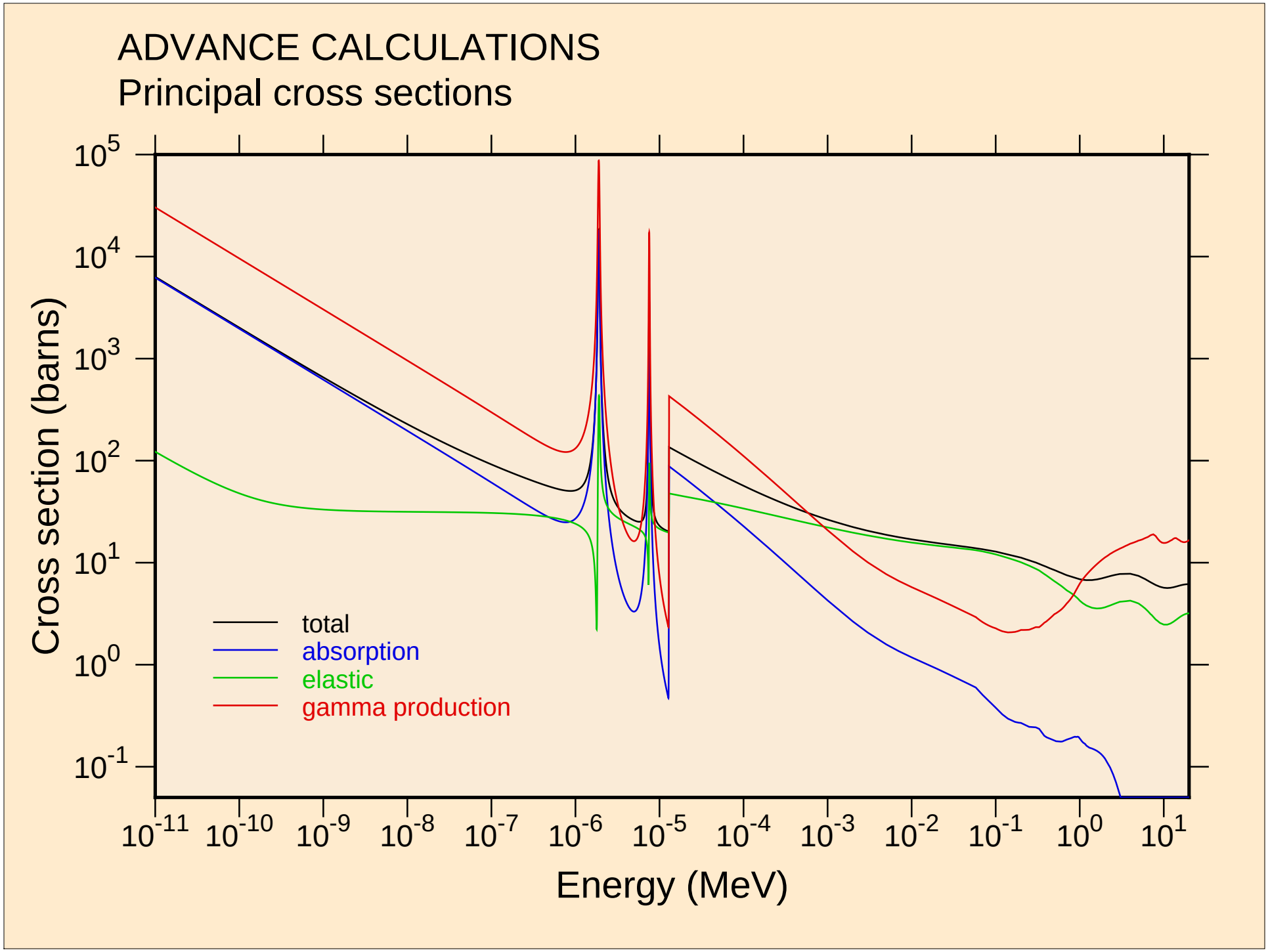
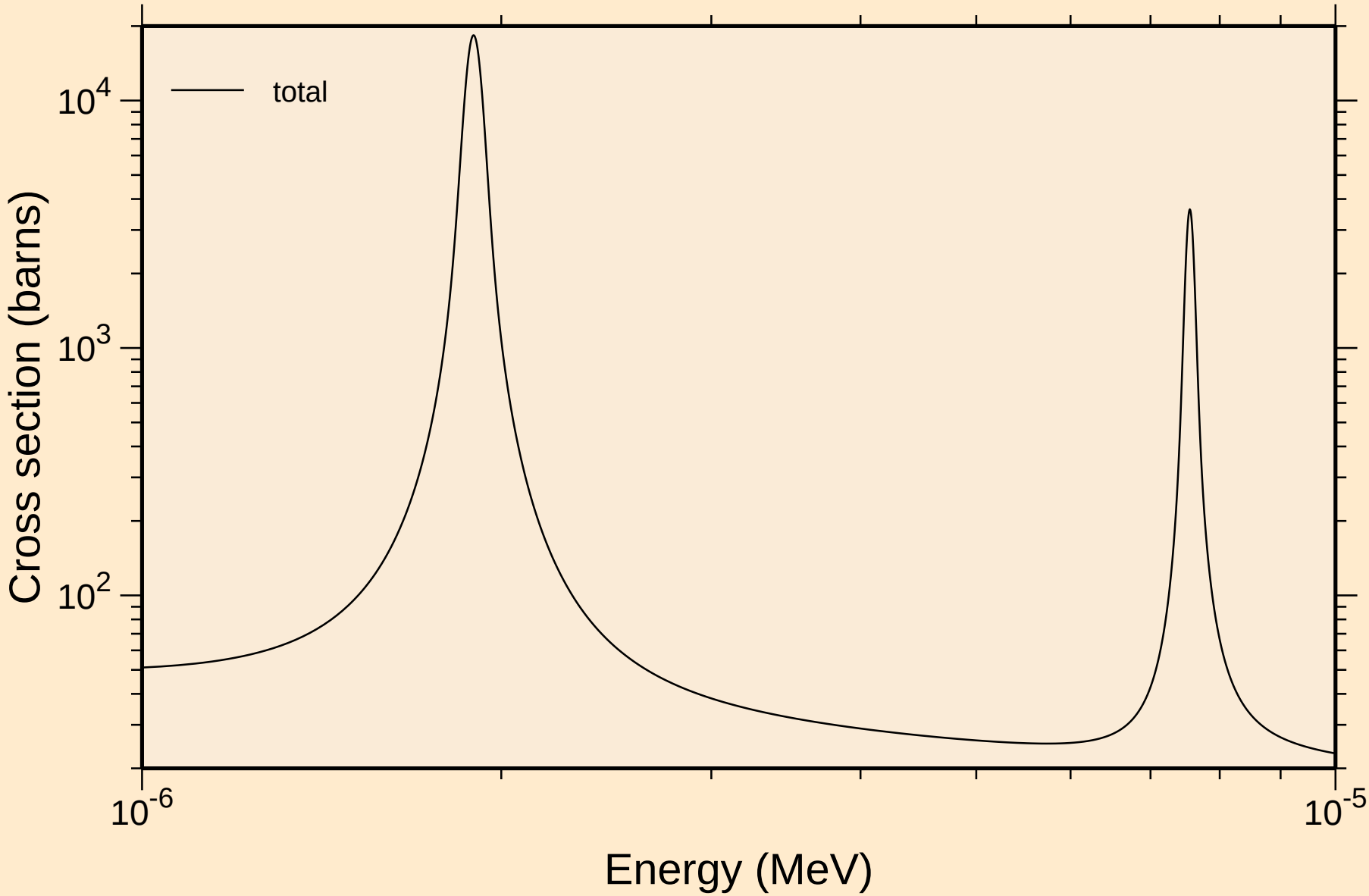
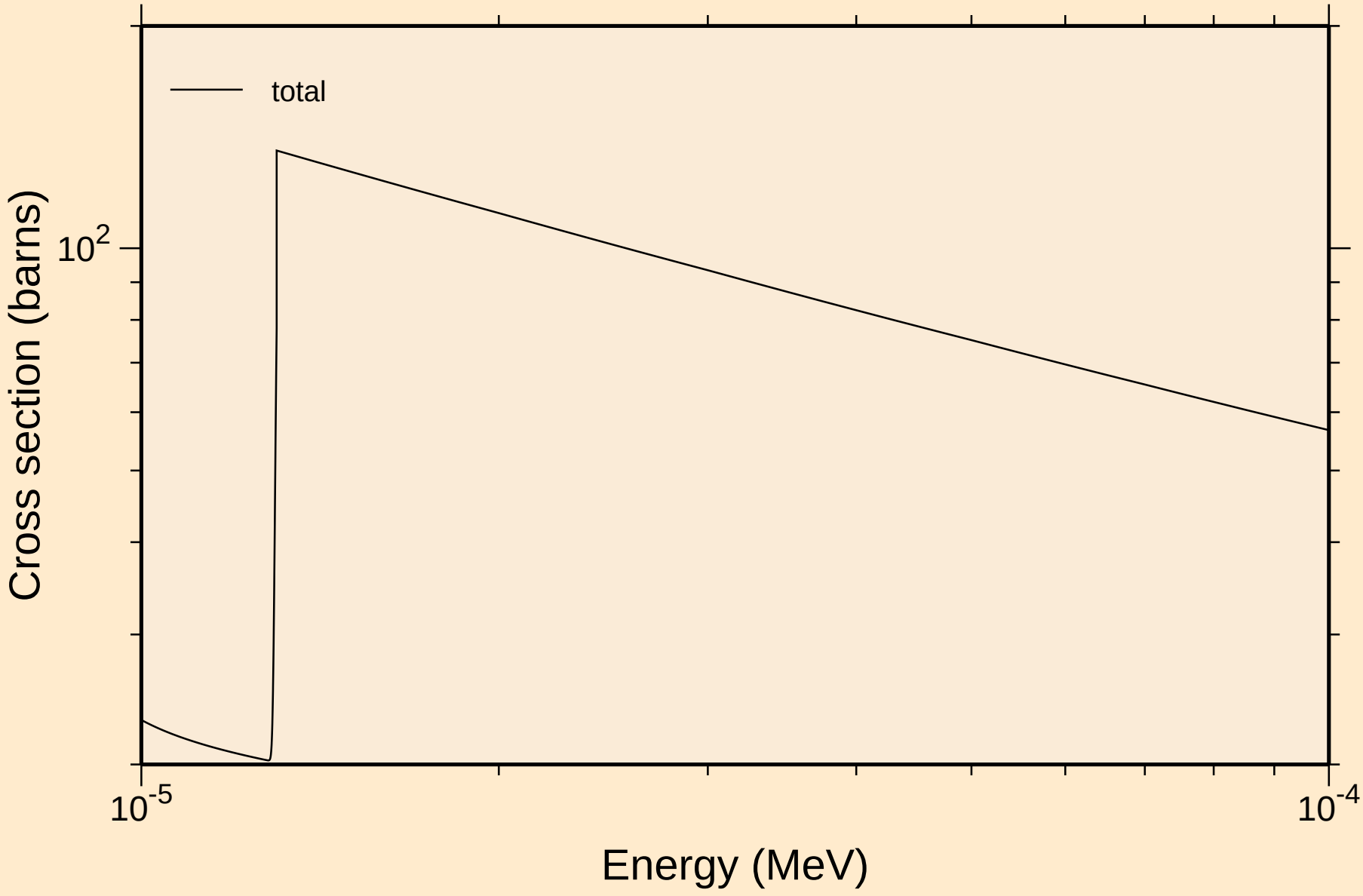

ADVANCE CALCULATIONS
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
10^{5}
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-11}
10^{-10}
10^{-9}
10^{-8}
10^{-7}
10^{-6}
10^{-5}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
10^{0}
10^{1}

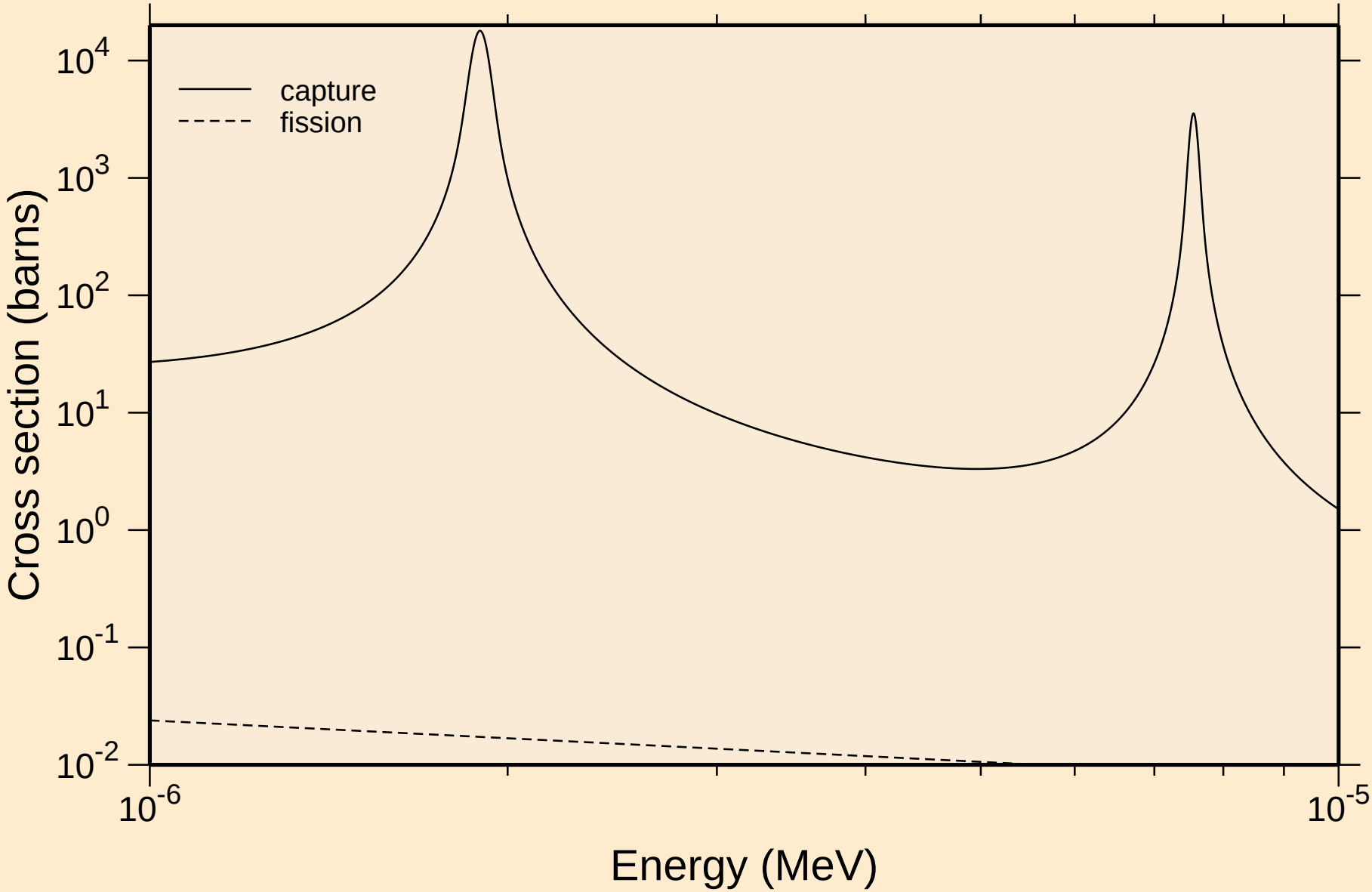
ADVANCE CALCULATIONS
resonance total cross section



