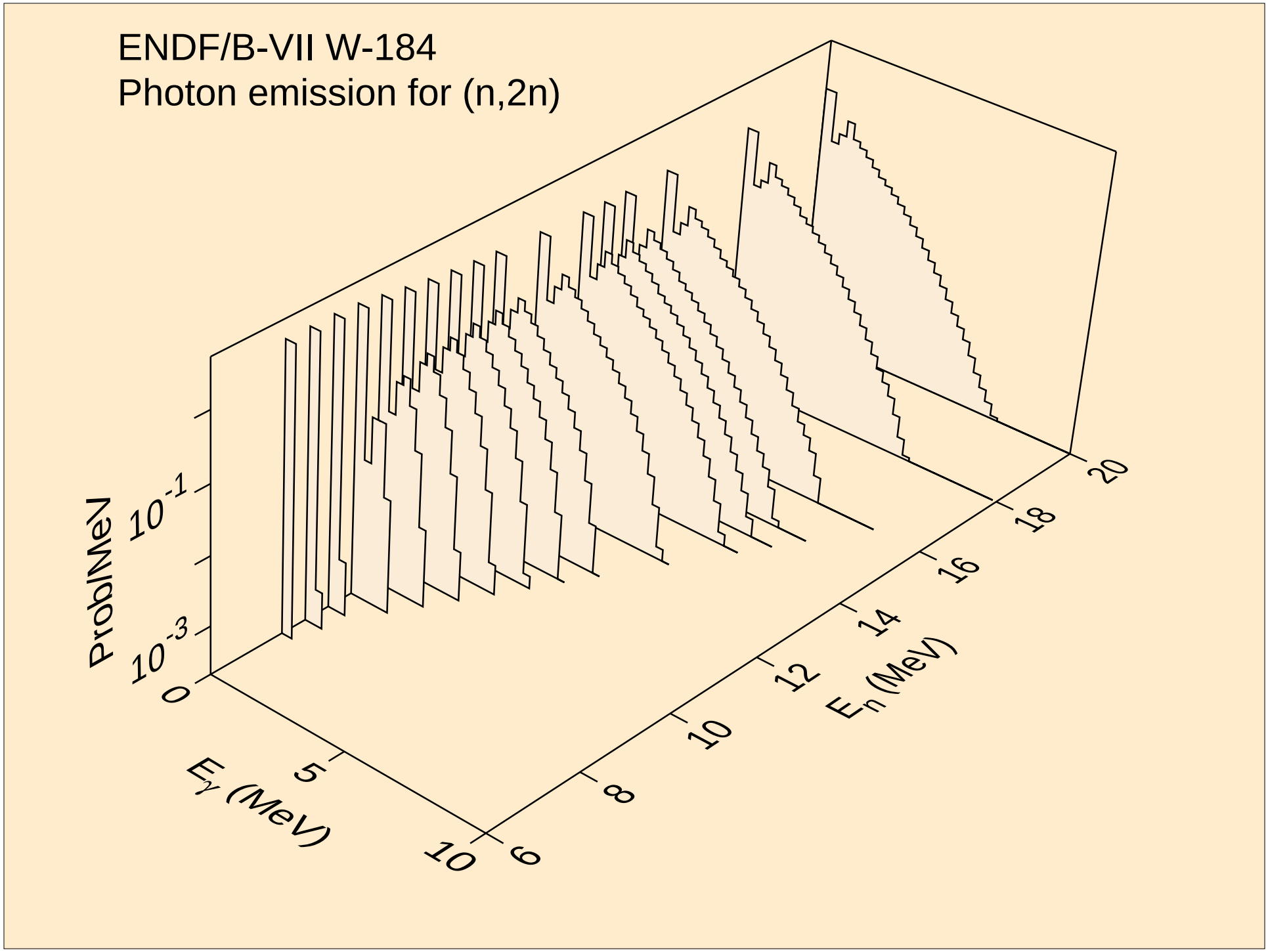

ENDF/B-VII W-184
Neutron emission for (n,3n)
Prob/MeV
10^{-1}
10^{-3}
0
2
4
6
Sec. Energy
13
14
15
16
17
18
19
20
Energy (MeV)

