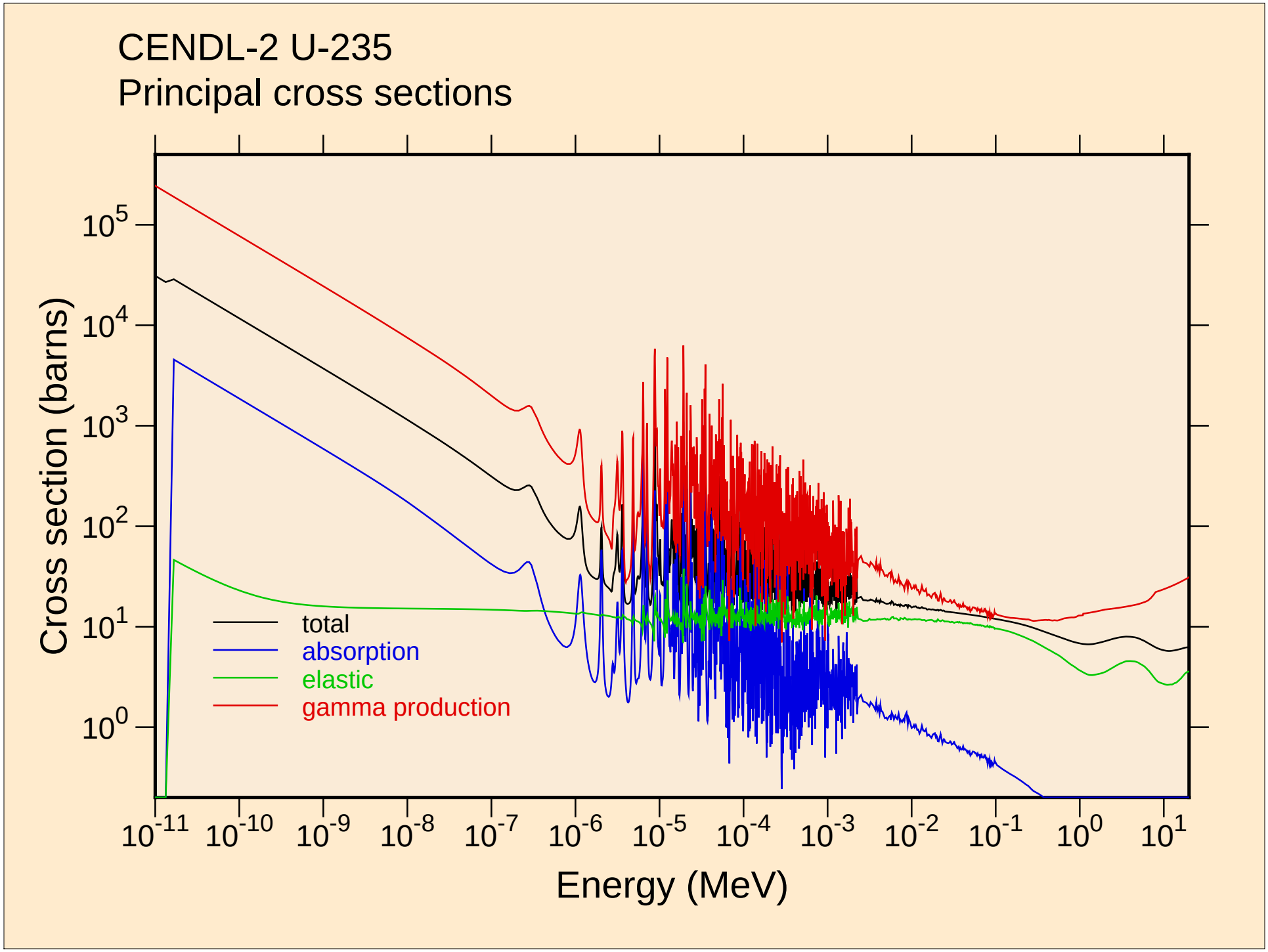
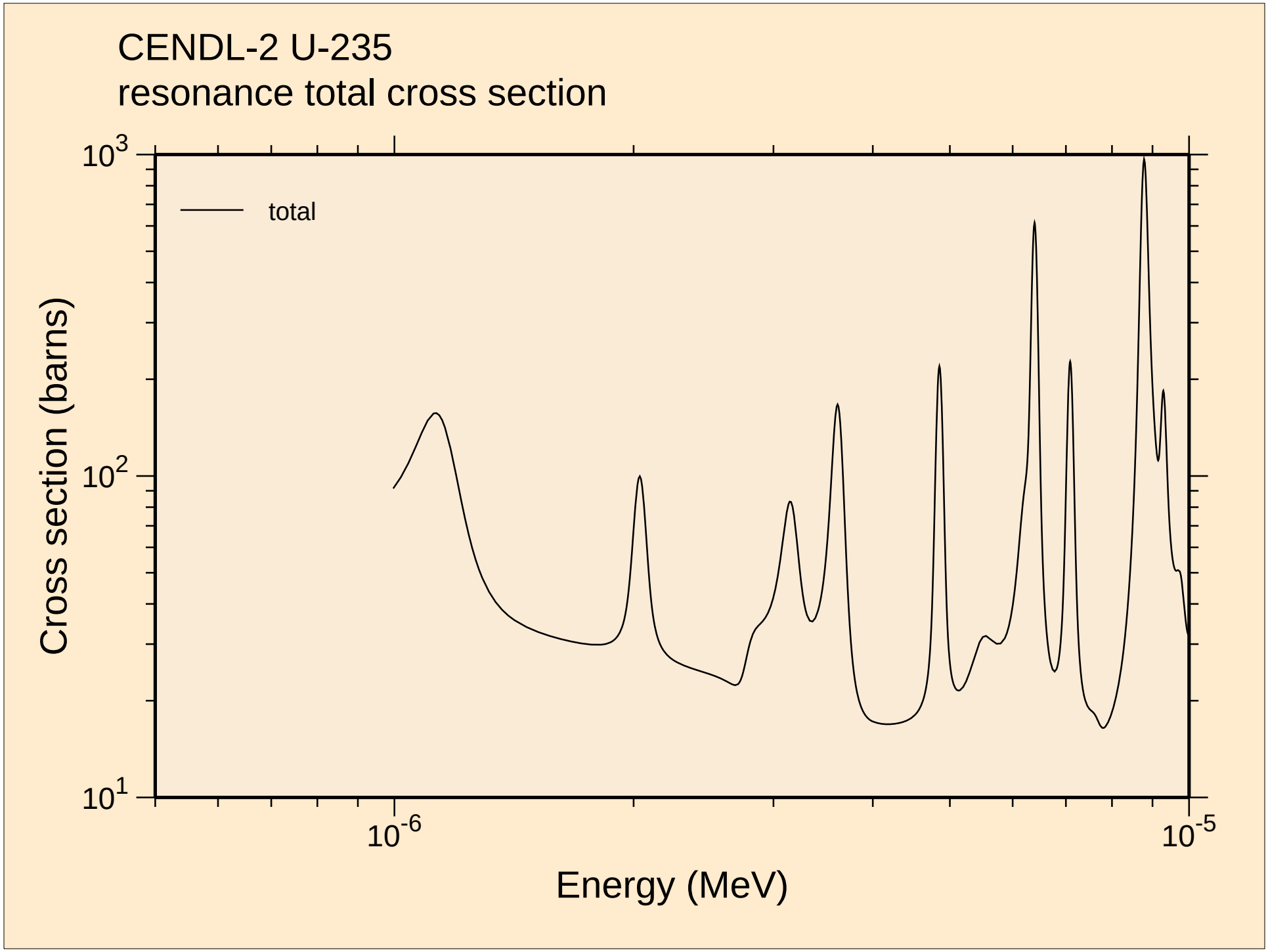
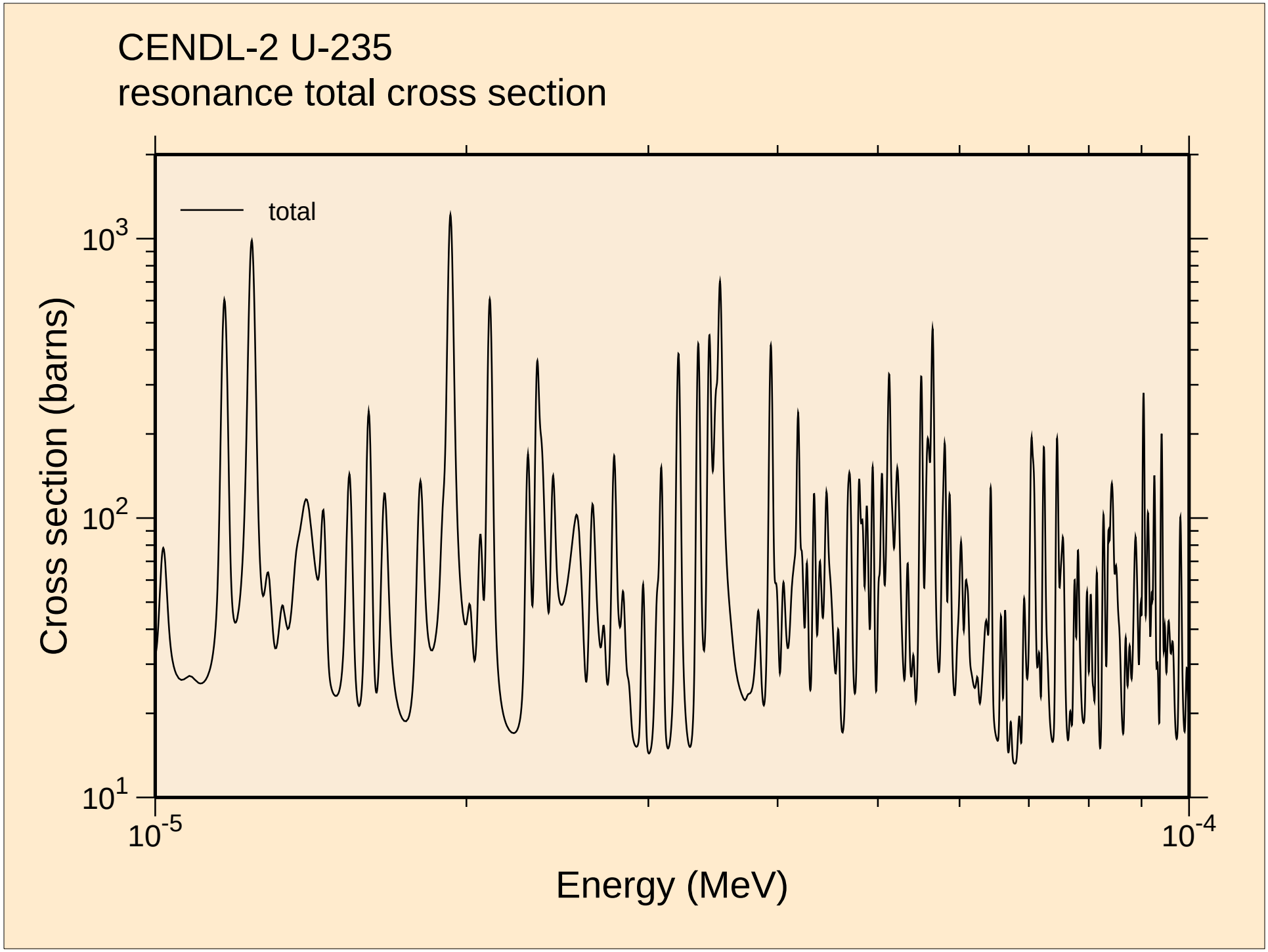
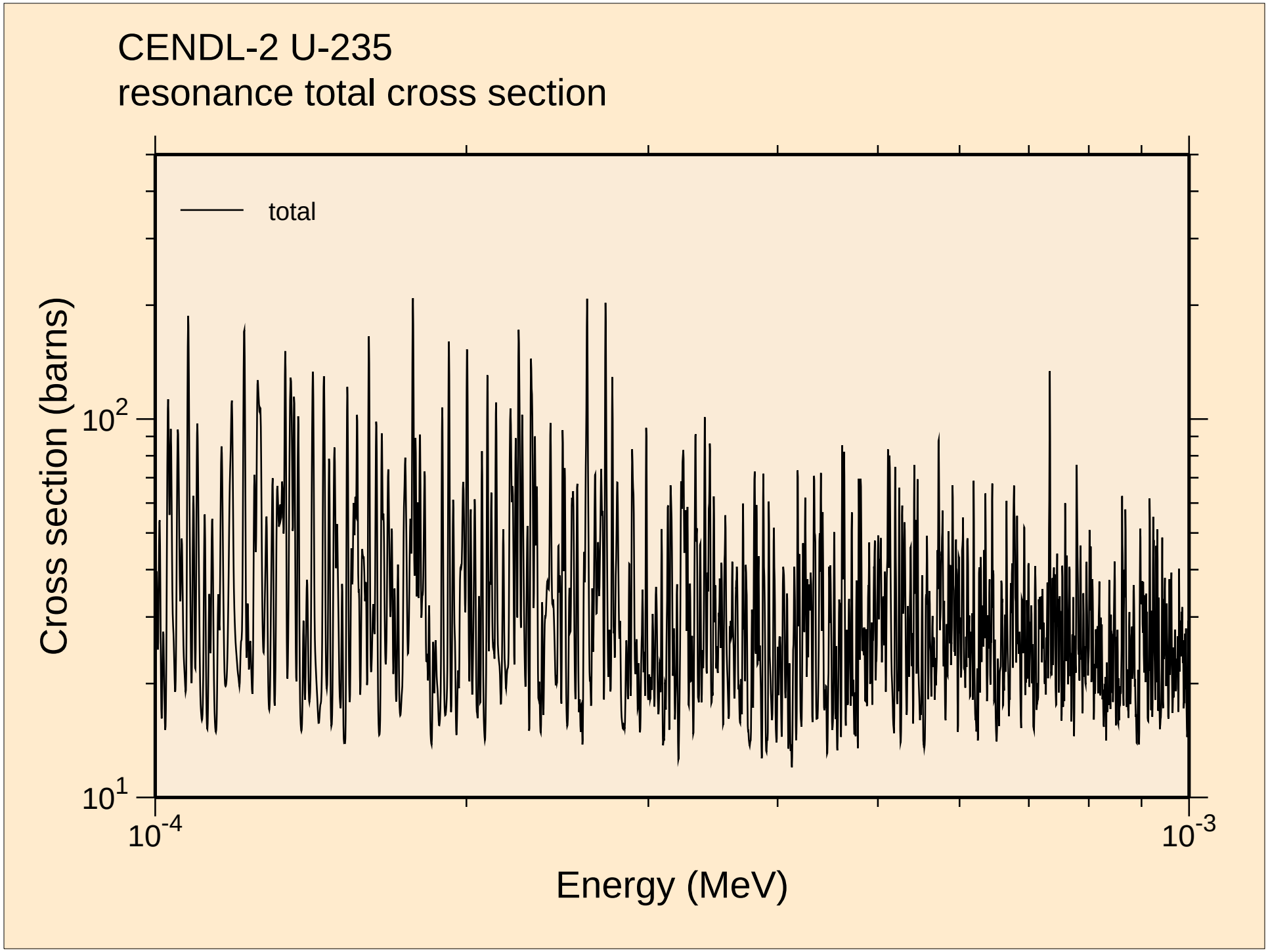
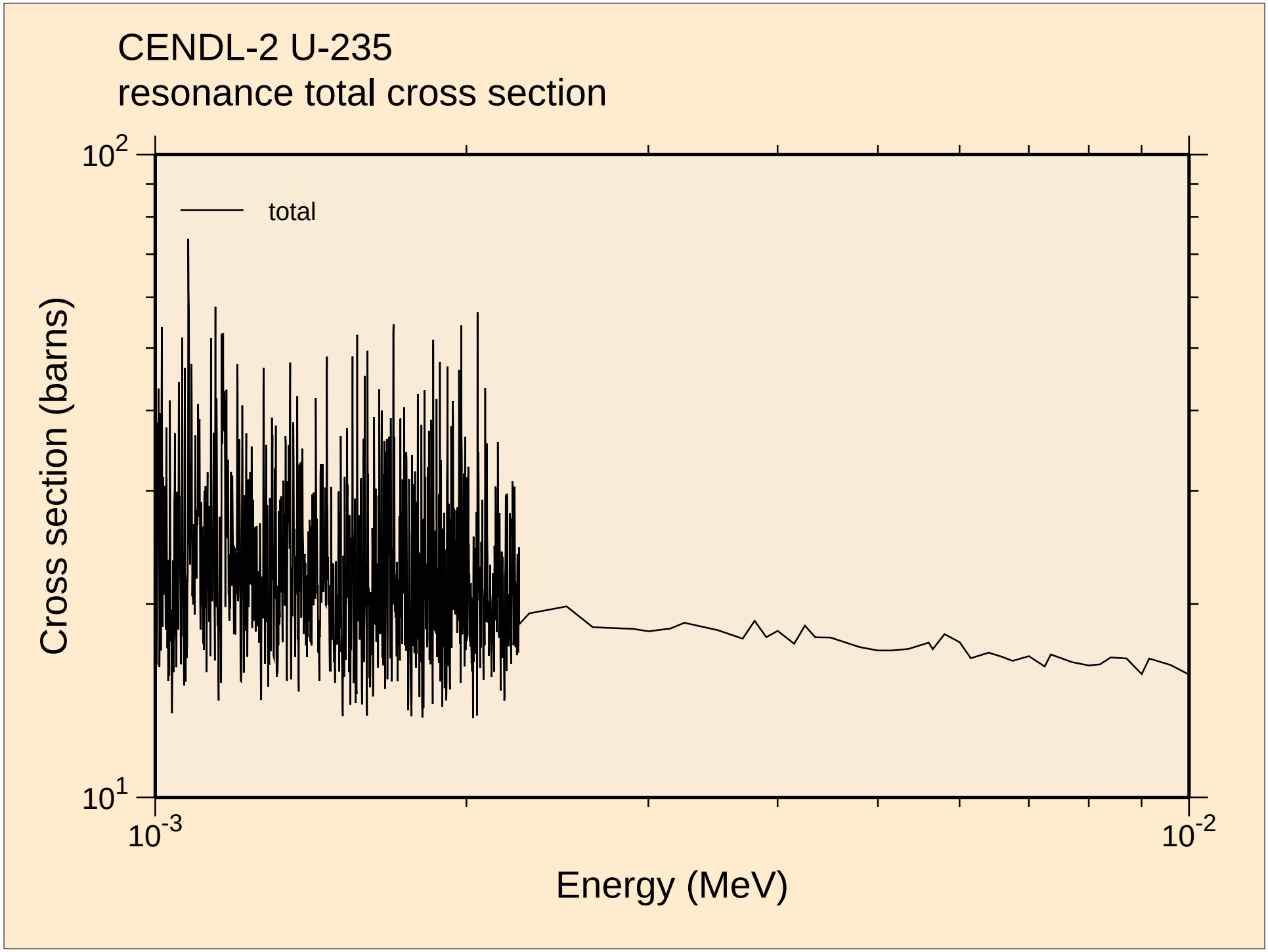
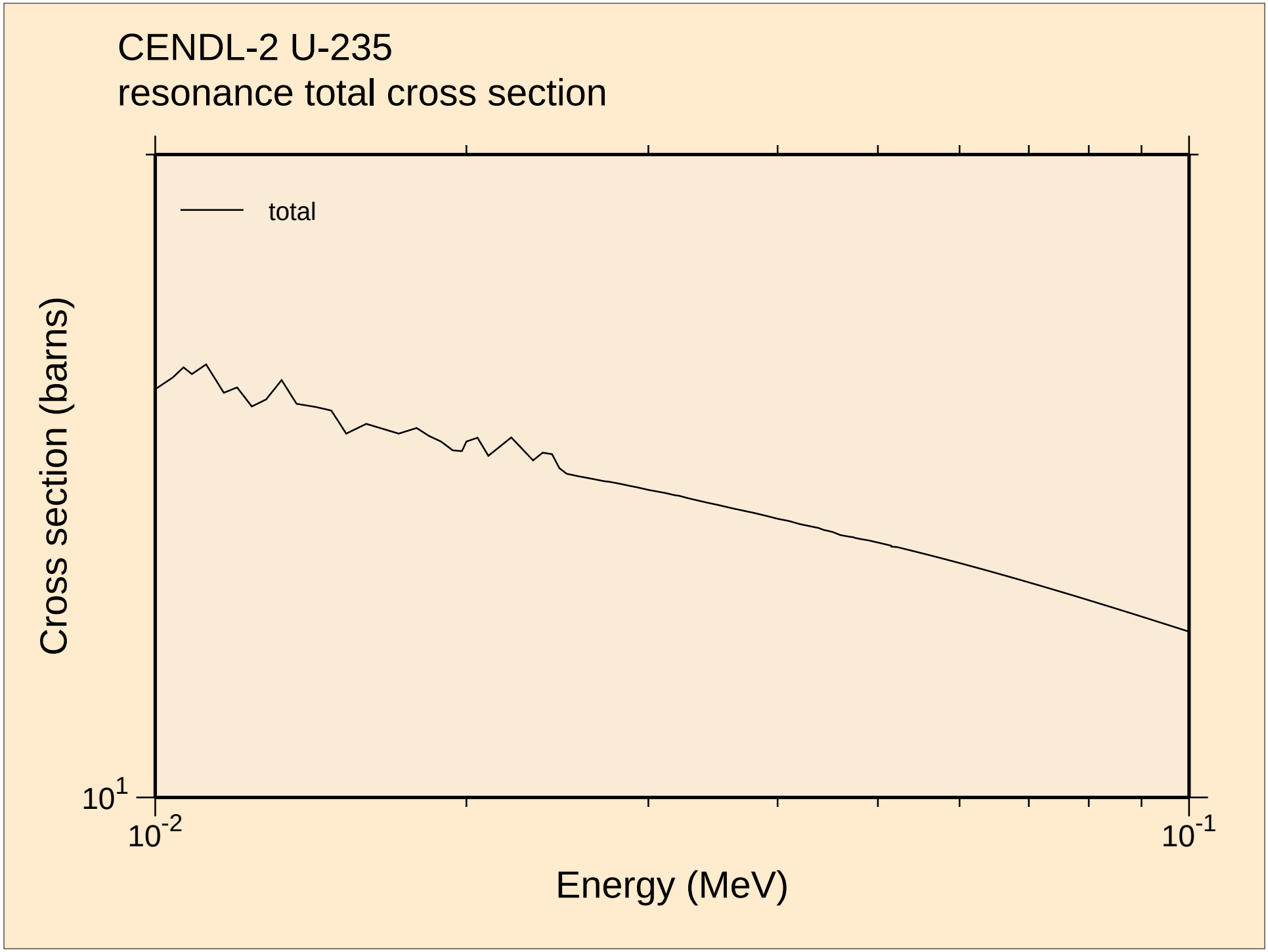

CENDL-2 U-235
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production

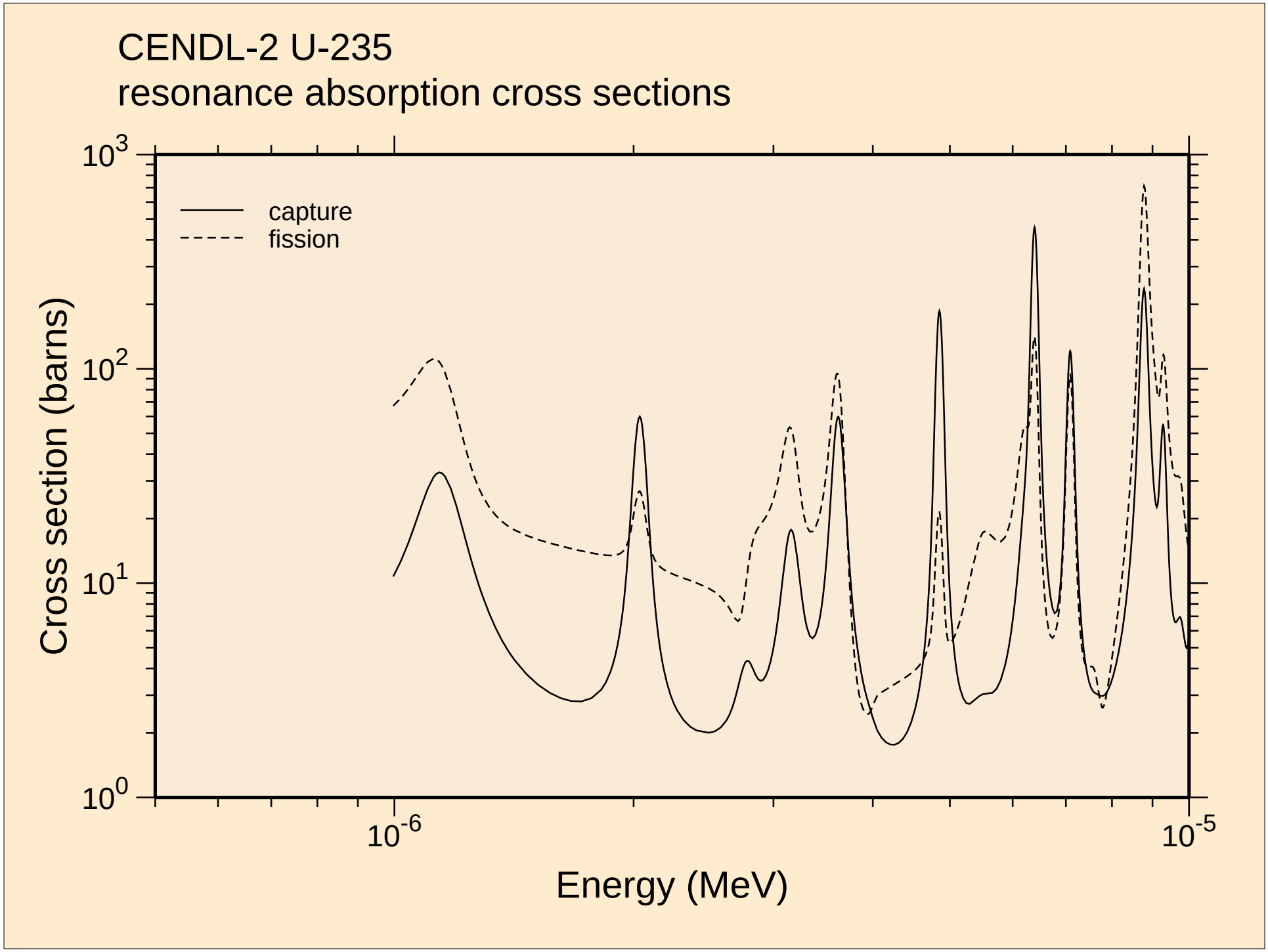

CENDL-2 U-235
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^{-6}
10^{-5}
Energy (MeV)

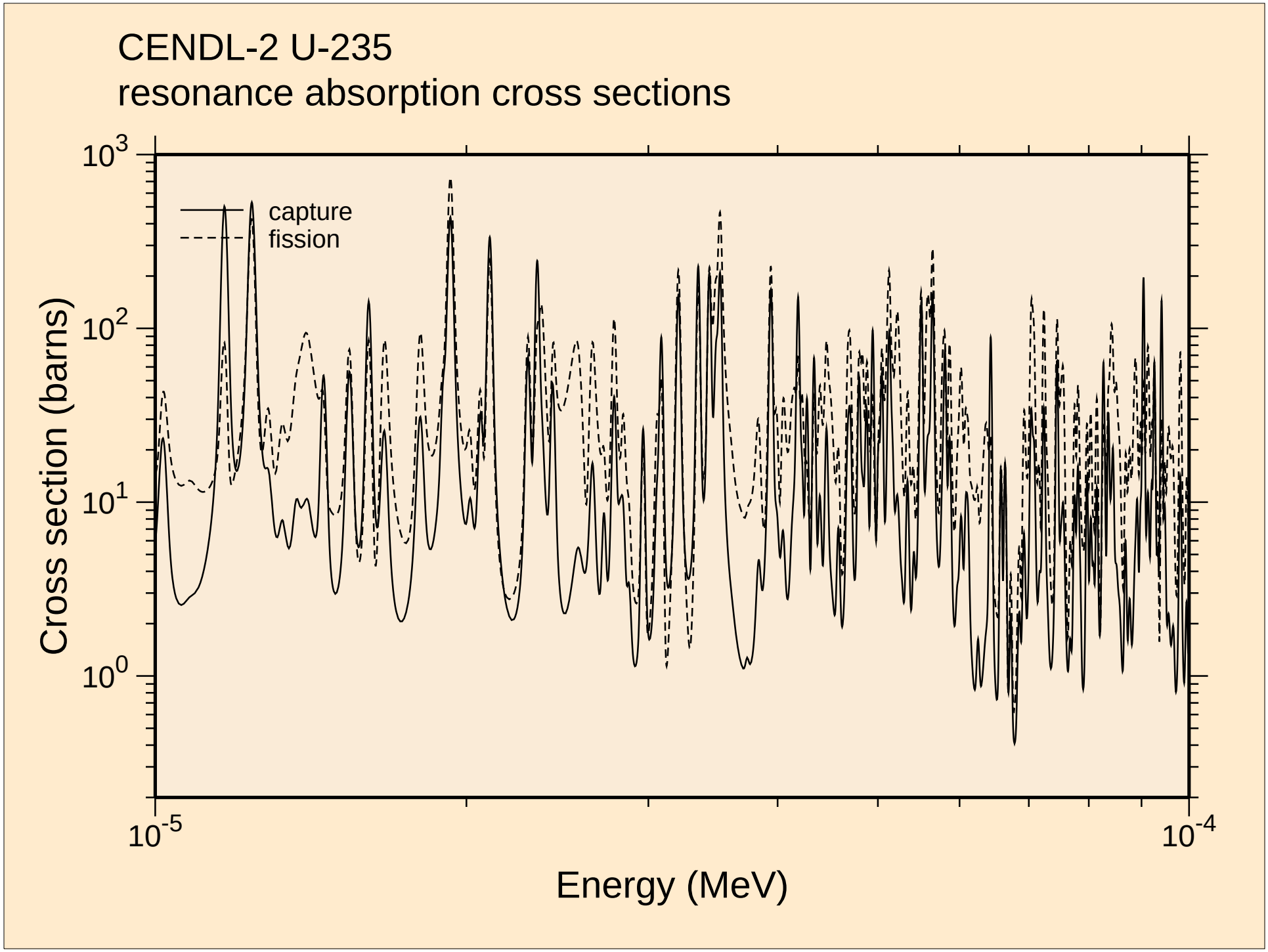

CENDL-2 U-235
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^{-5}
10^{-4}
Energy (MeV)


CENDL-2 U-235
resonance total cross section
total
Cross section (barns)
10^2
10^1
10^{-4}
10^{-3}
Energy (MeV)

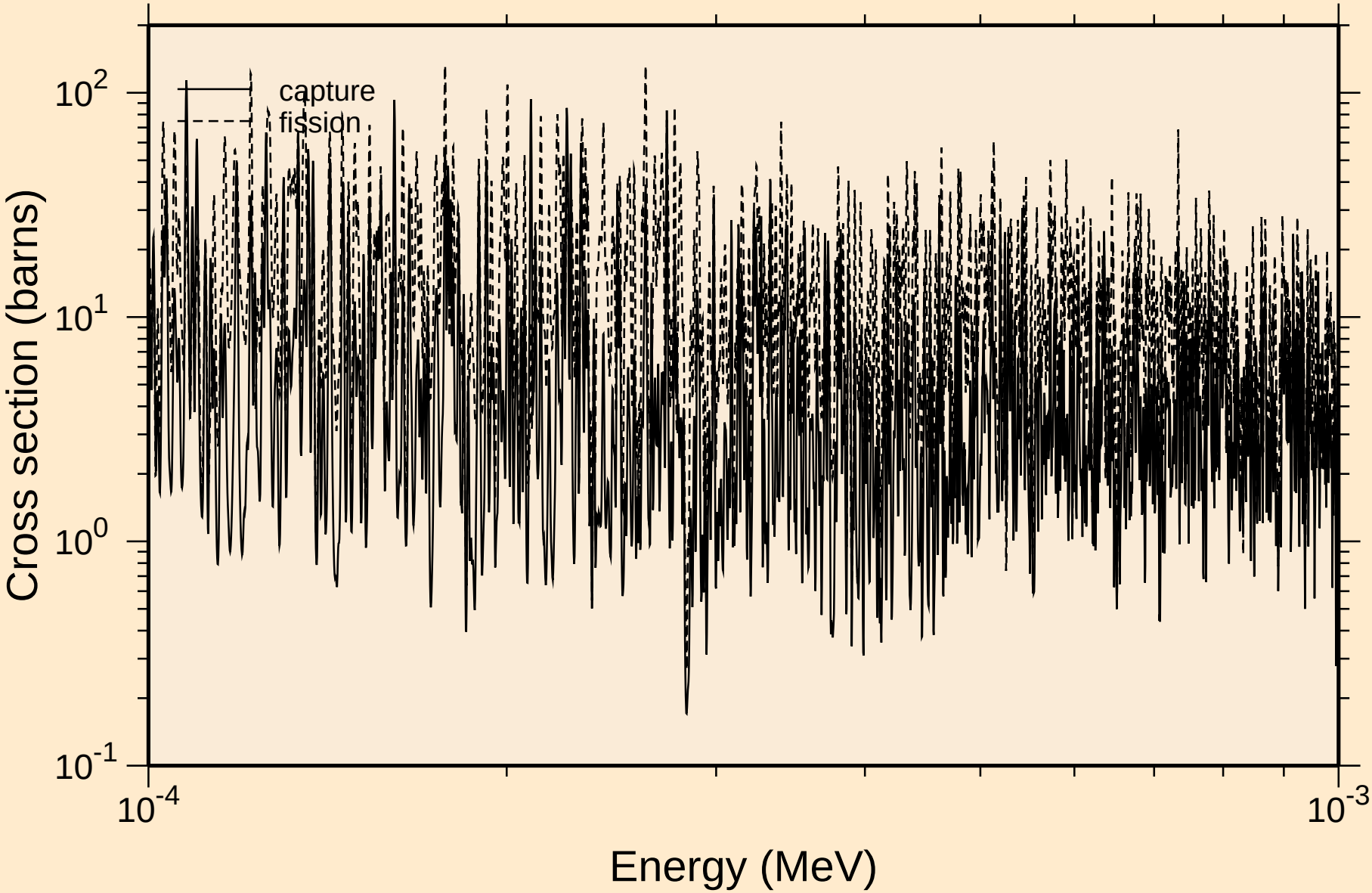

CENDL-2 U-235
resonance total cross section
total
Cross section (barns)
Energy (MeV)
10^2
10^1
10^-3
10^-2