ADVANCE CALCULATIONS
resonance total cross section

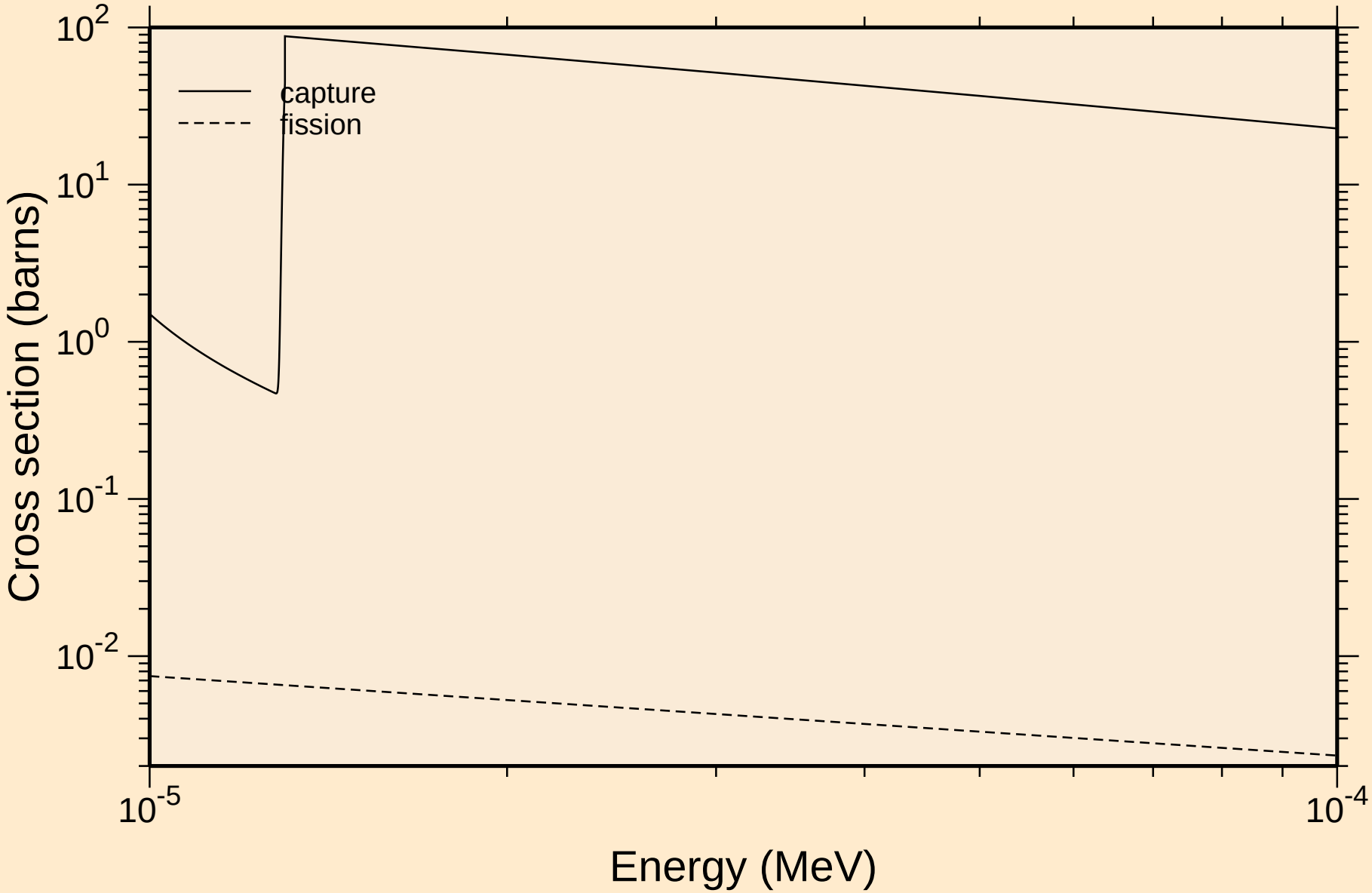


ADVANCE CALCULATIONS
resonance absorption cross sections



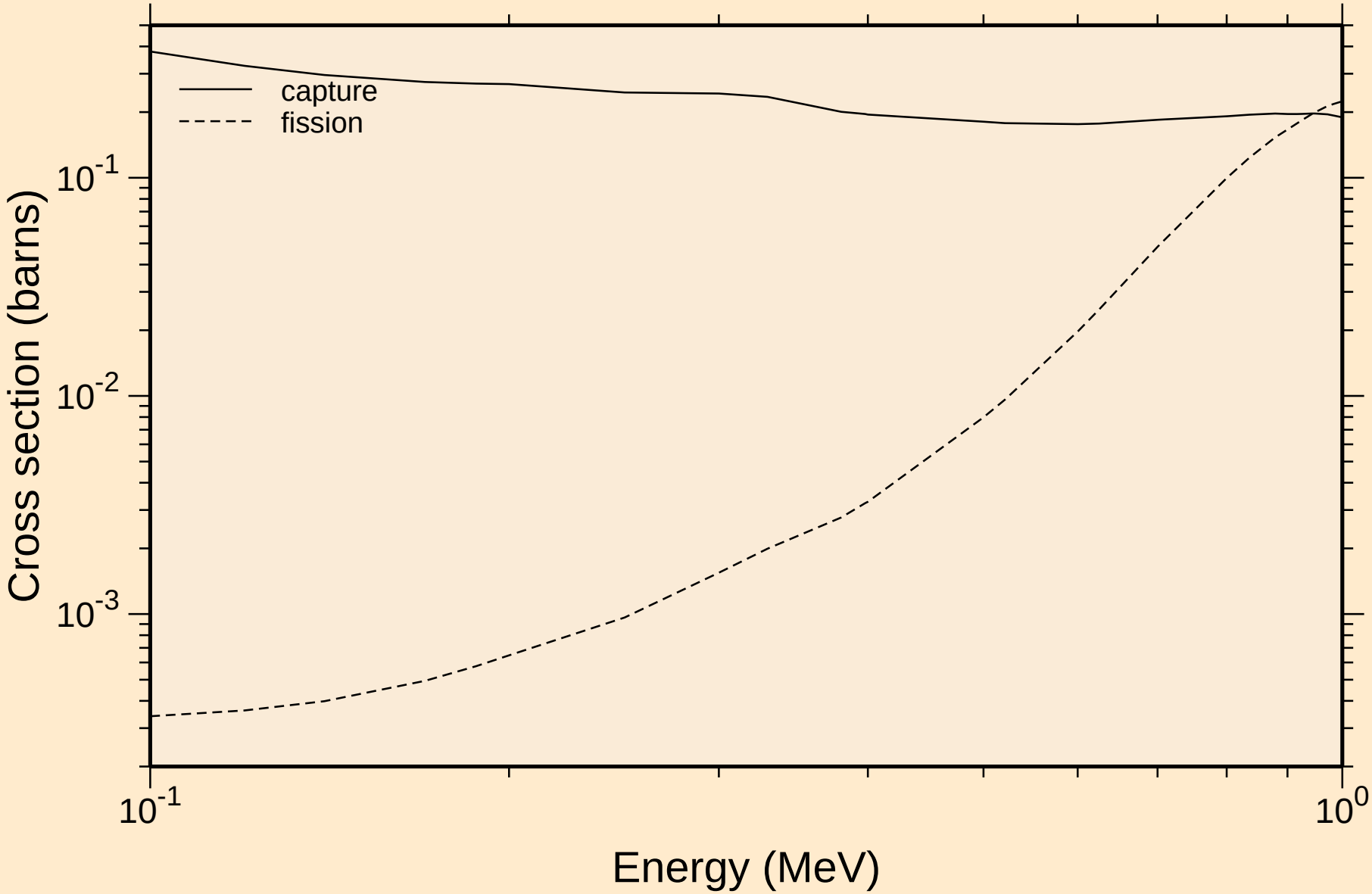
ADVANCE CALCULATIONS

resonance absorption cross sections



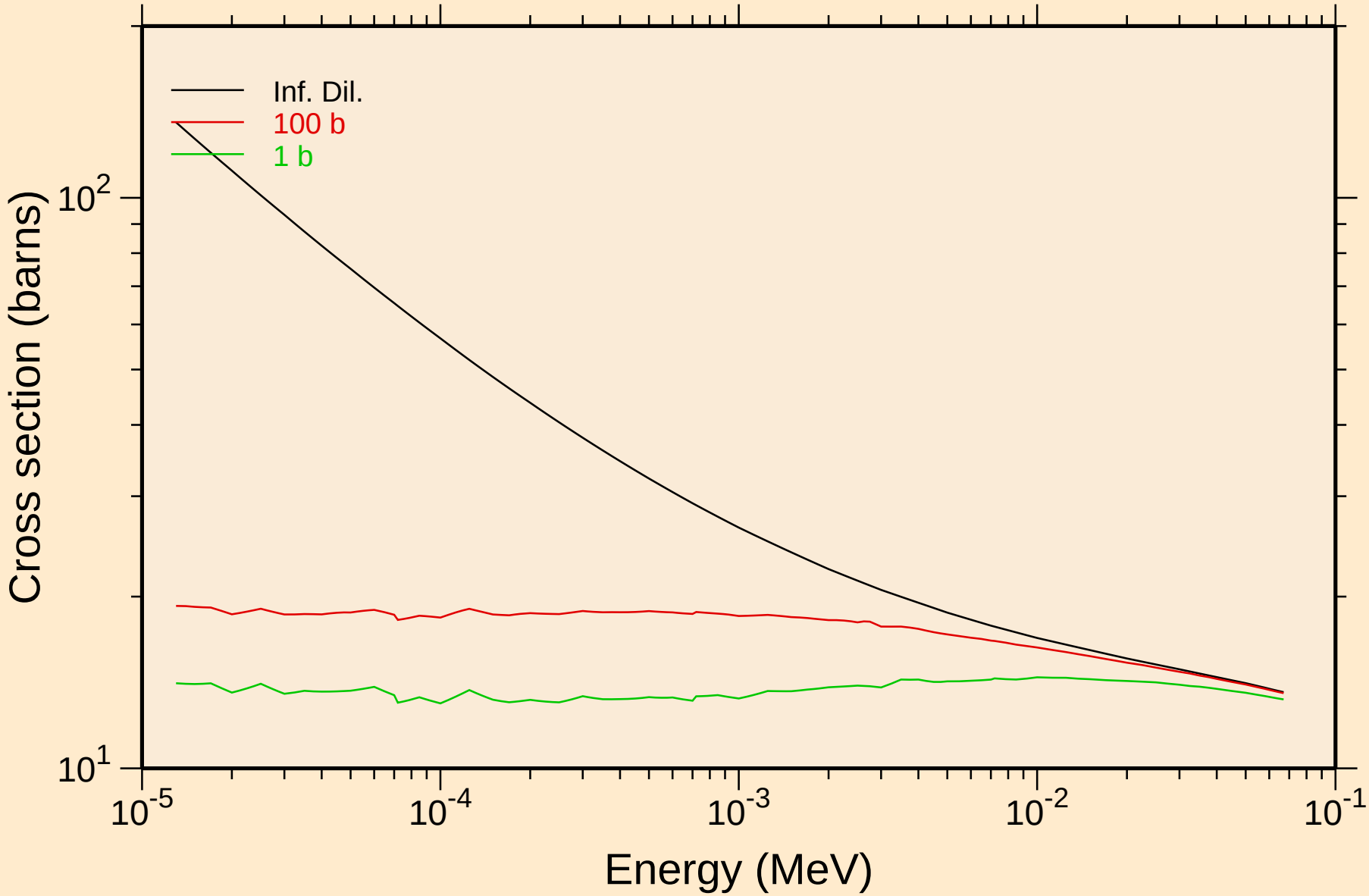
ADVANCE CALCULATIONS

resonance absorption cross sections



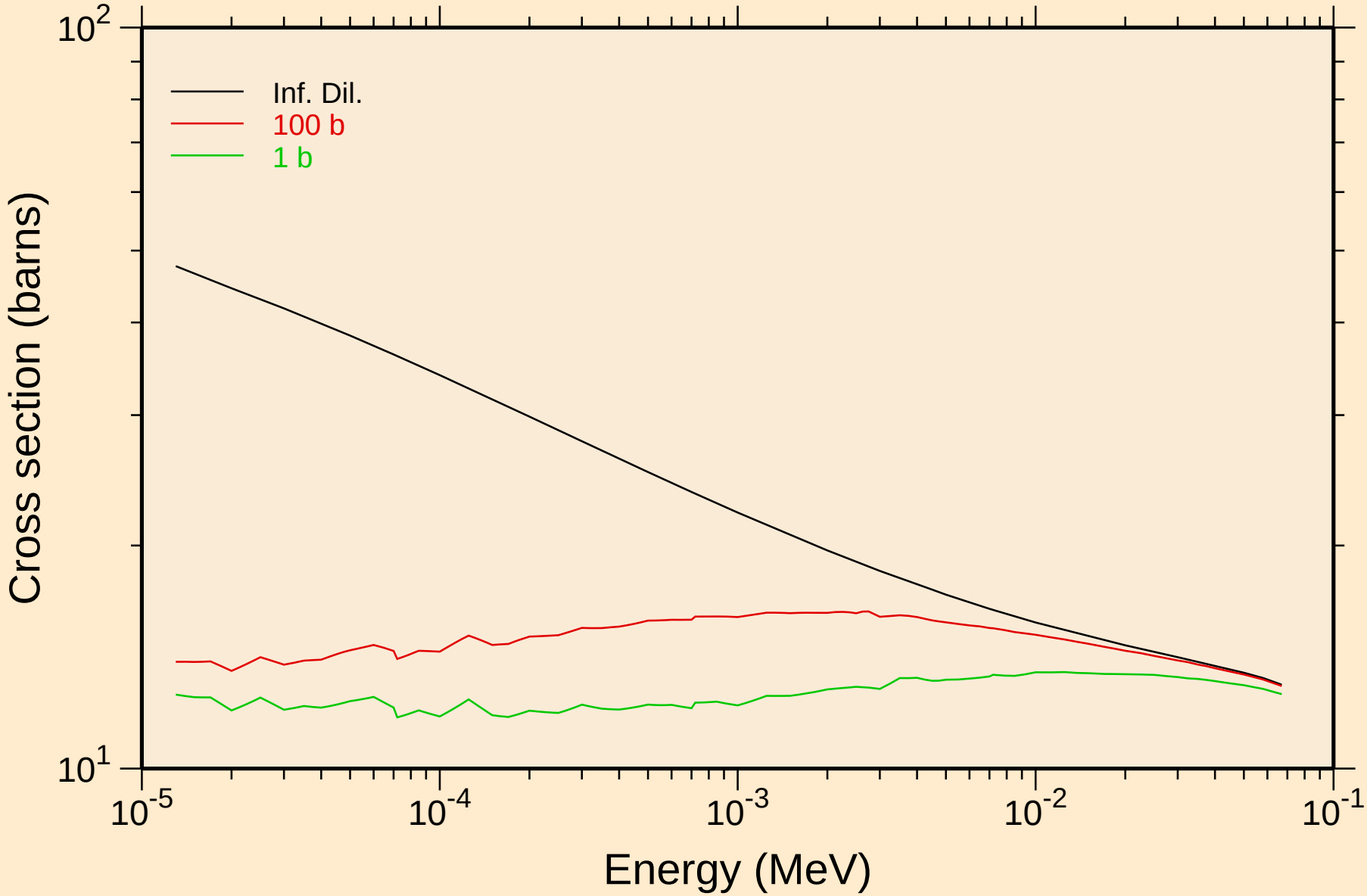
ADVANCE CALCULATIONS

UR total cross section



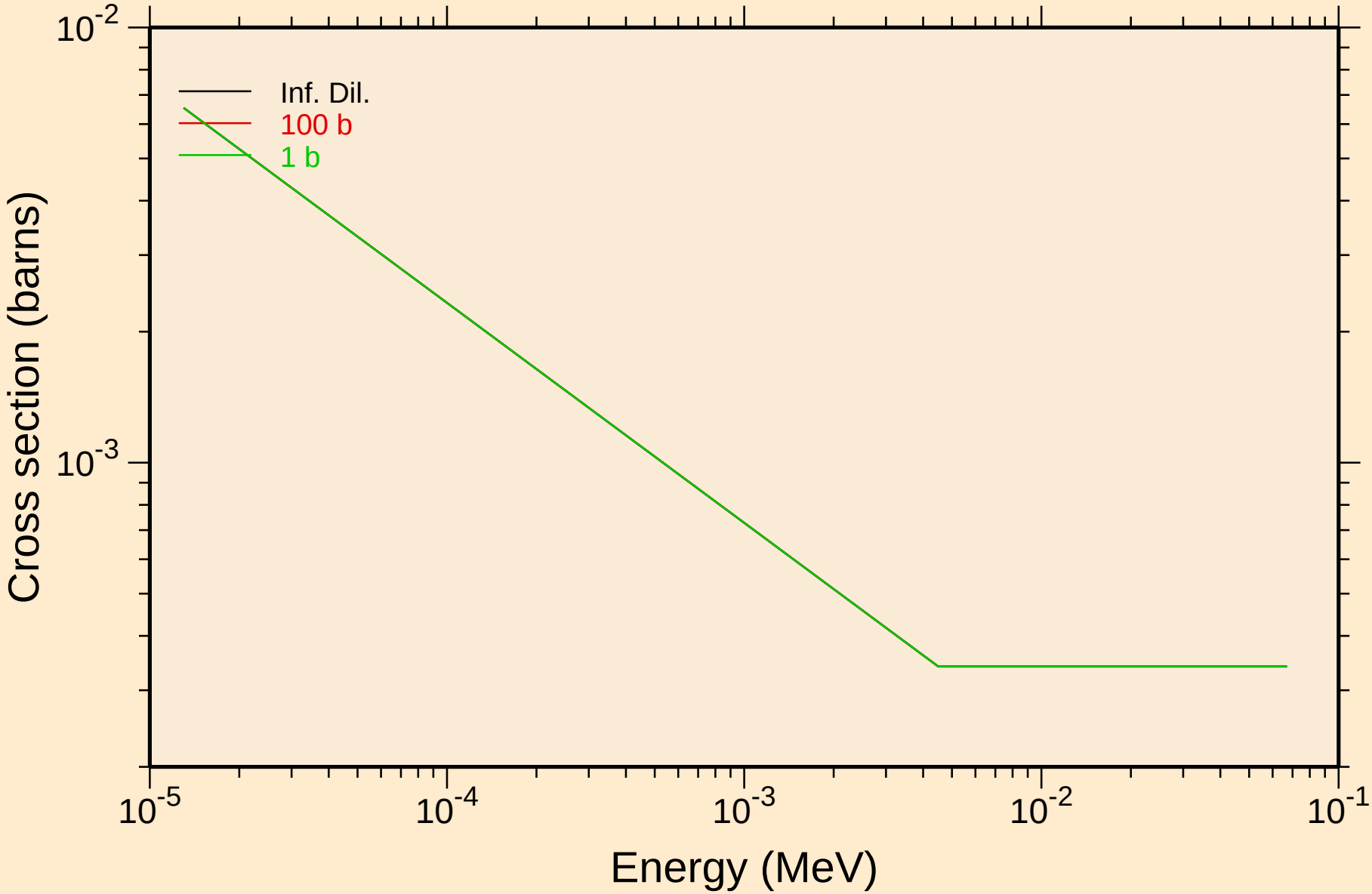
ADVANCE CALCULATIONS

UR elastic cross section



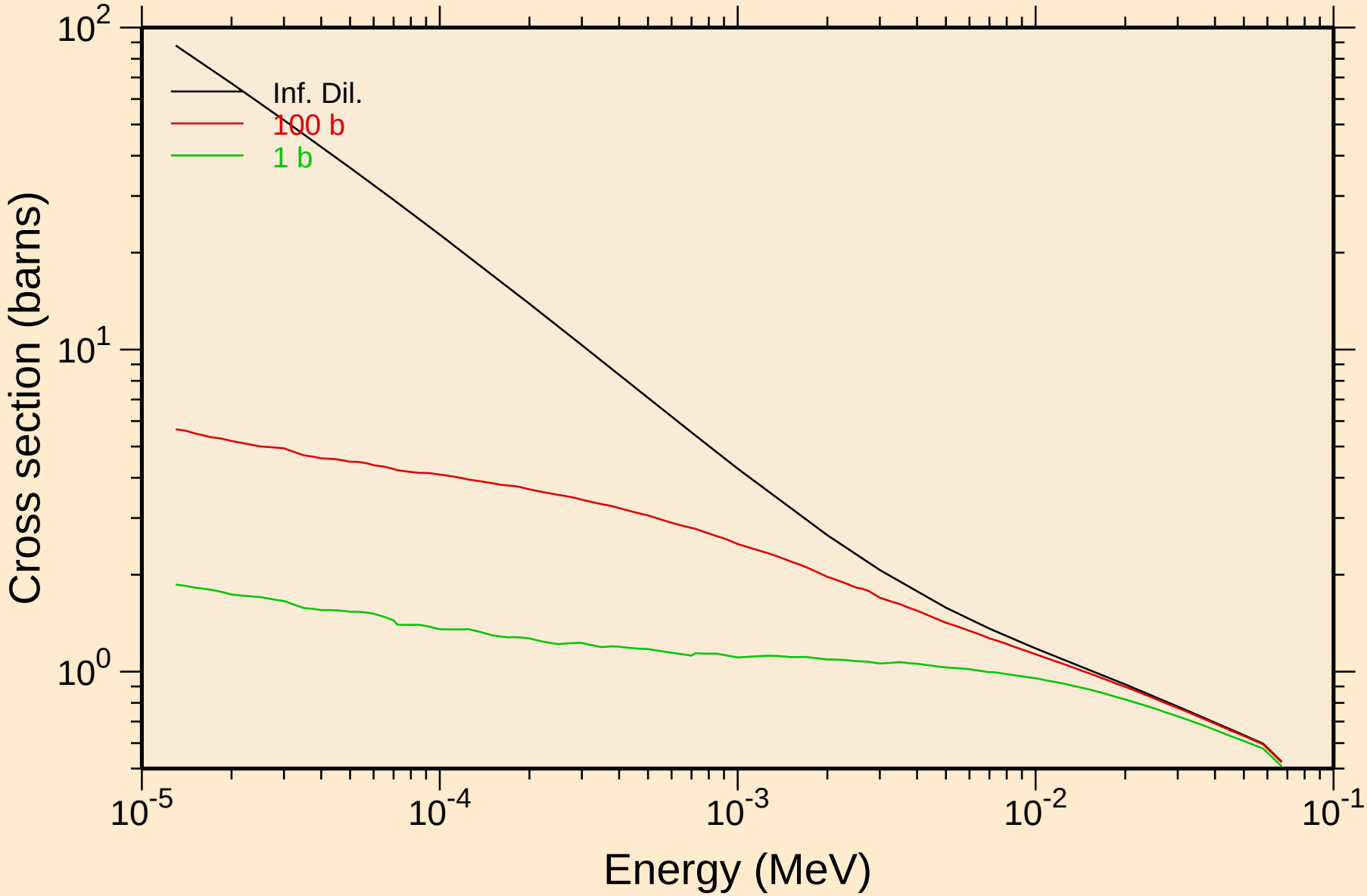
ADVANCE CALCULATIONS

UR fission cross section

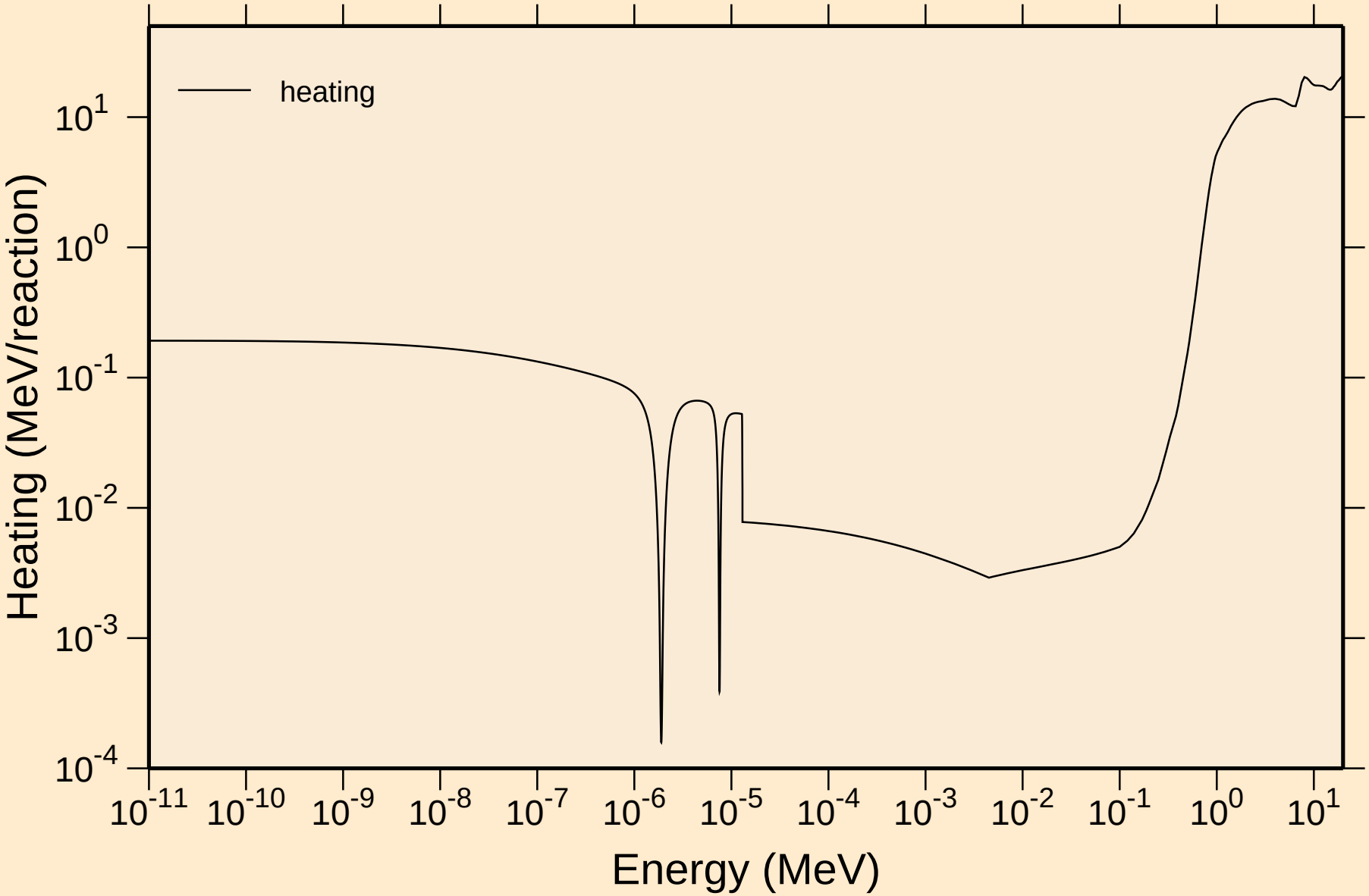


ADVANCE CALCULATIONS

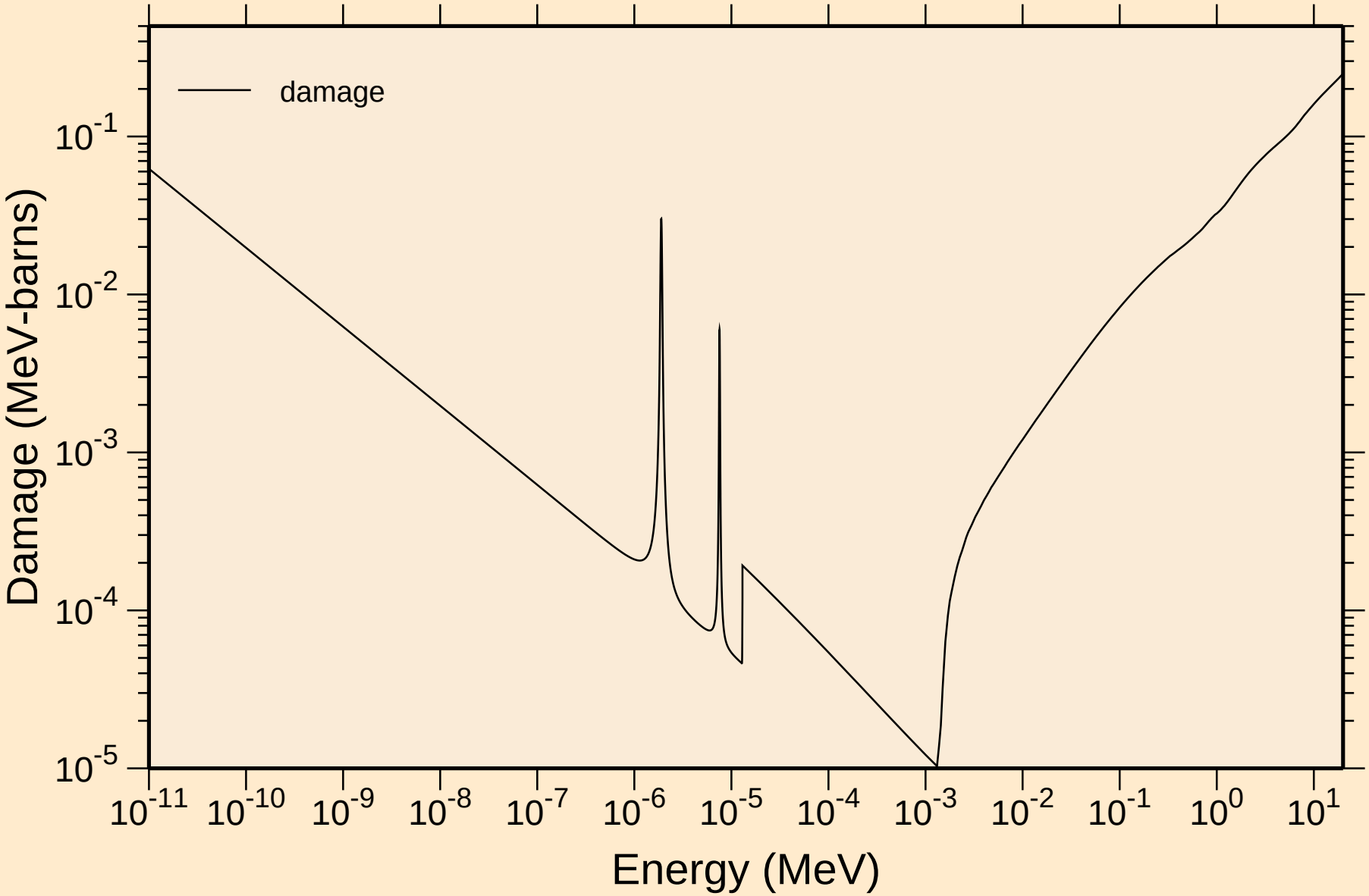
UR capture cross section



ADVANCE CALCULATIONS
Heating

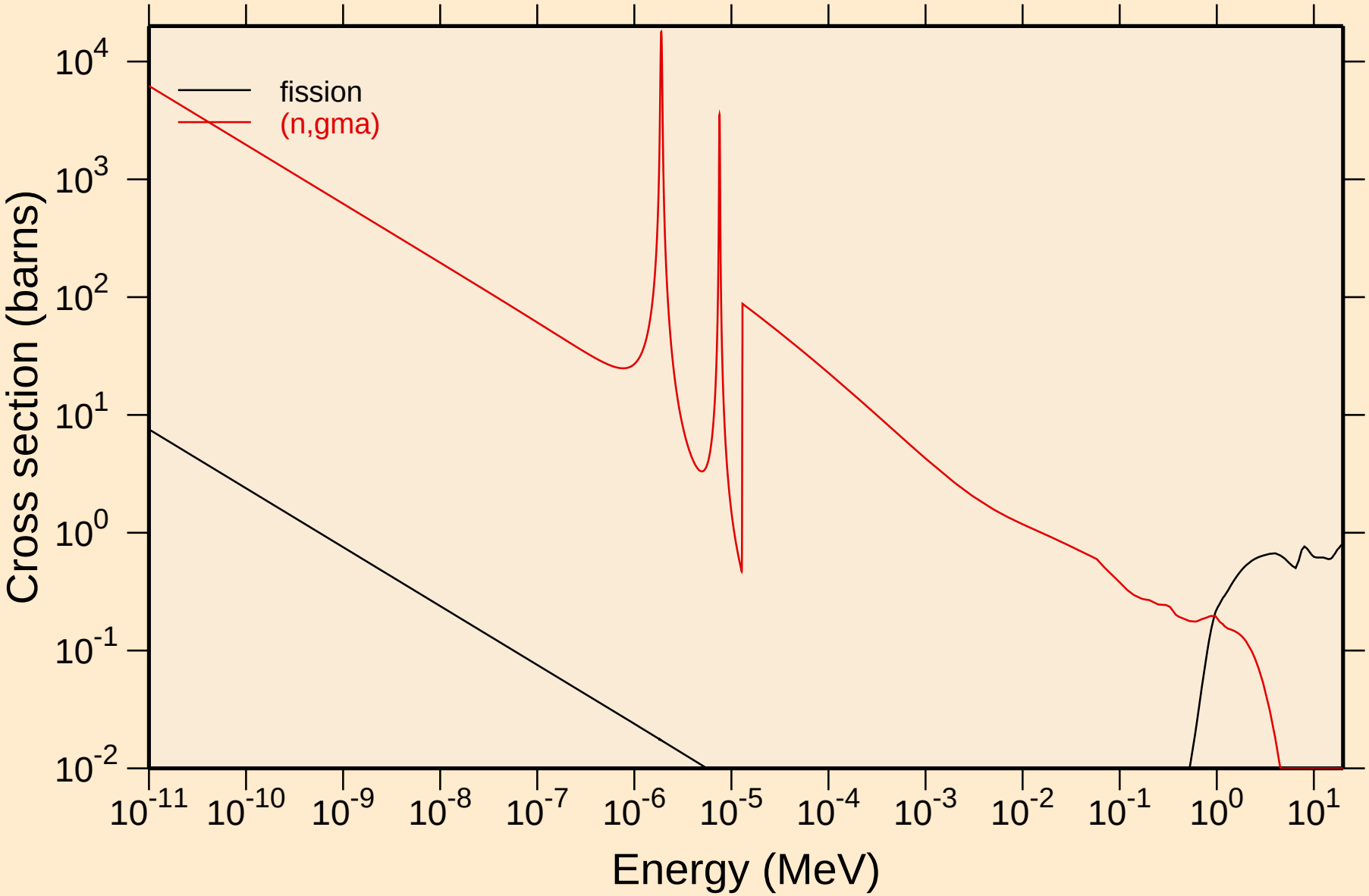


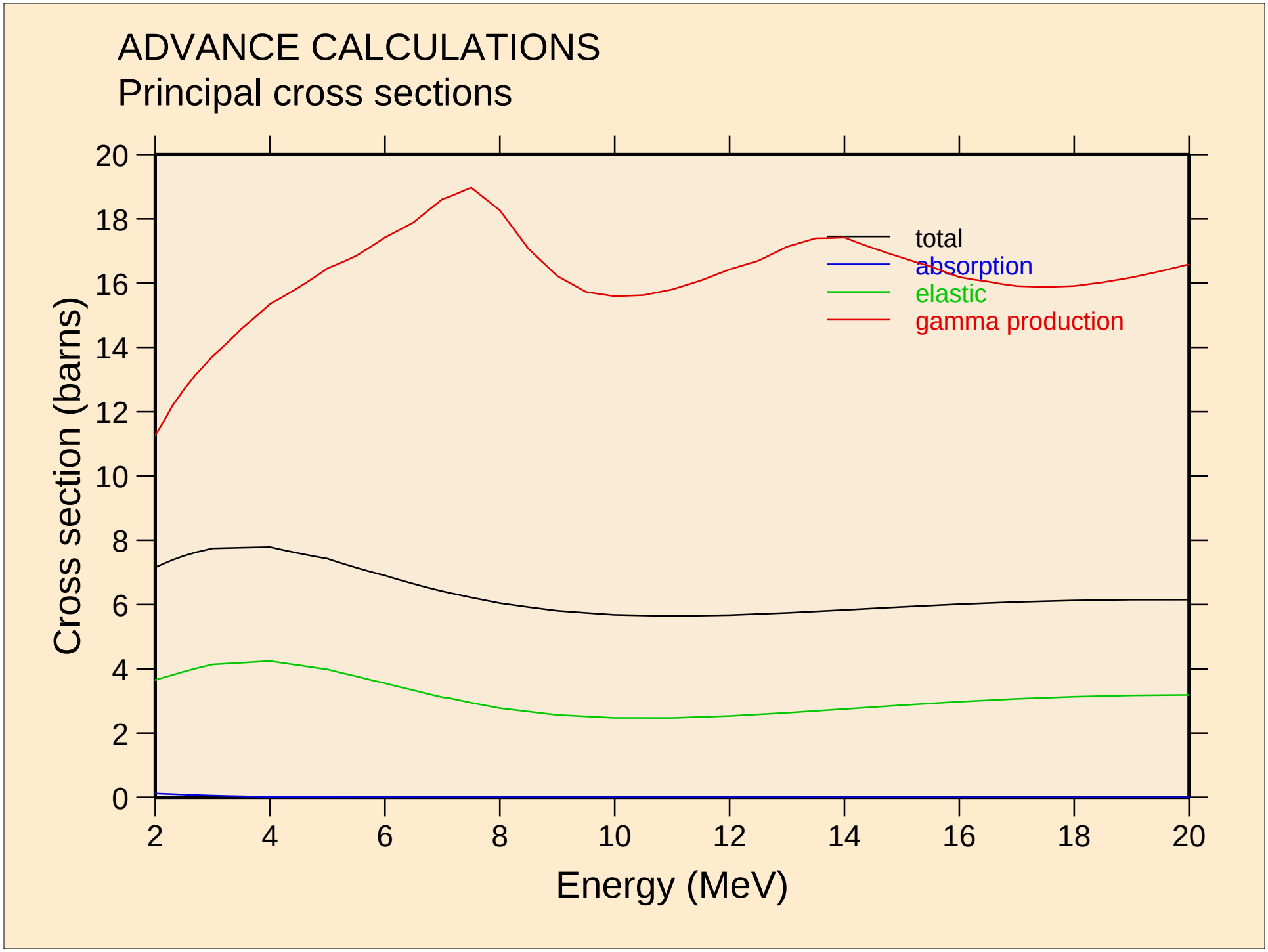
ADVANCE CALCULATIONS
Damage



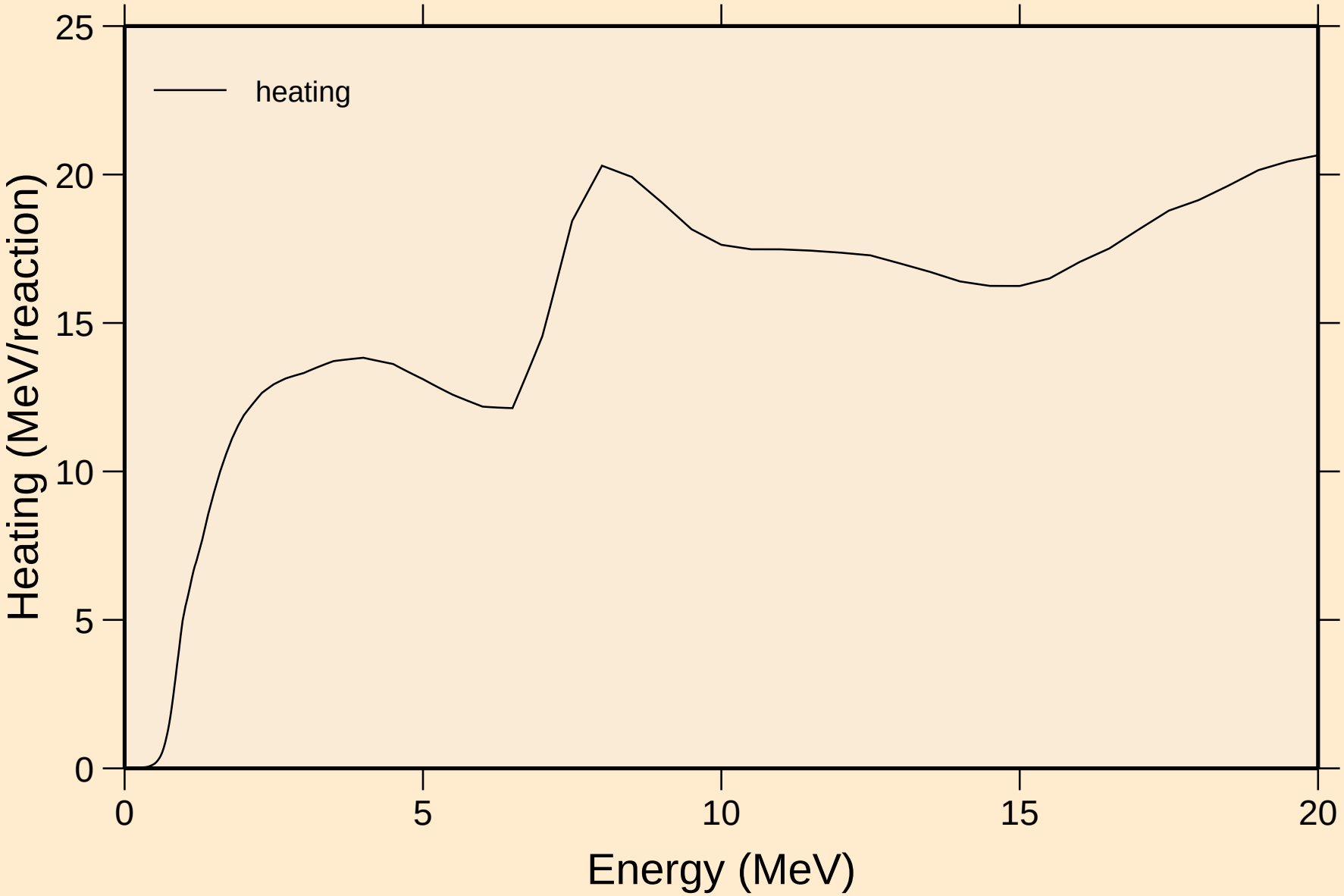
ADVANCE CALCULATIONS

Non-threshold reactions

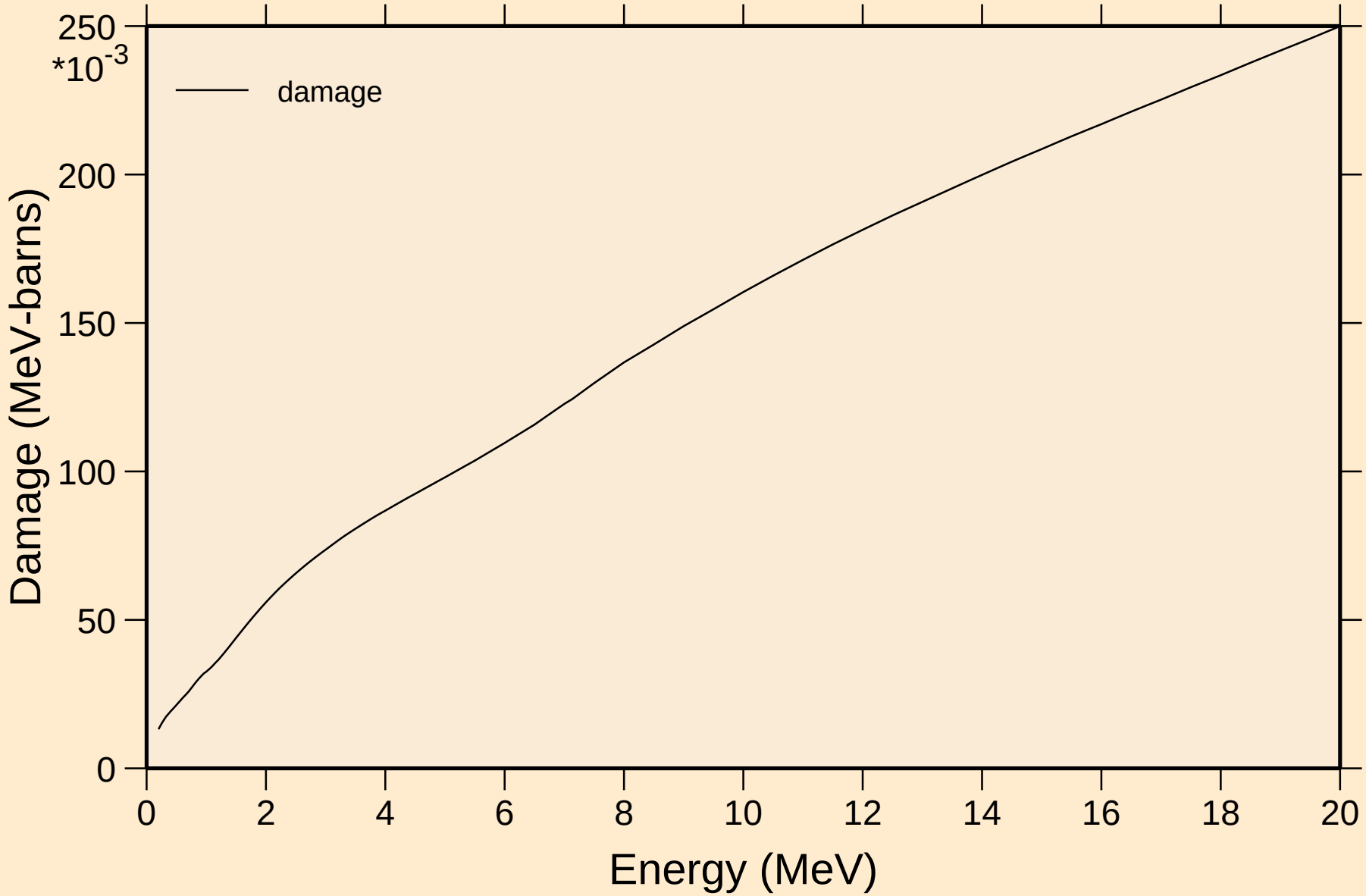



ADVANCE CALCULATIONS
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
2
4
6
8
10
12
14
16
18
20
2
4
6
8
10
12
14
16
18
20

ADVANCE CALCULATIONS
Heating

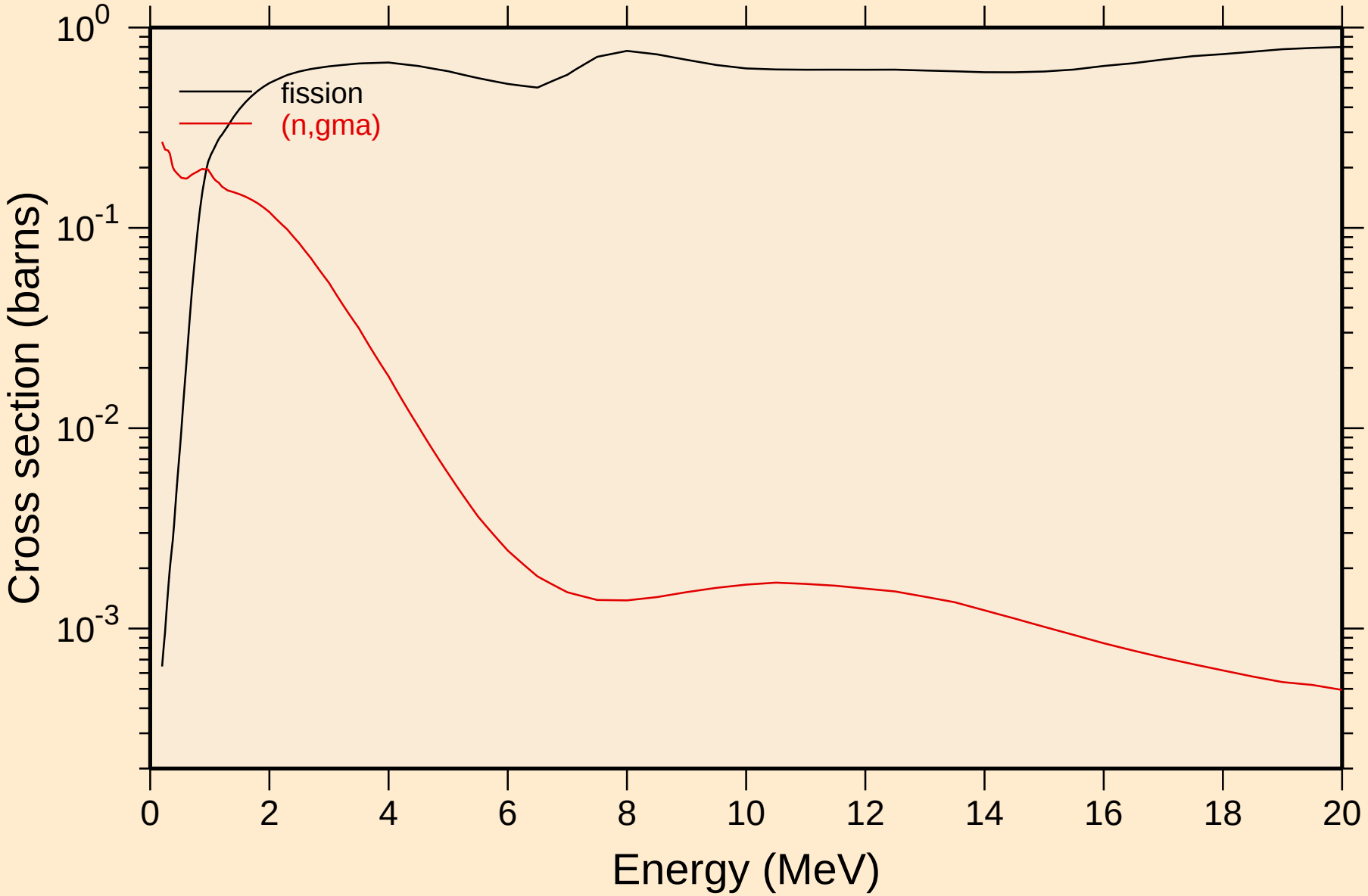


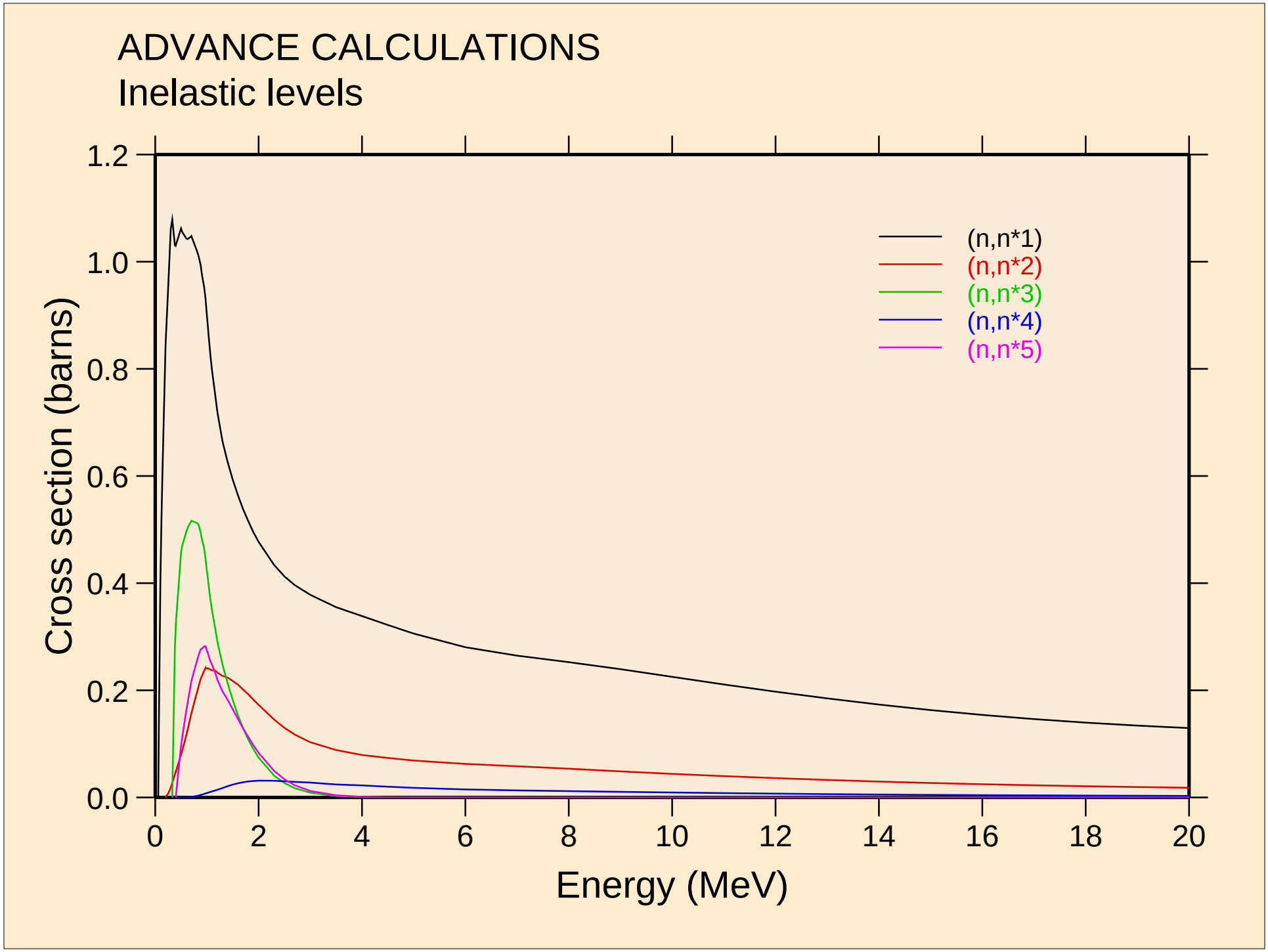
ADVANCE CALCULATIONS
Damage

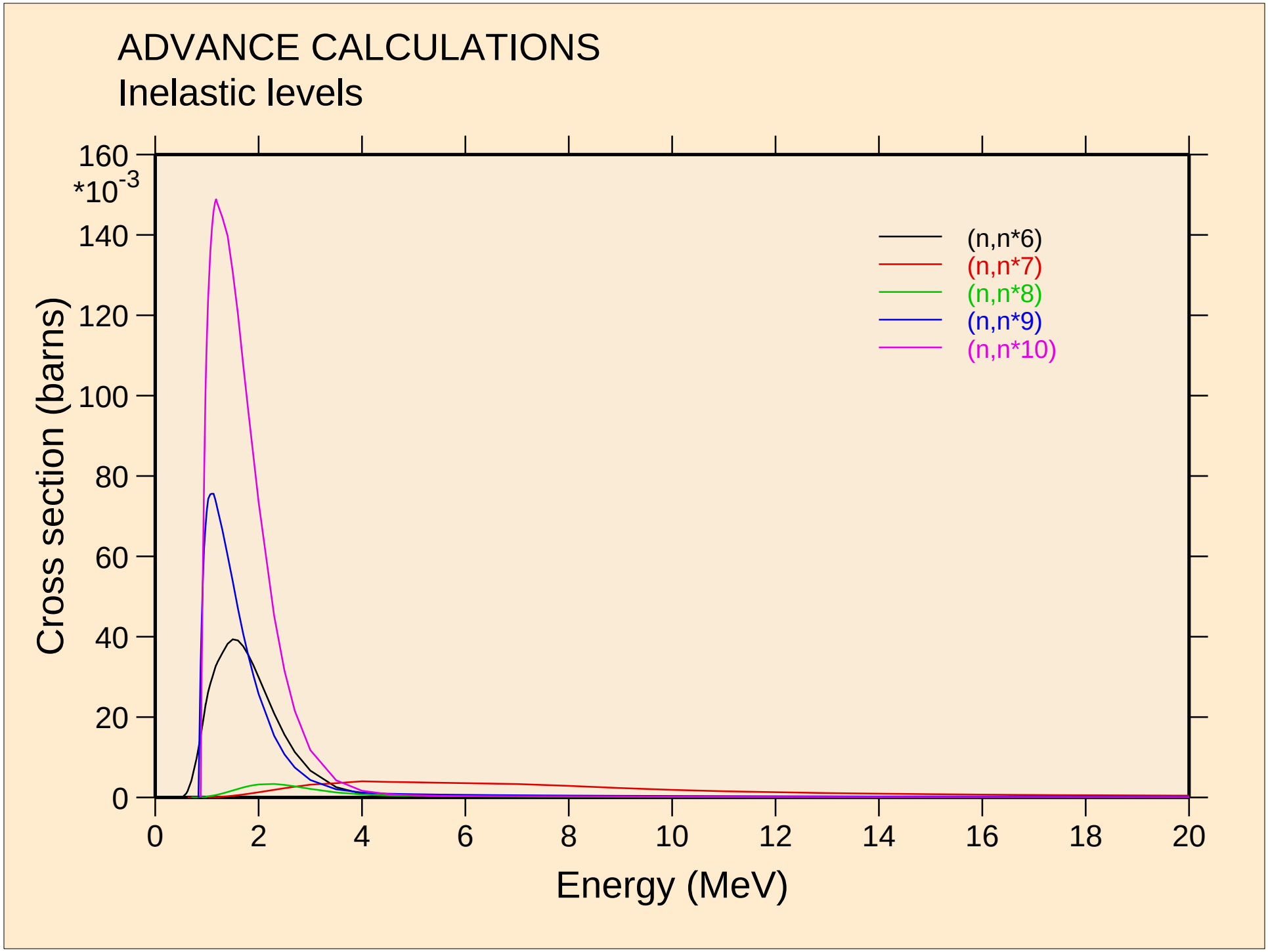


ADVANCE CALCULATIONS

Non-threshold reactions

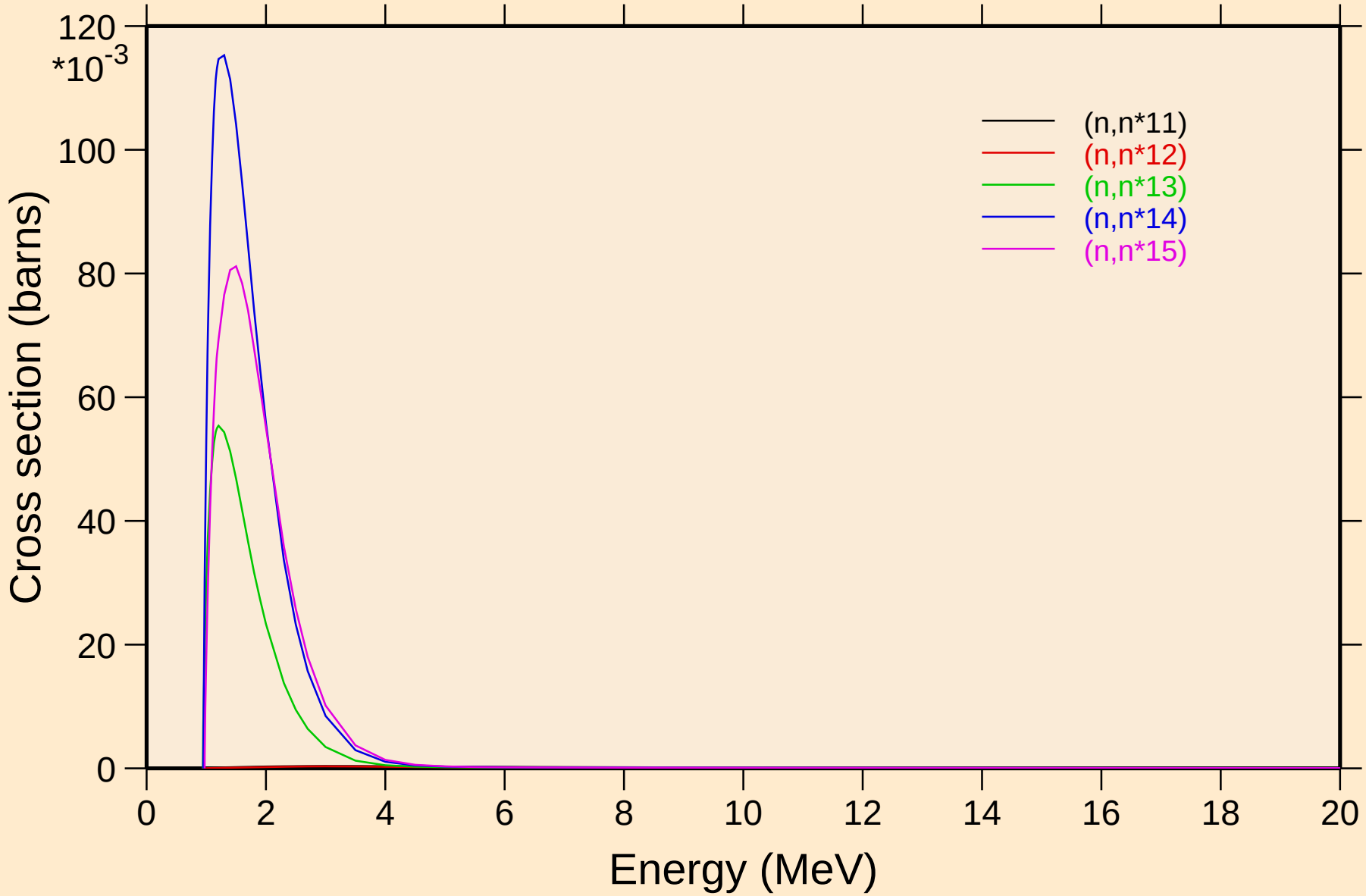


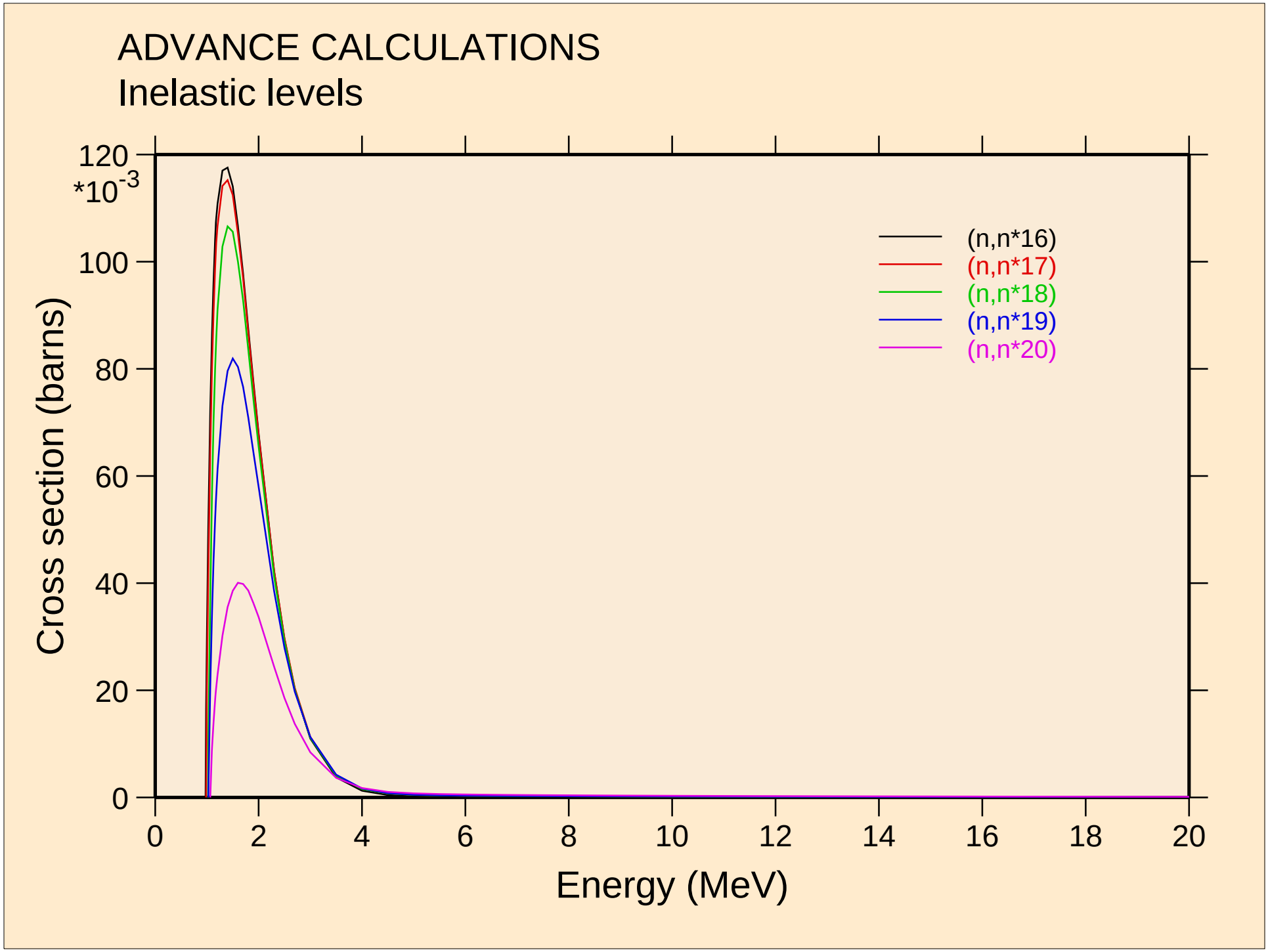

ADVANCE CALCULATIONS
Inelastic levels
Cross section (barns)
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0
2
4
6
8
10
12
14
16
18
20


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

ADVANCE CALCULATIONS

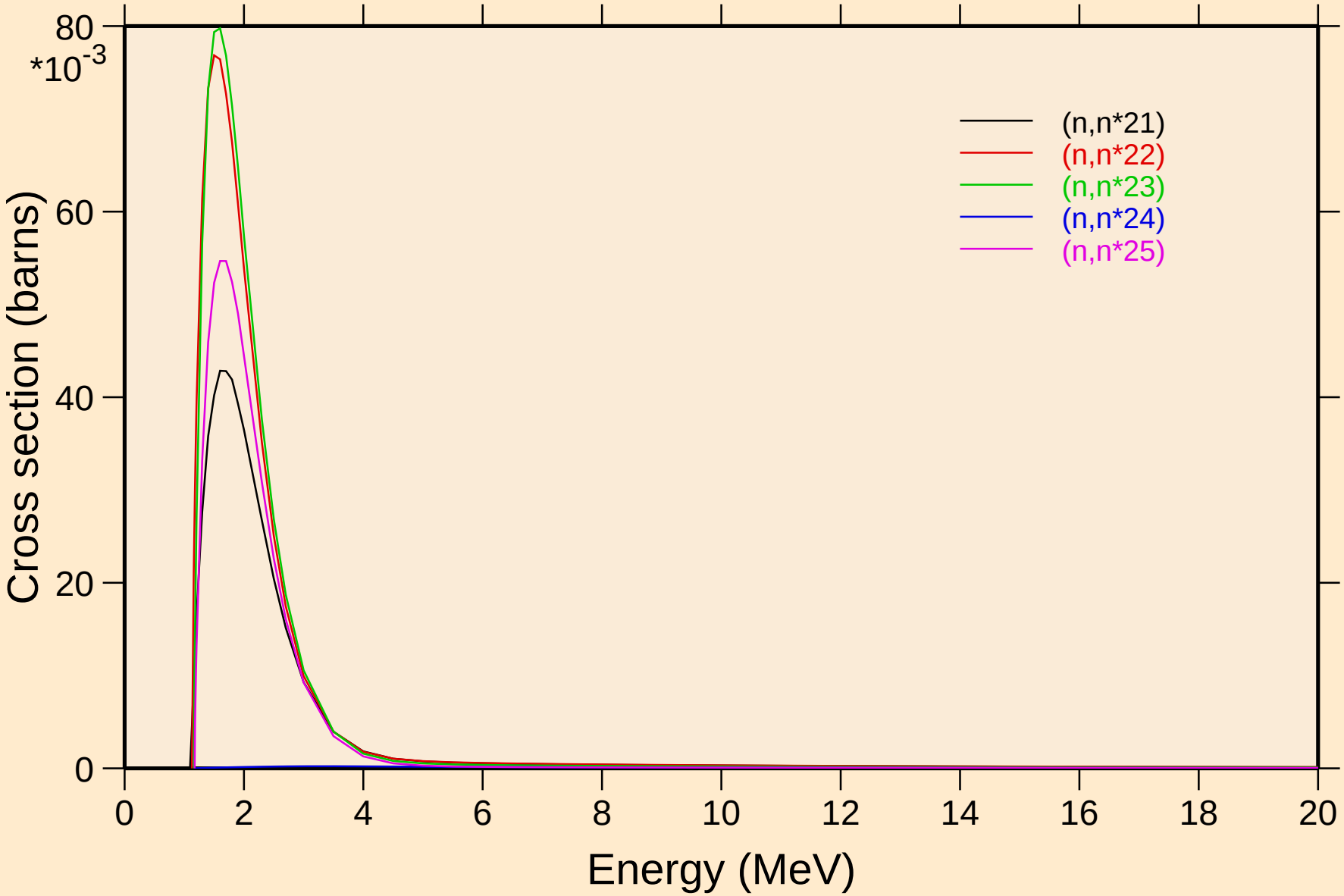
Inelastic levels




ADVANCE CALCULATIONS
Inelastic levels
Cross section (barns)
*10-3
120
100
80
60
40
20
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

