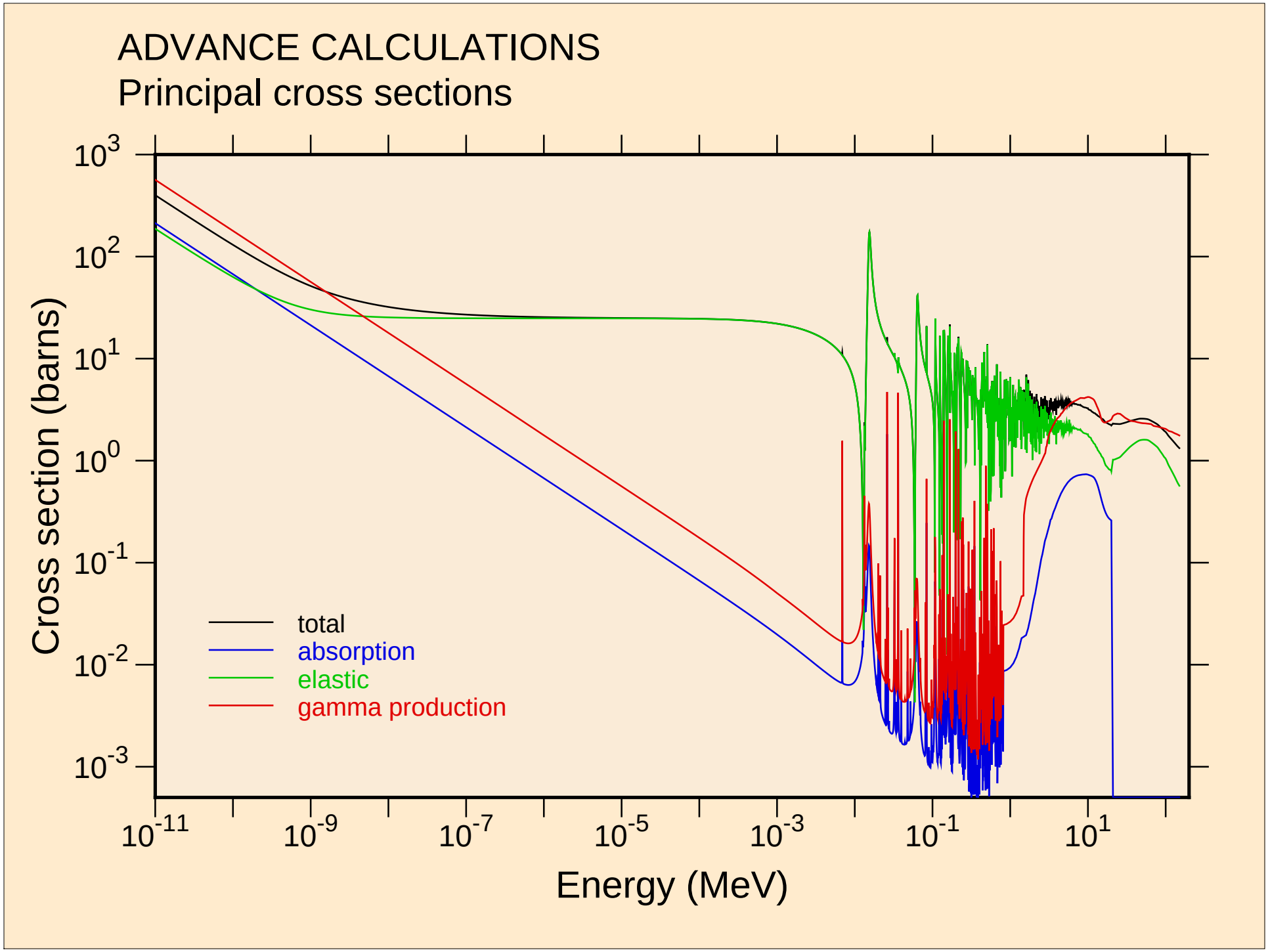
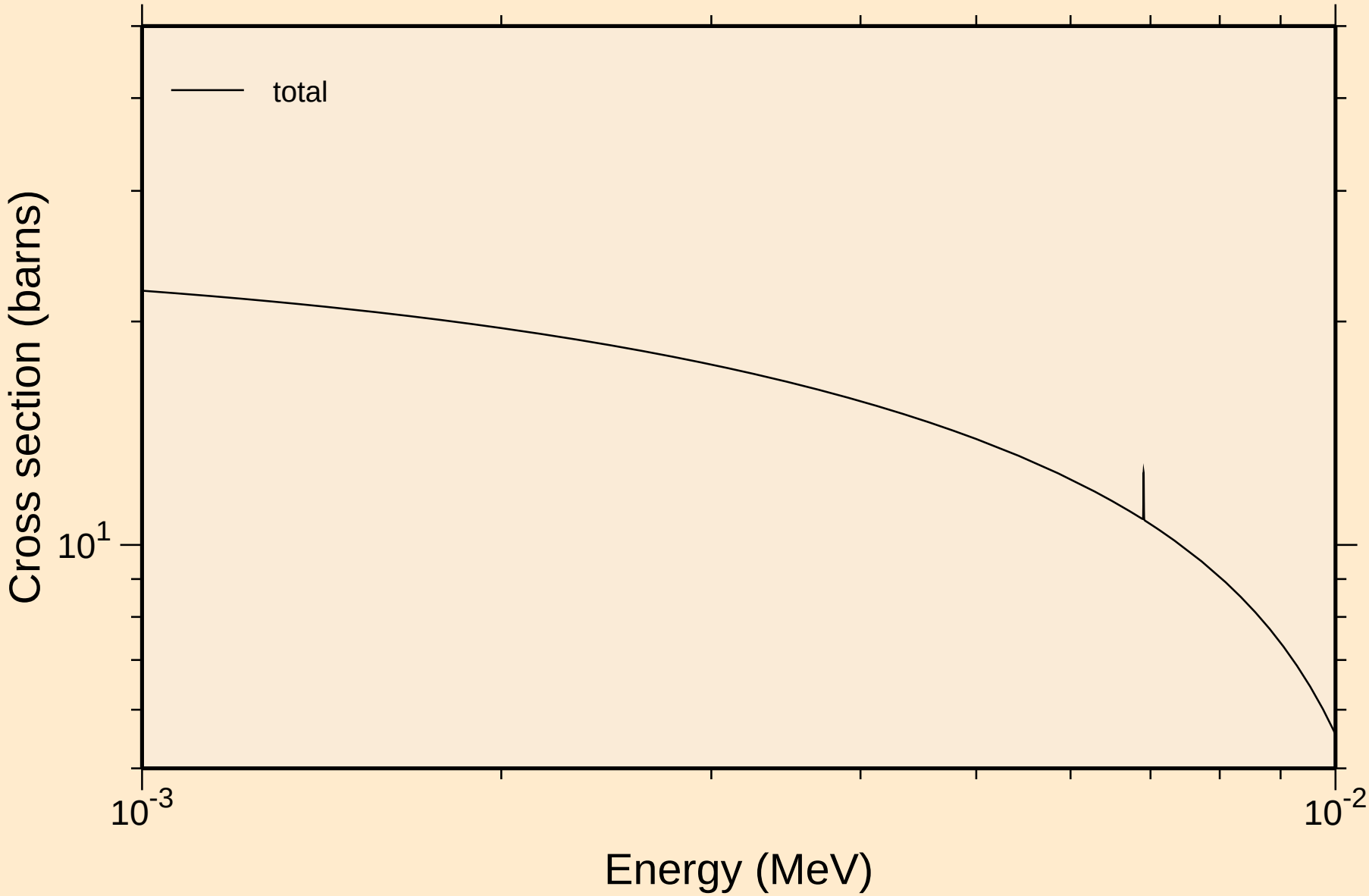
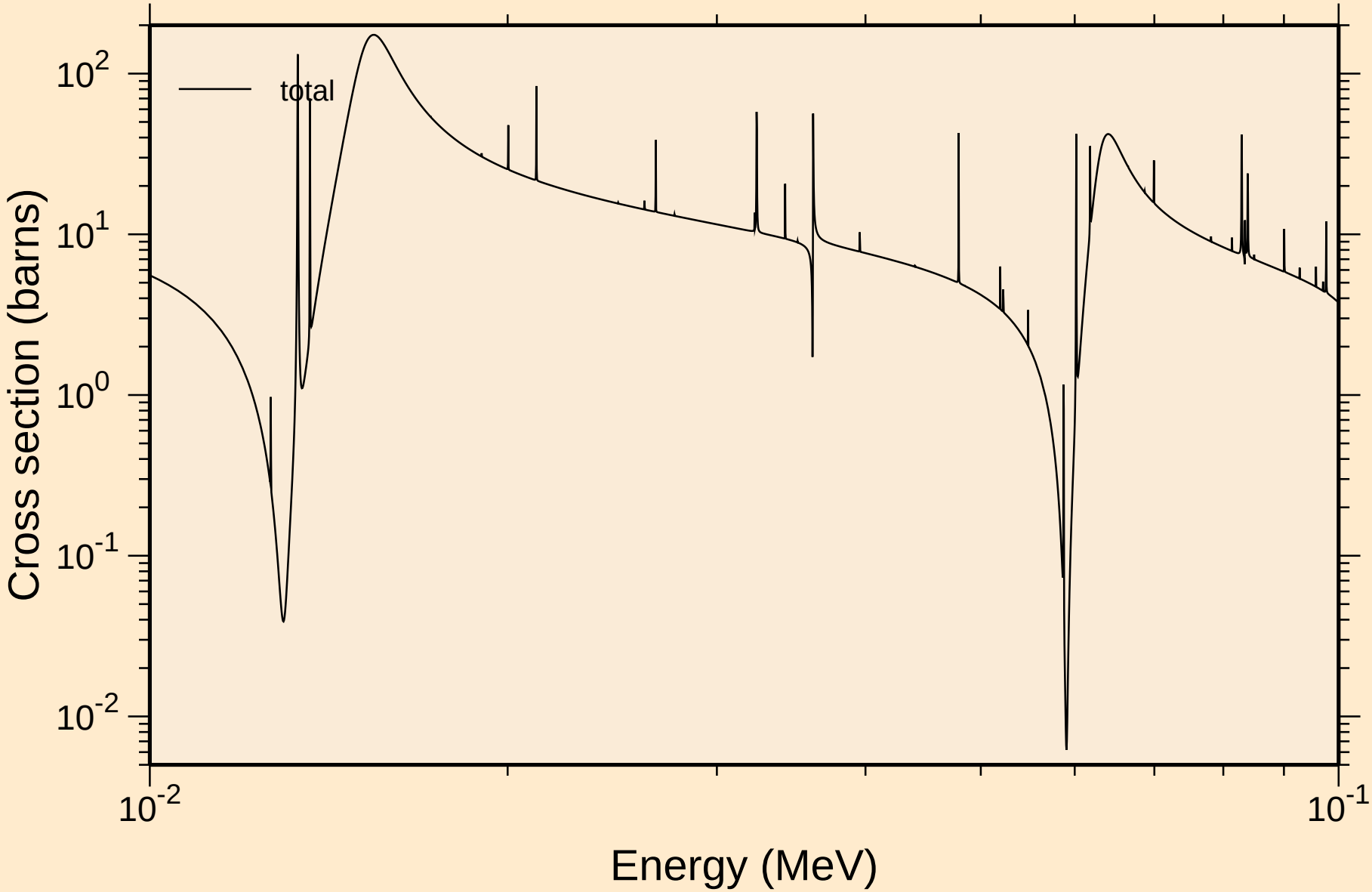

ADVANCE CALCULATIONS
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-11}
10^{-9}
10^{-7}
10^{-5}
10^{-3}
10^{-1}
10^{1}

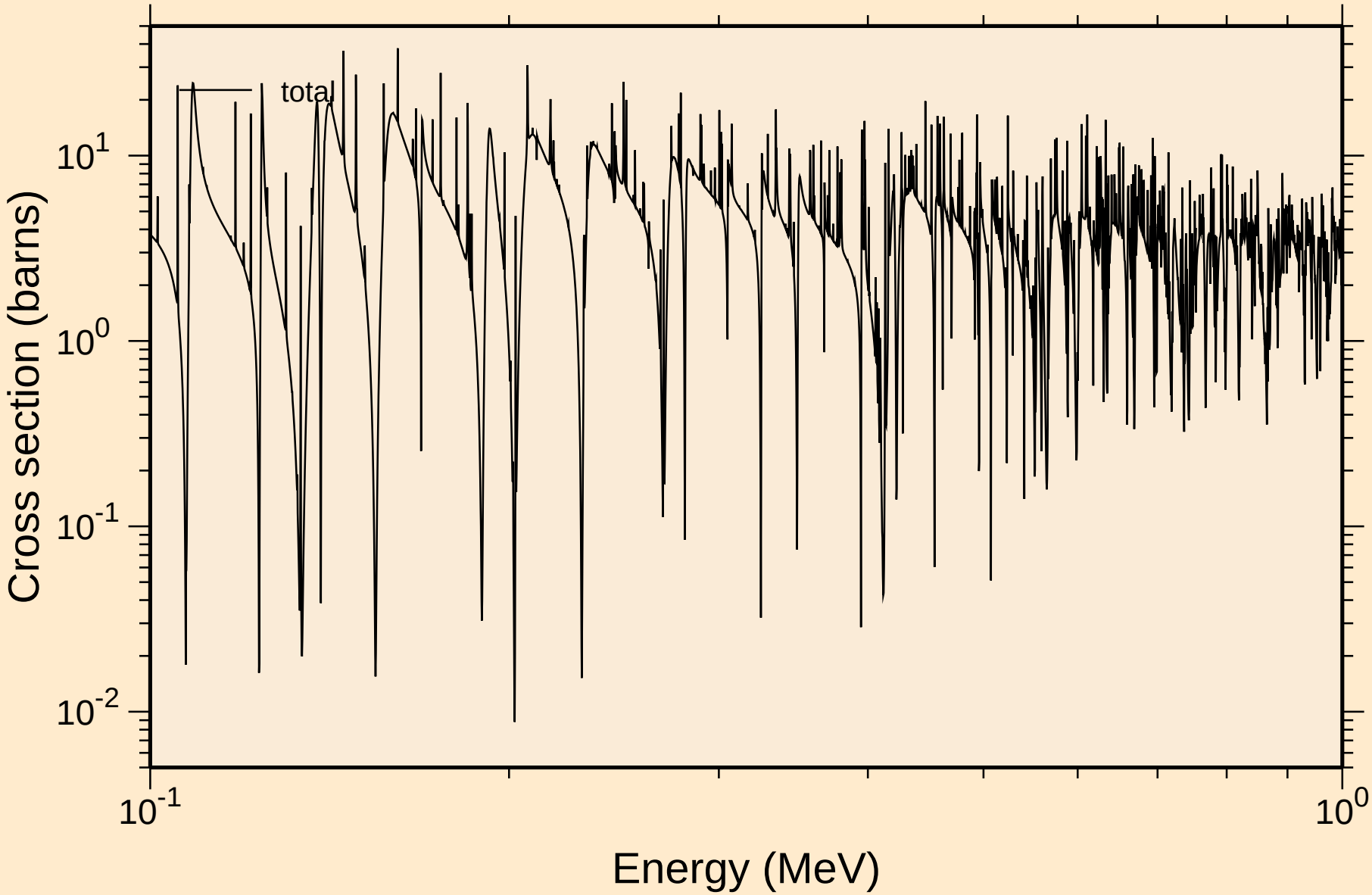
ADVANCE CALCULATIONS
resonance total cross section



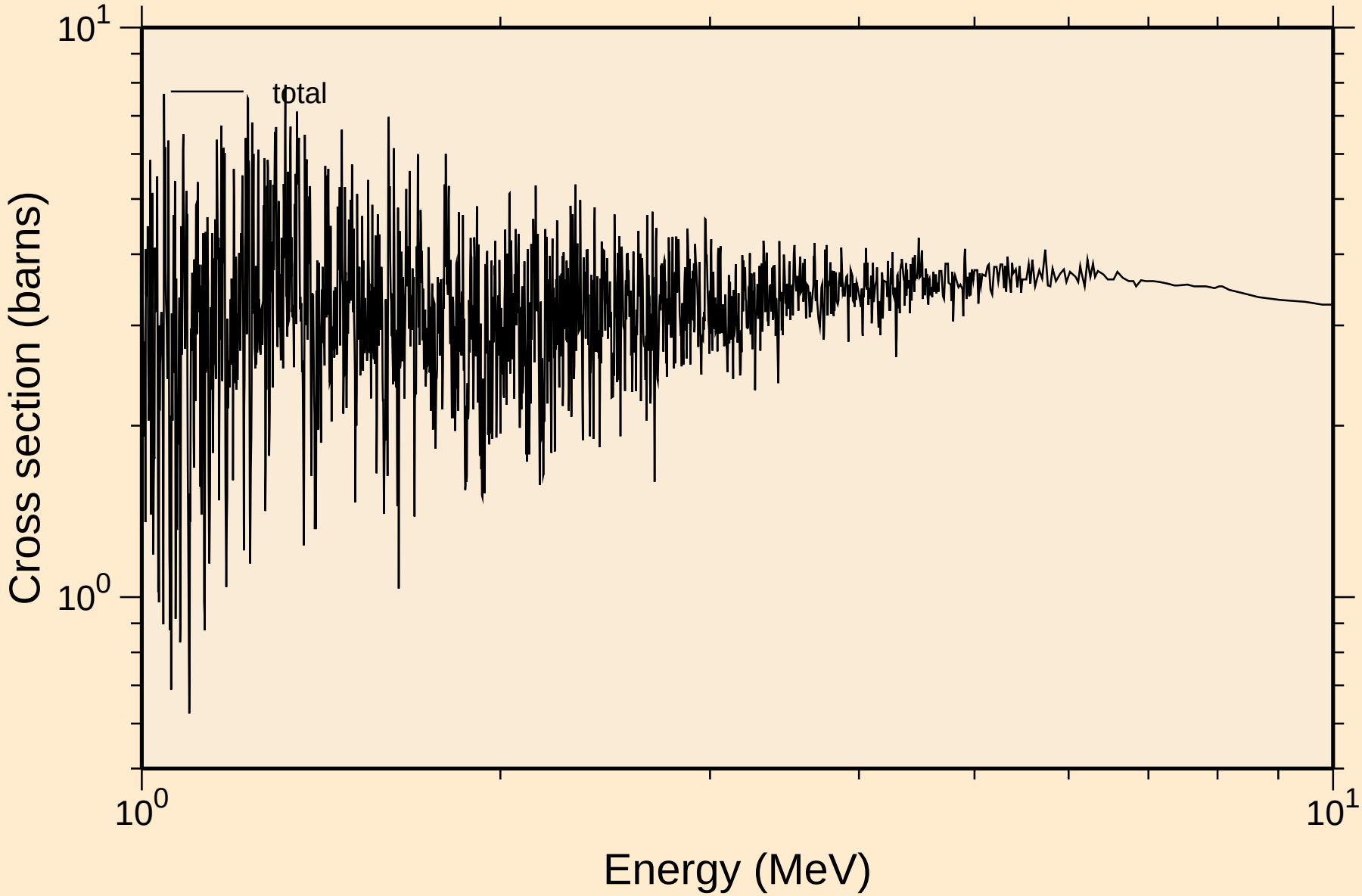
ADVANCE CALCULATIONS
resonance total cross section



ADVANCE CALCULATIONS
resonance total cross section

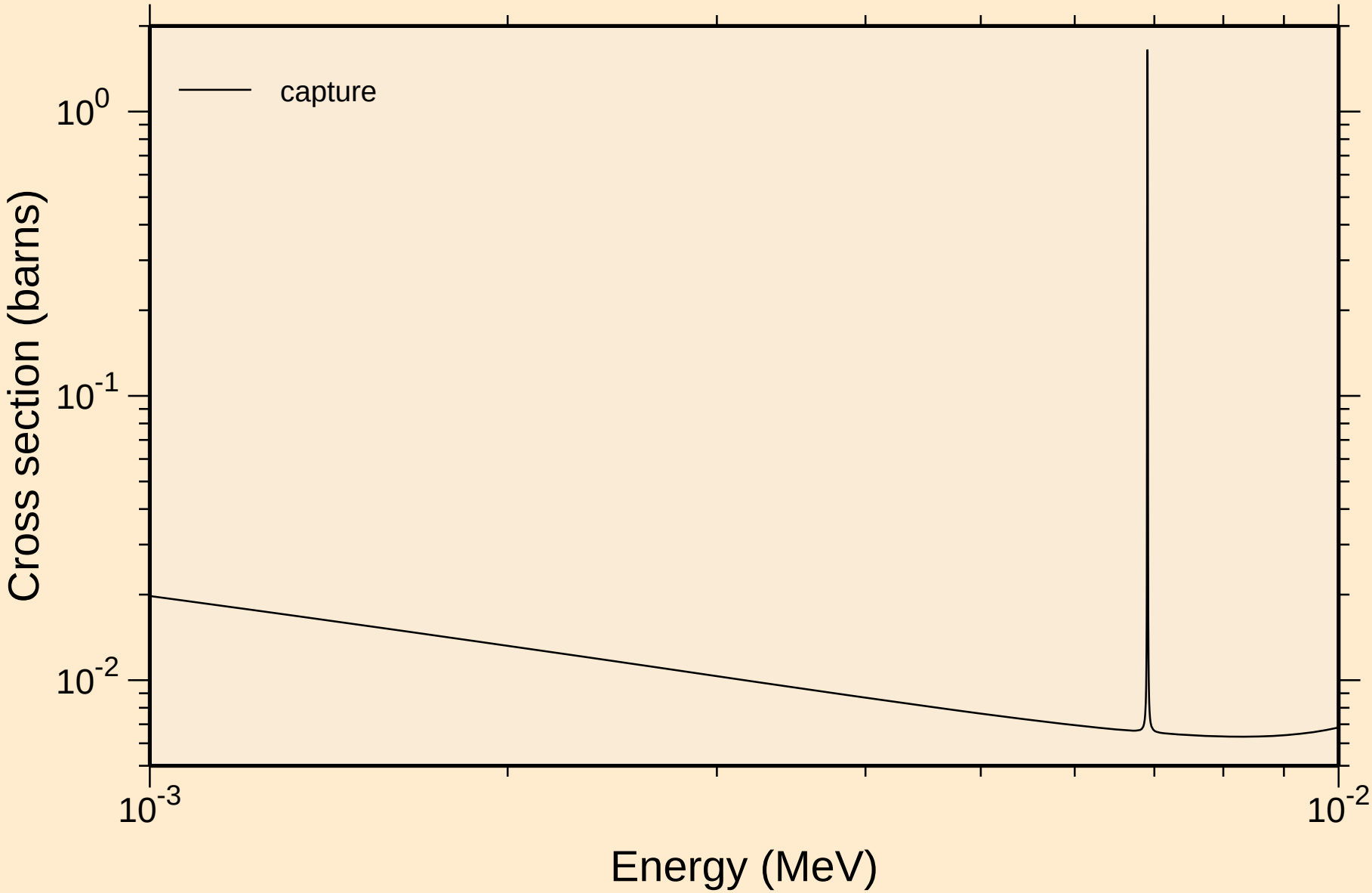


ADVANCE CALCULATIONS
resonance total cross section



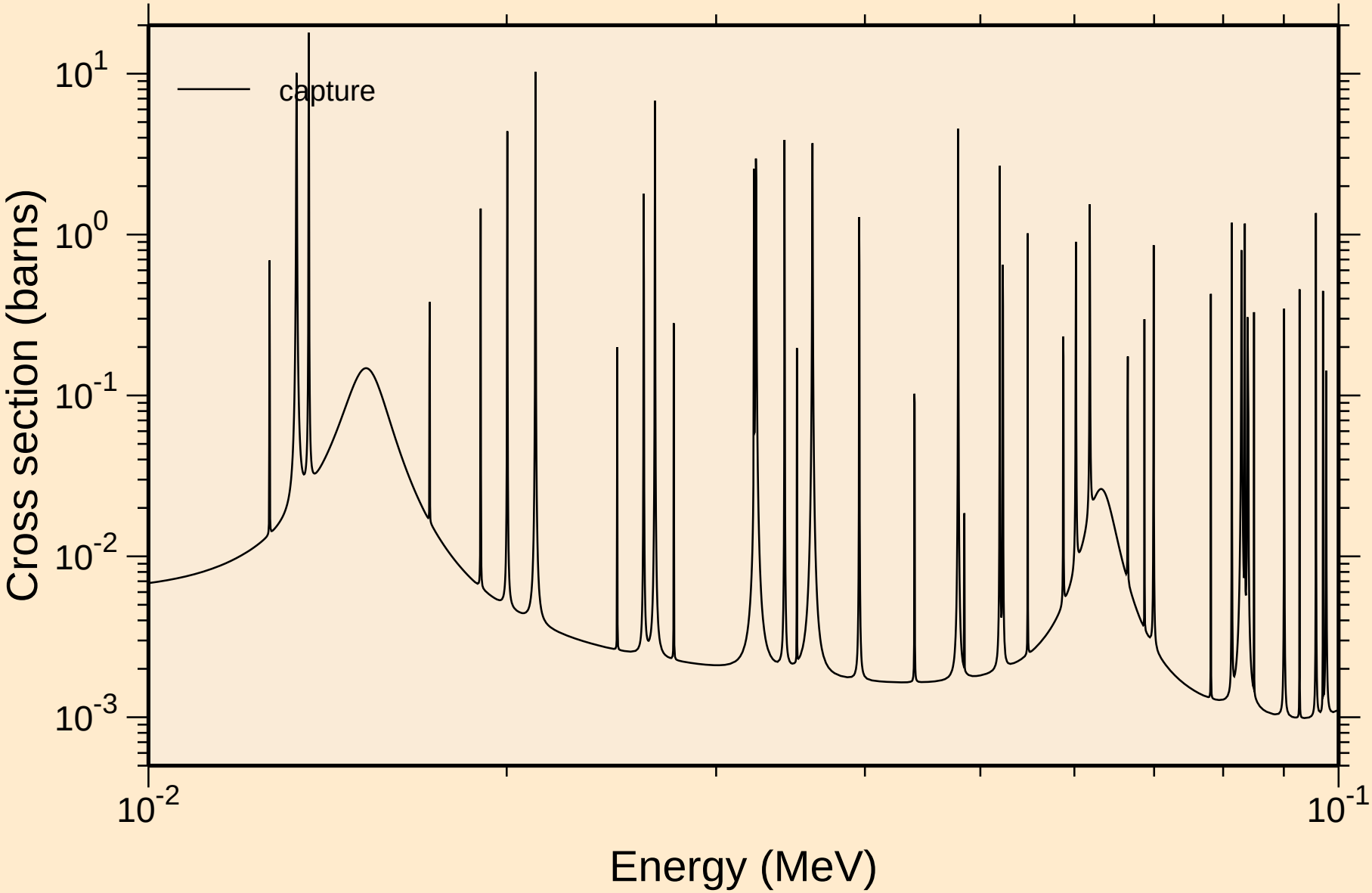
ADVANCE CALCULATIONS

resonance absorption cross sections

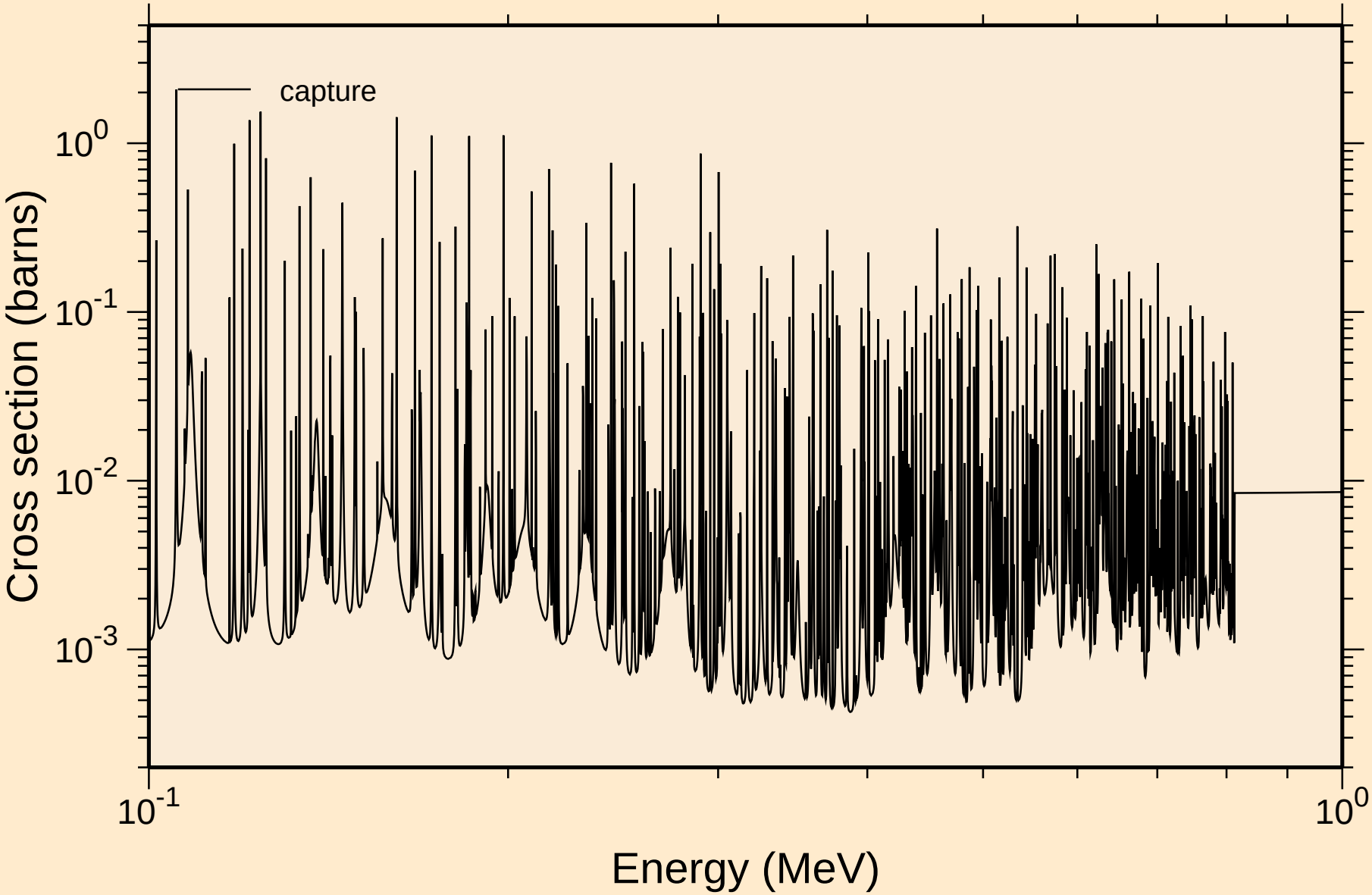


ADVANCE CALCULATIONS

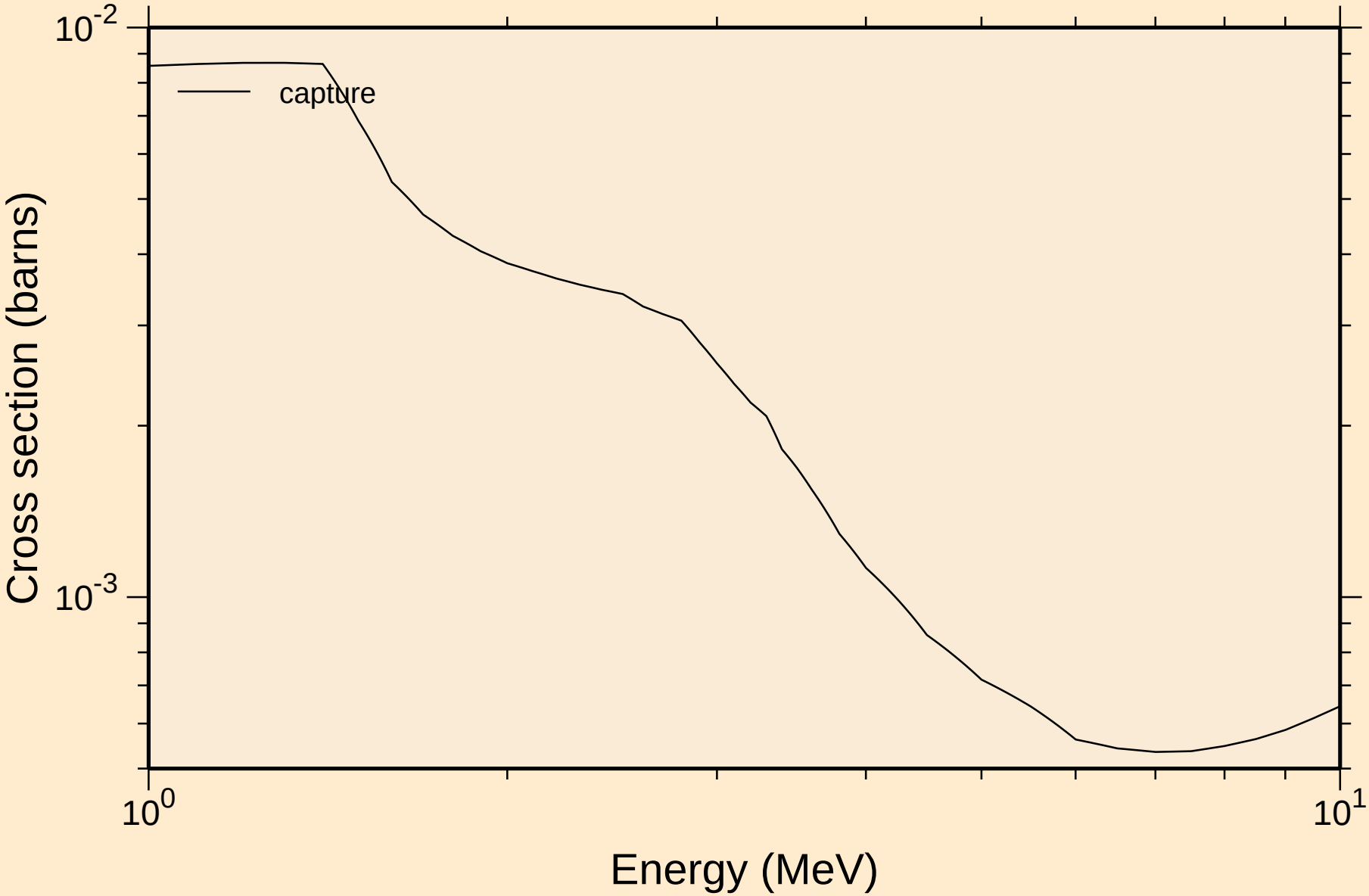
resonance absorption cross sections



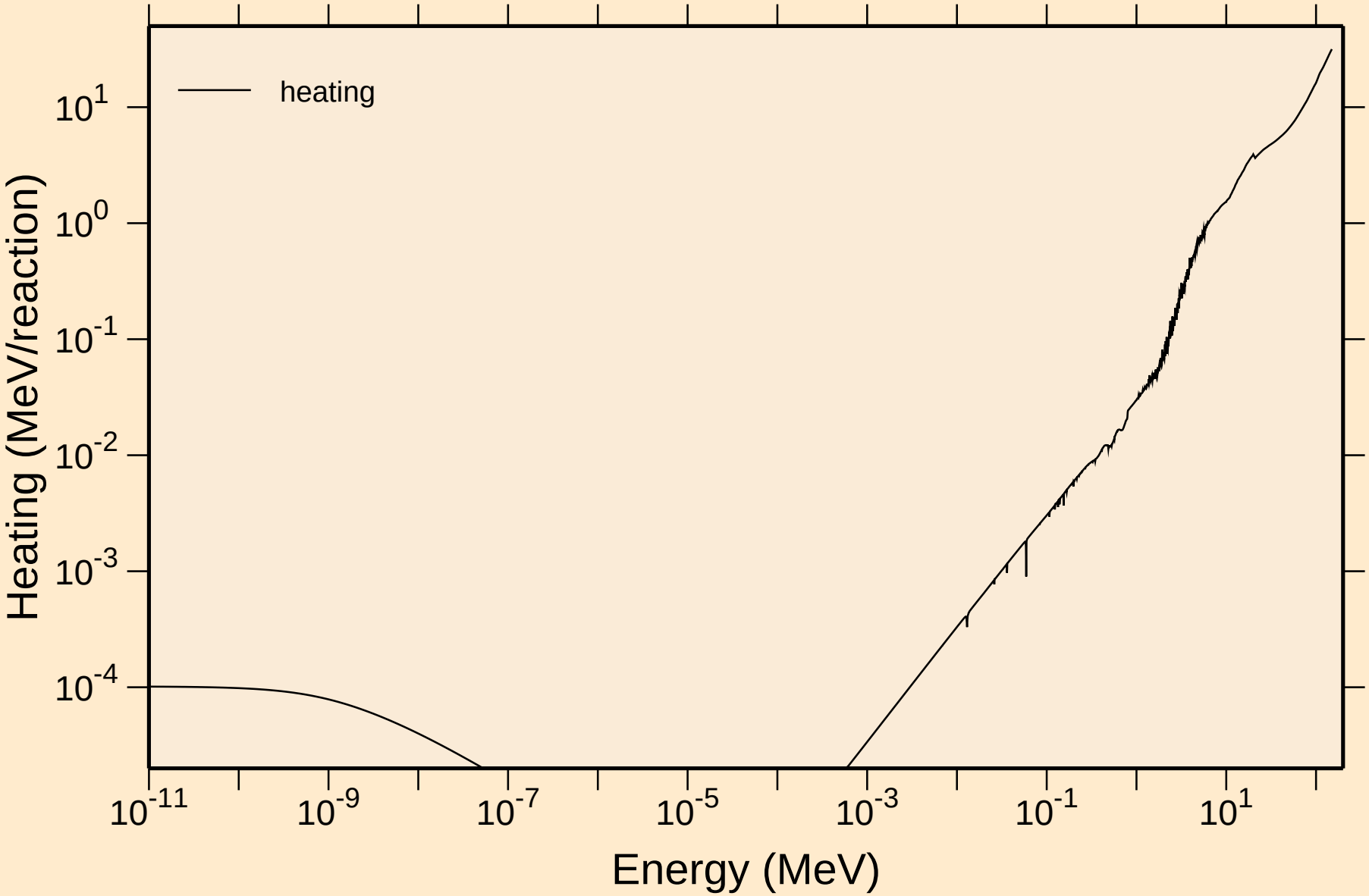
ADVANCE CALCULATIONS
resonance absorption cross sections



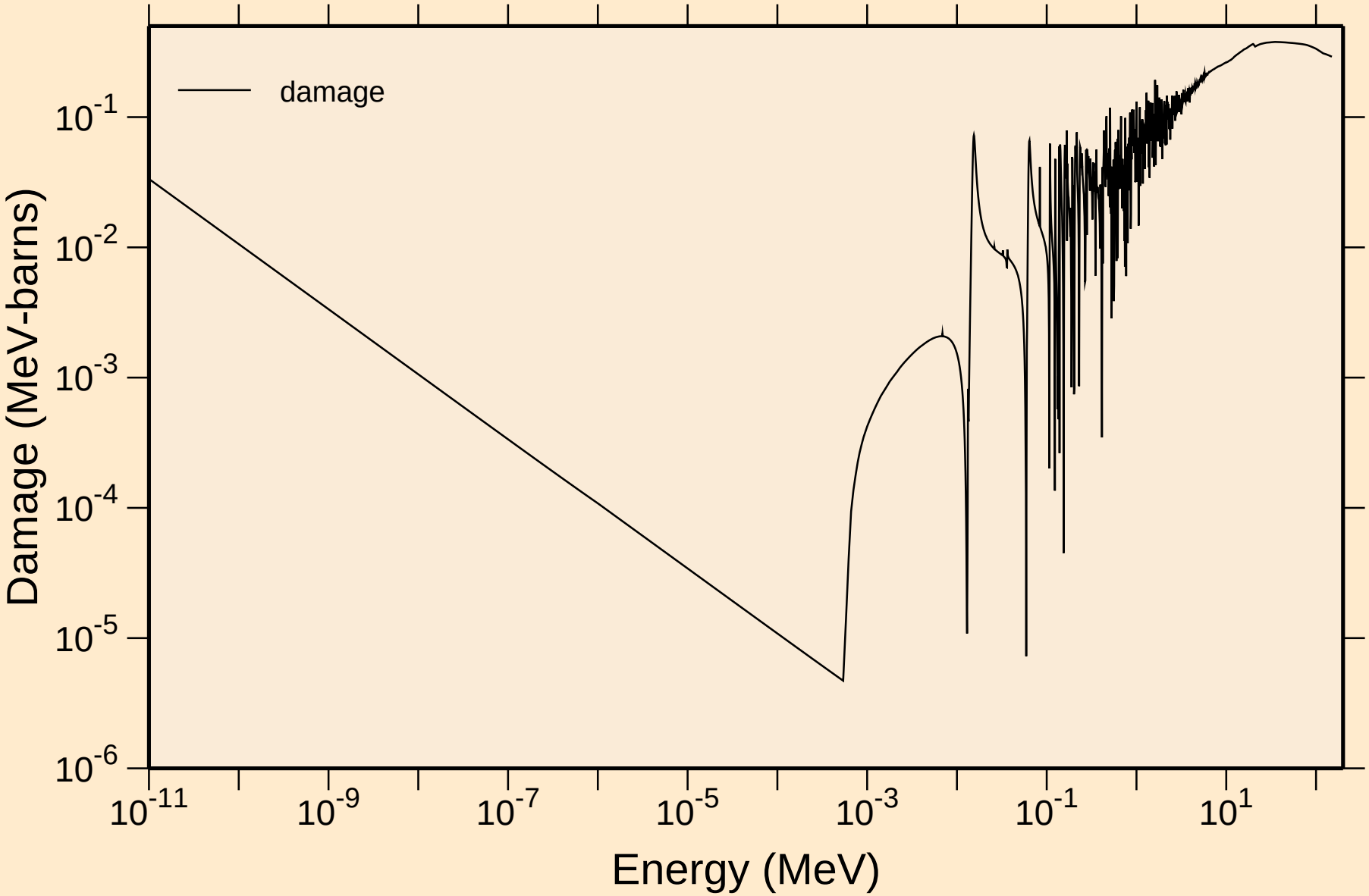
ADVANCE CALCULATIONS
resonance absorption cross sections