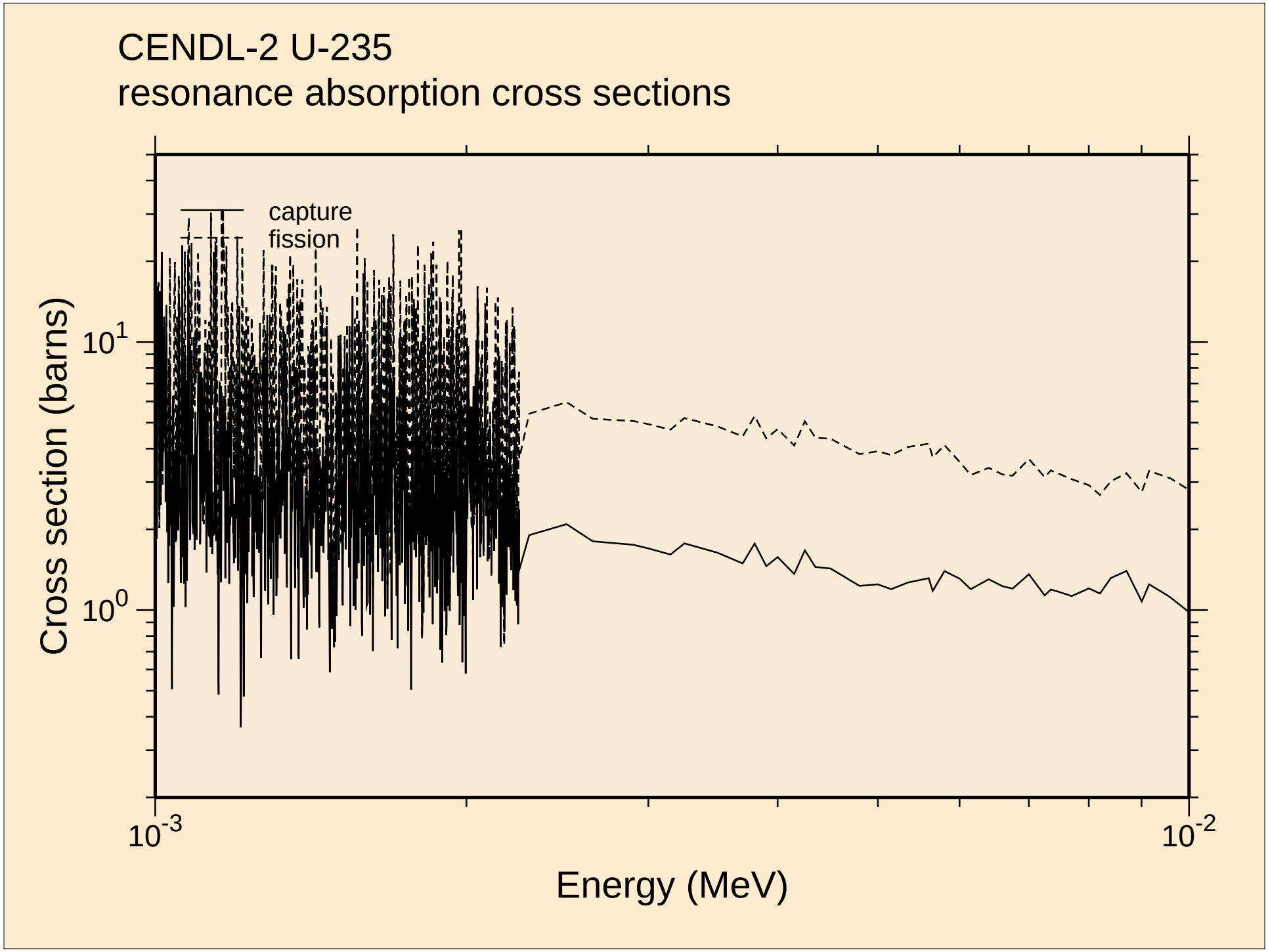

CENDL-2 U-235
resonance total cross section
total
Cross section (barns)
10^1
10^{-2}
10^{-1}
Energy (MeV)

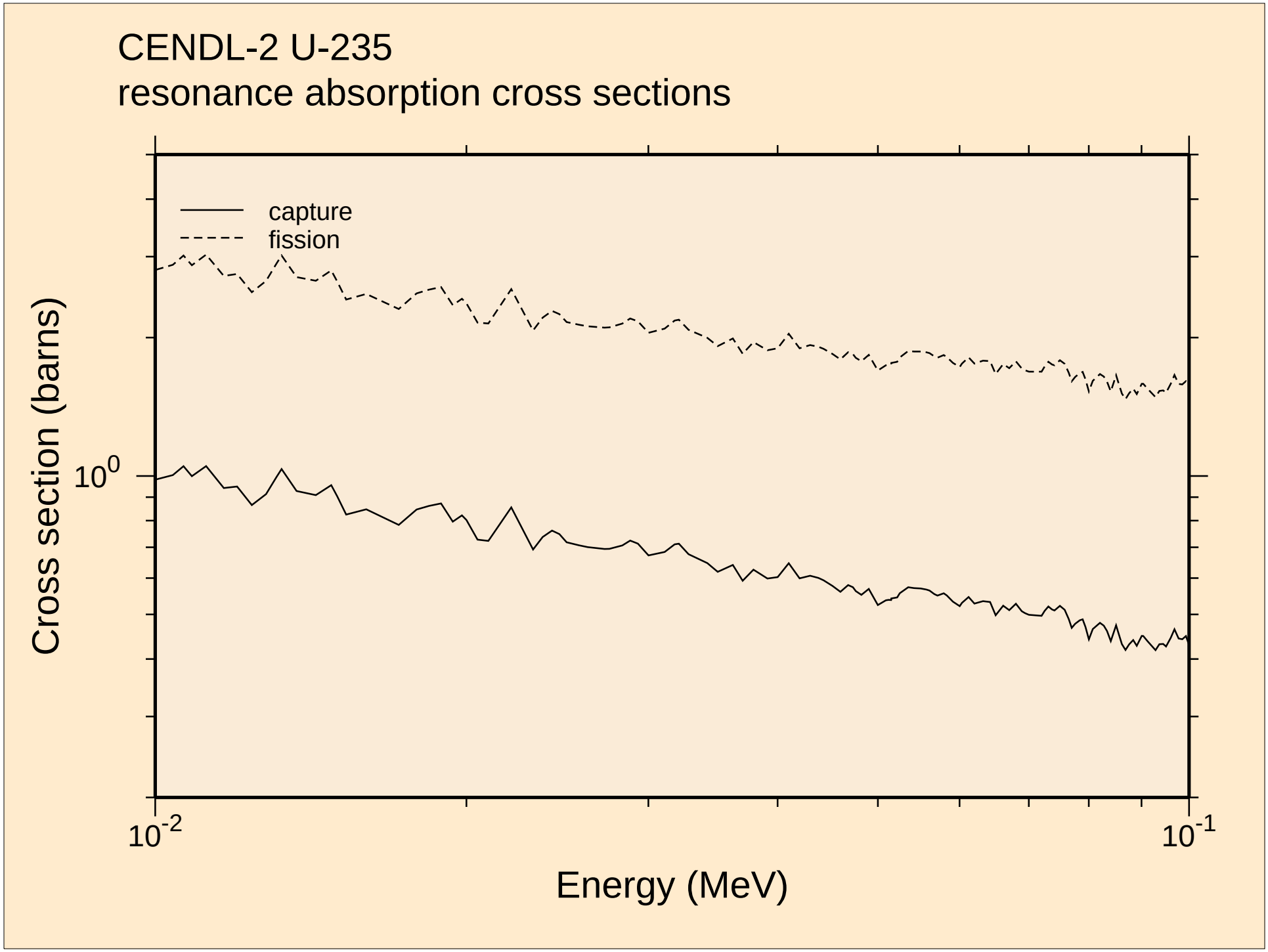

CENDL-2 U-235
resonance absorption cross sections
capture
fission
Cross section (barns)
Energy (MeV)
10^3
10^2
10^1
10^0
10^{-6}
10^{-5}

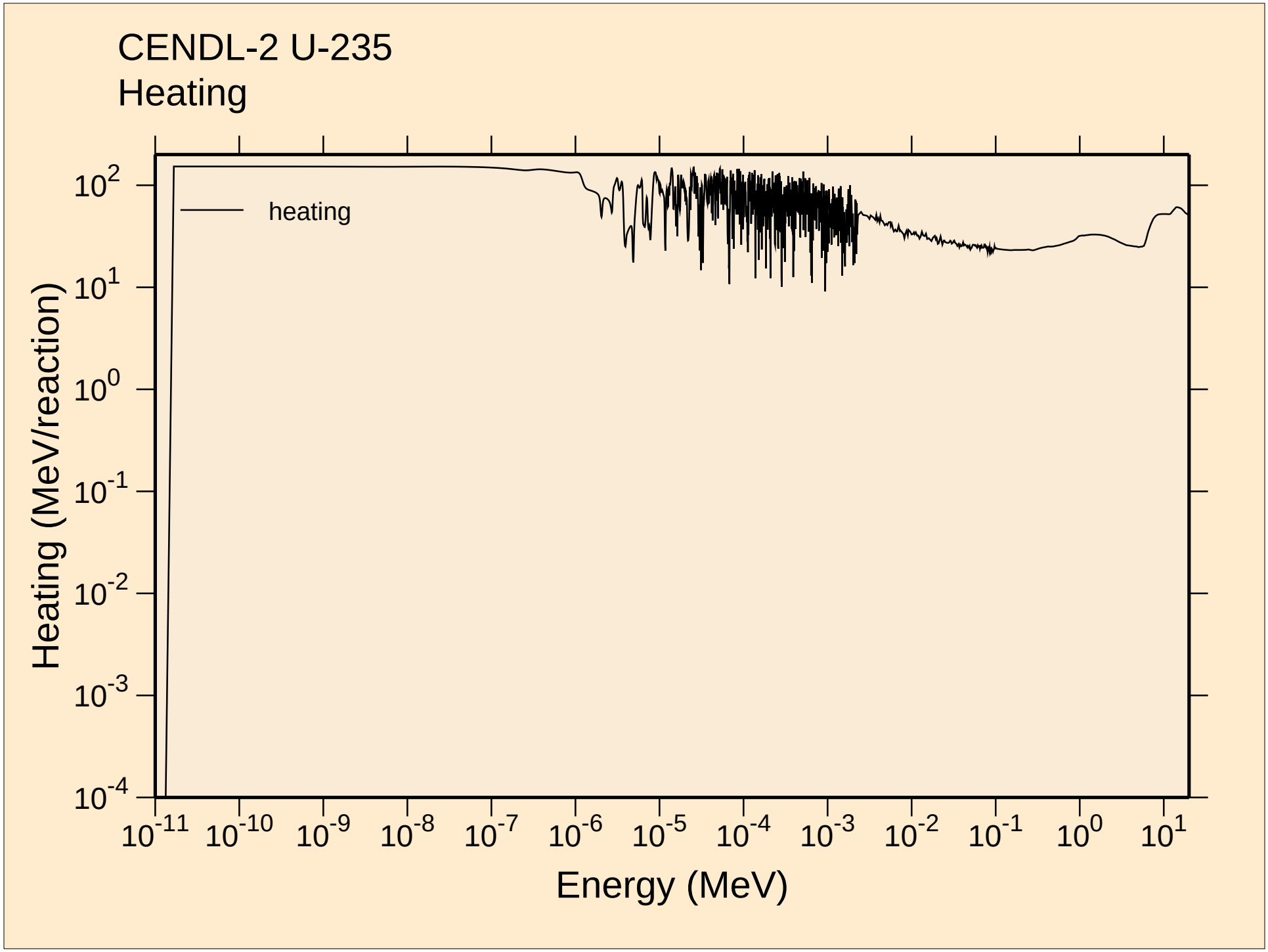

CENDL-2 U-235
resonance absorption cross sections
capture
fission
Cross section (barns)
10^3
10^2
10^1
10^0
10^{-5}
10^{-4}
Energy (MeV)

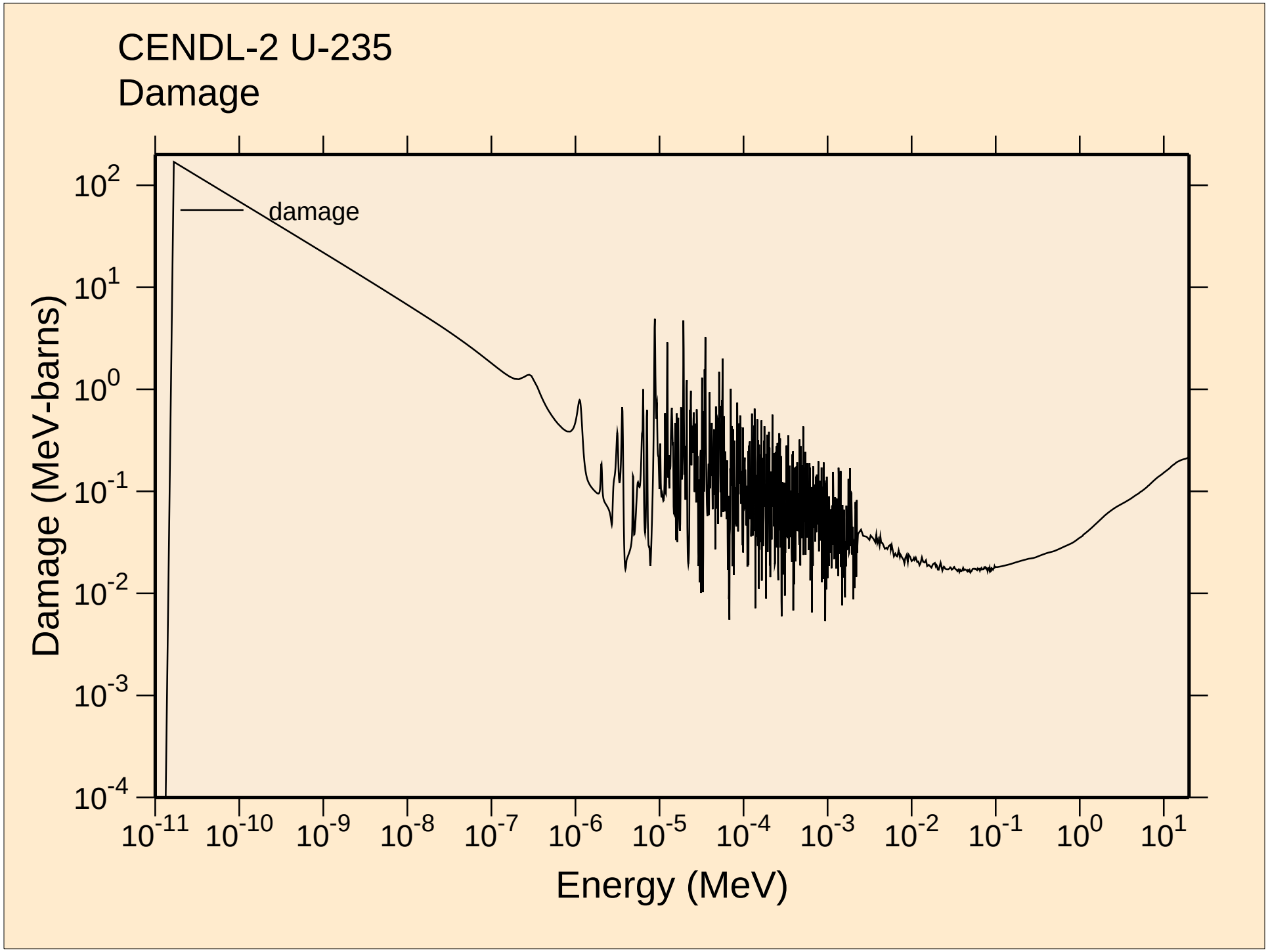
CENDL-2 U-235
resonance absorption cross sections

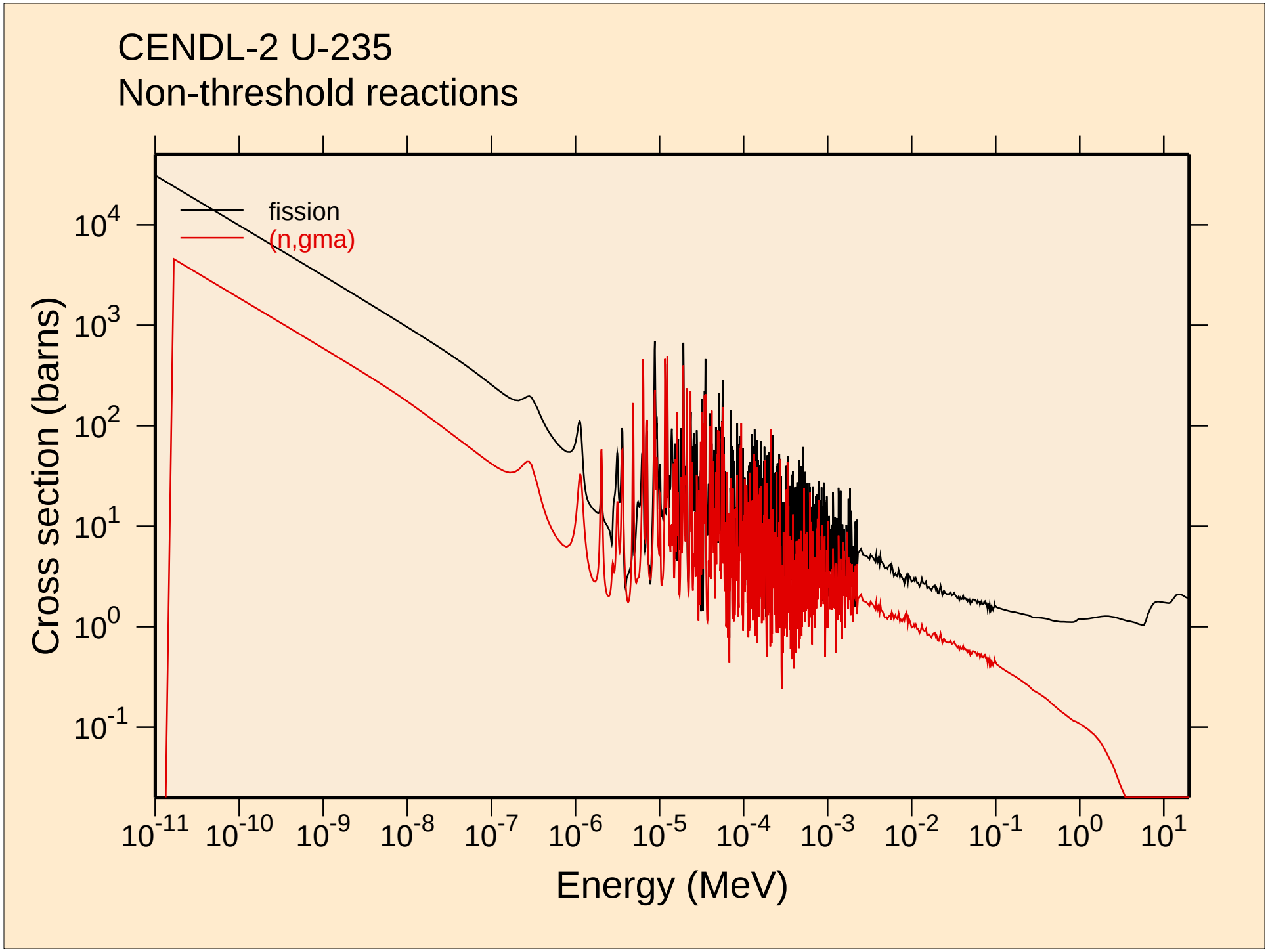


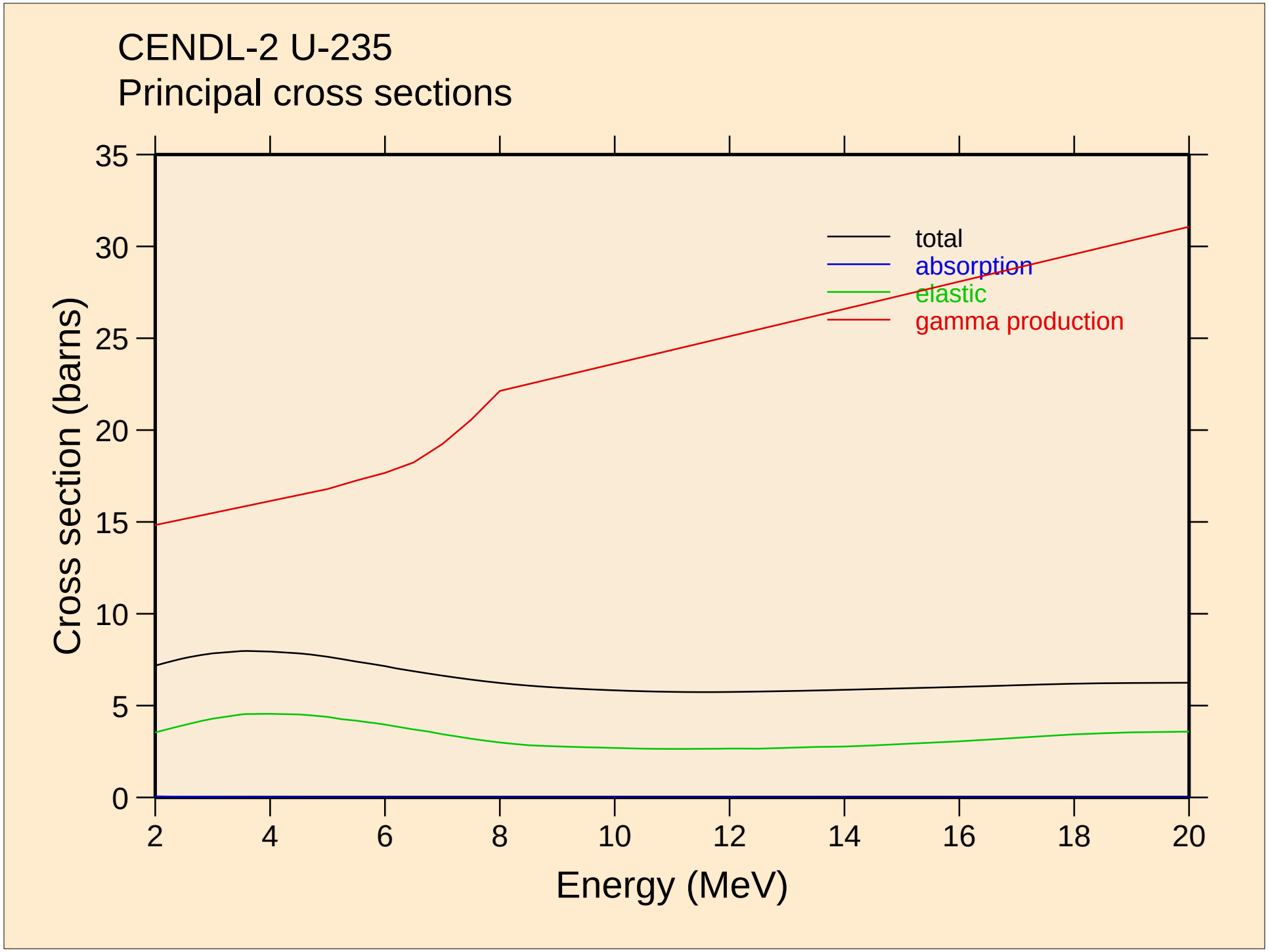

CENDL-2 U-235
resonance absorption cross sections
capture
fission
Cross section (barns)
10^1
10^0
10^{-3}
10^{-2}
Energy (MeV)

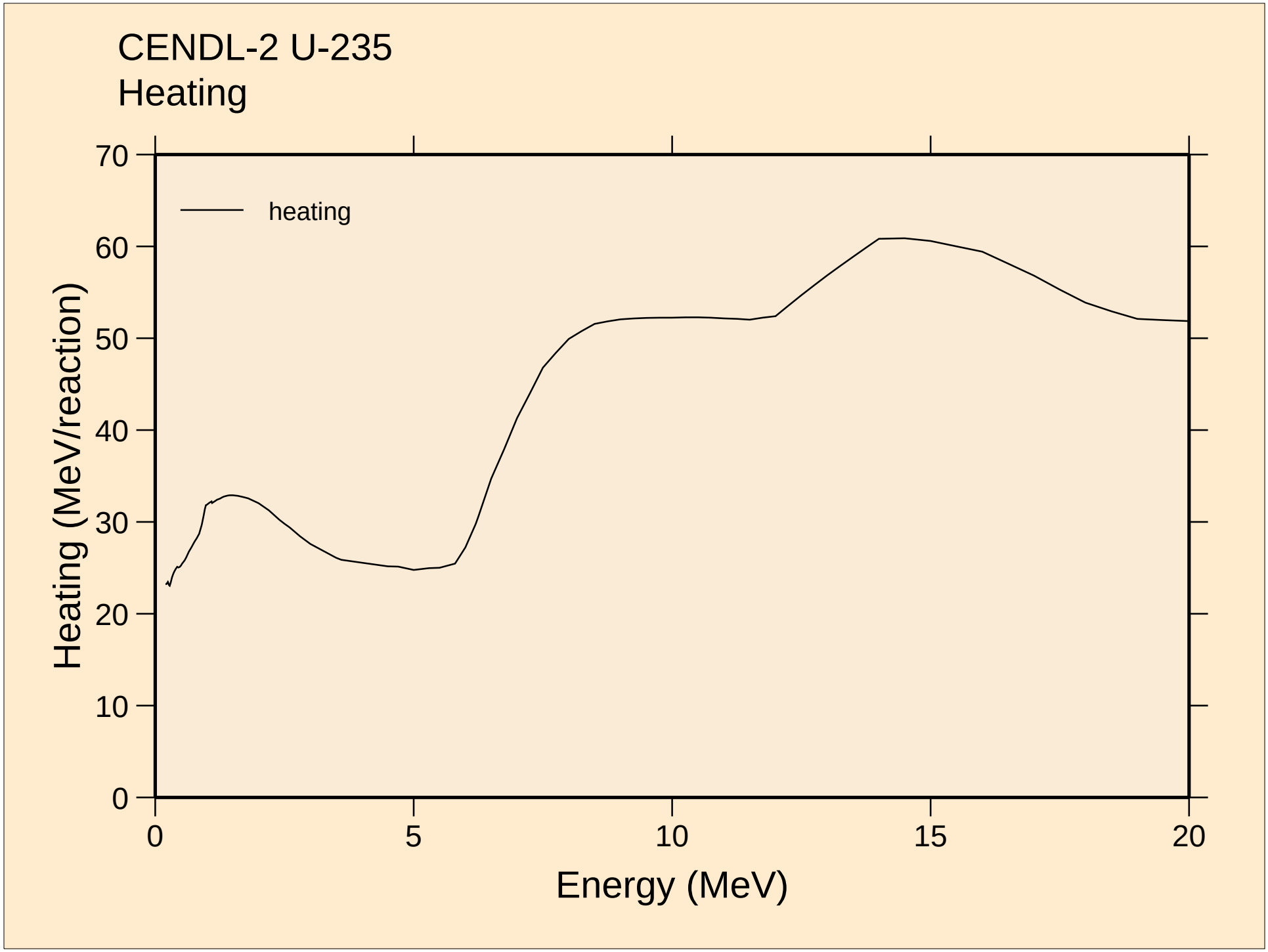

CENDL-2 U-235
resonance absorption cross sections
capture
fission
Cross section (barns)
10^0
10^{-2}
10^{-1}
Energy (MeV)

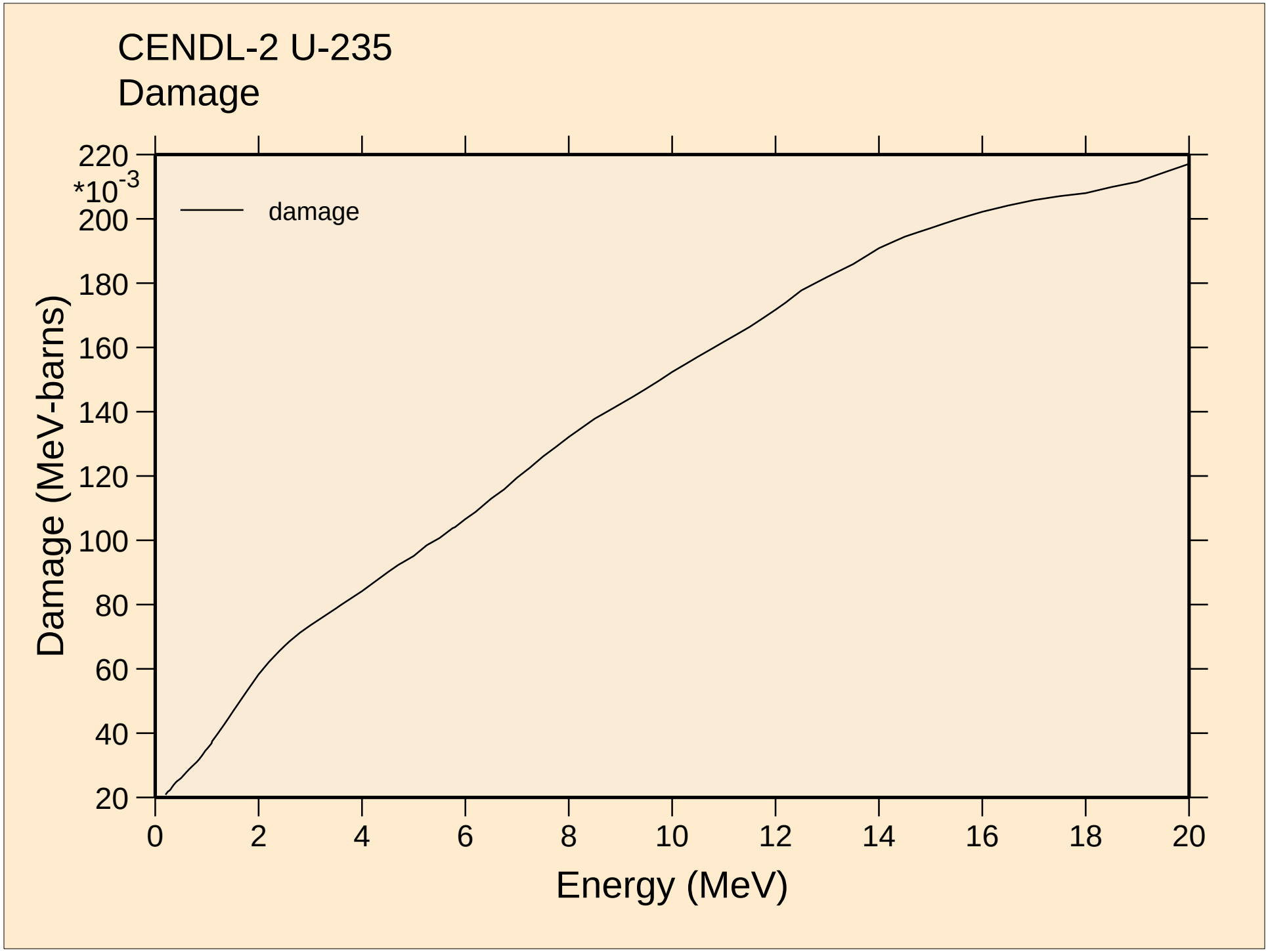

CENDL-2 U-235
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

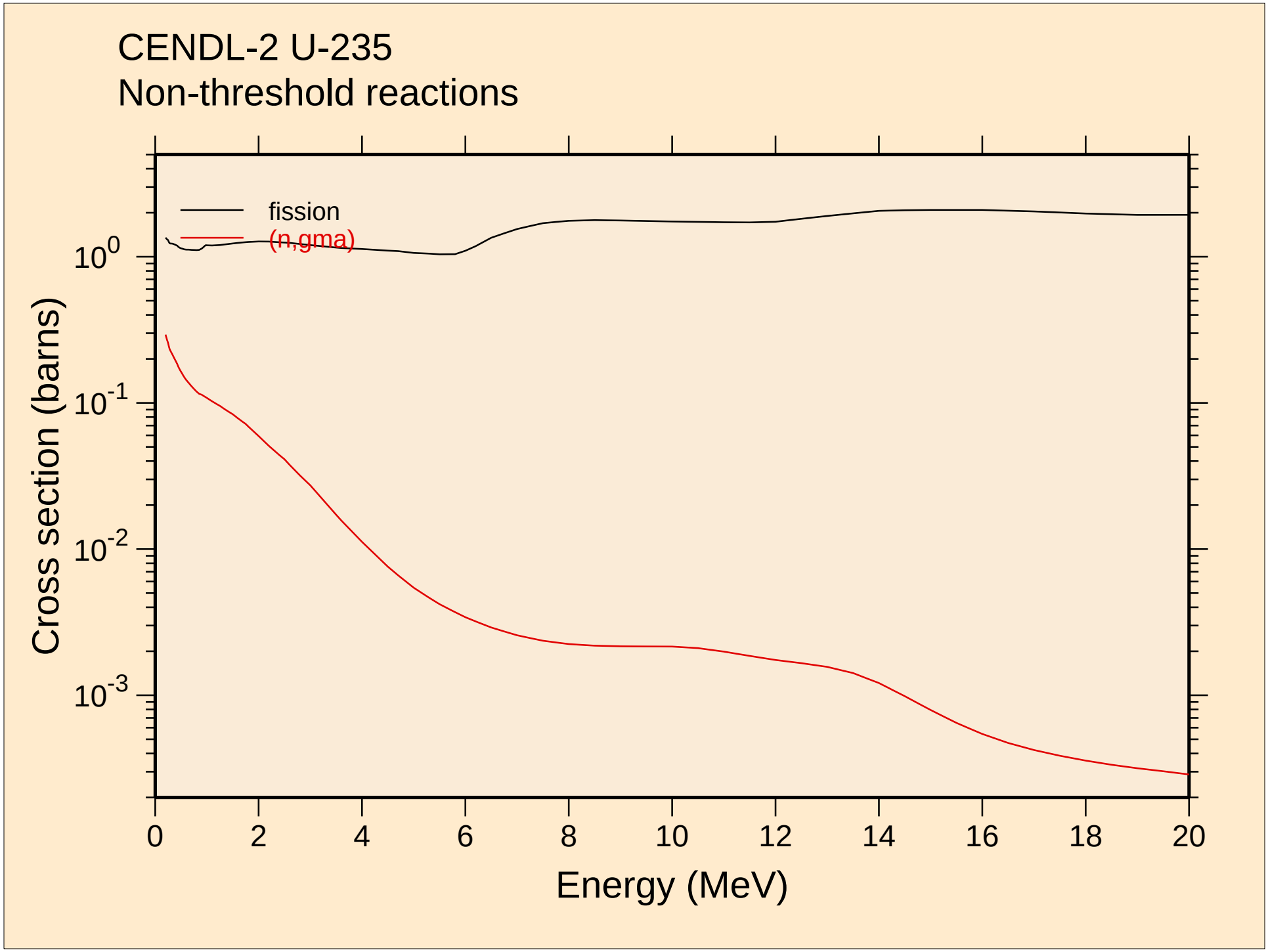

CENDL-2 U-235
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

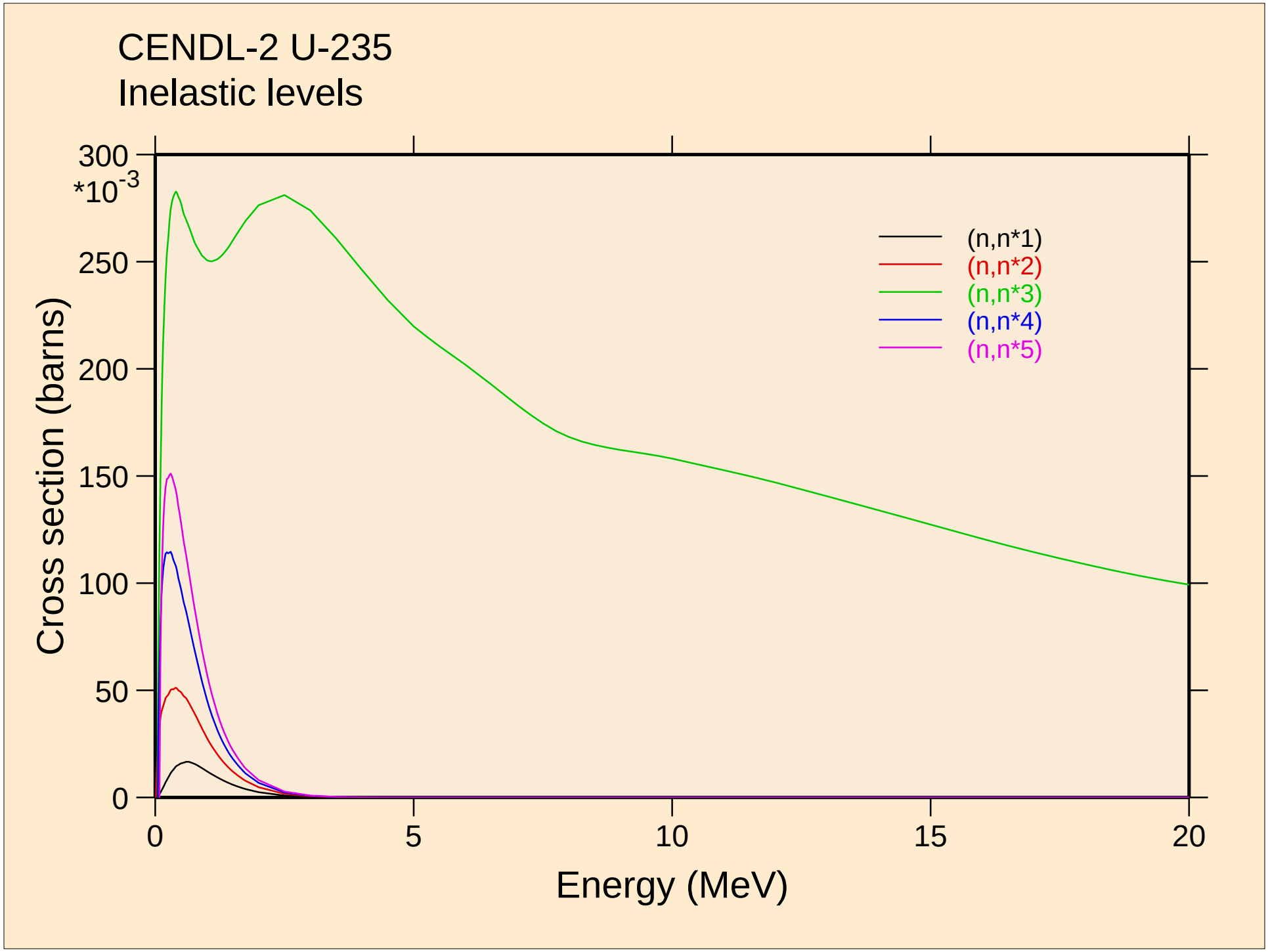

CENDL-2 U-235
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
Energy (MeV)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}