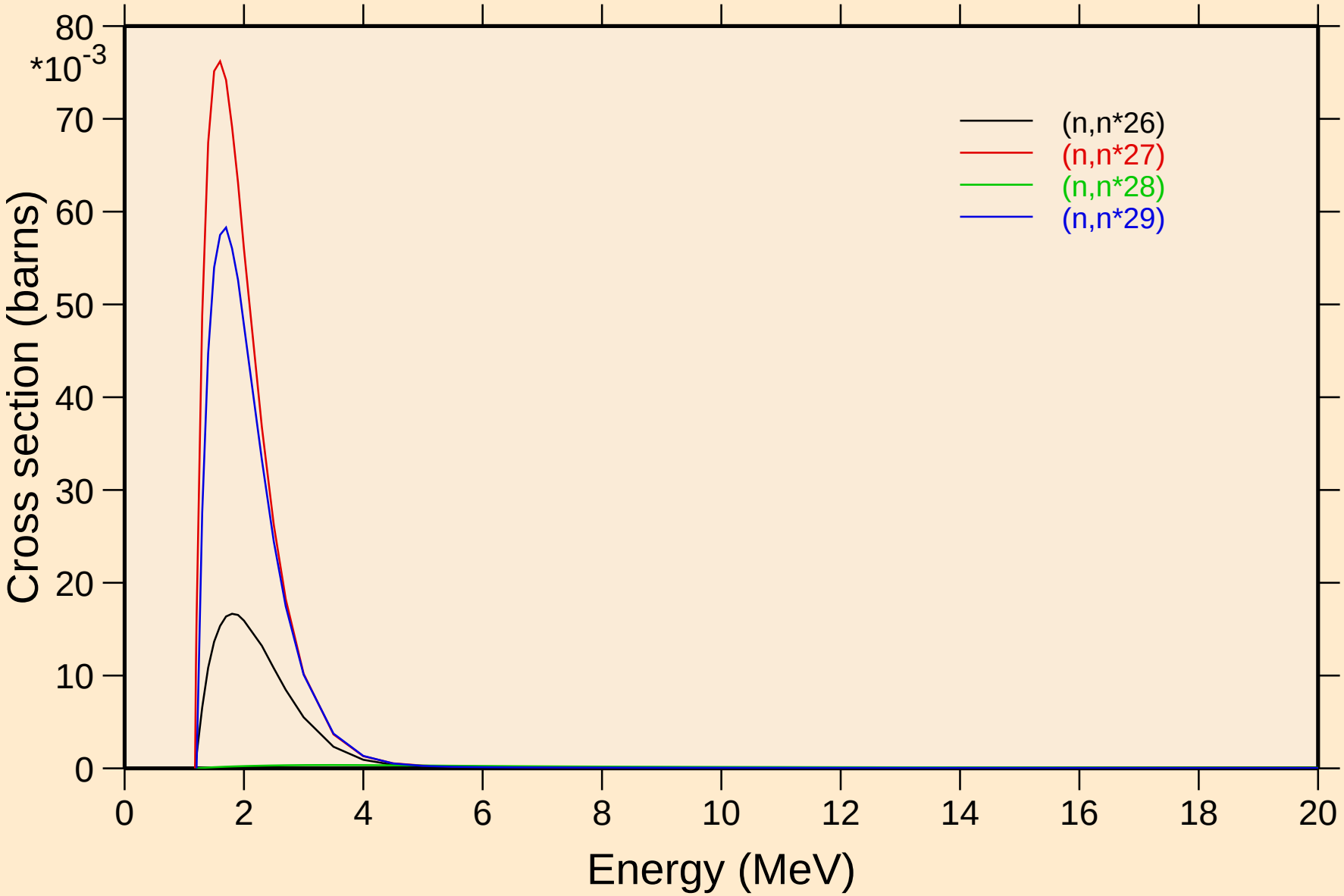
ADVANCE CALCULATIONS

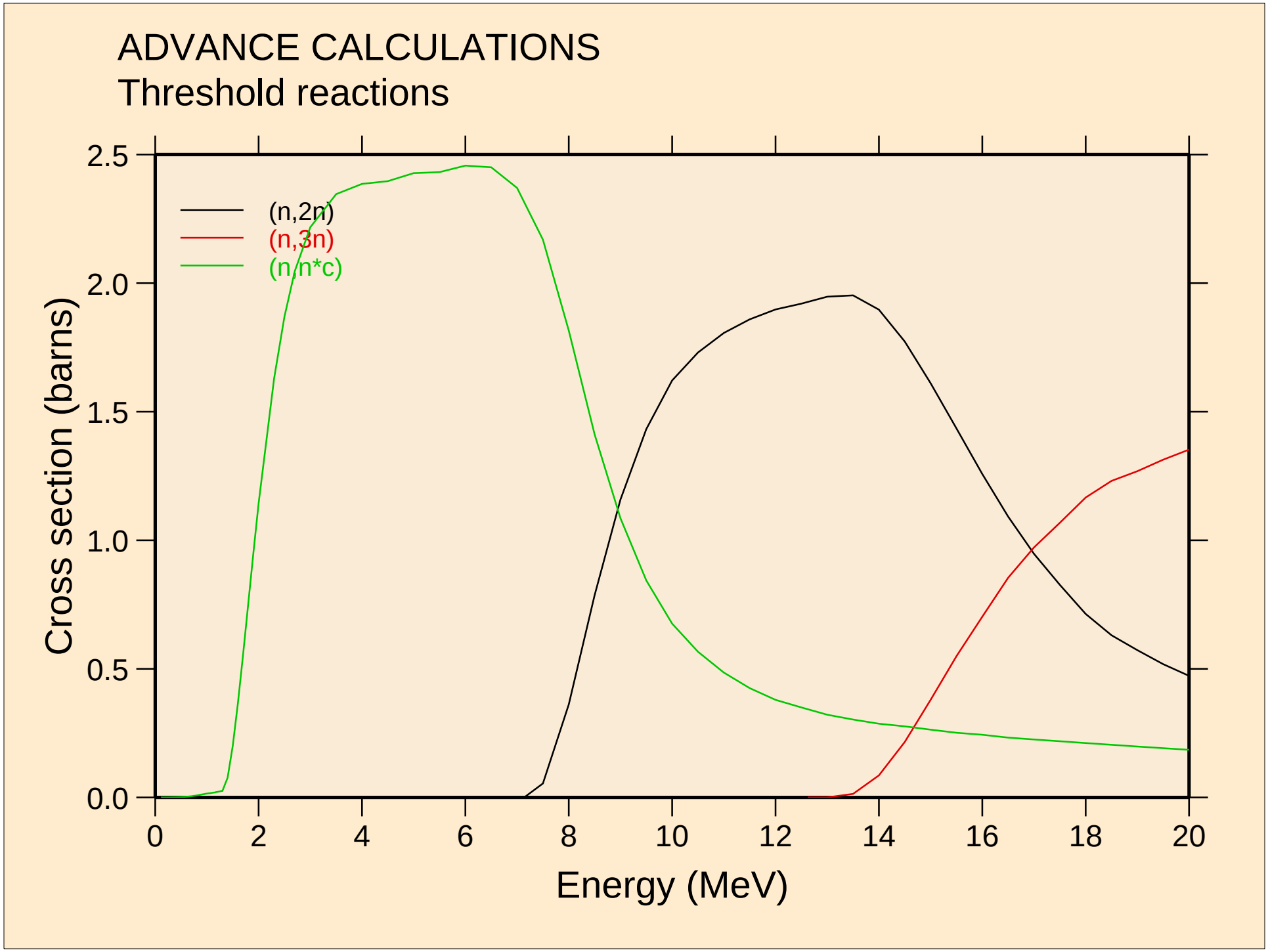
Inelastic levels



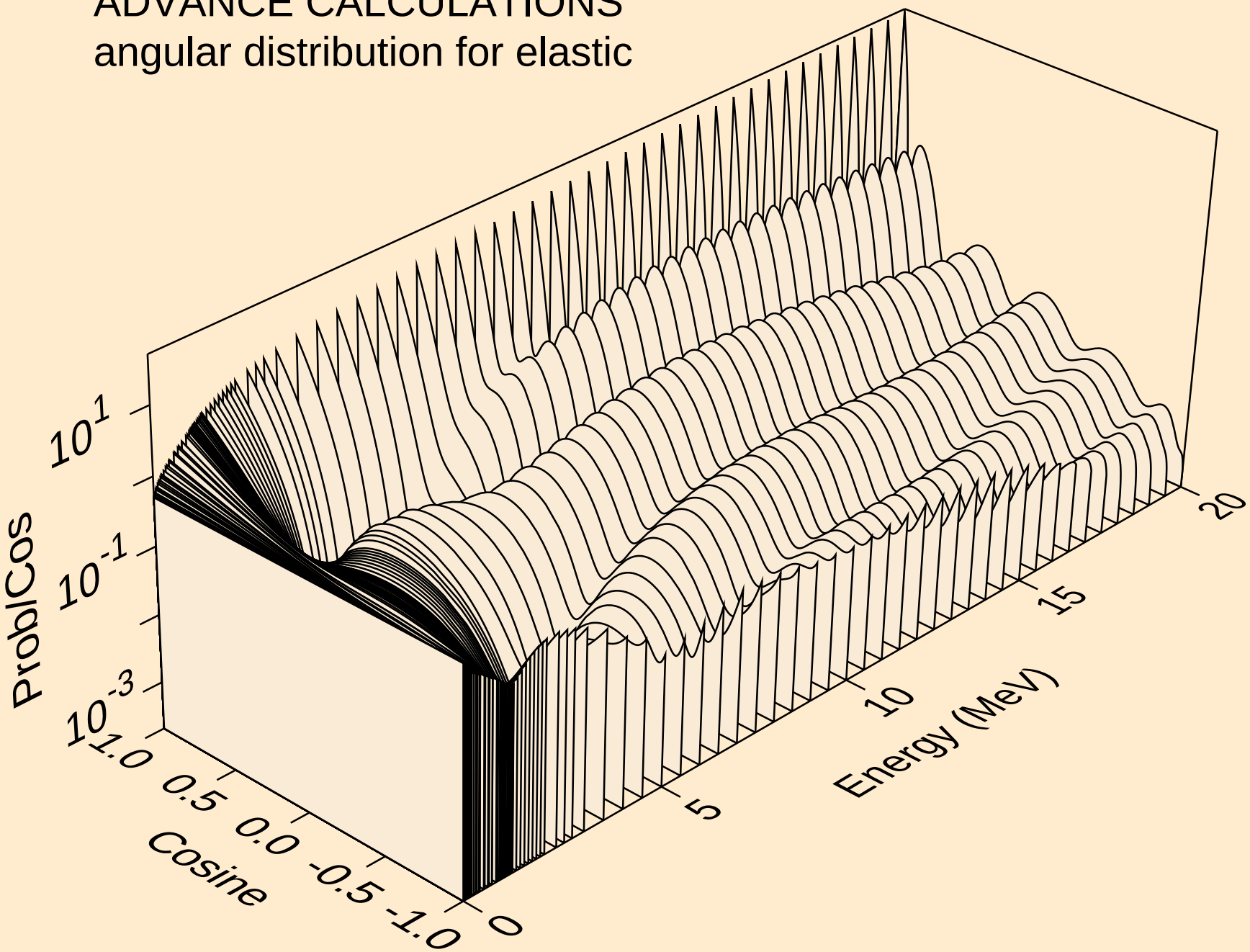
ADVANCE CALCULATIONS

Inelastic levels

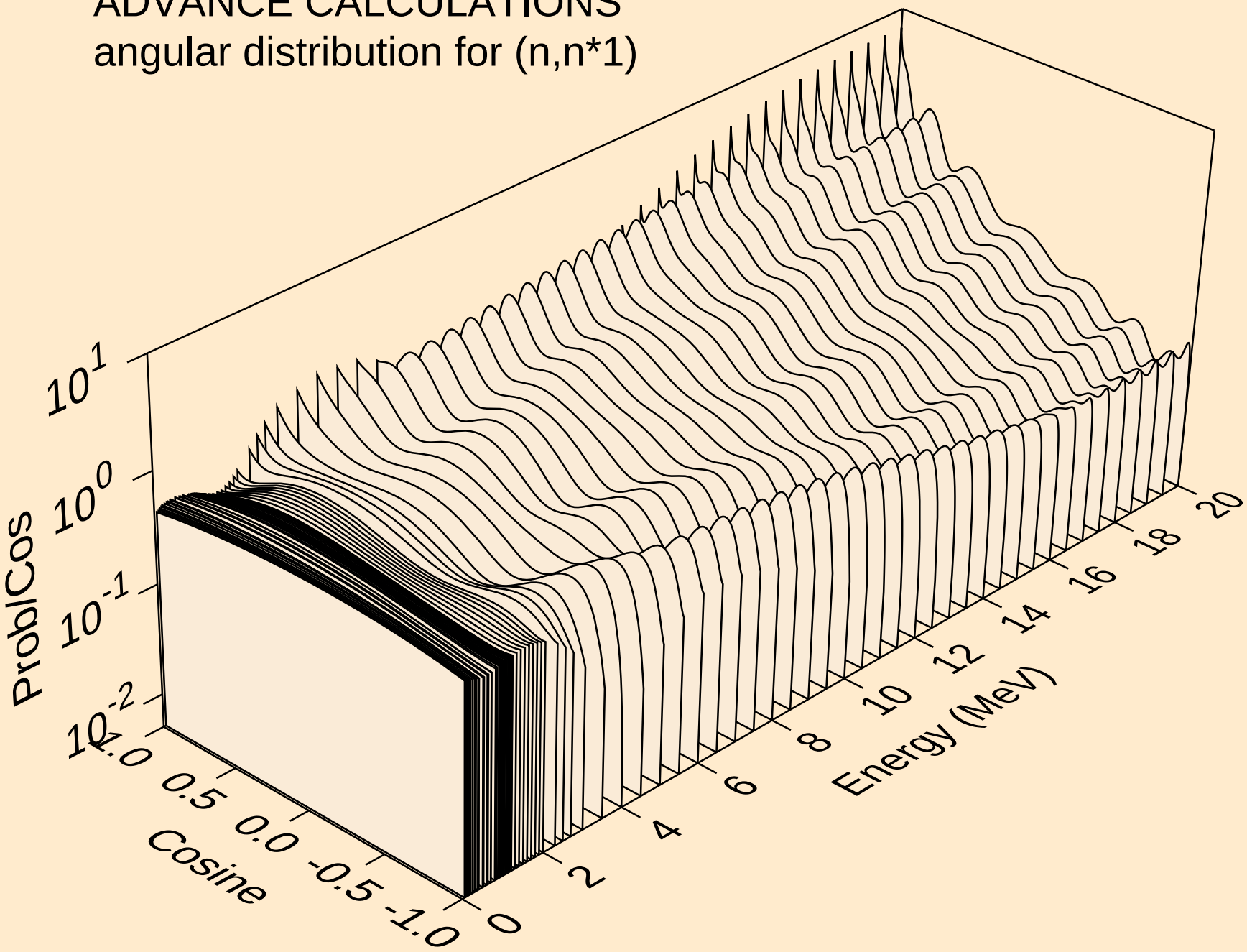



ADVANCE CALCULATIONS
Threshold reactions
(n,2n)
(n,3n)
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
0
2
4
6
8
10
12
14
16
18
20

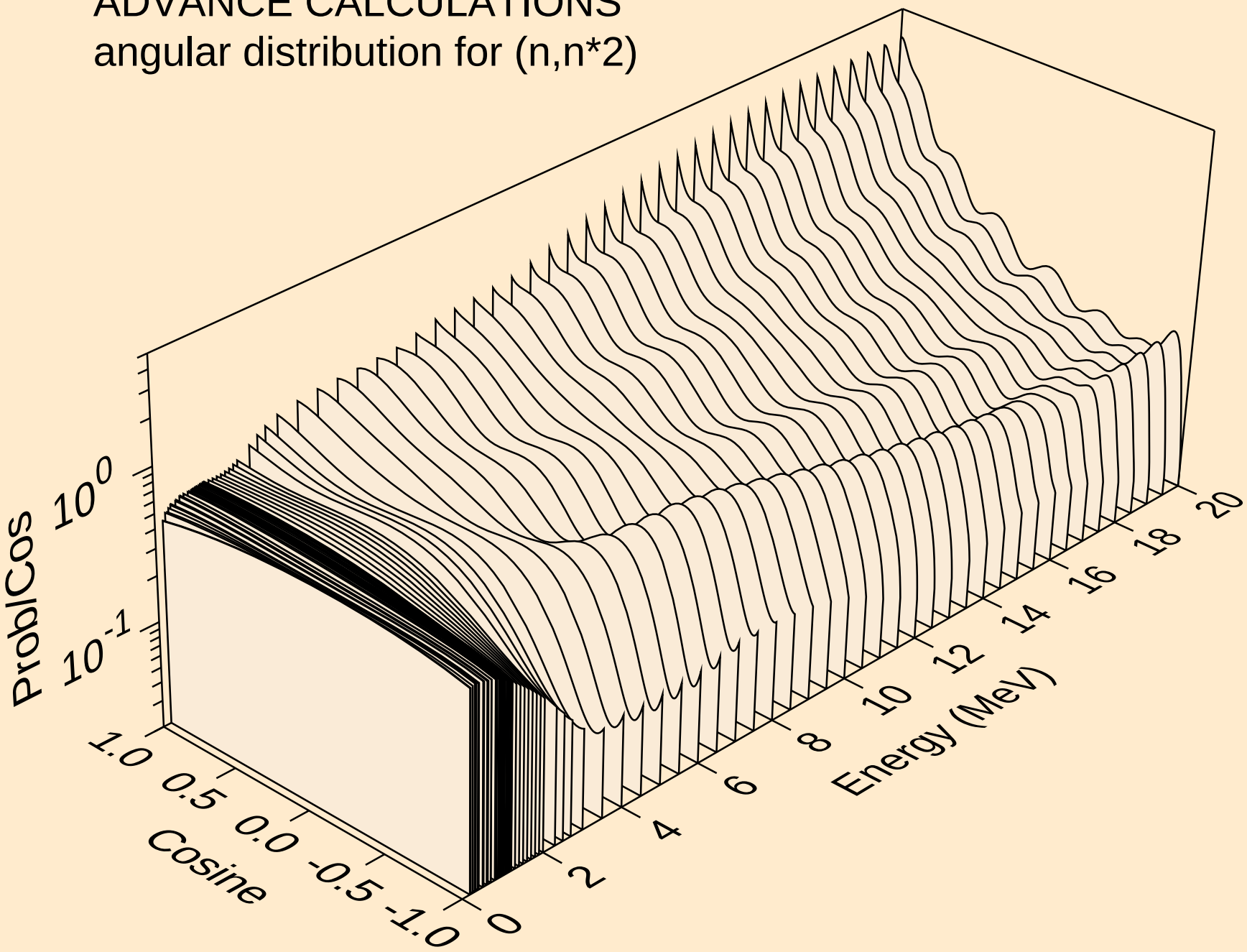
ADVANCE CALCULATIONS
angular distribution for elastic



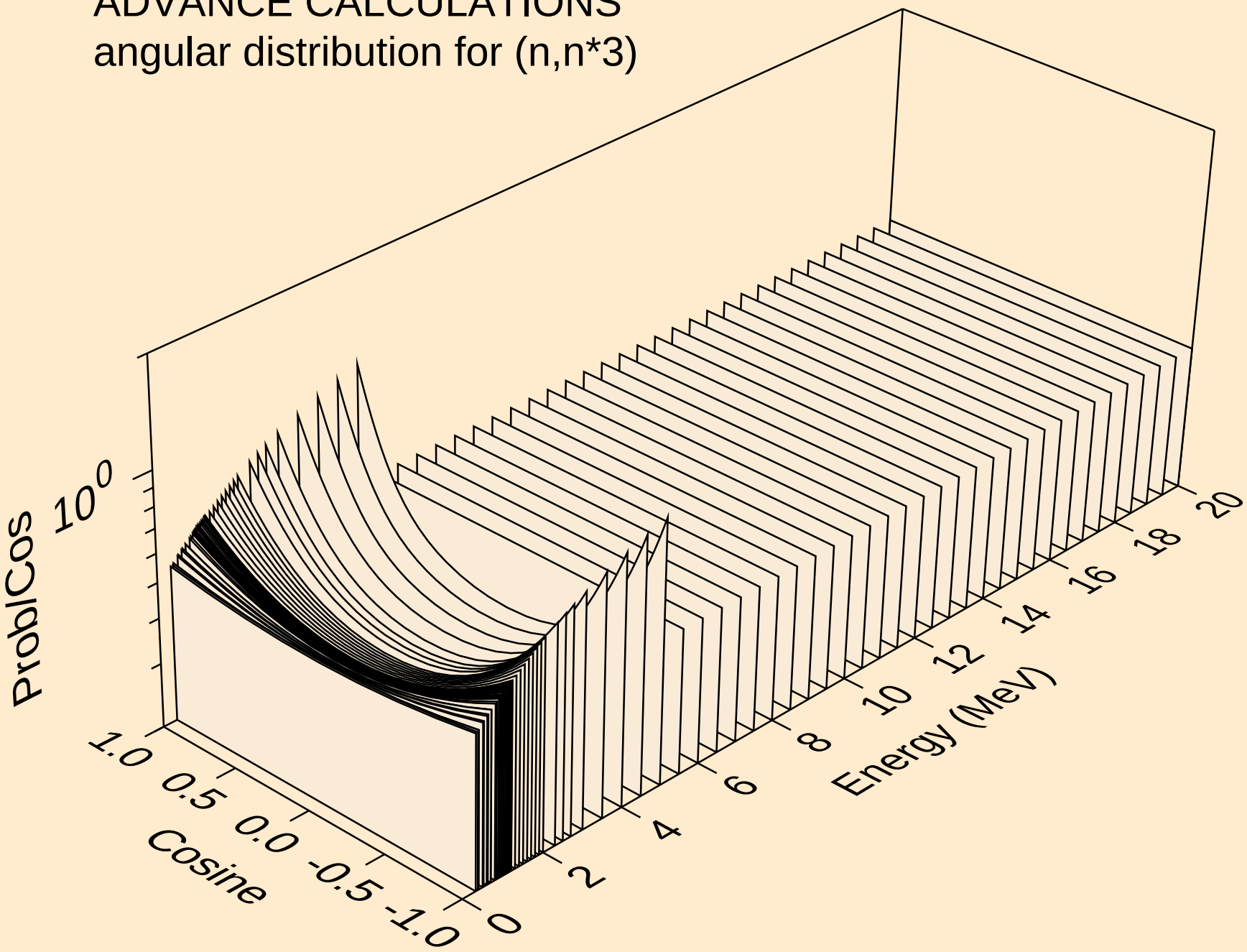
ADVANCE CALCULATIONS
angular distribution for (n,n*1)



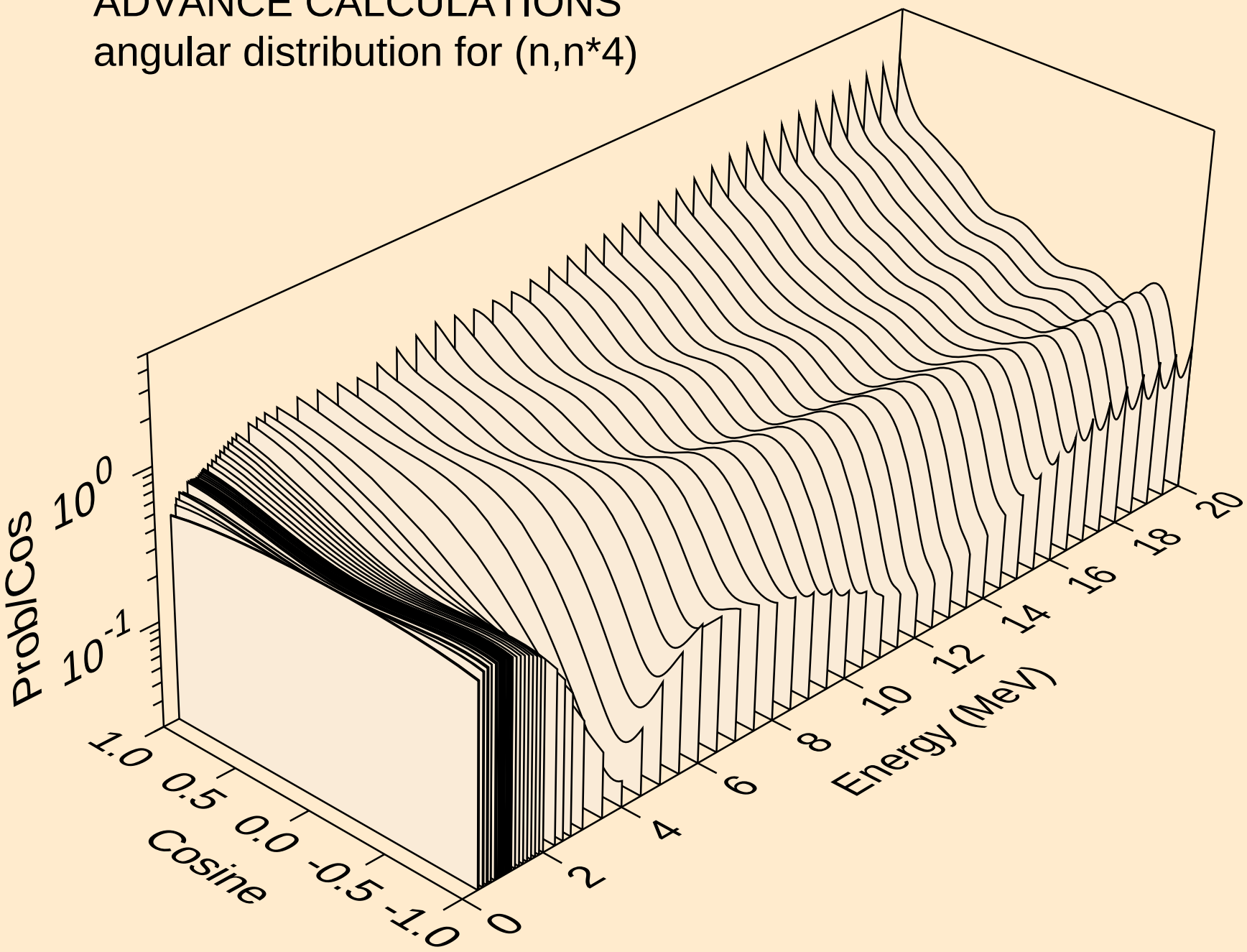
ADVANCE CALCULATIONS
angular distribution for (n,n*2)



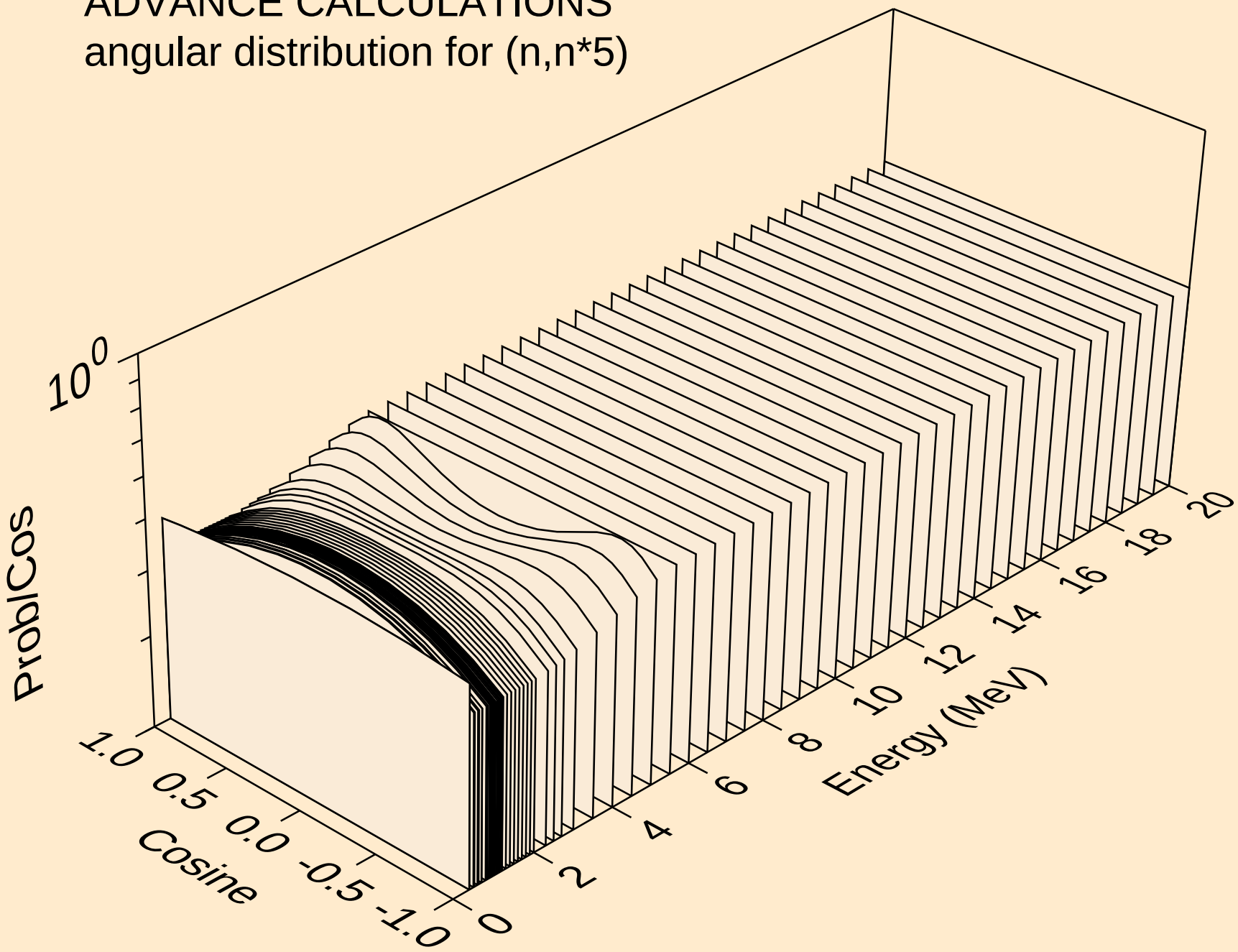
ADVANCE CALCULATIONS
angular distribution for (n,n*3)



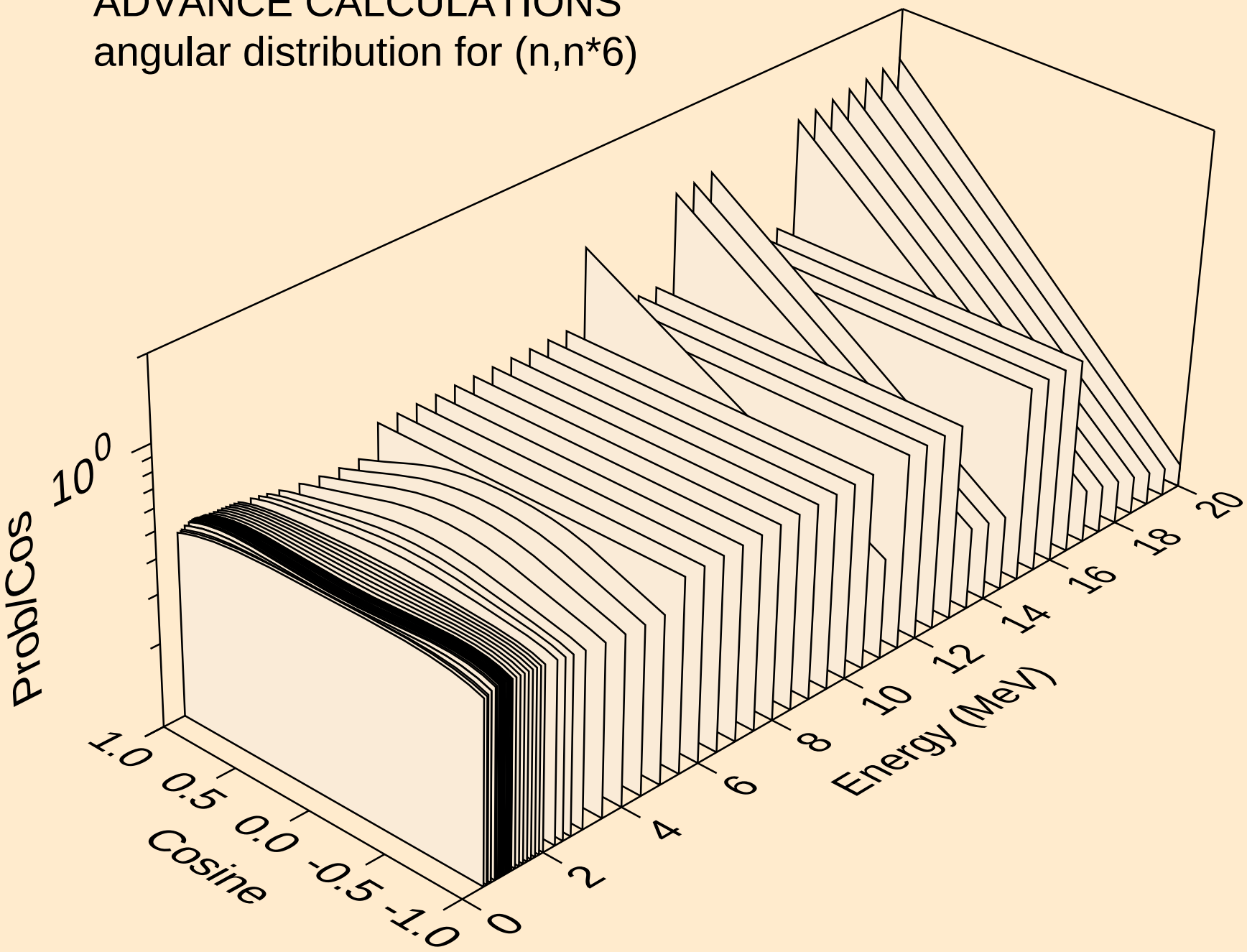
ADVANCE CALCULATIONS
angular distribution for (n,n*4)



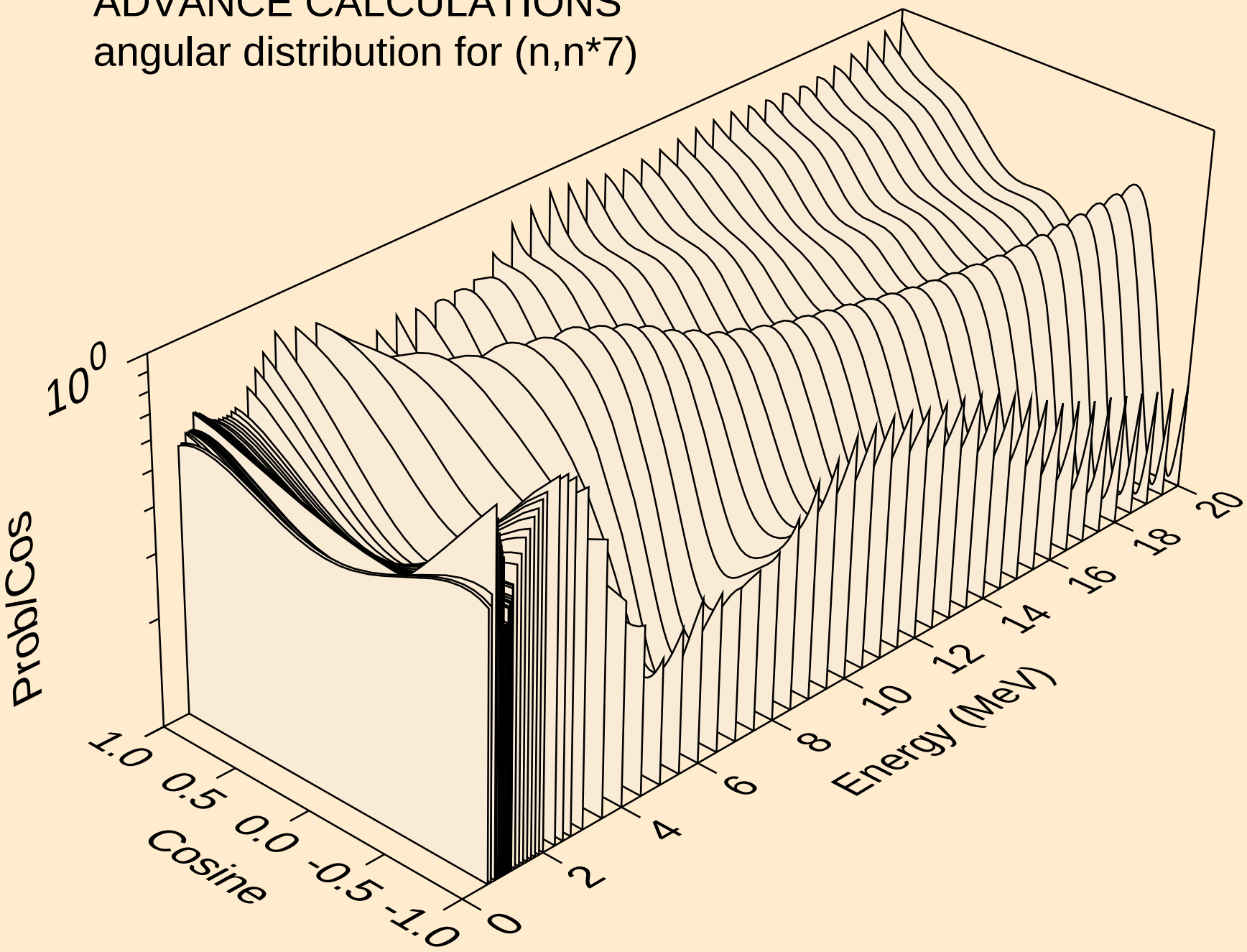
ADVANCE CALCULATIONS
angular distribution for (n,n*5)



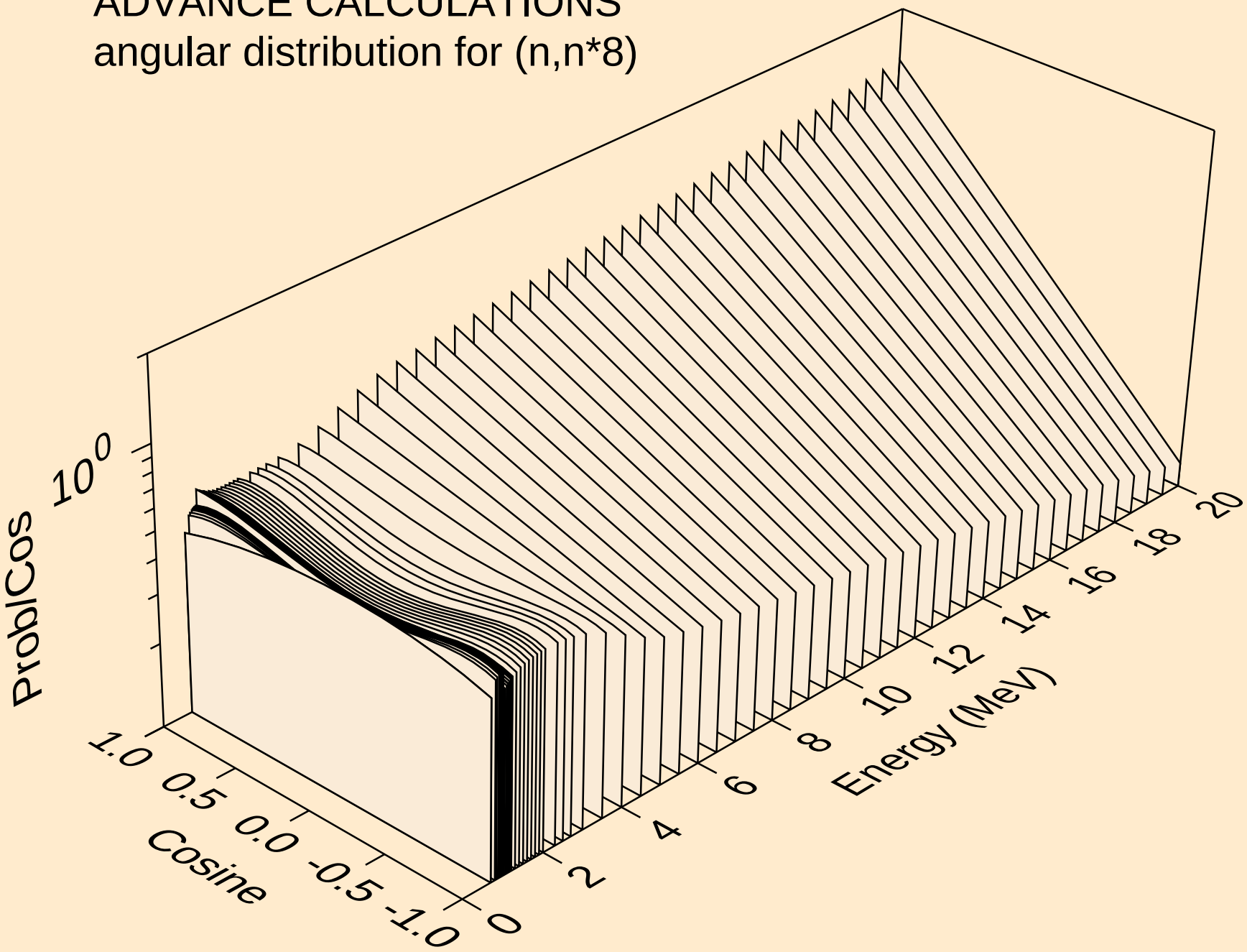
ADVANCE CALCULATIONS
angular distribution for (n,n*6)



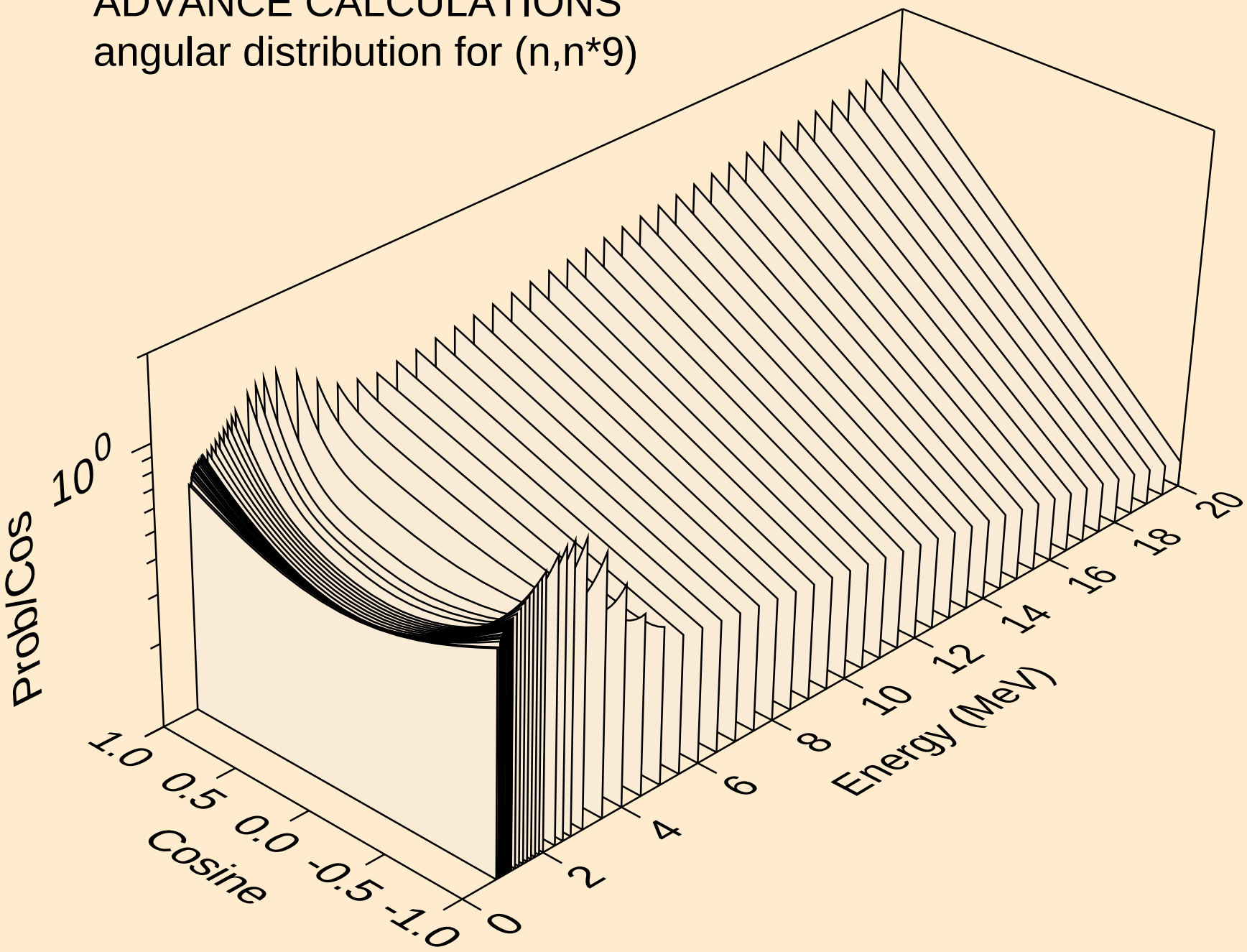
ADVANCE CALCULATIONS
angular distribution for (n,n*7)



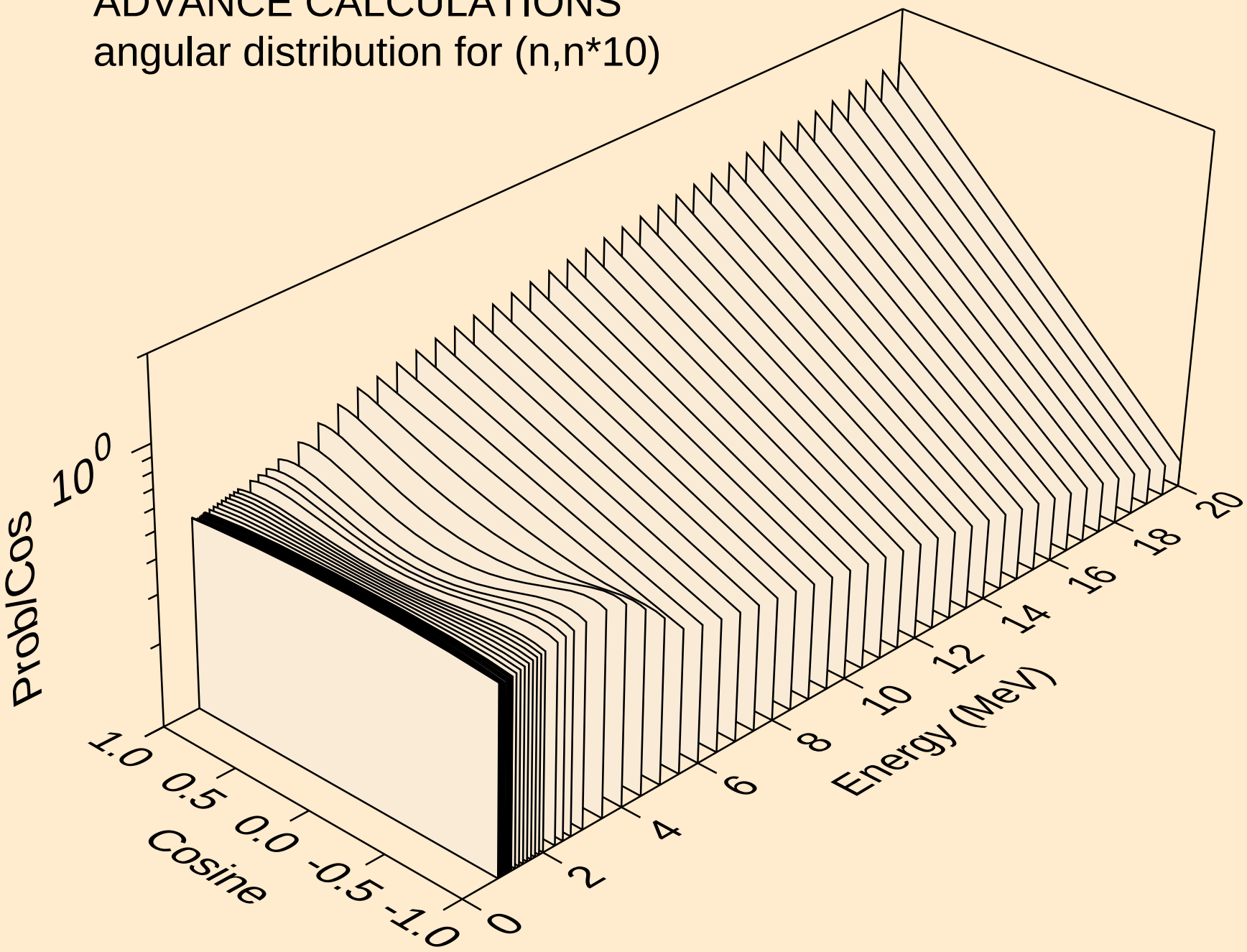
ADVANCE CALCULATIONS
angular distribution for (n,n*8)