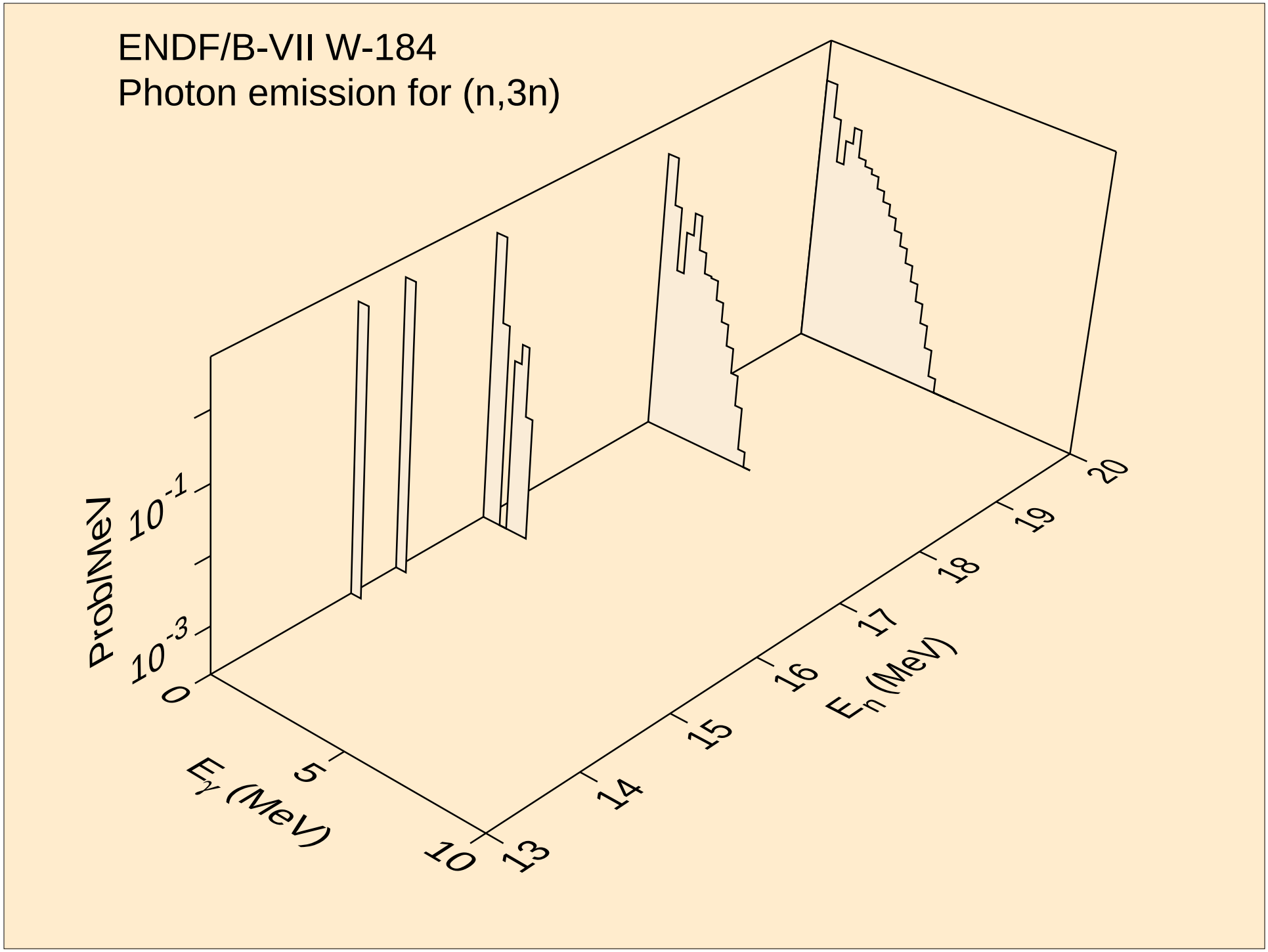

ENDF/B-VII W-184
Neutron emission for (n,n*c)
Prob/MeV
10^-1
10^-3
0
5
10
15
20
Sec. Energy
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


ENDF/B-VII W-184
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)

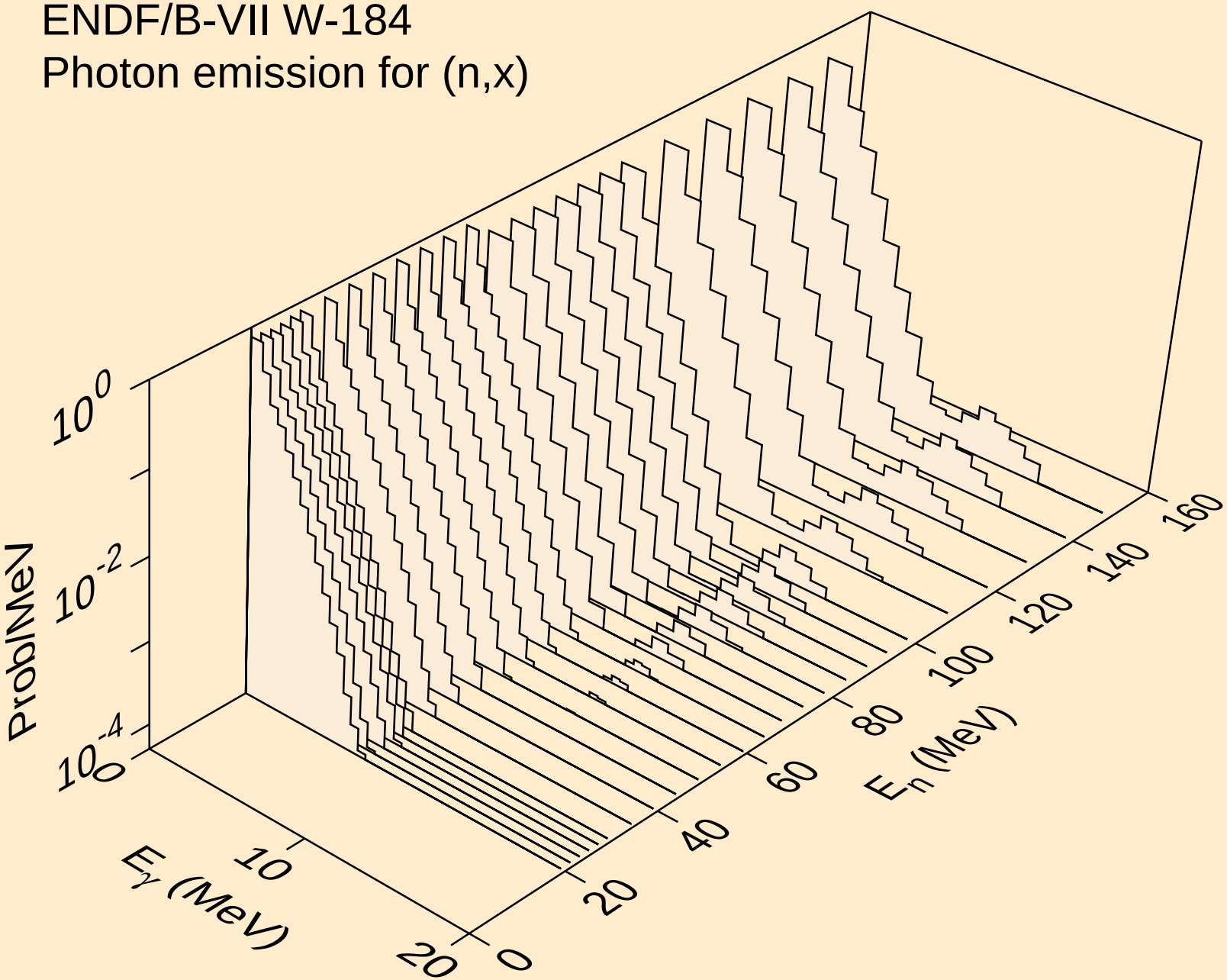
ENDF/B-VII W-184
Photon emission for inelastic