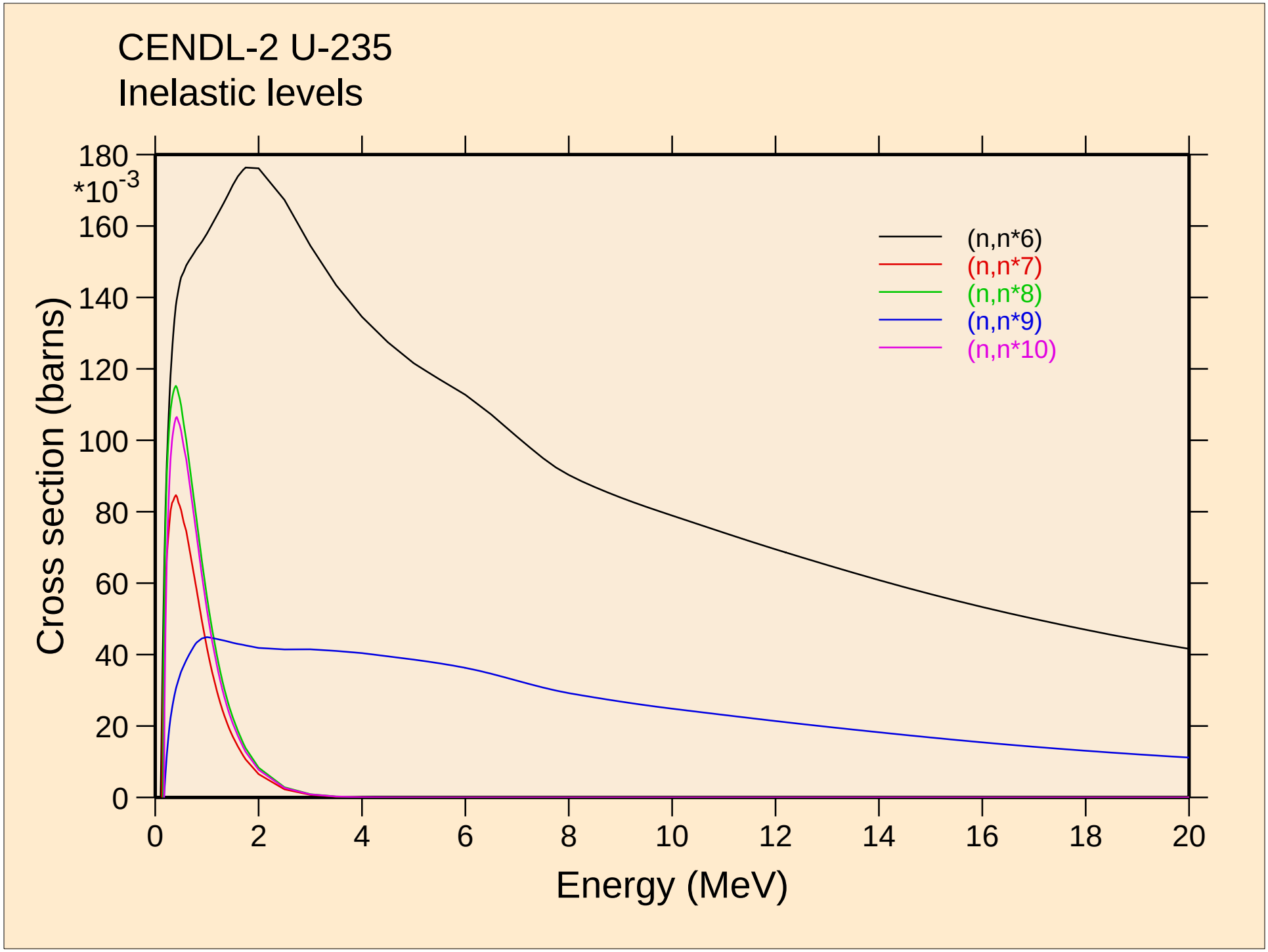

CENDL-2 U-235
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
5
10
15
20
25
30
35
2
4
6
8
10
12
14
16
18
20

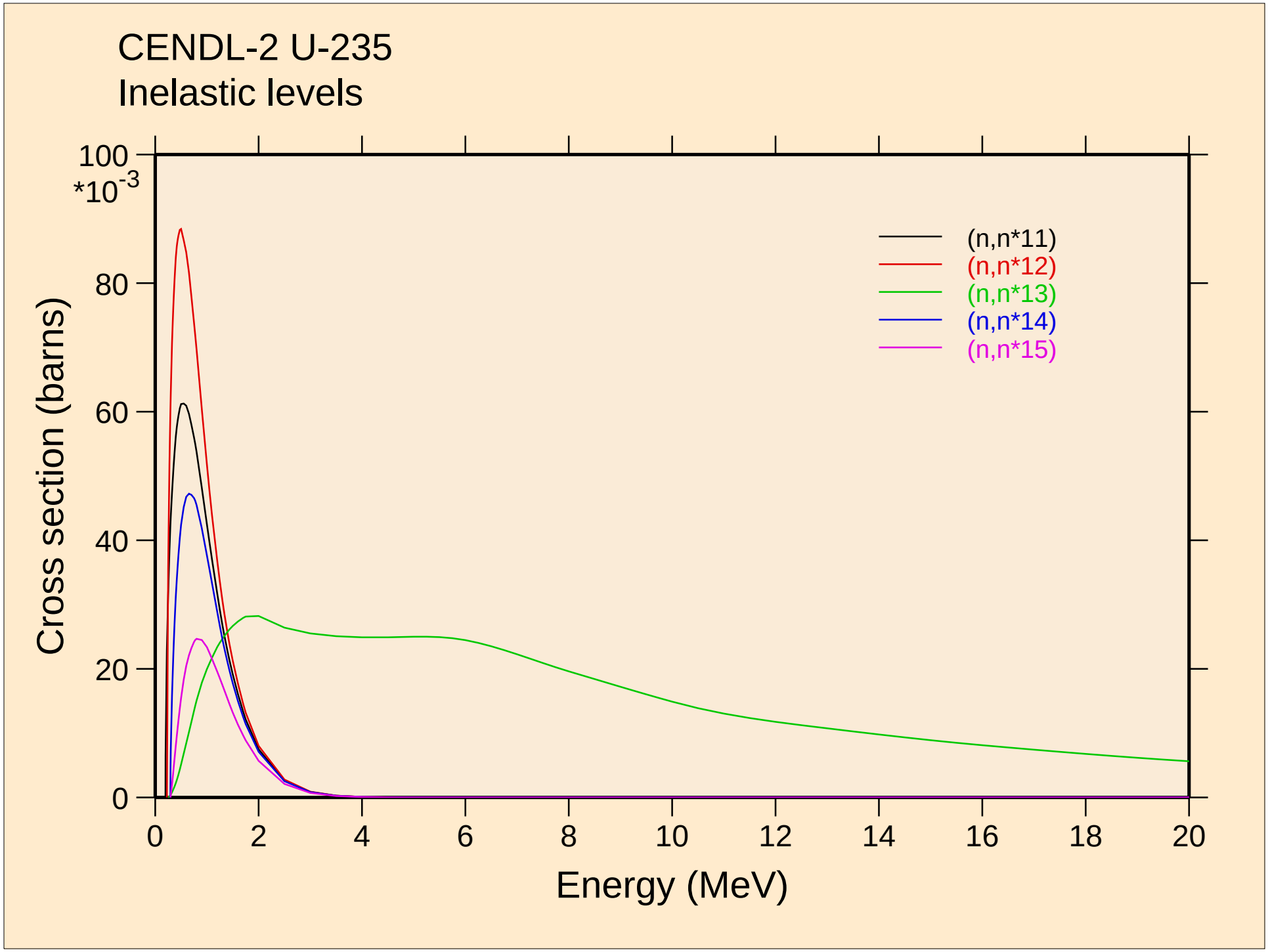

CENDL-2 U-235
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
10
20
30
40
50
60
70
0
5
10
15
20

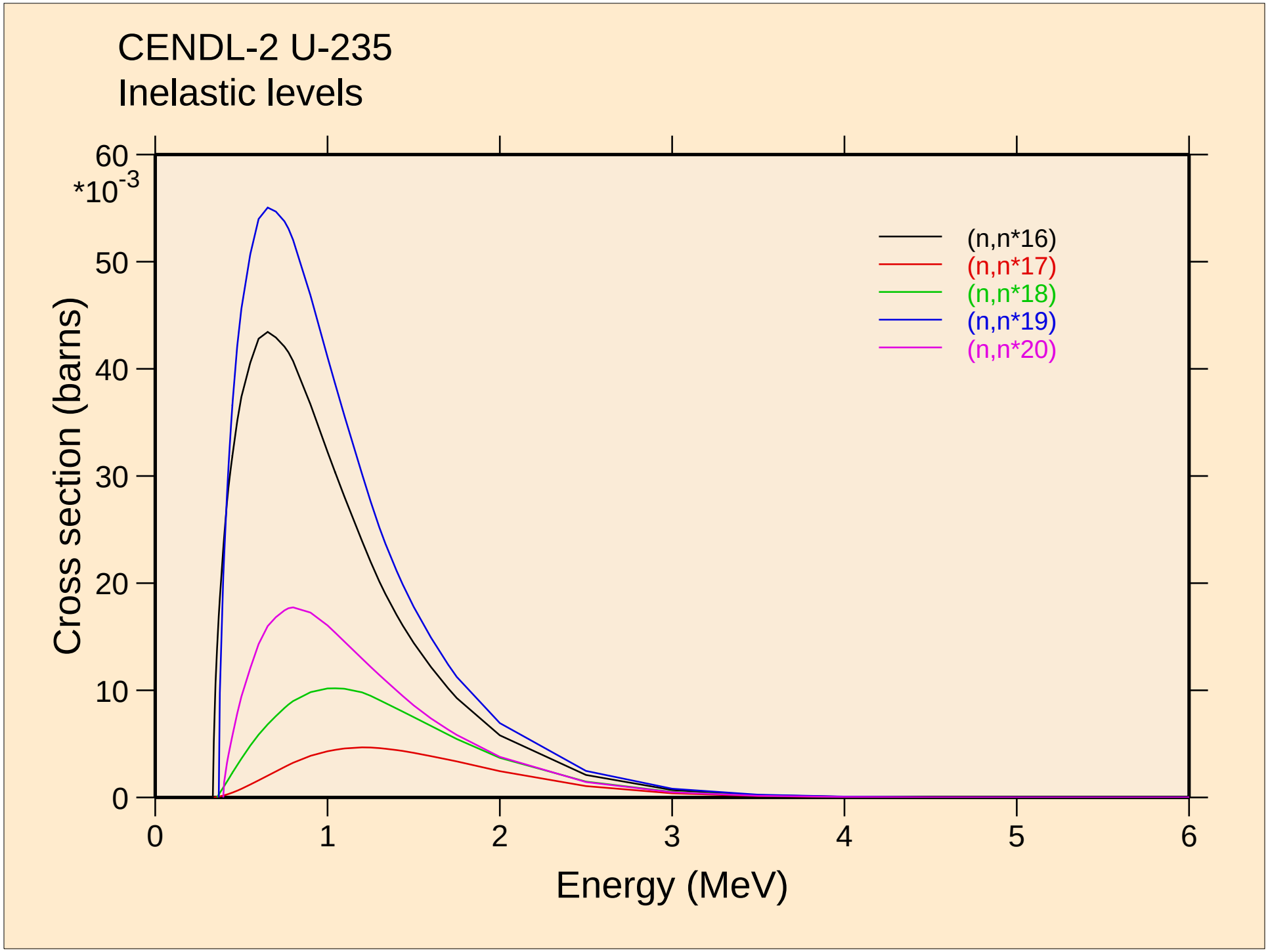

CENDL-2 U-235
Damage
damage
*10-3
220
200
180
160
140
120
100
80
60
40
20
Damage (MeV-barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

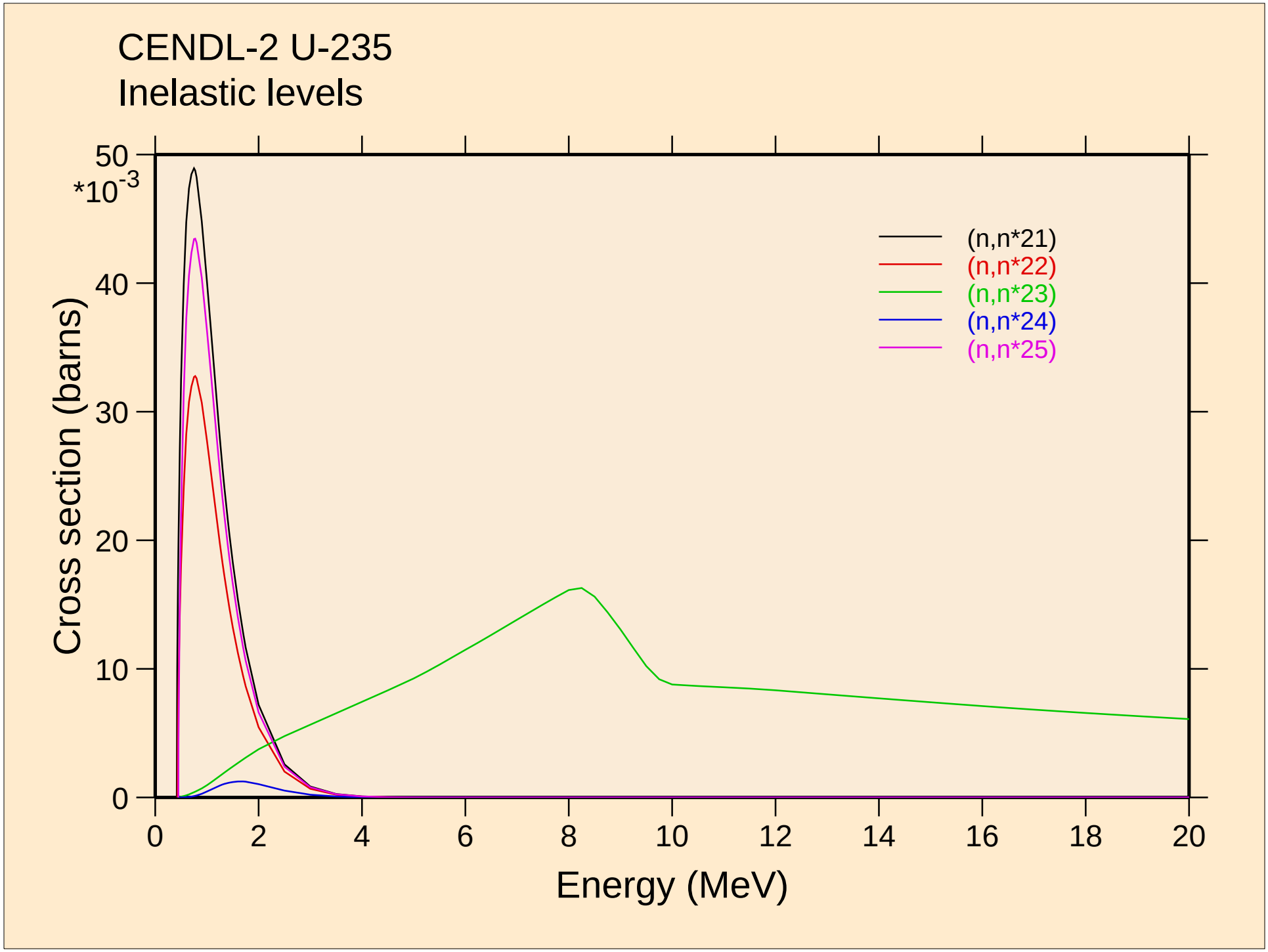

CENDL-2 U-235
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
10^0
10^{-1}
10^{-2}
10^{-3}
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

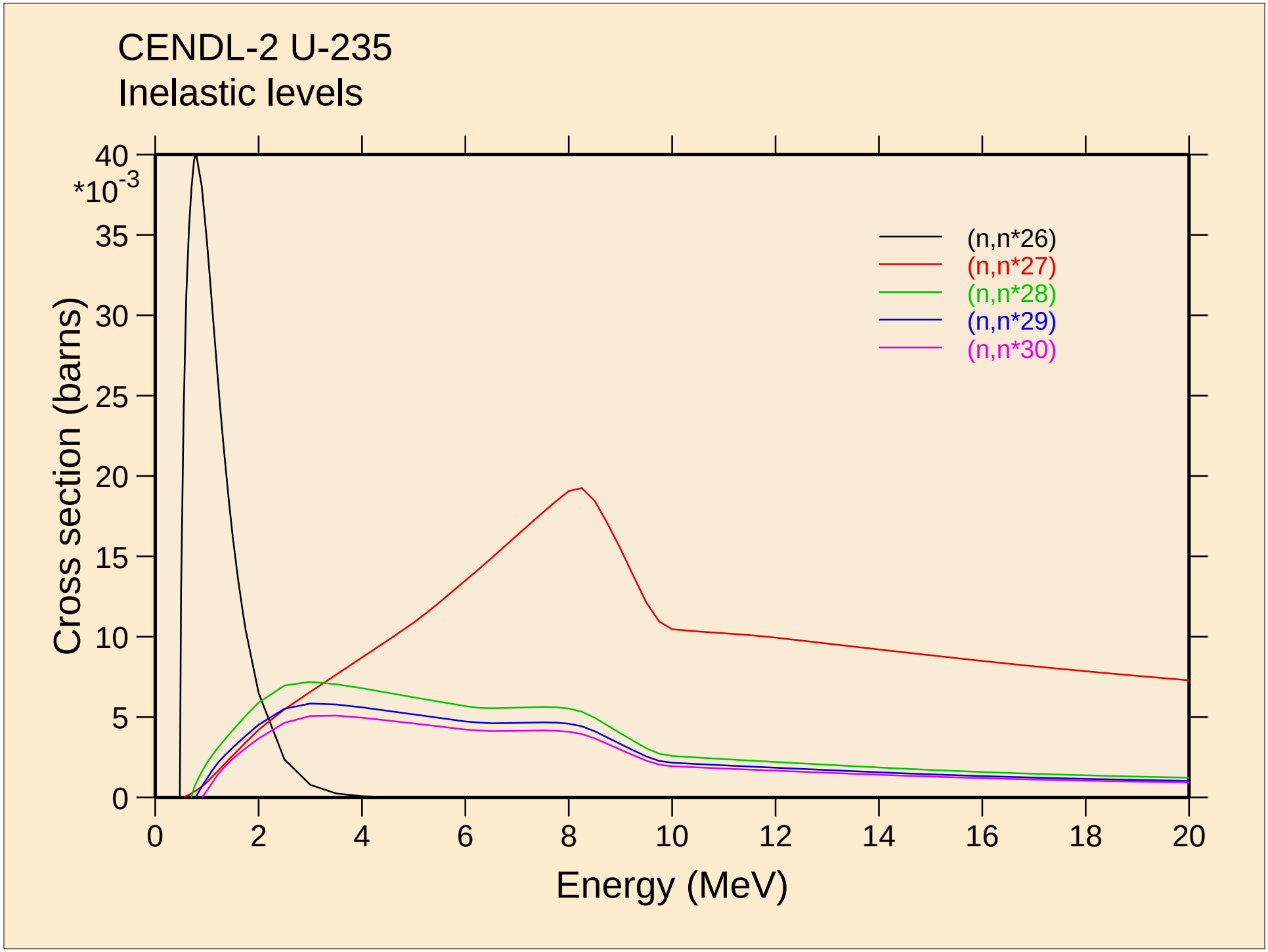

CENDL-2 U-235
Inelastic levels
300
*10-3
250
200
150
100
50
0
Cross section (barns)
0
5
10
15
20
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

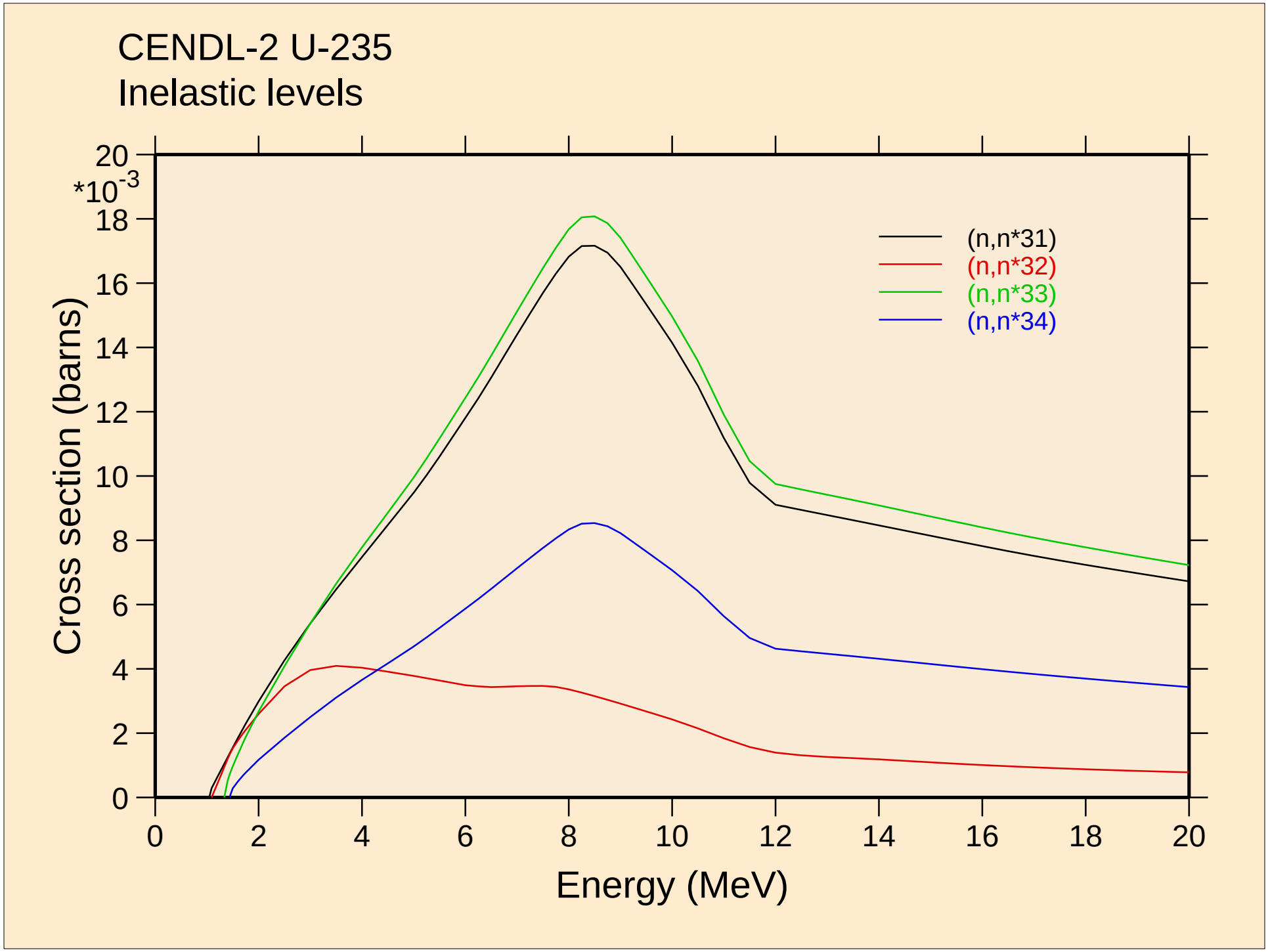

CENDL-2 U-235
Inelastic levels
Cross section (barns)
*10^-3
180
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

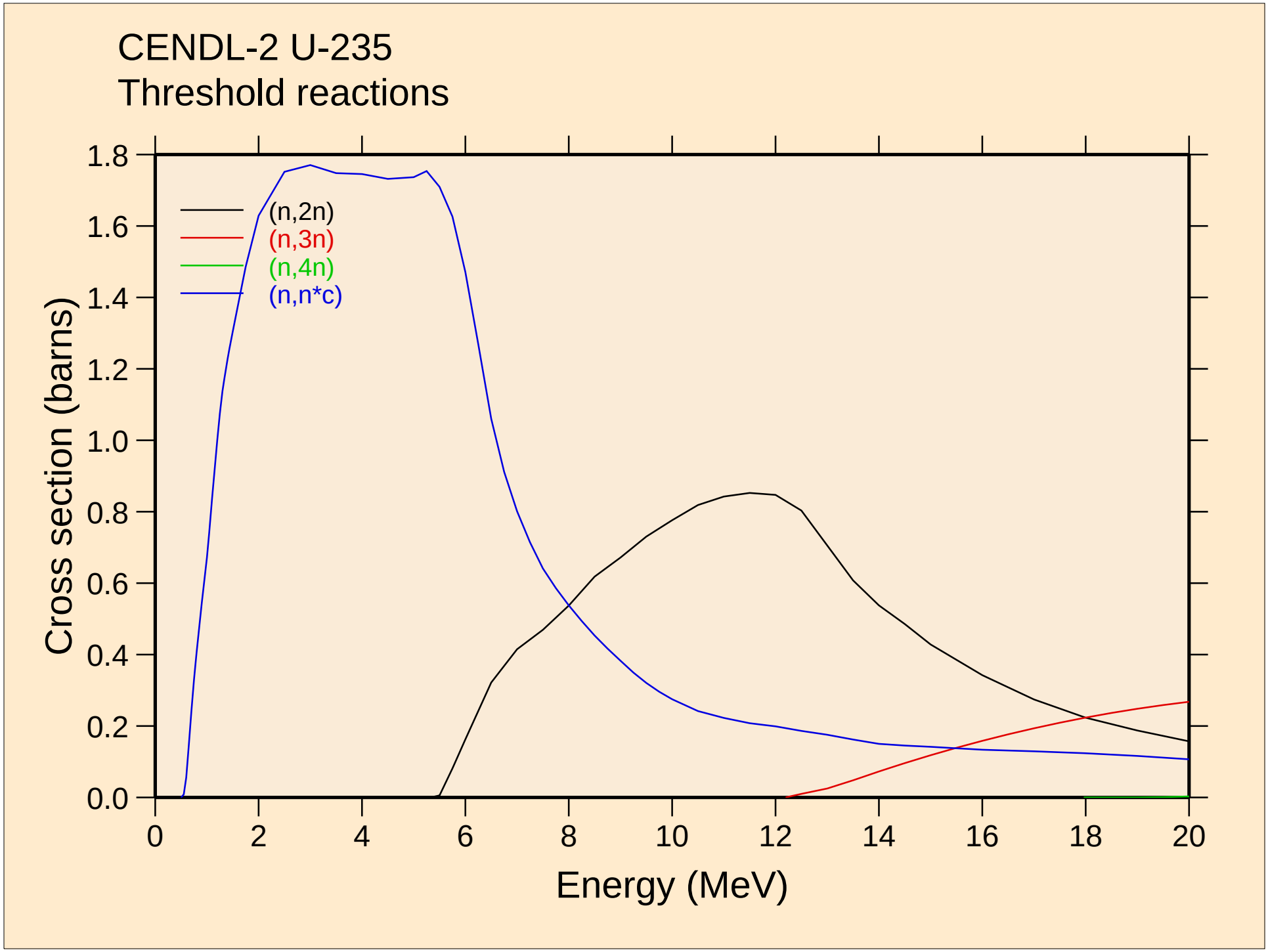

CENDL-2 U-235
Inelastic levels
100
*10-3
80
60
40
20
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

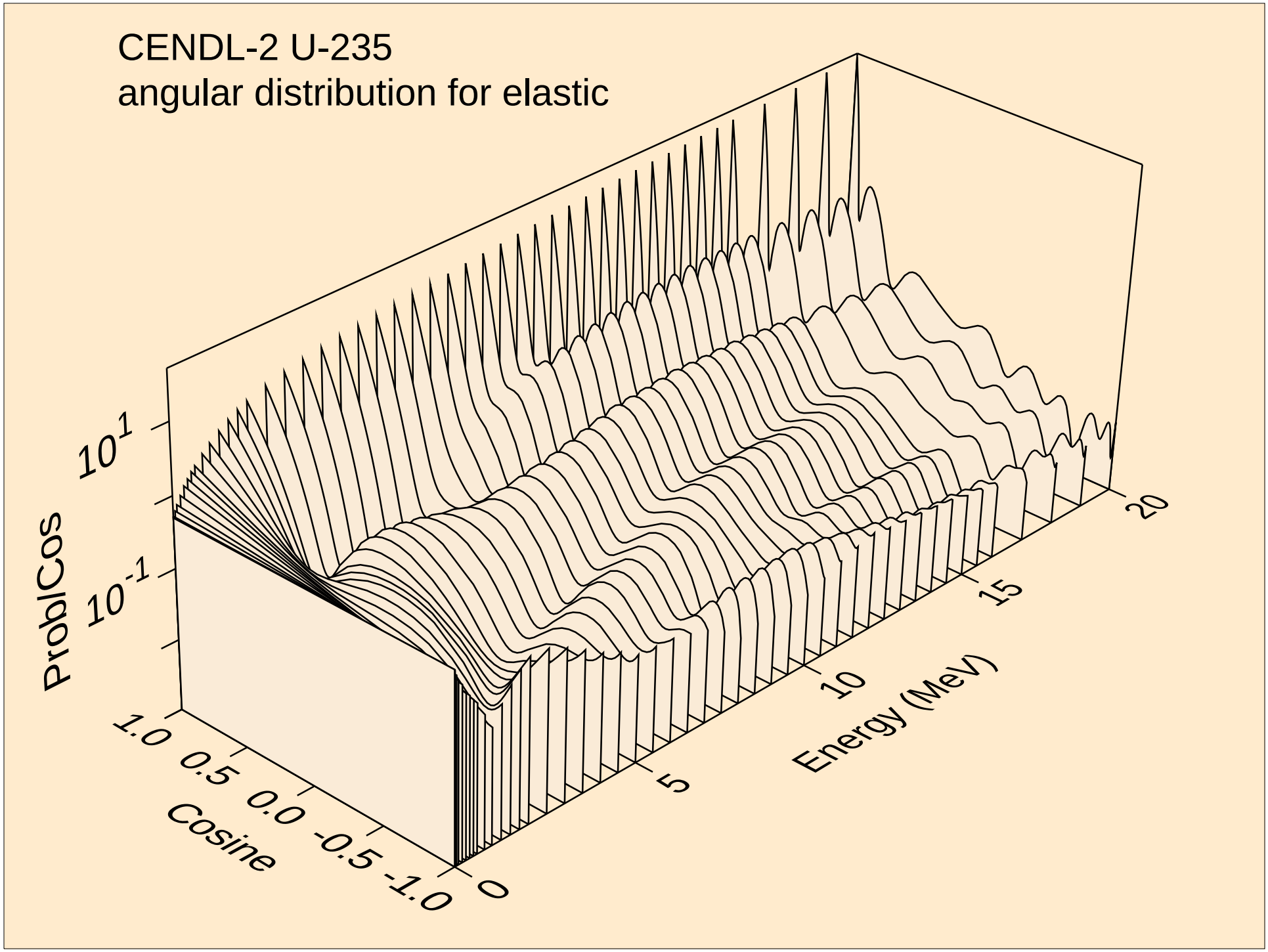

CENDL-2 U-235
Inelastic levels
Cross section (barns)
*10^-3
60
50
40
30
20
10
0
0
1
2
3
4
5
6
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

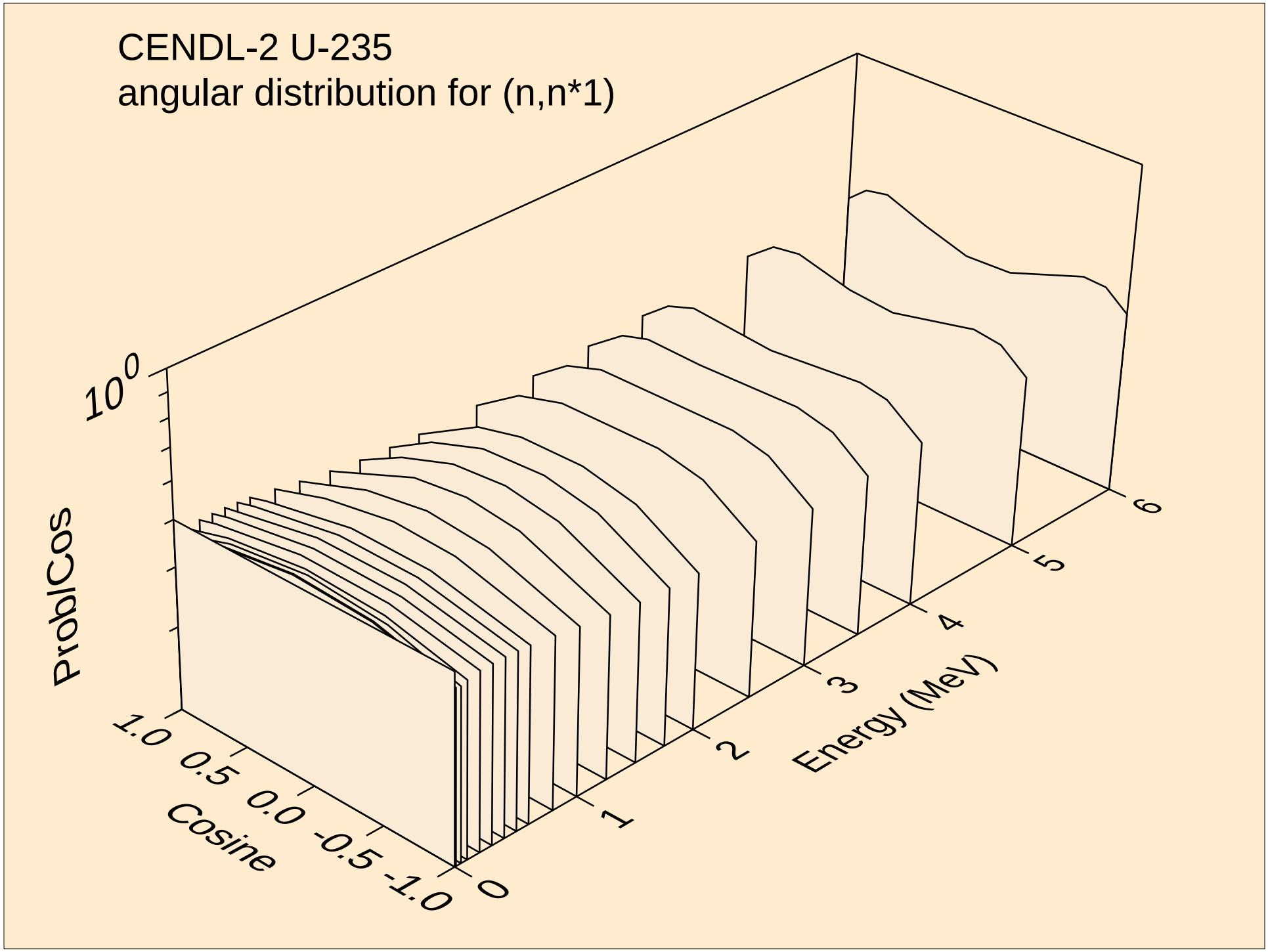

CENDL-2 U-235
Inelastic levels
Cross section (barns)
*10^-3
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)

