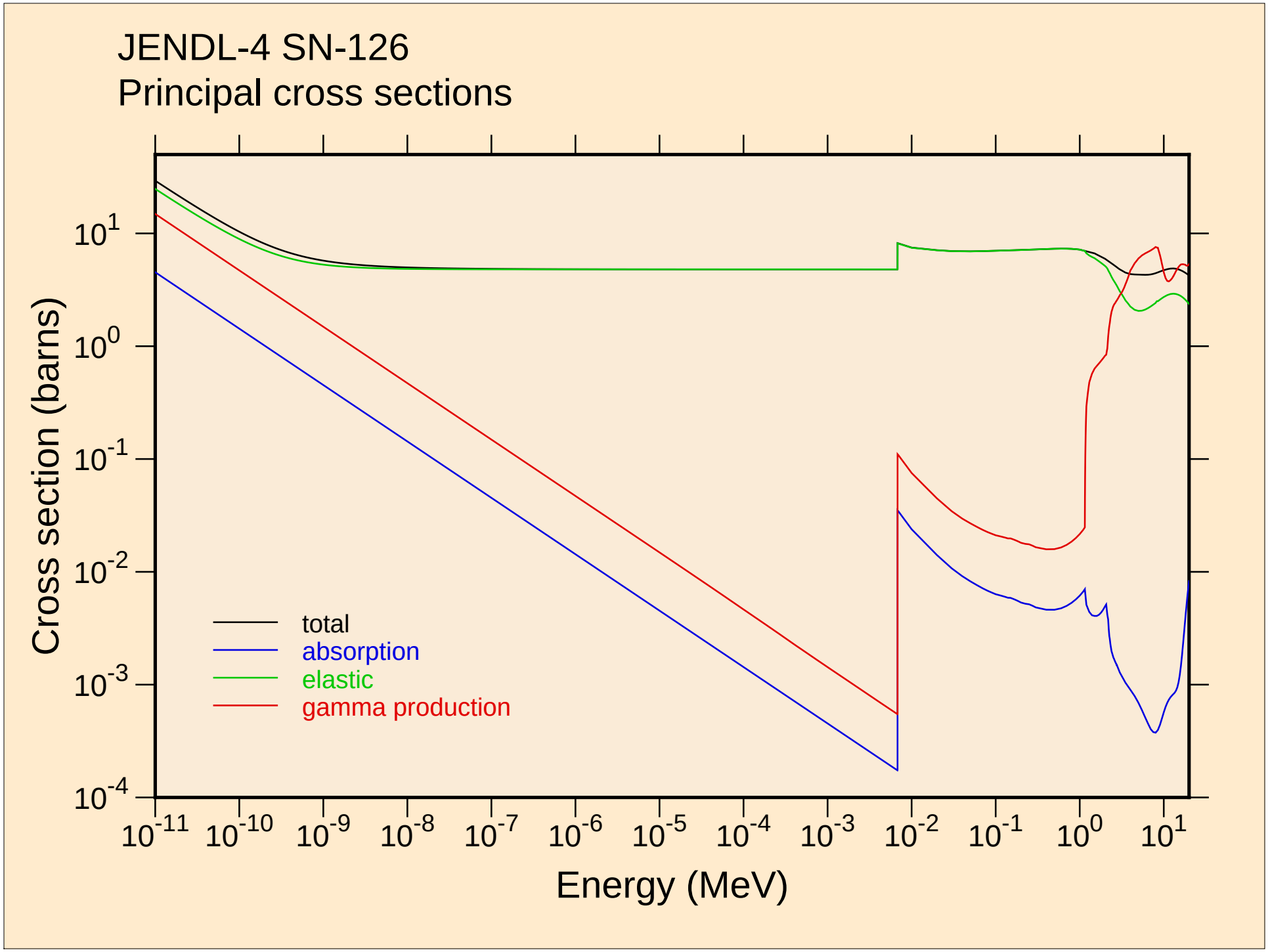
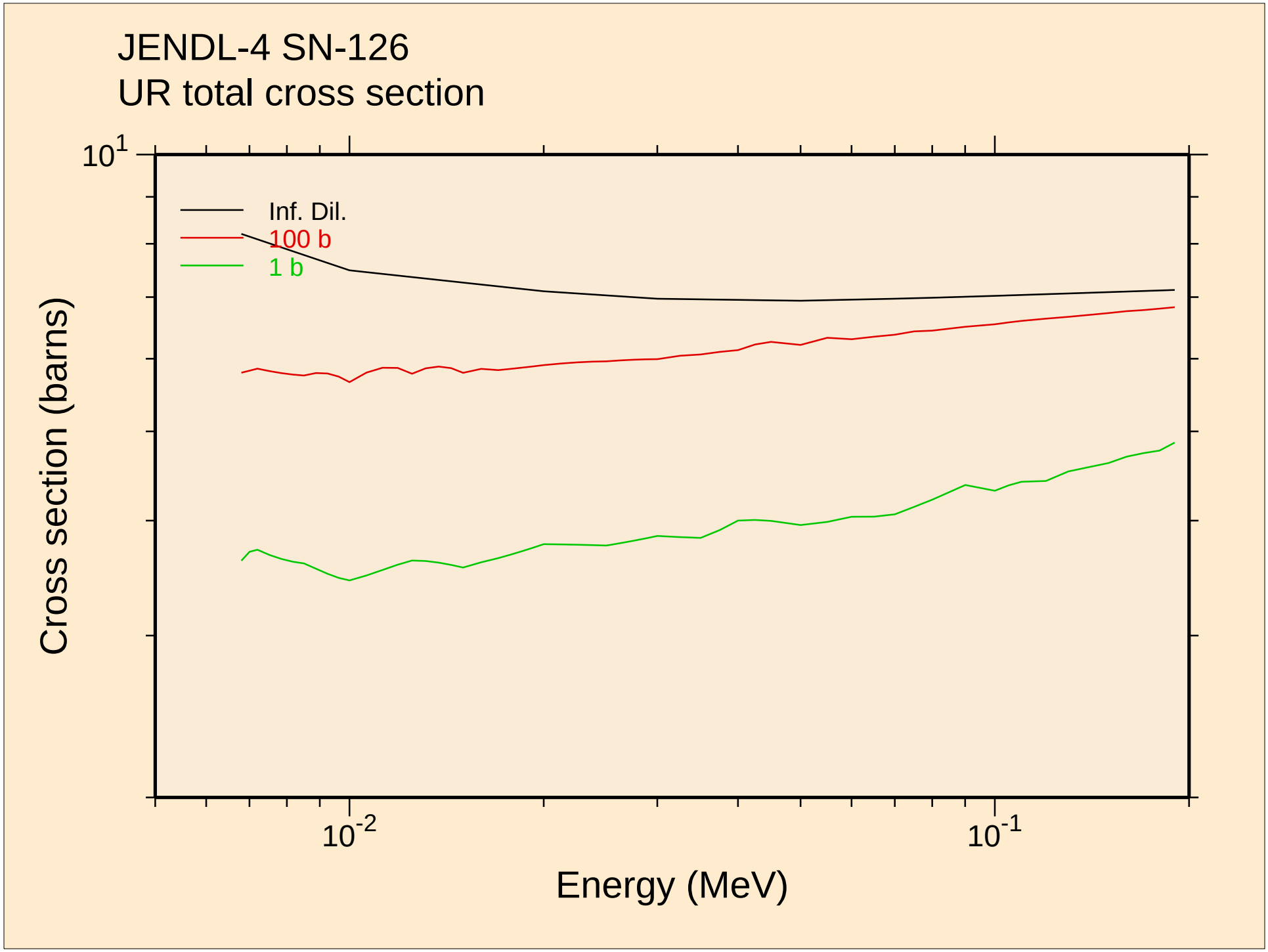
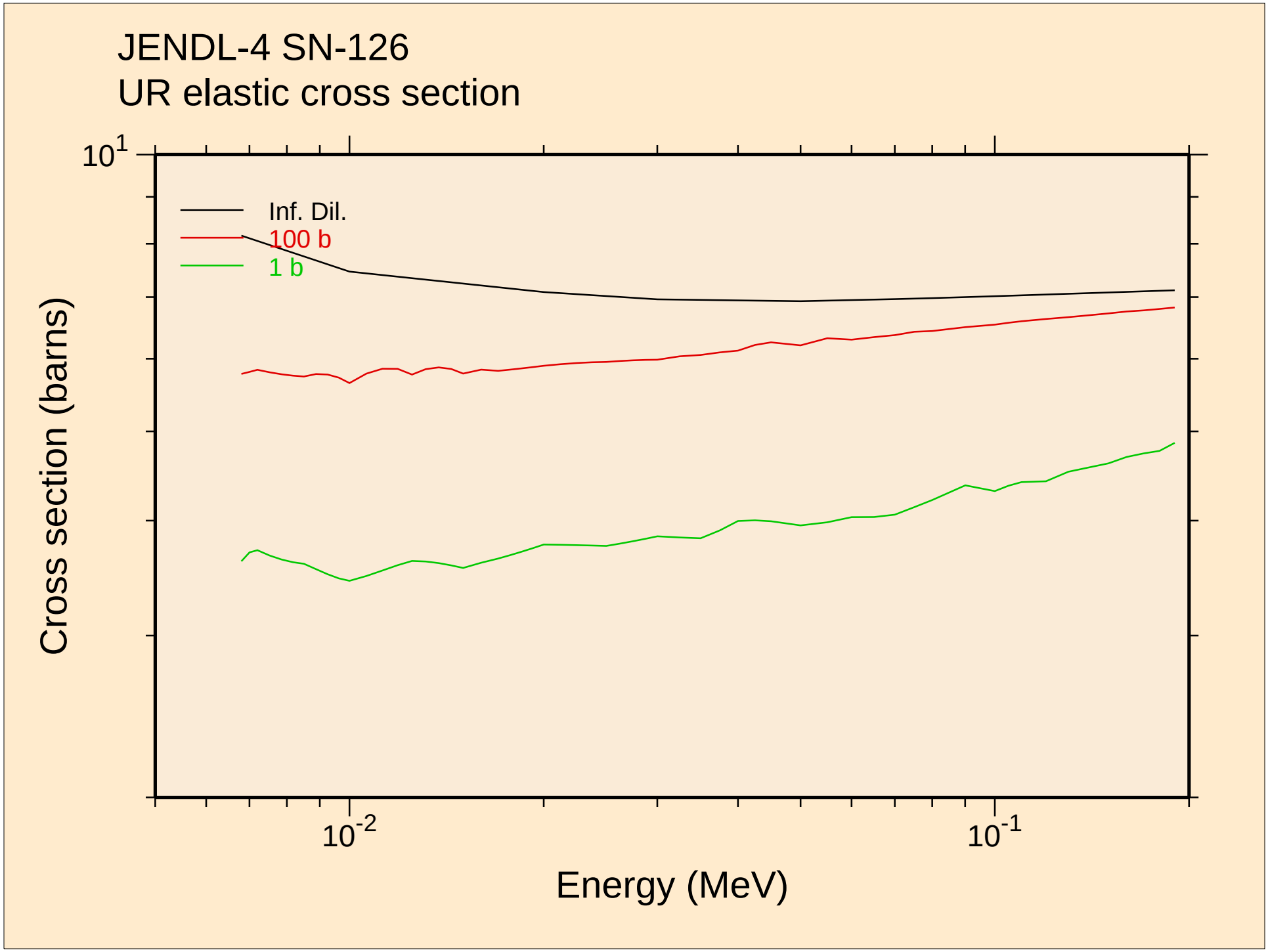
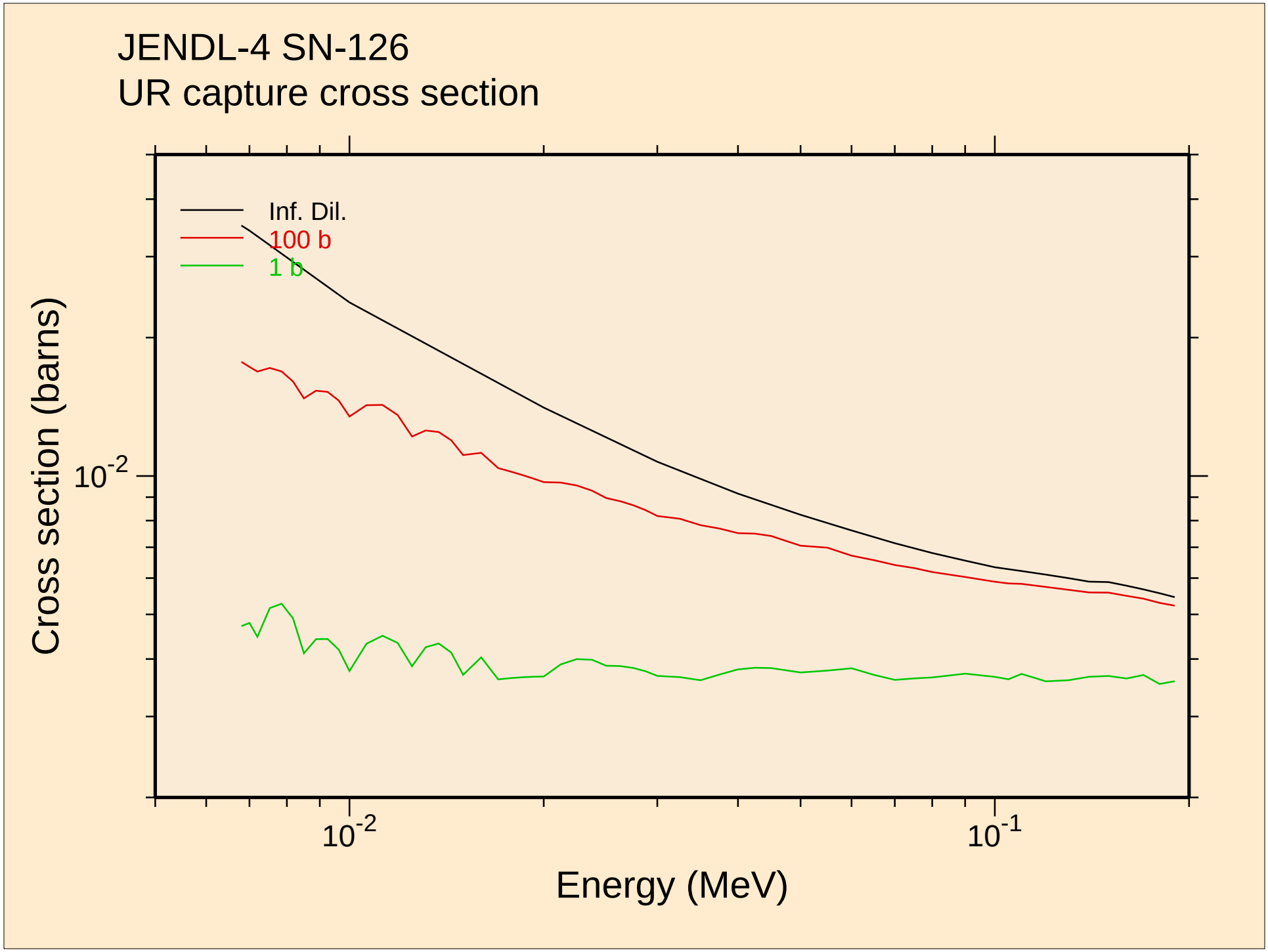
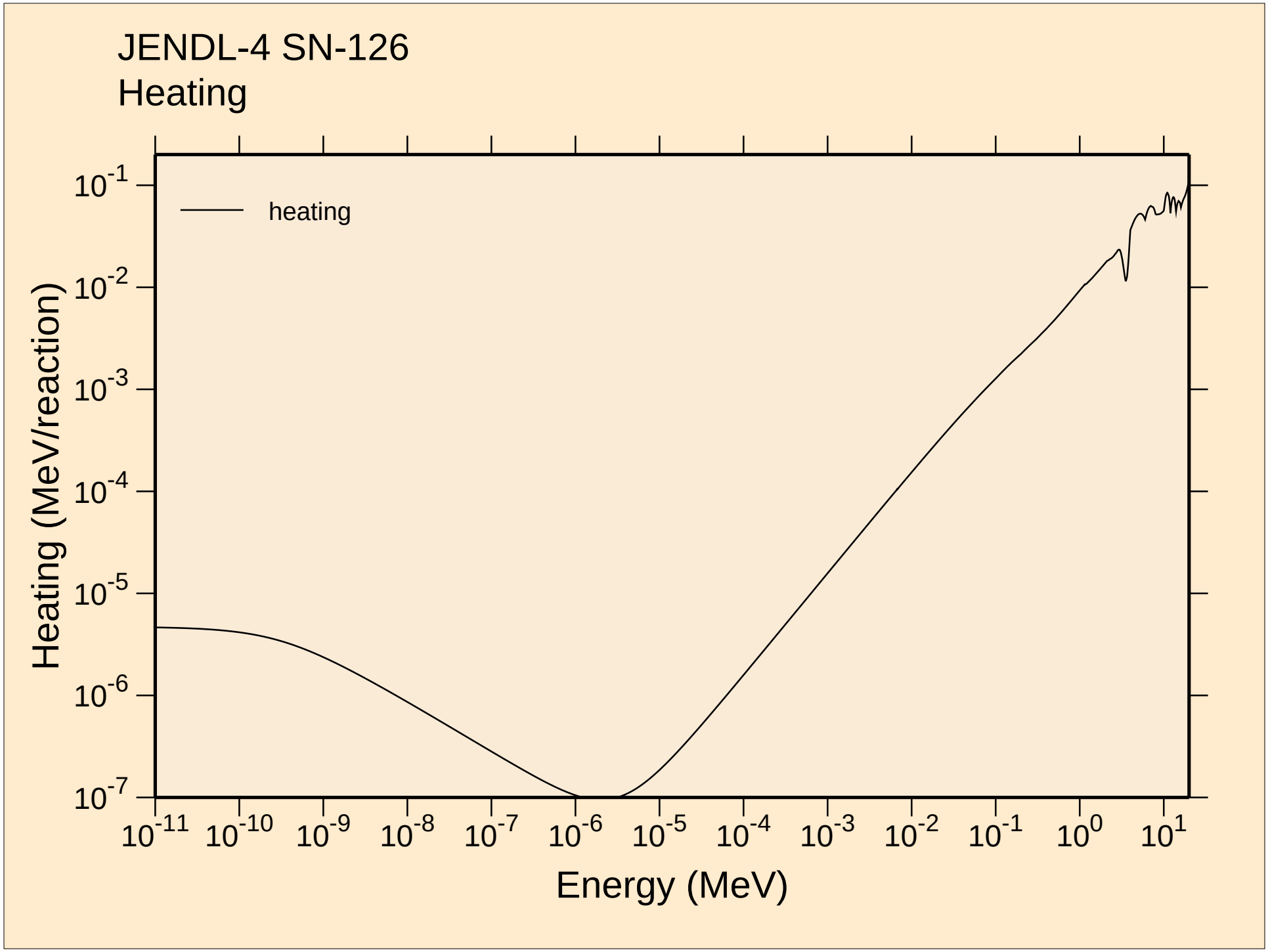
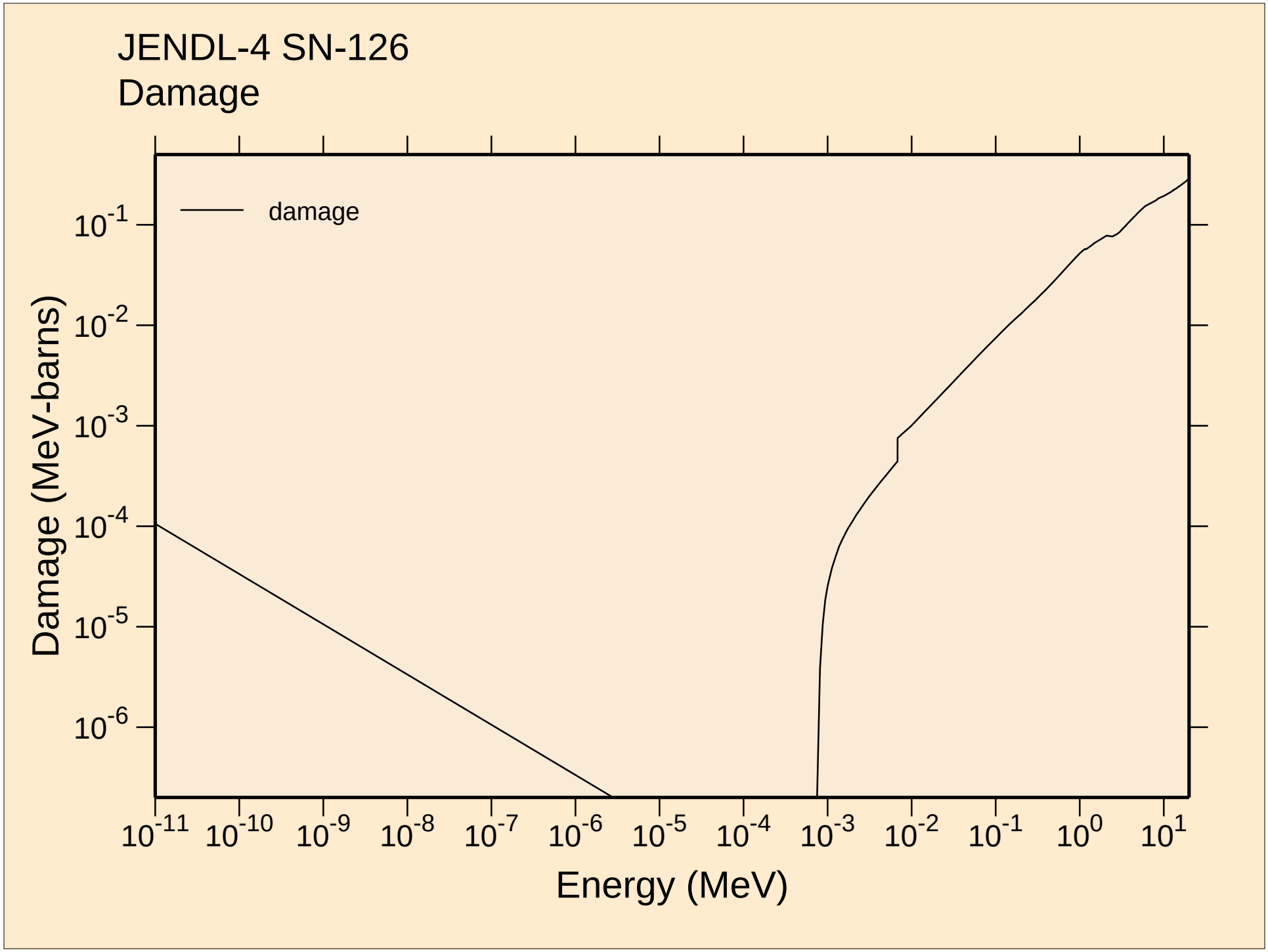

JENDL-4 SN-126
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-11}
10^{-10}
10^{-9}
10^{-8}
10^{-7}
10^{-6}
10^{-5}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
10^{0}
10^{1}

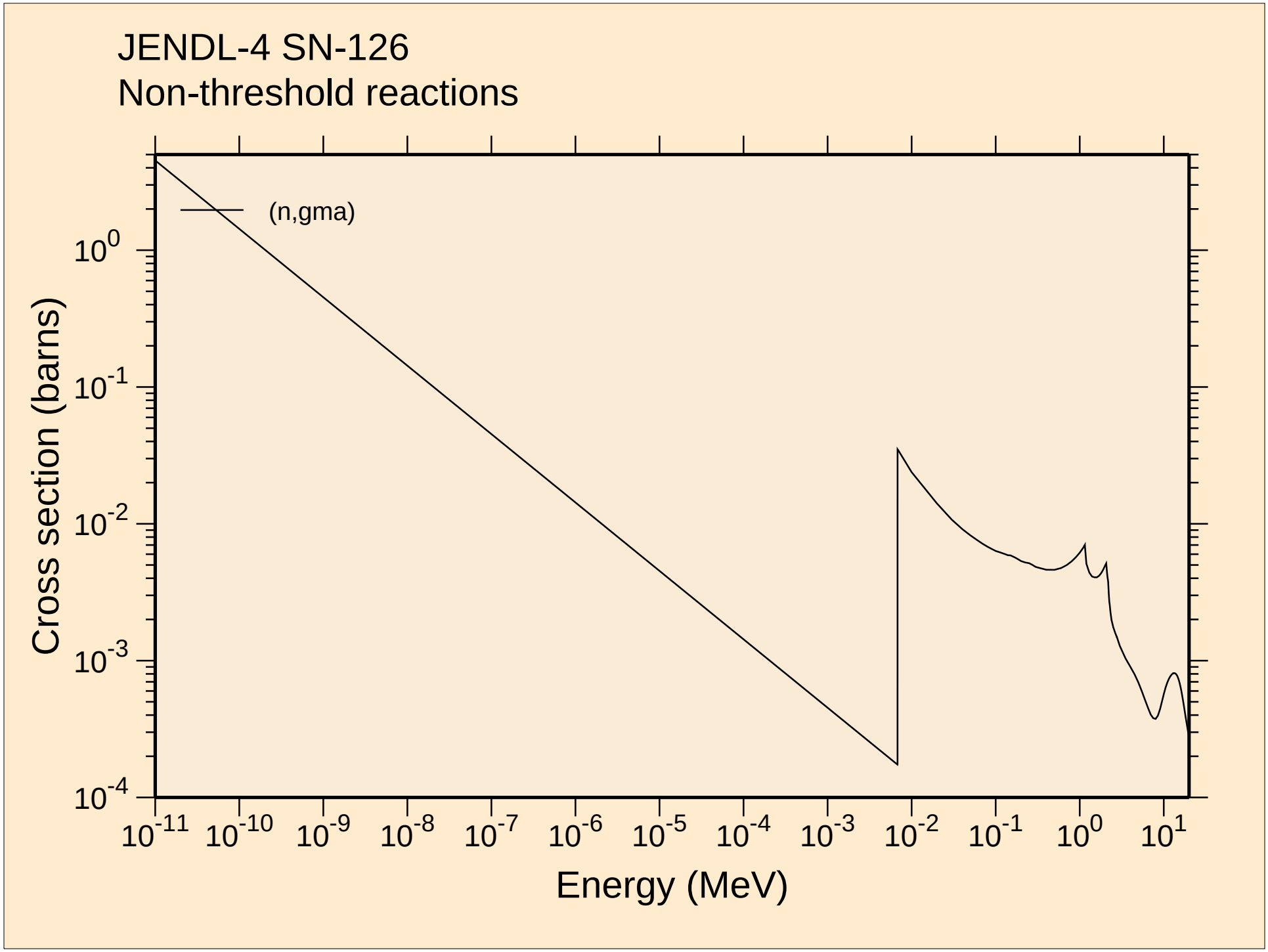

JENDL-4 SN-126
UR total cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
Energy (MeV)
10^1
10^-2
10^-1

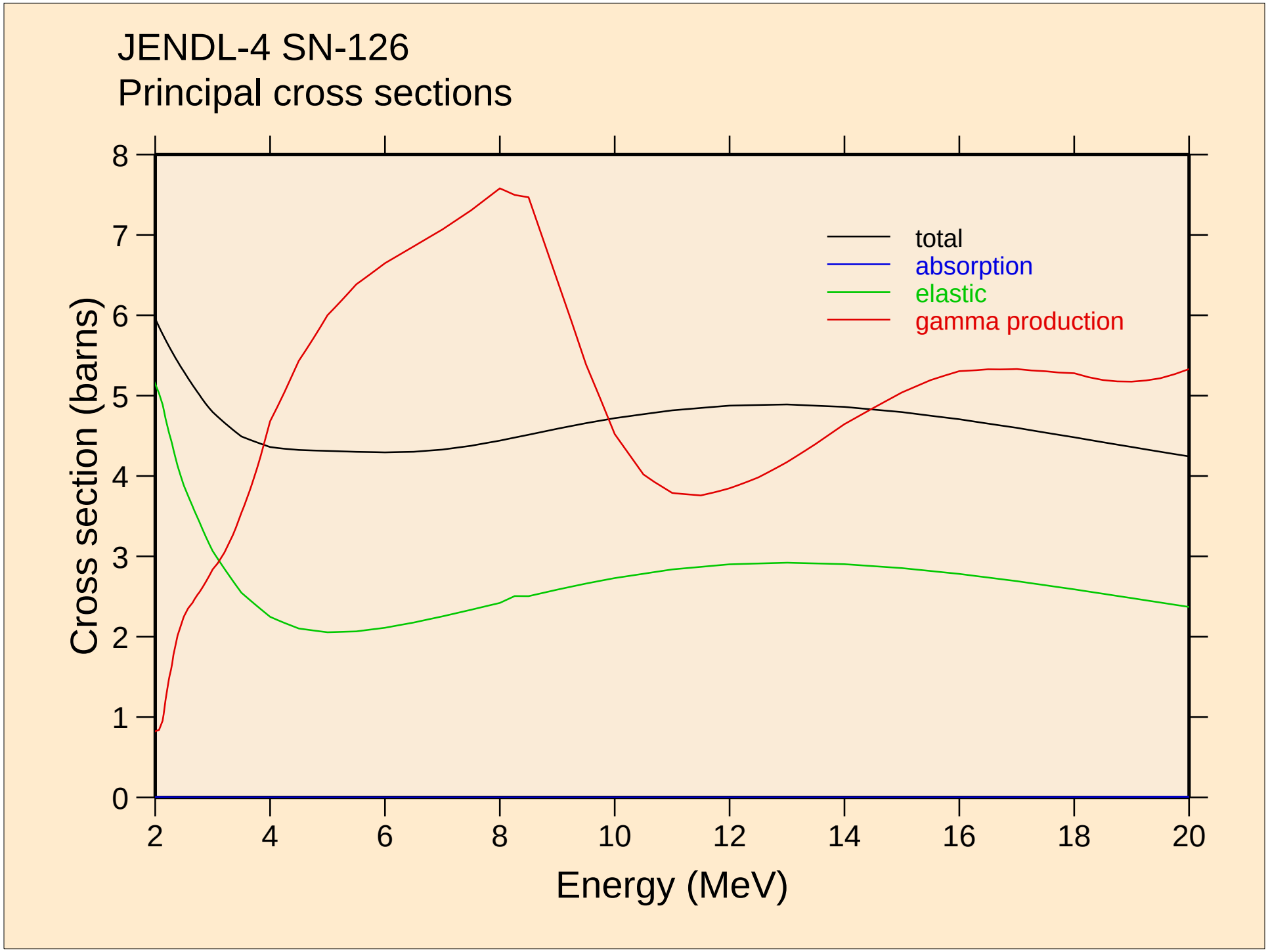

JENDL-4 SN-126
UR elastic cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
Energy (MeV)
10^1
10^-2
10^-1

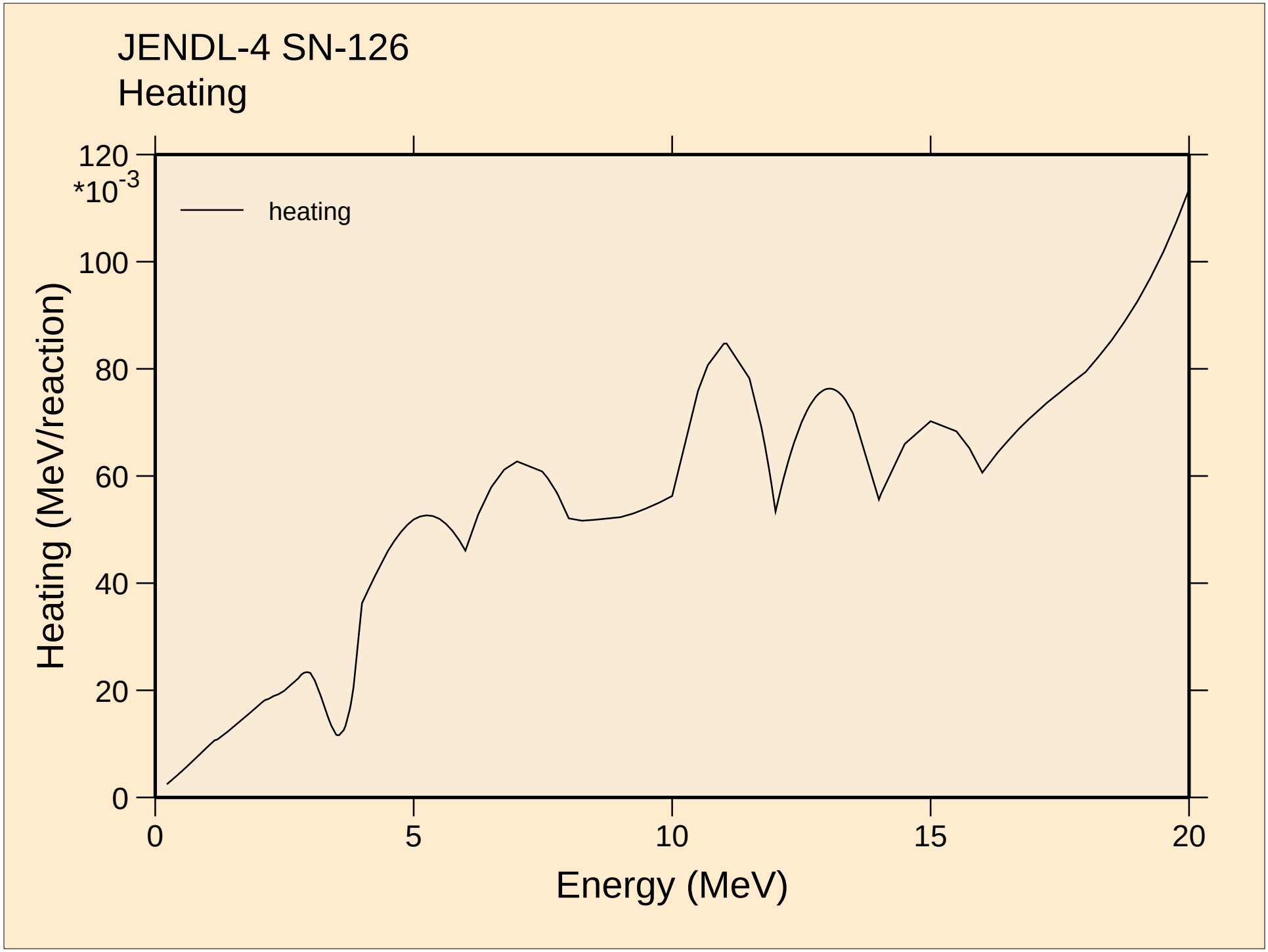

JENDL-4 SN-126
UR capture cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10-2
10-2
10-1
Energy (MeV)

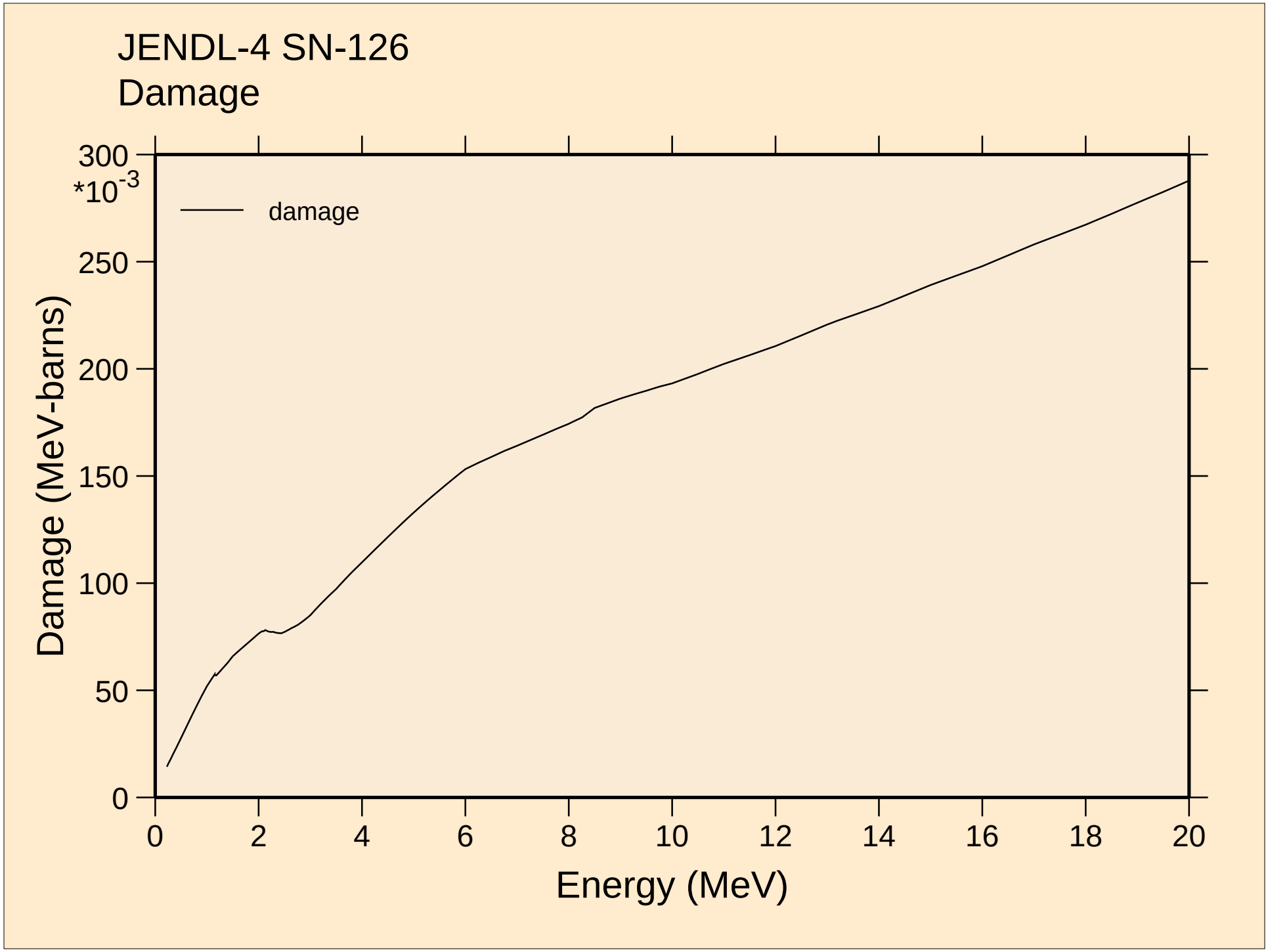

JENDL-4 SN-126
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-7
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