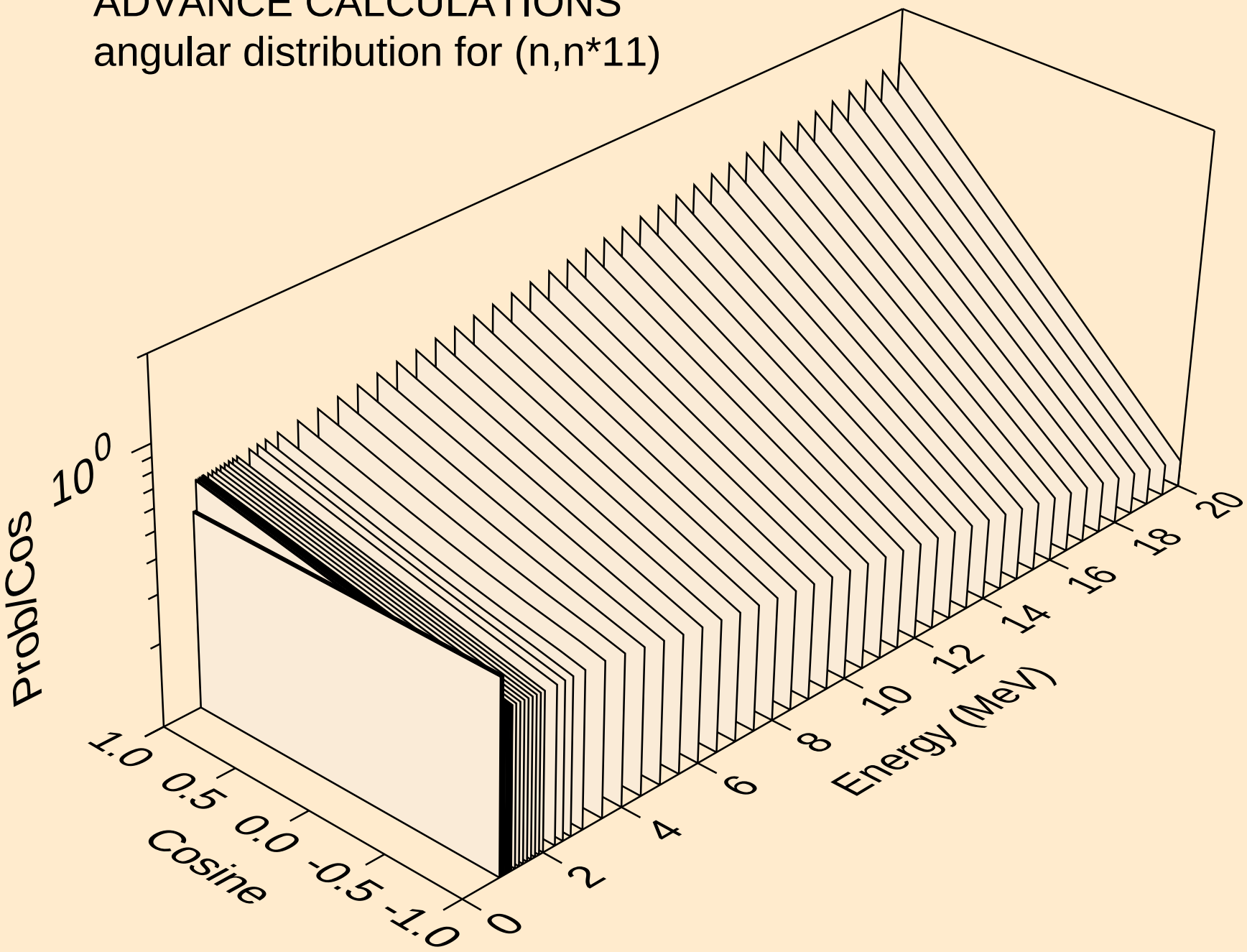
ADVANCE CALCULATIONS
angular distribution for (n,n*9)



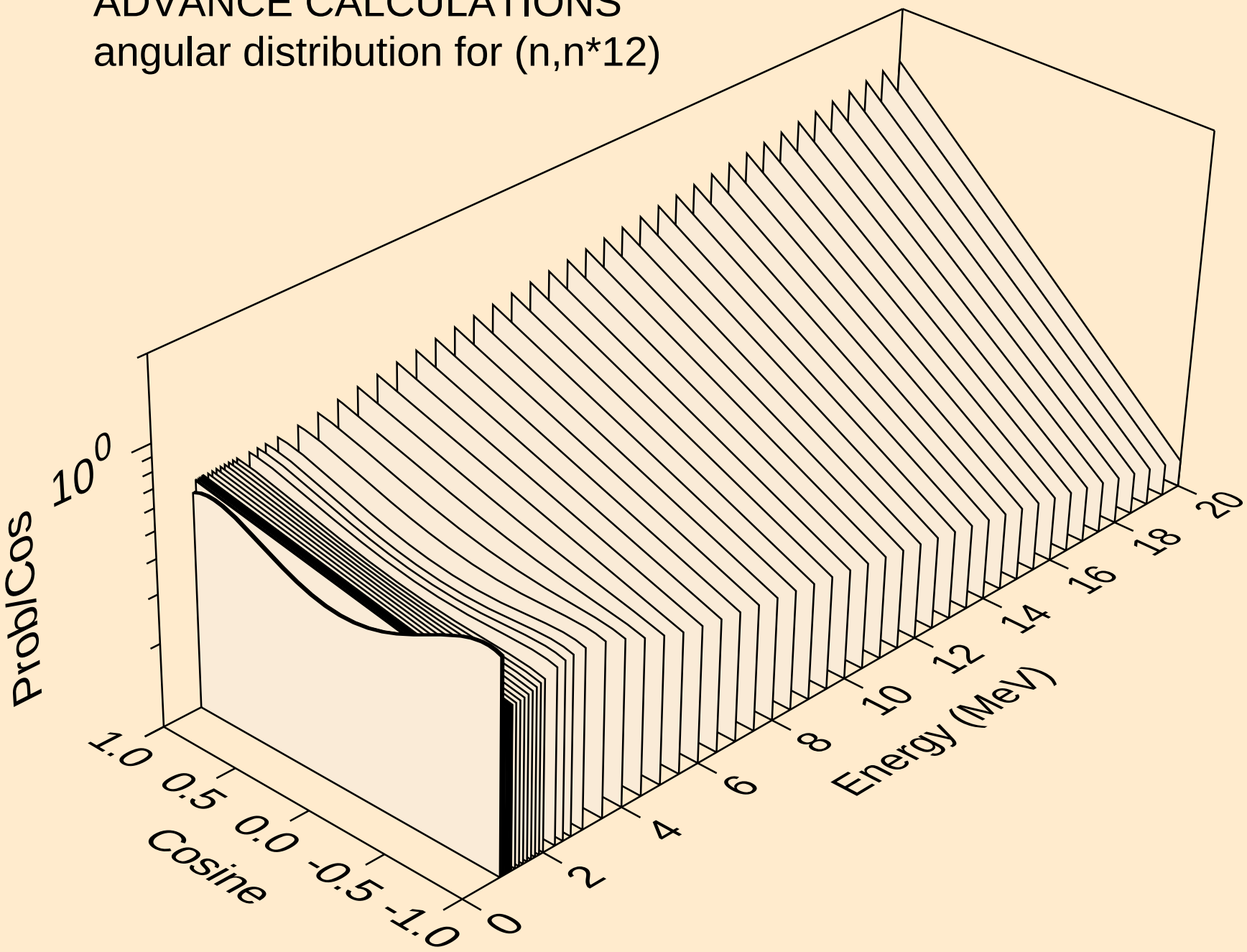
ADVANCE CALCULATIONS
angular distribution for (n,n*10)



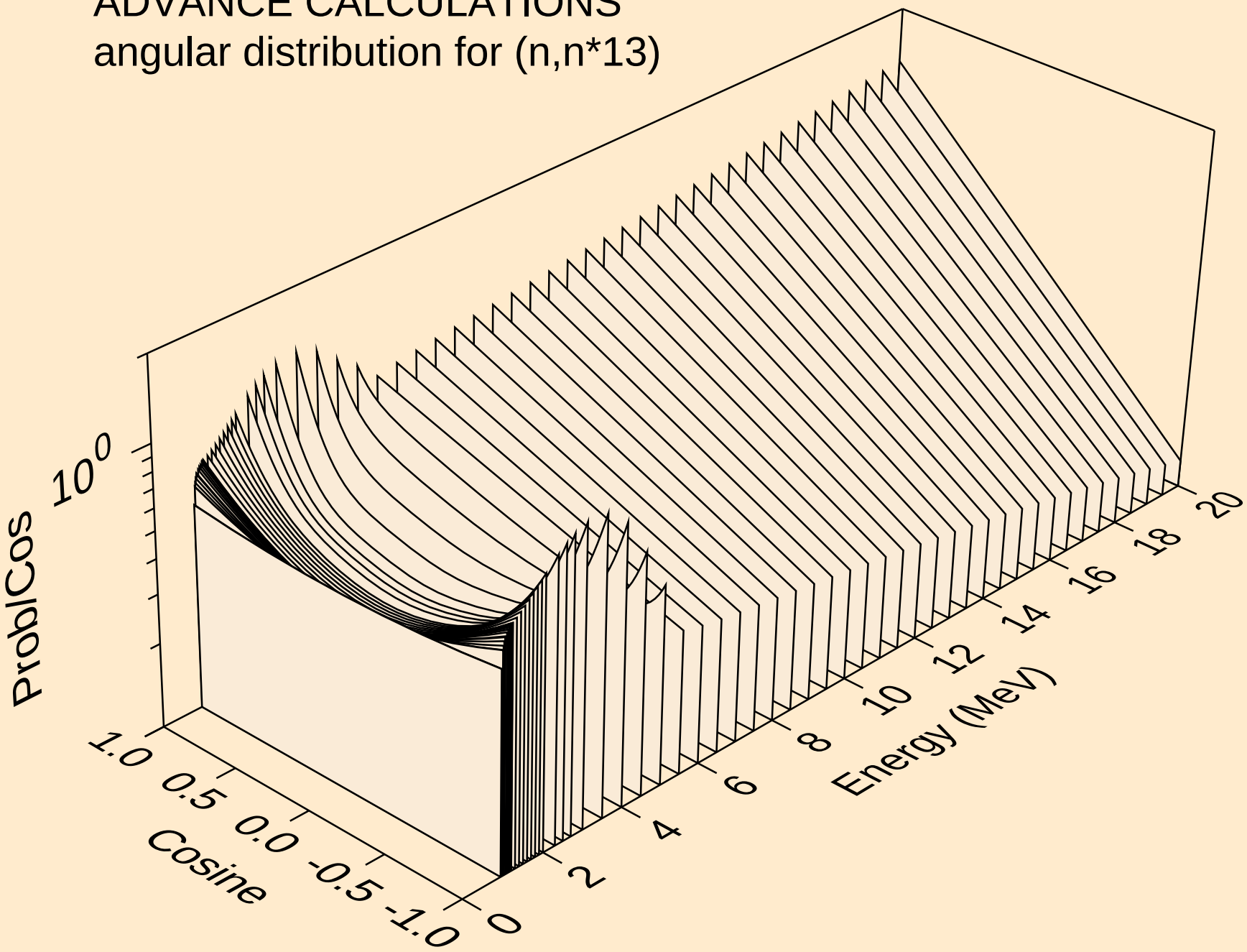
ADVANCE CALCULATIONS
angular distribution for (n,n*11)



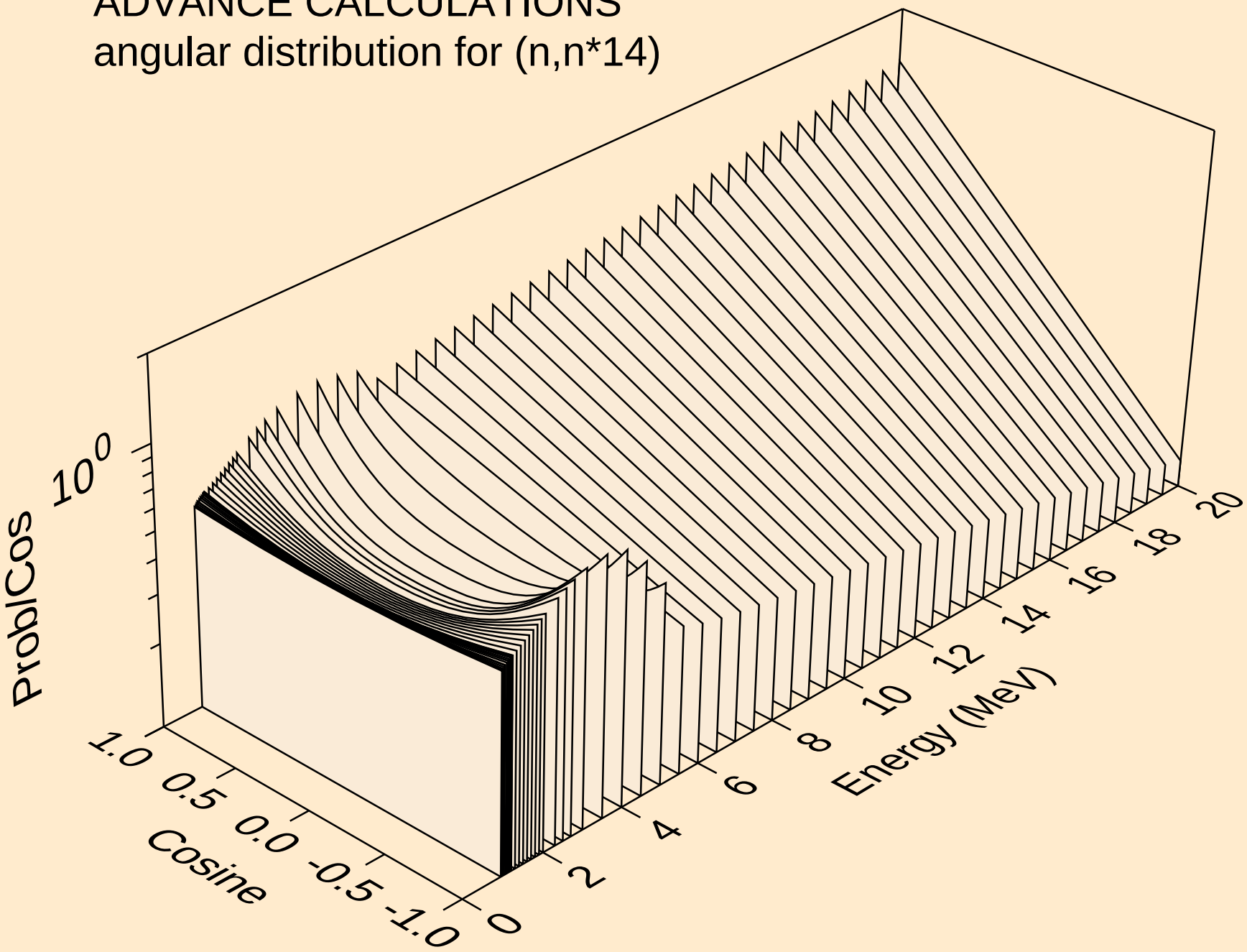
ADVANCE CALCULATIONS
angular distribution for (n,n*12)



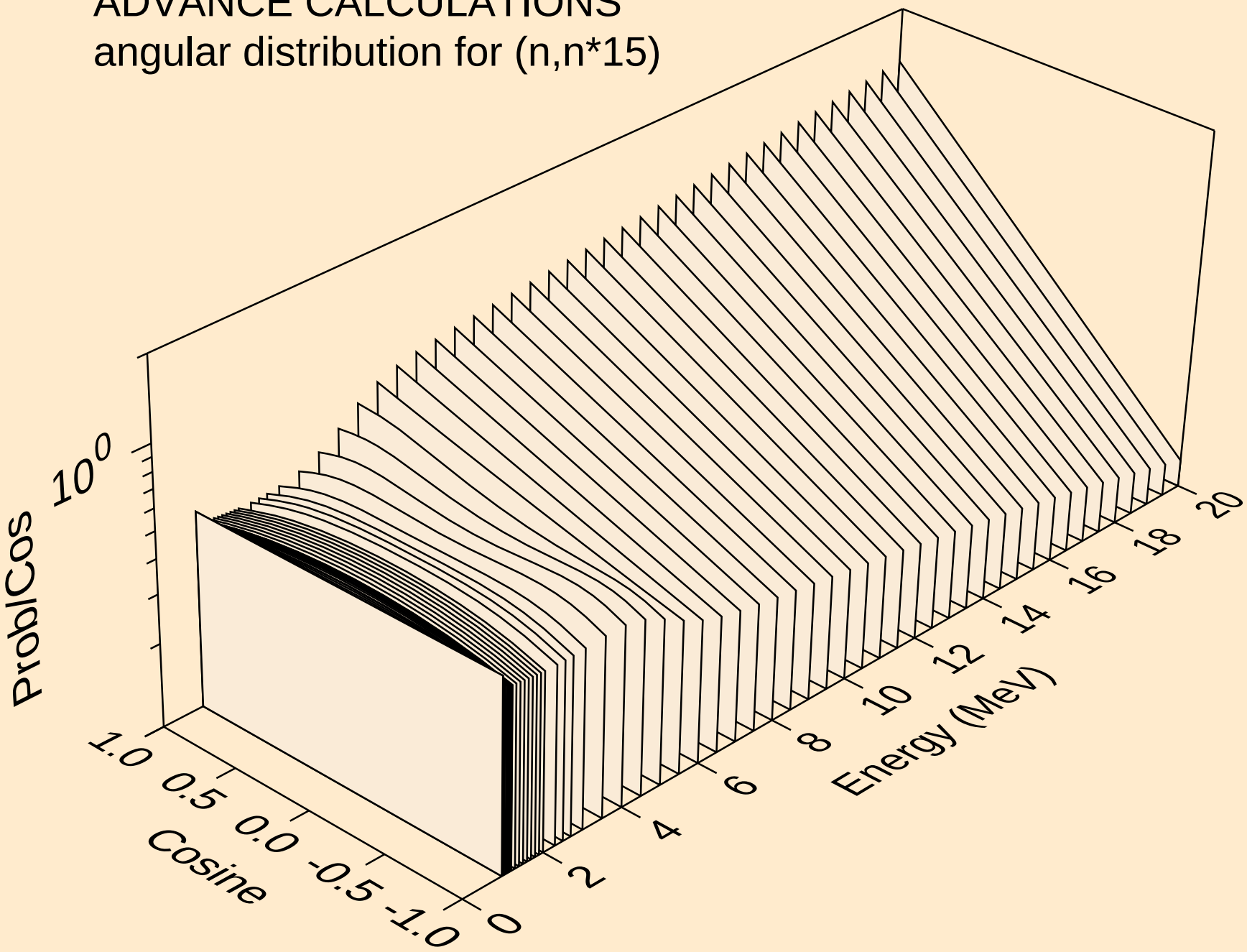
ADVANCE CALCULATIONS
angular distribution for (n,n*13)



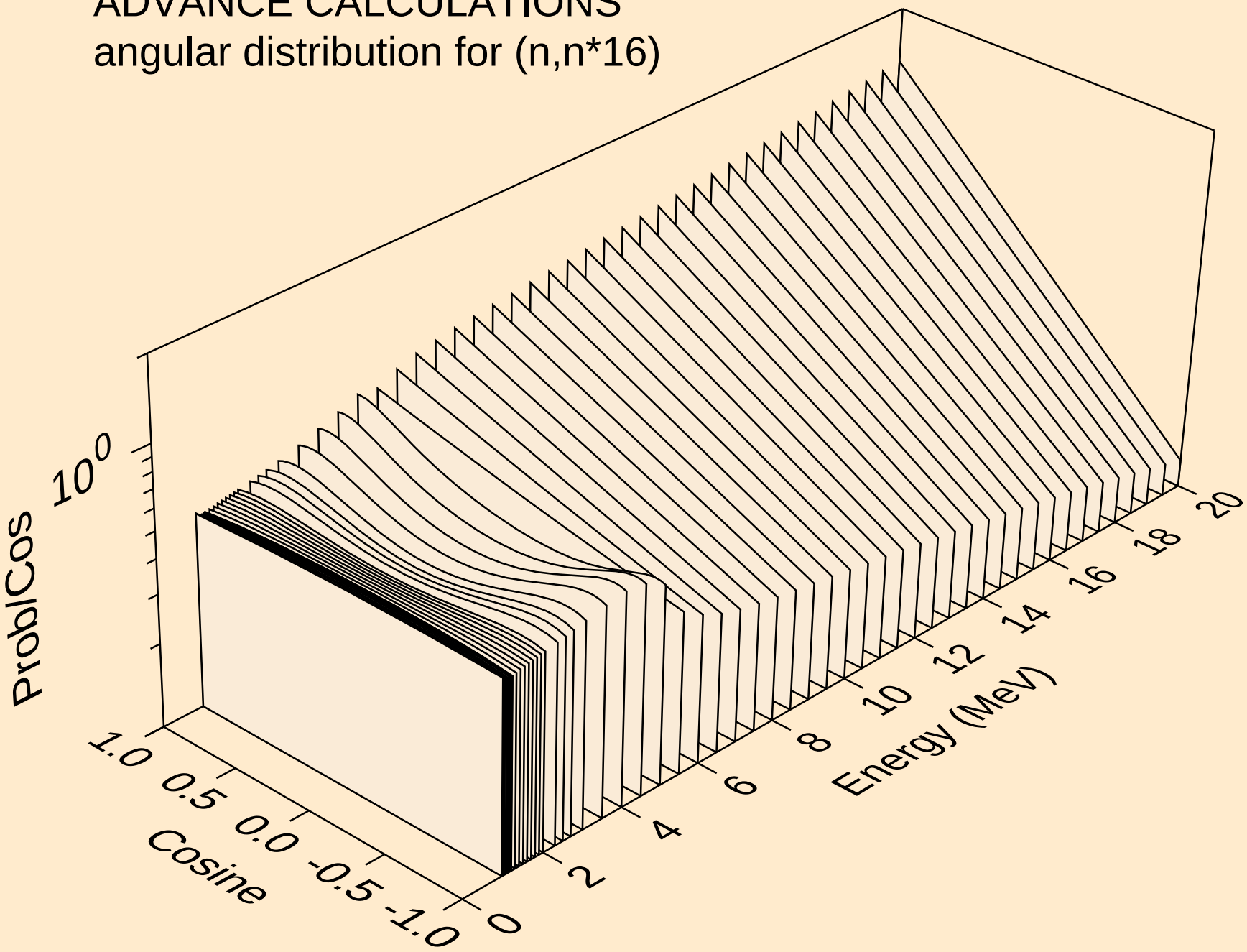
ADVANCE CALCULATIONS
angular distribution for (n,n*14)



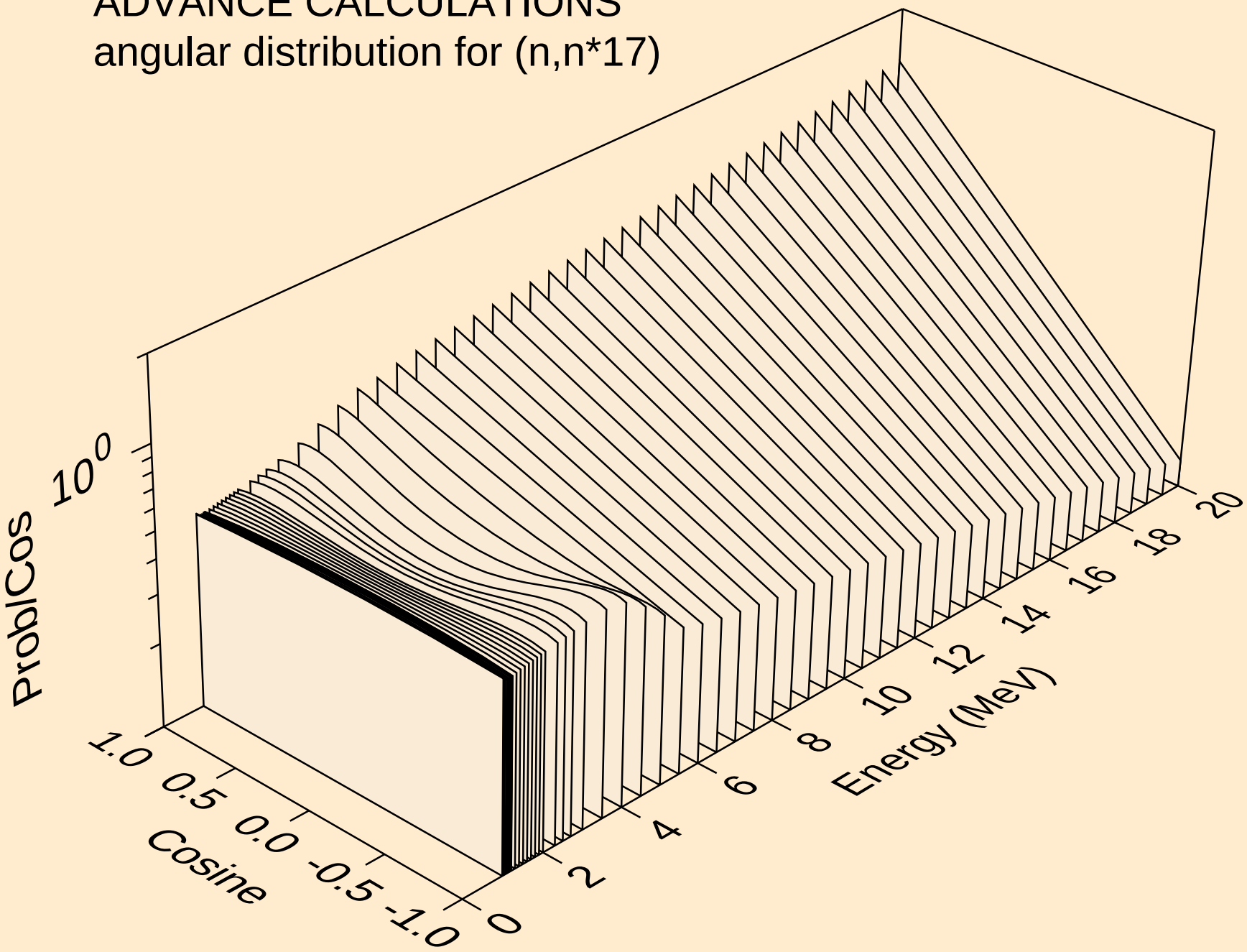
ADVANCE CALCULATIONS
angular distribution for (n,n*15)



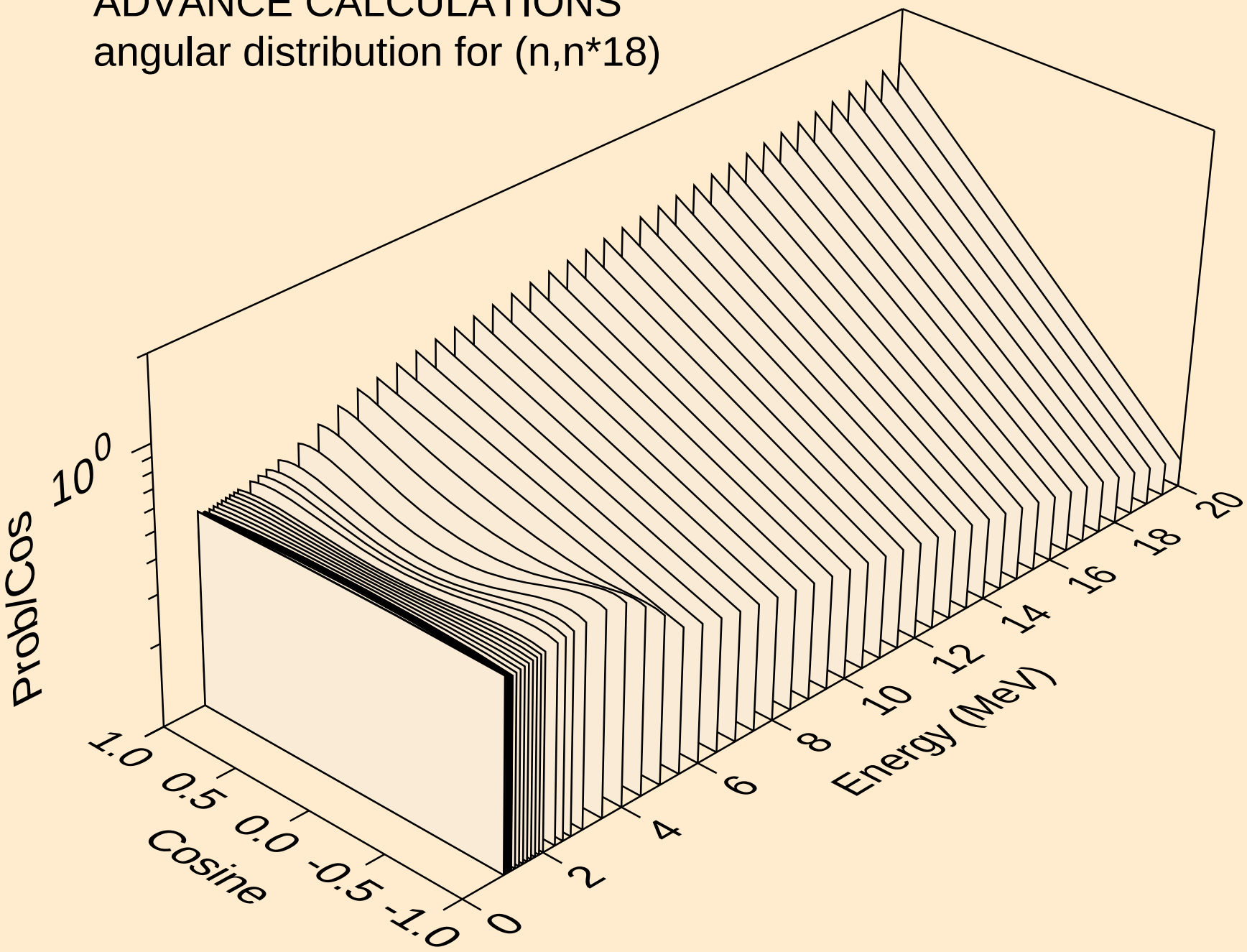
ADVANCE CALCULATIONS
angular distribution for (n,n*16)



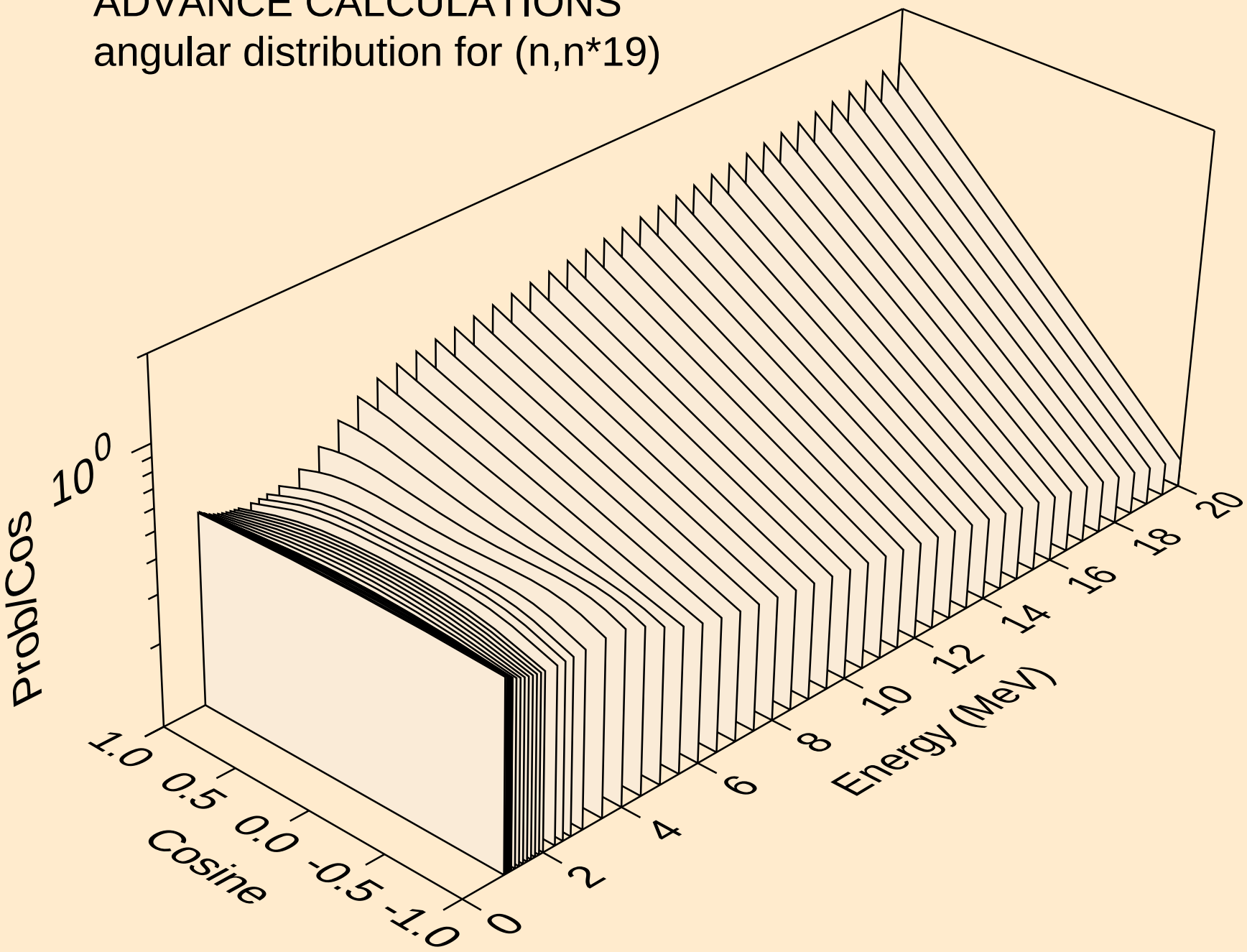
ADVANCE CALCULATIONS
angular distribution for (n,n*17)



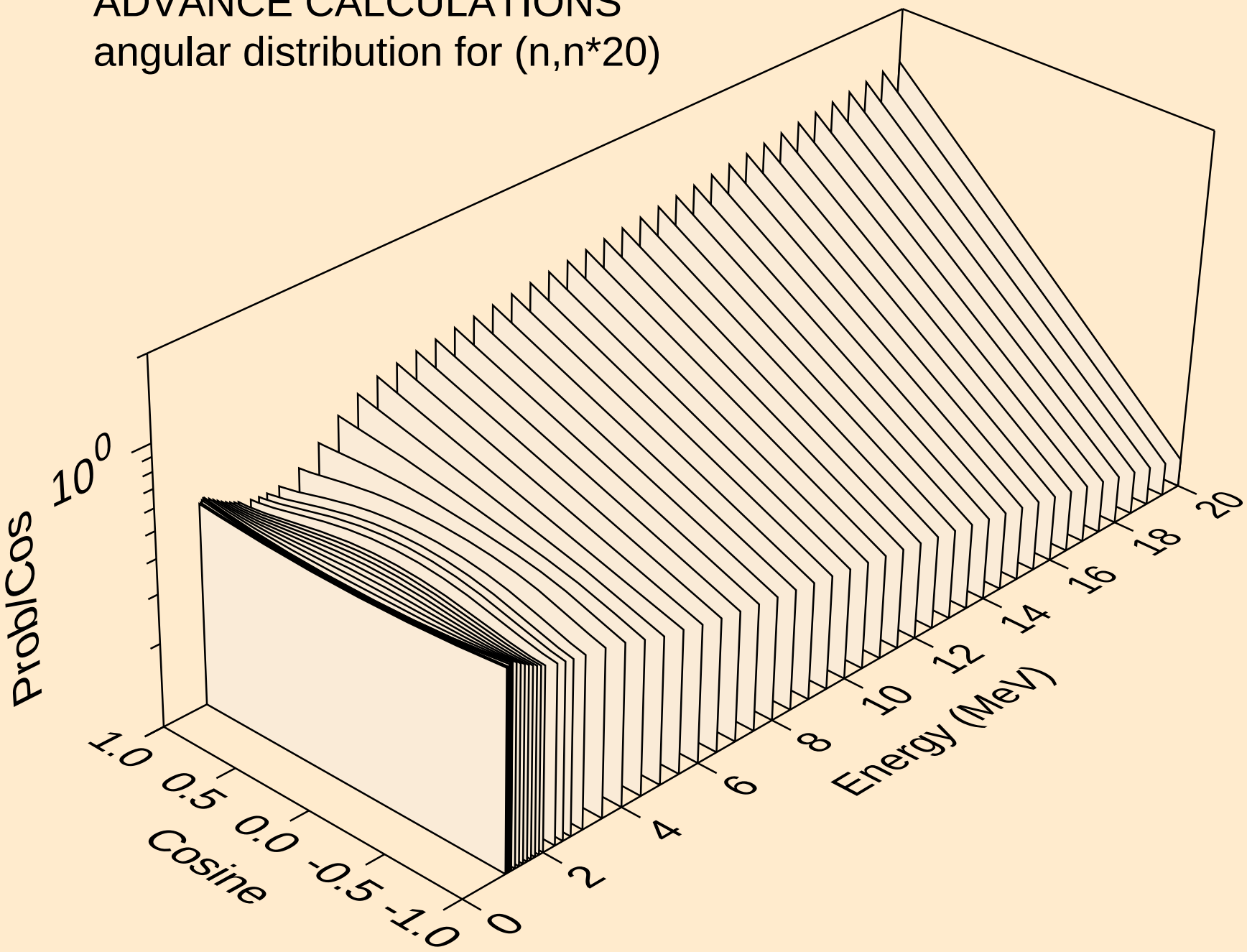
ADVANCE CALCULATIONS
angular distribution for (n,n*18)



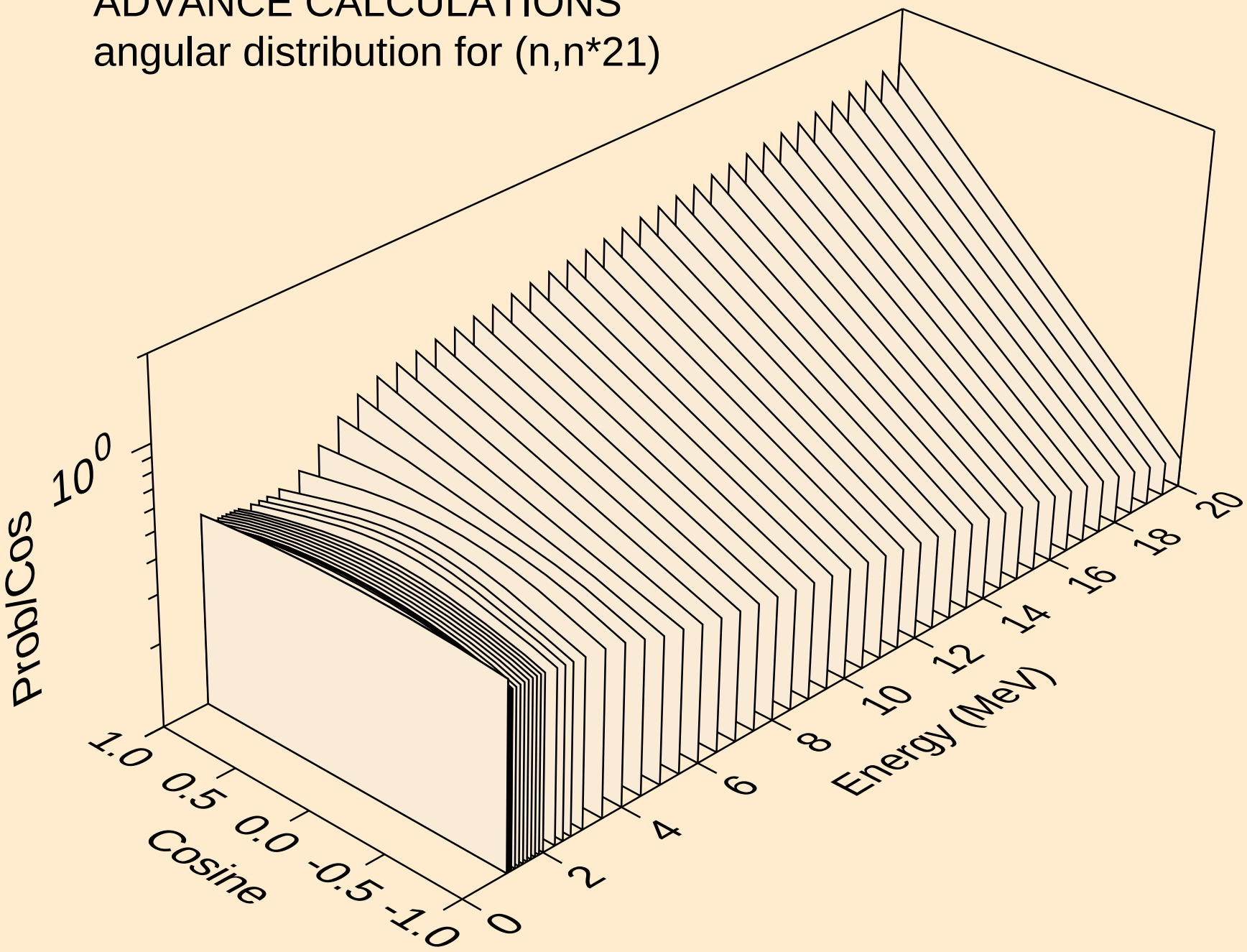
ADVANCE CALCULATIONS
angular distribution for (n,n*19)



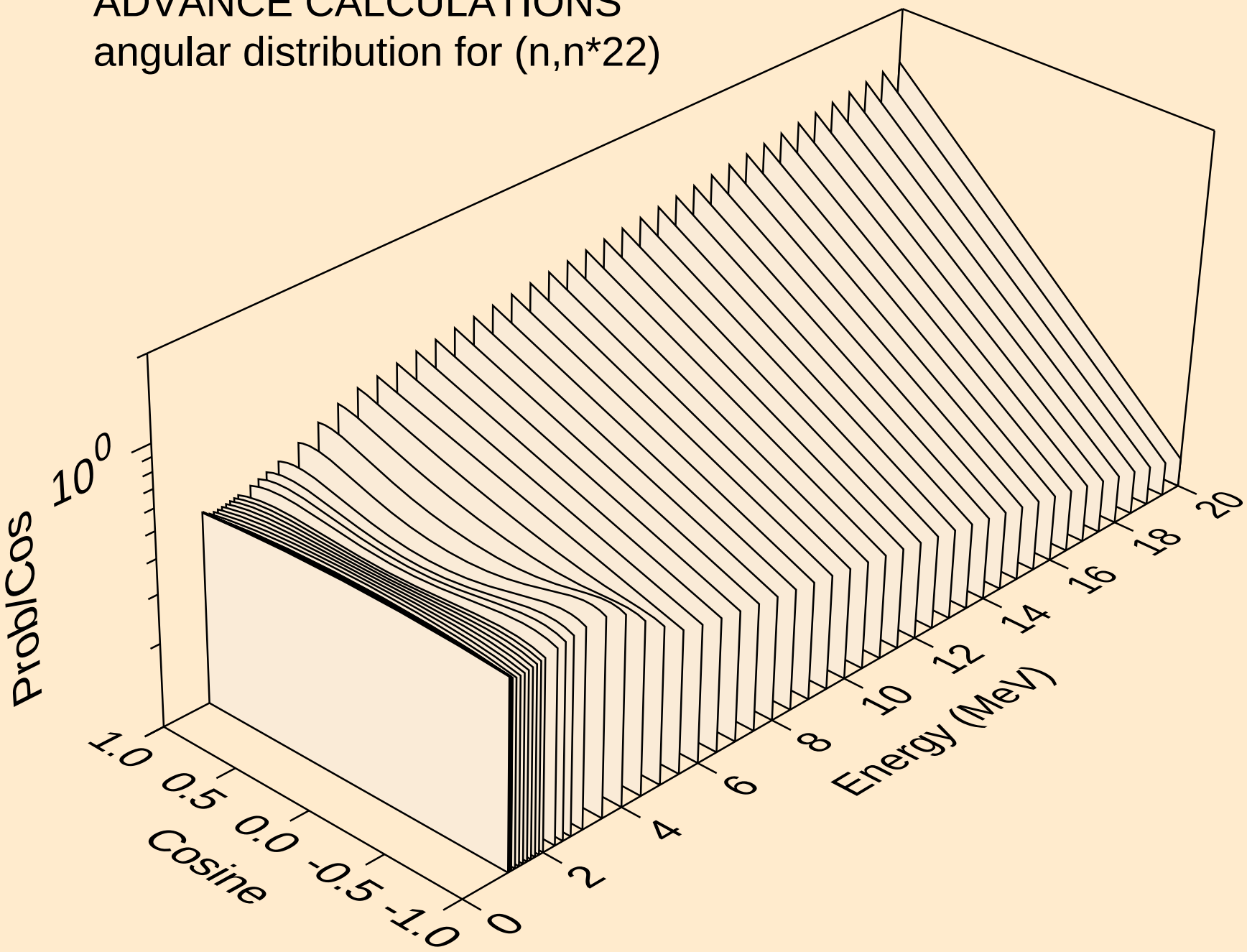
ADVANCE CALCULATIONS
angular distribution for (n,n*20)