ADVANCE CALCULATIONS
Heating

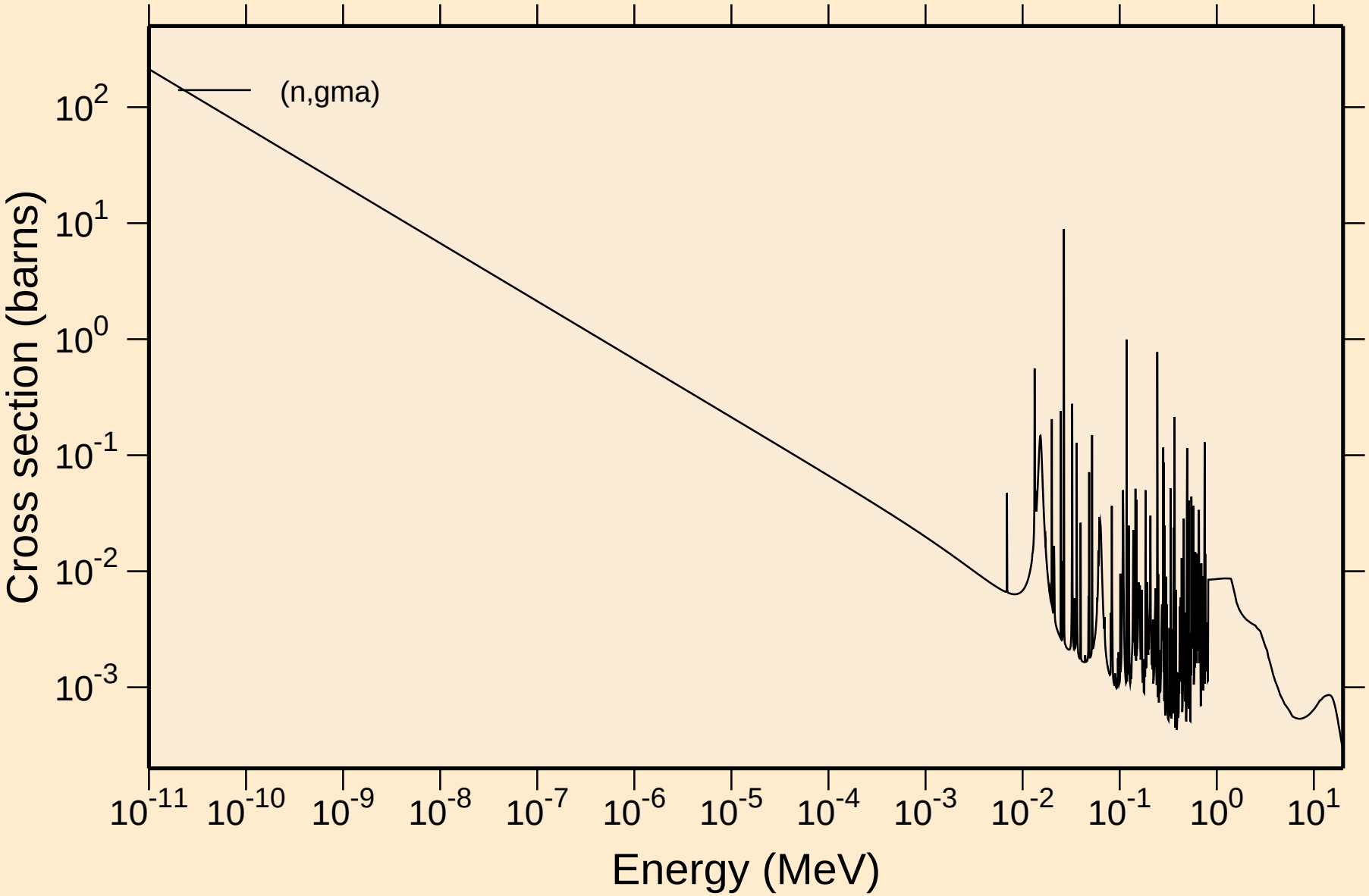


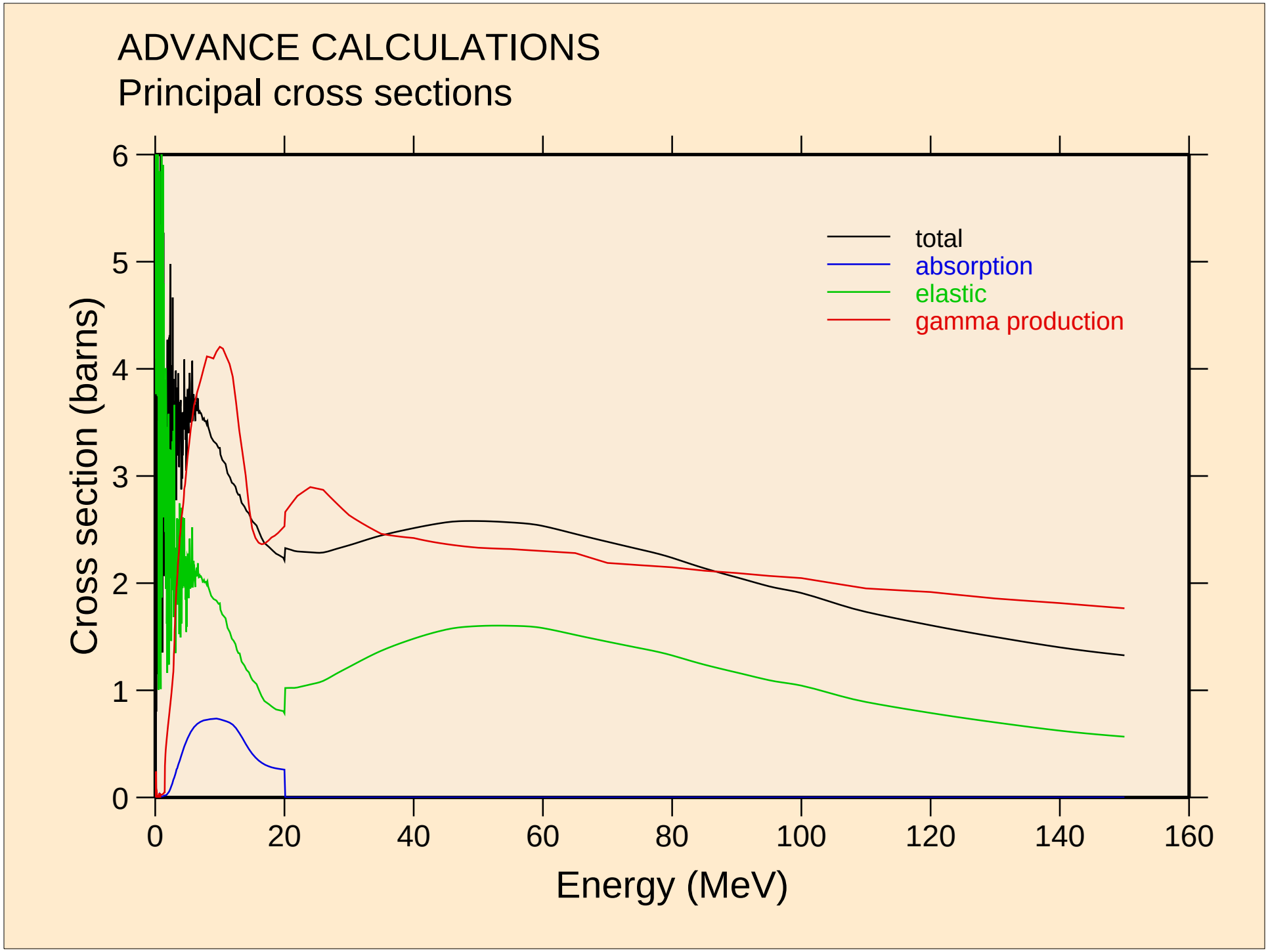
ADVANCE CALCULATIONS
Damage



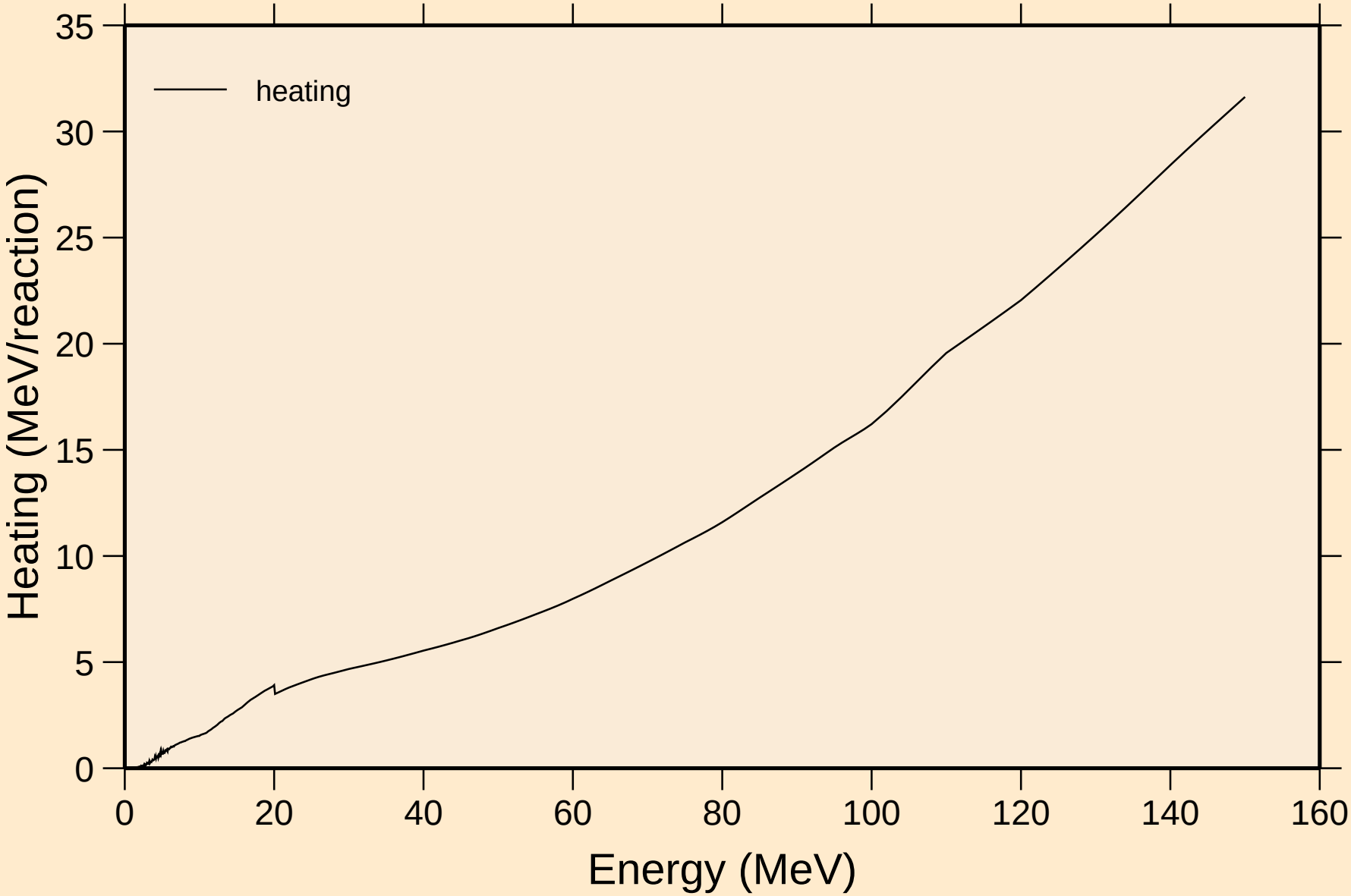
ADVANCE CALCULATIONS

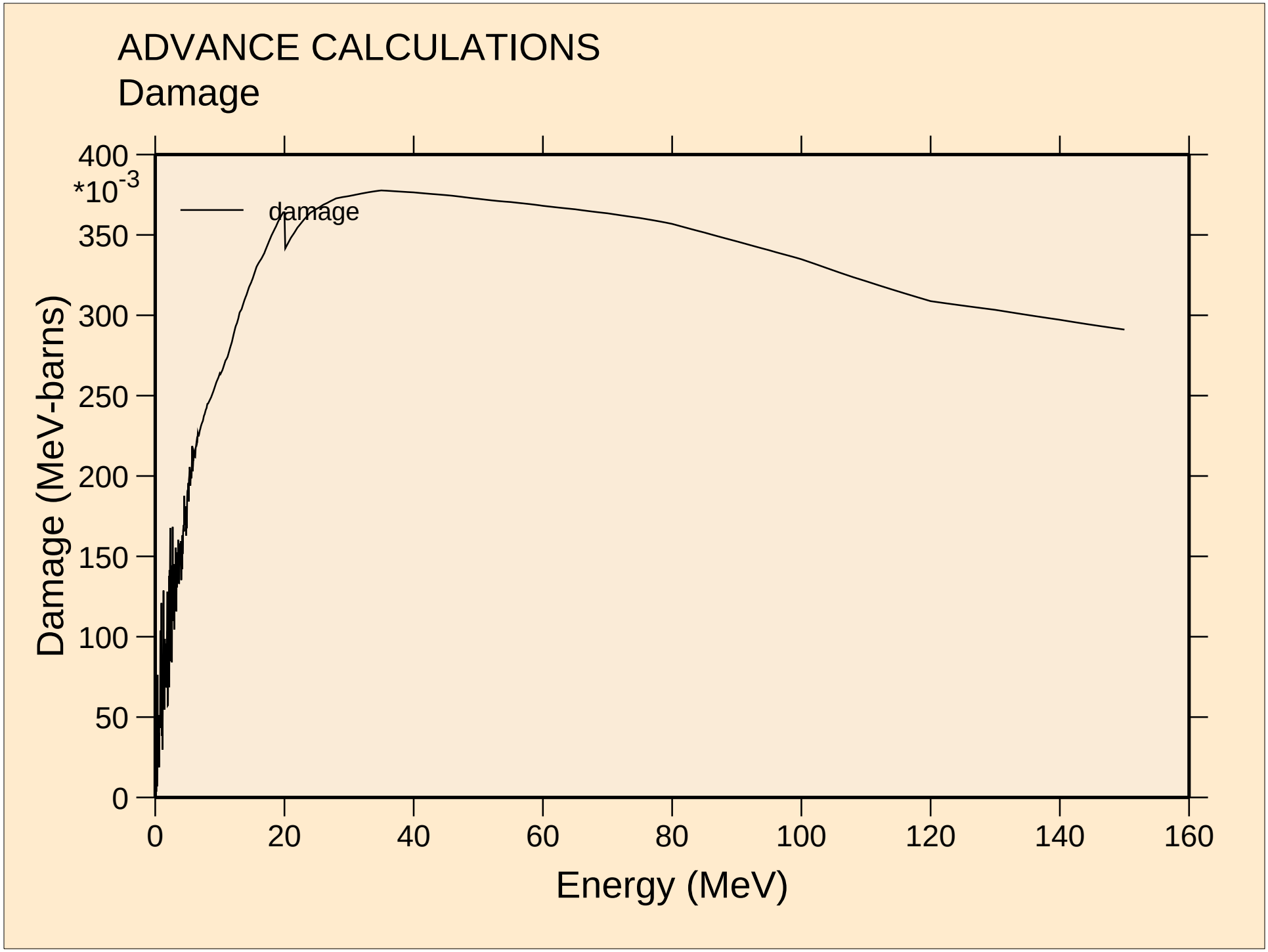
Non-threshold reactions




ADVANCE CALCULATIONS
Principal cross sections
total
absorption
elastic
gamma production
Cross section (barns)
Energy (MeV)
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160

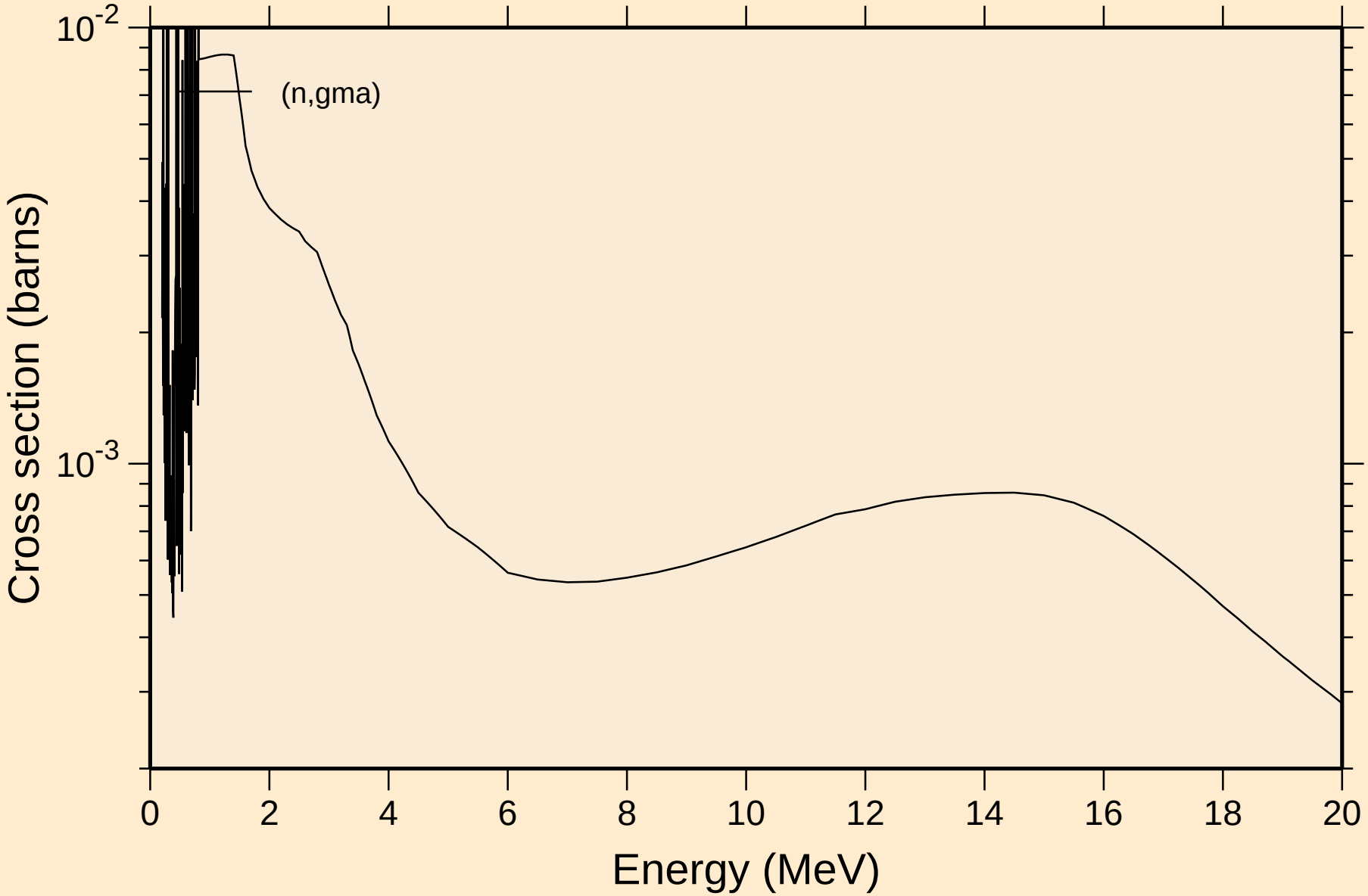
ADVANCE CALCULATIONS
Heating

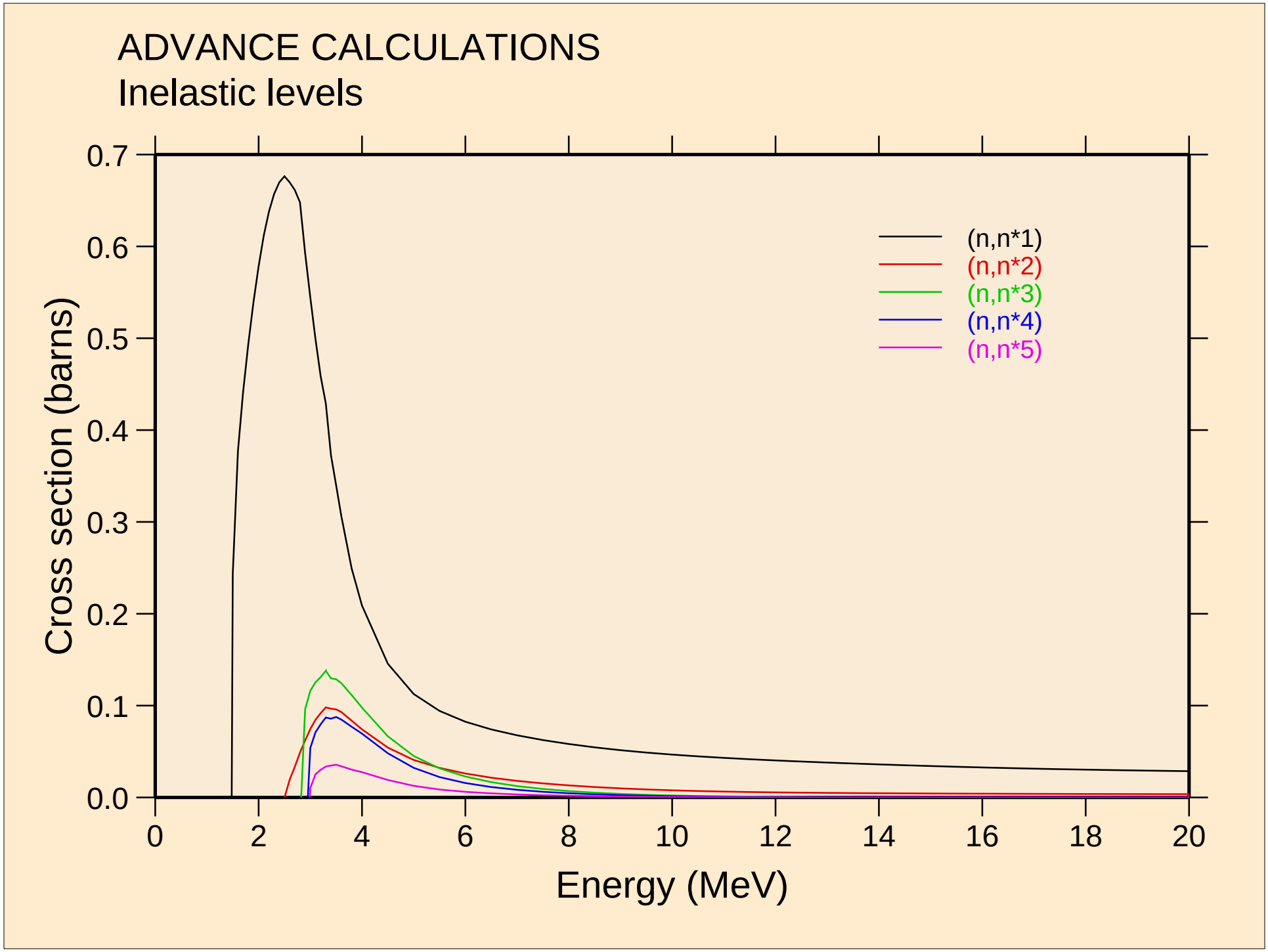



ADVANCE CALCULATIONS
Damage
damage
Damage (MeV-barns)
*10-3
400
350
300
250
200
150
100
50
0
0
20
40
60
80
100
120
140
160
Energy (MeV)

ADVANCE CALCULATIONS

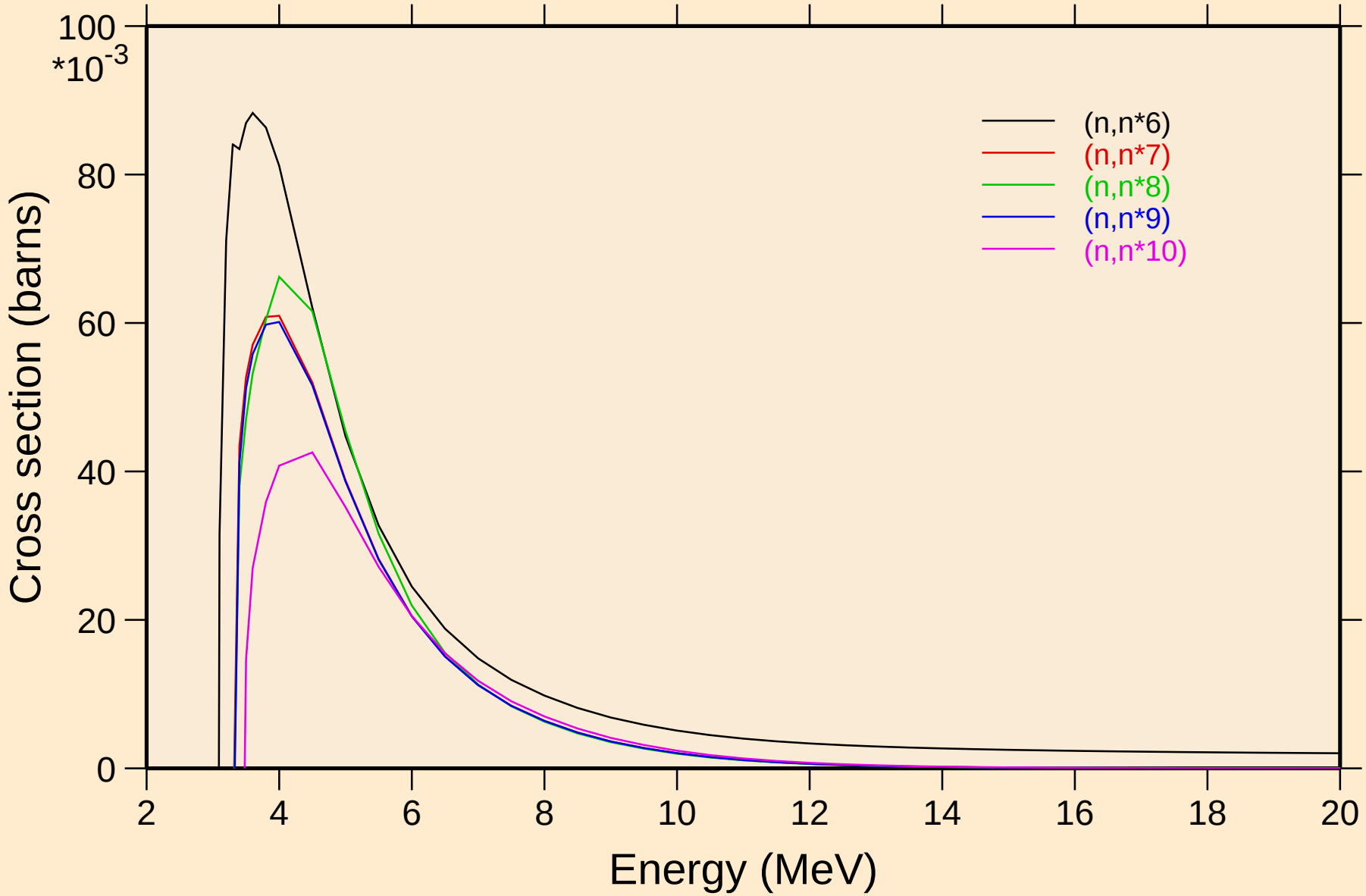
Non-threshold reactions




ADVANCE CALCULATIONS
Inelastic levels
Cross section (barns)
Energy (MeV)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
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)

