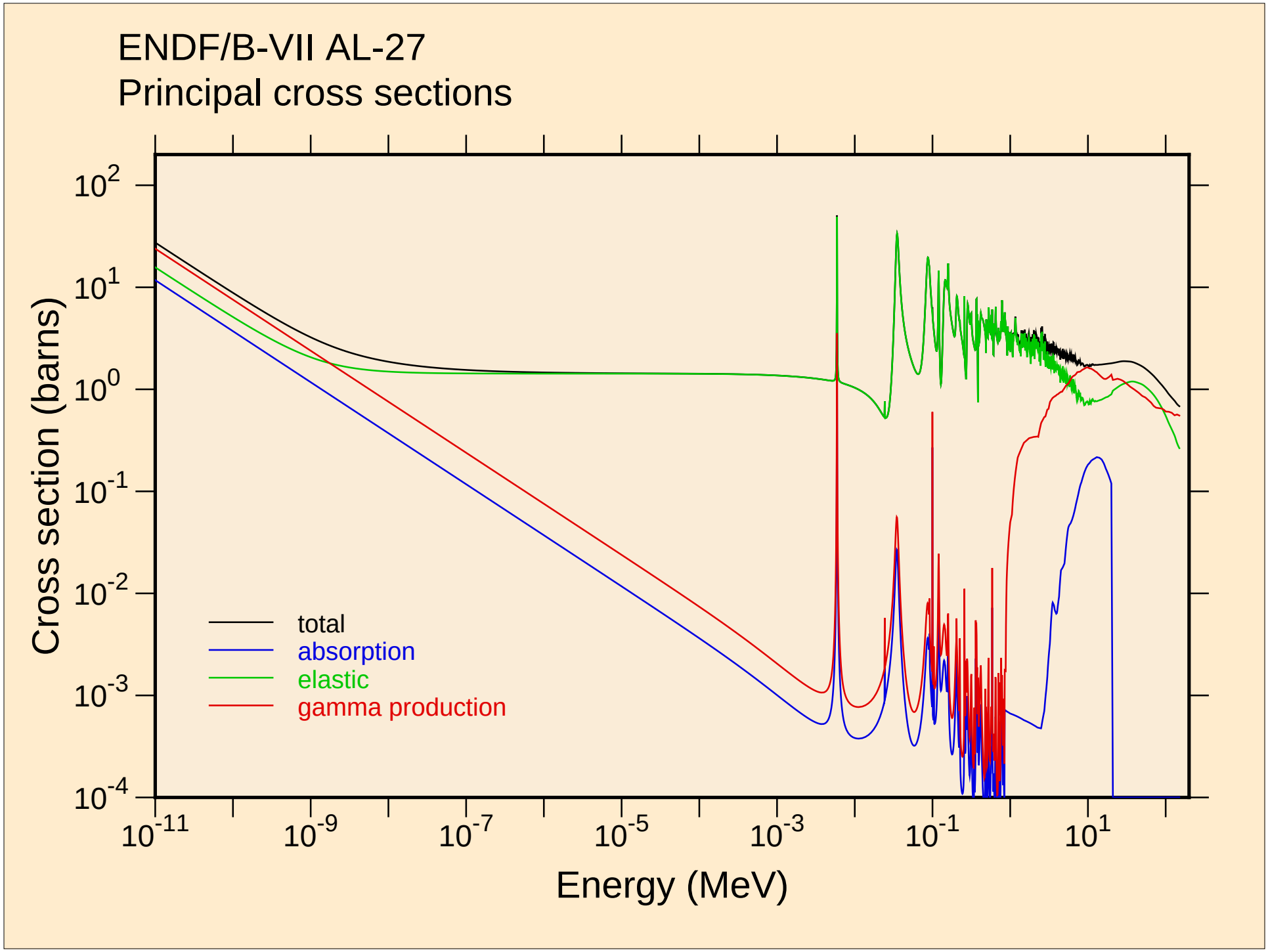
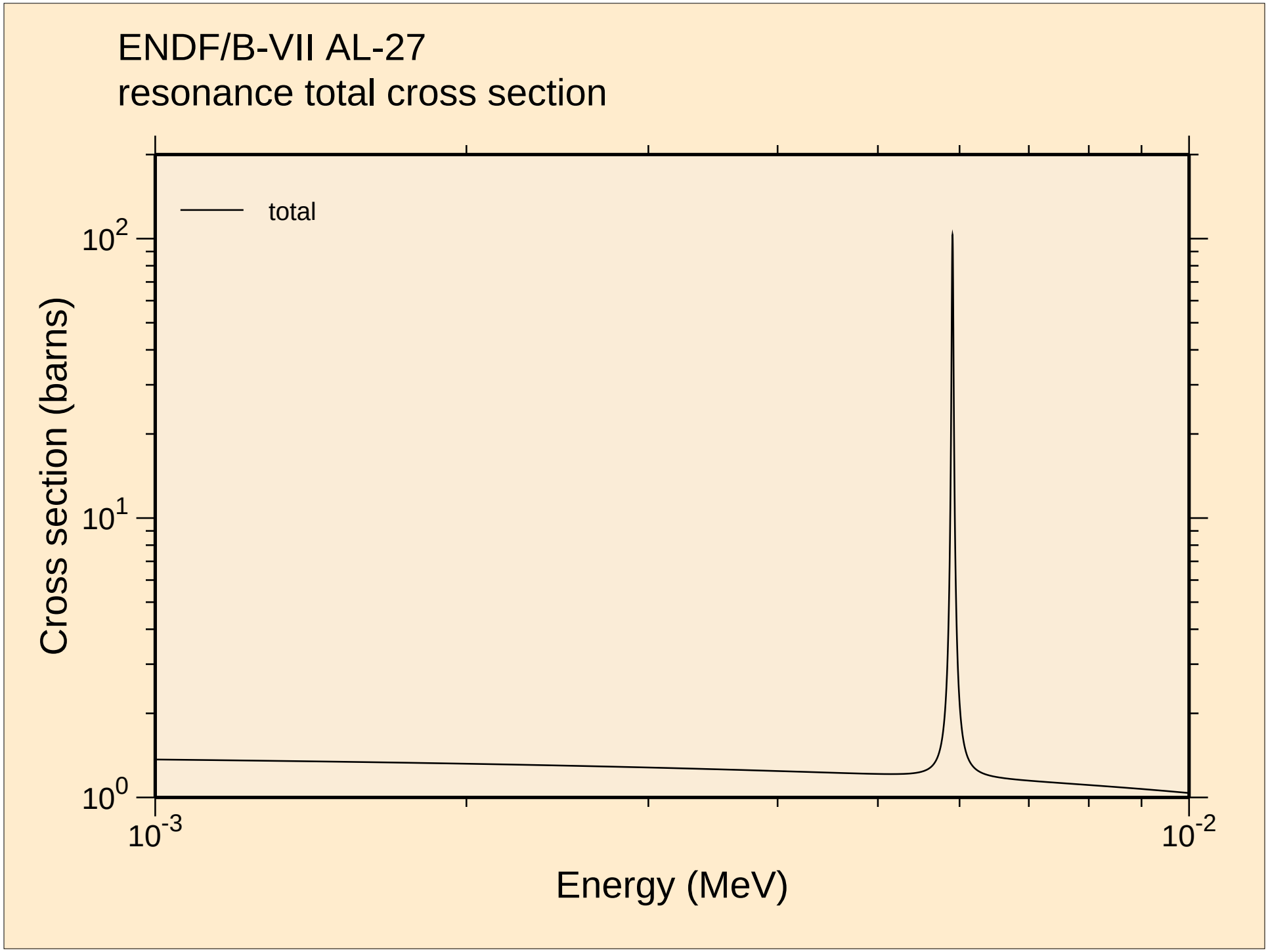
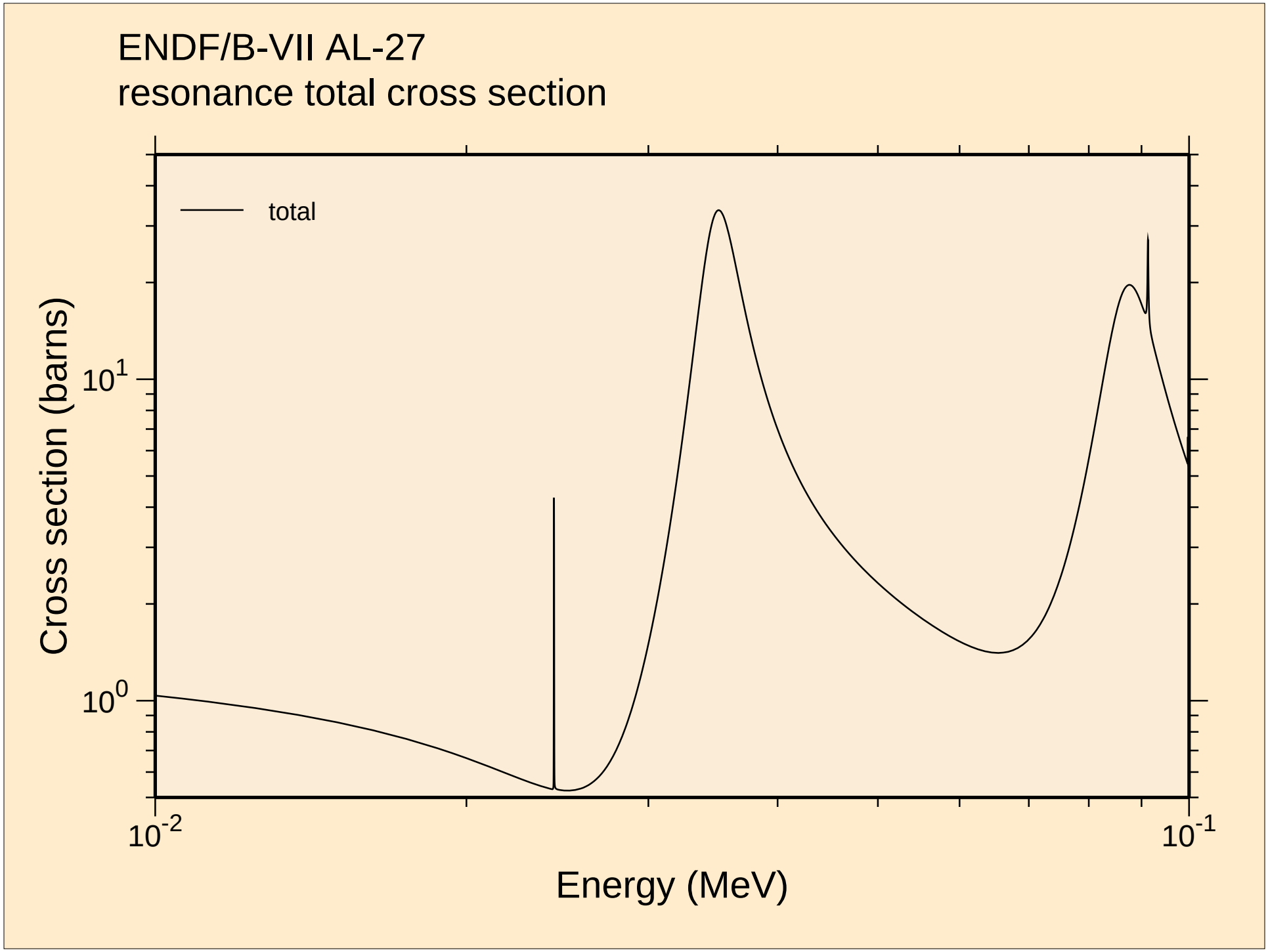
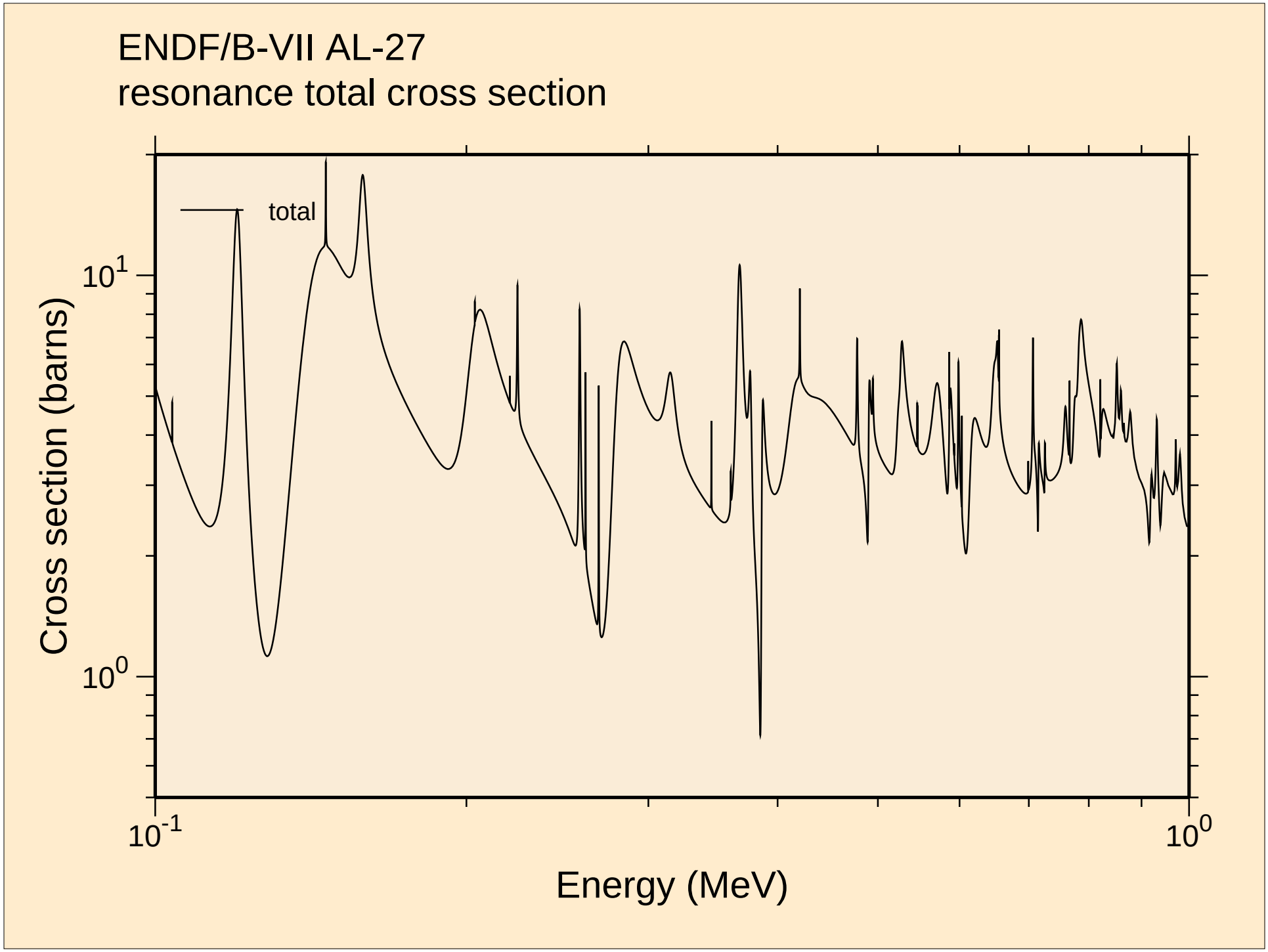
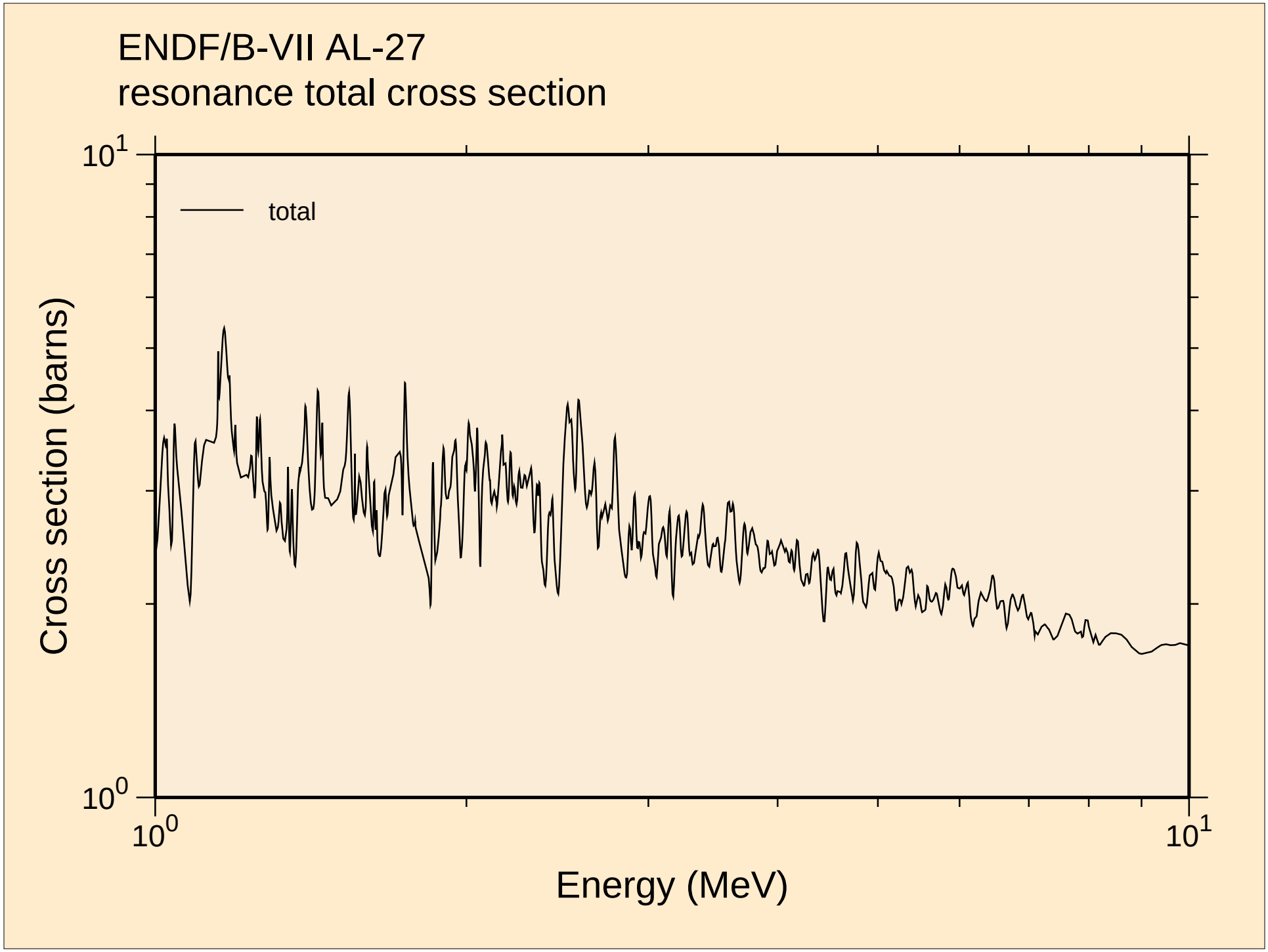
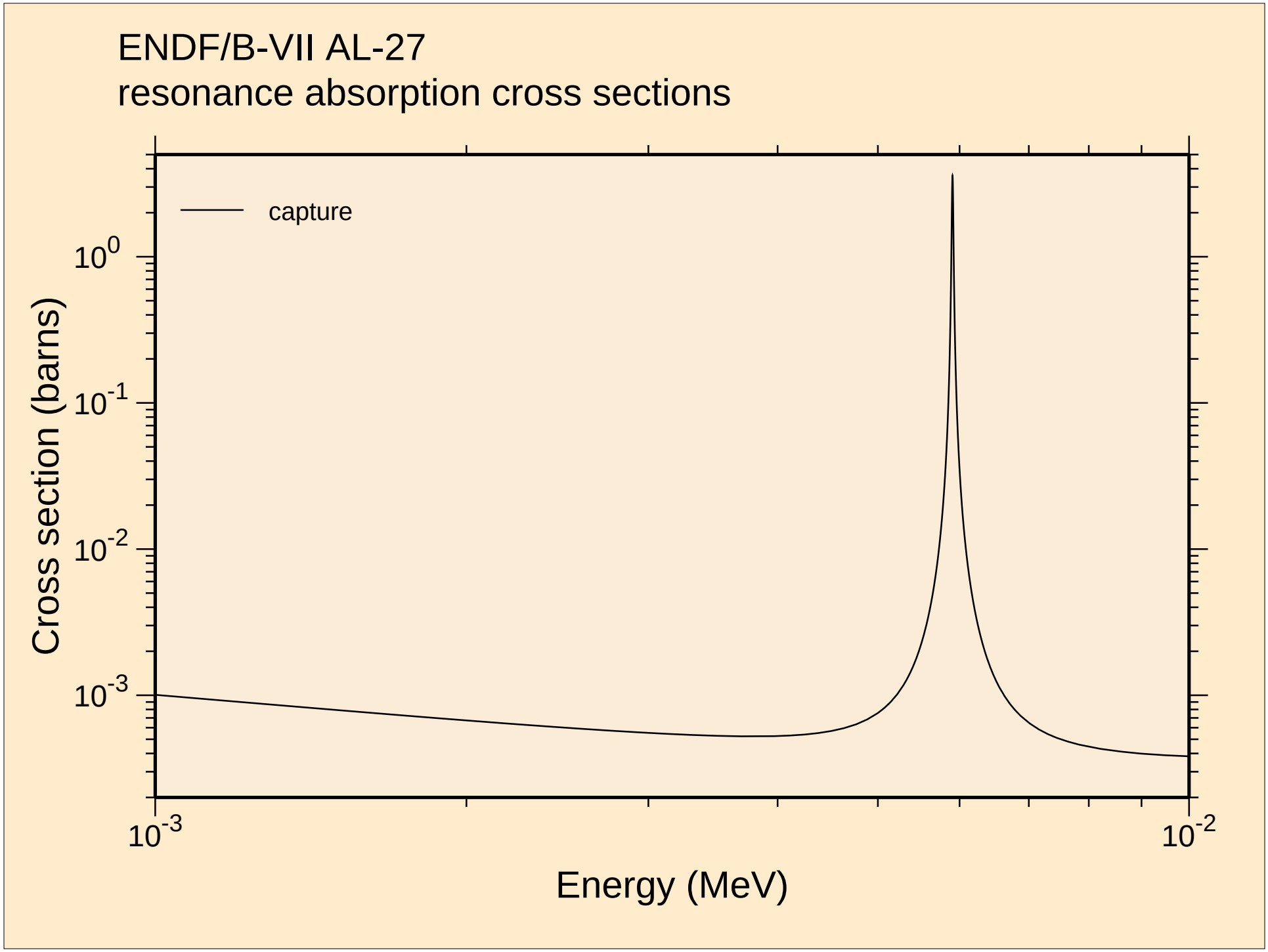

ENDF/B-VII AL-27
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-11}
10^{-9}
10^{-7}
10^{-5}
10^{-3}
10^{-1}
10^{1}


ENDF/B-VII AL-27
resonance total cross section
total
Cross section (barns)
10^2
10^1
10^0
10^{-3}
10^{-2}
Energy (MeV)

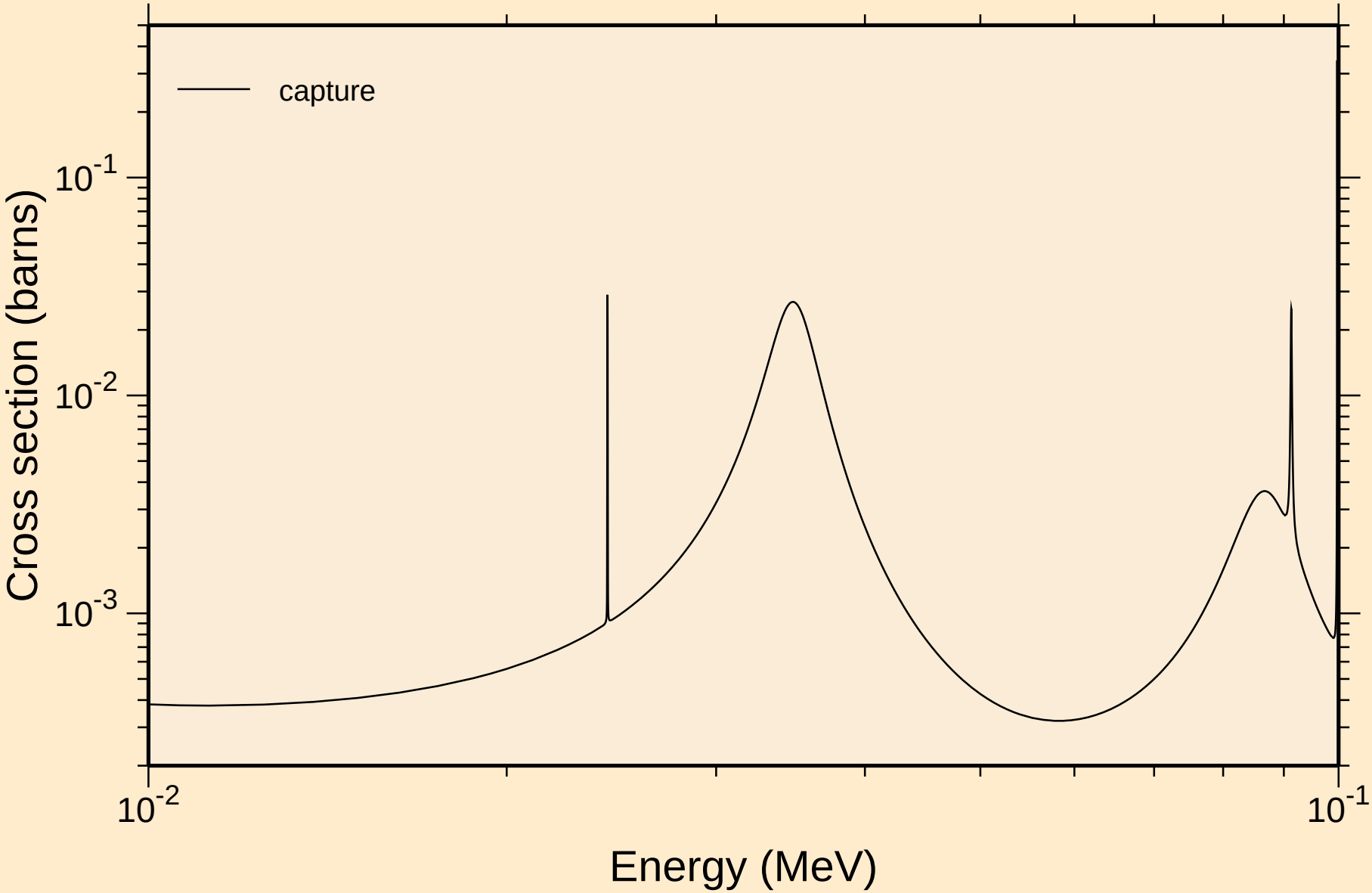

ENDF/B-VII AL-27
resonance total cross section
total
Cross section (barns)
10^1
10^0
10^{-2}
10^{-1}
Energy (MeV)


ENDF/B-VII AL-27
resonance total cross section
total
Cross section (barns)
10^1
10^0
10^{-1}
10^0
Energy (MeV)

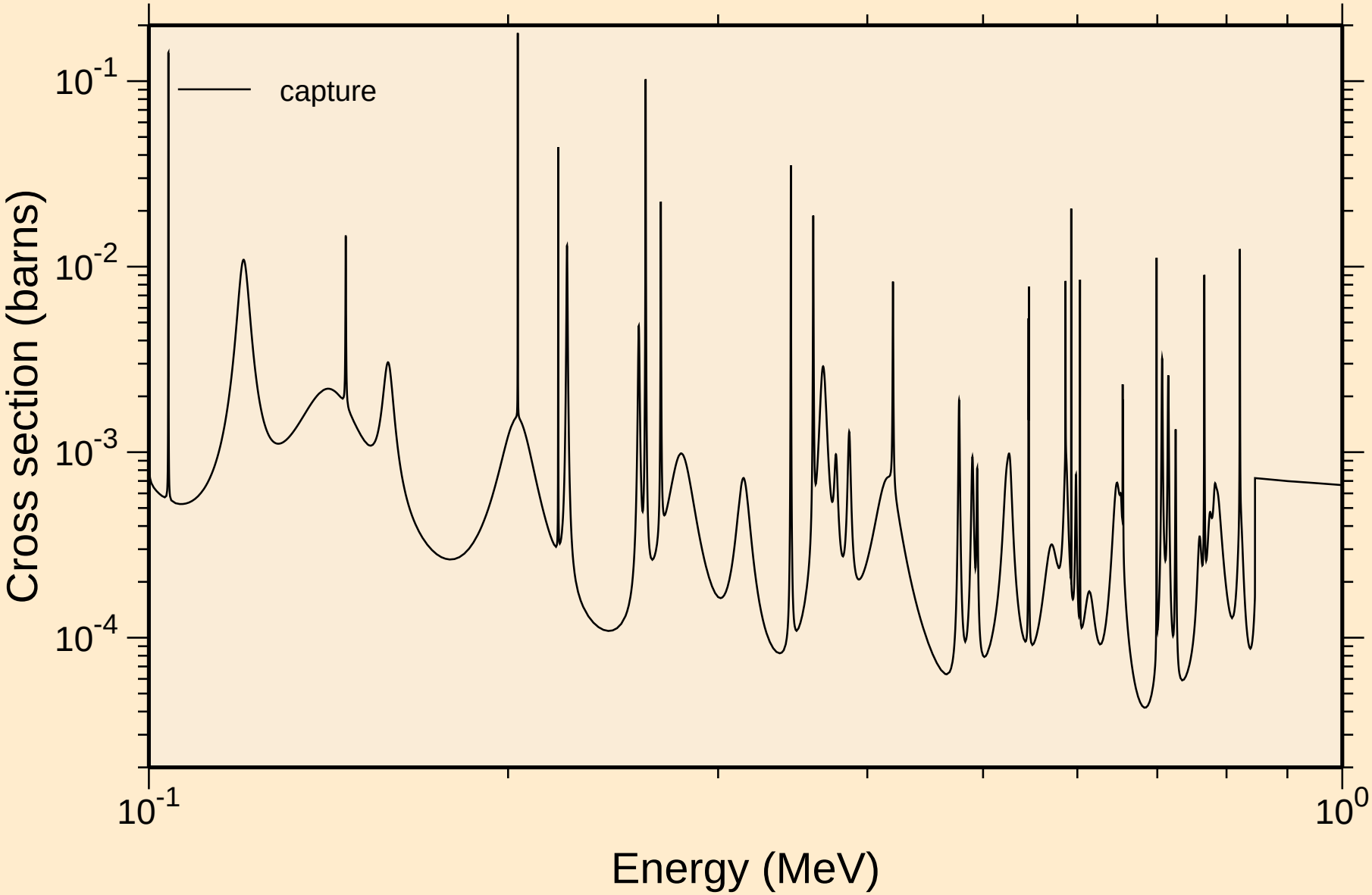

ENDF/B-VII AL-27
resonance total cross section
total
Cross section (barns)
Energy (MeV)
10^1
10^0
10^0
10^1

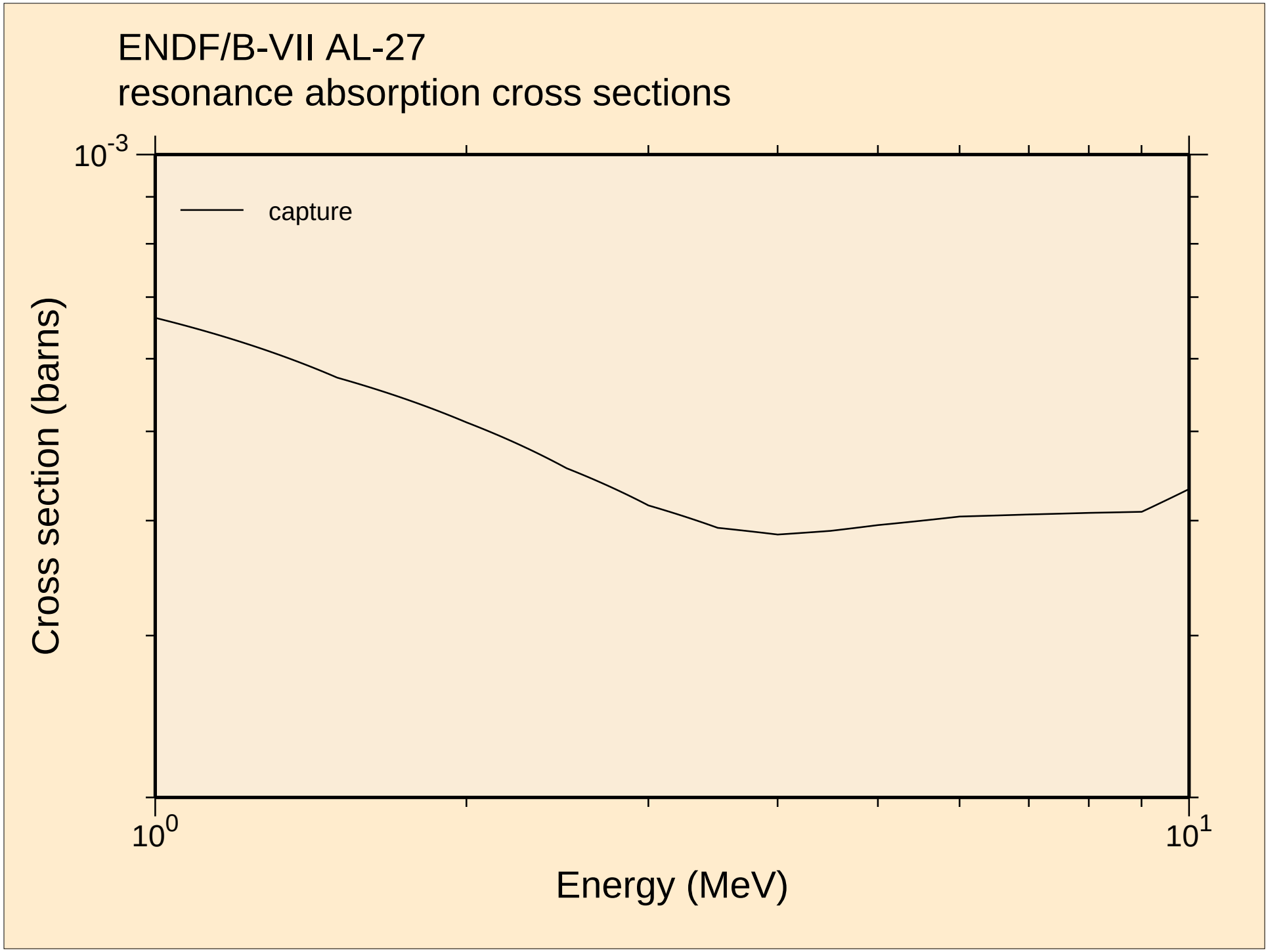

ENDF/B-VII AL-27
resonance absorption cross sections
capture
Cross section (barns)
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-3}
10^{-2}
Energy (MeV)

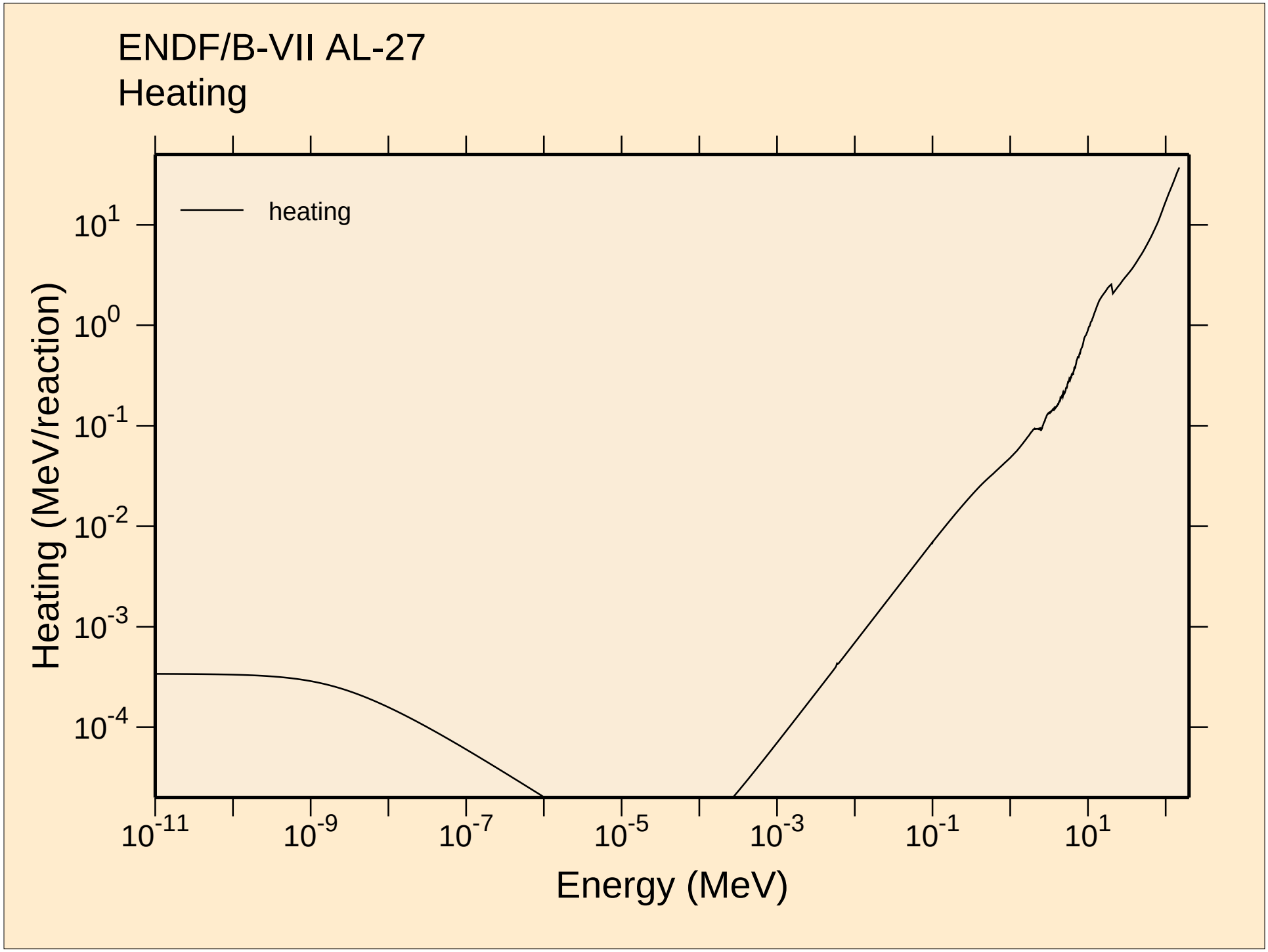
ENDF/B-VII AL-27
resonance absorption cross sections

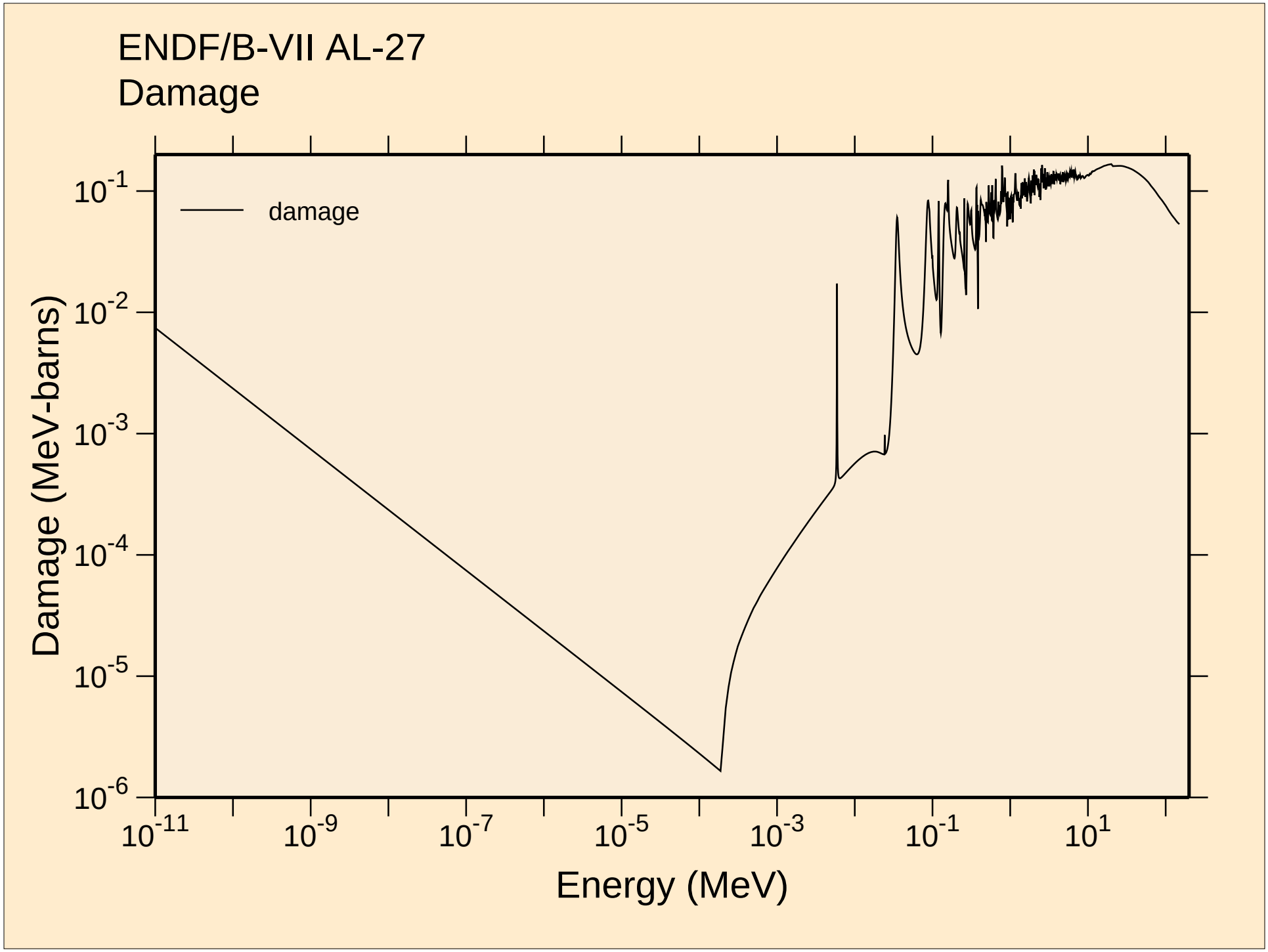


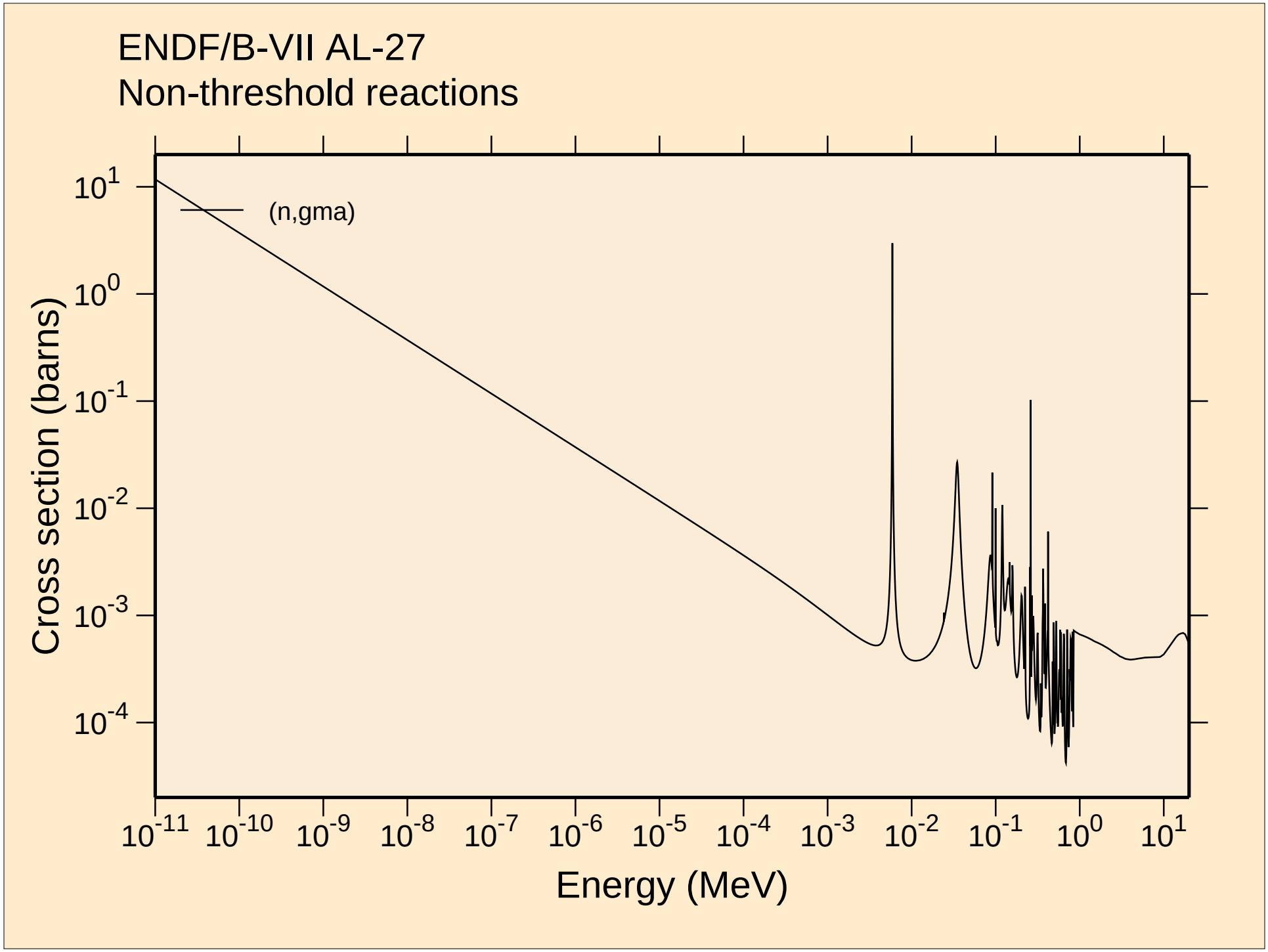
ENDF/B-VII AL-27
resonance absorption cross sections

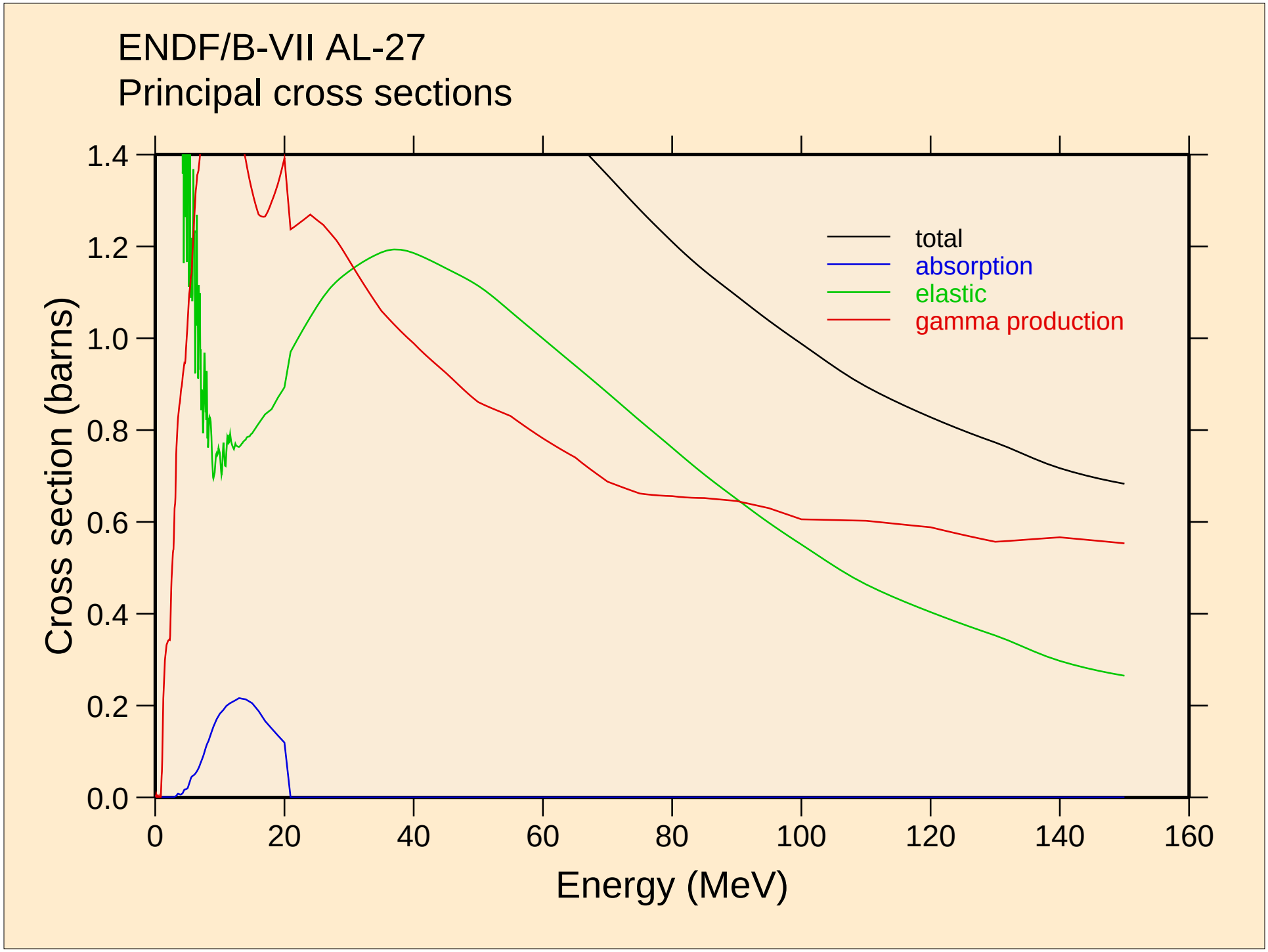


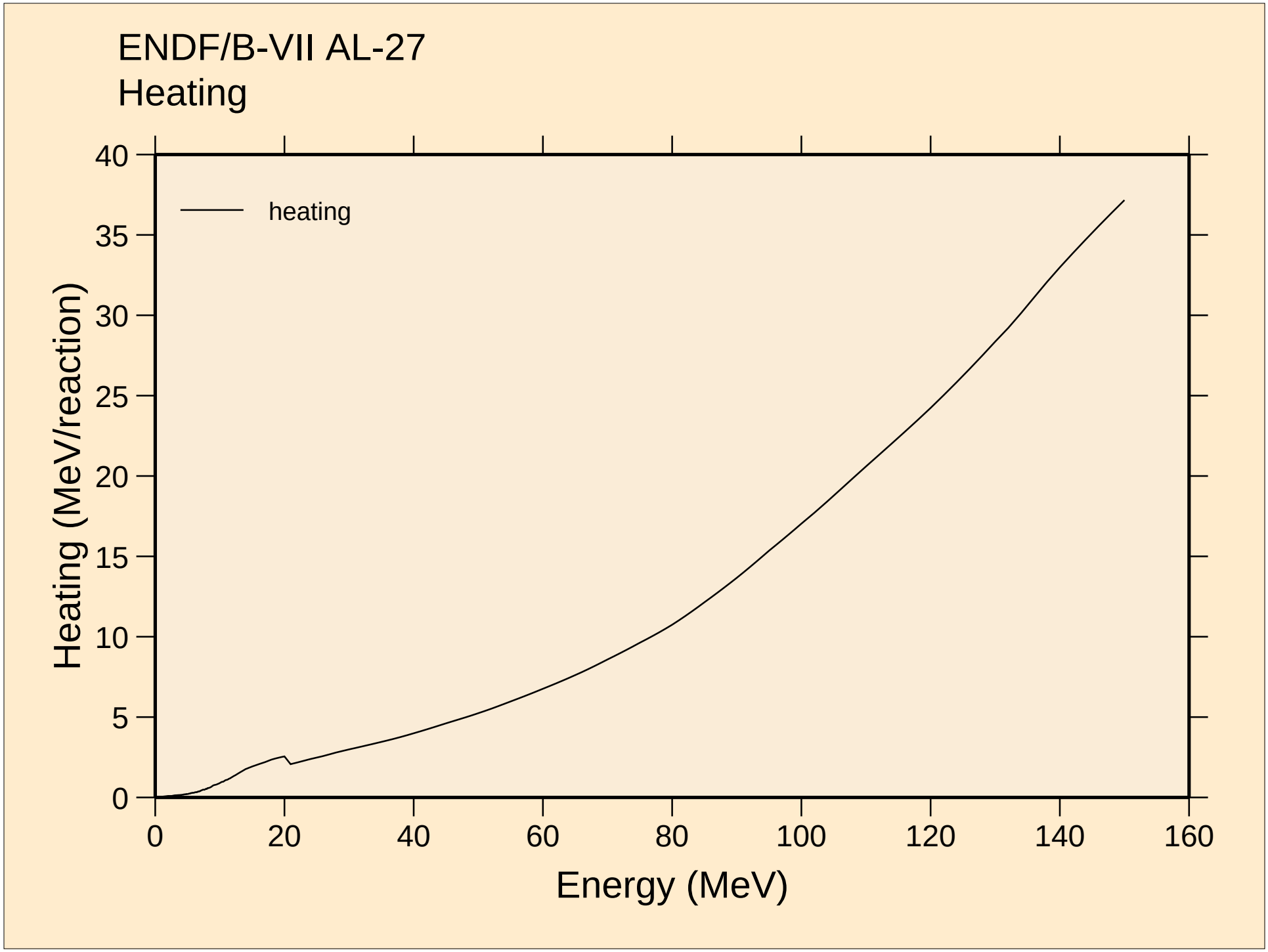

ENDF/B-VII AL-27
resonance absorption cross sections
capture
Cross section (barns)
10^{-3}
10^{0}
10^{1}
Energy (MeV)