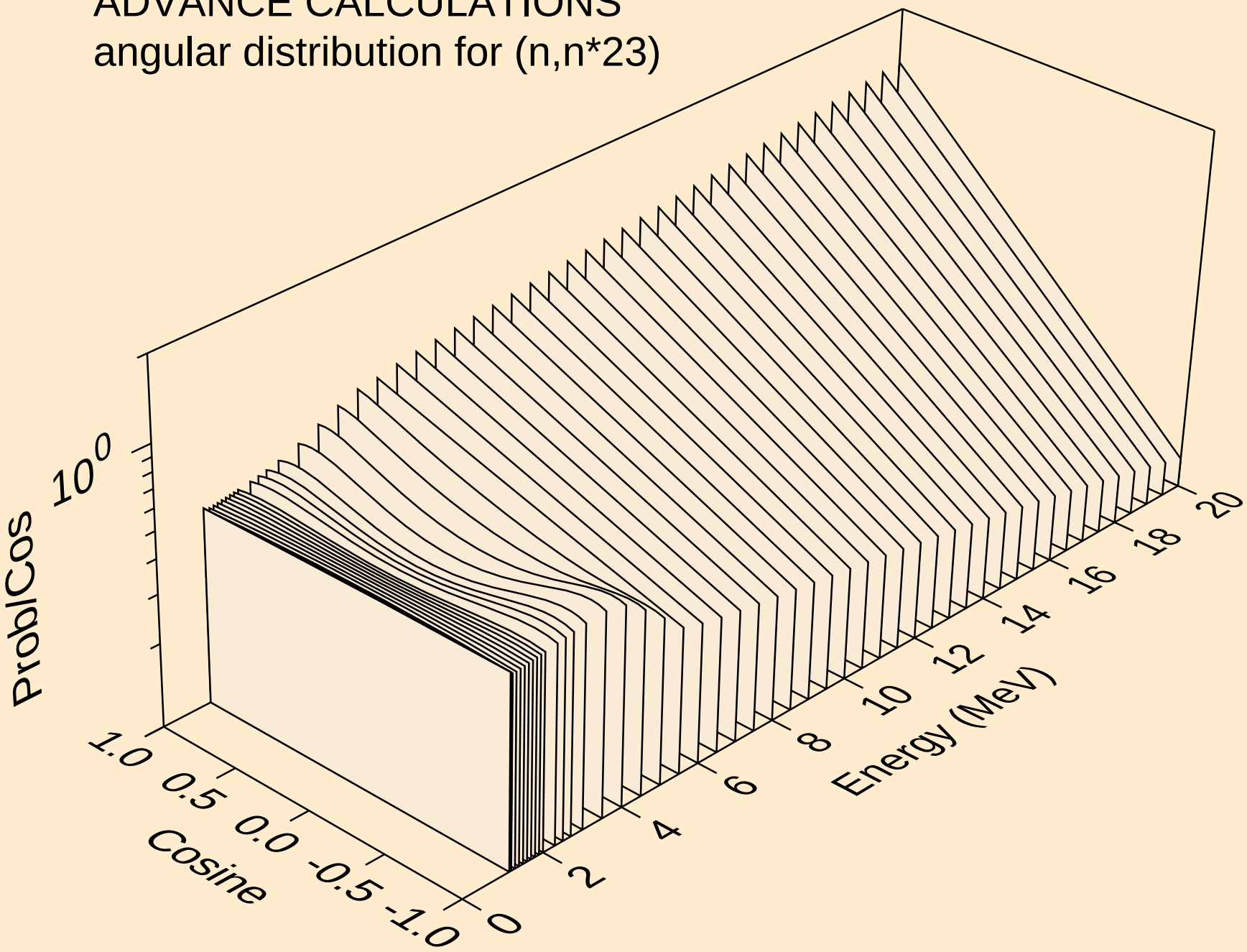
ADVANCE CALCULATIONS
angular distribution for (n,n*21)



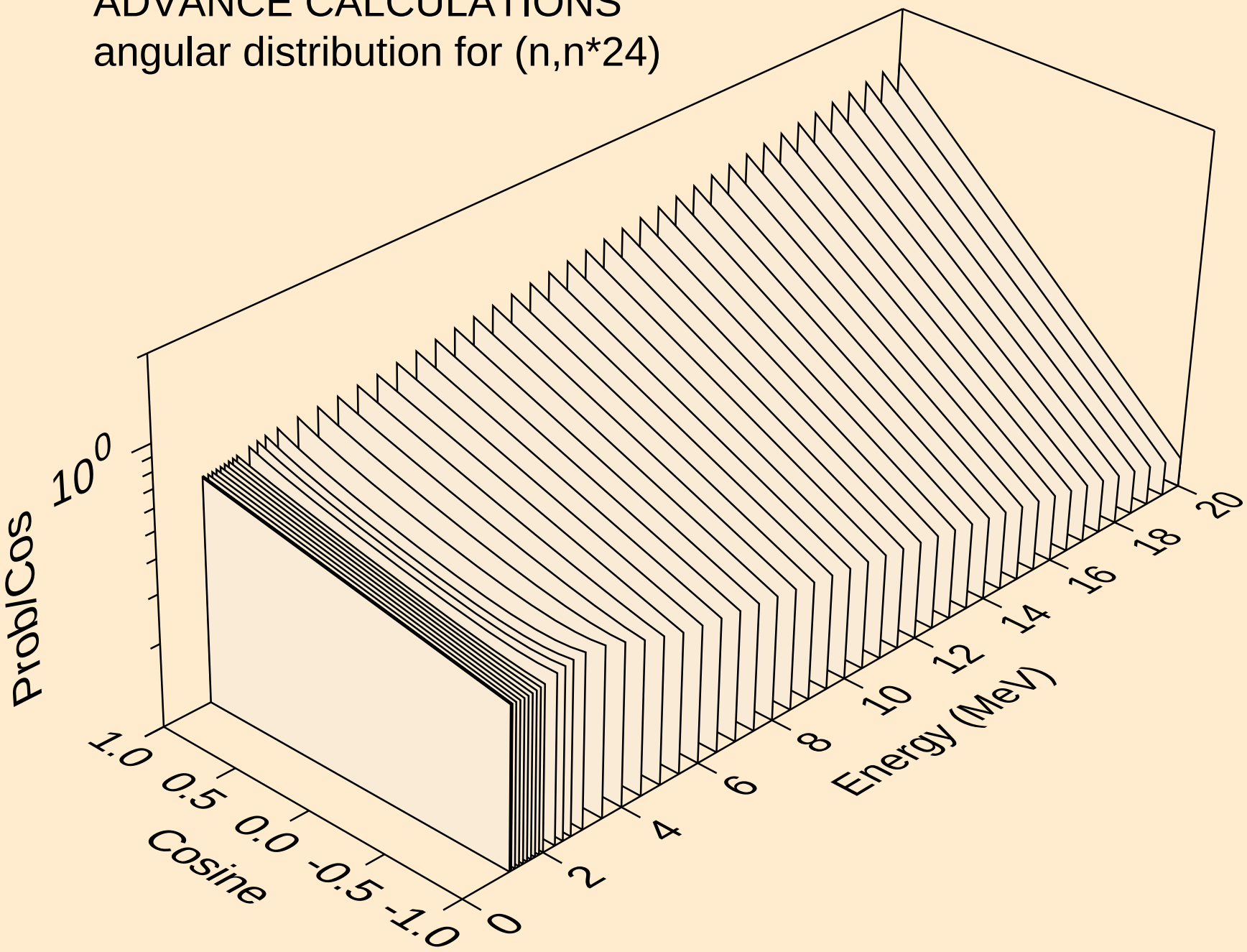
ADVANCE CALCULATIONS
angular distribution for (n,n*22)



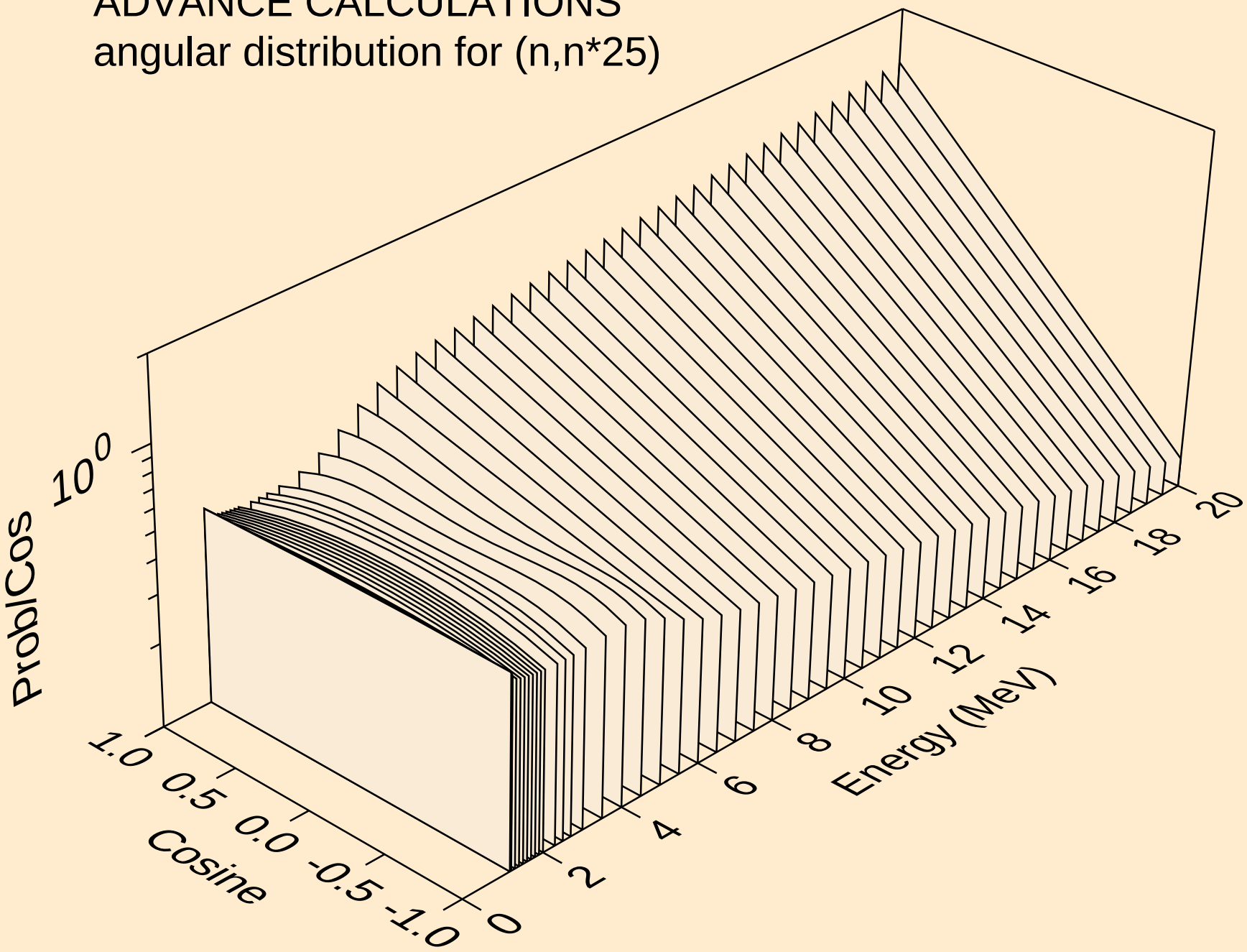
ADVANCE CALCULATIONS
angular distribution for (n,n*23)



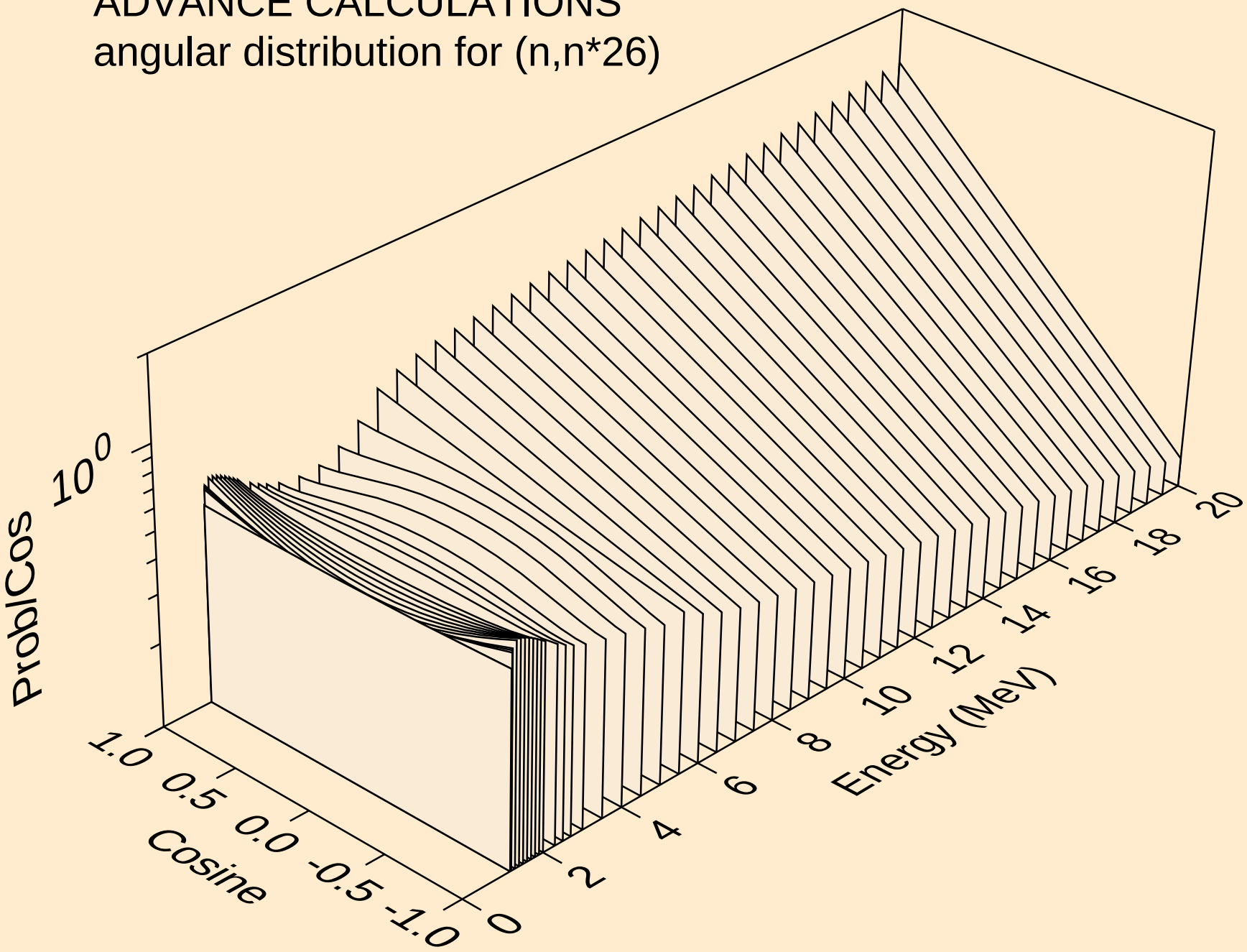
ADVANCE CALCULATIONS
angular distribution for (n,n*24)



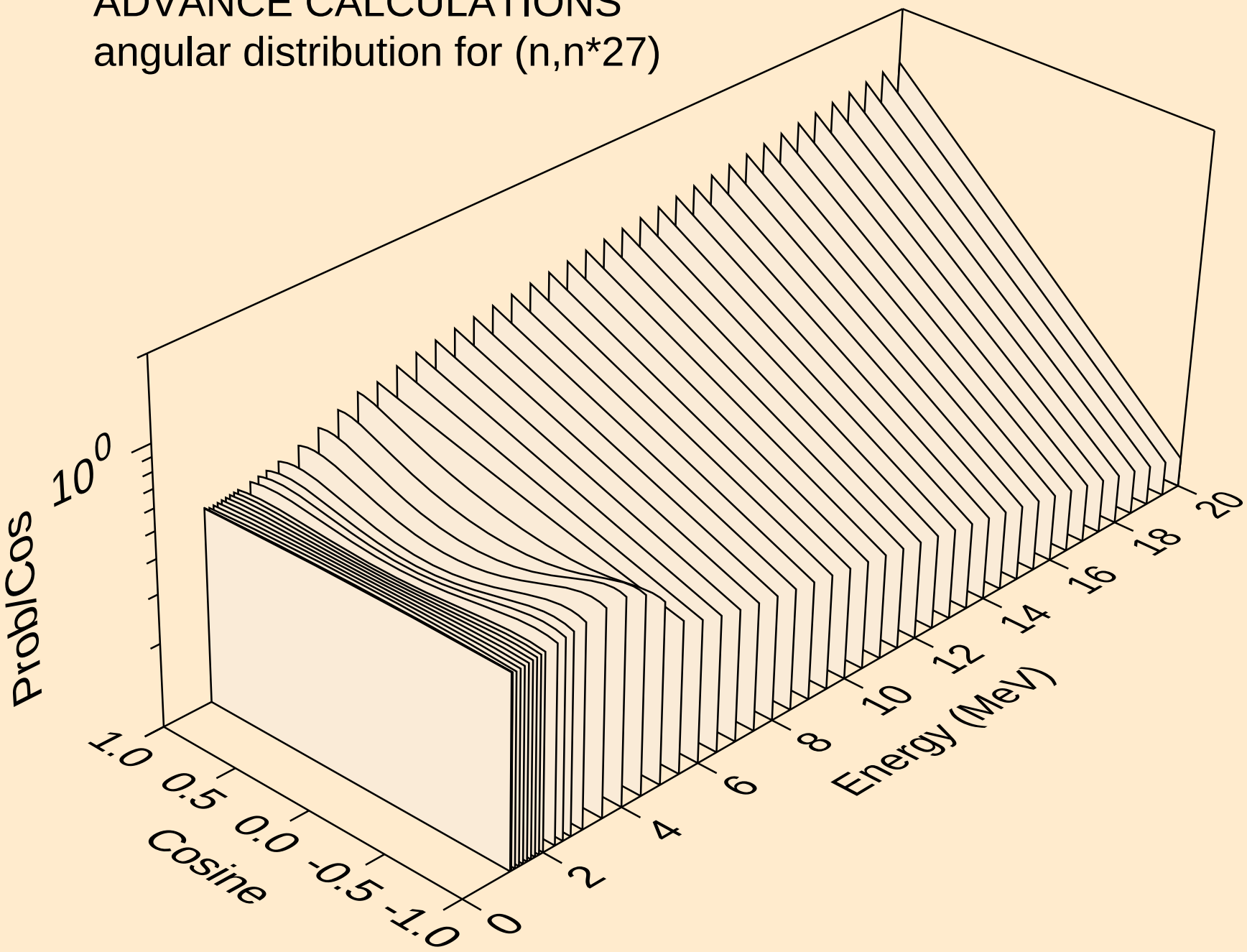
ADVANCE CALCULATIONS
angular distribution for (n,n*25)



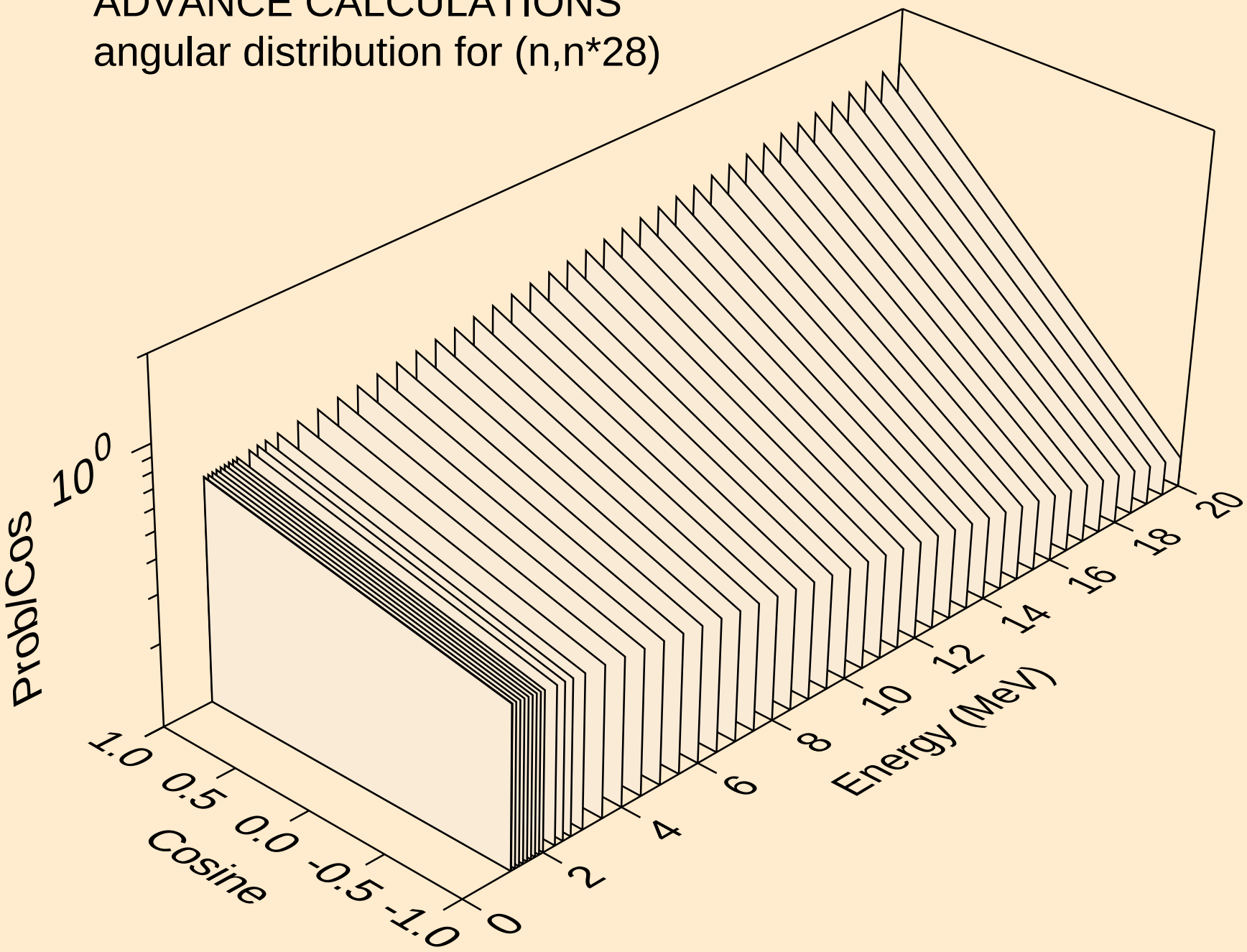
ADVANCE CALCULATIONS
angular distribution for (n,n*26)



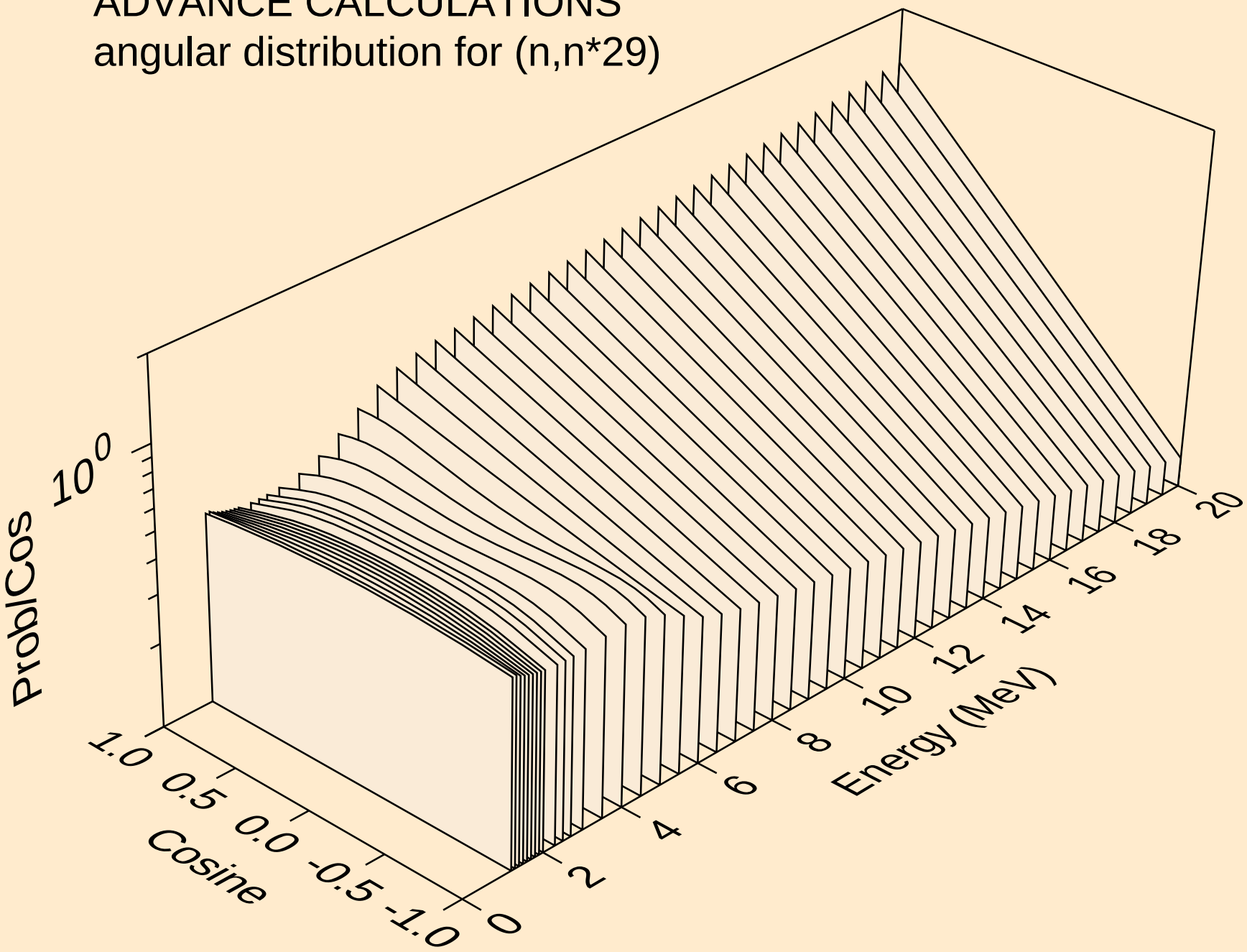
ADVANCE CALCULATIONS
angular distribution for (n,n*27)

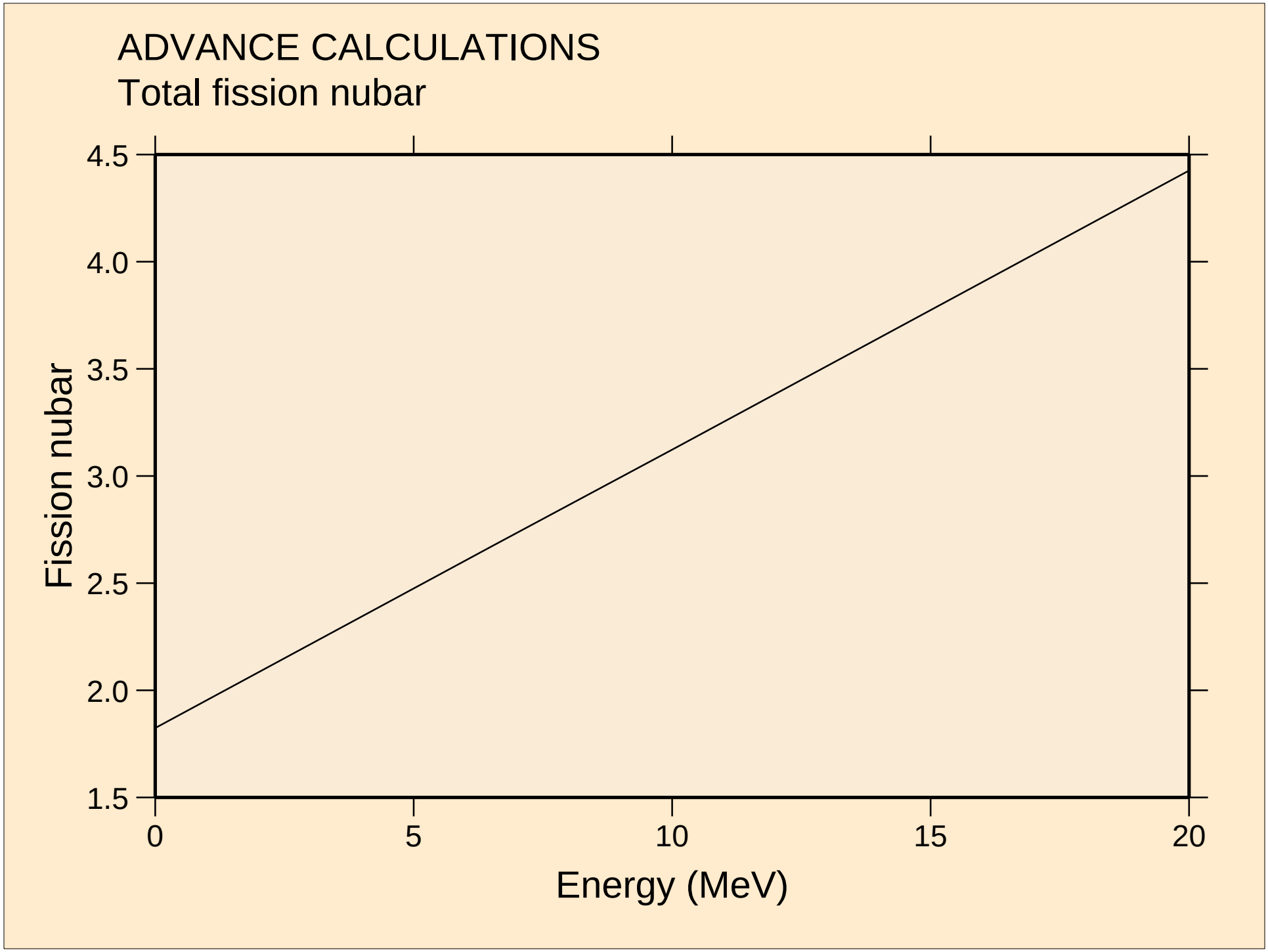


ADVANCE CALCULATIONS
angular distribution for (n,n*28)



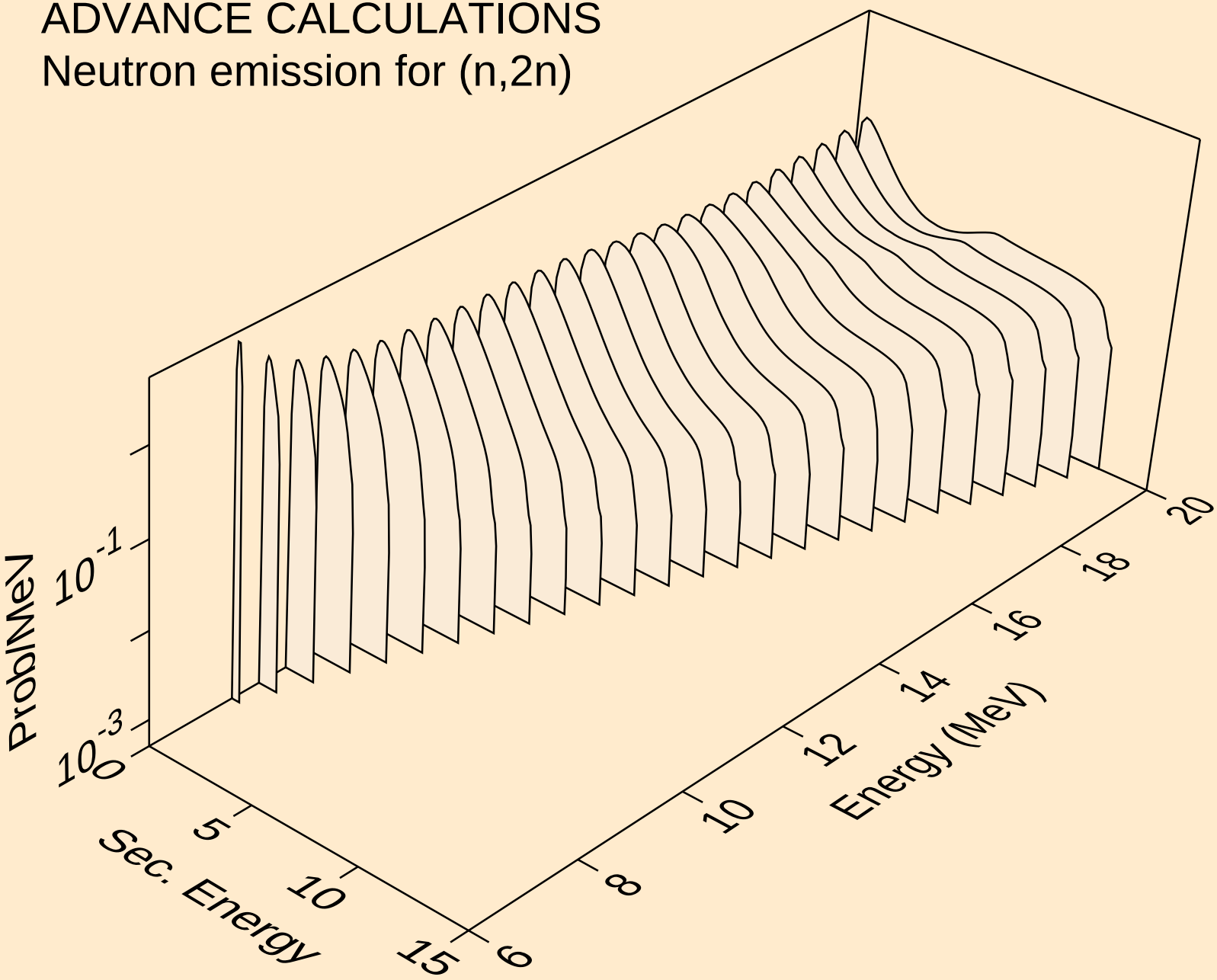
ADVANCE CALCULATIONS
angular distribution for (n,n*29)




ADVANCE CALCULATIONS
Total fission nubar
Fission nubar
4.5
4.0
3.5
3.0
2.5
2.0
1.5
0
5
10
15
20
Energy (MeV)

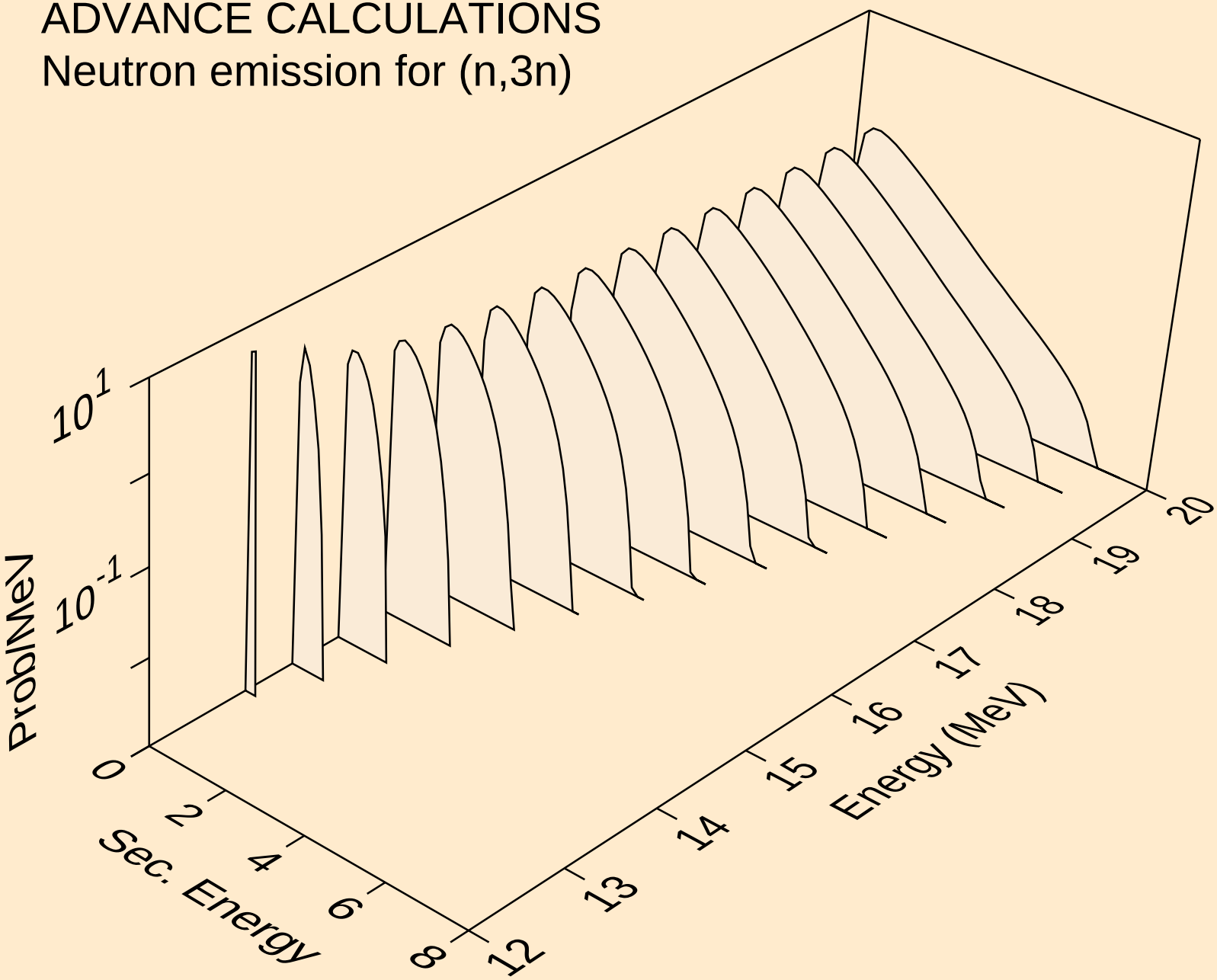
ADVANCE CALCULATIONS

Neutron emission for (n,2n)



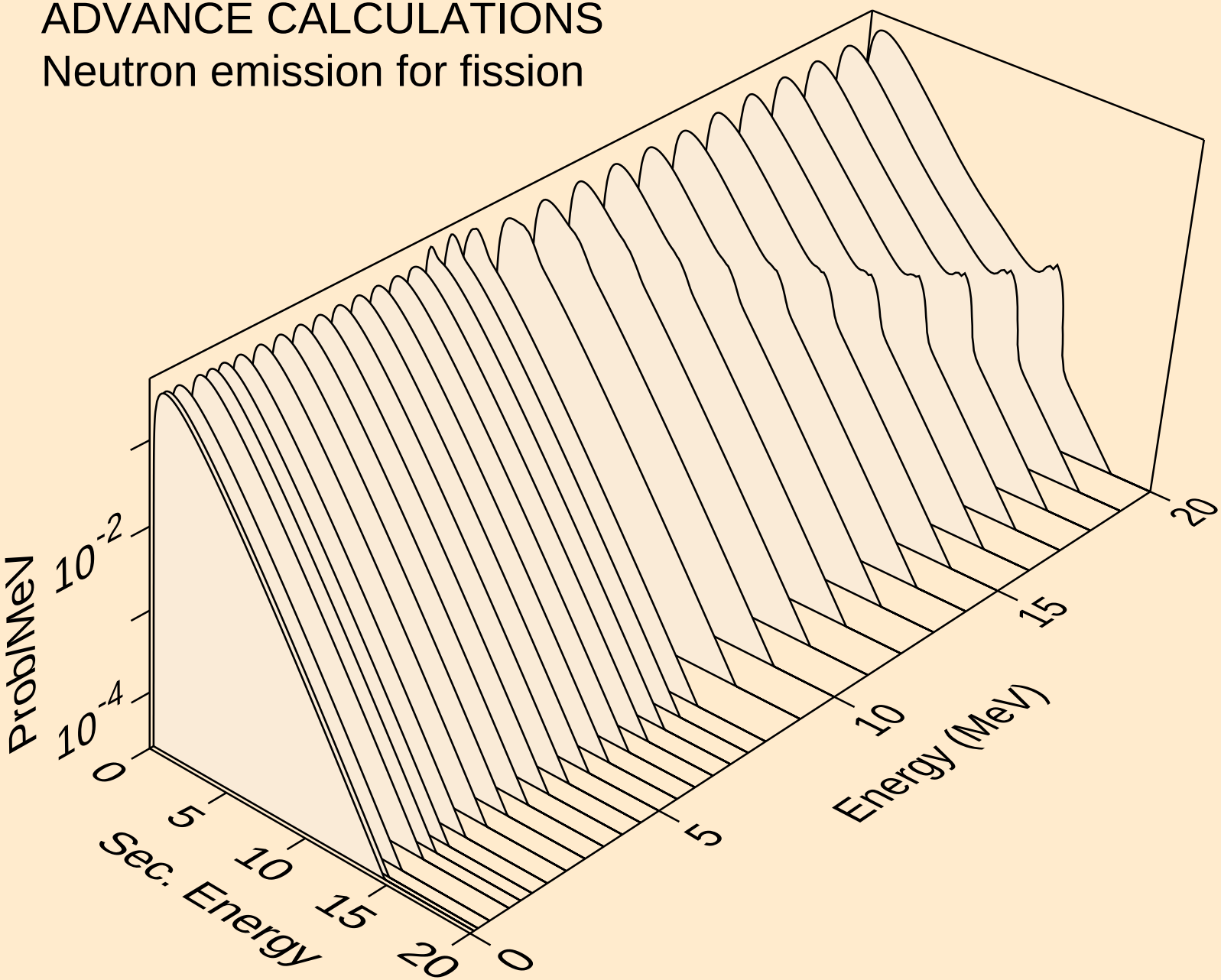
ADVANCE CALCULATIONS

Neutron emission for (n,3n)



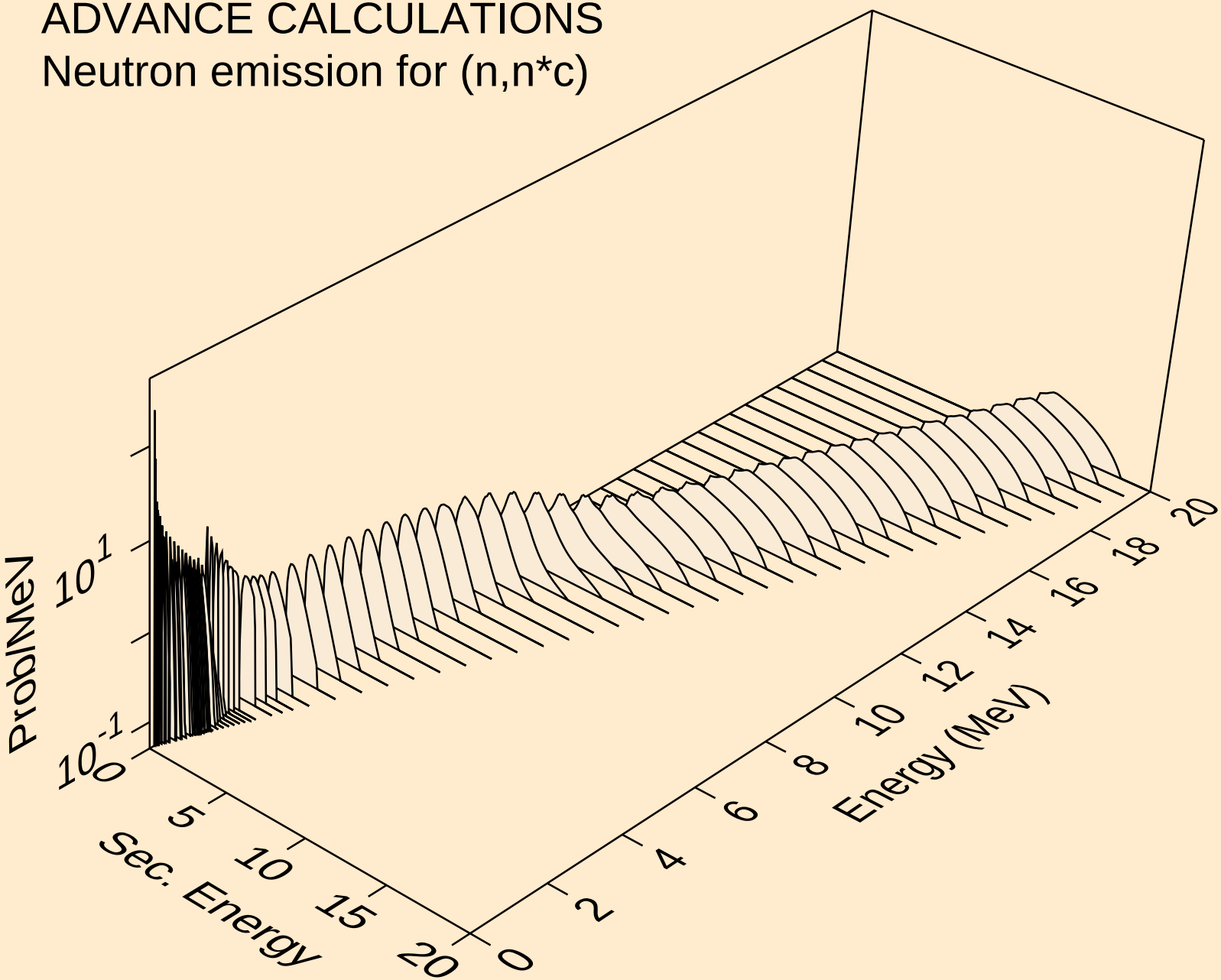
ADVANCE CALCULATIONS

Neutron emission for fission

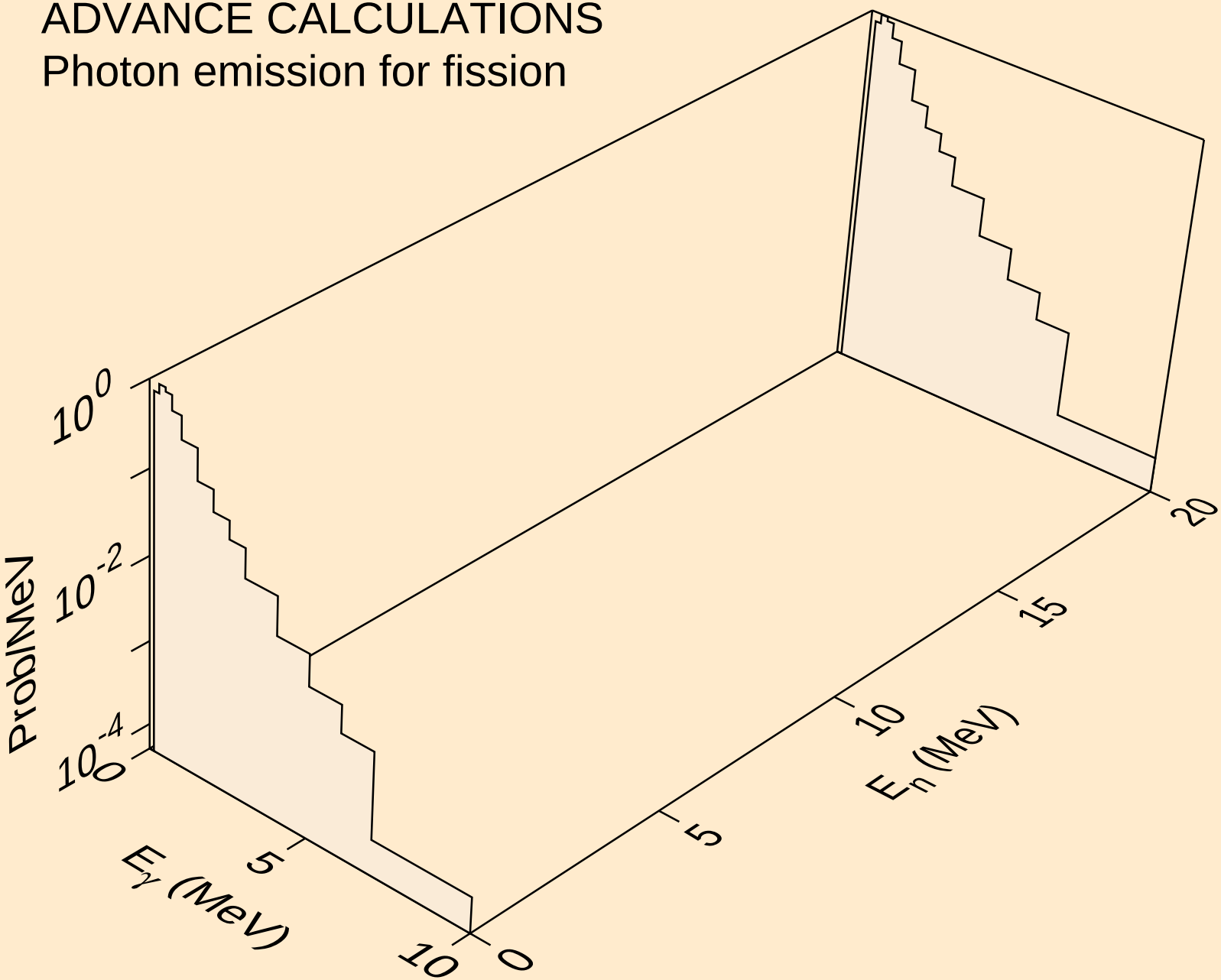


ADVANCE CALCULATIONS

Neutron emission for (n,n*c)