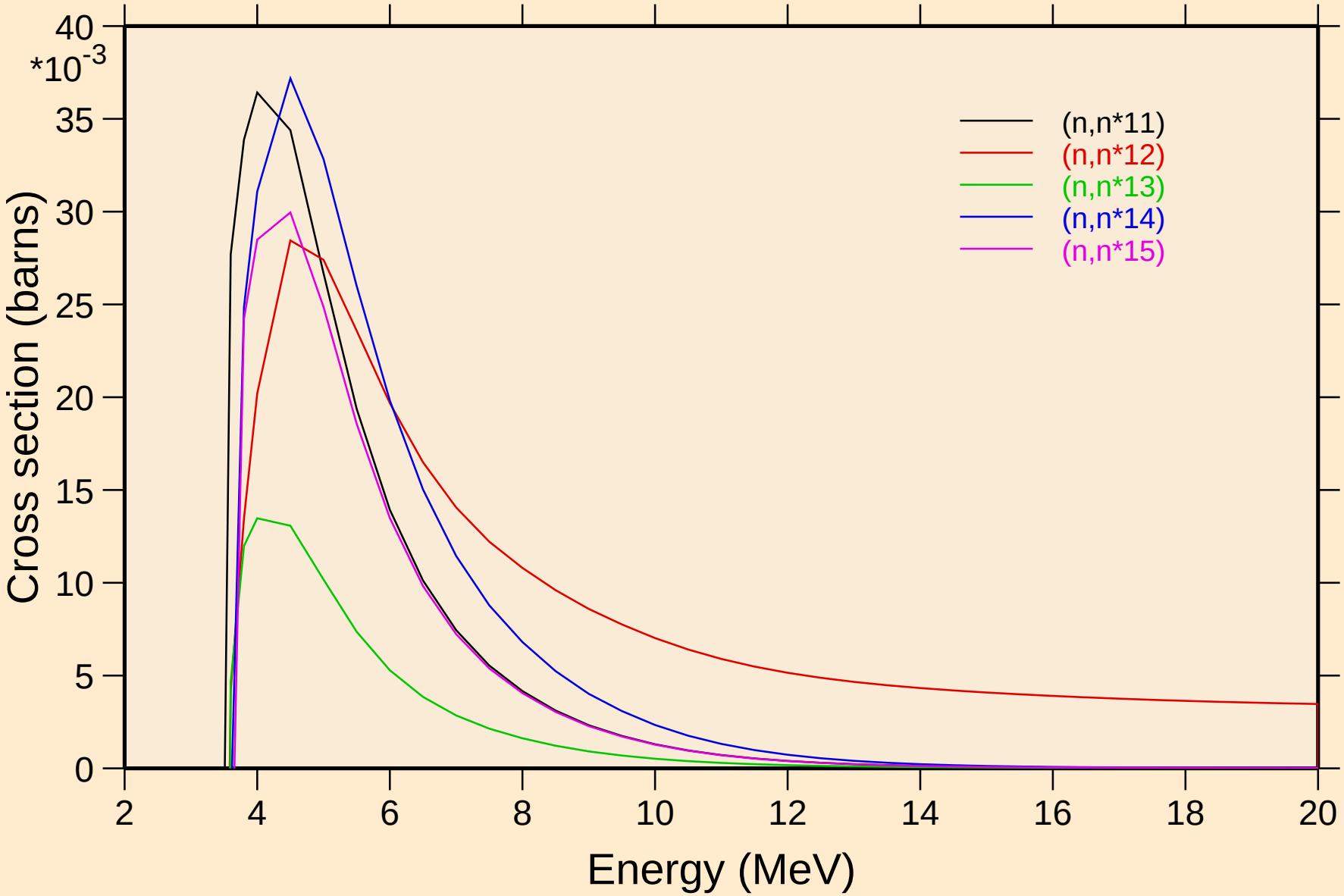
ADVANCE CALCULATIONS

Inelastic levels

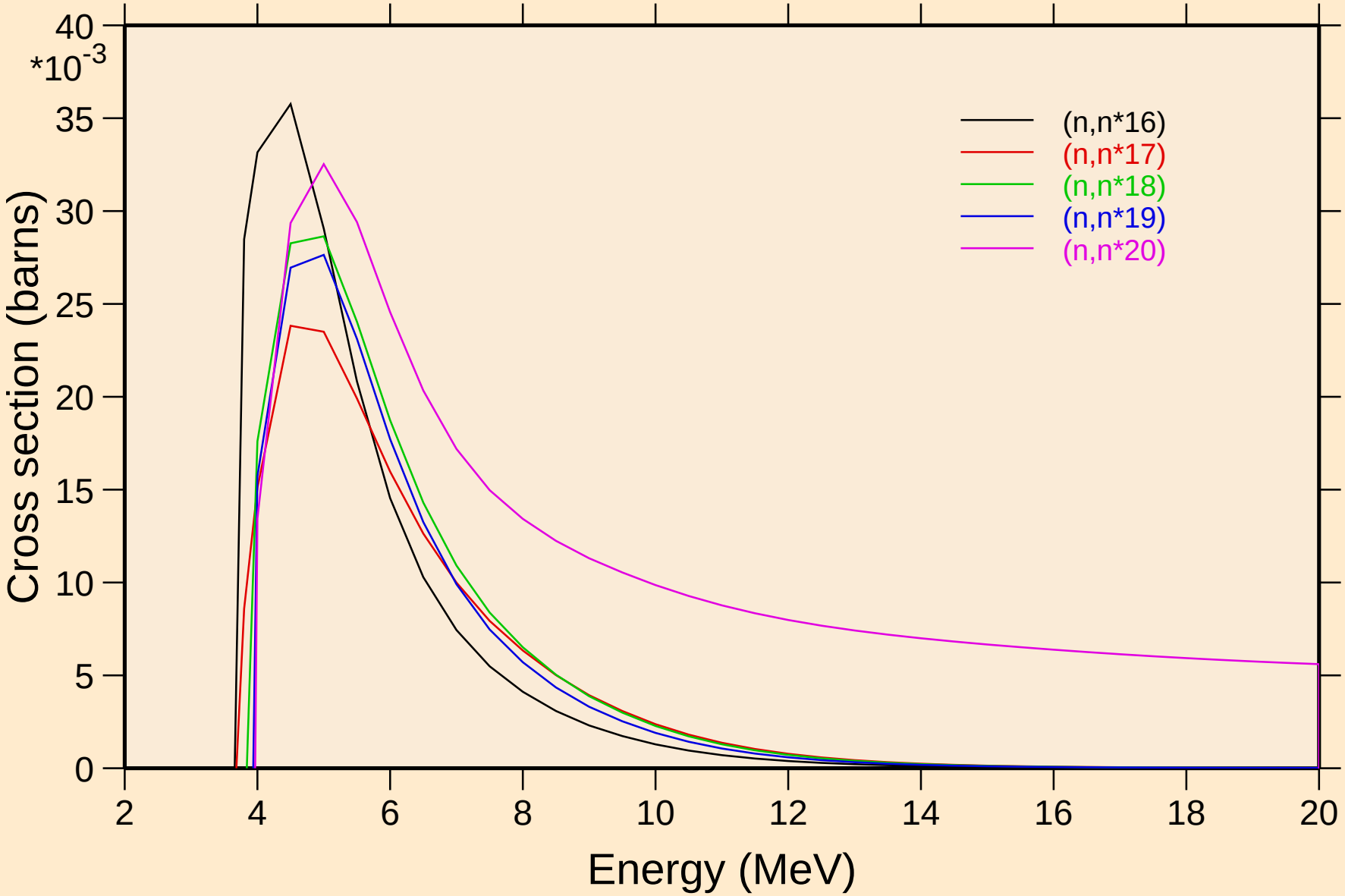


ADVANCE CALCULATIONS

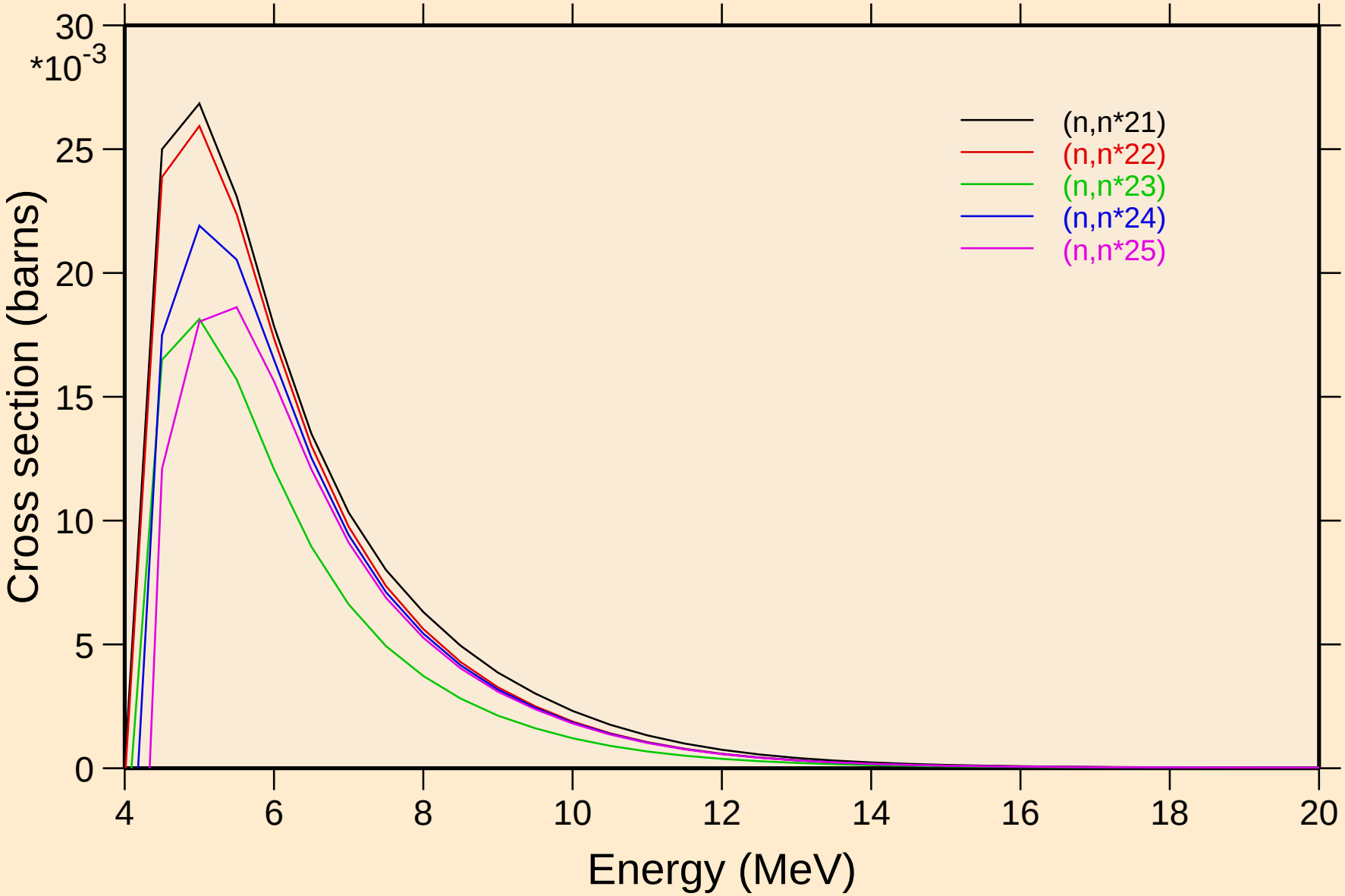
Inelastic levels



ADVANCE CALCULATIONS
Inelastic levels

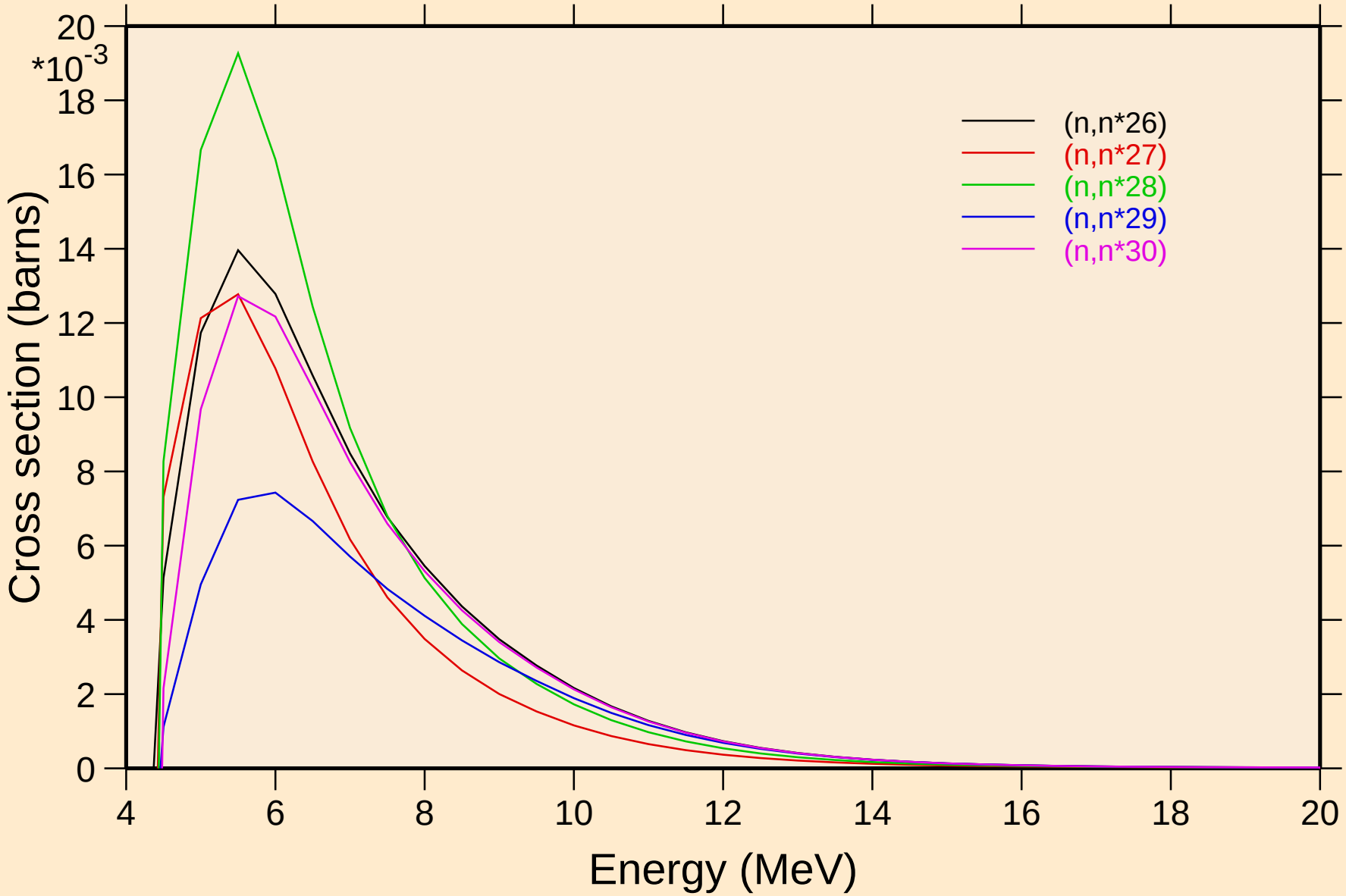


ADVANCE CALCULATIONS
Inelastic levels

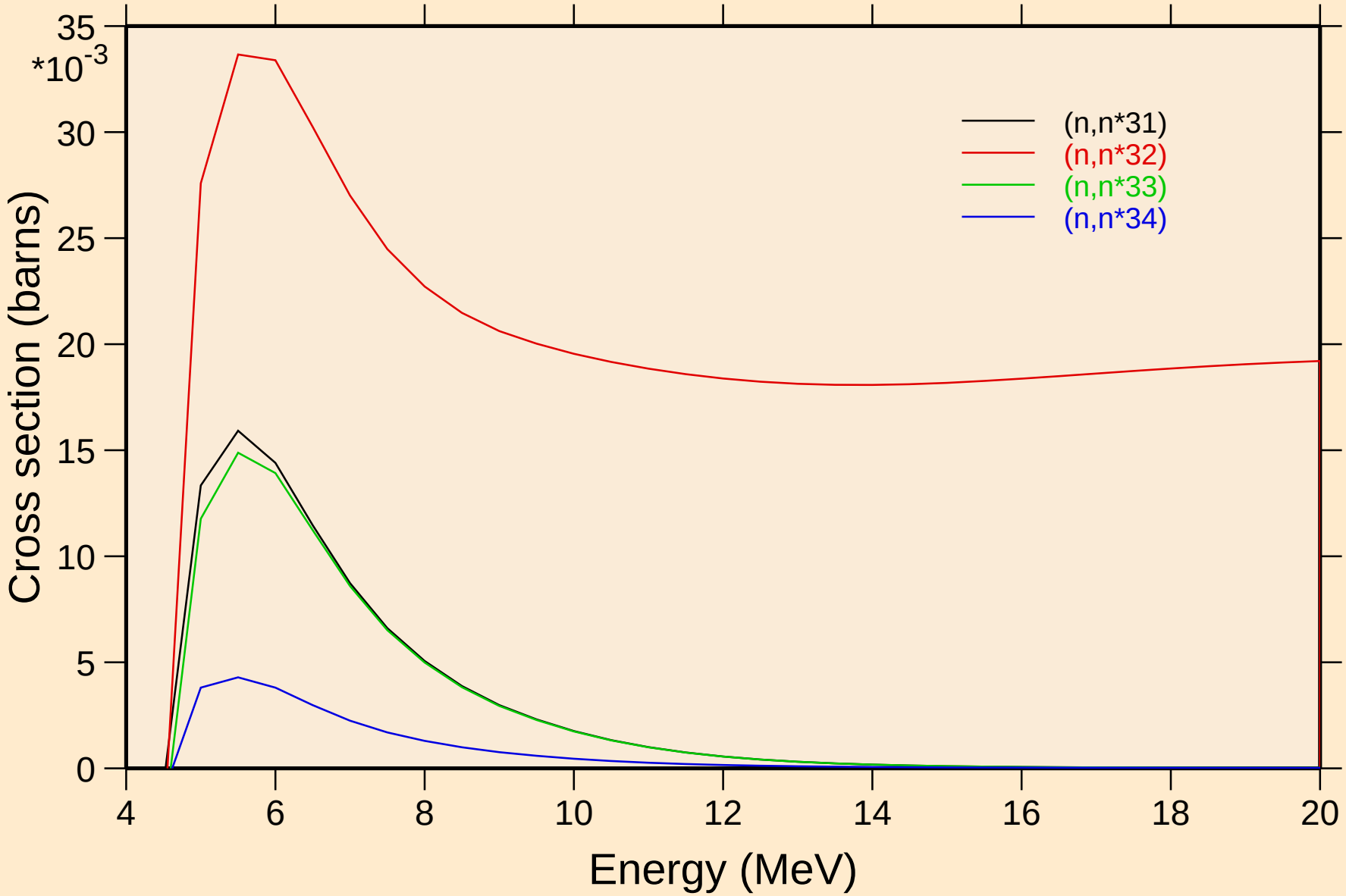


ADVANCE CALCULATIONS

Inelastic levels

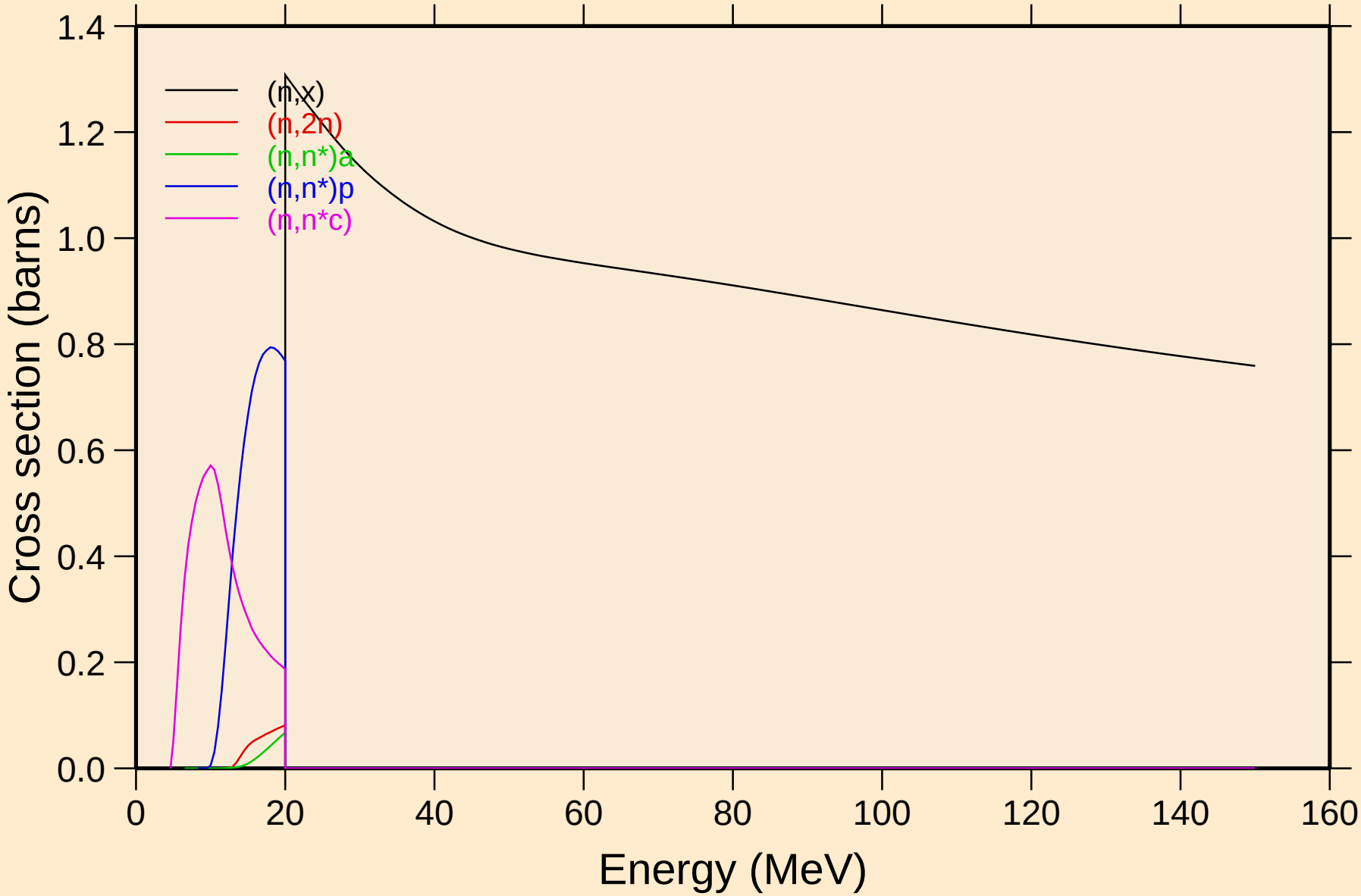


ADVANCE CALCULATIONS
Inelastic levels



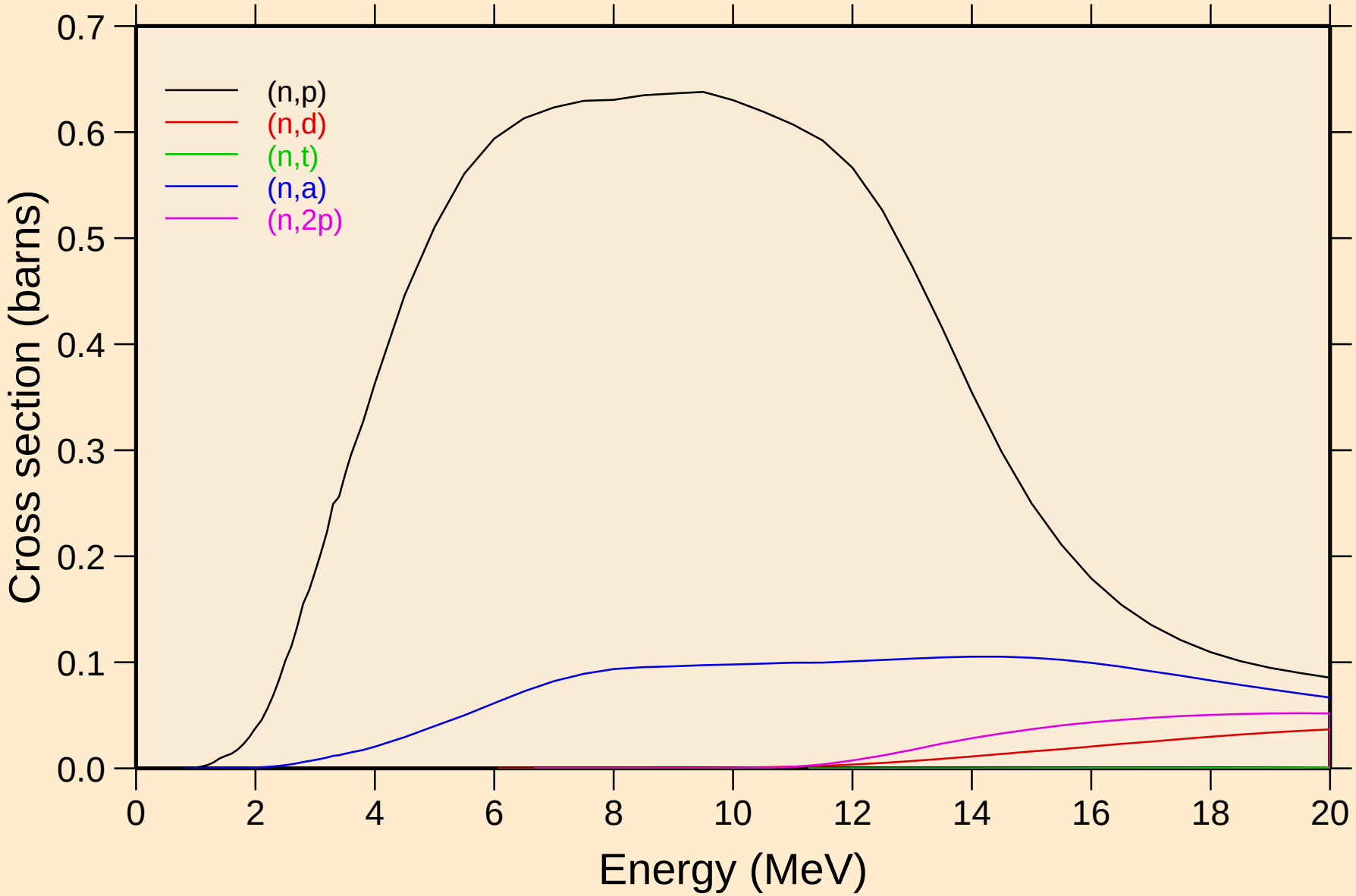
ADVANCE CALCULATIONS

Threshold reactions



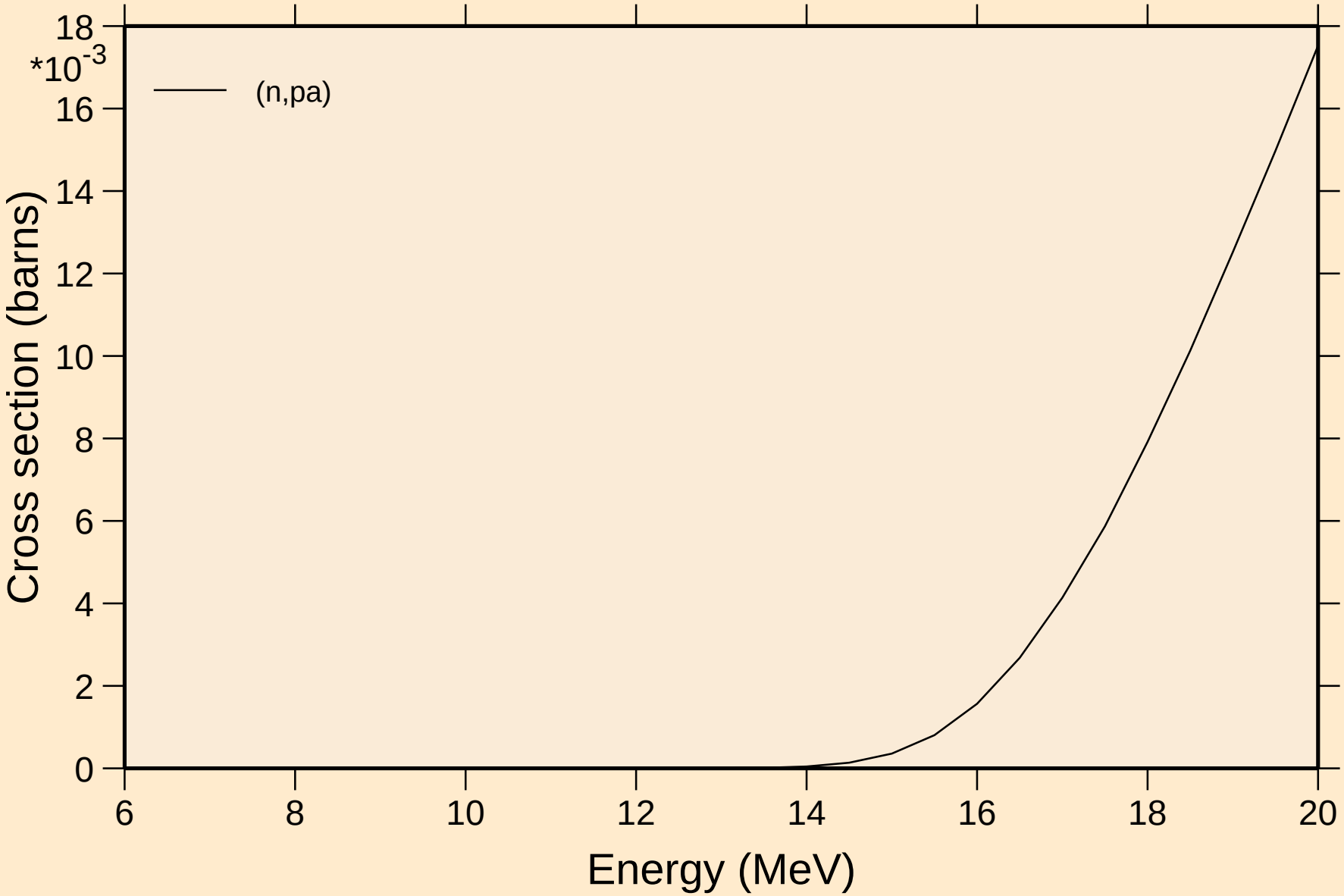
ADVANCE CALCULATIONS

Threshold reactions



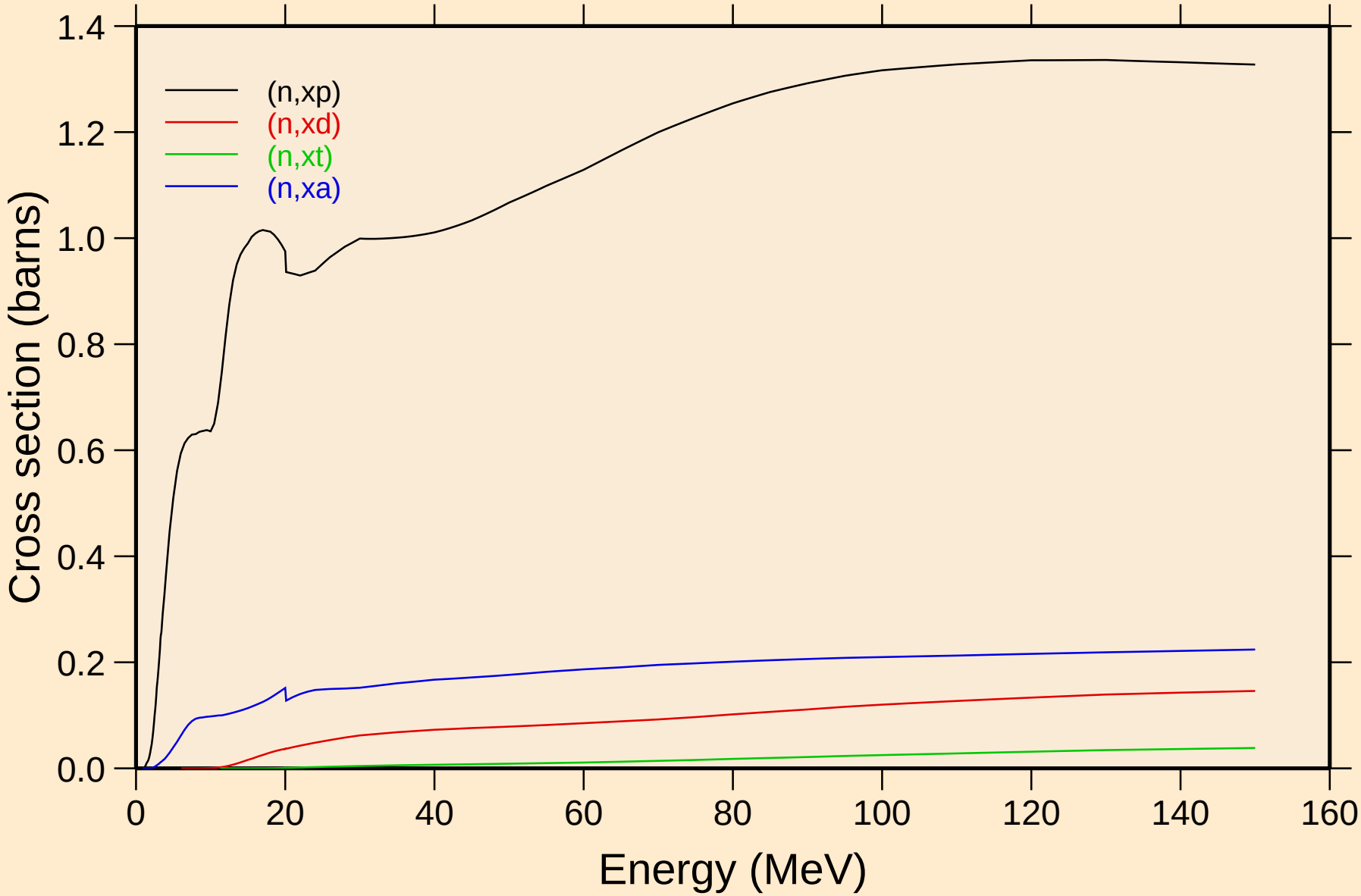
ADVANCE CALCULATIONS

Threshold reactions

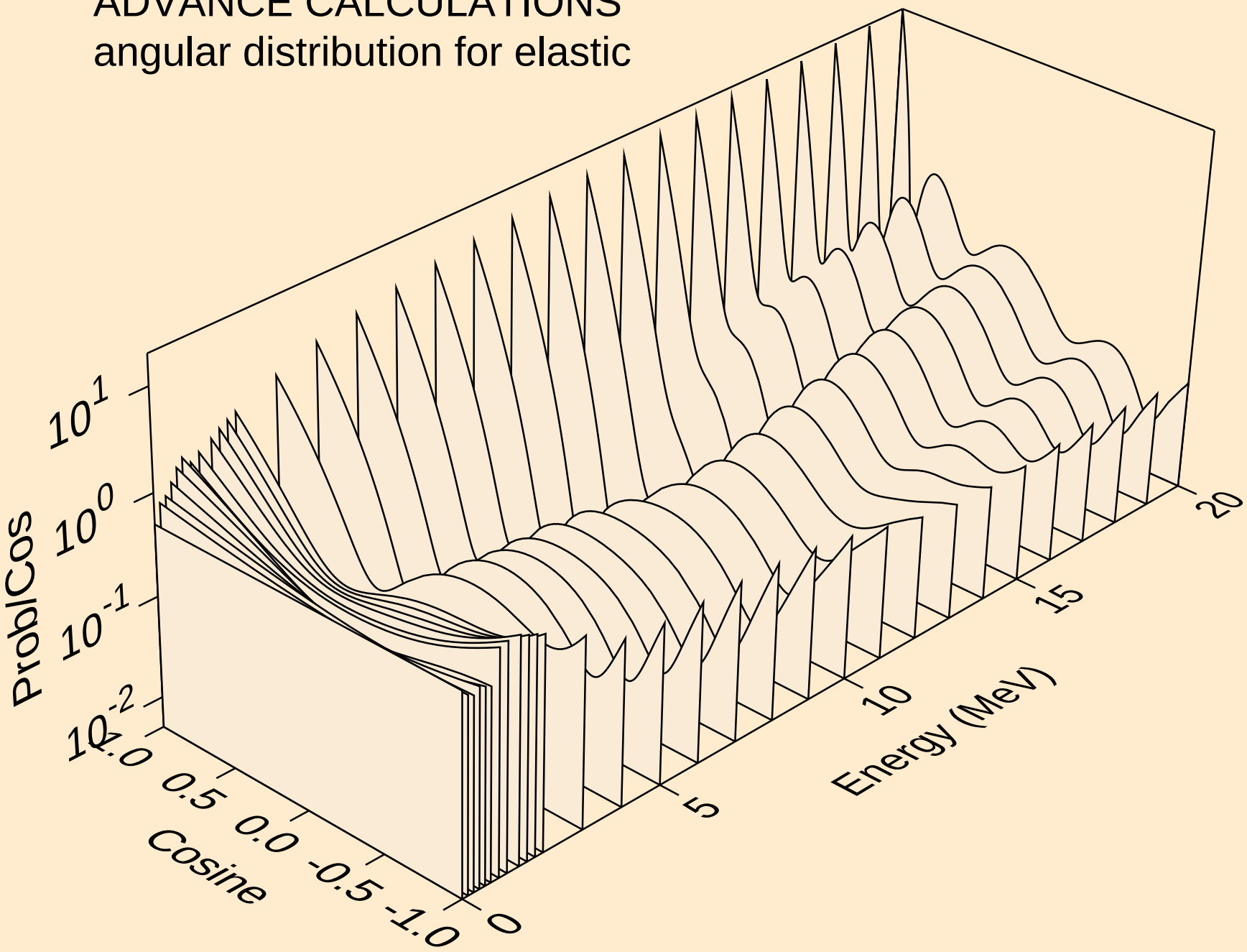


ADVANCE CALCULATIONS

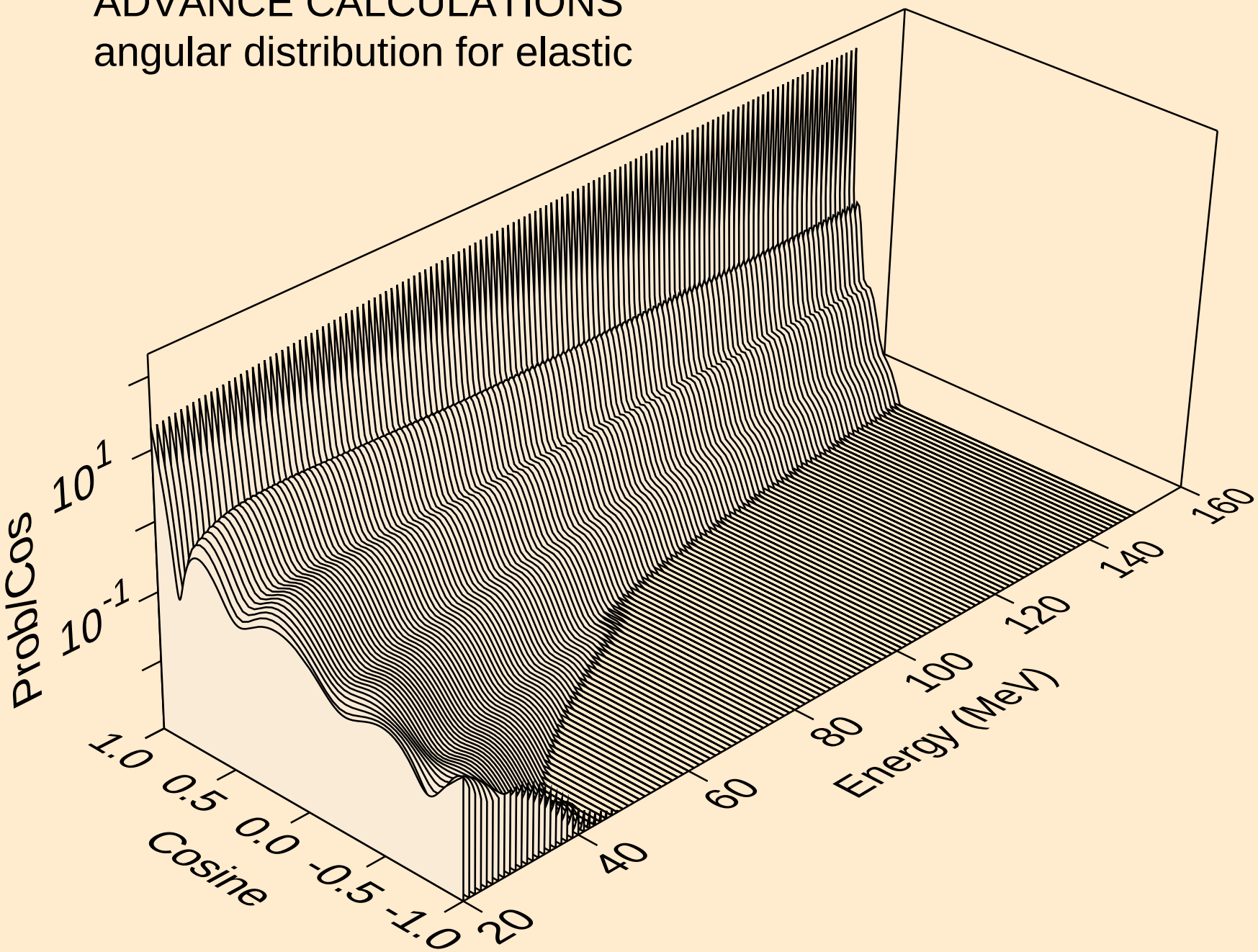
Threshold reactions



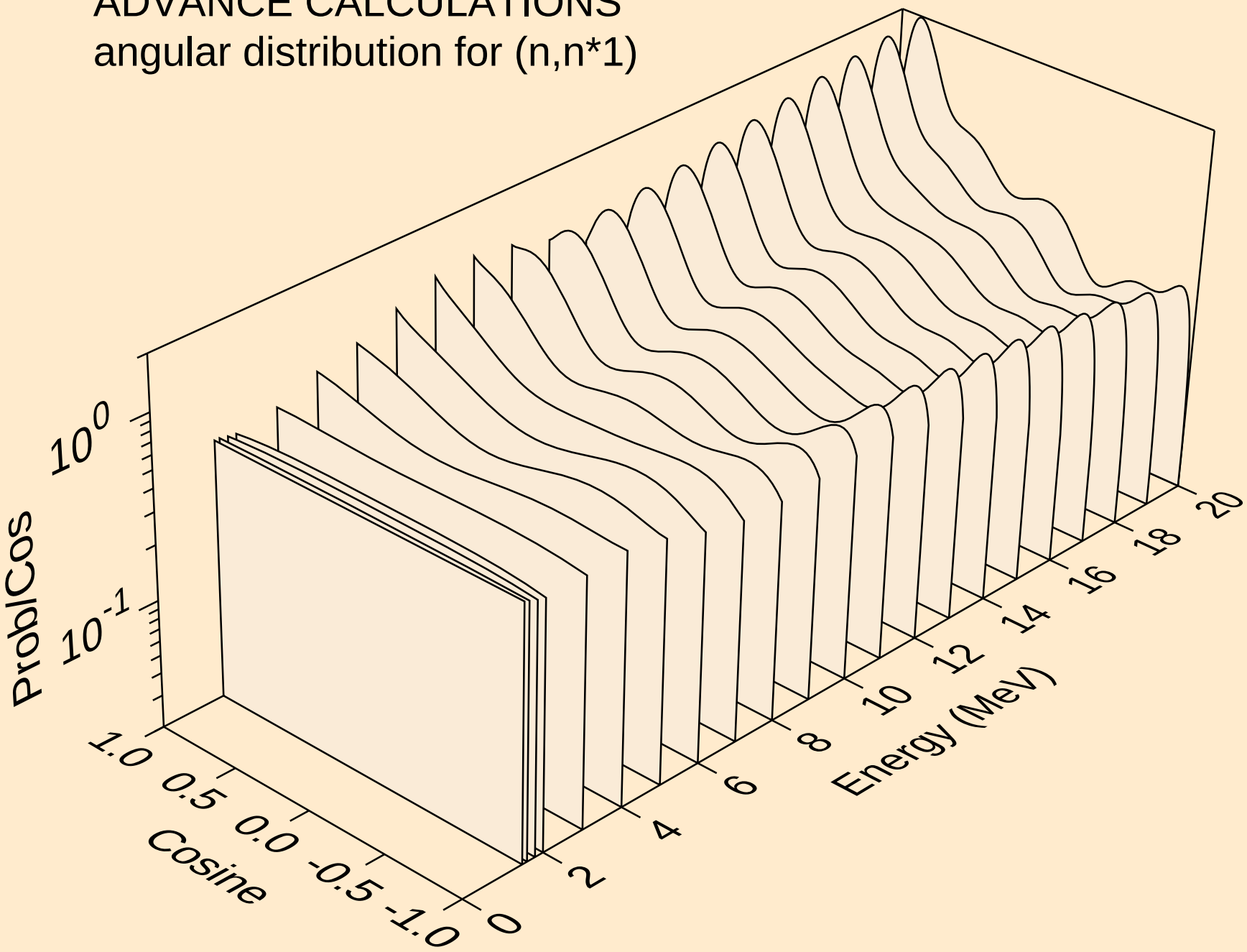
ADVANCE CALCULATIONS
angular distribution for elastic



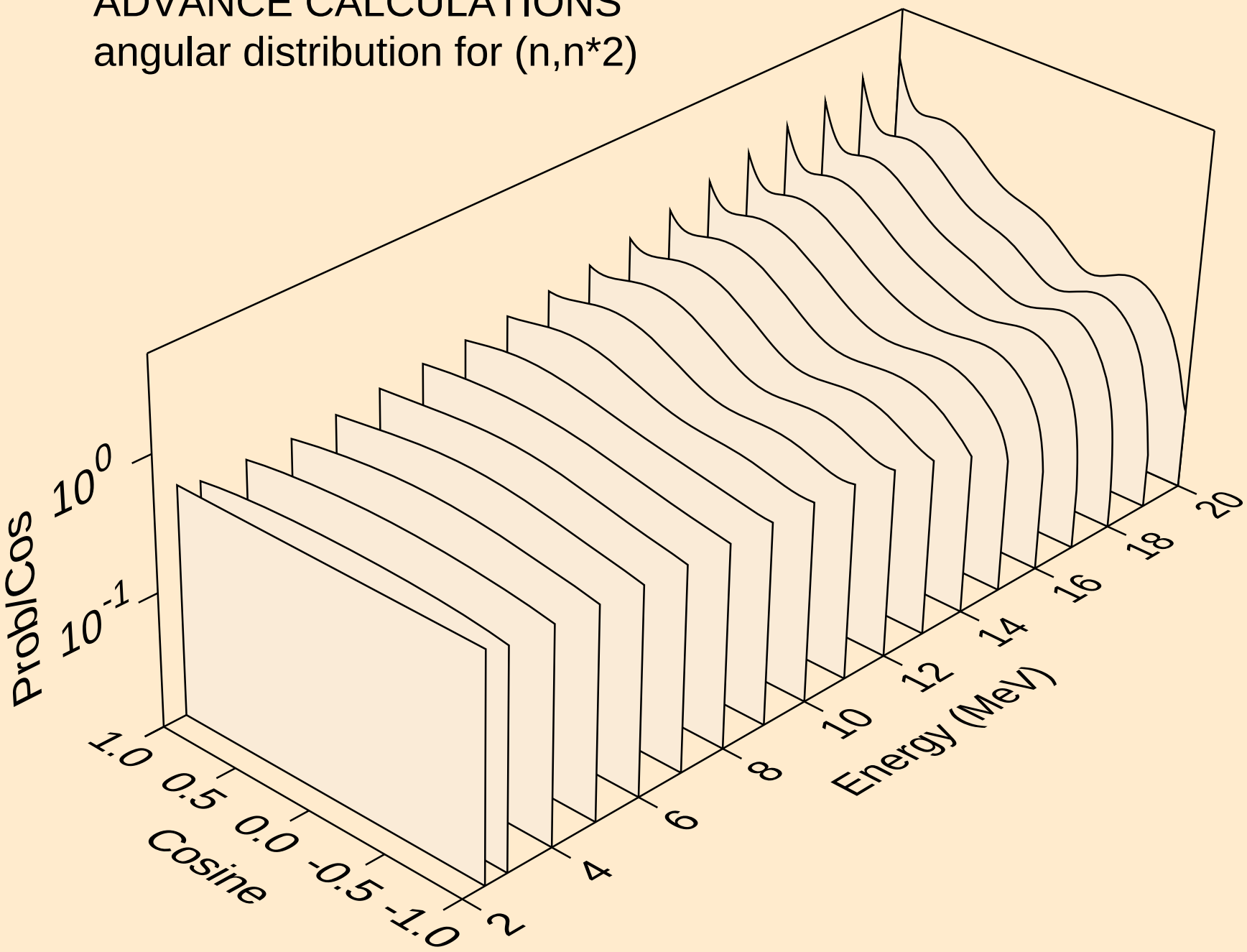
ADVANCE CALCULATIONS
angular distribution for elastic



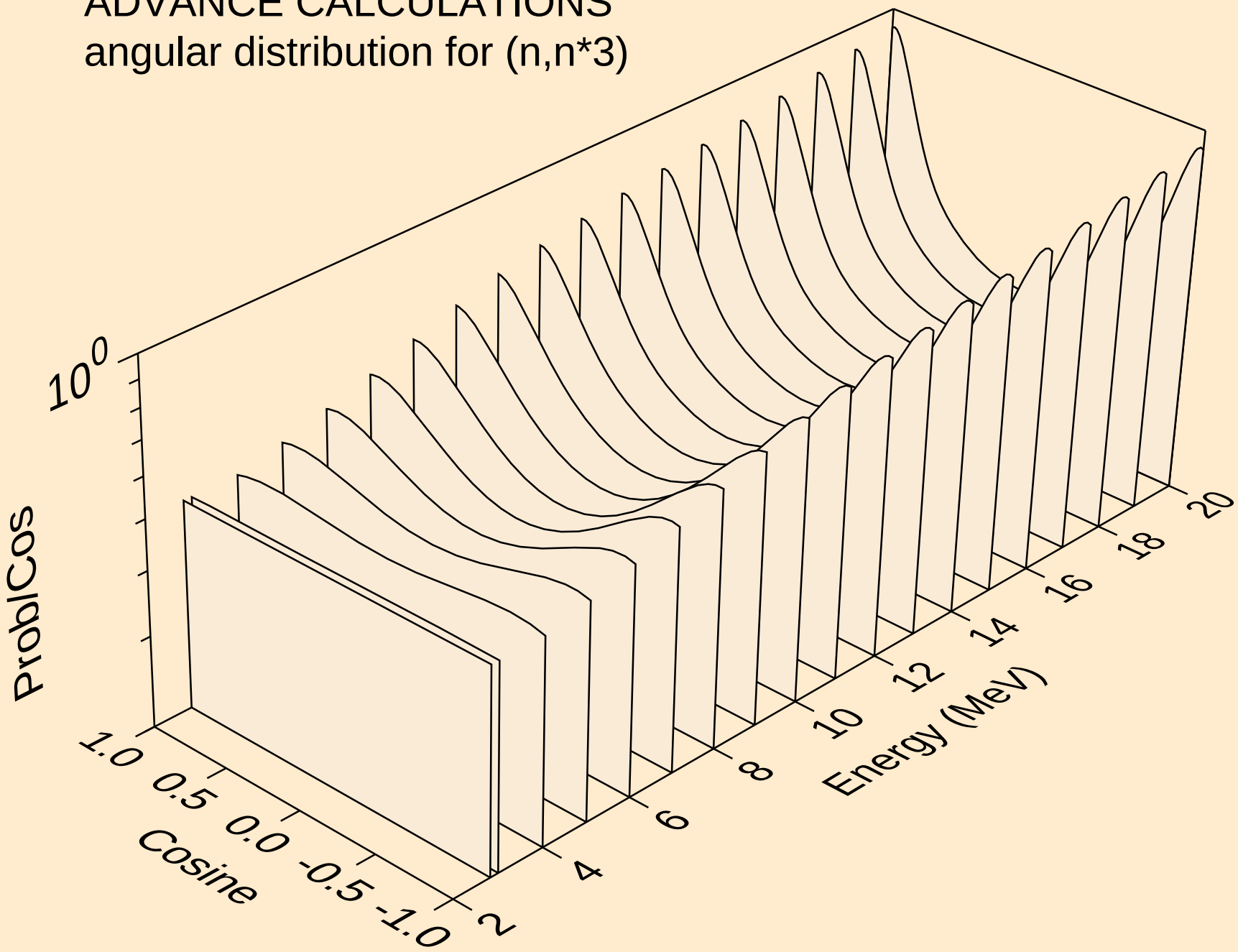
ADVANCE CALCULATIONS
angular distribution for (n,n*1)



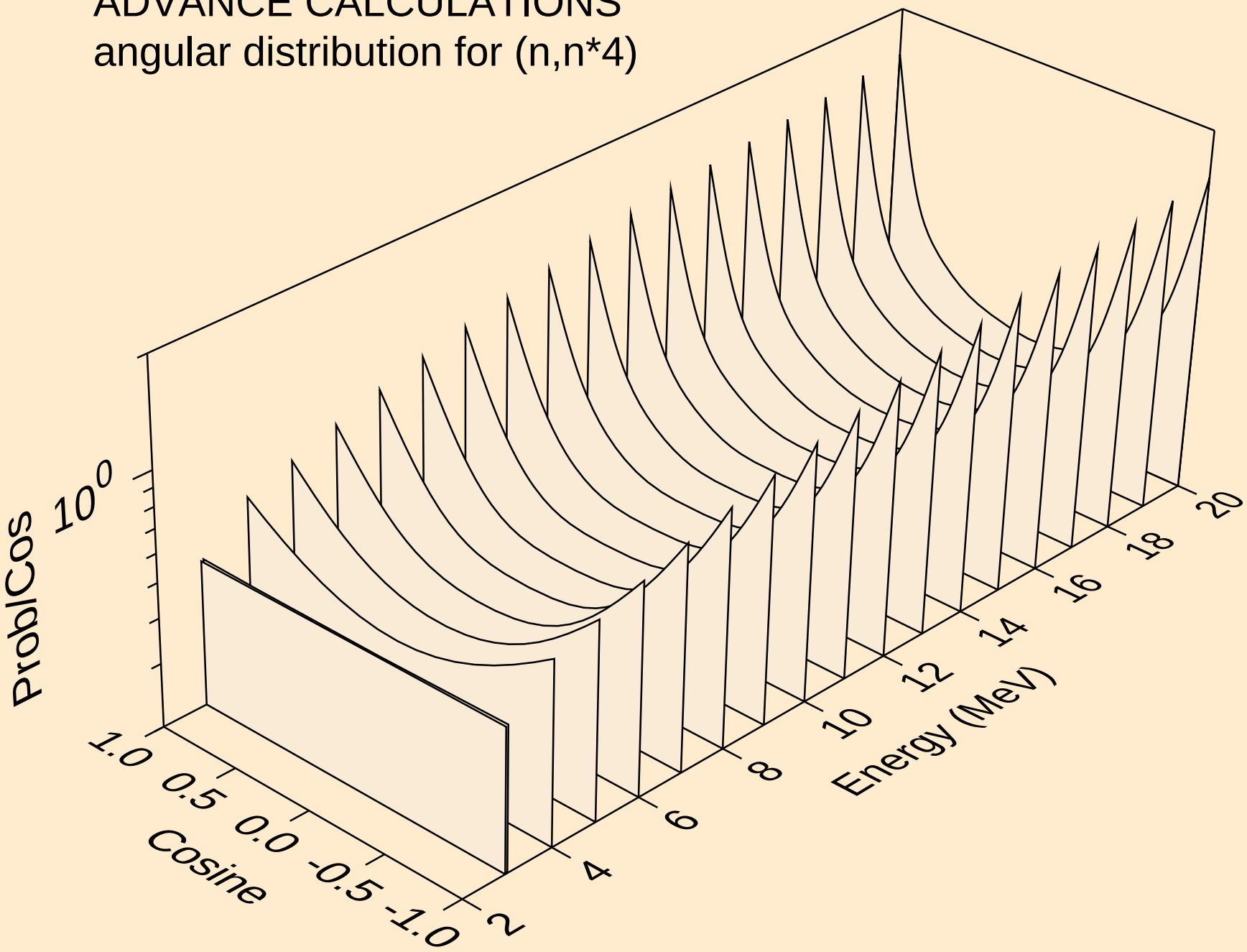
ADVANCE CALCULATIONS
angular distribution for (n,n*2)



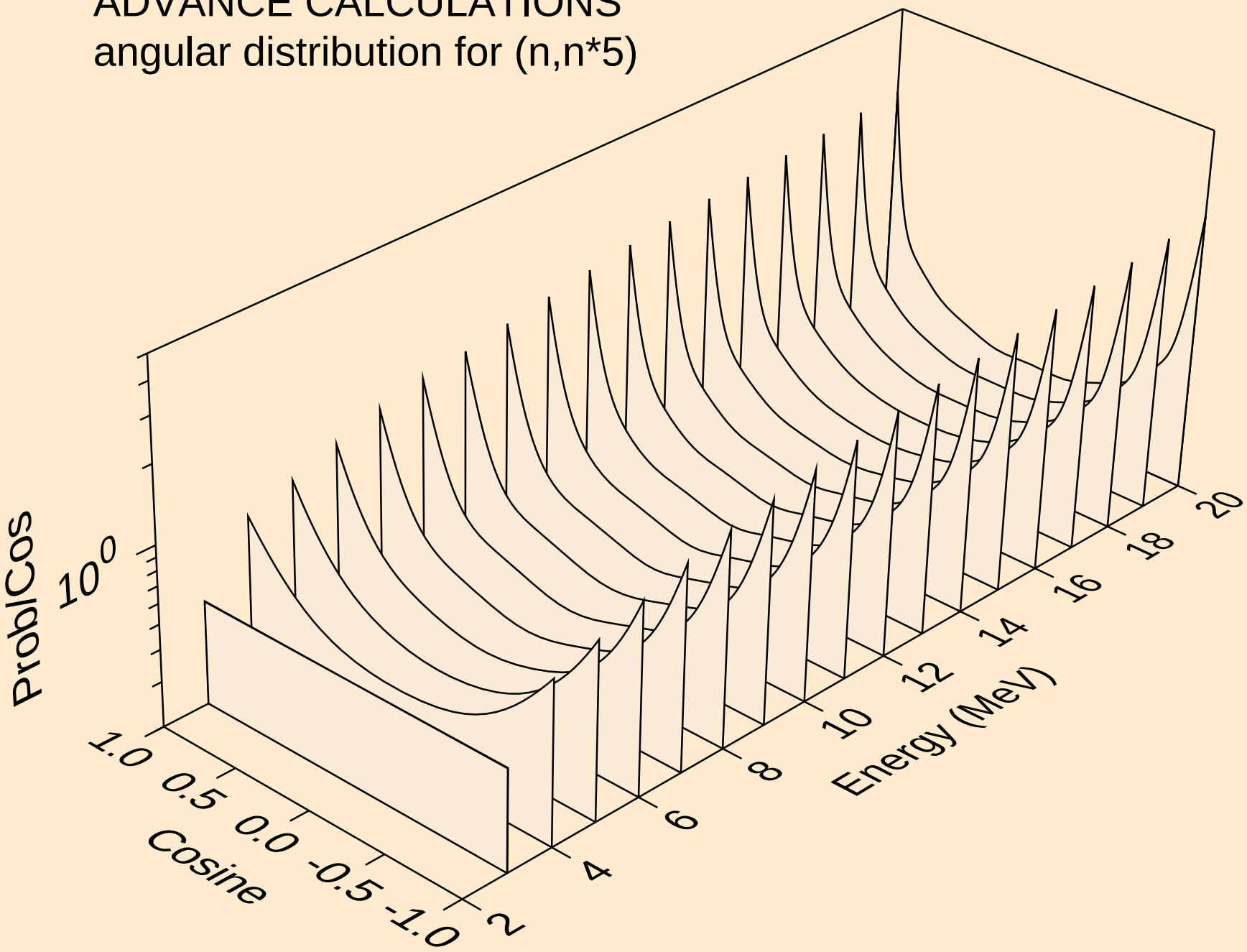
ADVANCE CALCULATIONS
angular distribution for (n,n*3)



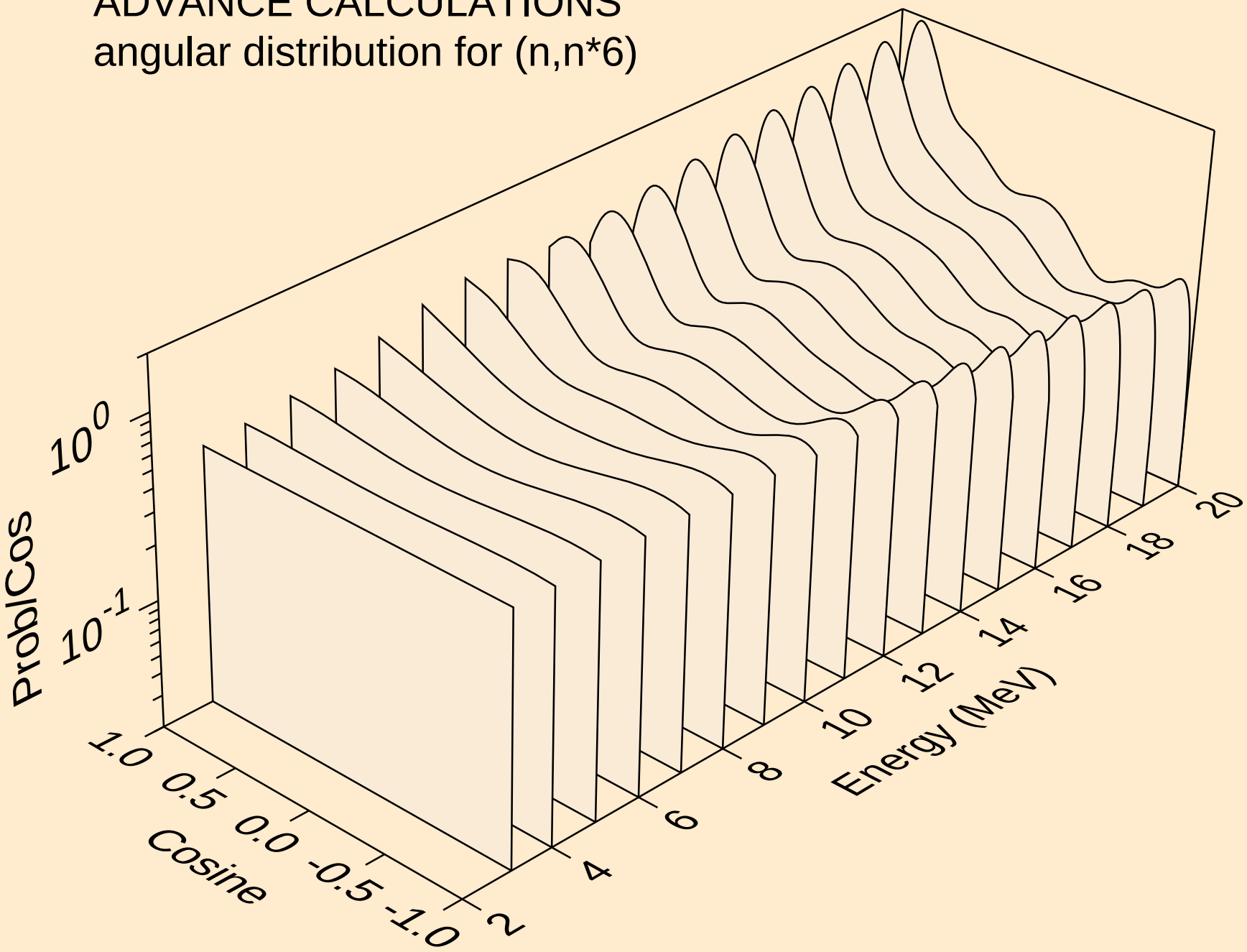
ADVANCE CALCULATIONS
angular distribution for (n,n*4)



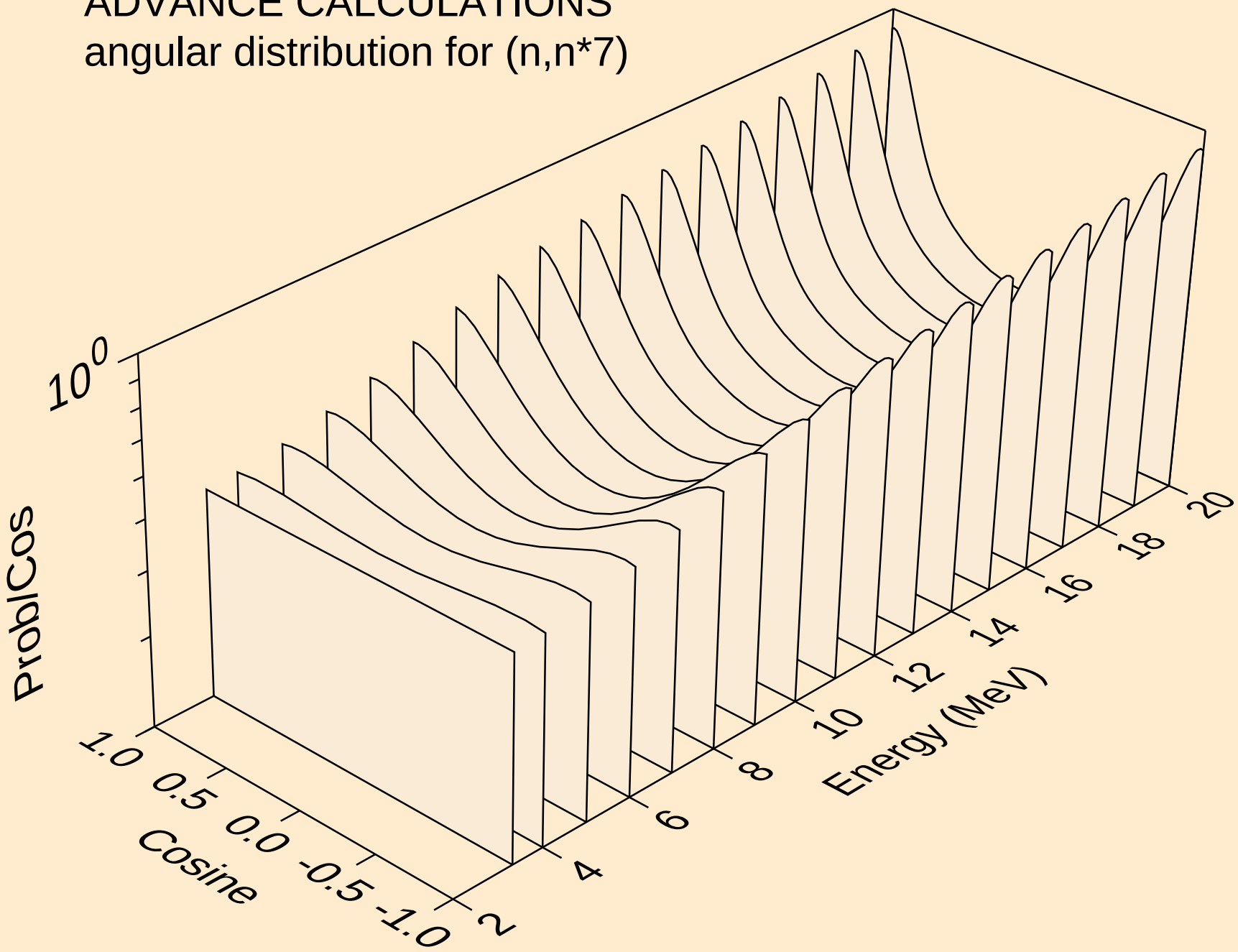
ADVANCE CALCULATIONS
angular distribution for (n,n*5)



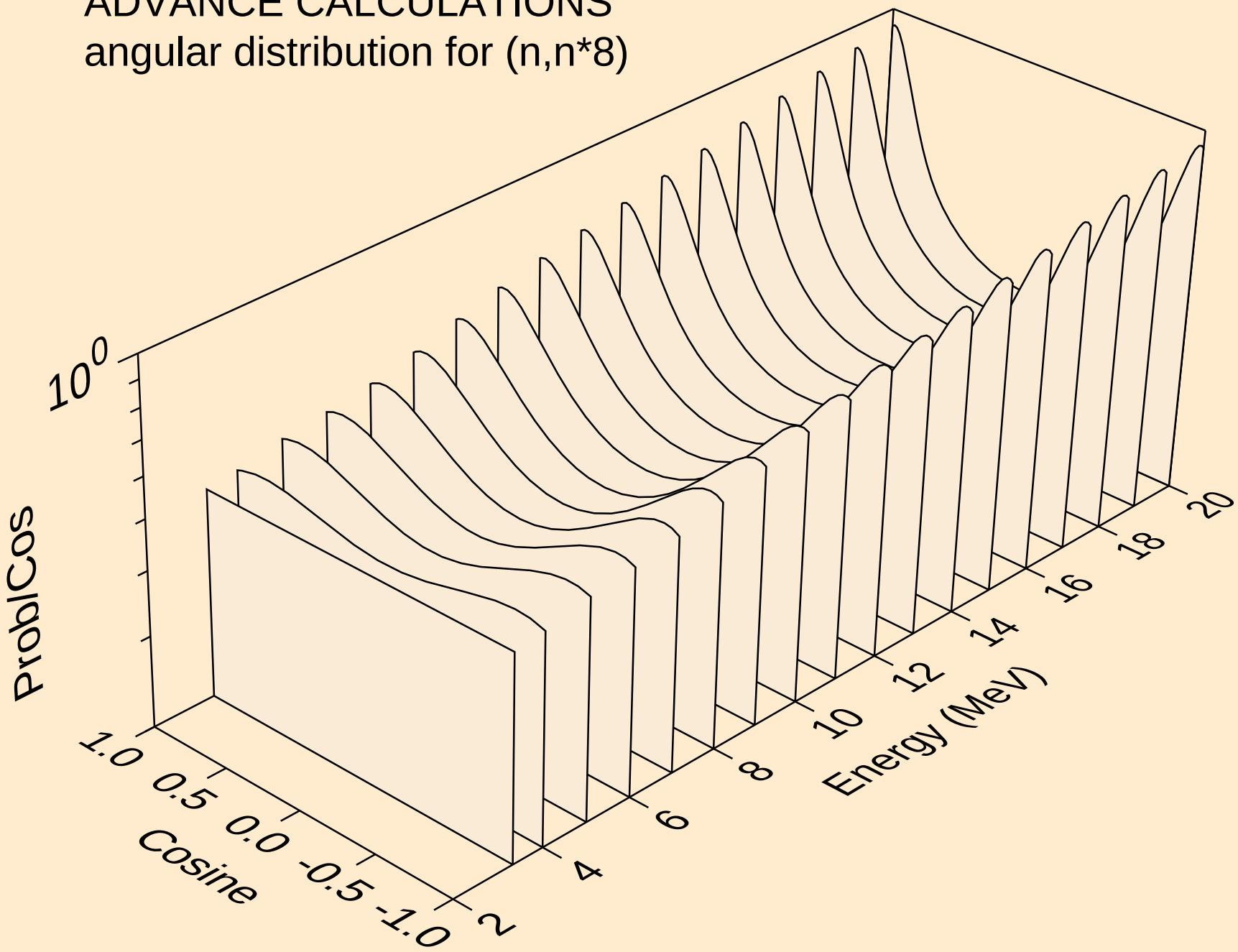
ADVANCE CALCULATIONS
angular distribution for (n,n*6)