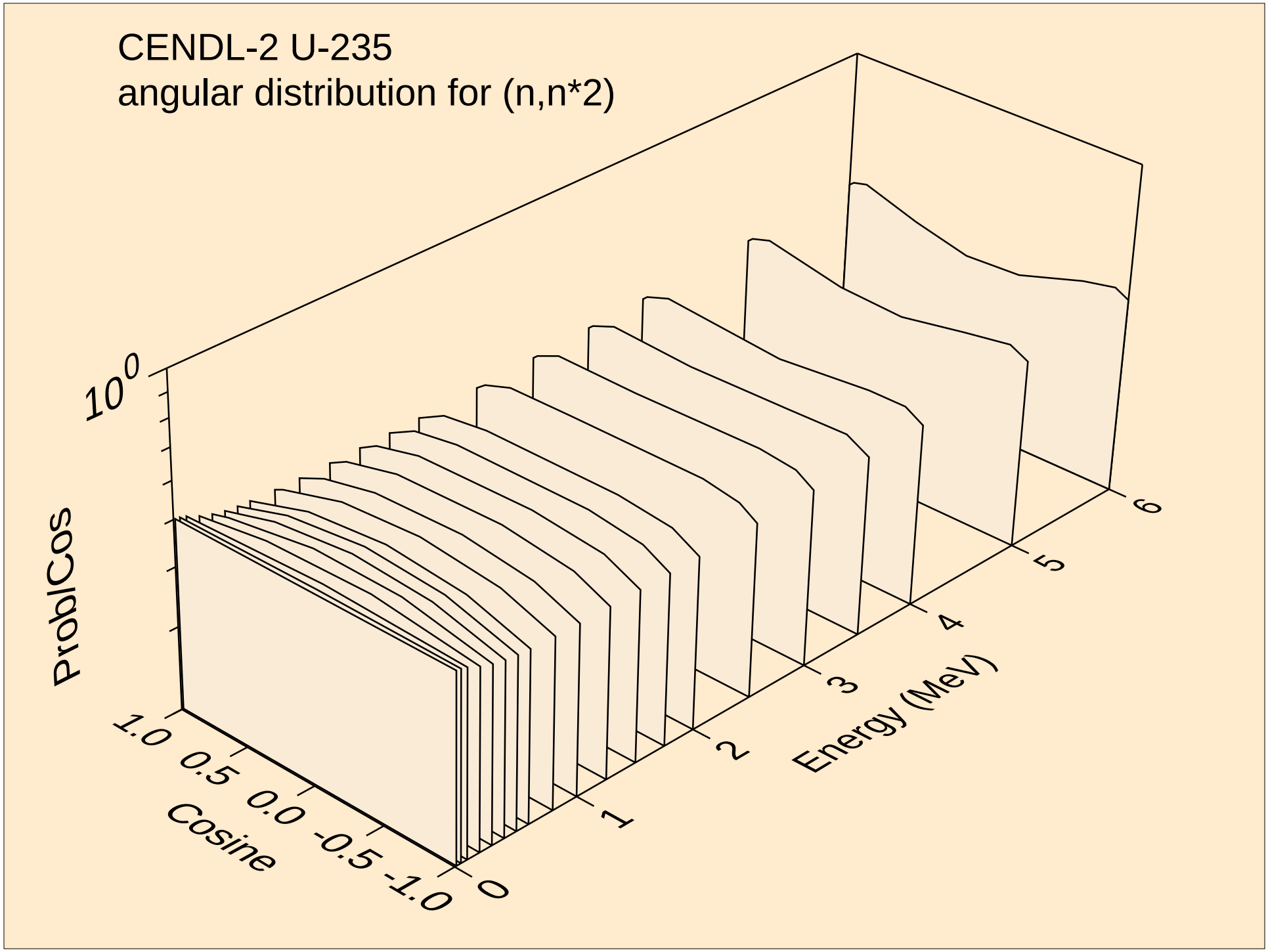

CENDL-2 U-235
Inelastic levels
Cross section (barns)
*10^-3
40
35
30
25
20
15
10
5
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*26)
(n,n*27)
(n,n*28)
(n,n*29)
(n,n*30)

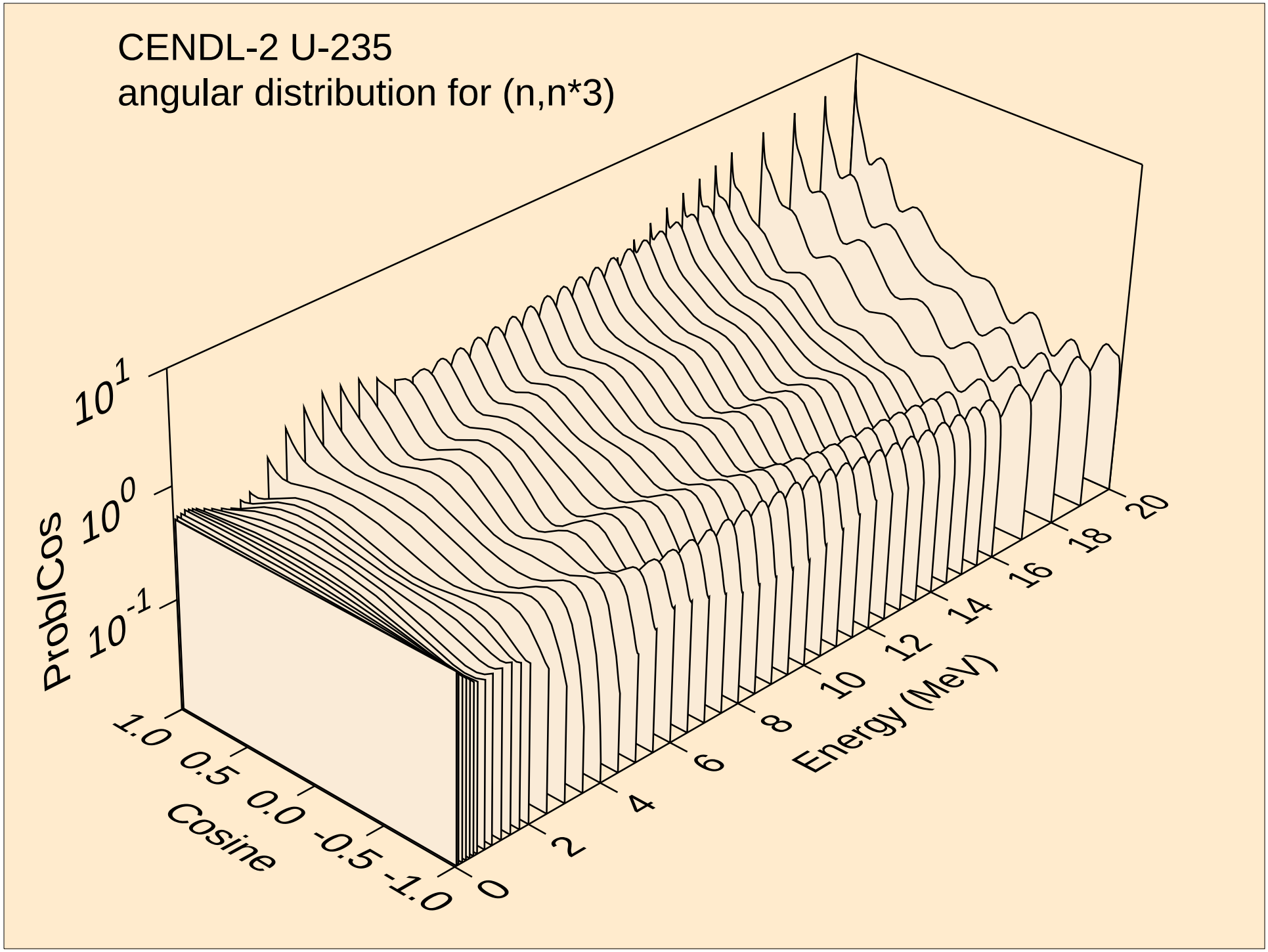

CENDL-2 U-235
Inelastic levels
*10-3
Cross section (barns)
Energy (MeV)
(n,n*31)
(n,n*32)
(n,n*33)
(n,n*34)
0
2
4
6
8
10
12
14
16
18
20

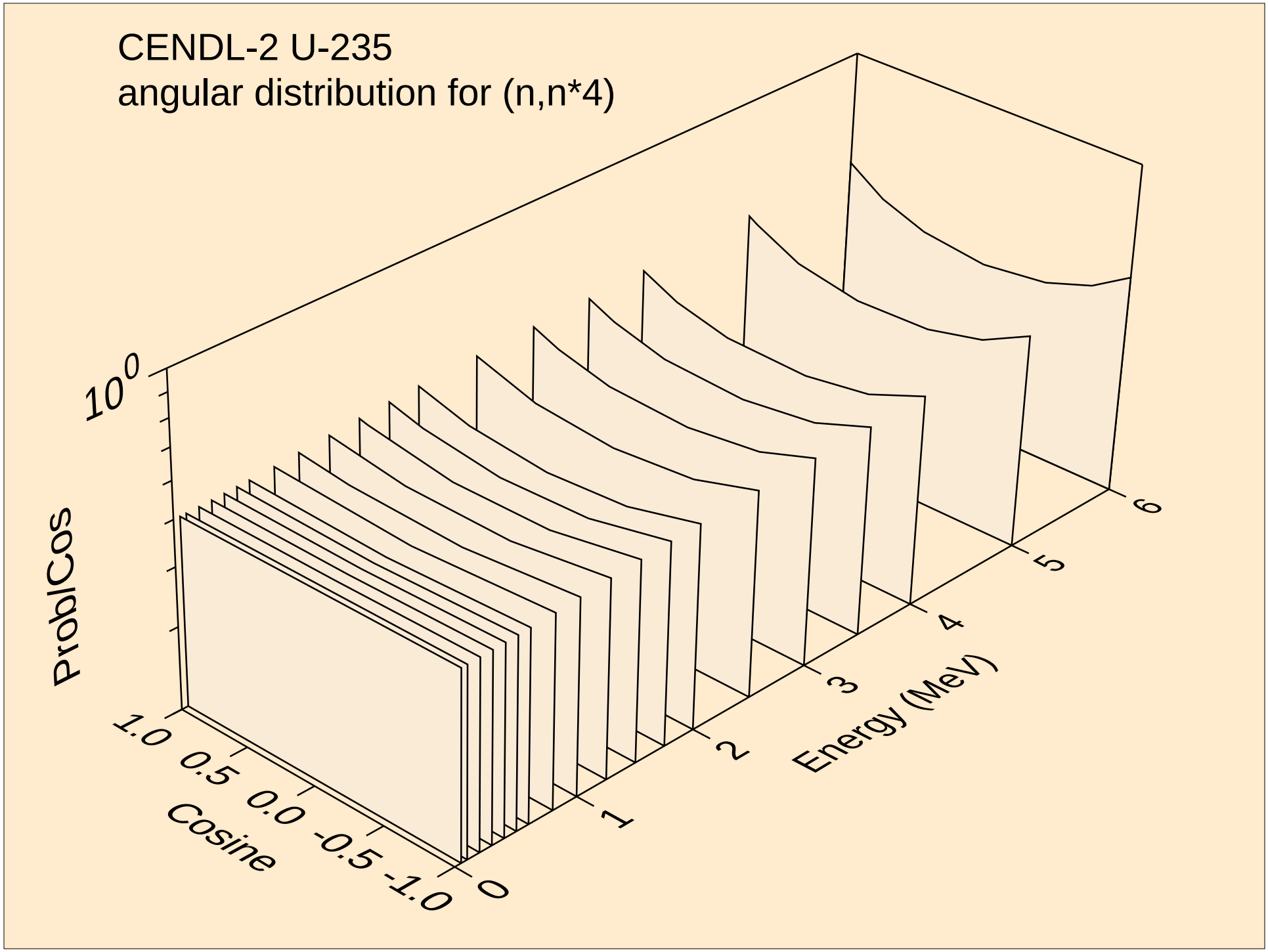

CENDL-2 U-235
Threshold reactions
(n,2n)
(n,3n)
(n,4n)
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
0
2
4
6
8
10
12
14
16
18
20

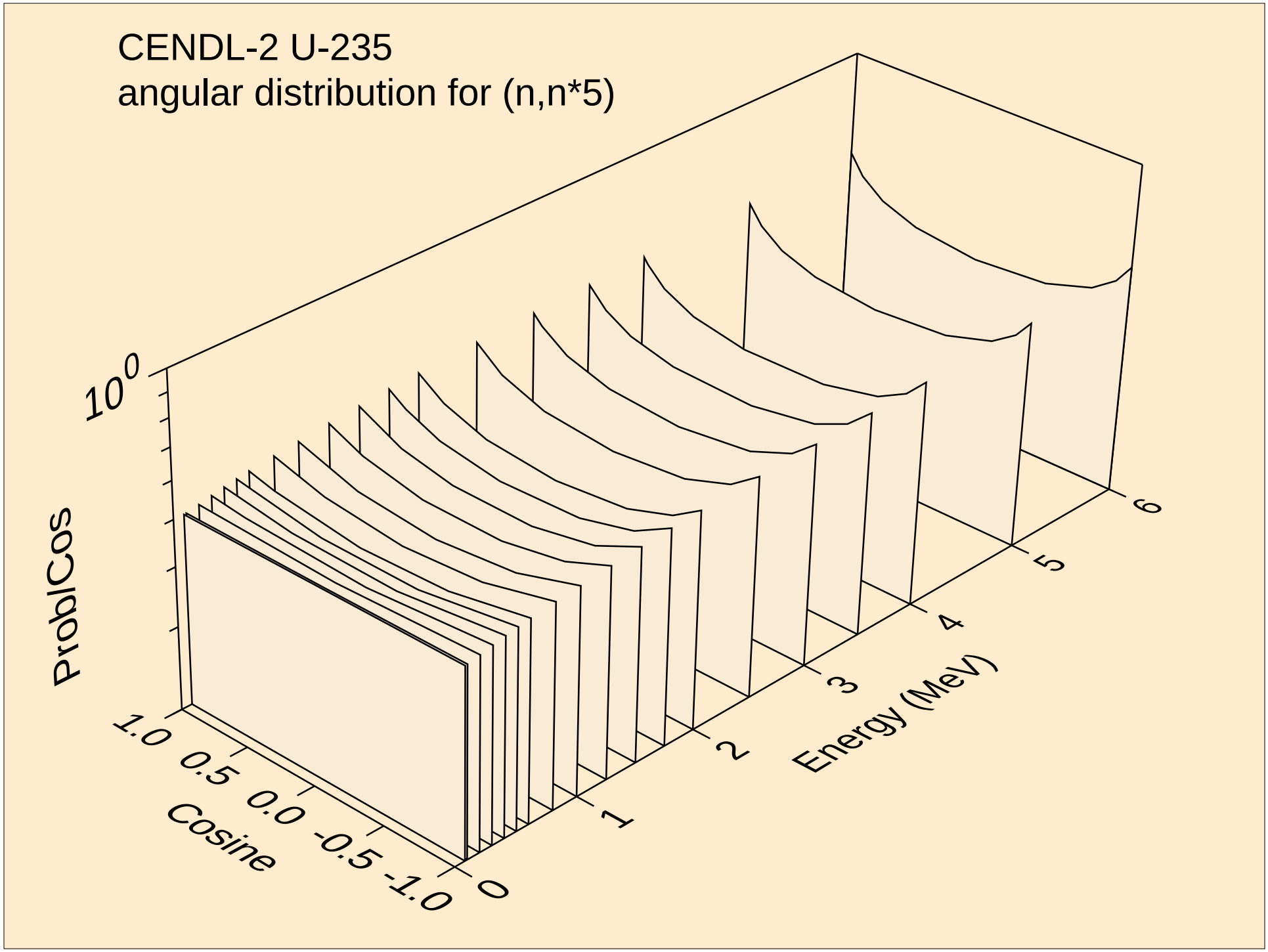

CENDL-2 U-235
angular distribution for elastic
ProblCos
10^{1}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

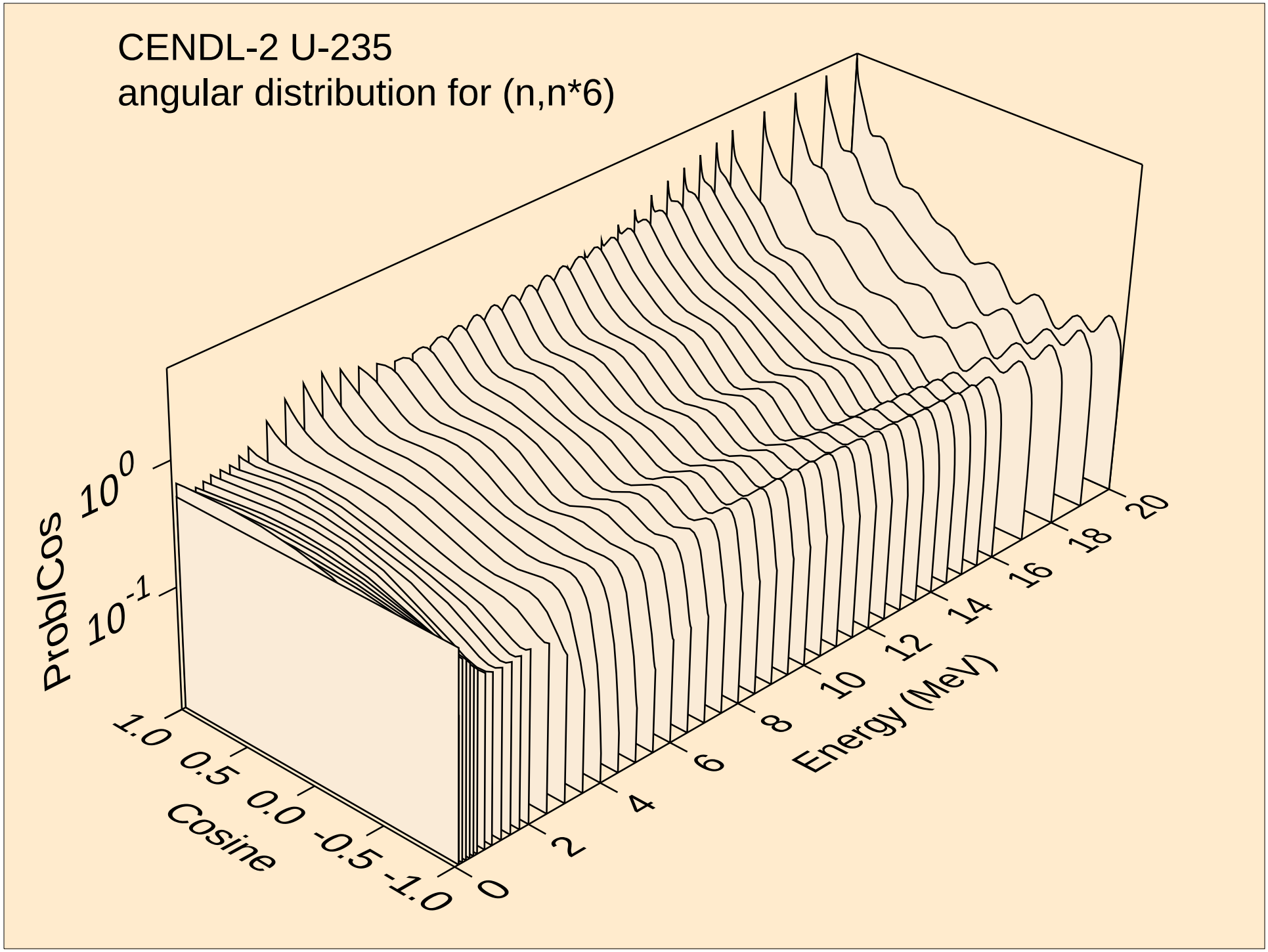

CENDL-2 U-235
angular distribution for (n,n*1)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

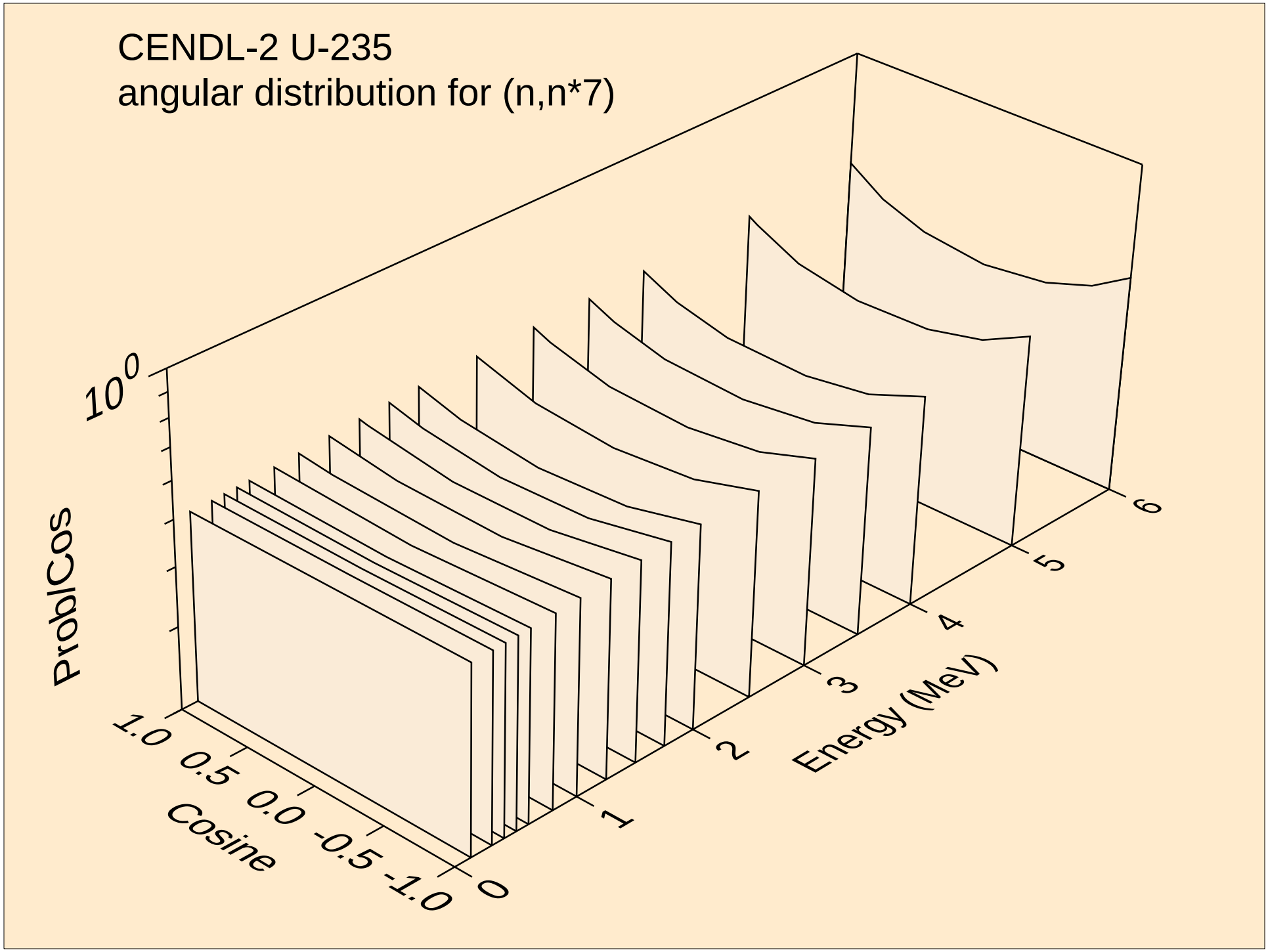

CENDL-2 U-235
angular distribution for (n,n*2)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

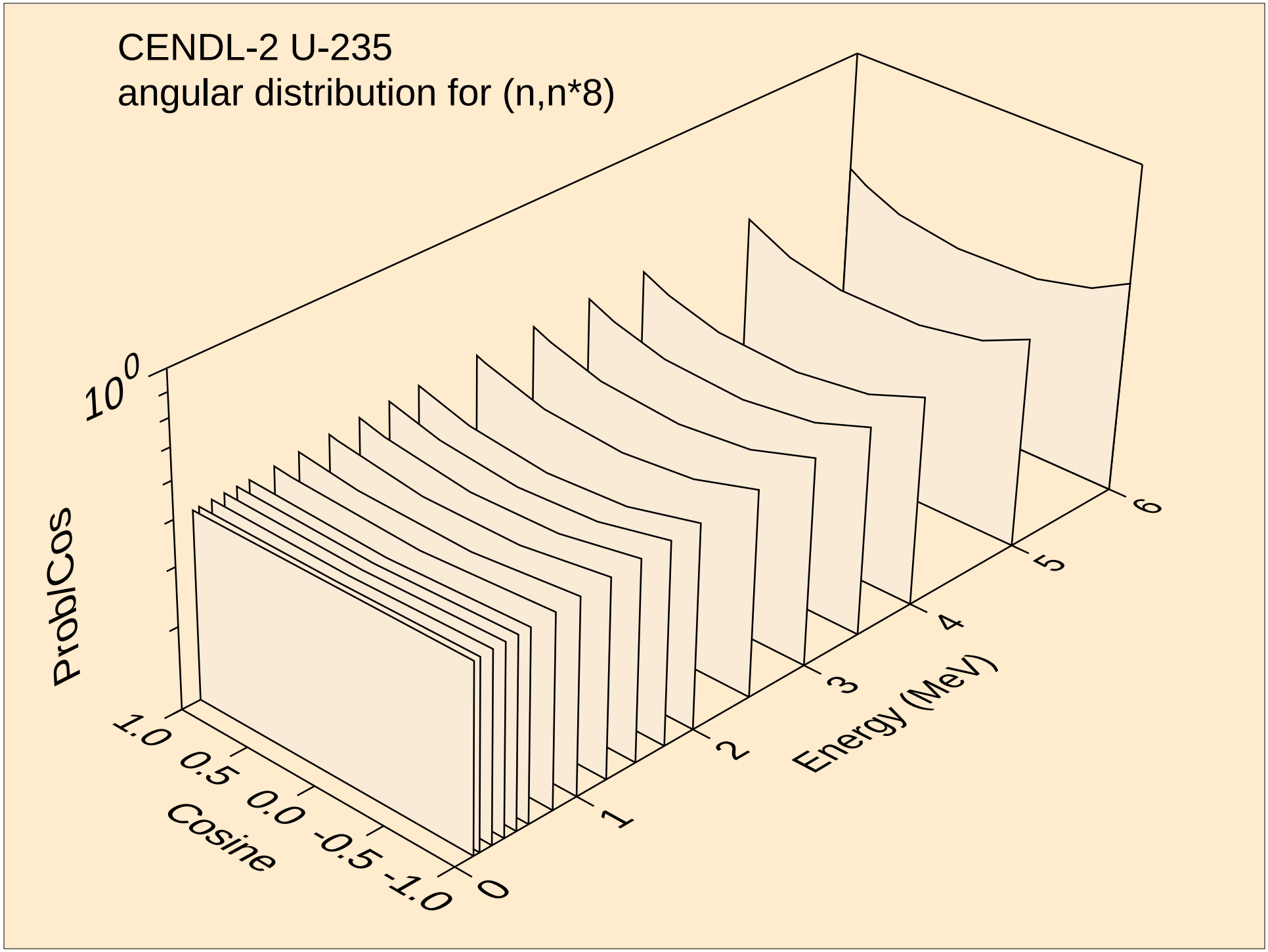

CENDL-2 U-235
angular distribution for (n,n*3)
ProbCos
10^{1}
10^{0}
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

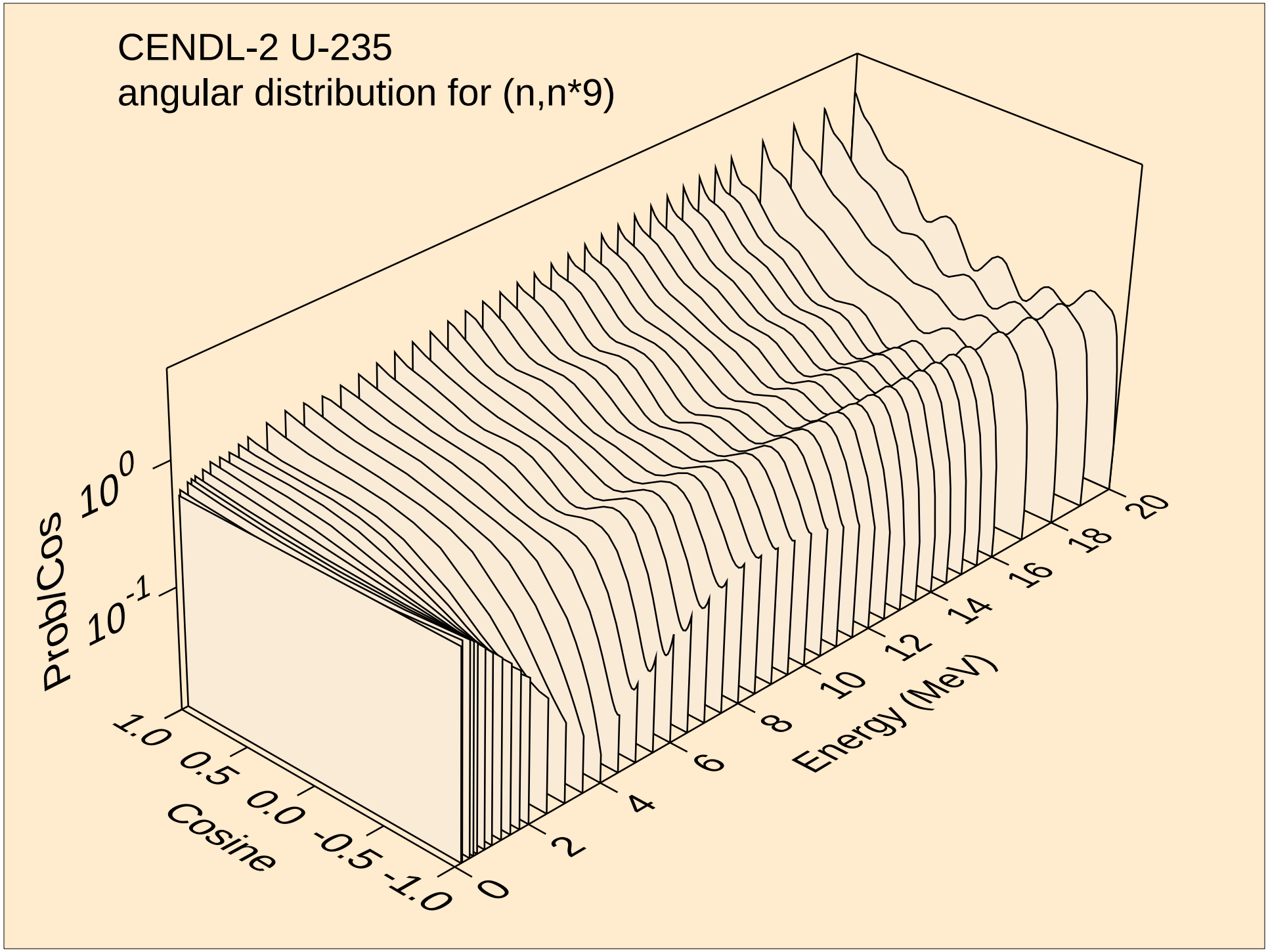

CENDL-2 U-235
angular distribution for (n,n*4)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

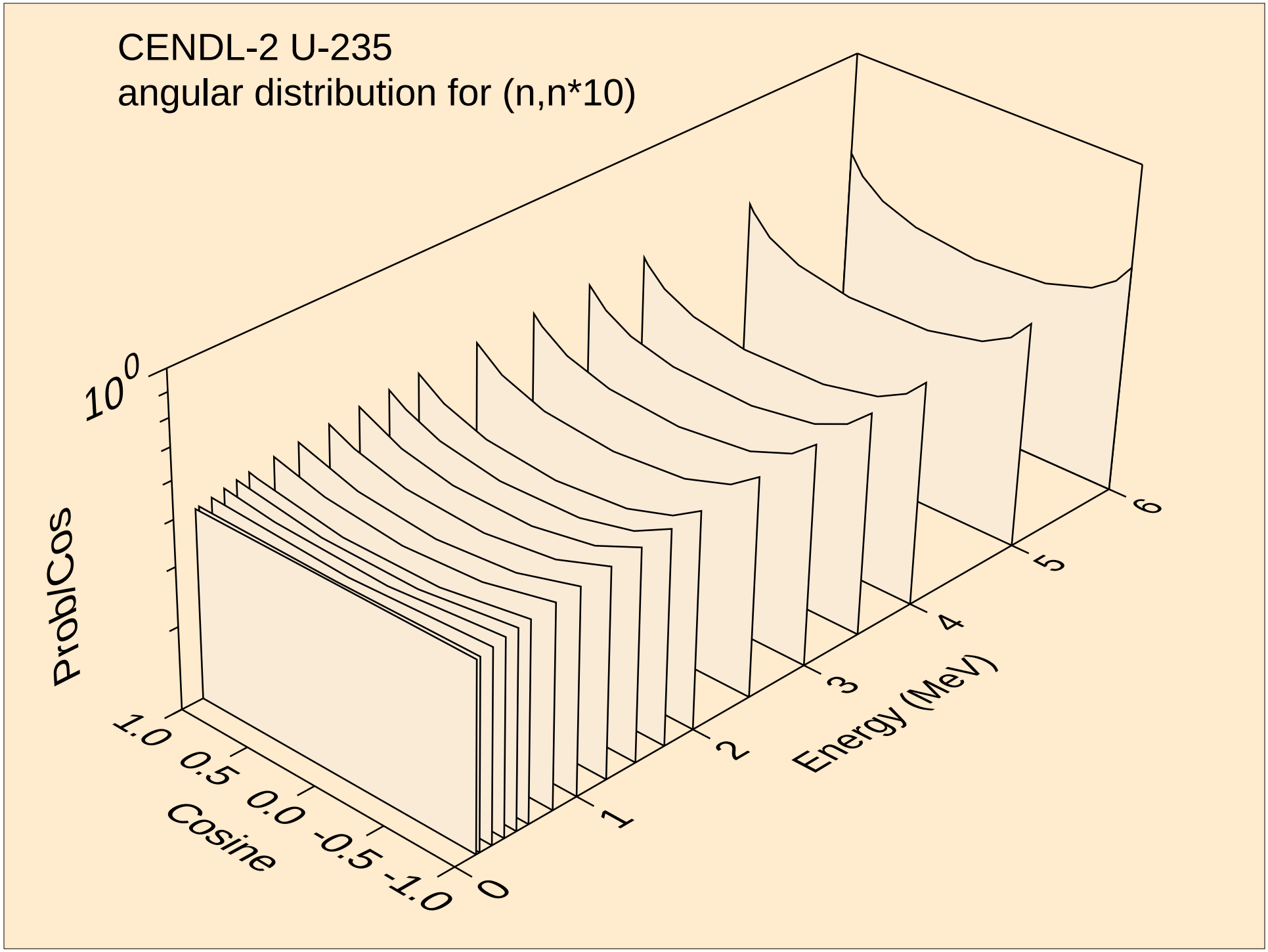

CENDL-2 U-235
angular distribution for (n,n*5)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