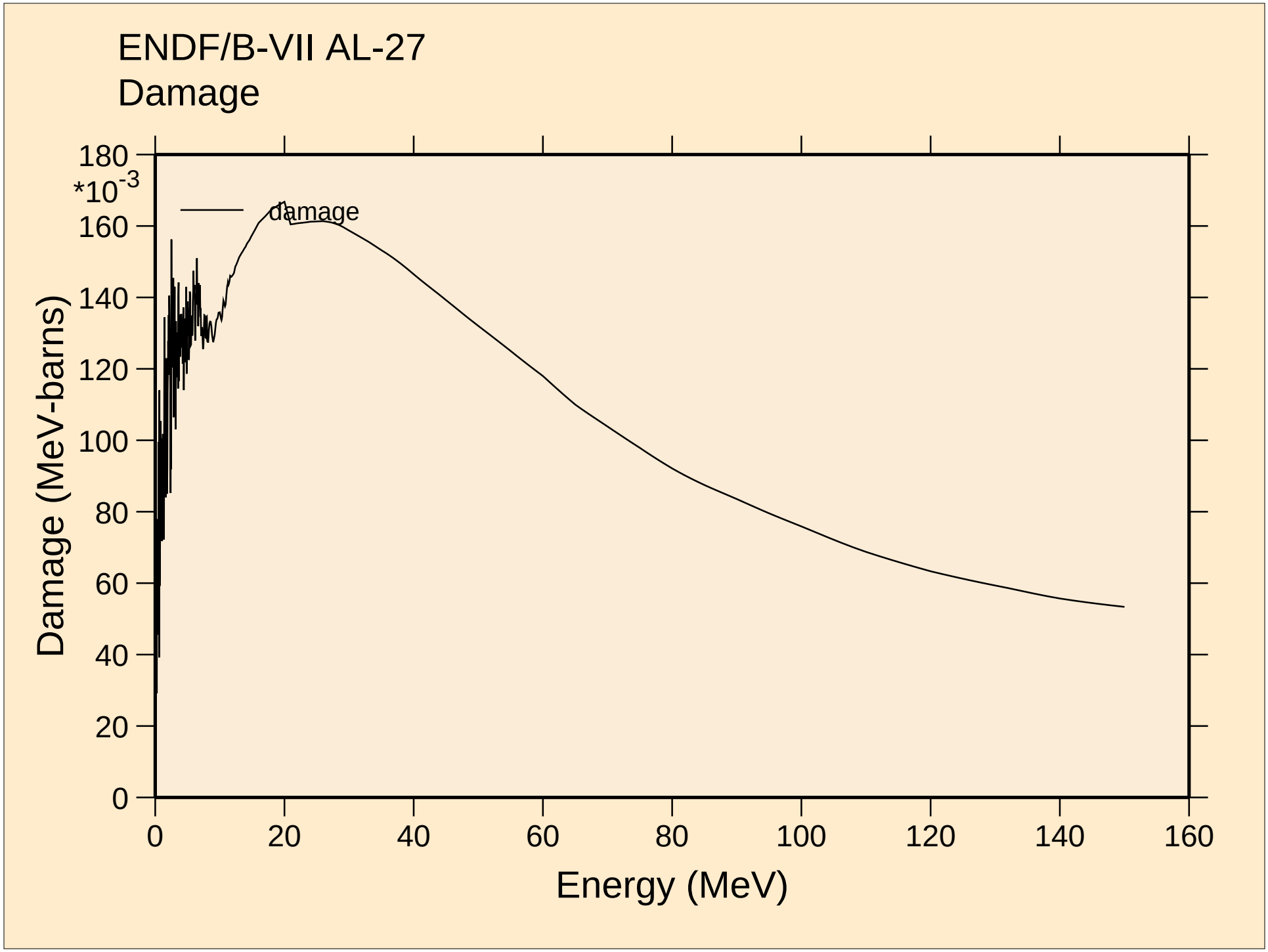

ENDF/B-VII AL-27
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-11
10^-9
10^-7
10^-5
10^-3
10^-1
10^1

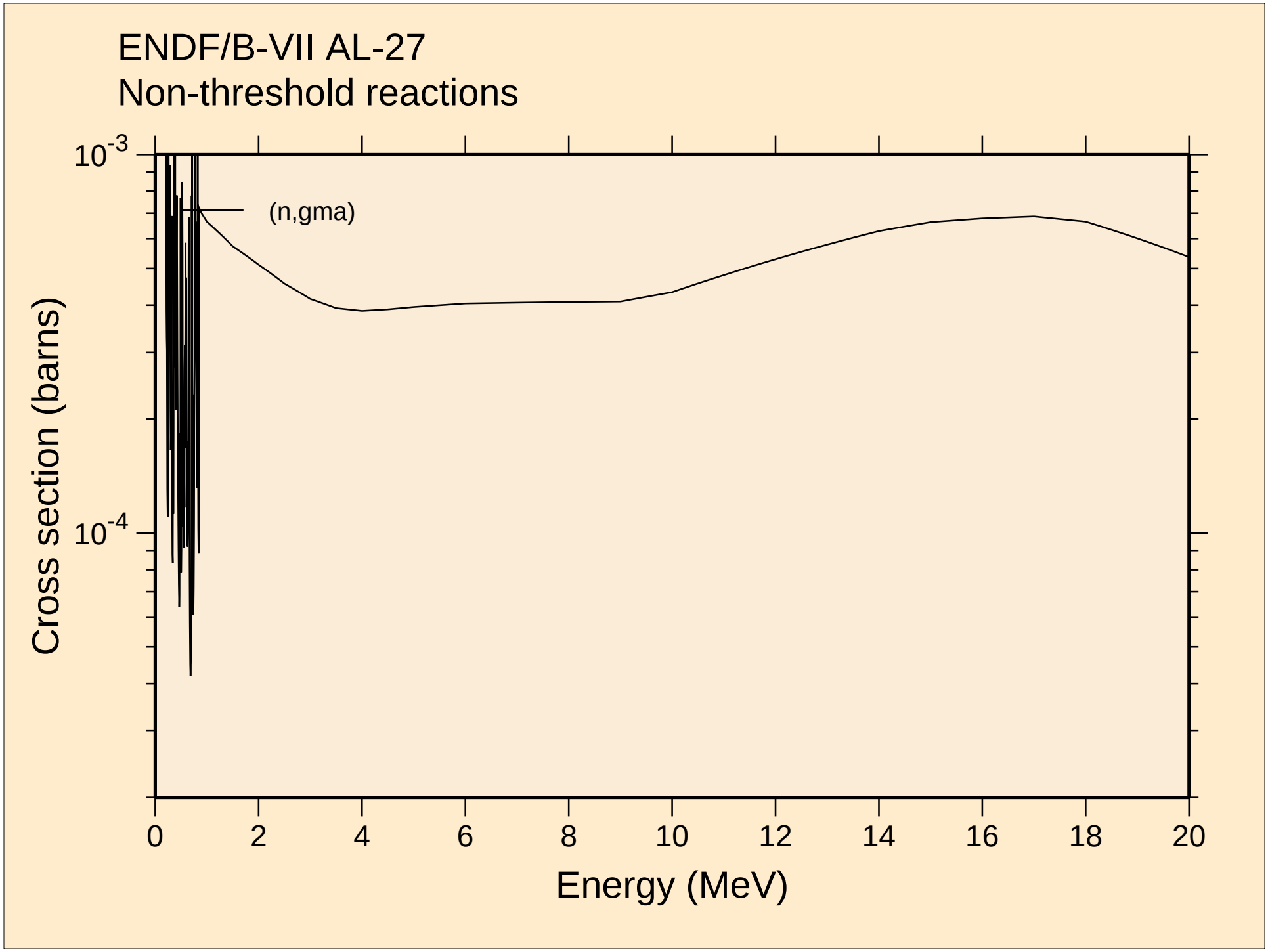

ENDF/B-VII AL-27
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10-1
10-2
10-3
10-4
10-5
10-6
10-11
10-9
10-7
10-5
10-3
10-1
101

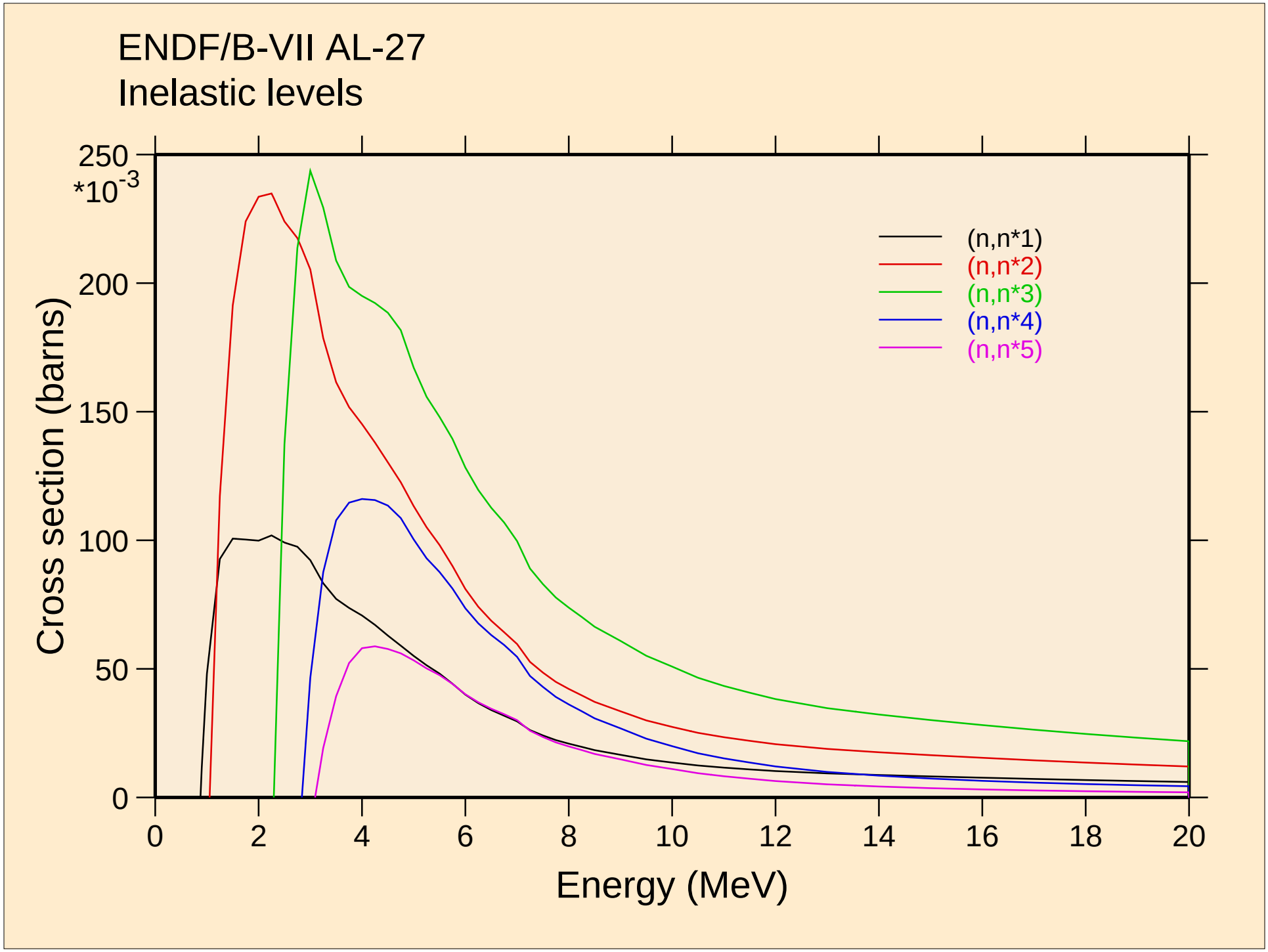

ENDF/B-VII AL-27
Non-threshold reactions
(n,gma)
Cross section (barns)
Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

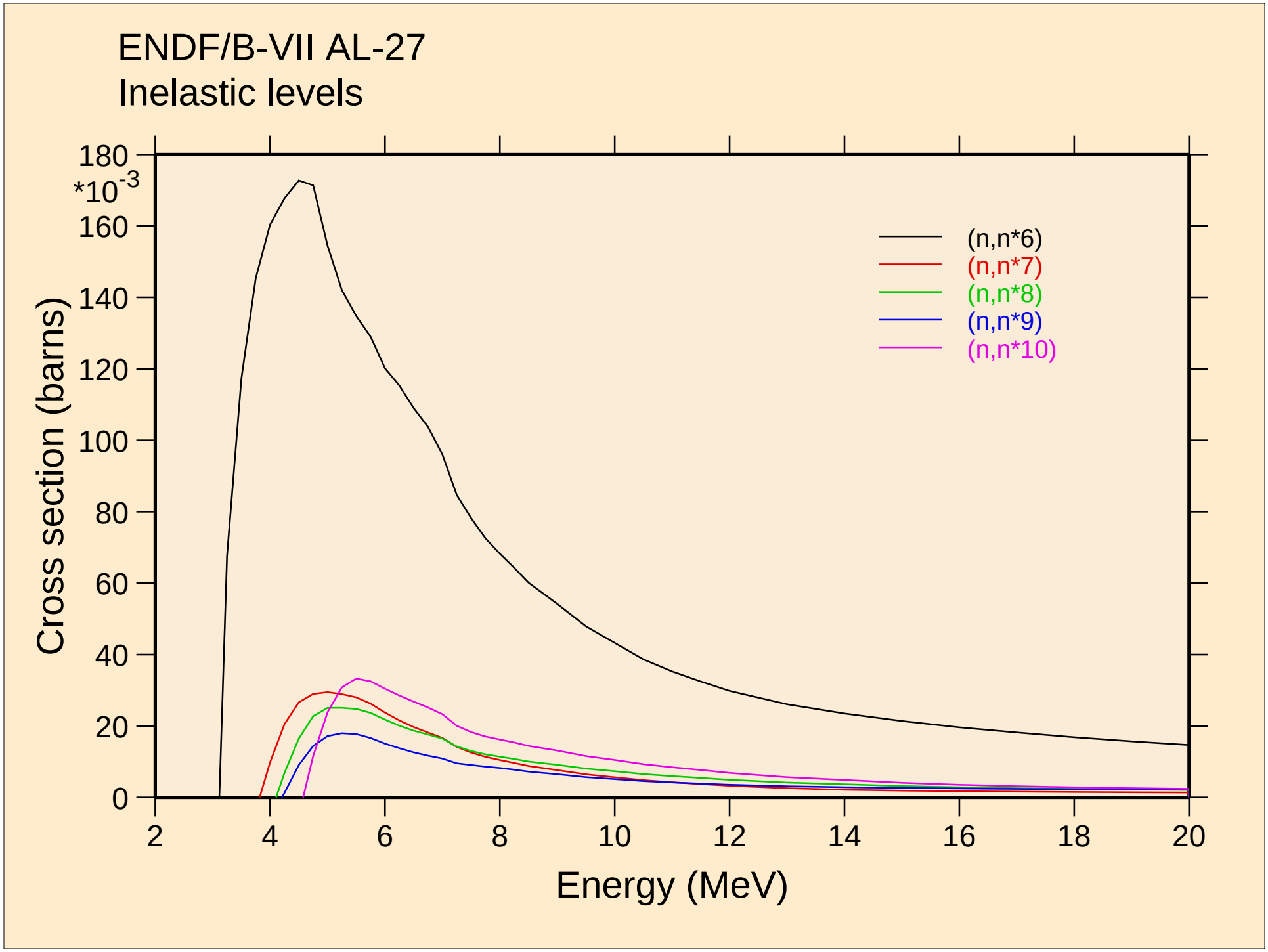

ENDF/B-VII AL-27
Principal cross sections
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0
20
40
60
80
100
120
140
160
total
absorption
elastic
gamma production

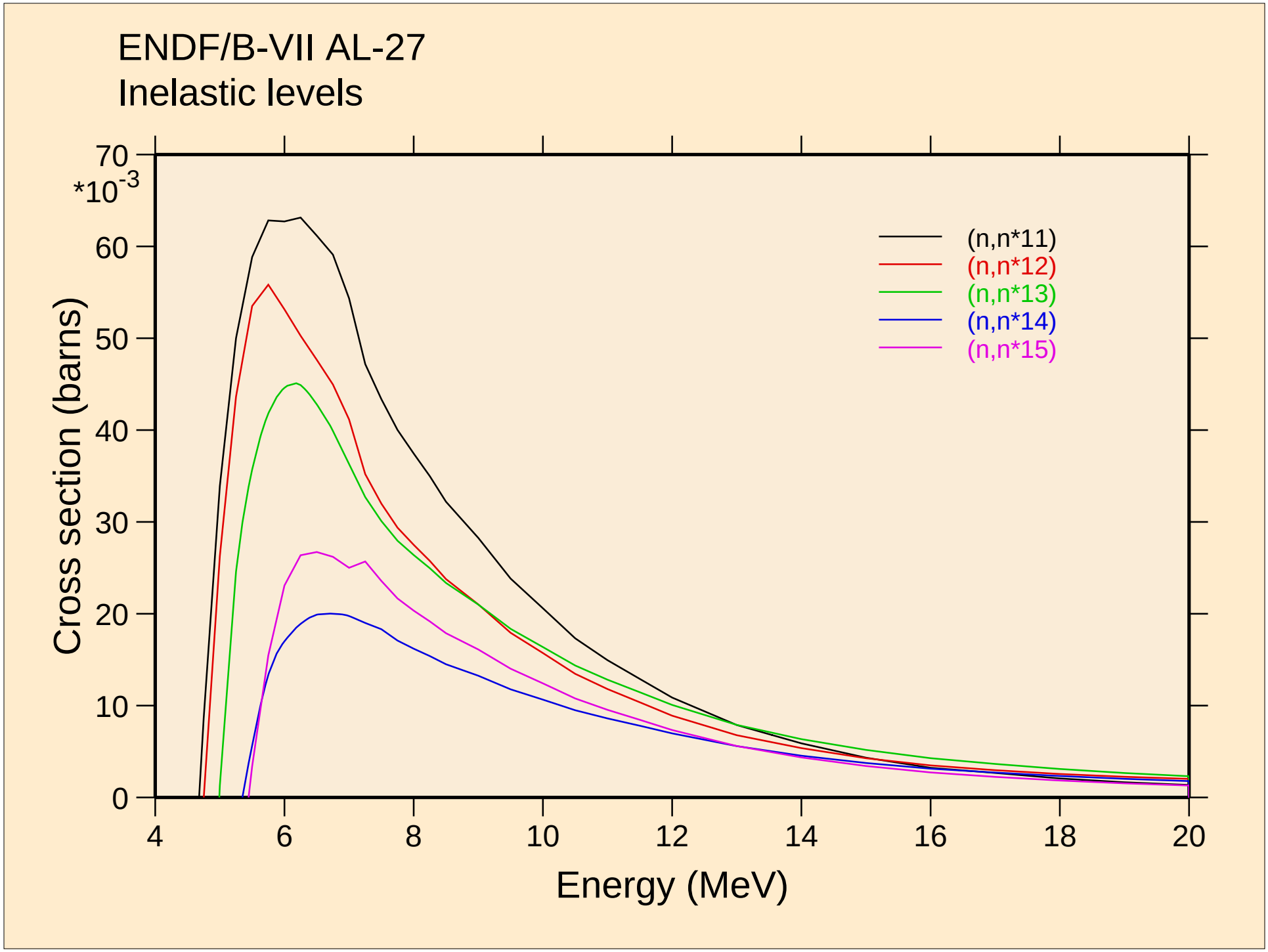

ENDF/B-VII AL-27
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
5
10
15
20
25
30
35
40
0
20
40
60
80
100
120
140
160

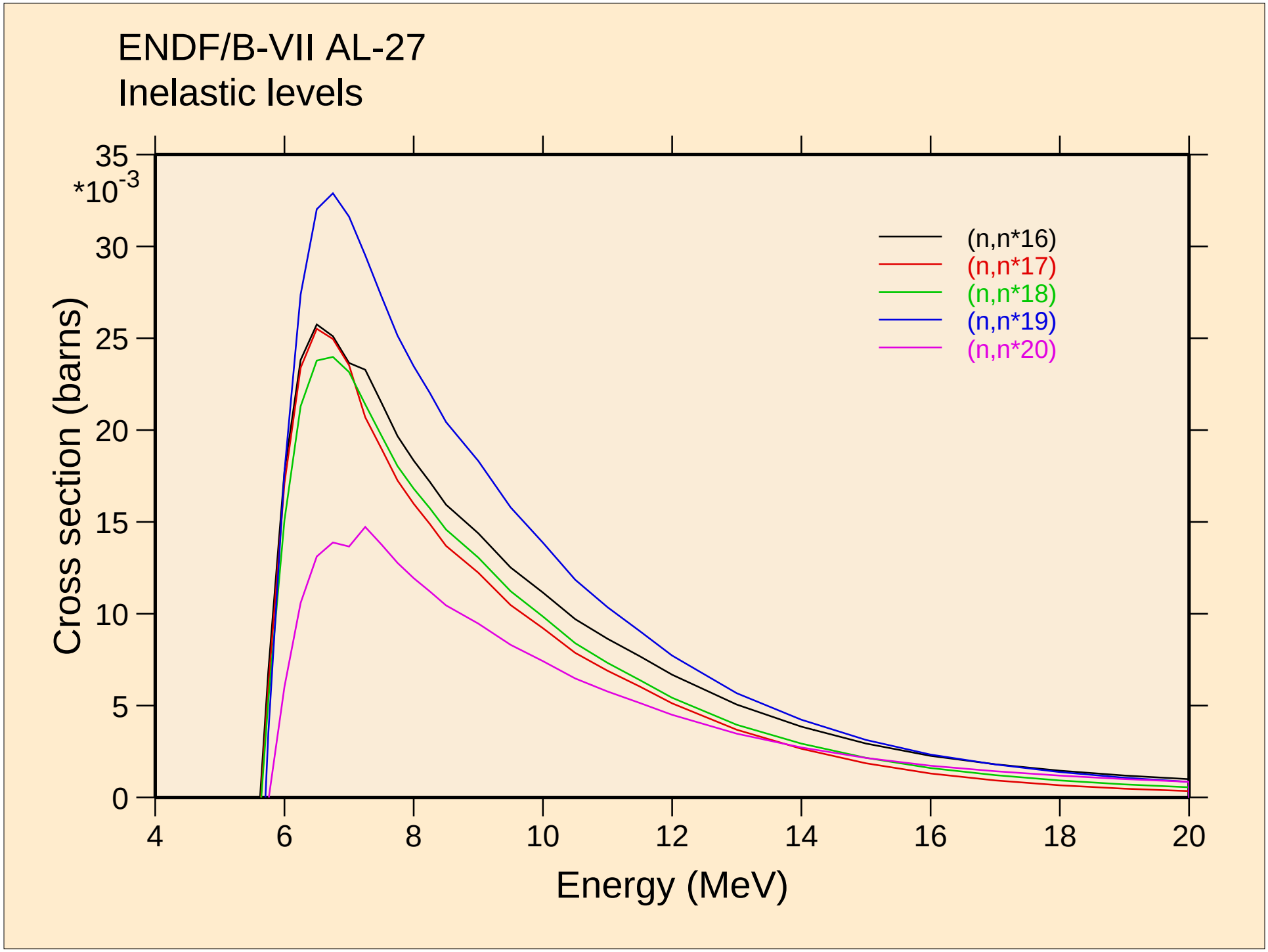

ENDF/B-VII AL-27
Damage
*10-3
damage
Damage (MeV-barns)
Energy (MeV)
0
20
40
60
80
100
120
140
160
180

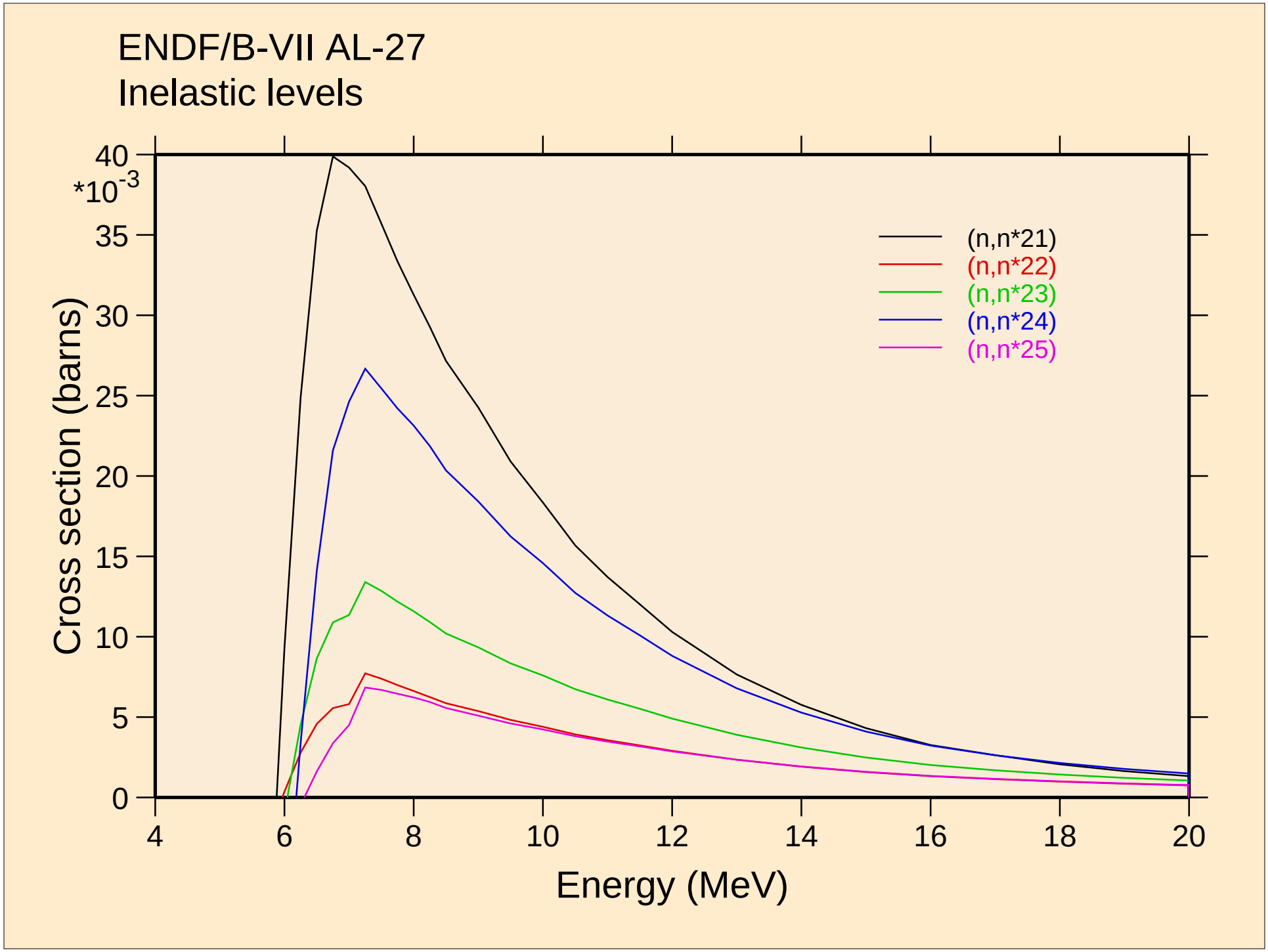

ENDF/B-VII AL-27
Non-threshold reactions
(n,gma)
Cross section (barns)
10-3
10-4
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

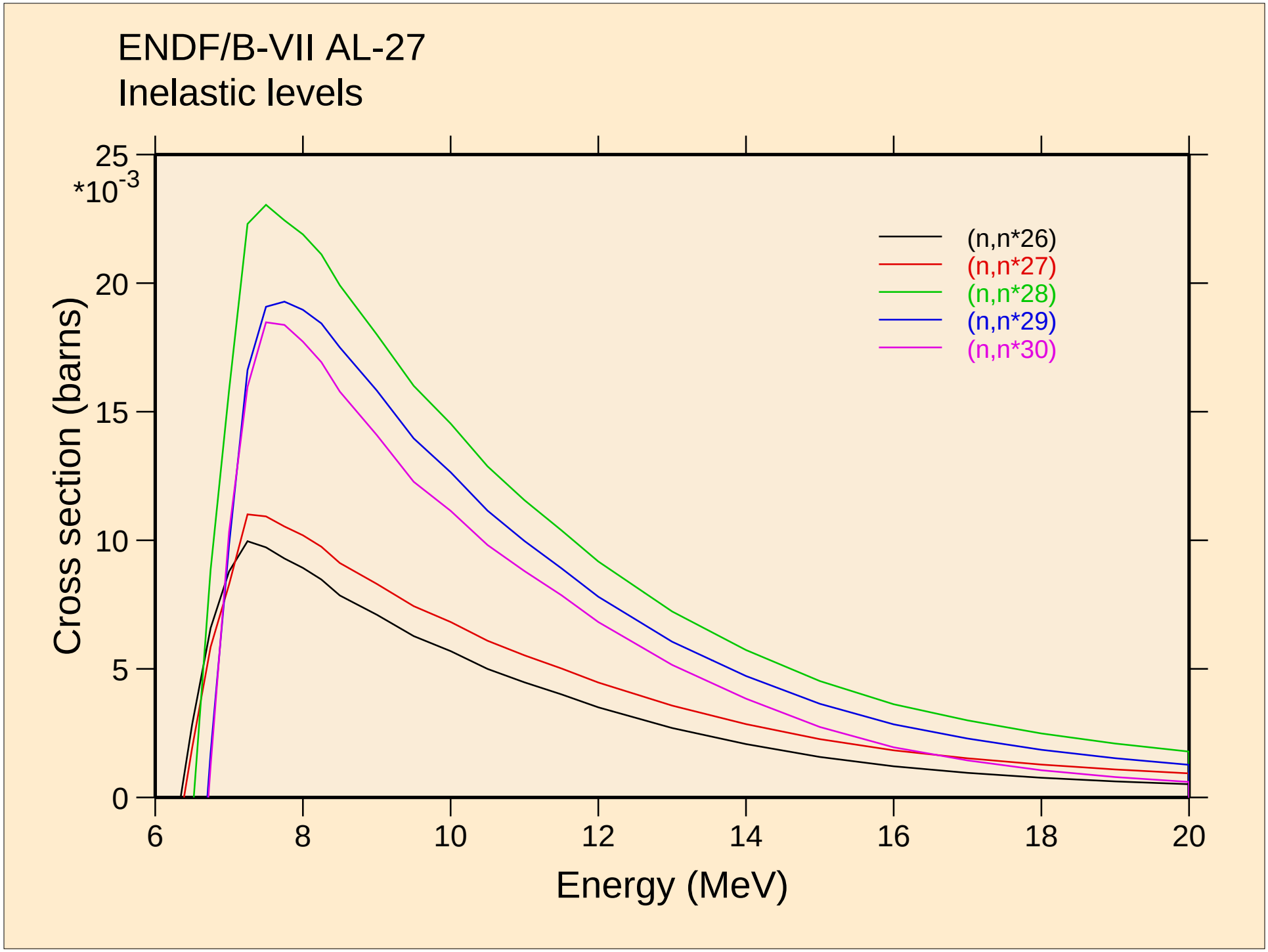

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
250
200
150
100
50
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

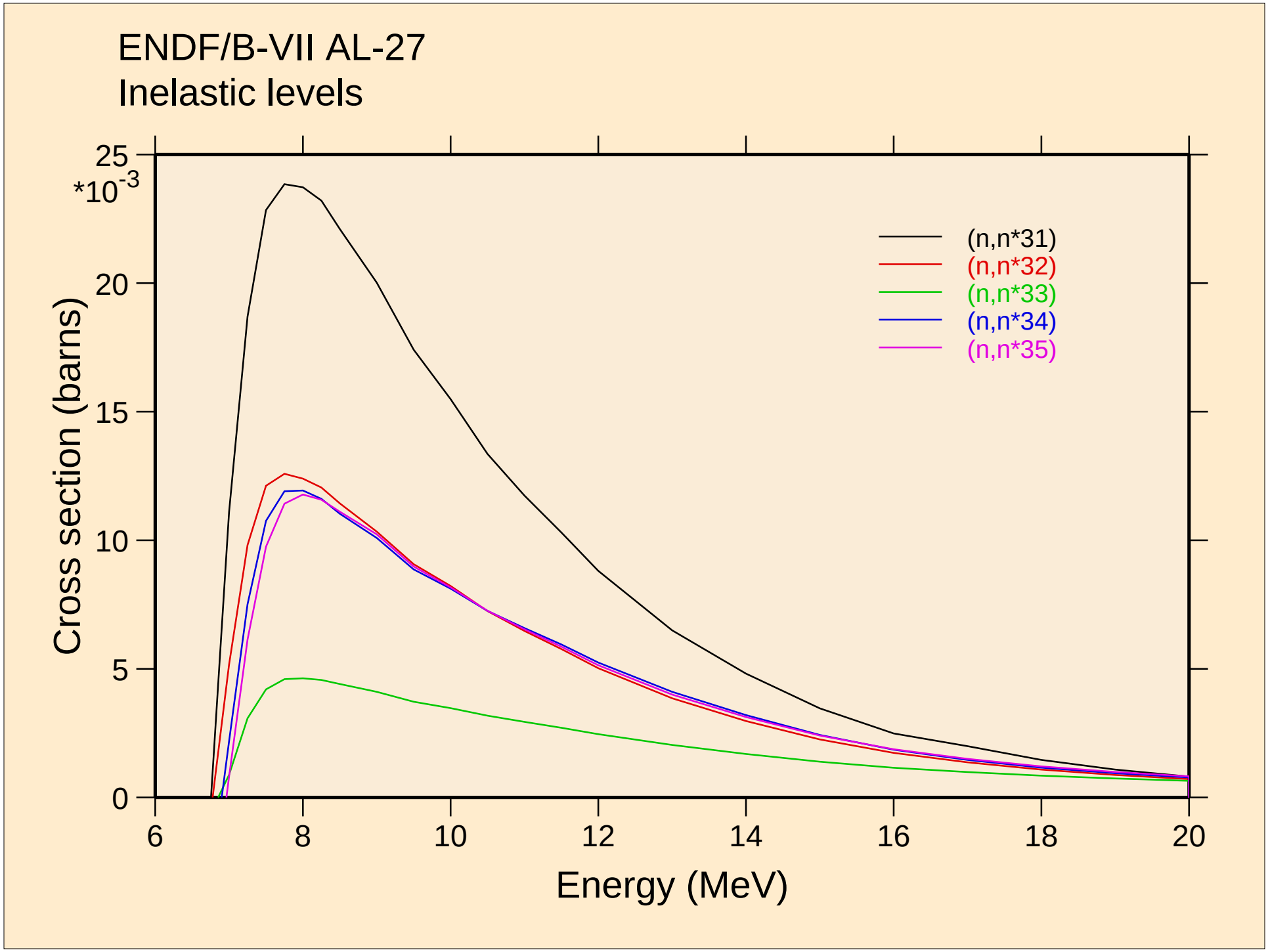

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
180
160
140
120
100
80
60
40
20
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

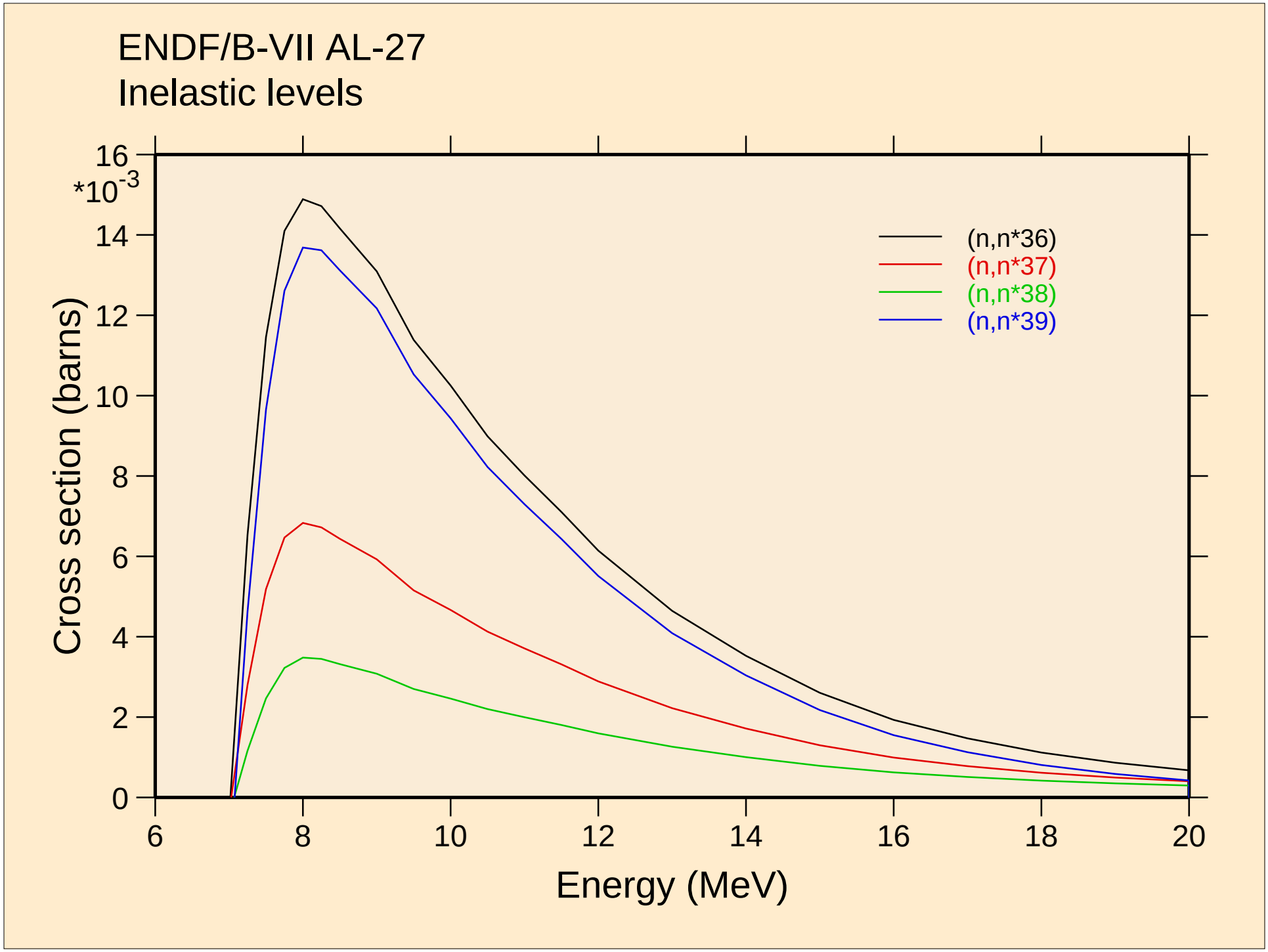

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
70
60
50
40
30
20
10
0
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

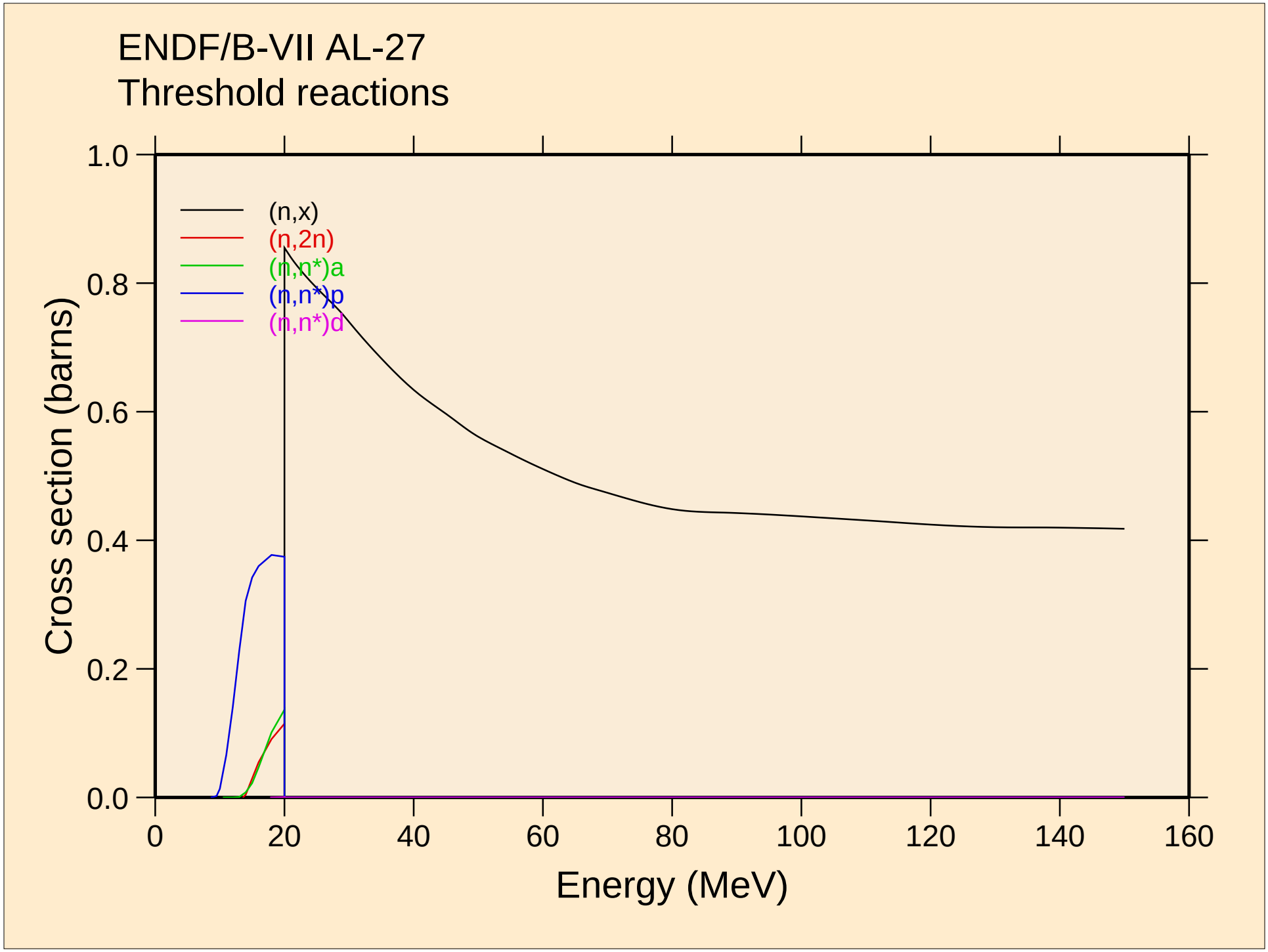

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
35
30
25
20
15
10
5
0
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

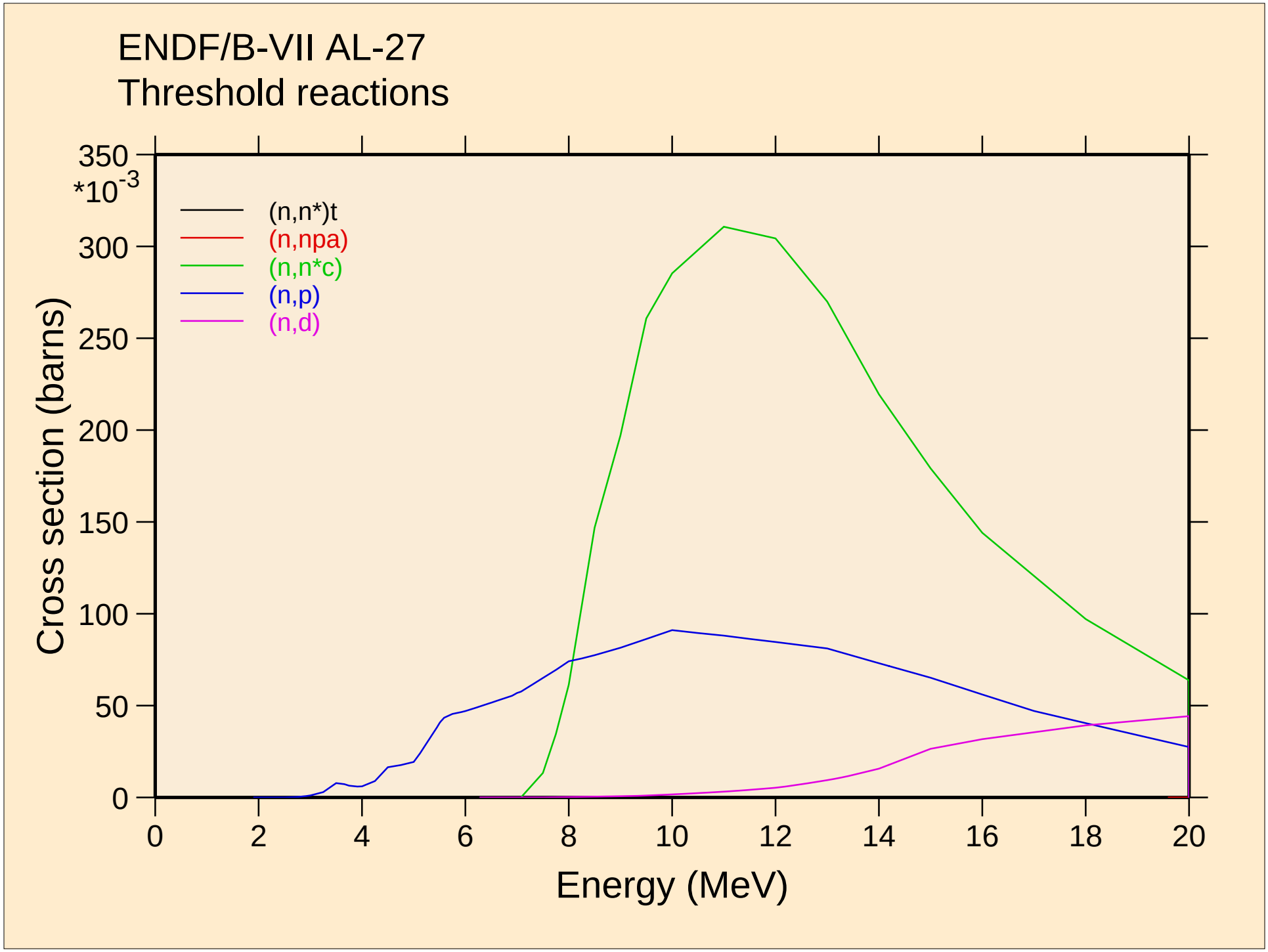

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
40
35
30
25
20
15
10
5
0
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)

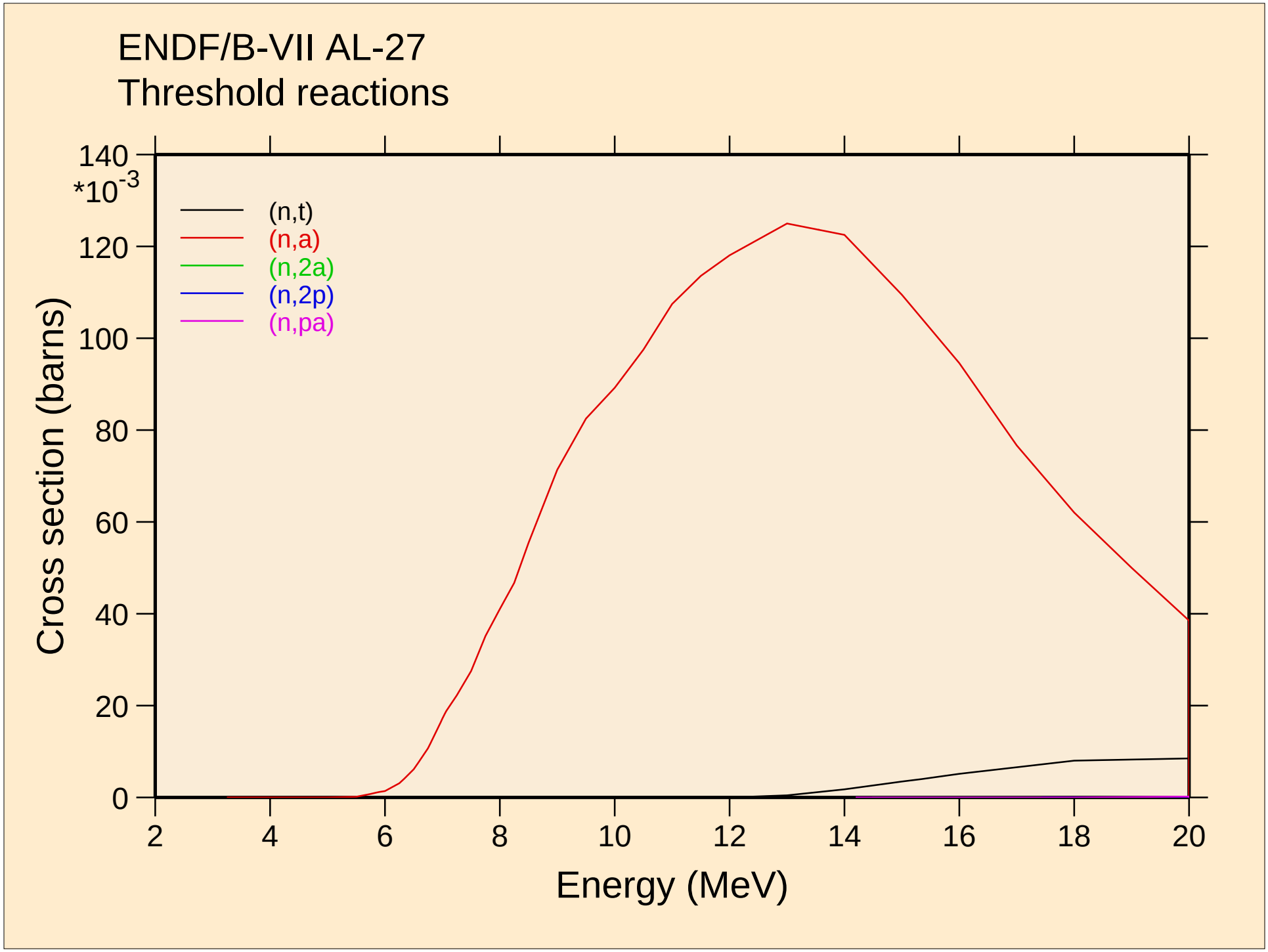

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
25
20
15
10
5
0
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*26)
(n,n*27)
(n,n*28)
(n,n*29)
(n,n*30)

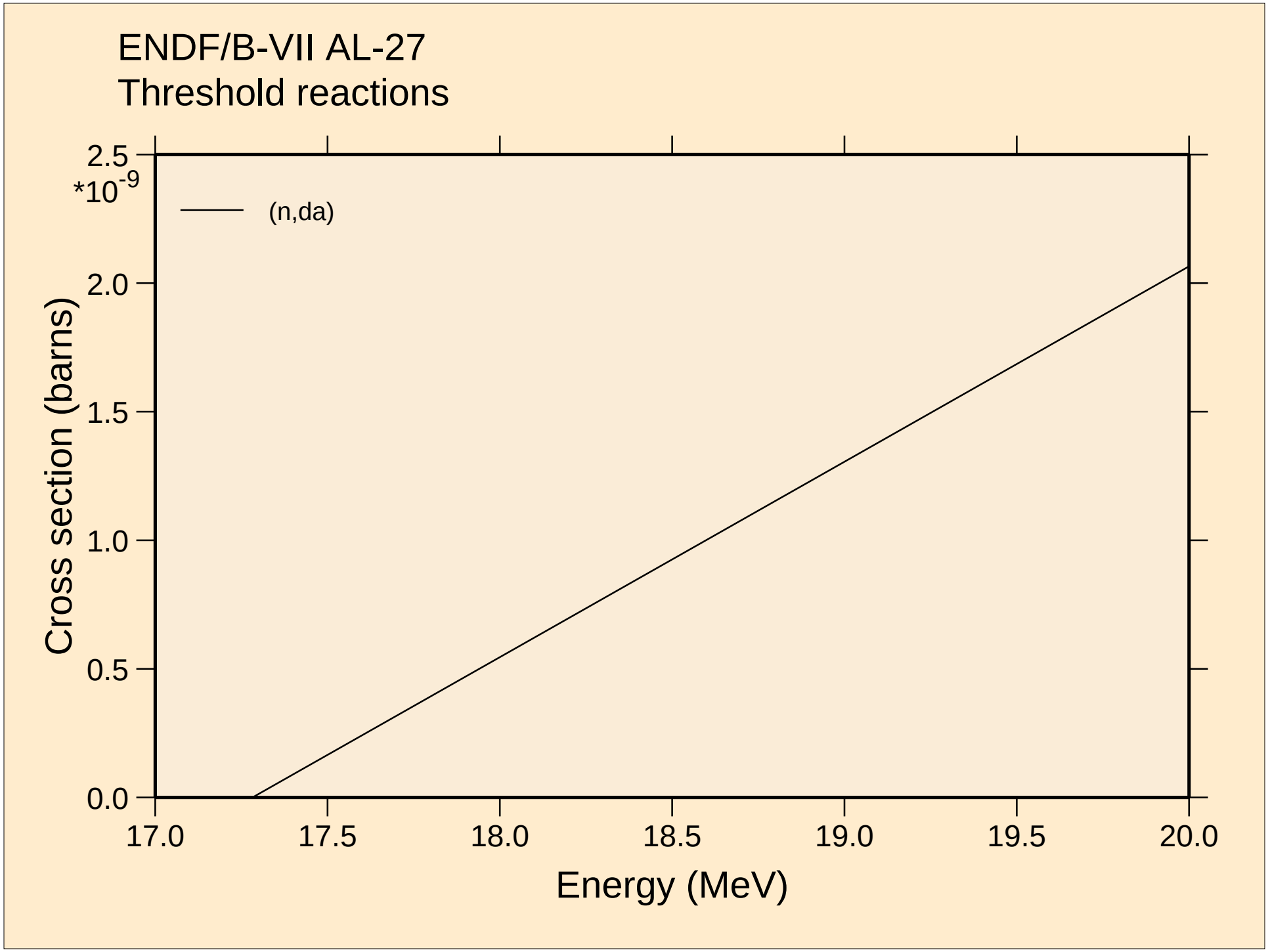

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
25
20
15
10
5
0
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*31)
(n,n*32)
(n,n*33)
(n,n*34)
(n,n*35)

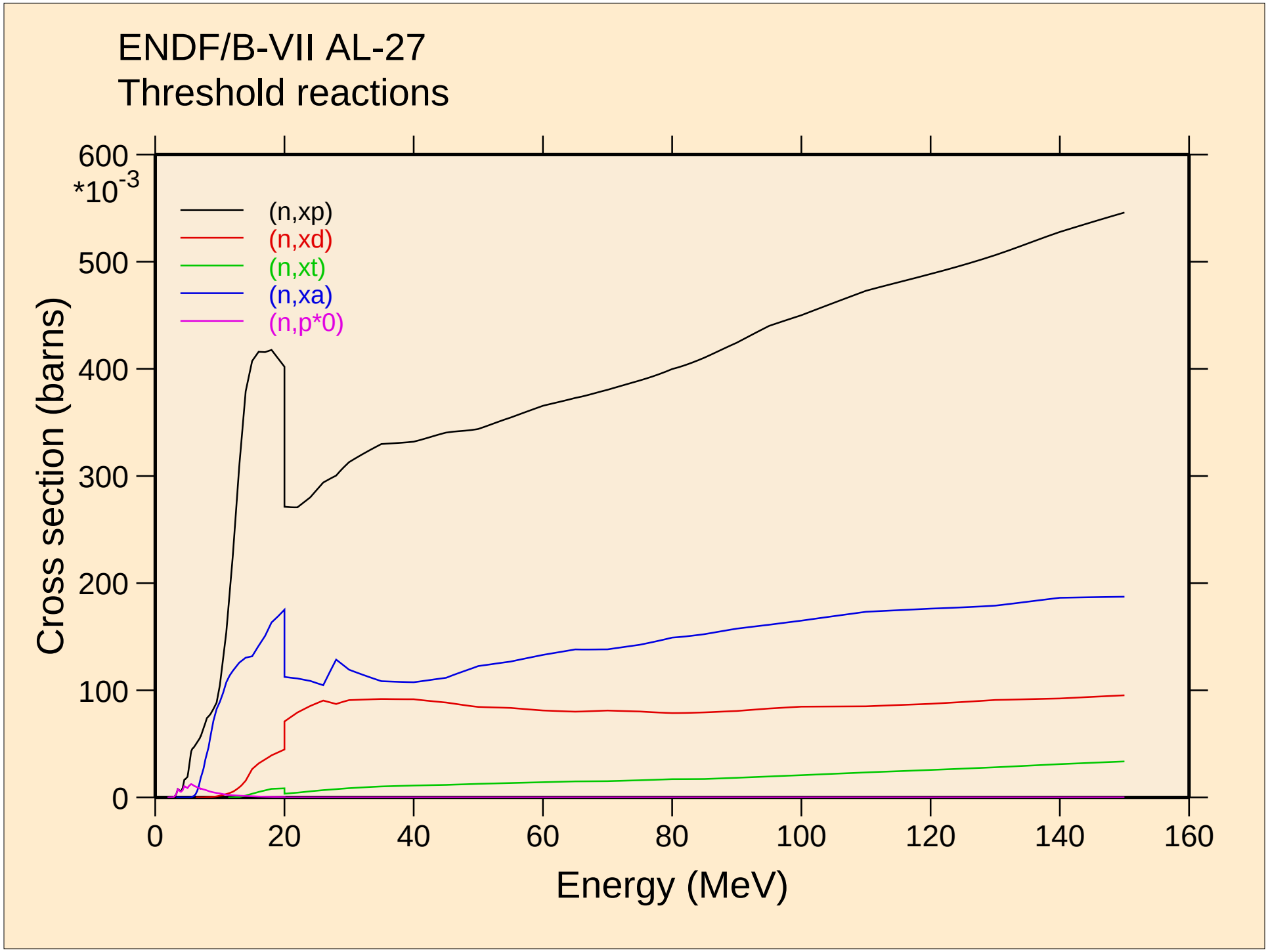

ENDF/B-VII AL-27
Inelastic levels
Cross section (barns)
*10^-3
16
14
12
10
8
6
4
2
0
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*36)
(n,n*37)
(n,n*38)
(n,n*39)