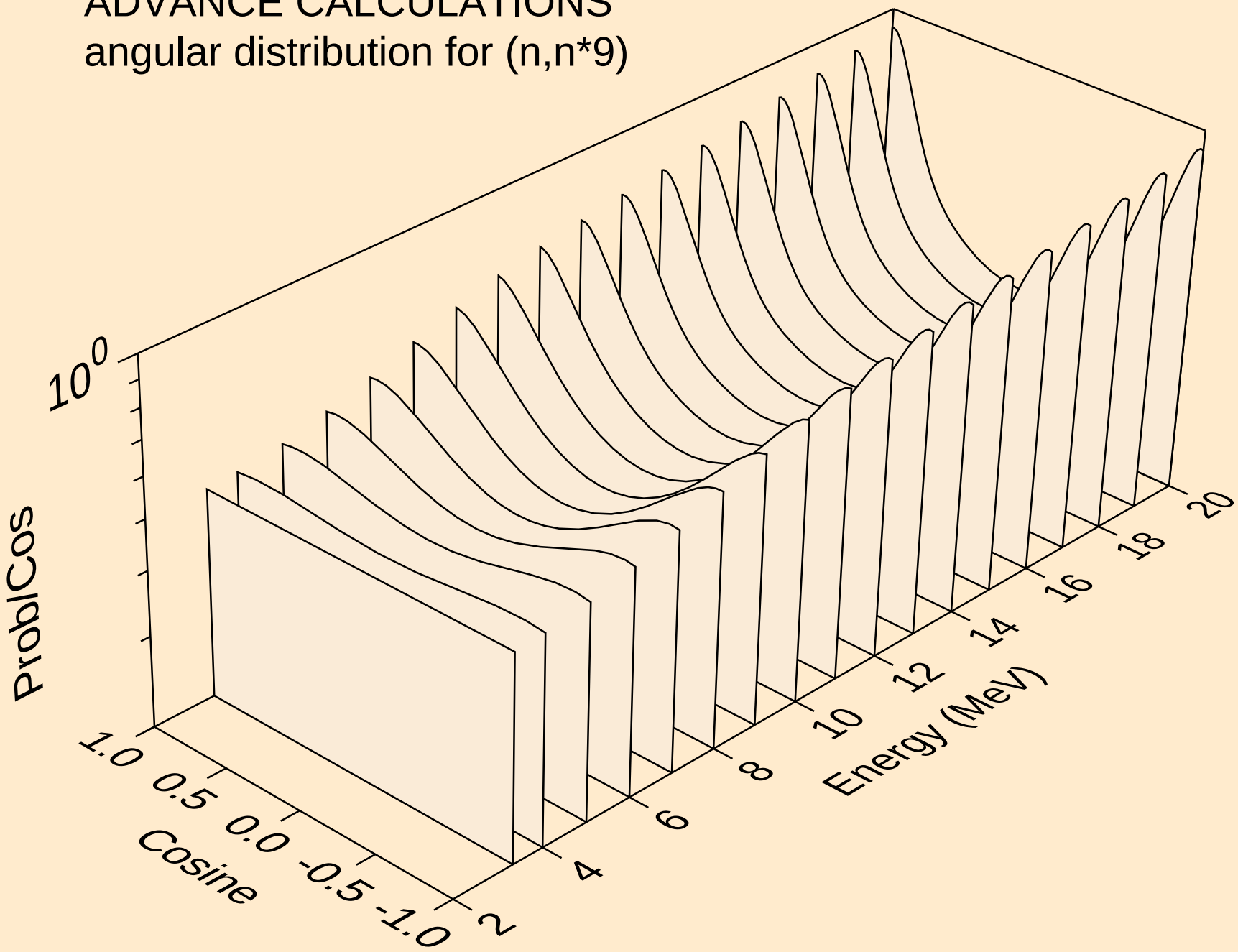
ADVANCE CALCULATIONS
angular distribution for (n,n*7)



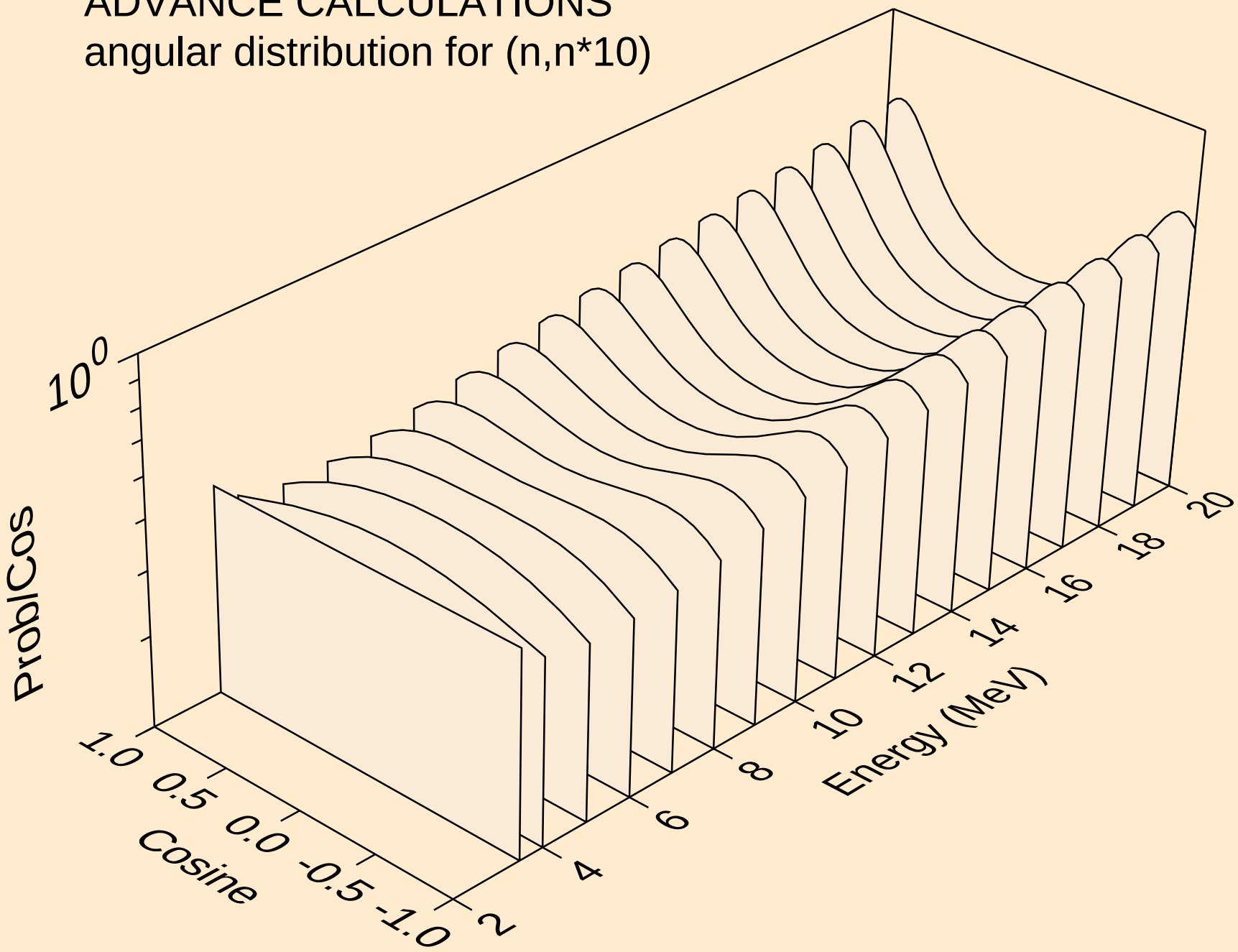
ADVANCE CALCULATIONS
angular distribution for (n,n*8)



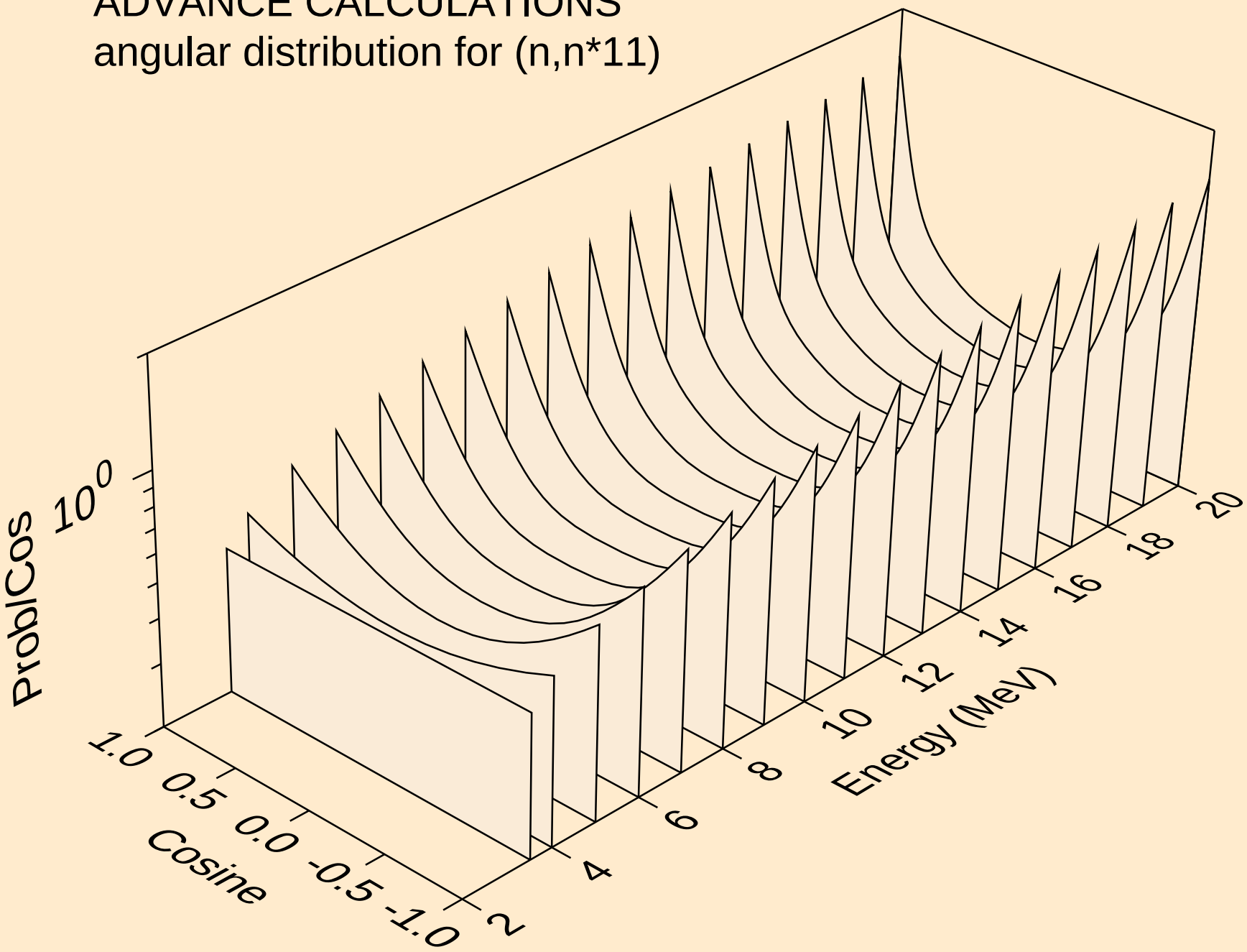
ADVANCE CALCULATIONS
angular distribution for (n,n*9)



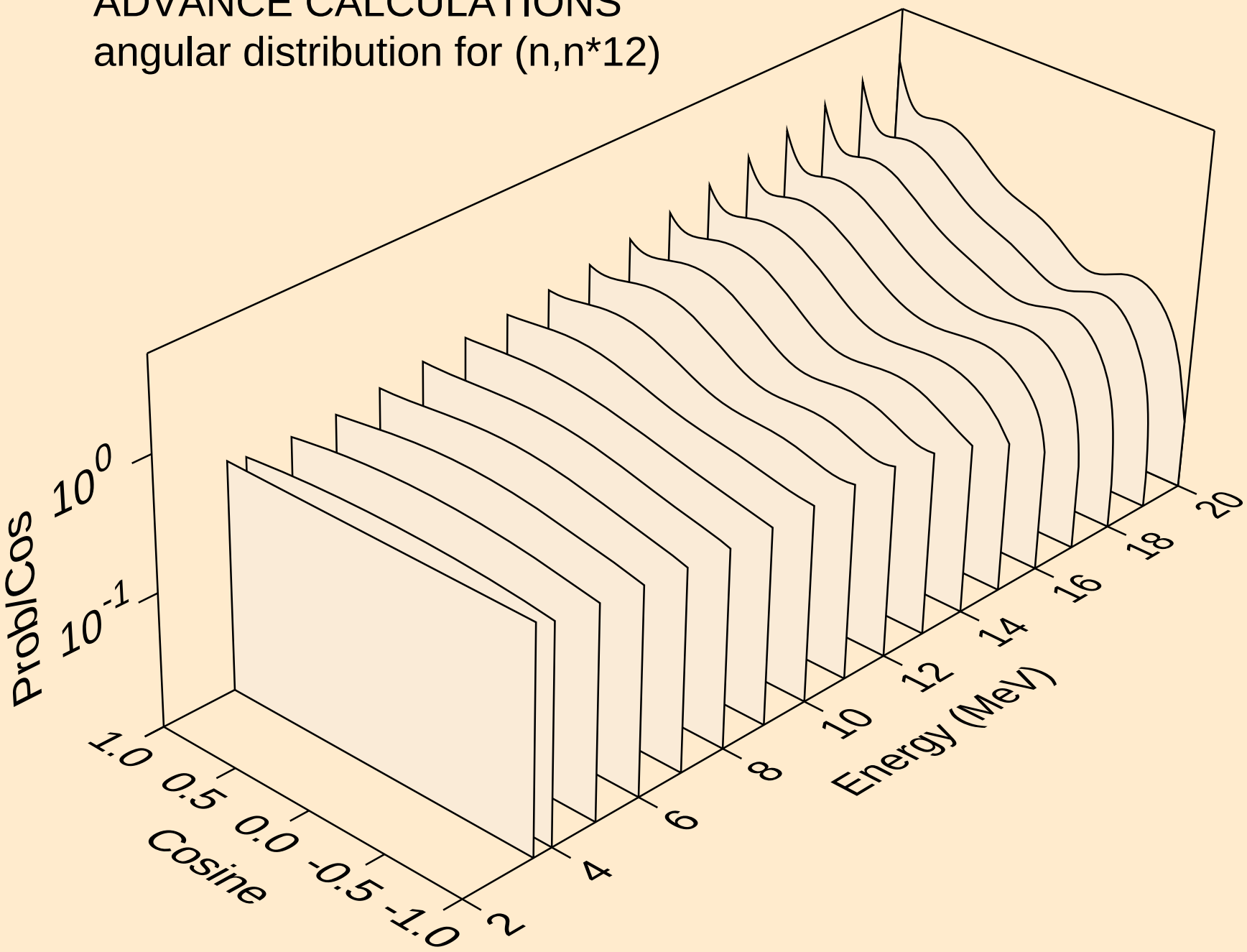
ADVANCE CALCULATIONS
angular distribution for (n,n*10)



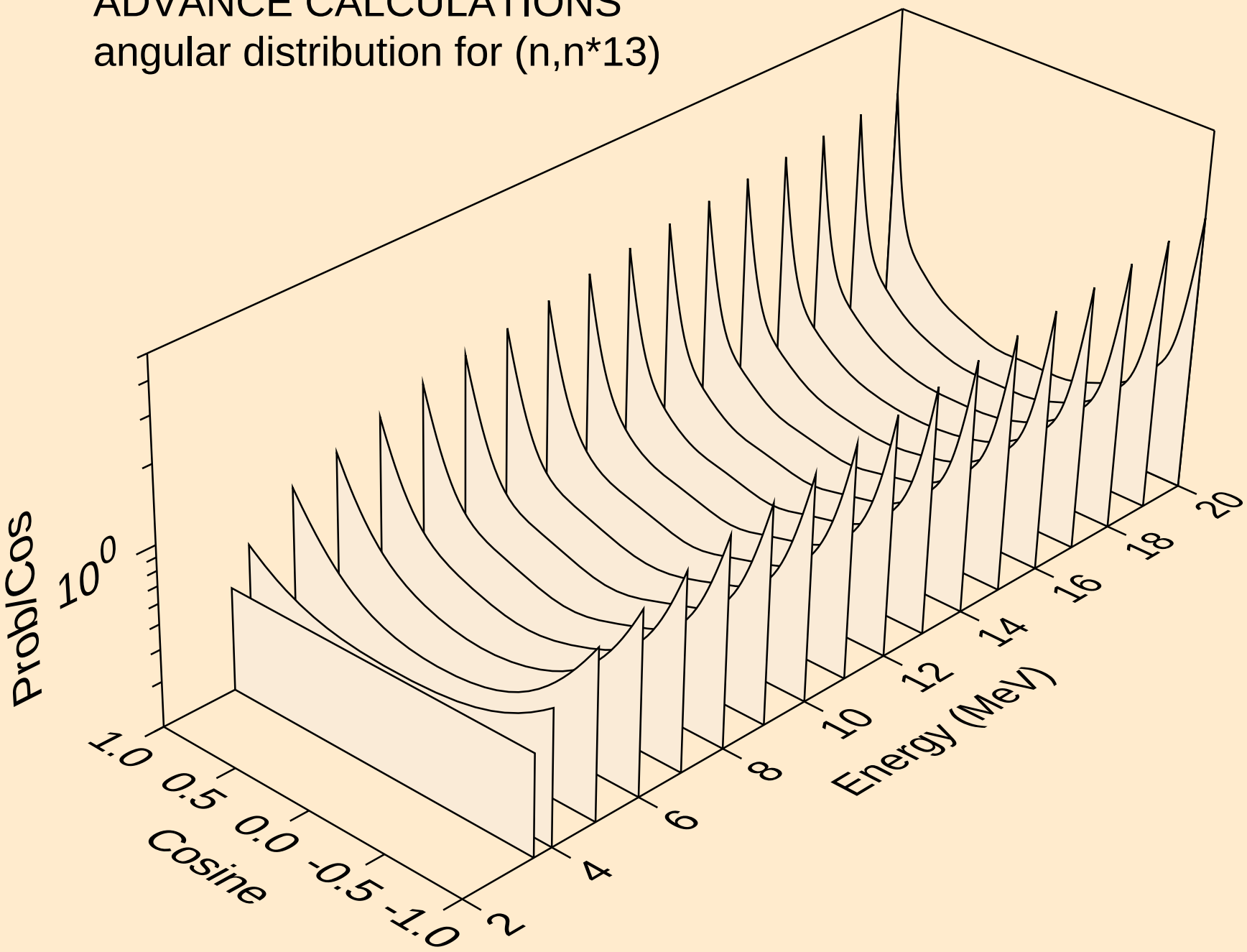
ADVANCE CALCULATIONS
angular distribution for (n,n*11)



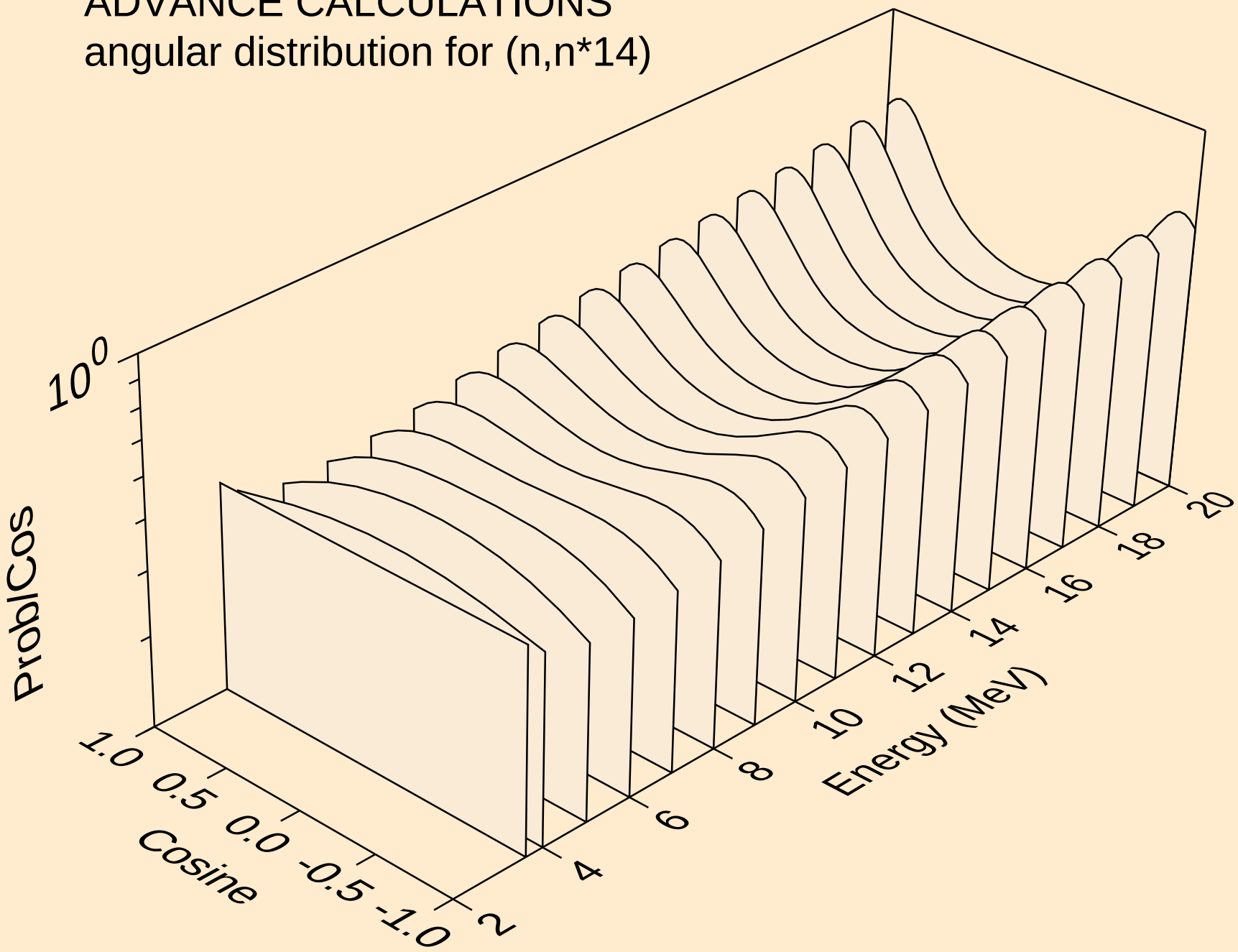
ADVANCE CALCULATIONS
angular distribution for (n,n*12)



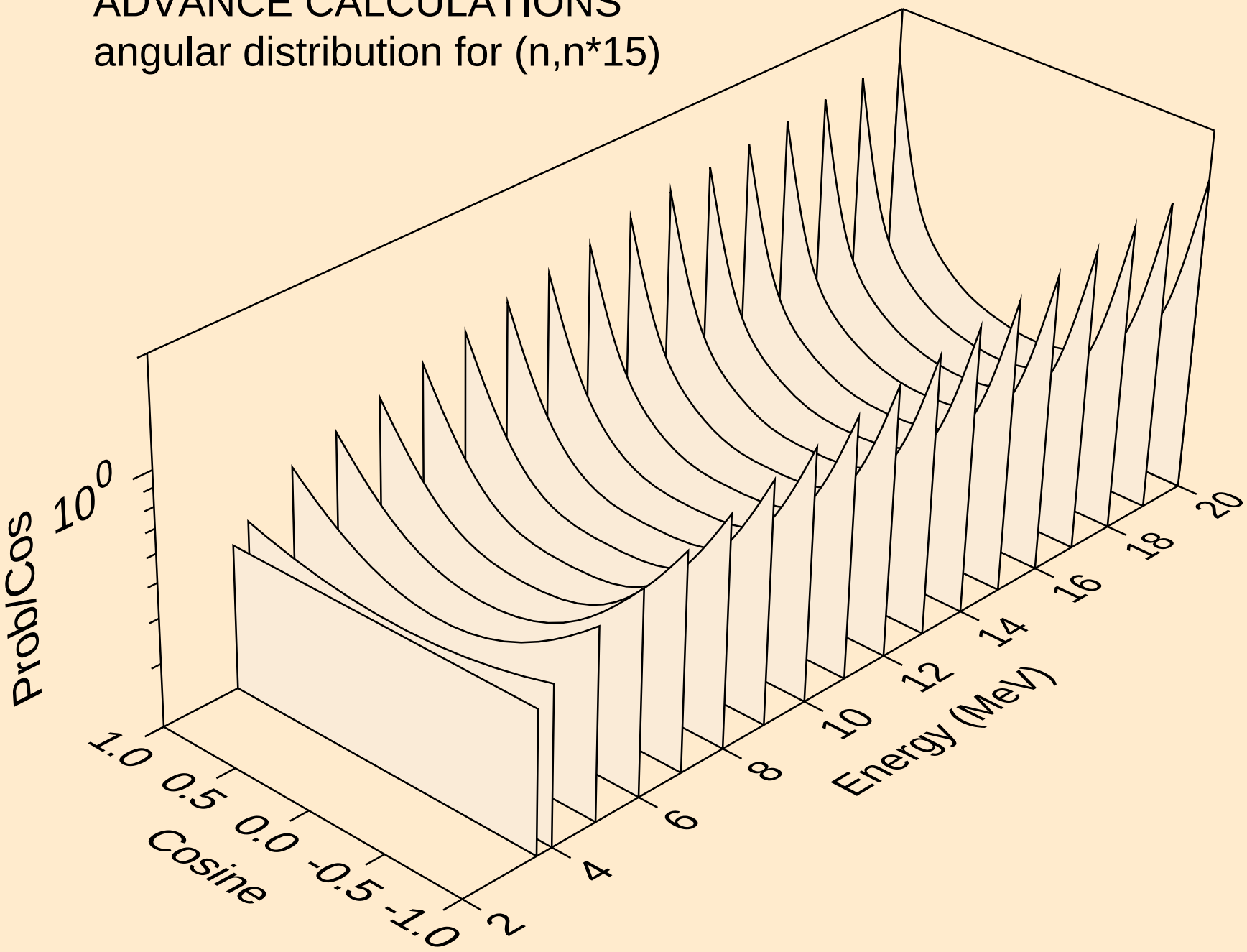
ADVANCE CALCULATIONS
angular distribution for (n,n*13)



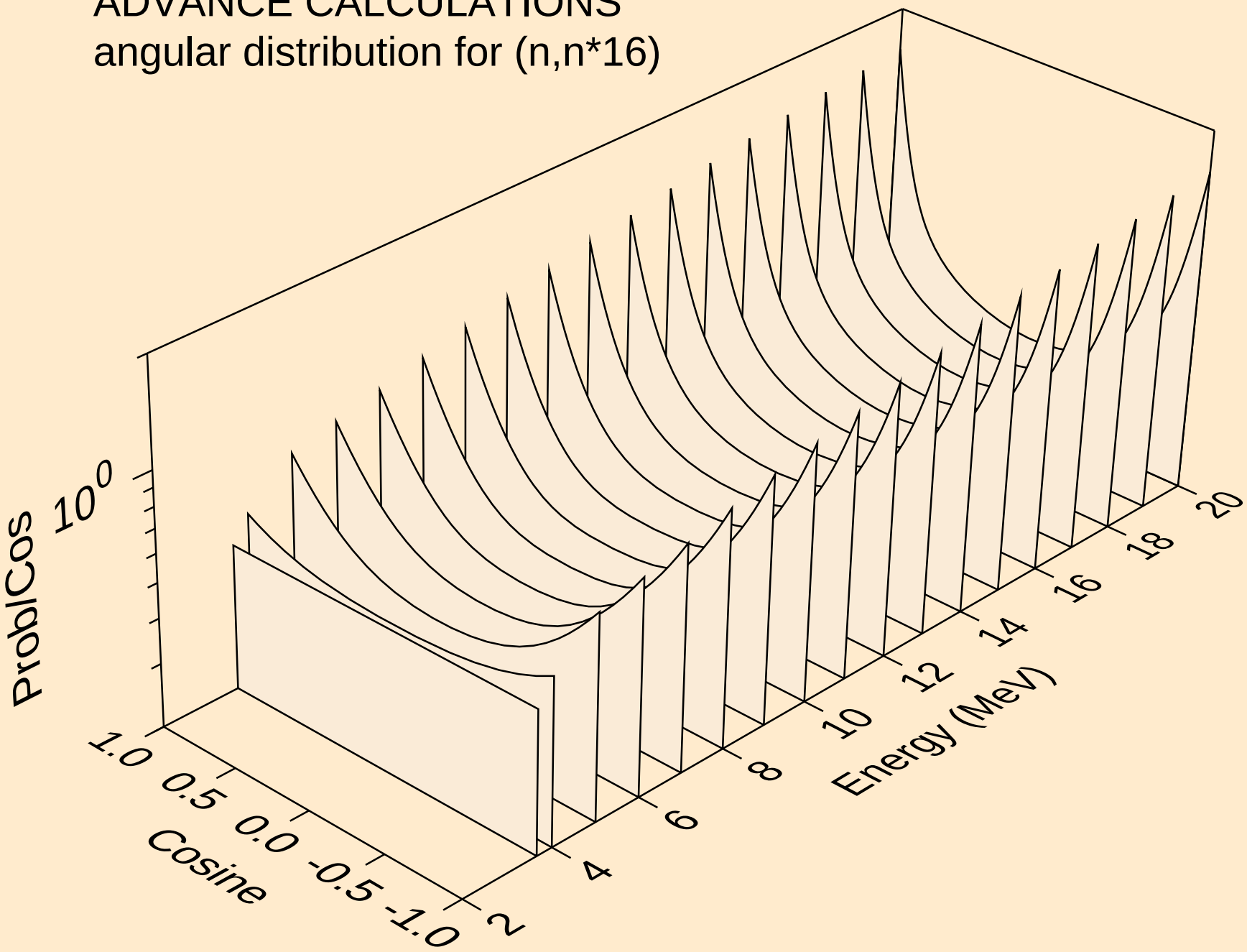
ADVANCE CALCULATIONS
angular distribution for (n,n*14)



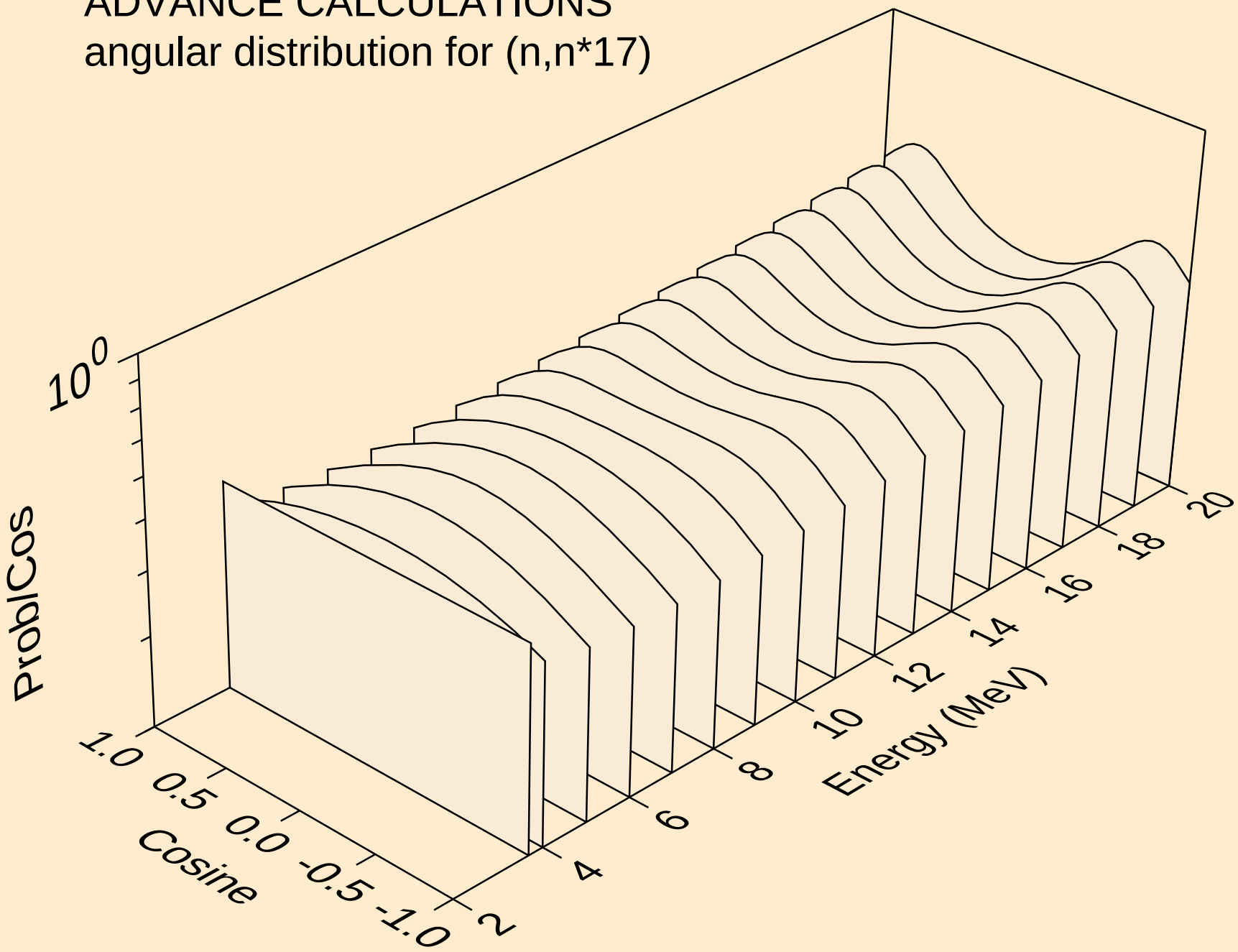
ADVANCE CALCULATIONS
angular distribution for (n,n*15)



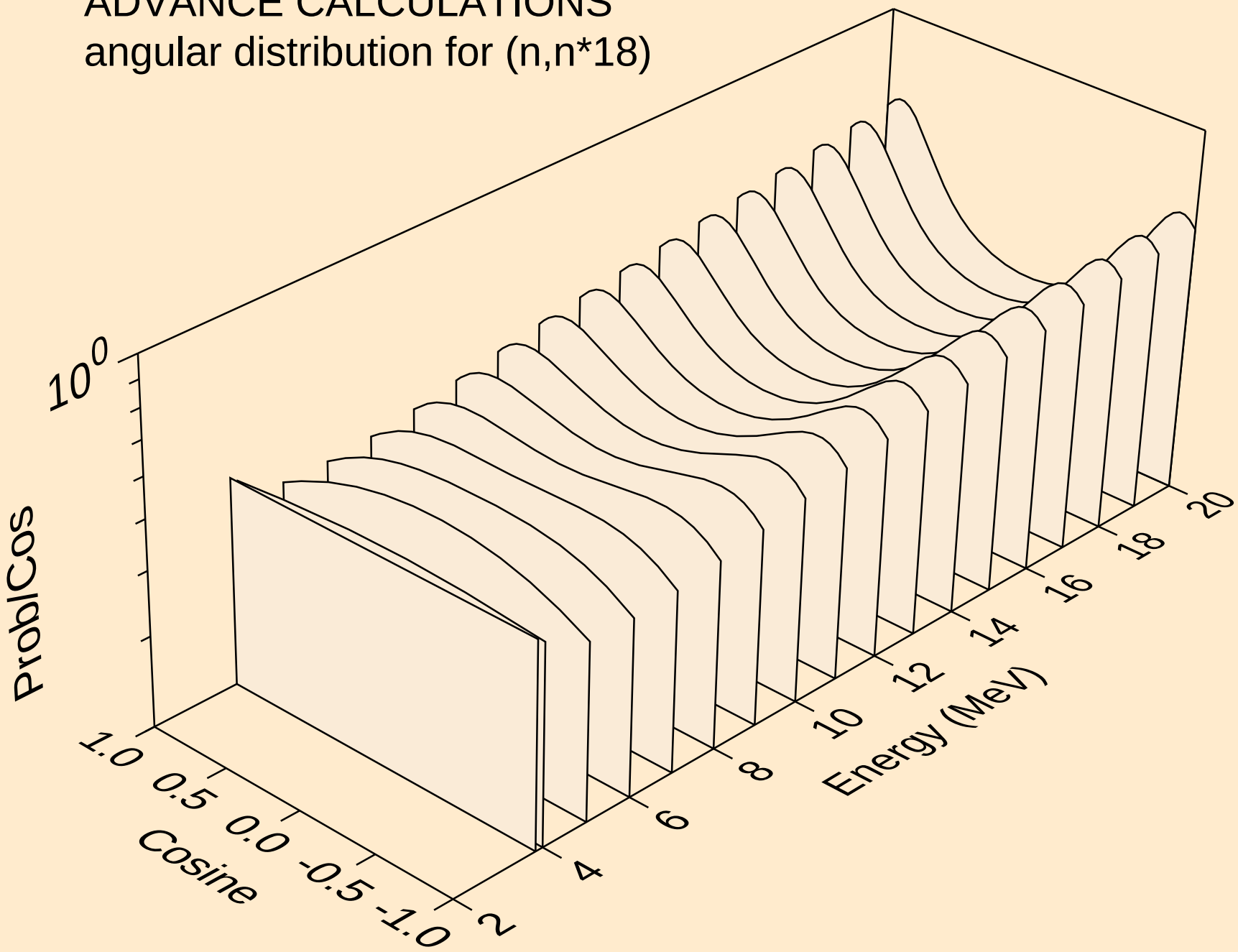
ADVANCE CALCULATIONS
angular distribution for (n,n*16)



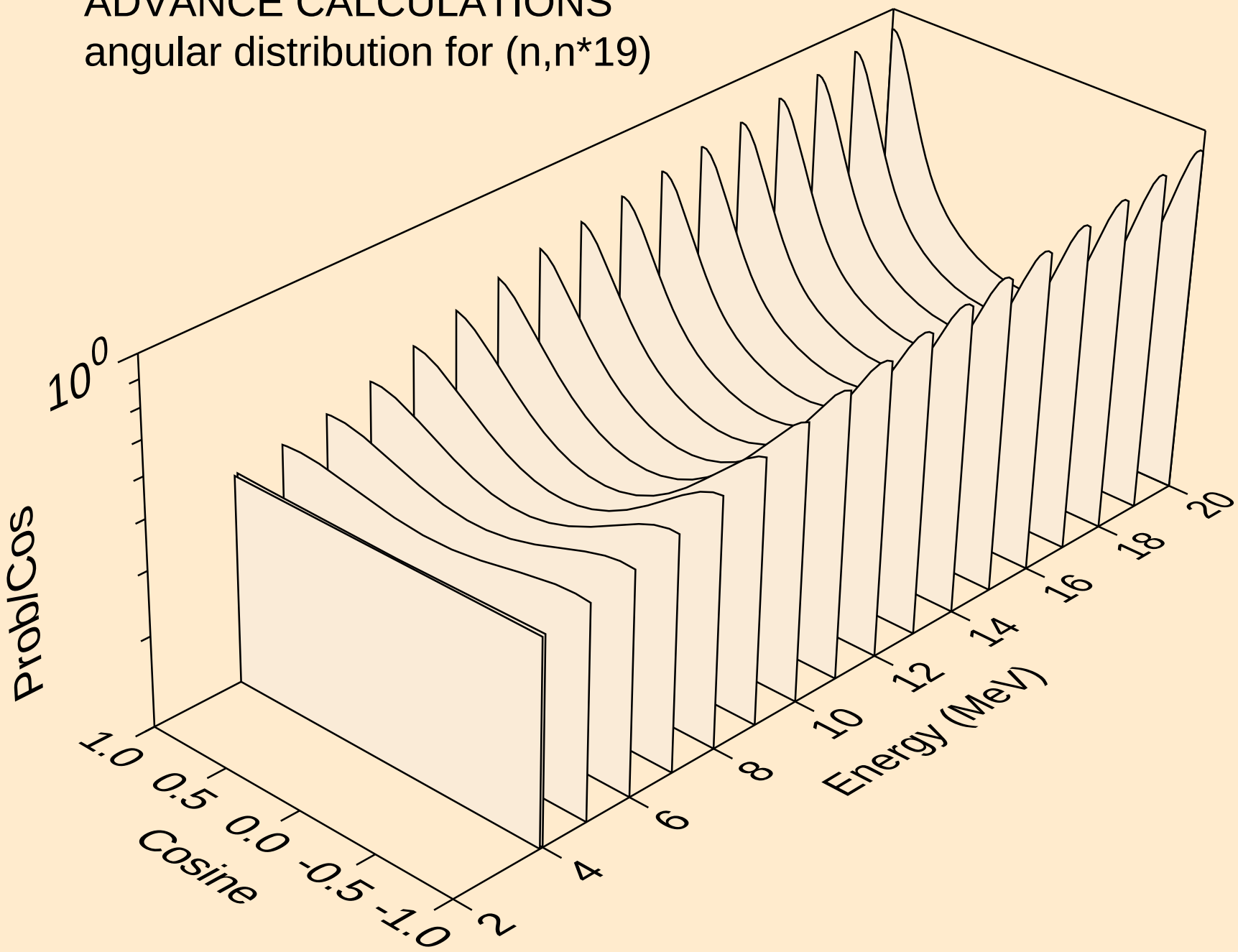
ADVANCE CALCULATIONS
angular distribution for (n,n*17)



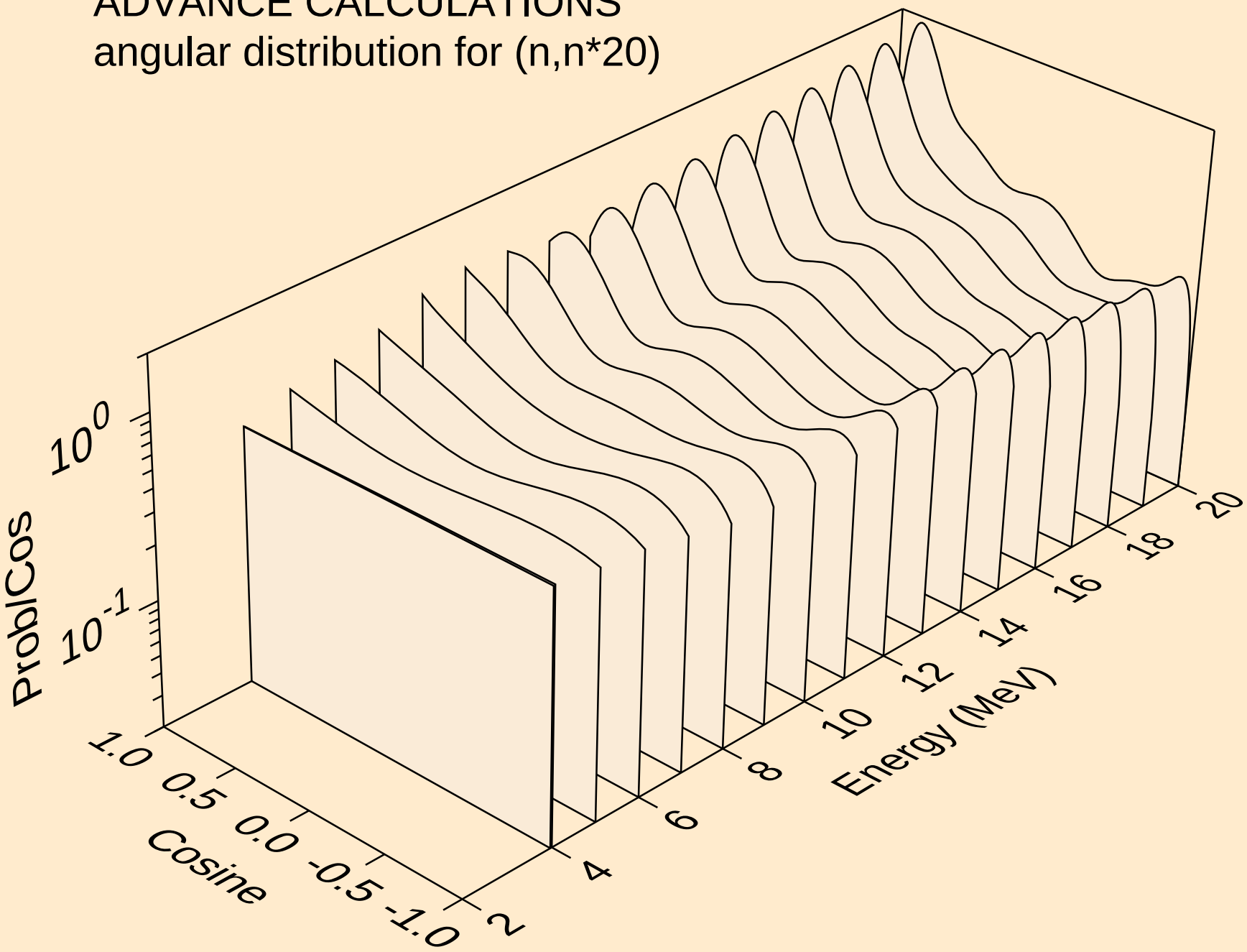
ADVANCE CALCULATIONS
angular distribution for (n,n*18)