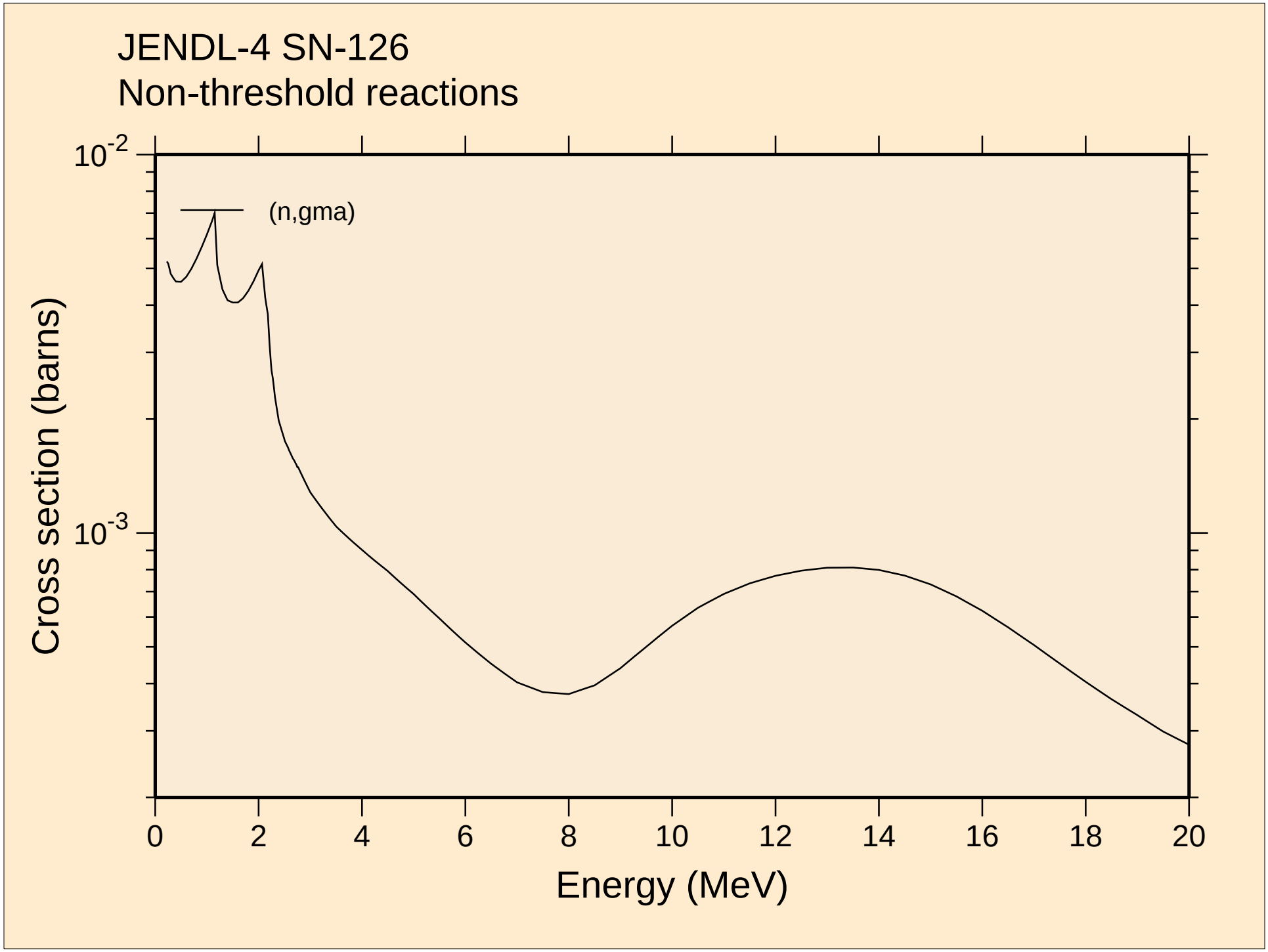

JENDL-4 SN-126
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

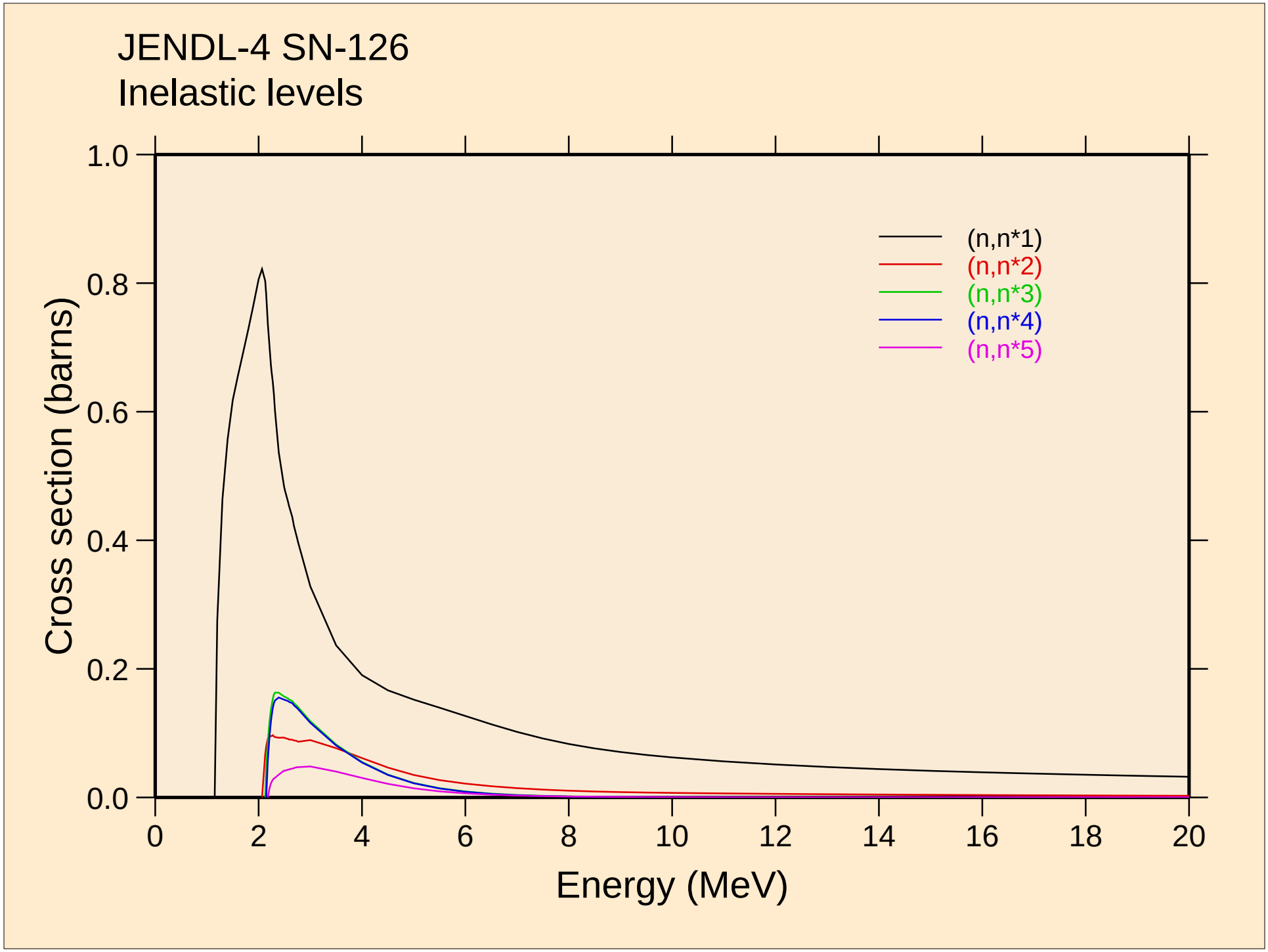

JENDL-4 SN-126
Non-threshold reactions
(n,gma)
Cross section (barns)
Energy (MeV)
10^0
10^-1
10^-2
10^-3
10^-4
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

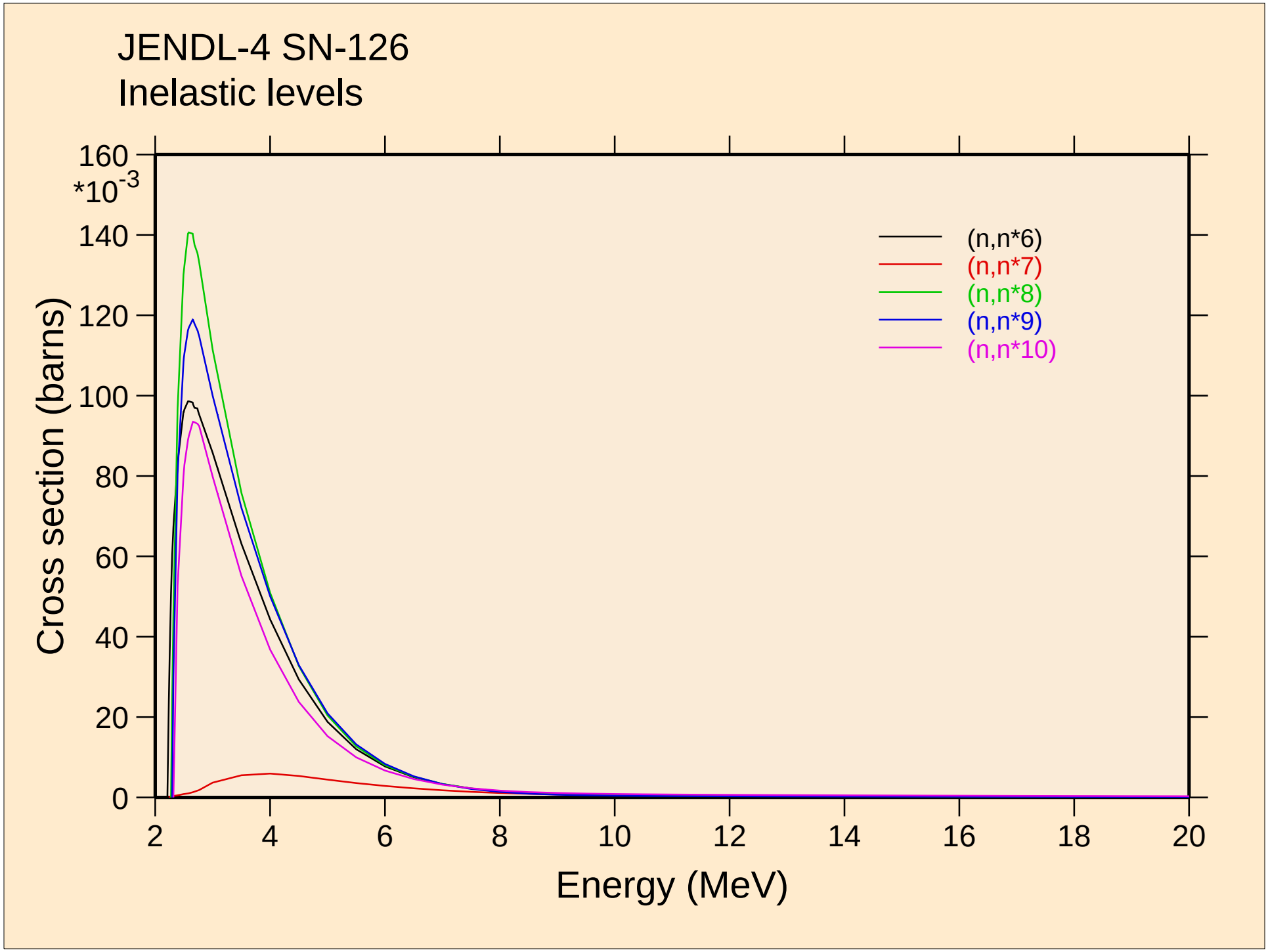

JENDL-4 SN-126
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
1
2
3
4
5
6
7
8
2
4
6
8
10
12
14
16
18
20

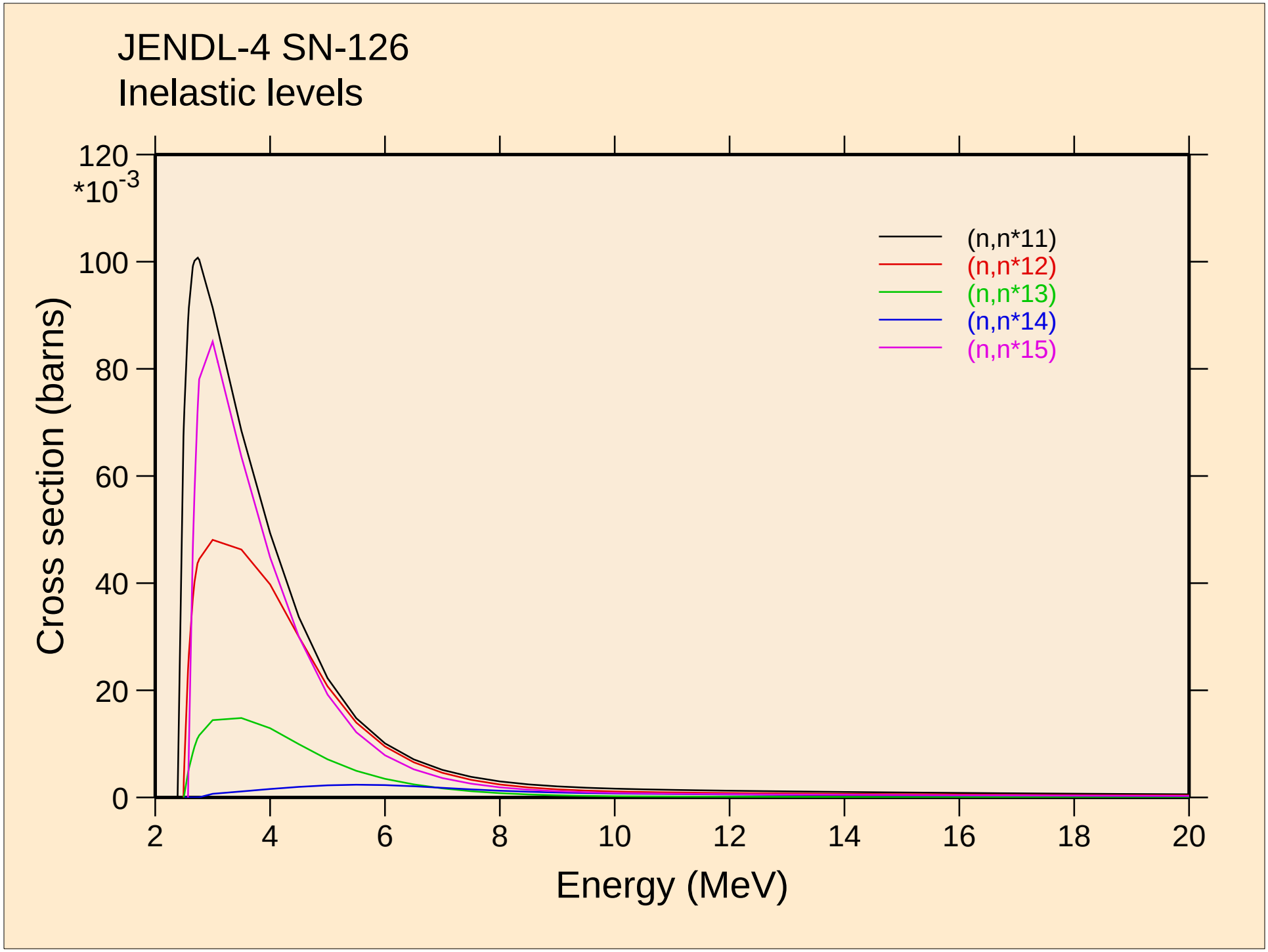

JENDL-4 SN-126
Heating
heating
Heating (MeV/reaction)
*10-3
120
100
80
60
40
20
0
0
5
10
15
20
Energy (MeV)

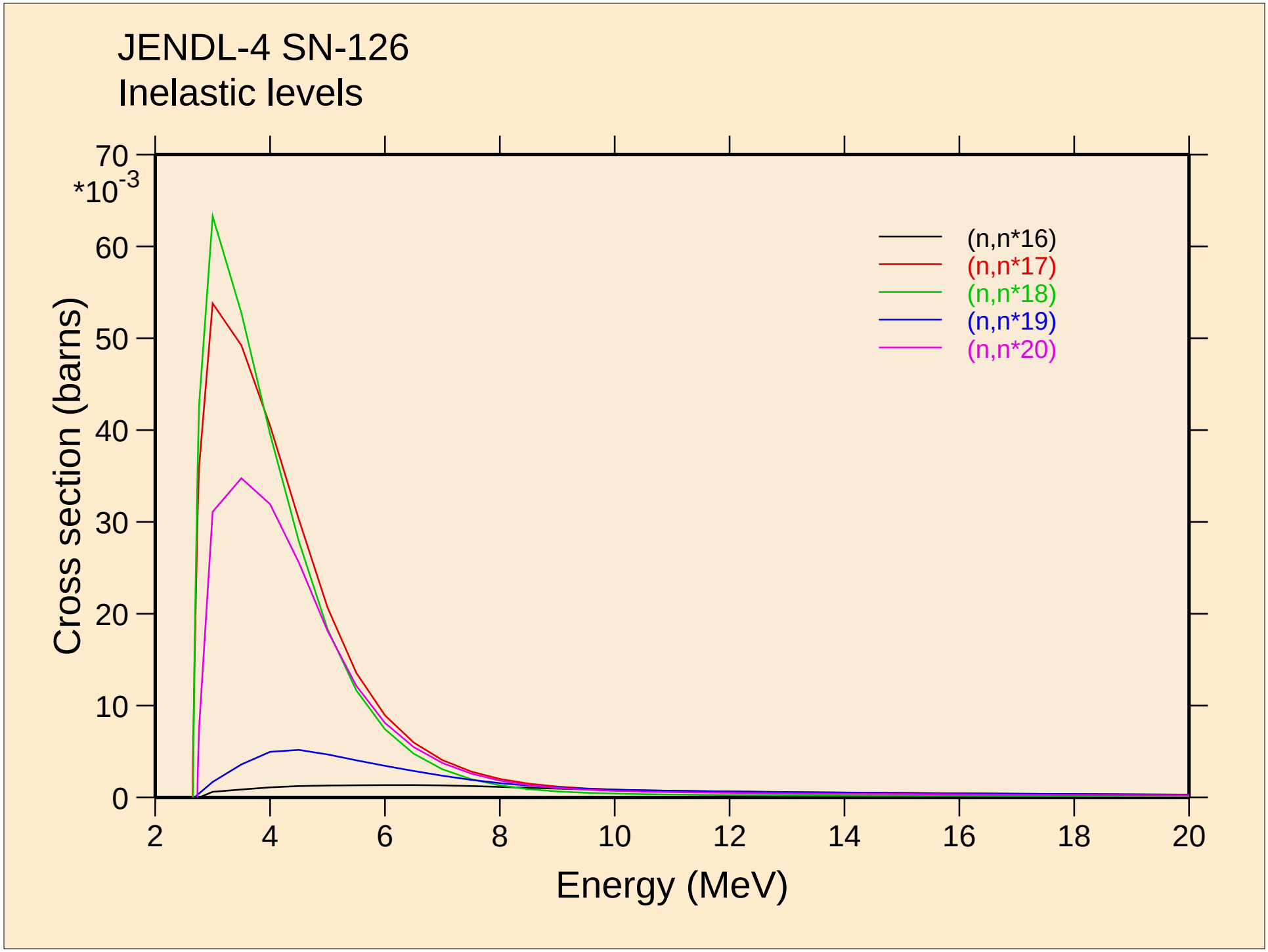

JENDL-4 SN-126
Damage
damage
Damage (MeV-barns)
*10-3
300
250
200
150
100
50
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

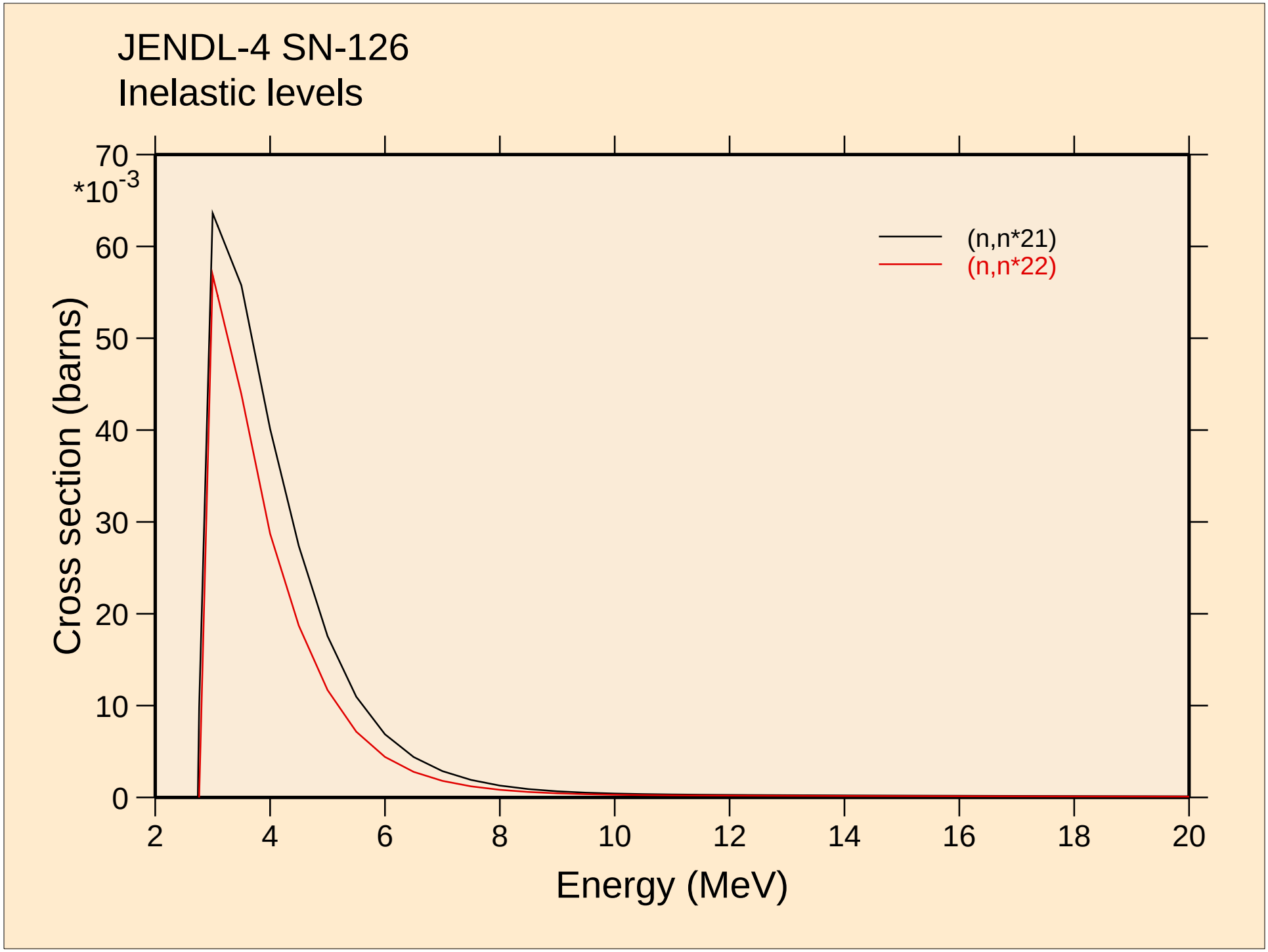

JENDL-4 SN-126
Non-threshold reactions
(n,gma)
Cross section (barns)
10-2
10-3
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

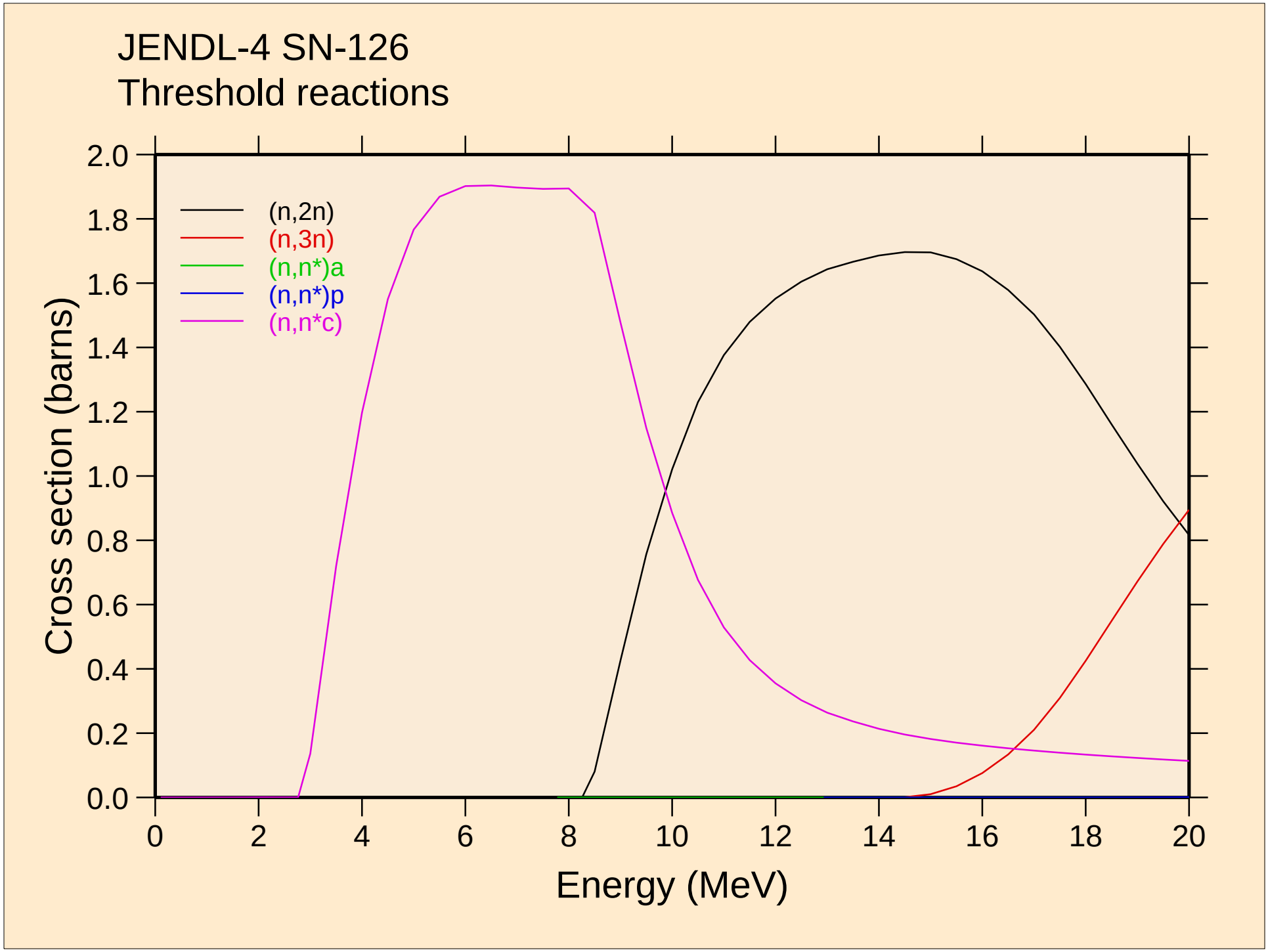

JENDL-4 SN-126
Inelastic levels
Cross section (barns)
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)
0.0
0.2
0.4
0.6
0.8
1.0
0
2
4
6
8
10
12
14
16
18
20

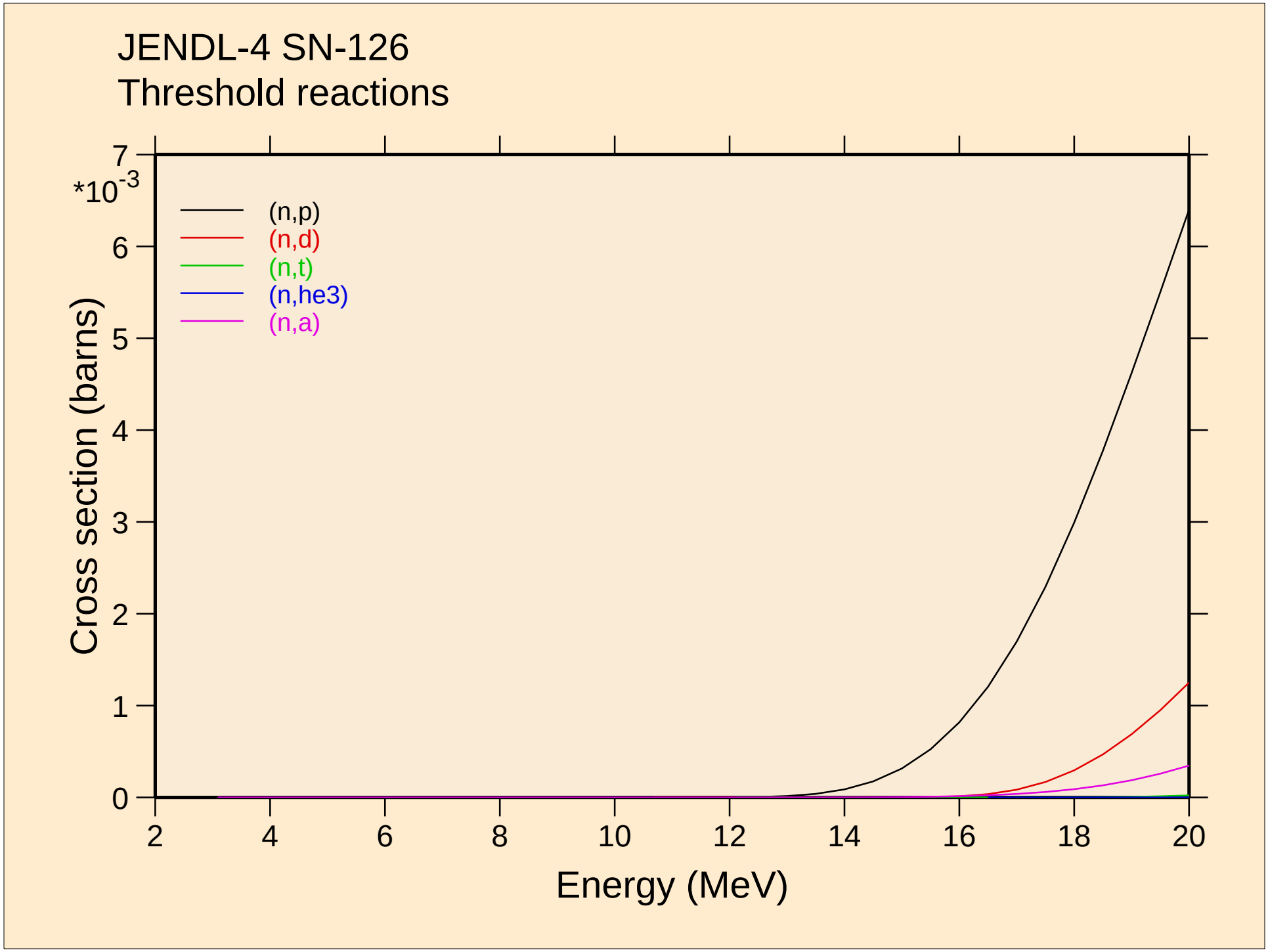

JENDL-4 SN-126
Inelastic levels
Cross section (barns)
*10-3
160
140
120
100
80
60
40
20
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

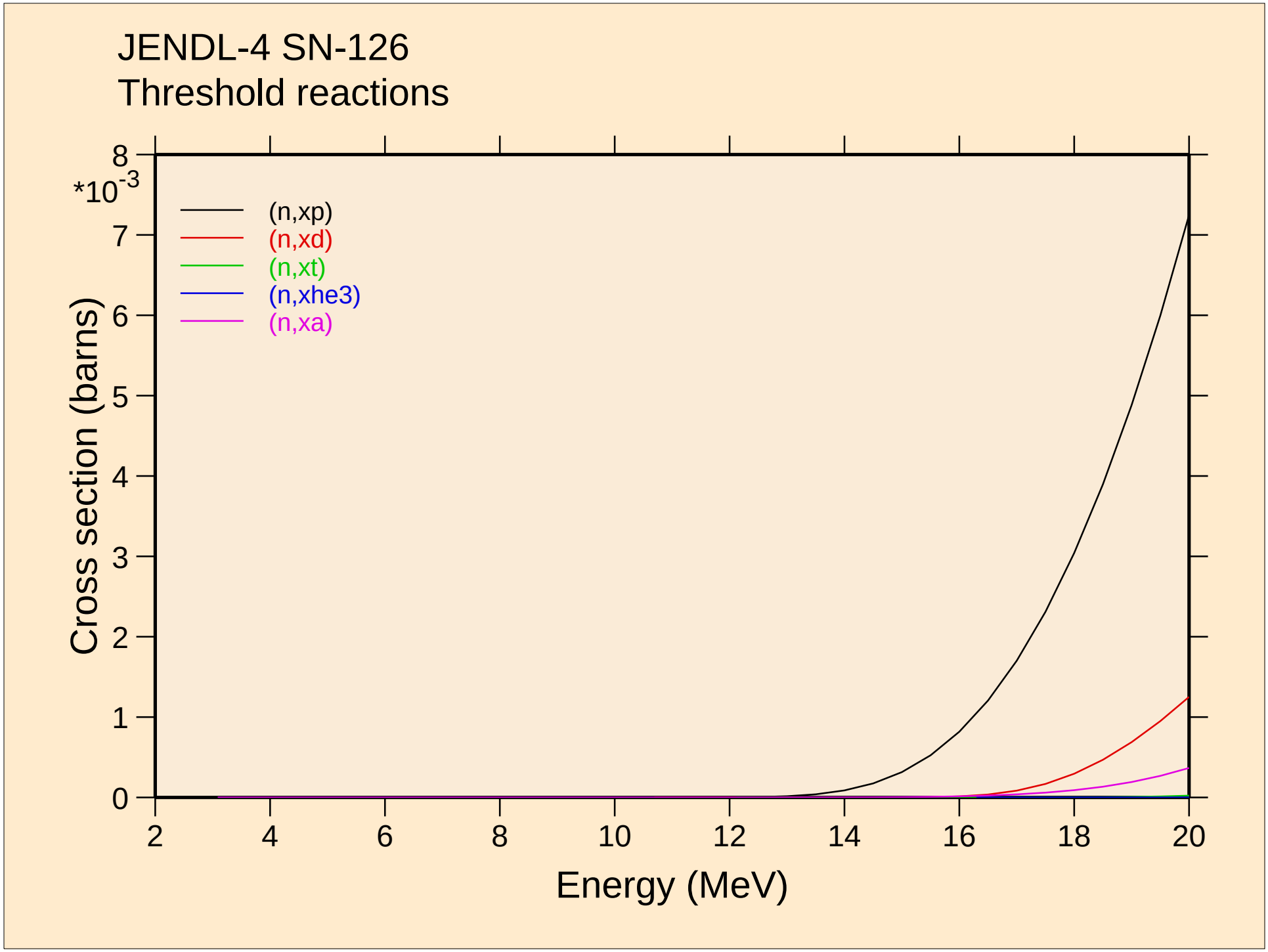

JENDL-4 SN-126
Inelastic levels
120
*10-3
100
80
60
40
20
0
Cross section (barns)
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

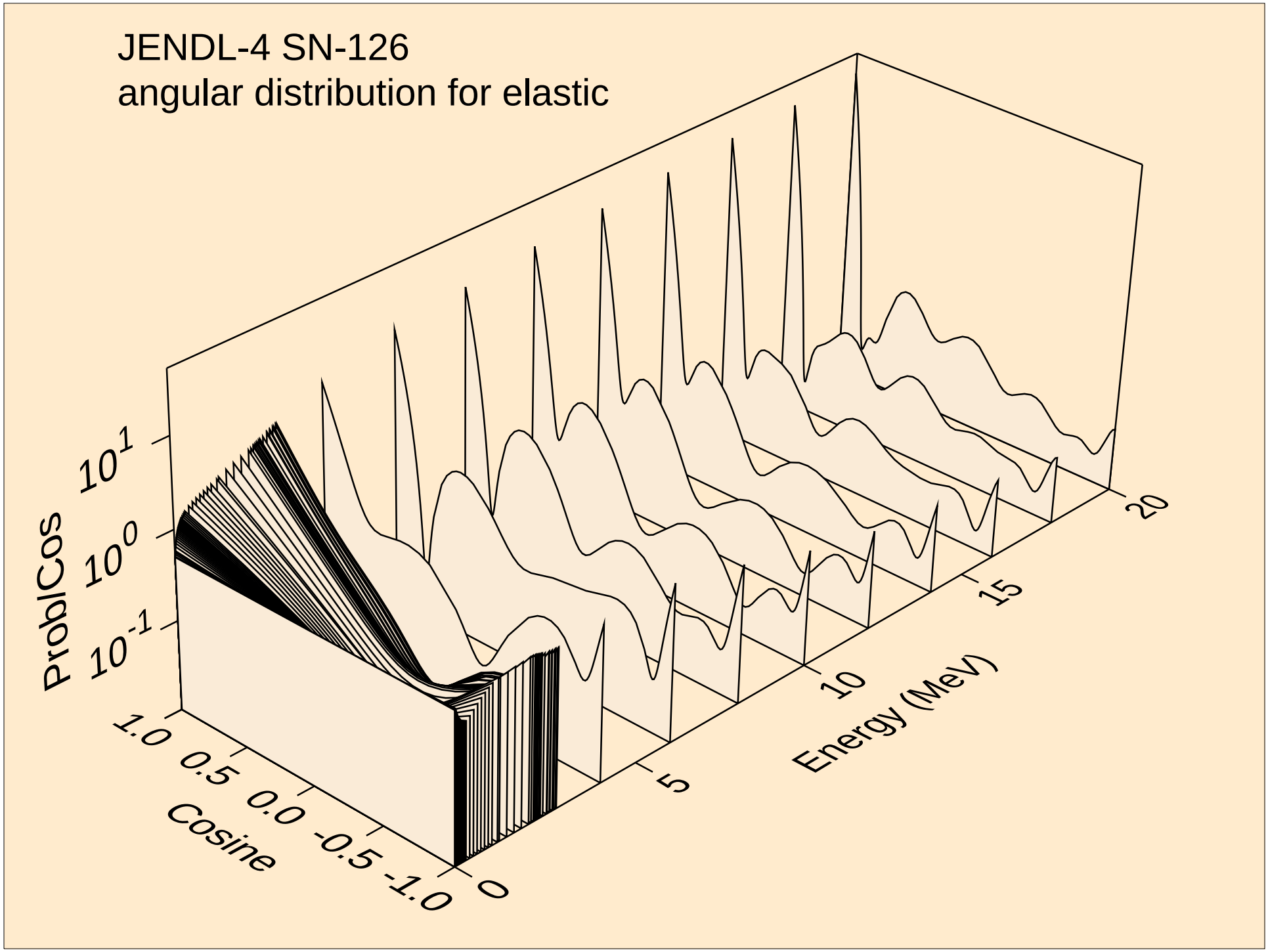

JENDL-4 SN-126
Inelastic levels
70
*10-3
60
50
40
30
20
10
0
Cross section (barns)
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

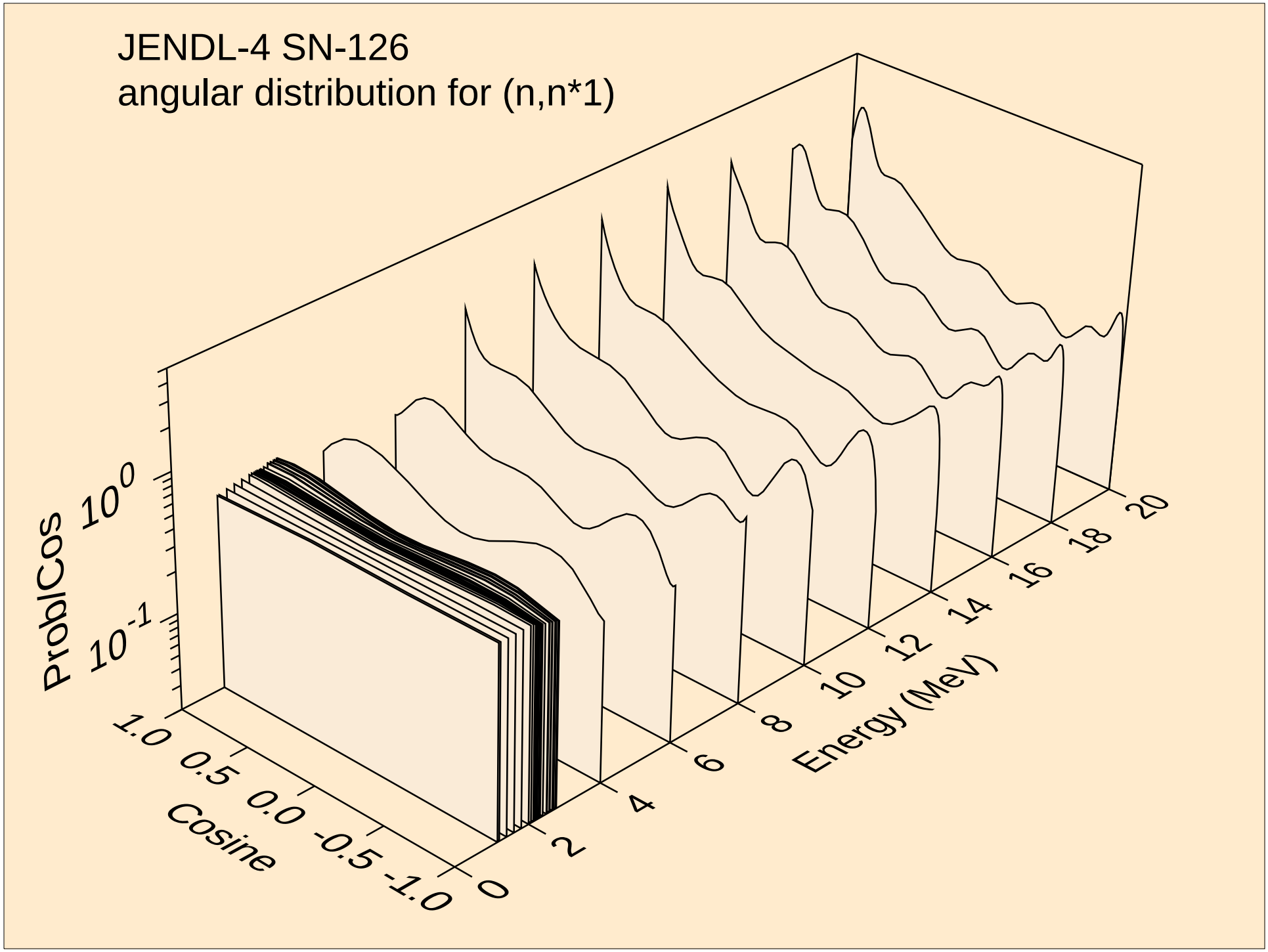

JENDL-4 SN-126
Inelastic levels
70
*10-3
60
50
40
30
20
10
0
Cross section (barns)
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*21)
(n,n*22)