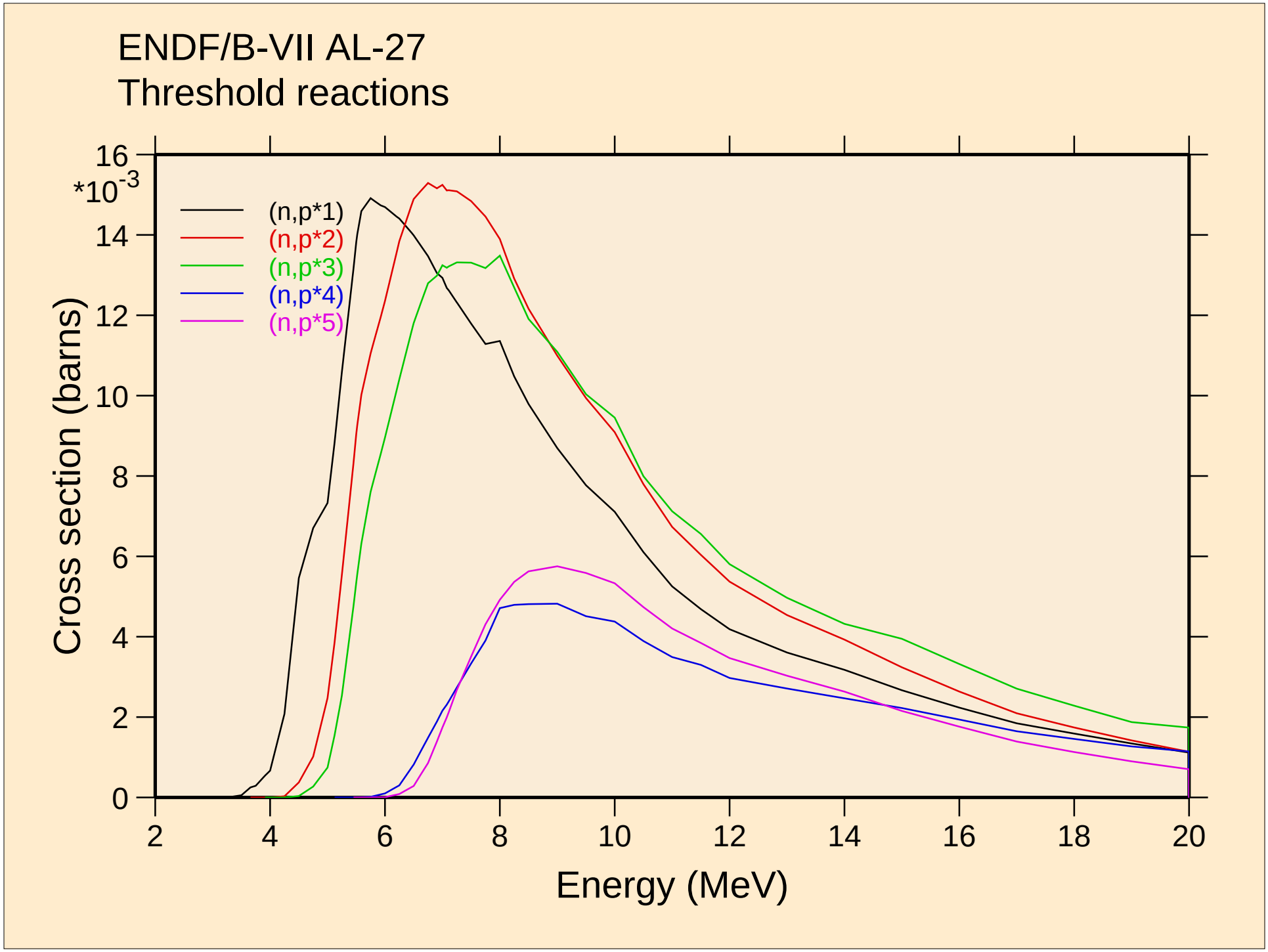

ENDF/B-VII AL-27
Threshold reactions
(n,x)
(n,2n)
(n,n*)a
(n,n*)p
(n,n*)d
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
0
20
40
60
80
100
120
140
160

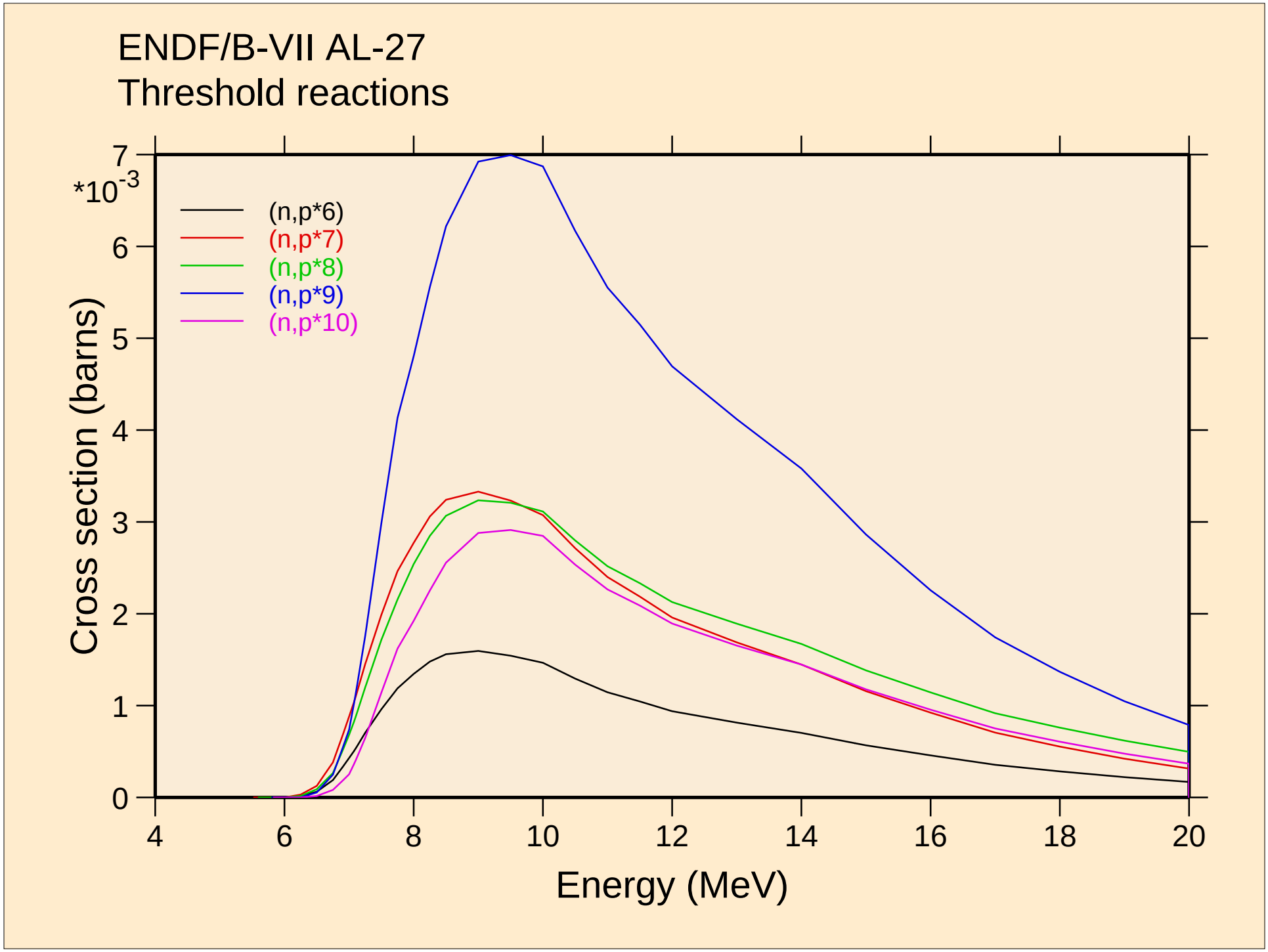

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,n*)t
(n,npa)
(n,n*c)
(n,p)
(n,d)
Cross section (barns)
Energy (MeV)
0
50
100
150
200
250
300
350
0
2
4
6
8
10
12
14
16
18
20

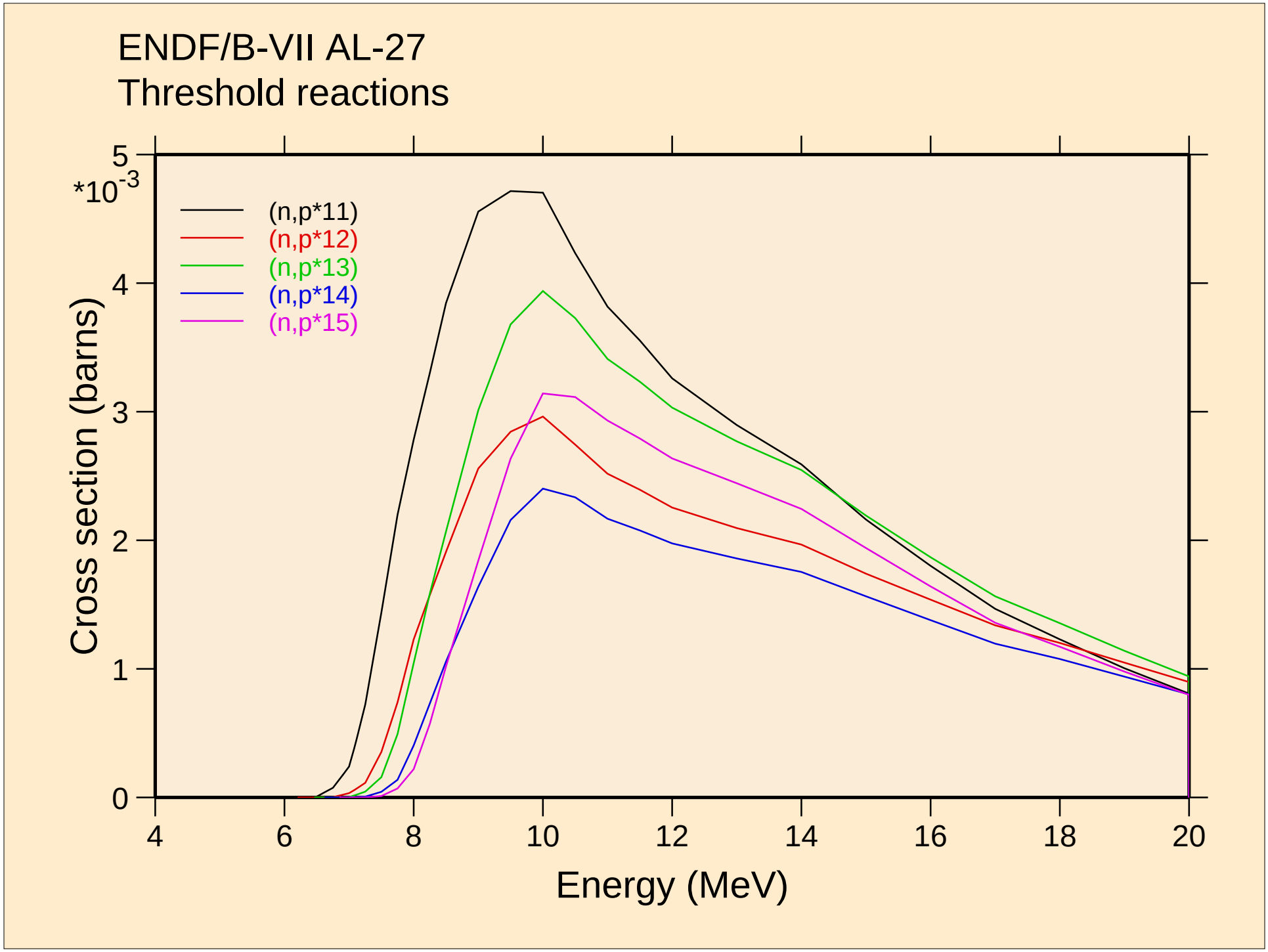

ENDF/B-VII AL-27
Threshold reactions
*10^-3
(n,t)
(n,a)
(n,2a)
(n,2p)
(n,pa)
Cross section (barns)
Energy (MeV)
0
20
40
60
80
100
120
140
2
4
6
8
10
12
14
16
18
20

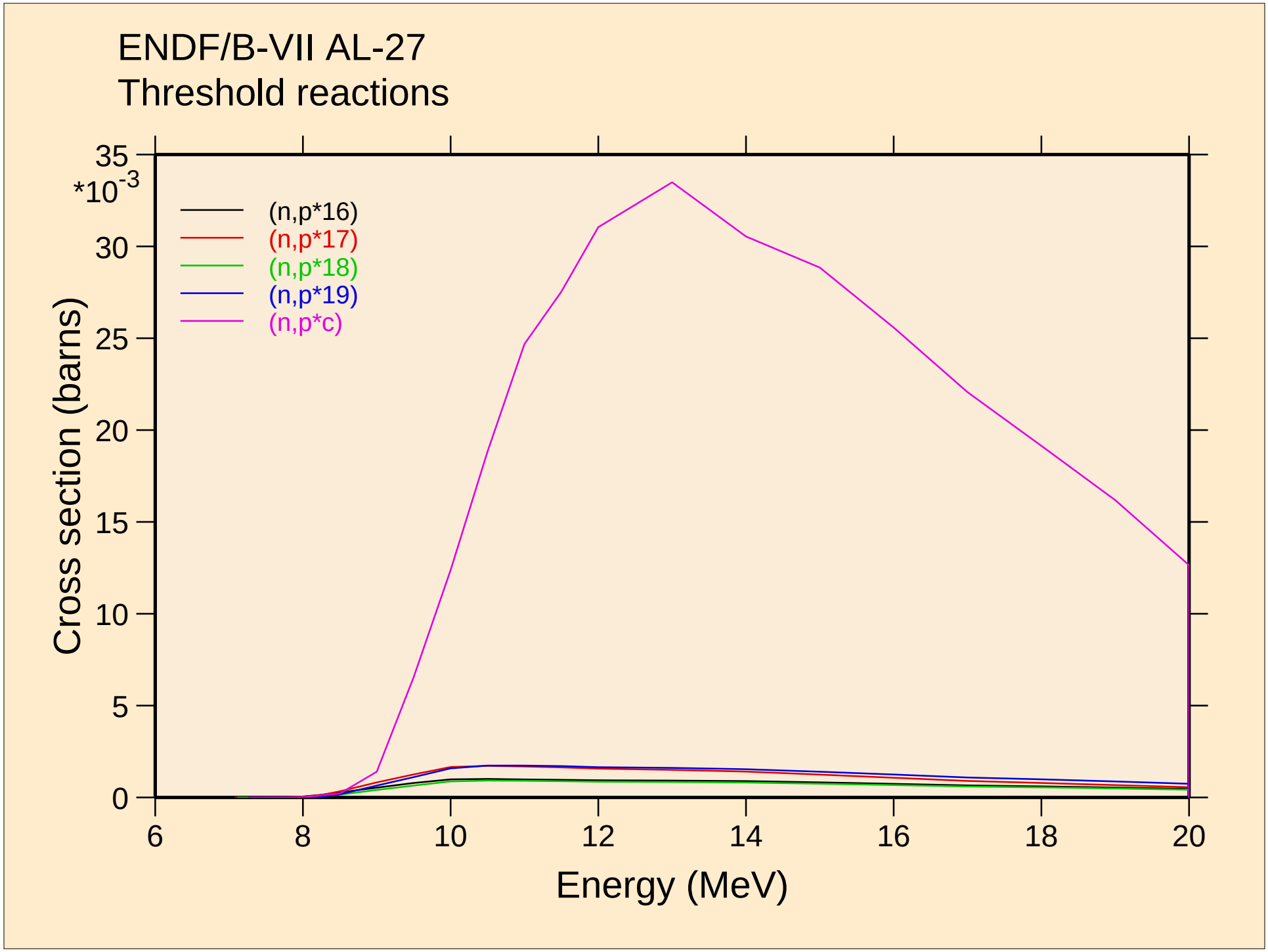

ENDF/B-VII AL-27
Threshold reactions
(n,da)
Cross section (barns)
*10^-9
2.5
2.0
1.5
1.0
0.5
0.0
17.0
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

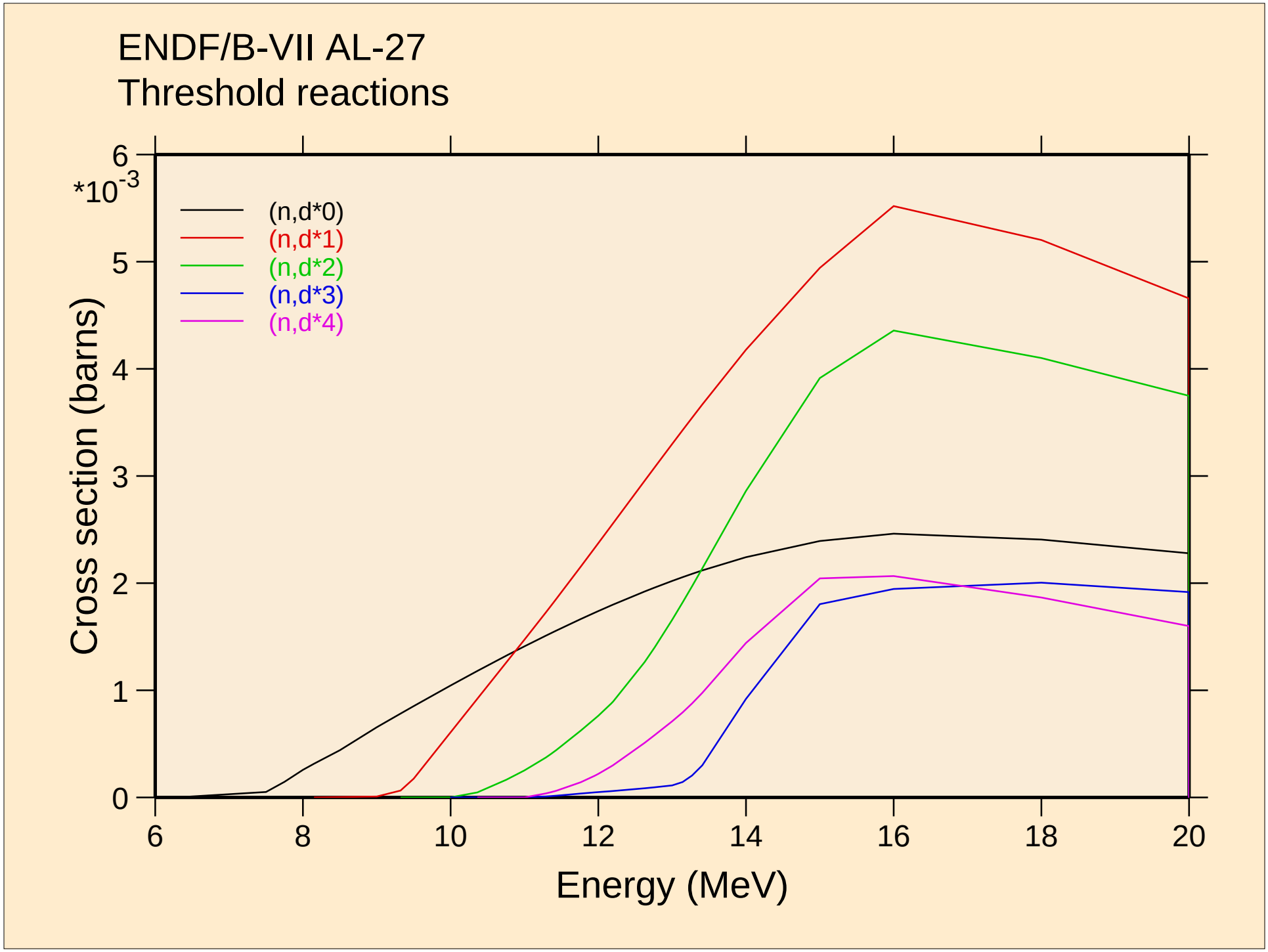

ENDF/B-VII AL-27
Threshold reactions
600
*10-3
500
400
300
200
100
0
Cross section (barns)
(n,xp)
(n,xd)
(n,xt)
(n,xa)
(n,p*0)
0
20
40
60
80
100
120
140
160
Energy (MeV)

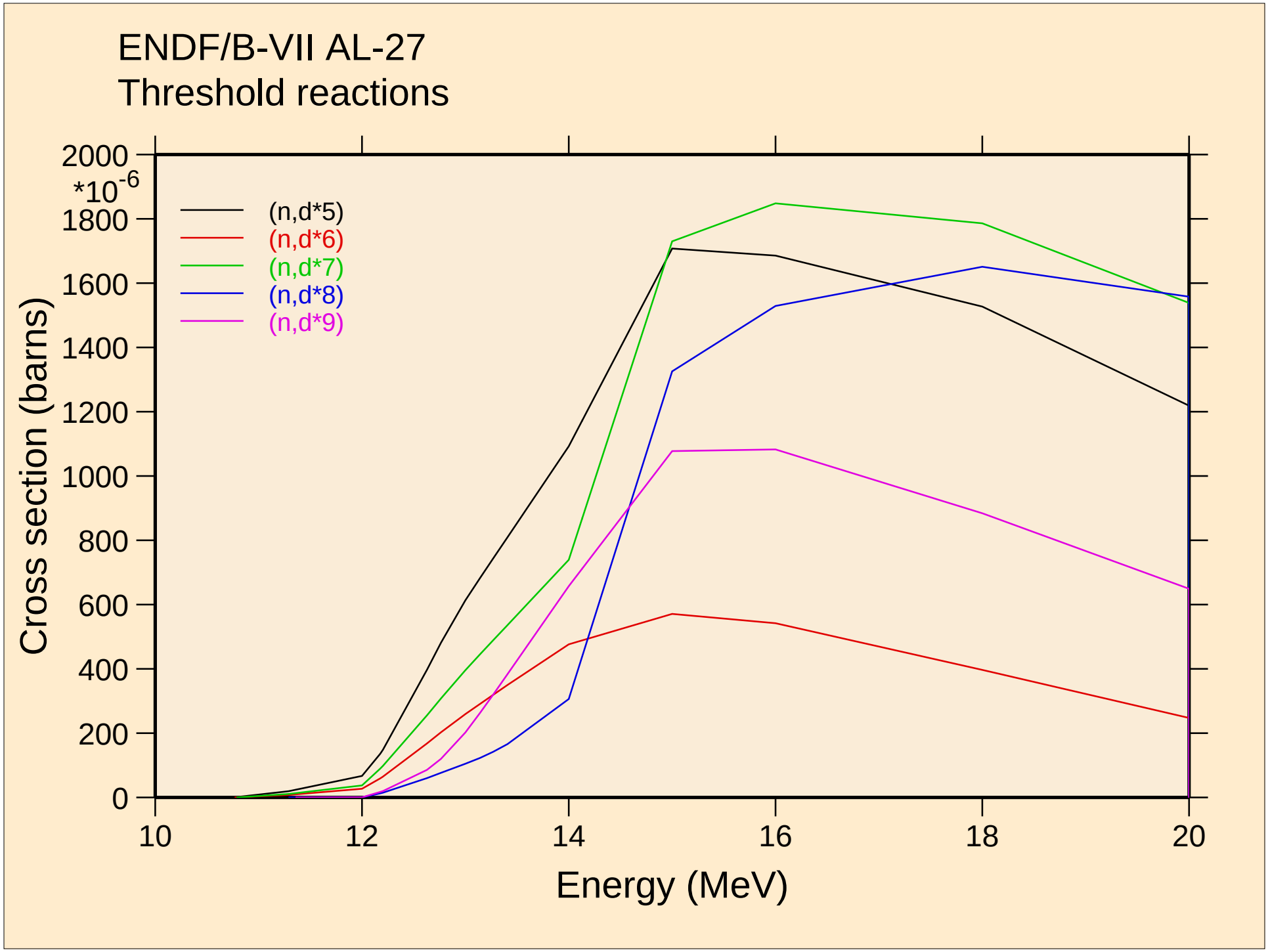

ENDF/B-VII AL-27
Threshold reactions
*10^-3
(n,p*1)
(n,p*2)
(n,p*3)
(n,p*4)
(n,p*5)
Cross section (barns)
Energy (MeV)
0
2
4
6
8
10
12
14
16
2
4
6
8
10
12
14
16
18
20

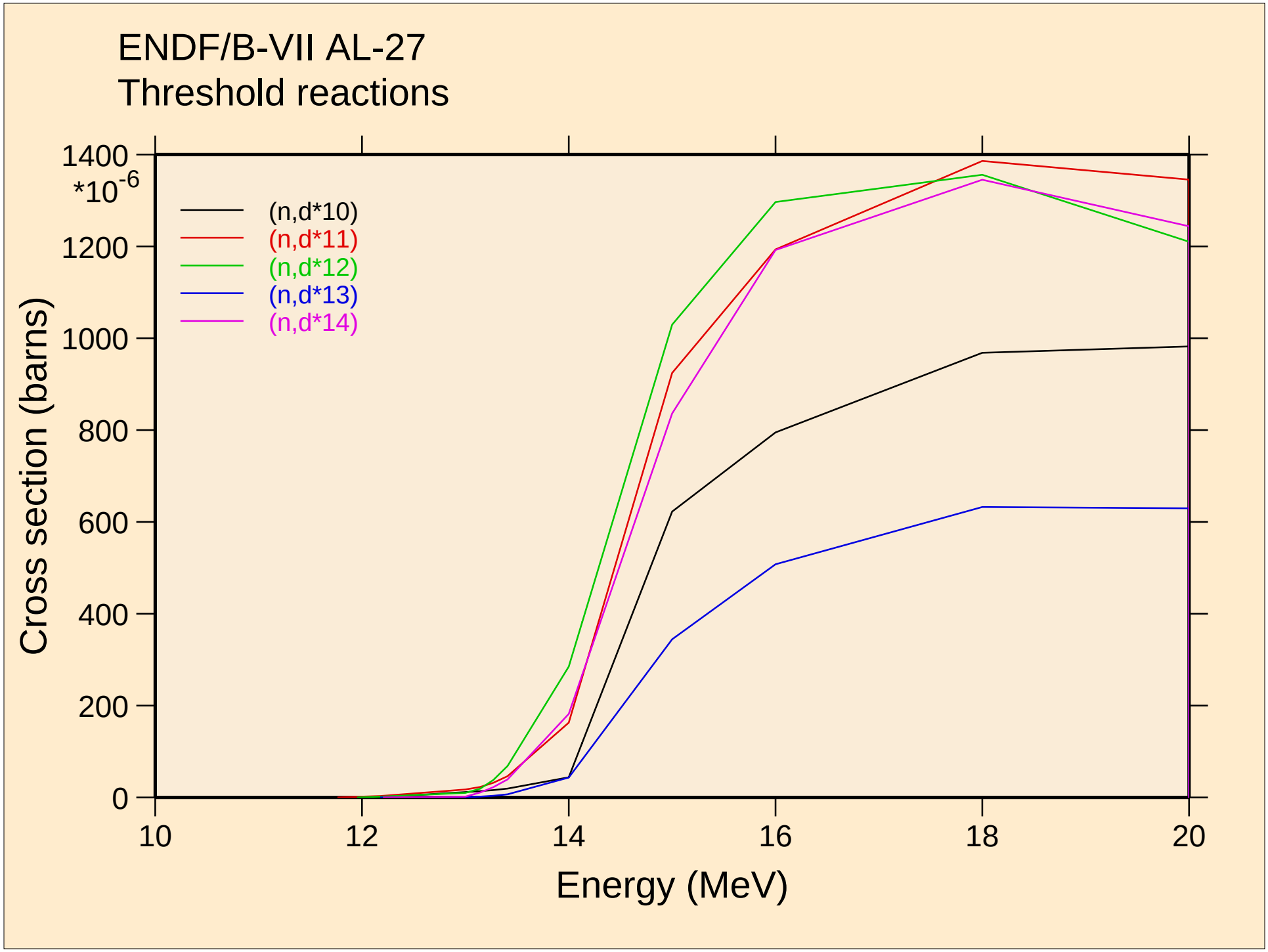

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,p*6)
(n,p*7)
(n,p*8)
(n,p*9)
(n,p*10)
Cross section (barns)
Energy (MeV)
0
1
2
3
4
5
6
7
4
6
8
10
12
14
16
18
20

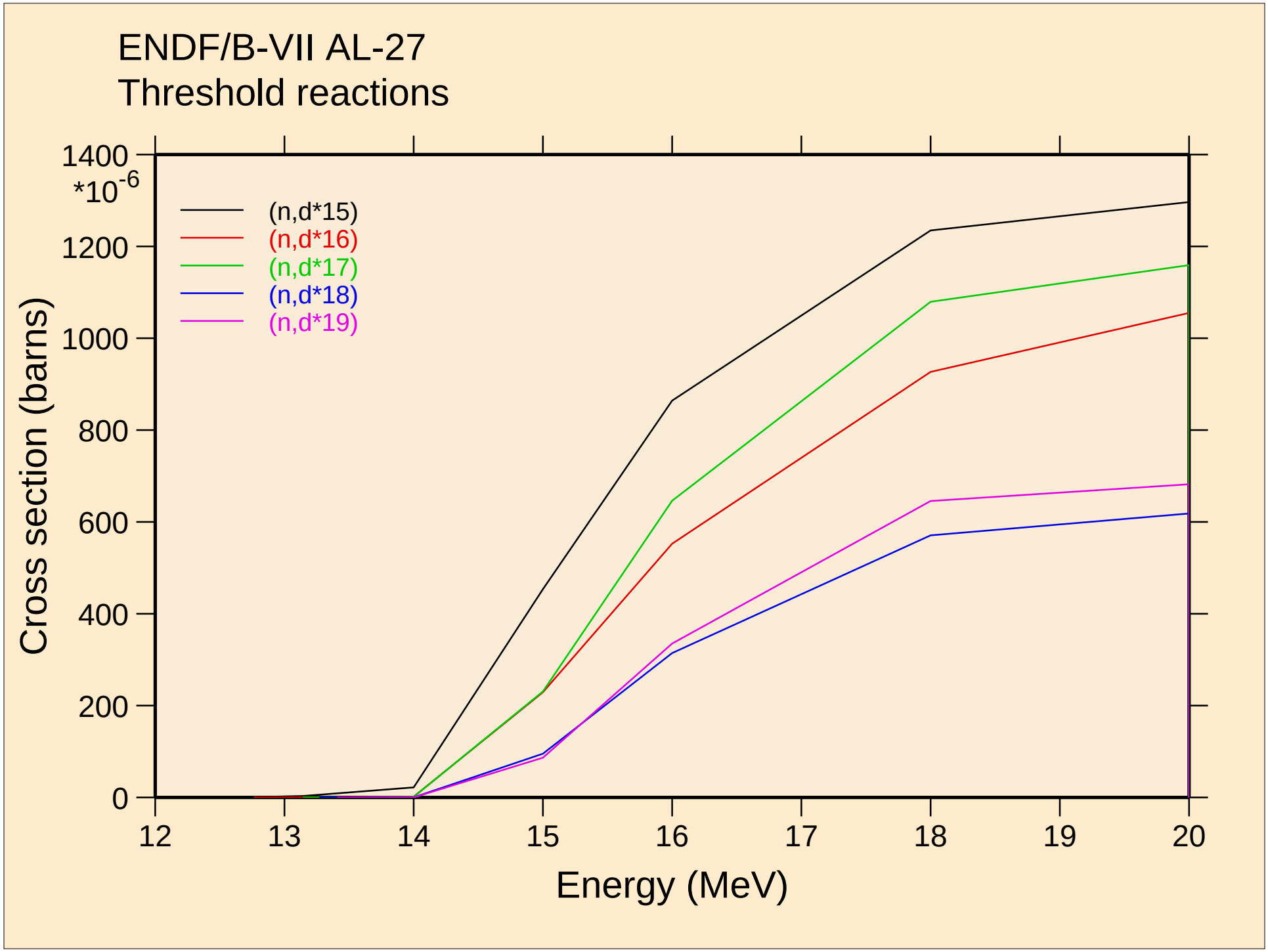

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,p*11)
(n,p*12)
(n,p*13)
(n,p*14)
(n,p*15)
Cross section (barns)
Energy (MeV)
0
1
2
3
4
5
4
6
8
10
12
14
16
18
20

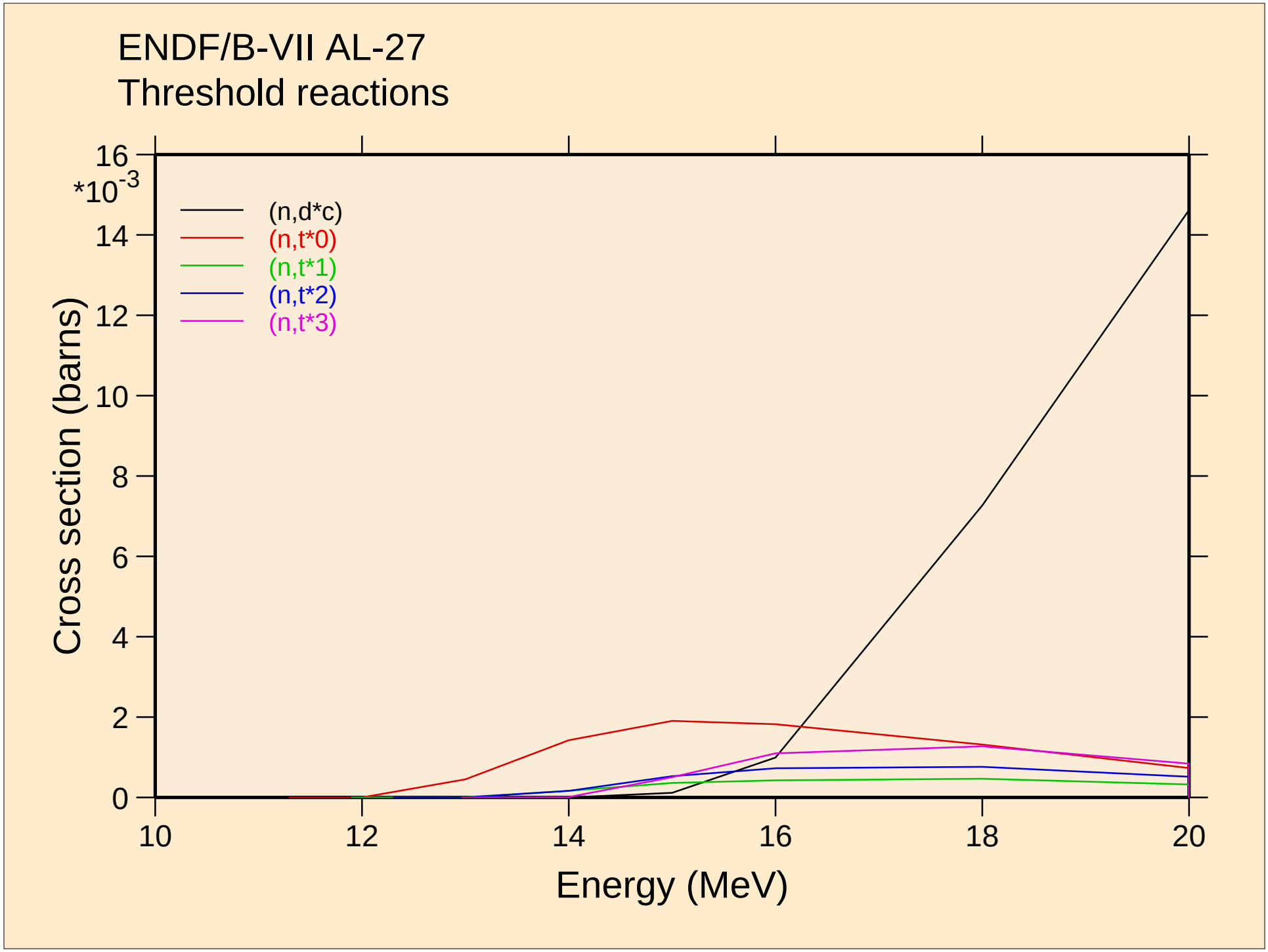

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,p*16)
(n,p*17)
(n,p*18)
(n,p*19)
(n,p*c)
Cross section (barns)
Energy (MeV)
0
5
10
15
20
25
30
35
6
8
10
12
14
16
18
20

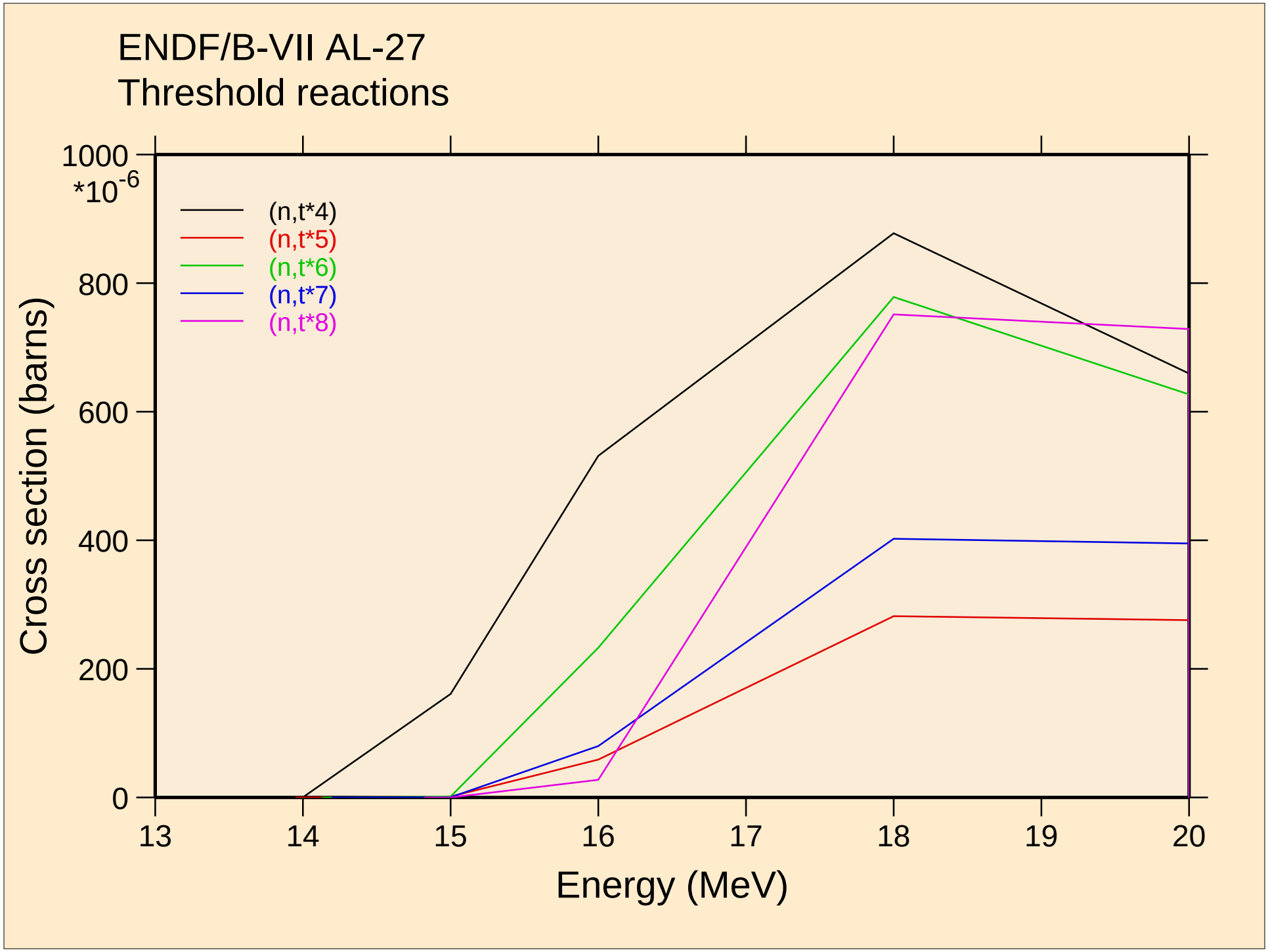

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,d*0)
(n,d*1)
(n,d*2)
(n,d*3)
(n,d*4)
Cross section (barns)
Energy (MeV)
0
1
2
3
4
5
6
6
8
10
12
14
16
18
20

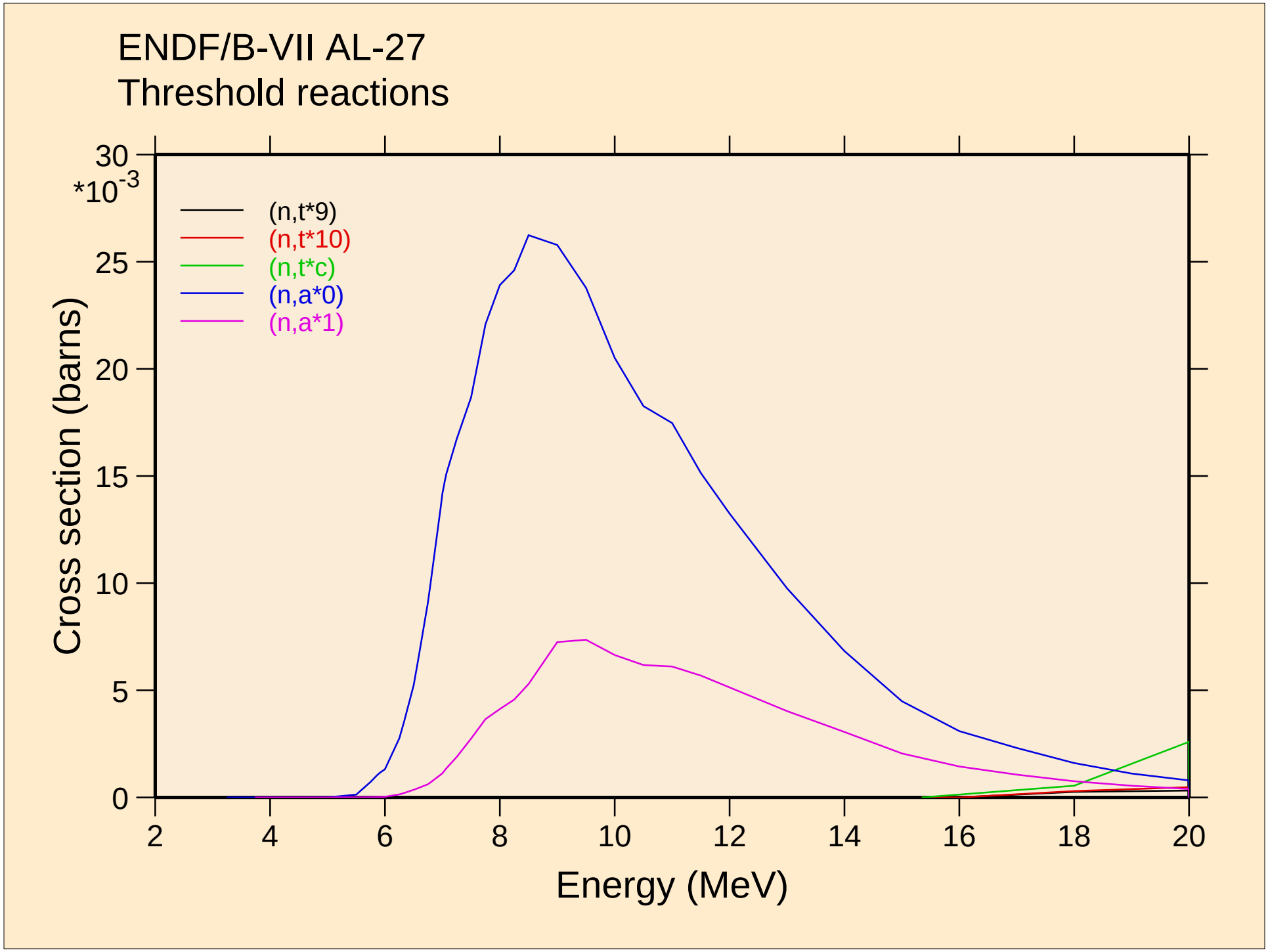

ENDF/B-VII AL-27
Threshold reactions
*10^-6
(n,d*5)
(n,d*6)
(n,d*7)
(n,d*8)
(n,d*9)
Cross section (barns)
Energy (MeV)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
10
12
14
16
18
20

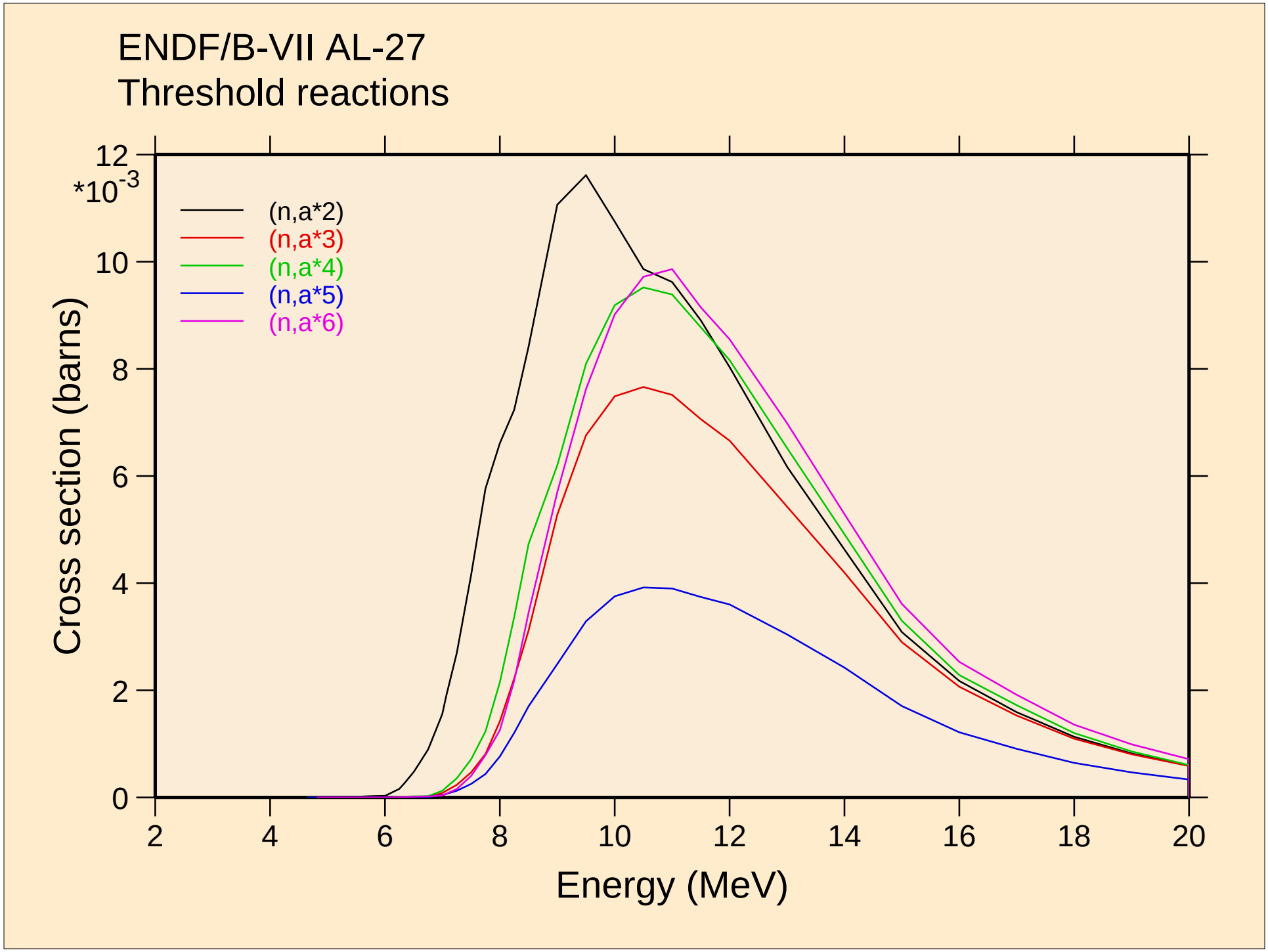

ENDF/B-VII AL-27
Threshold reactions
1400
*10-6
1200
1000
800
600
400
200
0
Cross section (barns)
(n,d*10)
(n,d*11)
(n,d*12)
(n,d*13)
(n,d*14)
10
12
14
16
18
20
Energy (MeV)

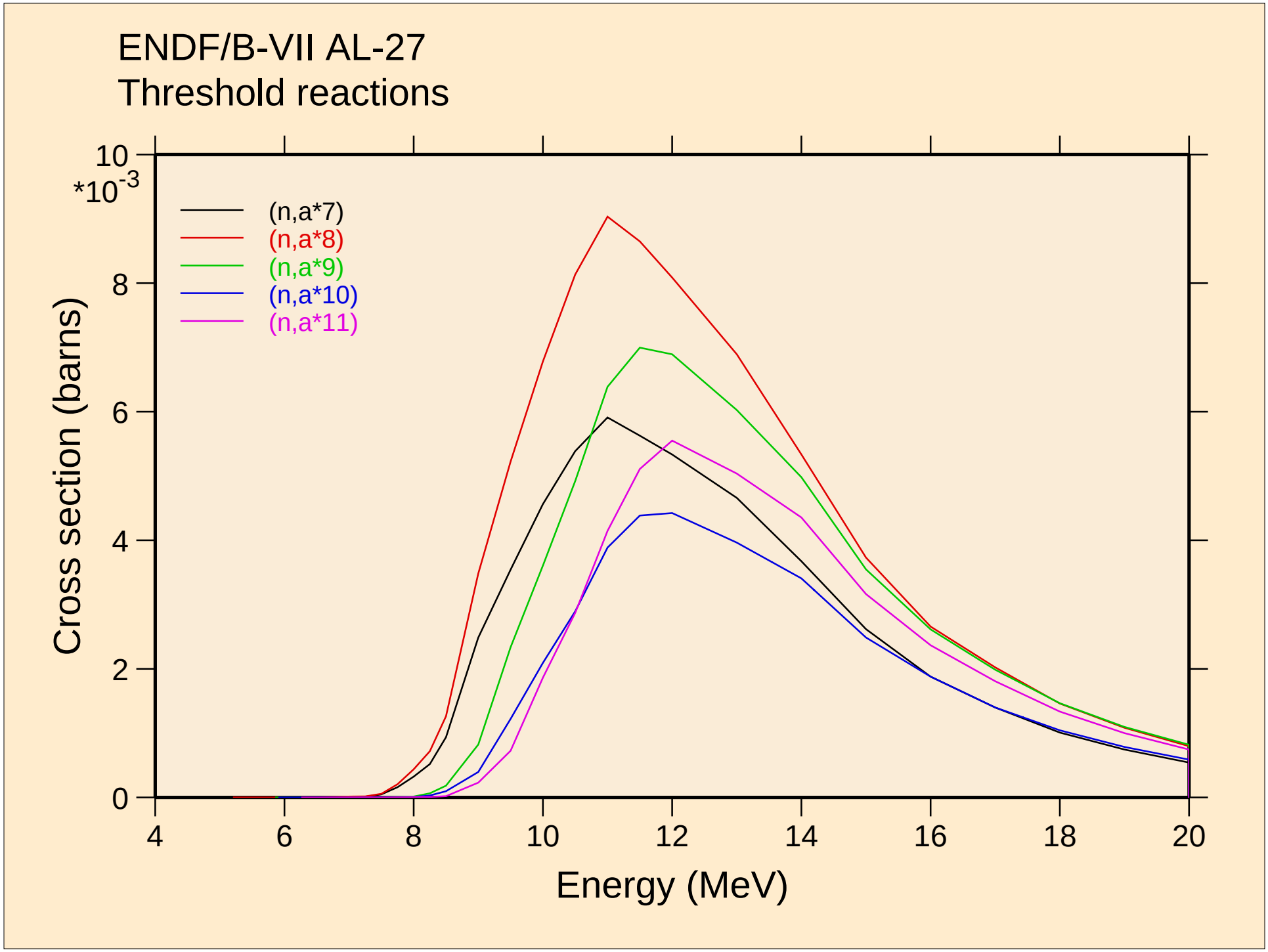

ENDF/B-VII AL-27
Threshold reactions
1400
*10-6
1200
1000
800
600
400
200
0
Cross section (barns)
(n,d*15)
(n,d*16)
(n,d*17)
(n,d*18)
(n,d*19)
12
13
14
15
16
17
18
19
20
Energy (MeV)

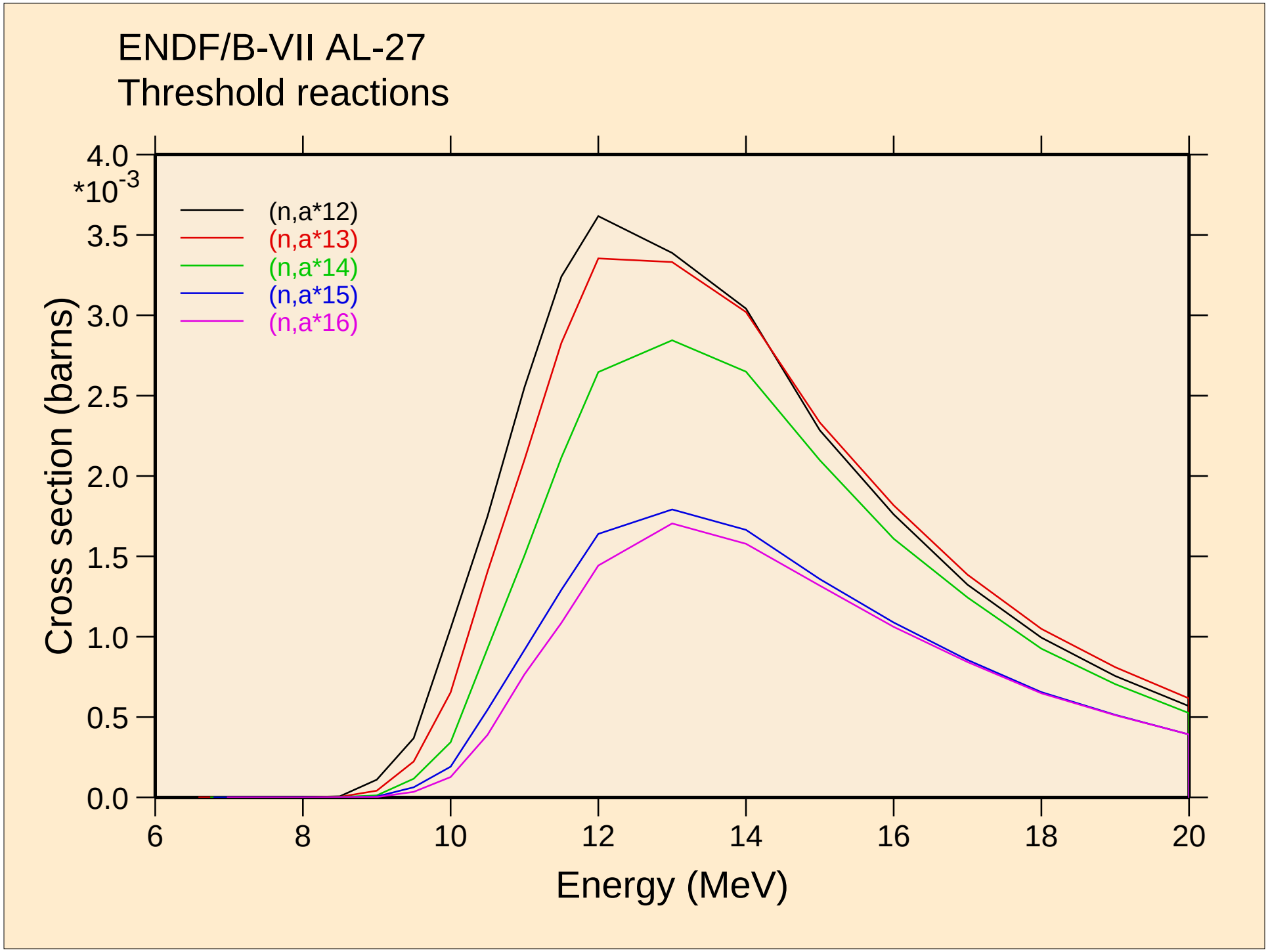

ENDF/B-VII AL-27
Threshold reactions
*10-3
16
14
12
10
8
6
4
2
0
Cross section (barns)
(n,d*c)
(n,t*0)
(n,t*1)
(n,t*2)
(n,t*3)
10
12
14
16
18
20
Energy (MeV)