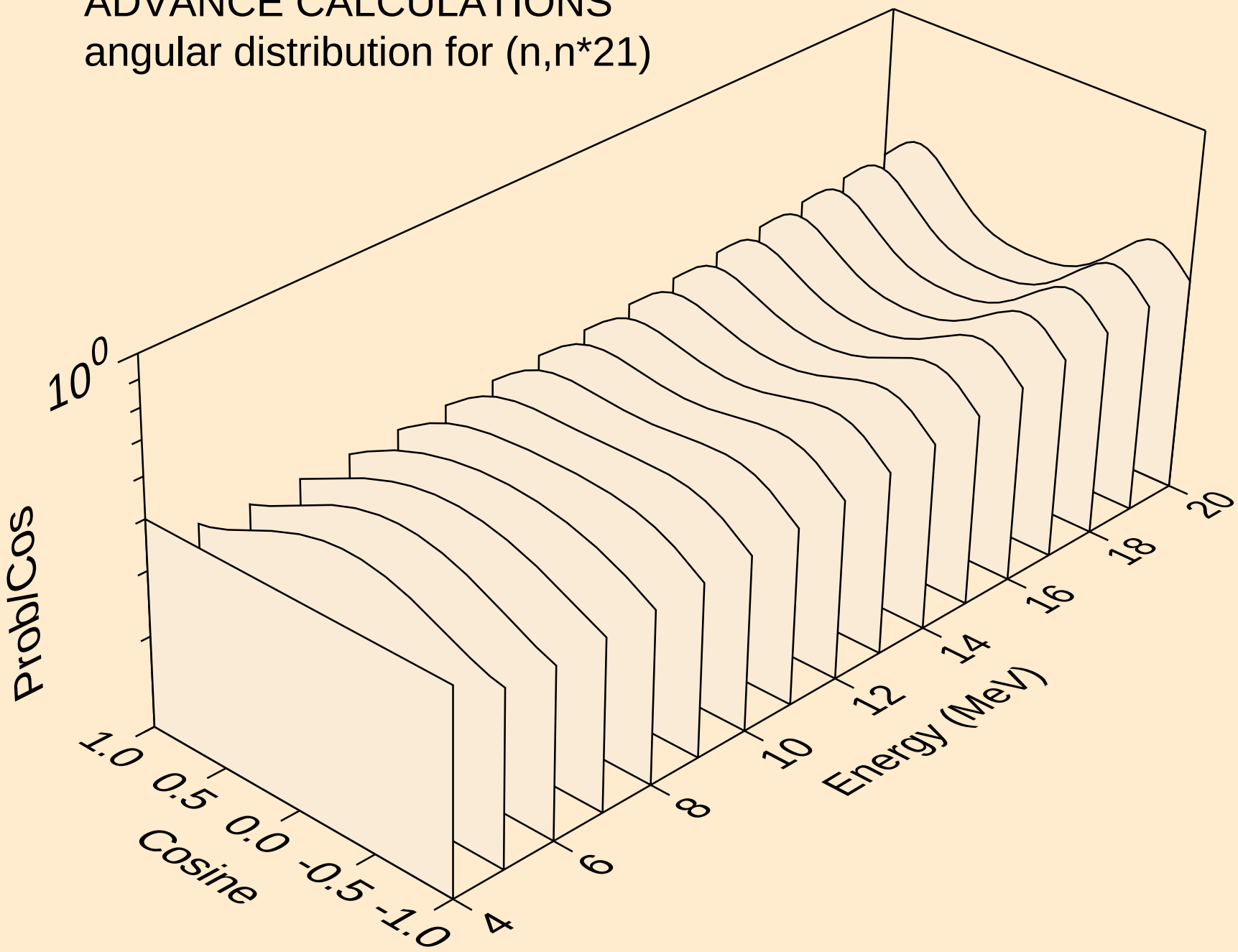
ADVANCE CALCULATIONS
angular distribution for (n,n*19)



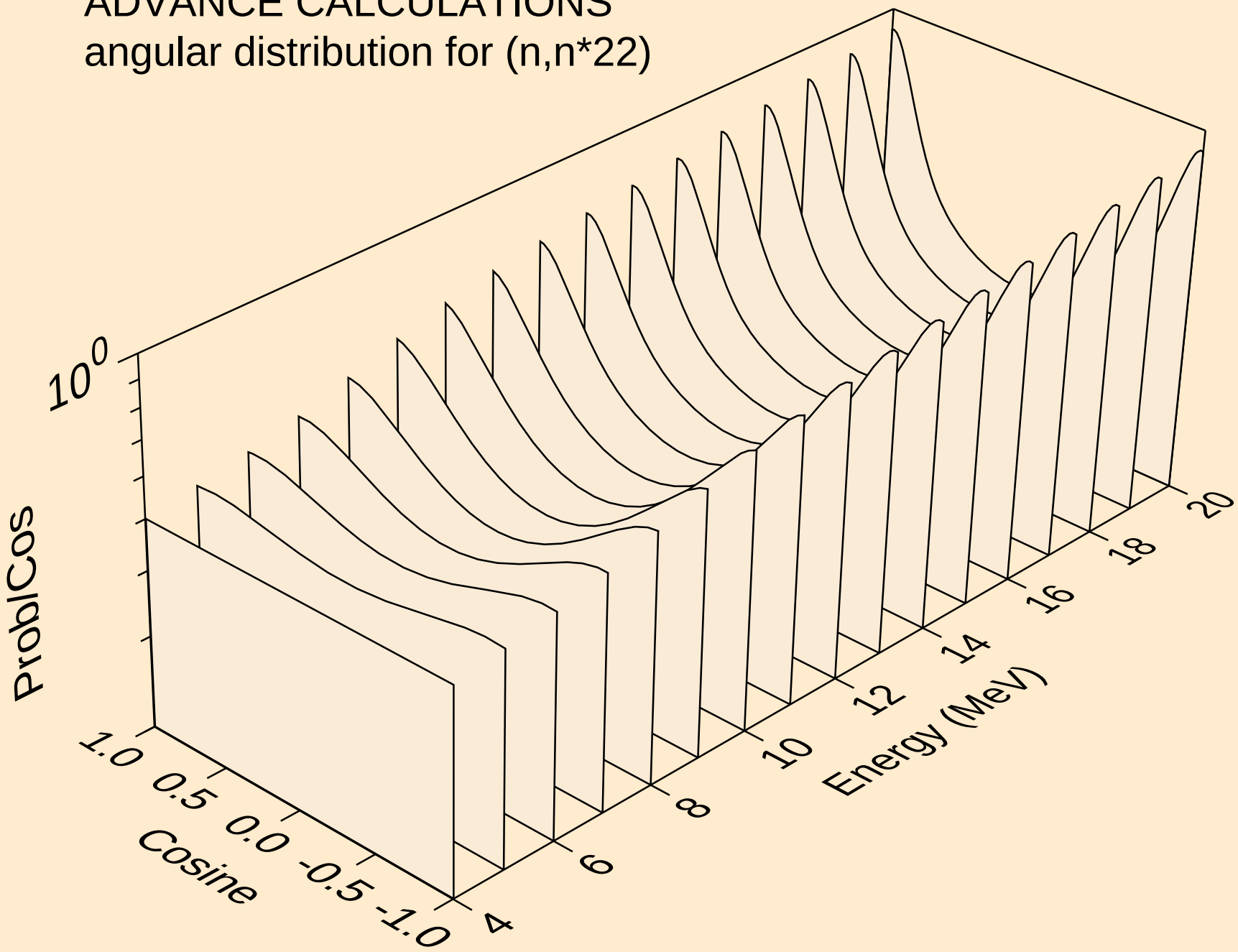
ADVANCE CALCULATIONS
angular distribution for (n,n*20)



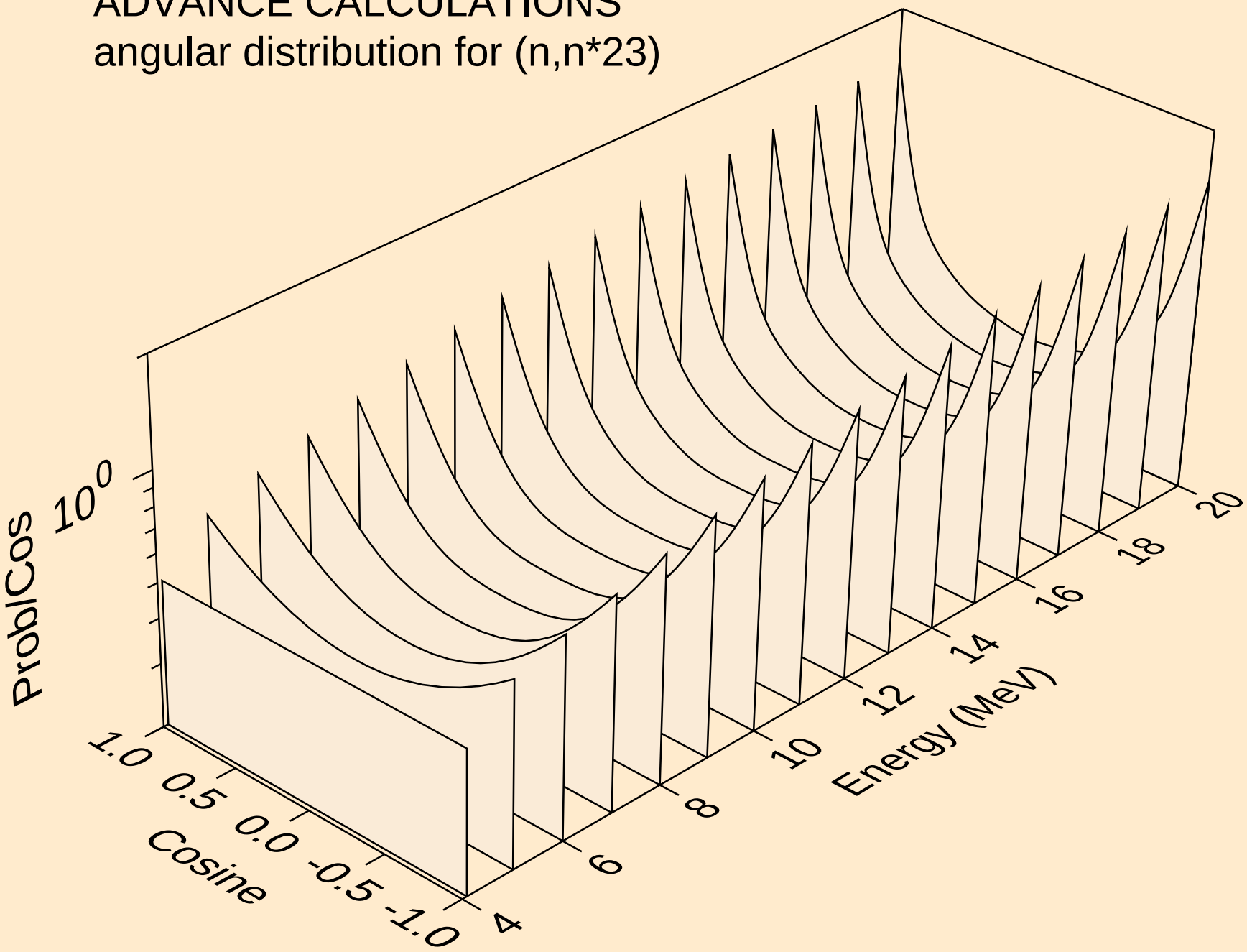
ADVANCE CALCULATIONS
angular distribution for (n,n*21)



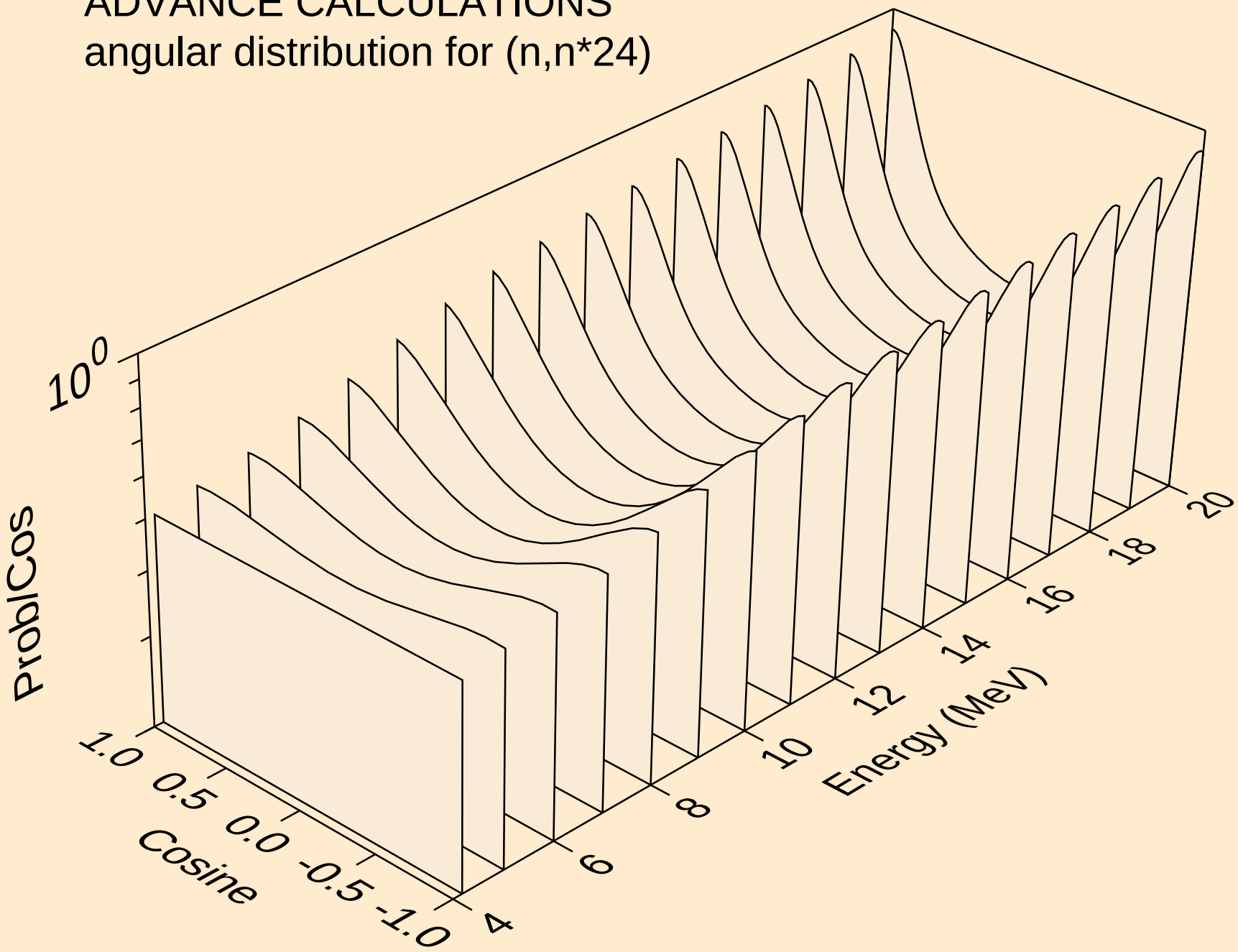
ADVANCE CALCULATIONS
angular distribution for (n,n*22)



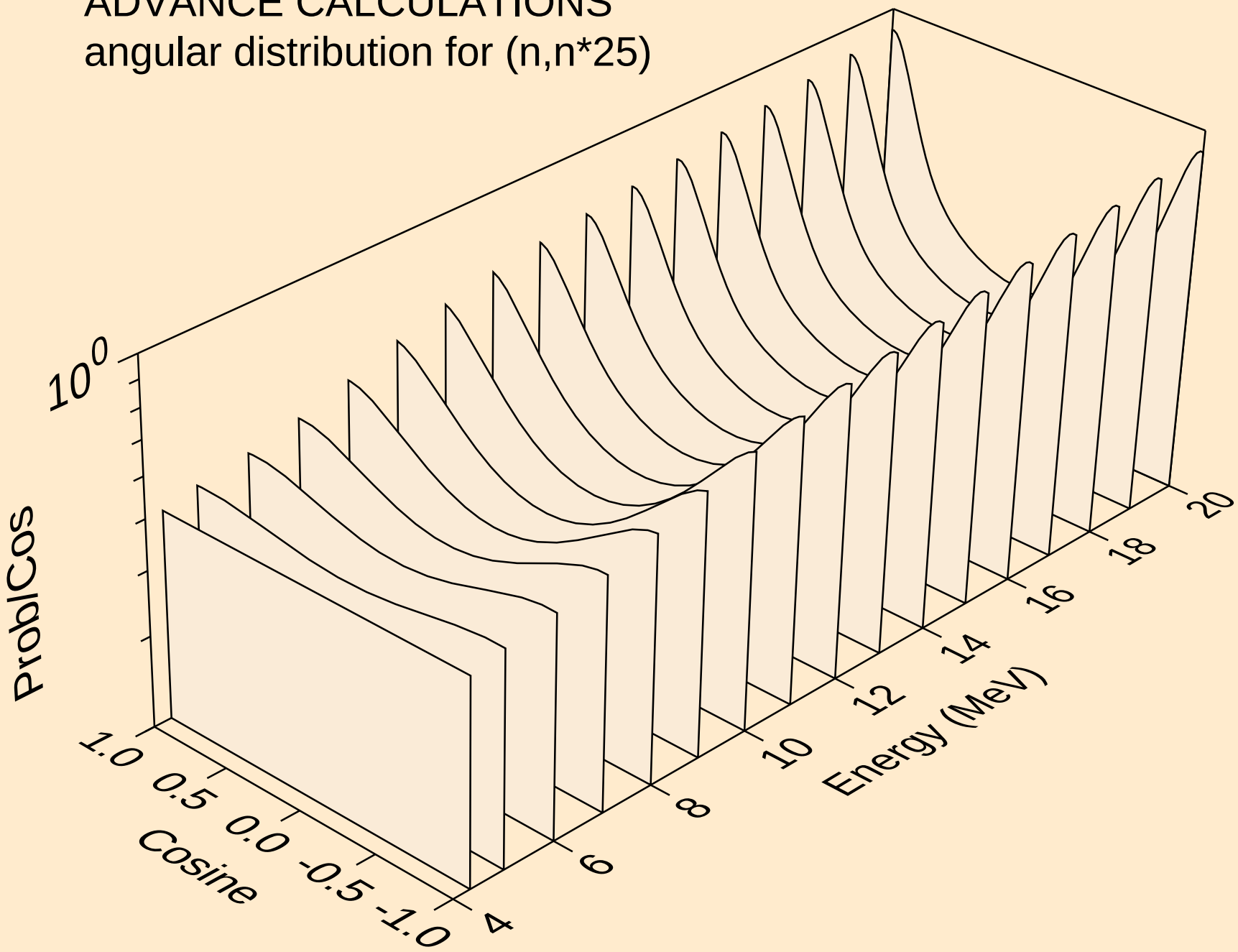
ADVANCE CALCULATIONS
angular distribution for (n,n*23)



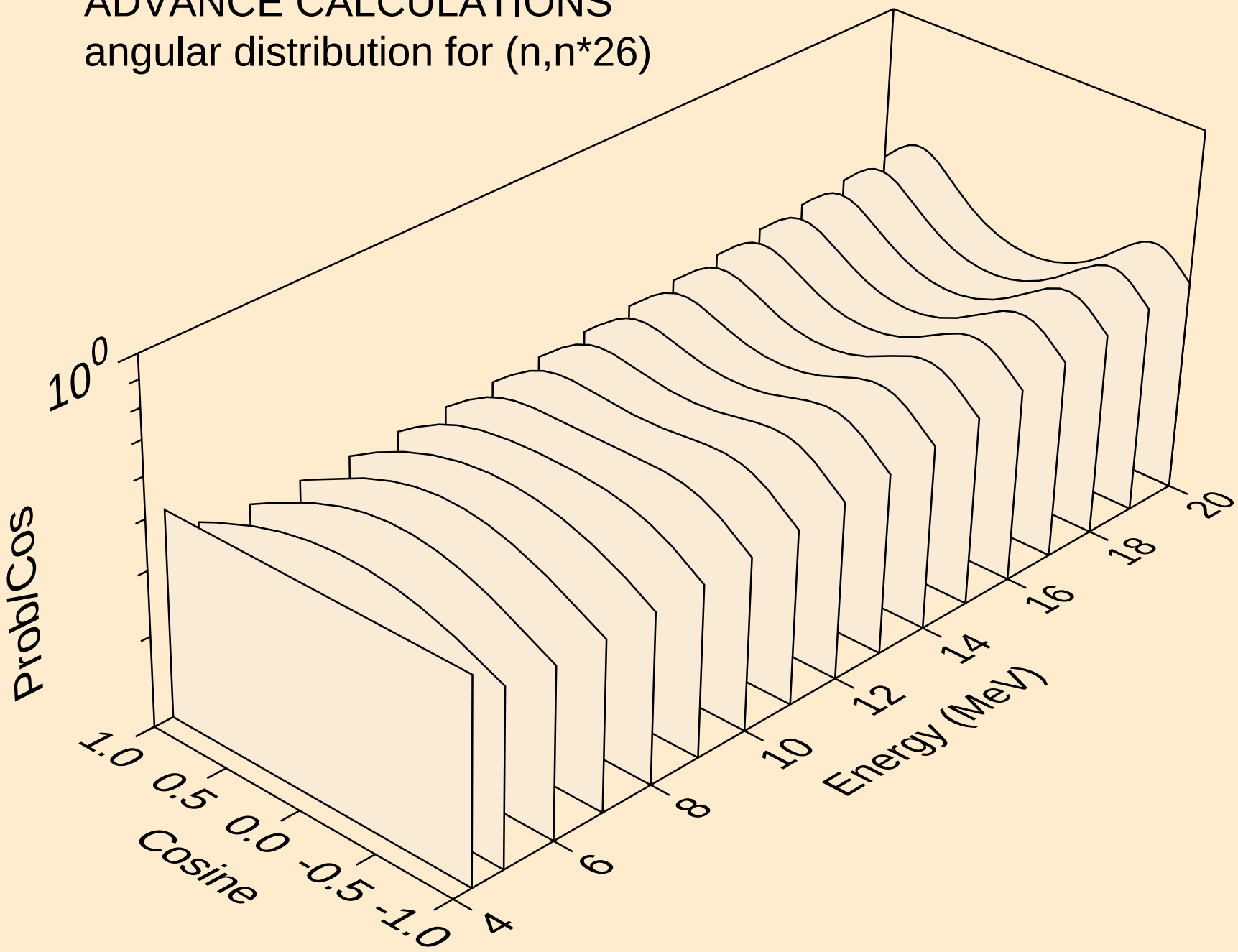
ADVANCE CALCULATIONS
angular distribution for (n,n*24)



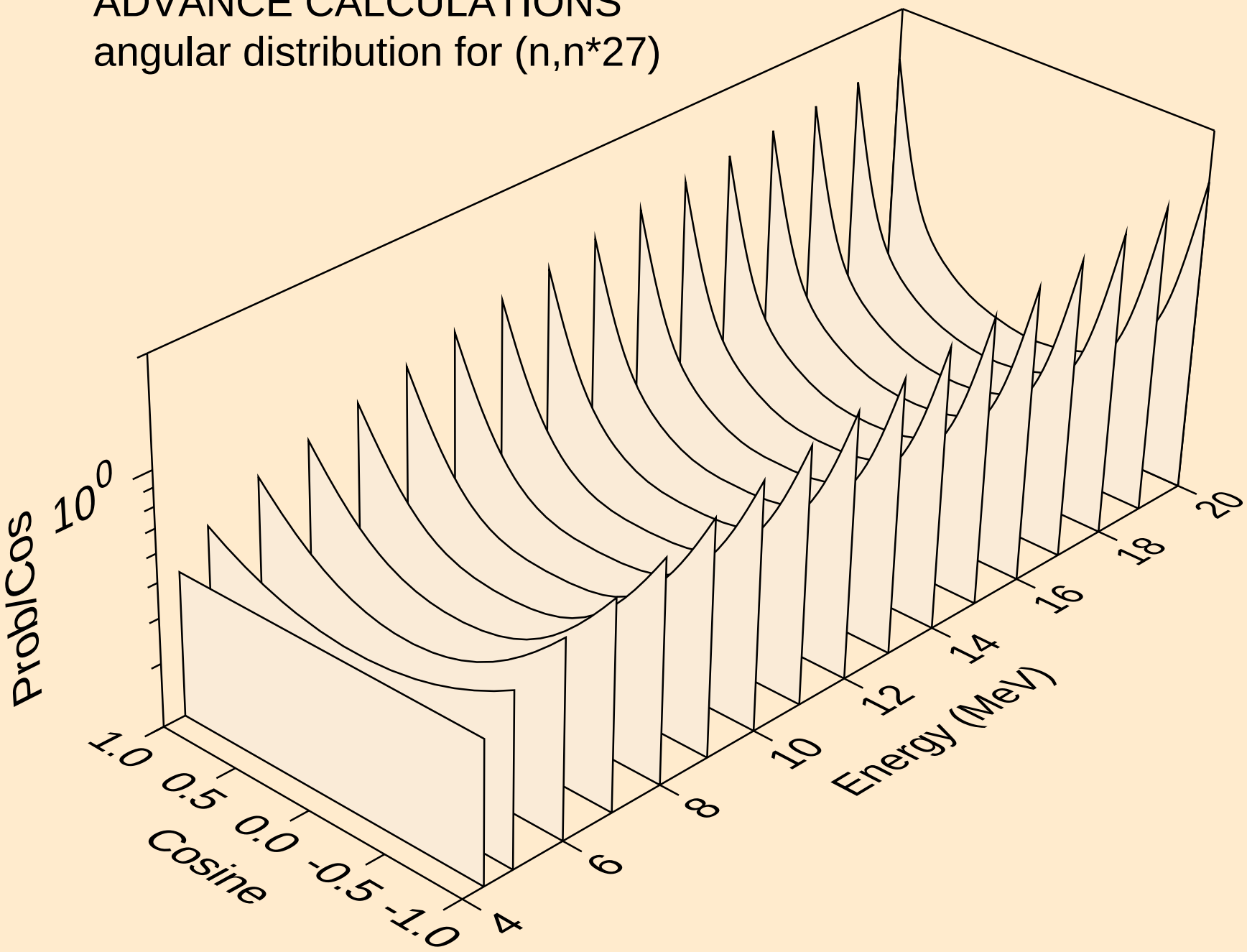
ADVANCE CALCULATIONS
angular distribution for (n,n*25)



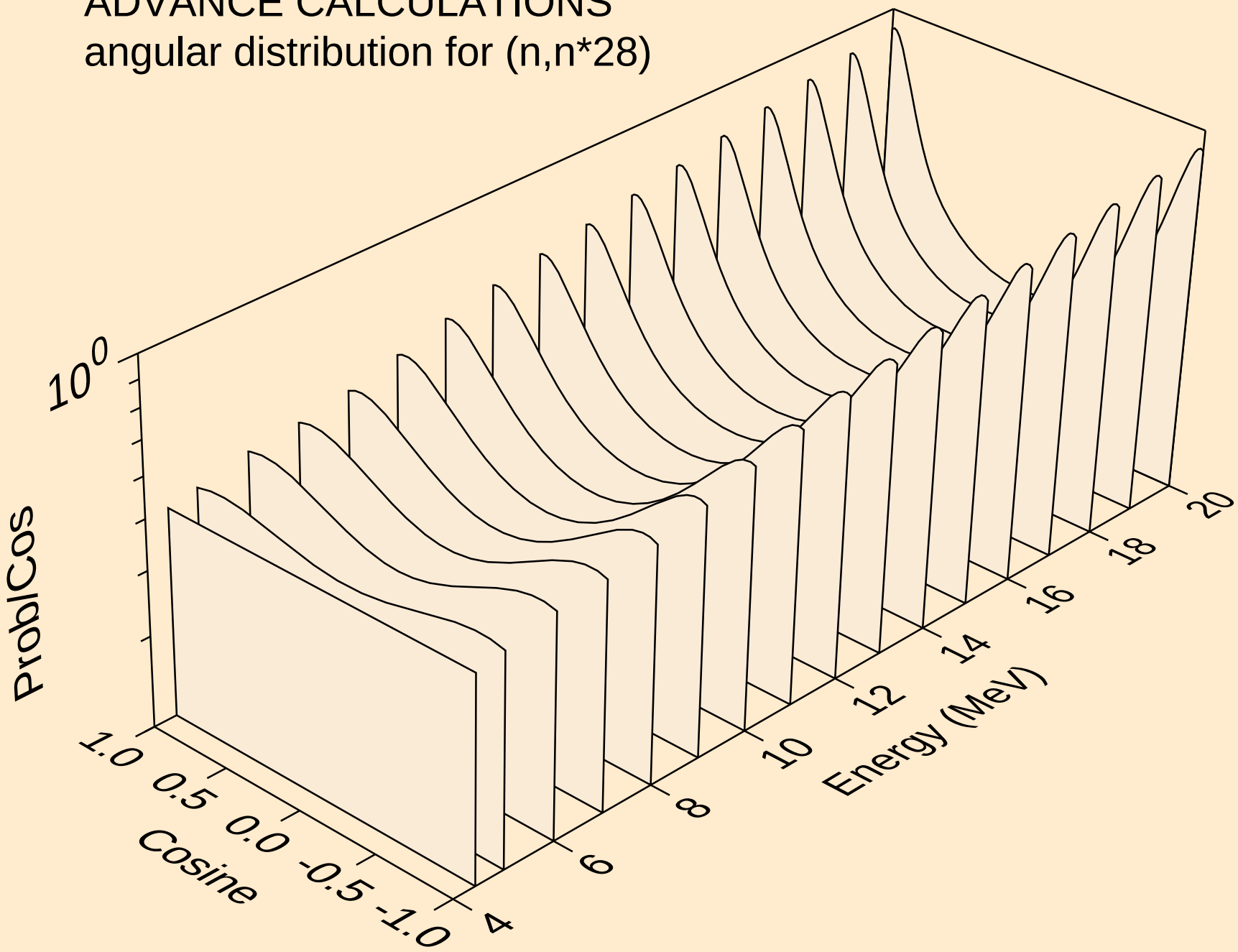
ADVANCE CALCULATIONS
angular distribution for (n,n*26)



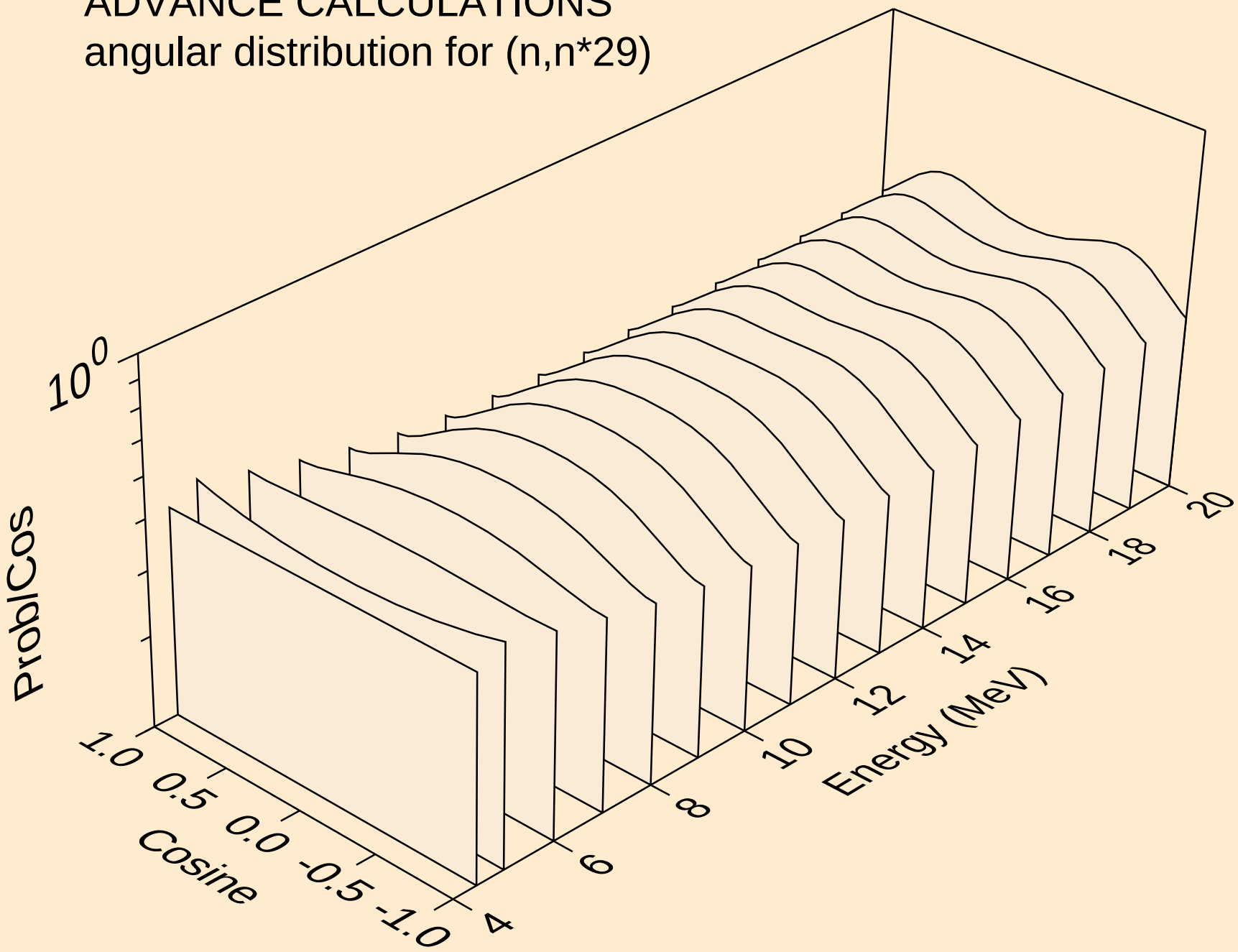
ADVANCE CALCULATIONS
angular distribution for (n,n*27)



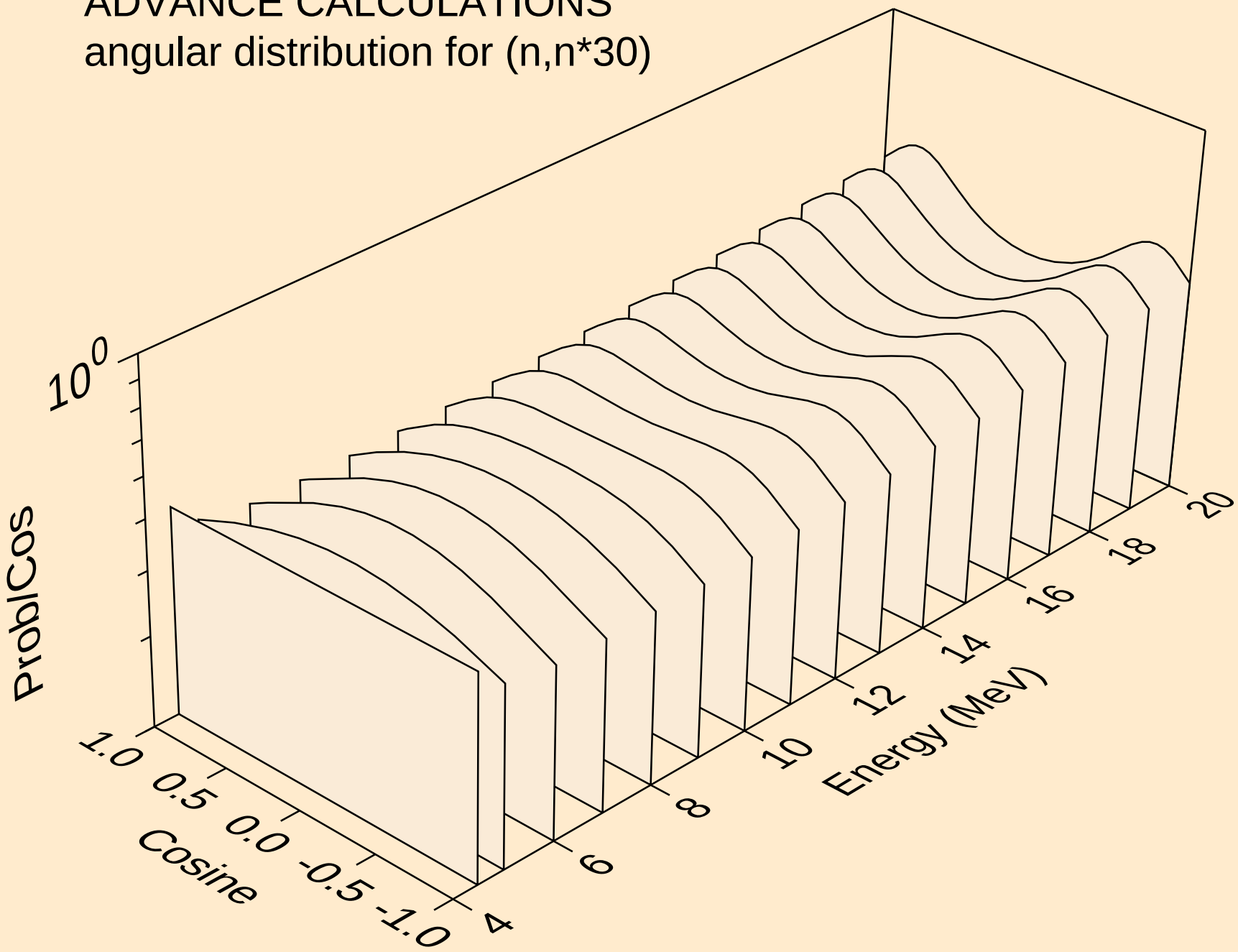
ADVANCE CALCULATIONS
angular distribution for (n,n*28)



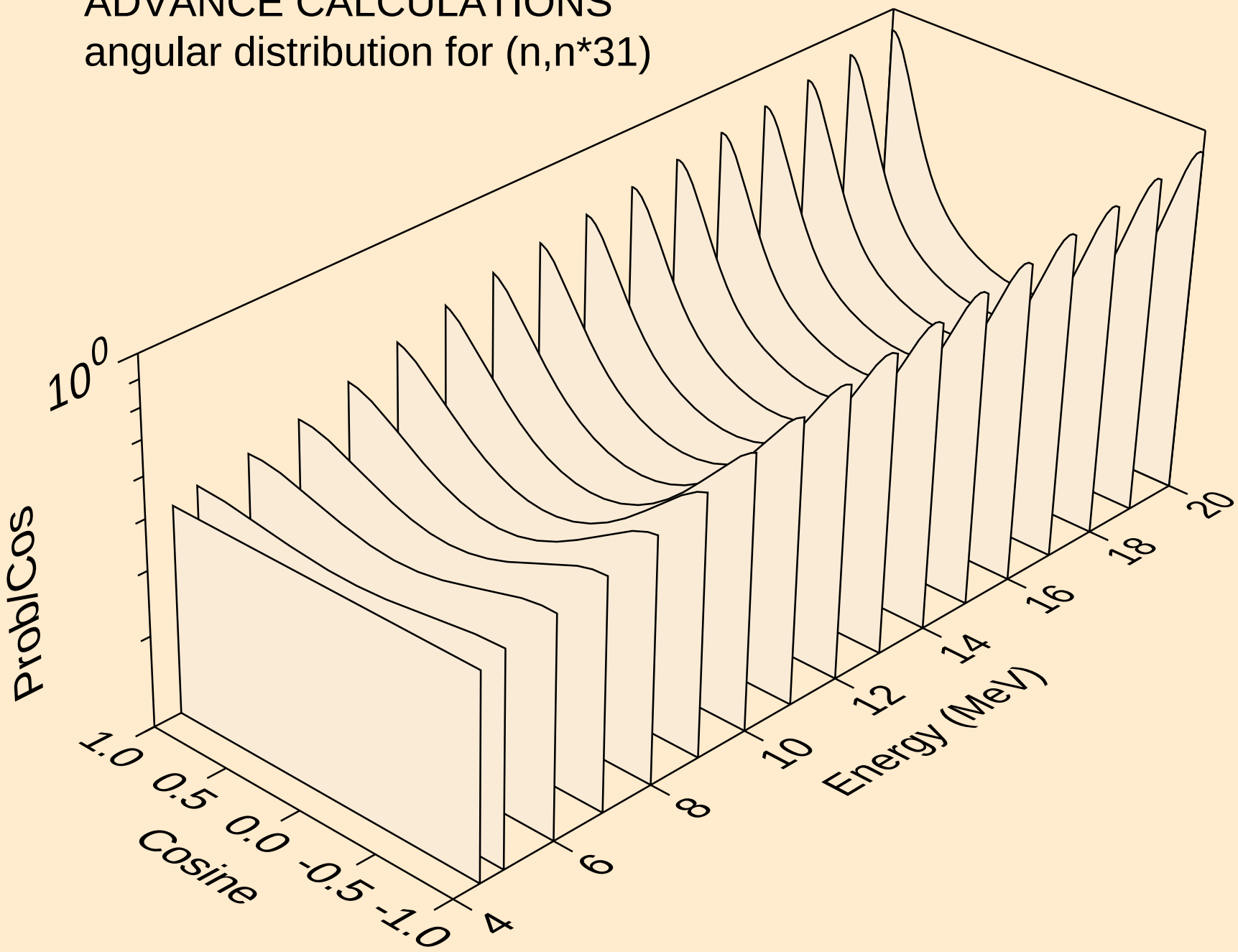
ADVANCE CALCULATIONS
angular distribution for (n,n*29)



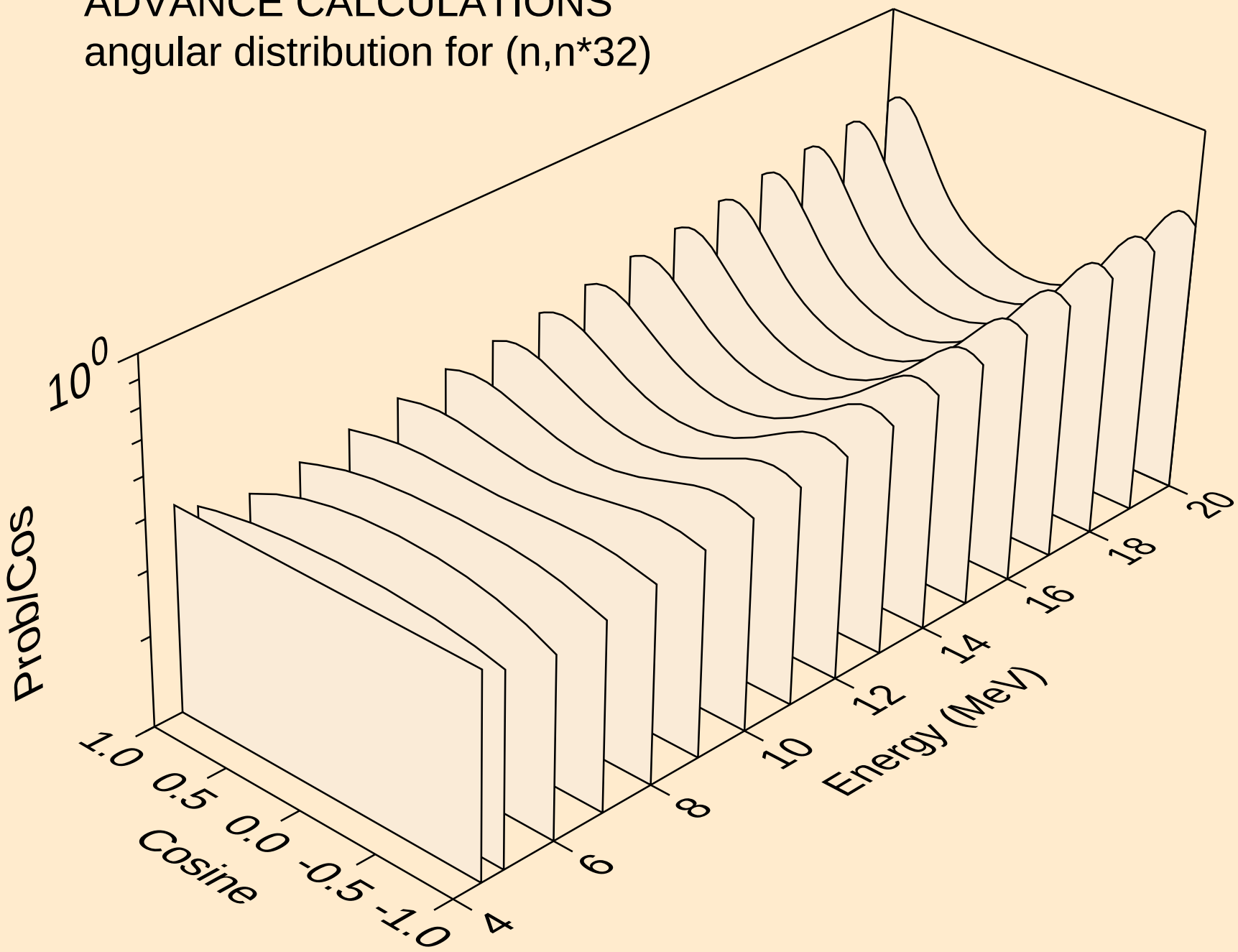
ADVANCE CALCULATIONS
angular distribution for (n,n*30)