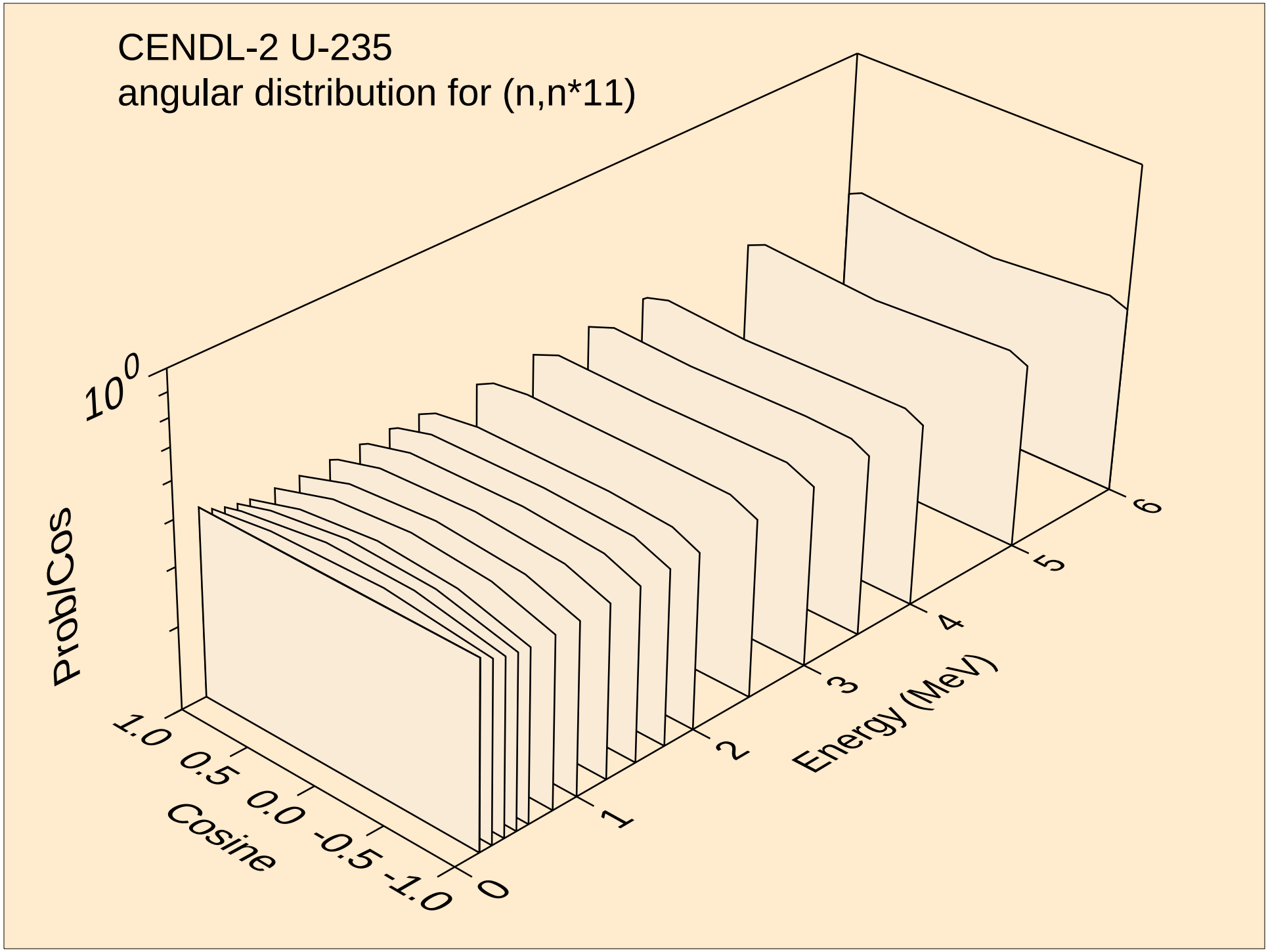

CENDL-2 U-235
angular distribution for (n,n*6)
ProbCos
10^0
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

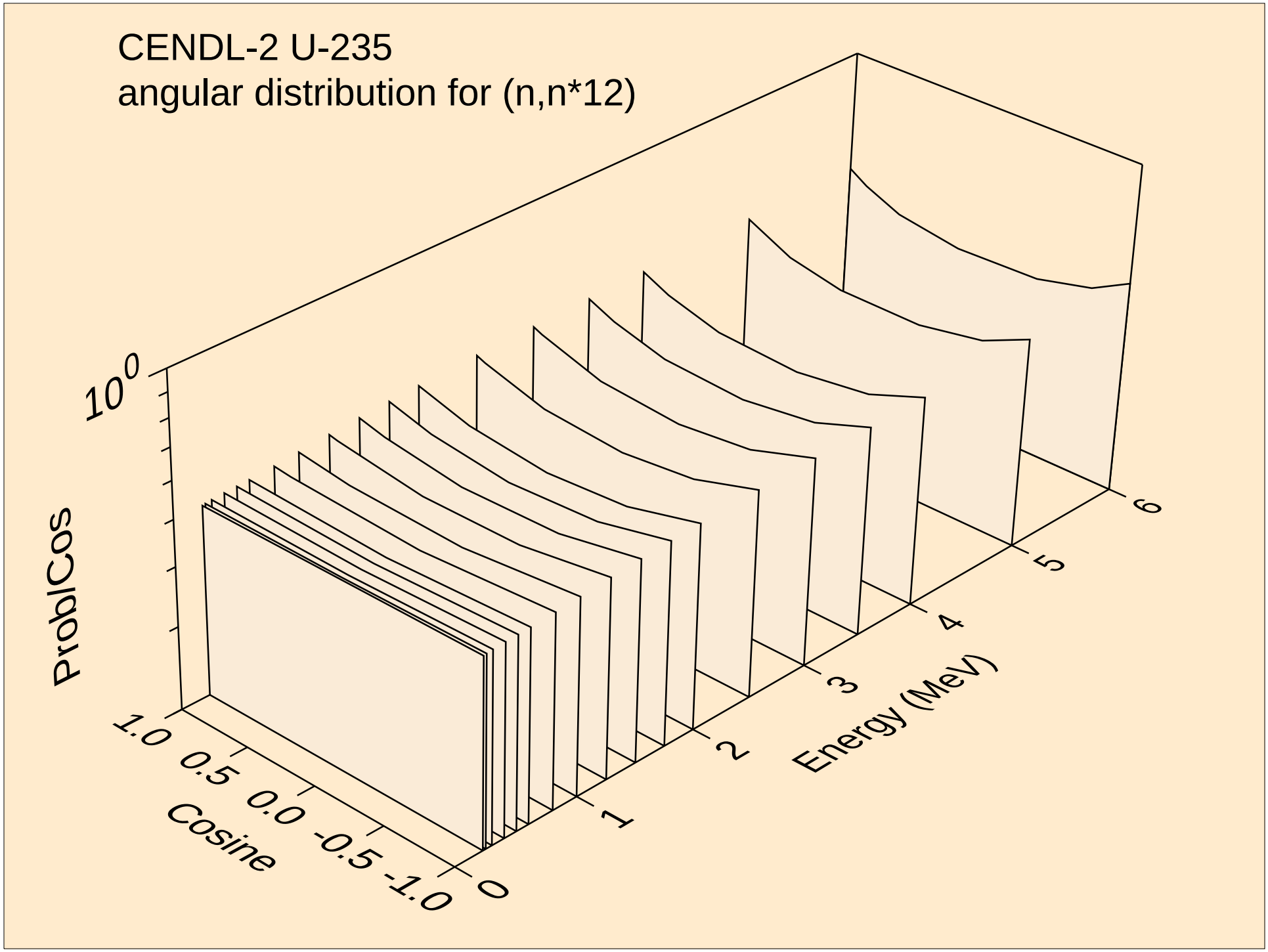

CENDL-2 U-235
angular distribution for (n,n*7)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

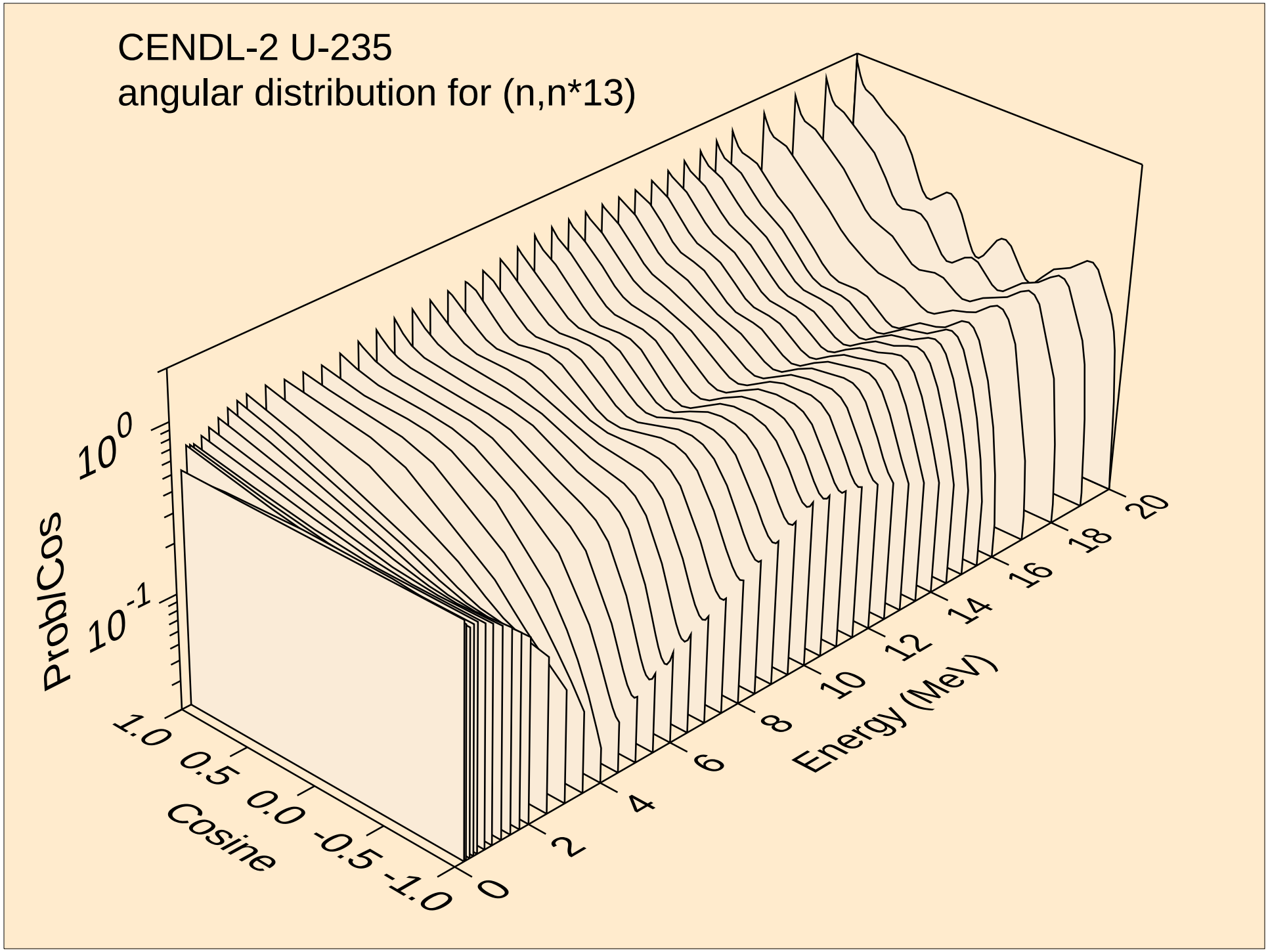

CENDL-2 U-235
angular distribution for (n,n*8)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

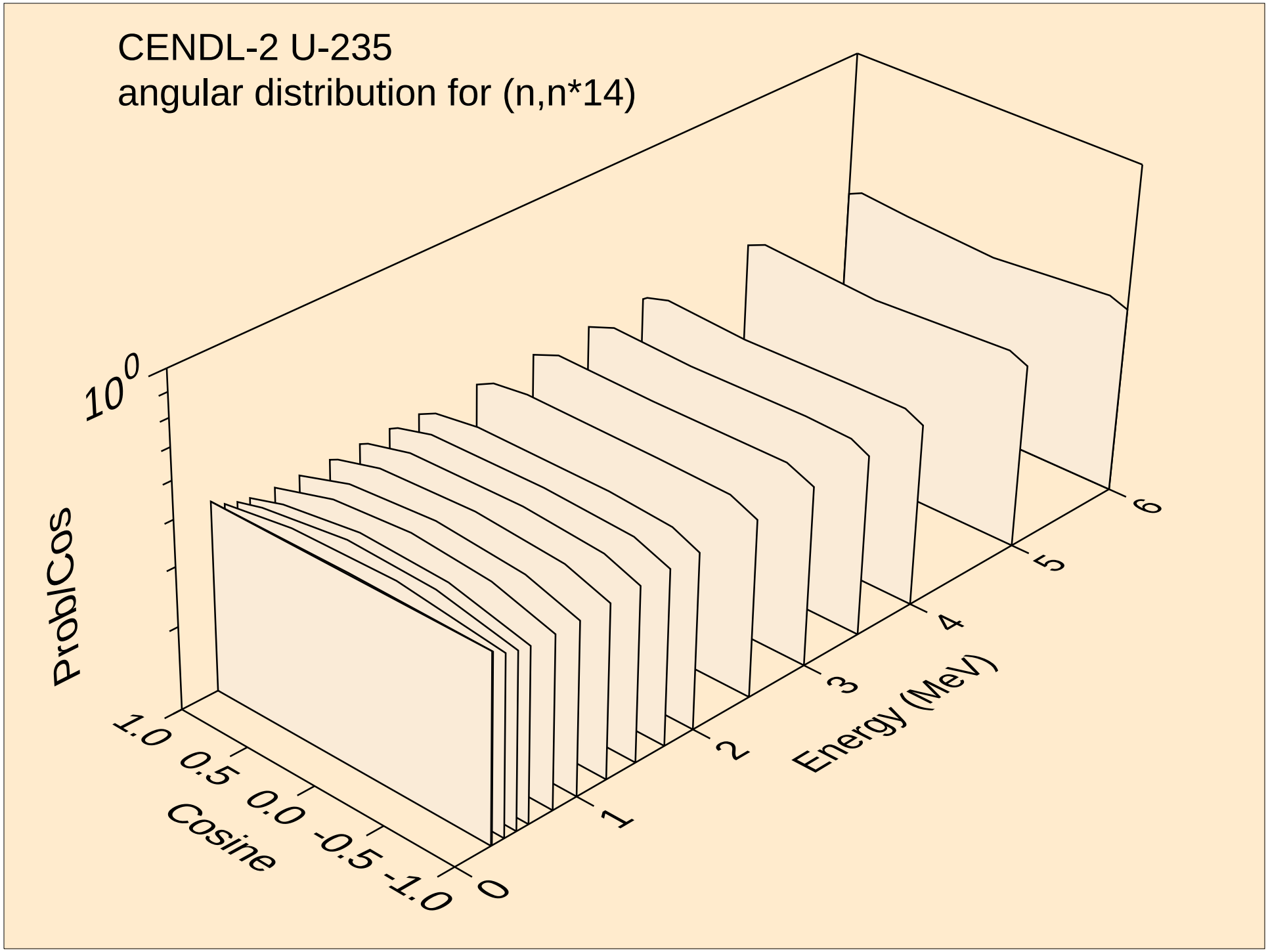

CENDL-2 U-235
angular distribution for (n,n*9)
ProbCos
10^0
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

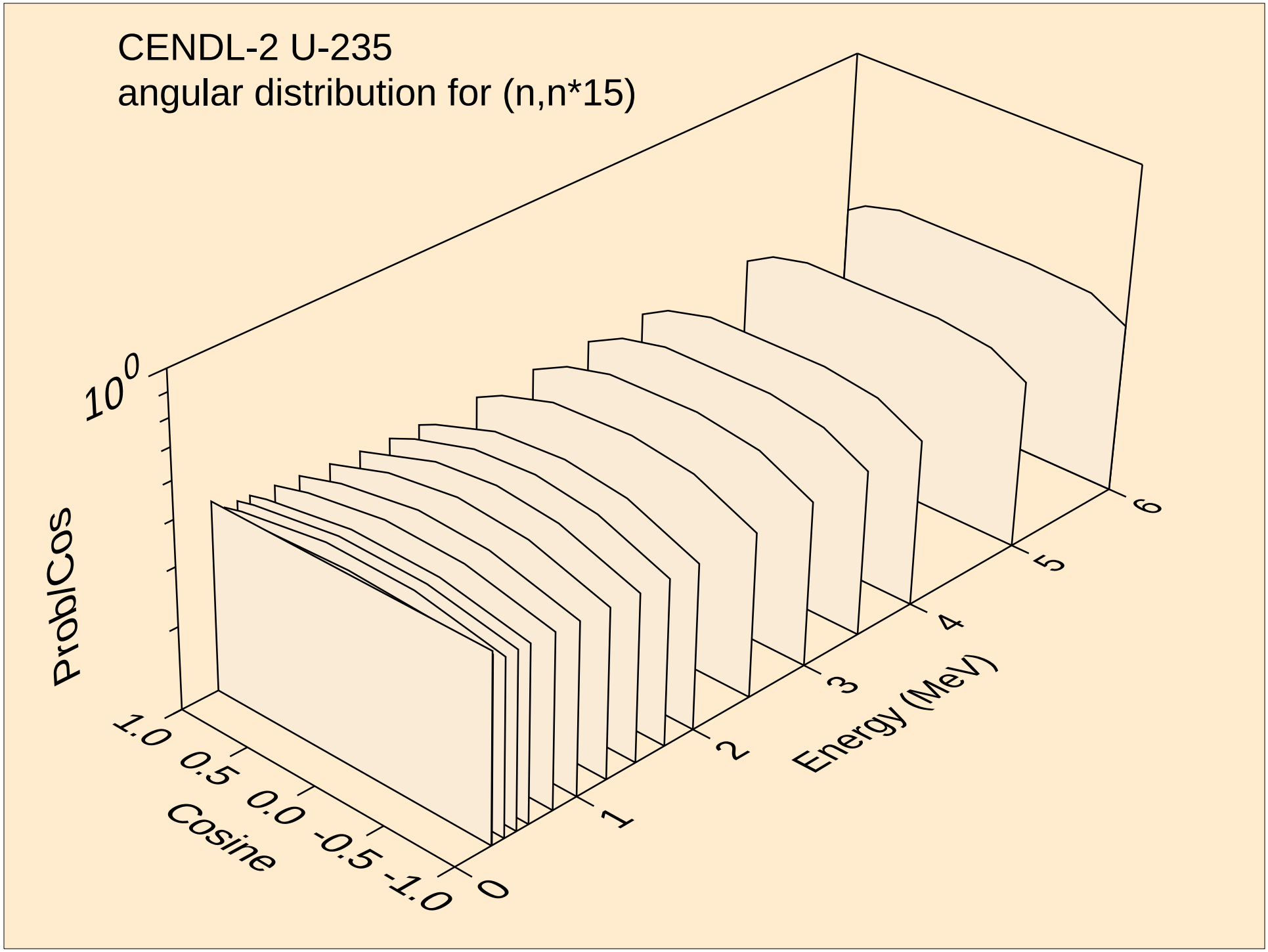

CENDL-2 U-235
angular distribution for (n,n*10)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

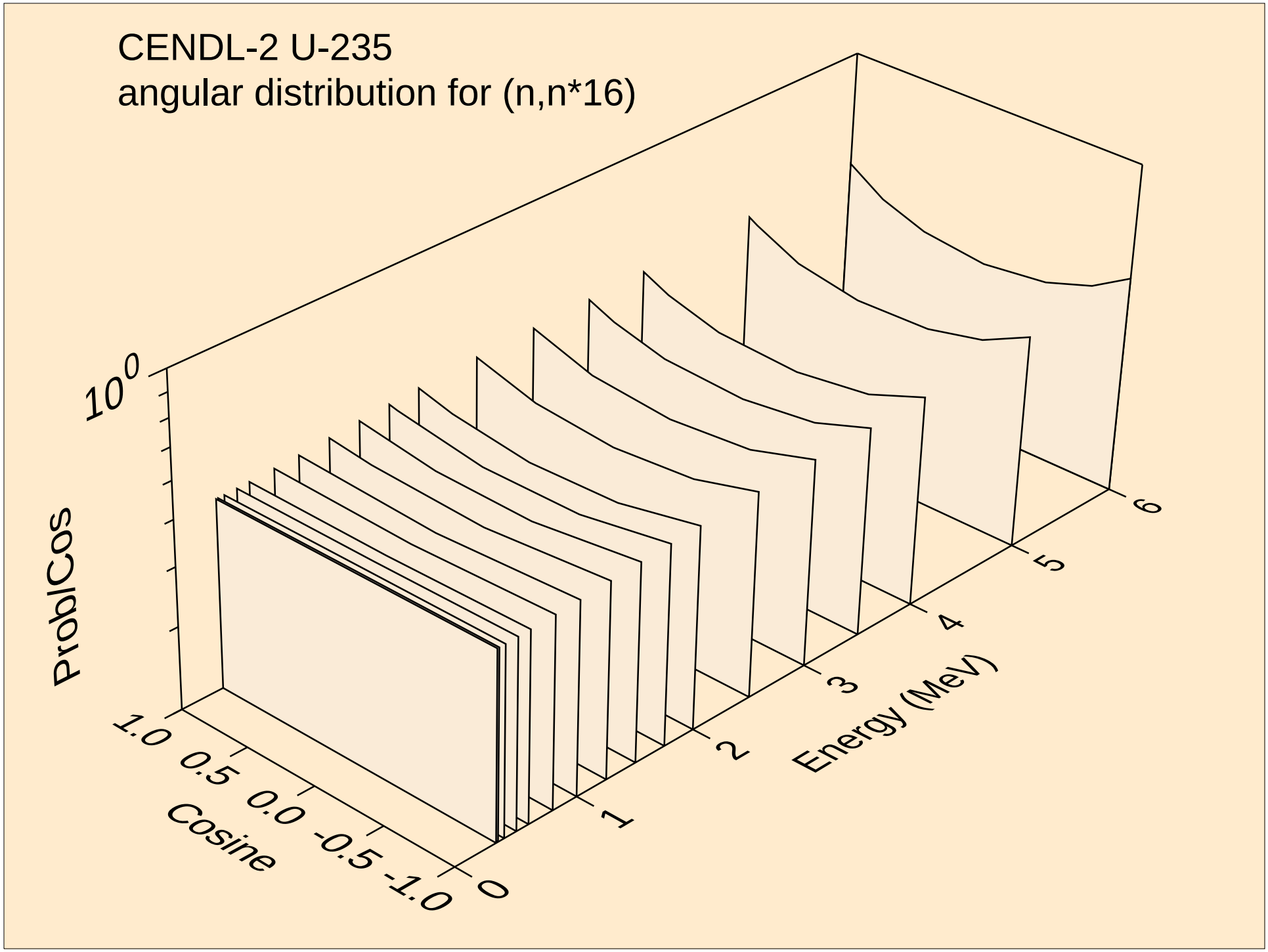

CENDL-2 U-235
angular distribution for (n,n*11)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

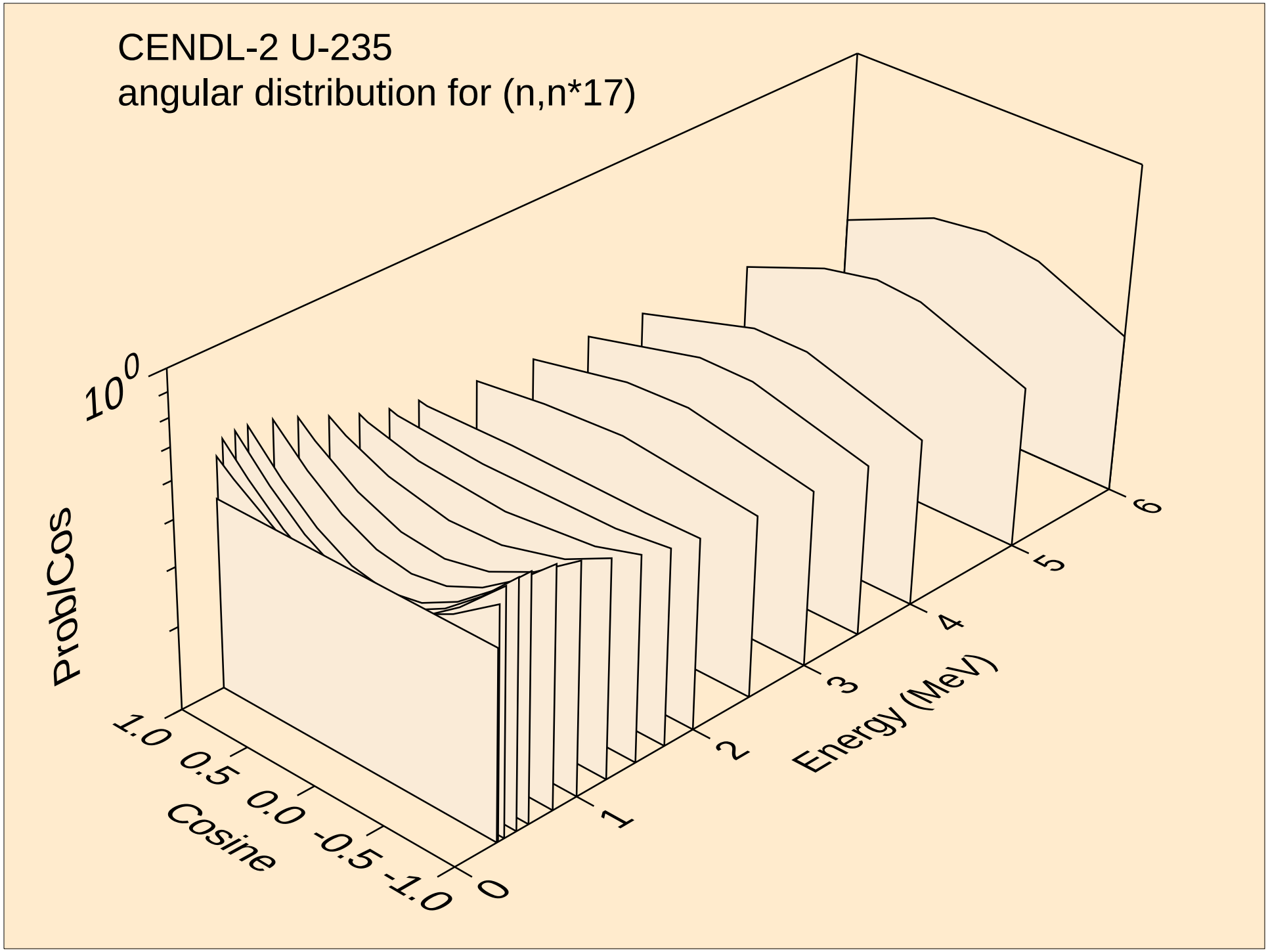

CENDL-2 U-235
angular distribution for (n,n*12)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

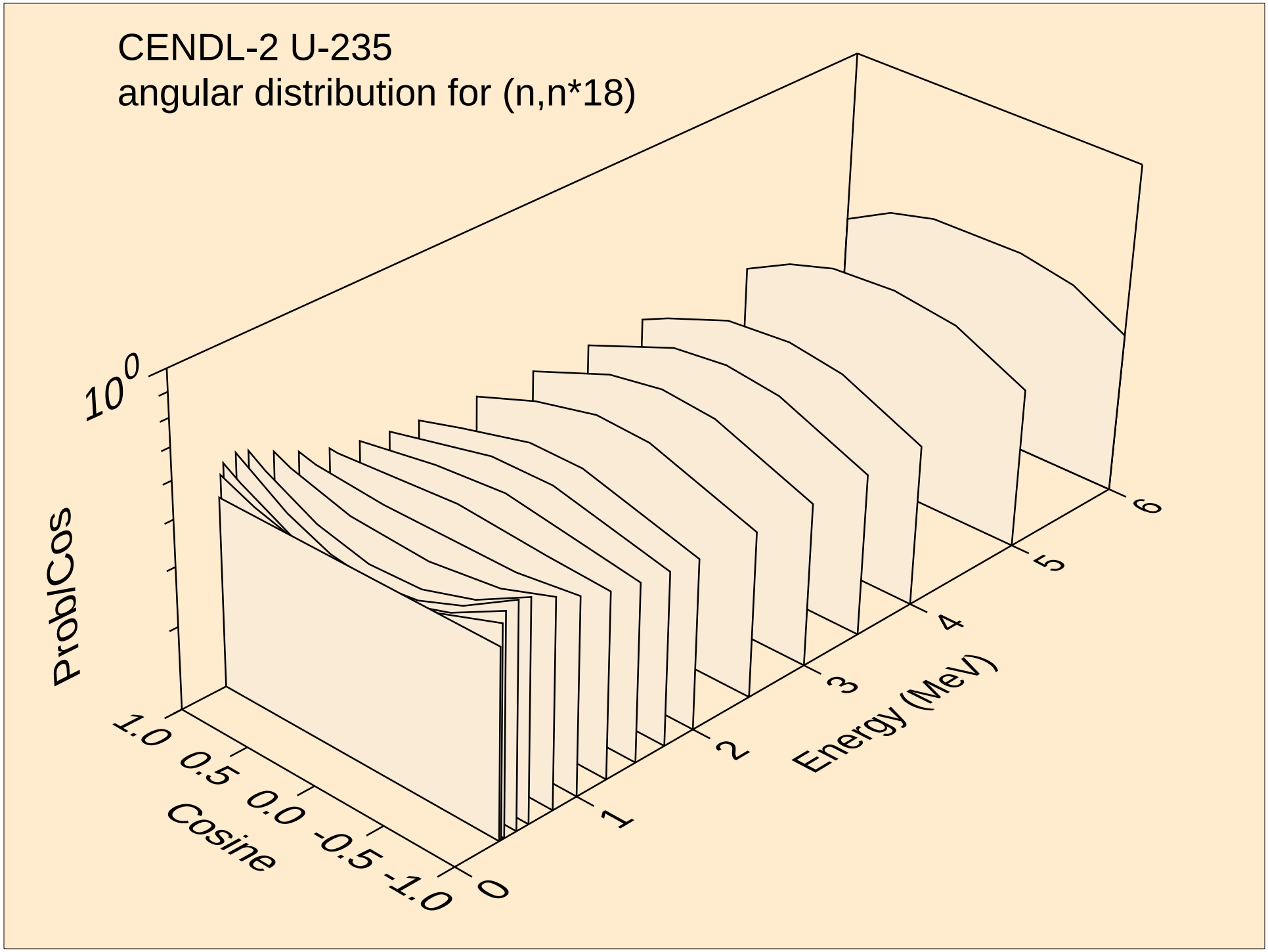

CENDL-2 U-235
angular distribution for (n,n*13)
ProbCos
10^0
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

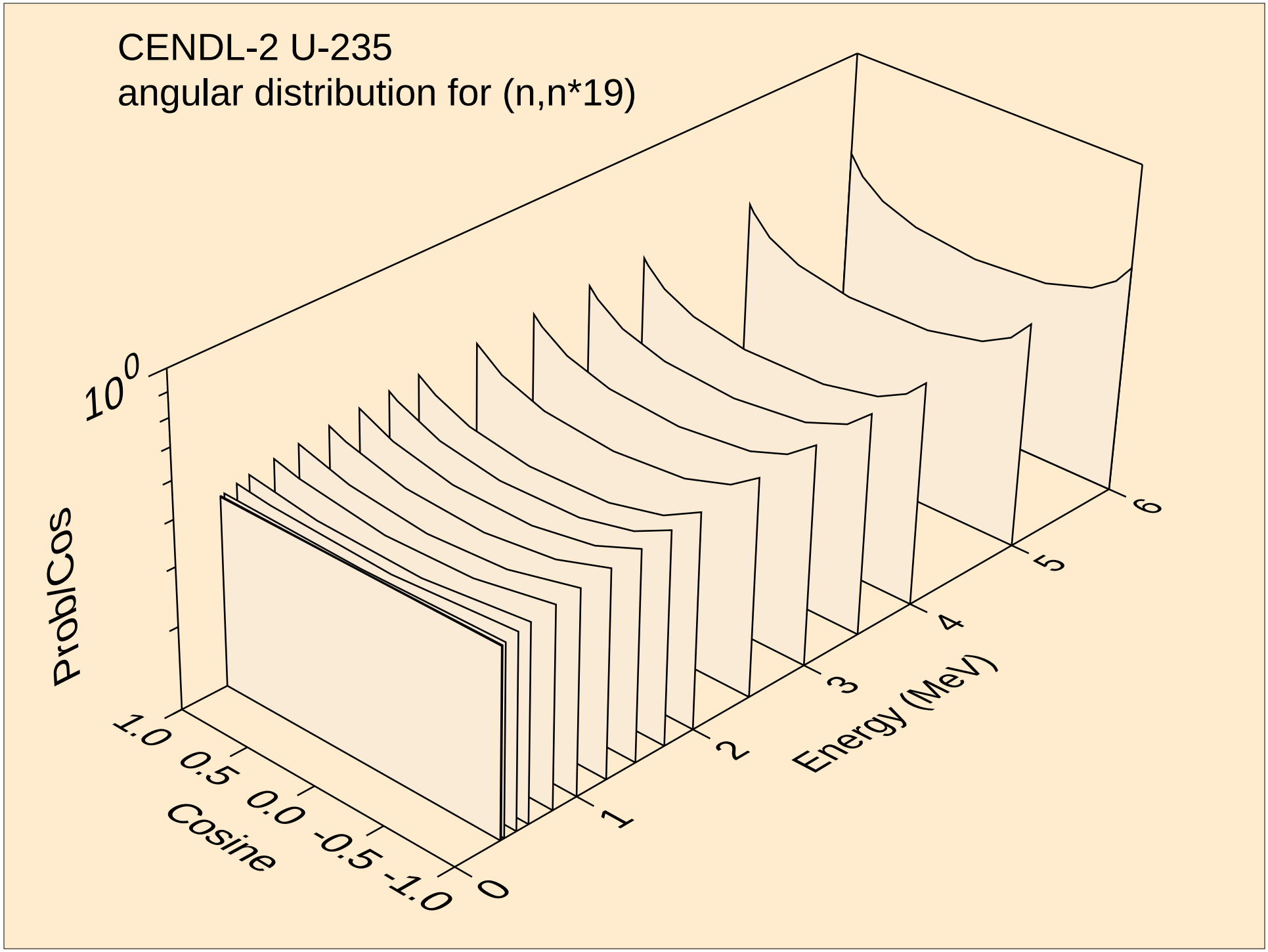

CENDL-2 U-235
angular distribution for (n,n*14)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