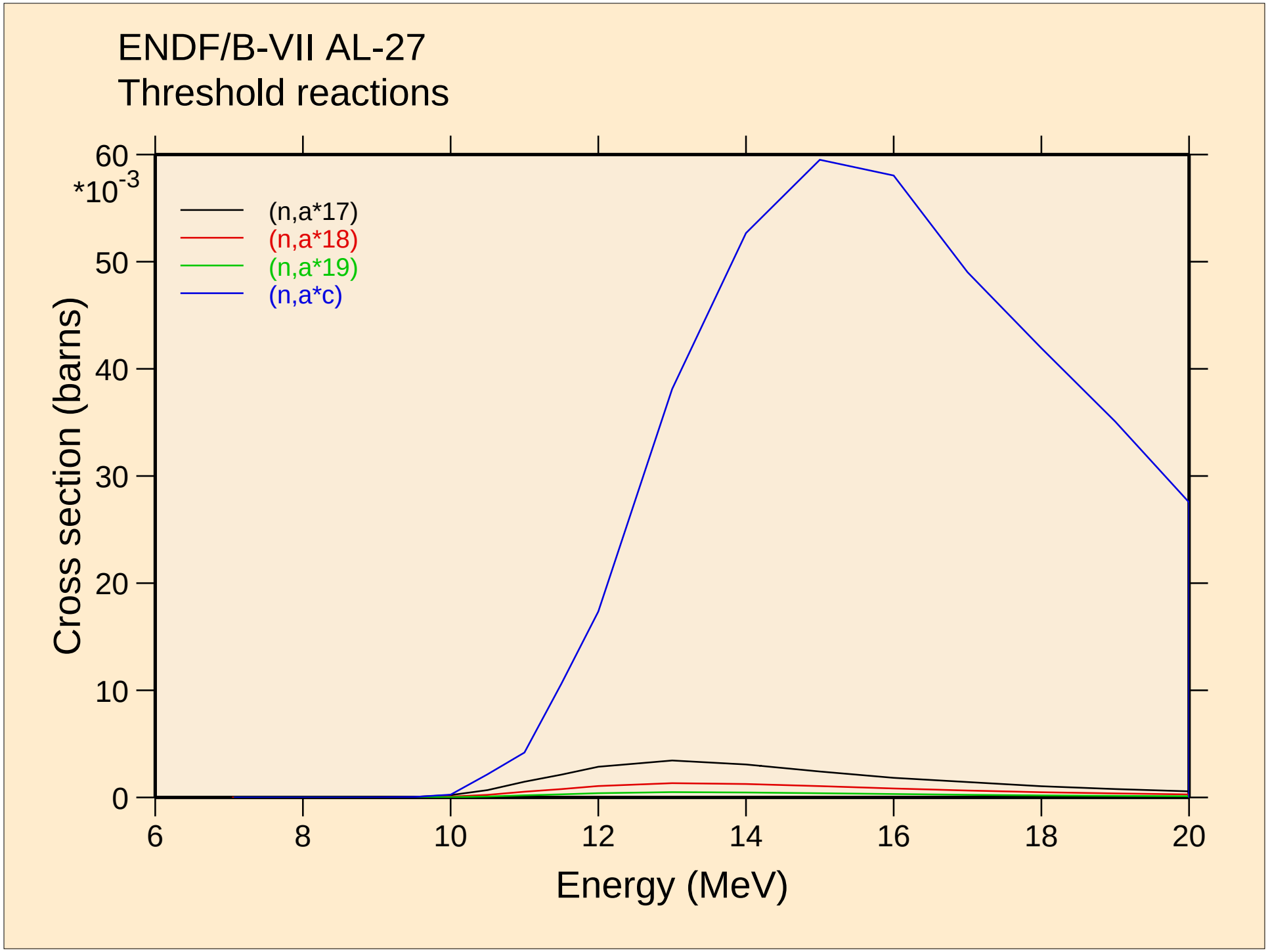

ENDF/B-VII AL-27
Threshold reactions
1000
*10-6
800
600
400
200
0
Cross section (barns)
(n,t*4)
(n,t*5)
(n,t*6)
(n,t*7)
(n,t*8)
13
14
15
16
17
18
19
20
Energy (MeV)

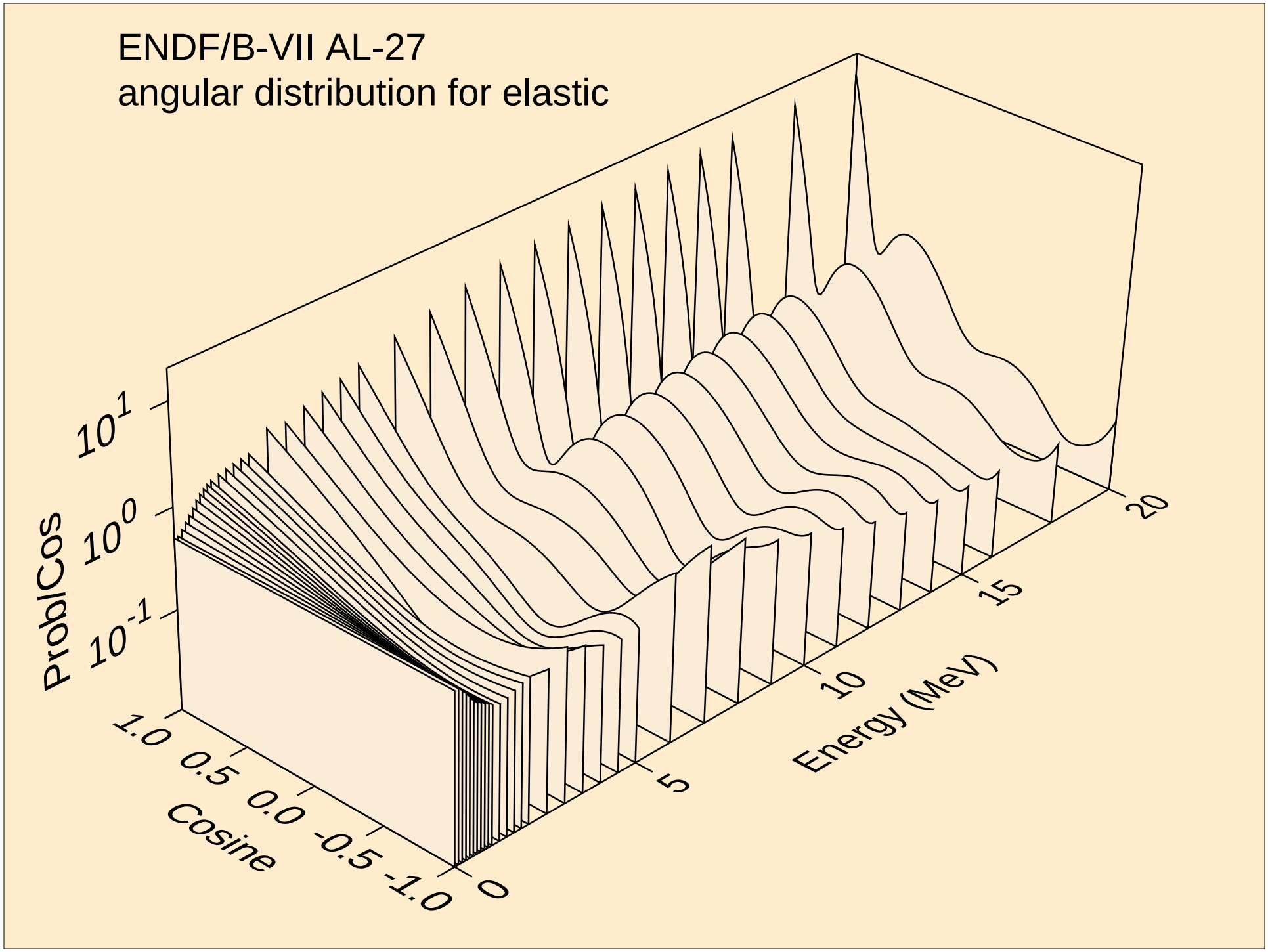

ENDF/B-VII AL-27
Threshold reactions
*10^-3
(n,t*9)
(n,t*10)
(n,t*c)
(n,a*0)
(n,a*1)
Cross section (barns)
Energy (MeV)
0
5
10
15
20
25
30
2
4
6
8
10
12
14
16
18
20

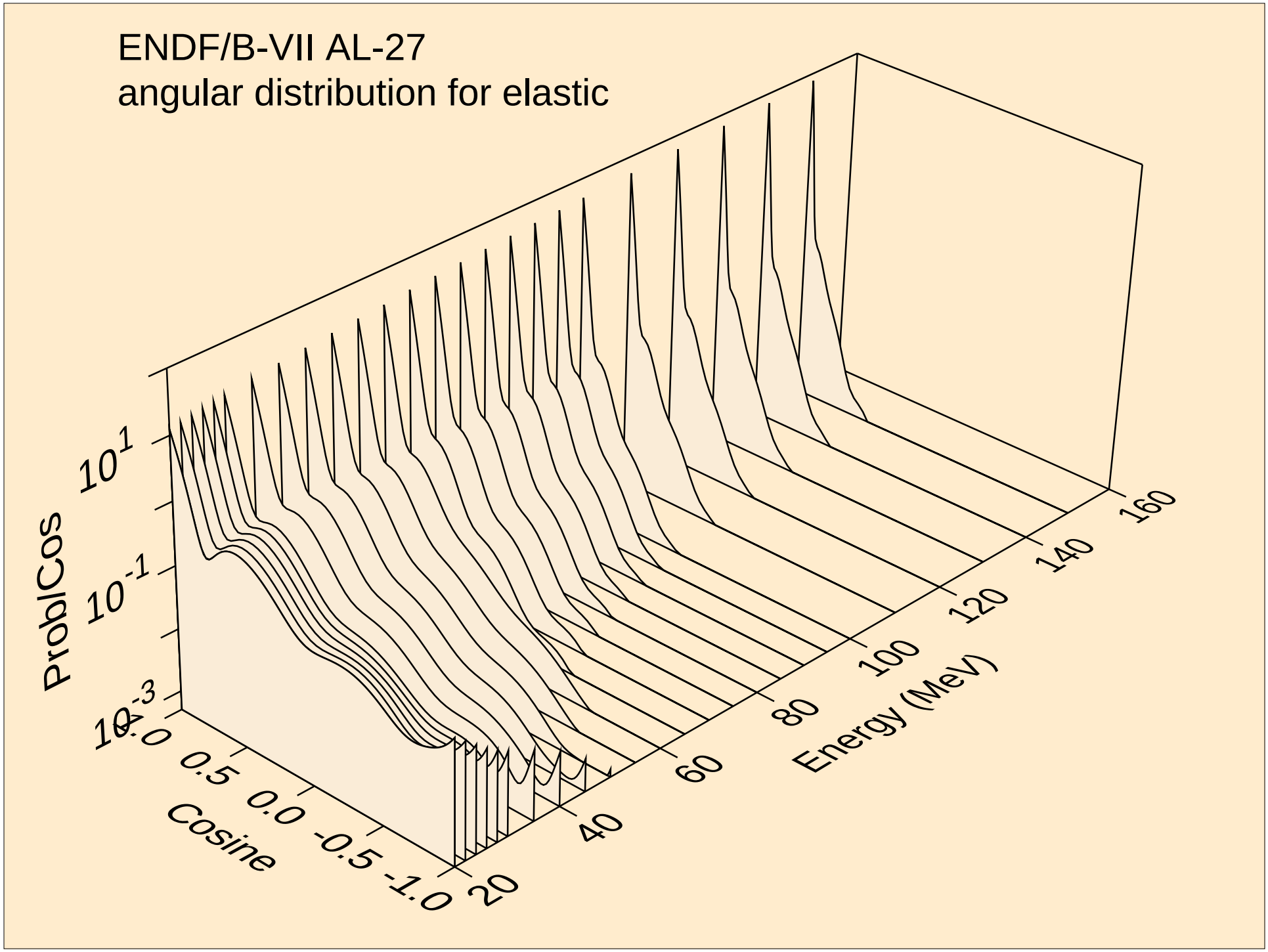

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,a*2)
(n,a*3)
(n,a*4)
(n,a*5)
(n,a*6)
Cross section (barns)
Energy (MeV)
0
2
4
6
8
10
12
2
4
6
8
10
12
14
16
18
20

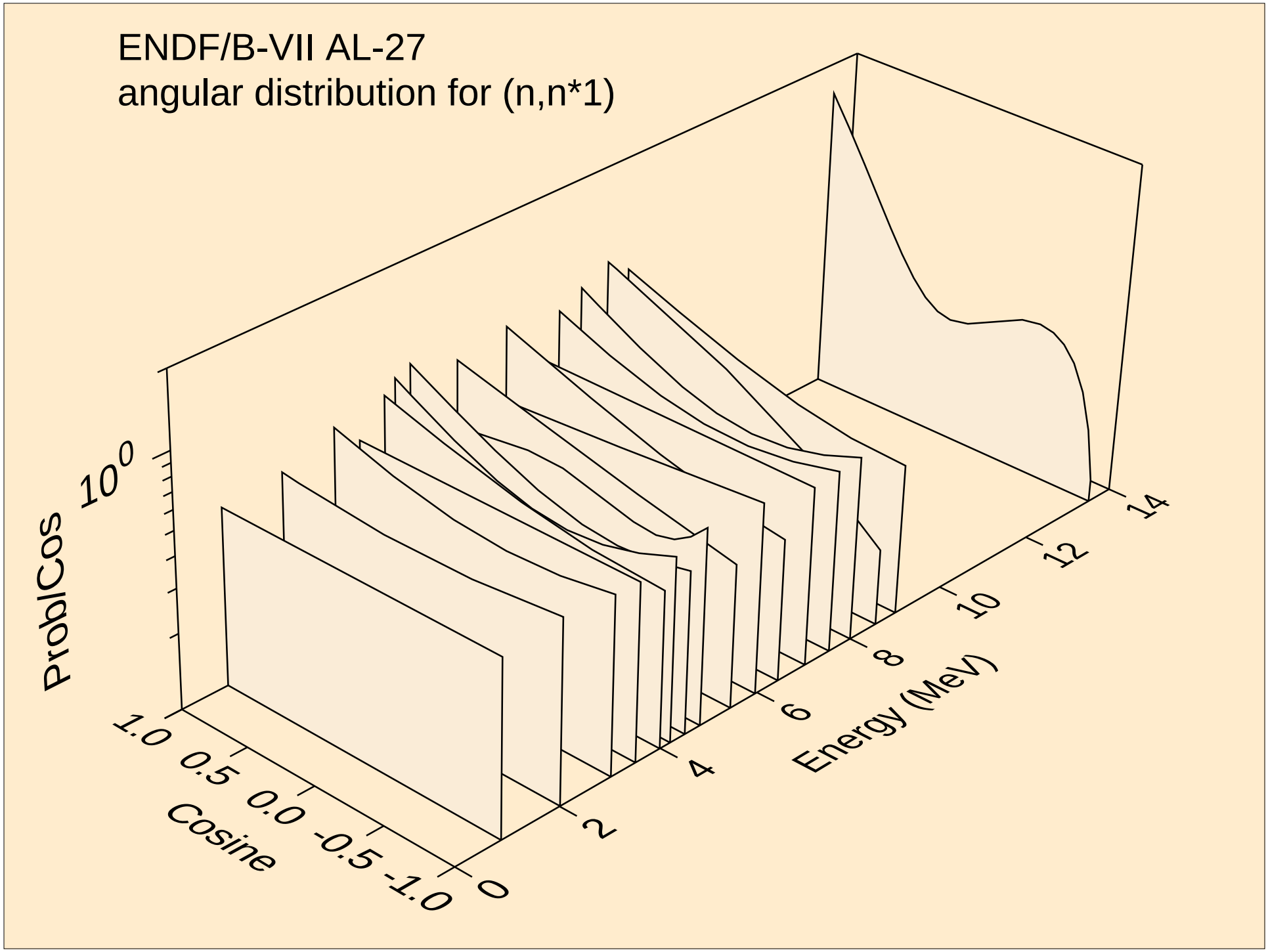

ENDF/B-VII AL-27
Threshold reactions
(n,a*7)
(n,a*8)
(n,a*9)
(n,a*10)
(n,a*11)
Cross section (barns)
*10-3
10
8
6
4
2
0
4
6
8
10
12
14
16
18
20
Energy (MeV)

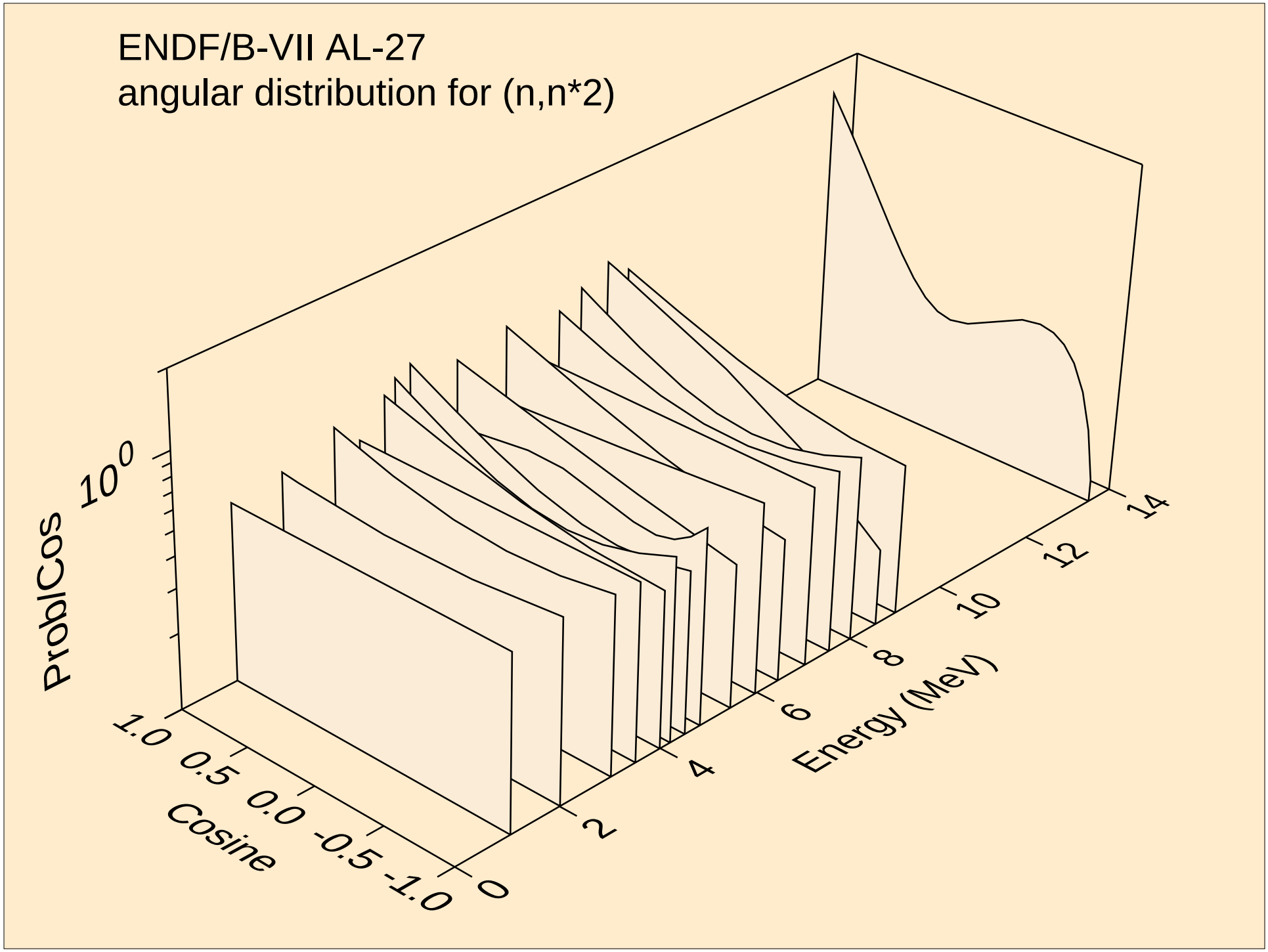

ENDF/B-VII AL-27
Threshold reactions
(n,a*12)
(n,a*13)
(n,a*14)
(n,a*15)
(n,a*16)
Cross section (barns)
*10-3
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
6
8
10
12
14
16
18
20
Energy (MeV)

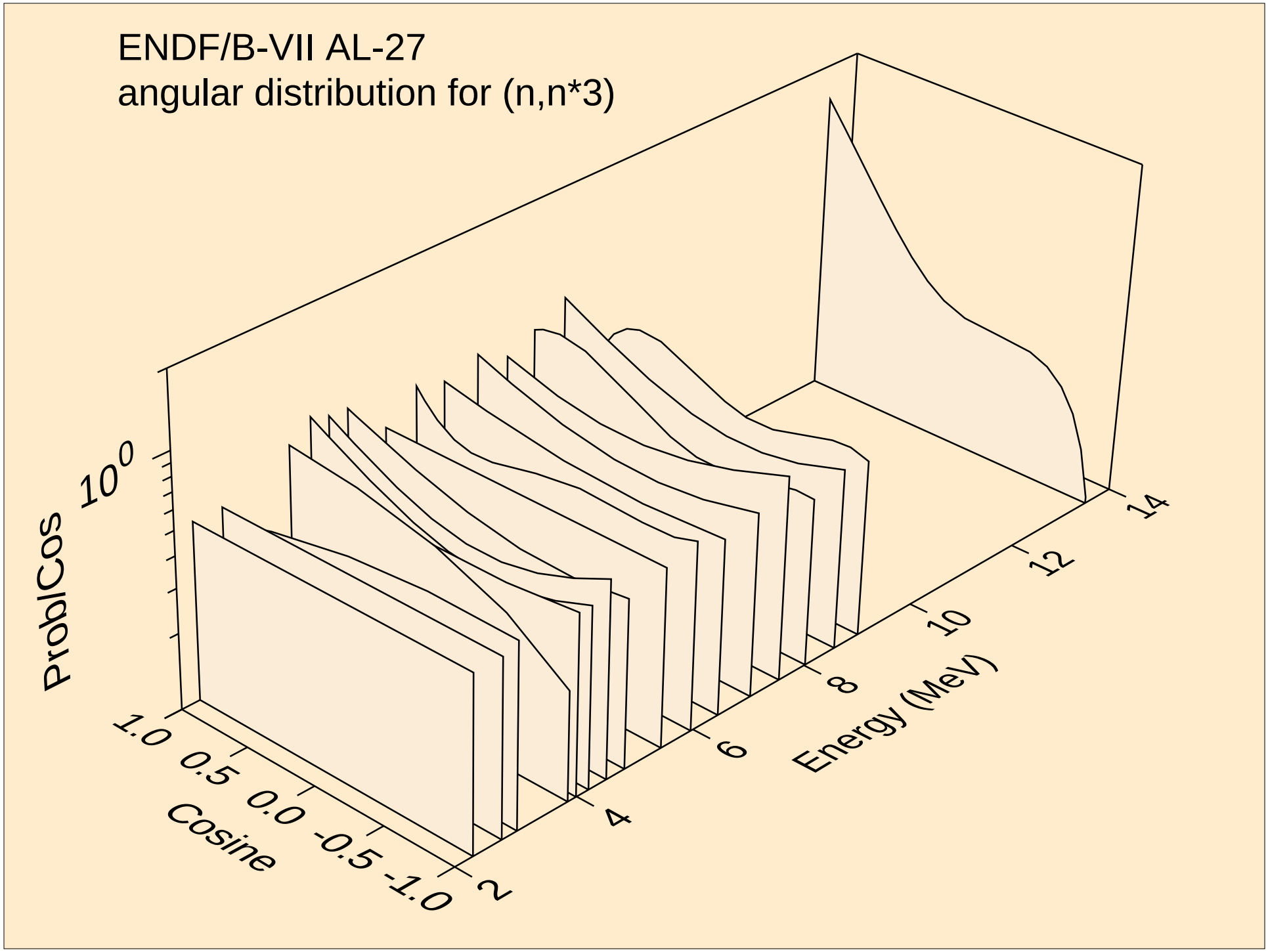

ENDF/B-VII AL-27
Threshold reactions
*10-3
(n,a*17)
(n,a*18)
(n,a*19)
(n,a*c)
Cross section (barns)
Energy (MeV)
0
10
20
30
40
50
60
6
8
10
12
14
16
18
20

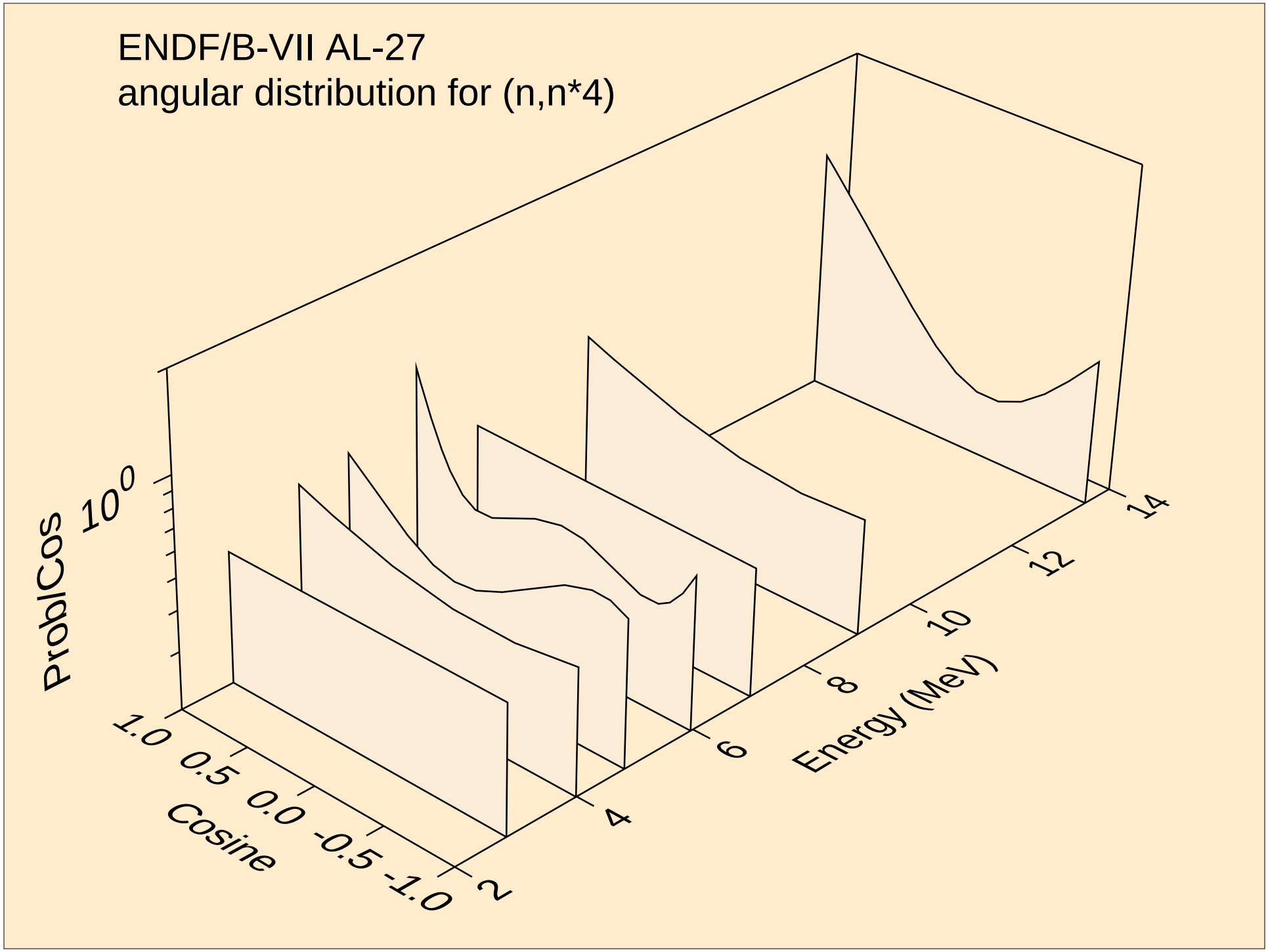

ENDF/B-VII AL-27
angular distribution for elastic
ProbCos
10^{1}
10^{0}
10^{-1}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20

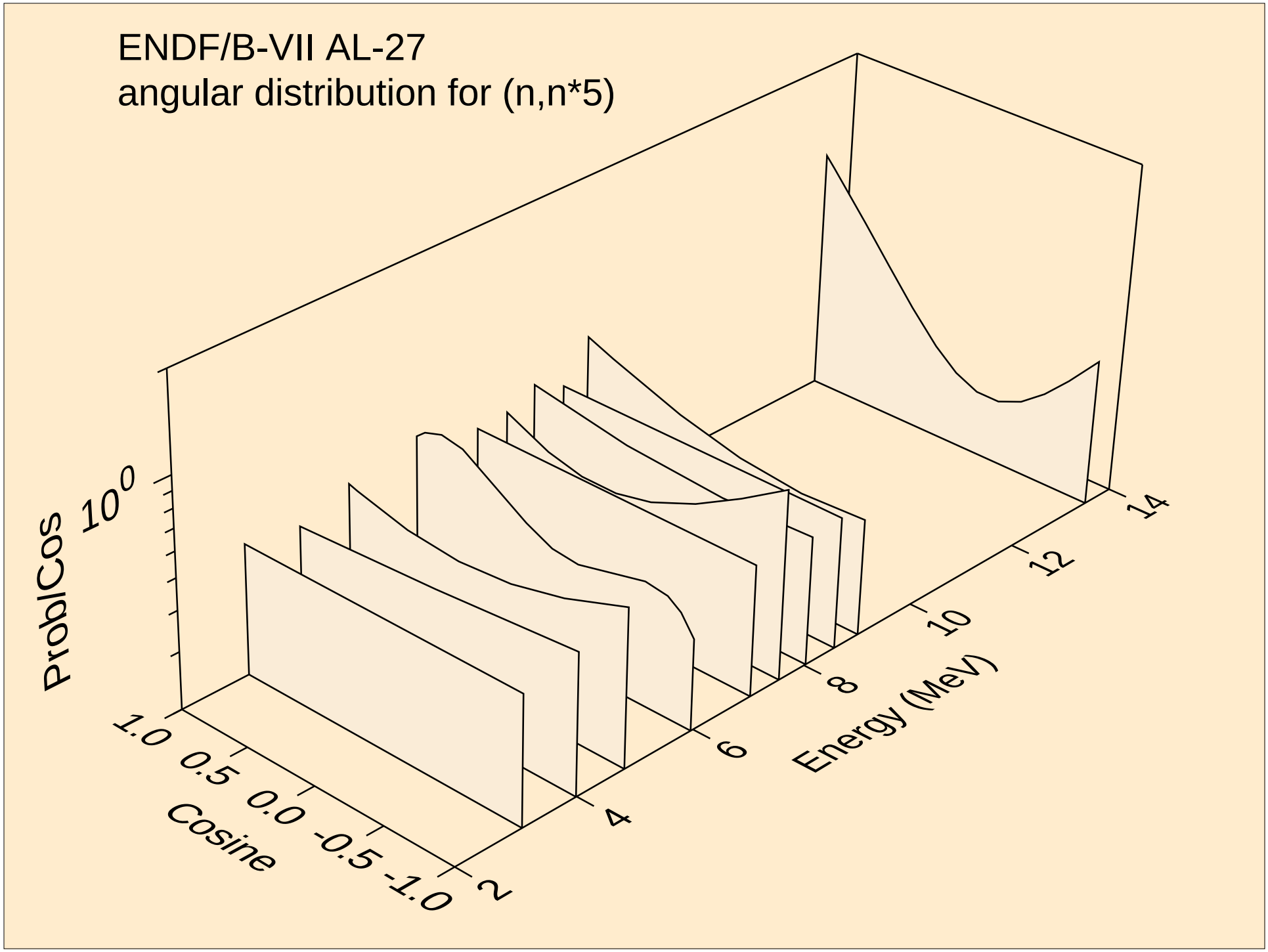

ENDF/B-VII AL-27
angular distribution for elastic
ProbCos
10^{1}
10^{-1}
10^{-3}
1.0
0.5
0.0
-0.5
-1.0
Cosine
20
40
60
80
100
120
140
160
Energy (MeV)

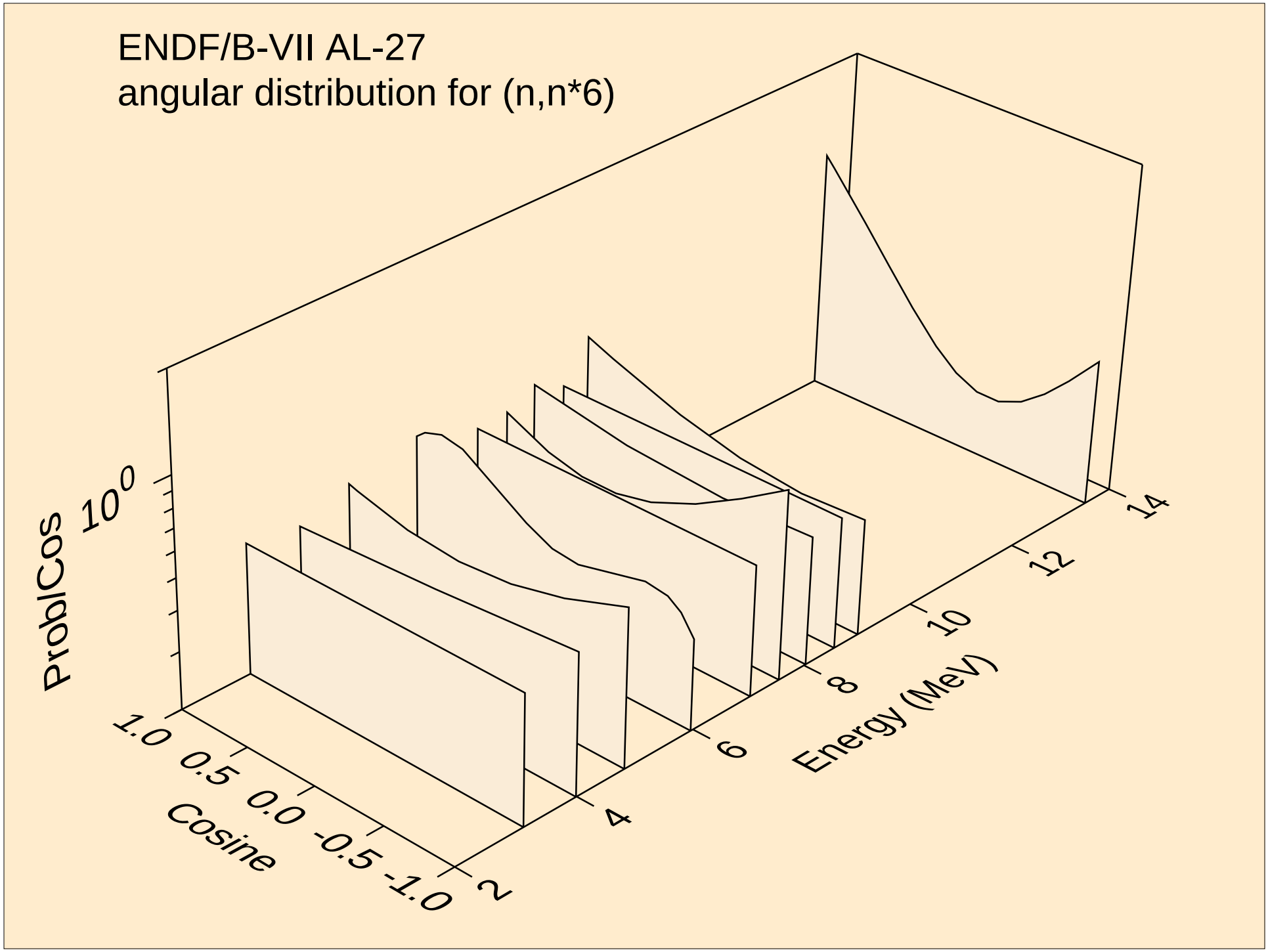

ENDF/B-VII AL-27
angular distribution for (n,n*1)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14

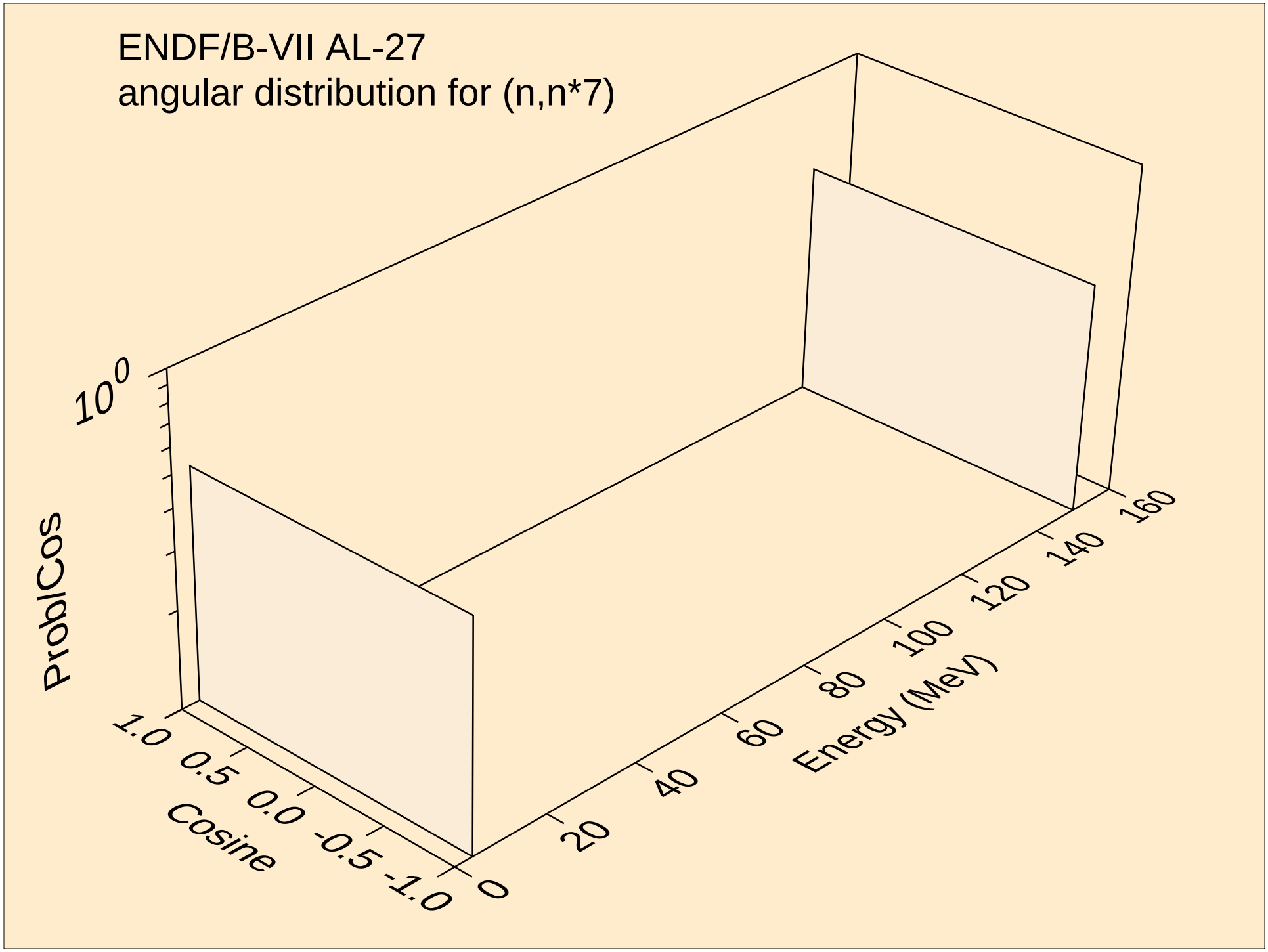

ENDF/B-VII AL-27
angular distribution for (n,n*2)
ProbCos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14

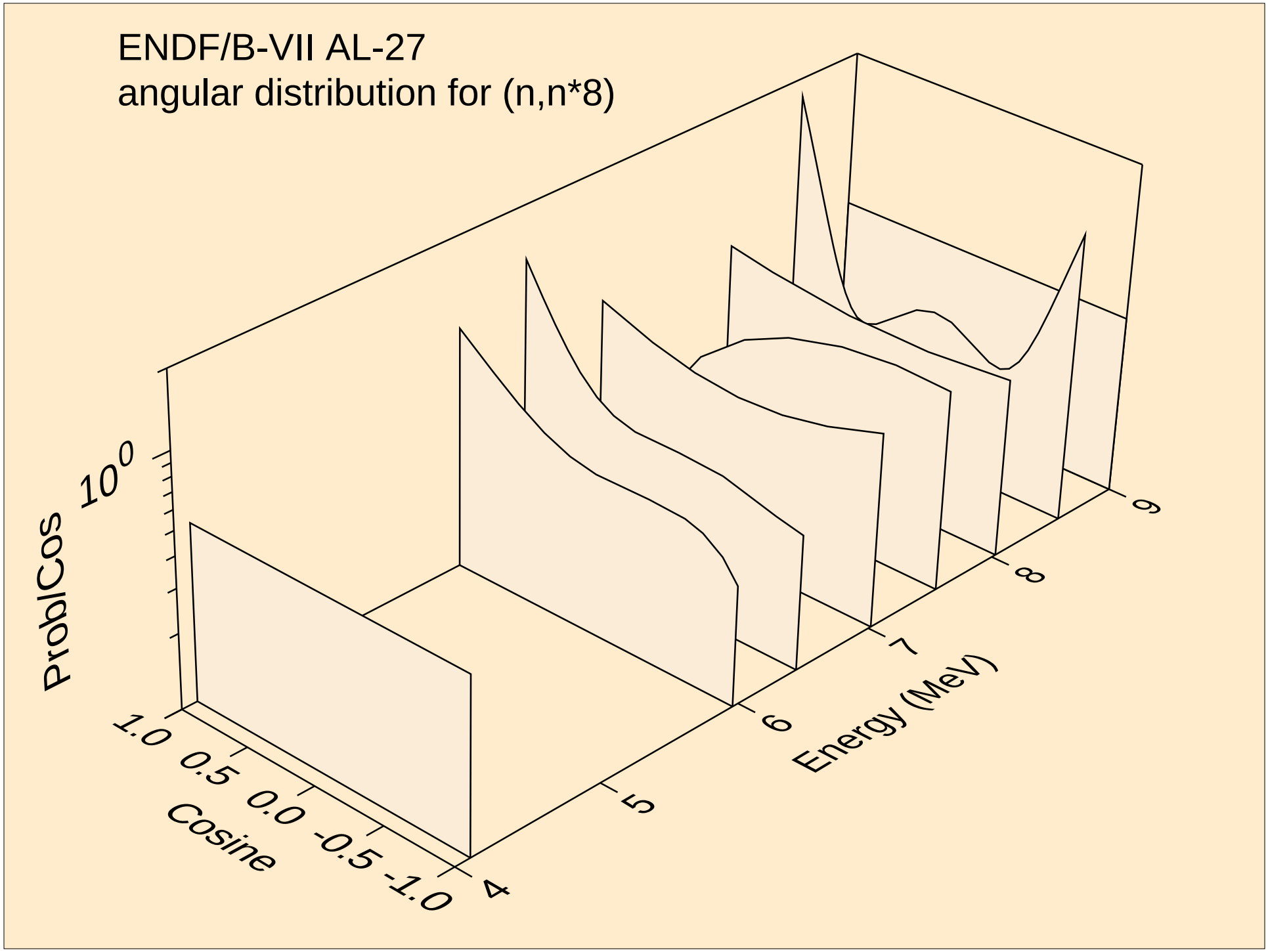

ENDF/B-VII AL-27
angular distribution for (n,n*3)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
Energy (MeV)

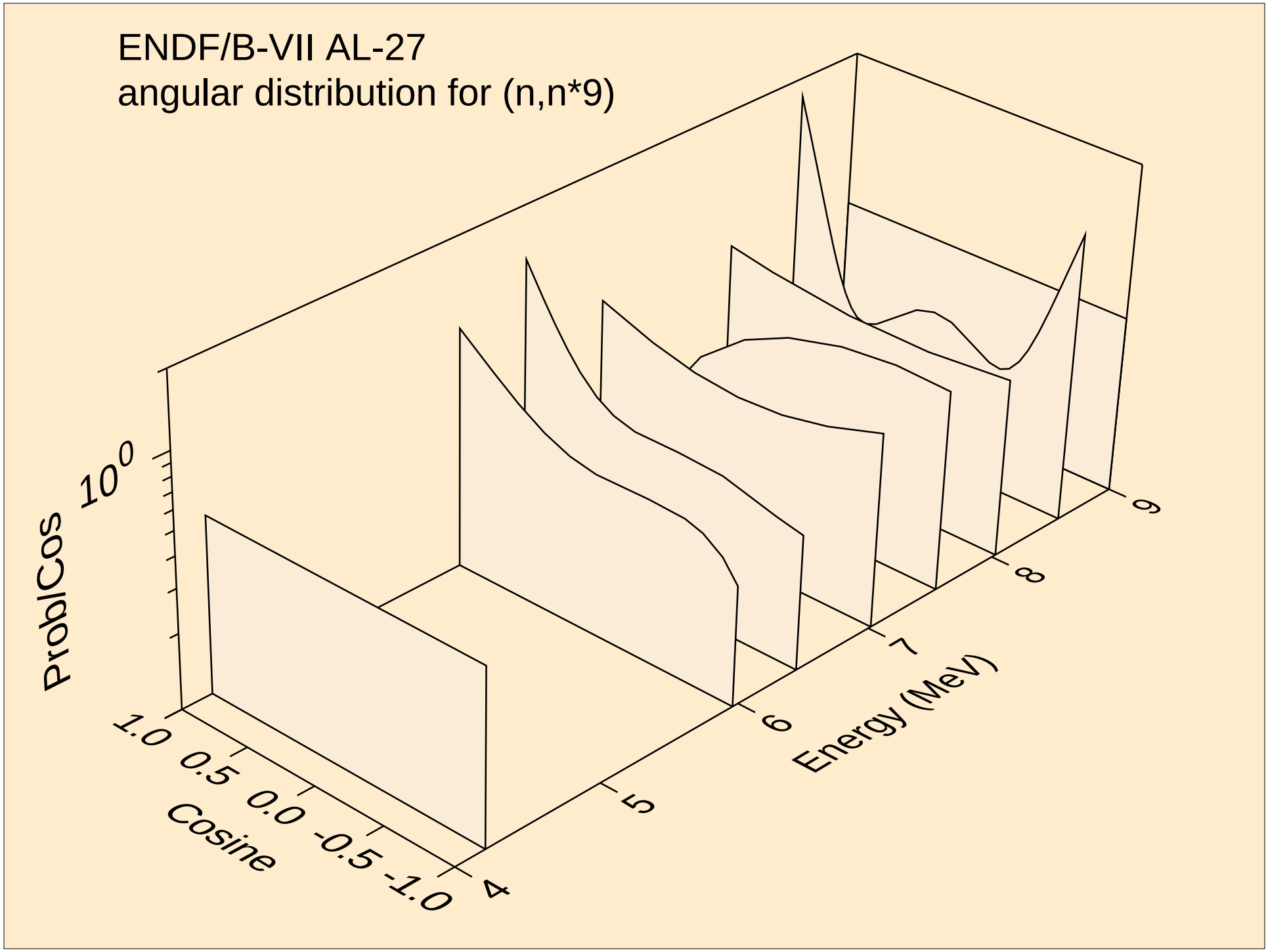

ENDF/B-VII AL-27
angular distribution for (n,n*4)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
Energy (MeV)

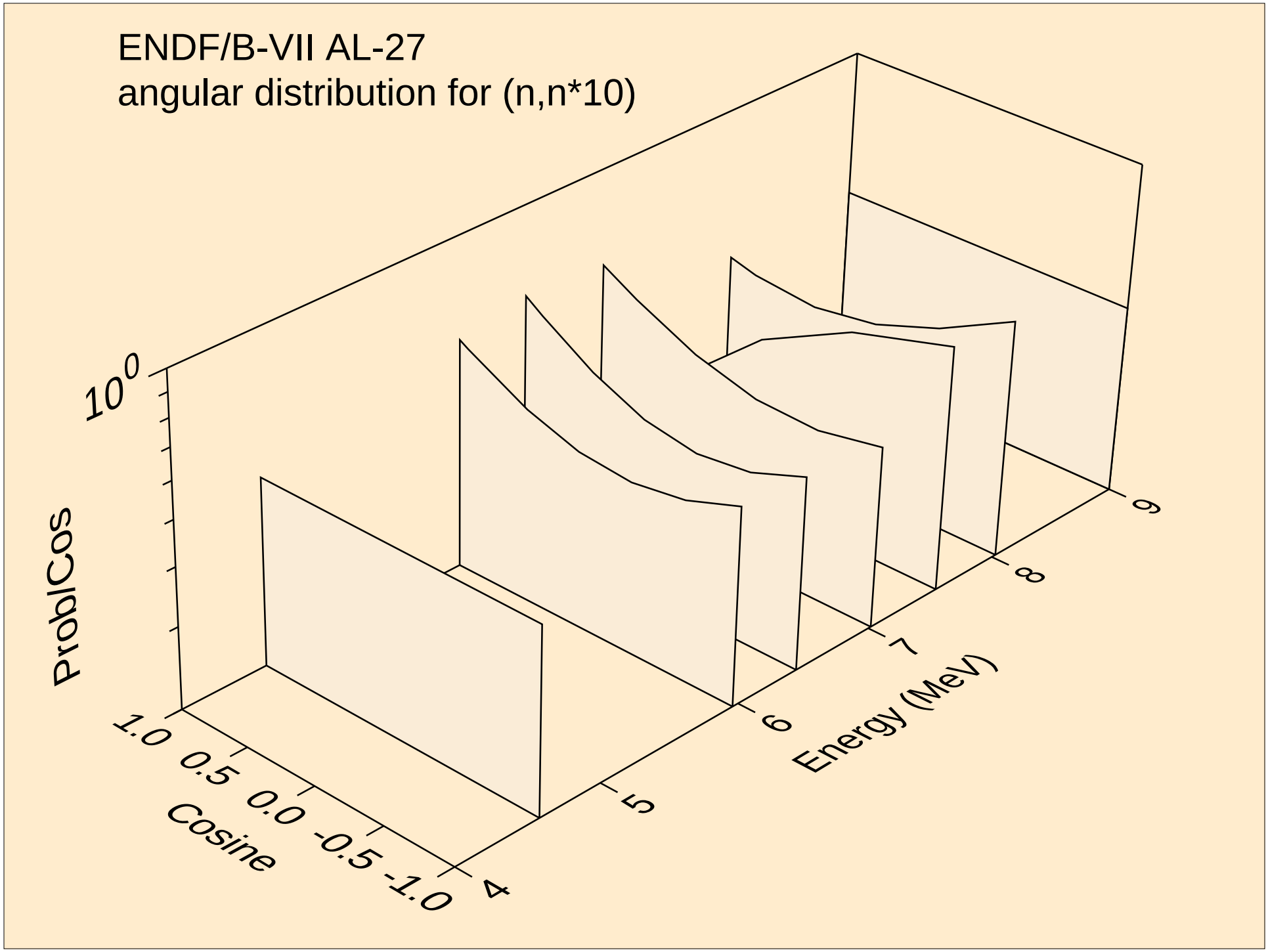

ENDF/B-VII AL-27
angular distribution for (n,n*5)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
Energy (MeV)

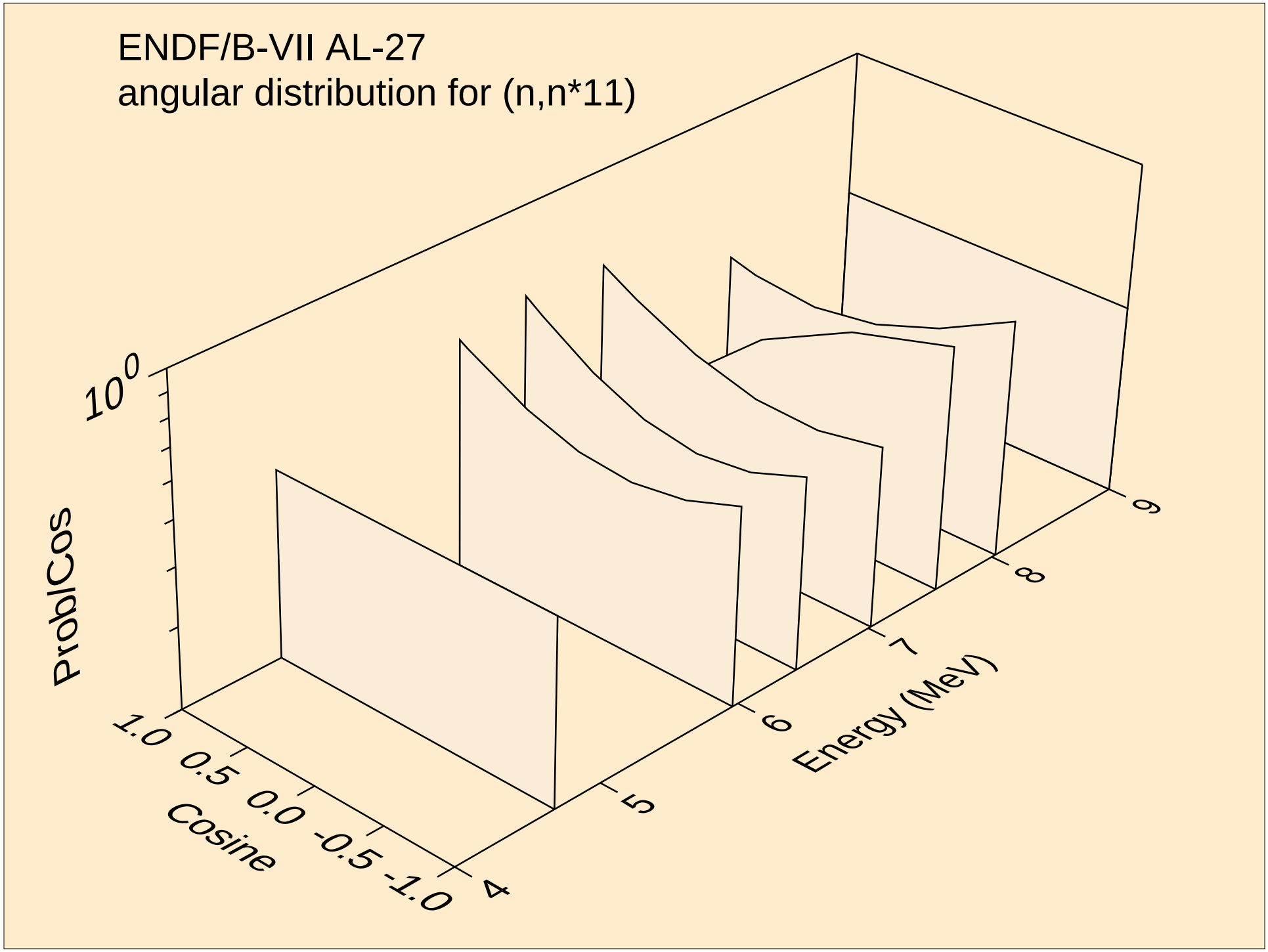

ENDF/B-VII AL-27
angular distribution for (n,n*6)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
Energy (MeV)