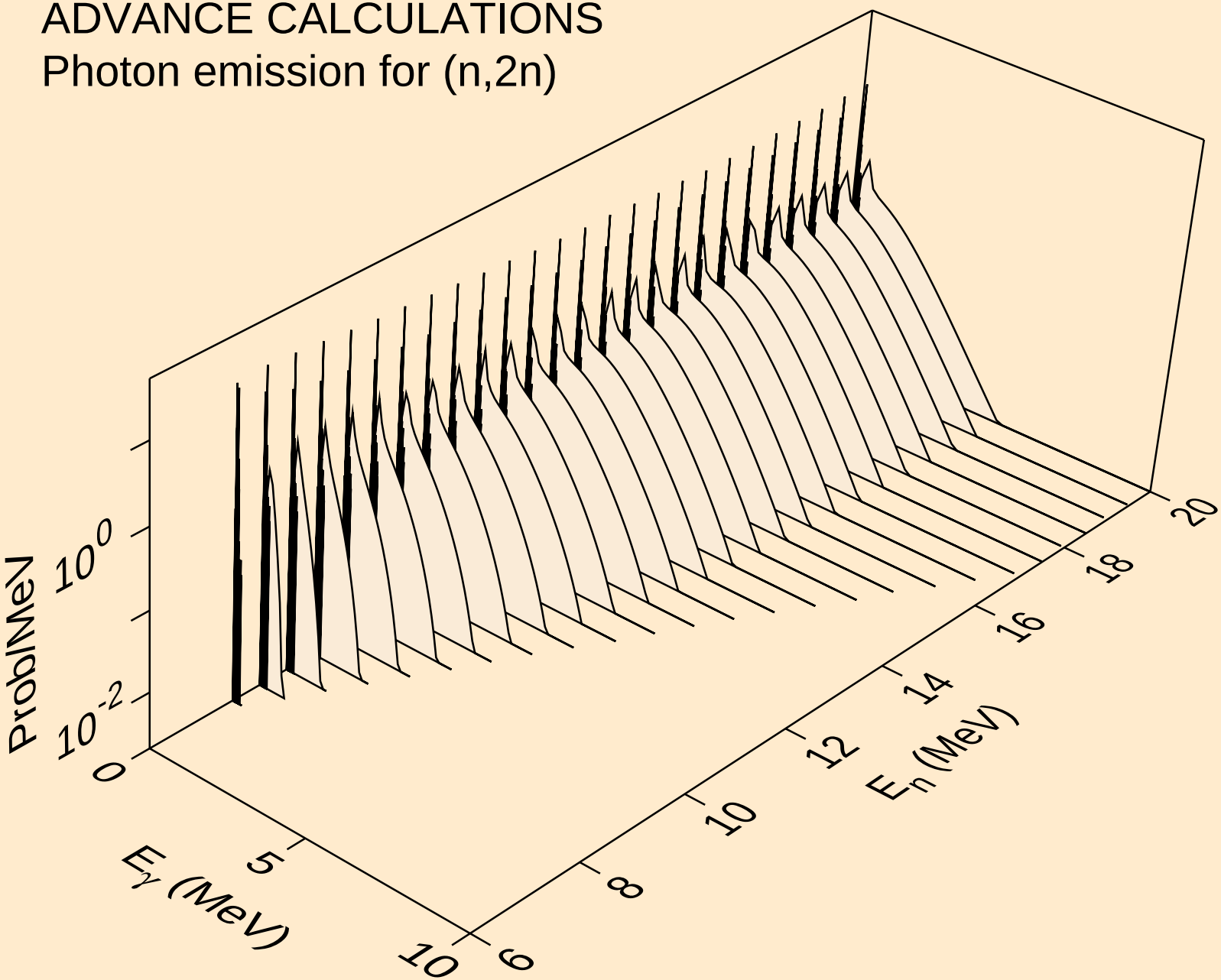


ADVANCE CALCULATIONS
Photon emission for fission



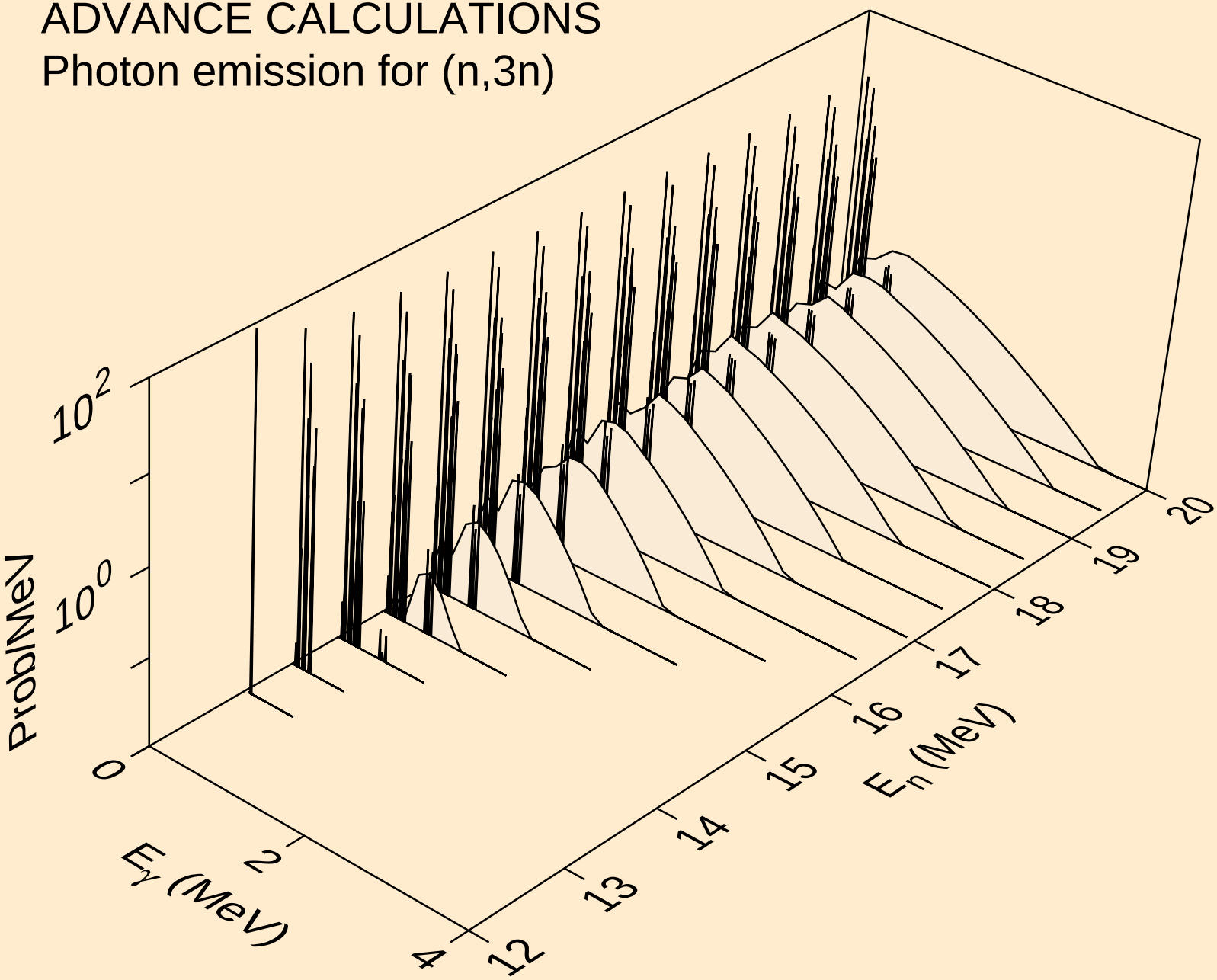
ADVANCE CALCULATIONS

Photon emission for (n,2n)



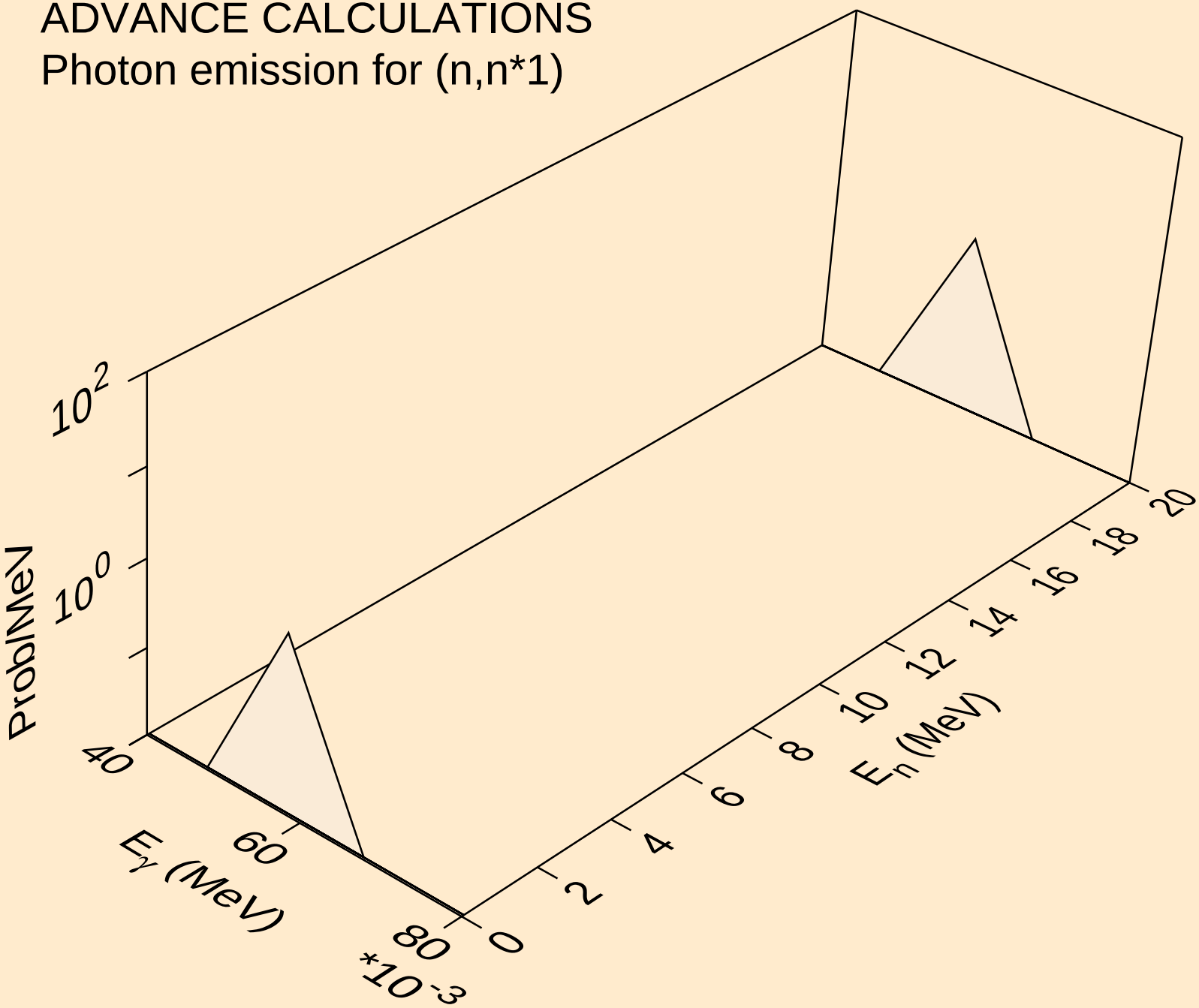
ADVANCE CALCULATIONS

Photon emission for (n,3n)



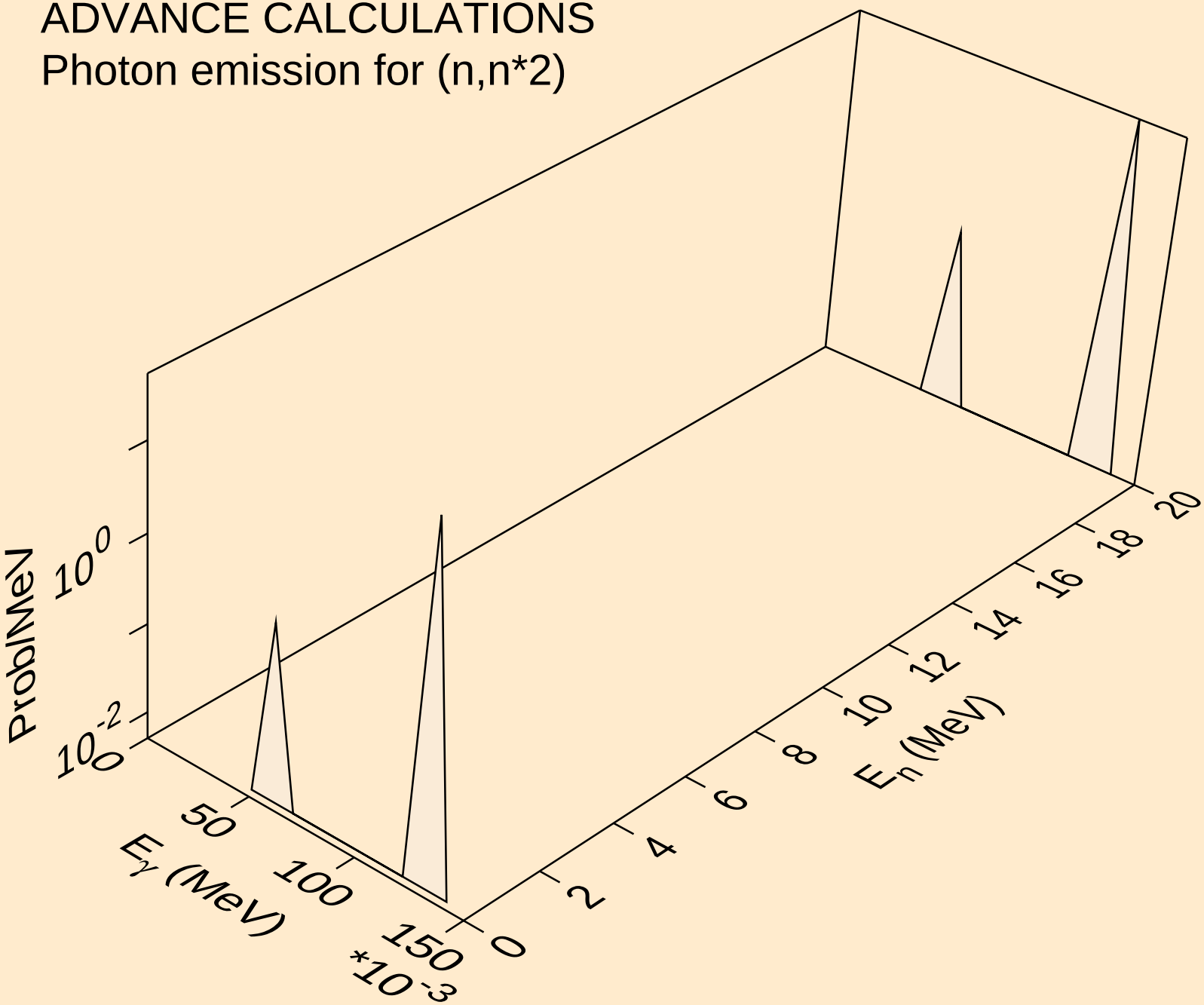
ADVANCE CALCULATIONS

Photon emission for (n,n*1)



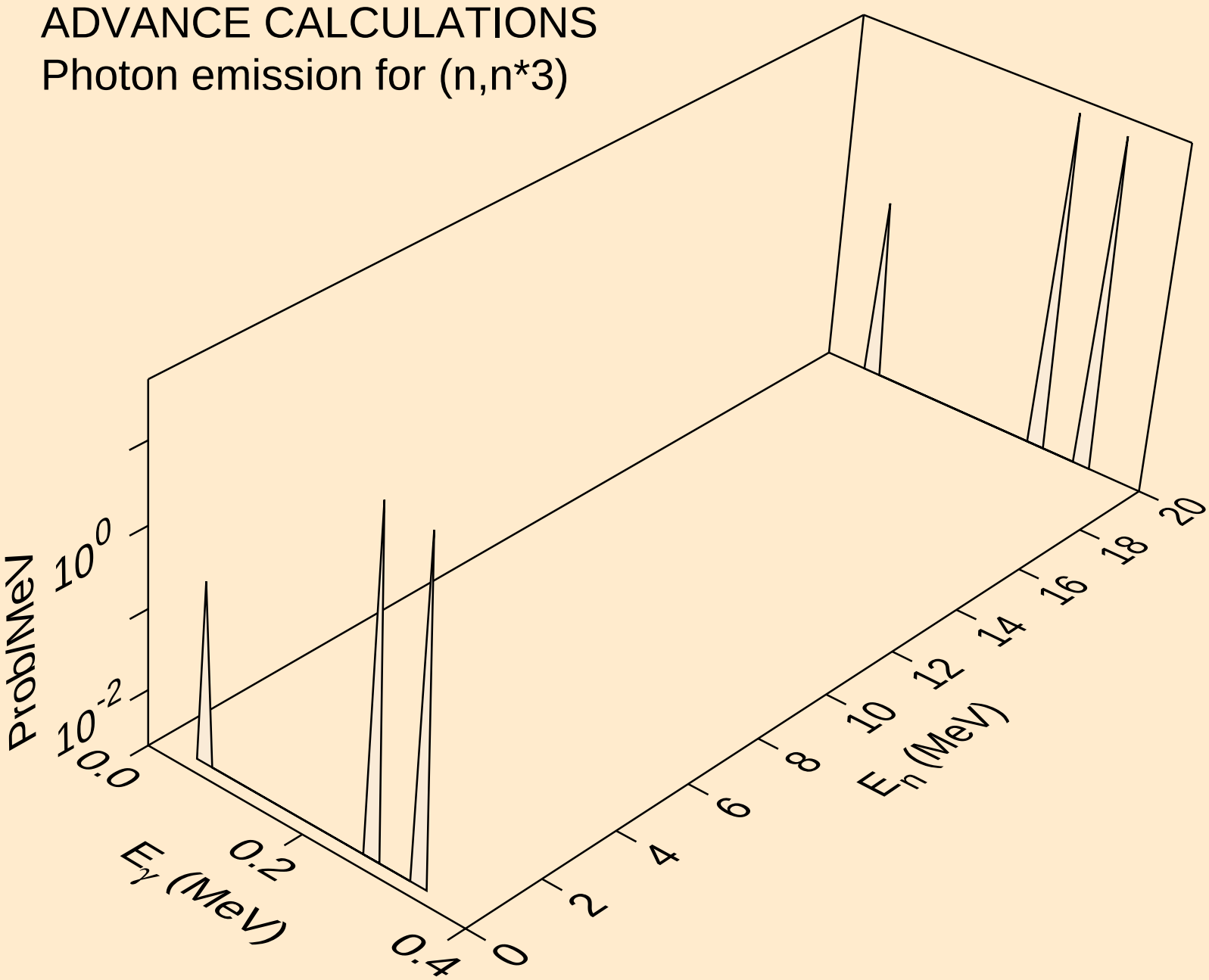
ADVANCE CALCULATIONS

Photon emission for (n,n*2)



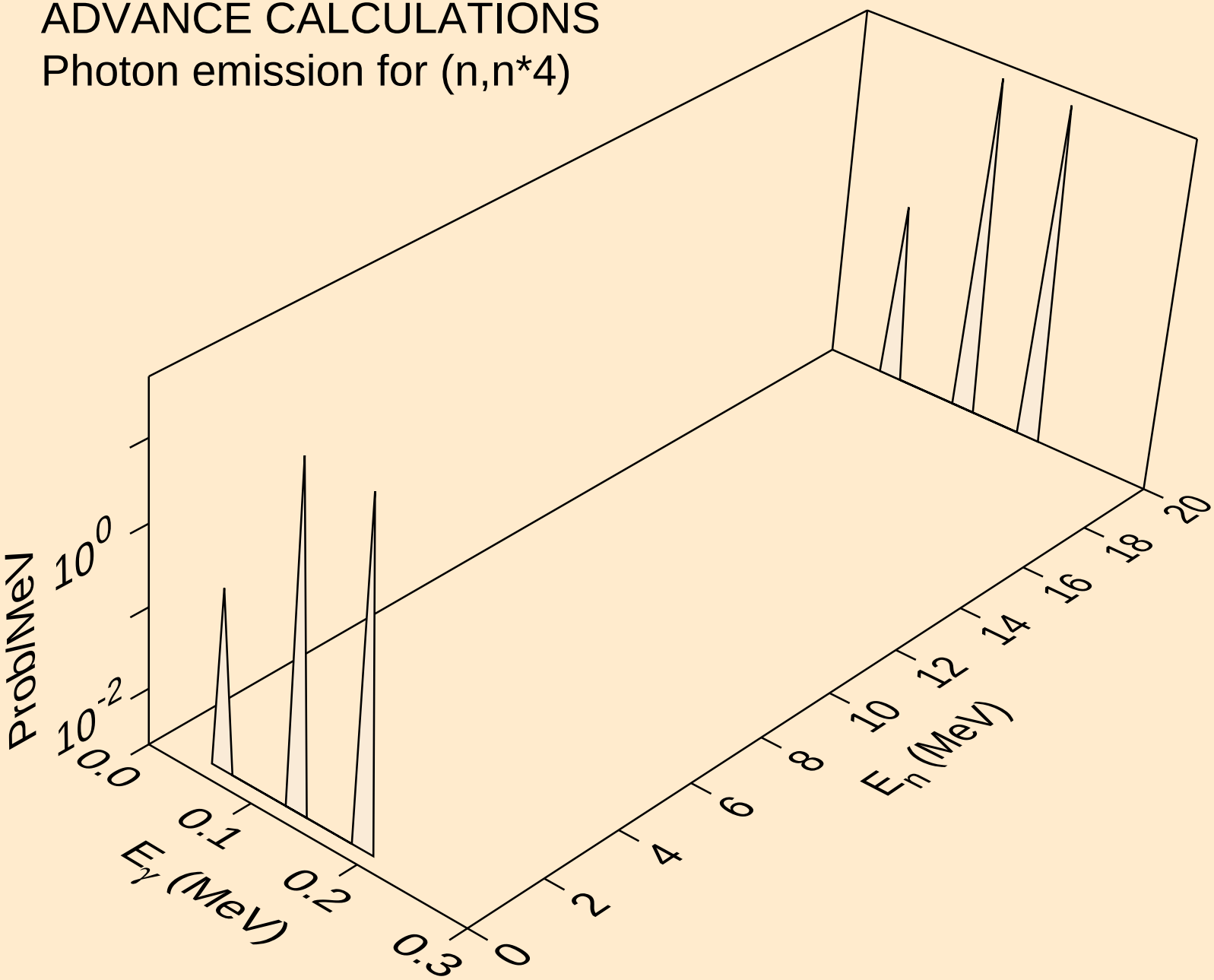
ADVANCE CALCULATIONS

Photon emission for (n,n*3)



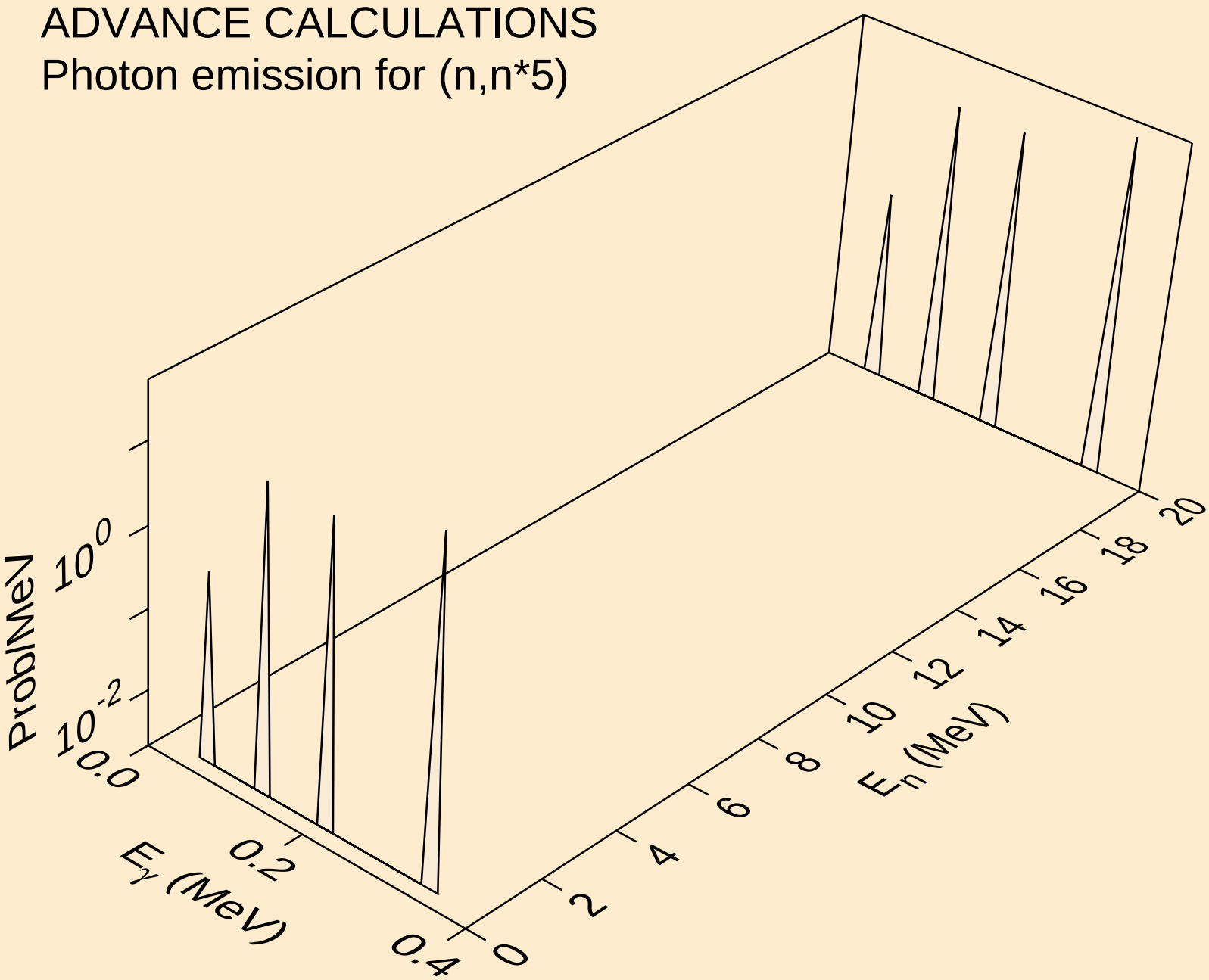
ADVANCE CALCULATIONS

Photon emission for (n,n*4)



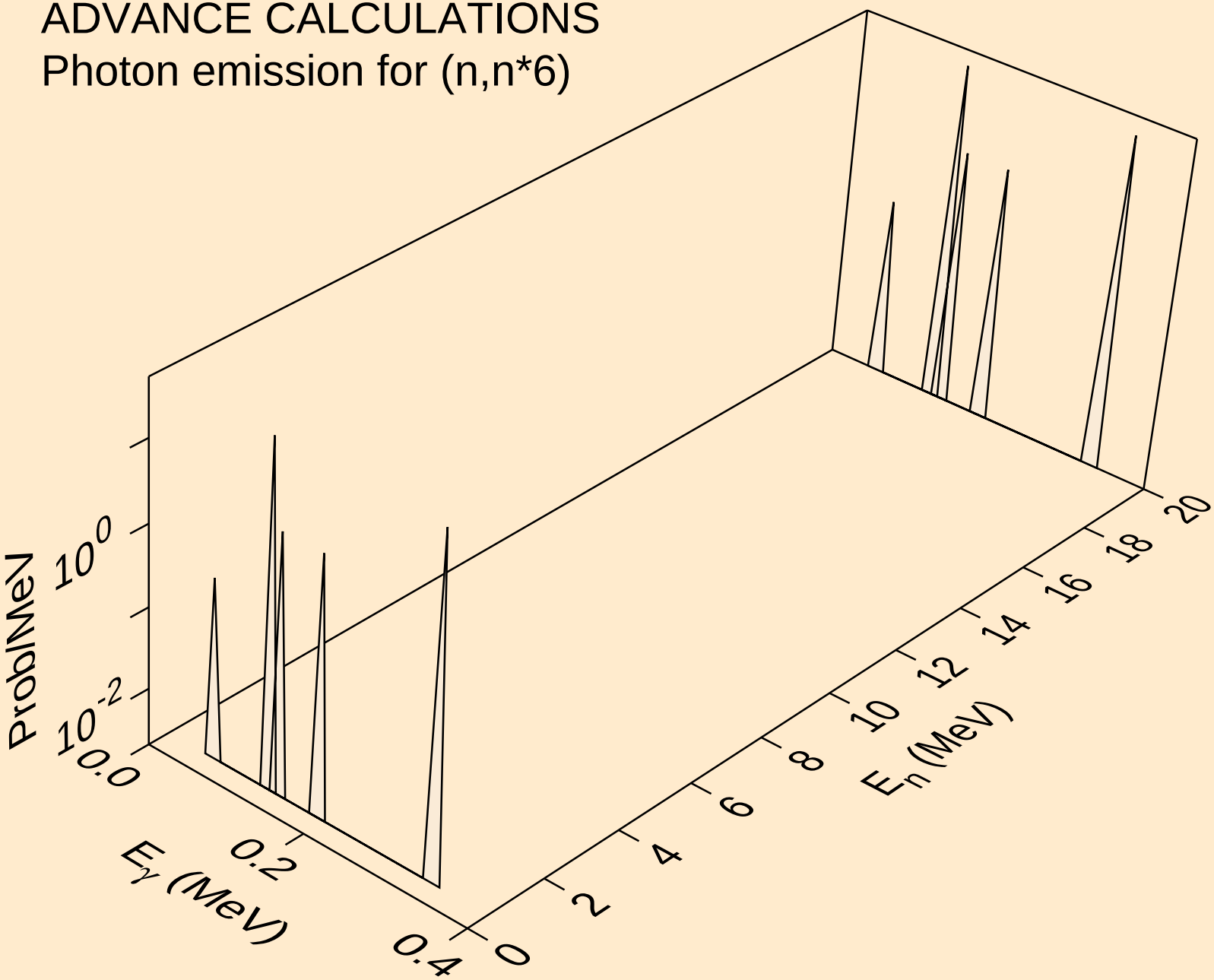
ADVANCE CALCULATIONS

Photon emission for (n,n*5)



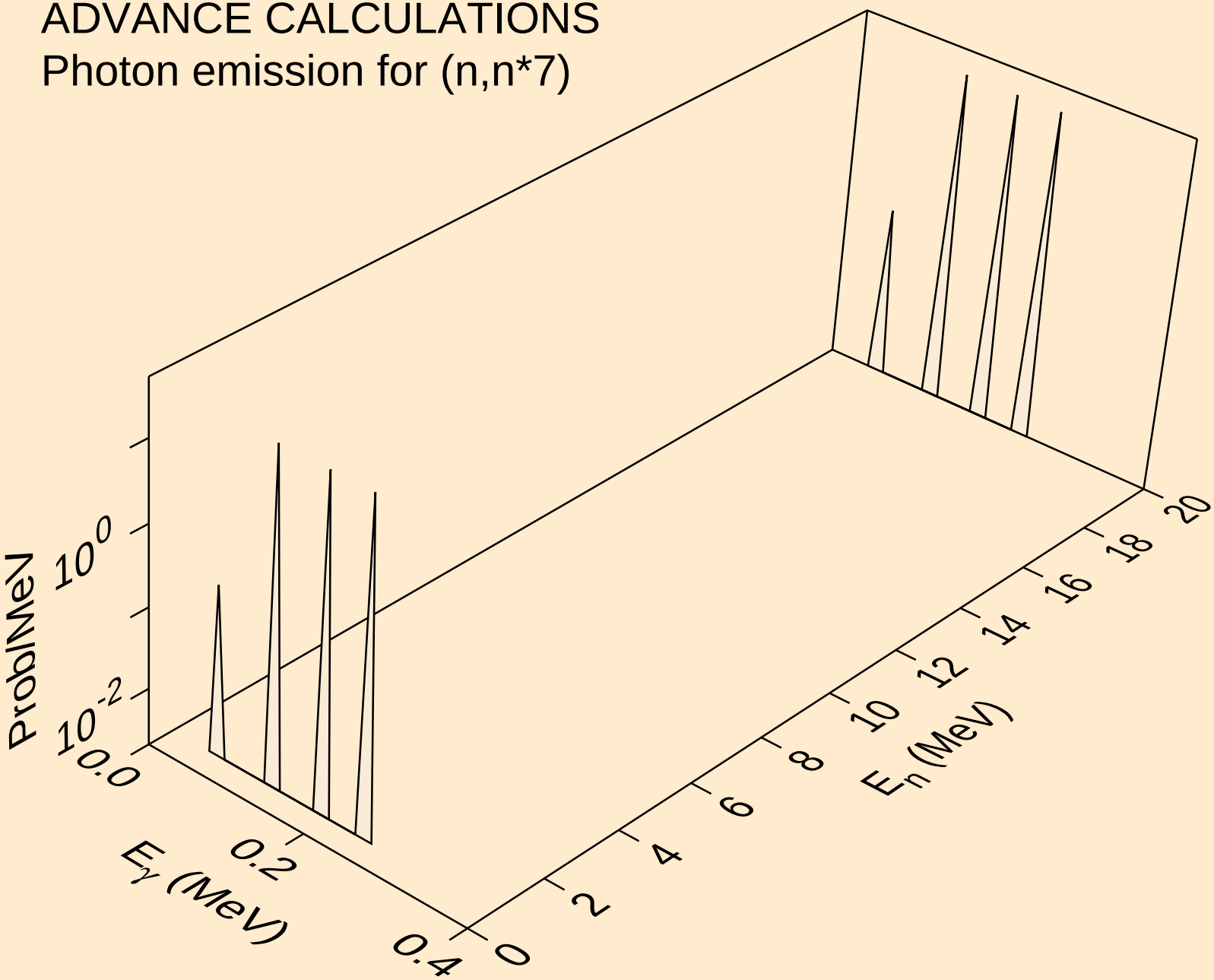
ADVANCE CALCULATIONS

Photon emission for (n,n*6)



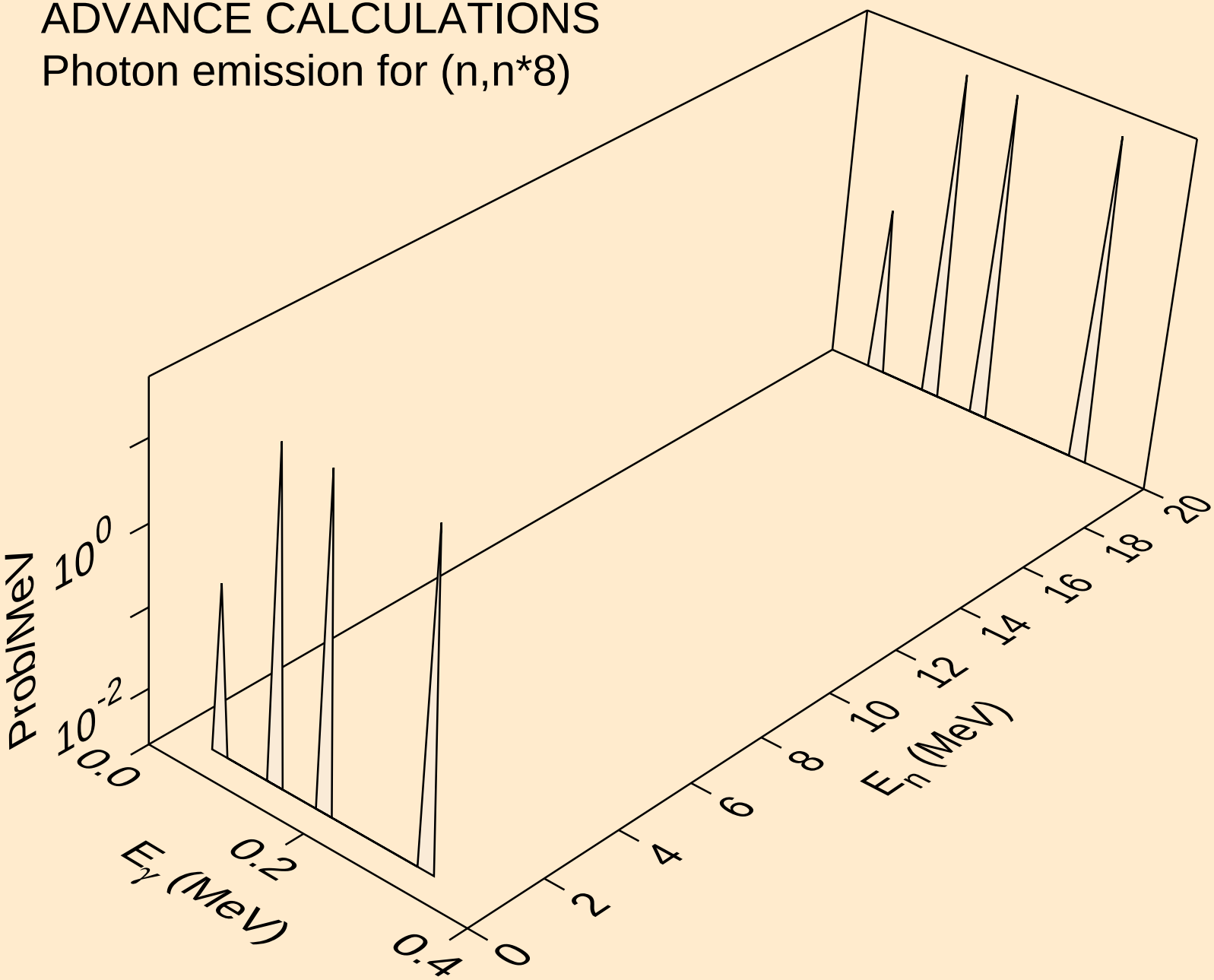
ADVANCE CALCULATIONS

Photon emission for (n,n*7)



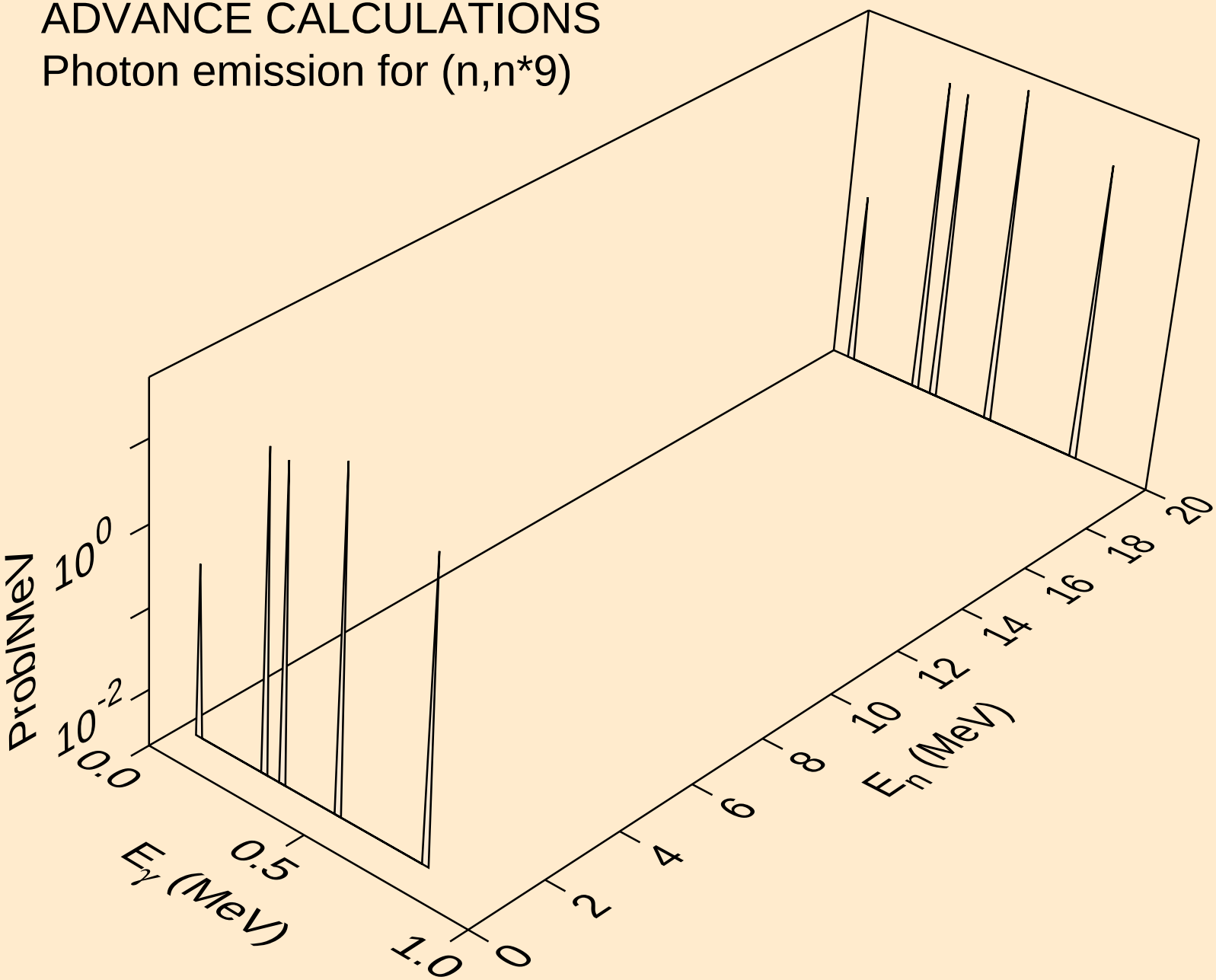
ADVANCE CALCULATIONS

Photon emission for (n,n*8)