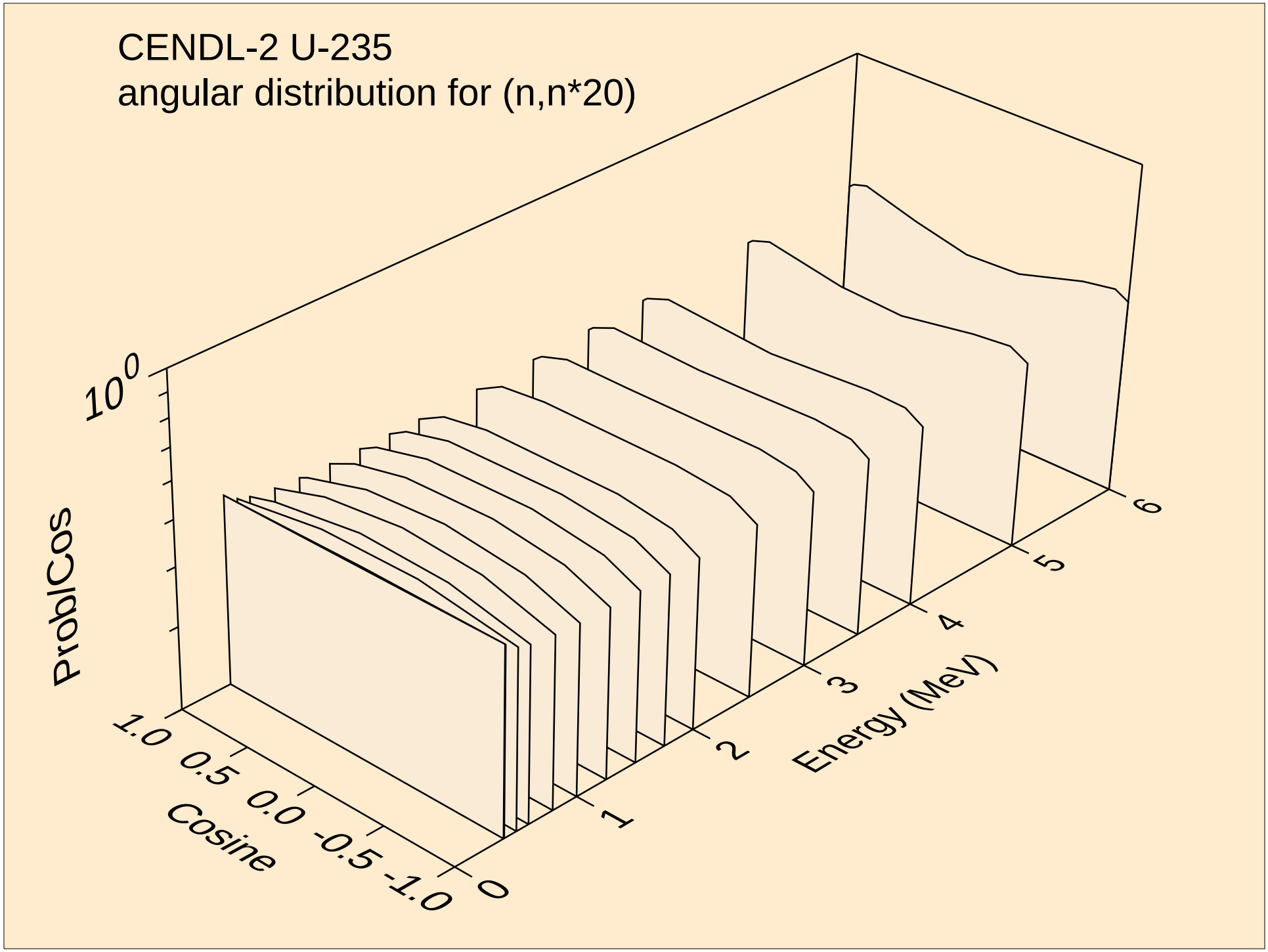

CENDL-2 U-235
angular distribution for (n,n*15)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

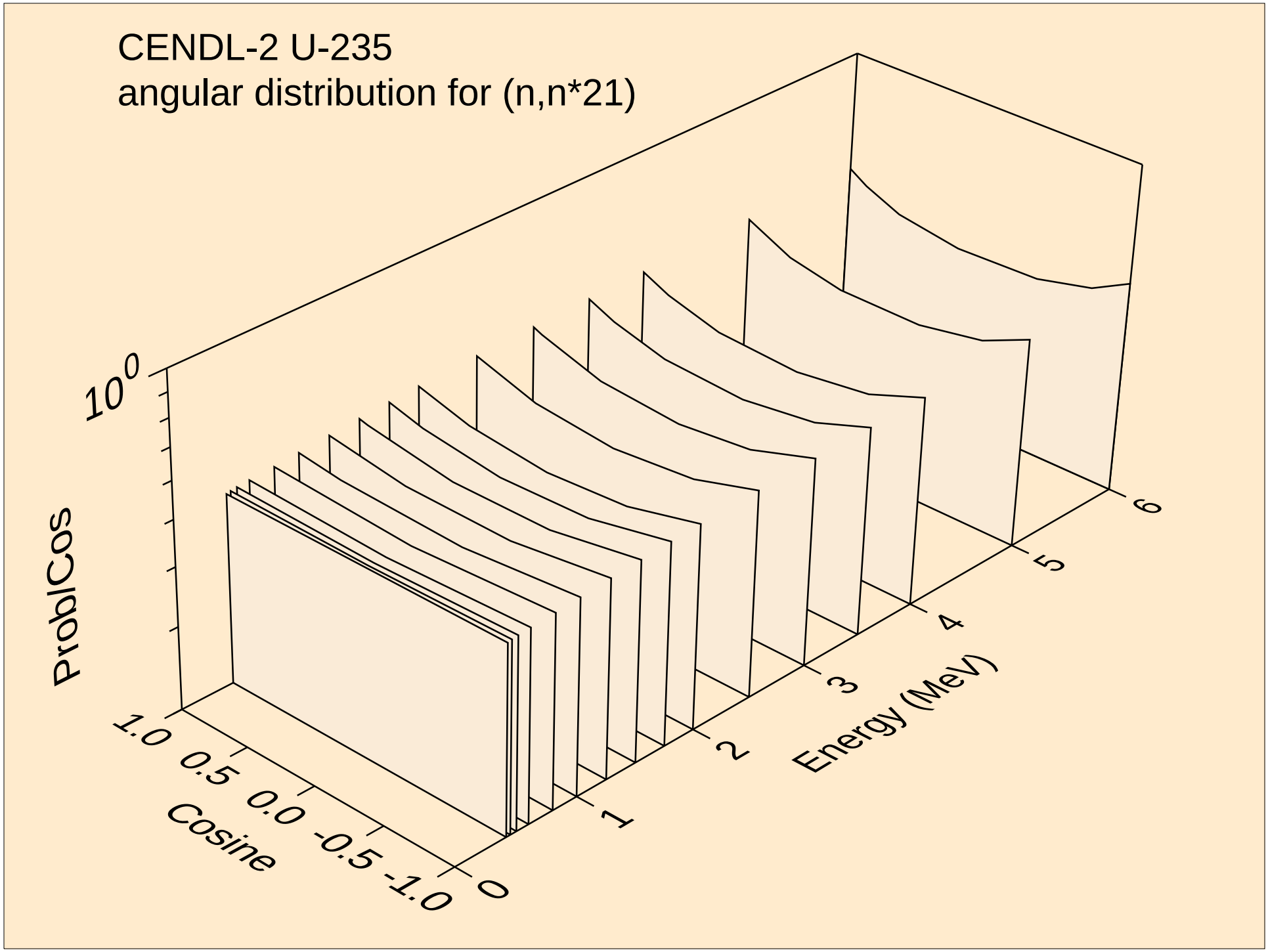

CENDL-2 U-235
angular distribution for (n,n*16)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

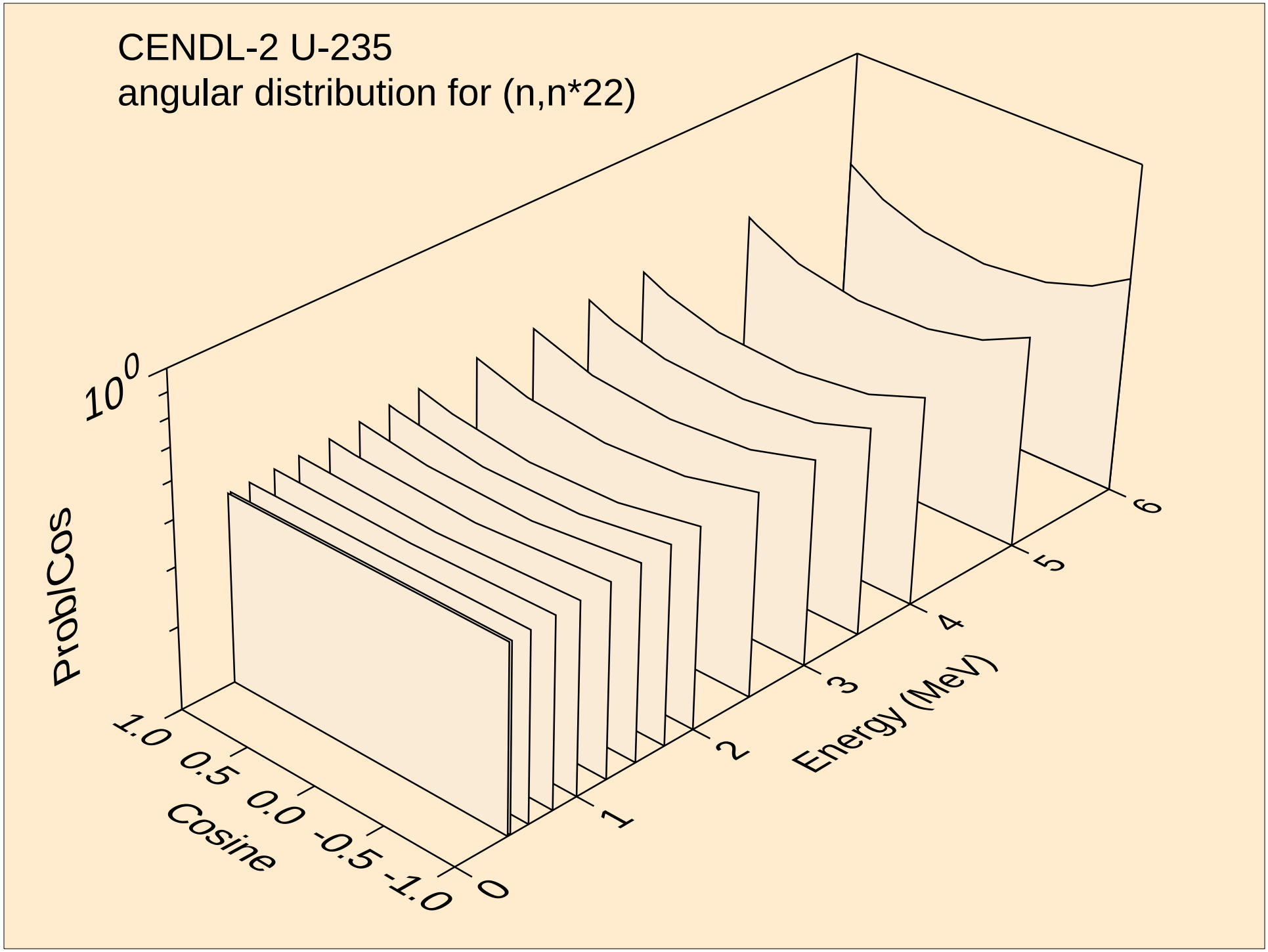

CENDL-2 U-235
angular distribution for (n,n*17)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

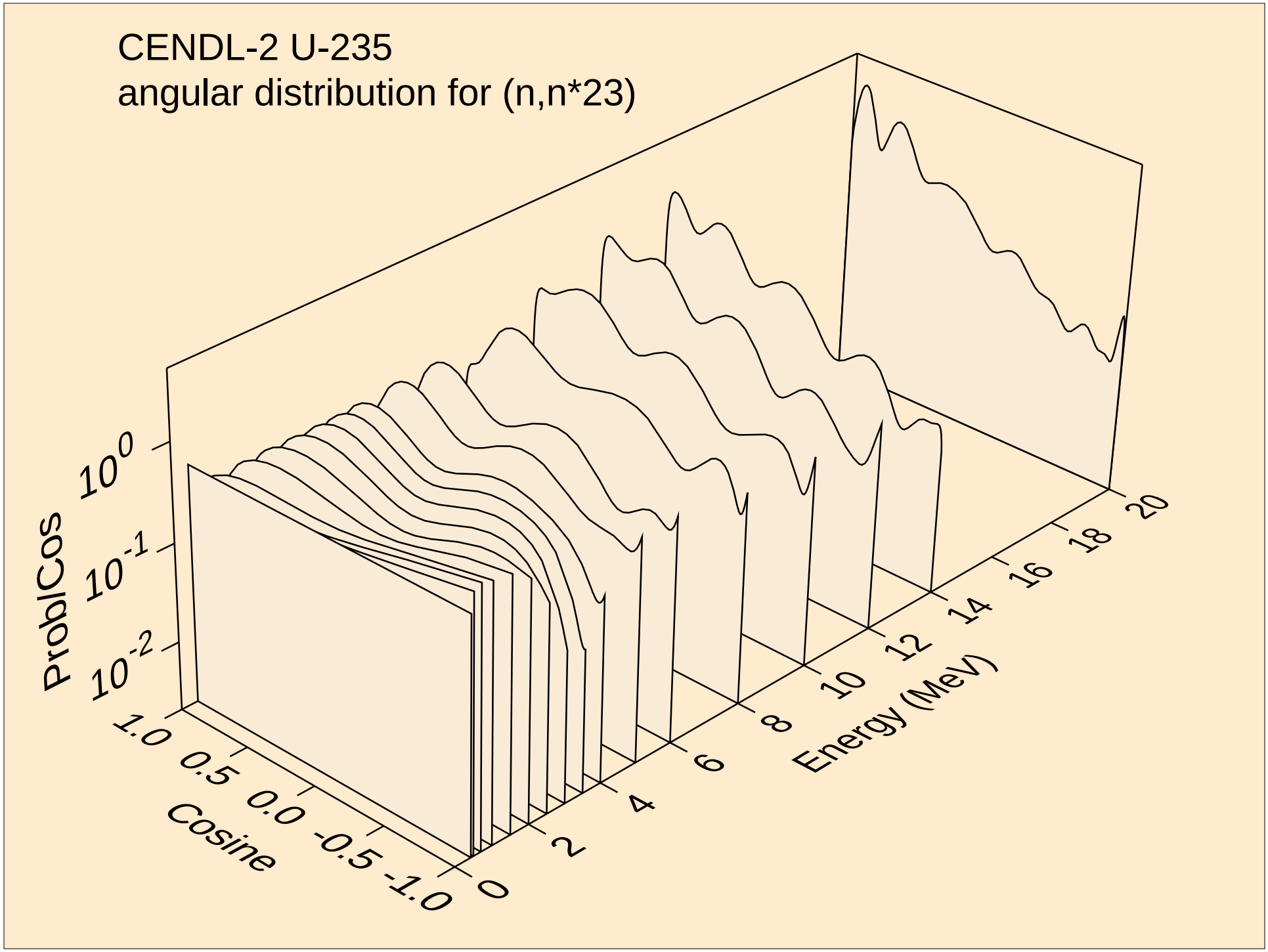

CENDL-2 U-235
angular distribution for (n,n*18)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

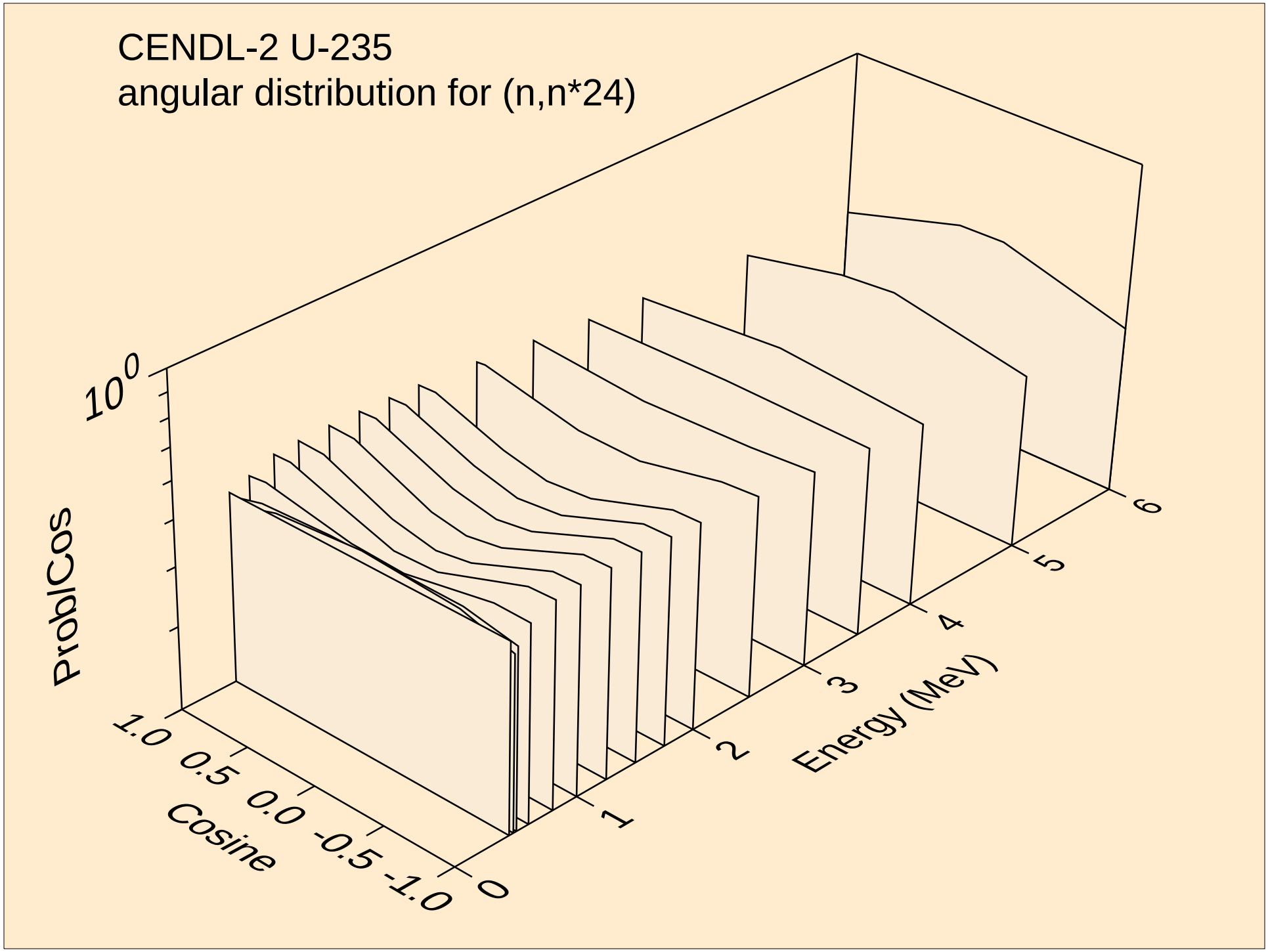

CENDL-2 U-235
angular distribution for (n,n*19)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

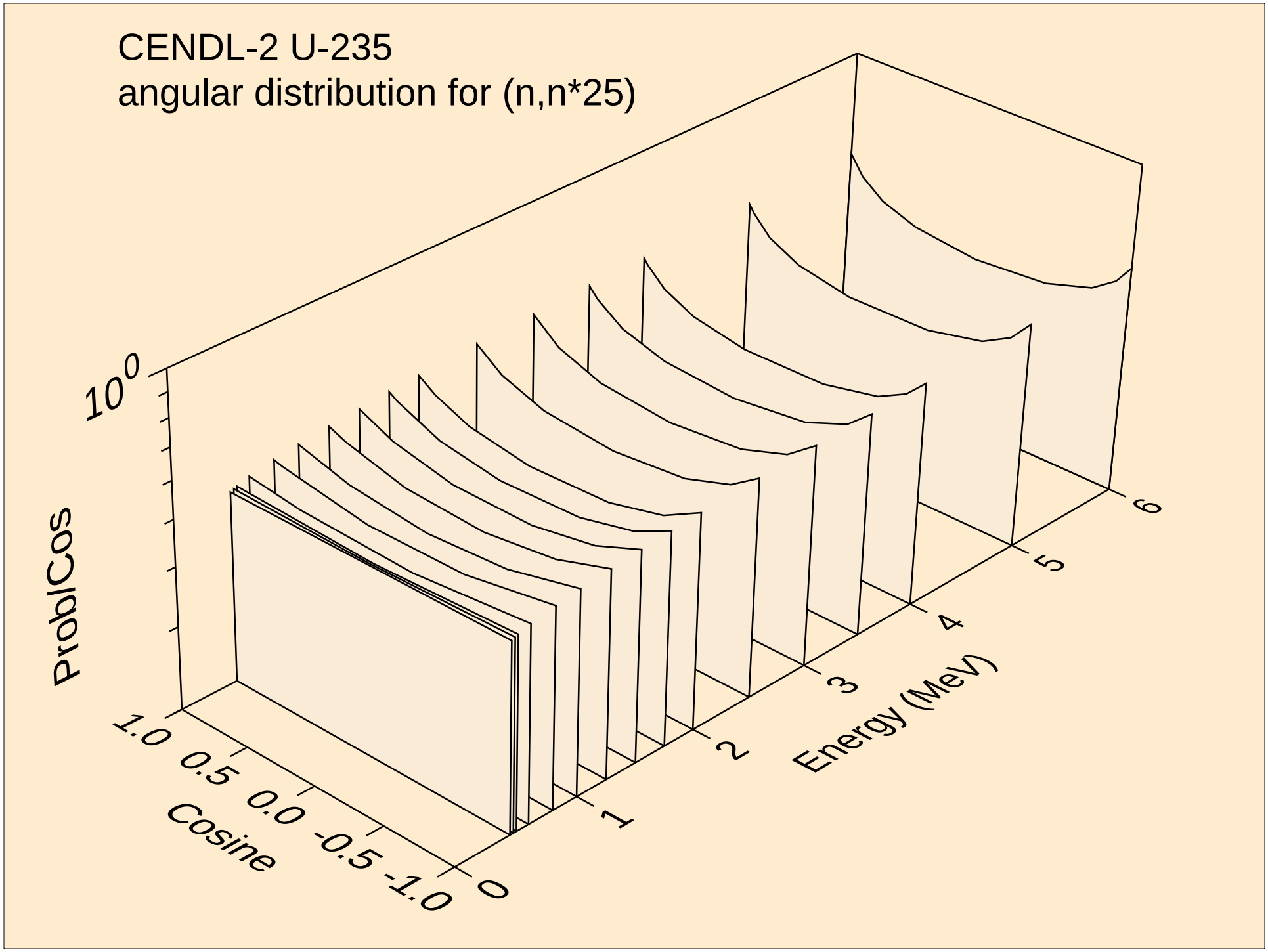

CENDL-2 U-235
angular distribution for (n,n*20)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

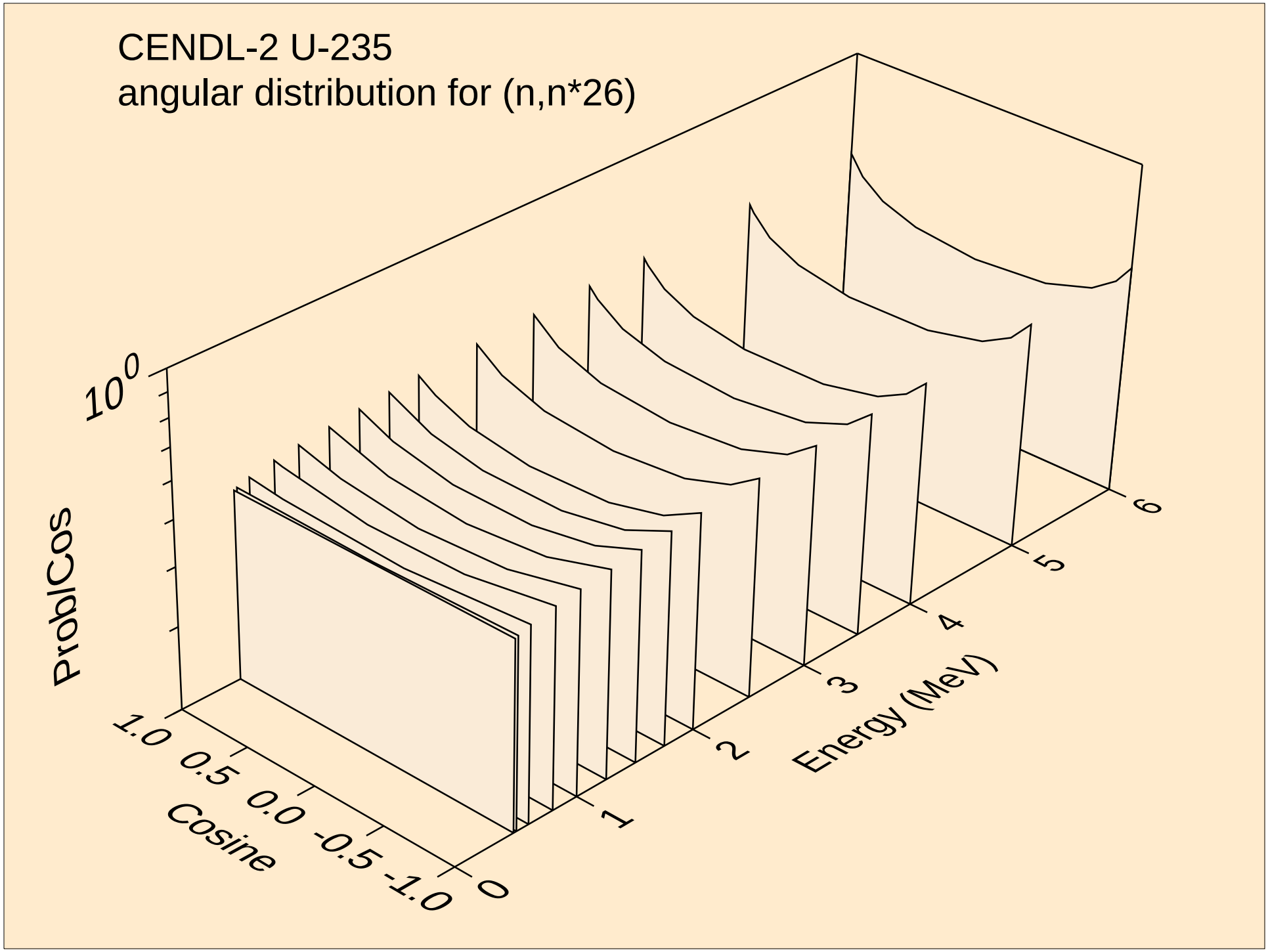

CENDL-2 U-235
angular distribution for (n,n*21)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

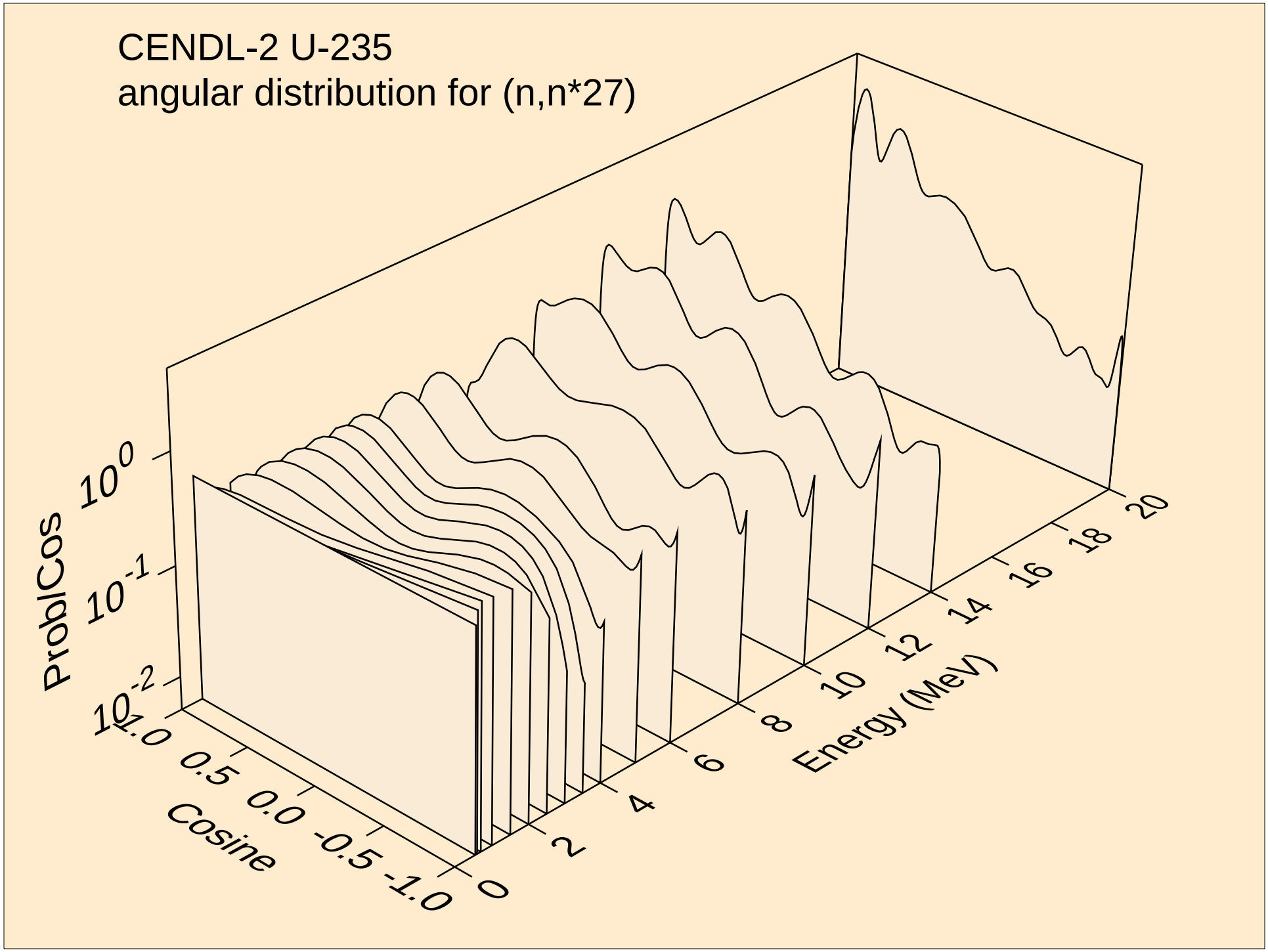

CENDL-2 U-235
angular distribution for (n,n*22)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

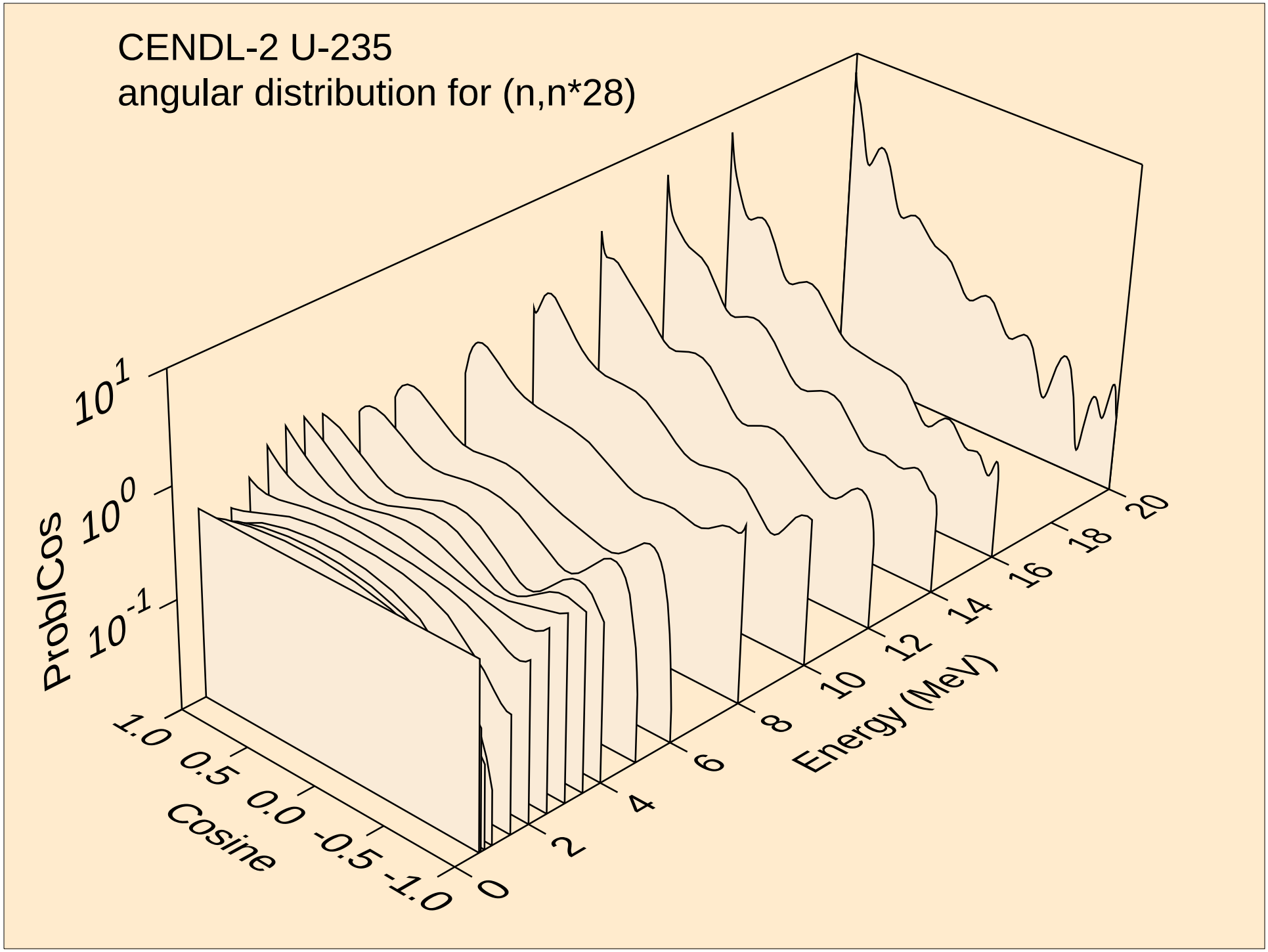

CENDL-2 U-235
angular distribution for (n,n*23)
ProbCos
10^{0}
10^{-1}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

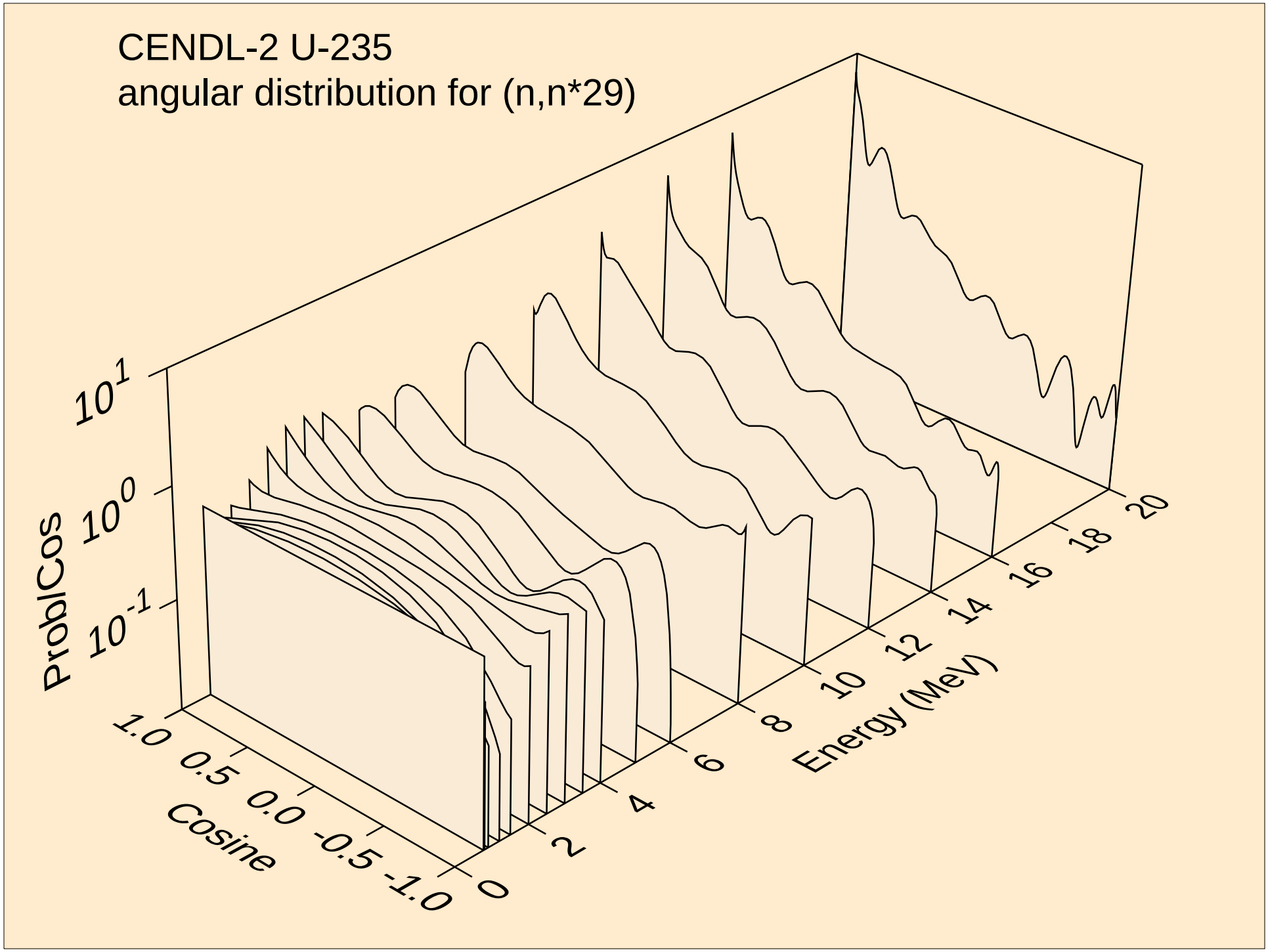

CENDL-2 U-235
angular distribution for (n,n*24)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