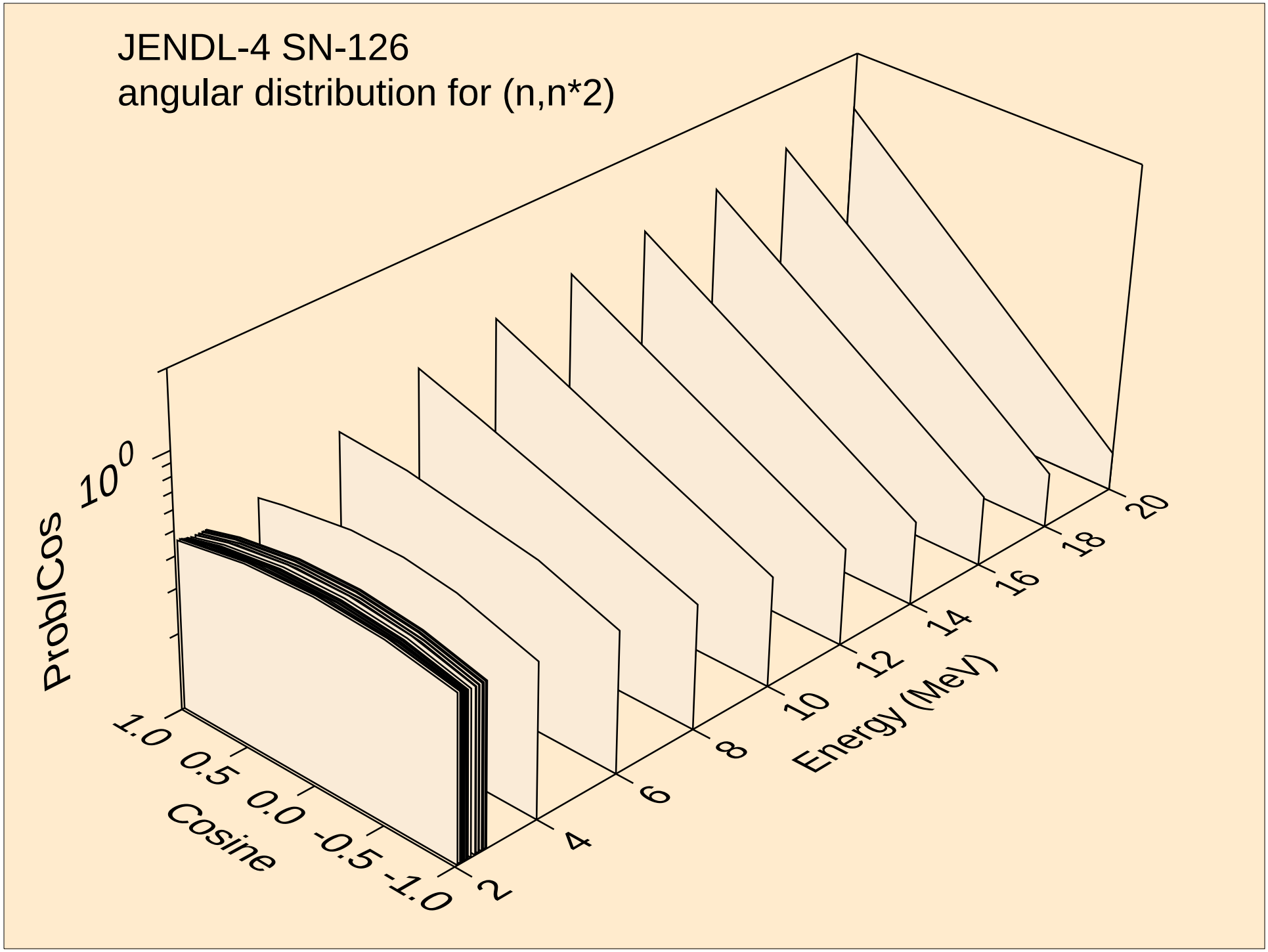

JENDL-4 SN-126
Threshold reactions
(n,2n)
(n,3n)
(n,n*)a
(n,n*)p
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
0
2
4
6
8
10
12
14
16
18
20

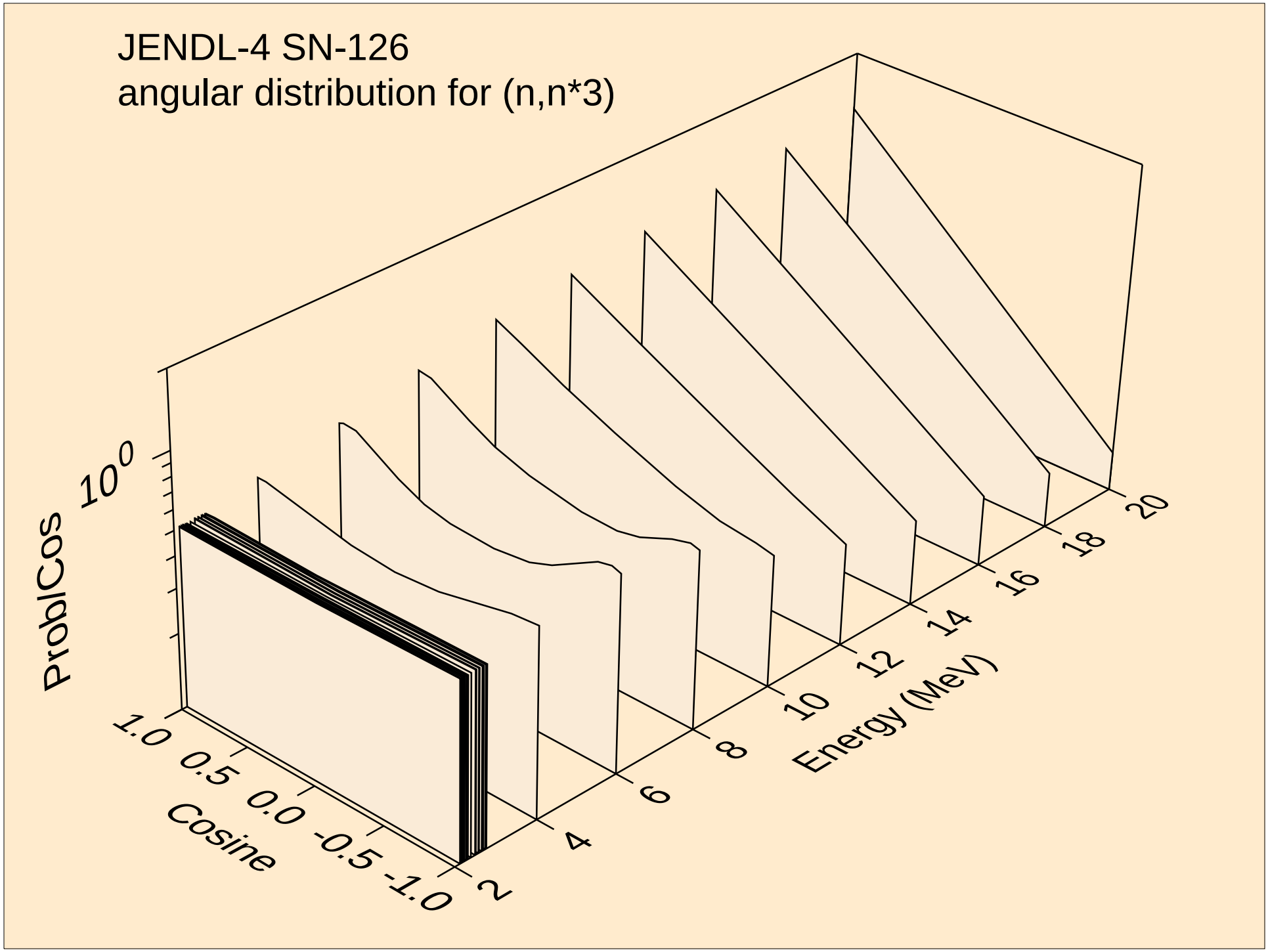

JENDL-4 SN-126
Threshold reactions
*10-3
7
6
5
4
3
2
1
0
Cross section (barns)
(n,p)
(n,d)
(n,t)
(n,he3)
(n,a)
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

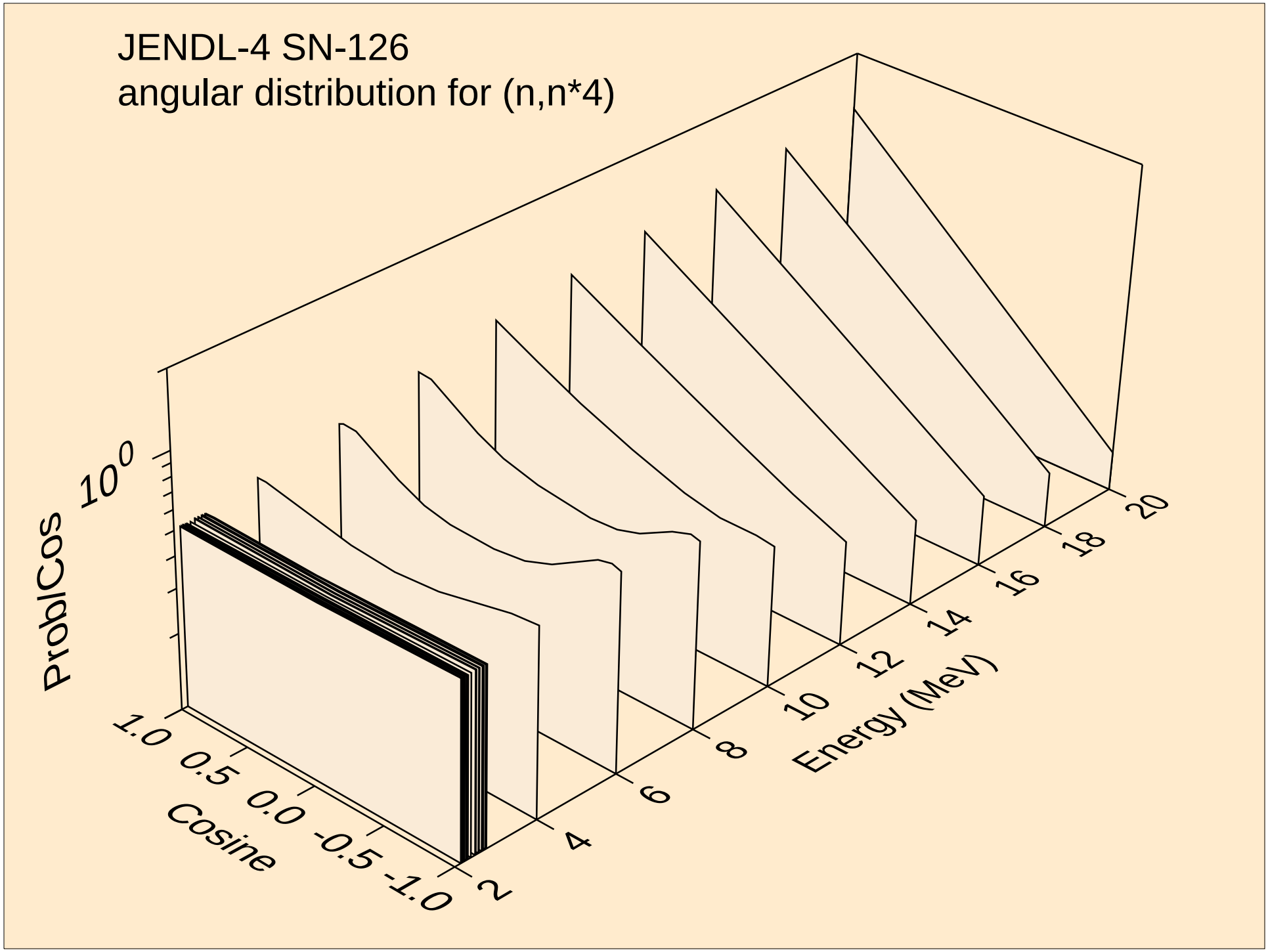

JENDL-4 SN-126
Threshold reactions
*10-3
(n,xp)
(n,xd)
(n,xt)
(n,xhe3)
(n,xa)
Cross section (barns)
Energy (MeV)
0
1
2
3
4
5
6
7
8
2
4
6
8
10
12
14
16
18
20

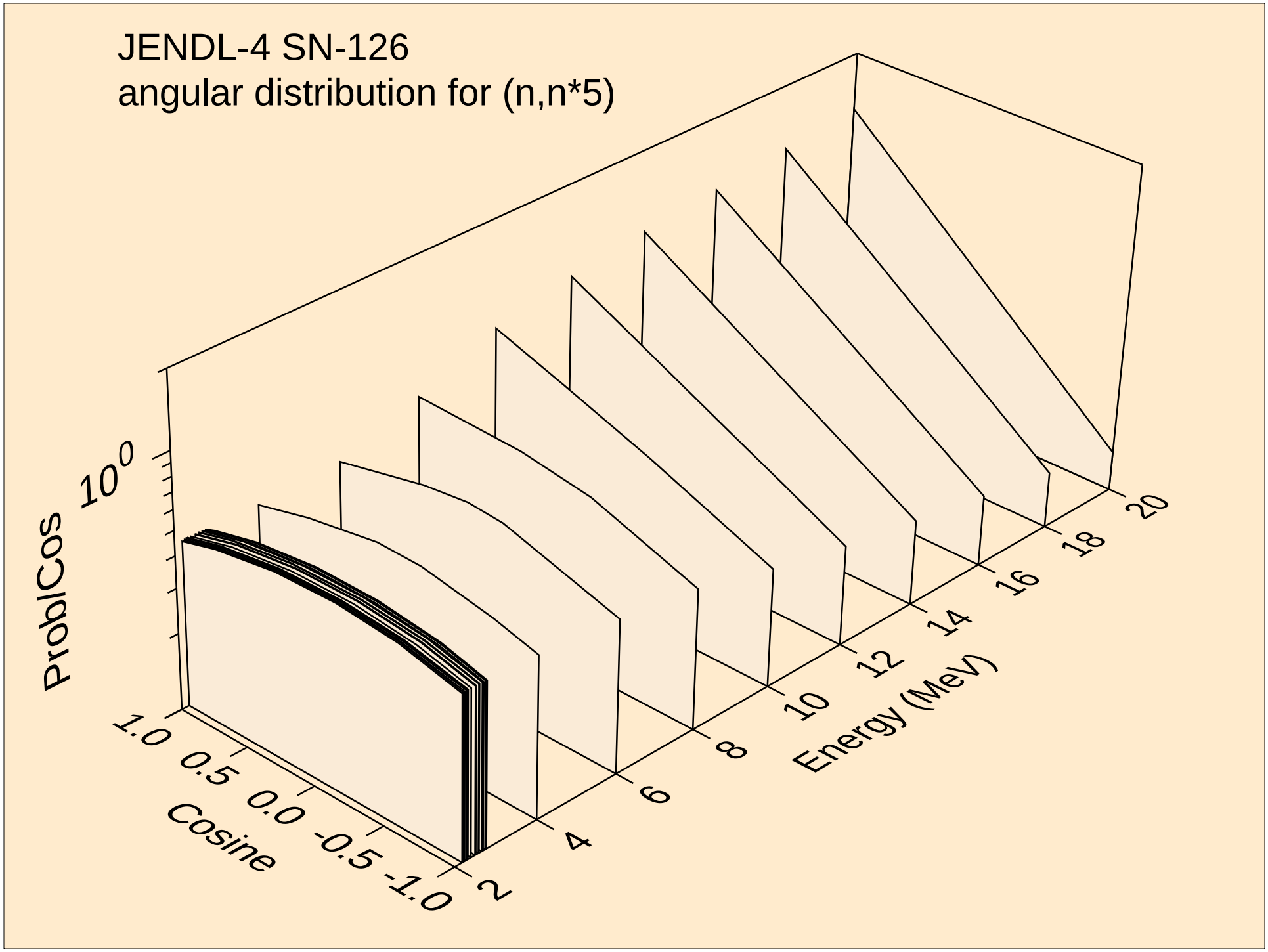

JENDL-4 SN-126
angular distribution for elastic
ProblCos
10^{1}
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

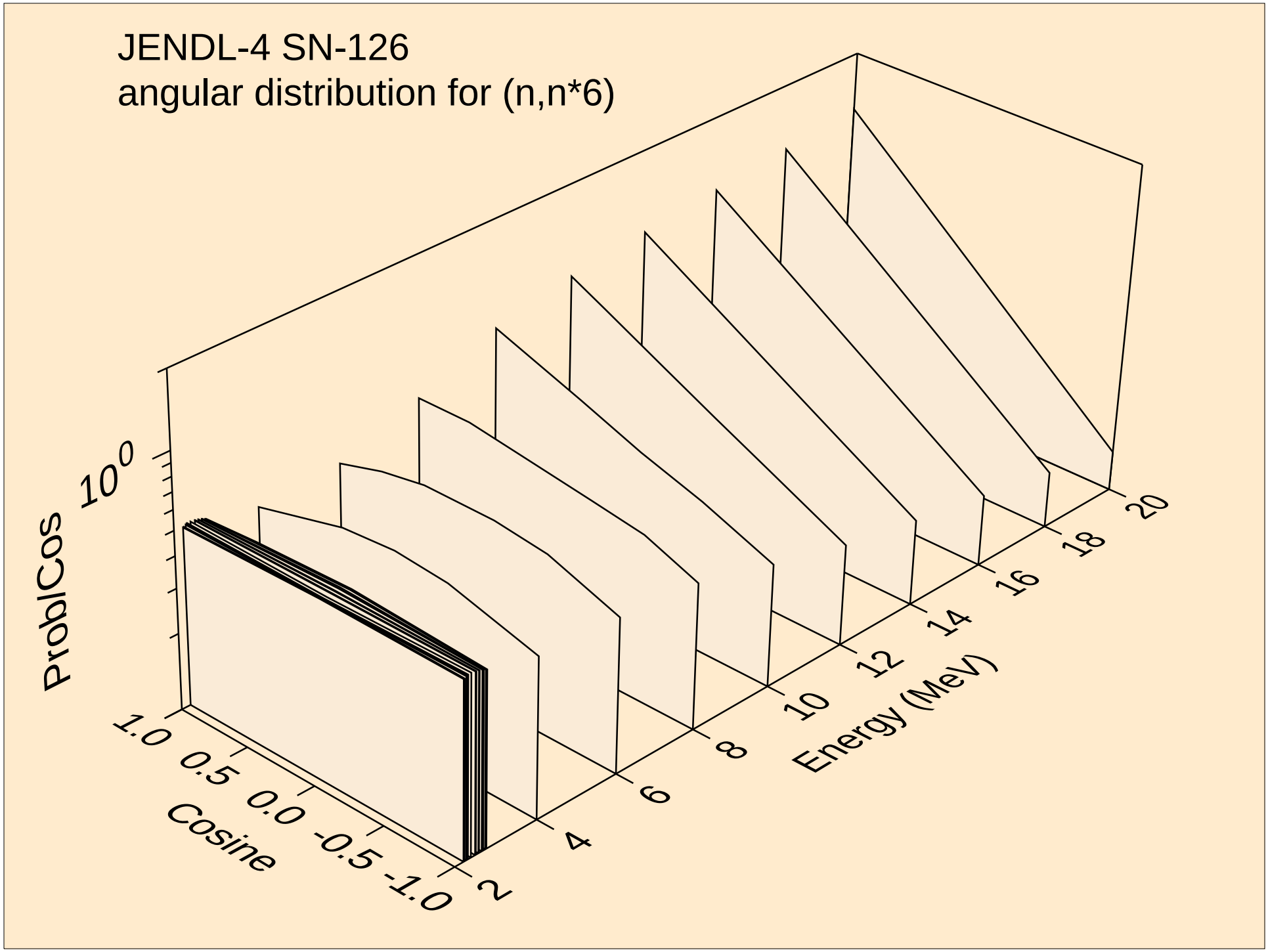

JENDL-4 SN-126
angular distribution for (n,n*1)
Prob/Cos
10^0
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

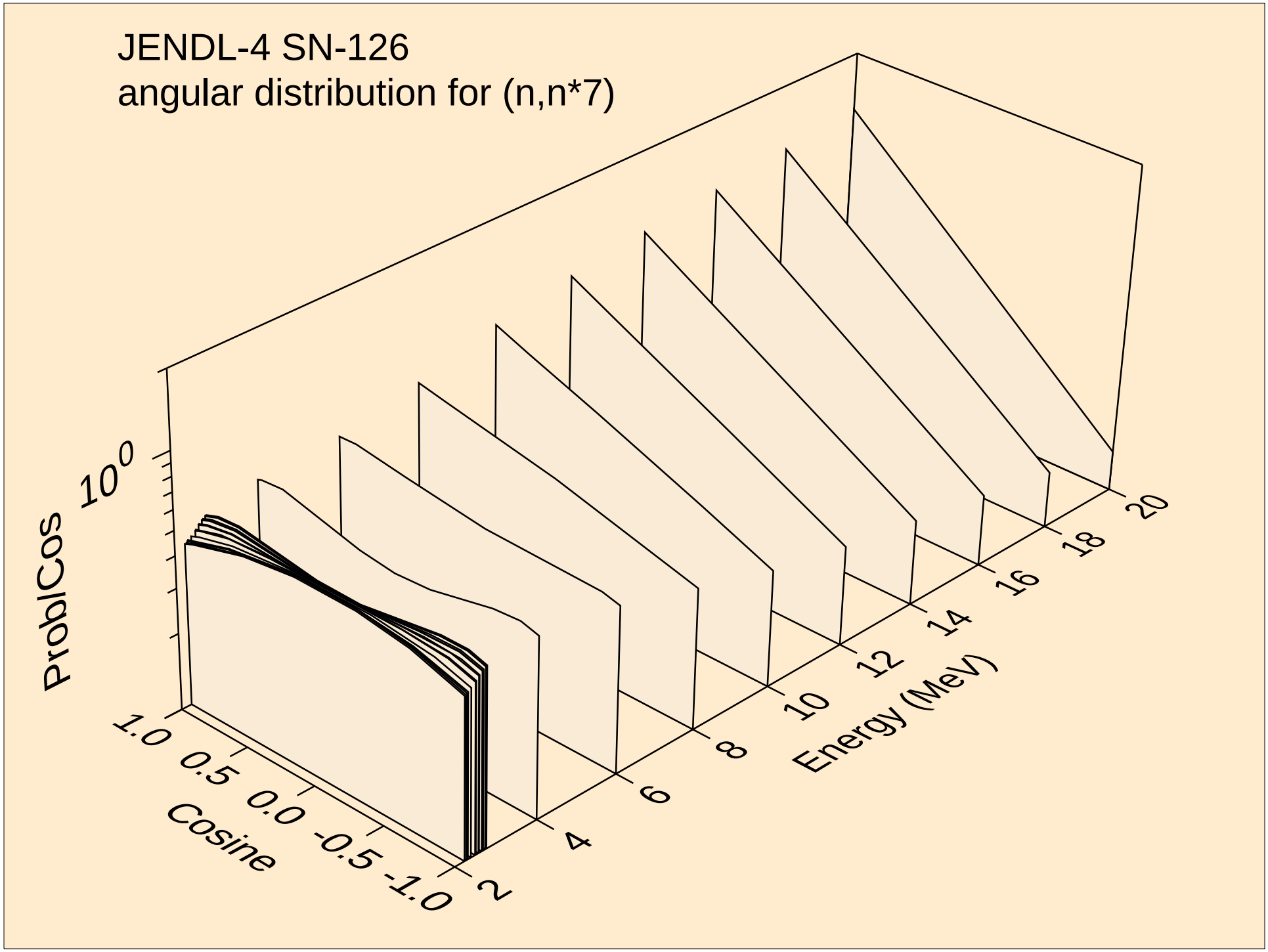

JENDL-4 SN-126
angular distribution for (n,n*2)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

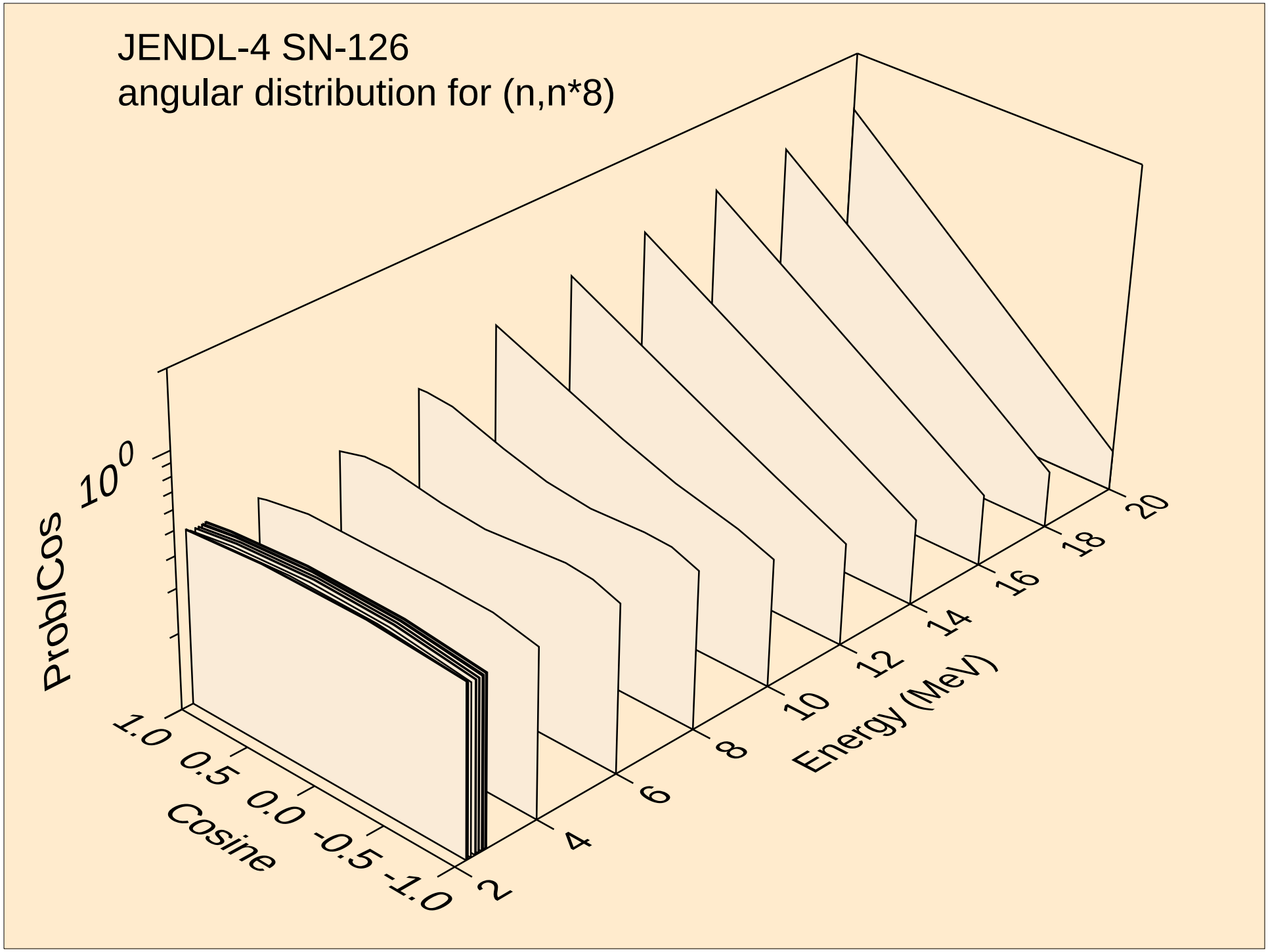

JENDL-4 SN-126
angular distribution for (n,n*3)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

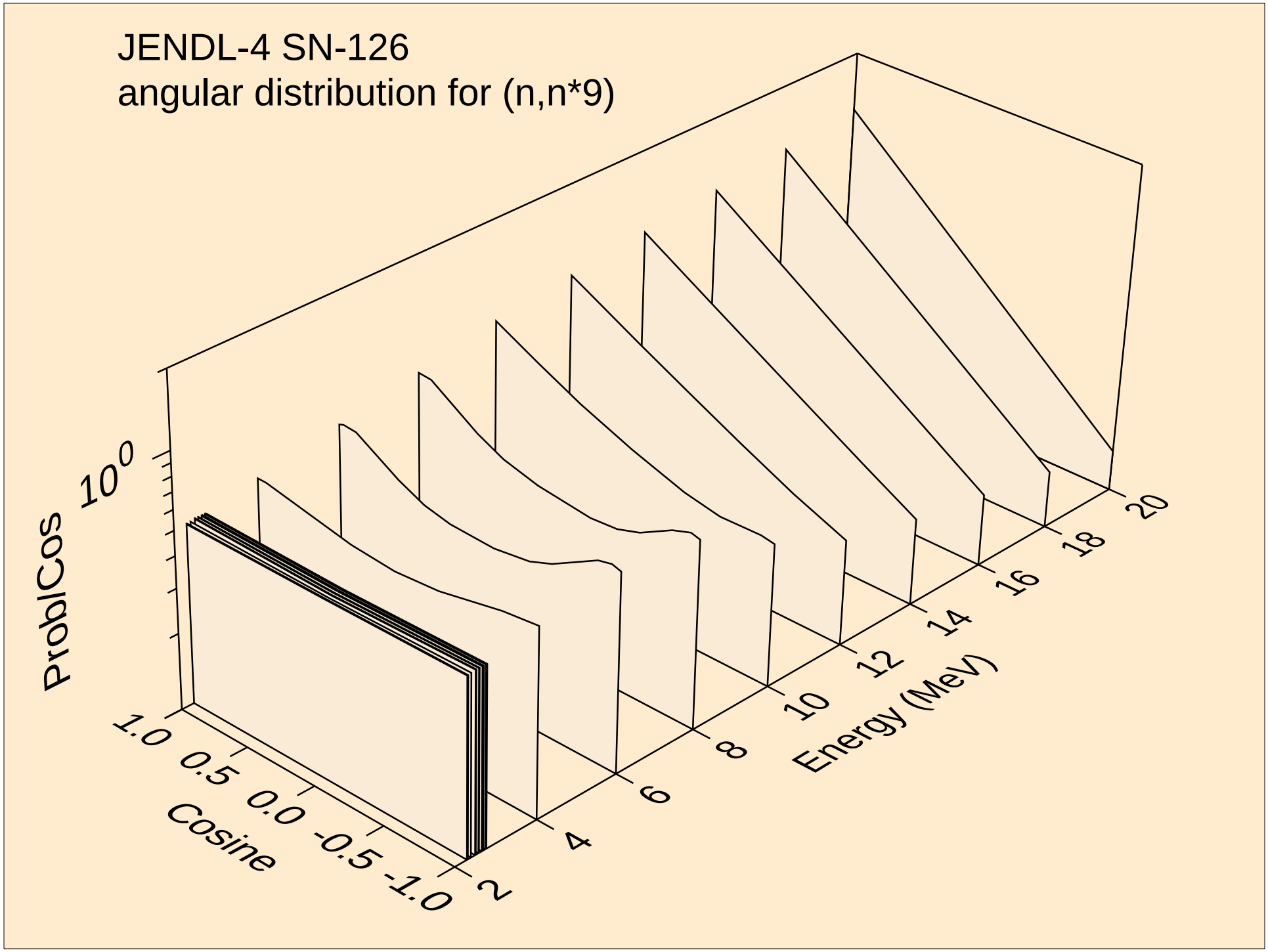

JENDL-4 SN-126
angular distribution for (n,n*4)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

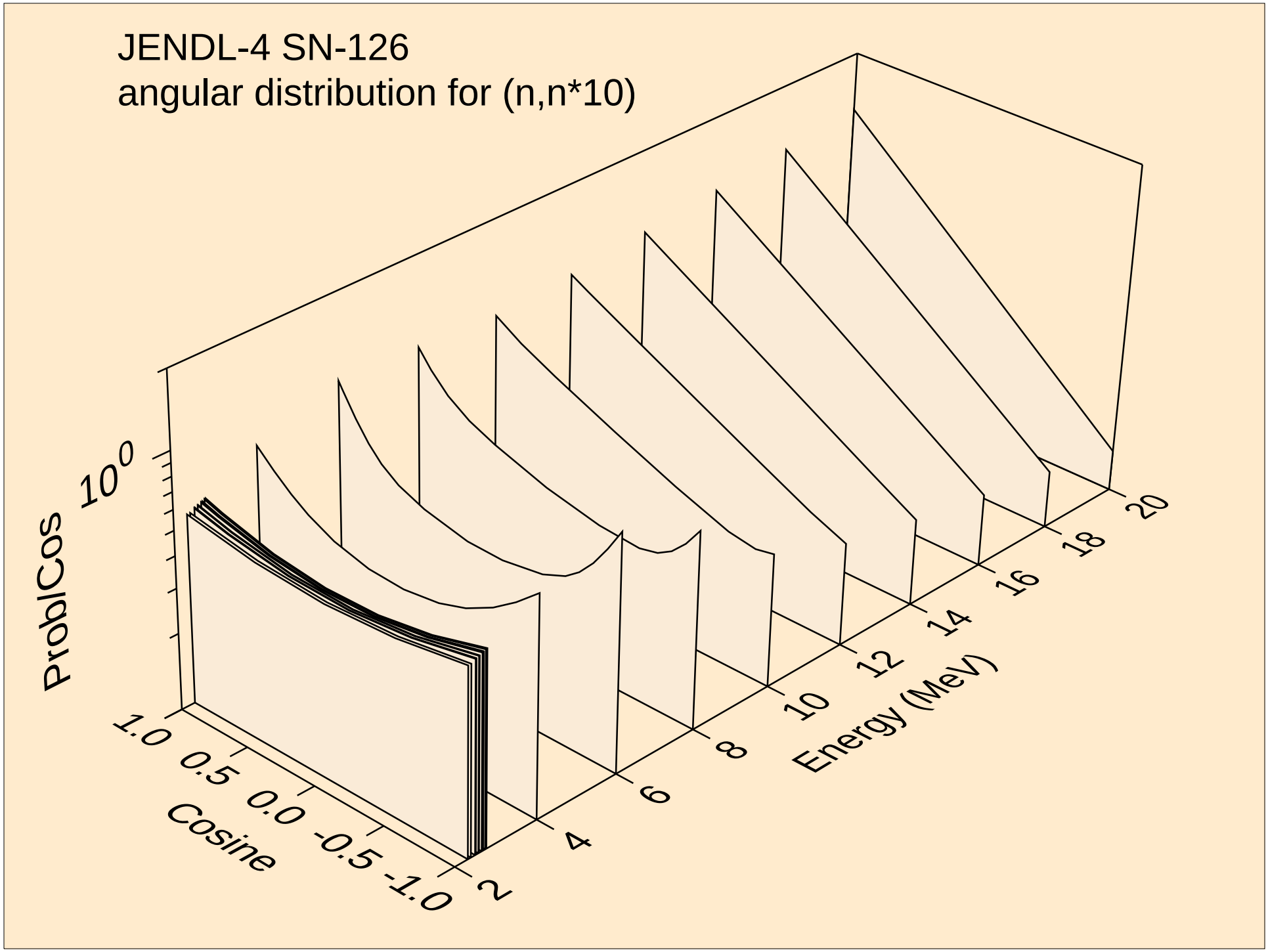

JENDL-4 SN-126
angular distribution for (n,n*5)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

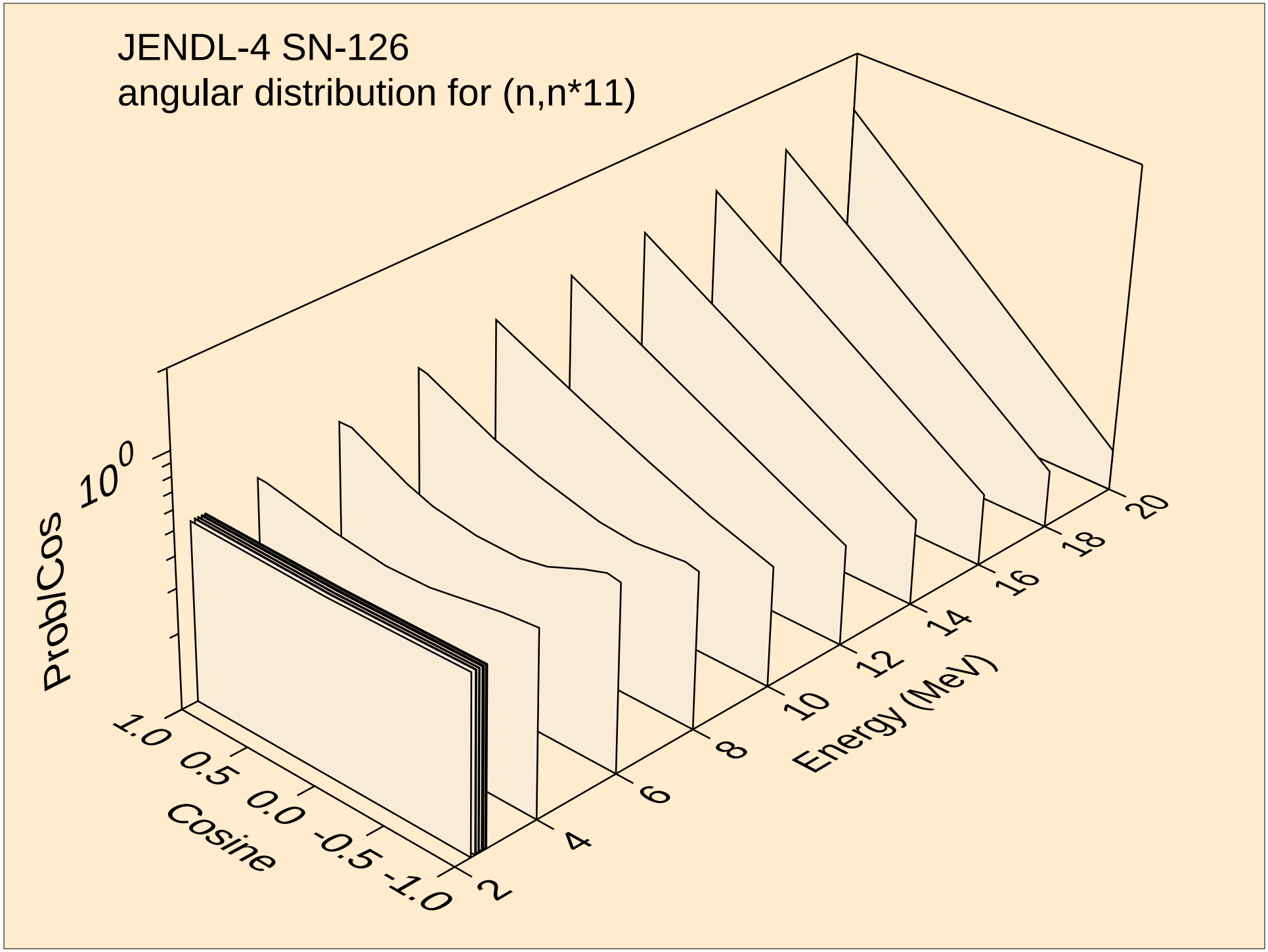

JENDL-4 SN-126
angular distribution for (n,n*6)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