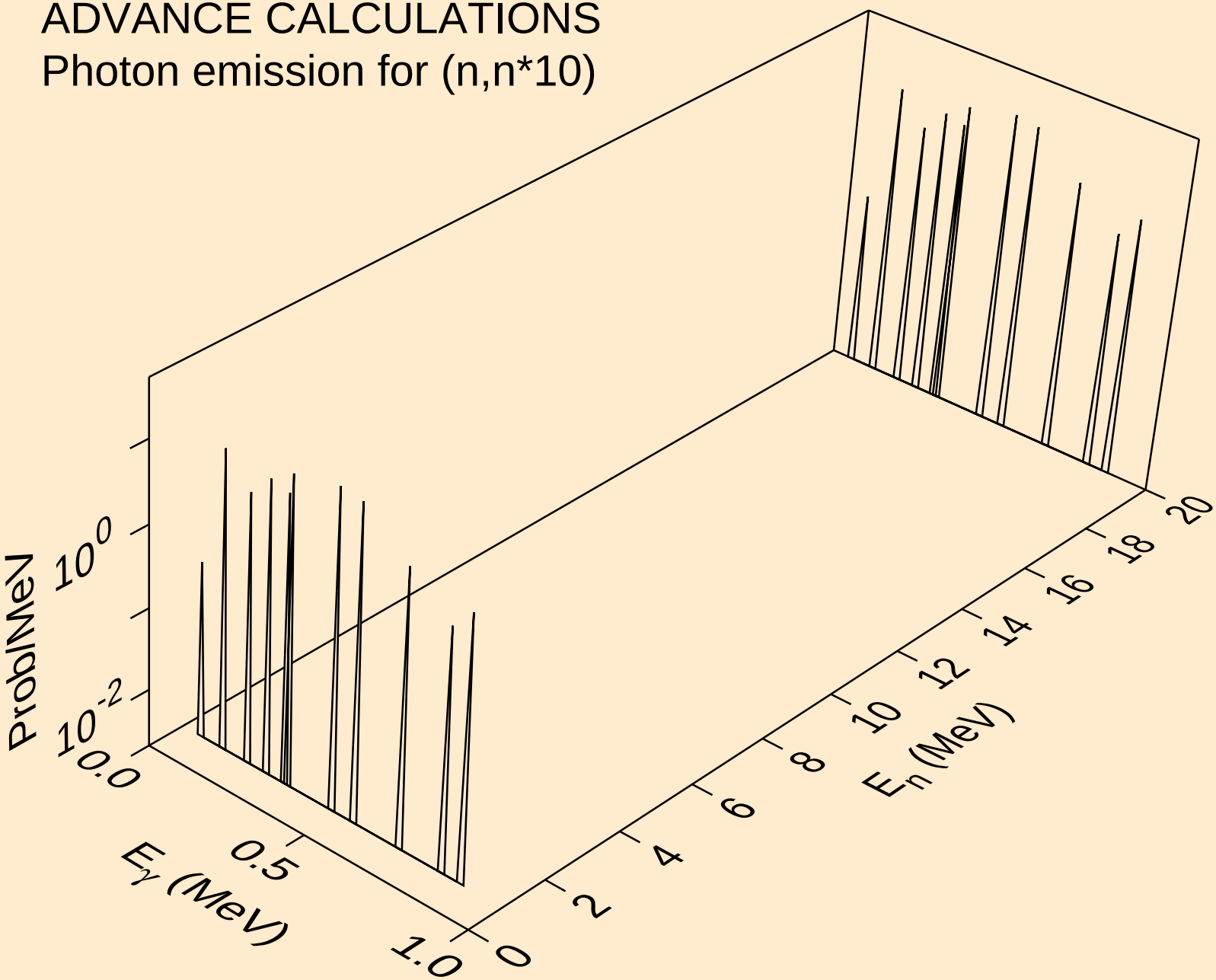
ADVANCE CALCULATIONS

Photon emission for (n,n*9)



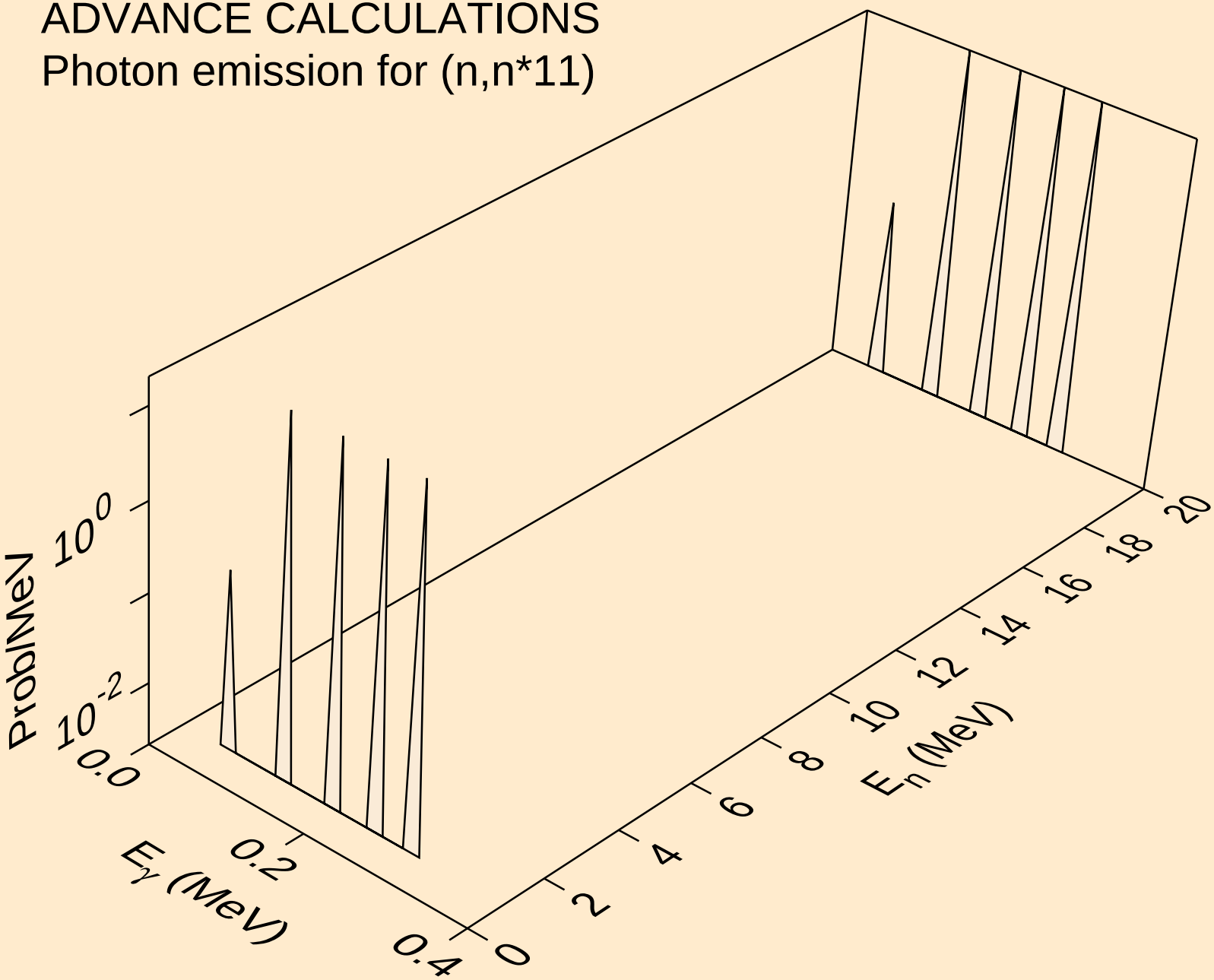
ADVANCE CALCULATIONS

Photon emission for (n,n*10)



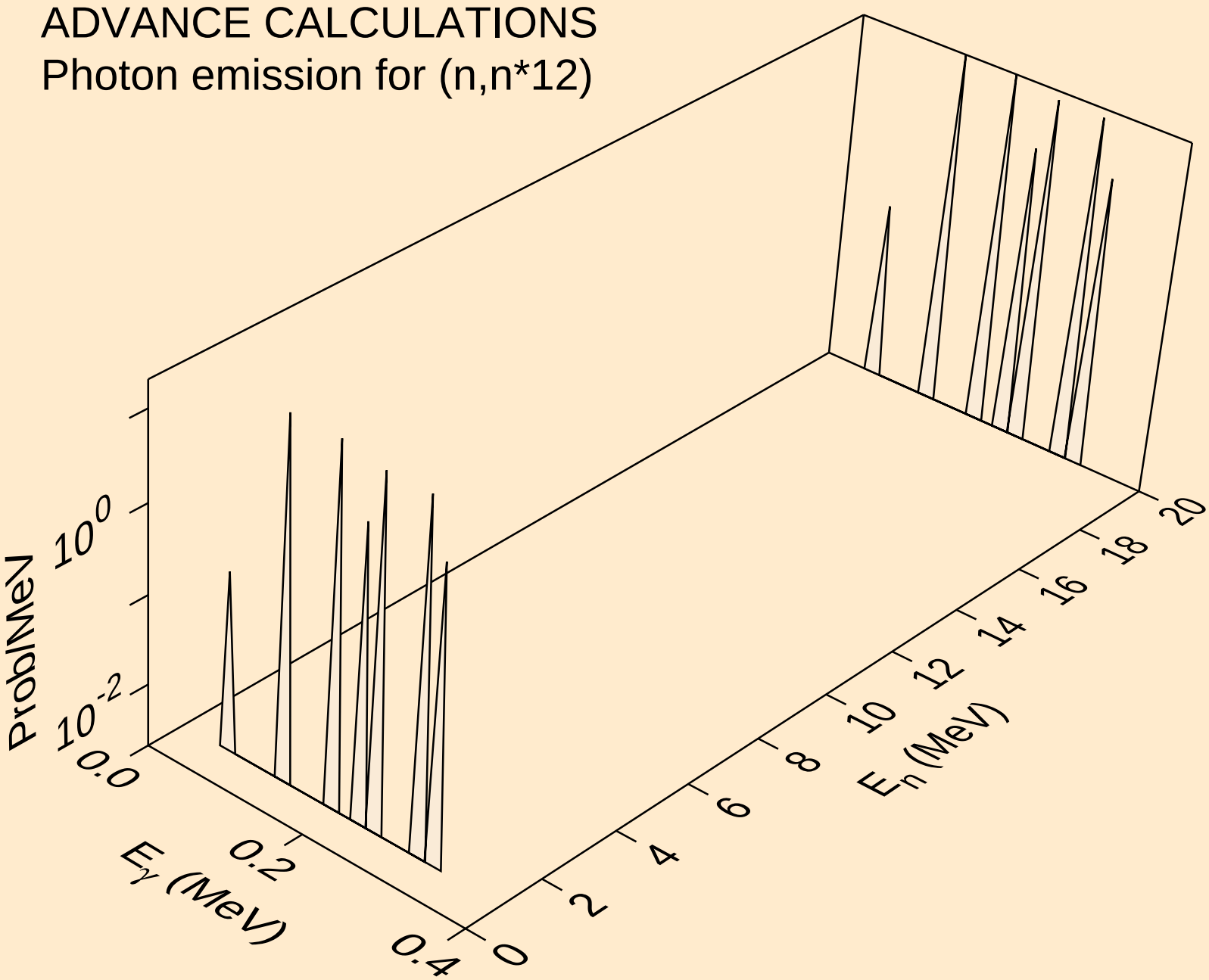
ADVANCE CALCULATIONS

Photon emission for (n,n*11)



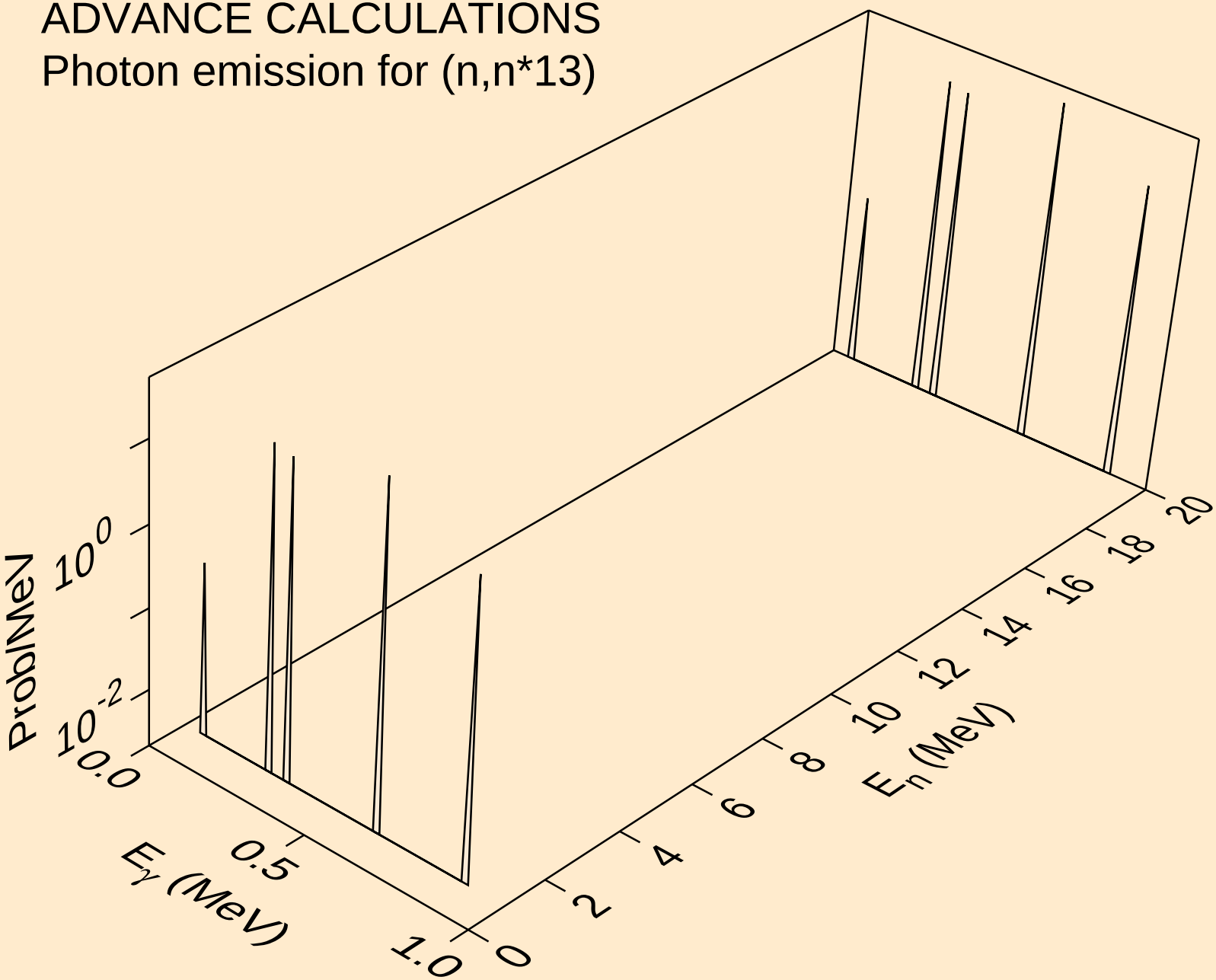
ADVANCE CALCULATIONS

Photon emission for (n,n*12)



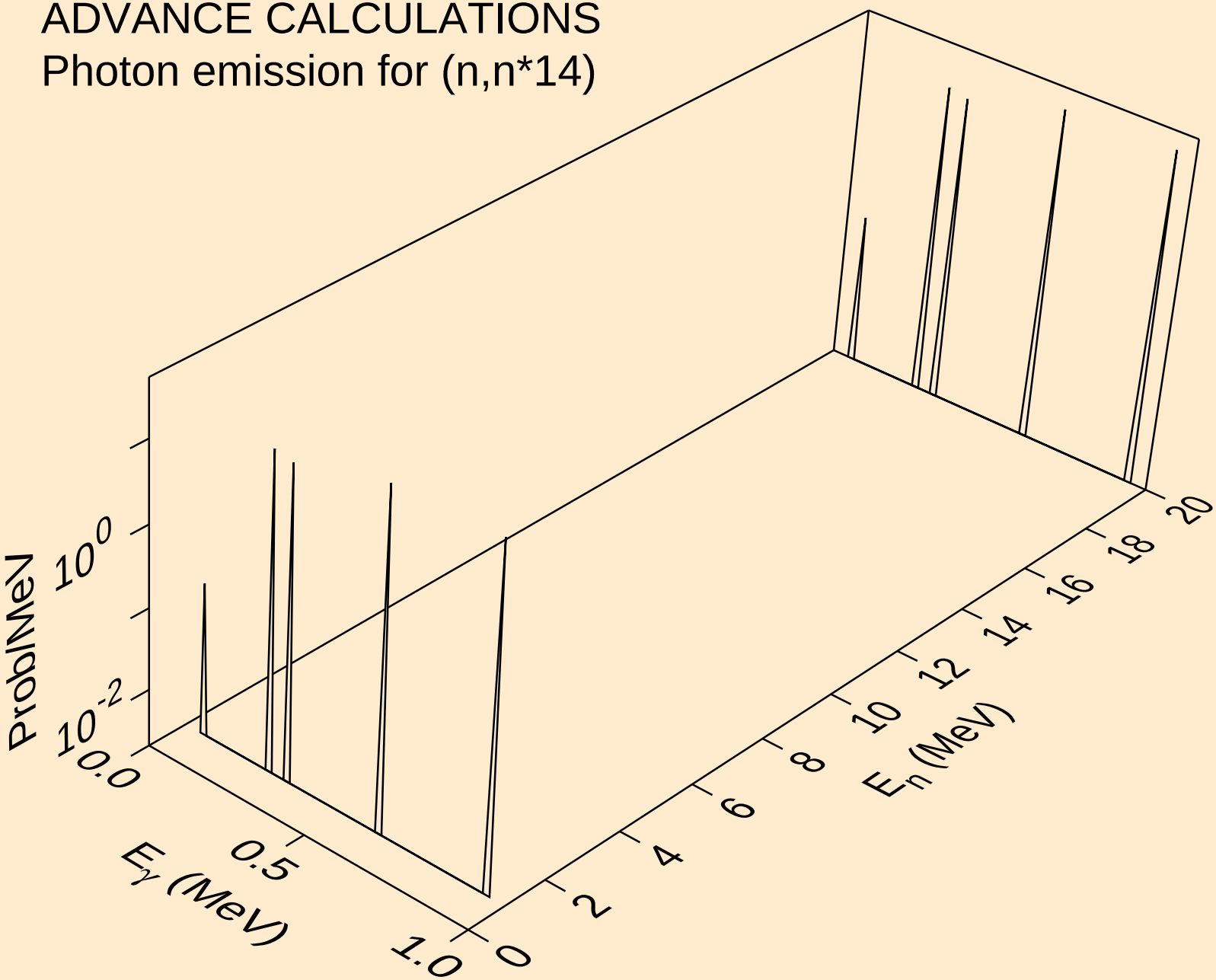
ADVANCE CALCULATIONS

Photon emission for (n,n*13)



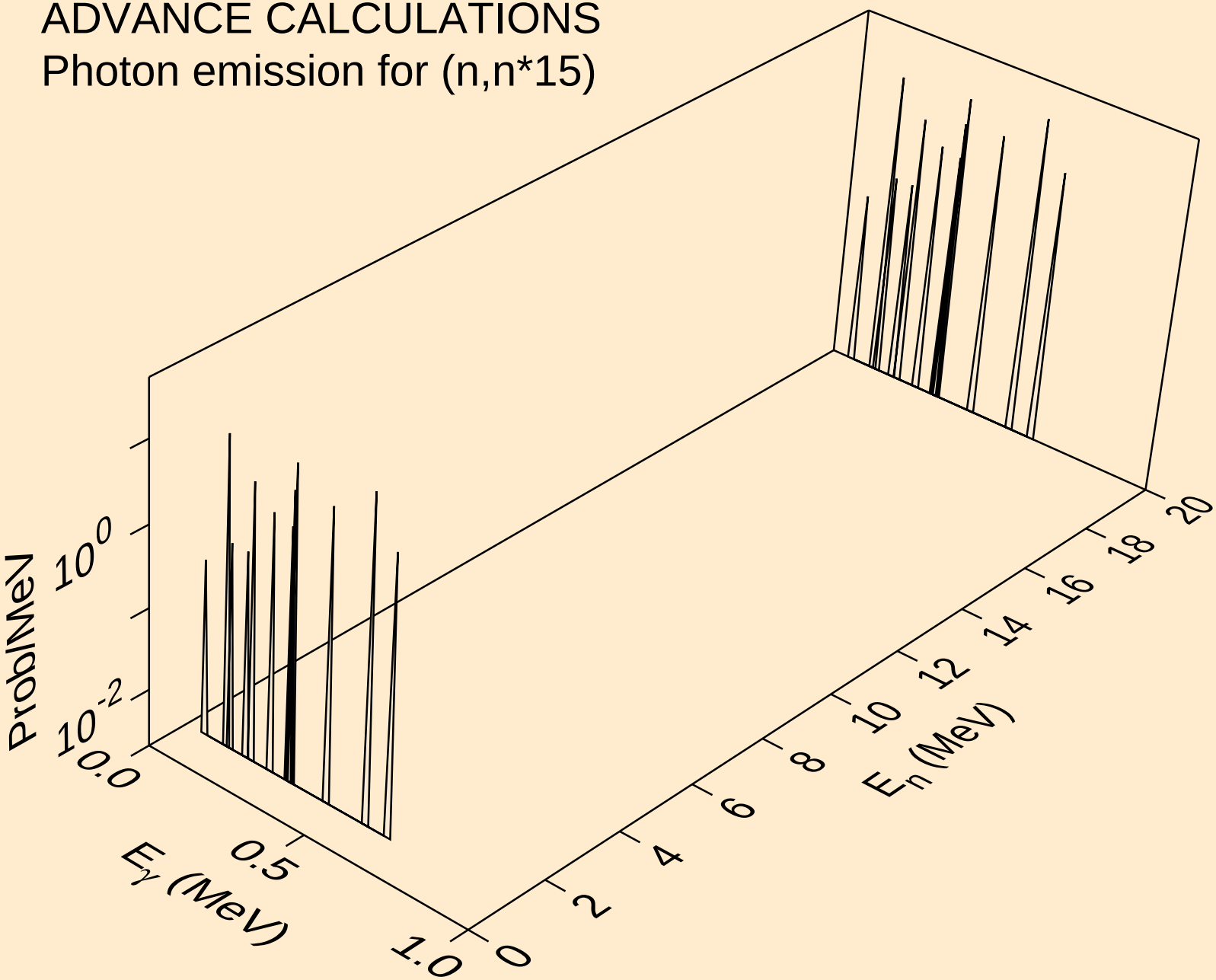
ADVANCE CALCULATIONS

Photon emission for (n,n*14)



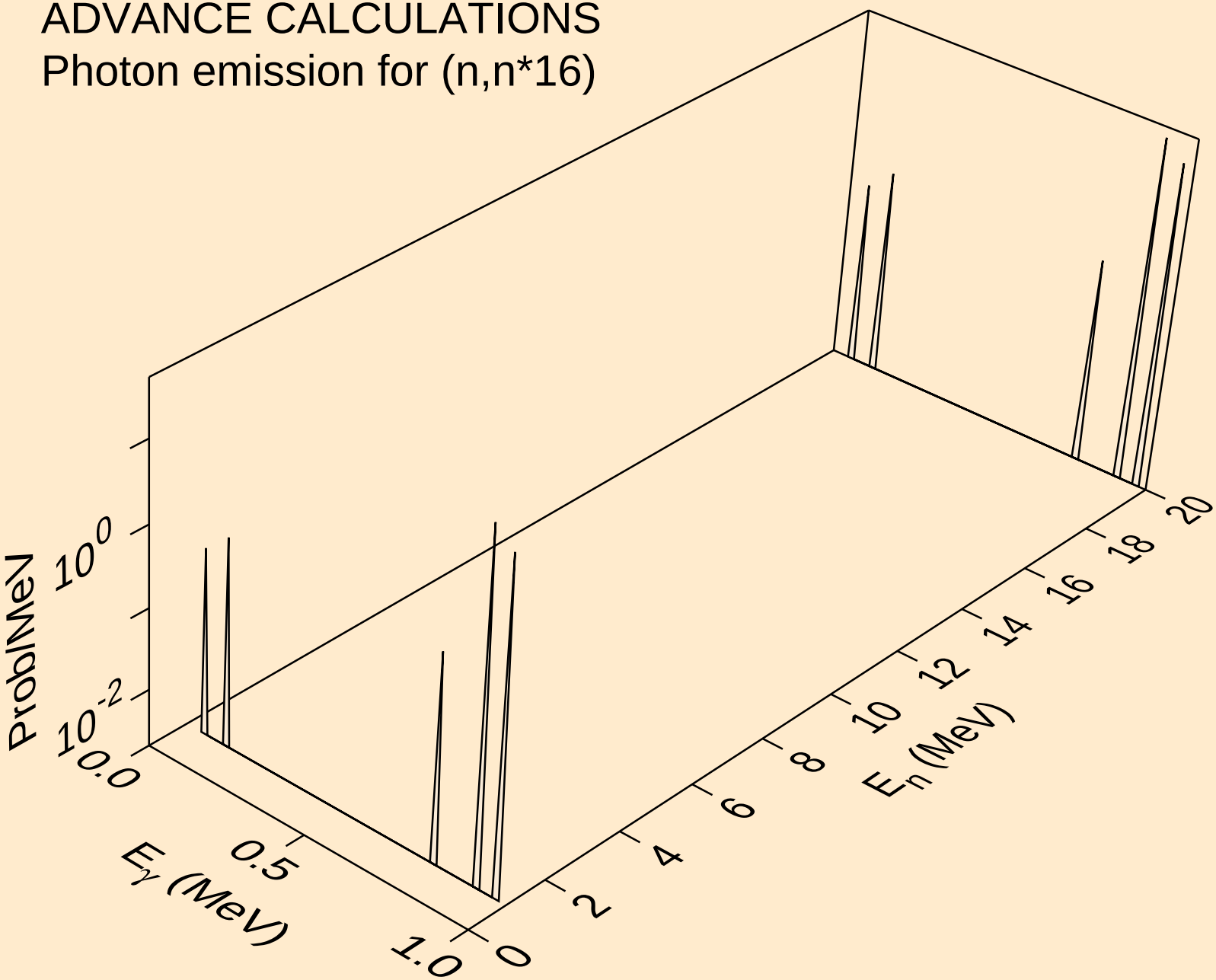
ADVANCE CALCULATIONS

Photon emission for (n,n*15)



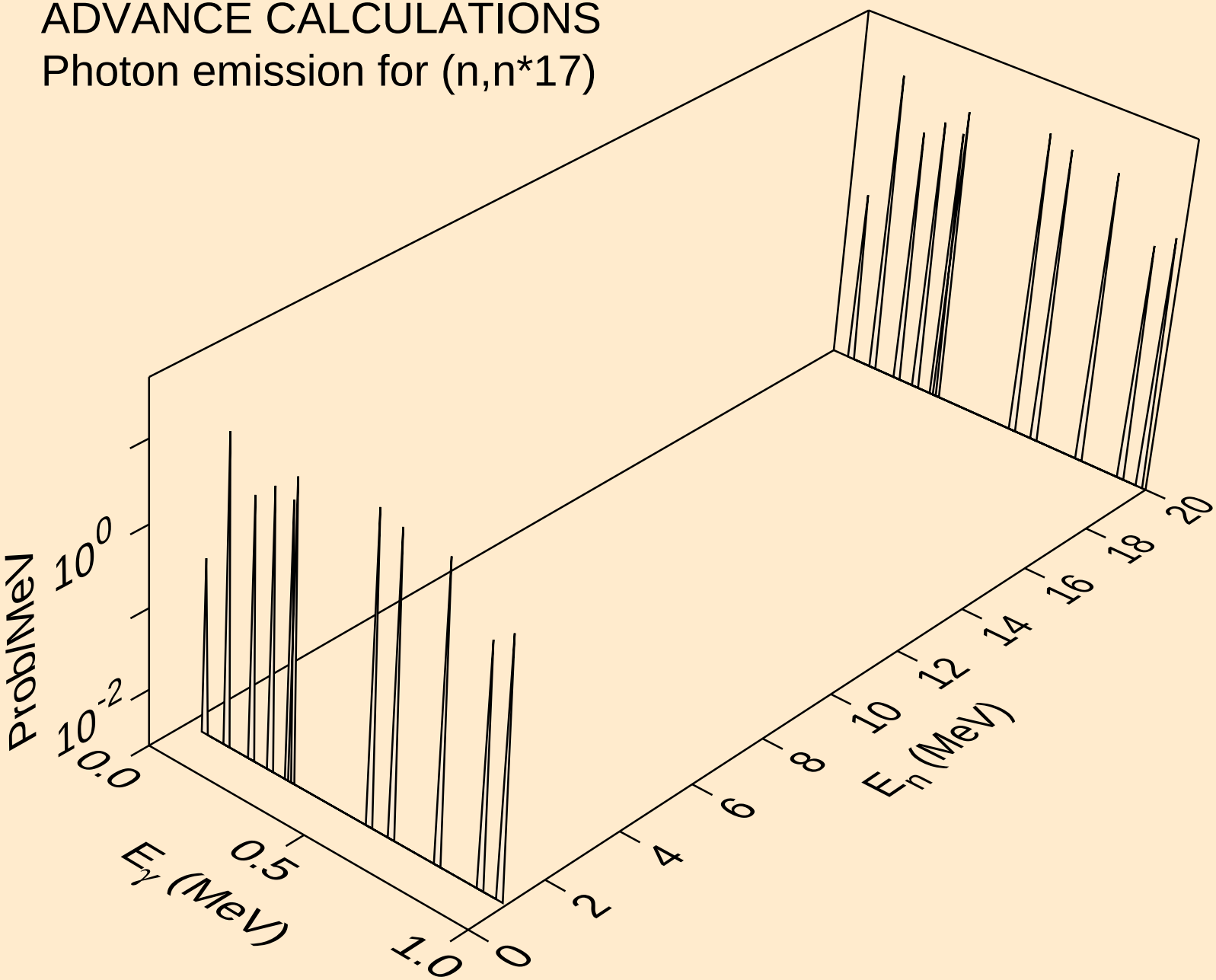
ADVANCE CALCULATIONS

Photon emission for (n,n*16)



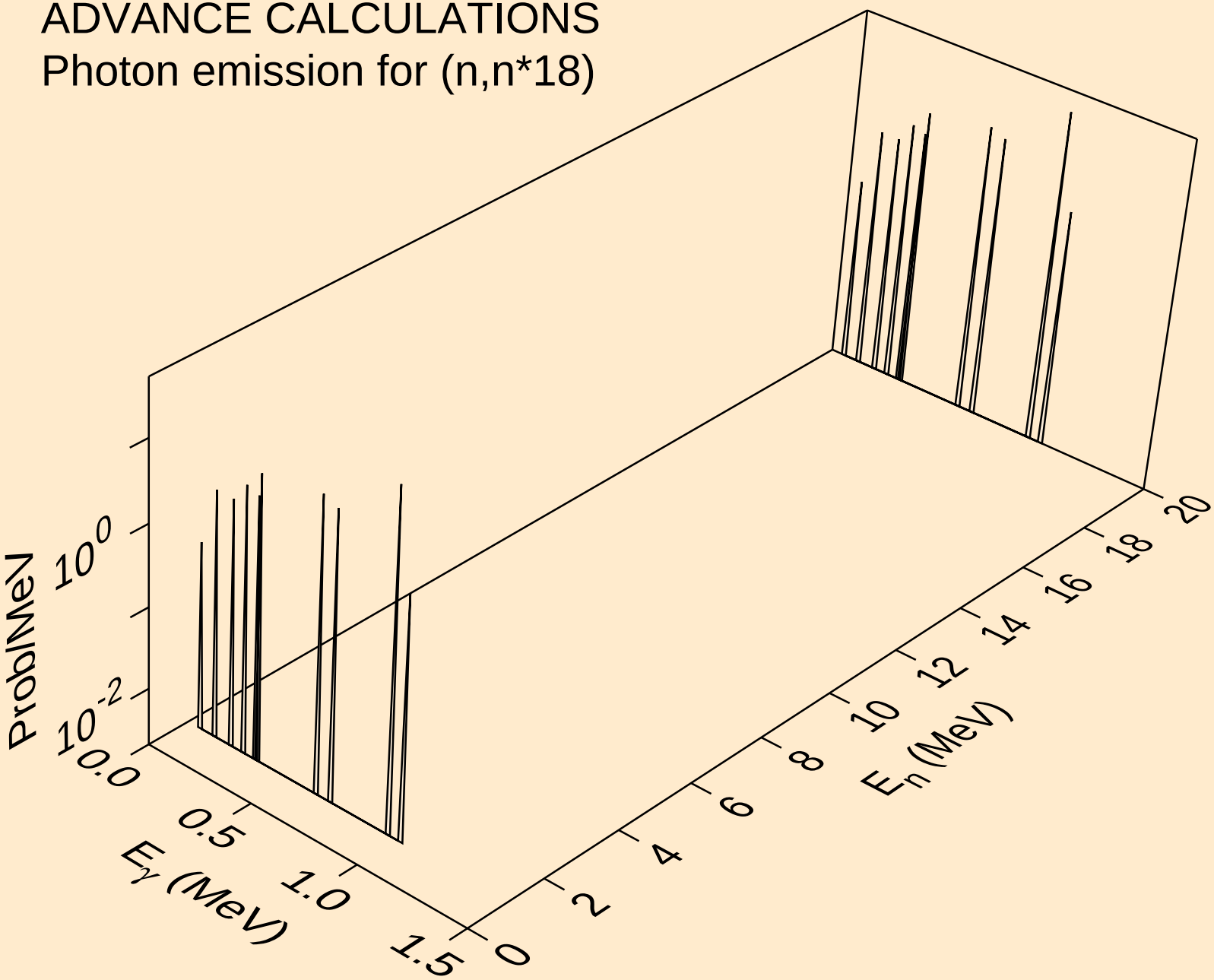
ADVANCE CALCULATIONS

Photon emission for (n,n*17)



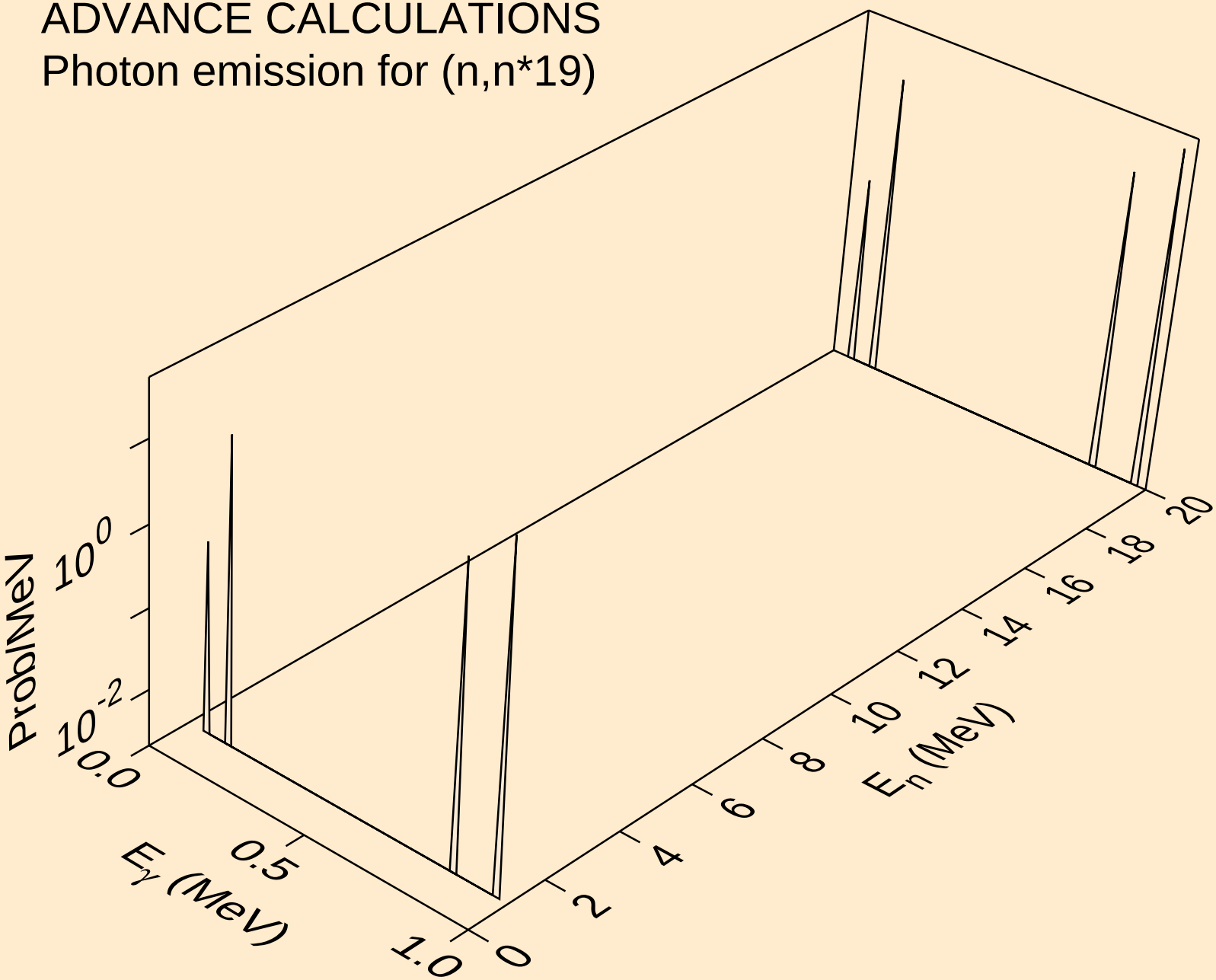
ADVANCE CALCULATIONS

Photon emission for (n,n*18)



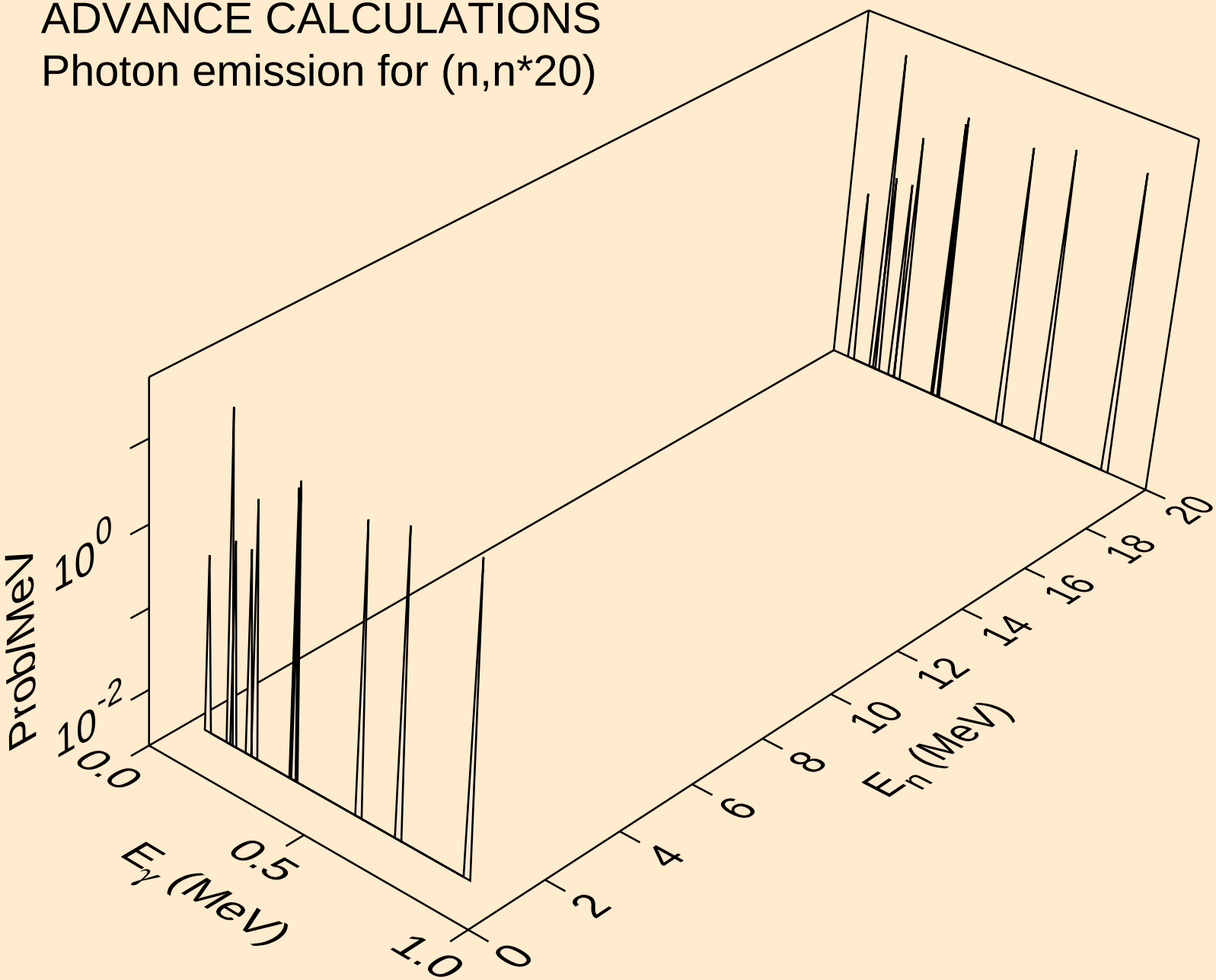
ADVANCE CALCULATIONS

Photon emission for (n,n*19)



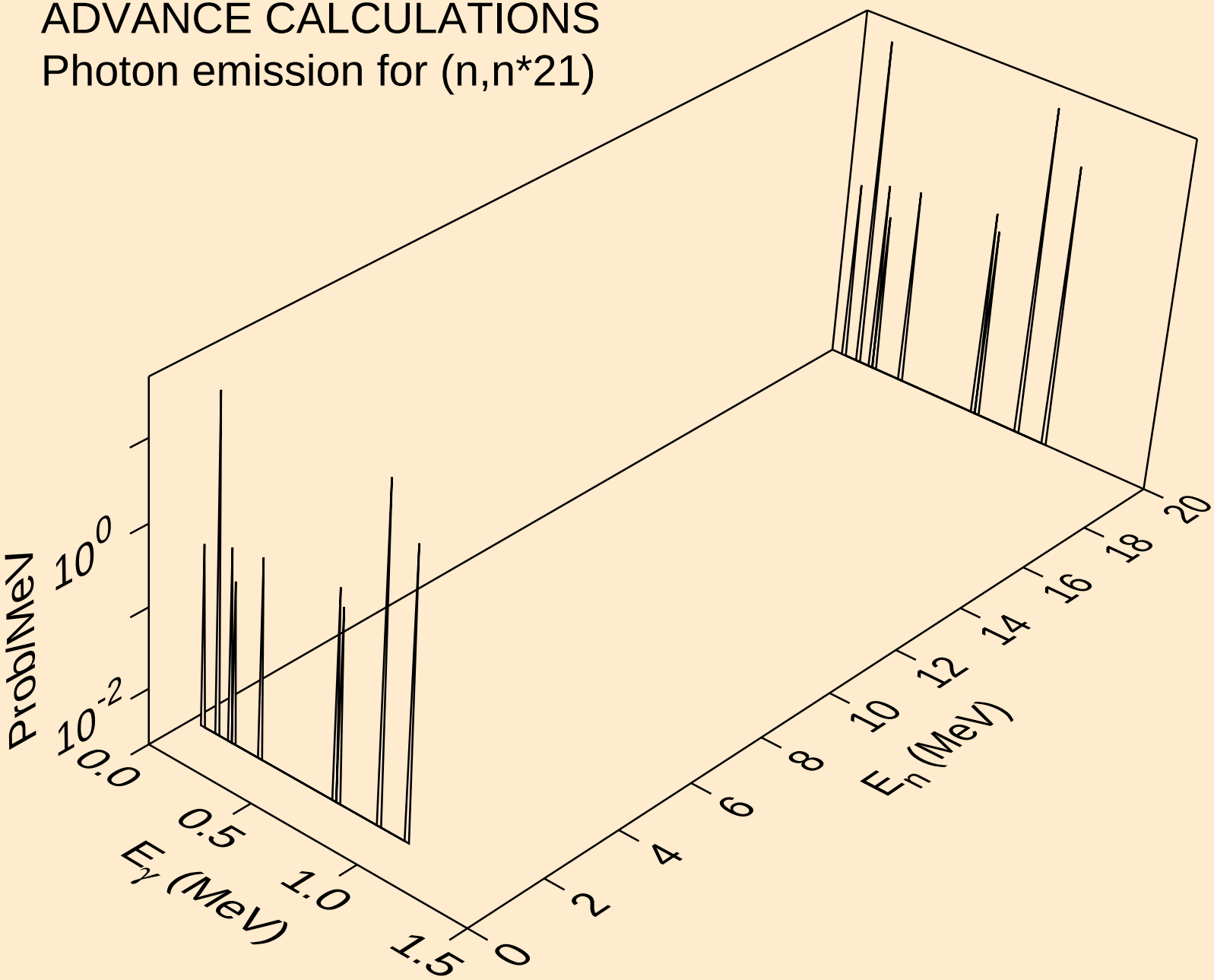
ADVANCE CALCULATIONS

Photon emission for (n,n*20)