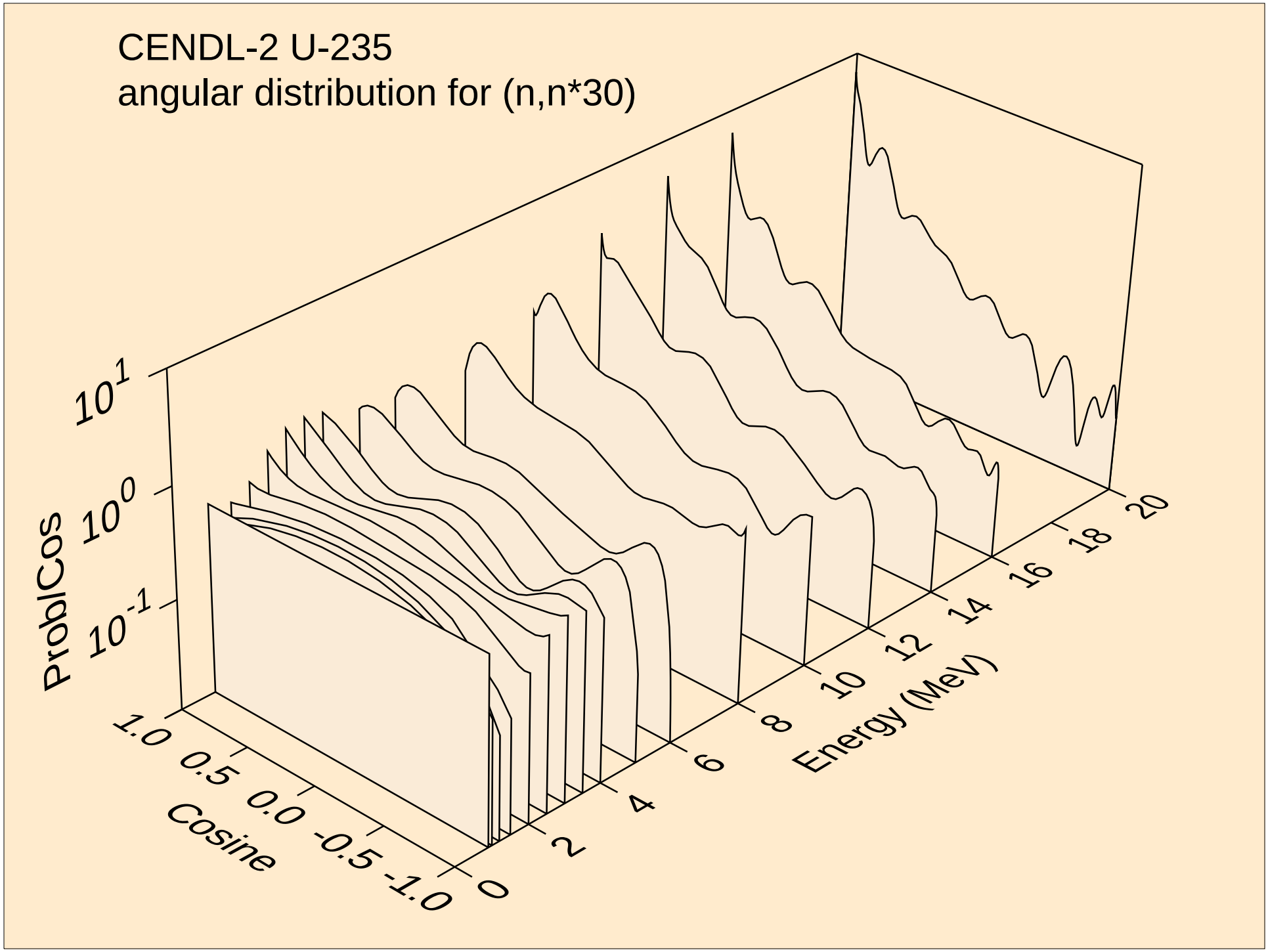

CENDL-2 U-235
angular distribution for (n,n*25)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

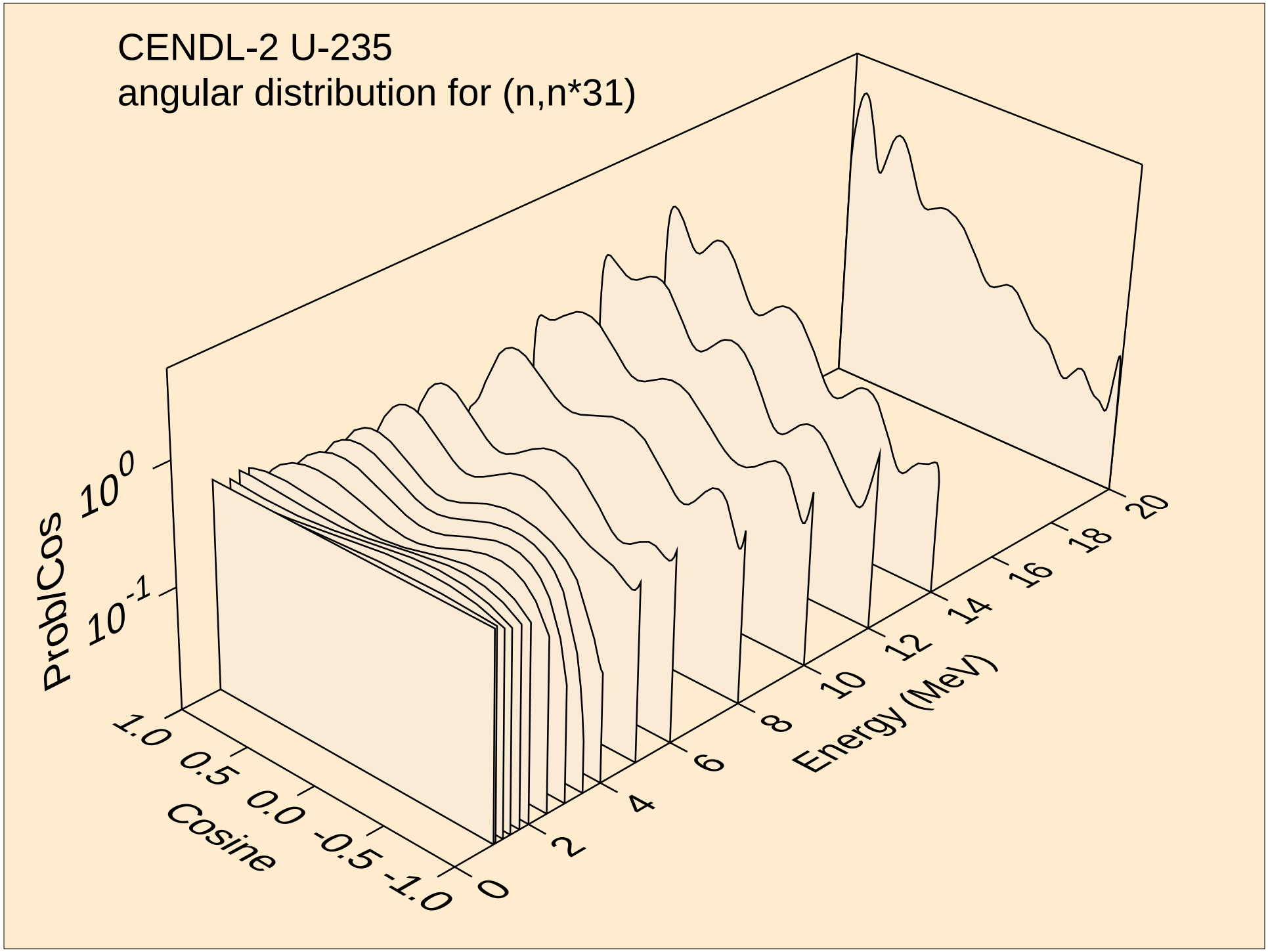

CENDL-2 U-235
angular distribution for (n,n*26)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
1
2
3
4
5
6
Energy (MeV)

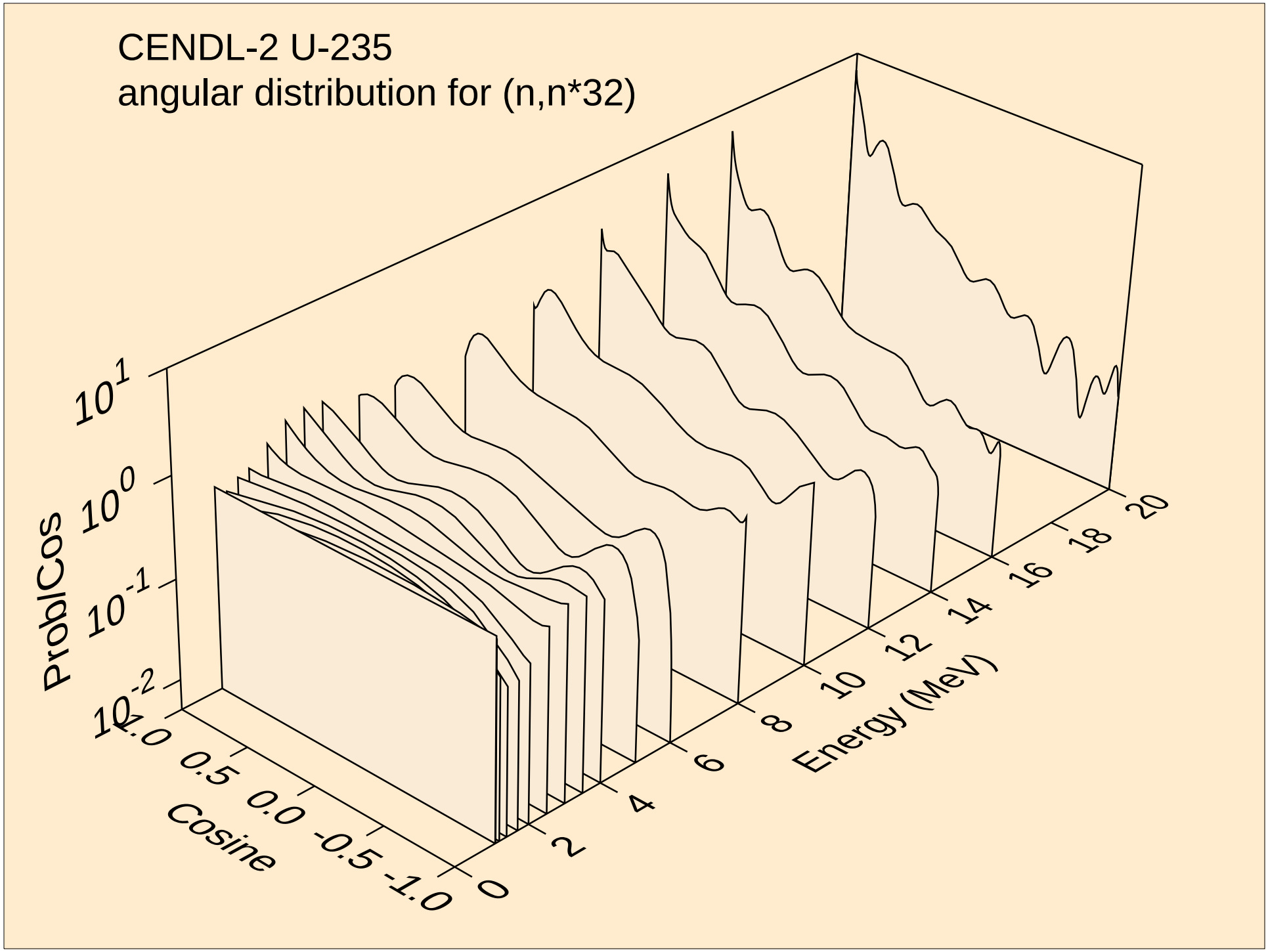

CENDL-2 U-235
angular distribution for (n,n*27)
ProbCos
10^{0}
10^{-1}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

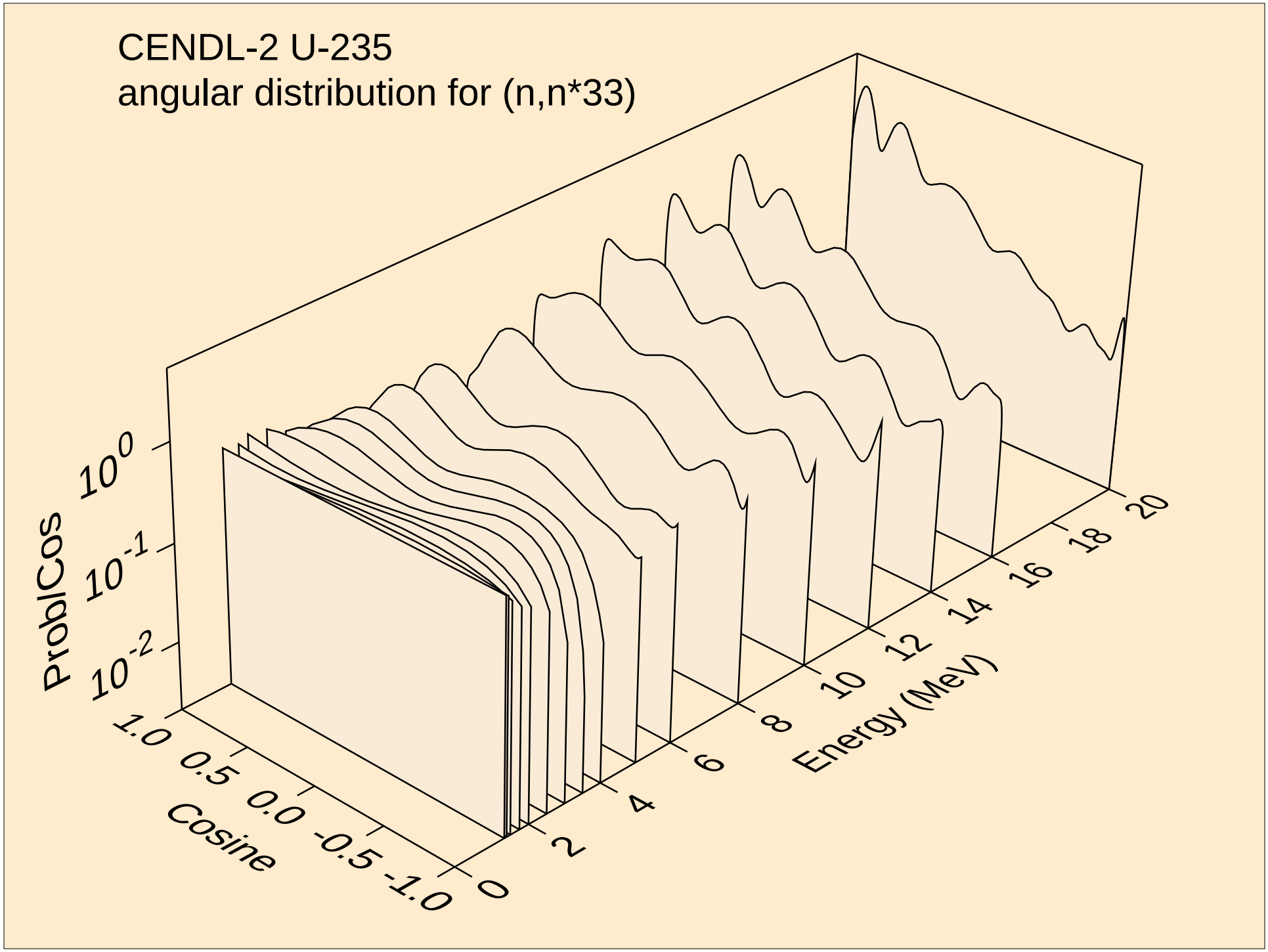

CENDL-2 U-235
angular distribution for (n,n*28)
ProbCos
10^{1}
10^{0}
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

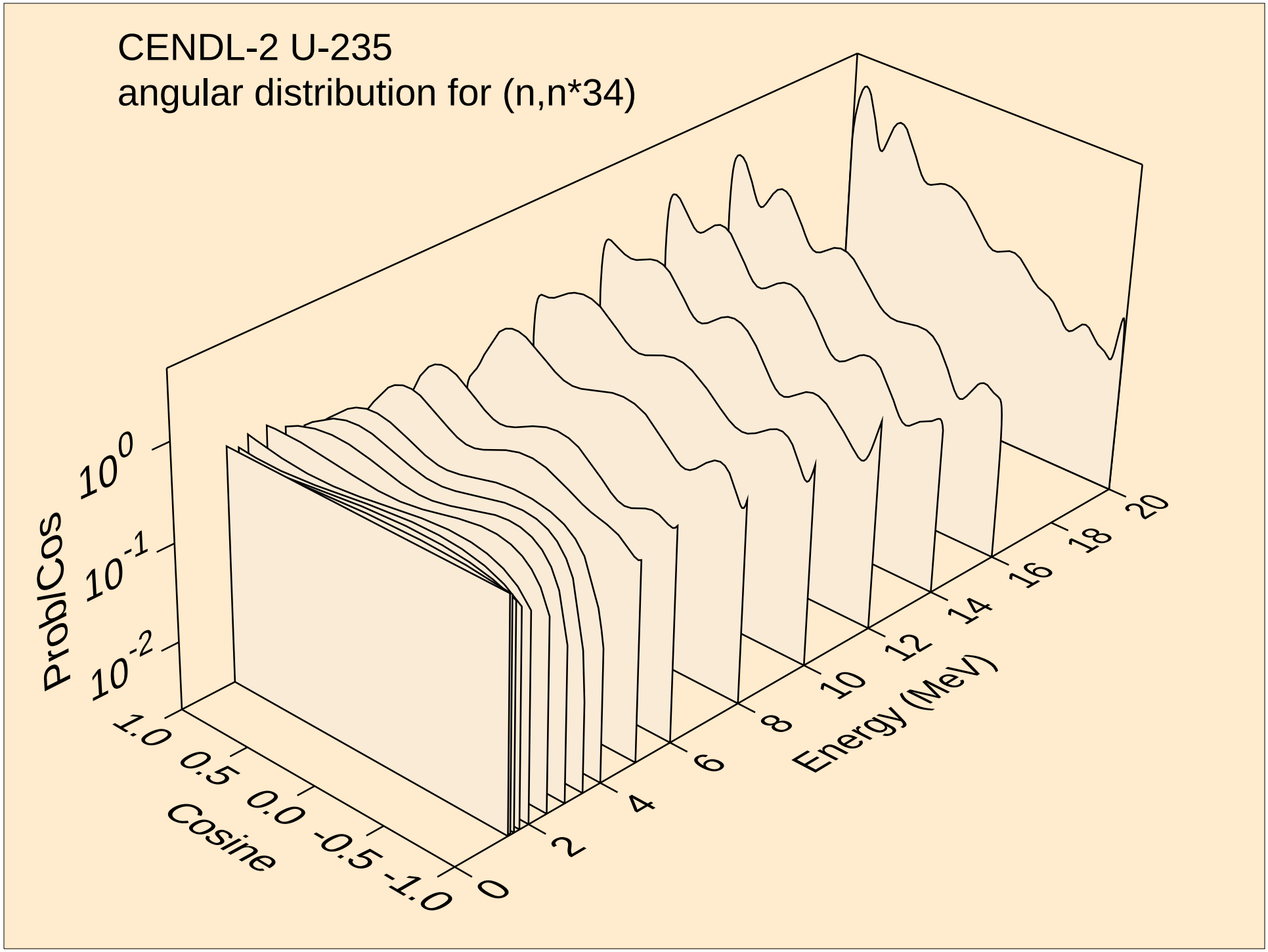

CENDL-2 U-235
angular distribution for (n,n*29)
ProbCos
10^{1}
10^{0}
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

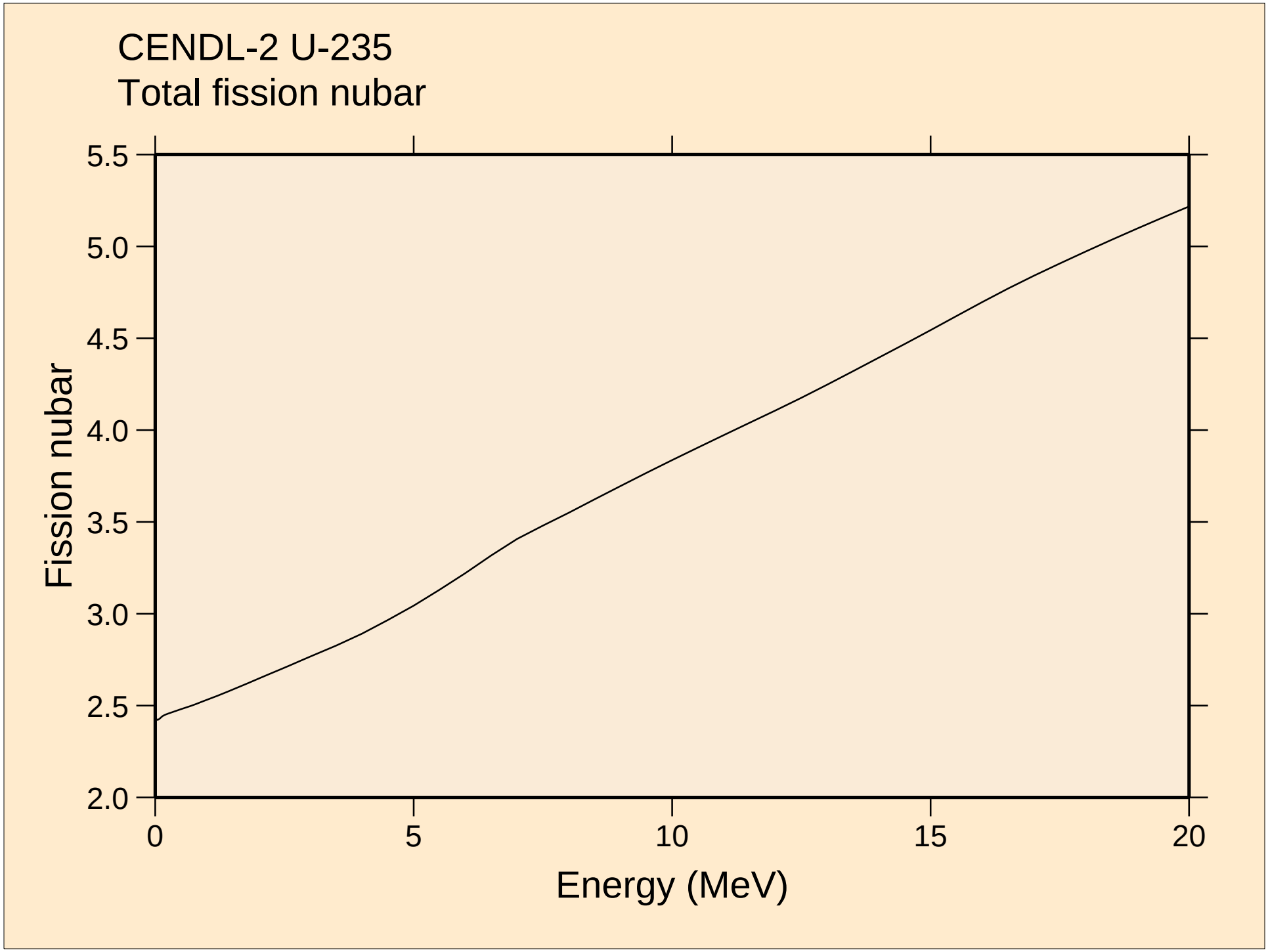

CENDL-2 U-235
angular distribution for (n,n*30)
ProbCos
10^{1}
10^{0}
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

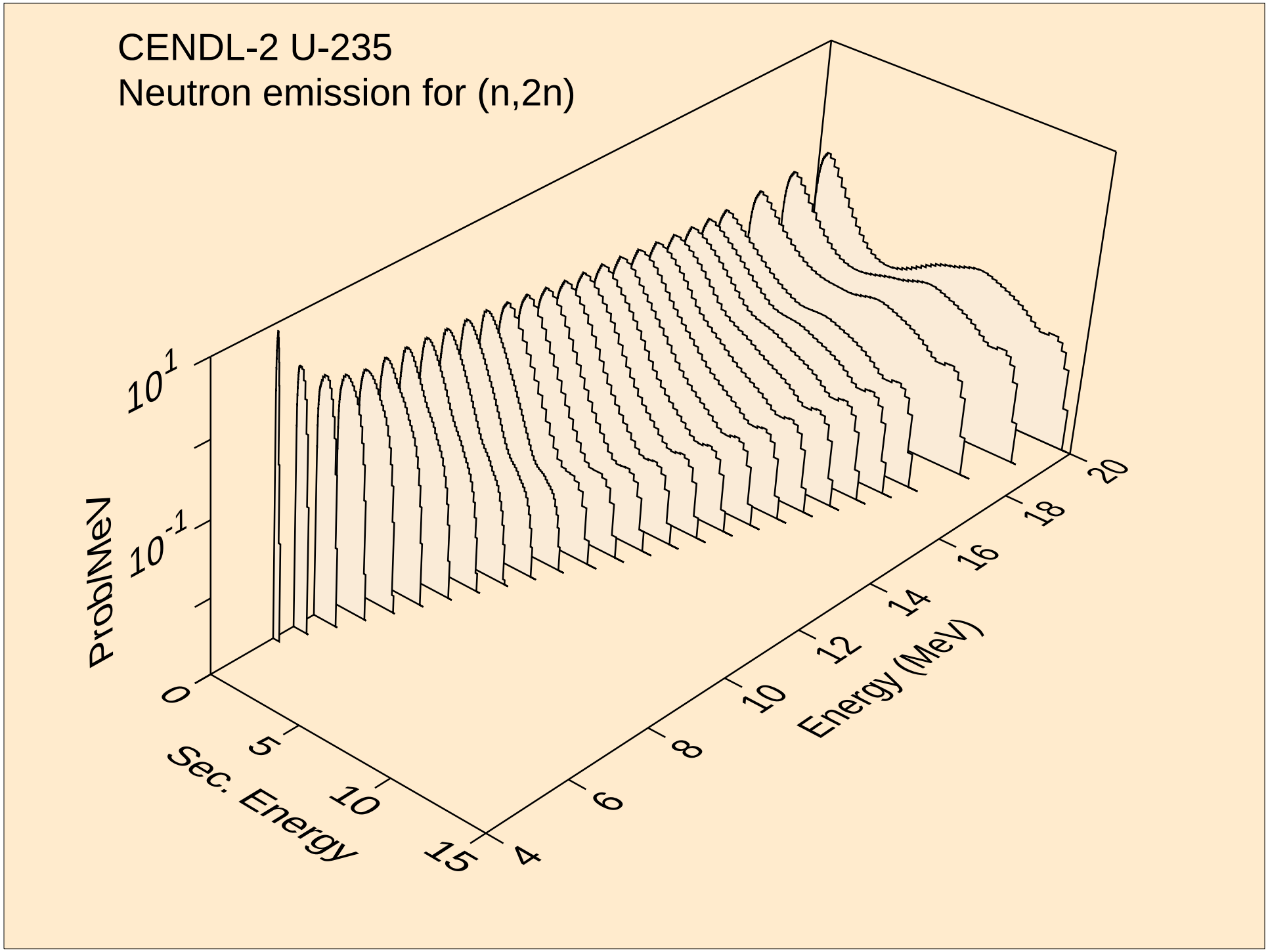

CENDL-2 U-235
angular distribution for (n,n*31)
ProbCos
10^0
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

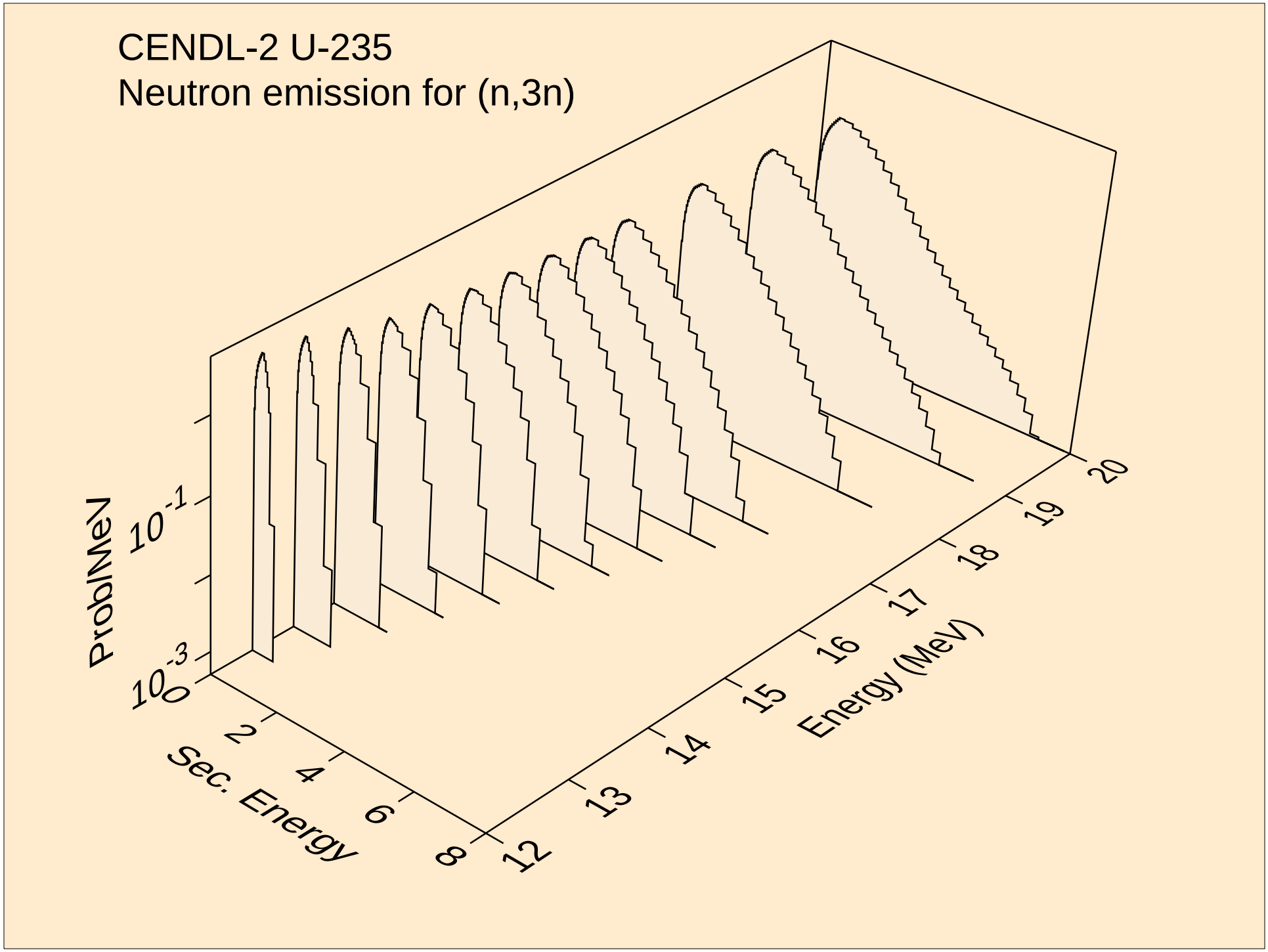

CENDL-2 U-235
angular distribution for (n,n*32)
ProbCos
10^{1}
10^{0}
10^{-1}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

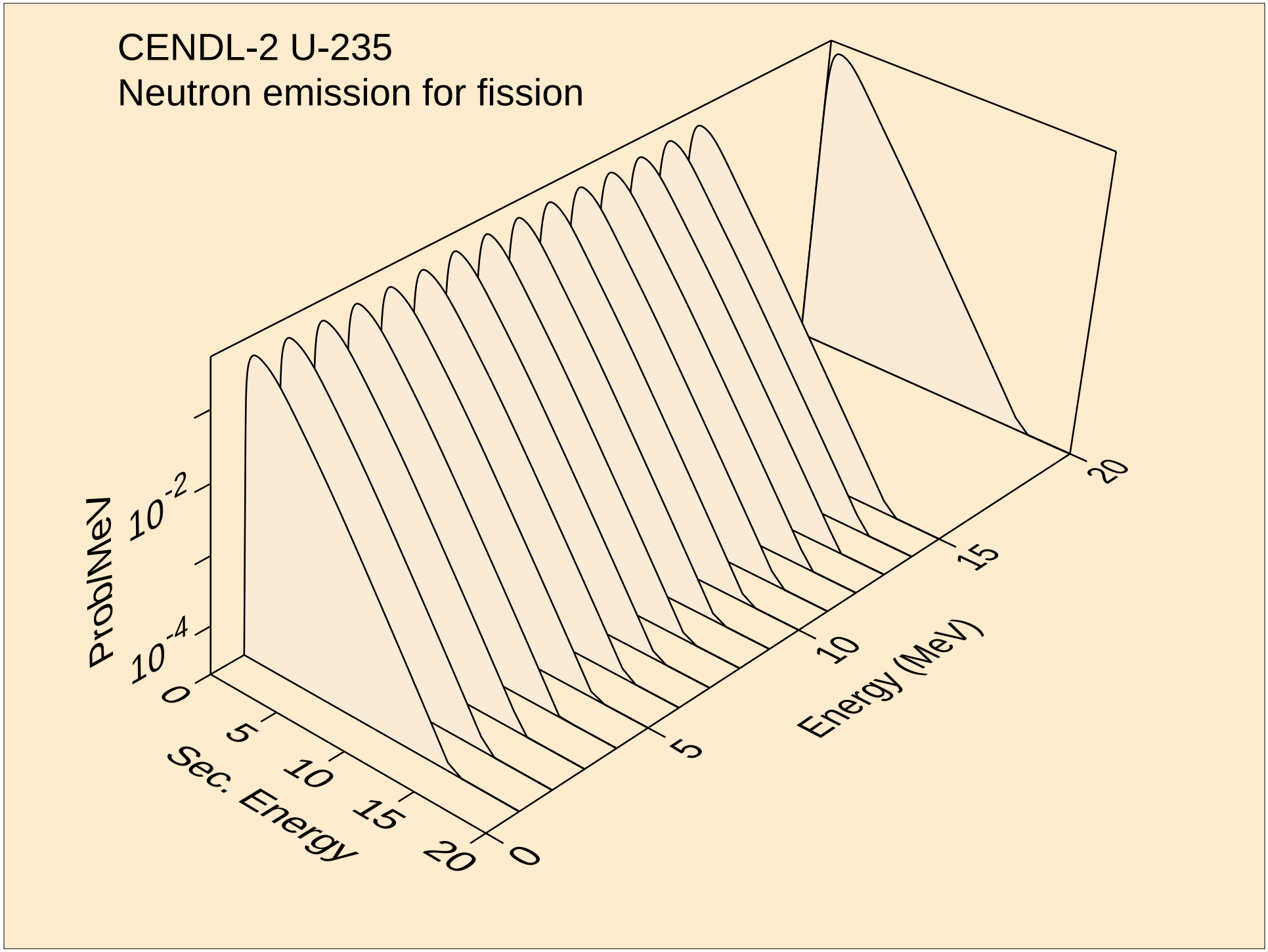

CENDL-2 U-235
angular distribution for (n,n*33)
ProbCos
10^{0}
10^{-1}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