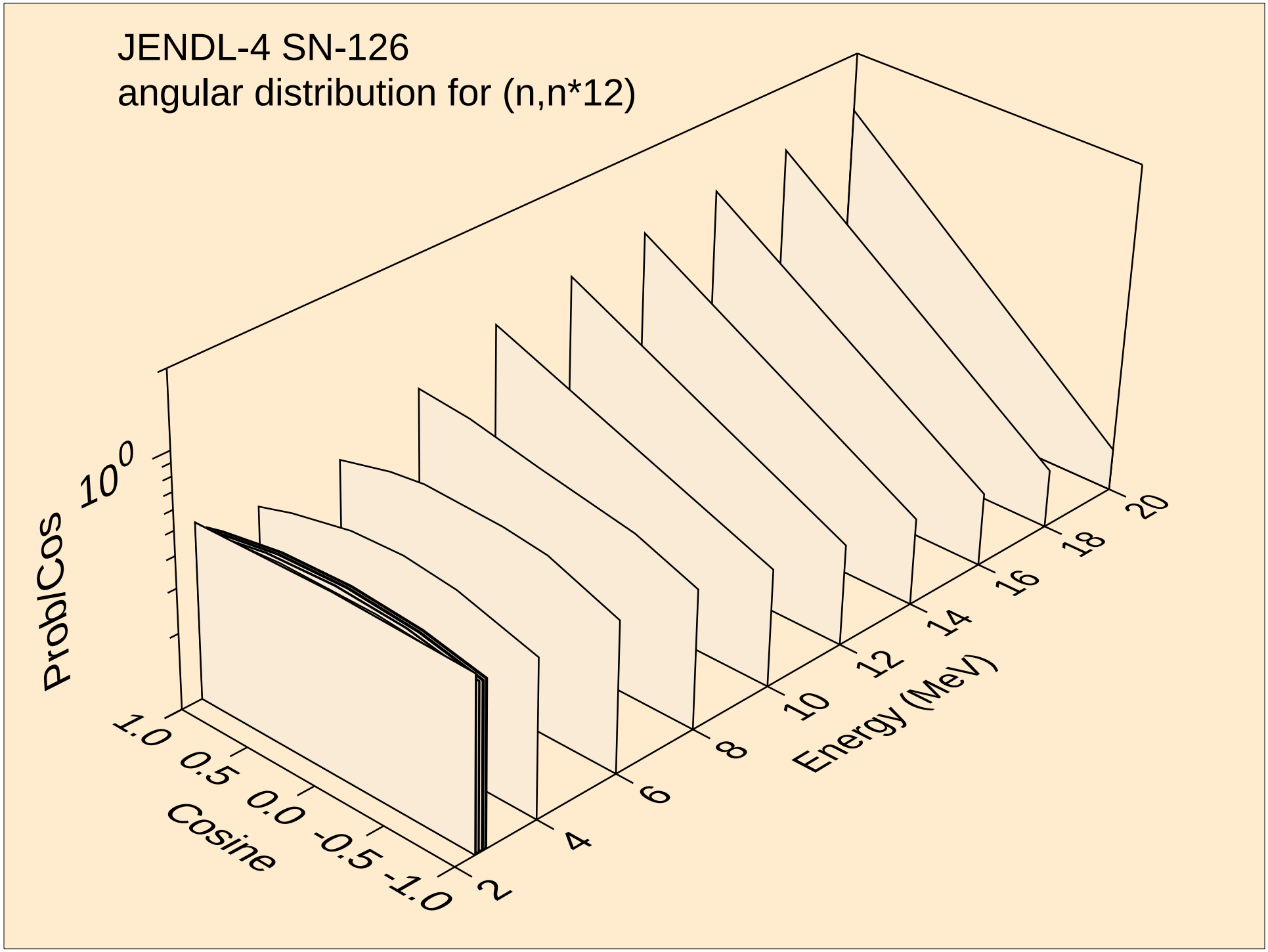

JENDL-4 SN-126
angular distribution for (n,n*7)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

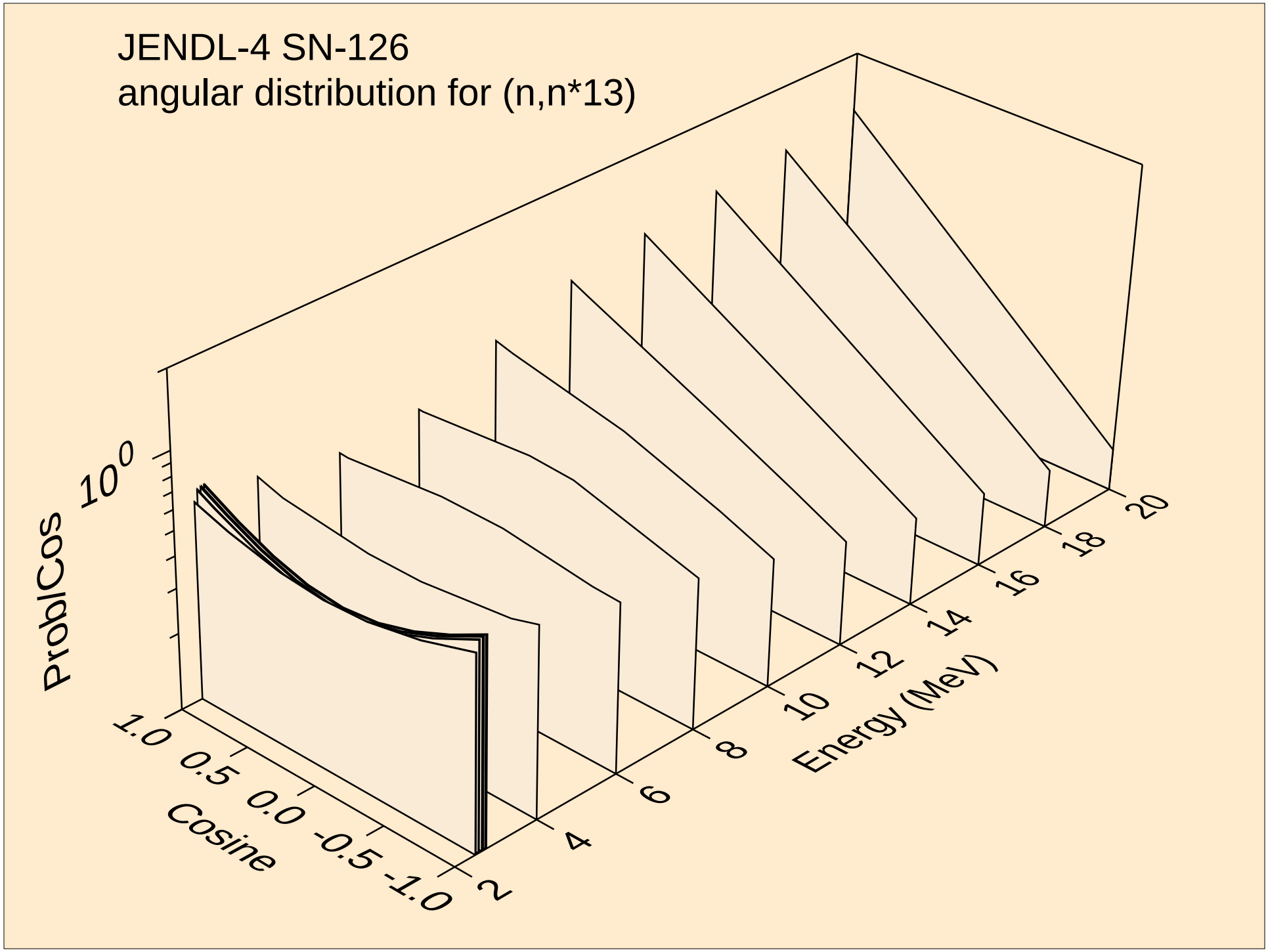

JENDL-4 SN-126
angular distribution for (n,n*8)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

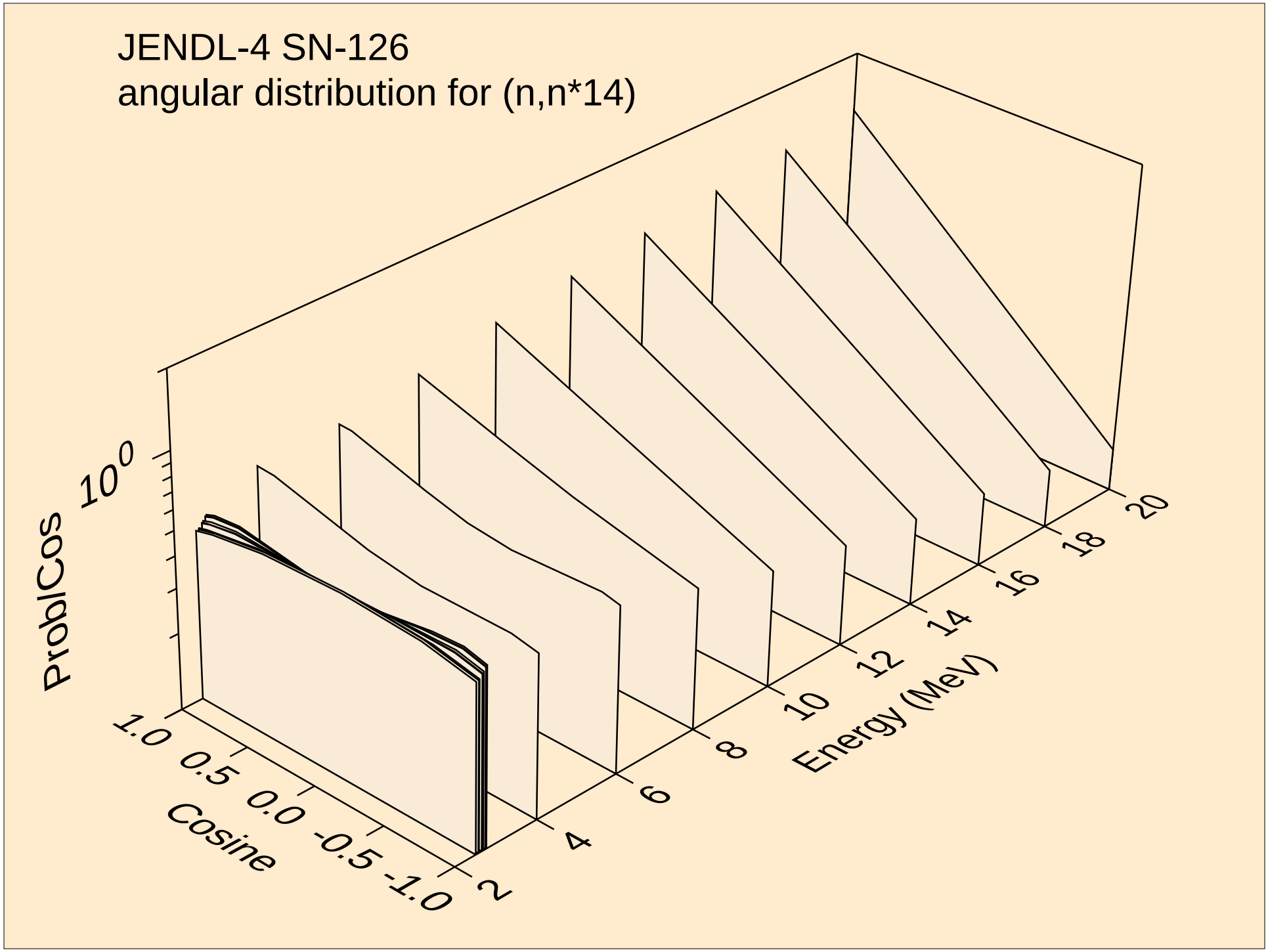

JENDL-4 SN-126
angular distribution for (n,n*9)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

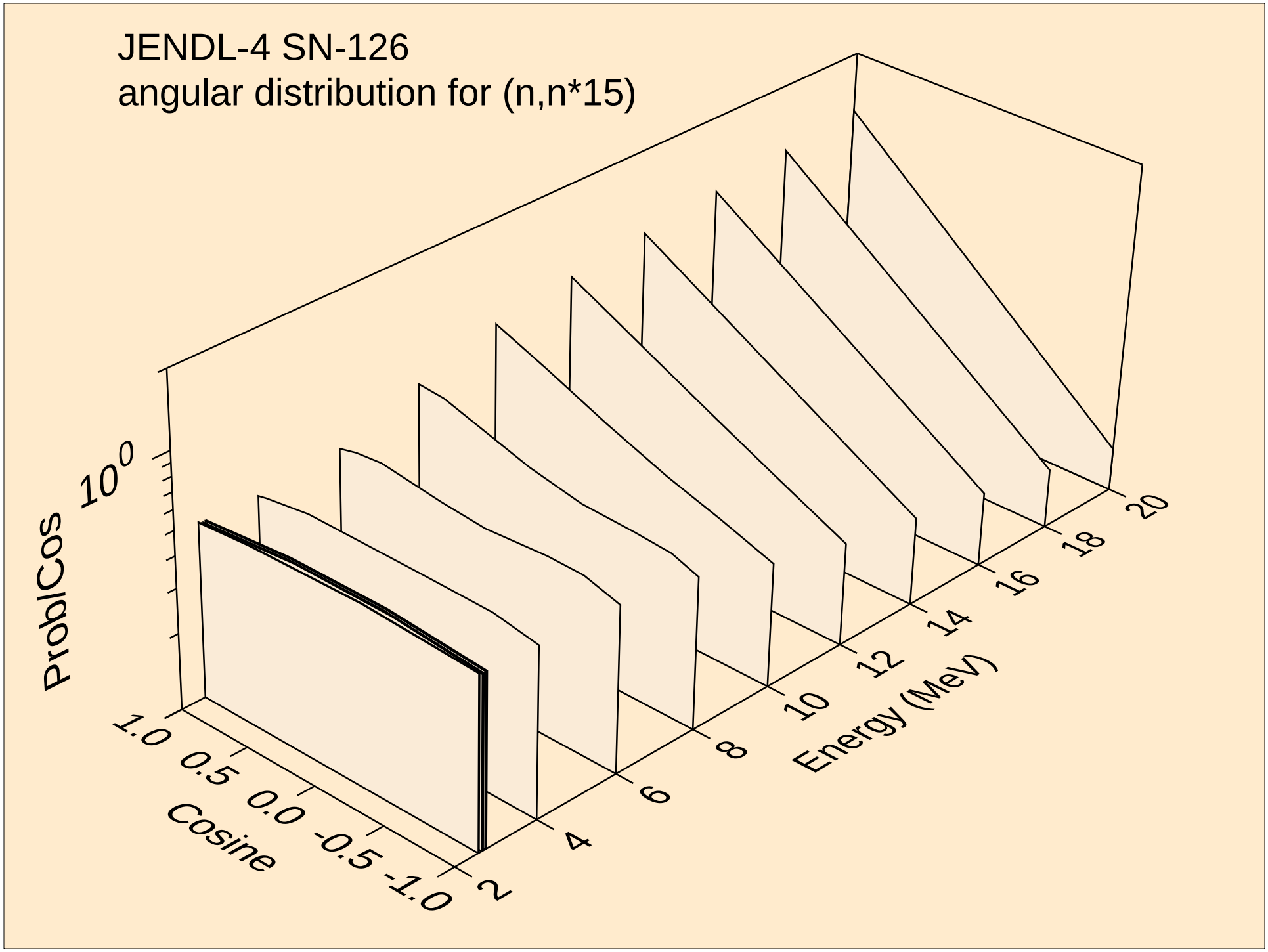

JENDL-4 SN-126
angular distribution for (n,n*10)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

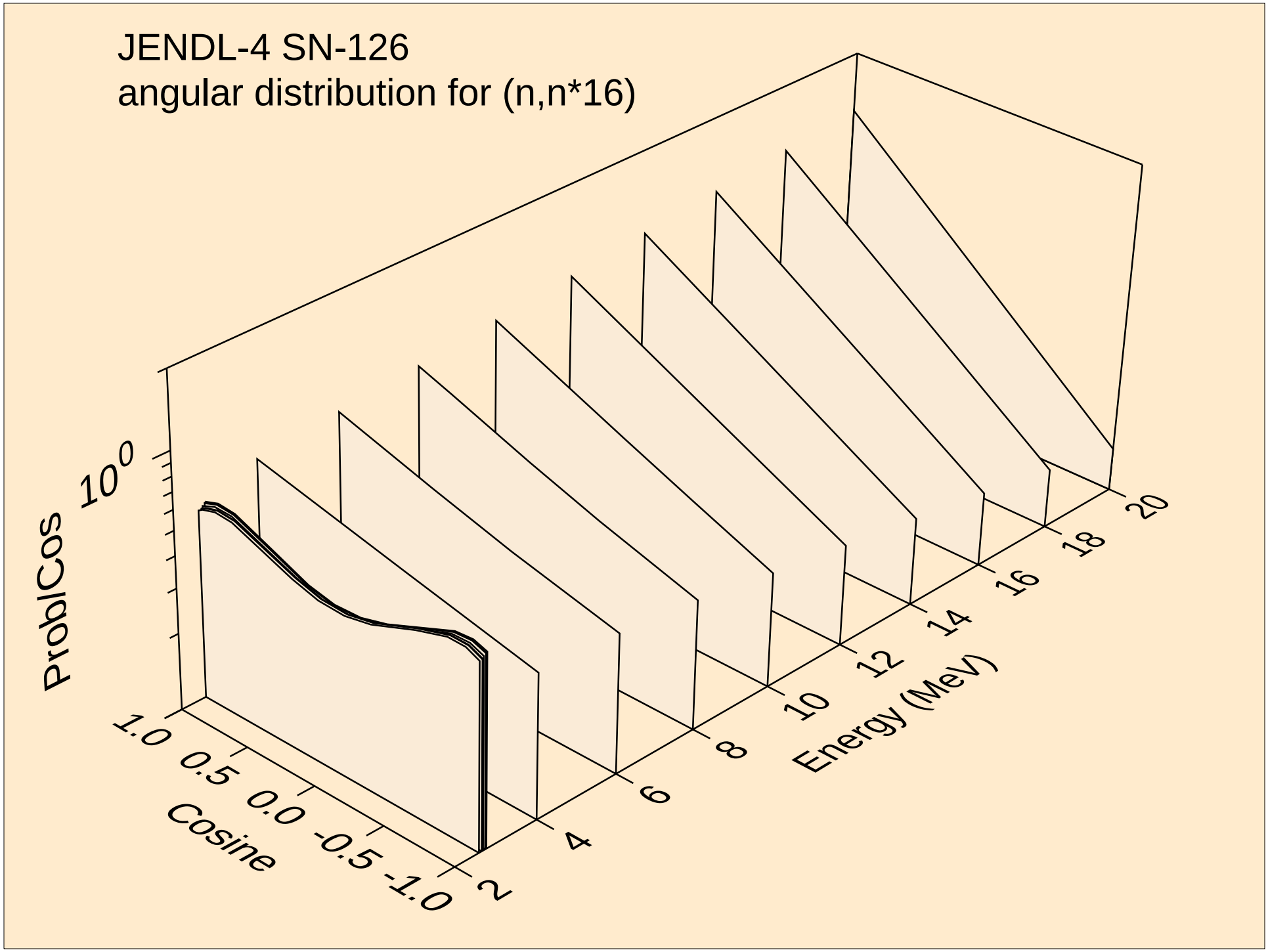

JENDL-4 SN-126
angular distribution for (n,n*11)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

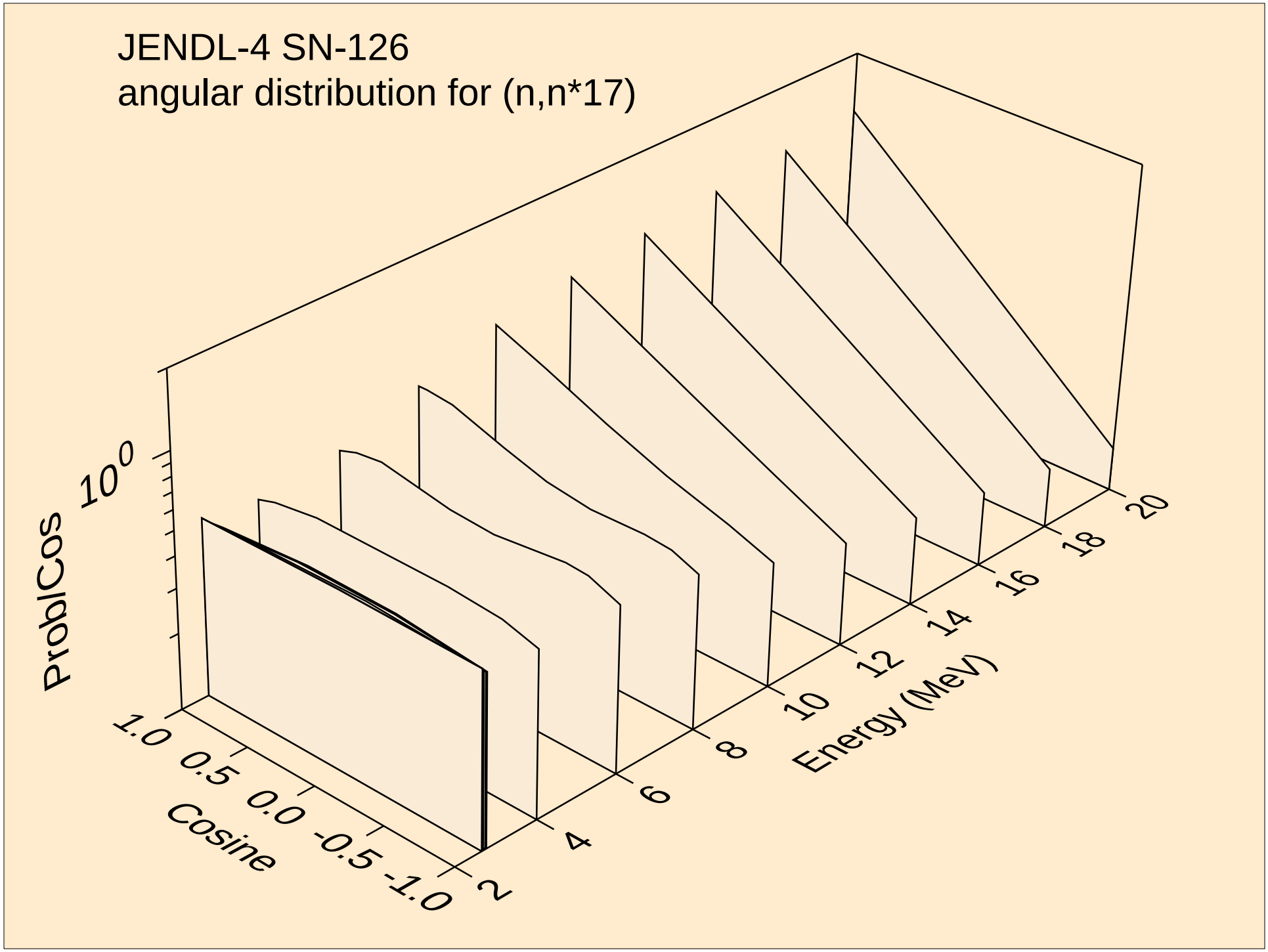

JENDL-4 SN-126
angular distribution for (n,n*12)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

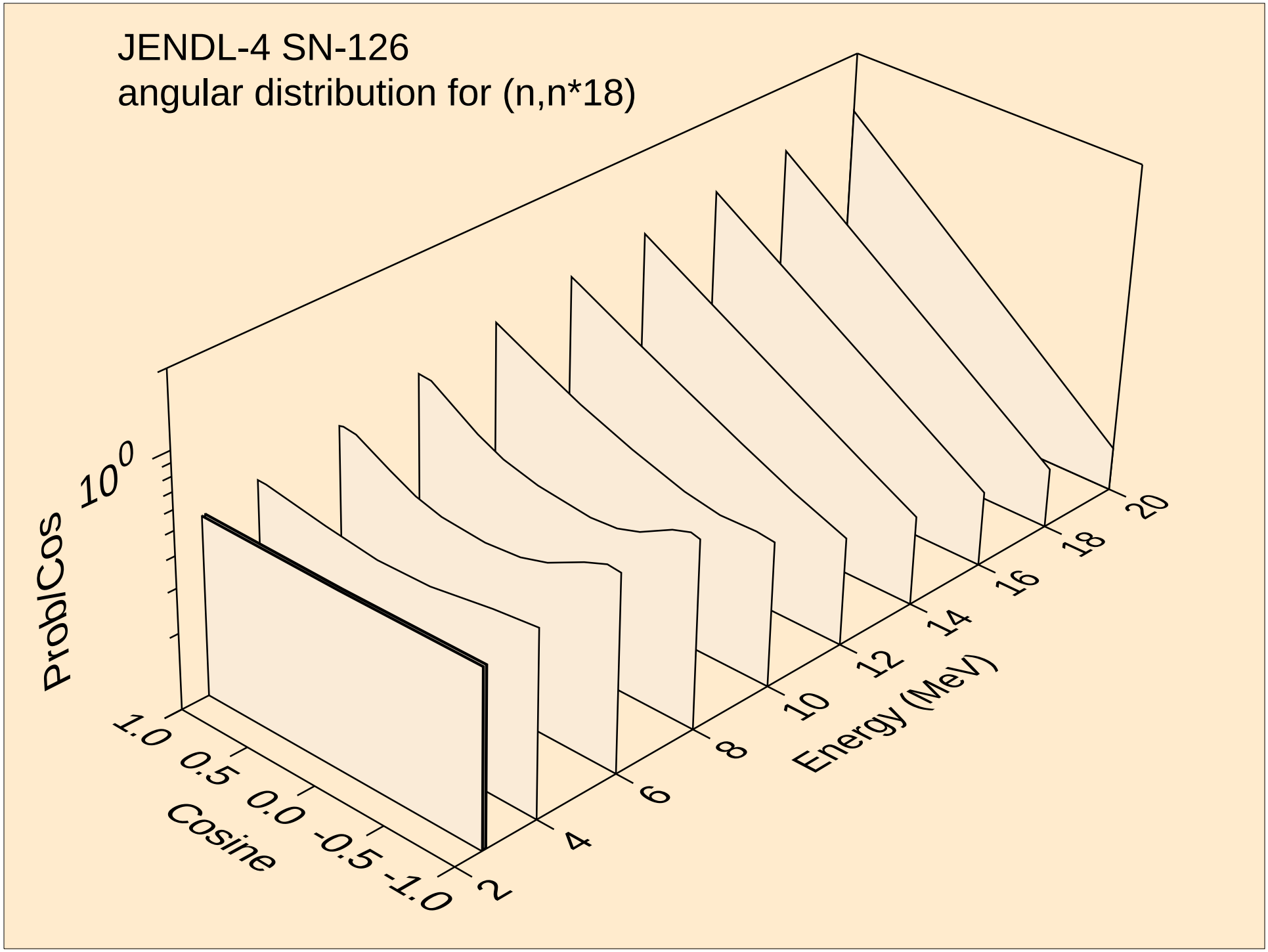

JENDL-4 SN-126
angular distribution for (n,n*13)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

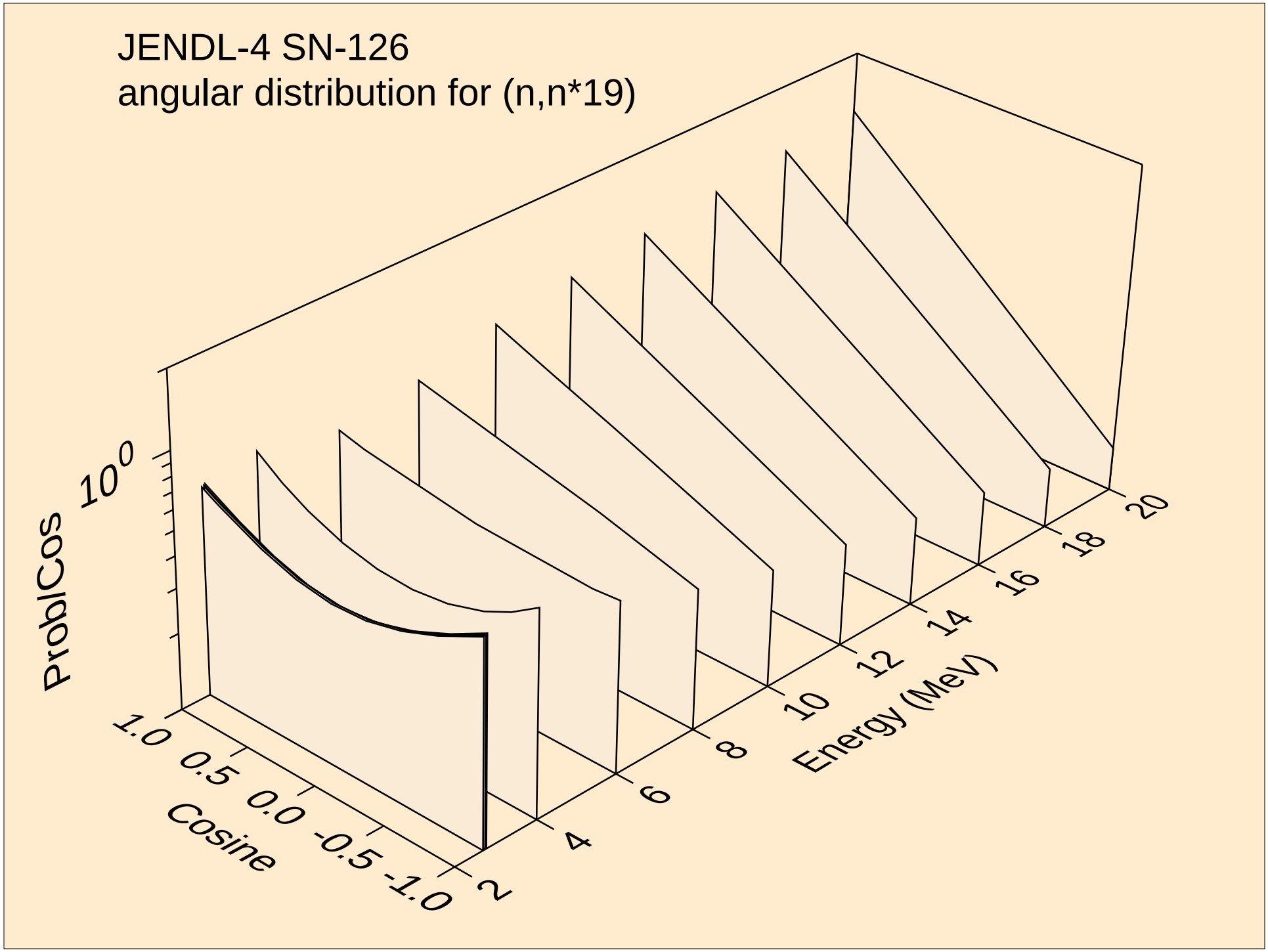

JENDL-4 SN-126
angular distribution for (n,n*14)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

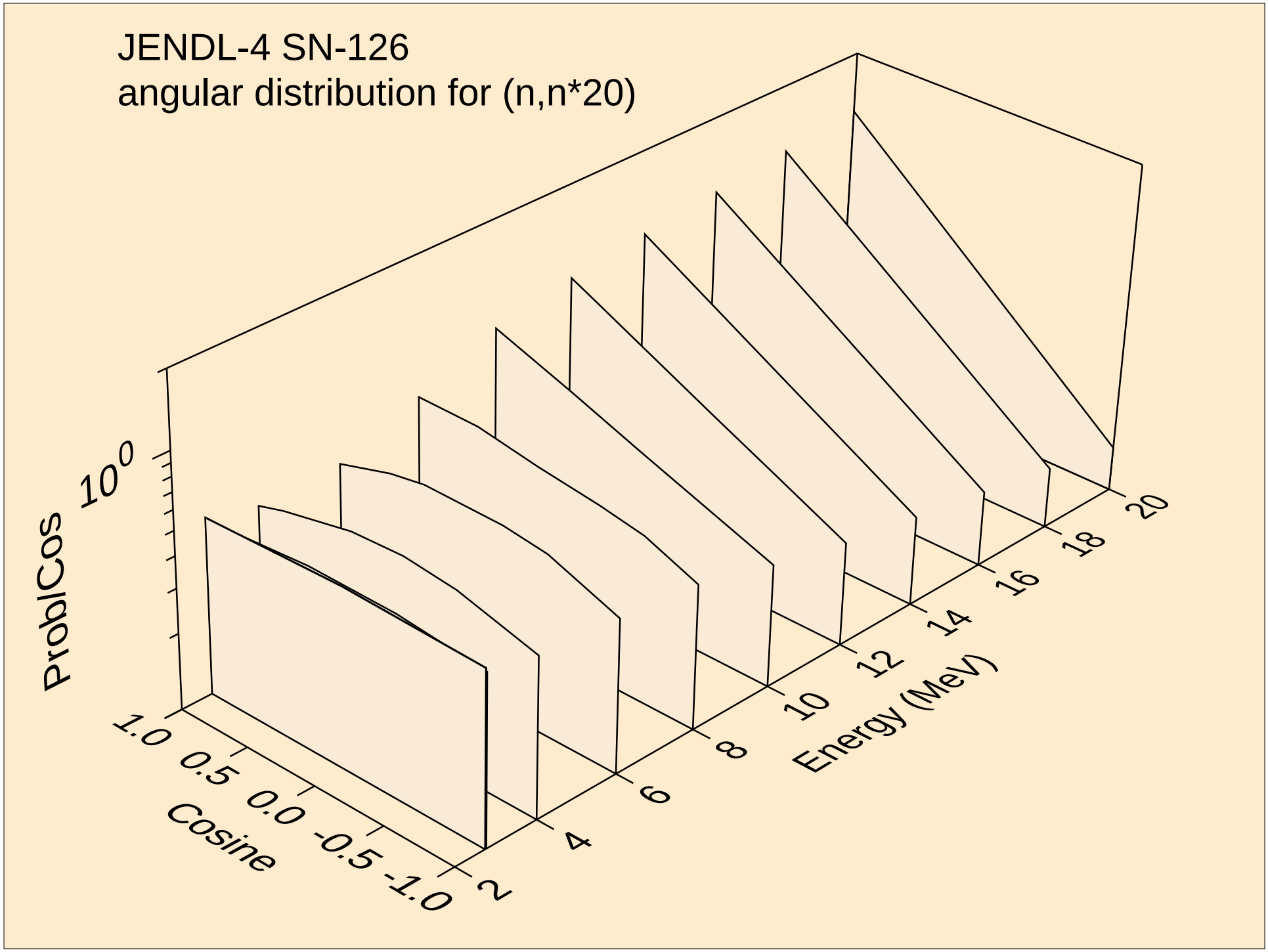

JENDL-4 SN-126
angular distribution for (n,n*15)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

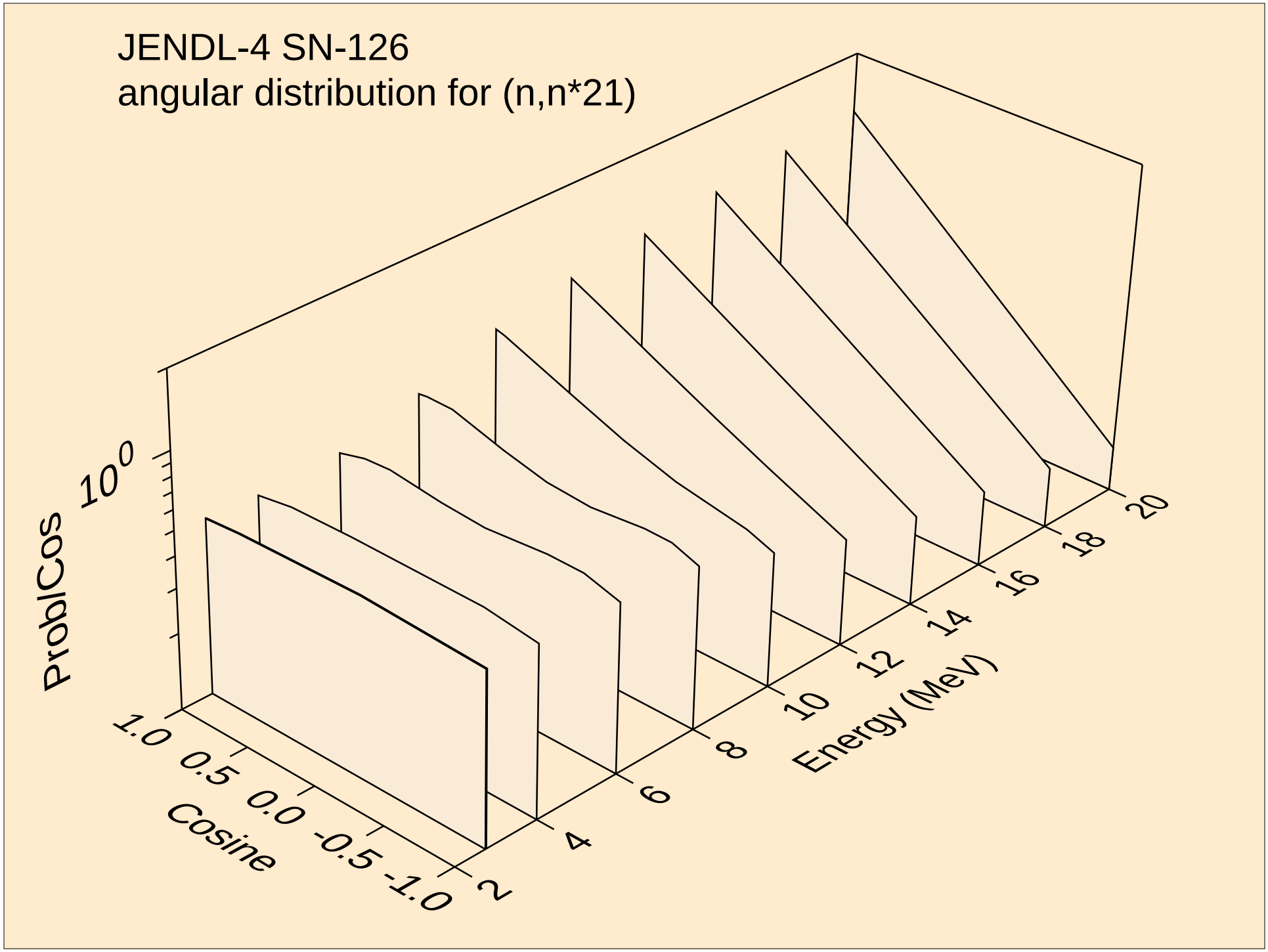

JENDL-4 SN-126
angular distribution for (n,n*16)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