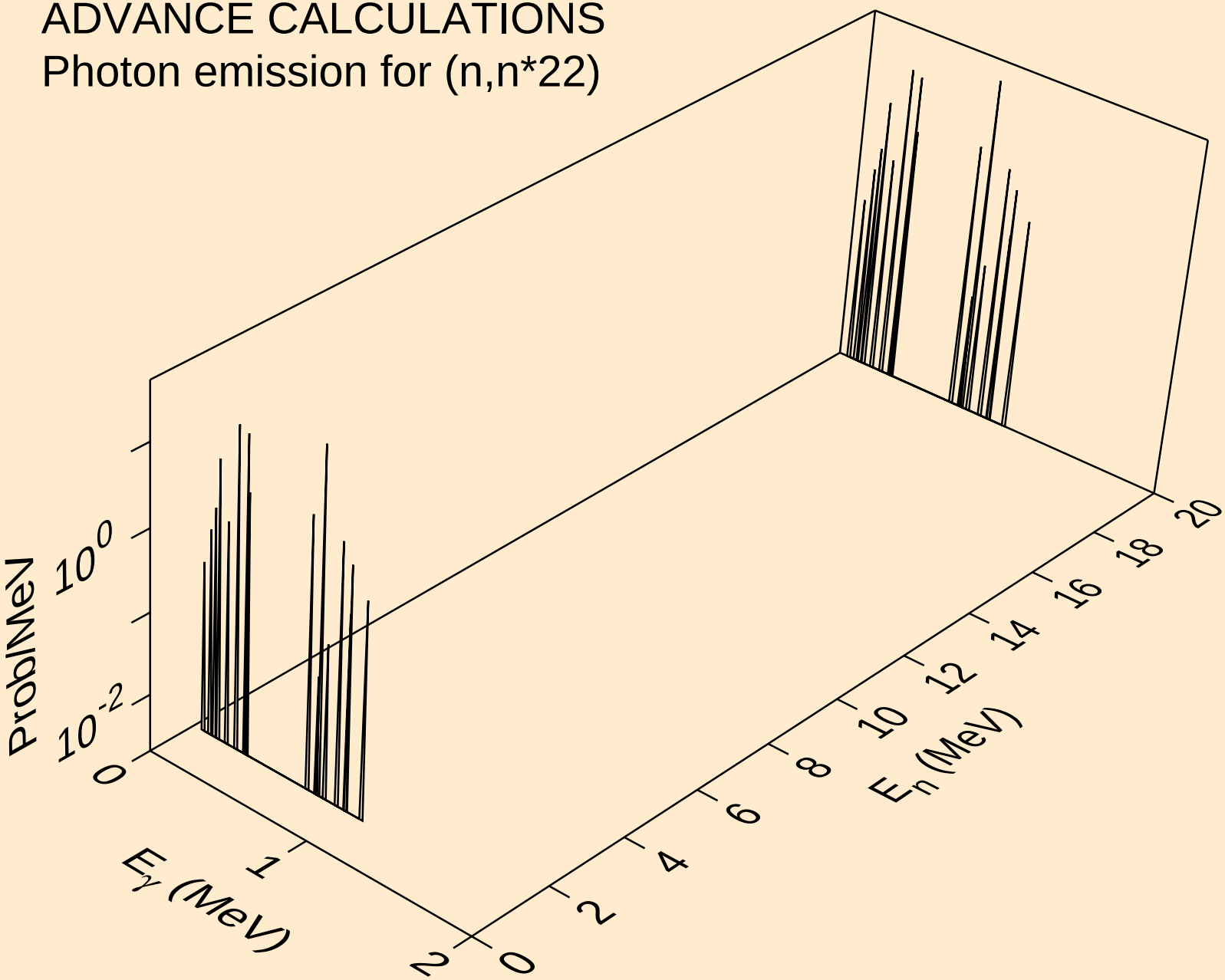
ADVANCE CALCULATIONS

Photon emission for (n,n*21)



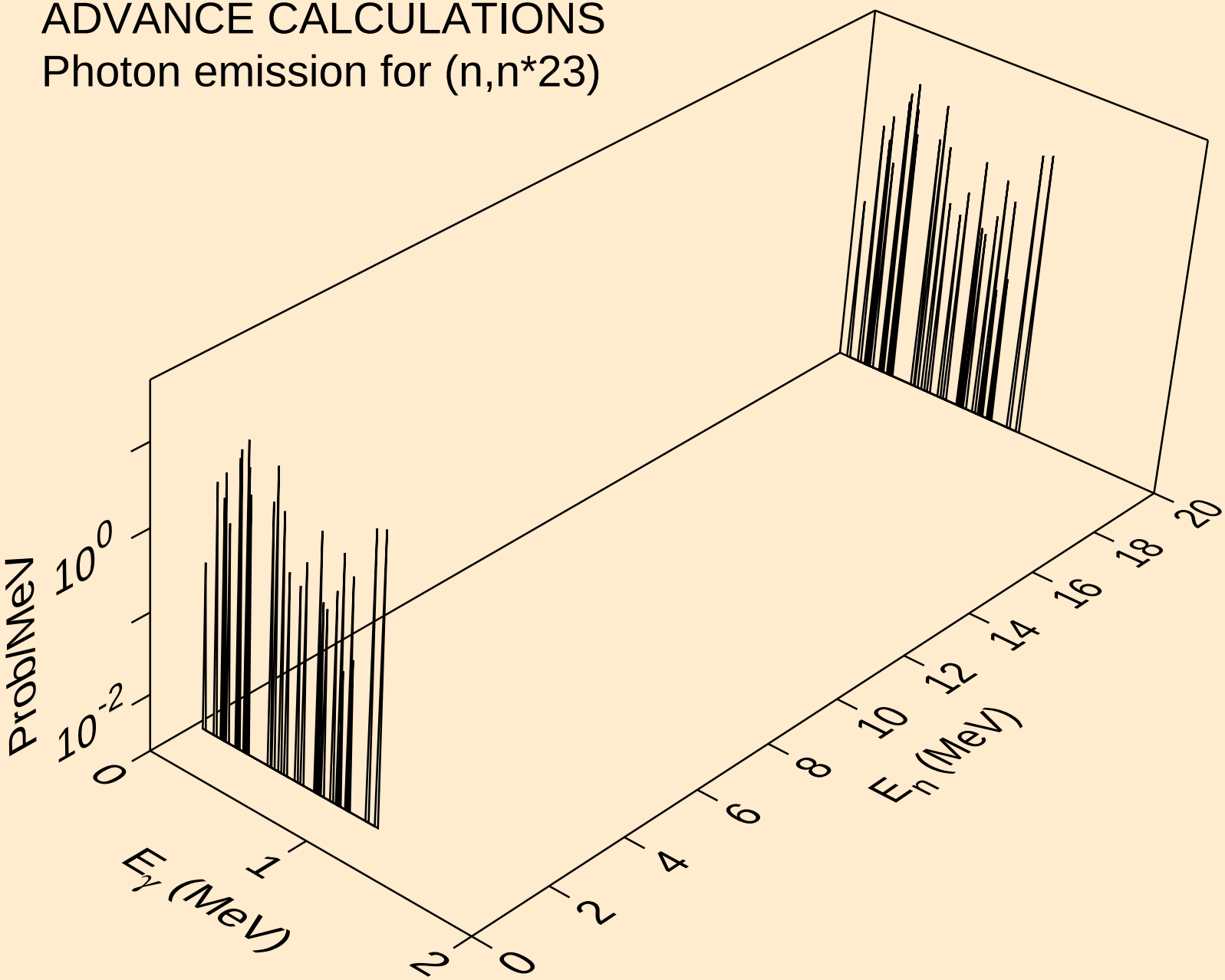
ADVANCE CALCULATIONS

Photon emission for (n,n*22)



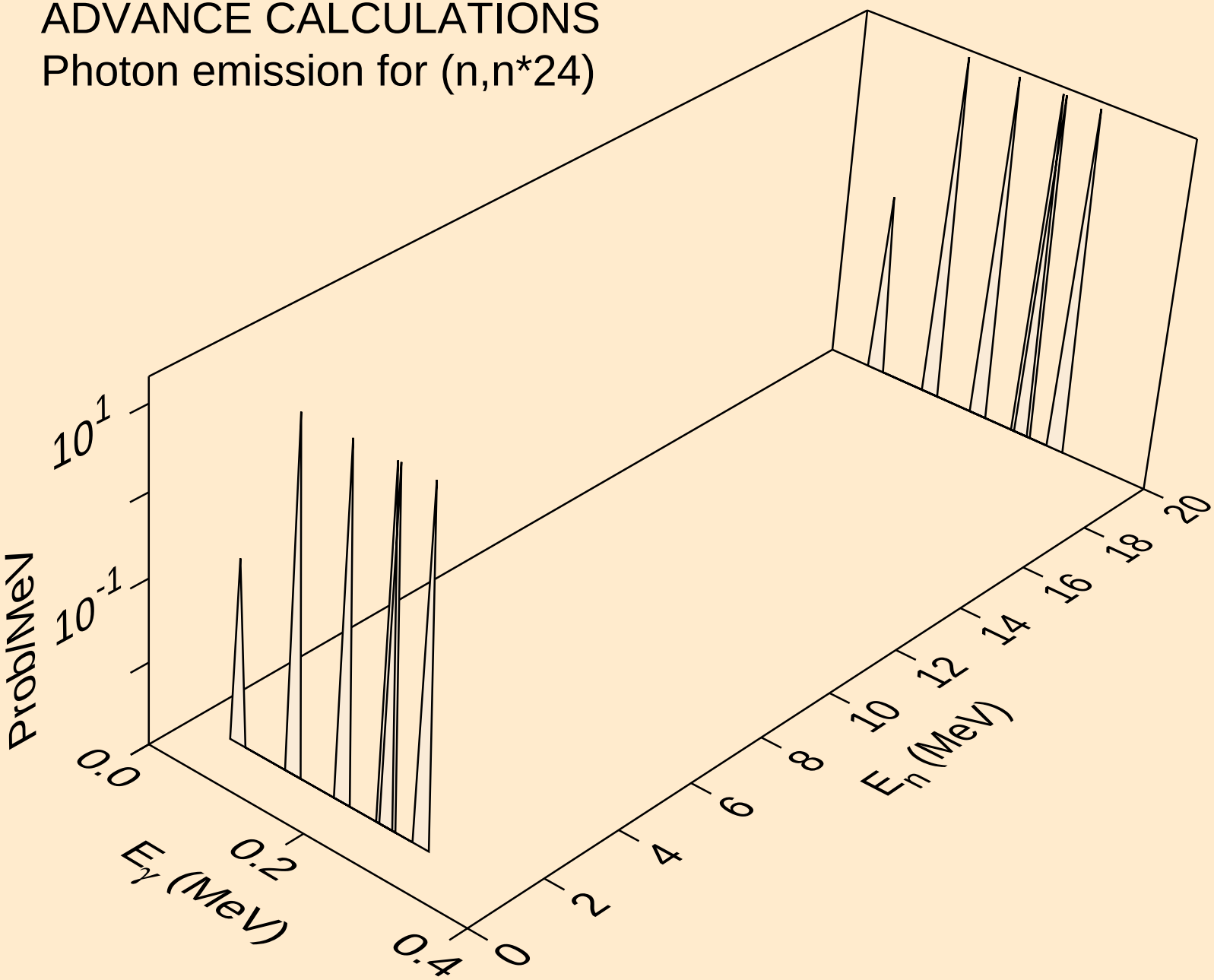
ADVANCE CALCULATIONS

Photon emission for (n,n*23)



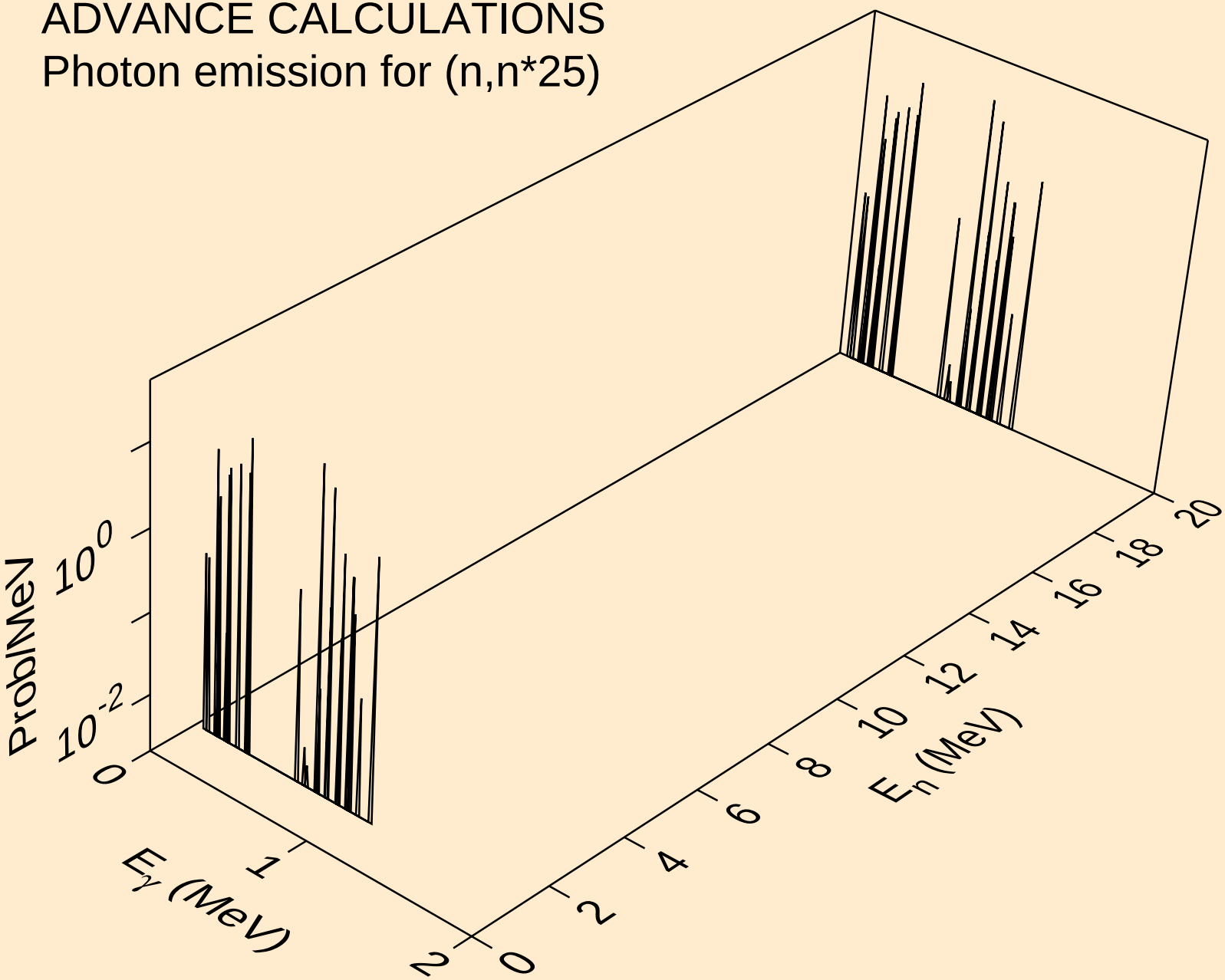
ADVANCE CALCULATIONS

Photon emission for (n,n*24)



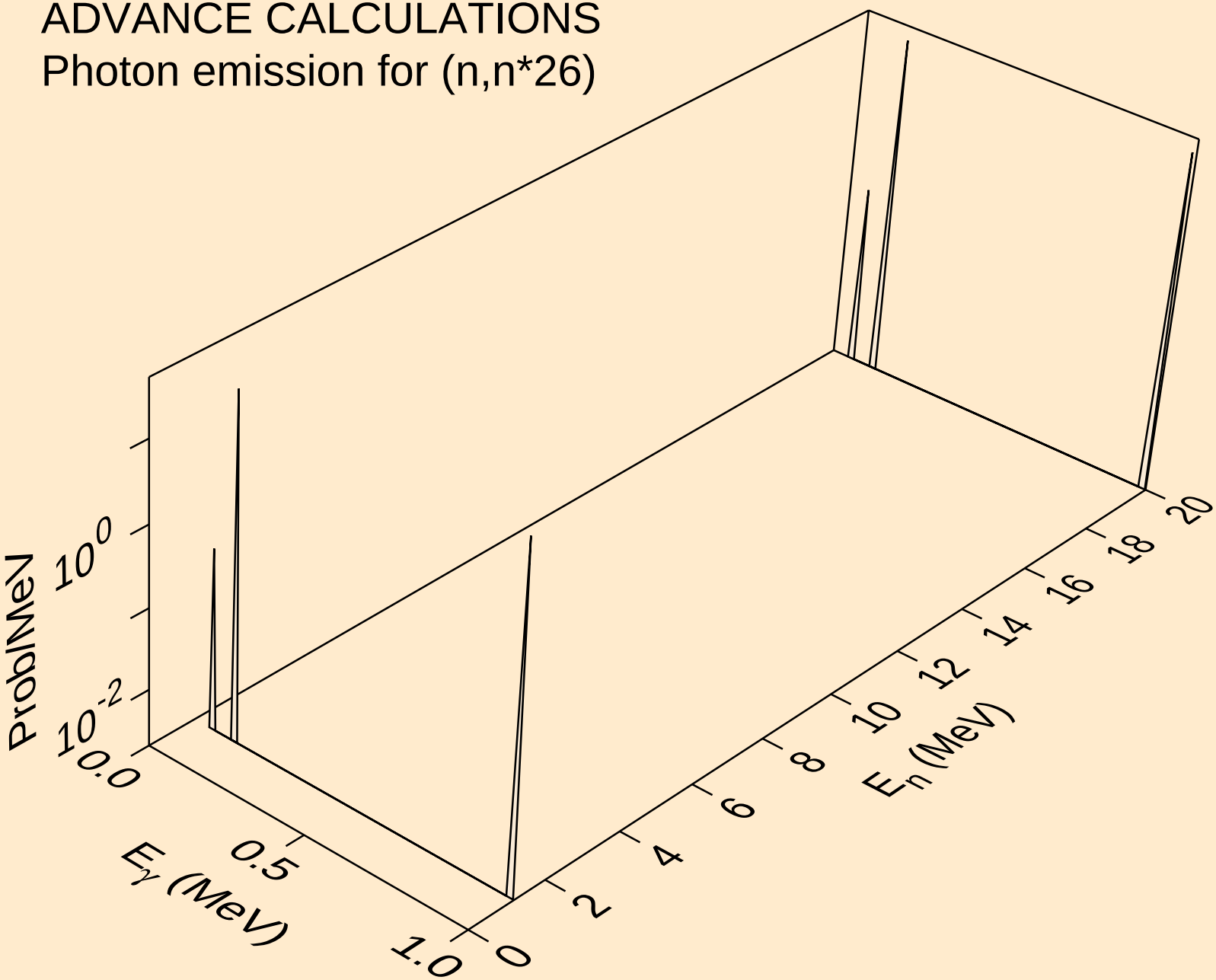
ADVANCE CALCULATIONS

Photon emission for (n,n*25)



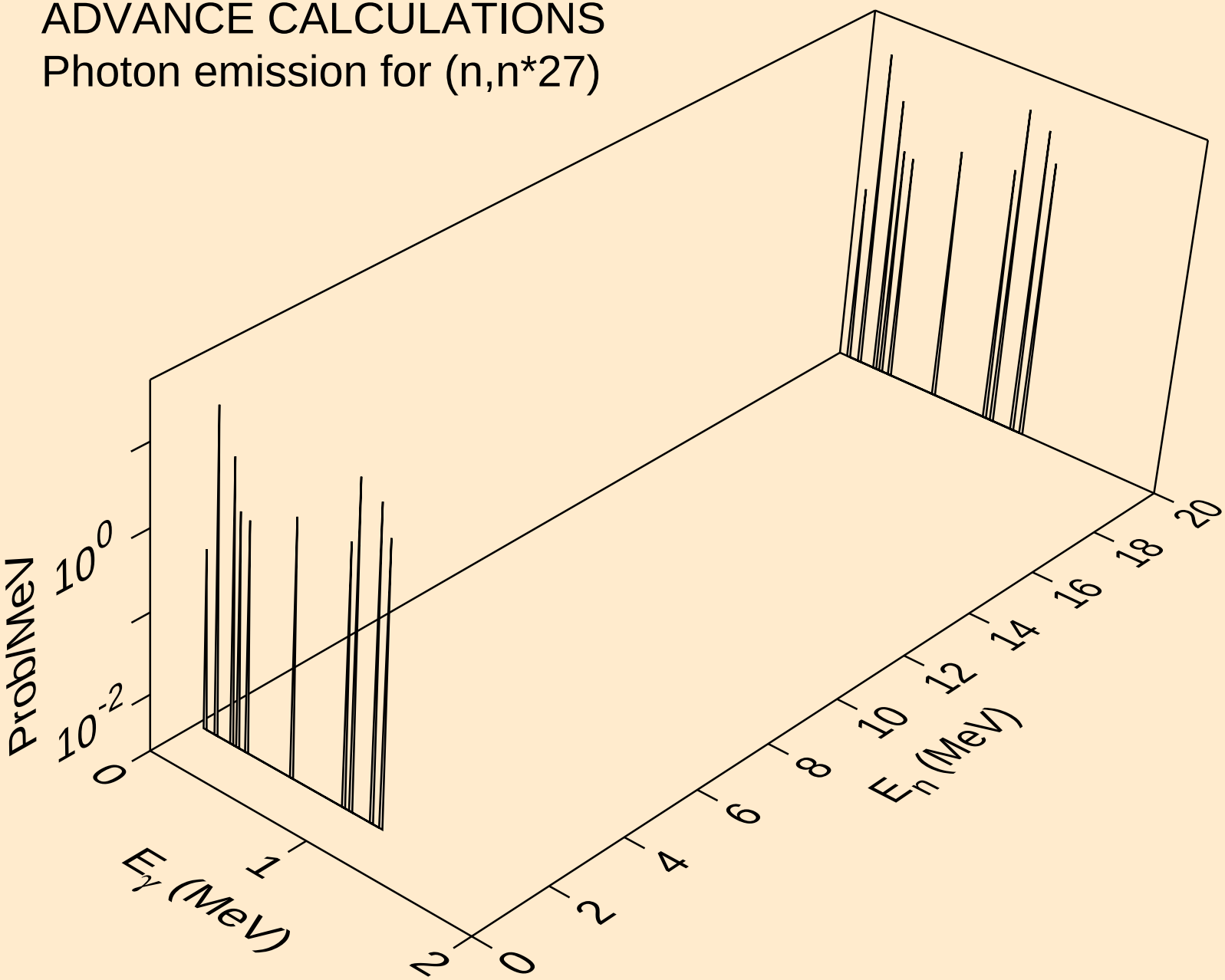
ADVANCE CALCULATIONS

Photon emission for (n,n*26)



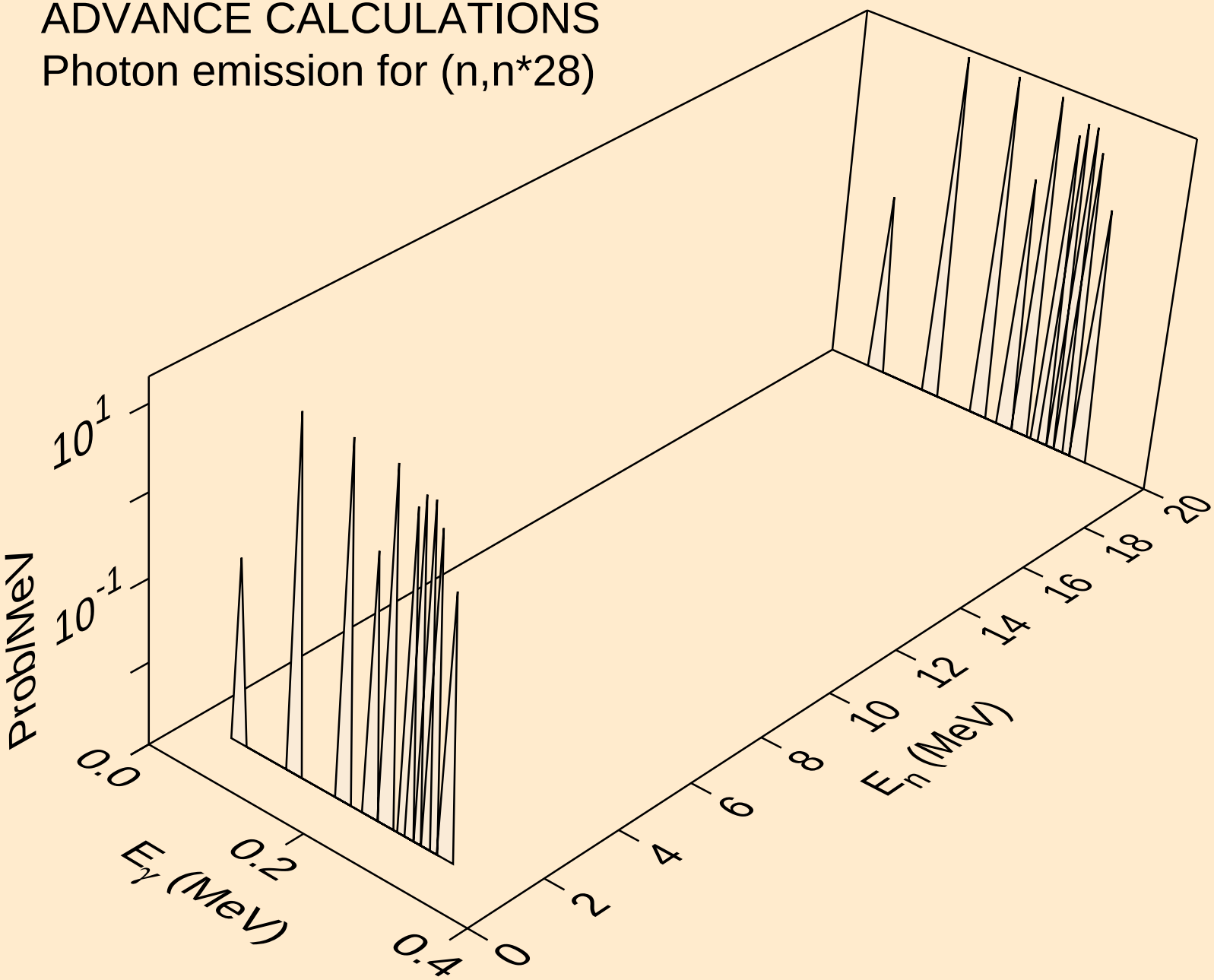
ADVANCE CALCULATIONS

Photon emission for (n,n*27)



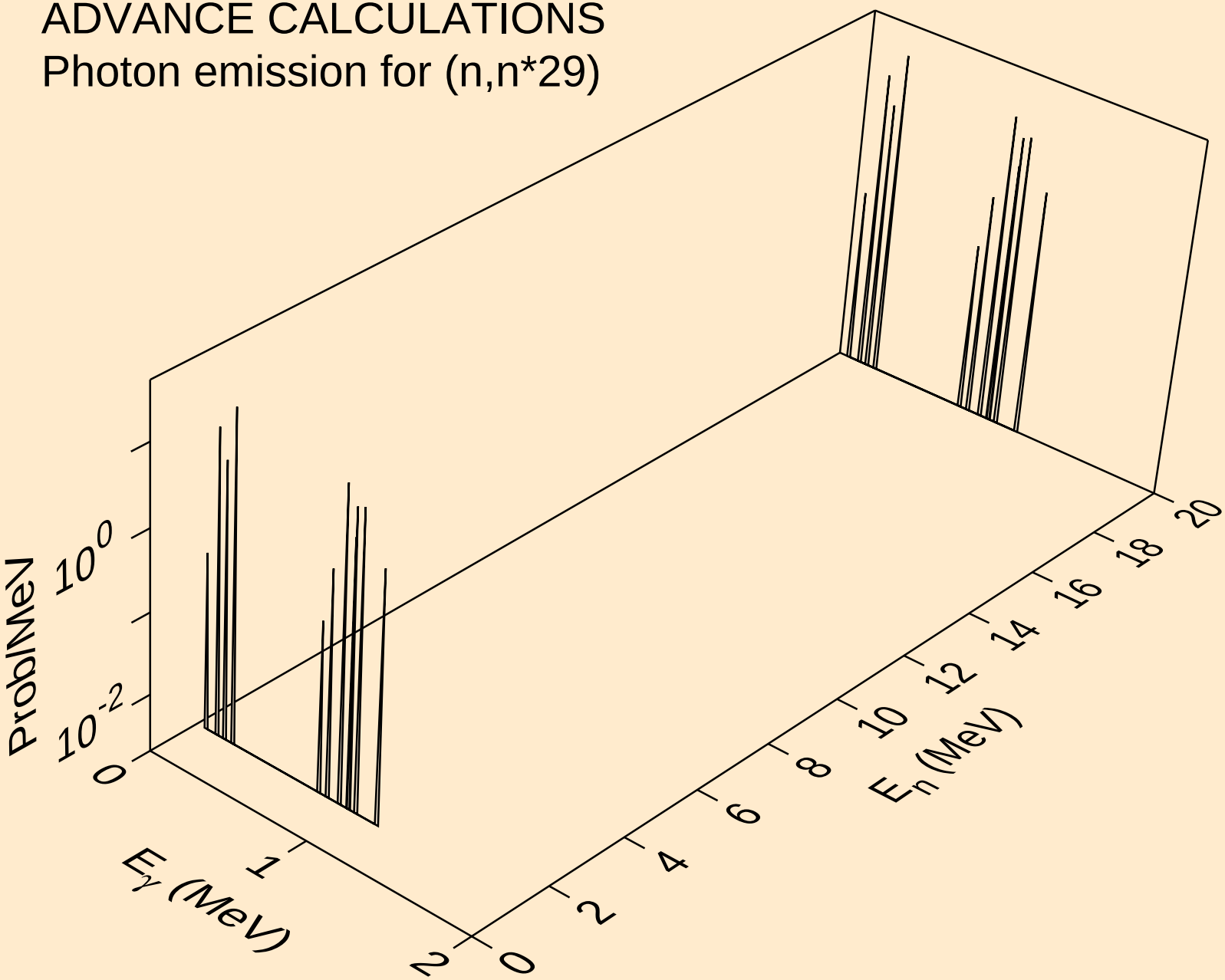
ADVANCE CALCULATIONS

Photon emission for (n,n*28)



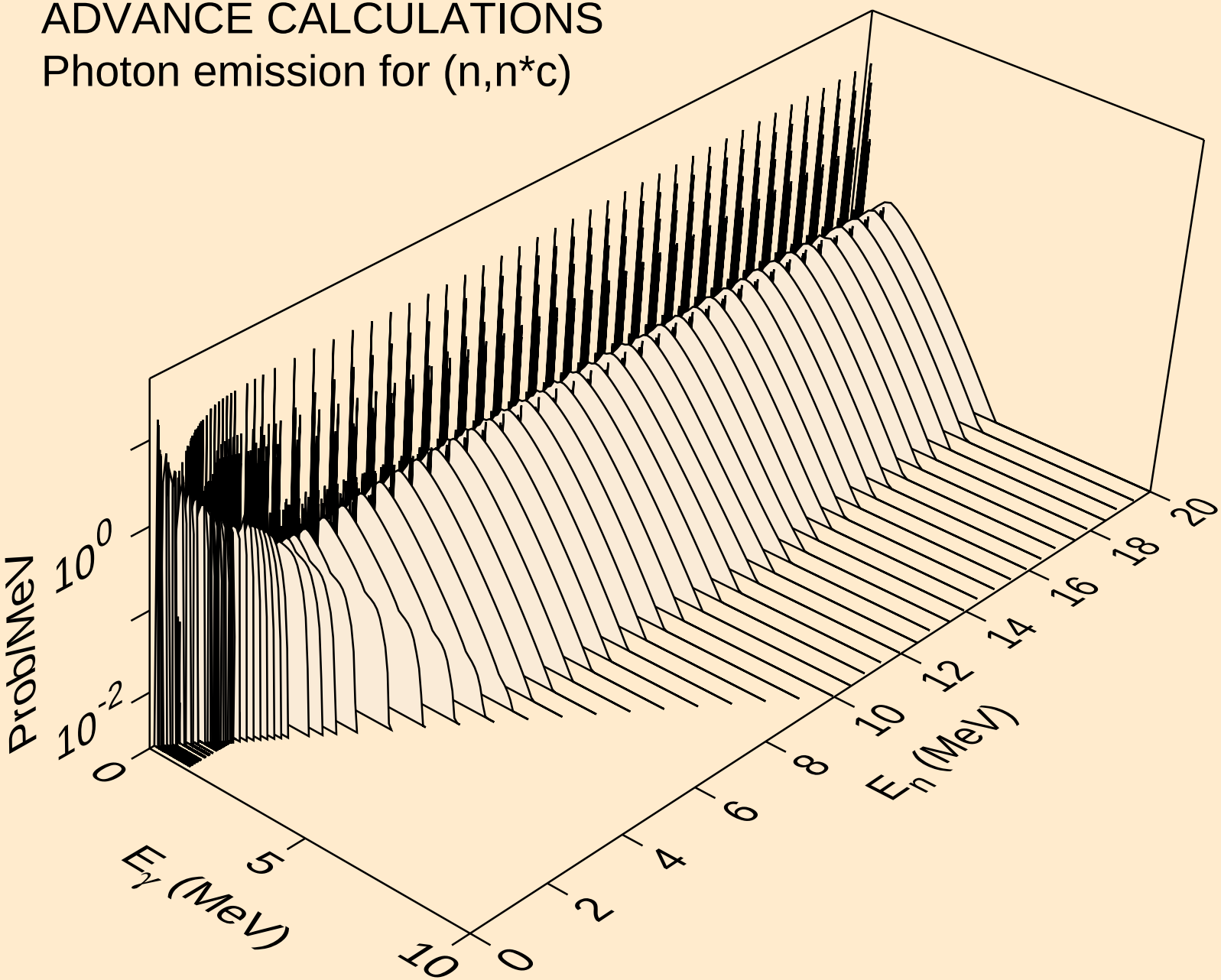
ADVANCE CALCULATIONS

Photon emission for (n,n*29)



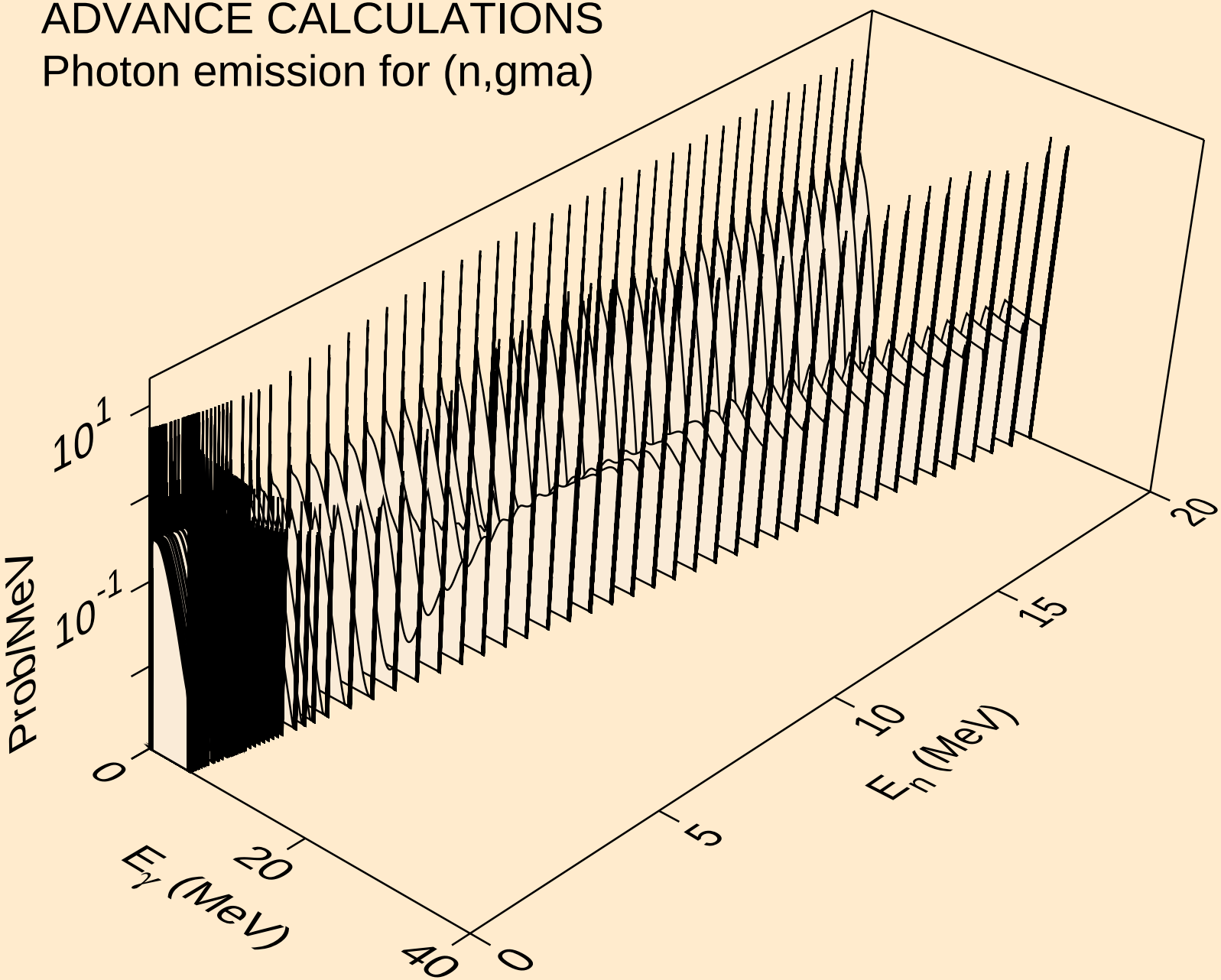
ADVANCE CALCULATIONS

Photon emission for (n,n*c)

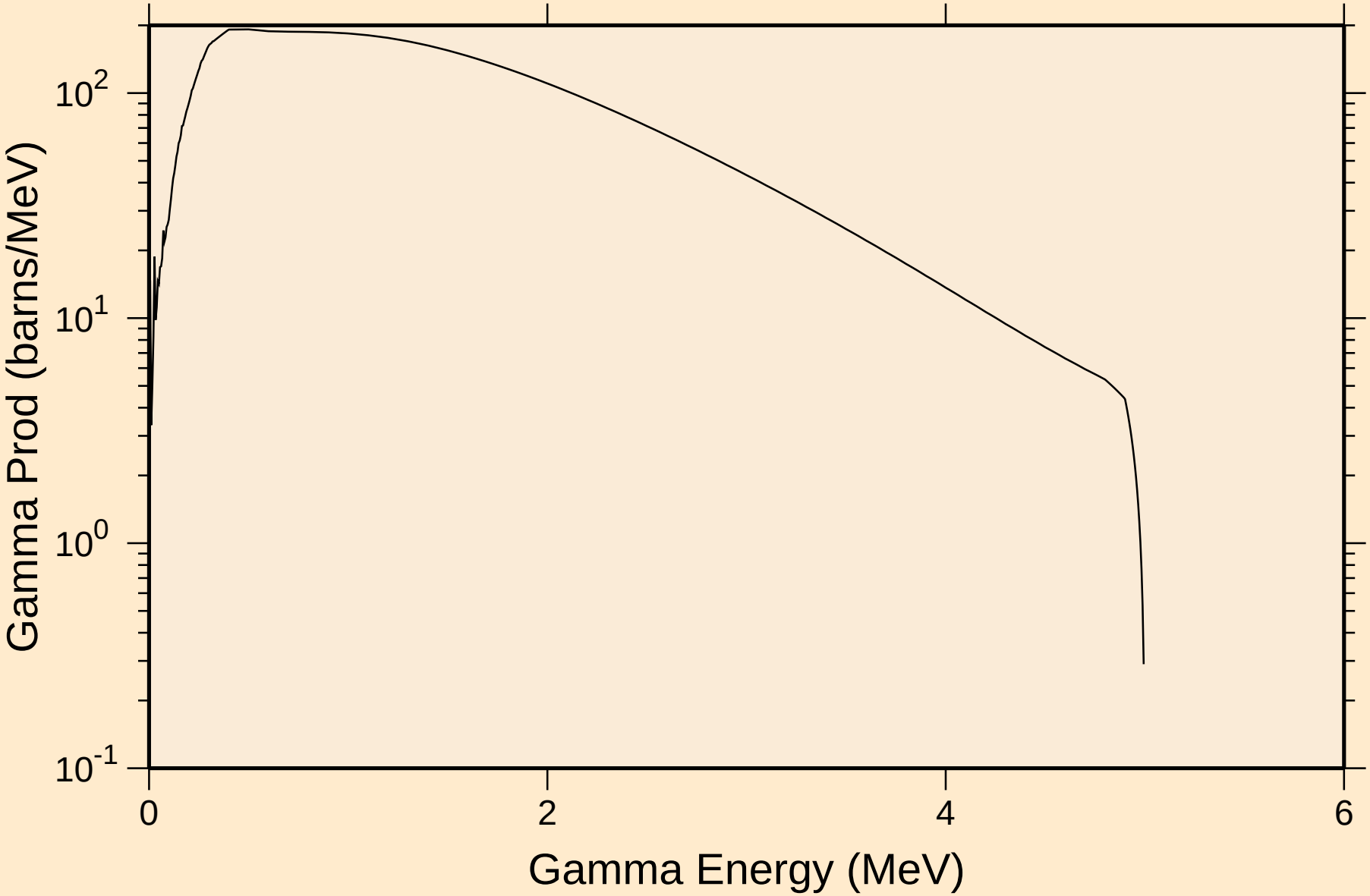


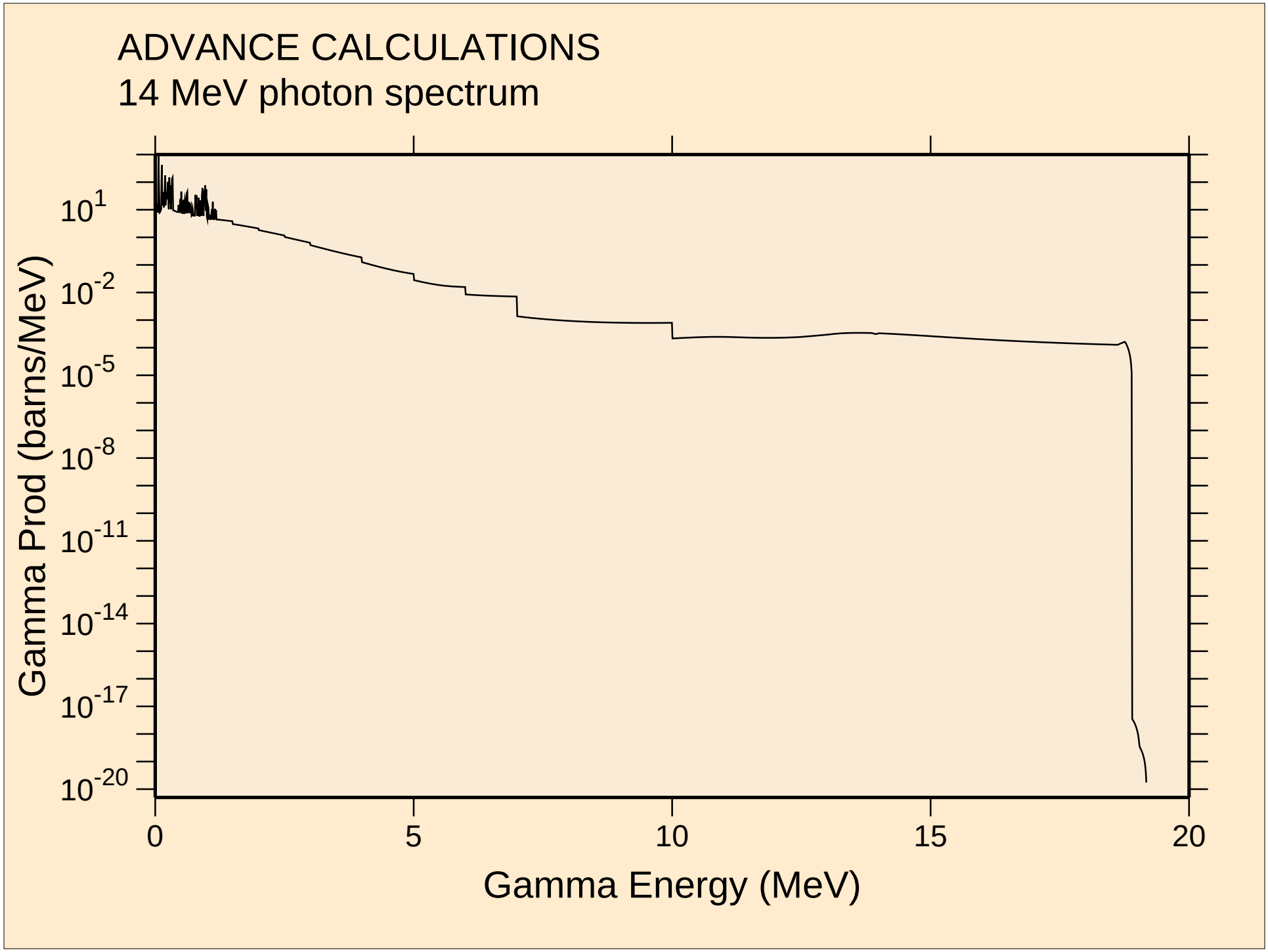
ADVANCE CALCULATIONS

Photon emission for (n,gma)



ADVANCE CALCULATIONS
thermal capture photon spectrum




ADVANCE CALCULATIONS
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^1
10^-2
10^-5
10^-8
10^-11
10^-14
10^-17
10^-20
0
5
10
15
20
Gamma Energy (MeV)