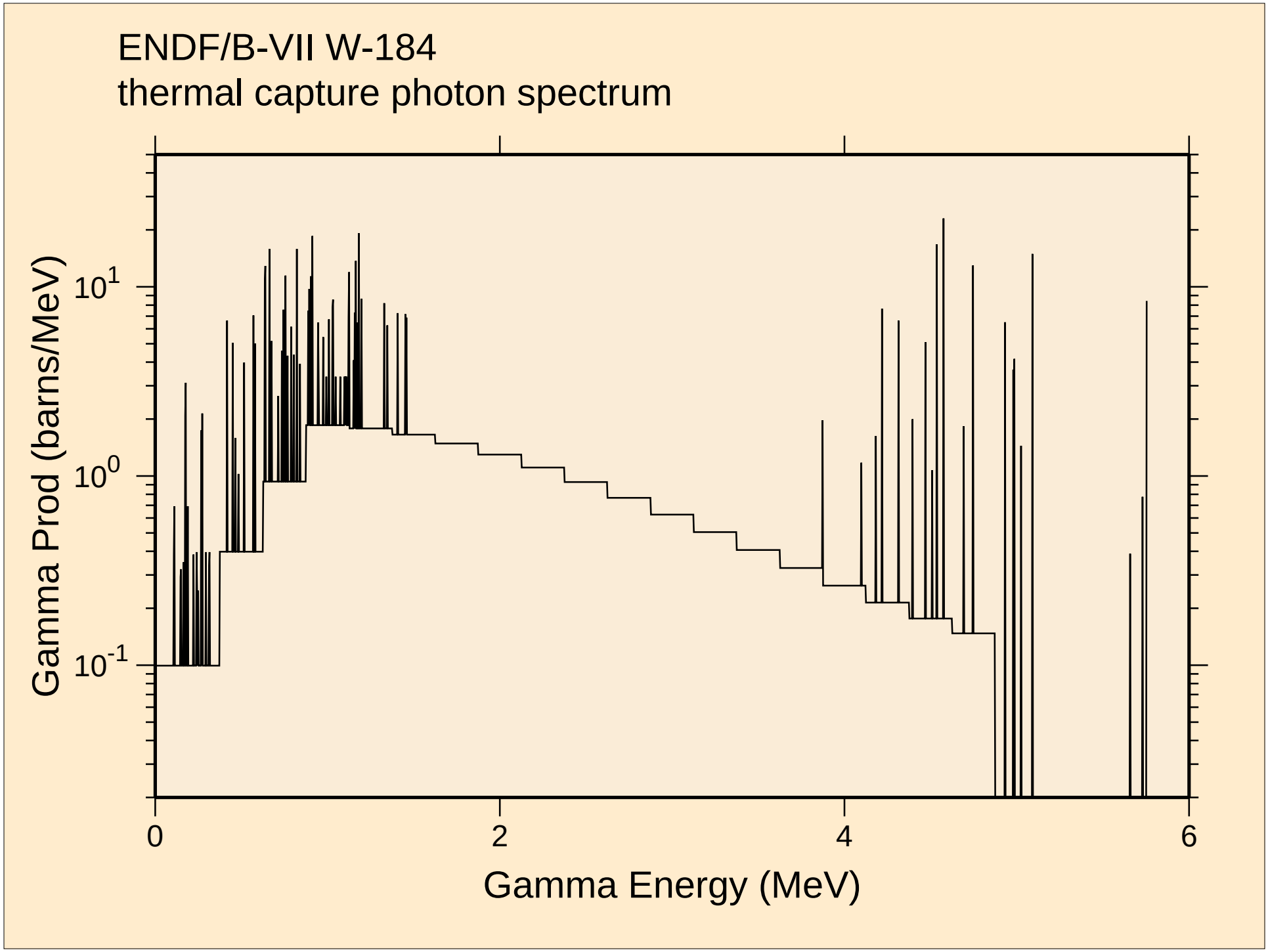


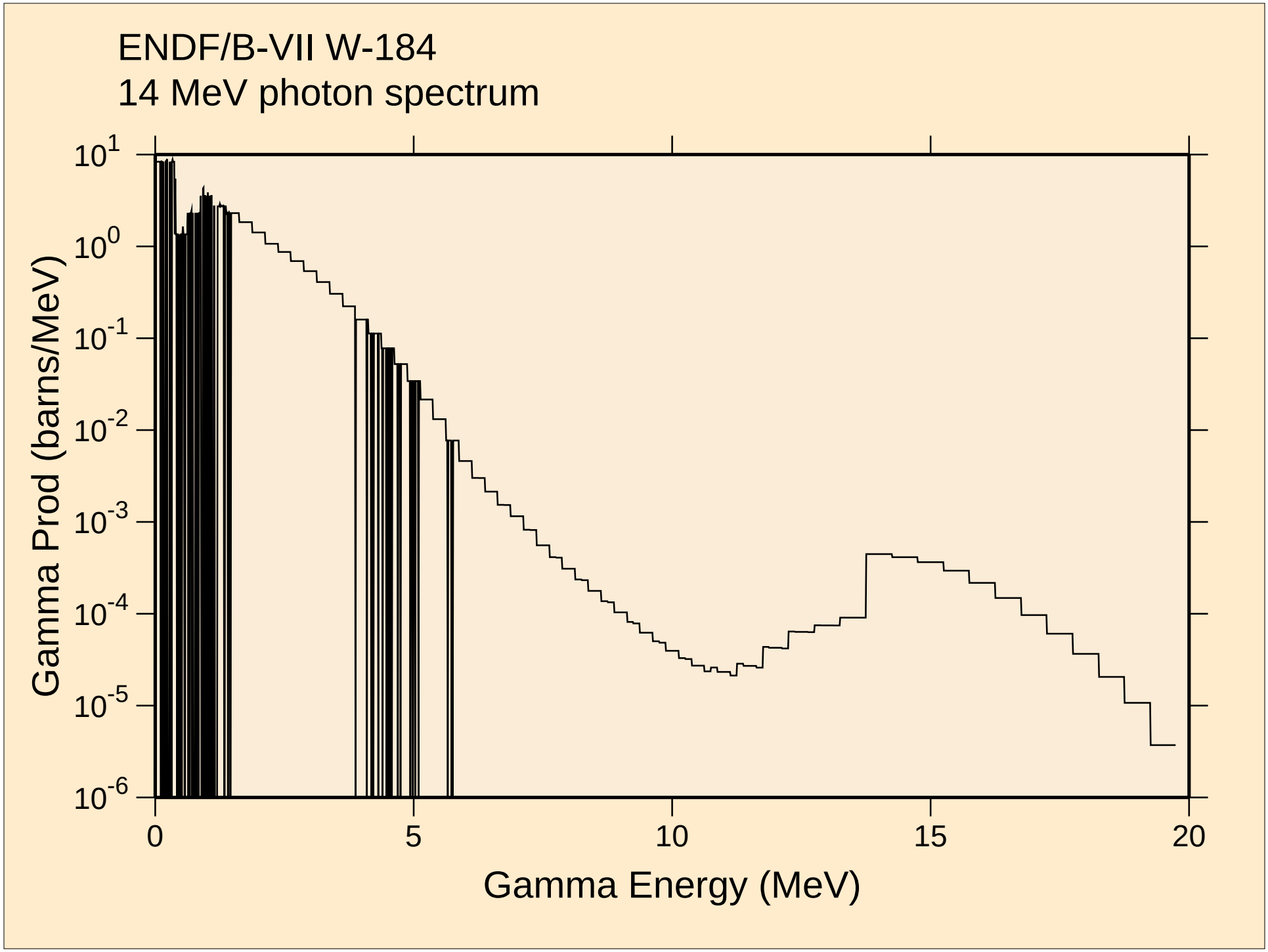

ENDF/B-VII W-184
Photon emission for (n,2n)
Prob/MeV
10^{-1}
10^{-3}
0
5
10
E_γ (MeV)
6
8
10
12
14