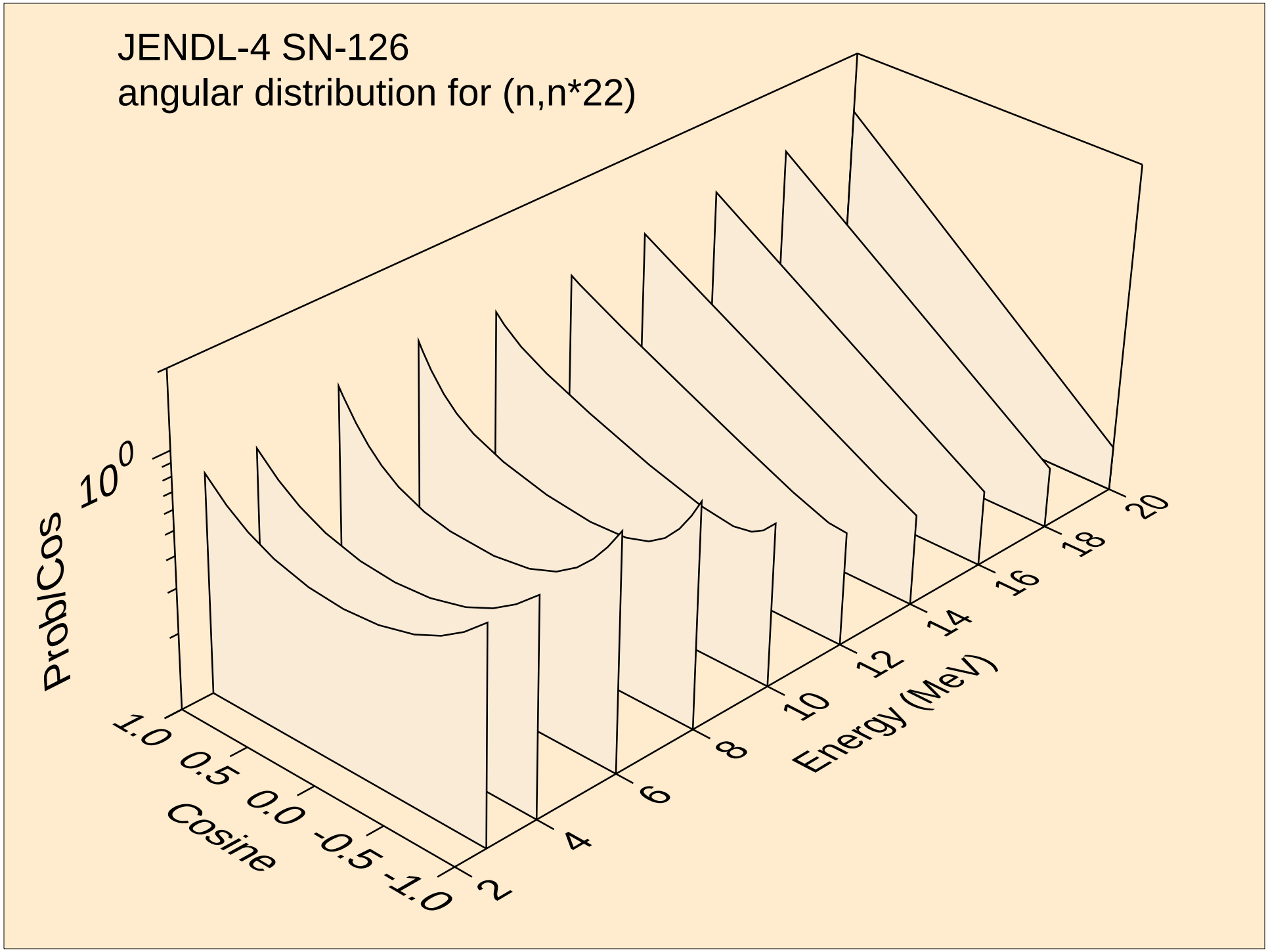

JENDL-4 SN-126
angular distribution for (n,n*17)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

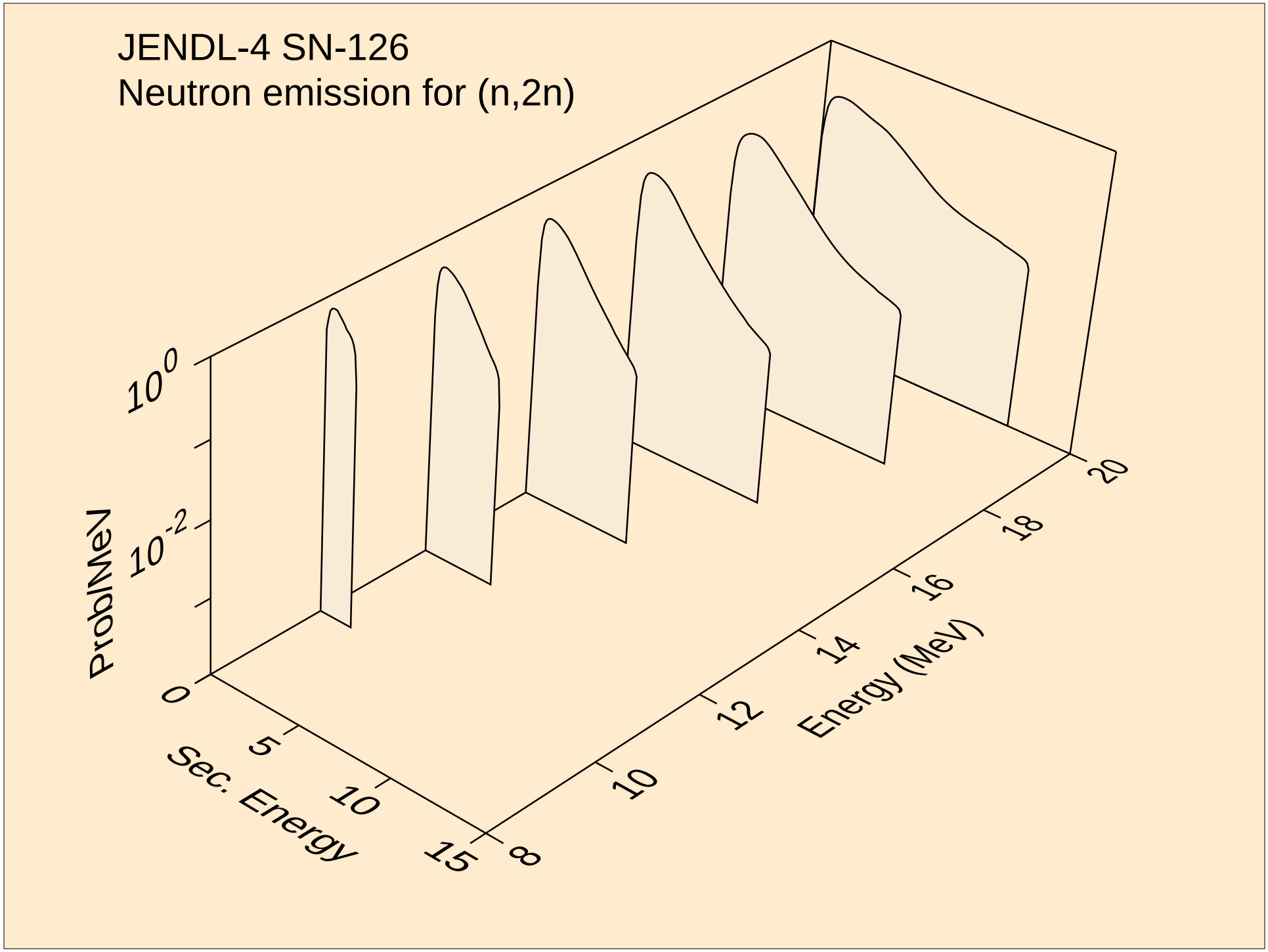

JENDL-4 SN-126
angular distribution for (n,n*18)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

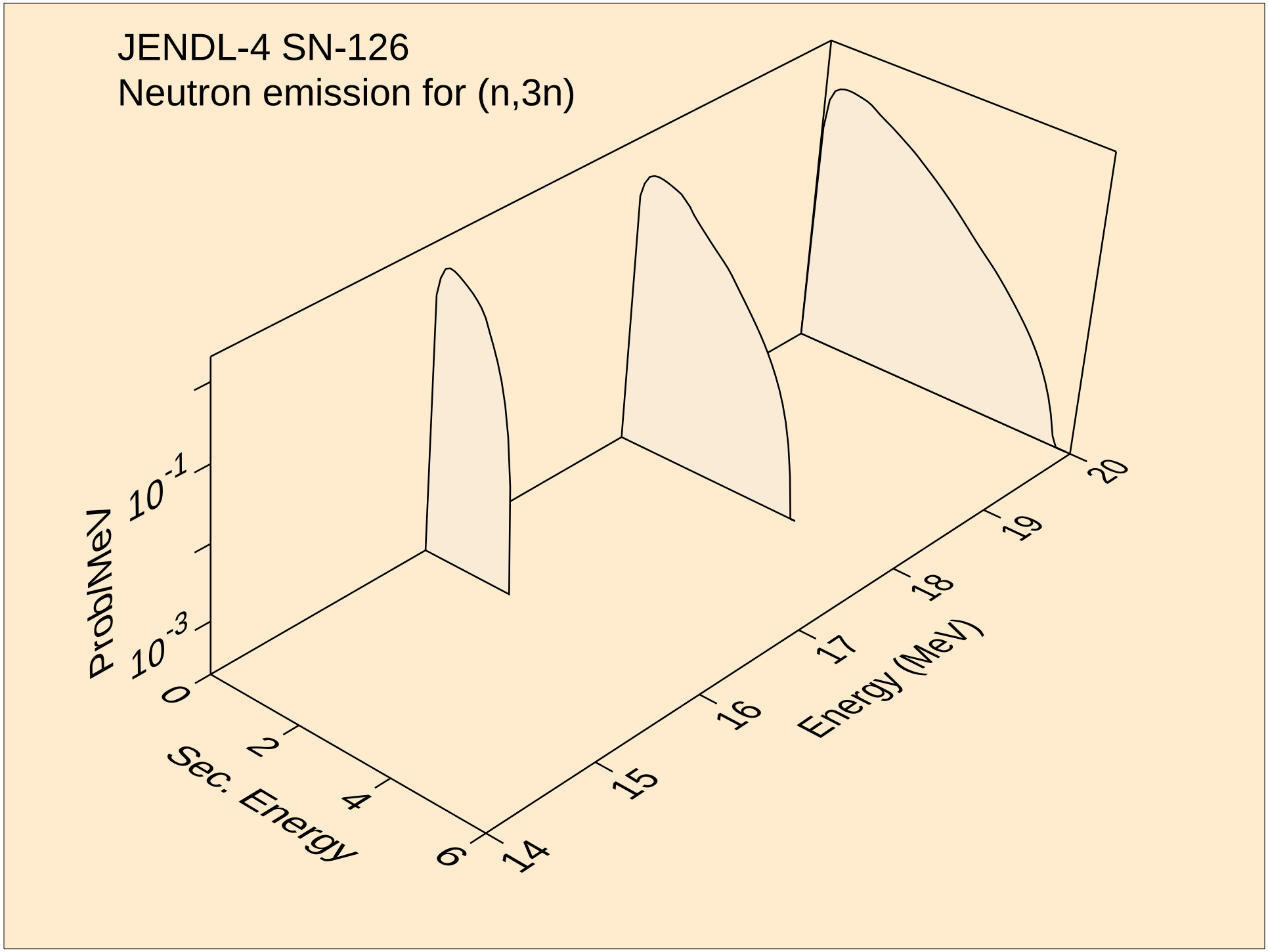

JENDL-4 SN-126
angular distribution for (n,n*19)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

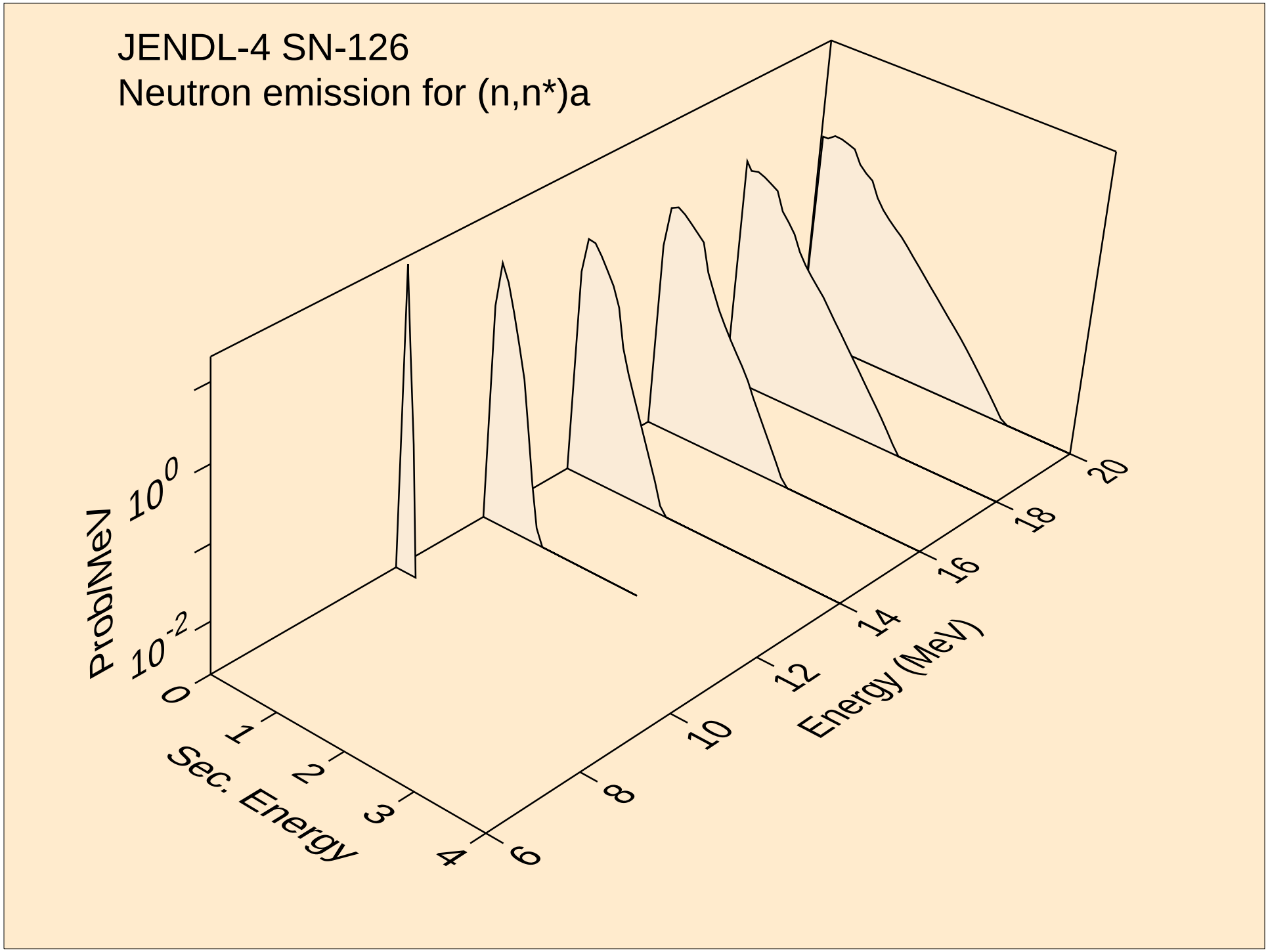

JENDL-4 SN-126
angular distribution for (n,n*20)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

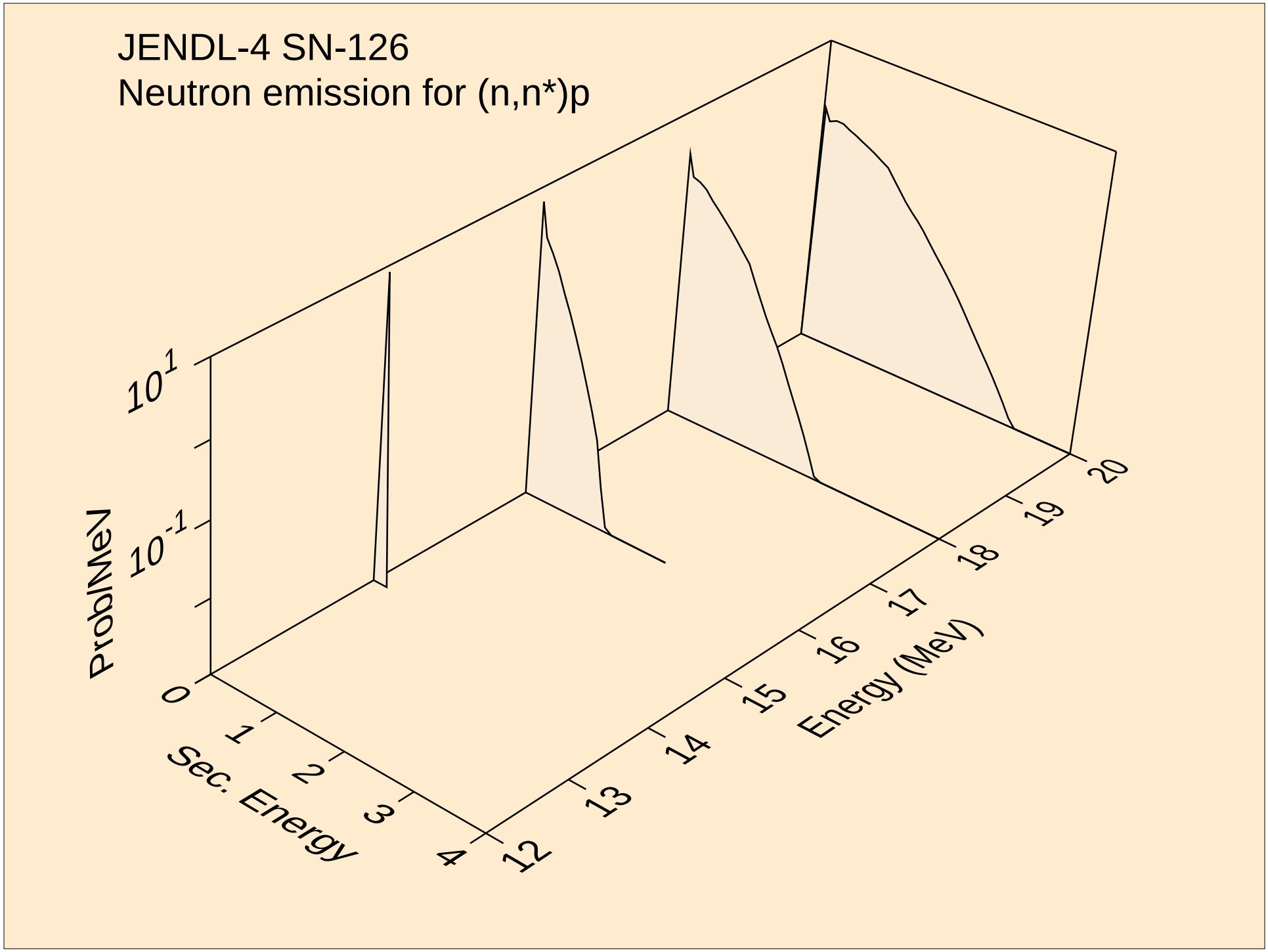

JENDL-4 SN-126
angular distribution for (n,n*21)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

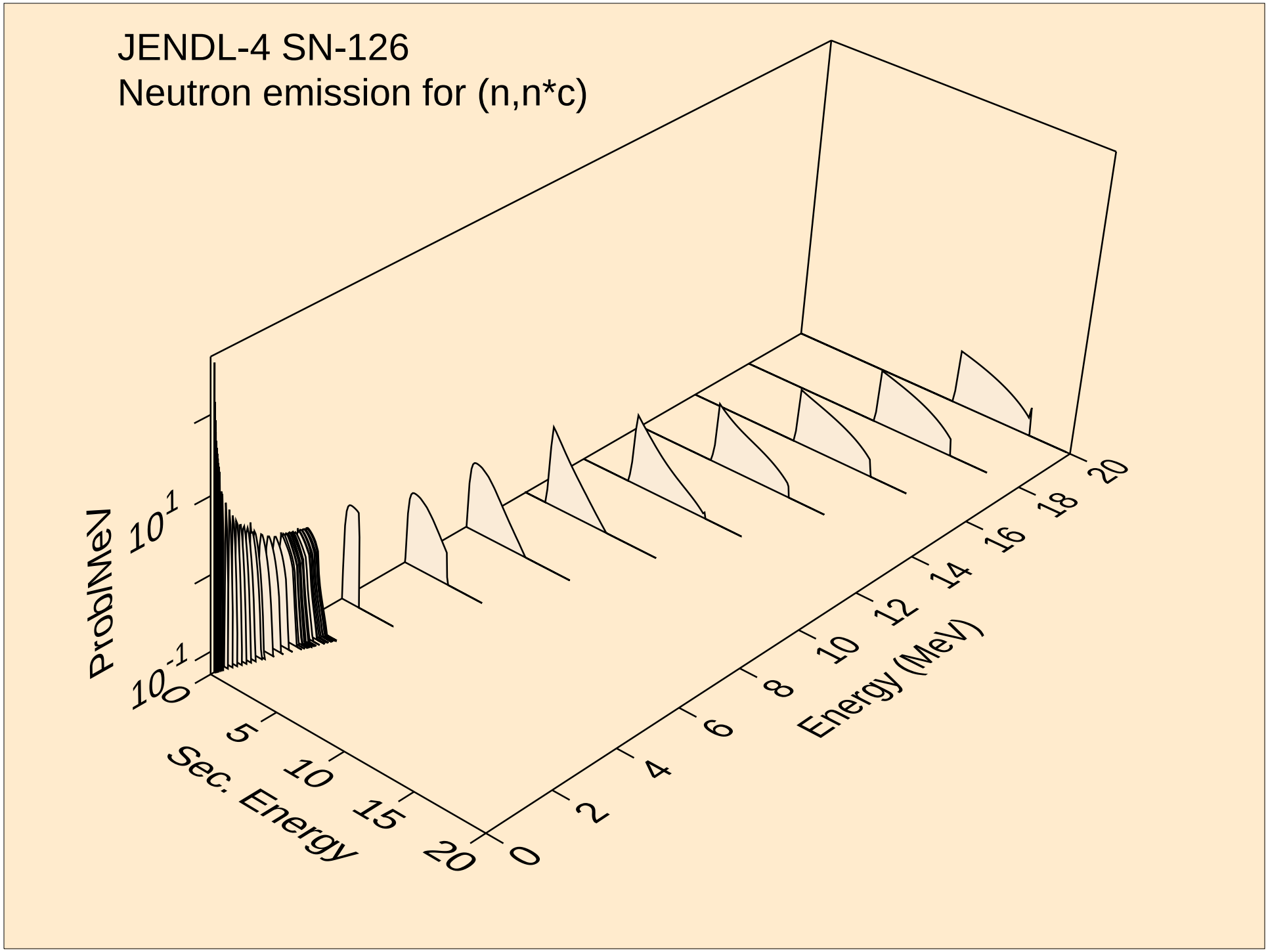

JENDL-4 SN-126
angular distribution for (n,n*22)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

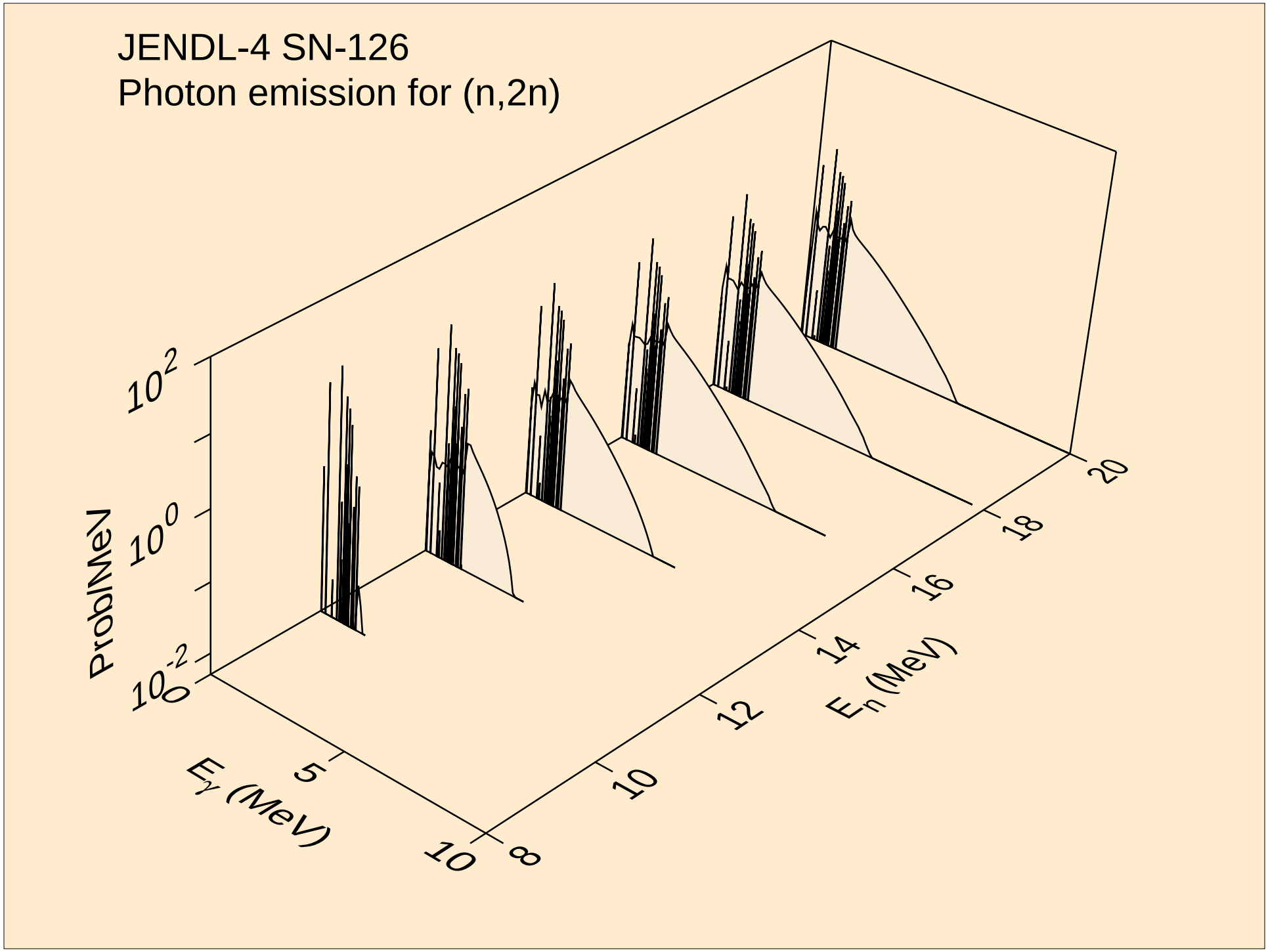

JENDL-4 SN-126
Neutron emission for (n,2n)
Prob/MeV
10^0
10^{-2}
0
Sec. Energy
5
10
15
Energy (MeV)
8
10
12
14
16
18
20

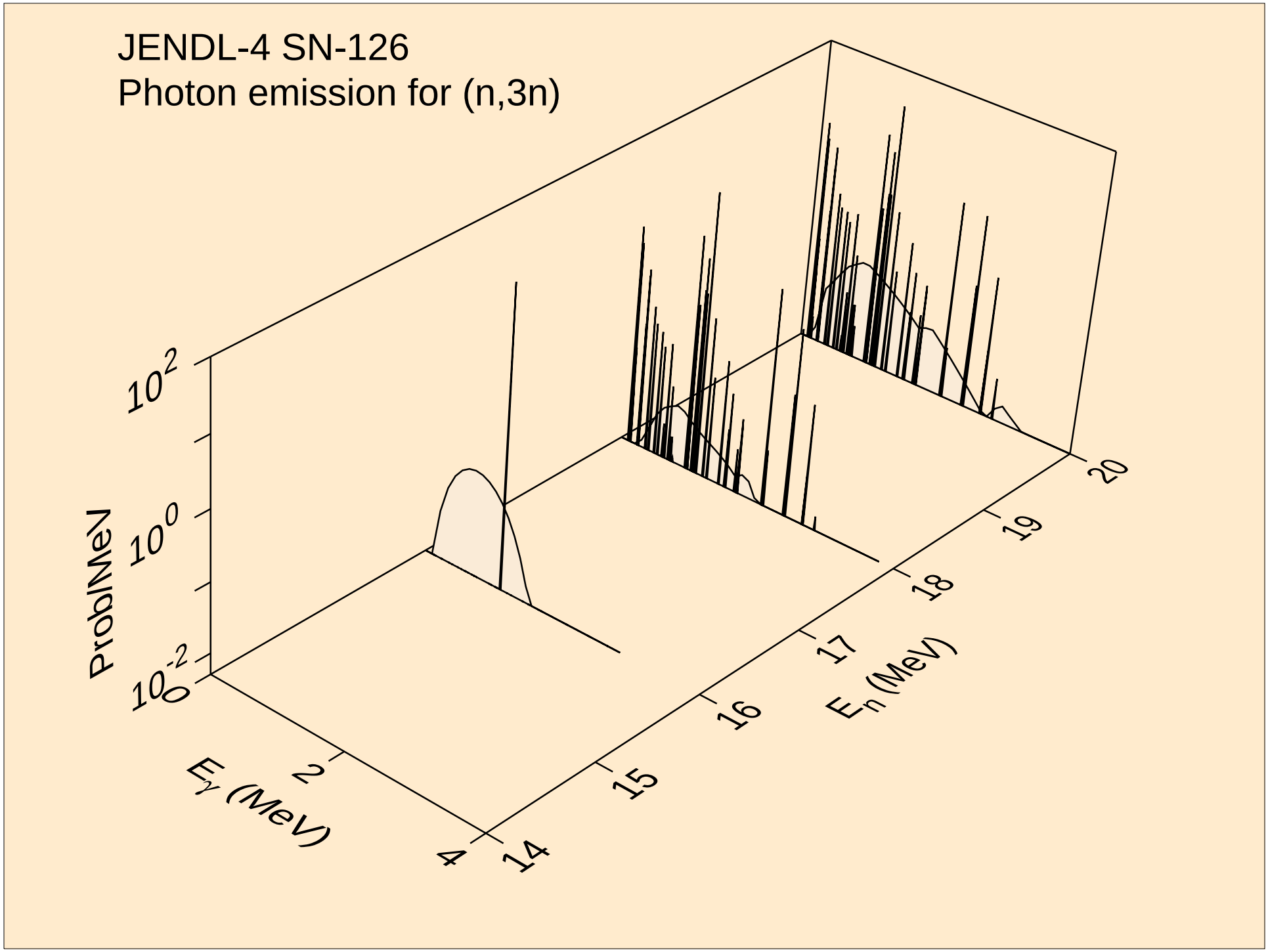

JENDL-4 SN-126
Neutron emission for (n,3n)
Prob/MeV
10^-1
10^-3
0
2
4
6
Sec. Energy
14
15
16
17
18
19
20
Energy (MeV)


JENDL-4 SN-126
Neutron emission for (n,n*)a
Prob/MeV
10^0
10^{-2}
0
1
2
3
4
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

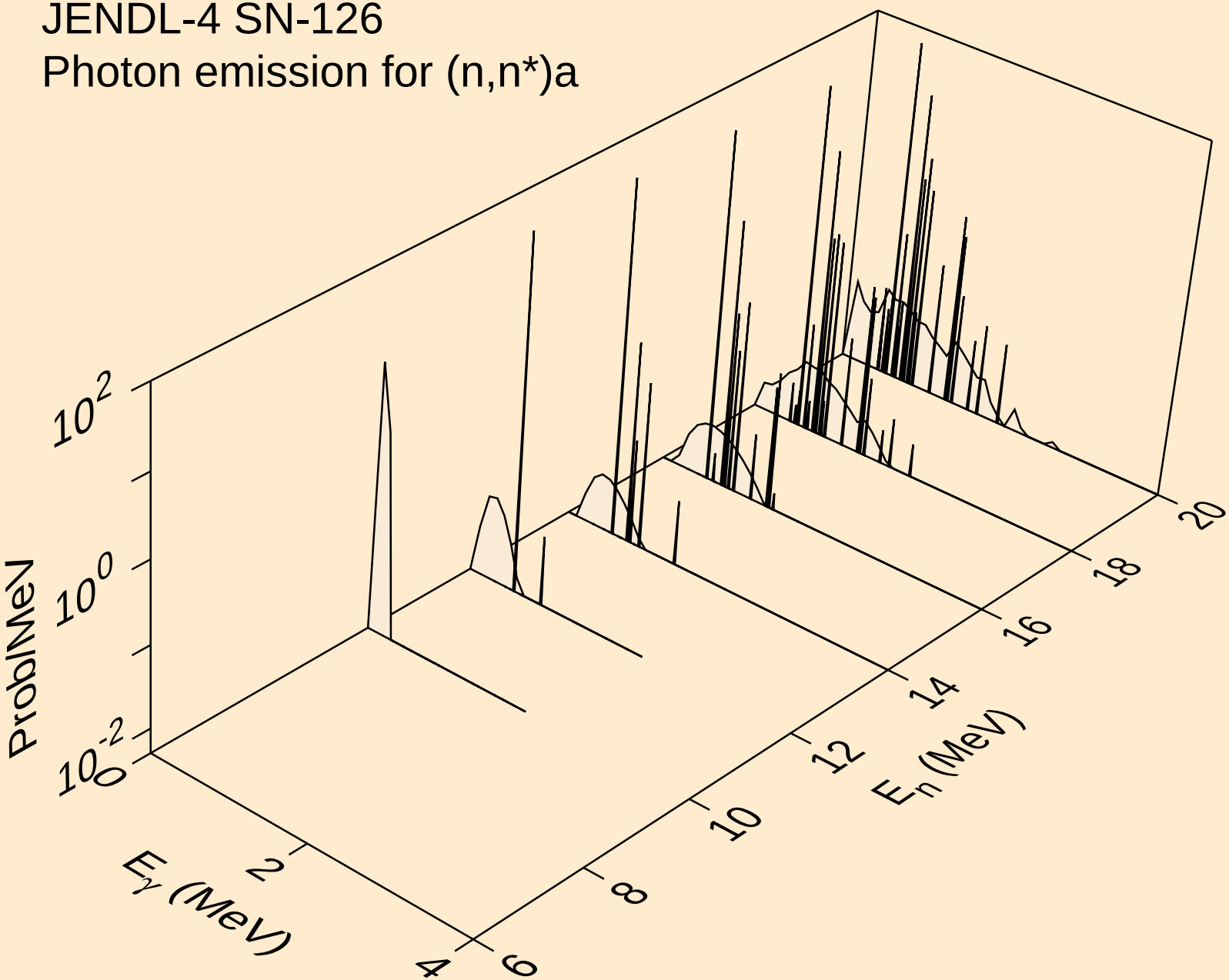

JENDL-4 SN-126
Neutron emission for (n,n*)p
Prob/MeV
10^1
10^-1
0
Sec. Energy
1
2
3
4
Energy (MeV)
12
13
14
15
16
17
18
19
20


JENDL-4 SN-126
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)

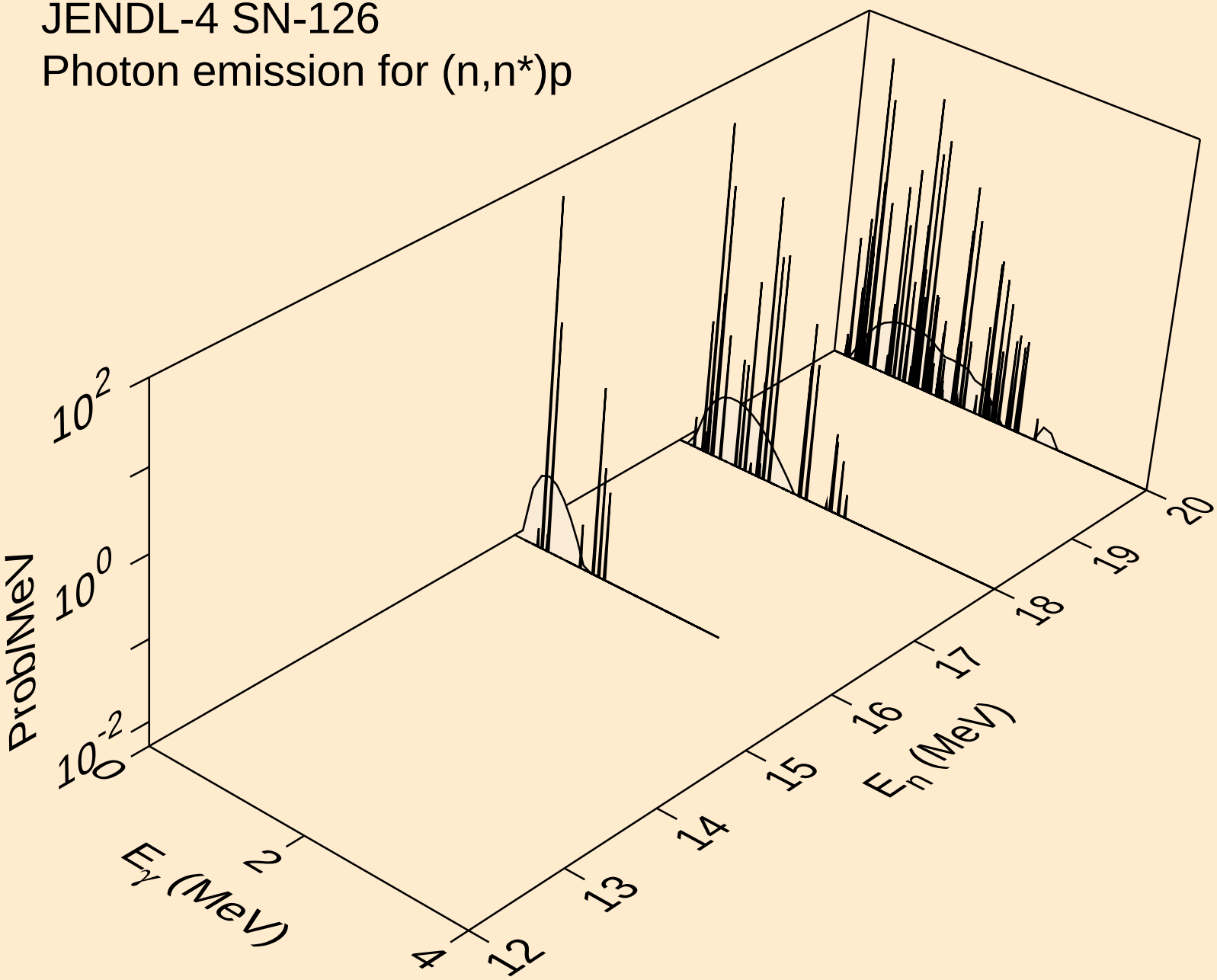

JENDL-4 SN-126
Photon emission for (n,2n)
Prob/MeV
10^{2}
10^{0}
10^{-2}
0
5
10
E_γ (MeV)
8
10
12
14
16
18
20
E_n (MeV)


JENDL-4 SN-126
Photon emission for (n,3n)
Prob/MeV
10^{2}
10^{0}
10^{-2}
0
2
4
E_γ (MeV)
14
15
16
17
18
19
20
E_n (MeV)