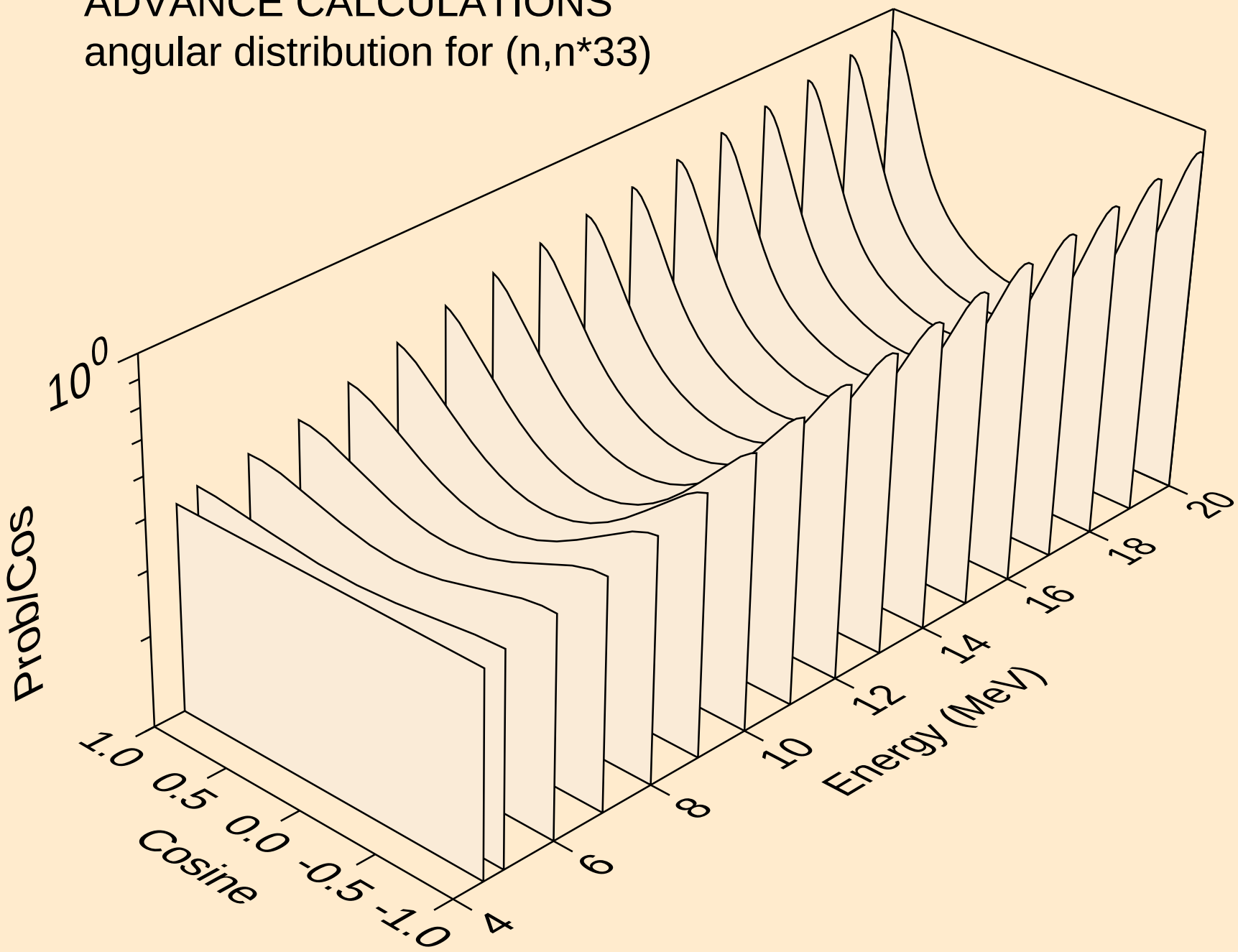
ADVANCE CALCULATIONS
angular distribution for (n,n*31)



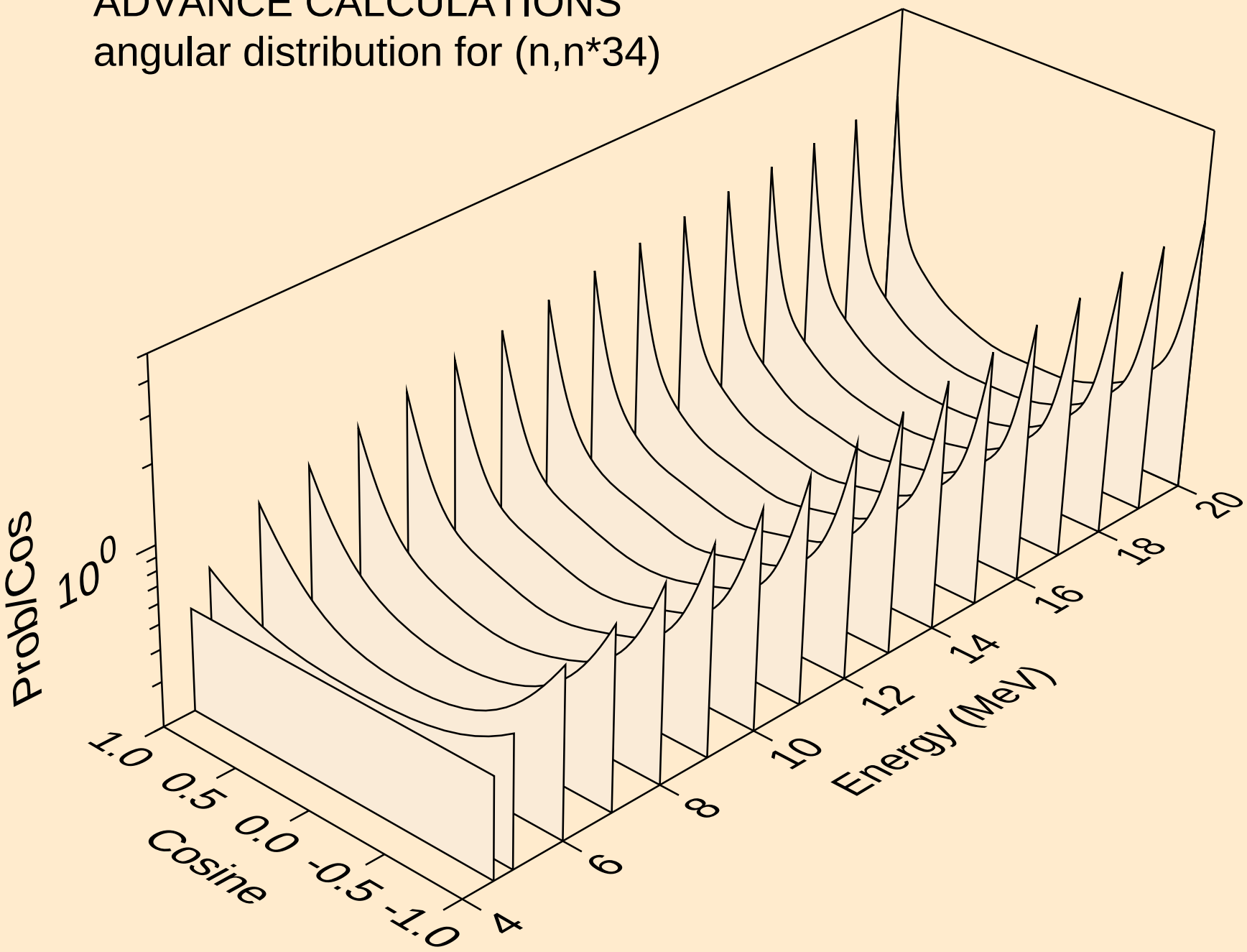
ADVANCE CALCULATIONS
angular distribution for (n,n*32)



ADVANCE CALCULATIONS
angular distribution for (n,n*33)

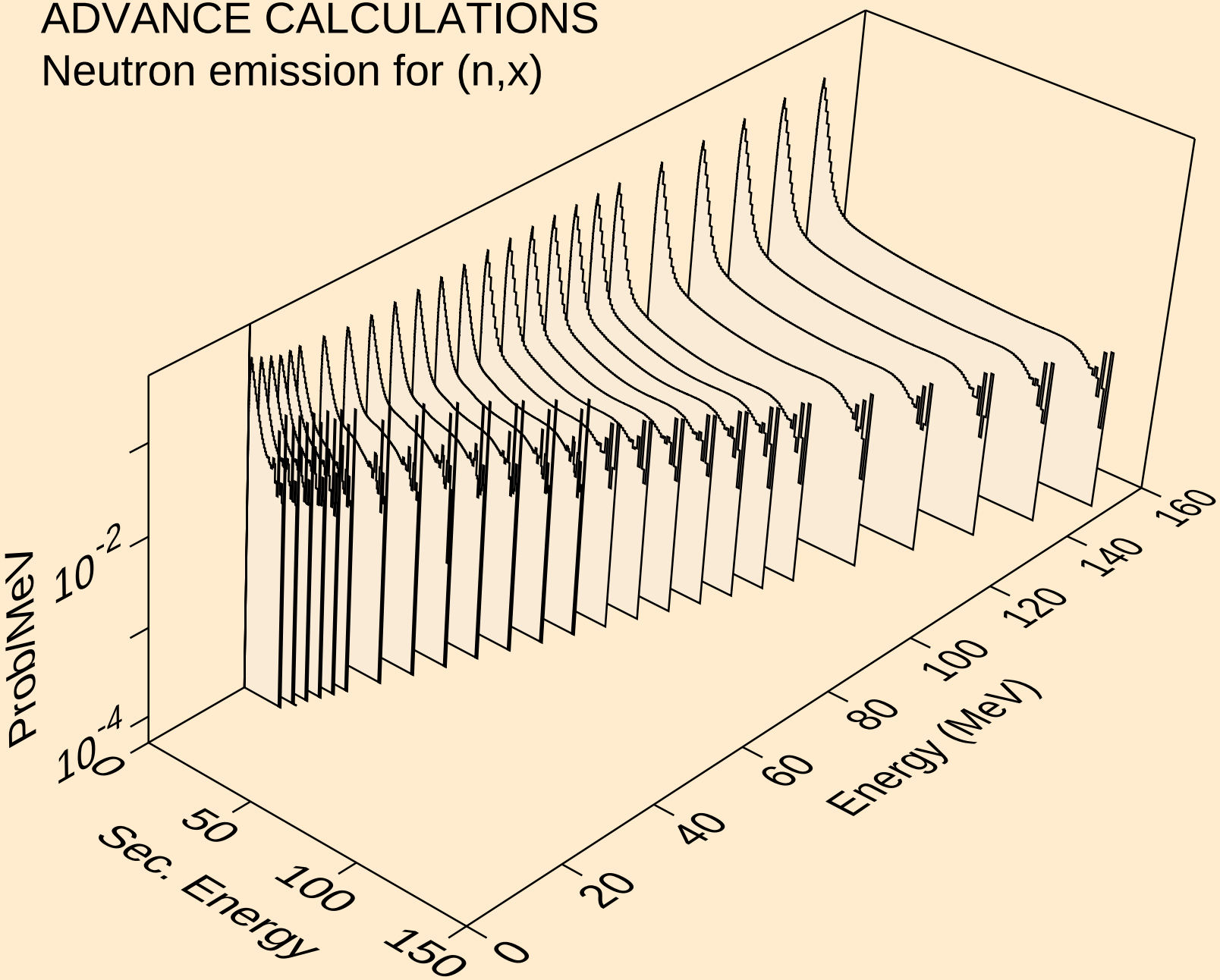


ADVANCE CALCULATIONS
angular distribution for (n,n*34)



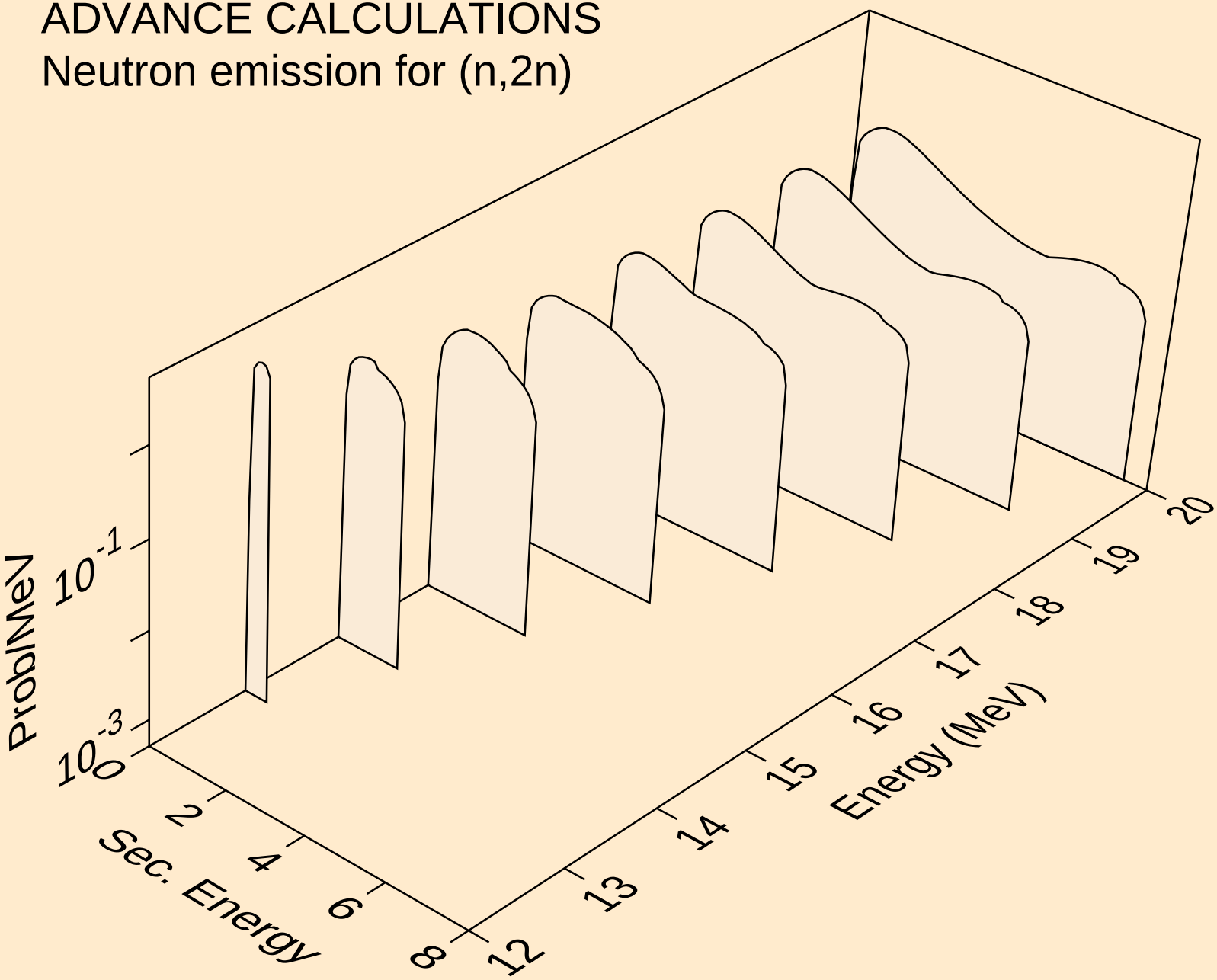
ADVANCE CALCULATIONS

Neutron emission for (n,x)



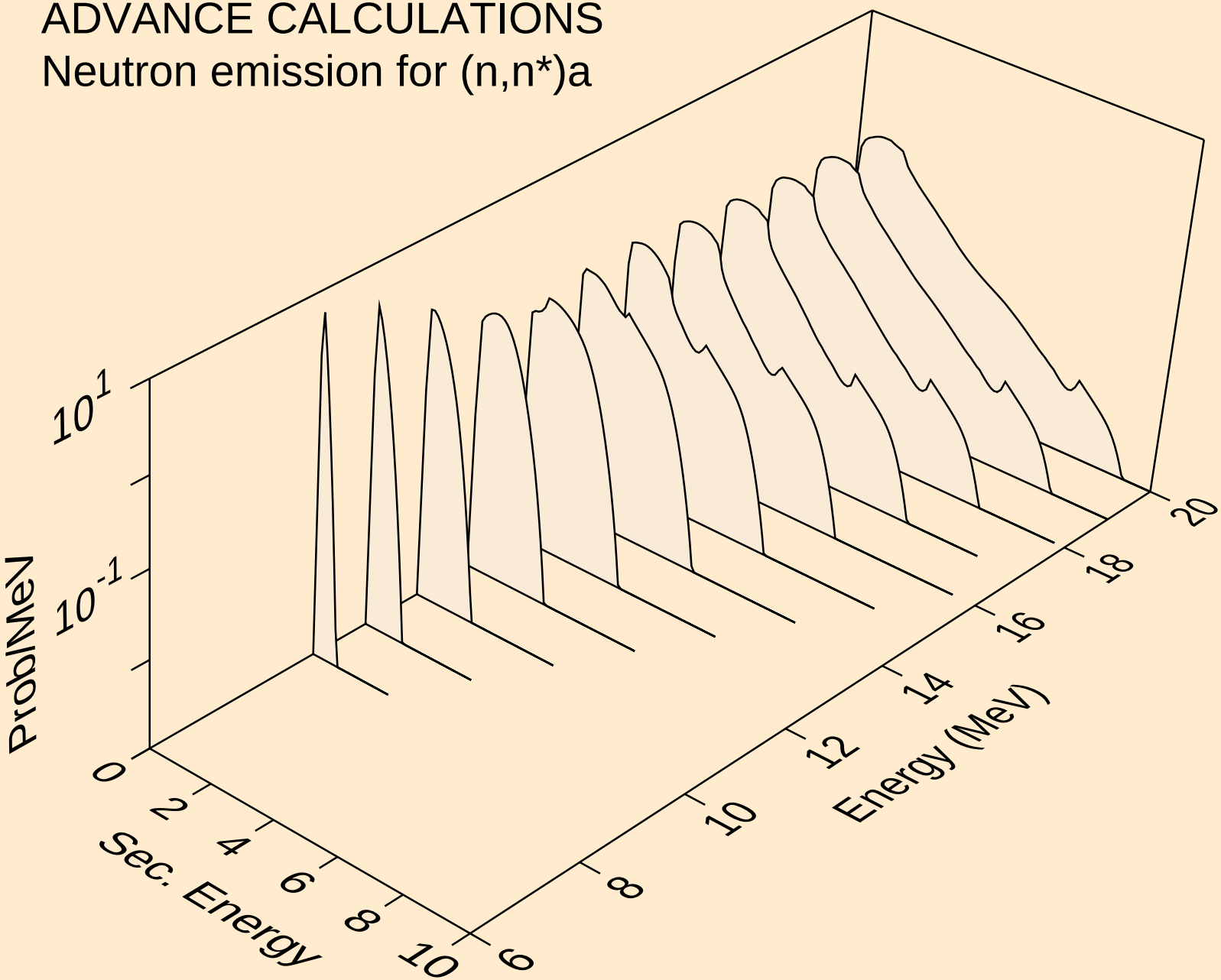
ADVANCE CALCULATIONS

Neutron emission for (n,2n)



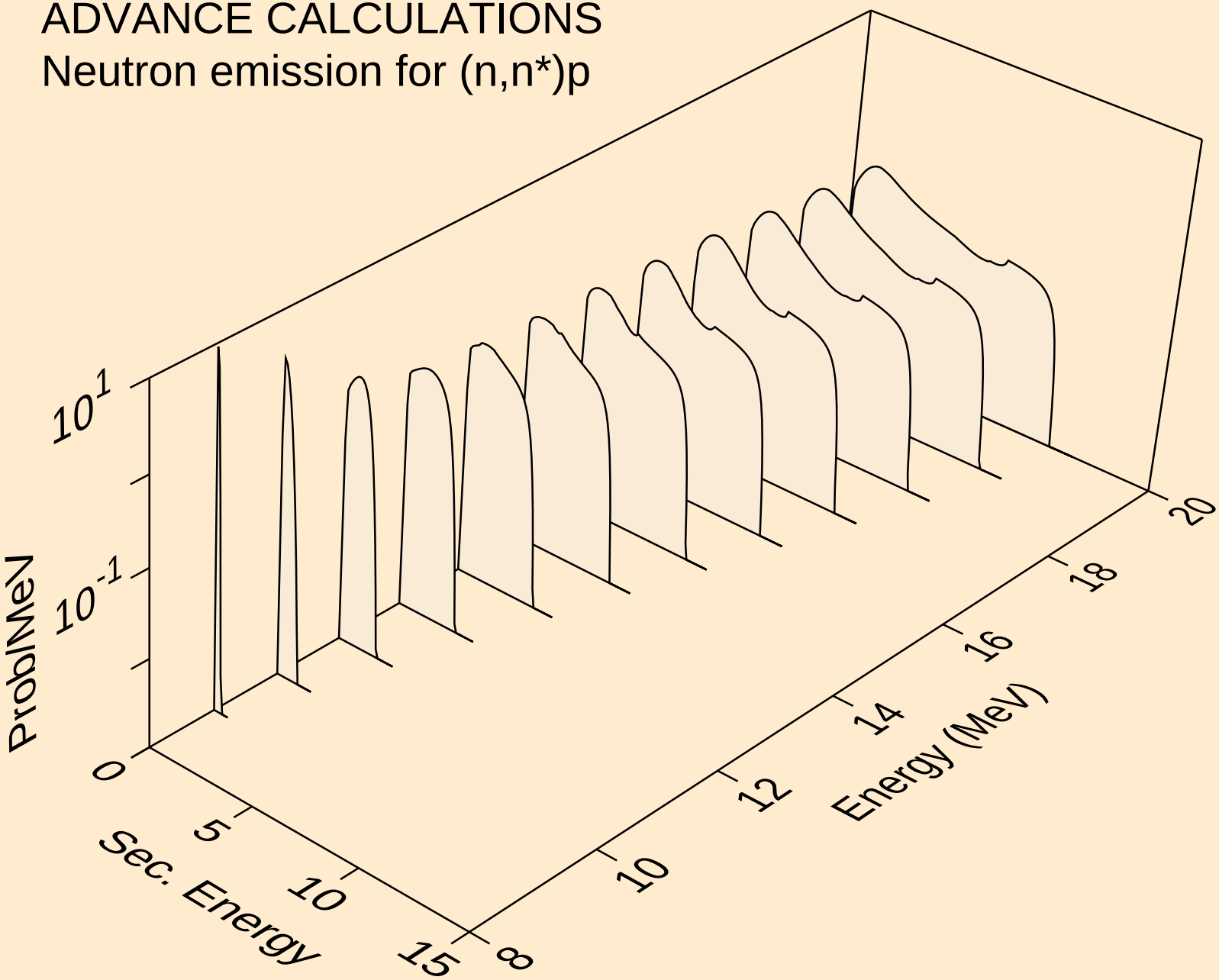
ADVANCE CALCULATIONS

Neutron emission for (n,n*)a



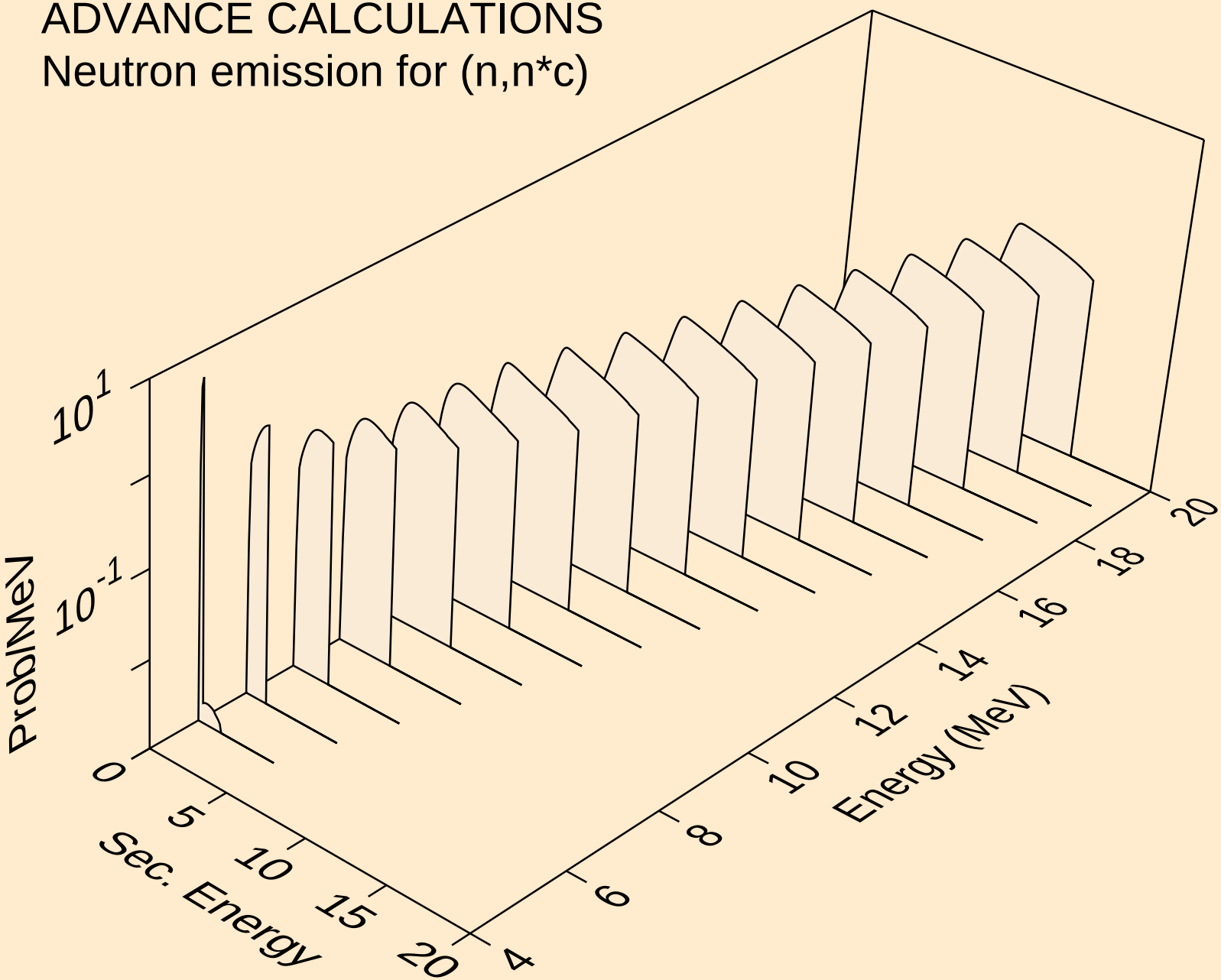
ADVANCE CALCULATIONS

Neutron emission for (n,n*)p



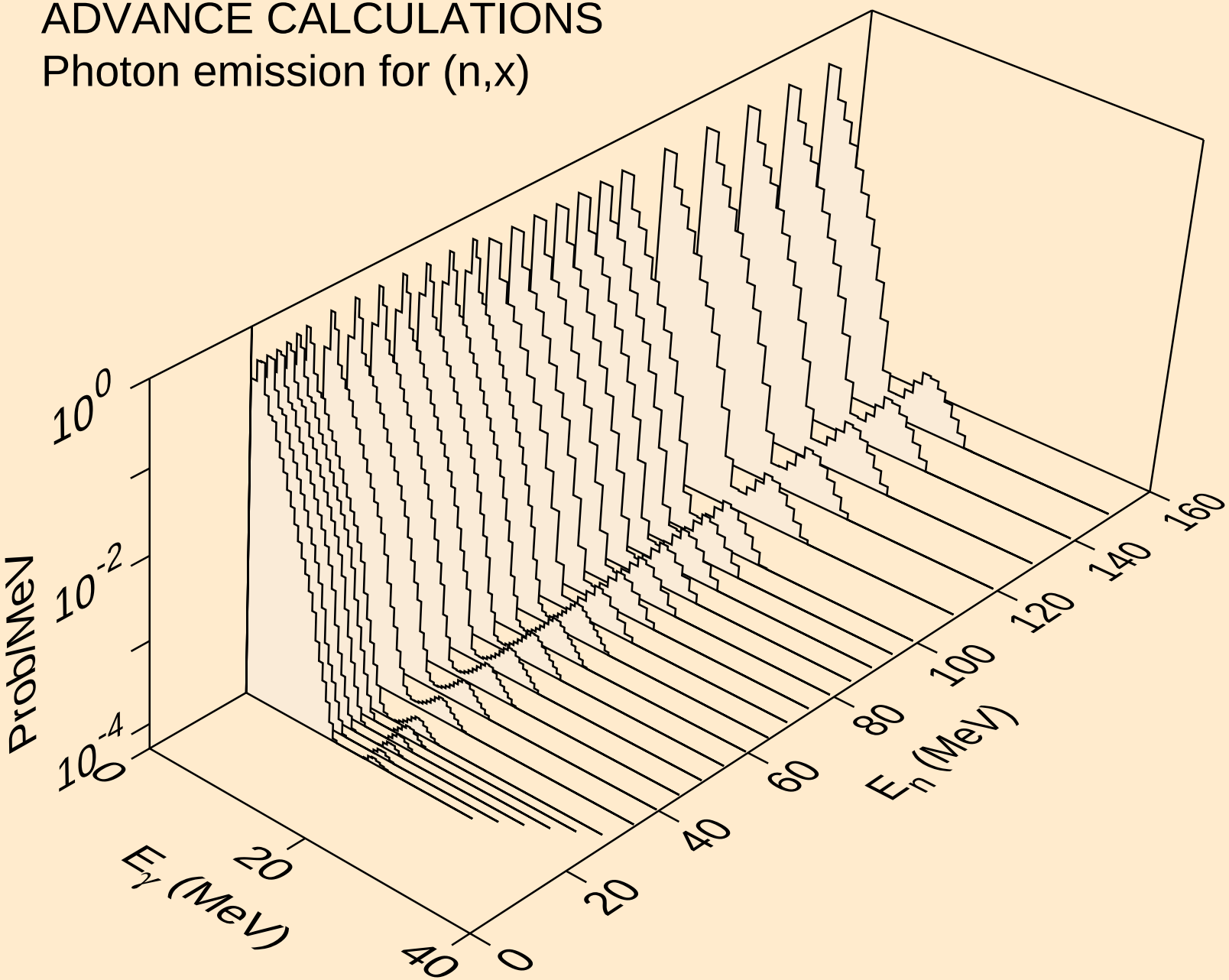
ADVANCE CALCULATIONS

Neutron emission for (n,n*c)



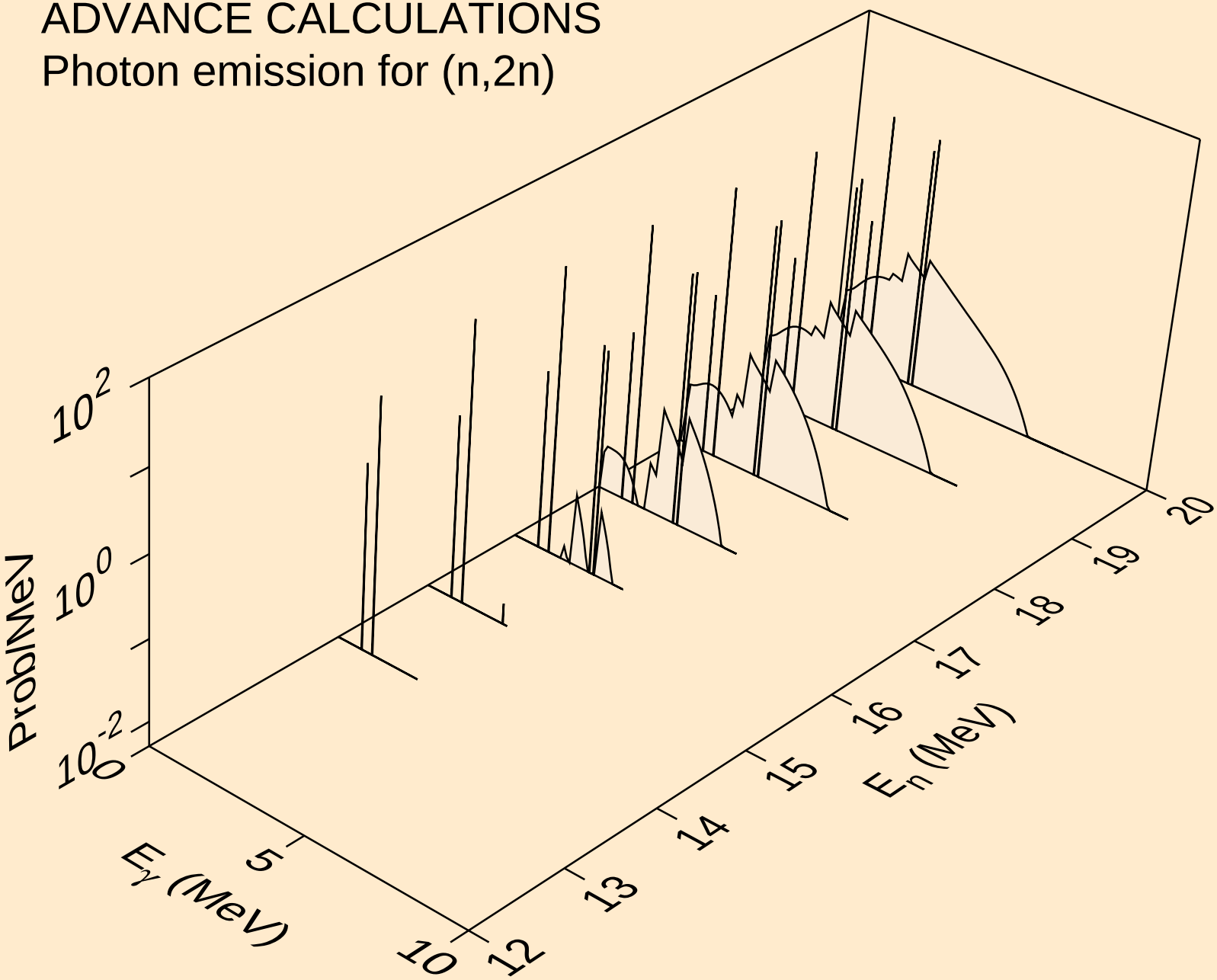
ADVANCE CALCULATIONS

Photon emission for (n,x)



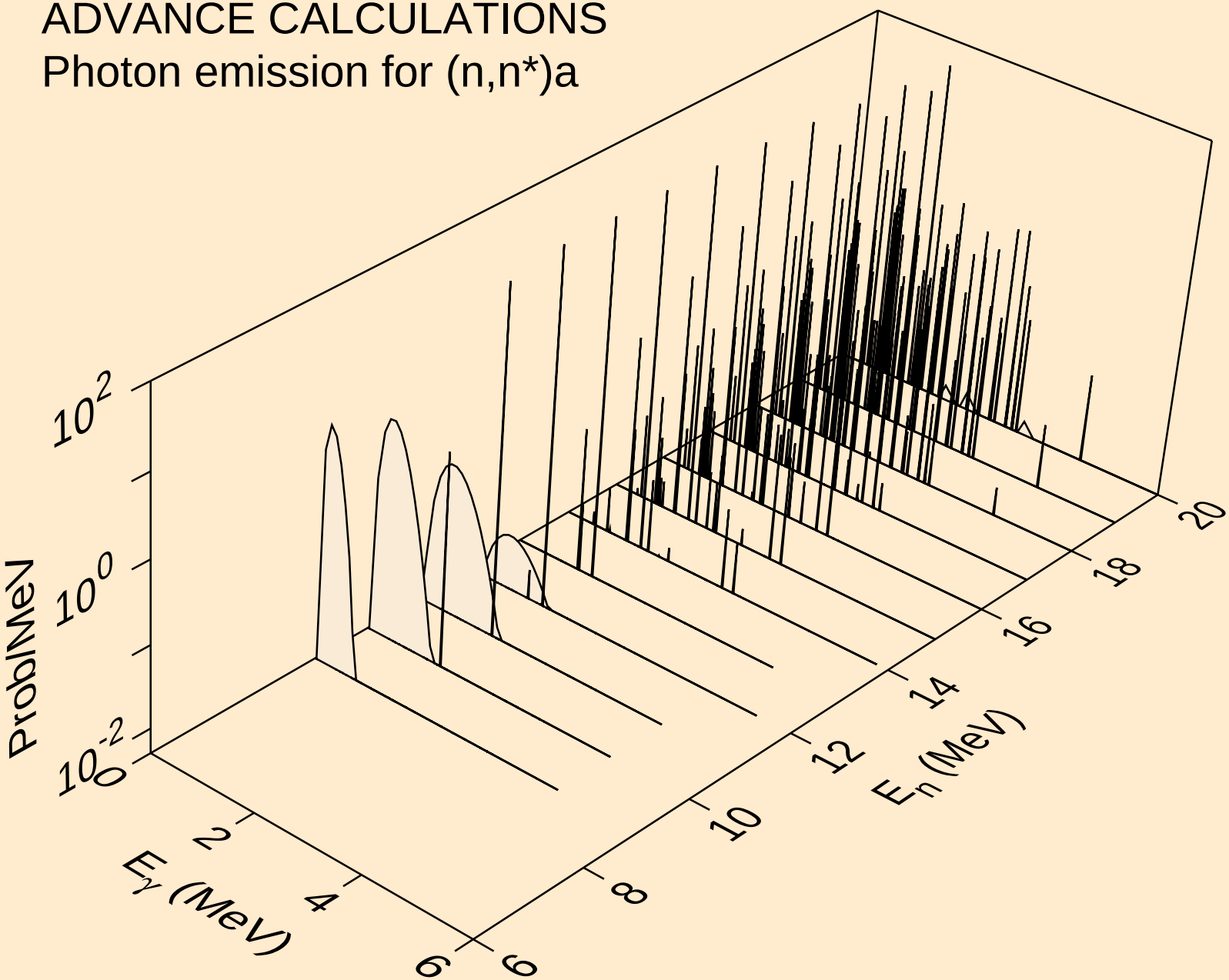
ADVANCE CALCULATIONS

Photon emission for (n,2n)



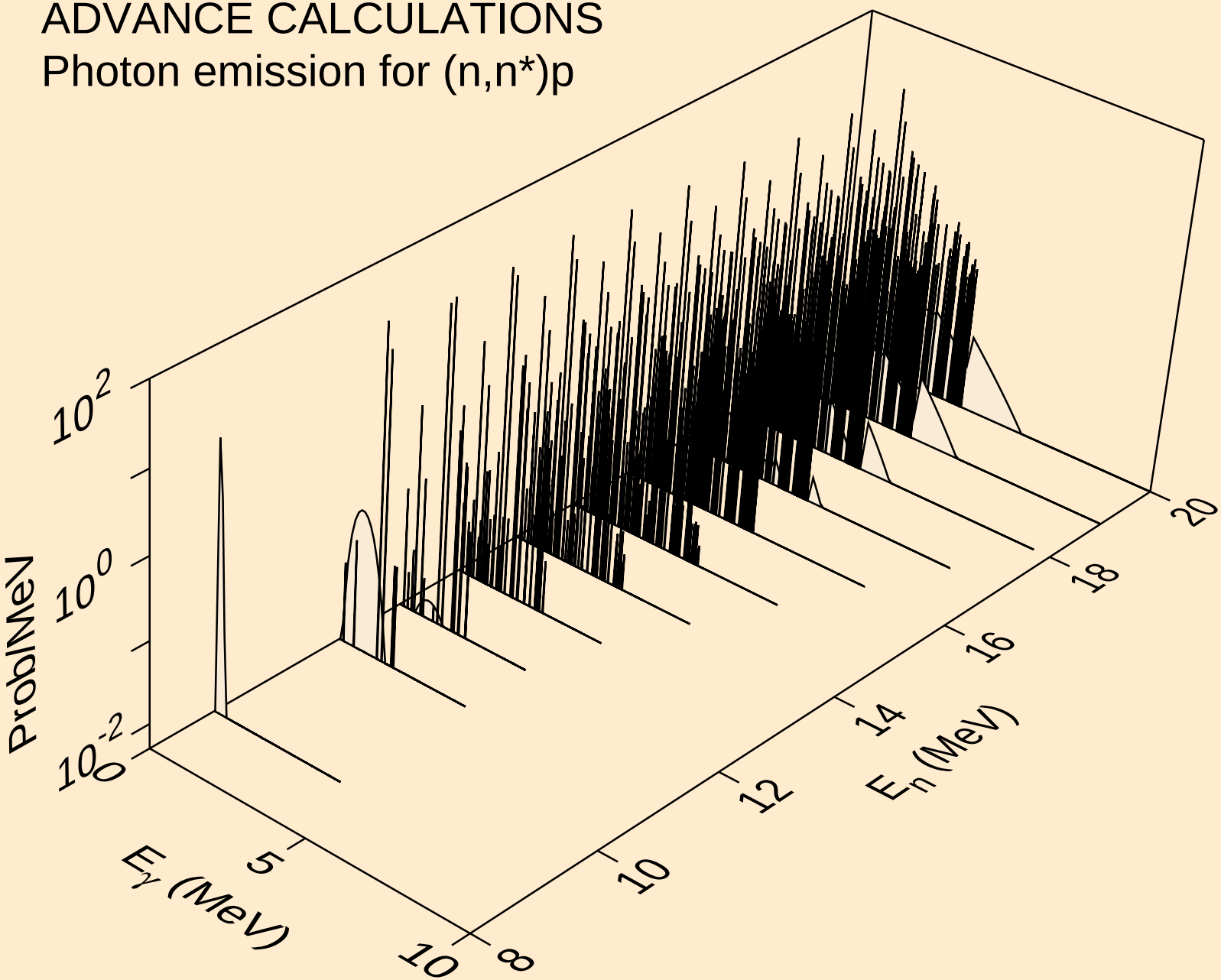
ADVANCE CALCULATIONS

Photon emission for (n,n*)a



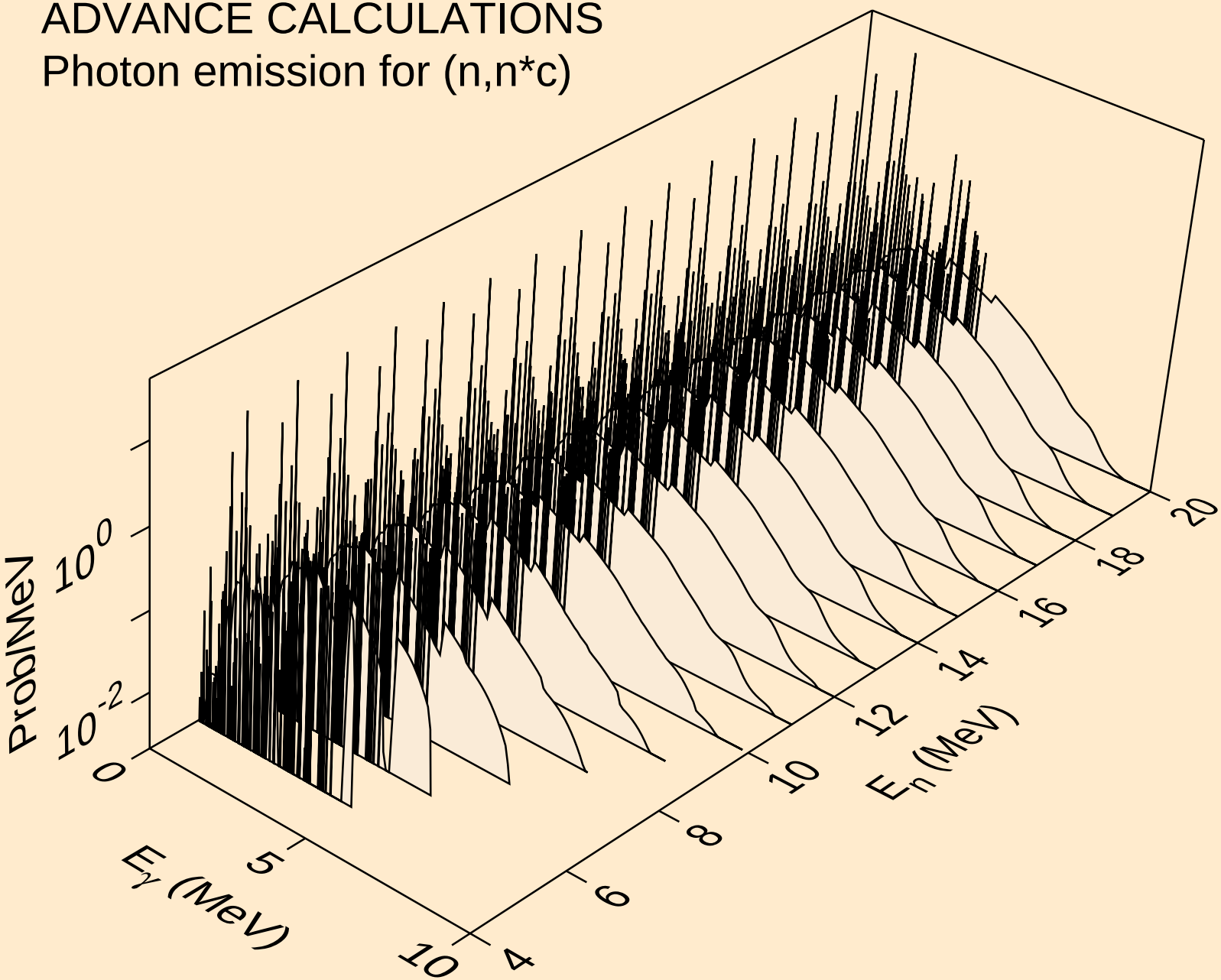
ADVANCE CALCULATIONS

Photon emission for (n,n*)p



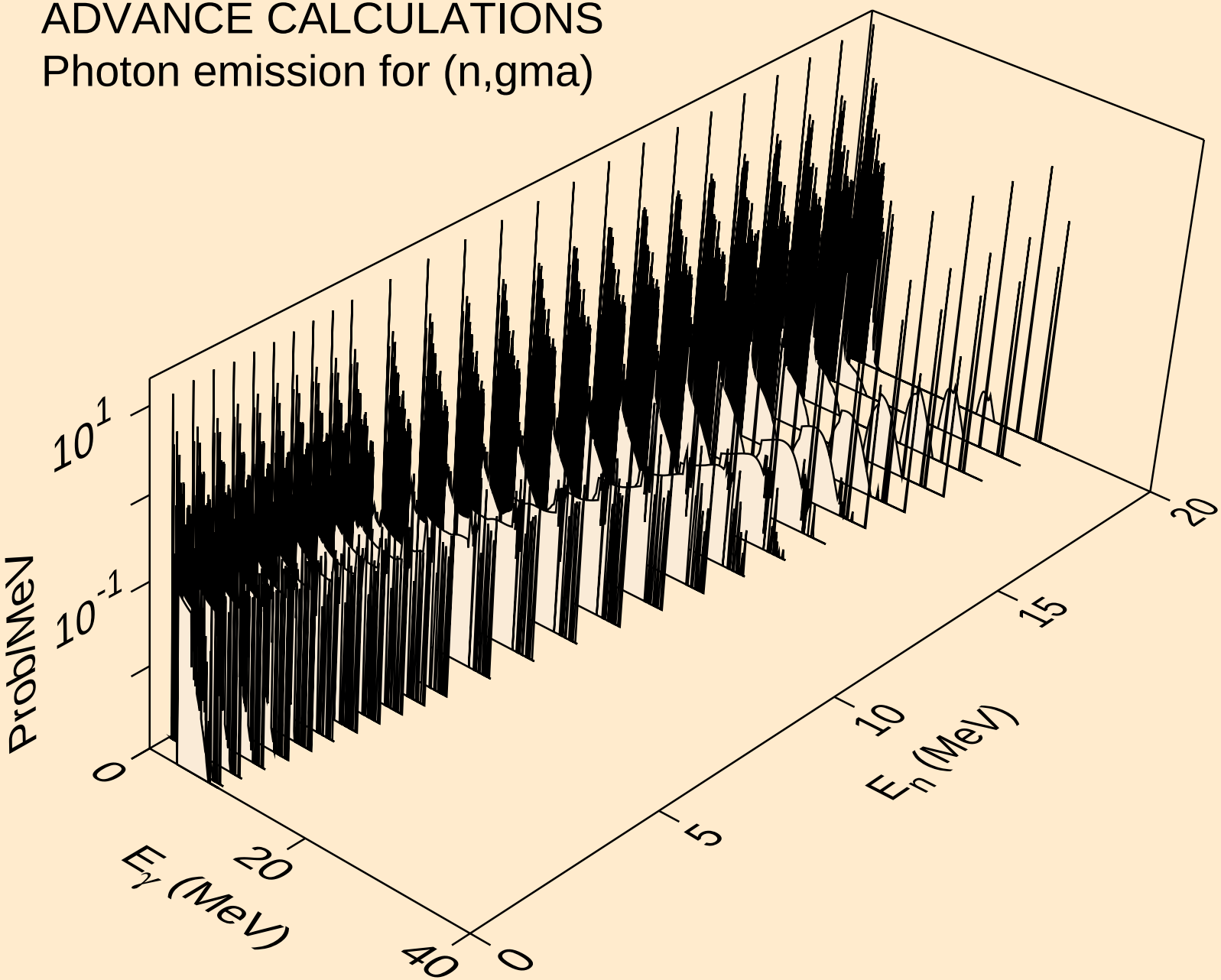
ADVANCE CALCULATIONS

Photon emission for (n,n*c)