16
18
20
E_n (MeV)

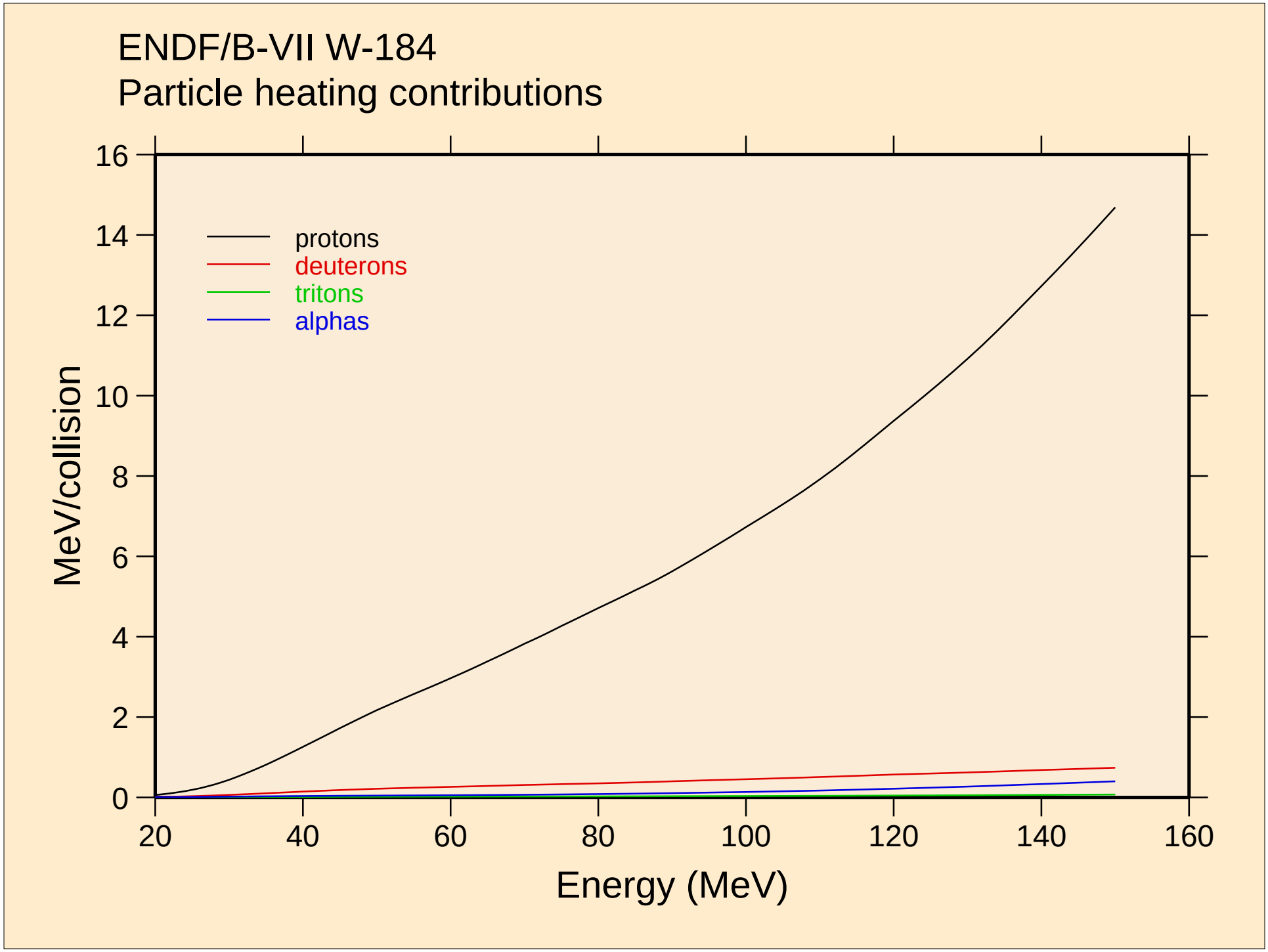

ENDF/B-VII W-184
Photon emission for (n,3n)
Prob/MeV
10^{-1}
10^{-3}
0
5
10
E_γ (MeV)
13
14
15
16
17
18
19
20
E_n (MeV)