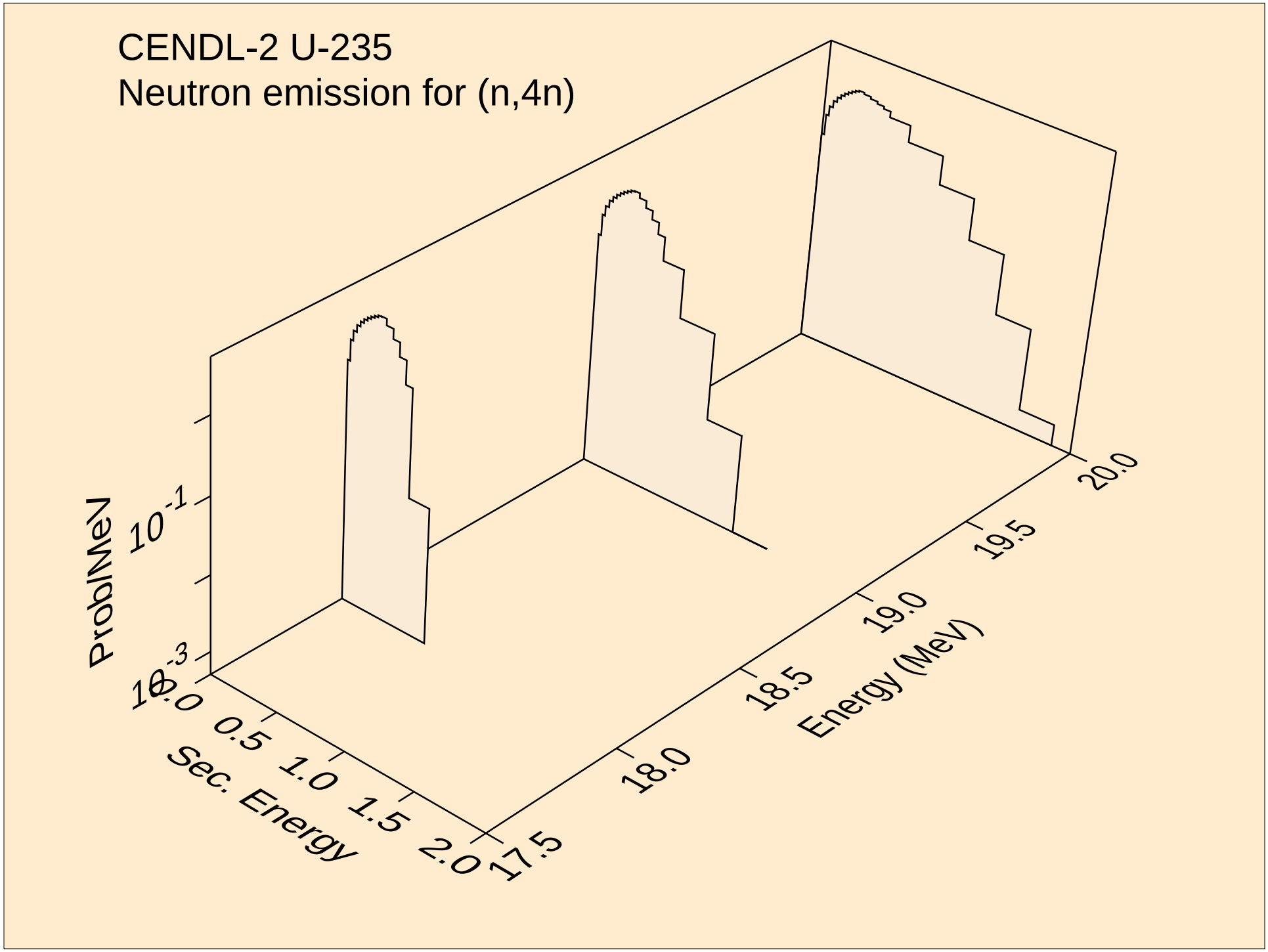

CENDL-2 U-235
angular distribution for (n,n*34)
ProbCos
10^{0}
10^{-1}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

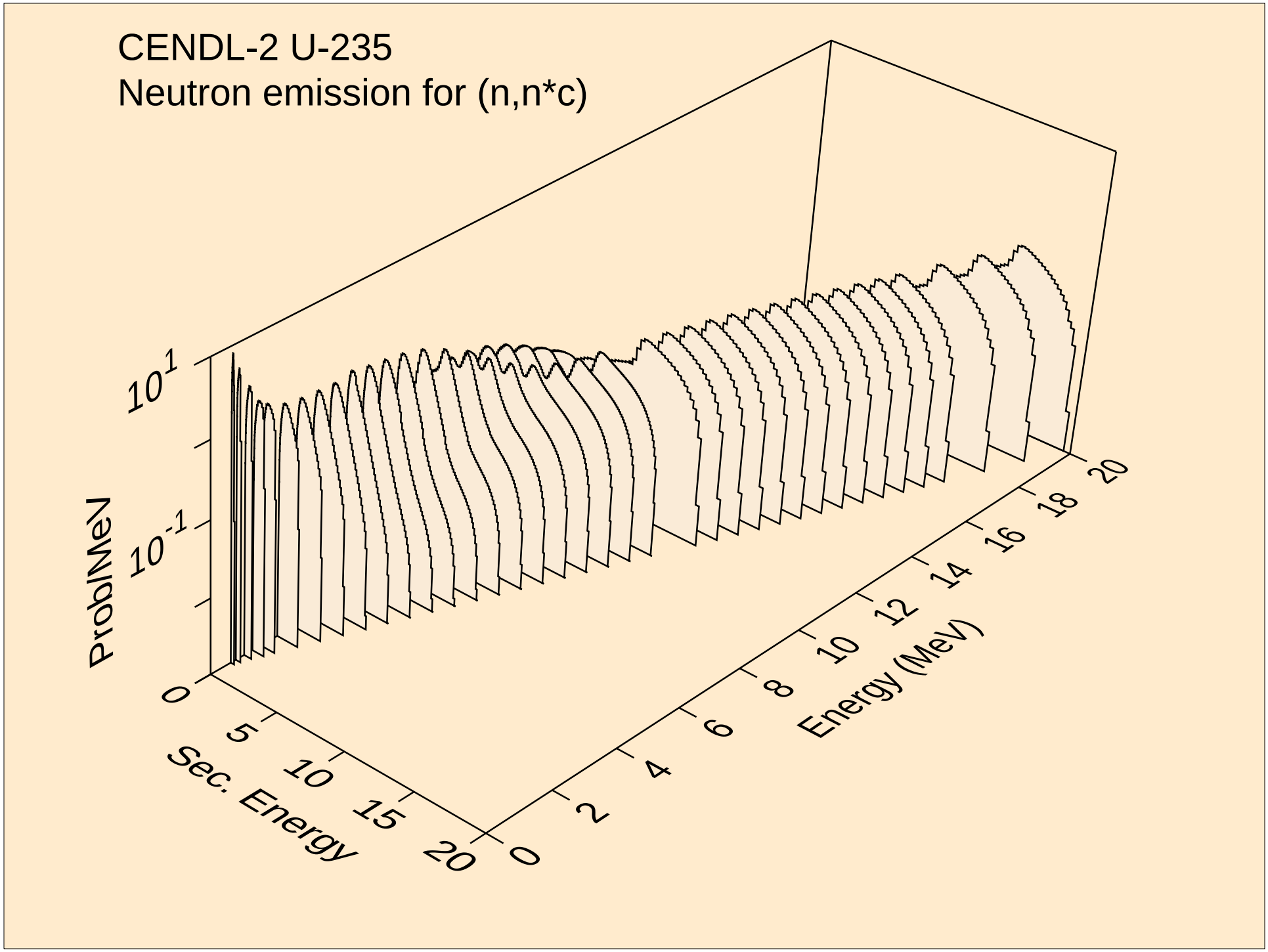

CENDL-2 U-235
Total fission nubar
Fission nubar
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
0
5
10
15
20
Energy (MeV)

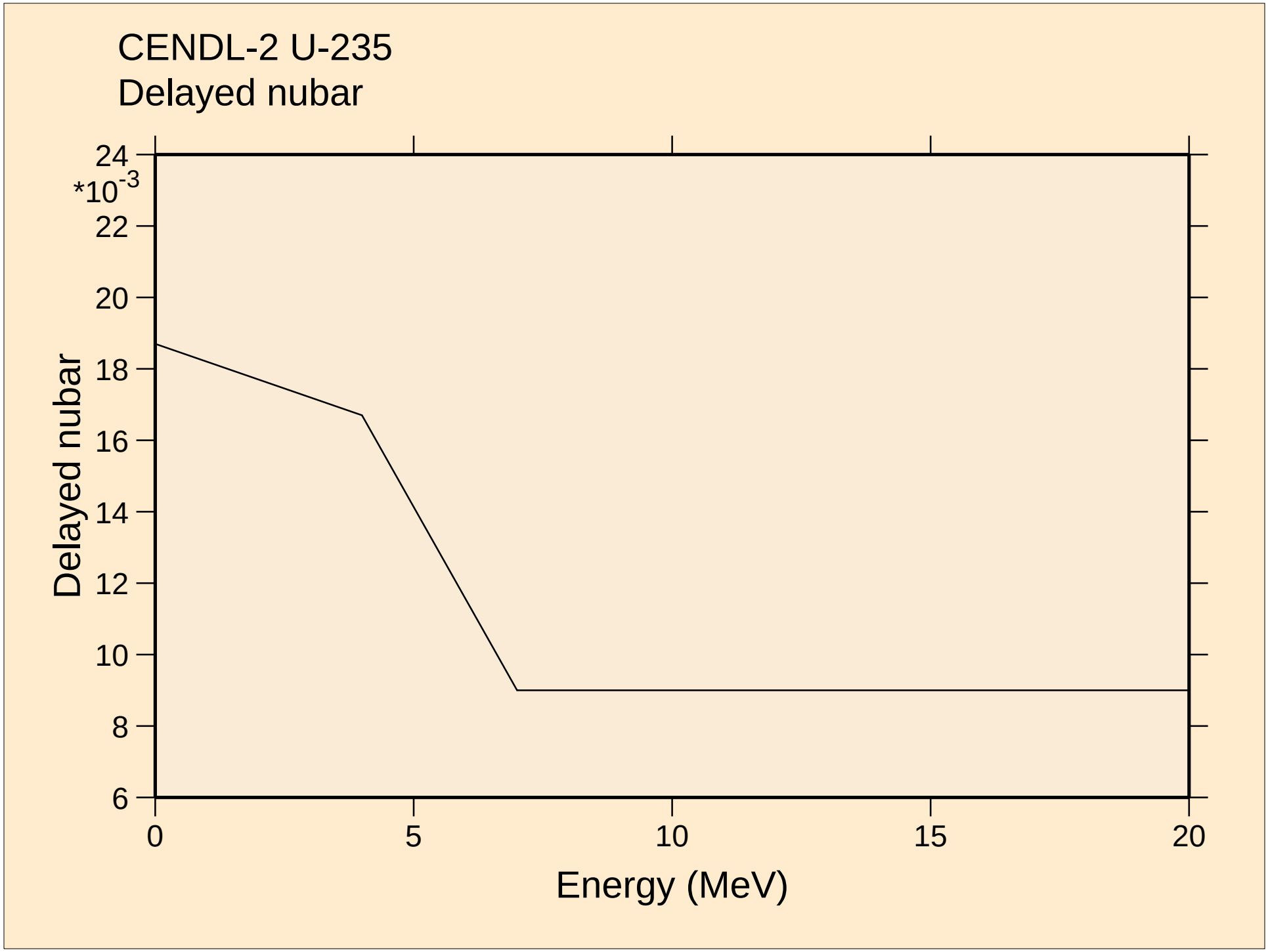

CENDL-2 U-235
Neutron emission for (n,2n)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
Sec. Energy
4
6
8
10
12
14
16
18
20
Energy (MeV)

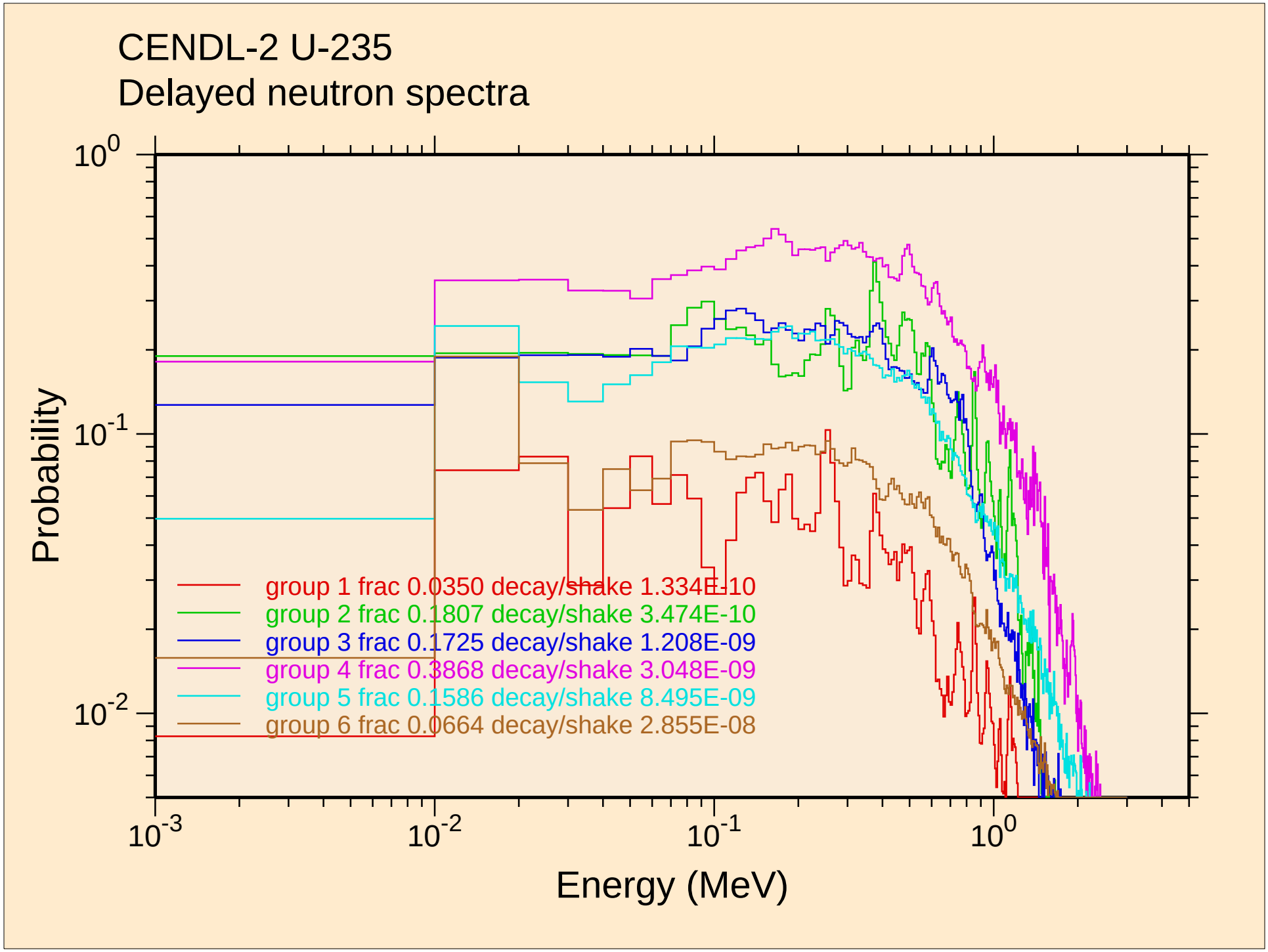

CENDL-2 U-235
Neutron emission for (n,3n)
Prob/MeV
10^{-1}
10^{-3}
0
2
4
6
8
Sec. Energy
12
13
14
15
16
17
18
19
20
Energy (MeV)


CENDL-2 U-235
Neutron emission for fission
Prob/MeV
10^{-2}
10^{-4}
0
5
10
15
20
Sec. Energy
0
5
10
15
20
Energy (MeV)

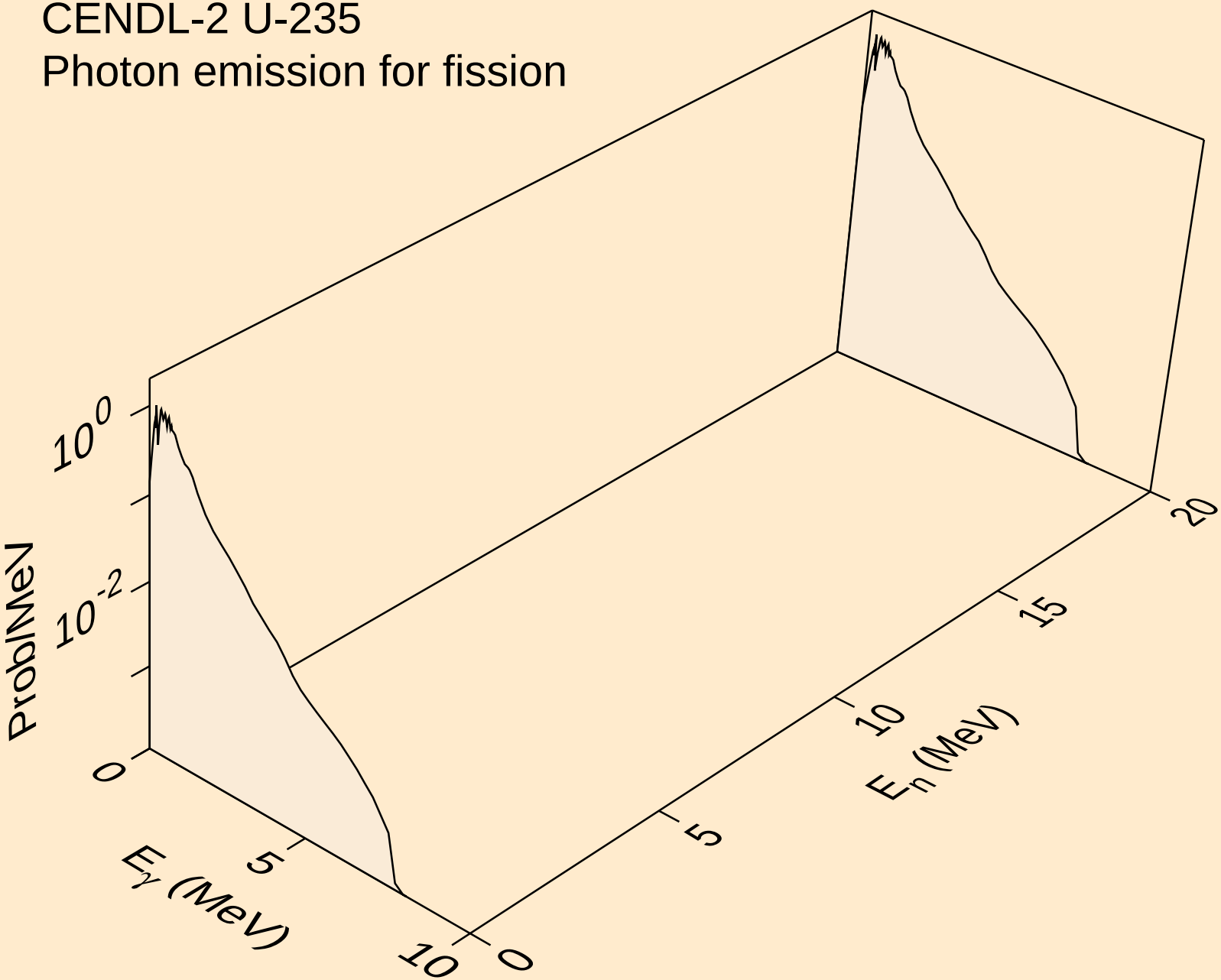

CENDL-2 U-235
Neutron emission for (n,4n)
Prob/MeV
10^-1
10^-3
0.0
0.5
1.0
1.5
2.0
Sec. Energy
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

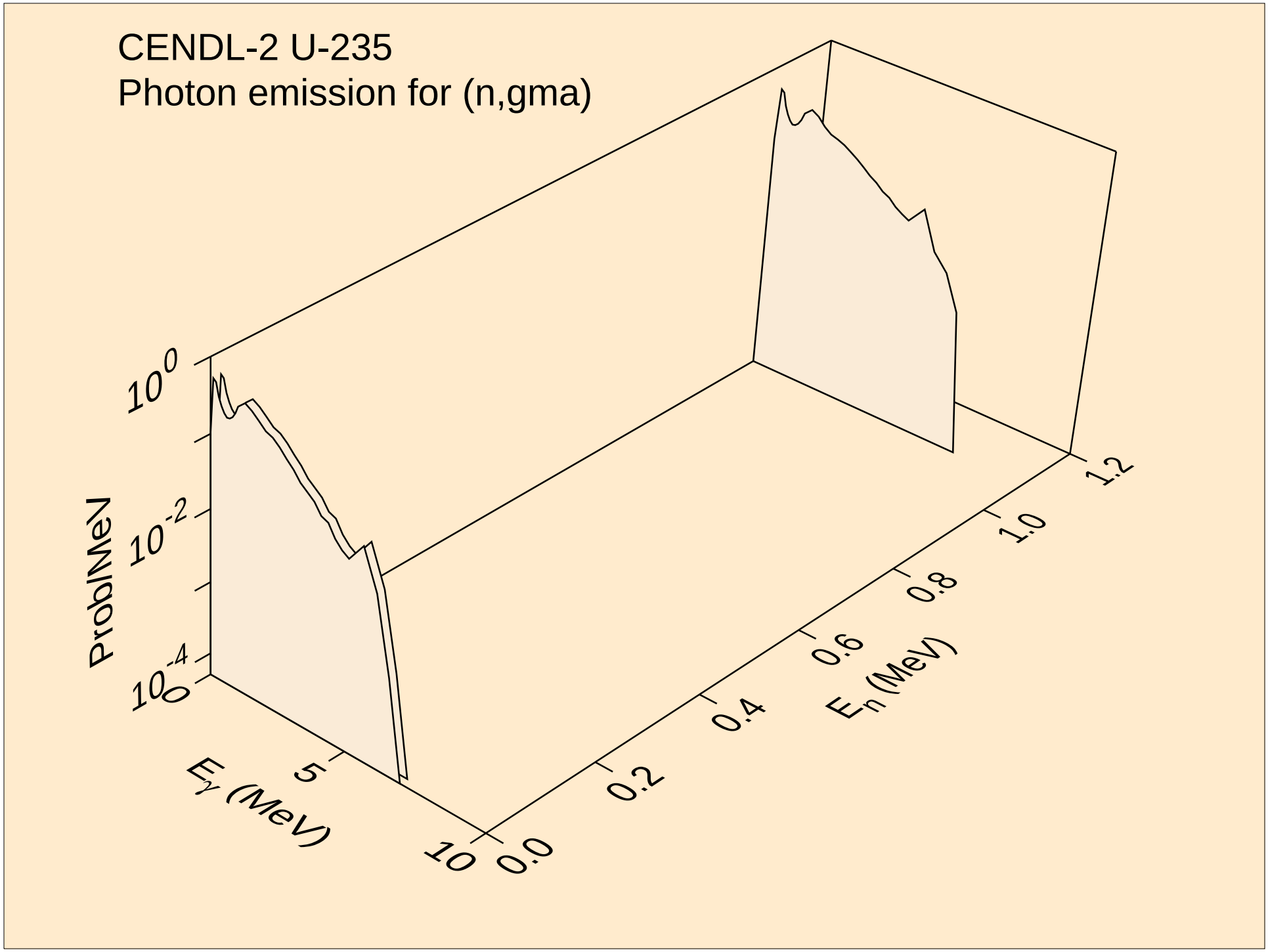

CENDL-2 U-235
Neutron emission for (n,n*c)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
20
Sec. Energy
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

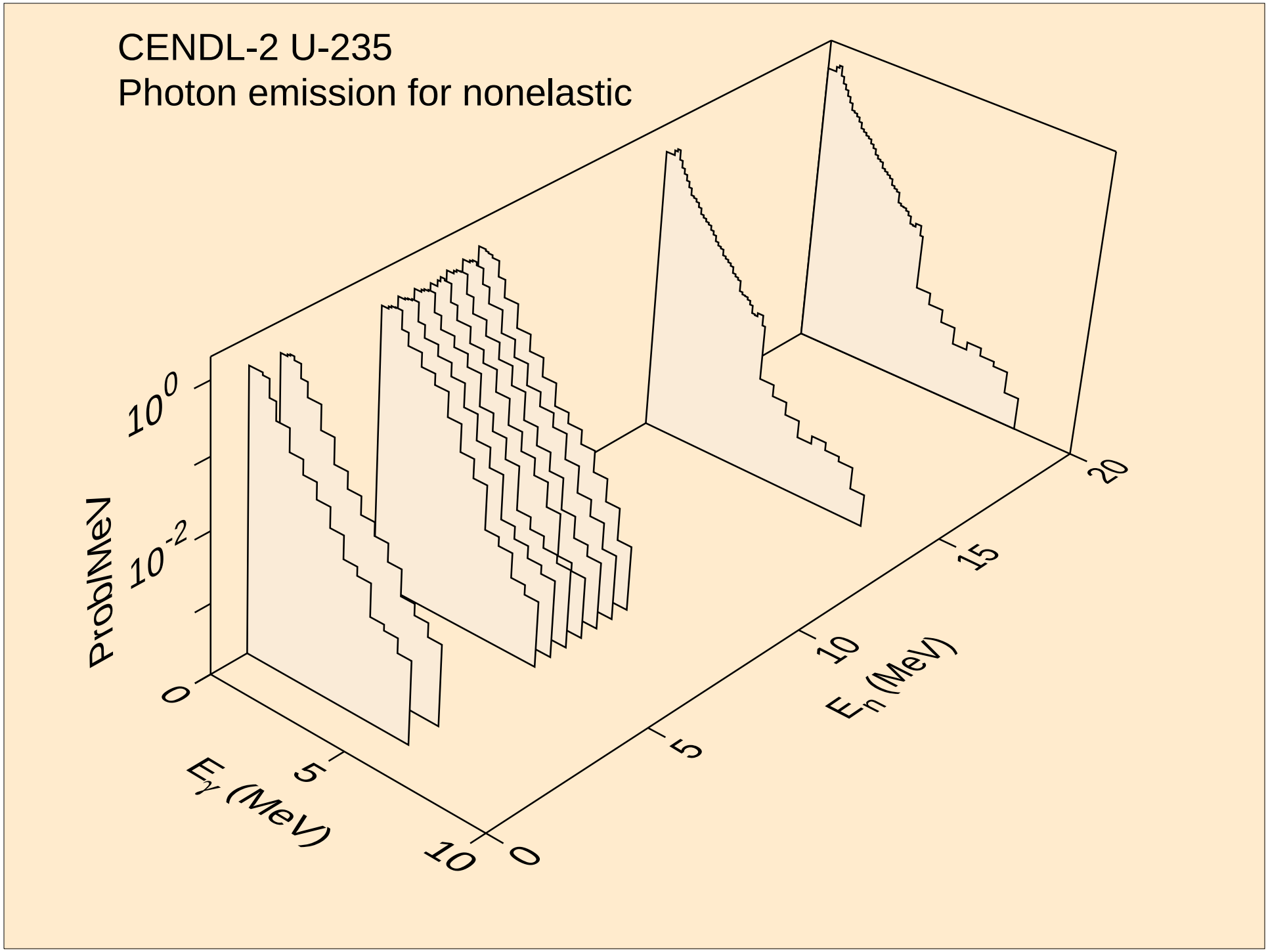

CENDL-2 U-235
Delayed nubar
*10-3
24
22
20
18
16
14
12
10
8
6
Delayed nubar
0
5
10
15
20
Energy (MeV)

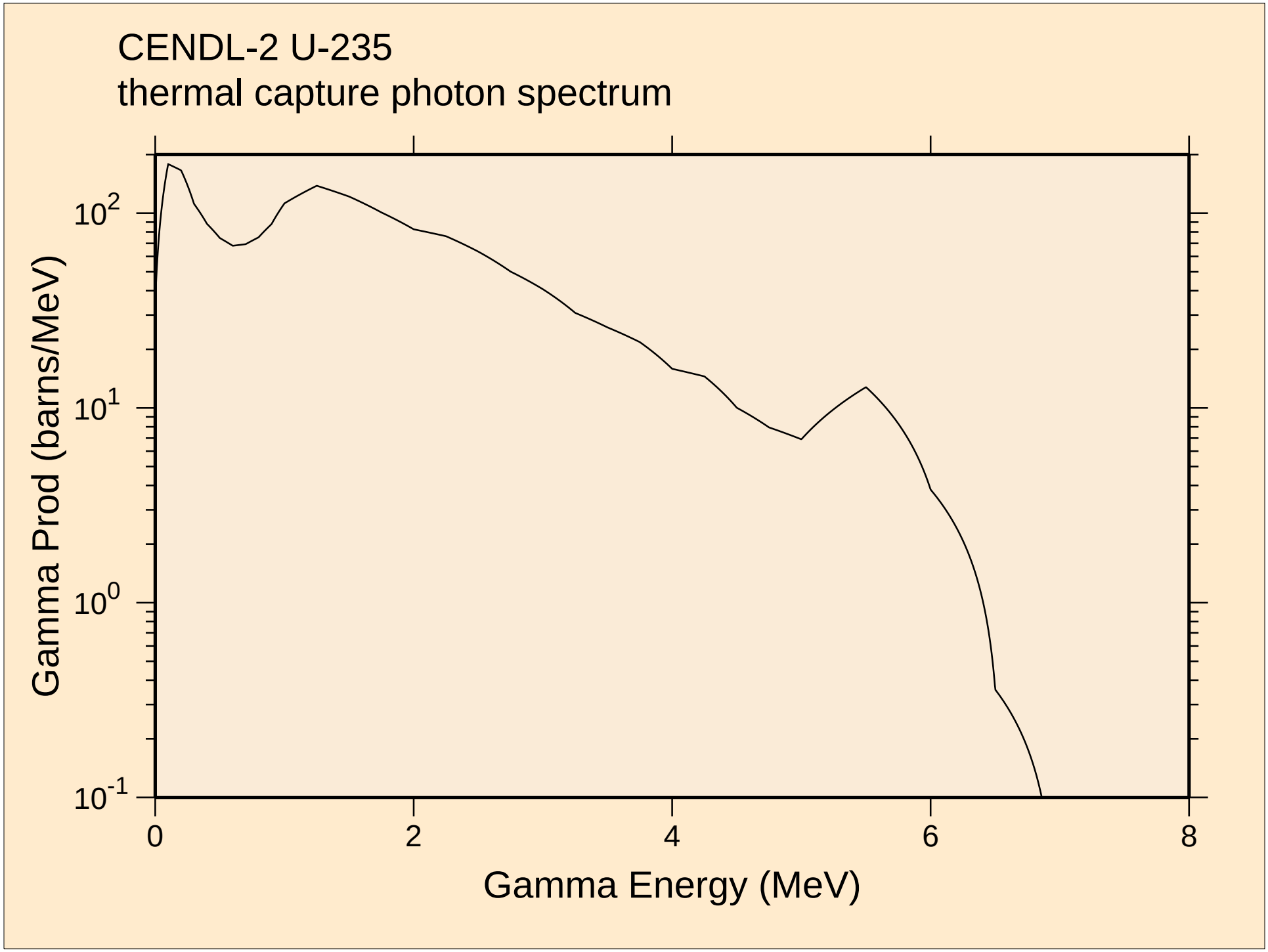

CENDL-2 U-235
Delayed neutron spectra
Probability
Energy (MeV)
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-2}
10^{-1}
10^{0}
group 1 frac 0.0350 decay/shake 1.334E-10
group 2 frac 0.1807 decay/shake 3.474E-10
group 3 frac 0.1725 decay/shake 1.208E-09
group 4 frac 0.3868 decay/shake 3.048E-09
group 5 frac 0.1586 decay/shake 8.495E-09
group 6 frac 0.0664 decay/shake 2.855E-08

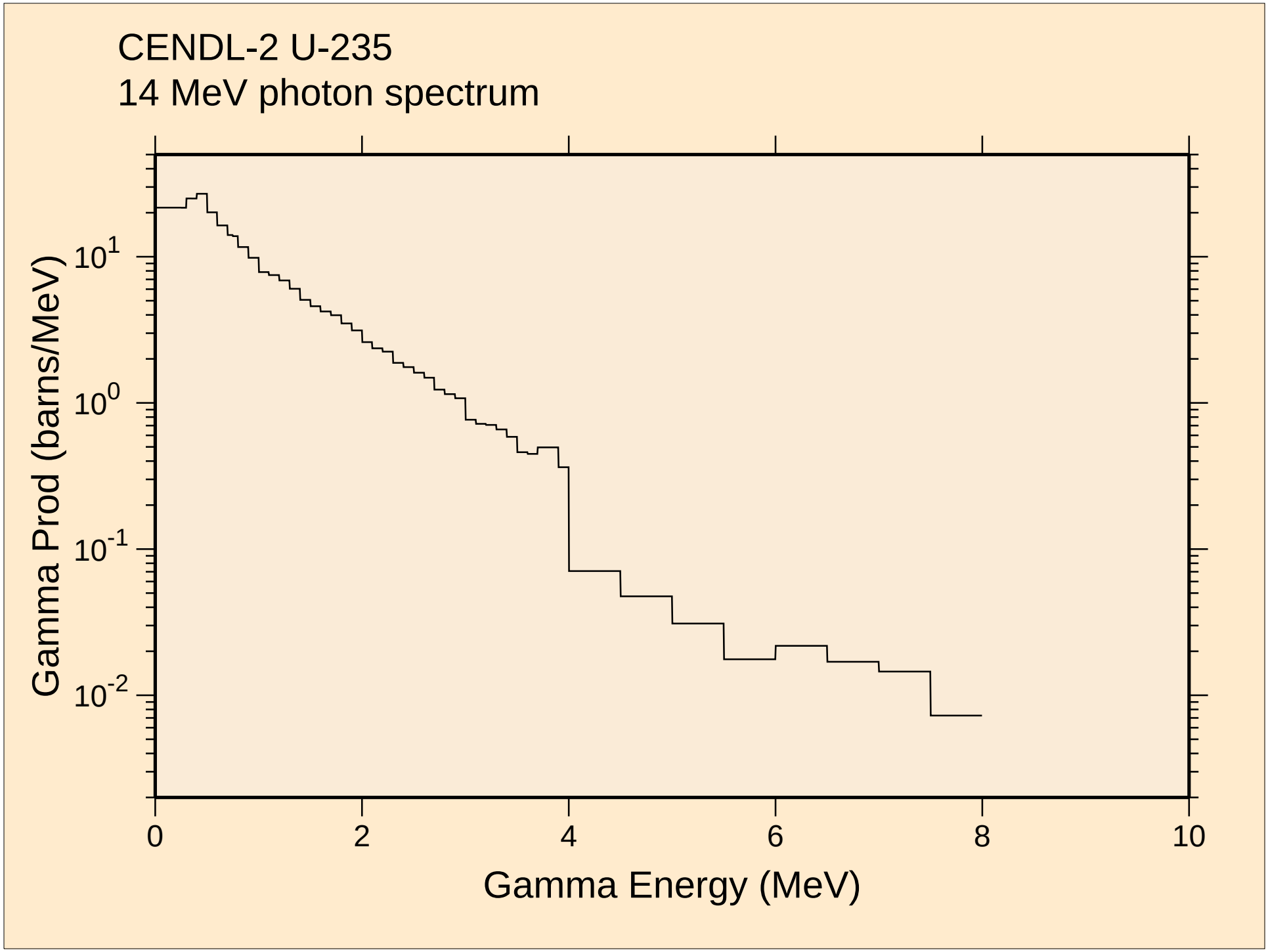
CENDL-2 U-235
Photon emission for fission




CENDL-2 U-235
Photon emission for (n,gma)
Prob/MeV
10^{0}
10^{-2}
10^{-4}
E_γ (MeV)
0
5
10
E_n (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2


CENDL-2 U-235
Photon emission for nonelastic
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
5
10
15
20
E_n (MeV)


CENDL-2 U-235
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^{2}
10^{1}
10^{0}
10^{-1}
0
2
4
6
8
Gamma Energy (MeV)


CENDL-2 U-235
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^{1}
10^{0}
10^{-1}
10^{-2}
0
2
4
6
8
10
Gamma Energy (MeV)