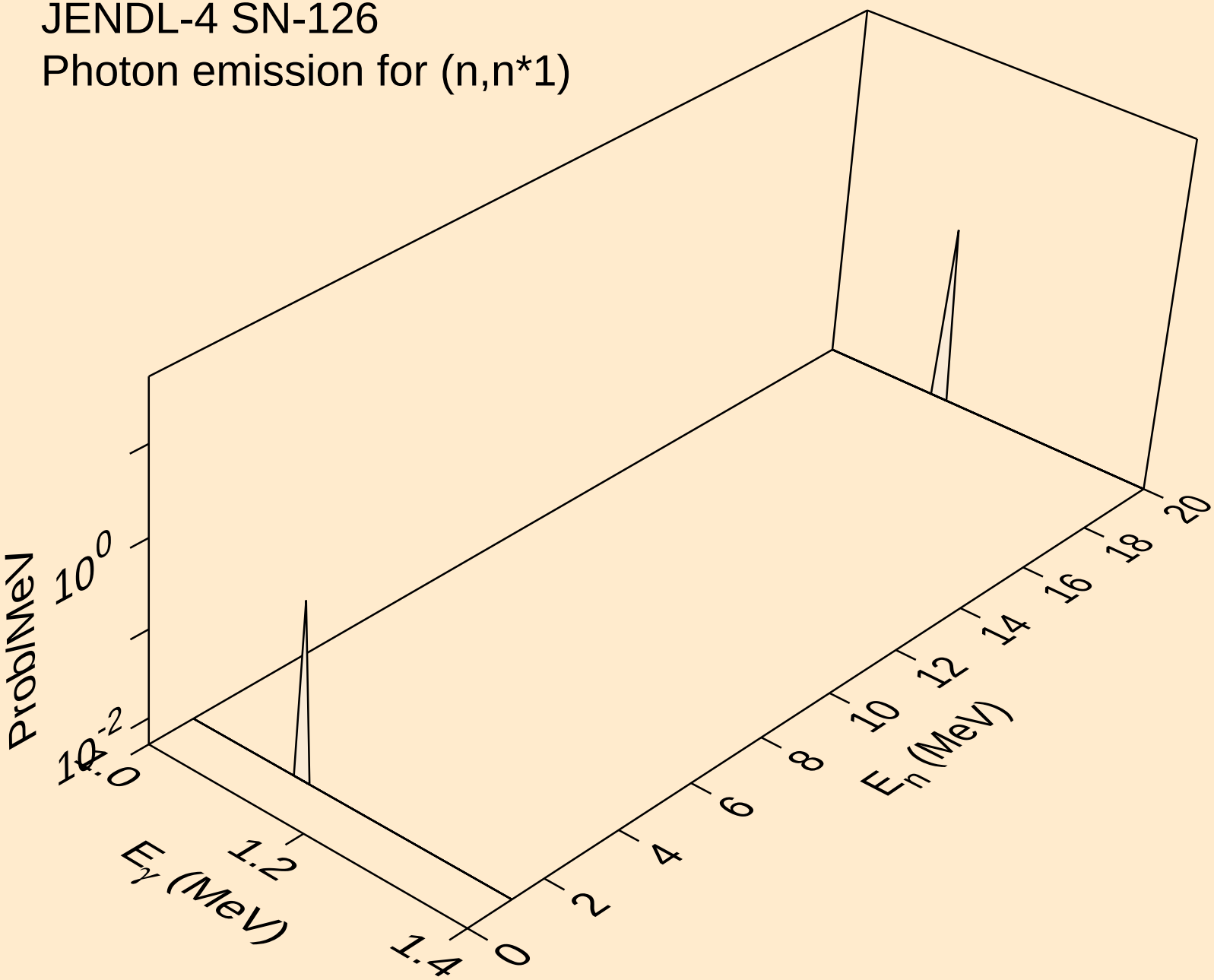
JENDL-4 SN-126
Photon emission for (n,n*)a



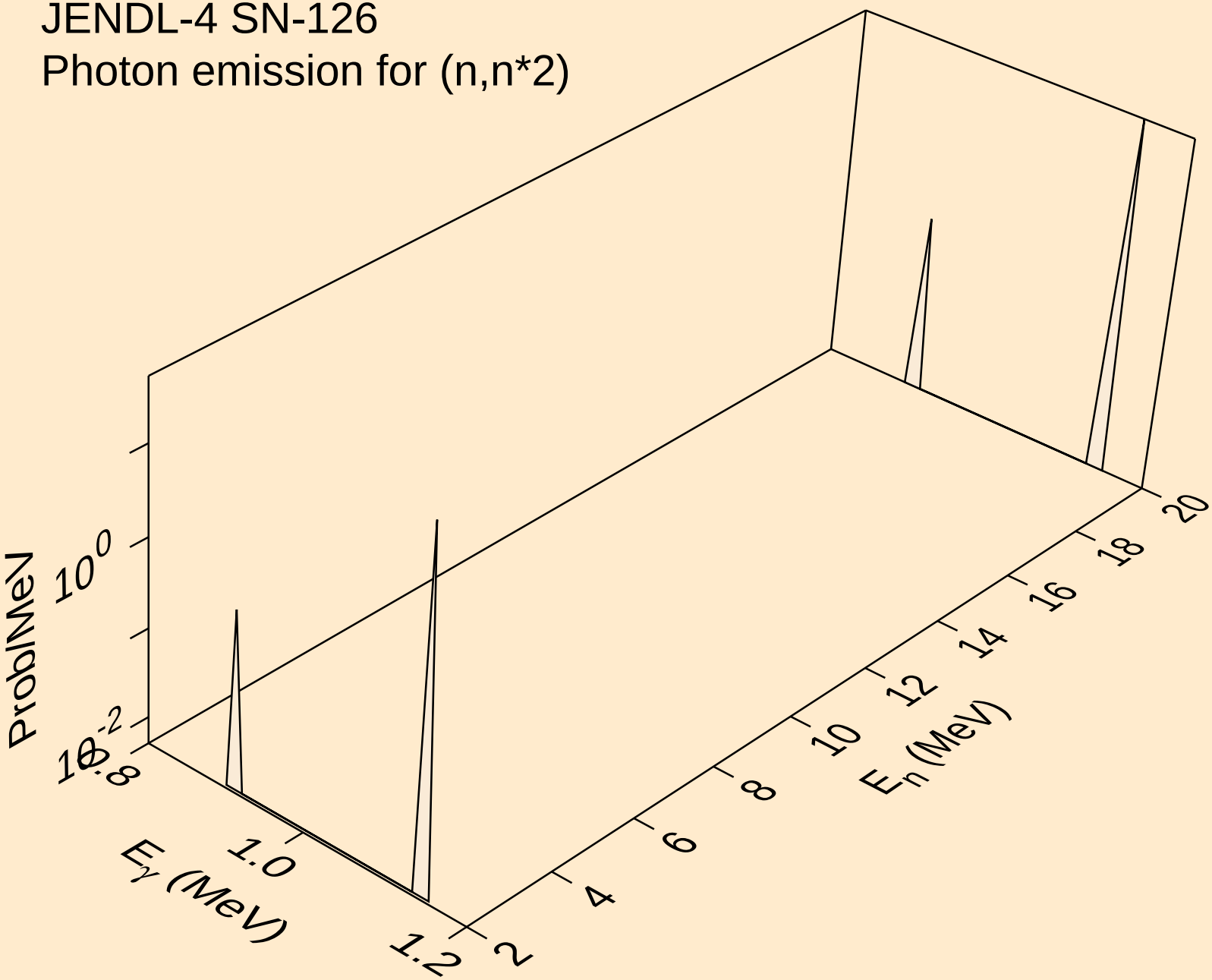
JENDL-4 SN-126
Photon emission for (n,n*)p



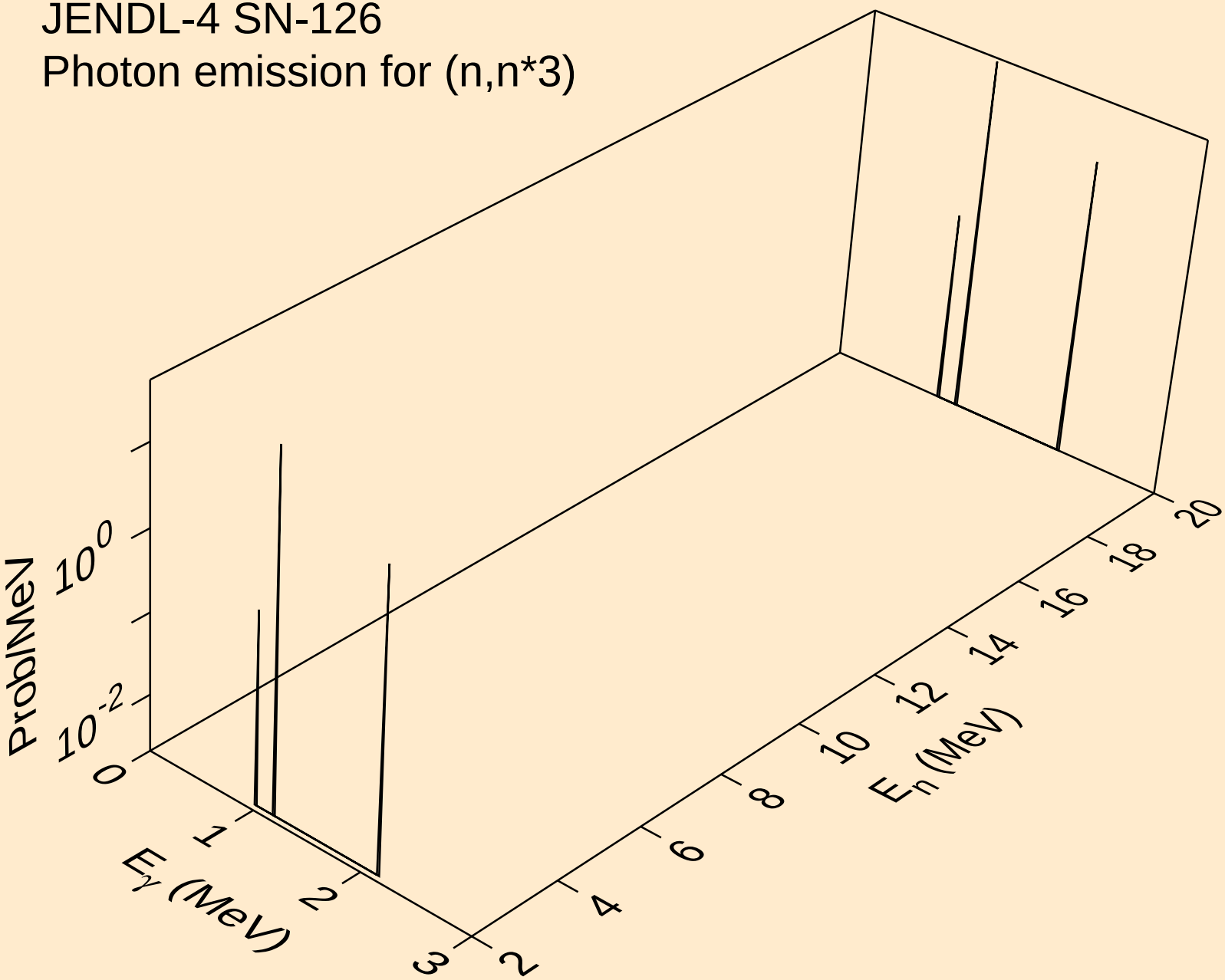
JENDL-4 SN-126
Photon emission for (n,n*1)



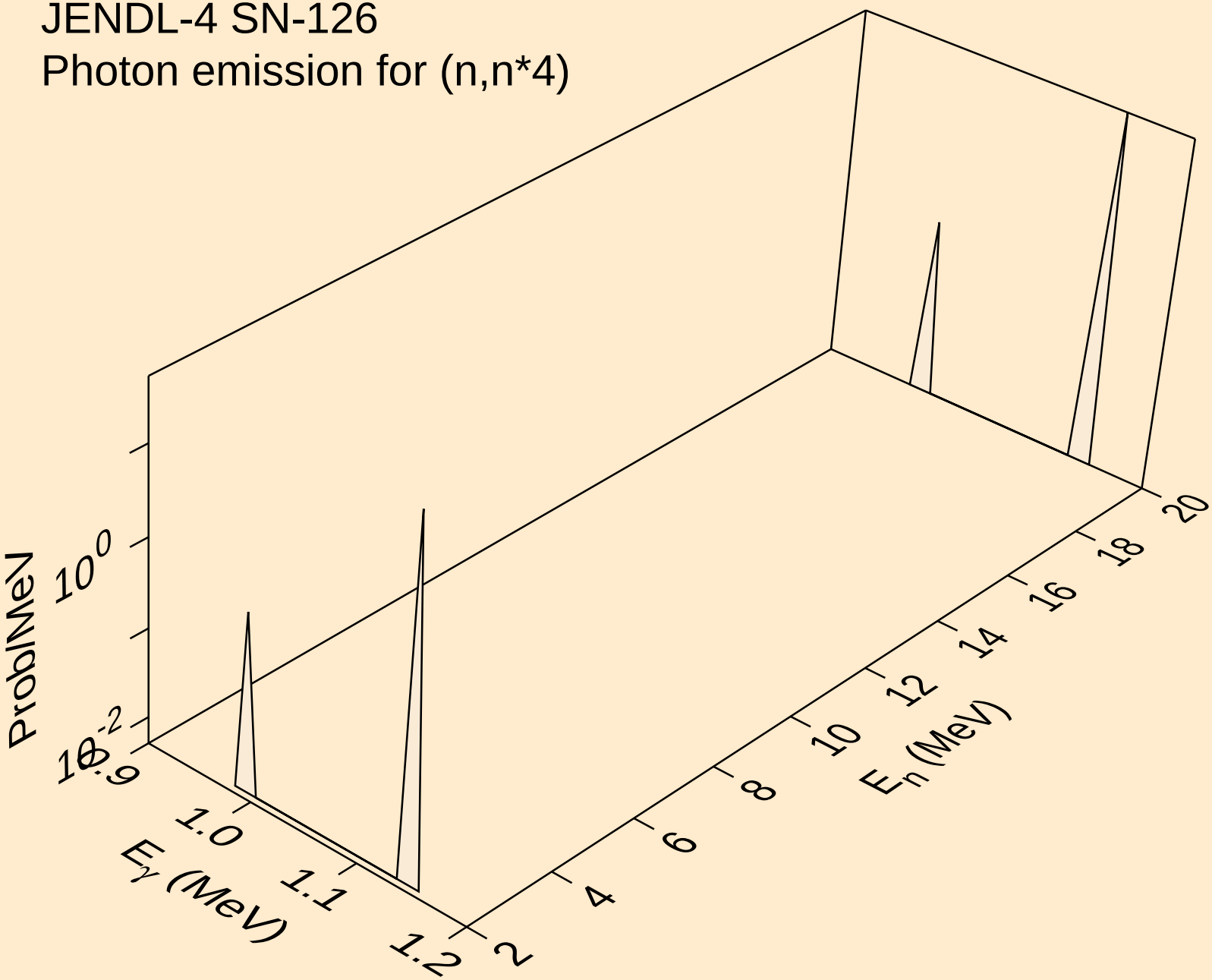
JENDL-4 SN-126
Photon emission for (n,n*2)



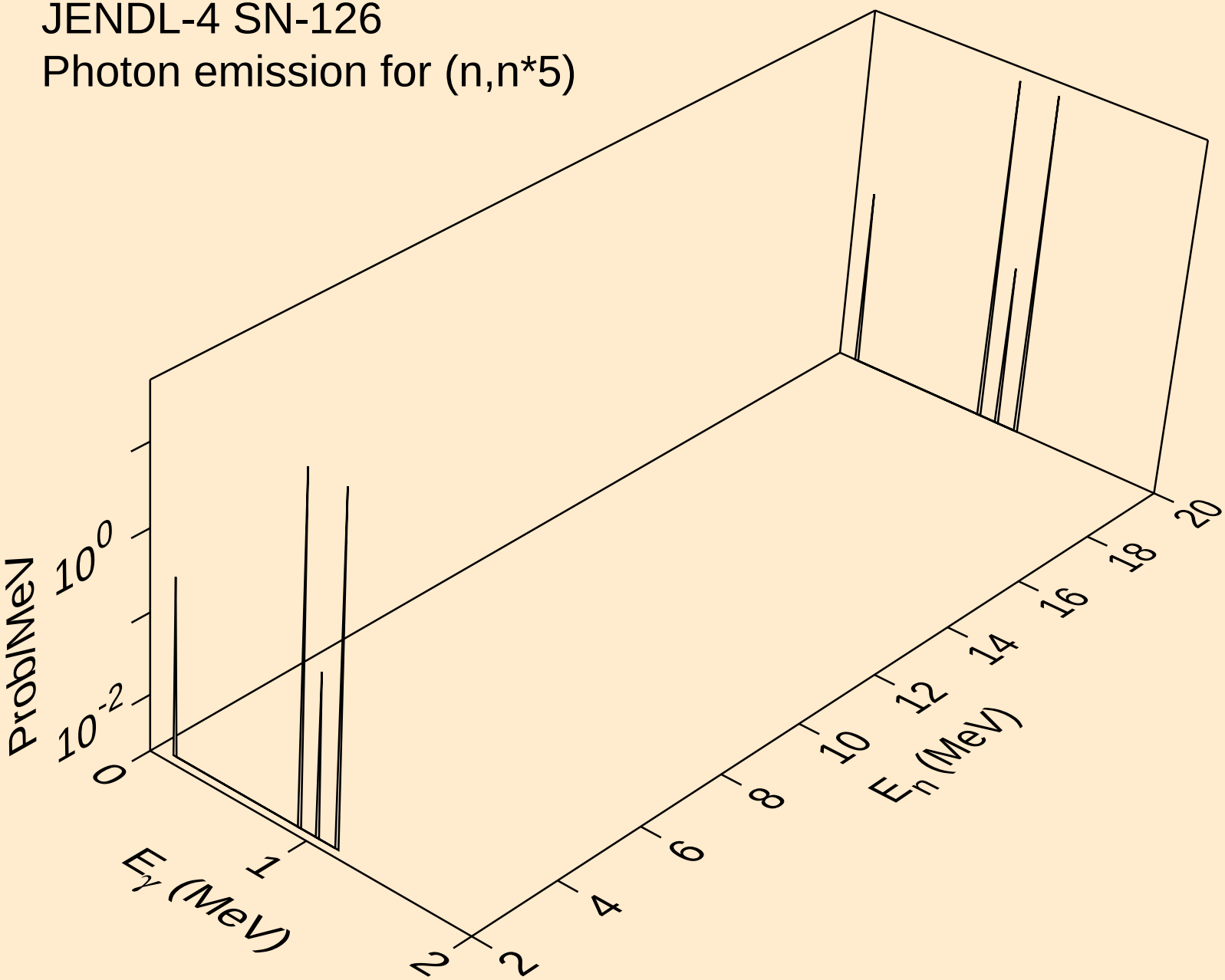
JENDL-4 SN-126
Photon emission for (n,n*3)



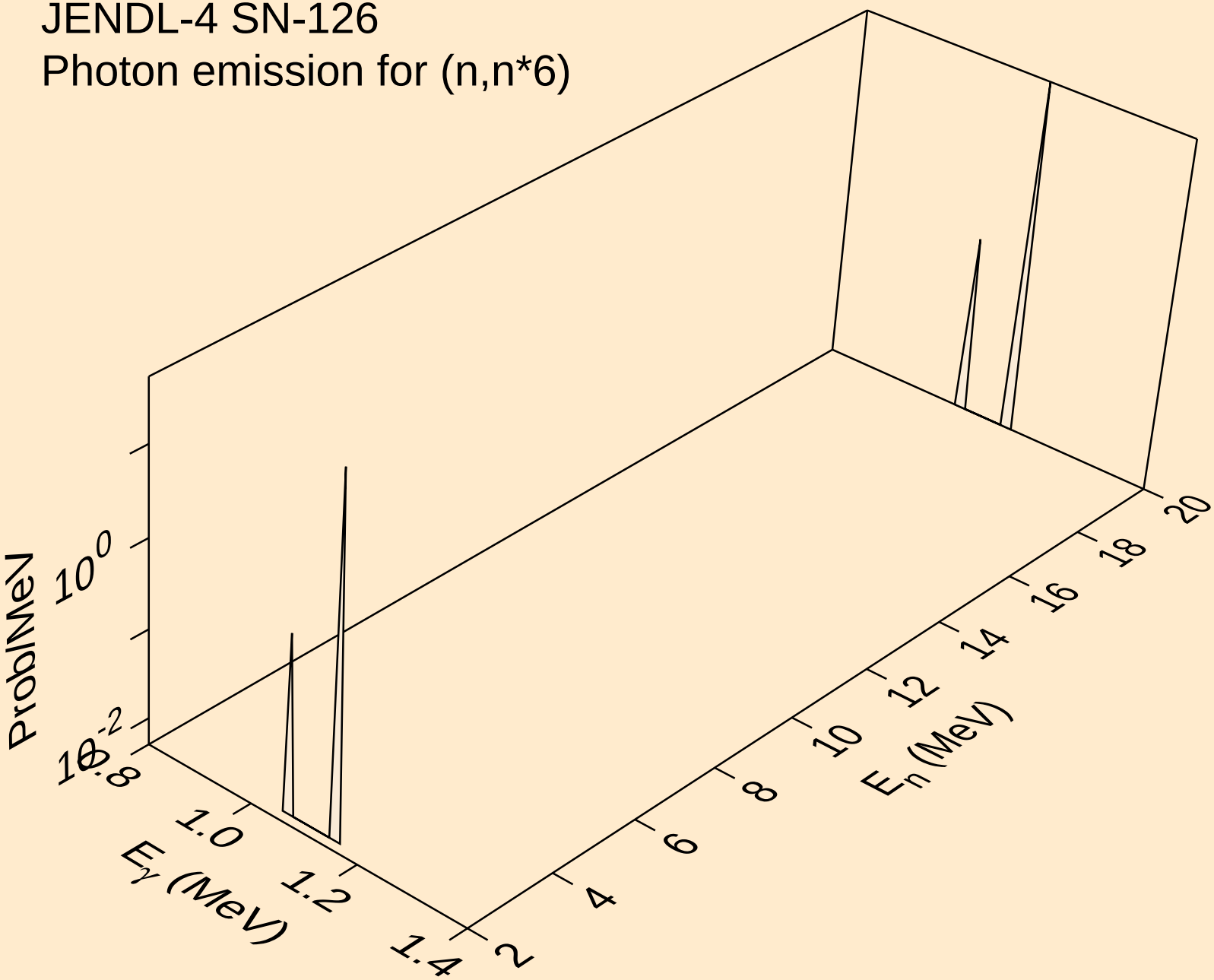
JENDL-4 SN-126
Photon emission for (n,n*4)

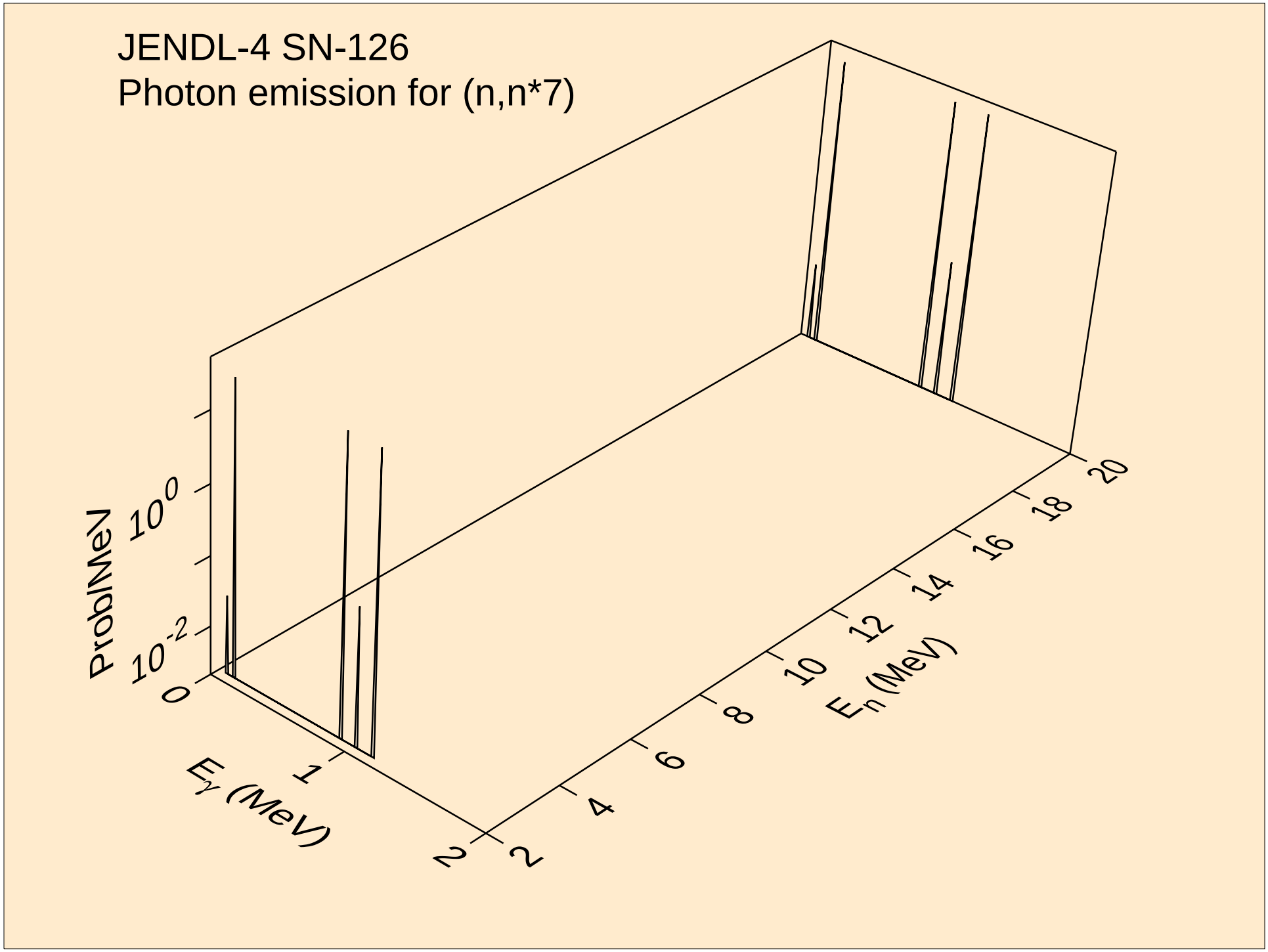


JENDL-4 SN-126
Photon emission for (n,n*5)

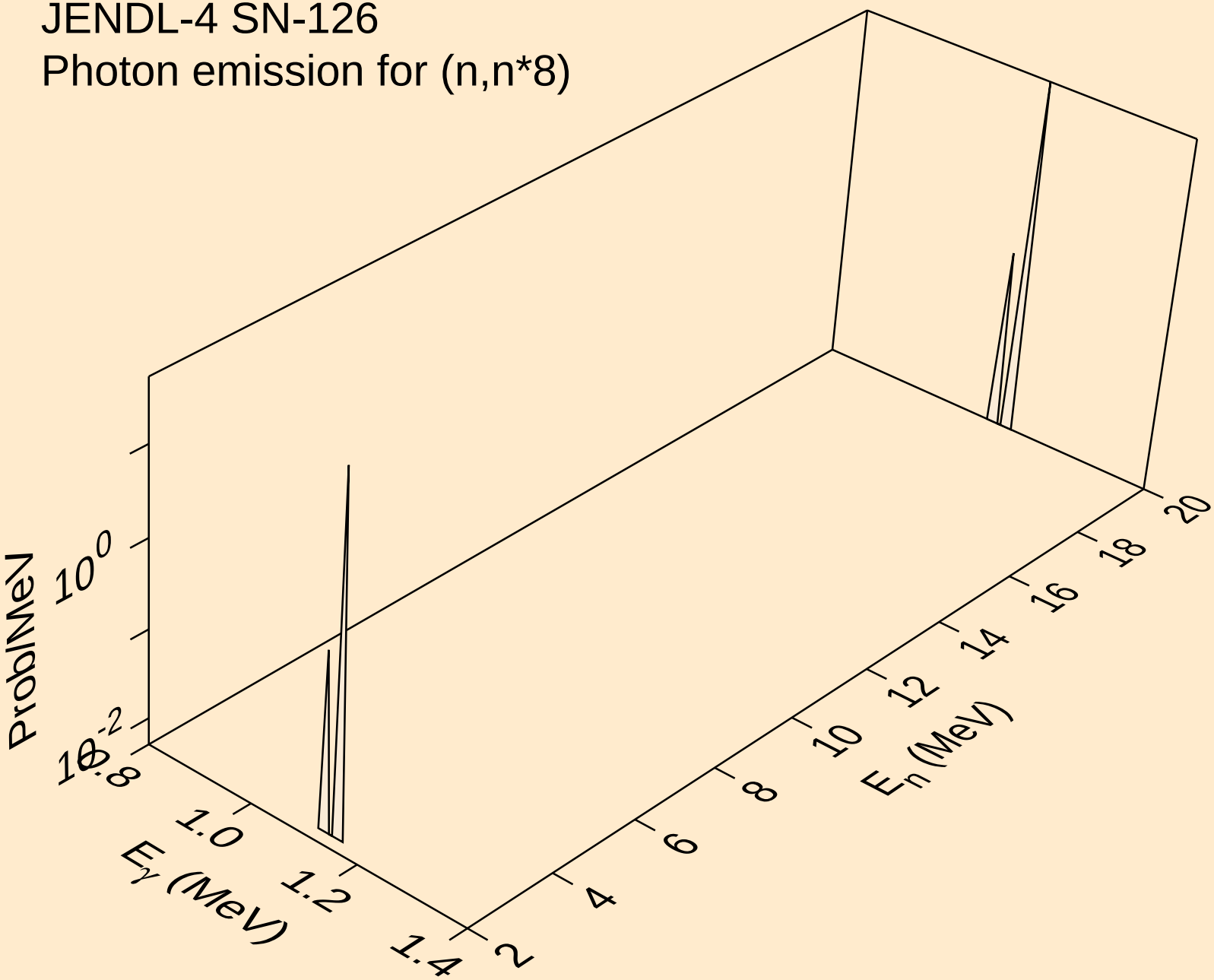


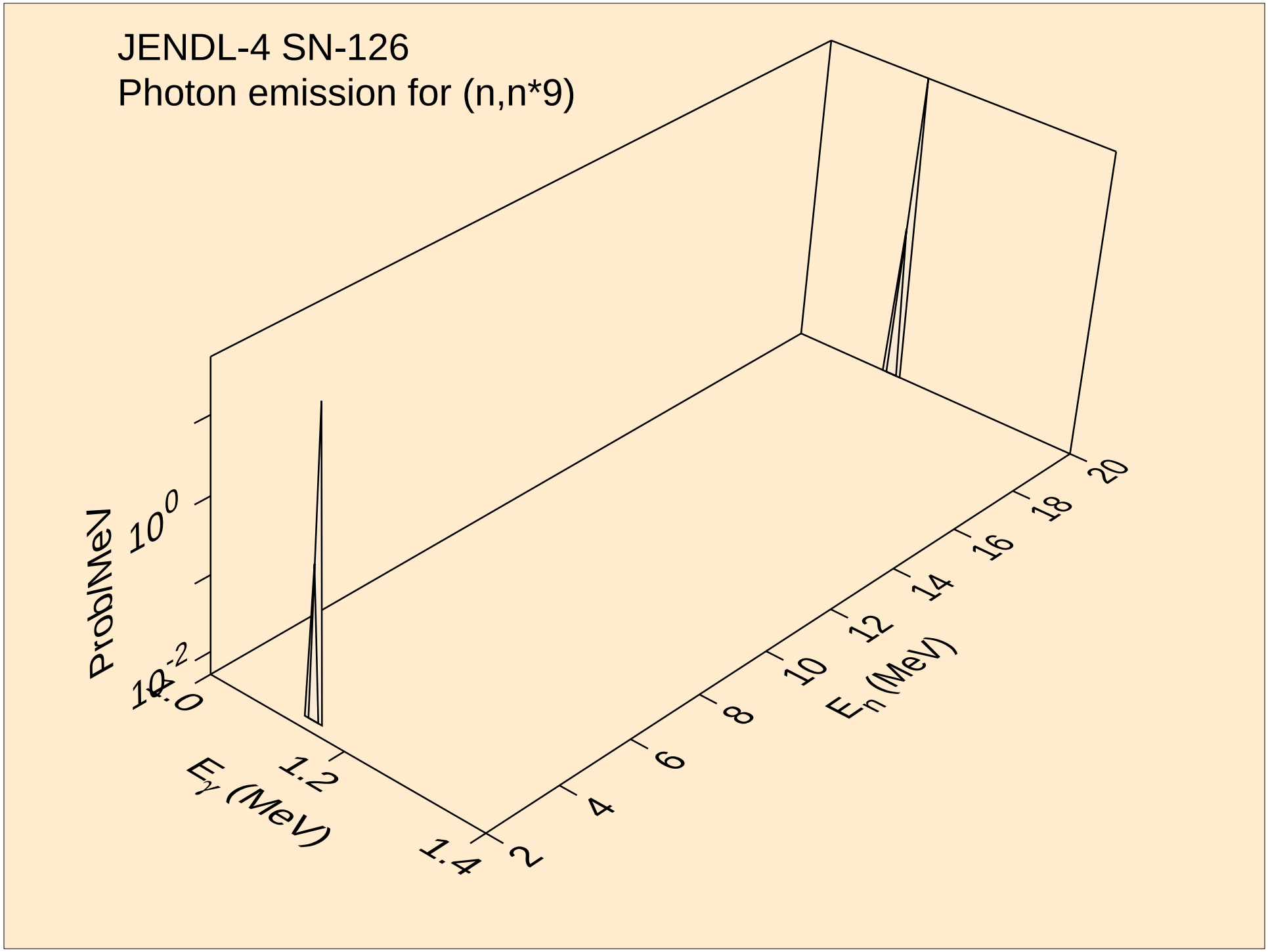
JENDL-4 SN-126
Photon emission for (n,n*6)



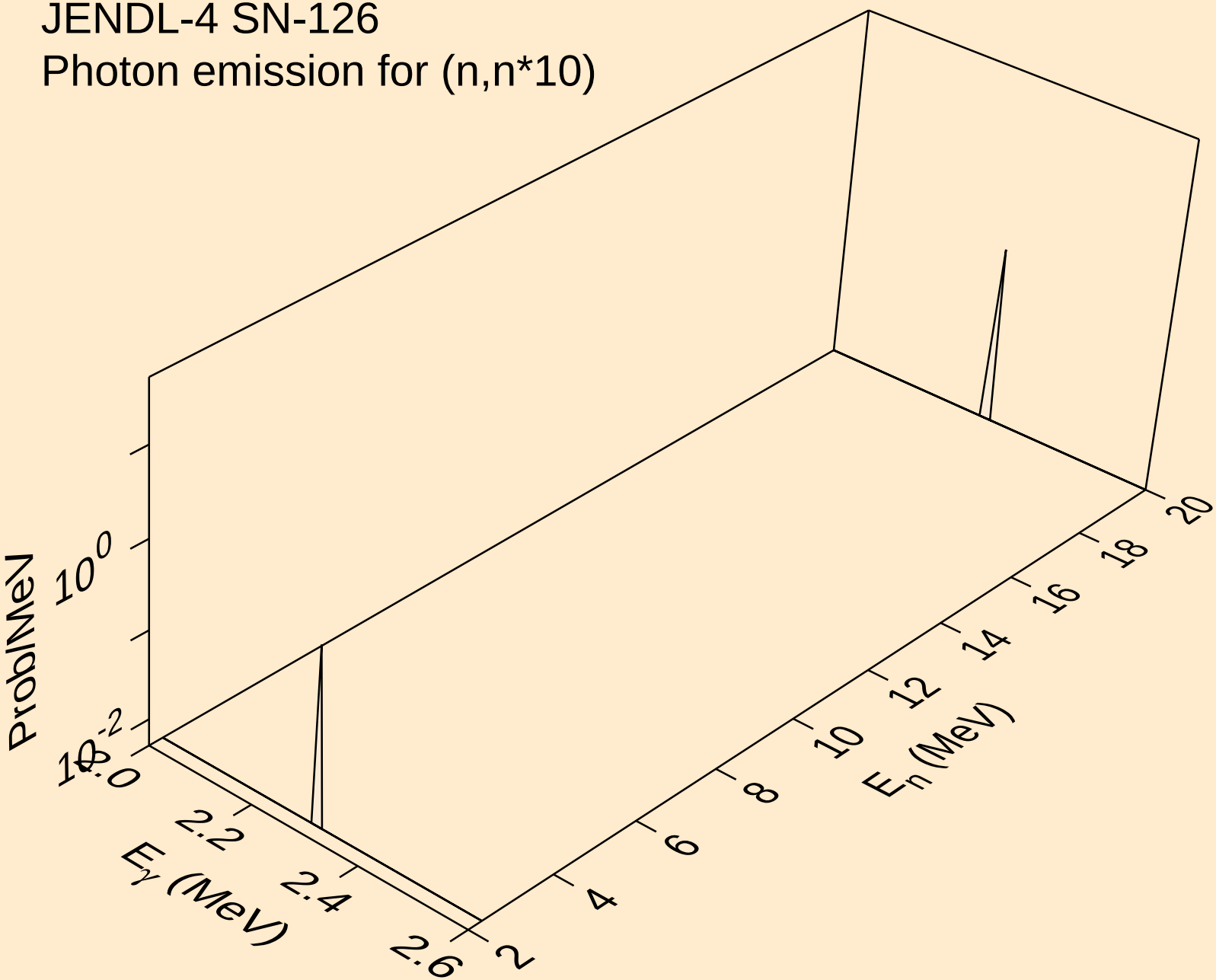

JENDL-4 SN-126
Photon emission for (n,n*7)
Prob/MeV
10^0
10^{-2}
0
E_γ (MeV)
1
2
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

JENDL-4 SN-126
Photon emission for (n,n*8)