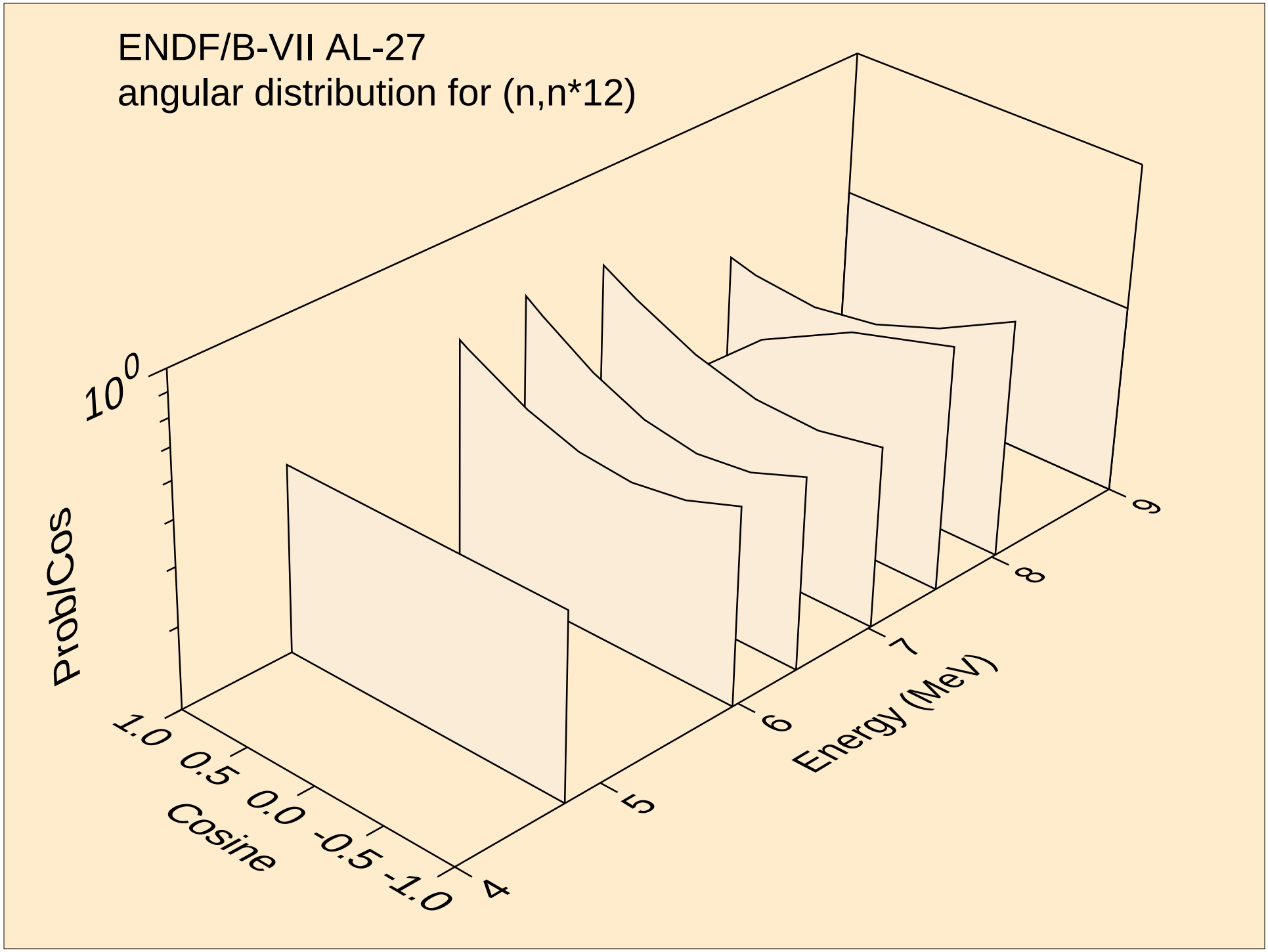

ENDF/B-VII AL-27
angular distribution for (n,n*7)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

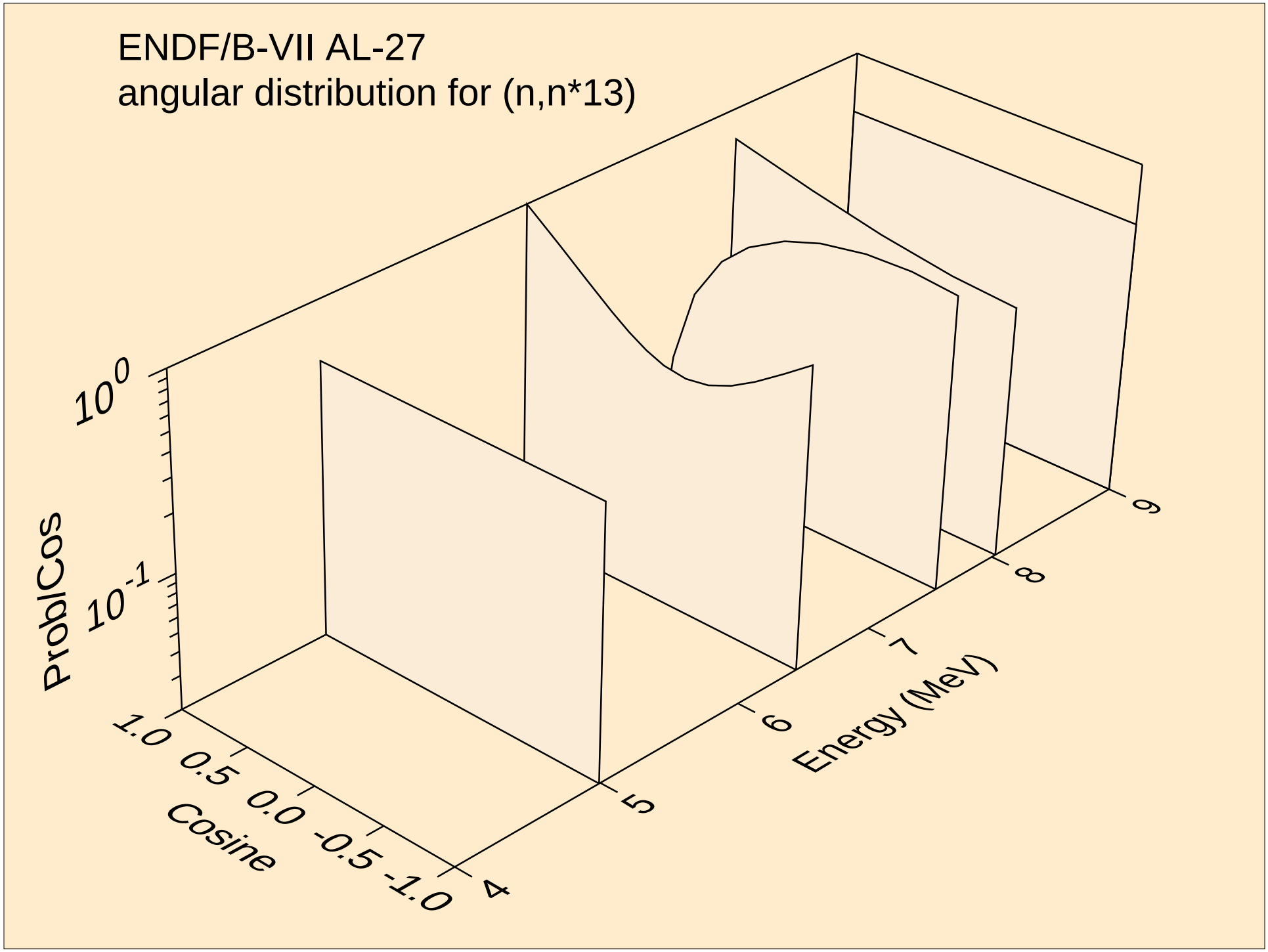

ENDF/B-VII AL-27
angular distribution for (n,n*8)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
5
6
7
8
9
Energy (MeV)

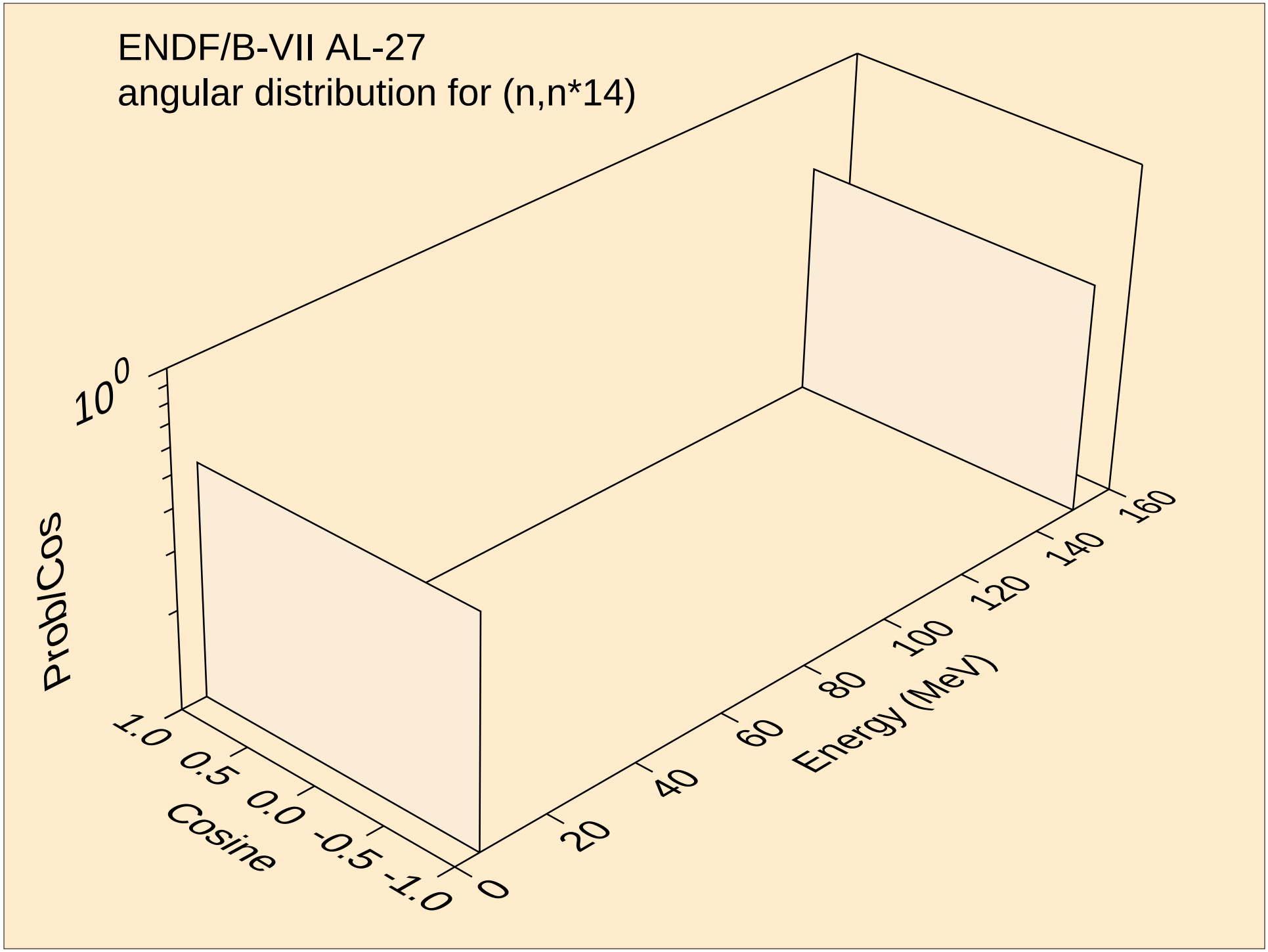

ENDF/B-VII AL-27
angular distribution for (n,n*9)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
5
6
7
8
9
Energy (MeV)

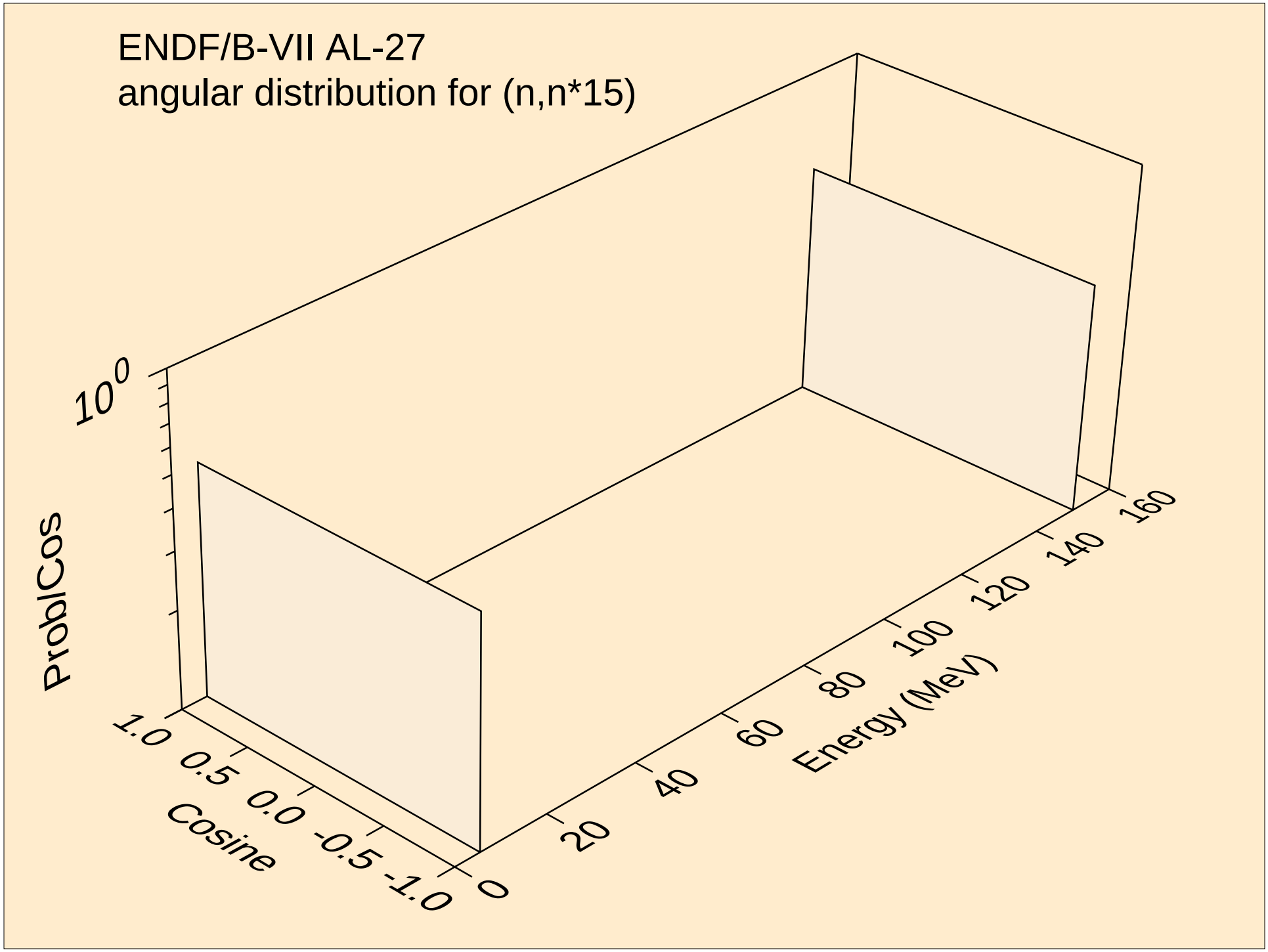

ENDF/B-VII AL-27
angular distribution for (n,n*10)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
5
6
7
8
9
Energy (MeV)

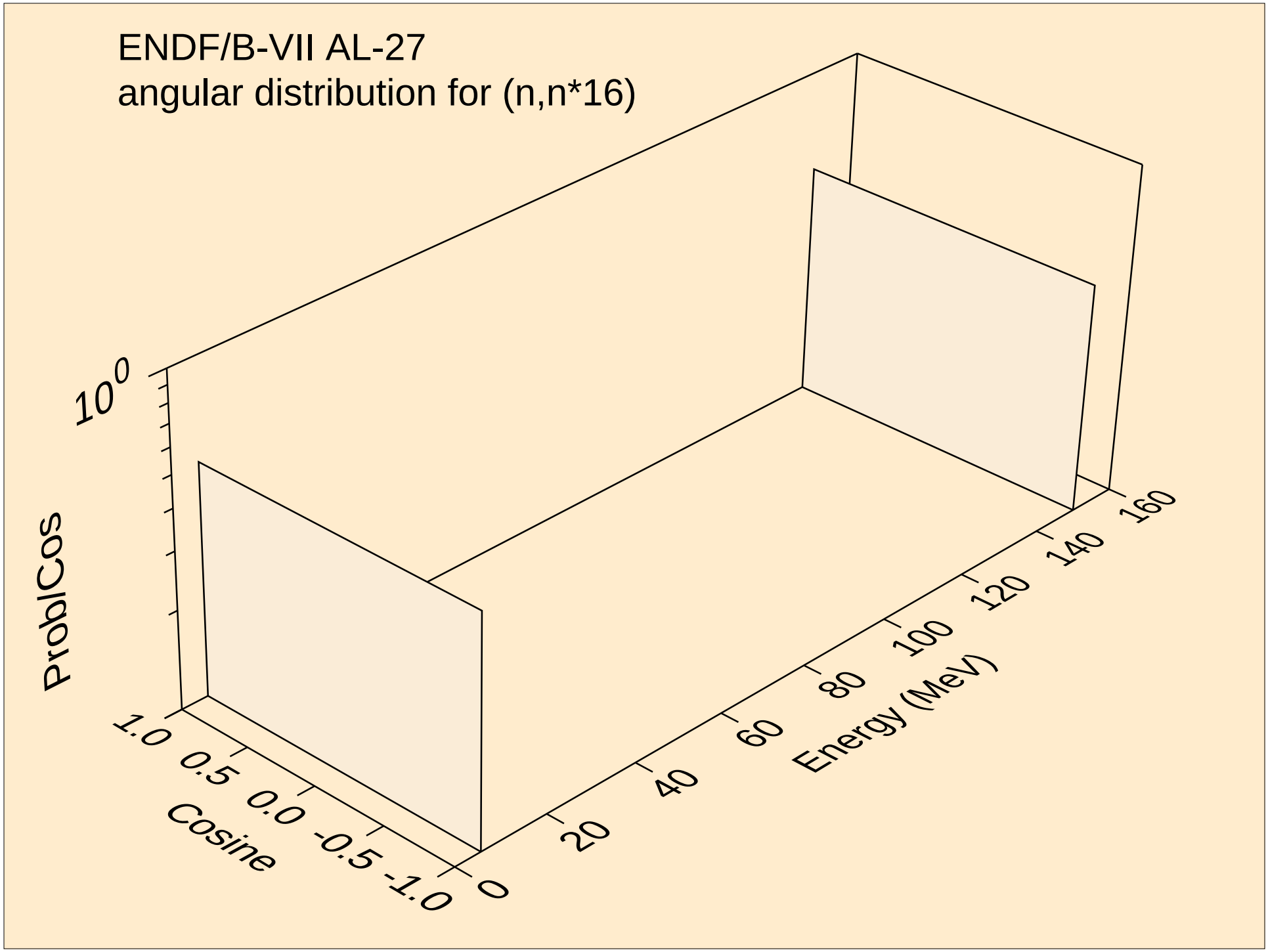

ENDF/B-VII AL-27
angular distribution for (n,n*11)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
5
6
7
8
9
Energy (MeV)

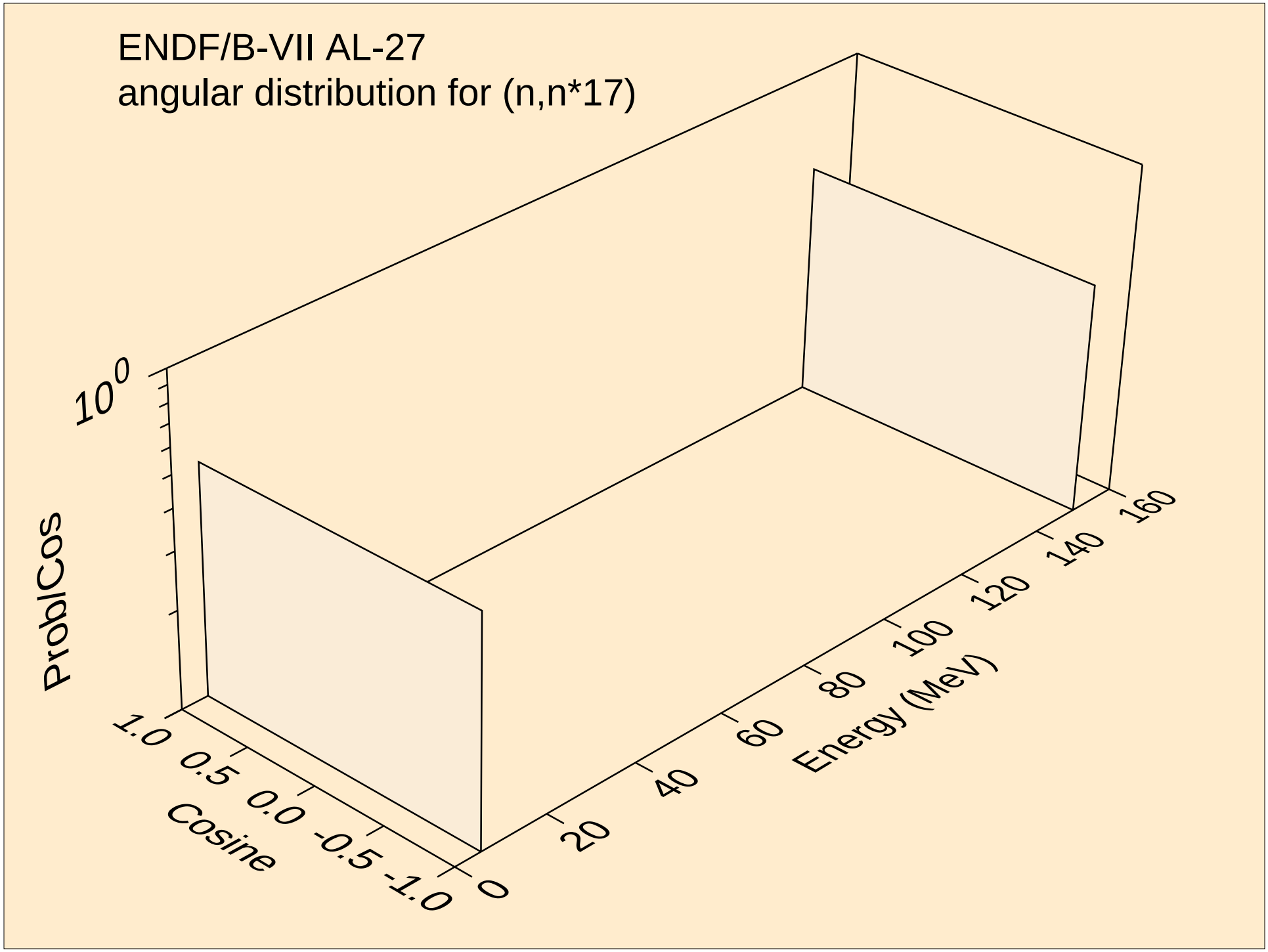

ENDF/B-VII AL-27
angular distribution for (n,n*12)
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
5
6
7
8
9
Energy (MeV)

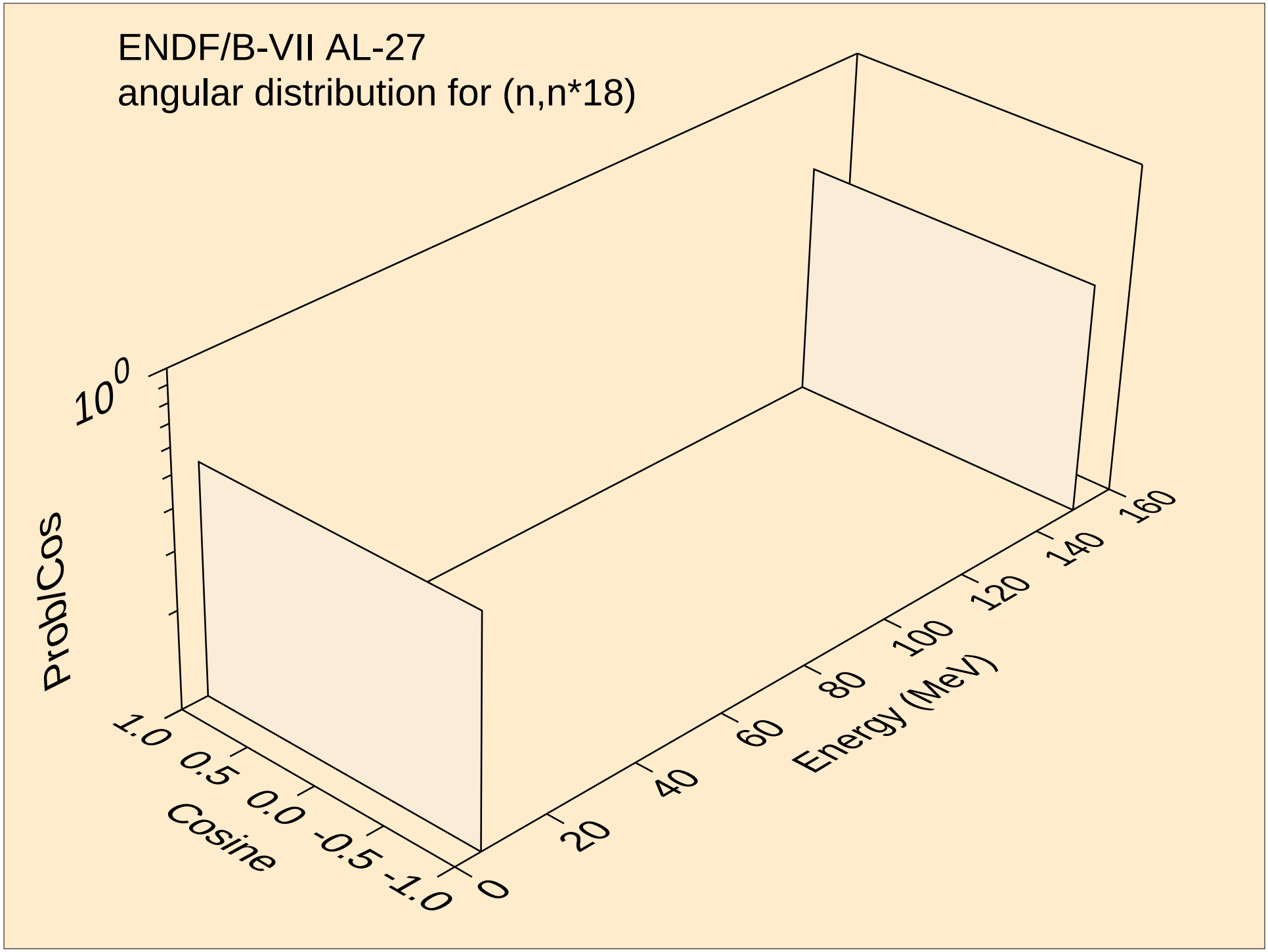

ENDF/B-VII AL-27
angular distribution for (n,n*13)
ProbCos
10^0
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
5
6
7
8
9
Energy (MeV)

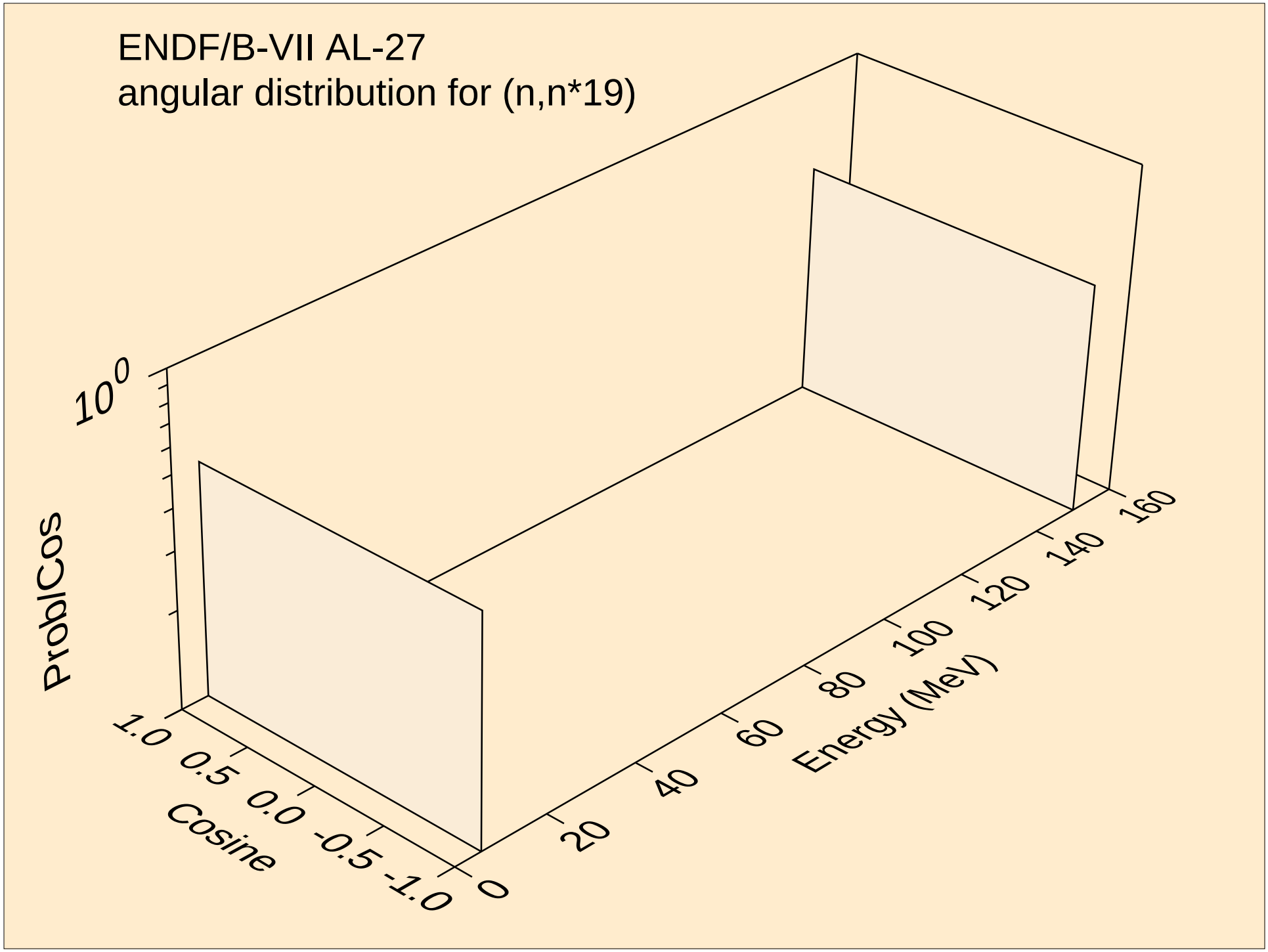

ENDF/B-VII AL-27
angular distribution for (n,n*14)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

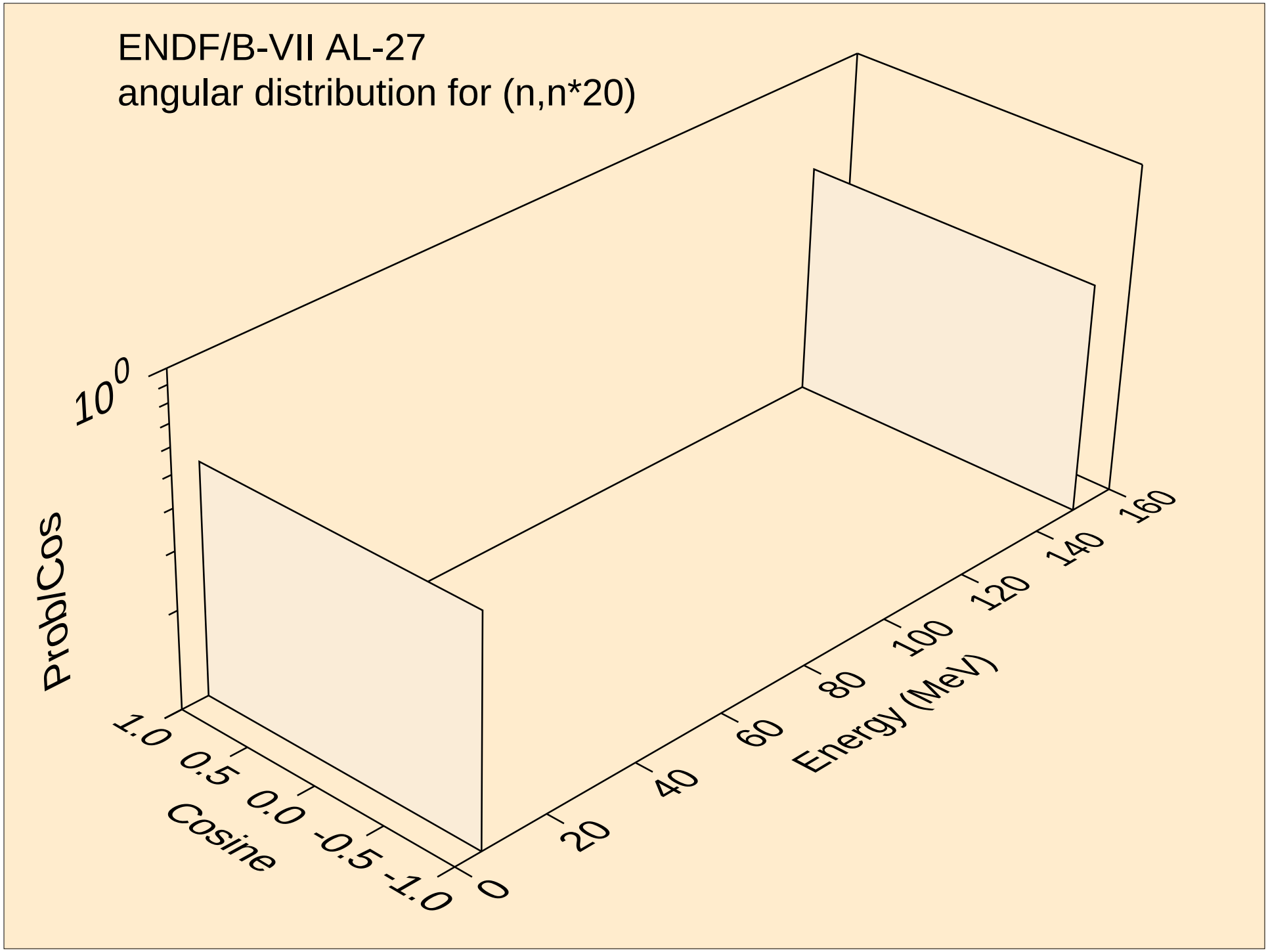

ENDF/B-VII AL-27
angular distribution for (n,n*15)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

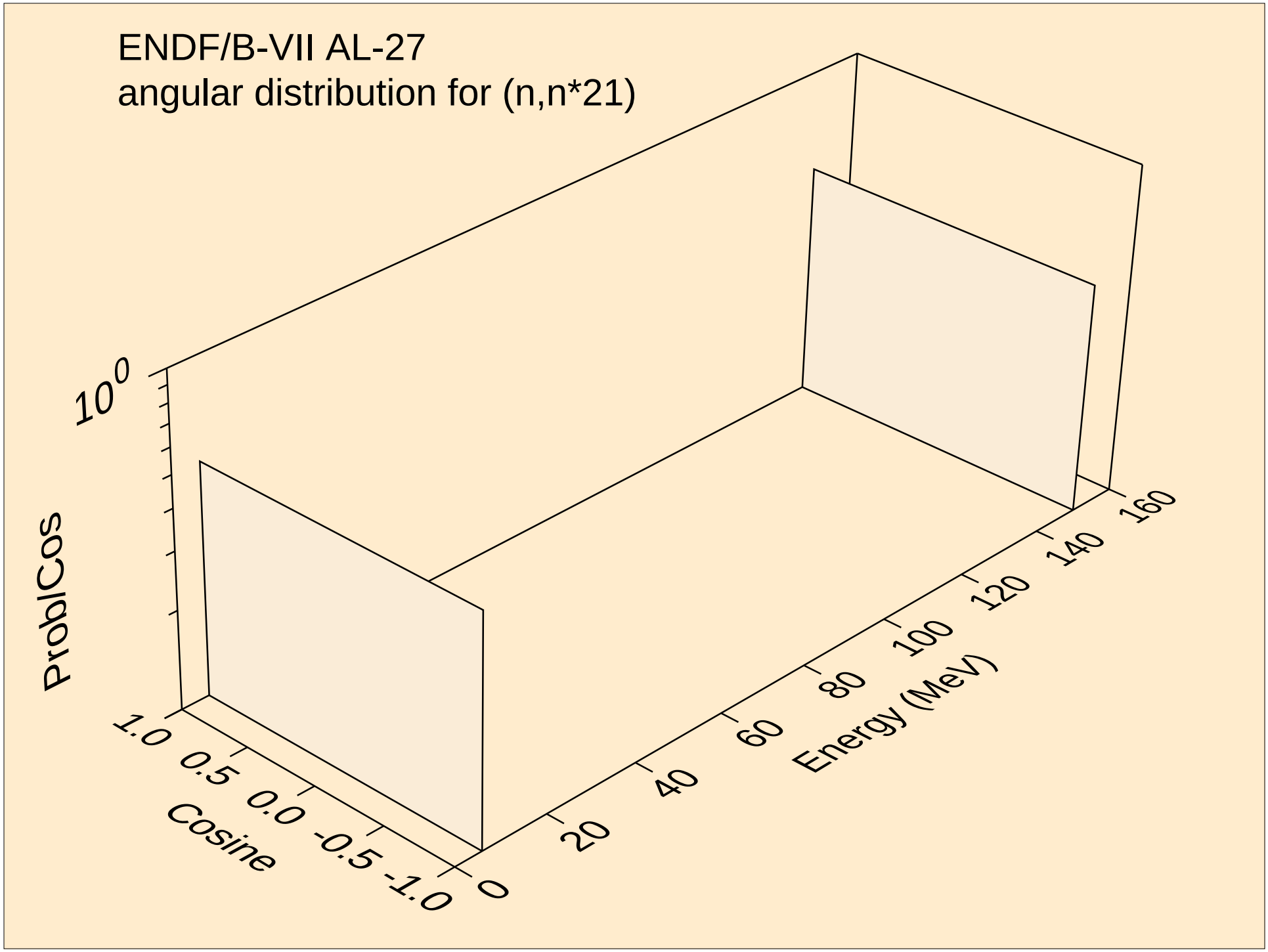

ENDF/B-VII AL-27
angular distribution for (n,n*16)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

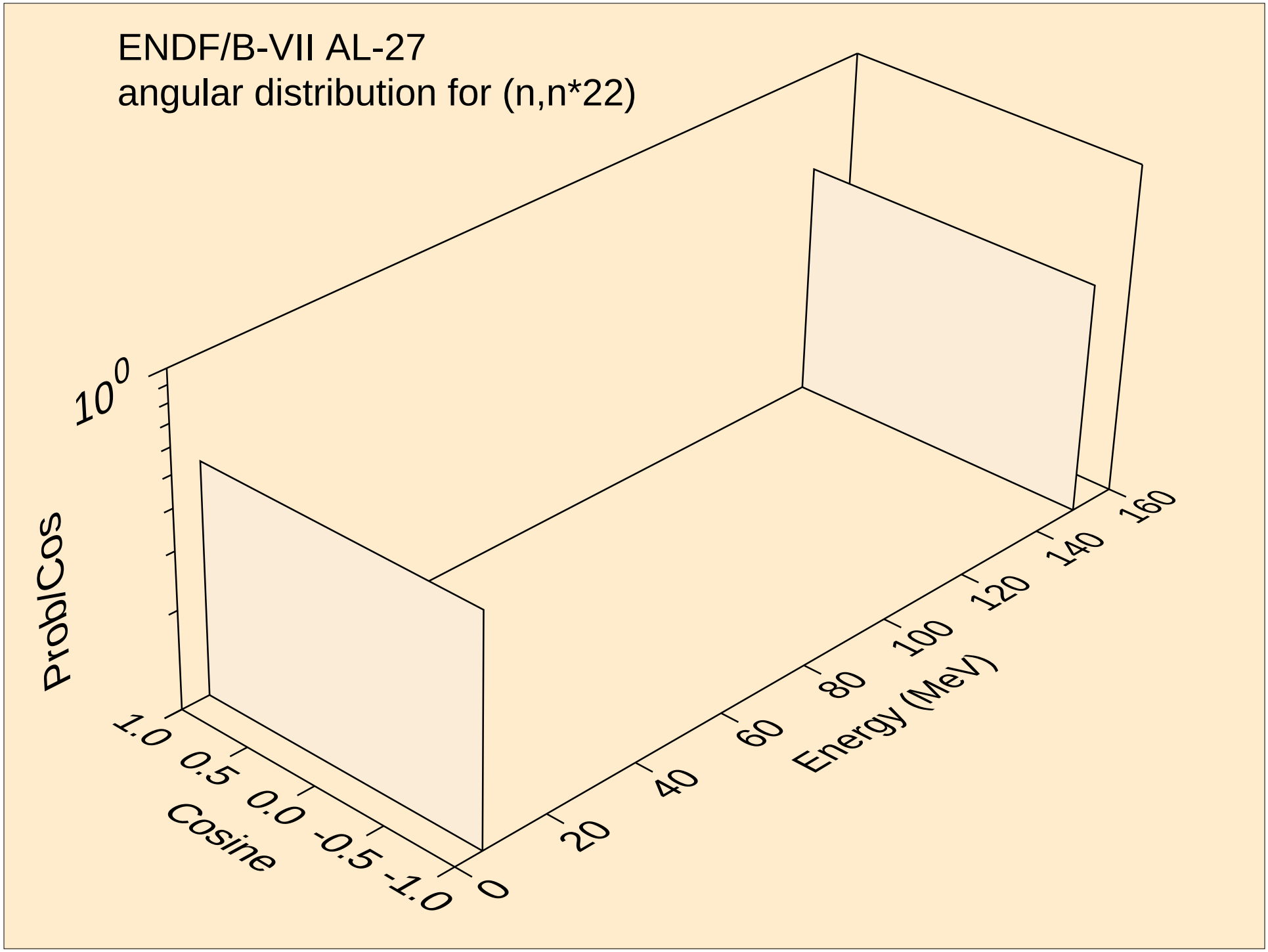

ENDF/B-VII AL-27
angular distribution for (n,n*17)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

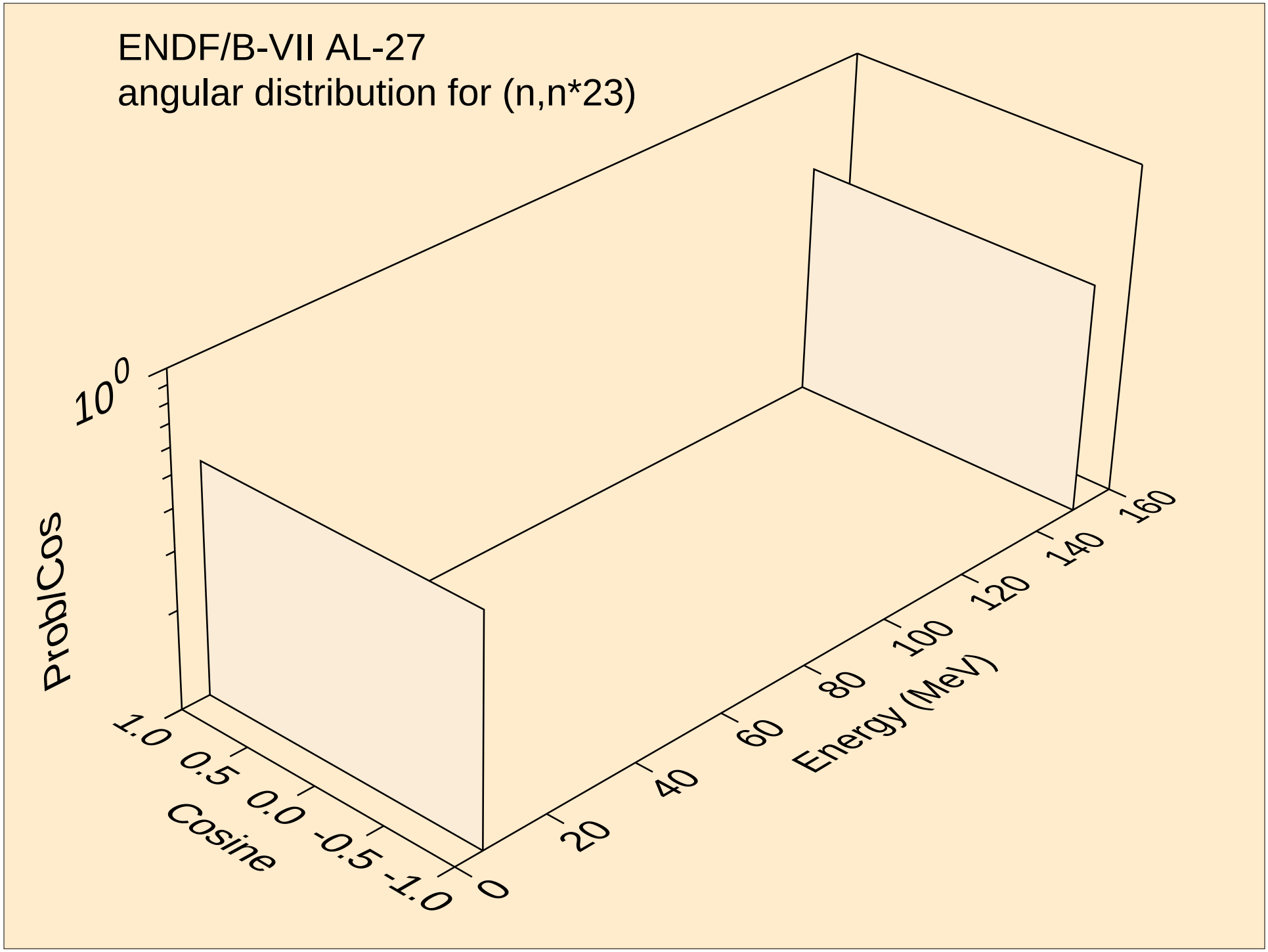

ENDF/B-VII AL-27
angular distribution for (n,n*18)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

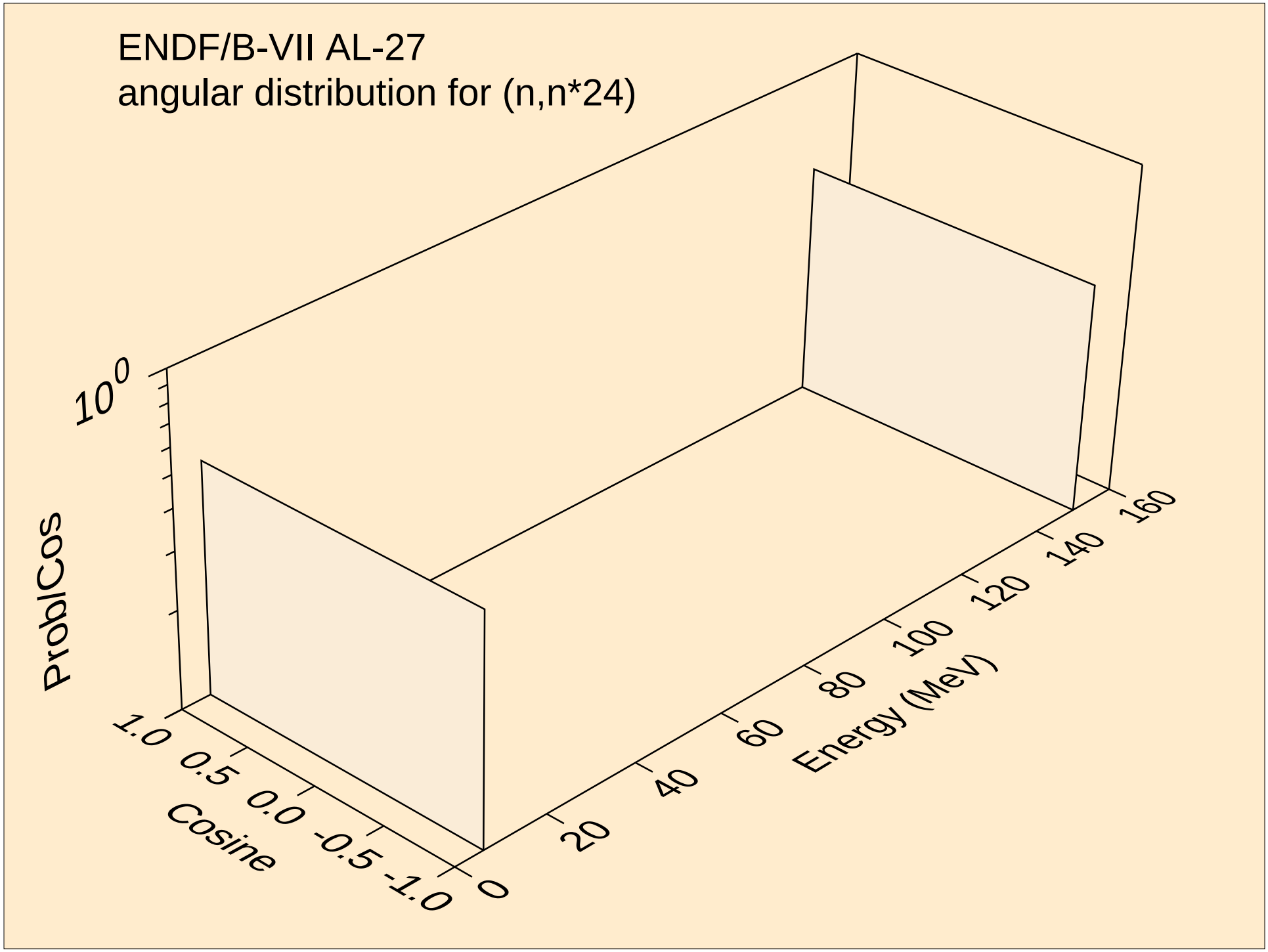

ENDF/B-VII AL-27
angular distribution for (n,n*19)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

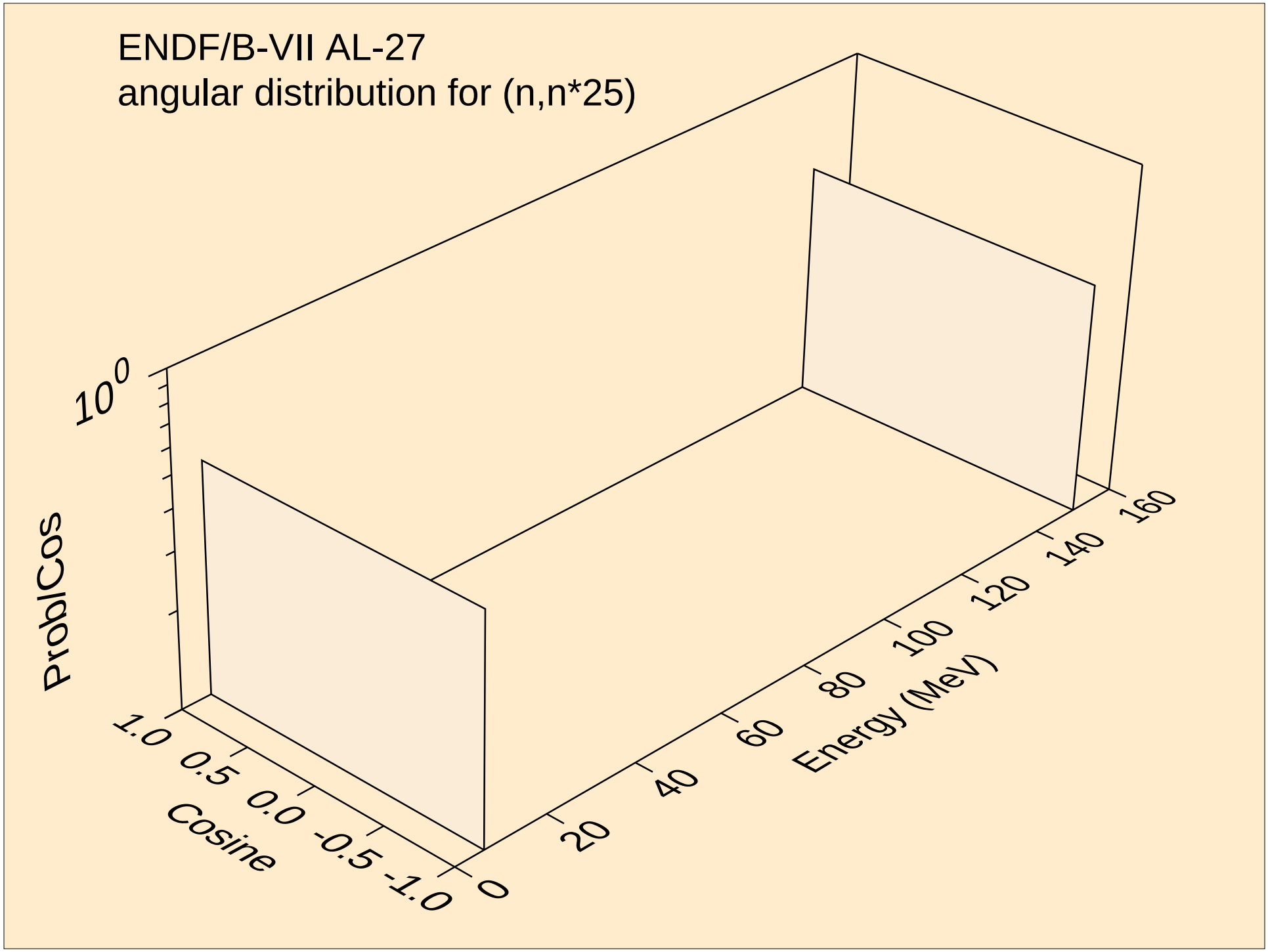

ENDF/B-VII AL-27
angular distribution for (n,n*20)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