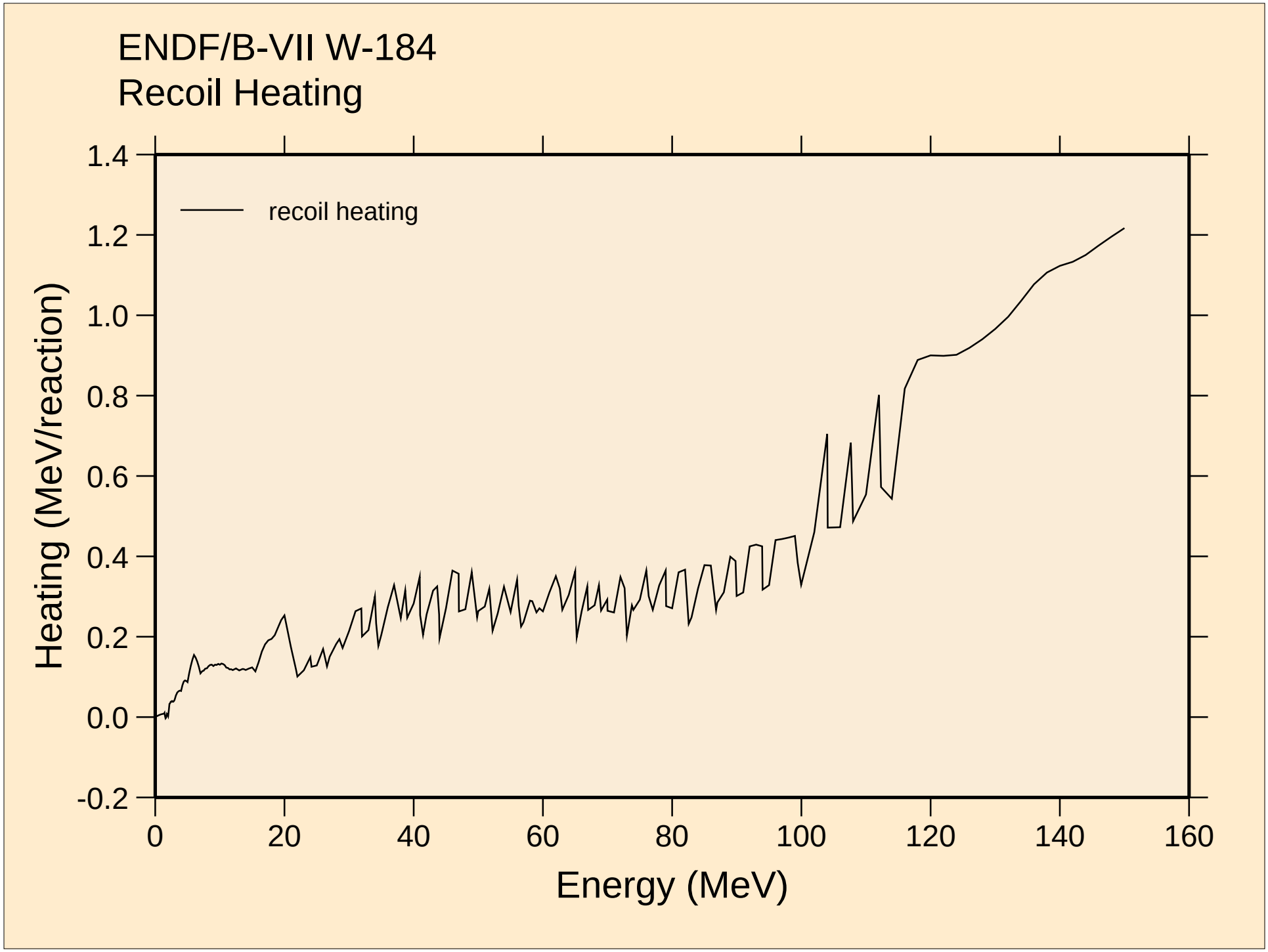
ENDF/B-VII W-184
Photon emission for (n,x)