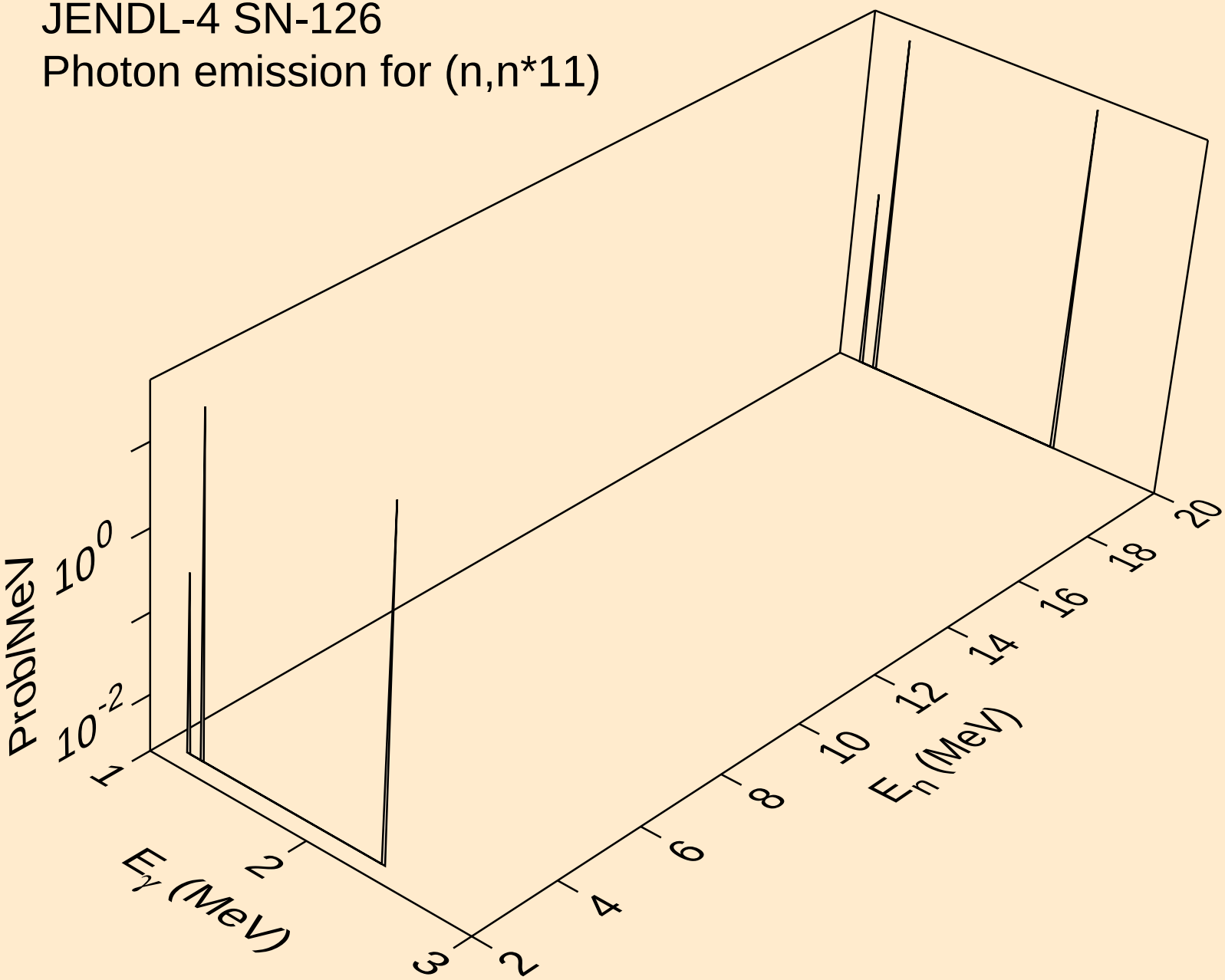


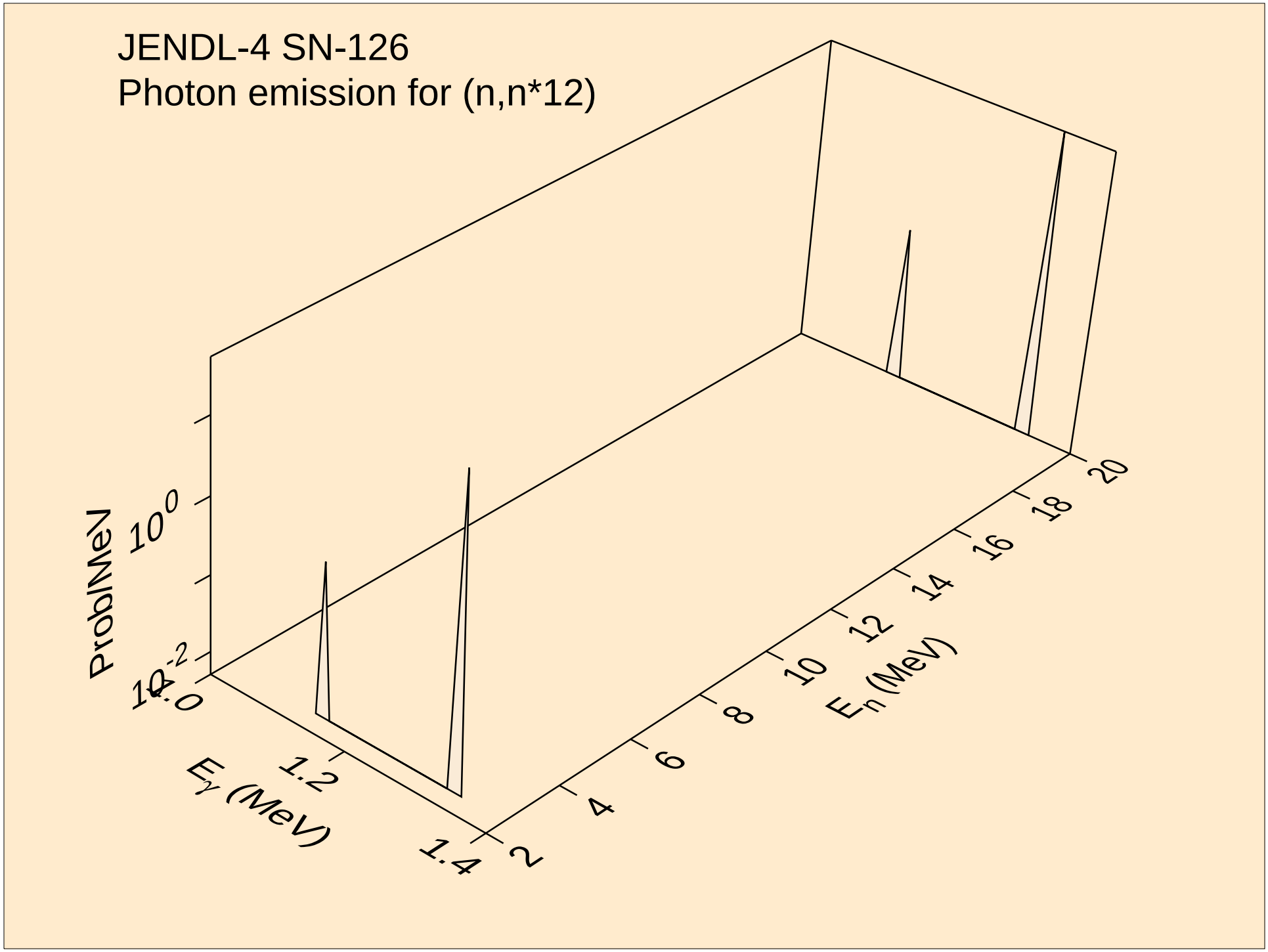

JENDL-4 SN-126
Photon emission for (n,n*9)
Prob/MeV
10^0
10^{-2}
1.0
1.2
1.4
E_γ (MeV)
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

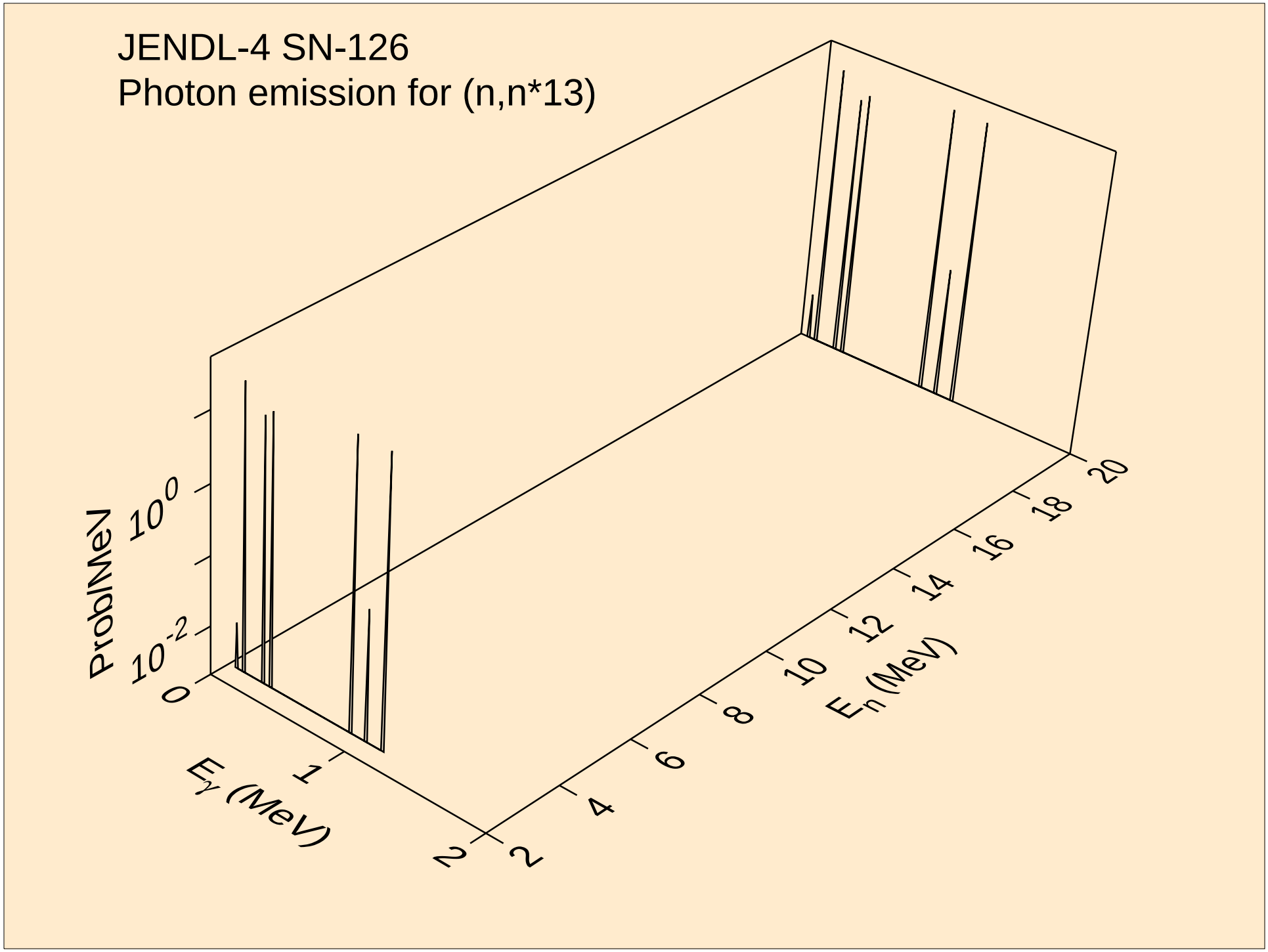
JENDL-4 SN-126
Photon emission for (n,n*10)

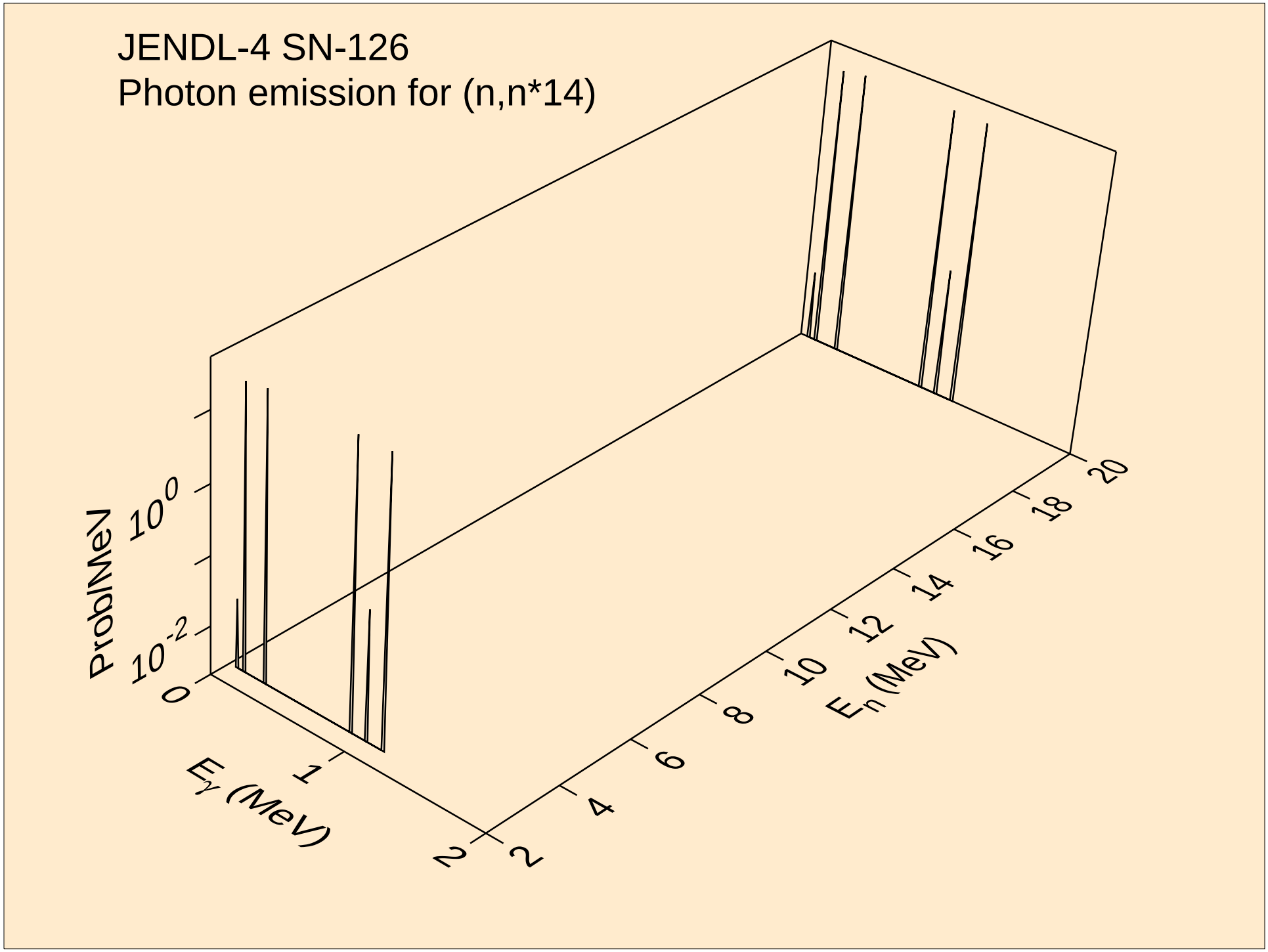


JENDL-4 SN-126
Photon emission for (n,n*11)

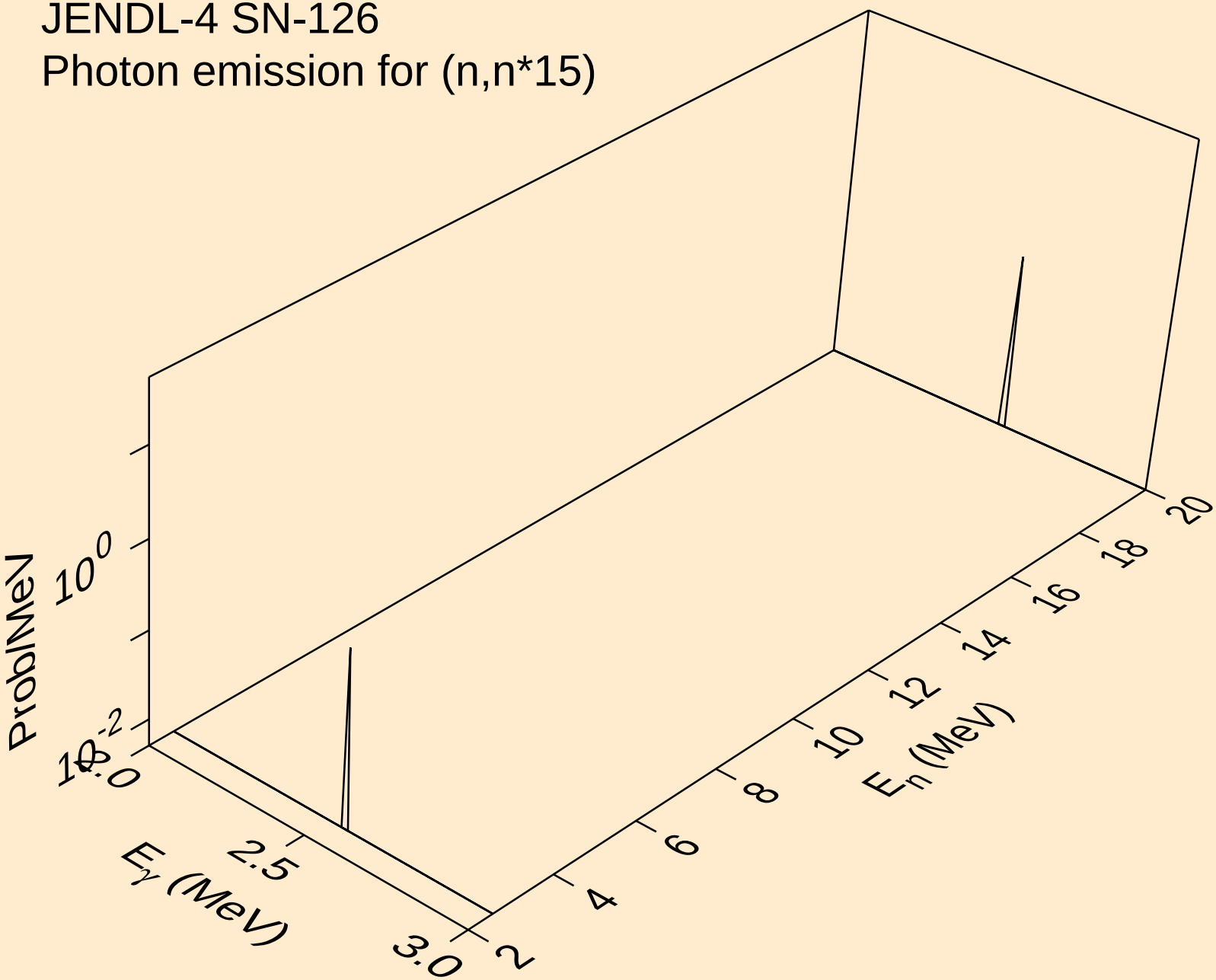


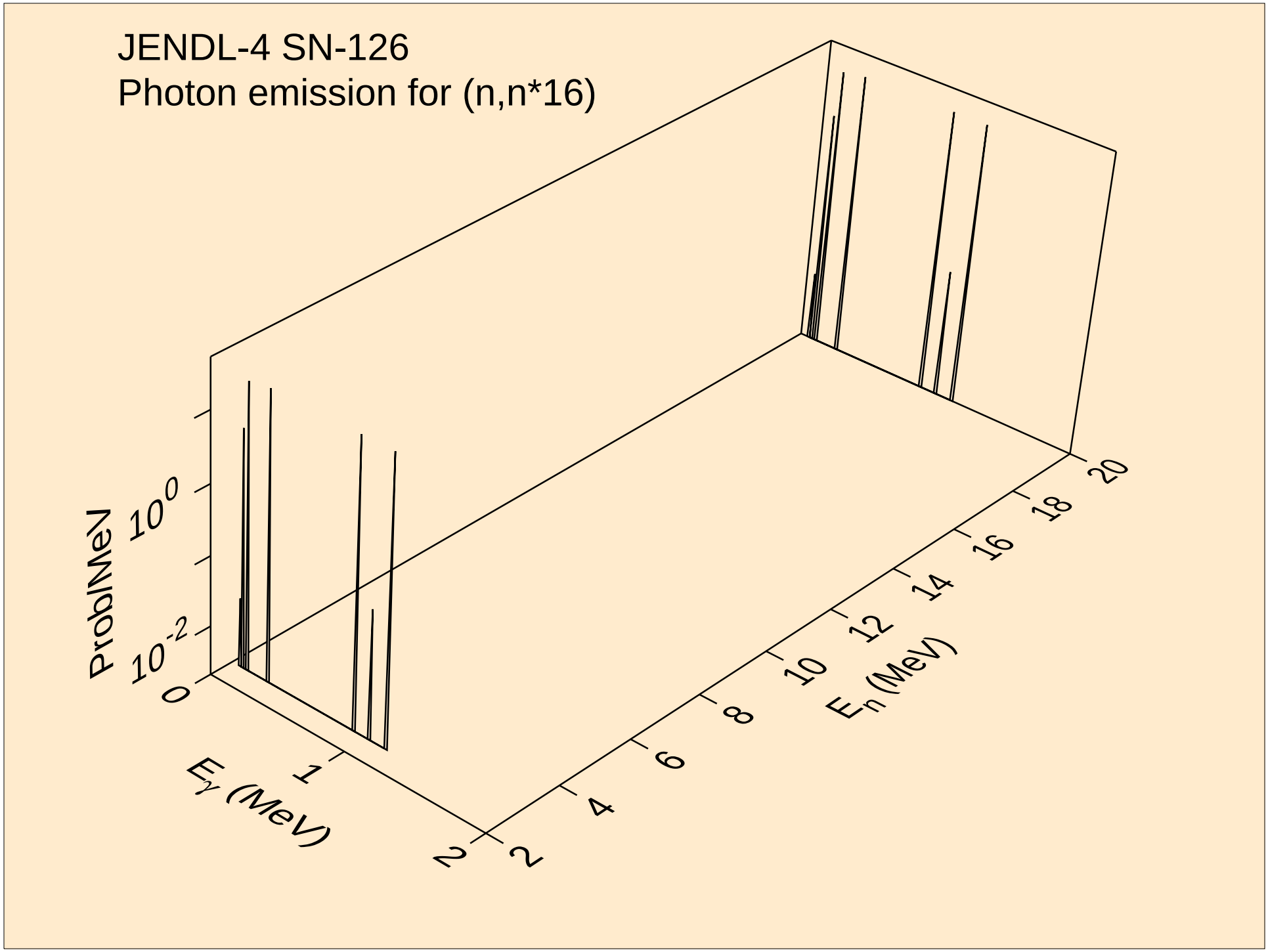

JENDL-4 SN-126
Photon emission for (n,n*12)
Prob/MeV
10^0
10^{-2}
1.0
1.2
1.4
E_γ (MeV)
2
4
6
8
10
12
14
16
18
20
E_n (MeV)


JENDL-4 SN-126
Photon emission for (n,n*13)
Prob/MeV
10^0
10^{-2}
0
E_γ (MeV)
1
2
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

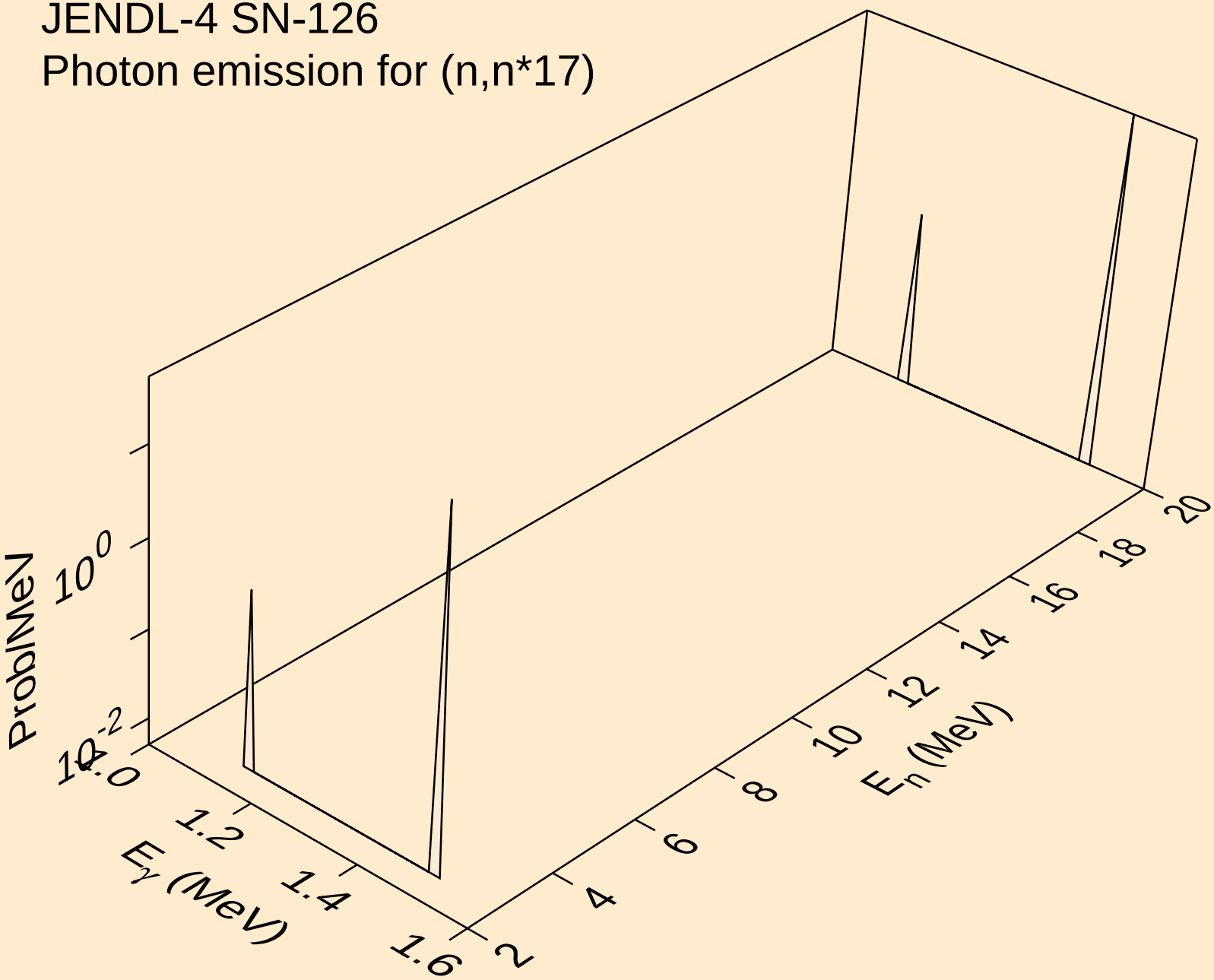

JENDL-4 SN-126
Photon emission for (n,n*14)
Prob/MeV
10^0
10^{-2}
0
E_γ (MeV)
1
2
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

JENDL-4 SN-126
Photon emission for (n,n*15)

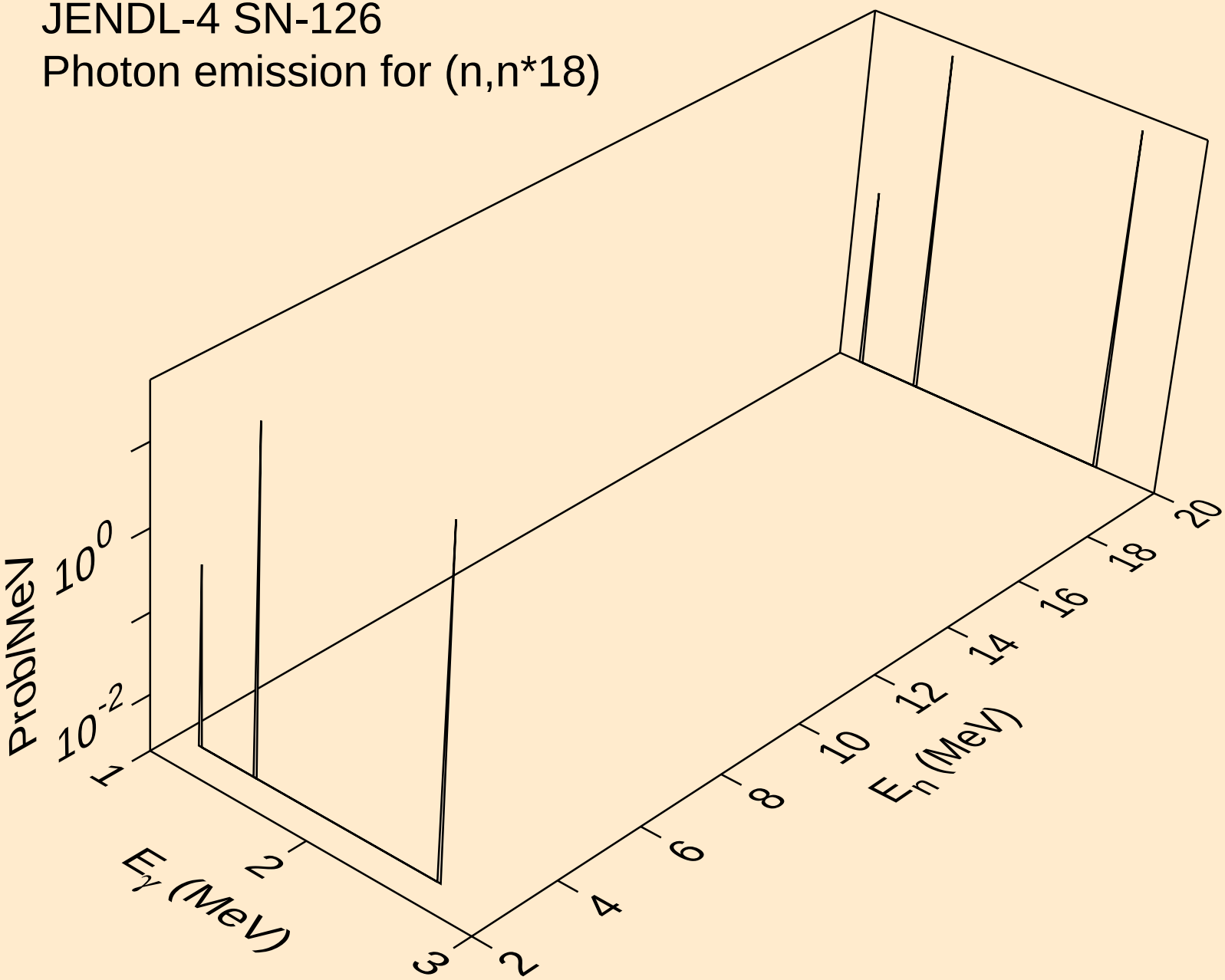


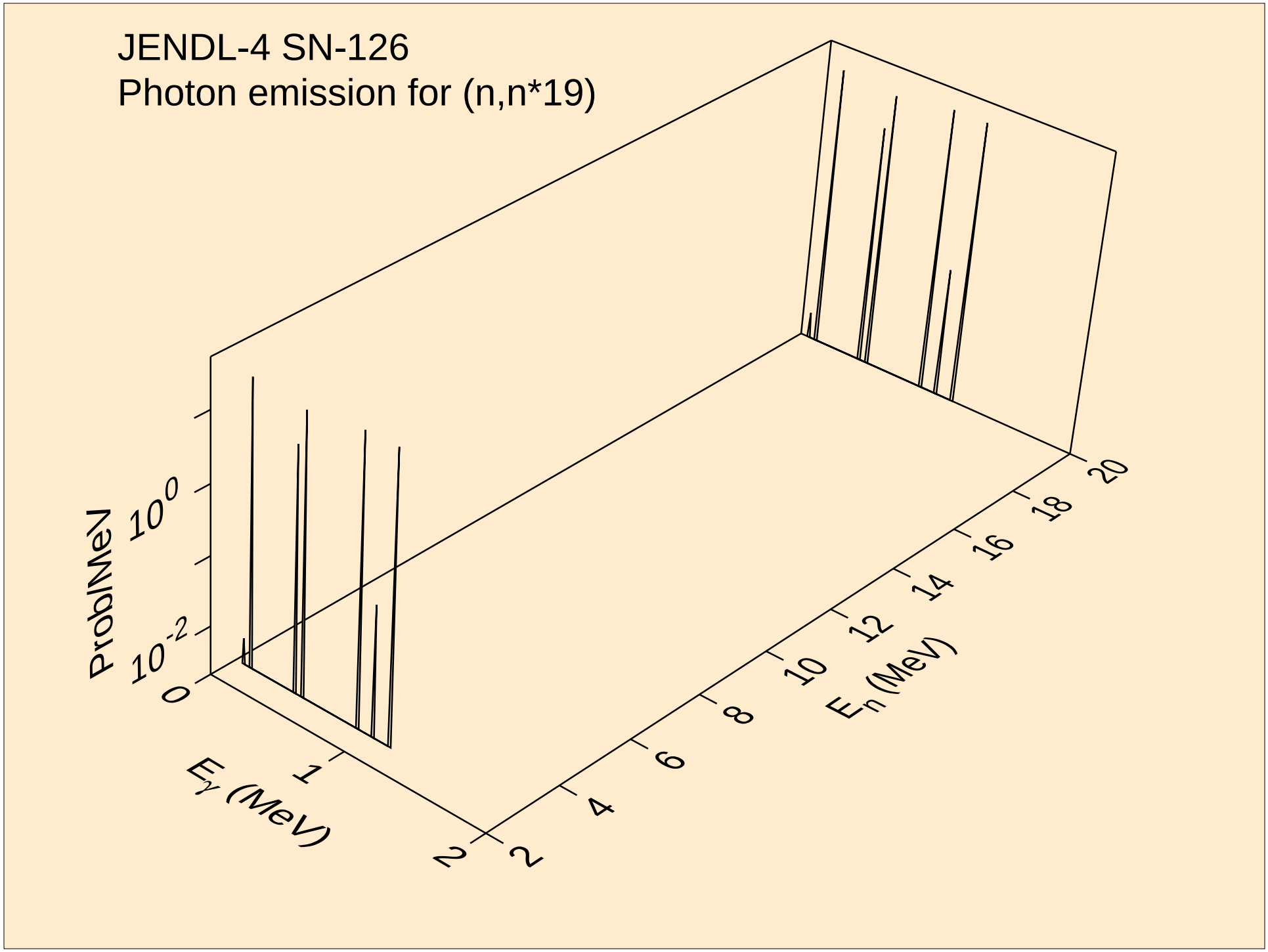

JENDL-4 SN-126
Photon emission for (n,n*16)
Prob/MeV
10^0
10^{-2}
0
E_γ (MeV)
1
2
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

JENDL-4 SN-126
Photon emission for (n,n*17)

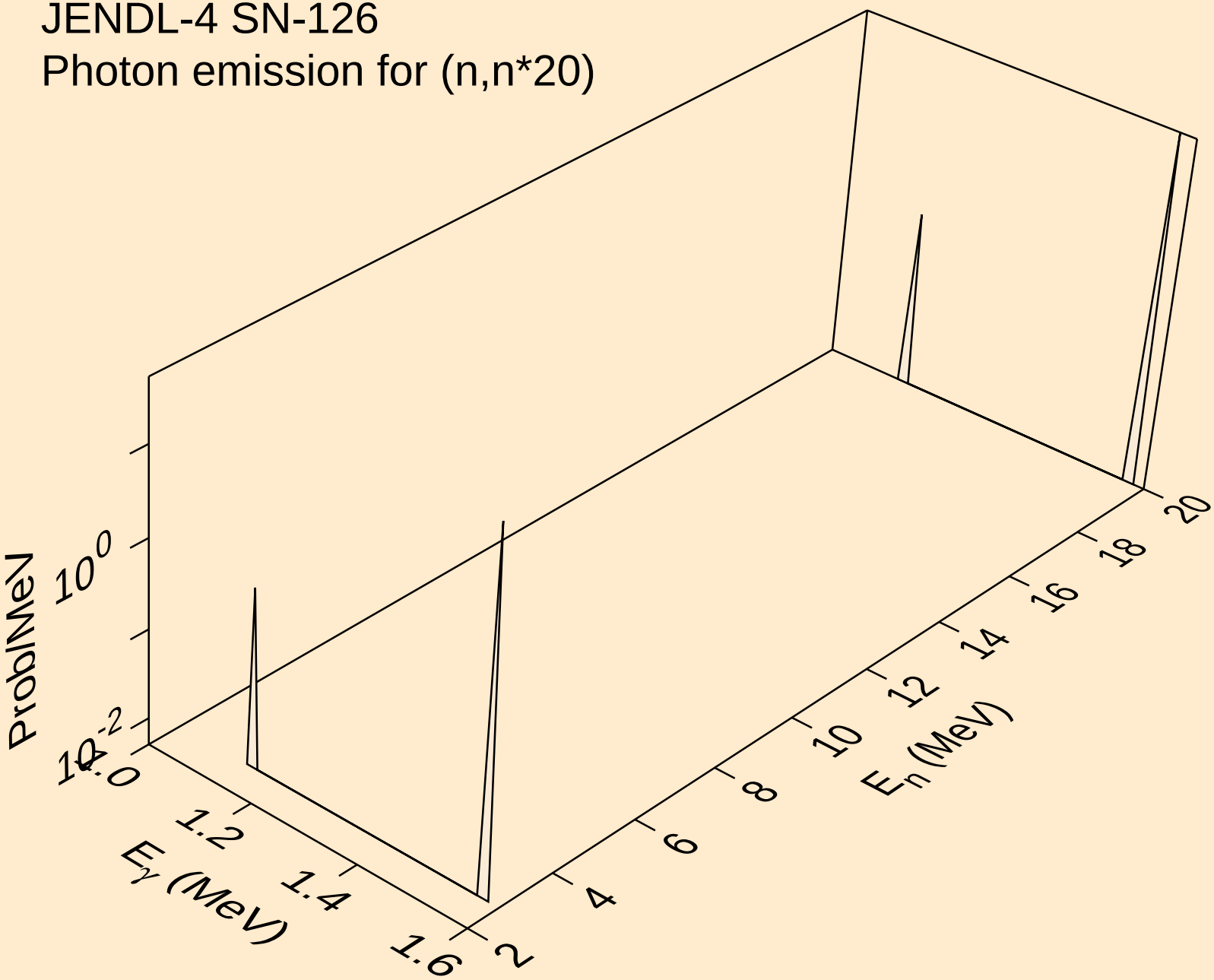


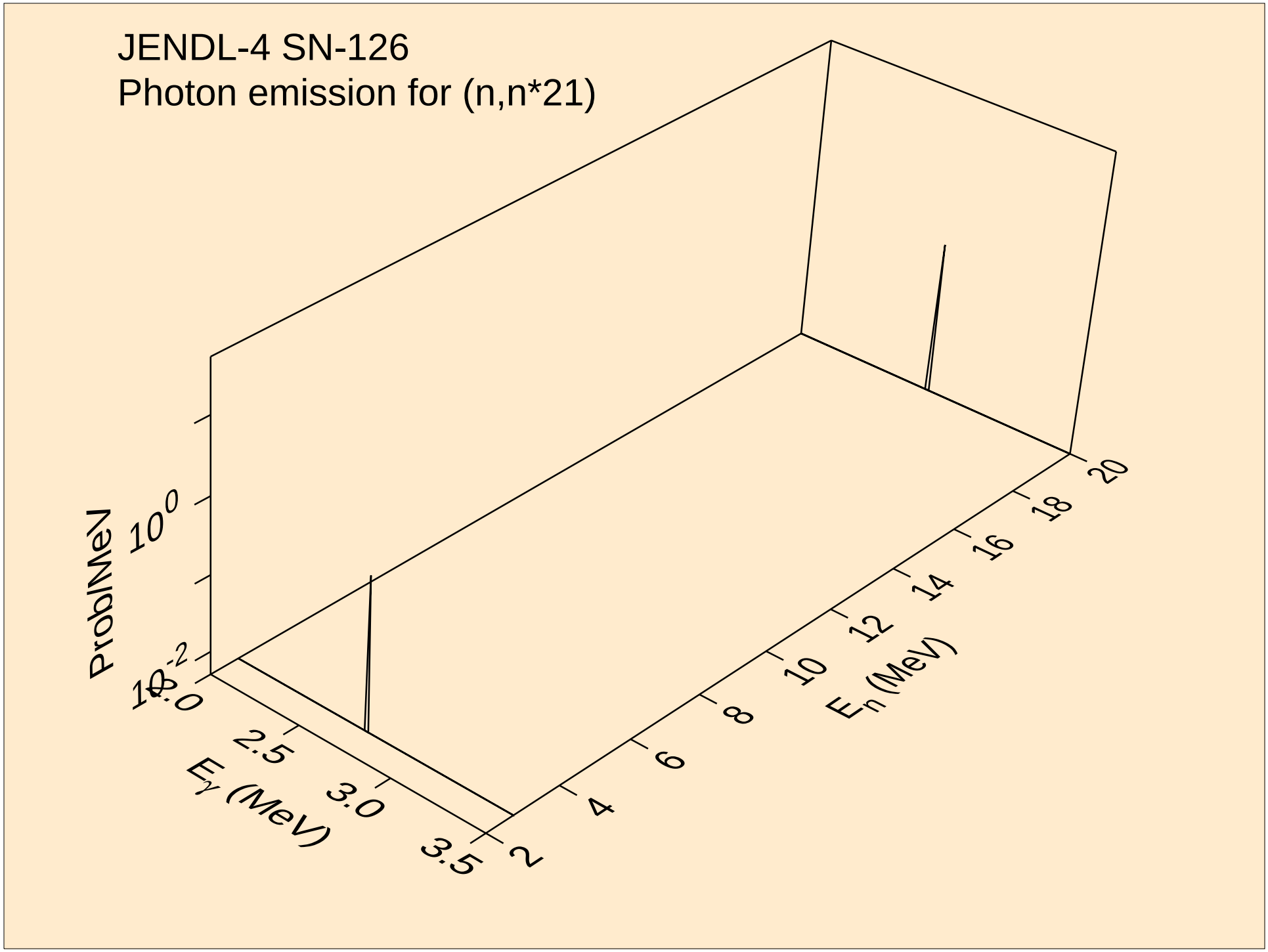
JENDL-4 SN-126
Photon emission for (n,n*18)