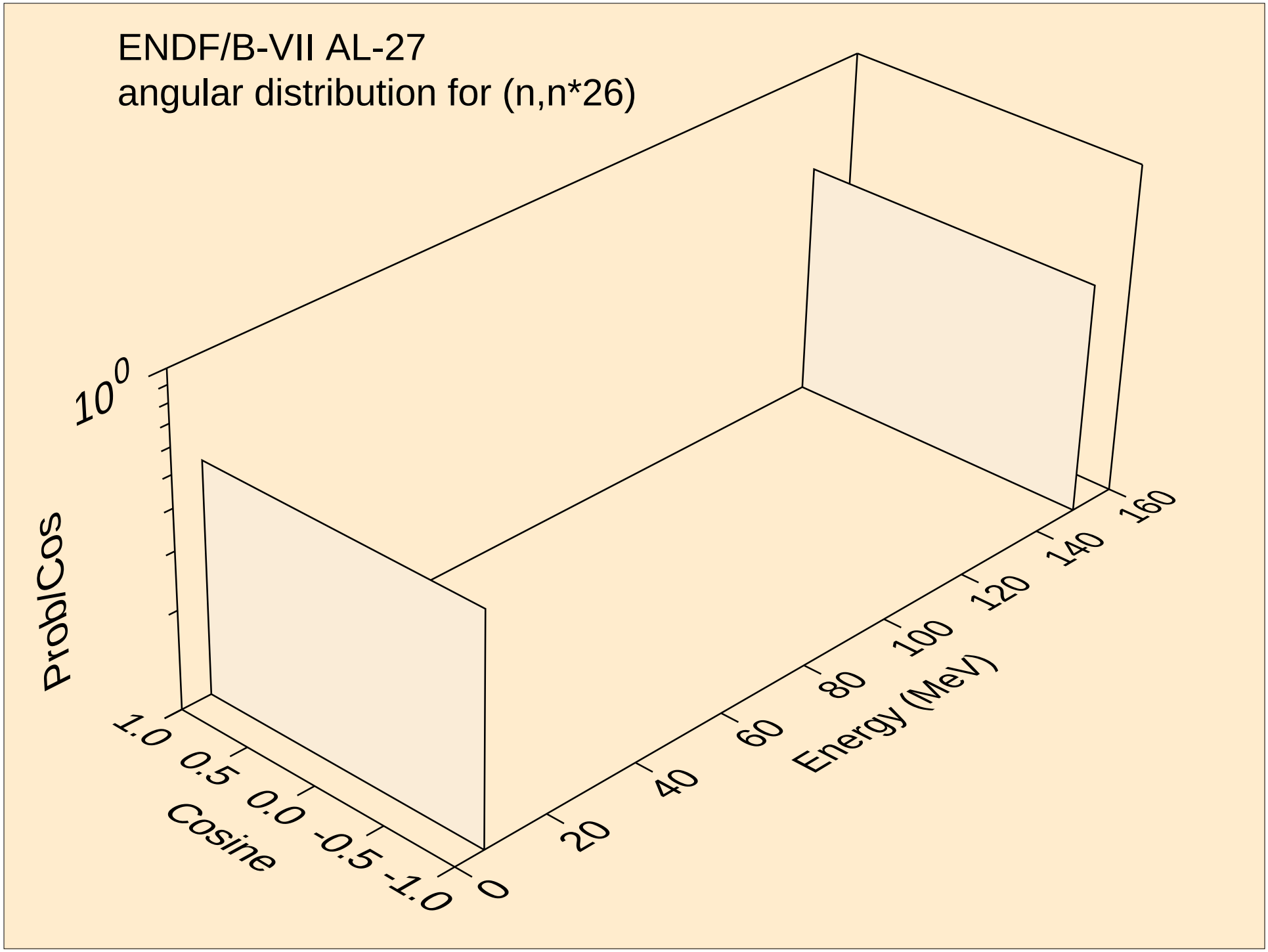

ENDF/B-VII AL-27
angular distribution for (n,n*21)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

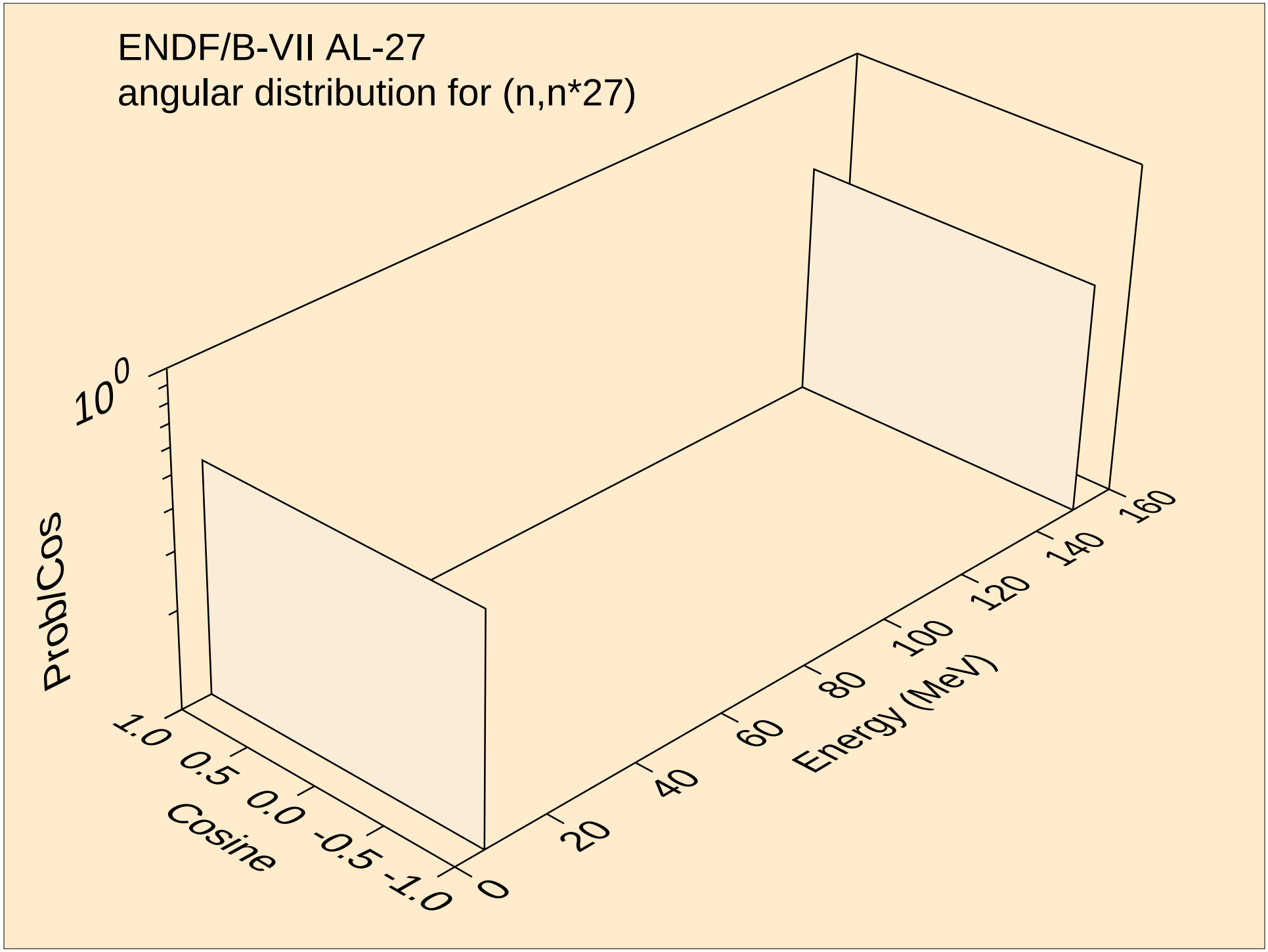

ENDF/B-VII AL-27
angular distribution for (n,n*22)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

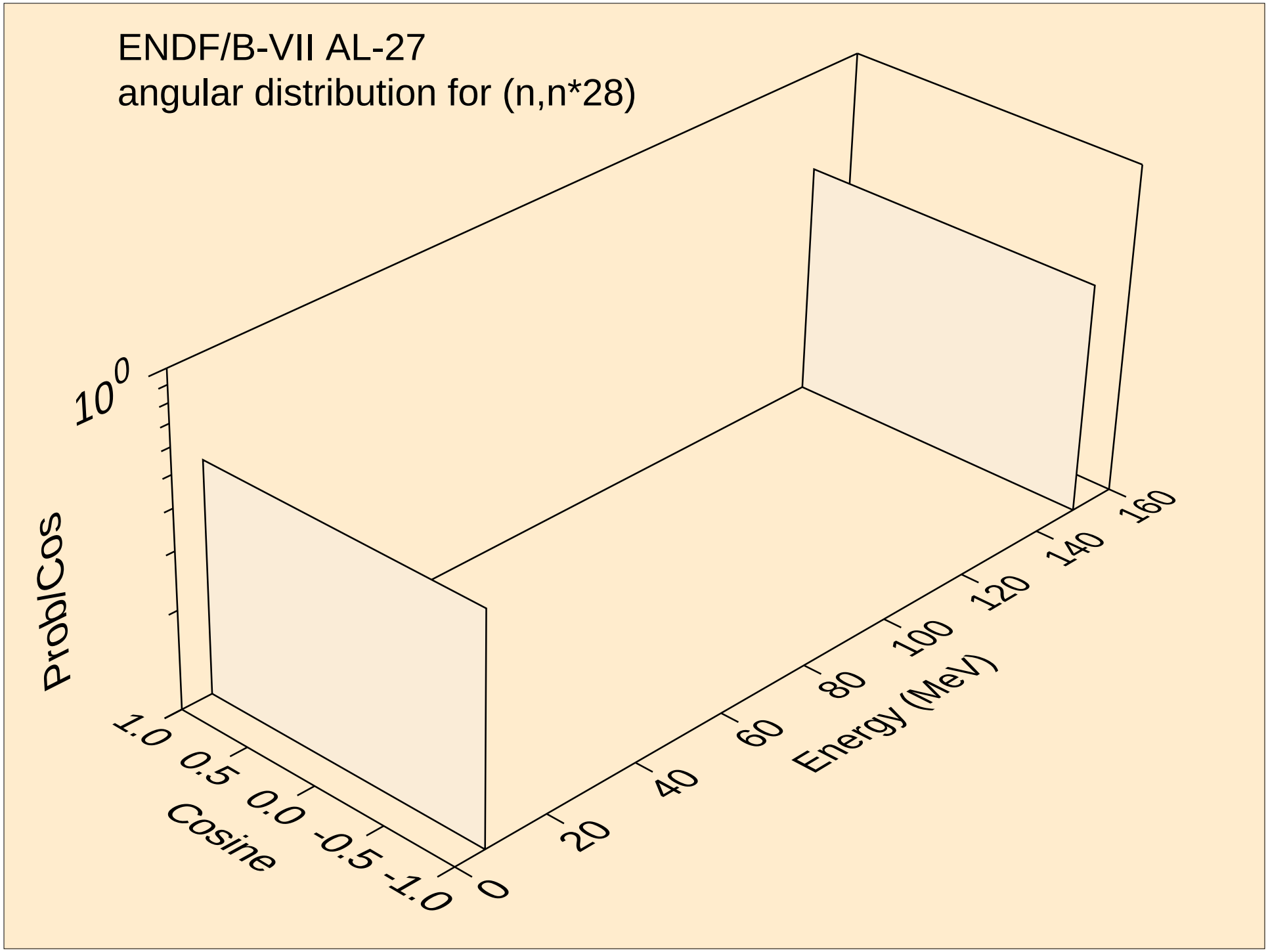

ENDF/B-VII AL-27
angular distribution for (n,n*23)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

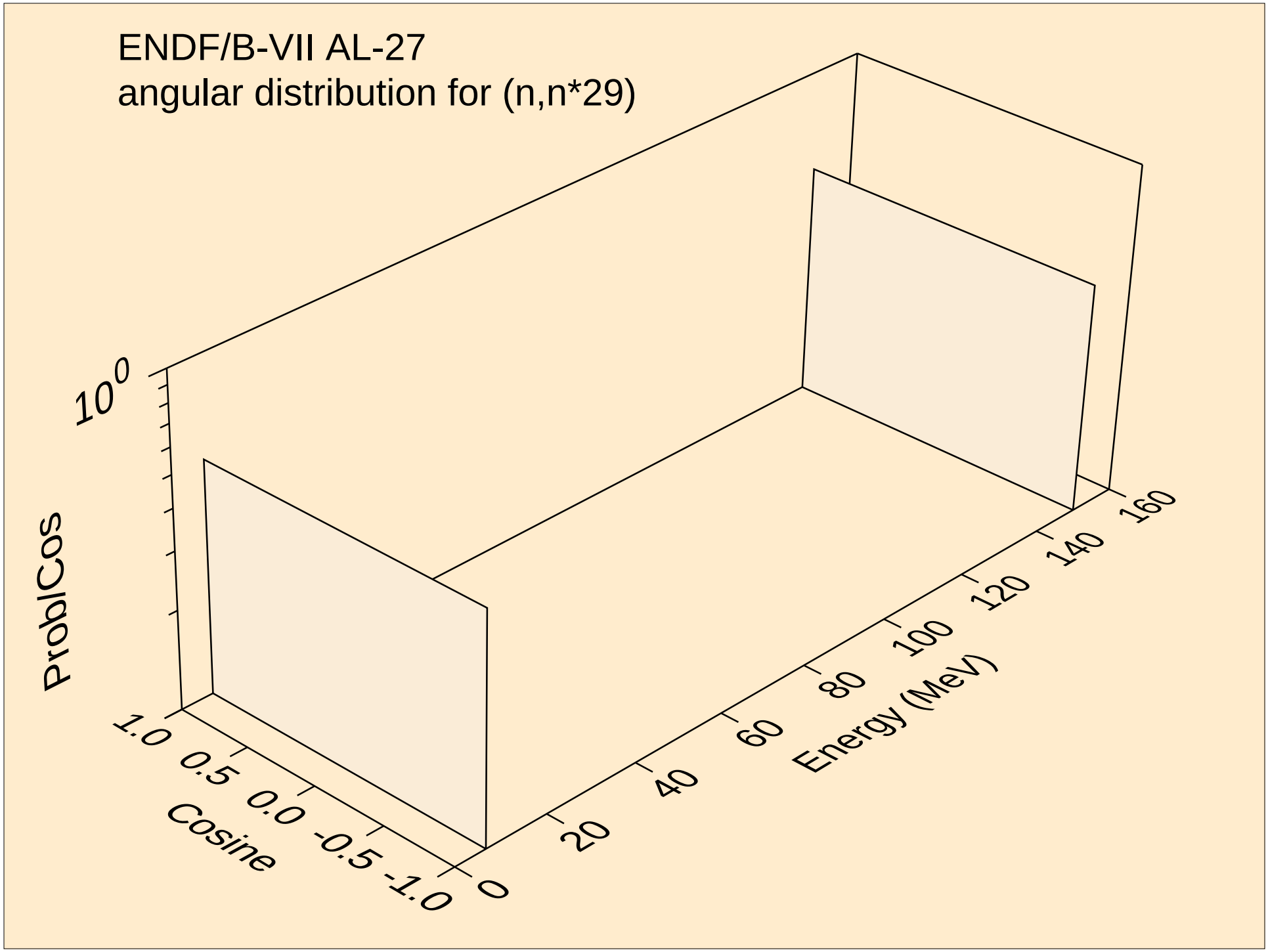

ENDF/B-VII AL-27
angular distribution for (n,n*24)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

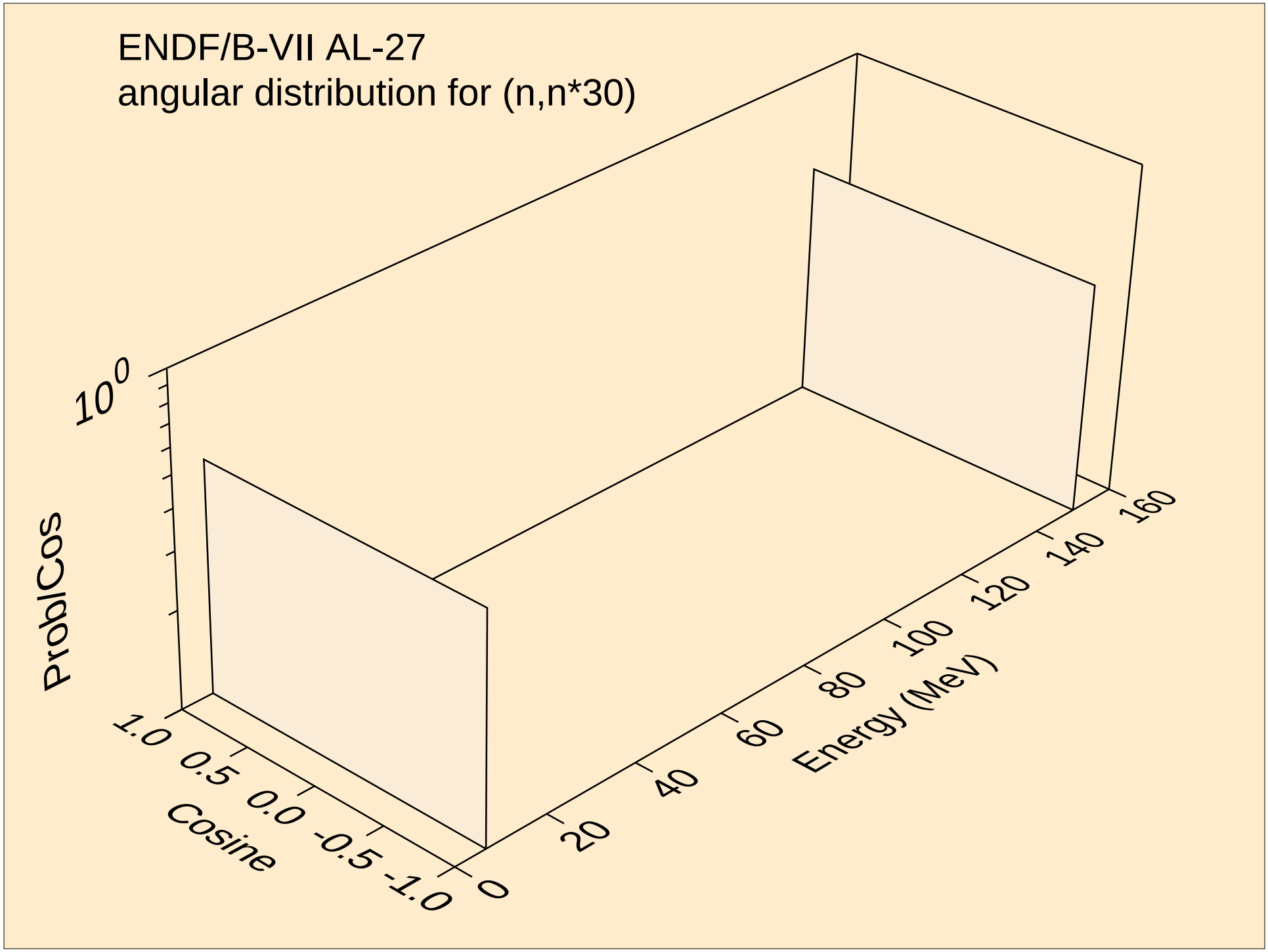

ENDF/B-VII AL-27
angular distribution for (n,n*25)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

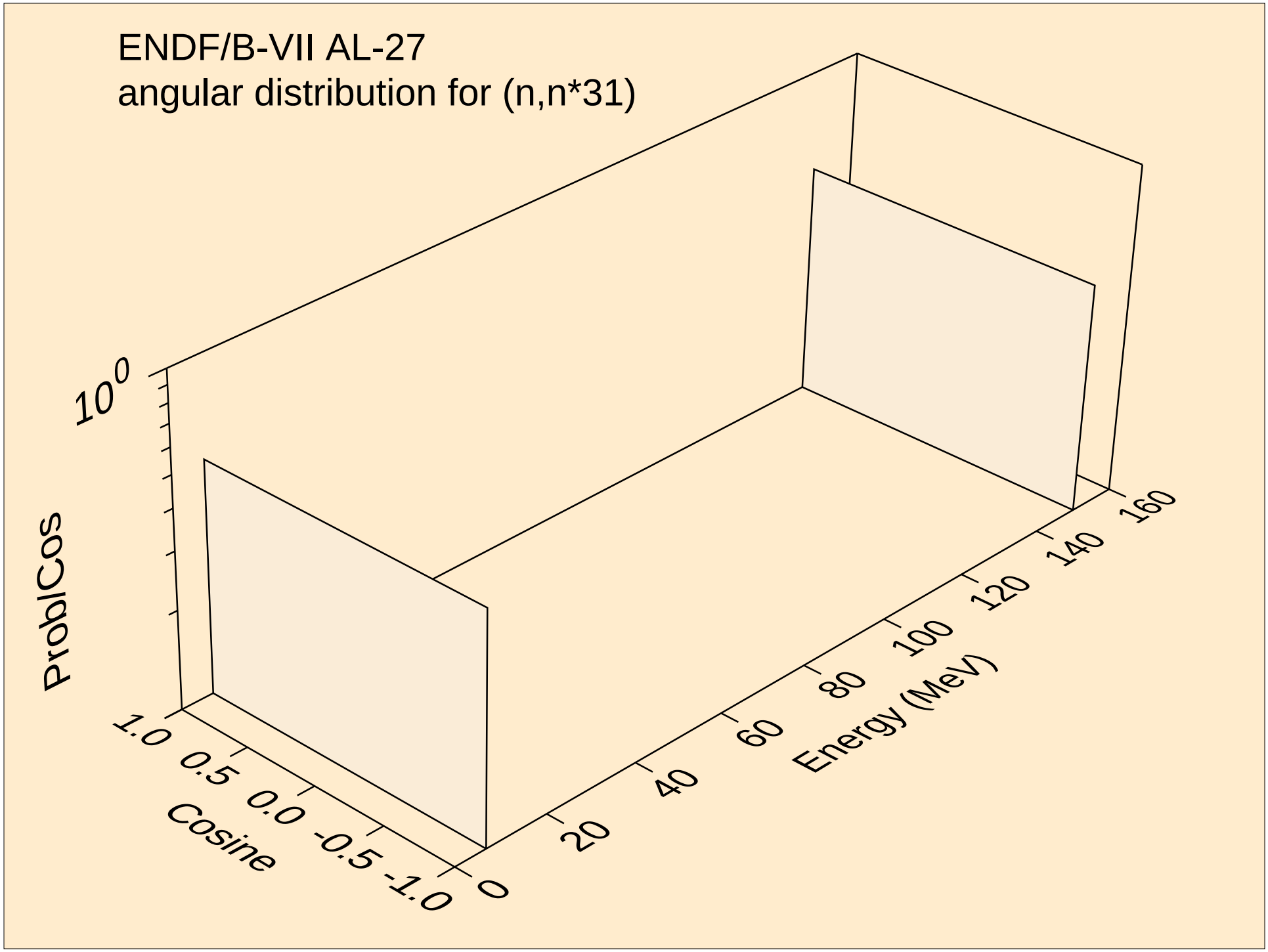

ENDF/B-VII AL-27
angular distribution for (n,n*26)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

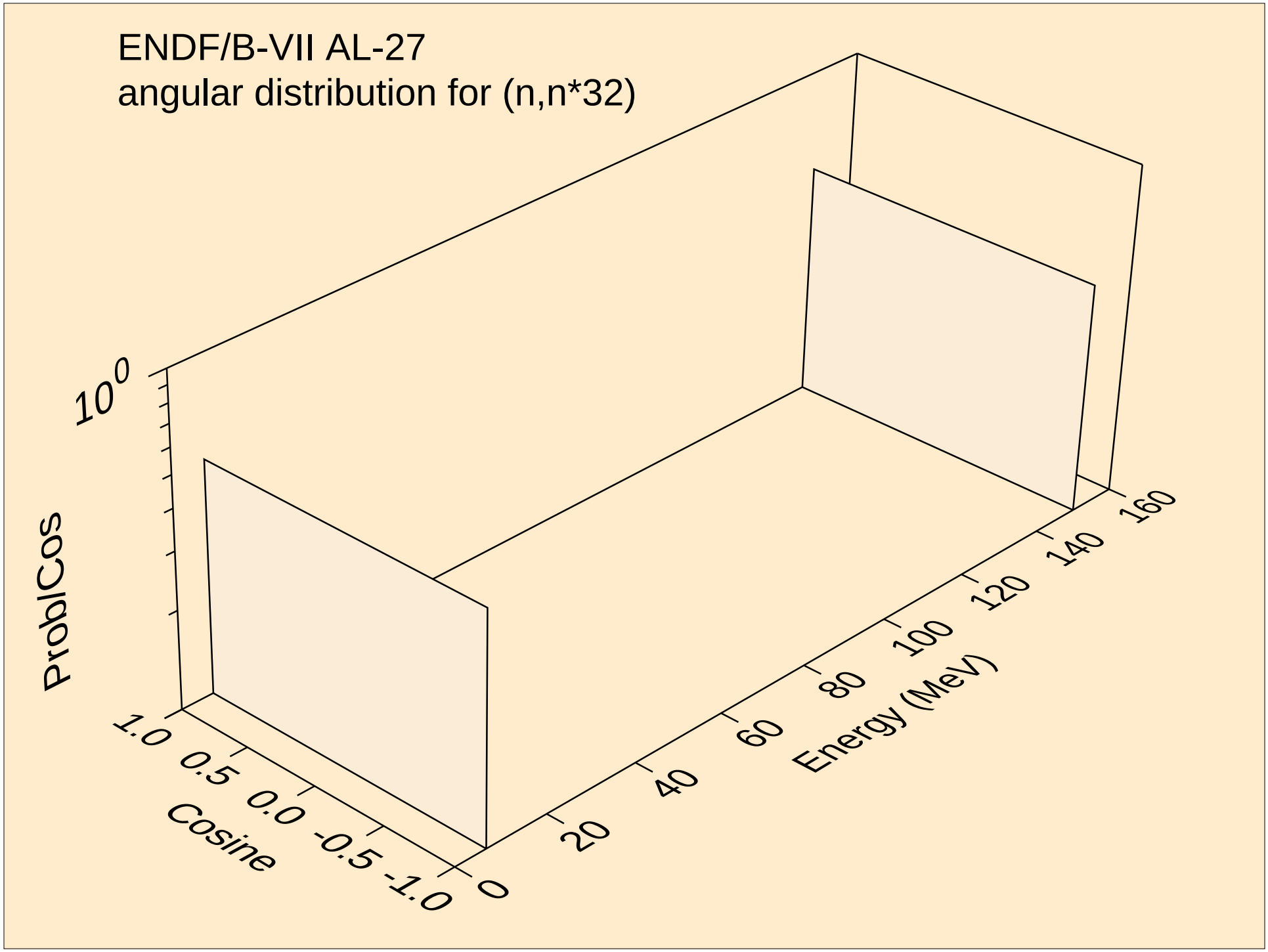

ENDF/B-VII AL-27
angular distribution for (n,n*27)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

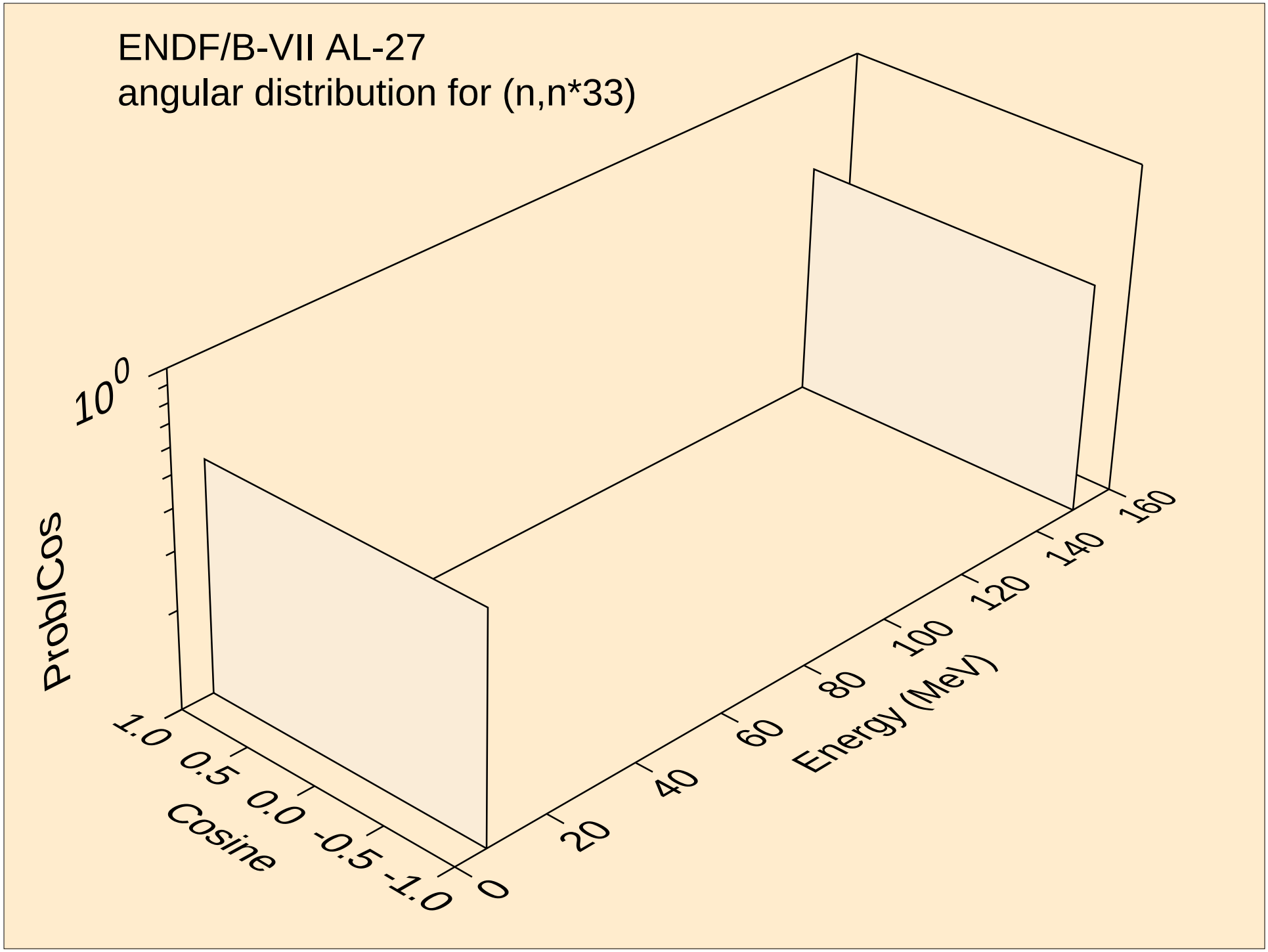

ENDF/B-VII AL-27
angular distribution for (n,n*28)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

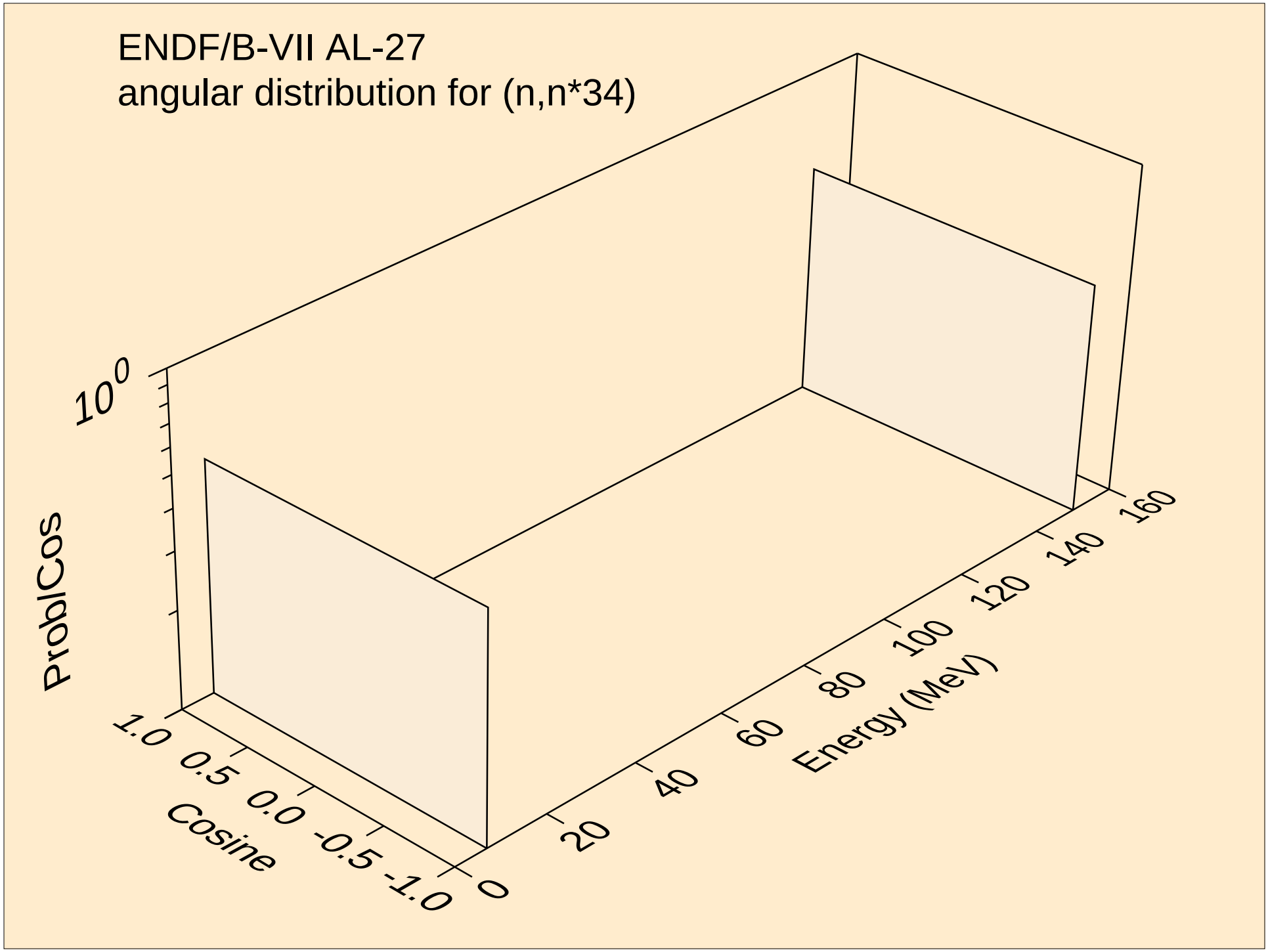

ENDF/B-VII AL-27
angular distribution for (n,n*29)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

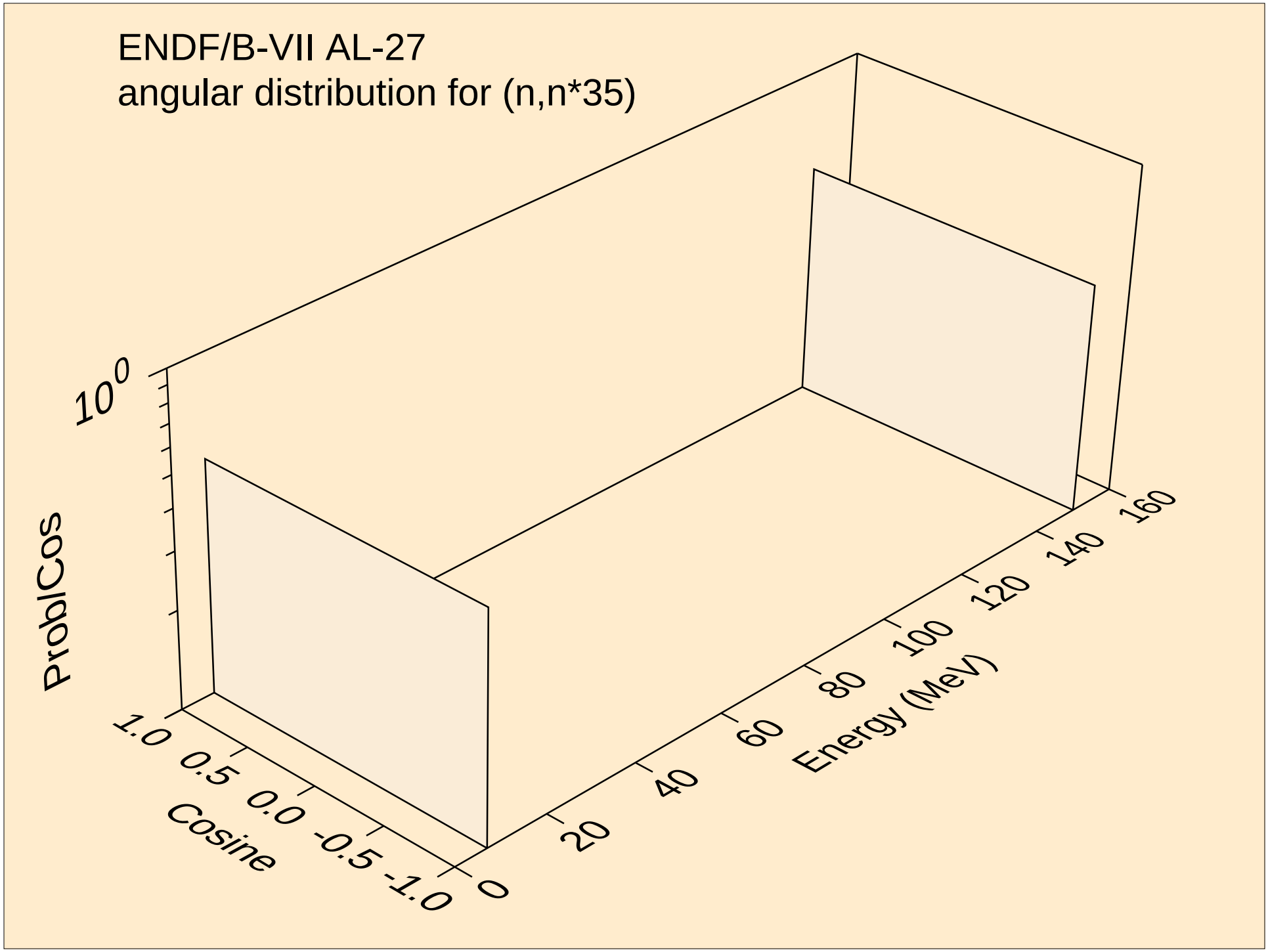

ENDF/B-VII AL-27
angular distribution for (n,n*30)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

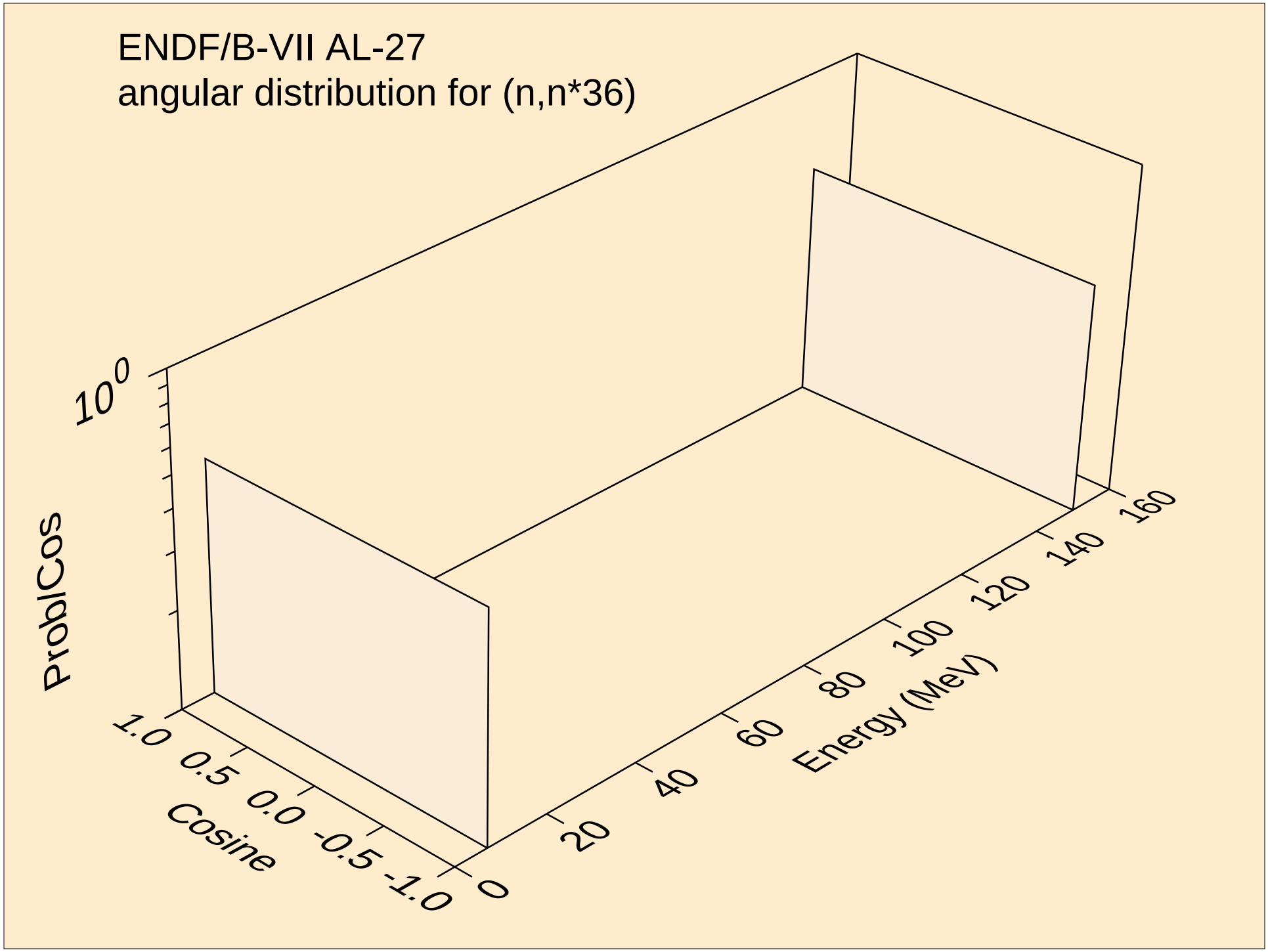

ENDF/B-VII AL-27
angular distribution for (n,n*31)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

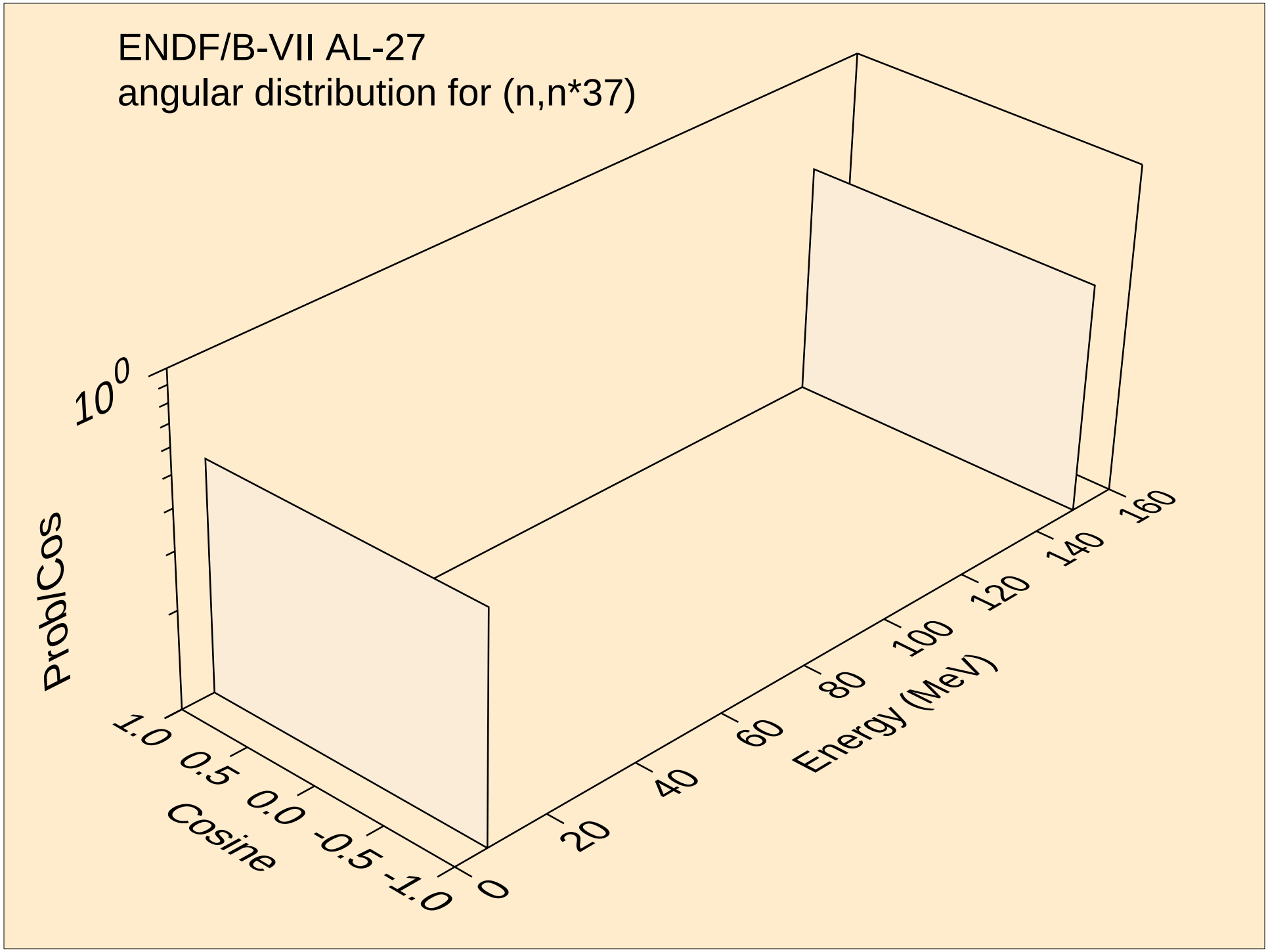

ENDF/B-VII AL-27
angular distribution for (n,n*32)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

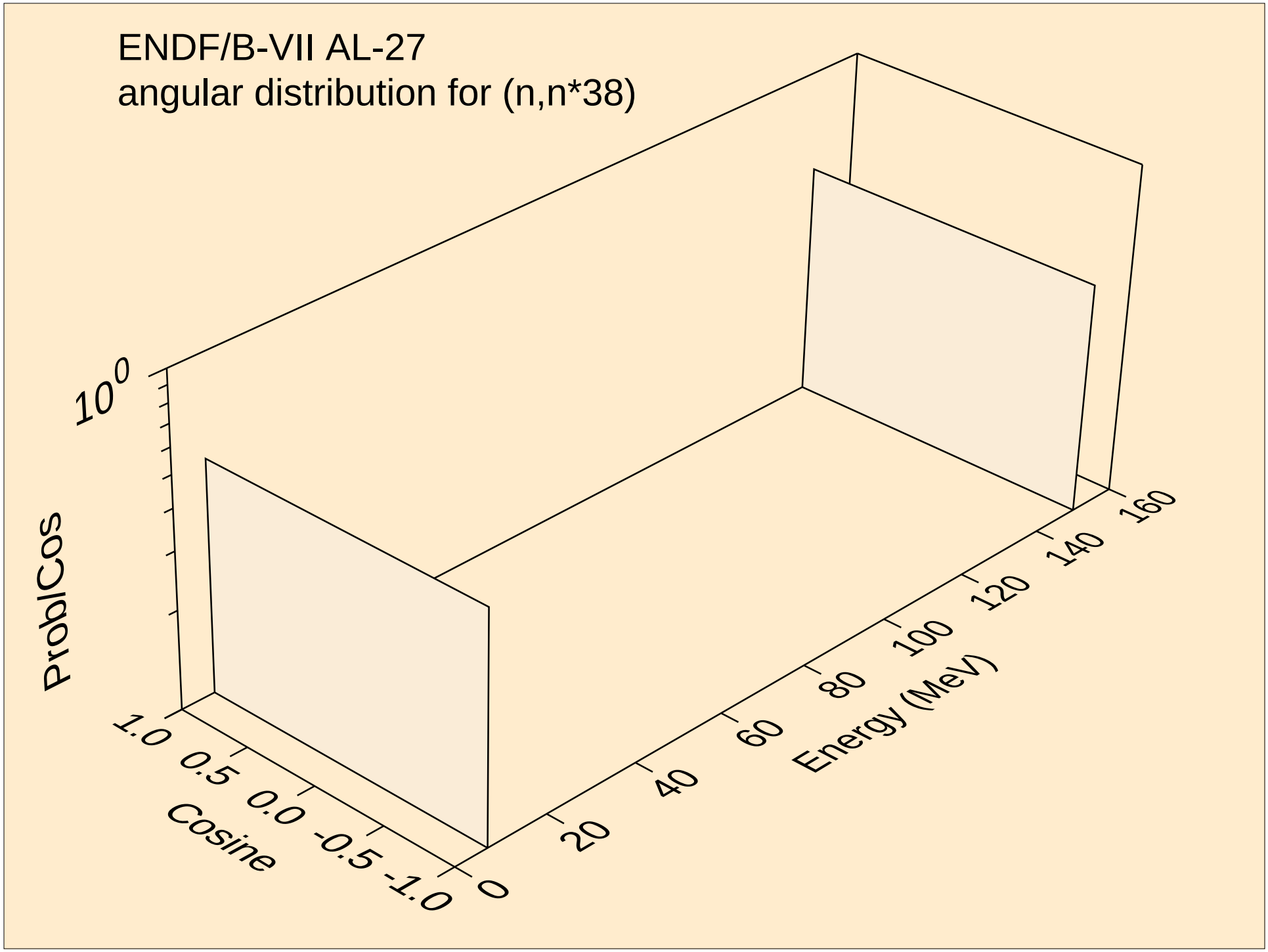

ENDF/B-VII AL-27
angular distribution for (n,n*33)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

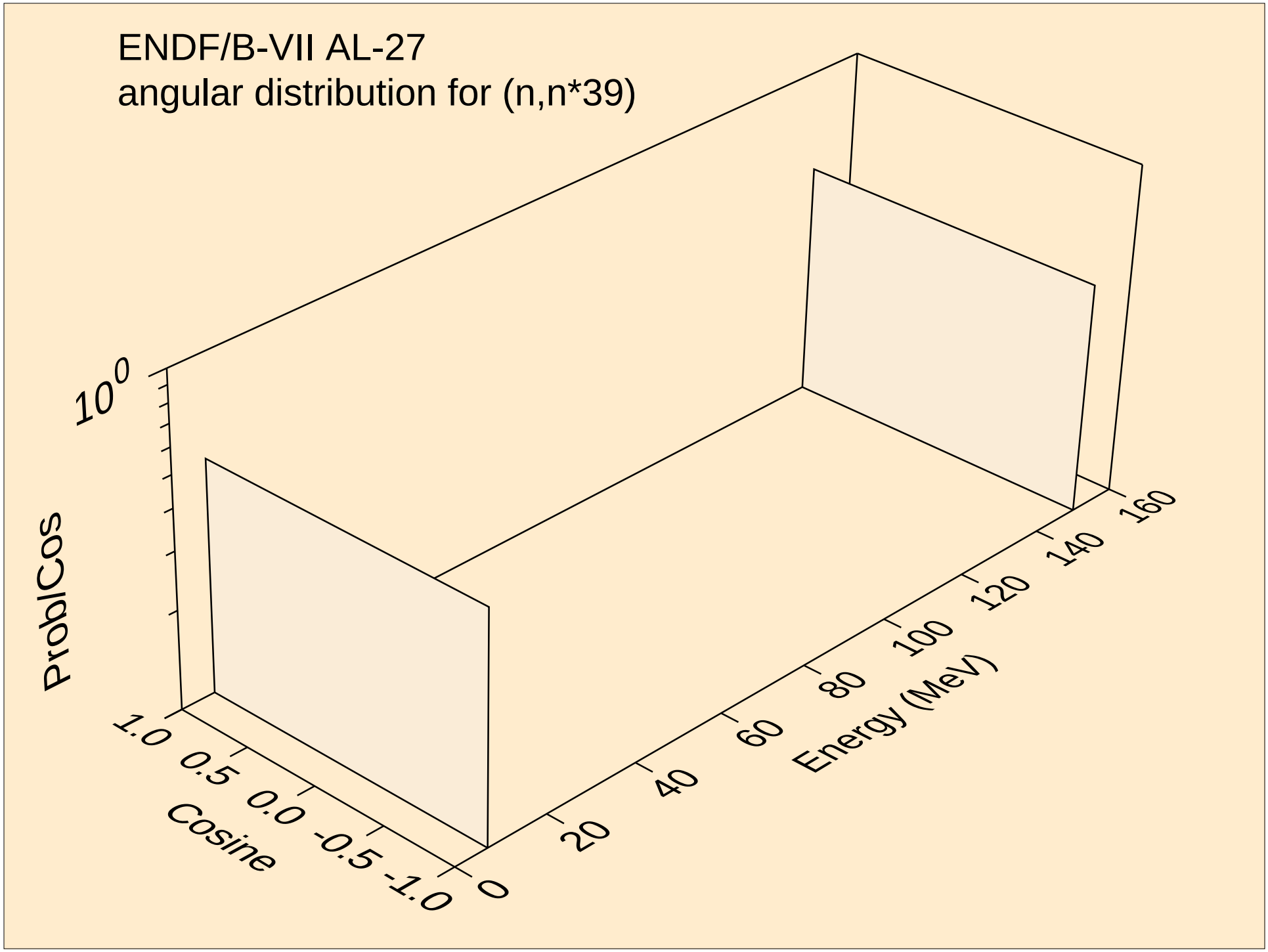

ENDF/B-VII AL-27
angular distribution for (n,n*34)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