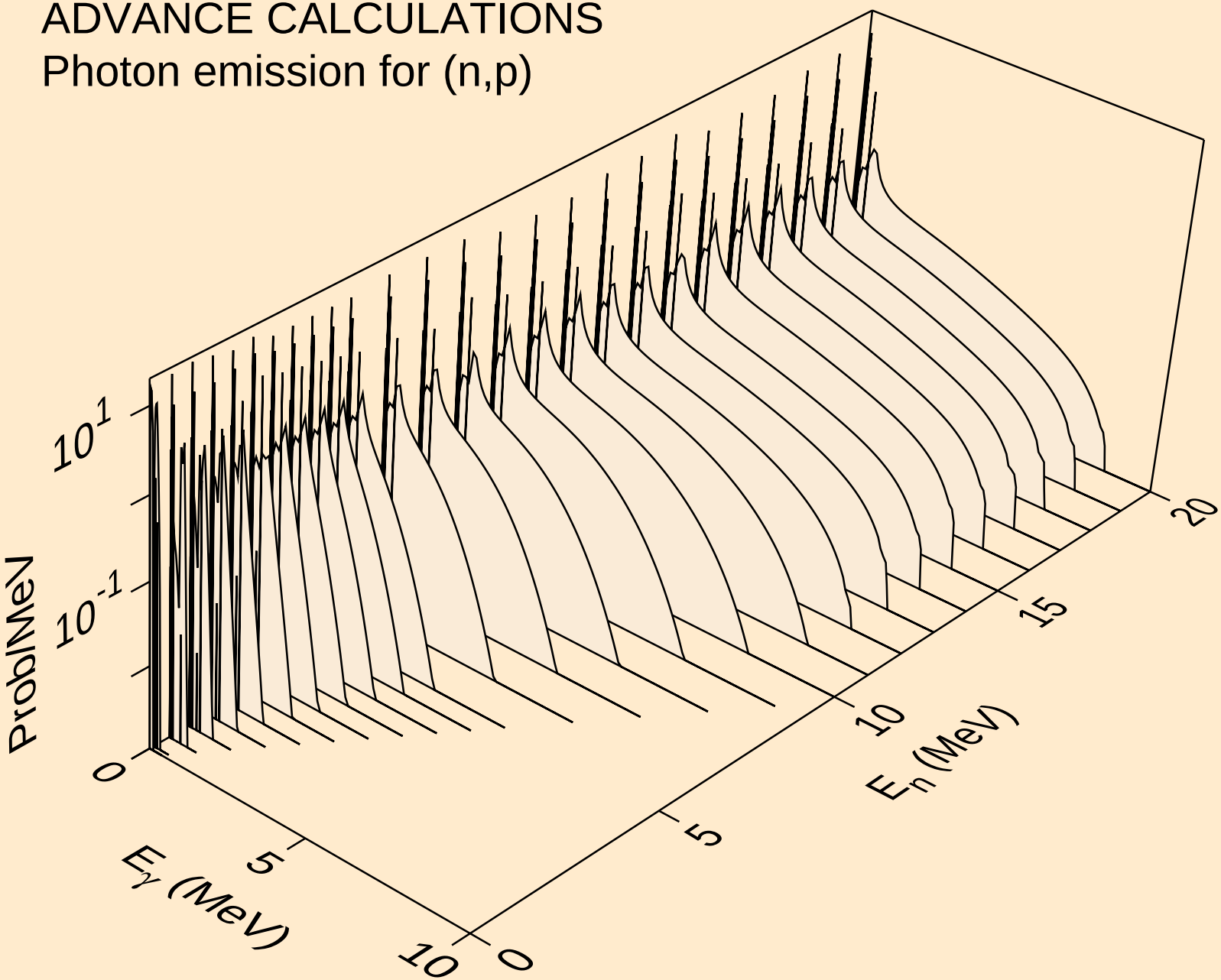
ADVANCE CALCULATIONS

Photon emission for (n,gma)



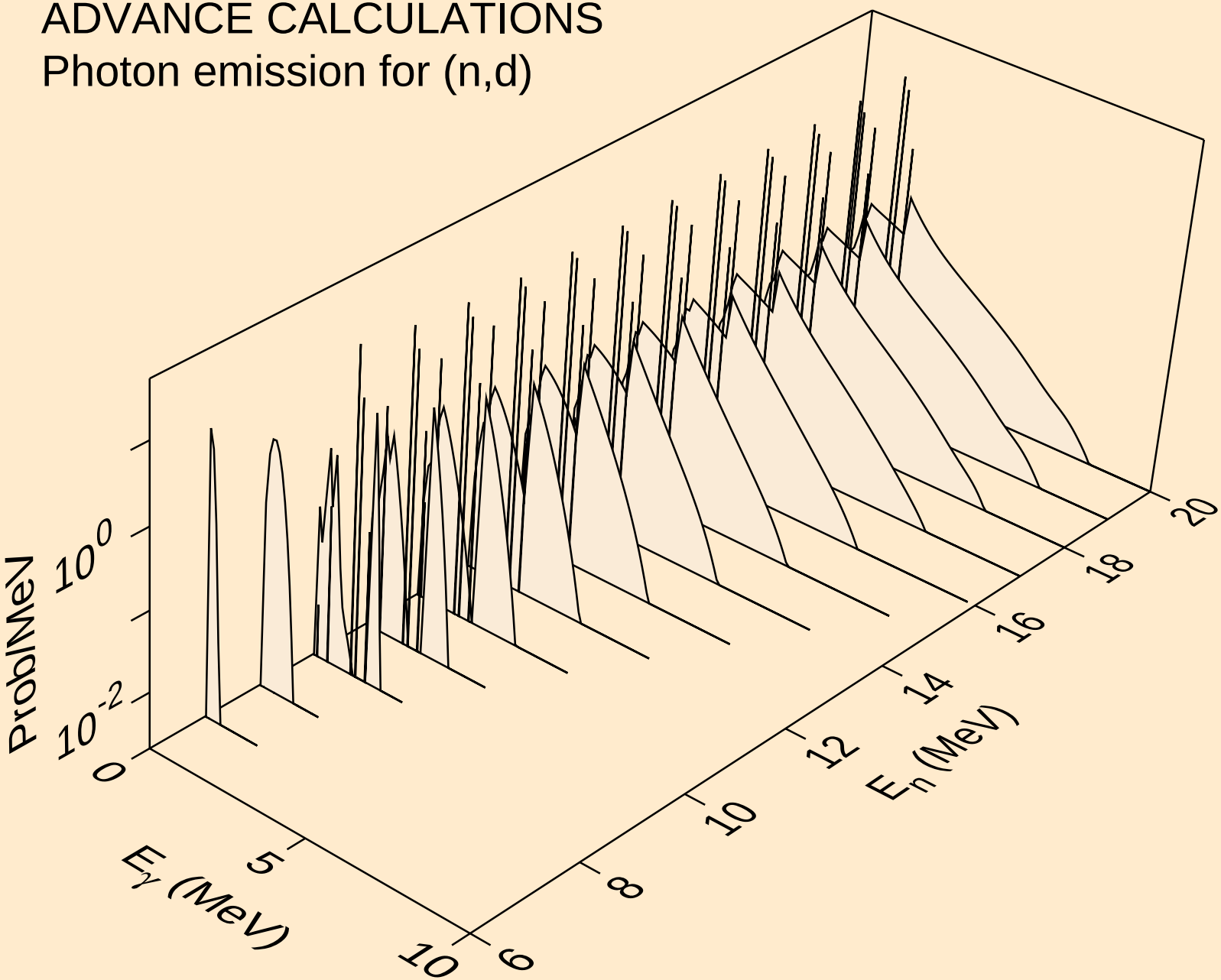
ADVANCE CALCULATIONS

Photon emission for (n,p)



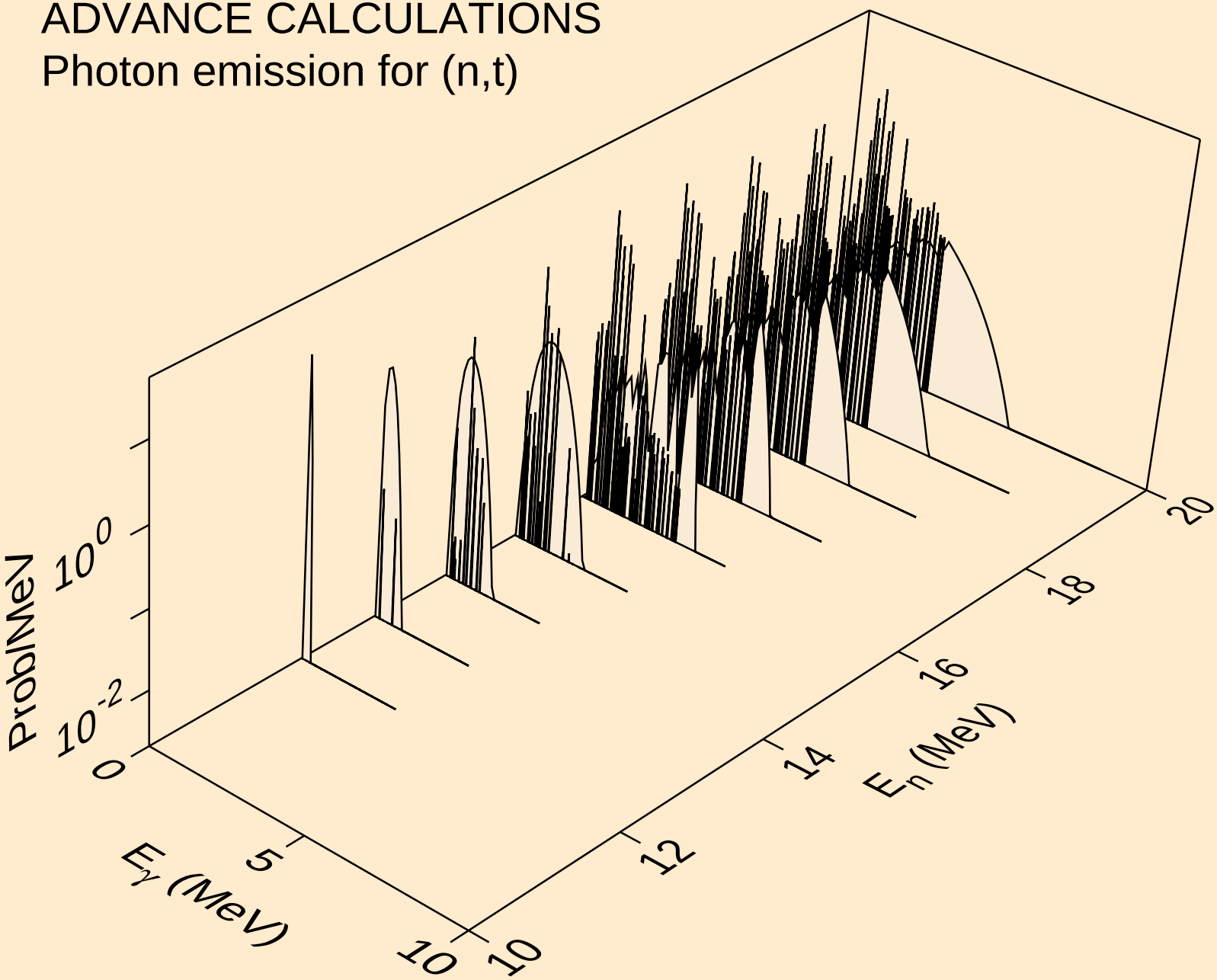
ADVANCE CALCULATIONS

Photon emission for (n,d)



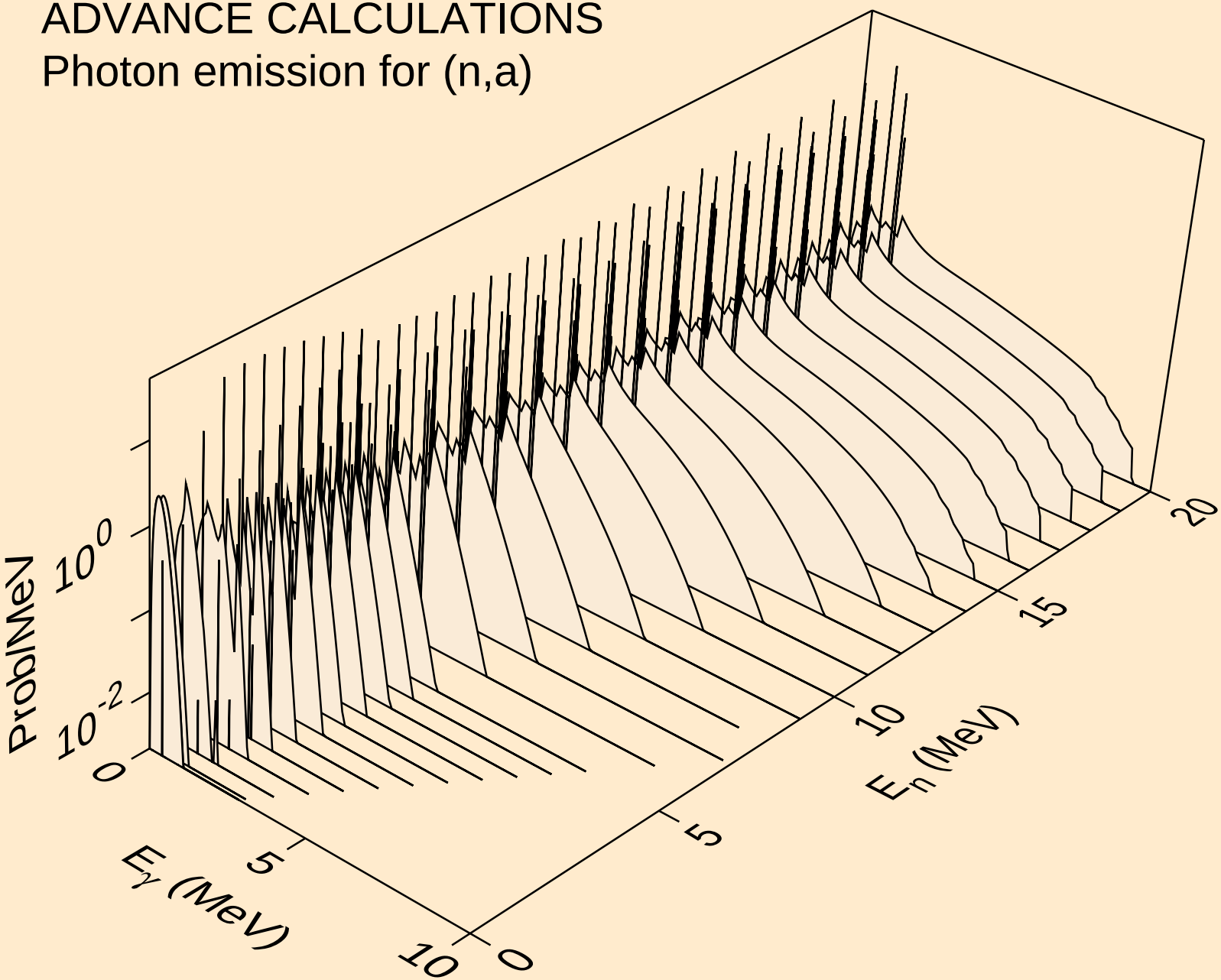
ADVANCE CALCULATIONS

Photon emission for (n,t)



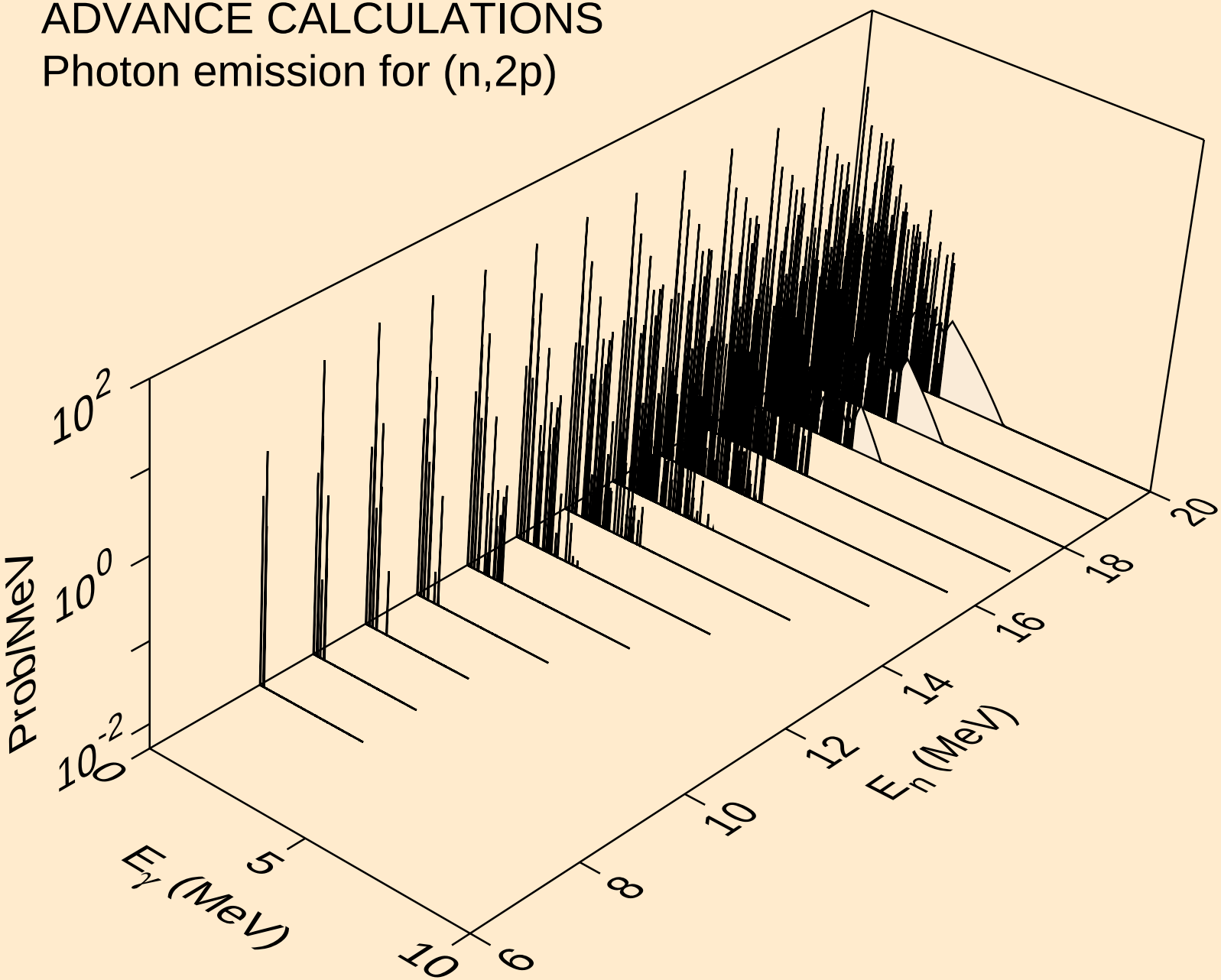
ADVANCE CALCULATIONS

Photon emission for (n,a)



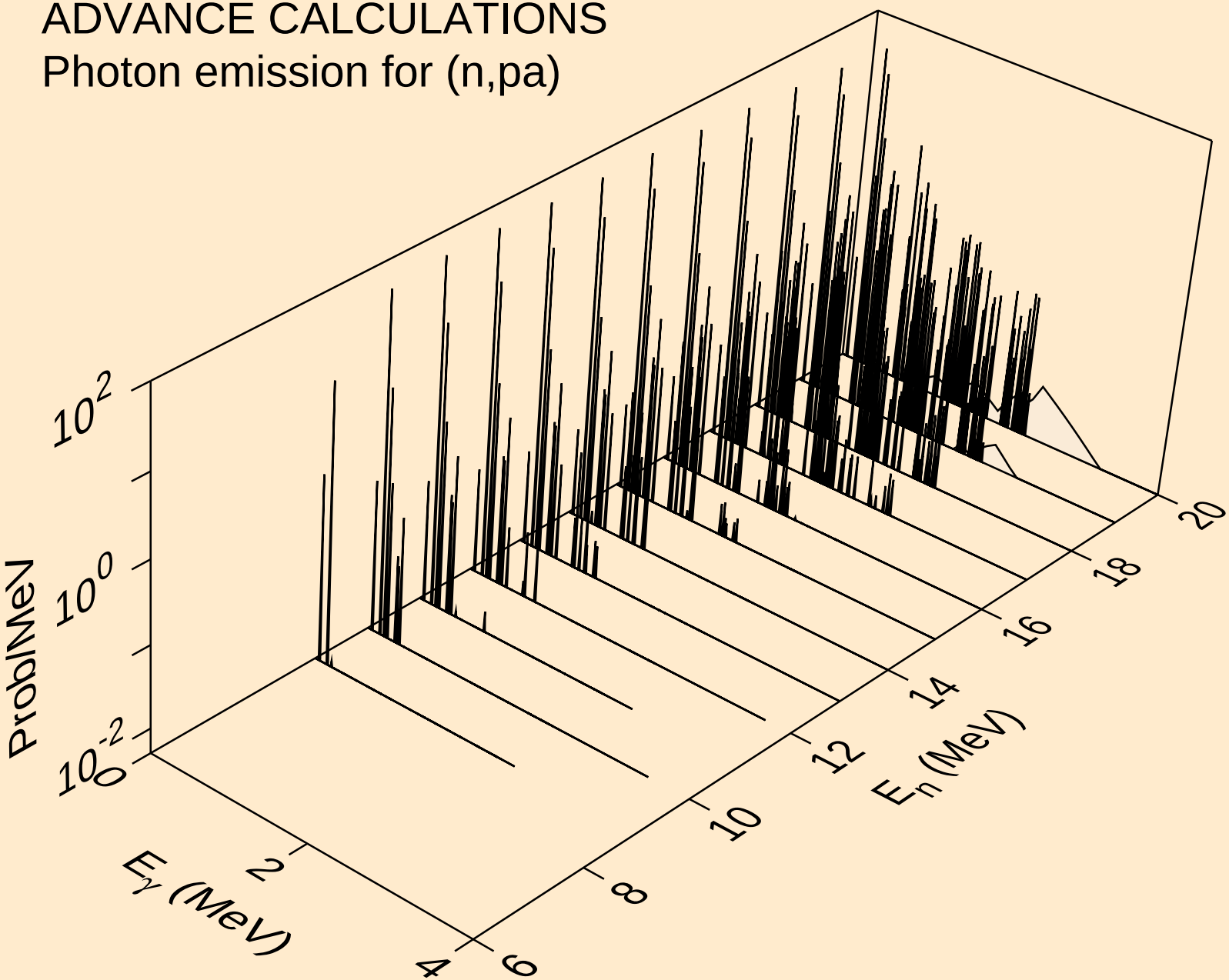
ADVANCE CALCULATIONS

Photon emission for (n,2p)

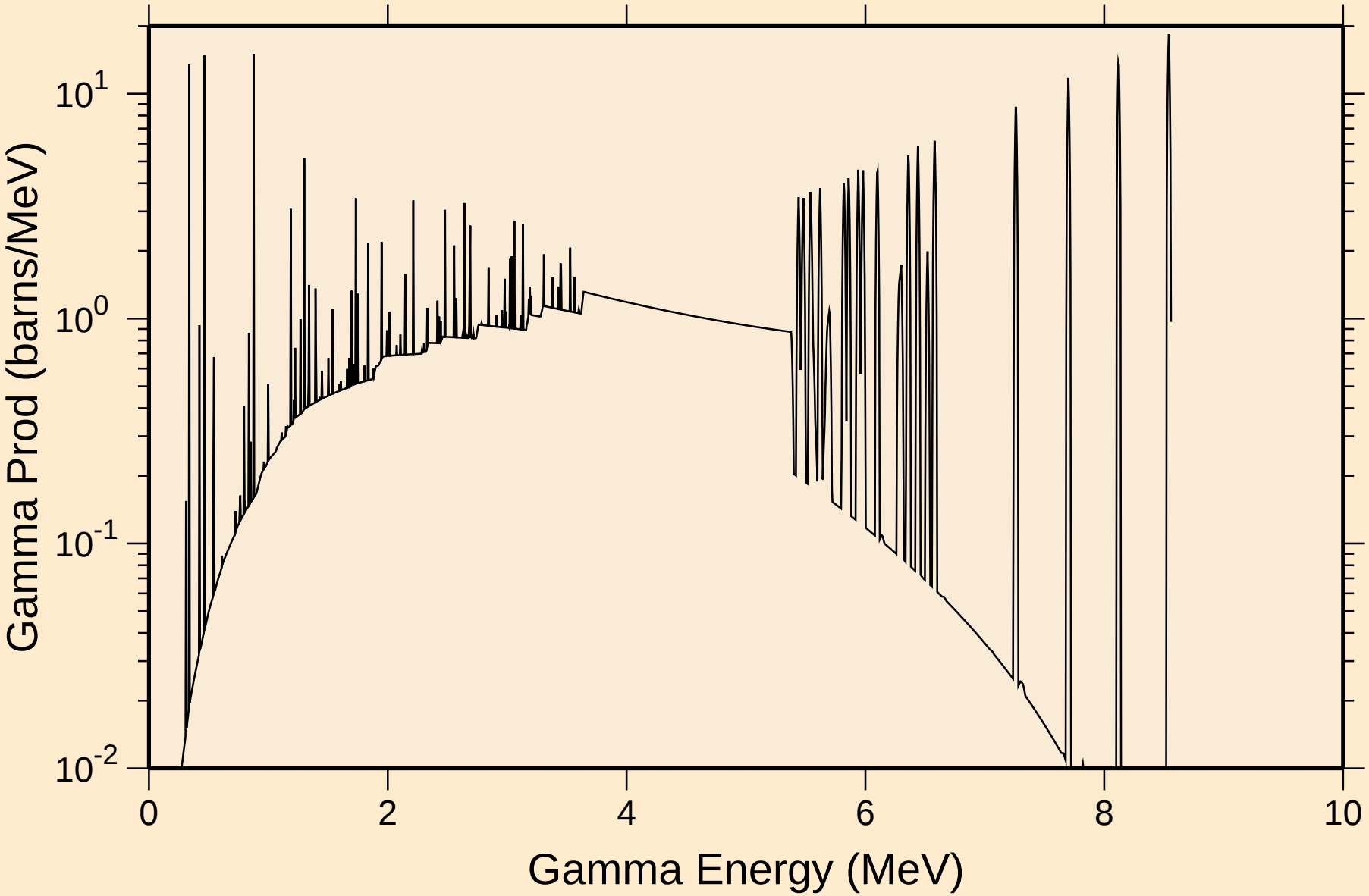


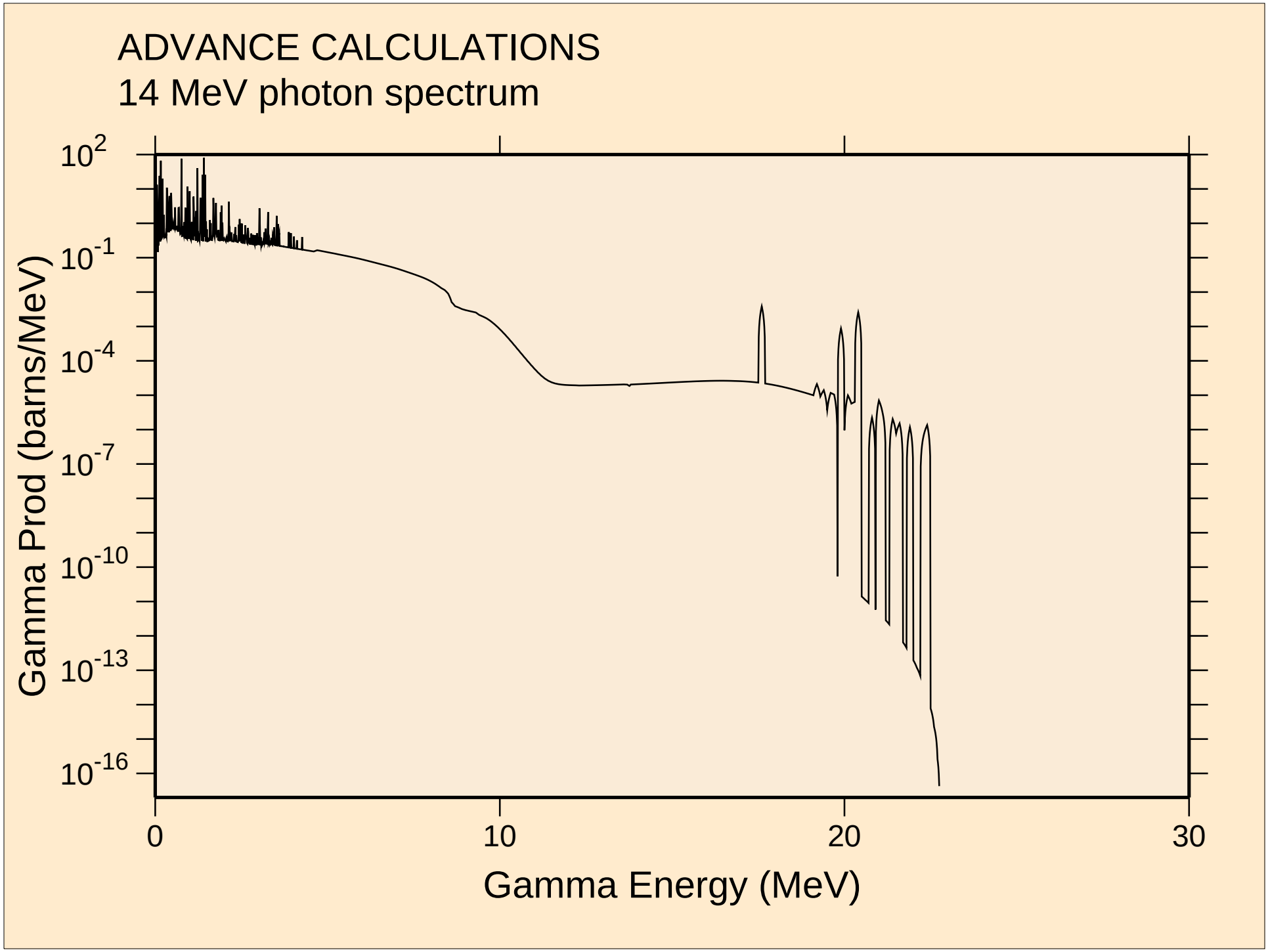
ADVANCE CALCULATIONS

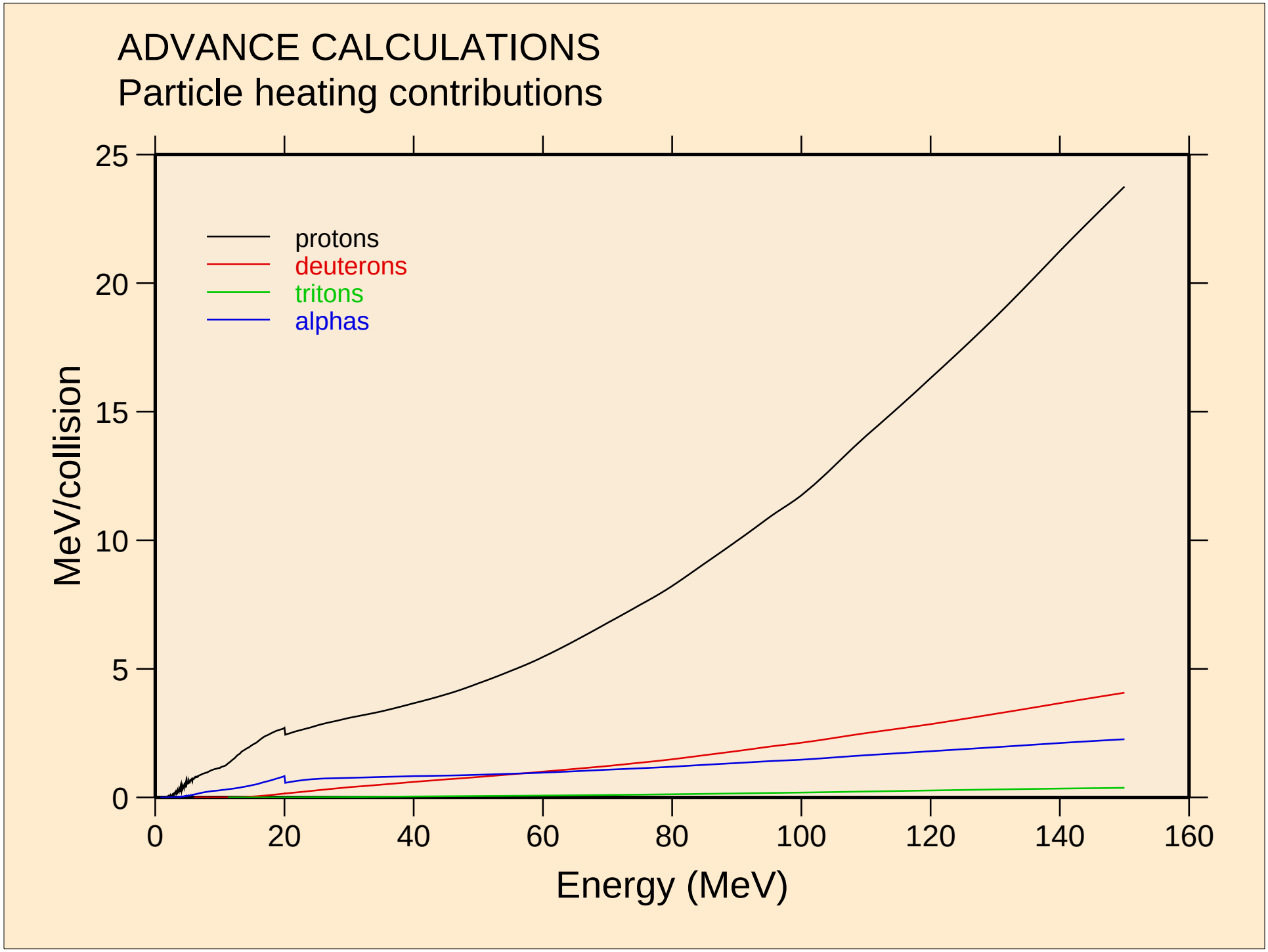
Photon emission for (n,pa)



ADVANCE CALCULATIONS
thermal capture photon spectrum

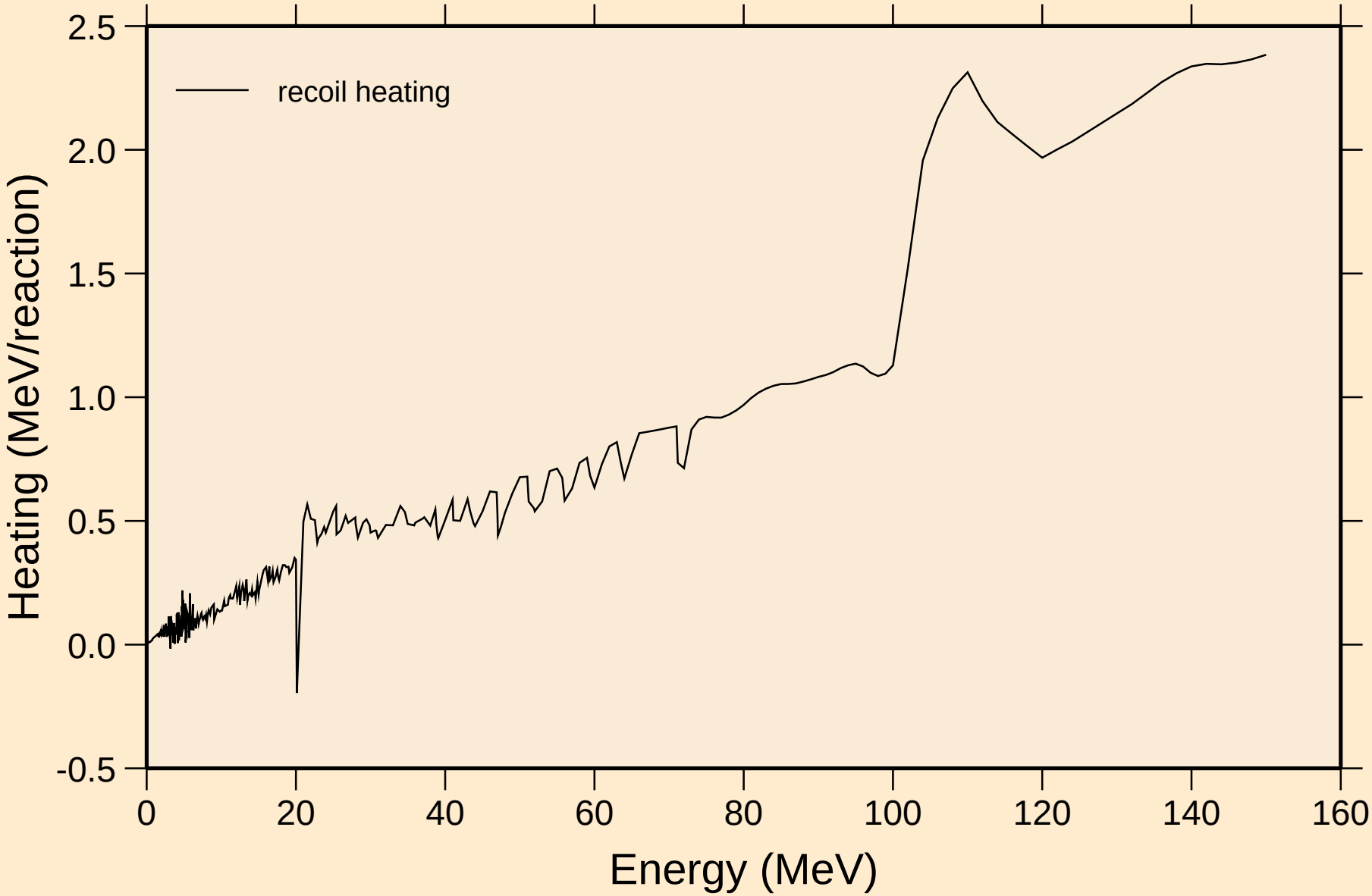



ADVANCE CALCULATIONS
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^2
10^-1
10^-4
10^-7
10^-10
10^-13
10^-16
0
10
20
30
Gamma Energy (MeV)


ADVANCE CALCULATIONS
Particle heating contributions
protons
deuterons
tritons
alphas
MeV/collision
Energy (MeV)
0
5
10
15
20
25
0
20
40
60
80
100
120
140
160