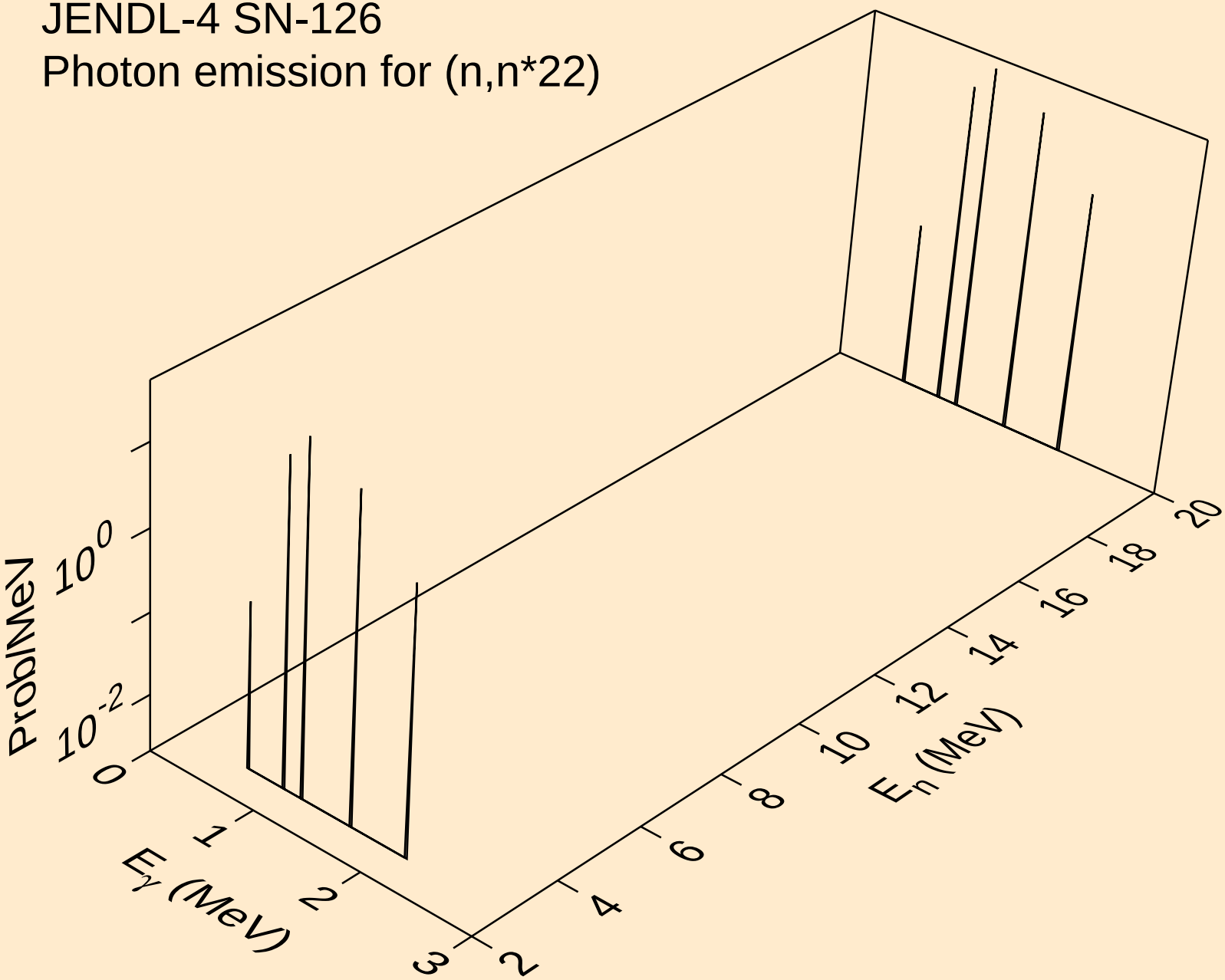

JENDL-4 SN-126
Photon emission for (n,n*19)
Prob/MeV
10^0
10^{-2}
0
E_γ (MeV)
1
2
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

JENDL-4 SN-126
Photon emission for (n,n*20)

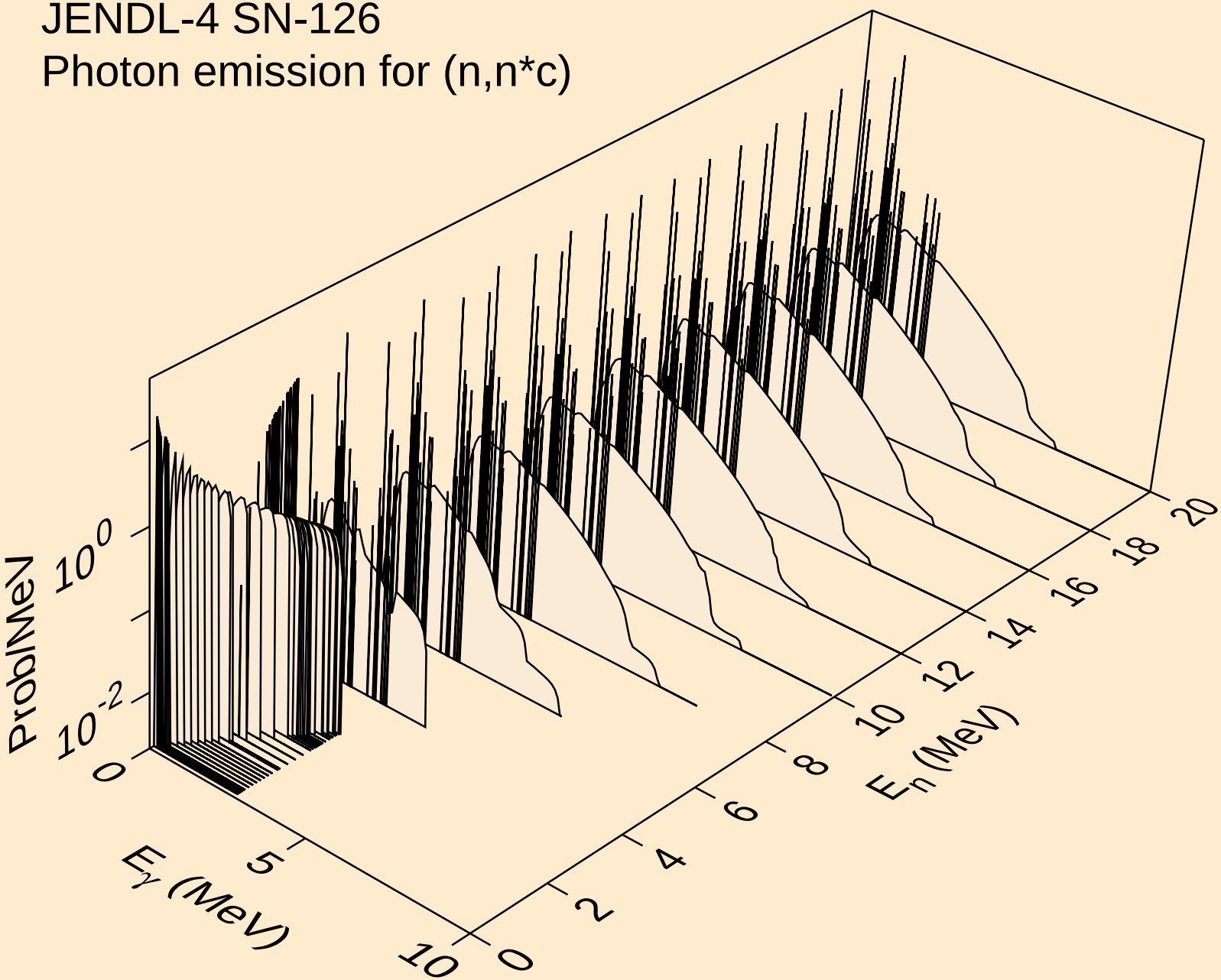


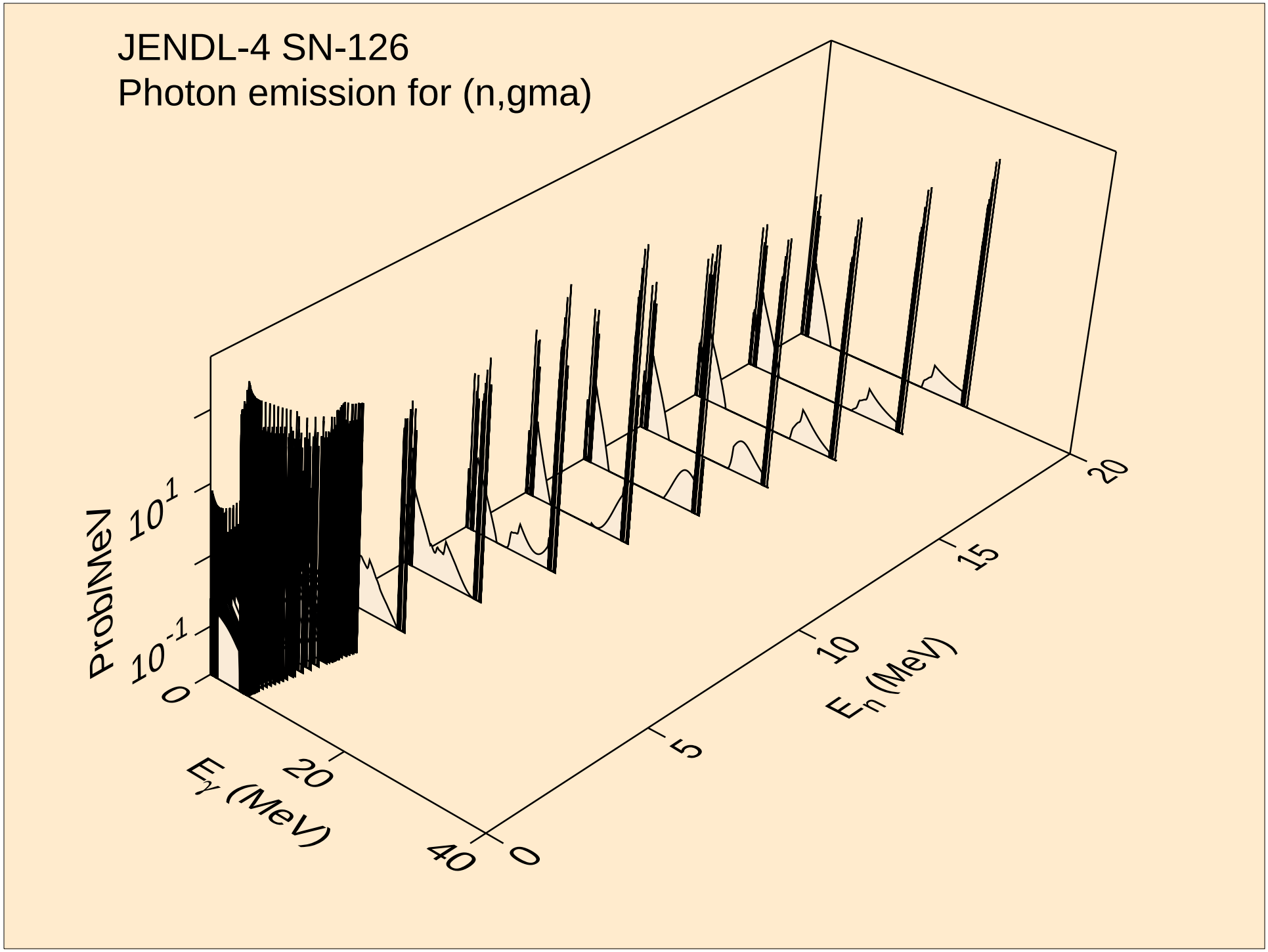

JENDL-4 SN-126
Photon emission for (n,n*21)
Prob/MeV
10^0
10^{-2}
2.0
2.5
3.0
3.5
E_γ (MeV)
2
4
6
8
10
12
14
16
18
20
E_n (MeV)

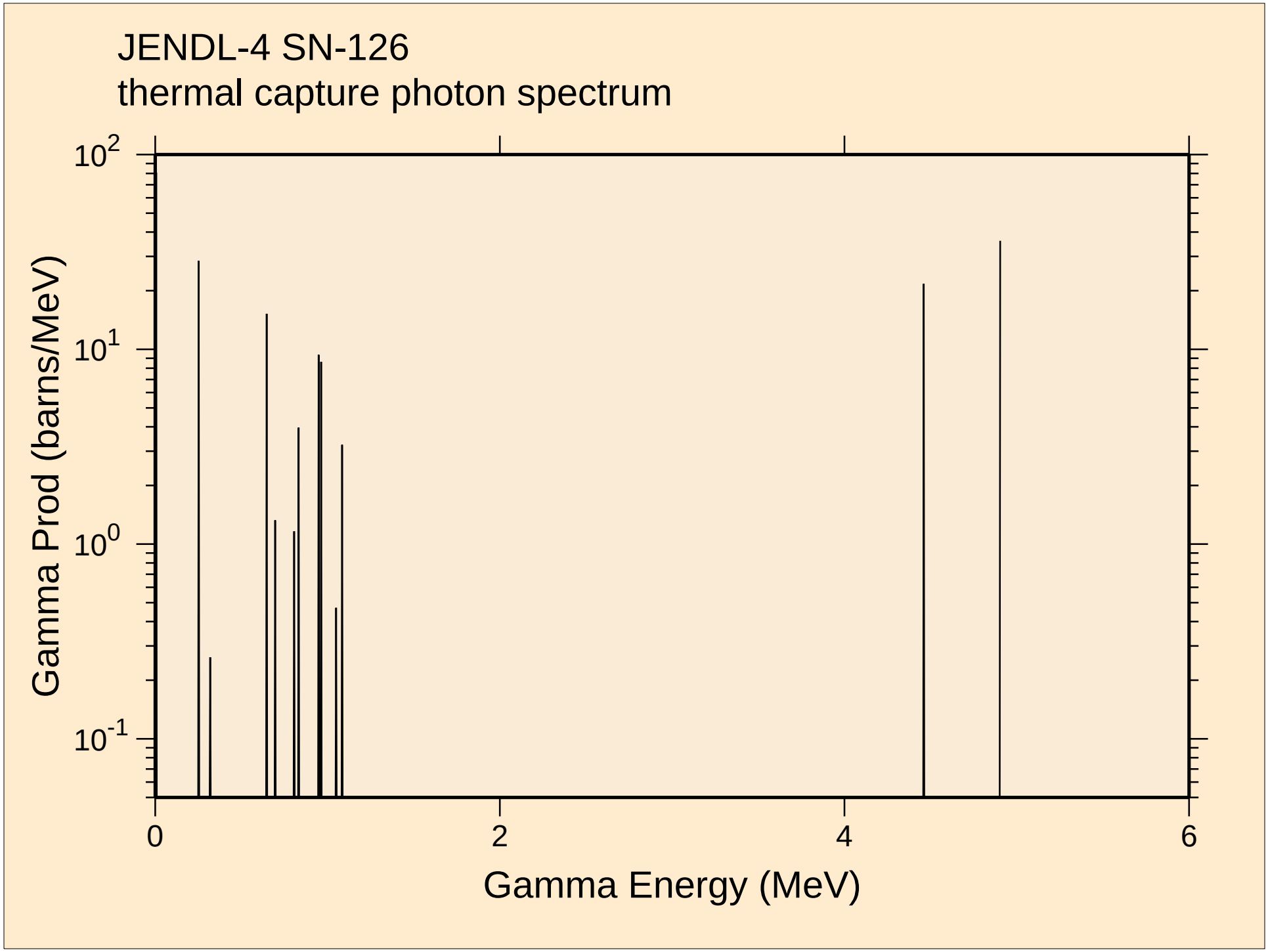
JENDL-4 SN-126
Photon emission for (n,n*22)

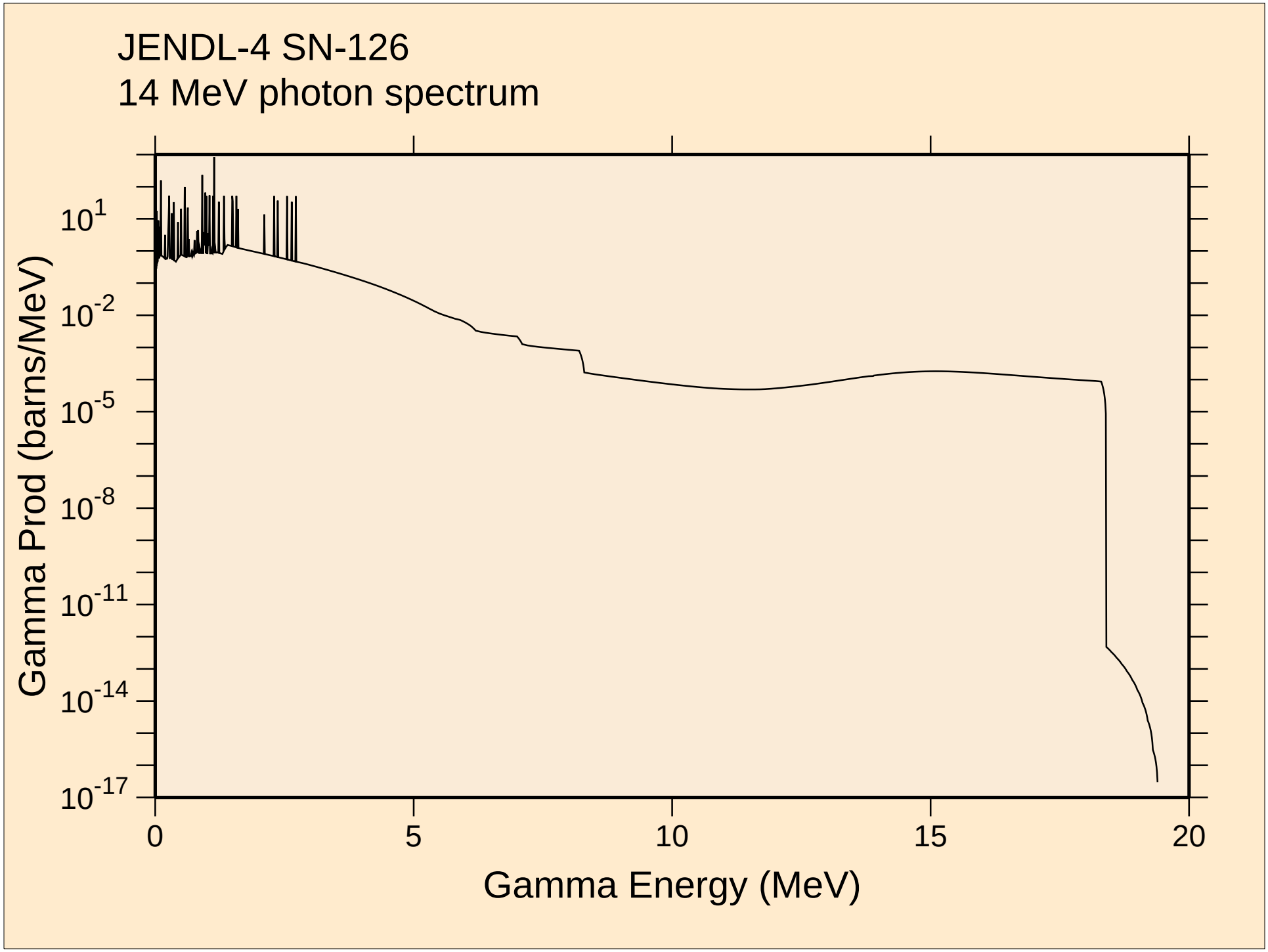


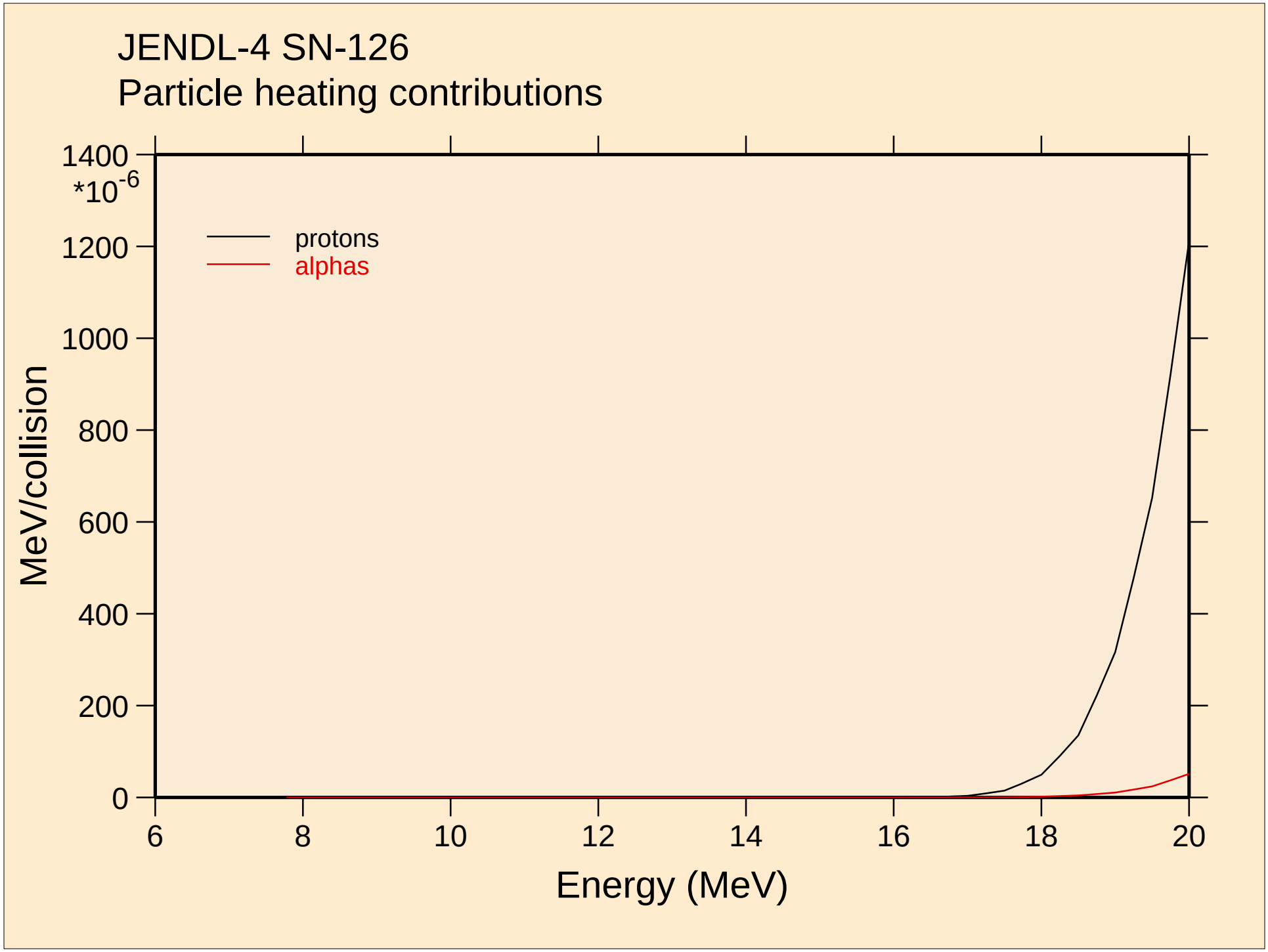
JENDL-4 SN-126
Photon emission for (n,n*c)

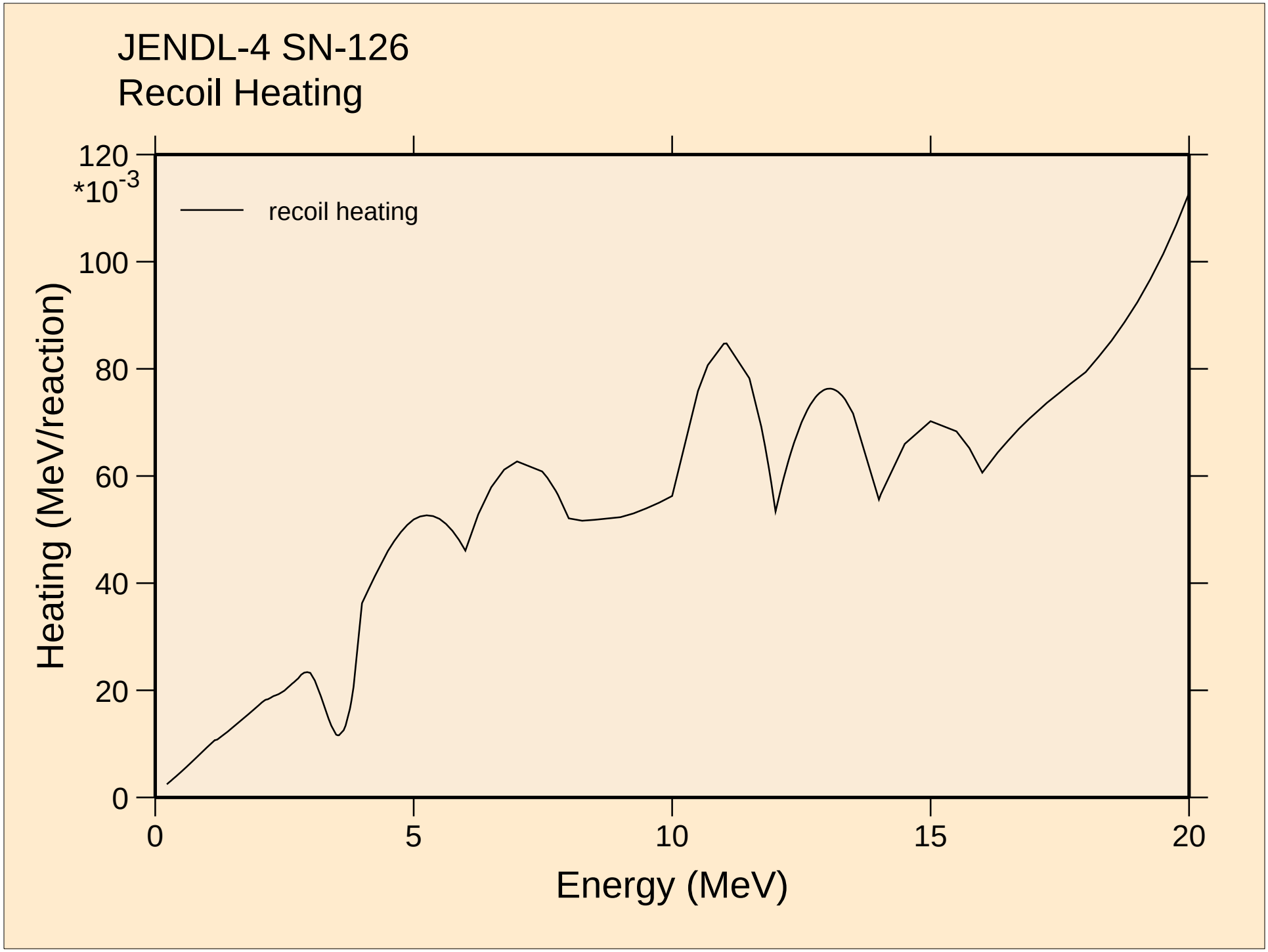


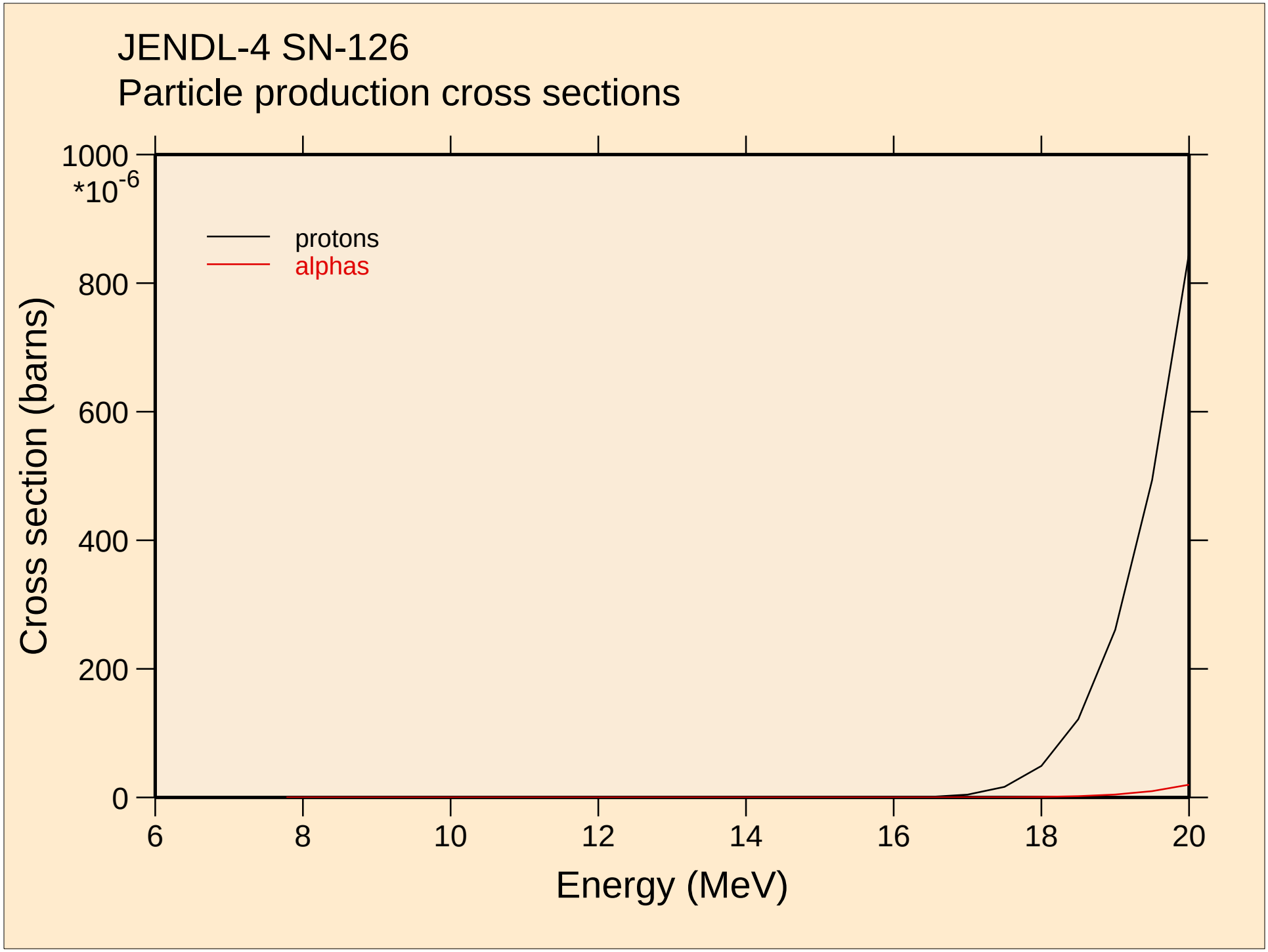

JENDL-4 SN-126
Photon emission for (n,gma)
Prob/MeV
10^{1}
10^{-1}
0
E_γ (MeV)
20
40
0
5
10
15
20
E_n (MeV)

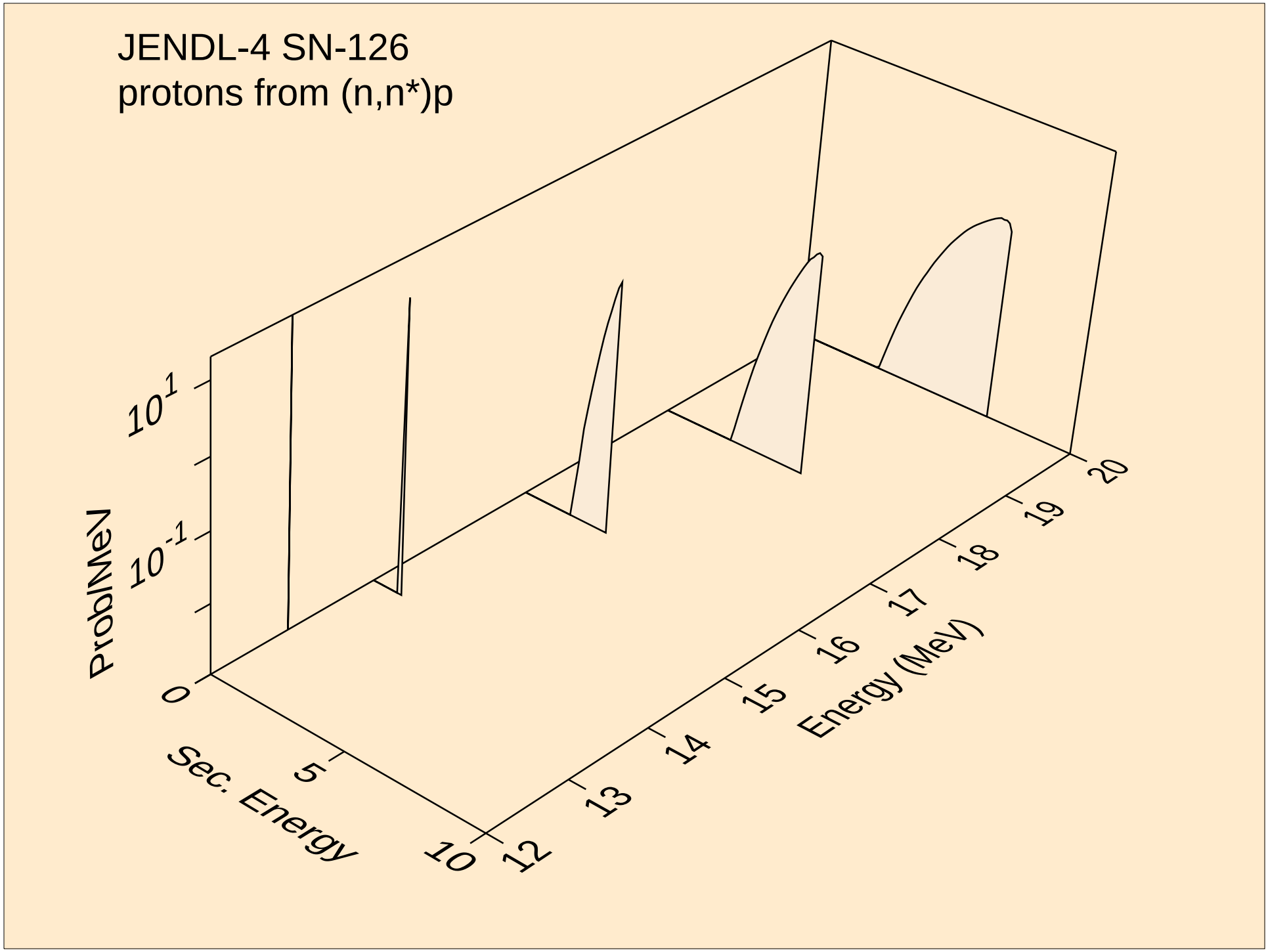

JENDL-4 SN-126
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^2
10^1
10^0
10^{-1}
0
2
4
6
Gamma Energy (MeV)

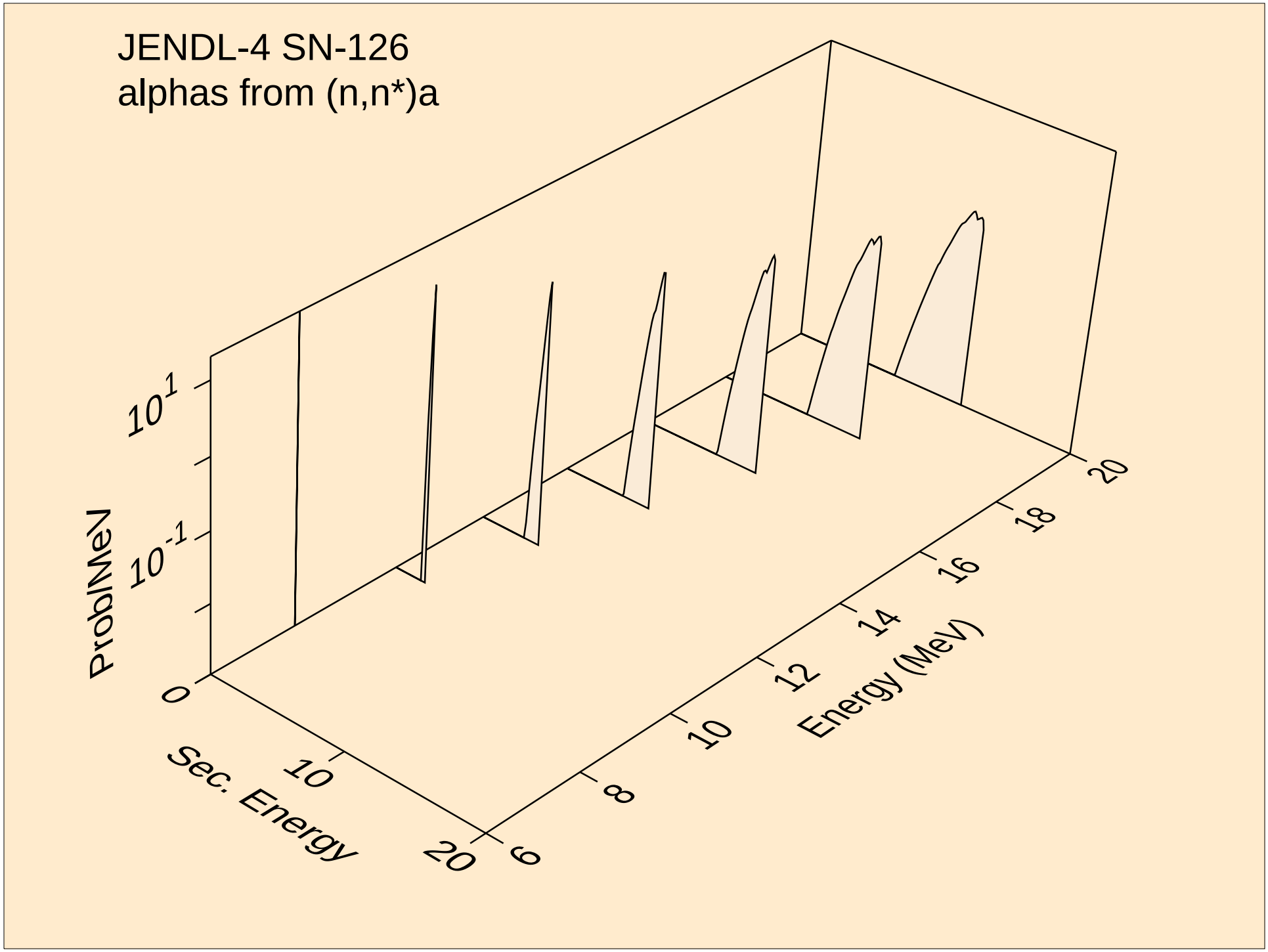

JENDL-4 SN-126
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^1
10^-2
10^-5
10^-8
10^-11
10^-14
10^-17
0
5
10
15
20
Gamma Energy (MeV)


JENDL-4 SN-126
Particle heating contributions
1400
*10-6
1200
1000
800
600
400
200
0
MeV/collision
protons
alphas
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 SN-126
Recoil Heating
recoil heating
Heating (MeV/reaction)
*10-3
120
100
80
60
40
20
0
0
5
10
15
20
Energy (MeV)


JENDL-4 SN-126
Particle production cross sections
1000
*10-6
800
600
400
200
0
Cross section (barns)
protons
alphas
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 SN-126
protons from (n,n*)p
Prob/MeV
10^1
10^-1
0
Sec. Energy
5
10
12
13
14
15
16
17
18
19
20
Energy (MeV)


JENDL-4 SN-126
alphas from (n,n*)a
Prob/MeV
10^1
10^-1
0
Sec. Energy
10
20
6
8
10
12
14
16
18
20
Energy (MeV)