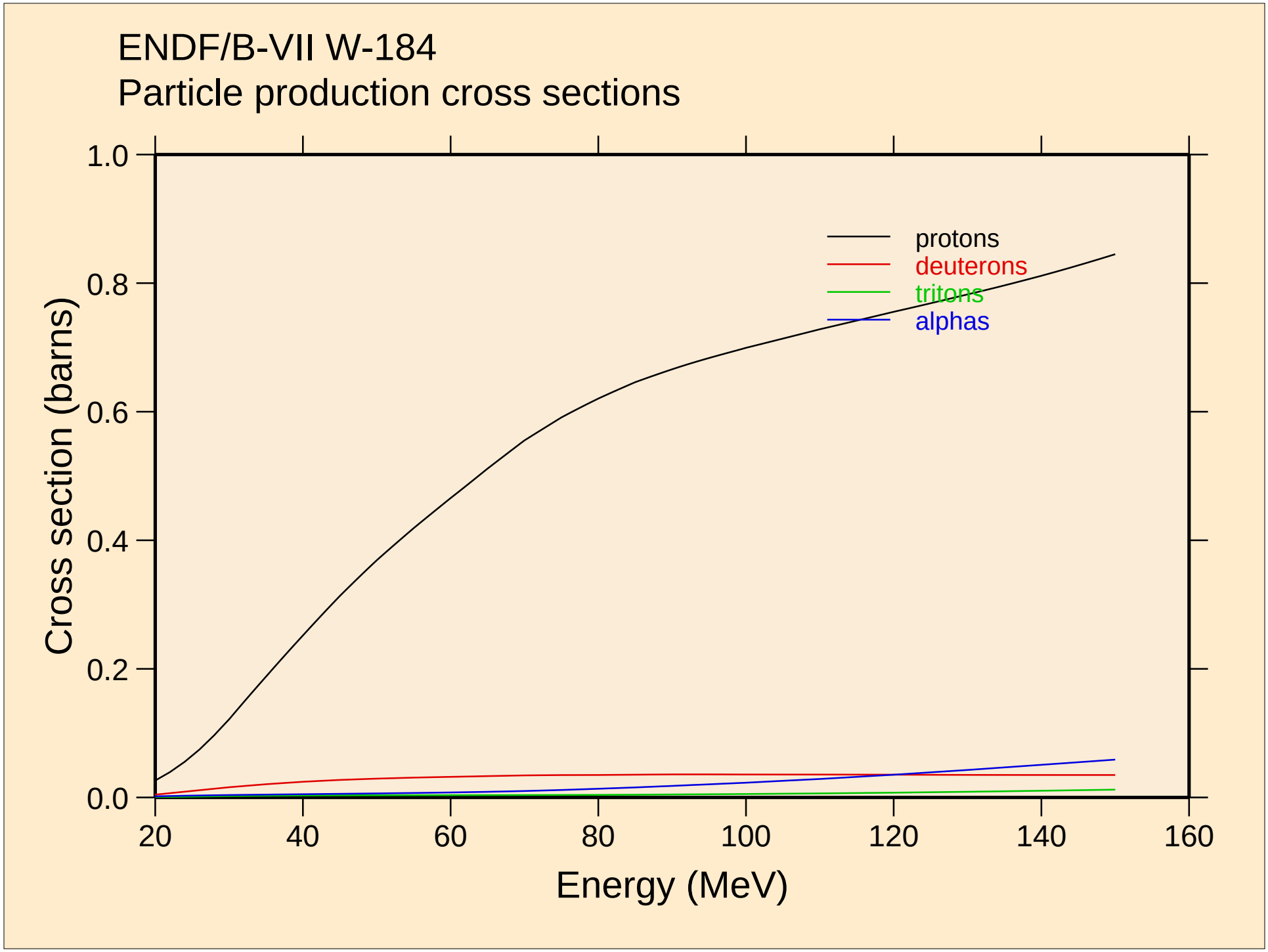


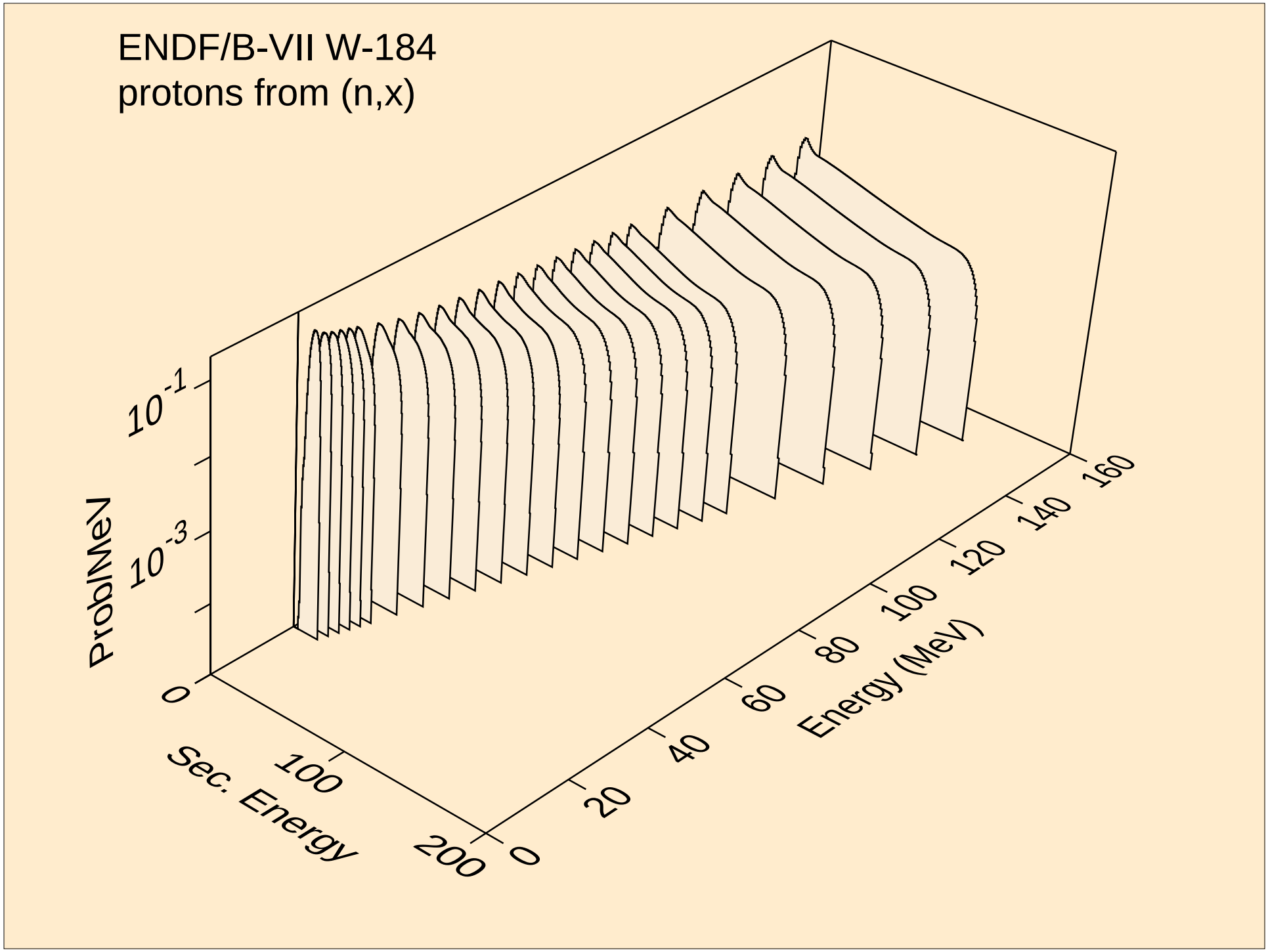

ENDF/B-VII W-184
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^{1}
10^{0}
10^{-1}
0
2
4
6
Gamma Energy (MeV)