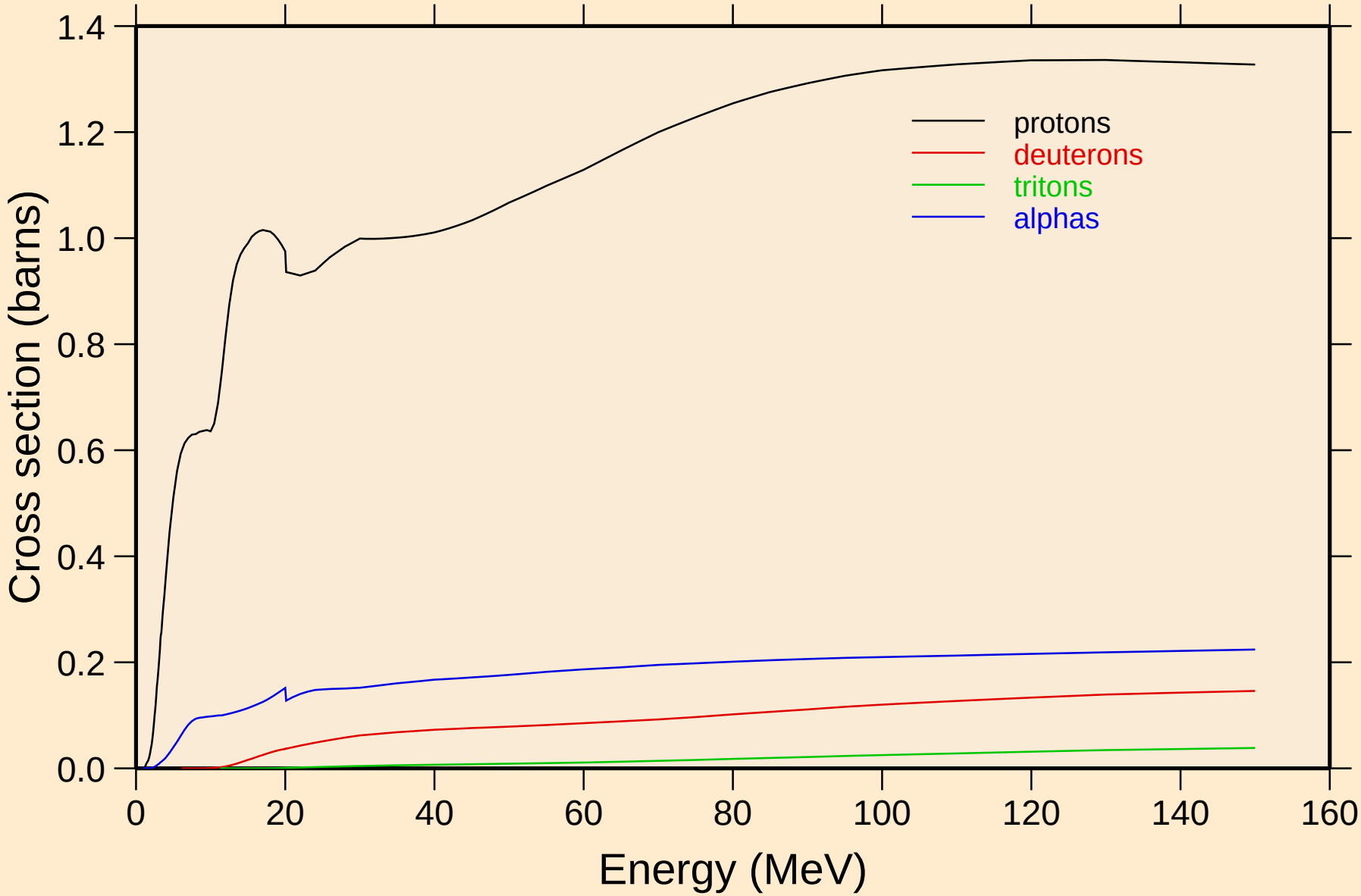
ADVANCE CALCULATIONS

Recoil Heating

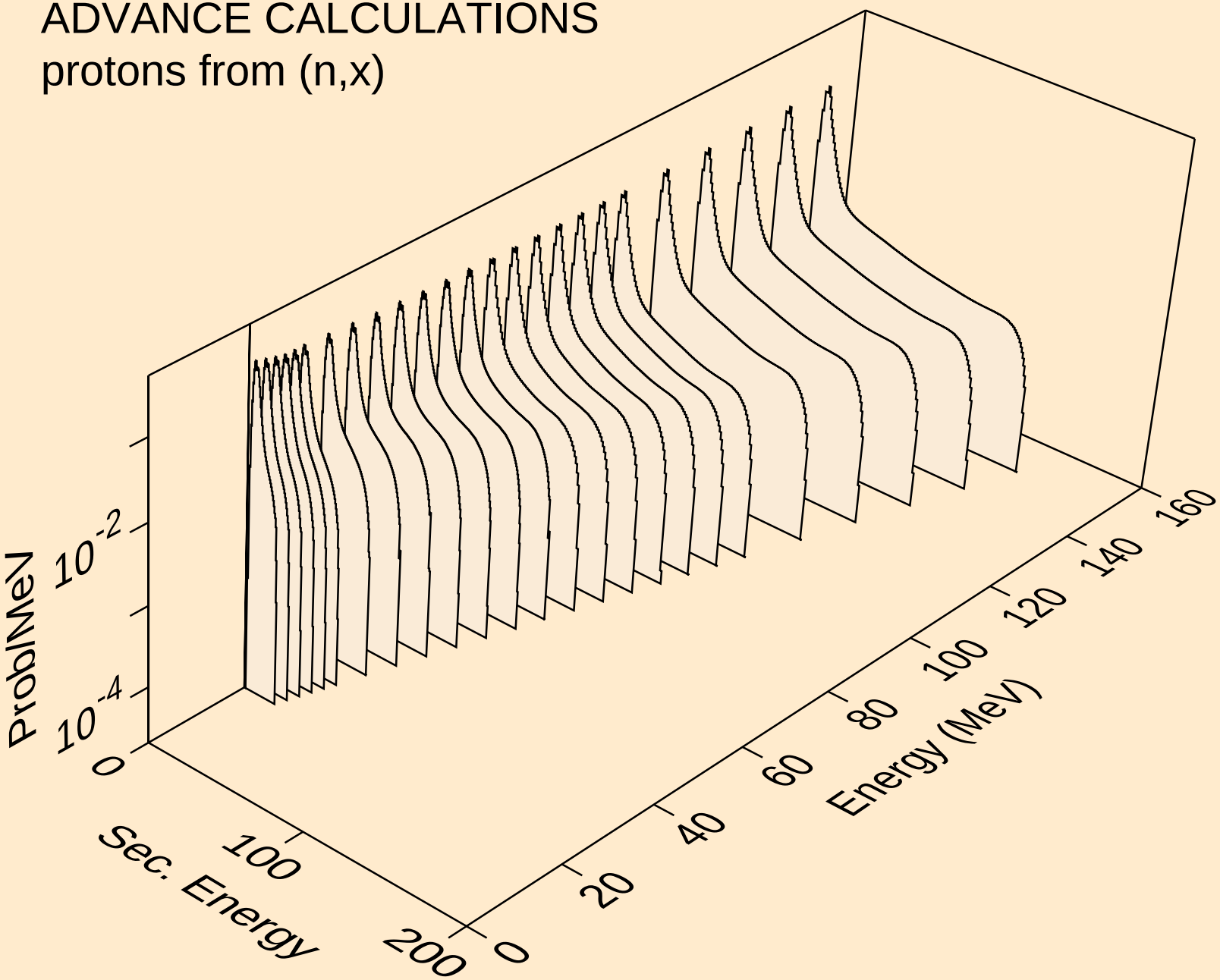


ADVANCE CALCULATIONS

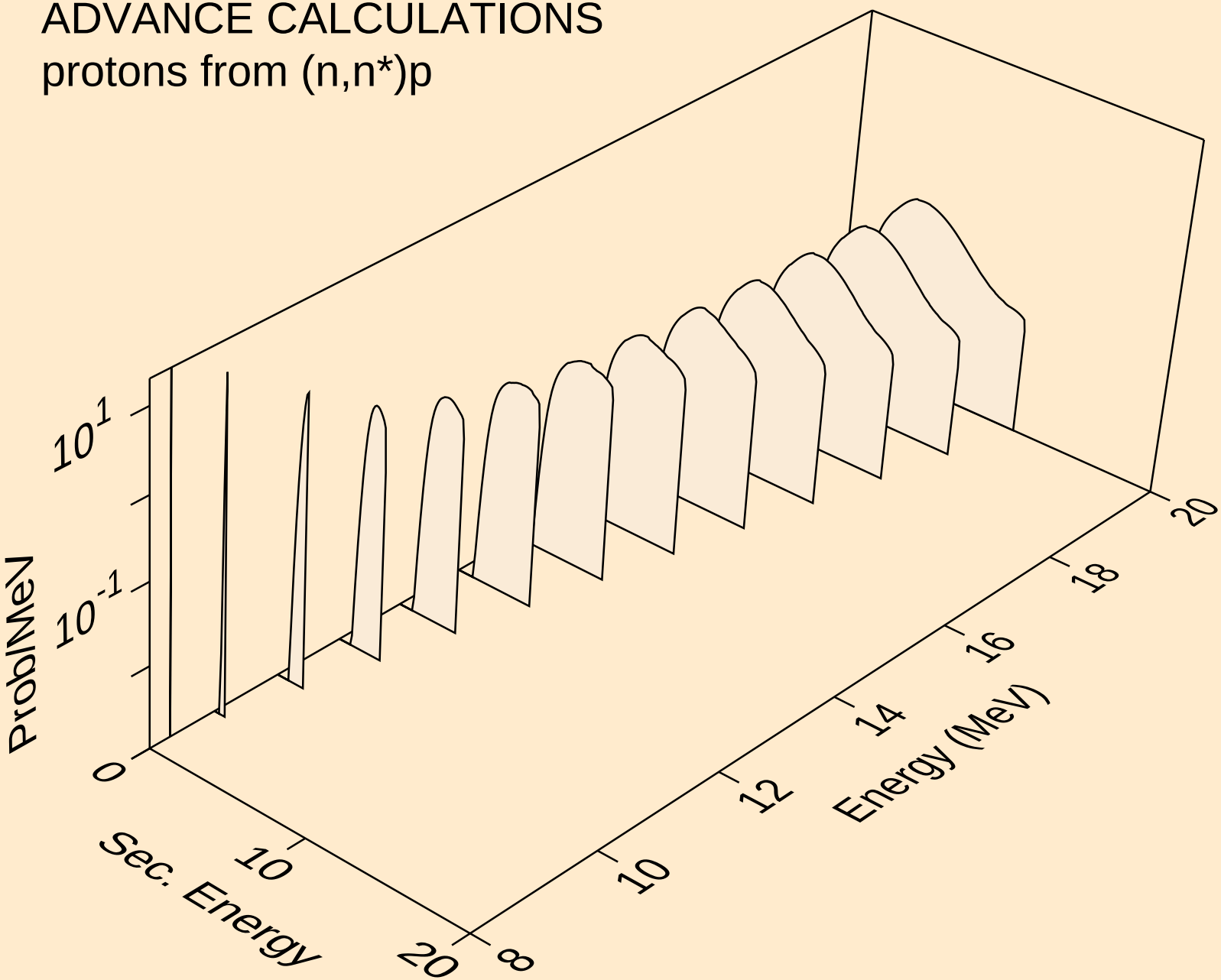
Particle production cross sections



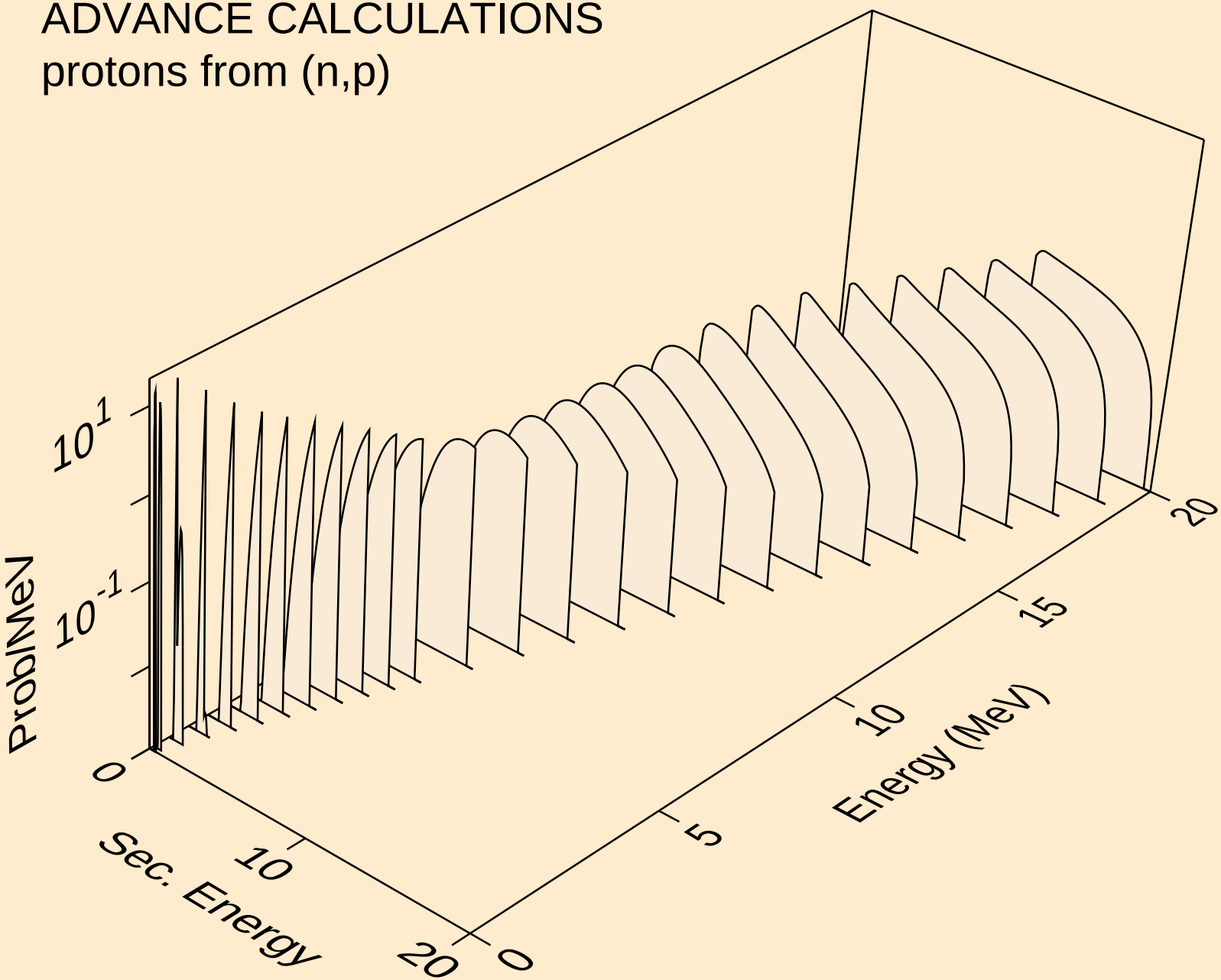
ADVANCE CALCULATIONS
protons from (n,x)



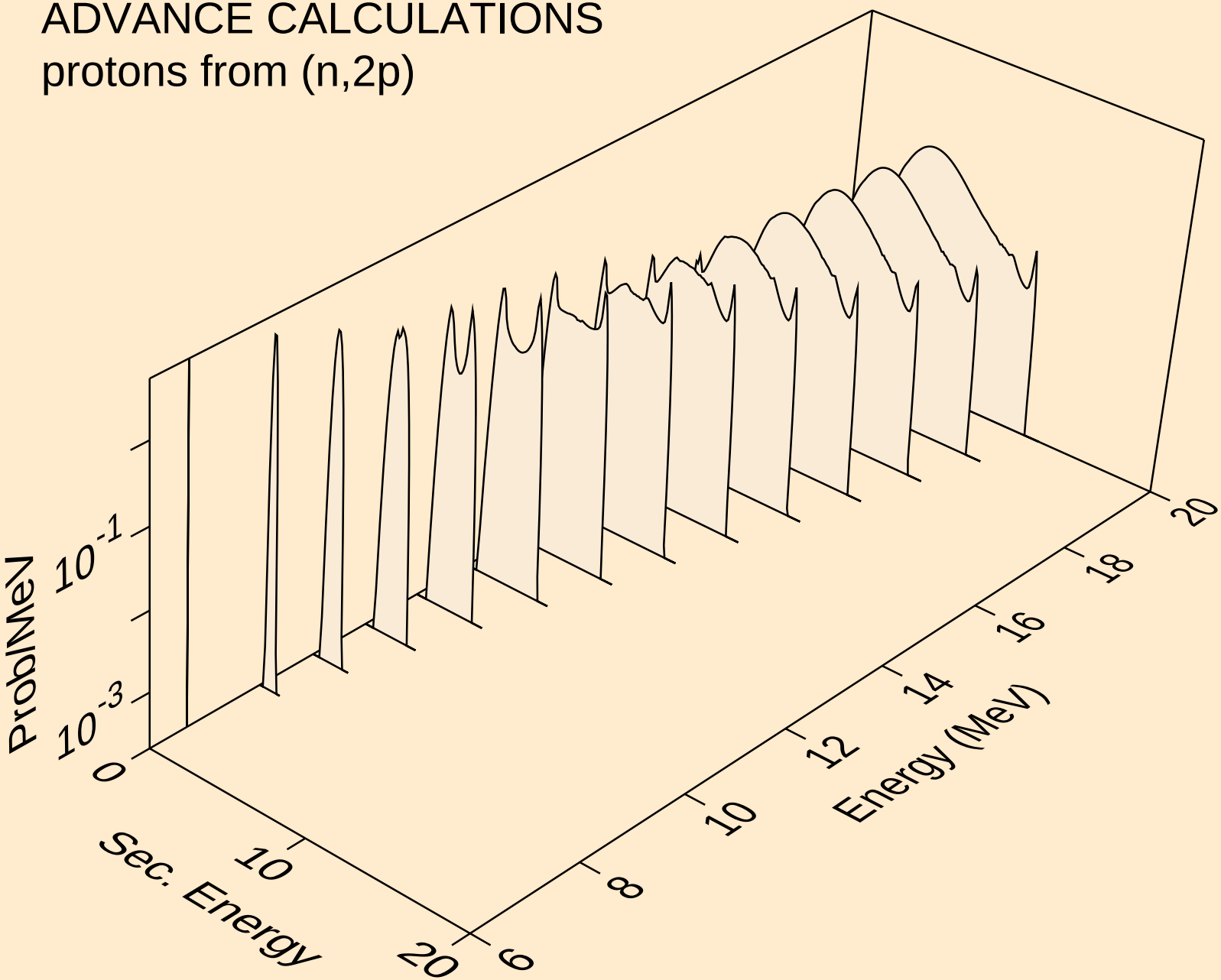
ADVANCE CALCULATIONS
protons from (n,n*)p



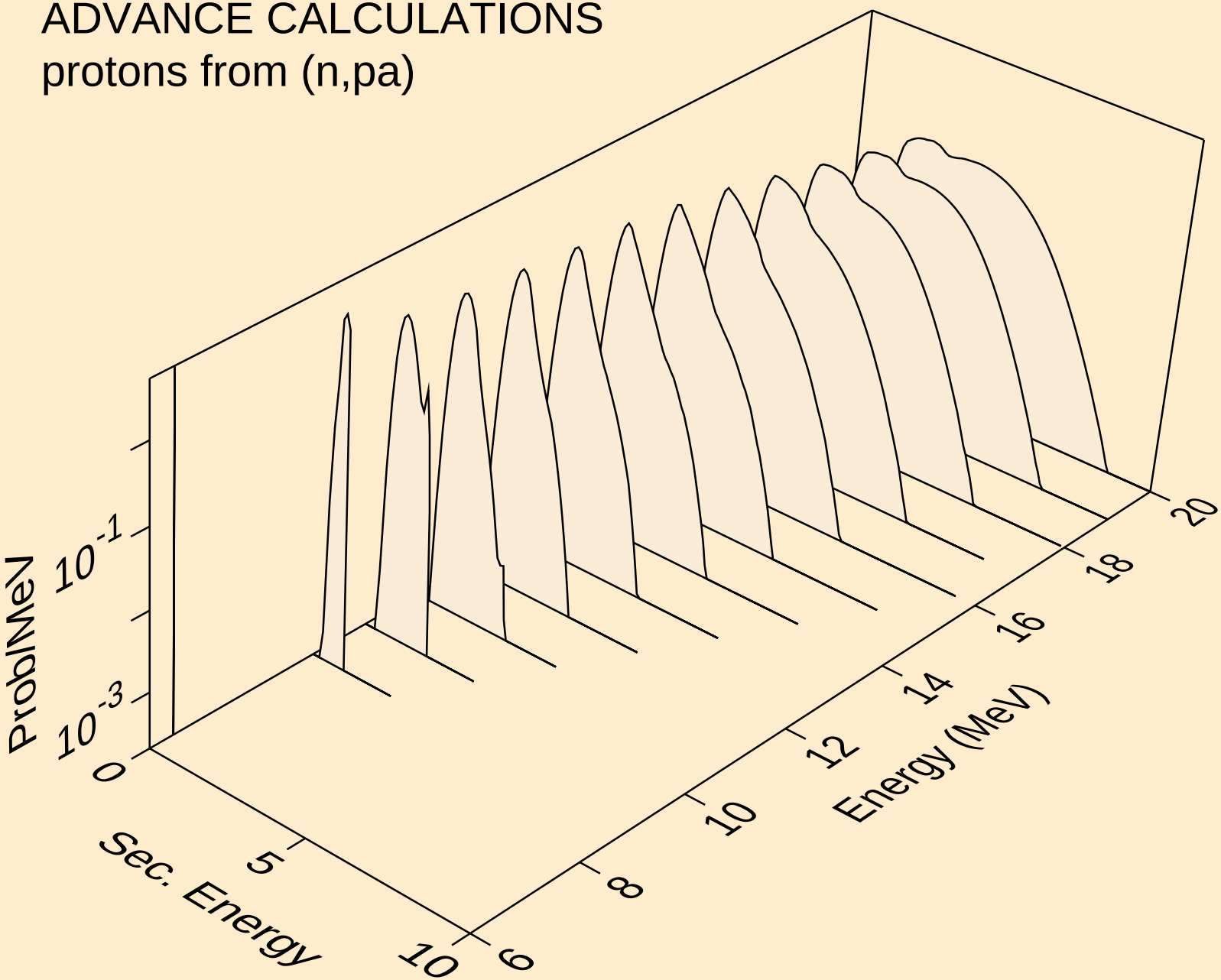
ADVANCE CALCULATIONS
protons from (n,p)



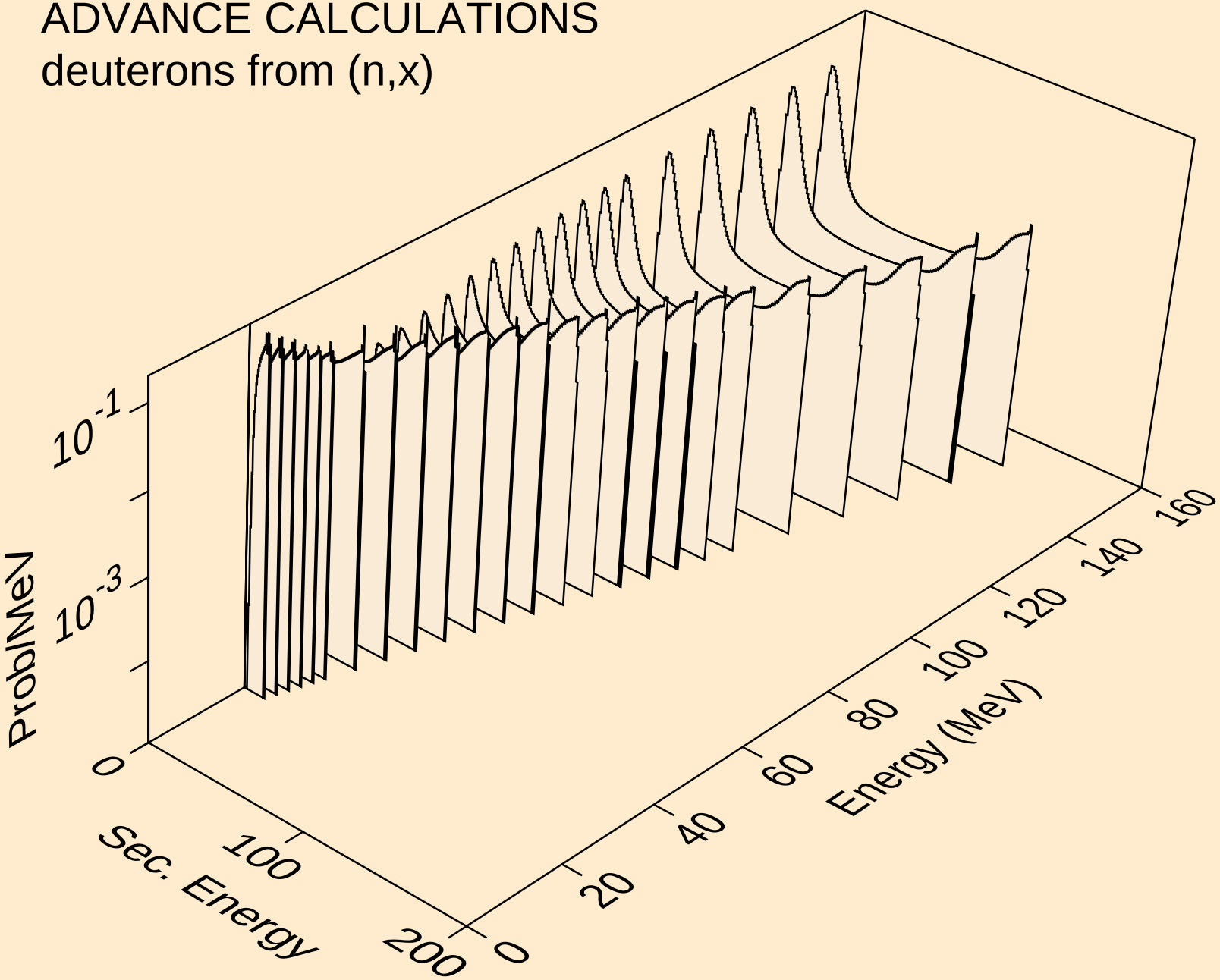
ADVANCE CALCULATIONS
protons from (n,2p)



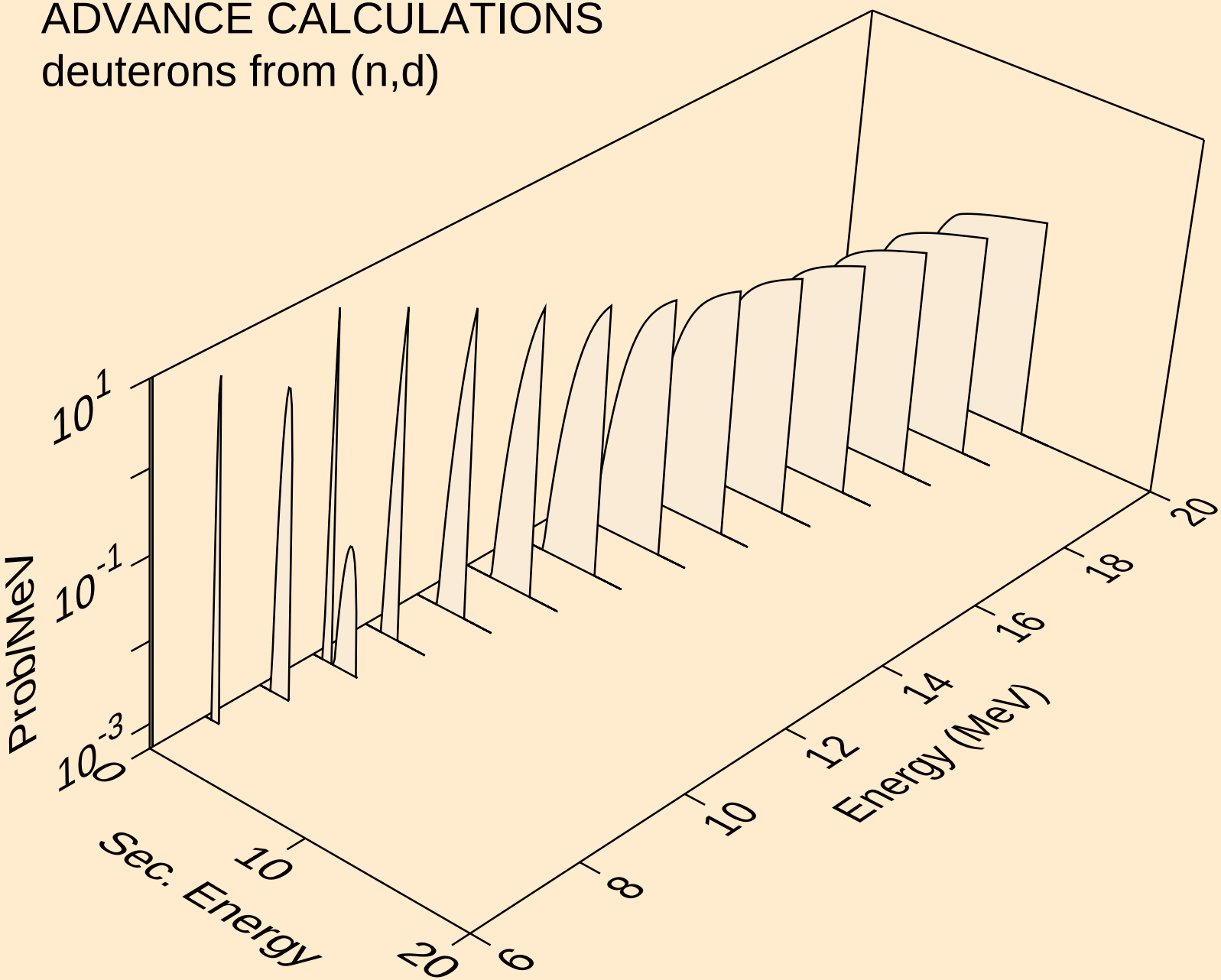
ADVANCE CALCULATIONS
protons from (n,pa)



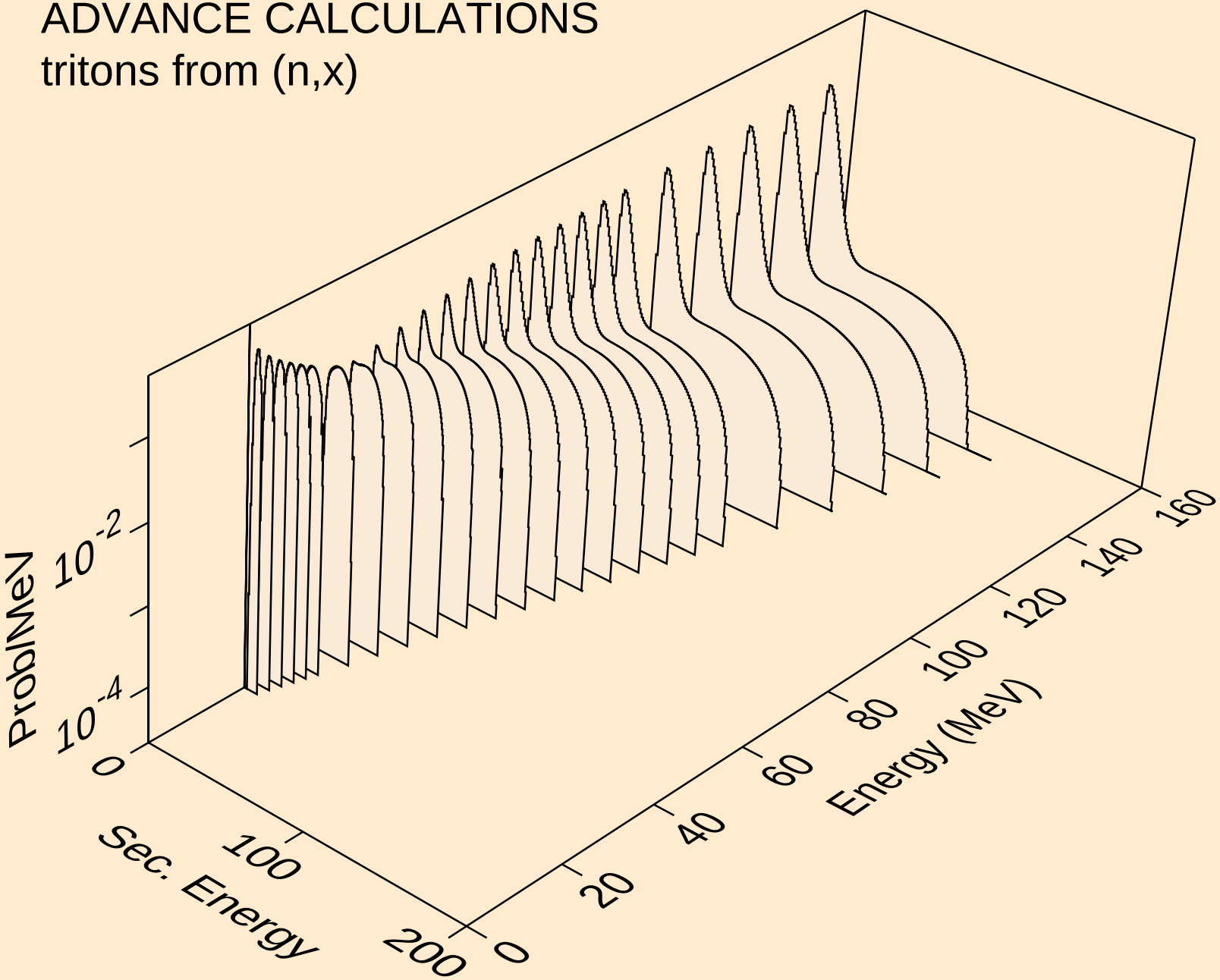
ADVANCE CALCULATIONS
deuterons from (n,x)



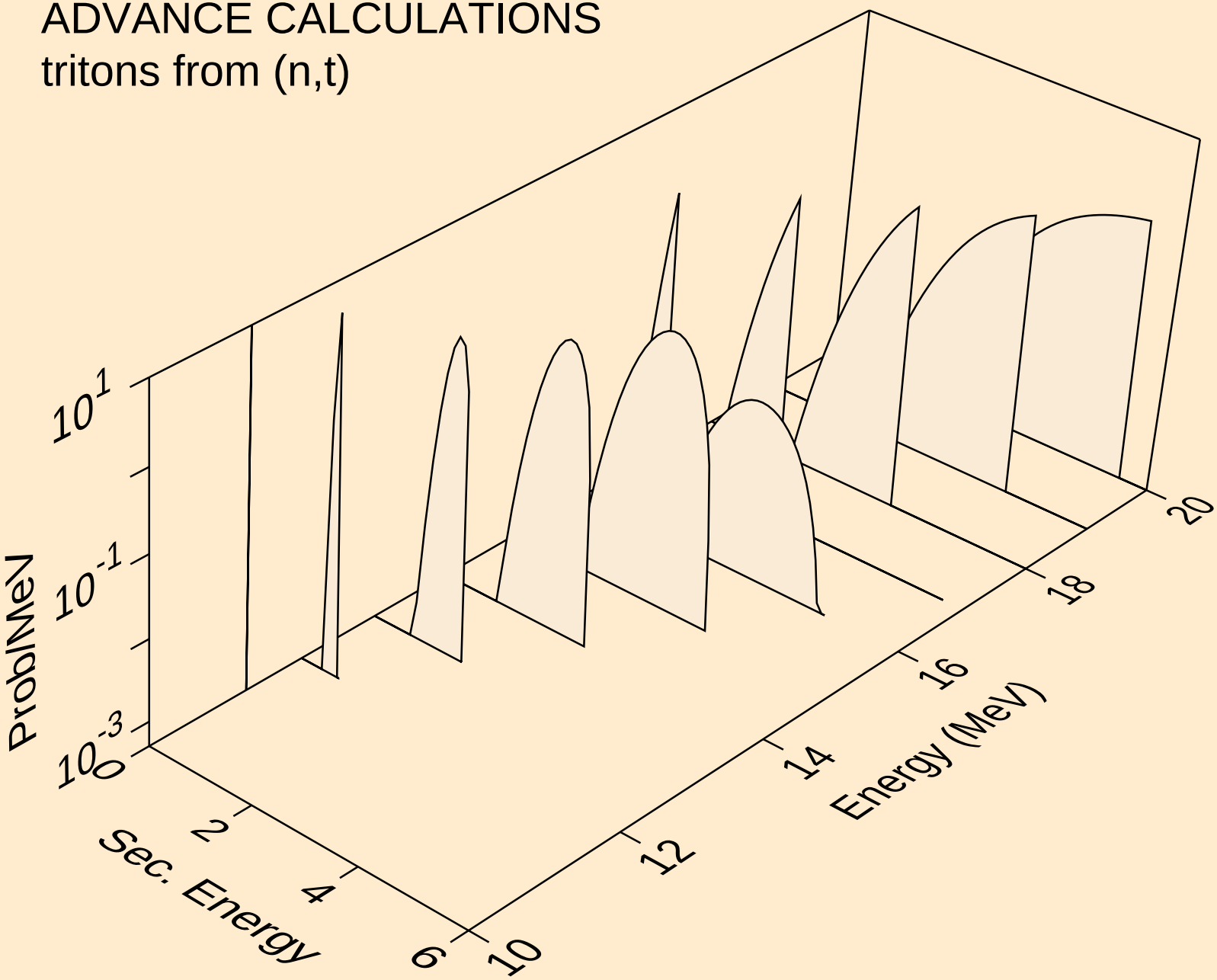
ADVANCE CALCULATIONS
deuterons from (n,d)



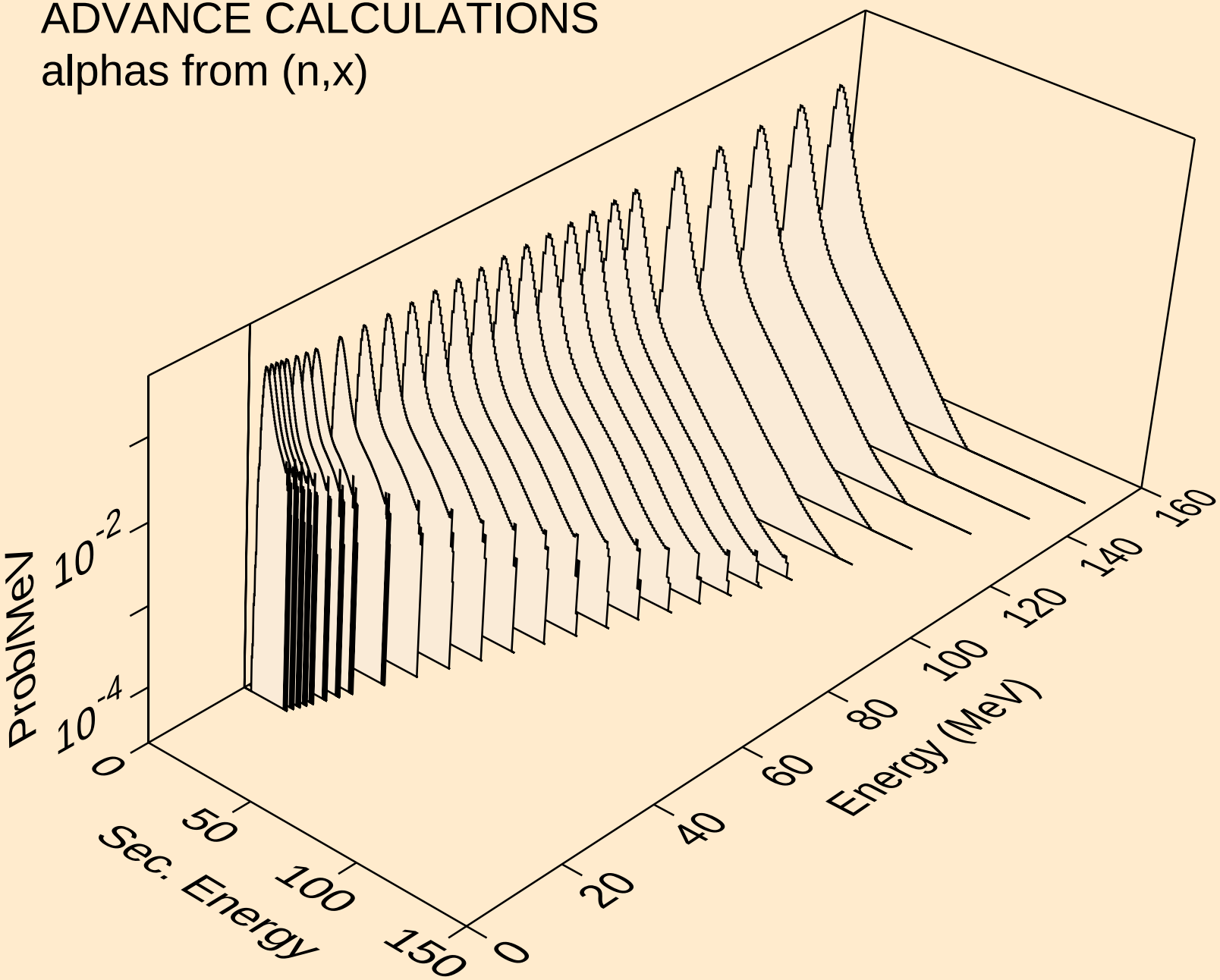
ADVANCE CALCULATIONS
tritons from (n,x)



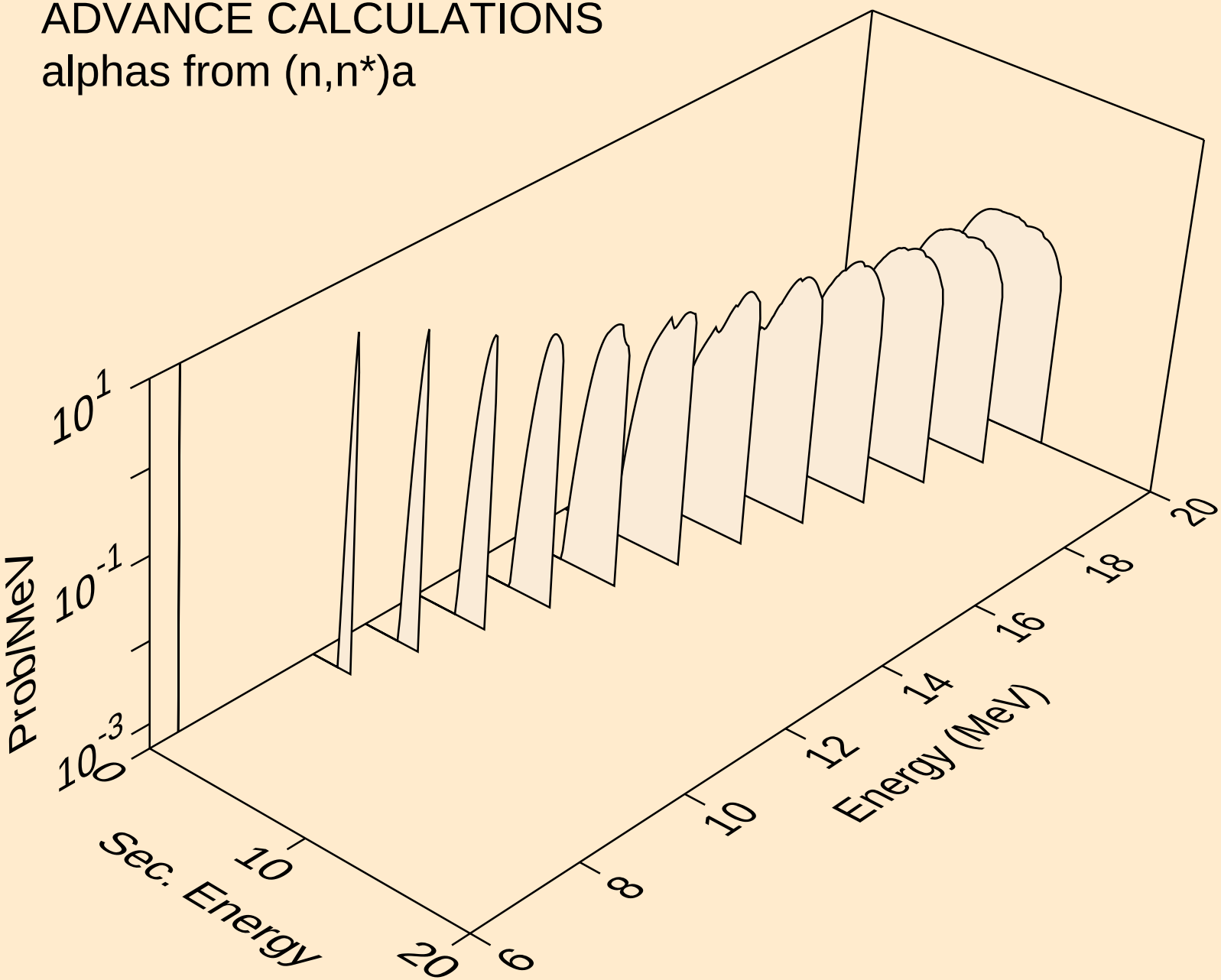
ADVANCE CALCULATIONS
tritons from (n,t)



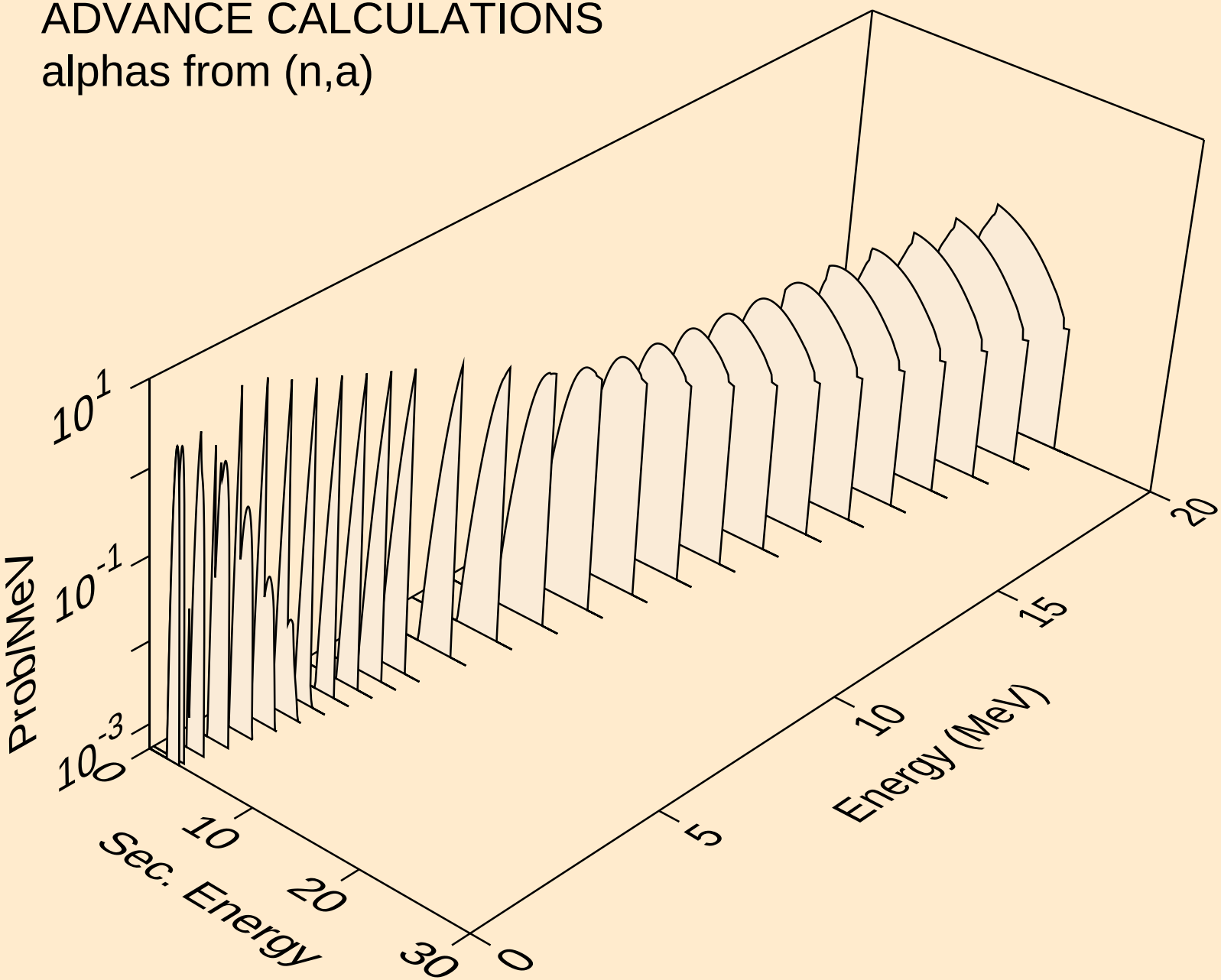
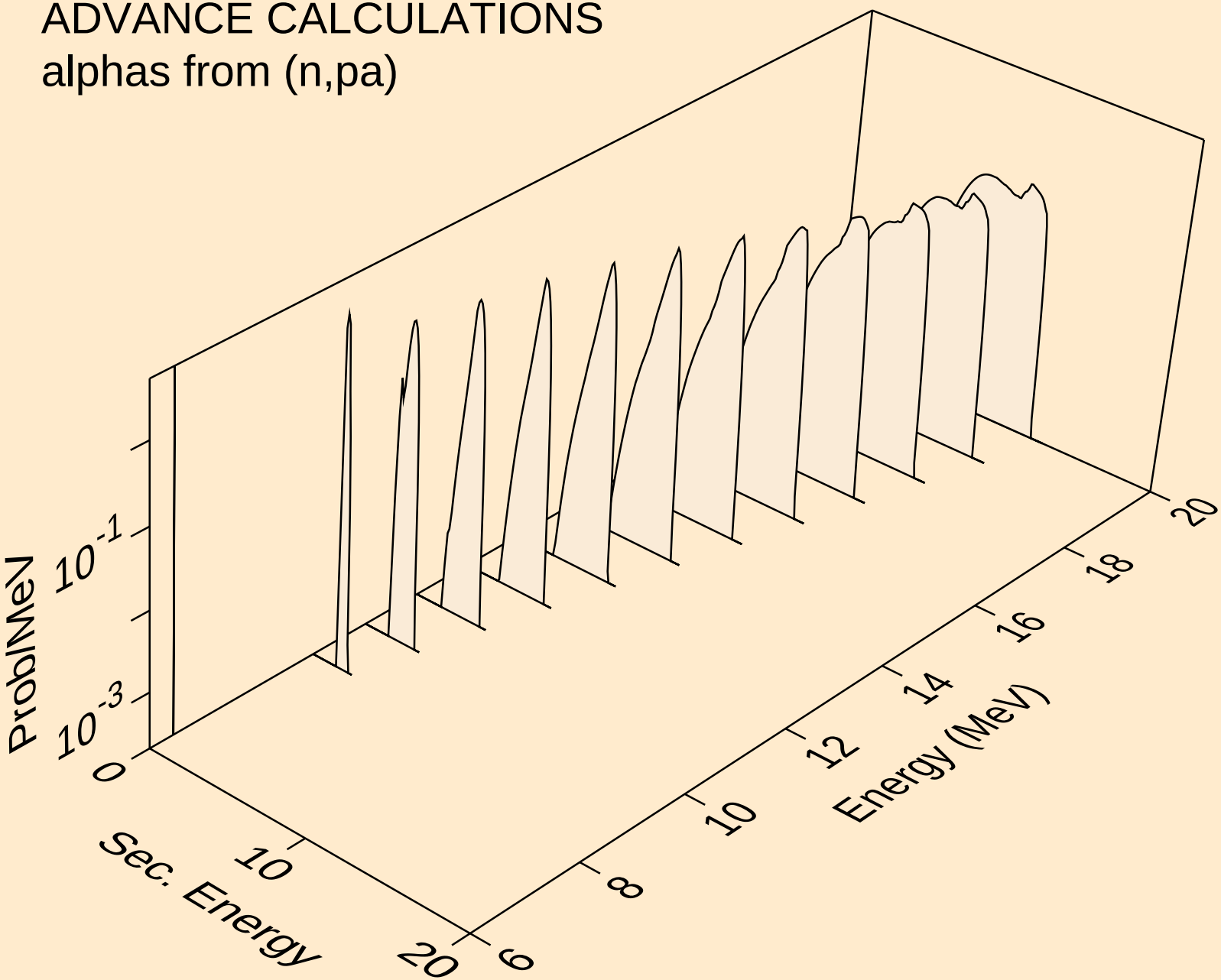
ADVANCE CALCULATIONS
alphas from (n,x)



ADVANCE CALCULATIONS
alphas from (n,n*)a



ADVANCE CALCULATIONS
alphas from (n,a)



ADVANCE CALCULATIONS
alphas from (n,pa)