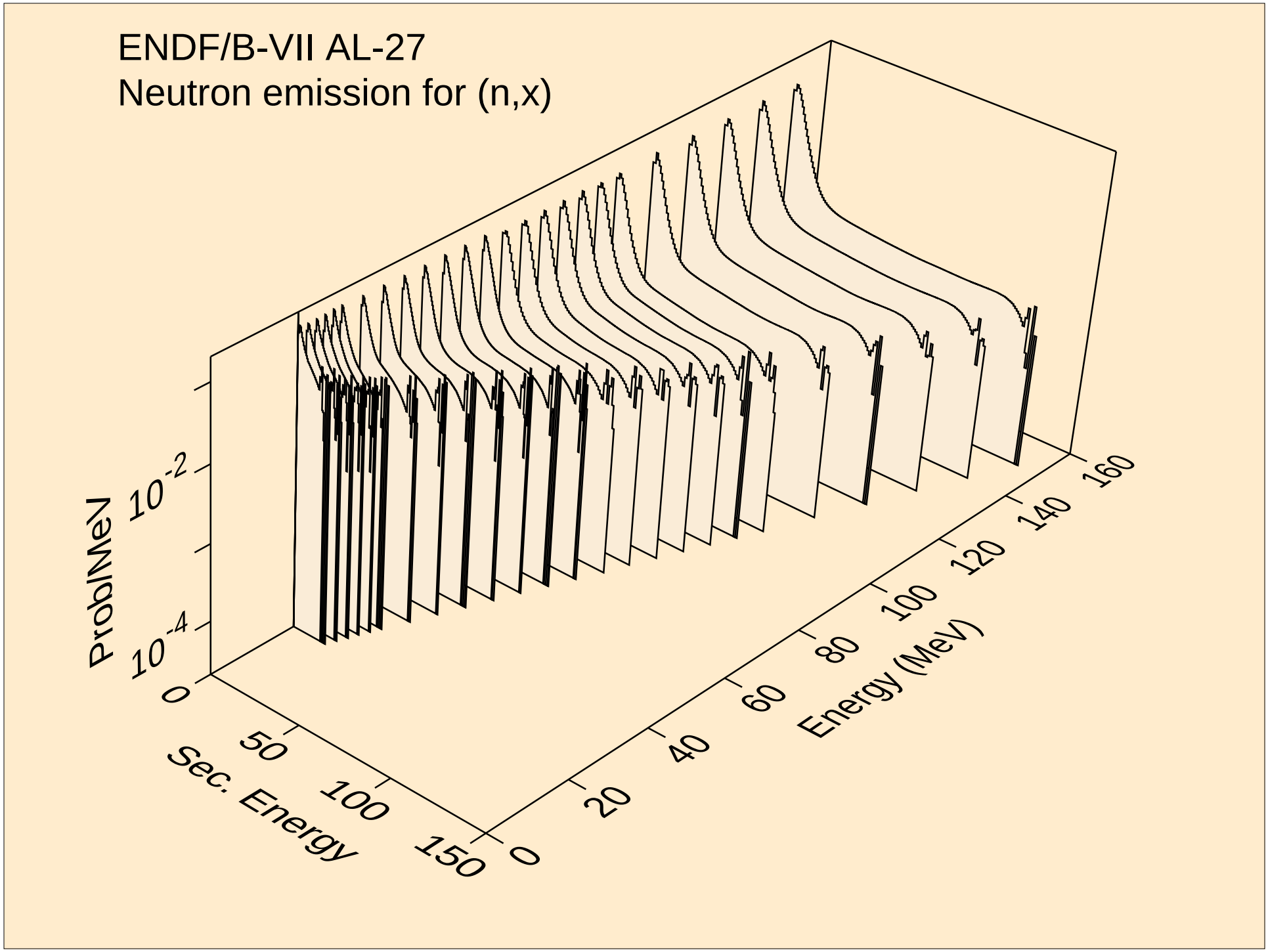

ENDF/B-VII AL-27
angular distribution for (n,n*35)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

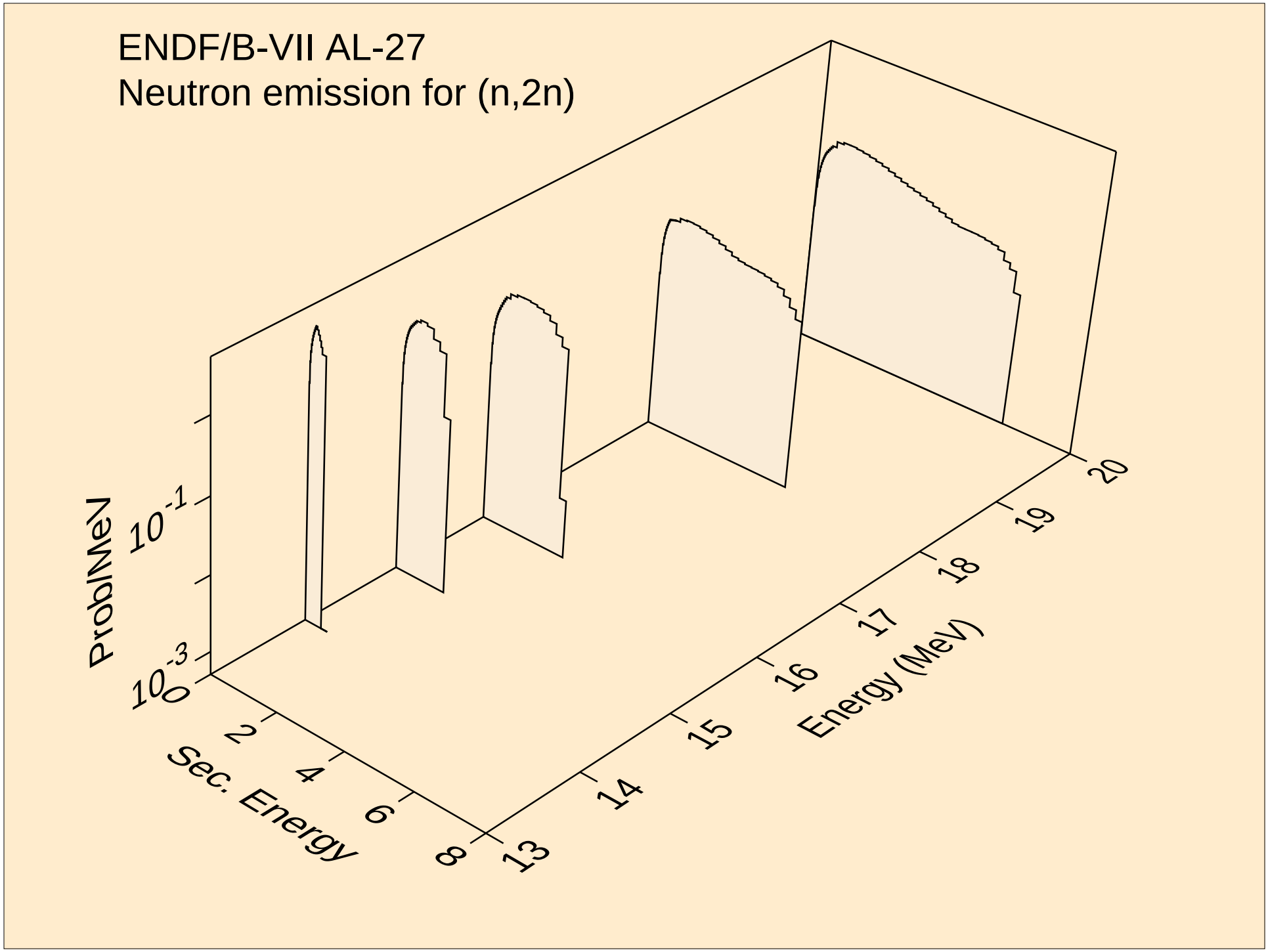

ENDF/B-VII AL-27
angular distribution for (n,n*36)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

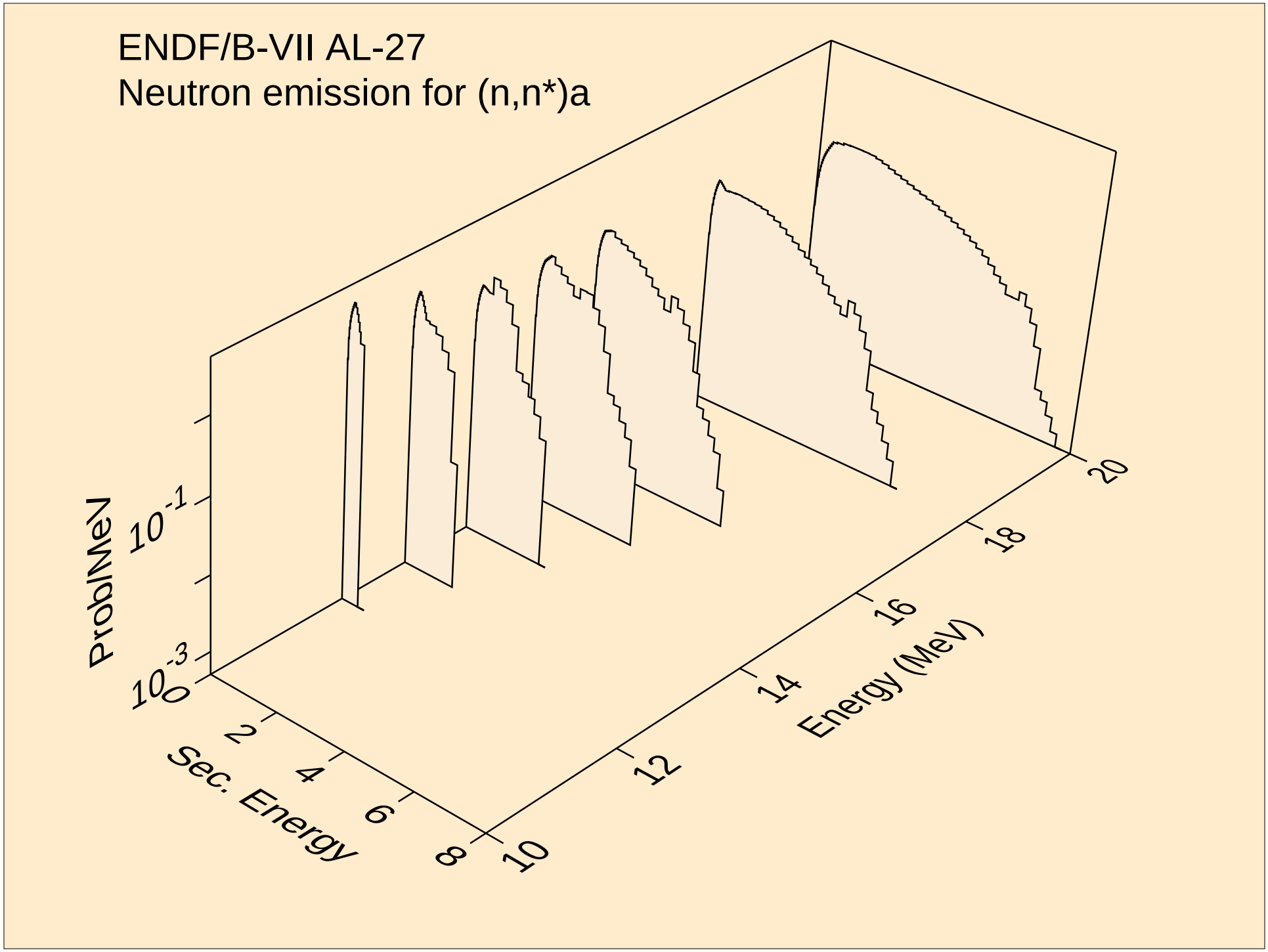

ENDF/B-VII AL-27
angular distribution for (n,n*37)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

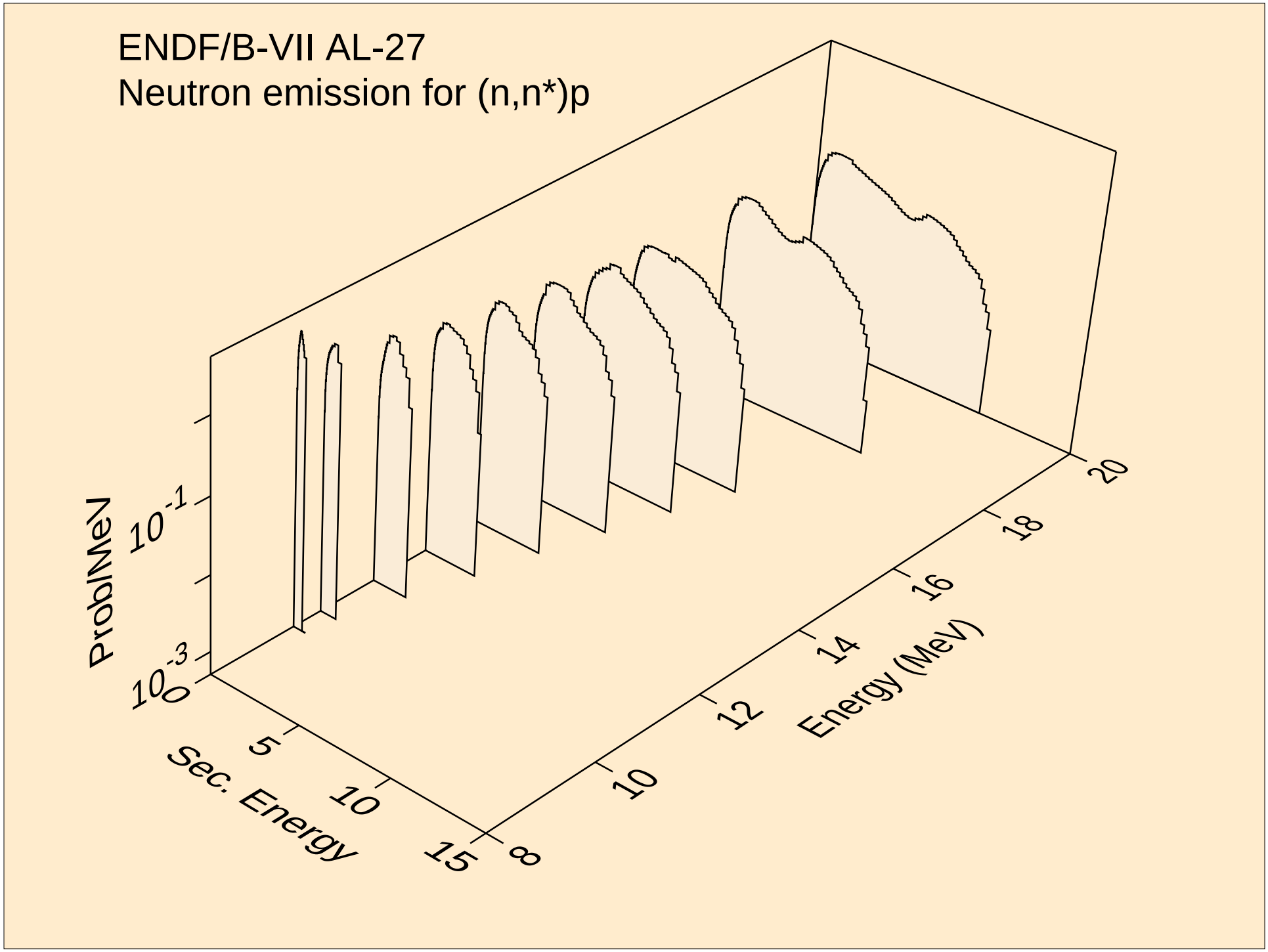

ENDF/B-VII AL-27
angular distribution for (n,n*38)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

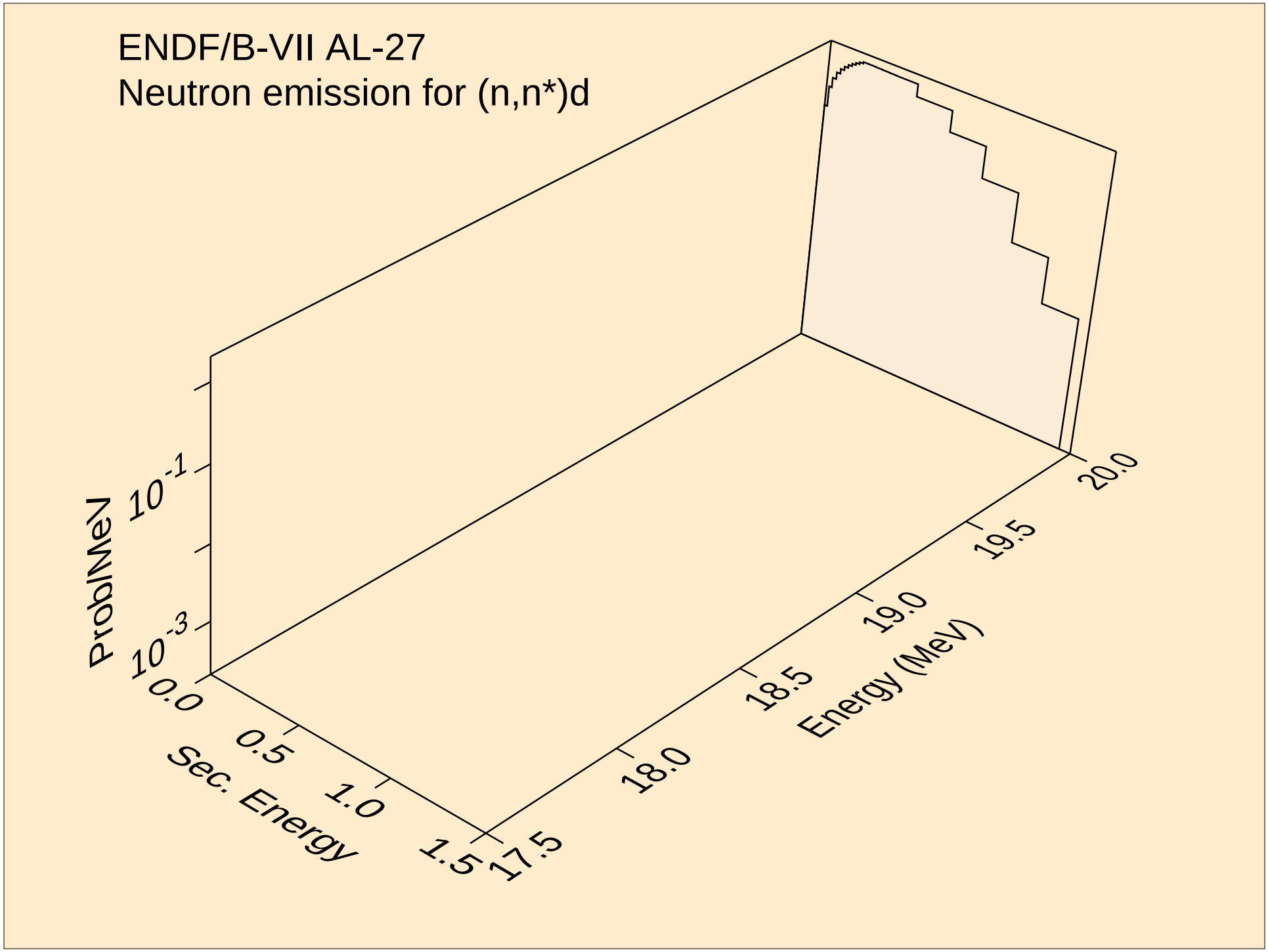

ENDF/B-VII AL-27
angular distribution for (n,n*39)
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

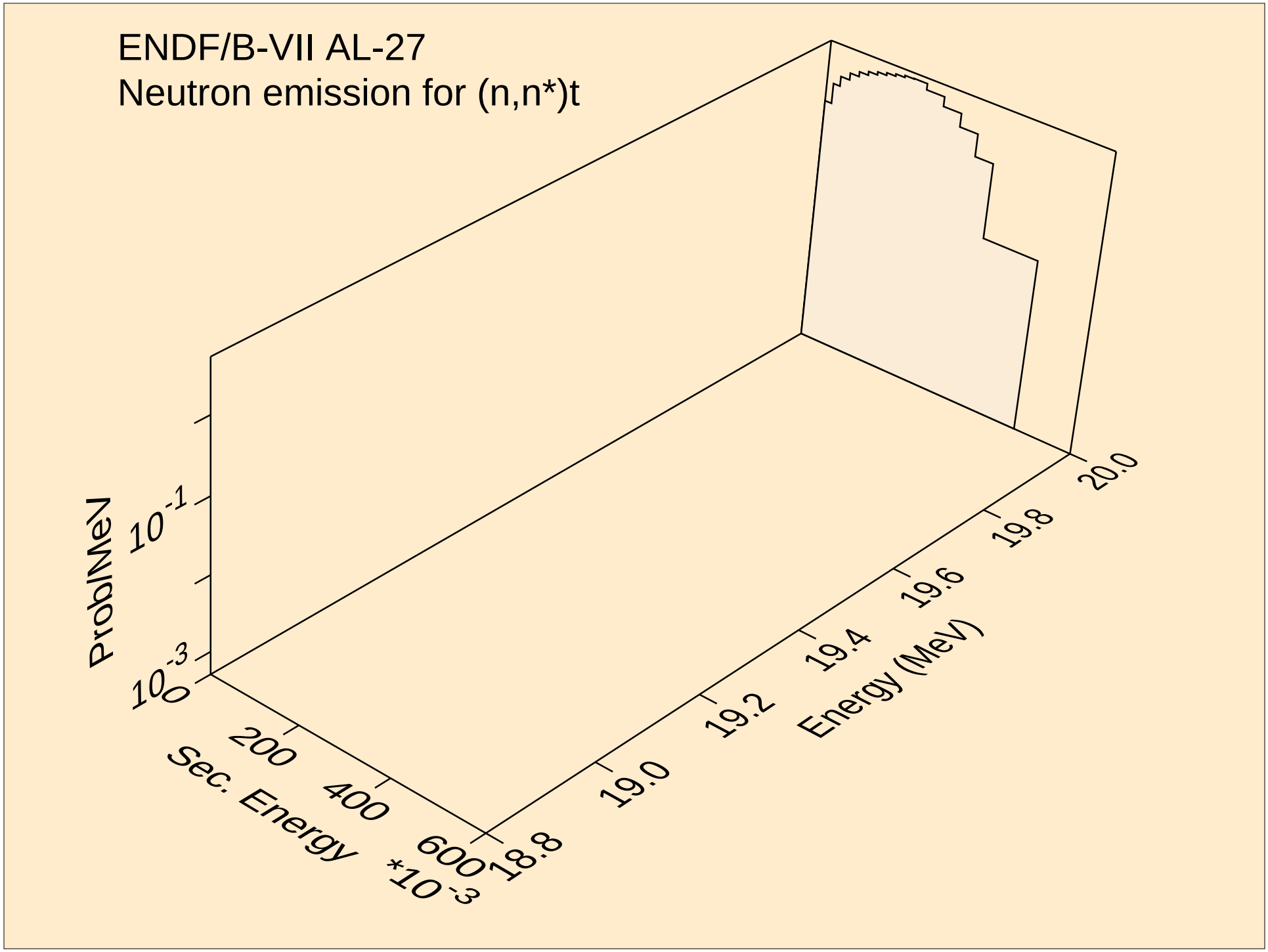

ENDF/B-VII AL-27
Neutron emission for (n,x)
Prob/MeV
10^-2
10^-4
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

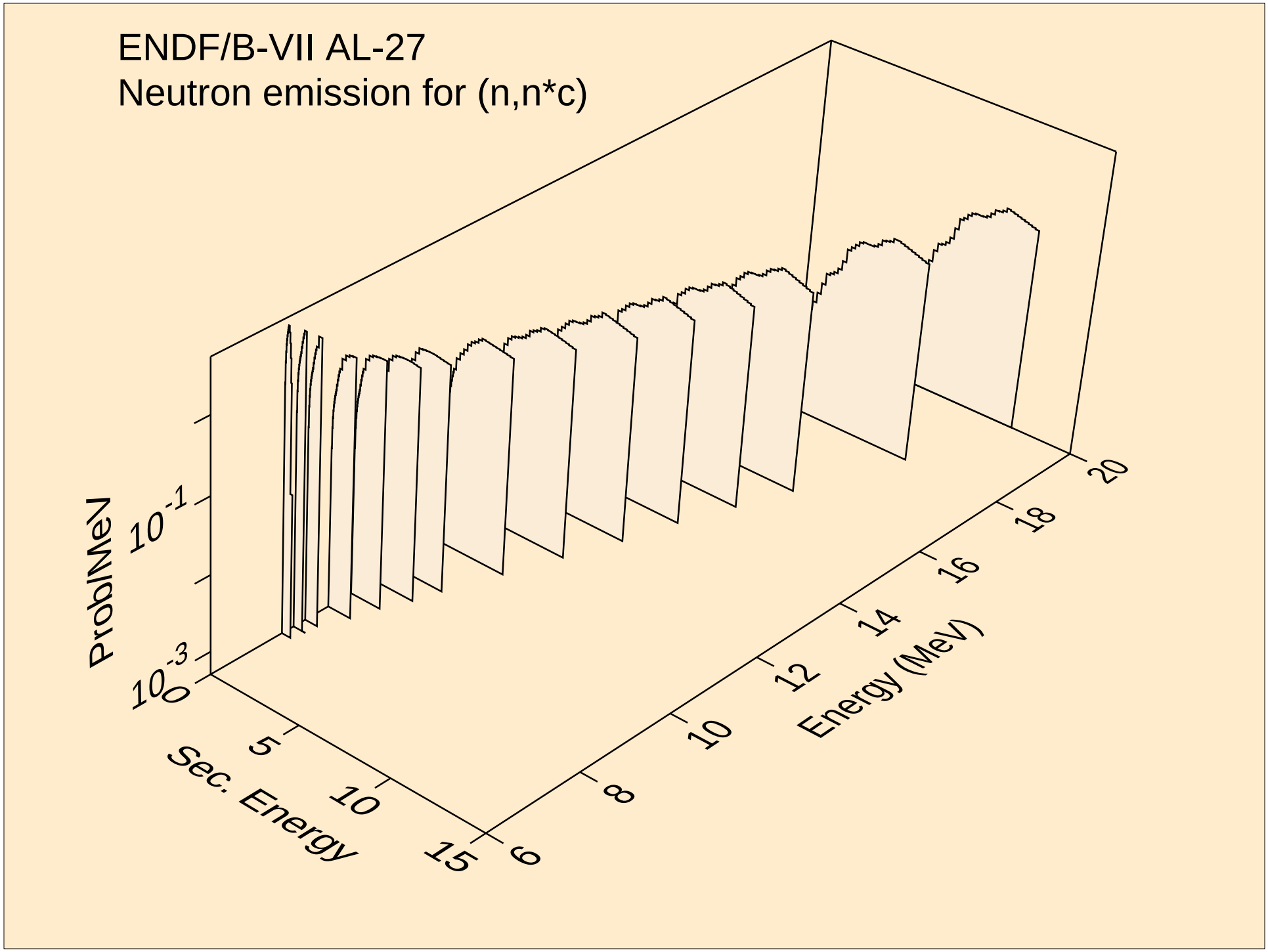

ENDF/B-VII AL-27
Neutron emission for (n,2n)
Prob/MeV
10^{-1}
10^{-3}
0
2
4
6
8
Sec. Energy
13
14
15
16
17
18
19
20
Energy (MeV)

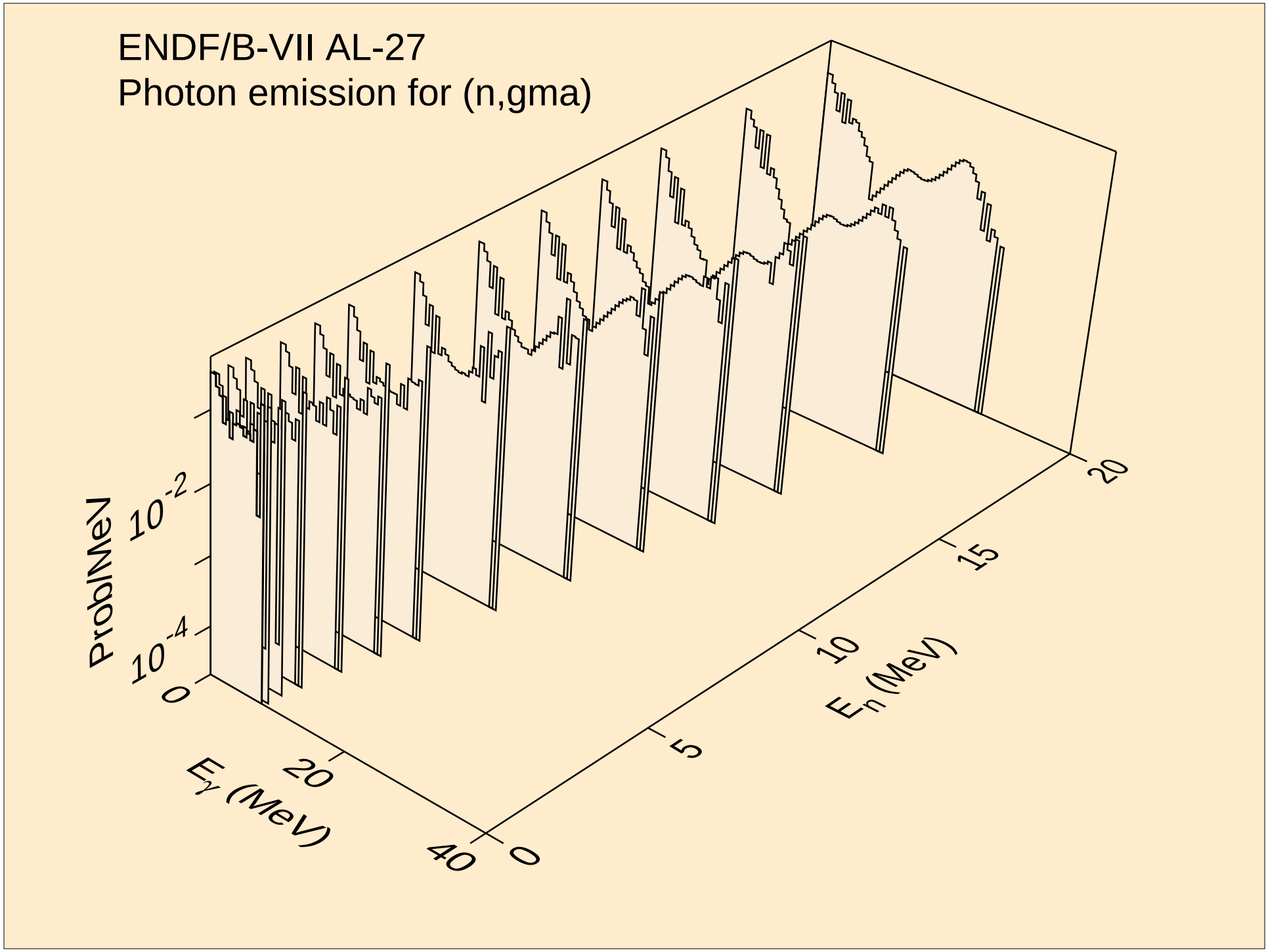

ENDF/B-VII AL-27
Neutron emission for (n,n*)a
Prob/MeV
10^{-1}
10^{-3}
0
2
4
6
8
10
Sec. Energy
12
14
16
18
20
Energy (MeV)

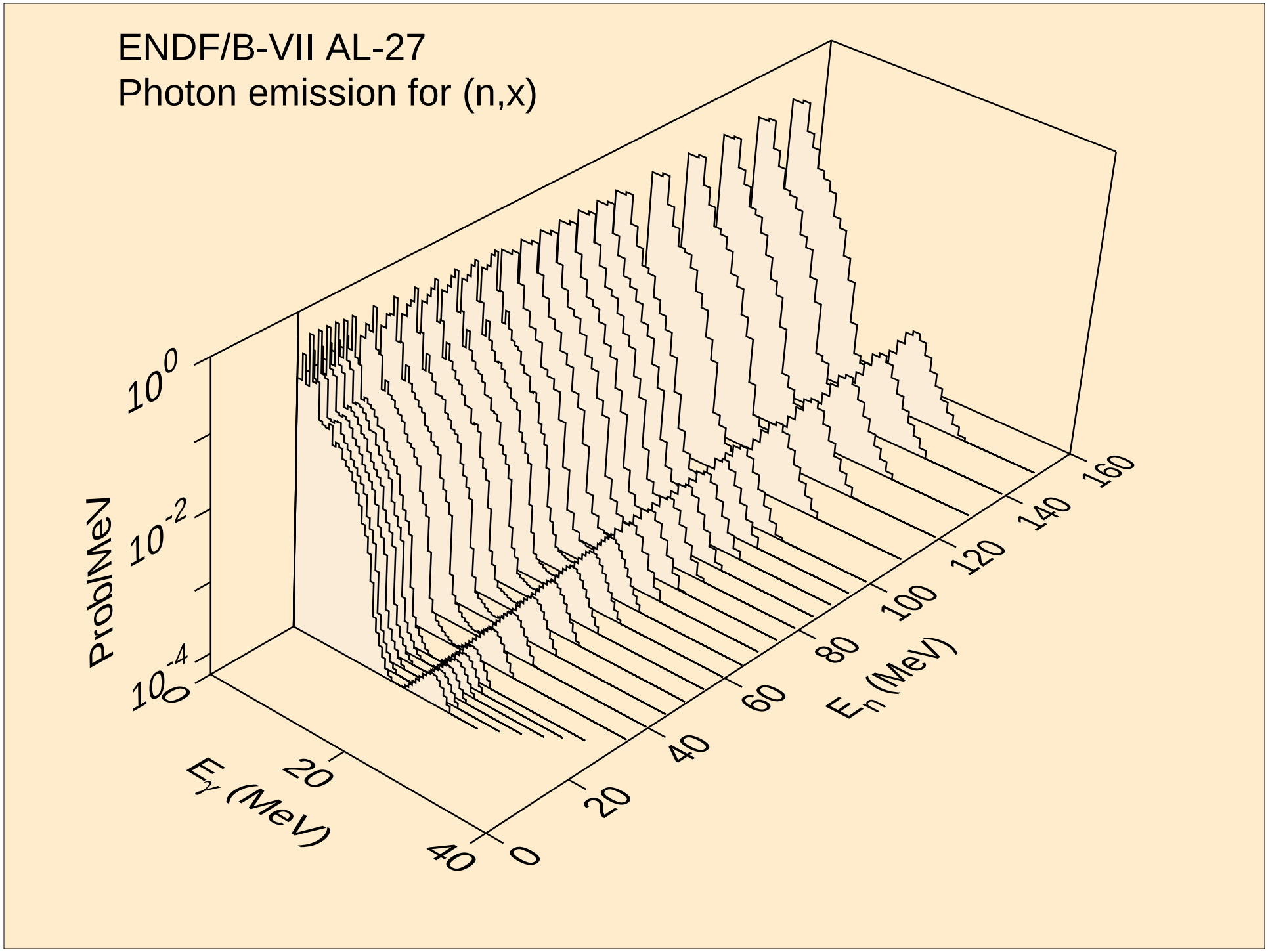

ENDF/B-VII AL-27
Neutron emission for (n,n*)p
Prob/MeV
10^{-1}
10^{-3}
0
5
10
15
Sec. Energy
8
10
12
14
16
18
20
Energy (MeV)

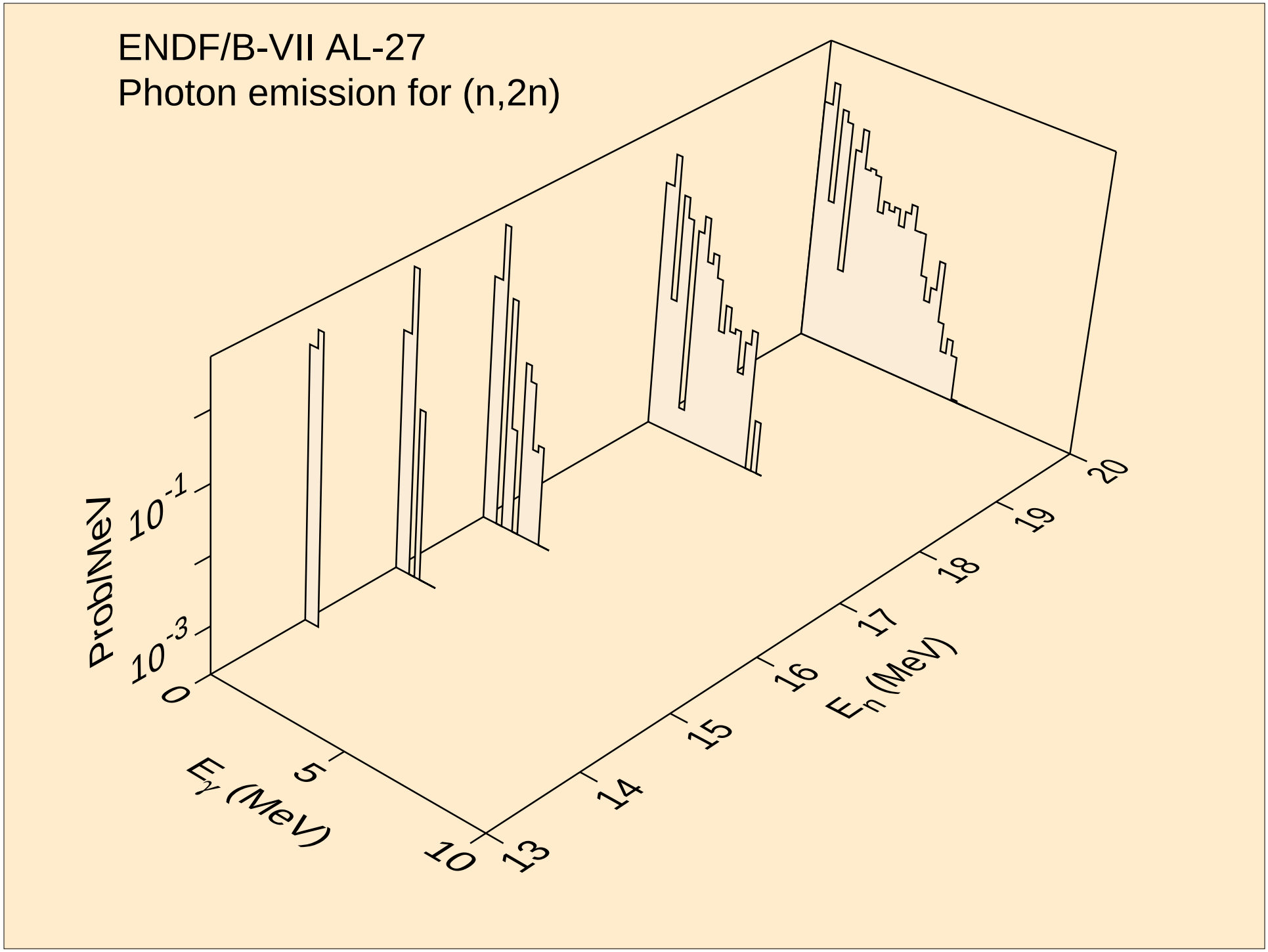

ENDF/B-VII AL-27
Neutron emission for (n,n*)d
Prob/MeV
10^-1
10^-3
0.0
0.5
1.0
1.5
Sec. Energy
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

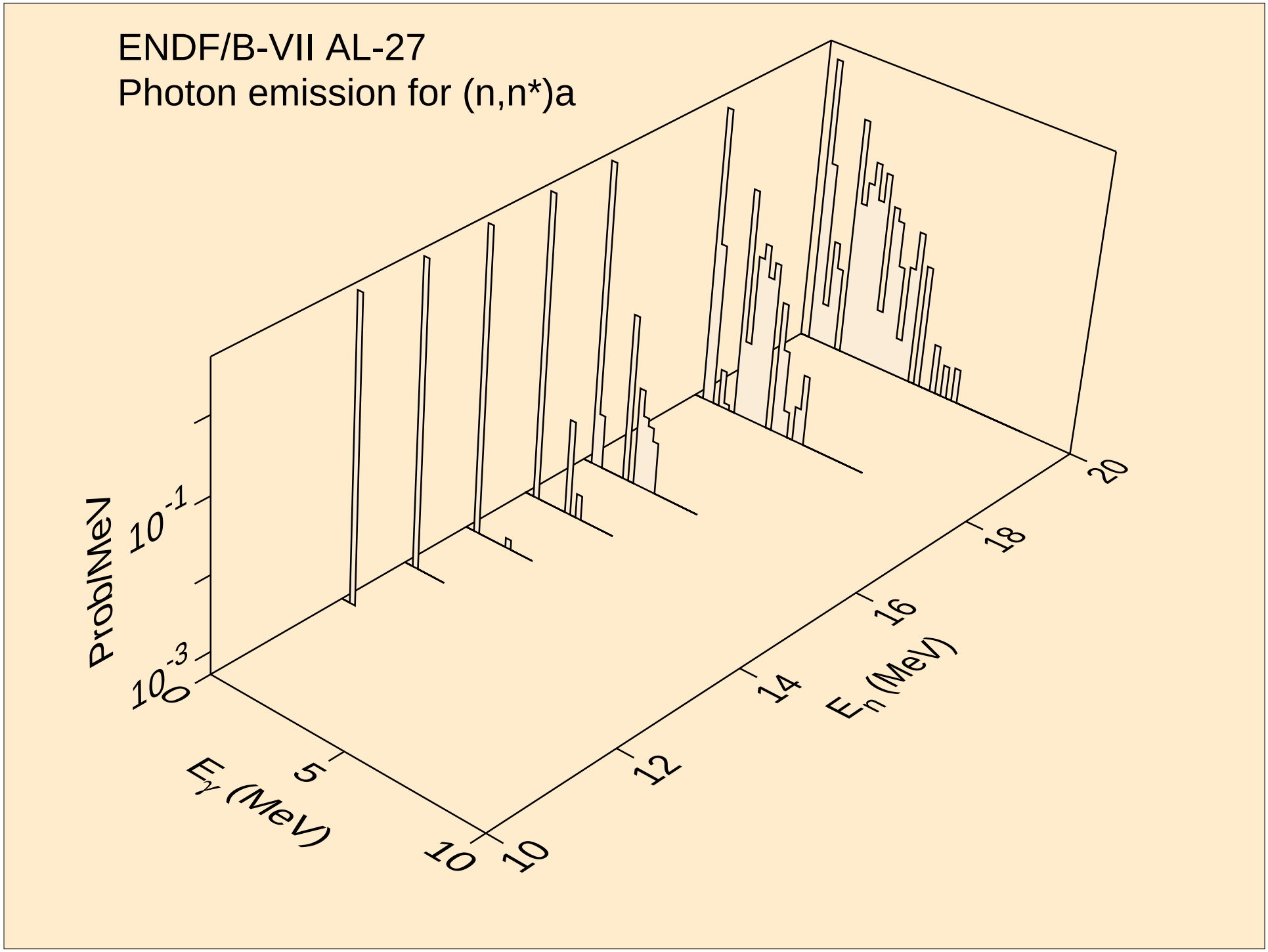

ENDF/B-VII AL-27
Neutron emission for (n,n*)t
Prob/MeV
10^-1
10^-3
0
200
400
600
Sec. Energy
*10^-3
18.8
19.0
19.2
19.4
19.6
19.8
20.0
Energy (MeV)

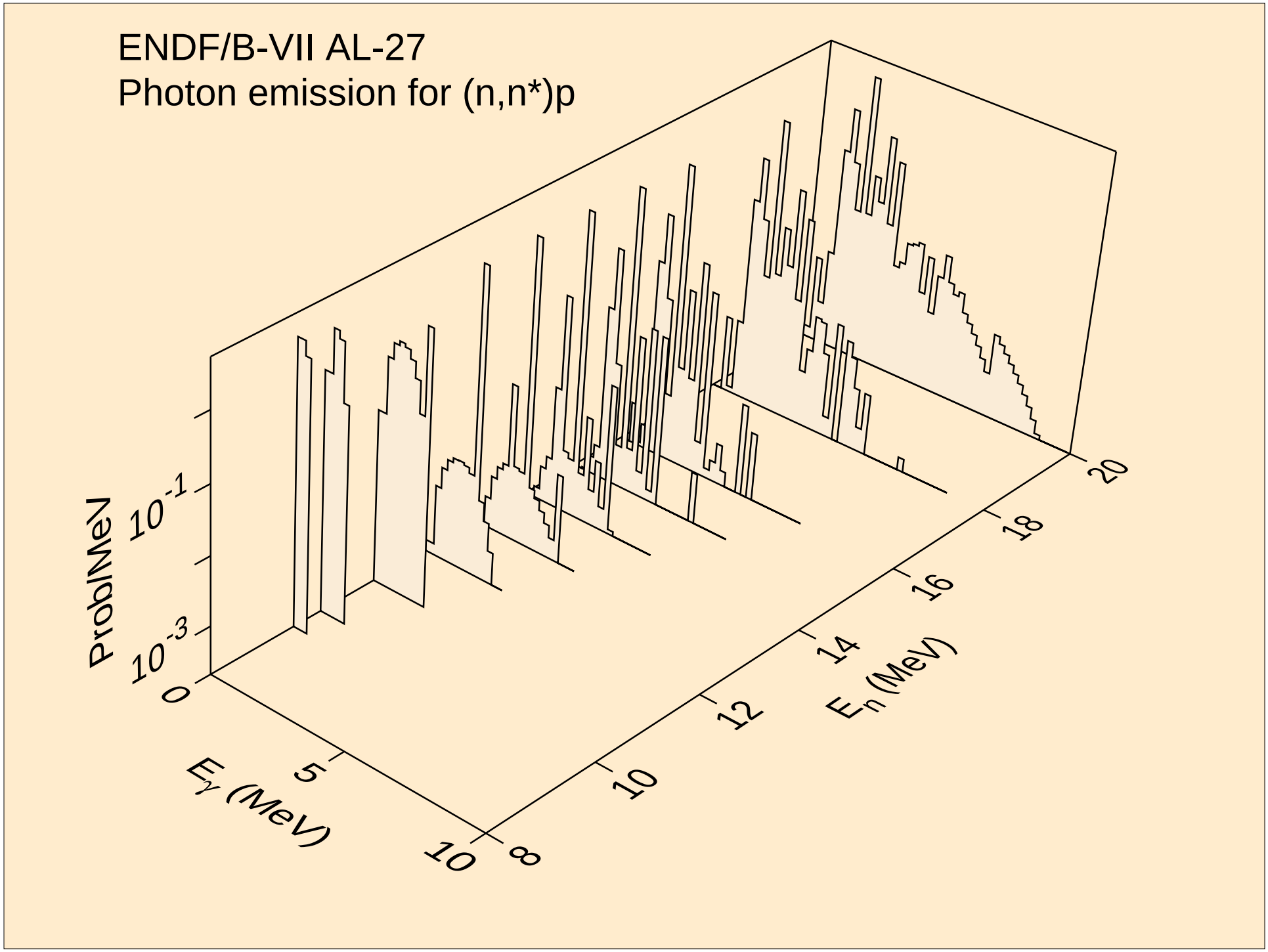

ENDF/B-VII AL-27
Neutron emission for (n,n*c)
Prob/MeV
10^{-1}
10^{-3}
0
5
10
15
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

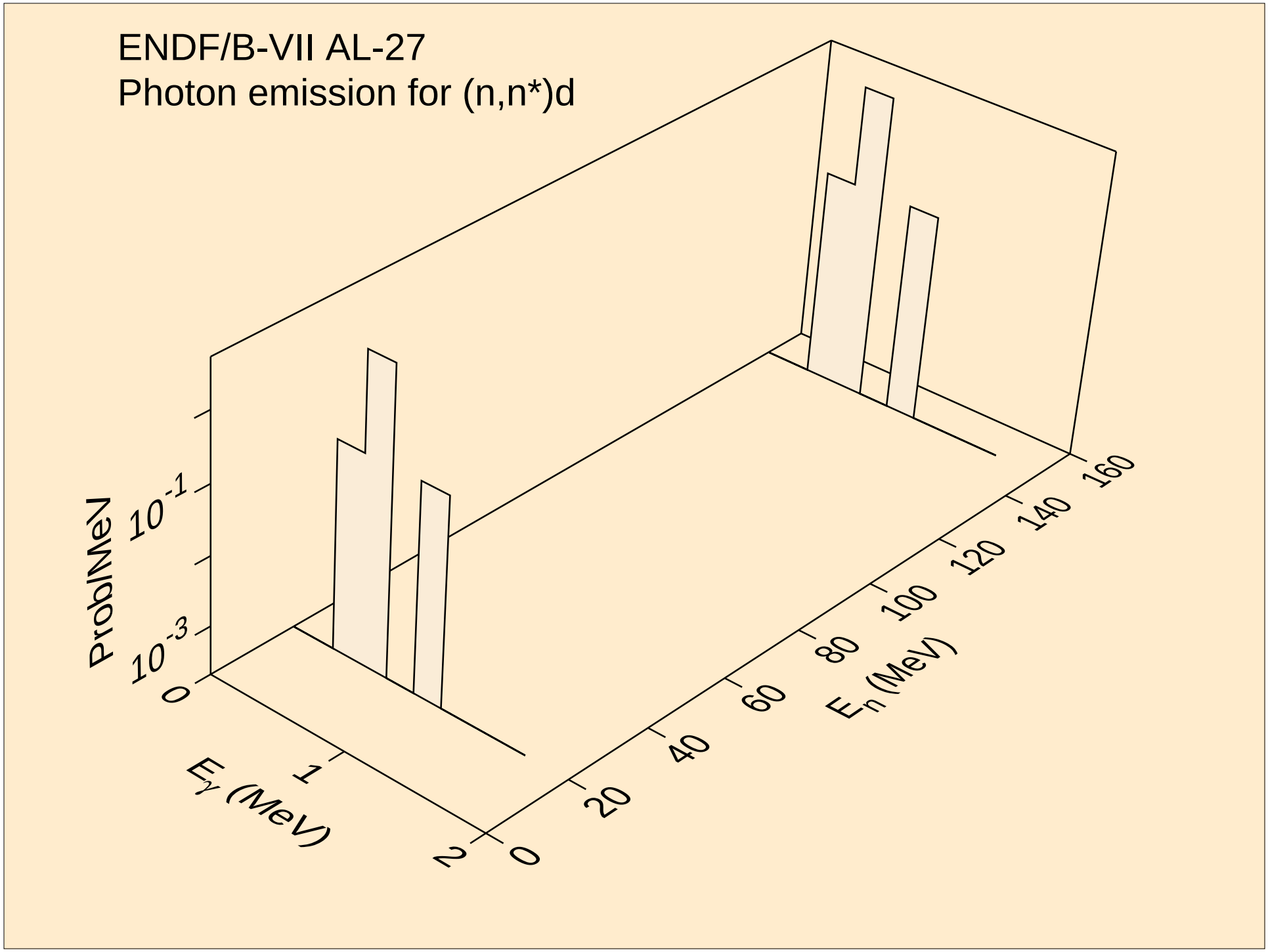

ENDF/B-VII AL-27
Photon emission for (n,gma)
Prob/MeV
10^{-2}
10^{-4}
0
20
40
E_γ (MeV)
0
5
10
15
20
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,x)
Prob/MeV
10^0
10^{-2}
10^{-4}
E_γ (MeV)
0
20
40
E_n (MeV)
0
20
40
60
80
100
120
140
160

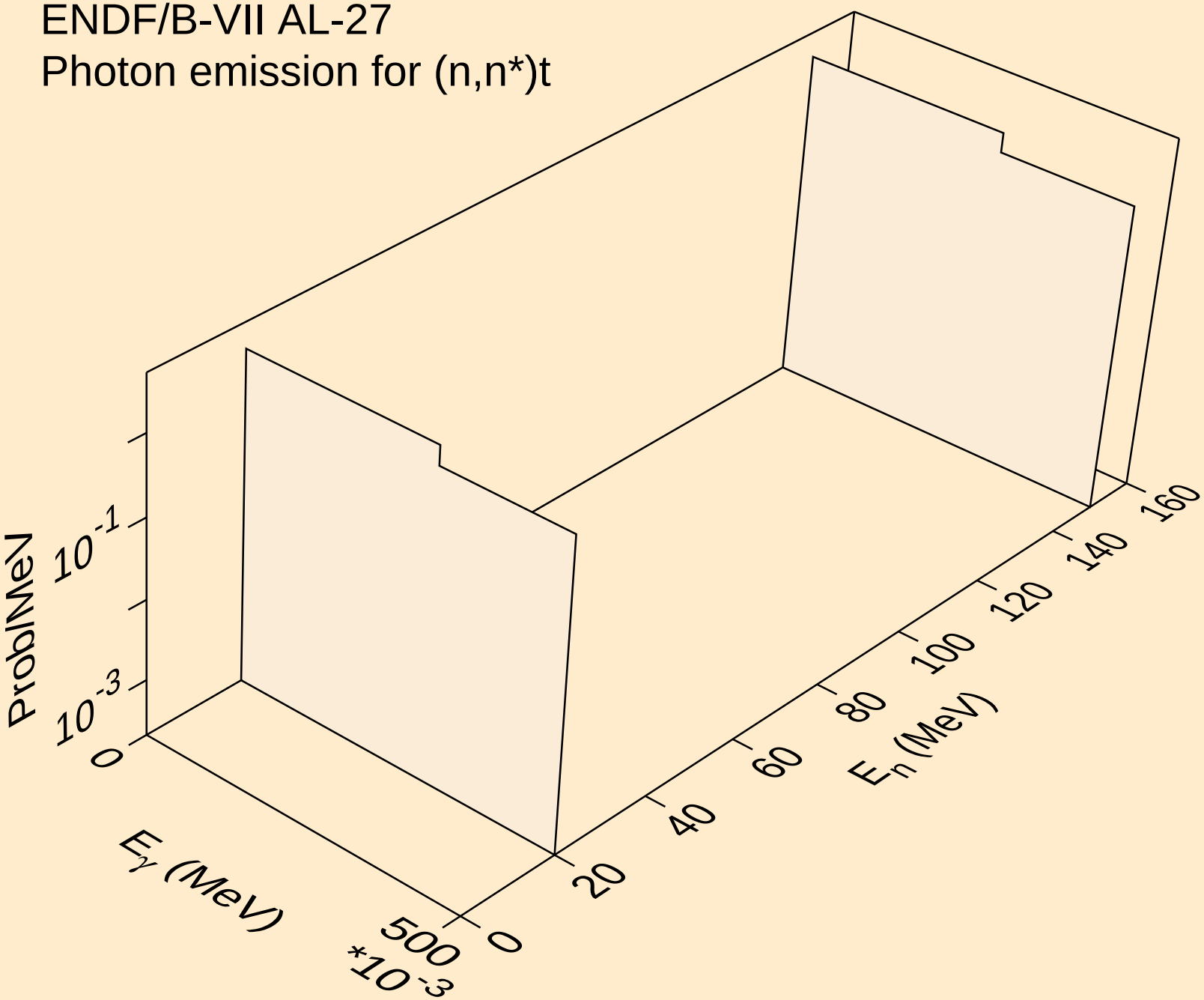

ENDF/B-VII AL-27
Photon emission for (n,2n)
Prob/MeV
10^-1
10^-3
0
5
10
E_γ (MeV)
13
14
15
16
17
18
19
20
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*)a
Prob/MeV
10^{-1}
10^{-3}
0
5
10
E_γ (MeV)
10
12
14
16
18
20
E_n (MeV)

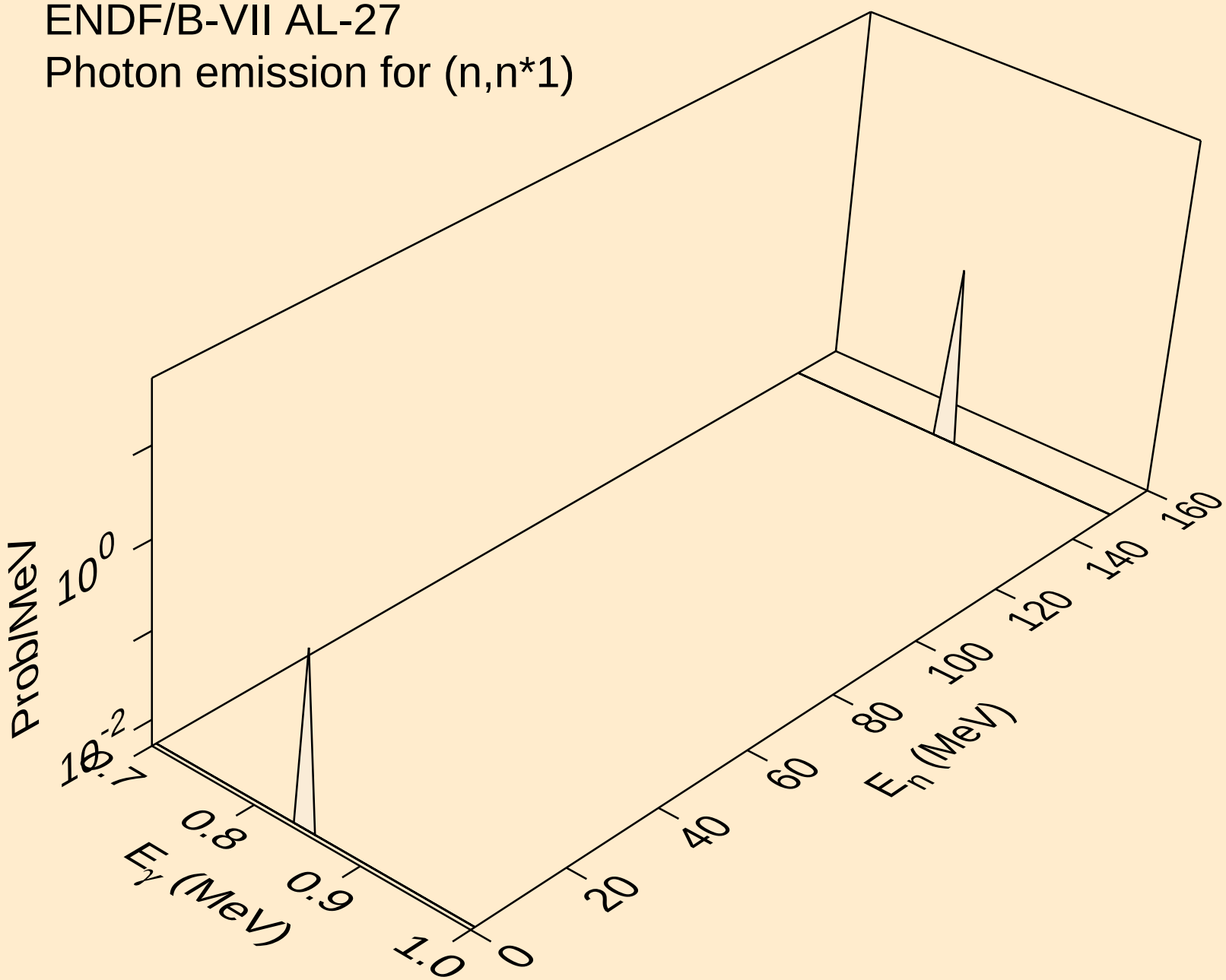

ENDF/B-VII AL-27
Photon emission for (n,n*)p
Prob/MeV
10^-1
10^-3
0
5
10
E_γ (MeV)
8
10
12
14
16
18
20
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*)d
Prob/MeV
10^-1
10^-3
0
1
2
Eγ (MeV)
0
20
40
60
80
100
120
140
160
En (MeV)