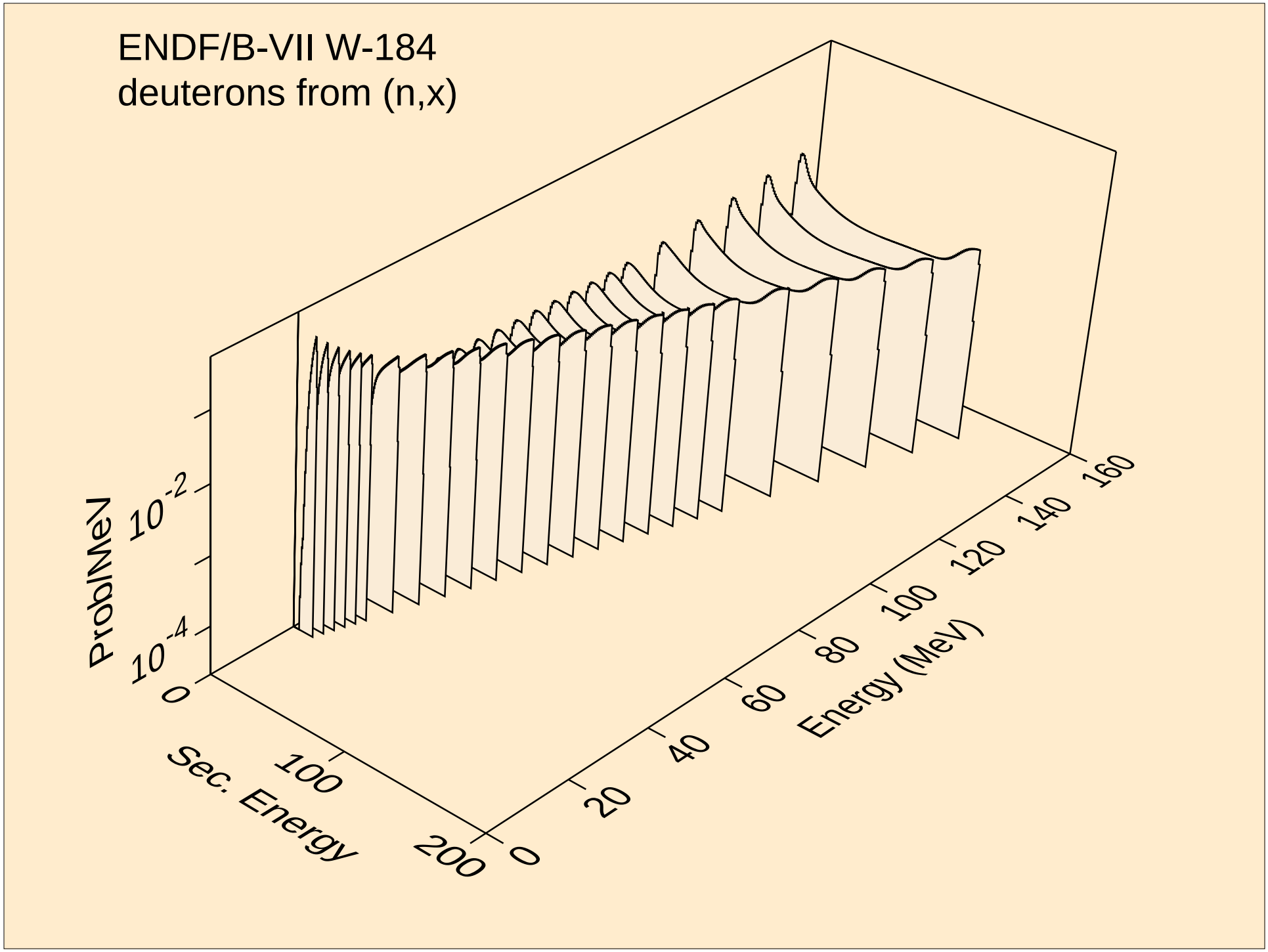

ENDF/B-VII W-184
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
0
5
10
15
20
Gamma Energy (MeV)

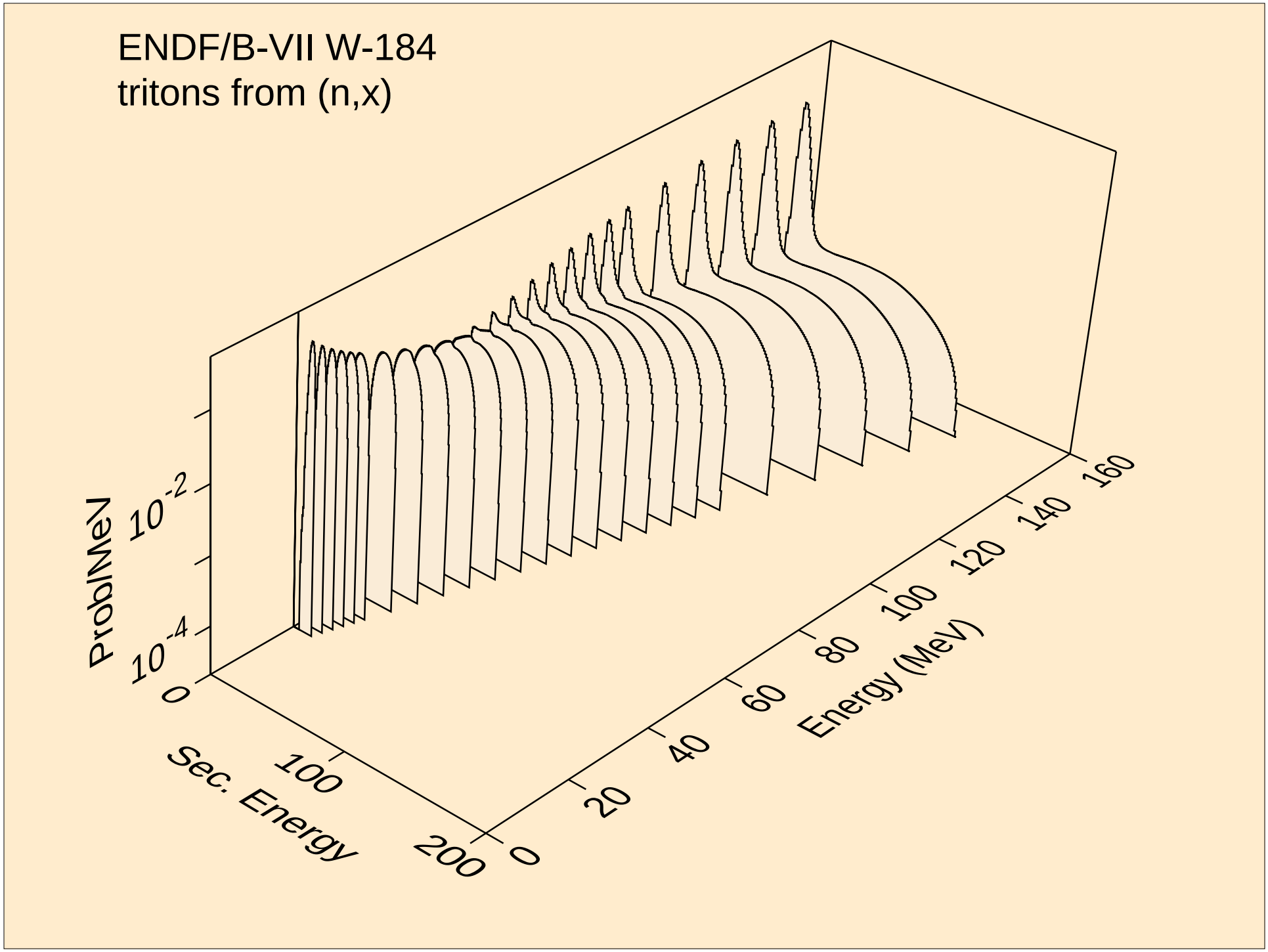

ENDF/B-VII W-184
Particle heating contributions
protons
deuterons
tritons
alphas
MeV/collision
Energy (MeV)
0
2
4
6
8
10
12
14
16
20
40
60
80
100
120
140
160

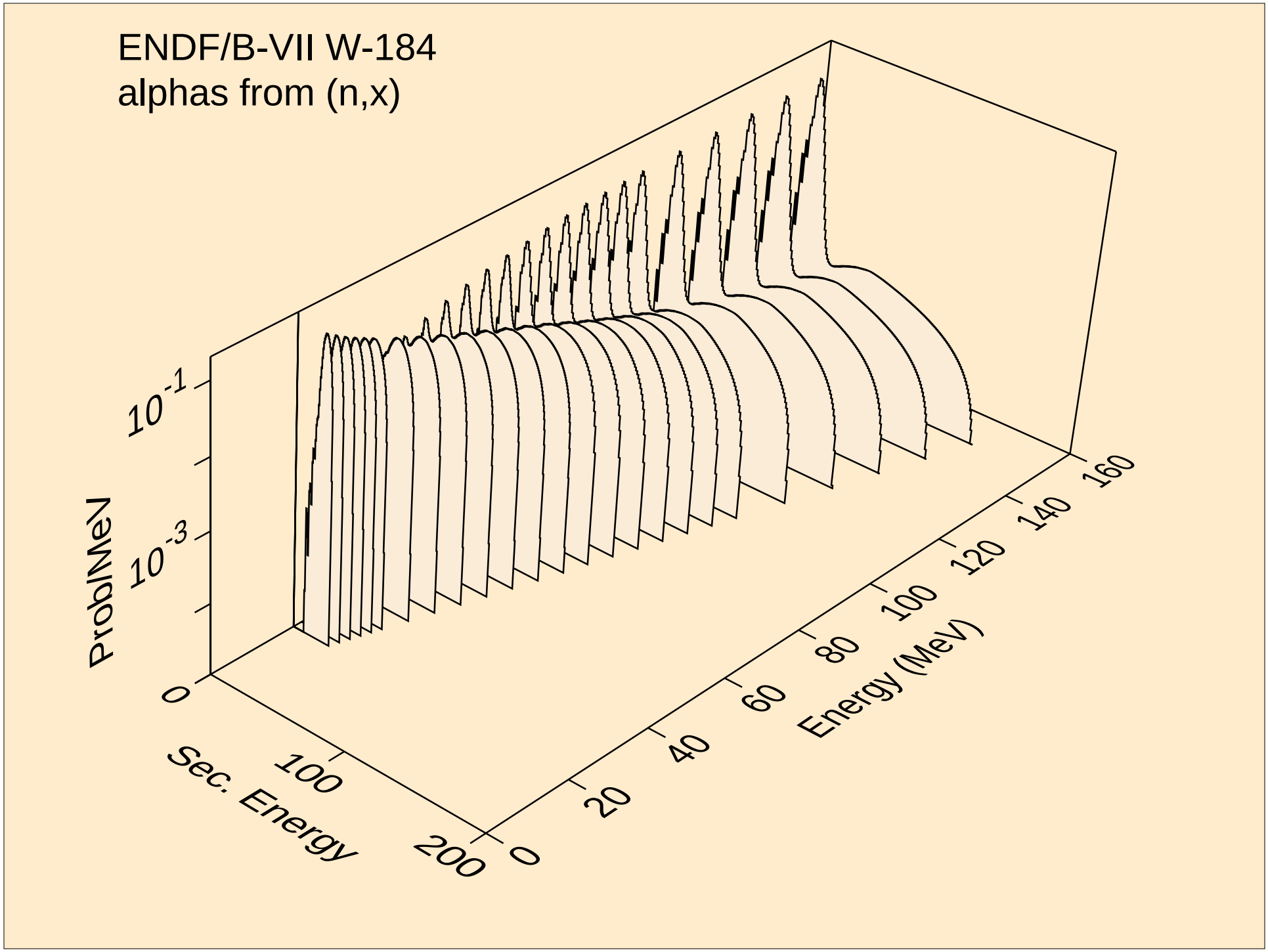

ENDF/B-VII W-184
Recoil Heating
recoil heating
Heating (MeV/reaction)
Energy (MeV)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
0
20
40
60
80
100
120
140
160


ENDF/B-VII W-184
Particle production cross sections
Cross section (barns)
Energy (MeV)
protons
deuterons
tritons
alphas
0.0
0.2
0.4
0.6
0.8
1.0
20
40
60
80
100
120
140
160


ENDF/B-VII W-184
protons from (n,x)
Prob/MeV
10^-1
10^-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII W-184
deuterons from (n,x)
Prob/MeV
10^{-2}
10^{-4}
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII W-184
tritons from (n,x)
Prob/MeV
10^{-2}
10^{-4}
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII W-184
alphas from (n,x)
Prob/MeV
10^-1
10^-3
0
100
200
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)