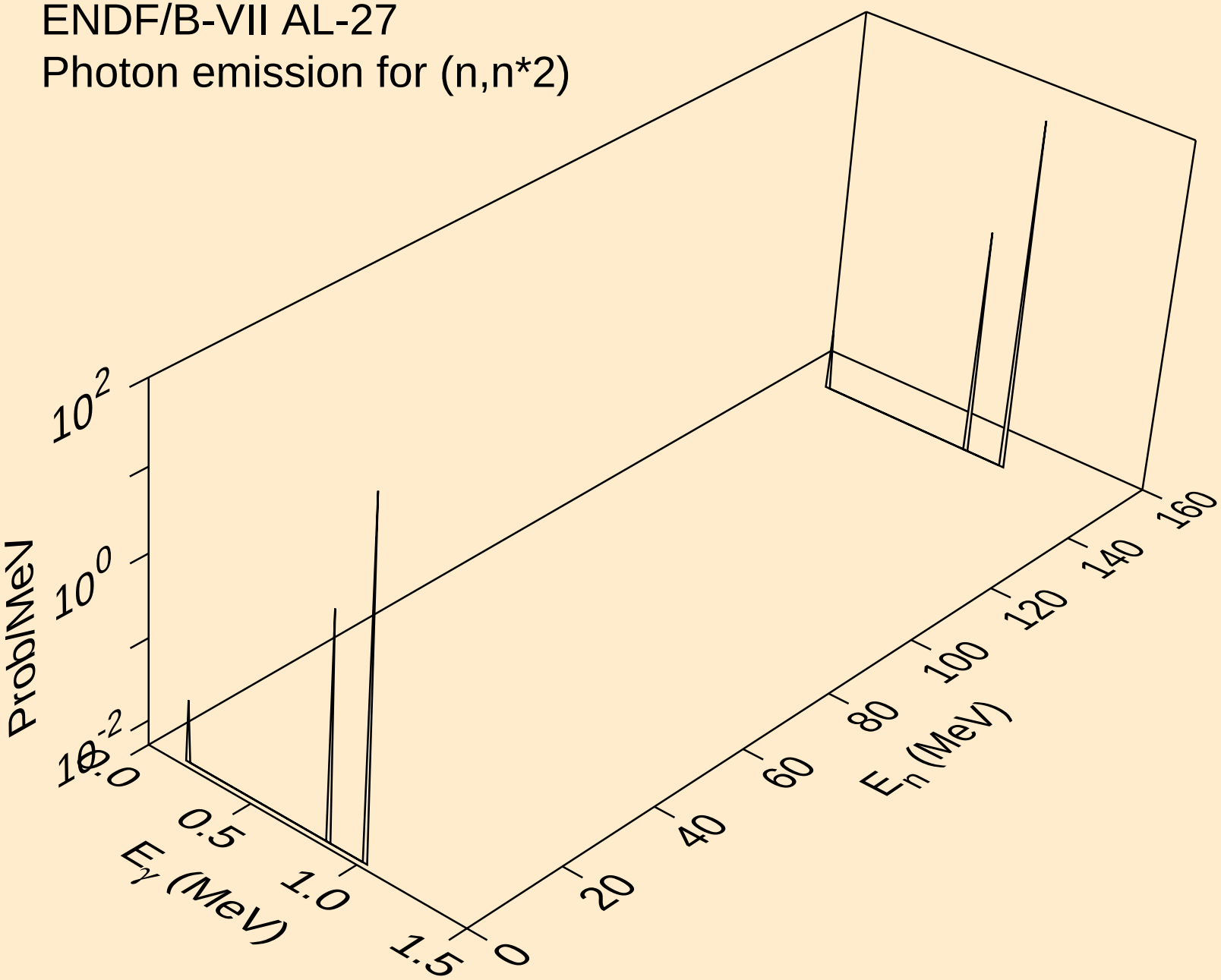
ENDF/B-VII AL-27
Photon emission for (n,n*)t



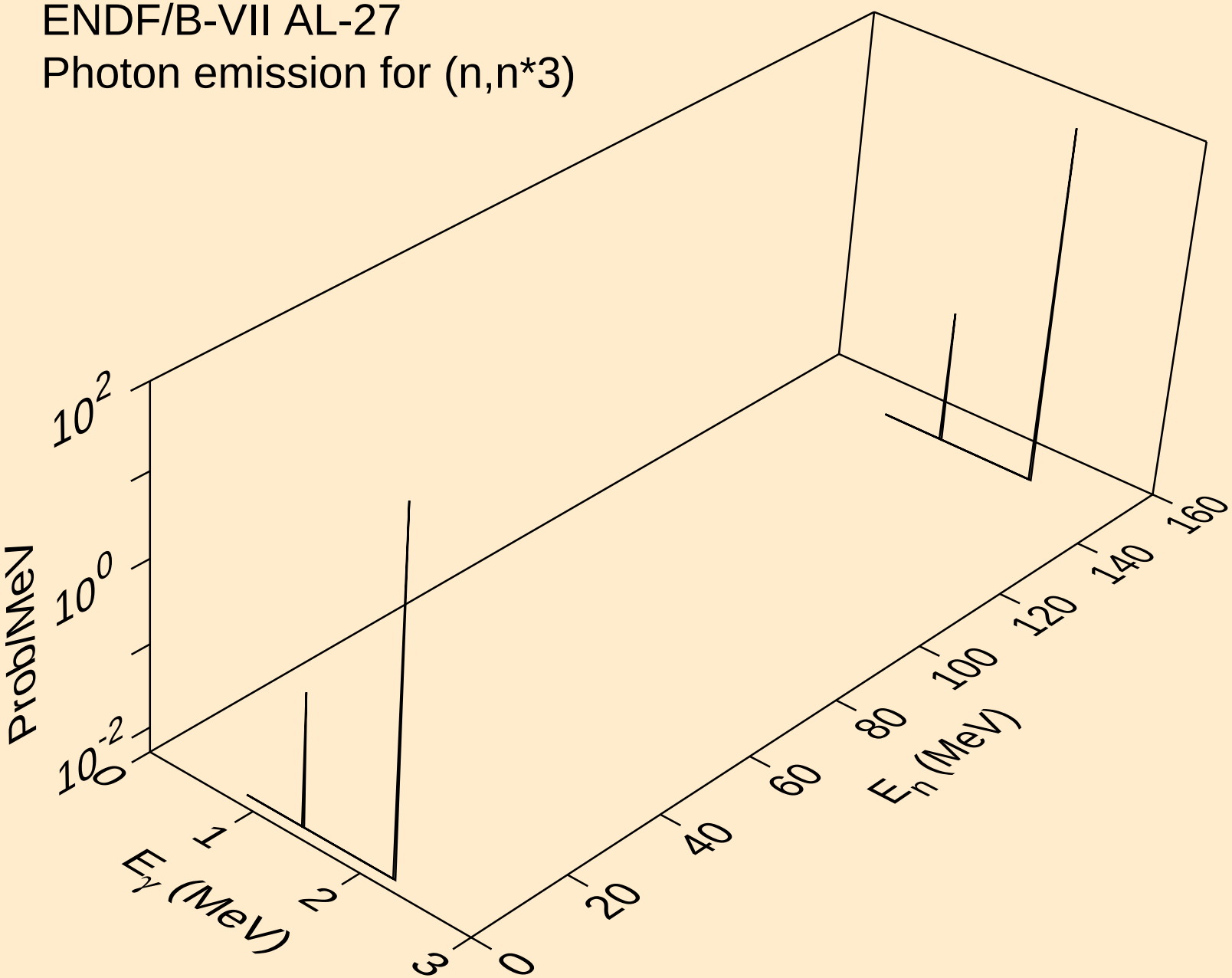
ENDF/B-VII AL-27
Photon emission for (n,n*1)



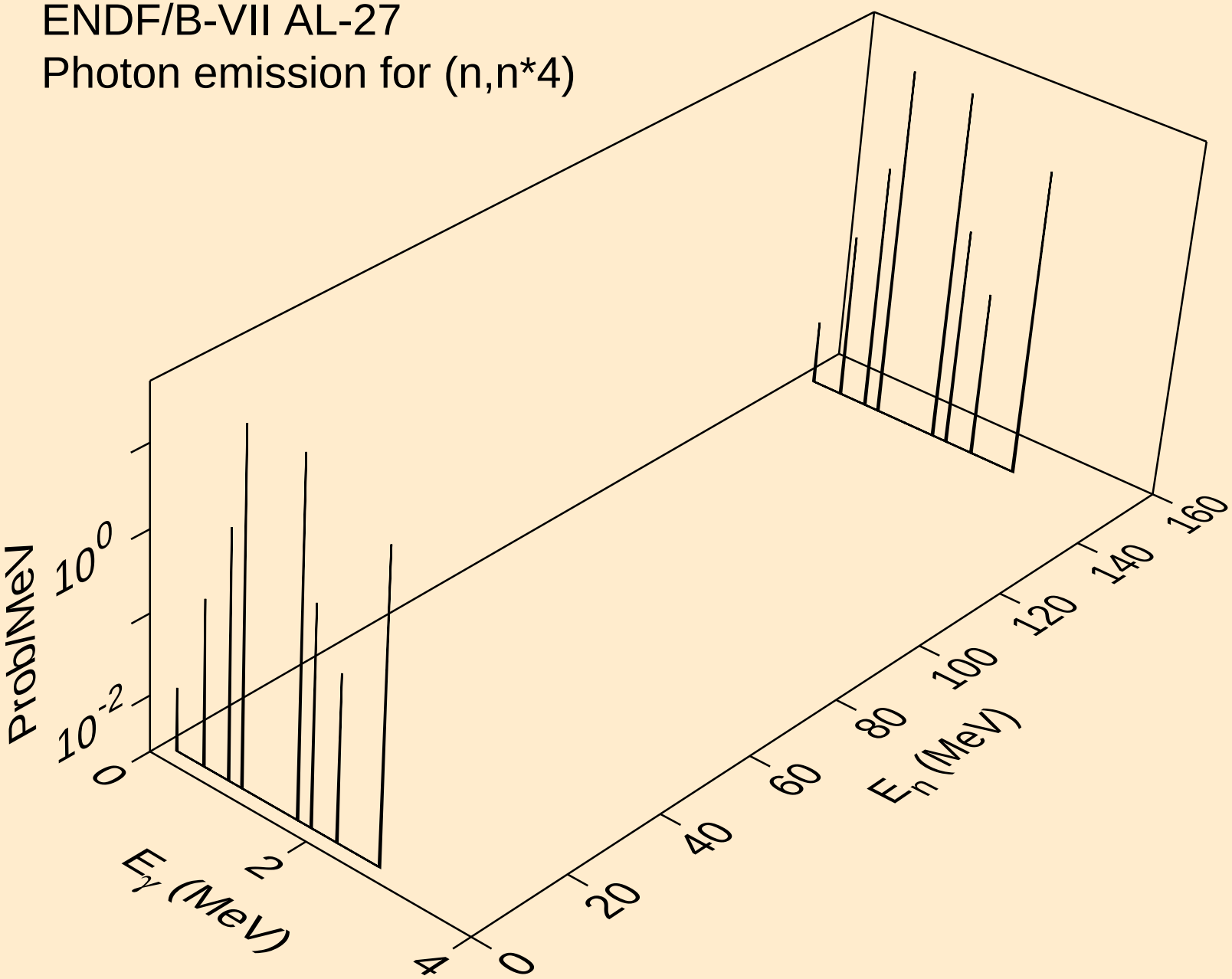
ENDF/B-VII AL-27
Photon emission for (n,n*2)



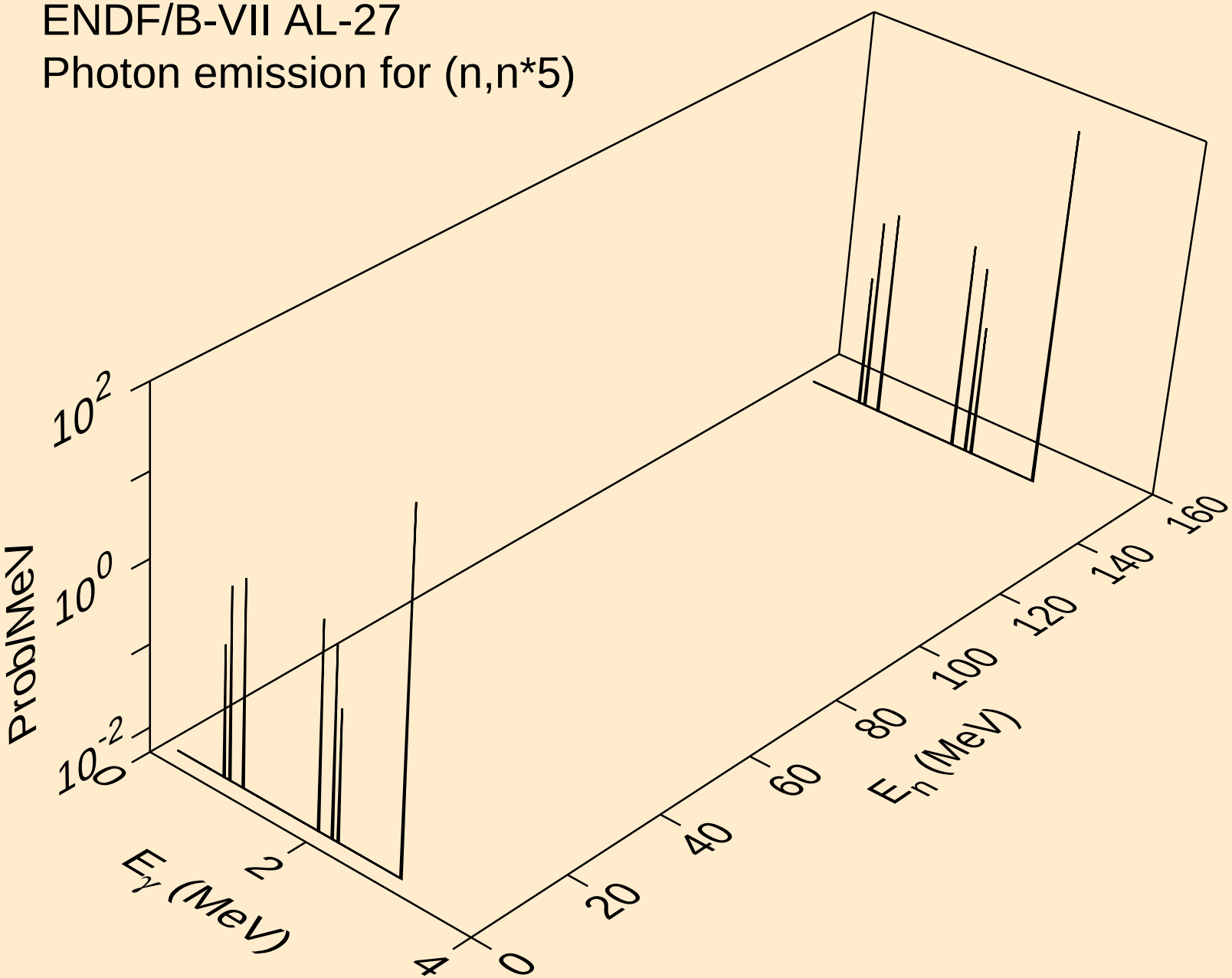
ENDF/B-VII AL-27
Photon emission for (n,n*3)

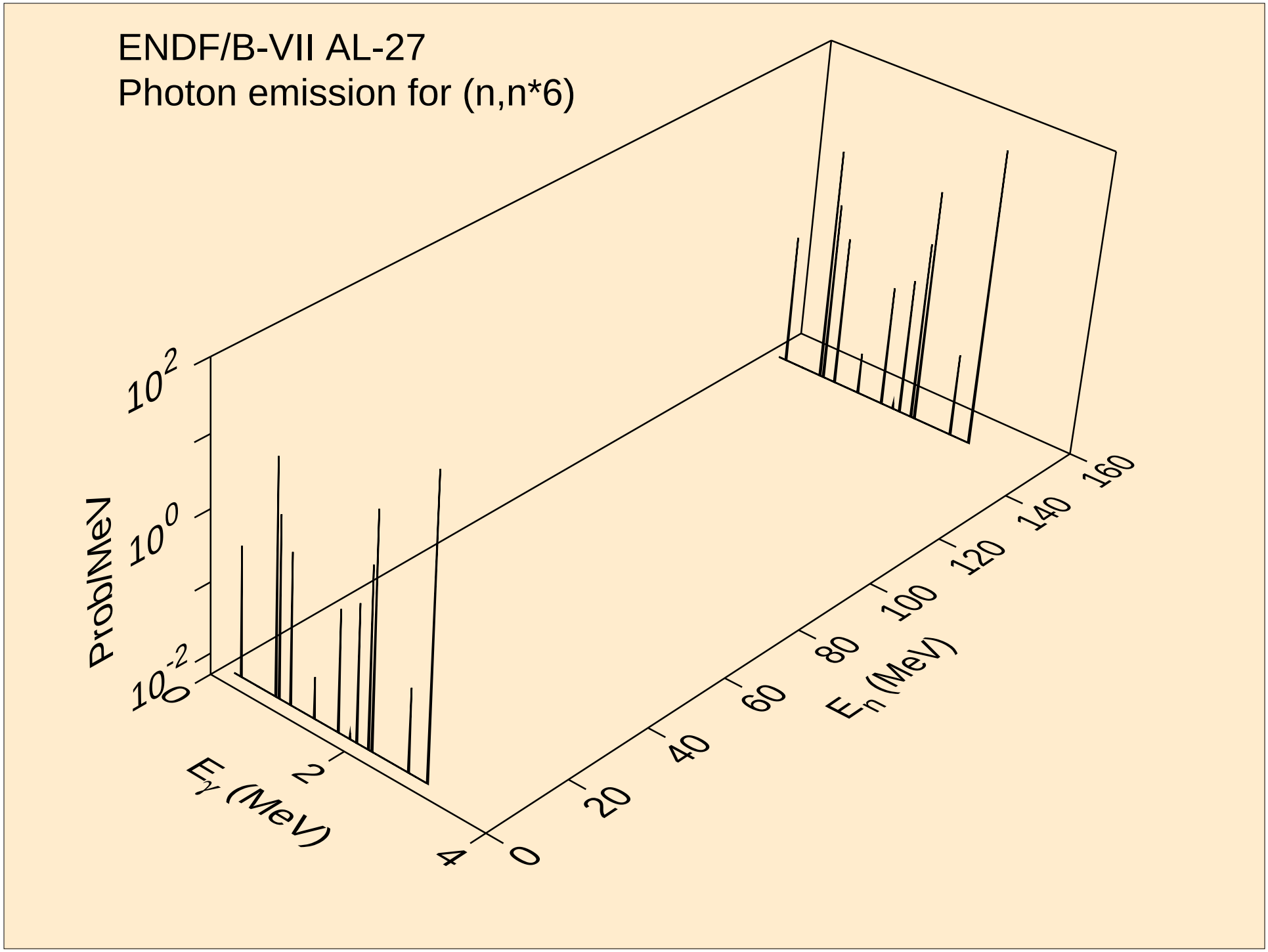


ENDF/B-VII AL-27
Photon emission for (n,n*4)

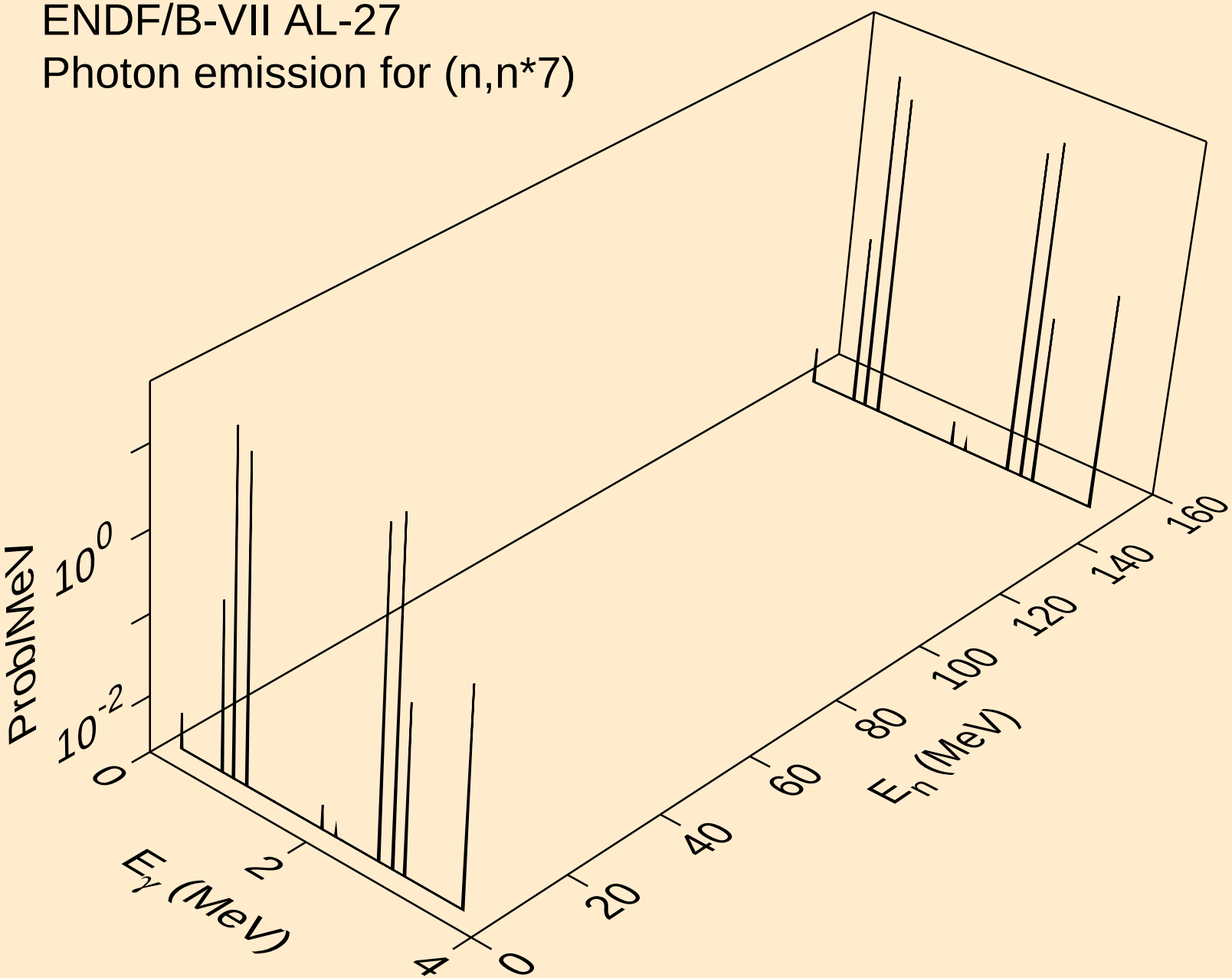


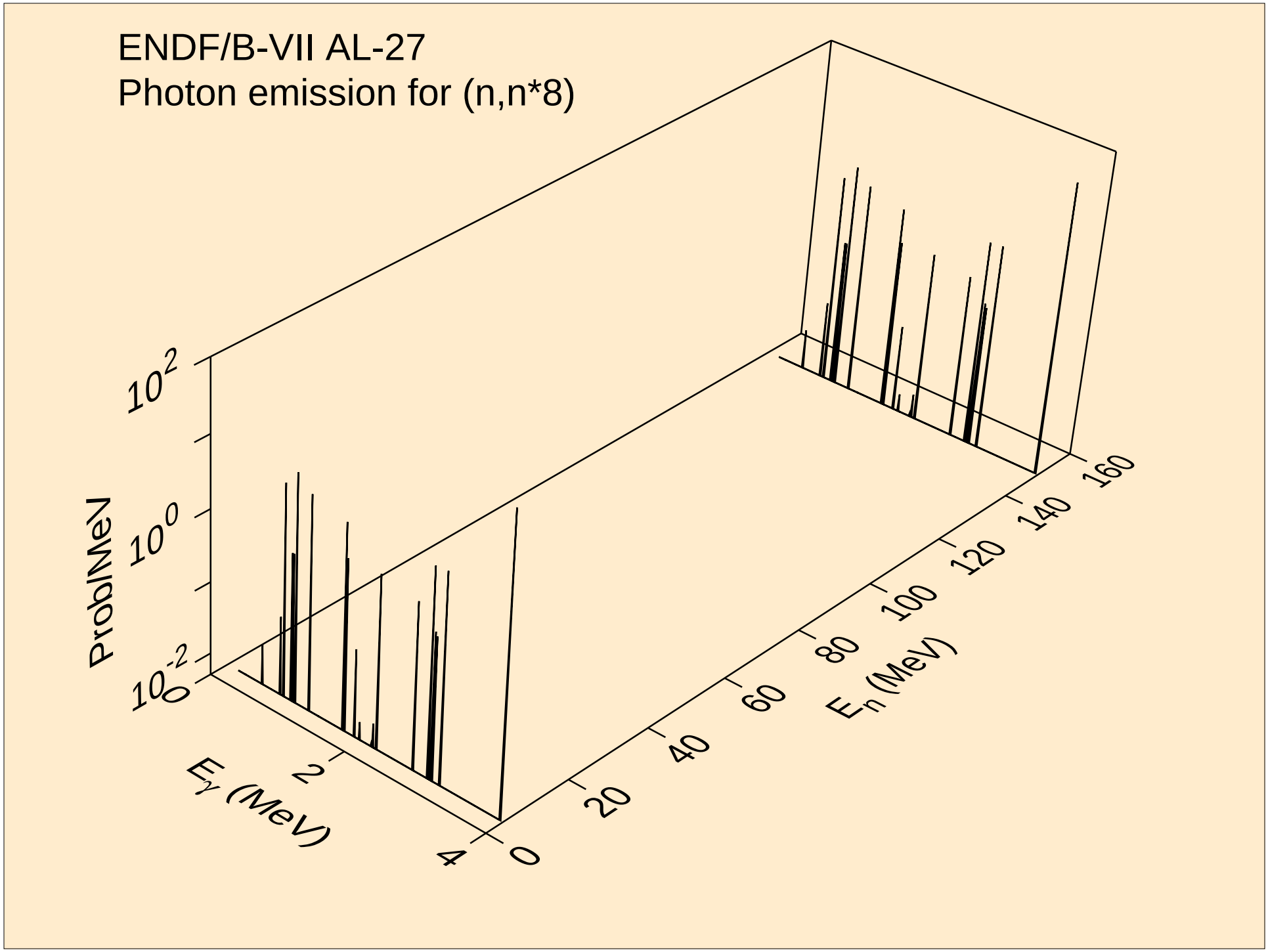
ENDF/B-VII AL-27
Photon emission for (n,n*5)

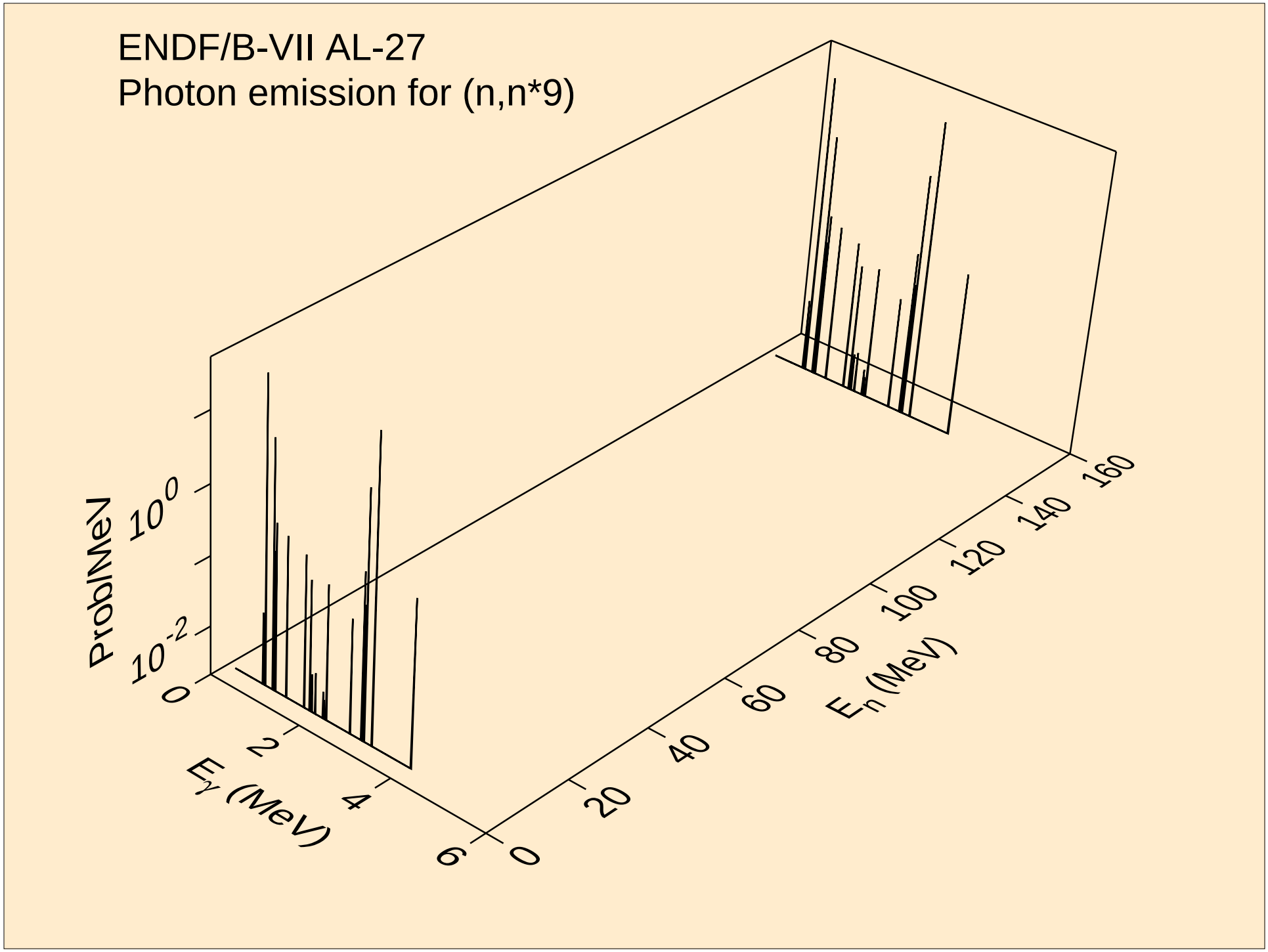


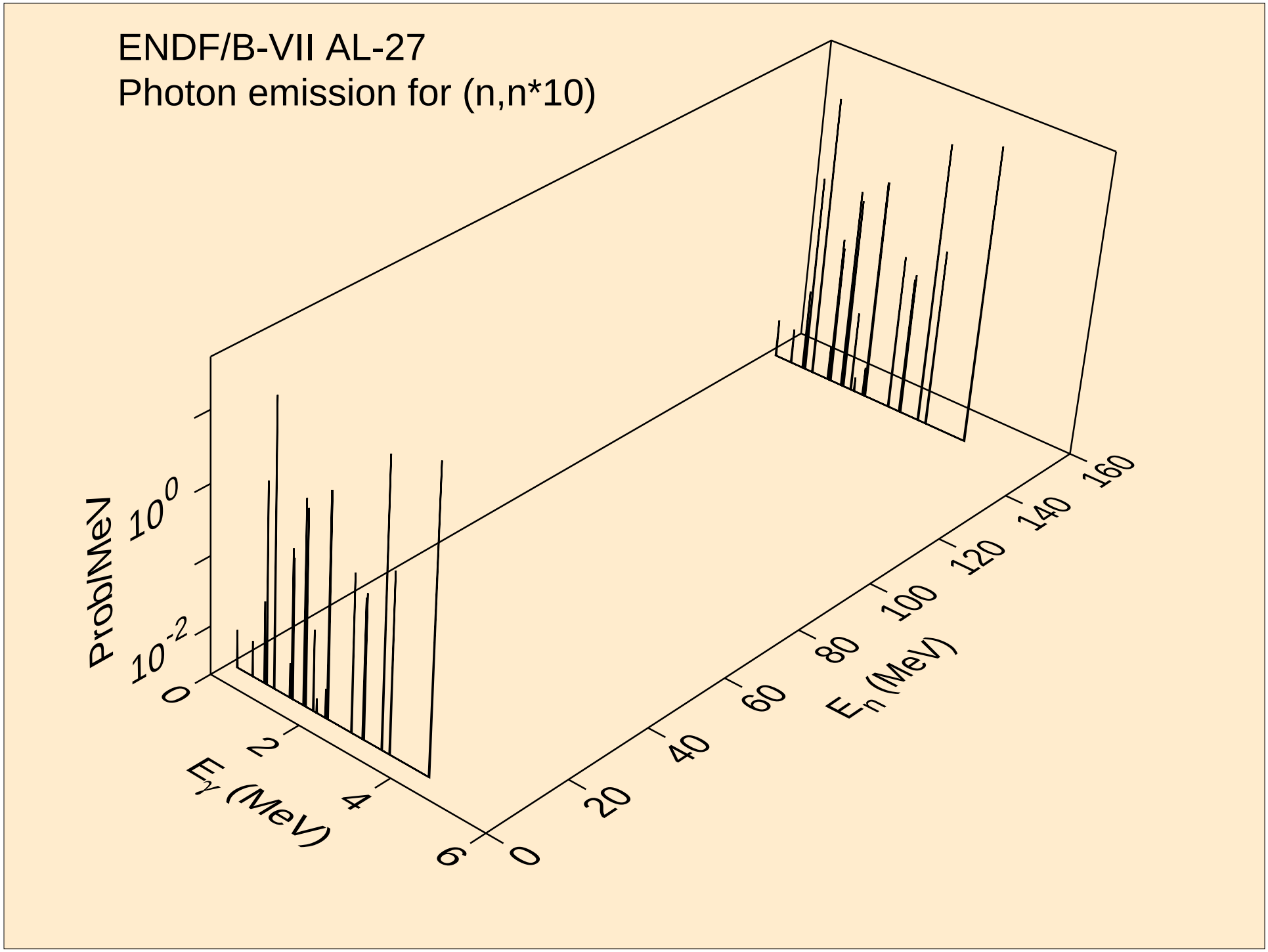

ENDF/B-VII AL-27
Photon emission for (n,n*6)
Prob/MeV
10^{2}
10^{0}
10^{-2}
E_γ (MeV)
0
2
4
E_n (MeV)
0
20
40
60
80
100
120
140
160

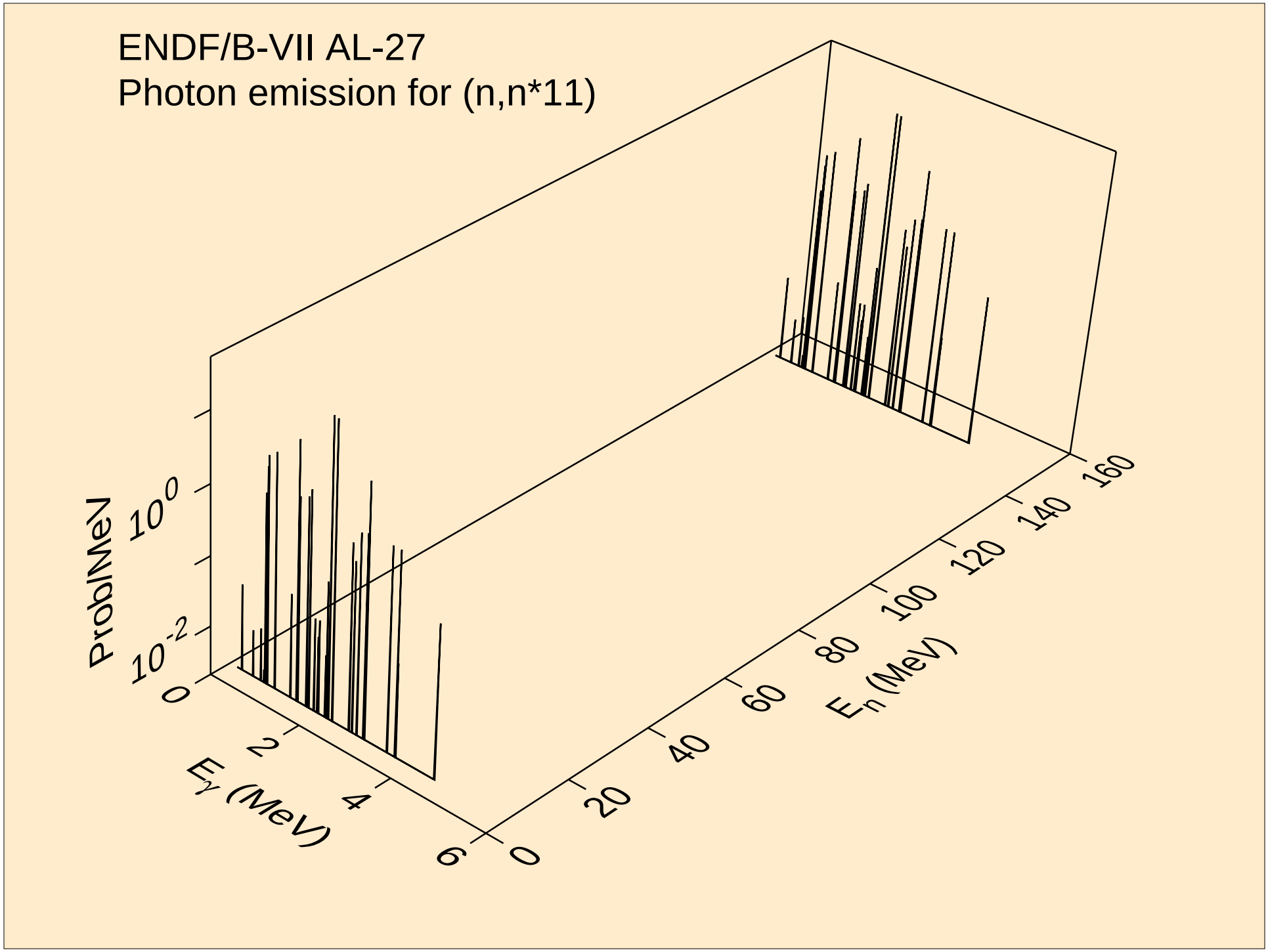
ENDF/B-VII AL-27
Photon emission for (n,n*7)

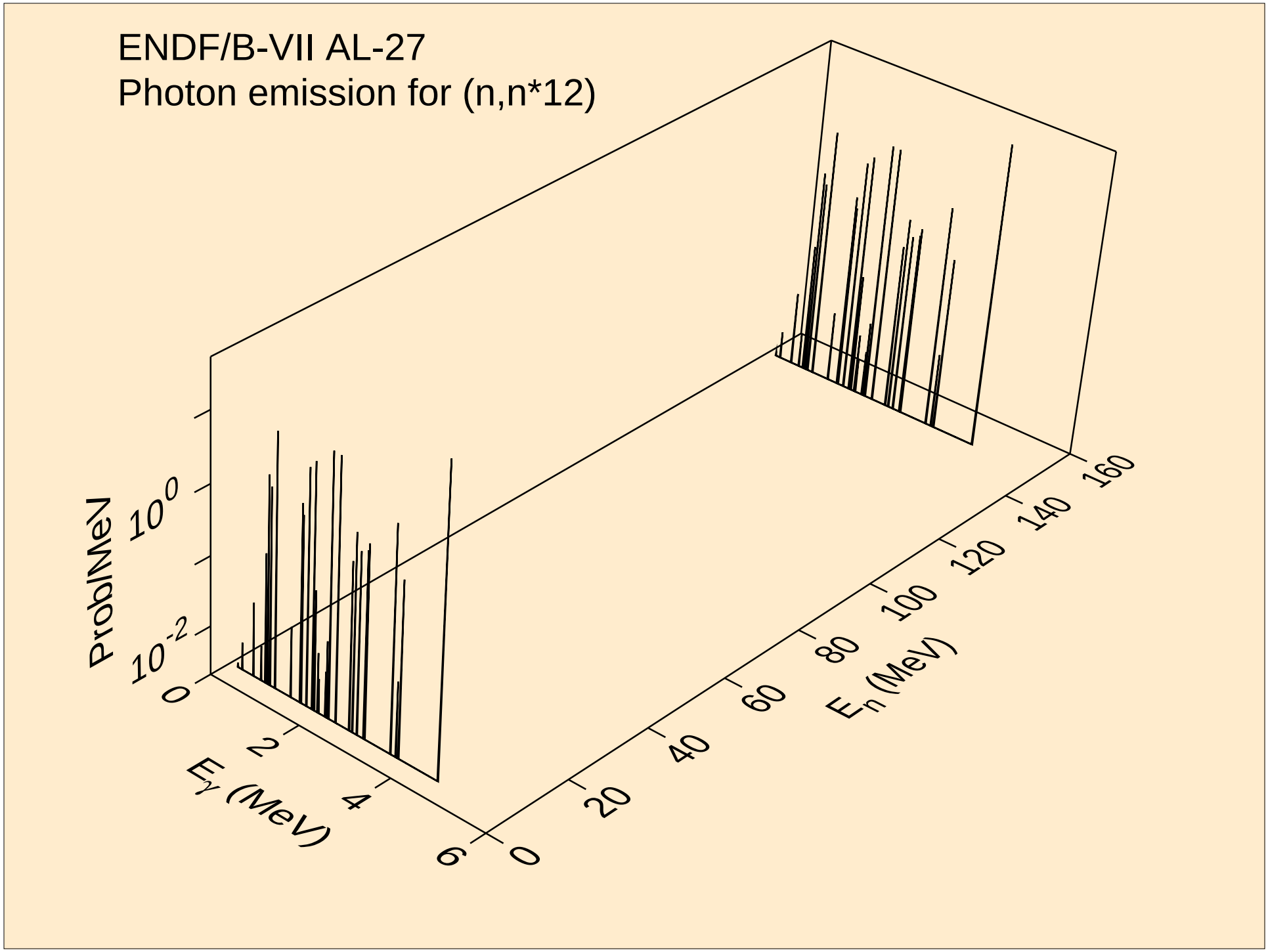



ENDF/B-VII AL-27
Photon emission for (n,n*8)
Prob/MeV
10^{2}
10^{0}
10^{-2}
E_γ (MeV)
0
2
4
E_n (MeV)
0
20
40
60
80
100
120
140
160

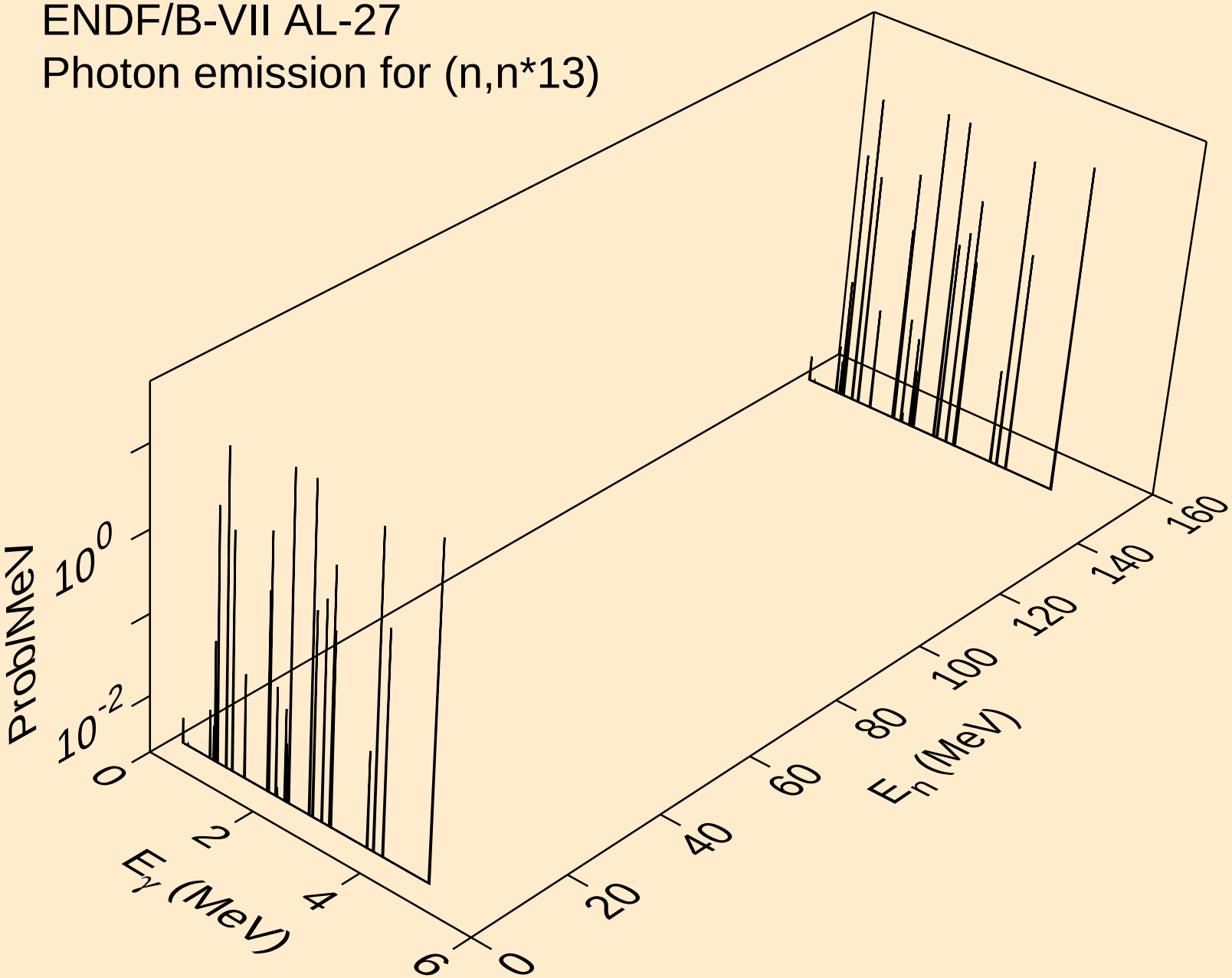

ENDF/B-VII AL-27
Photon emission for (n,n*9)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*10)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

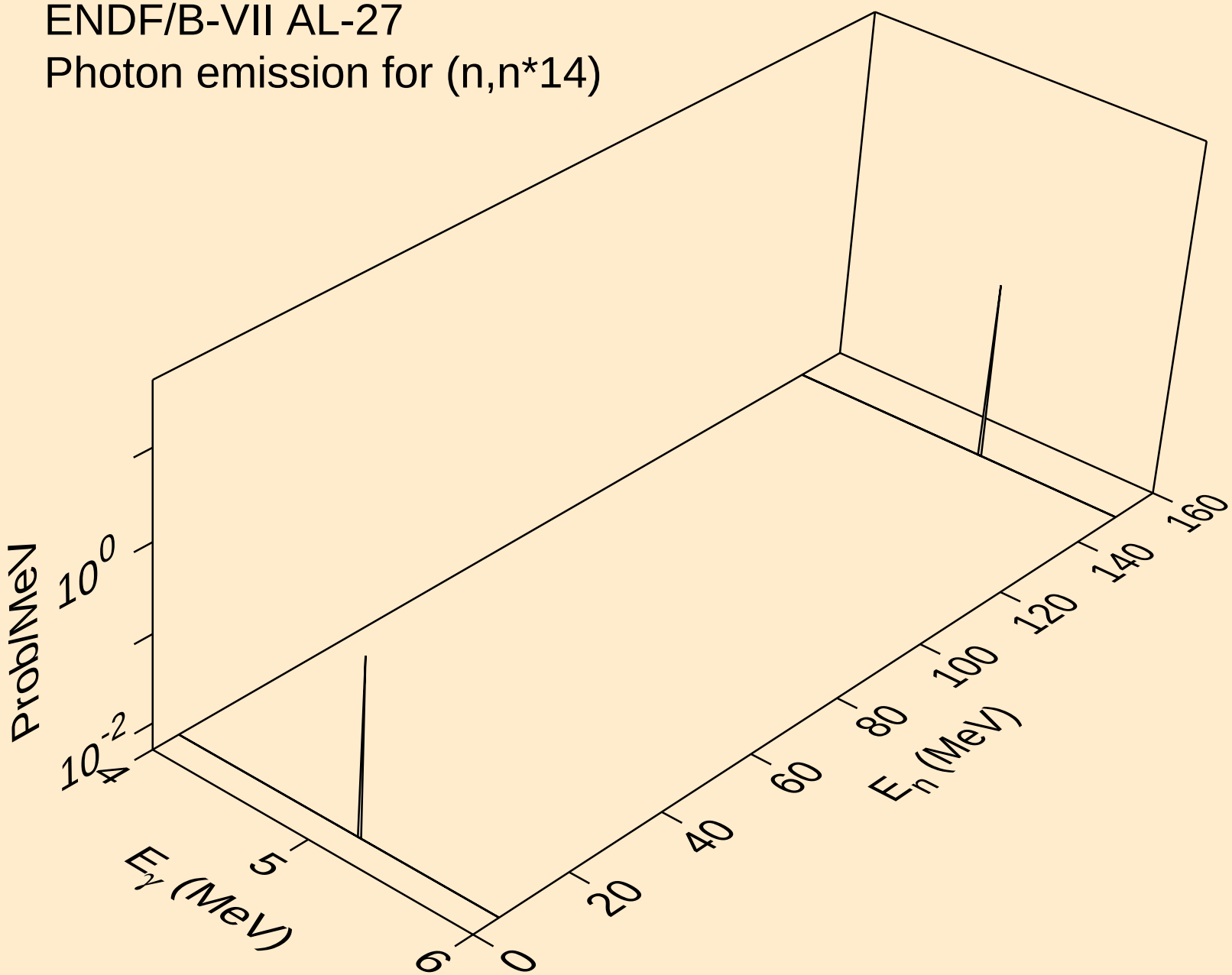

ENDF/B-VII AL-27
Photon emission for (n,n*11)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

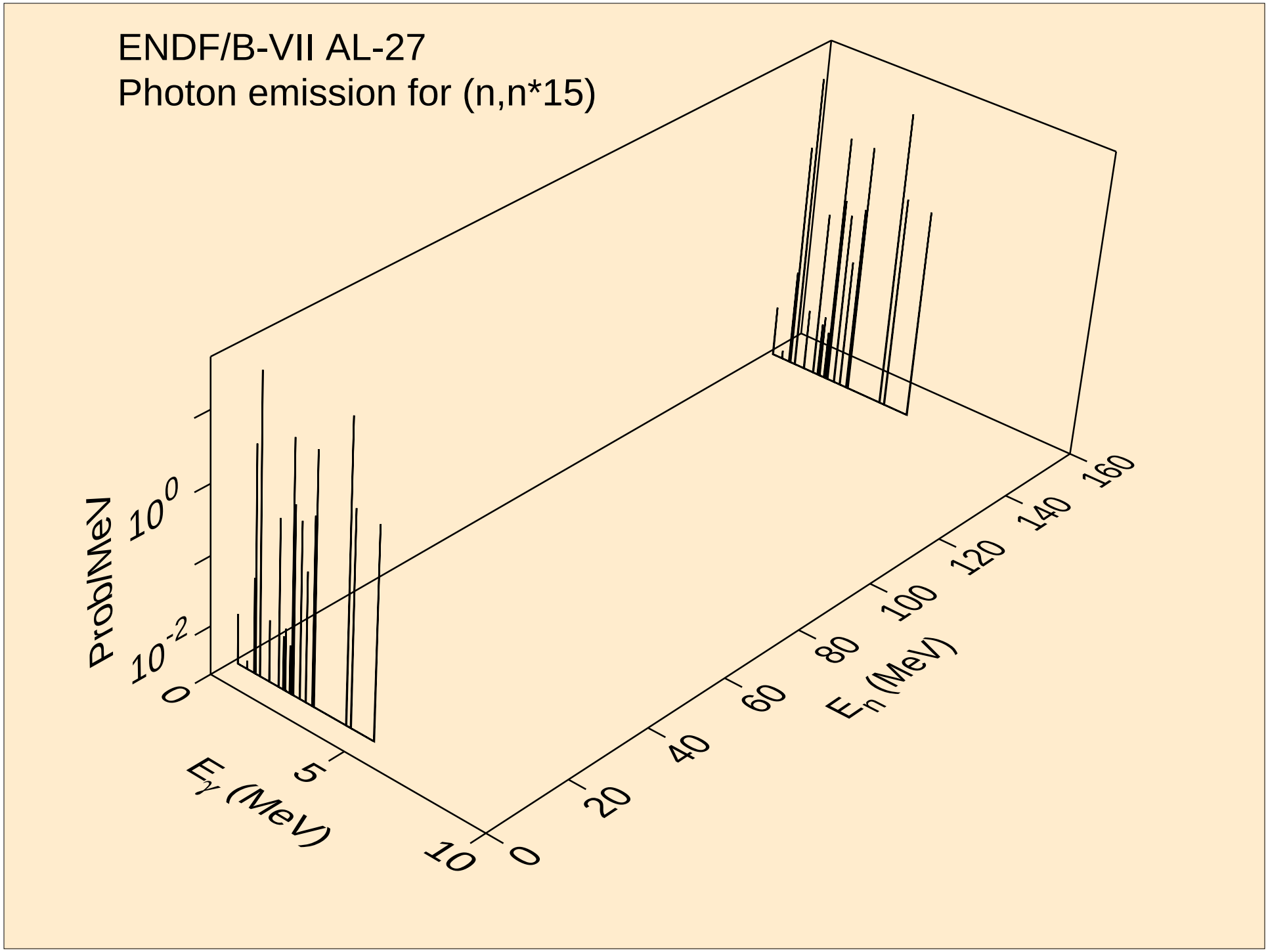

ENDF/B-VII AL-27
Photon emission for (n,n*12)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

ENDF/B-VII AL-27
Photon emission for (n,n*13)

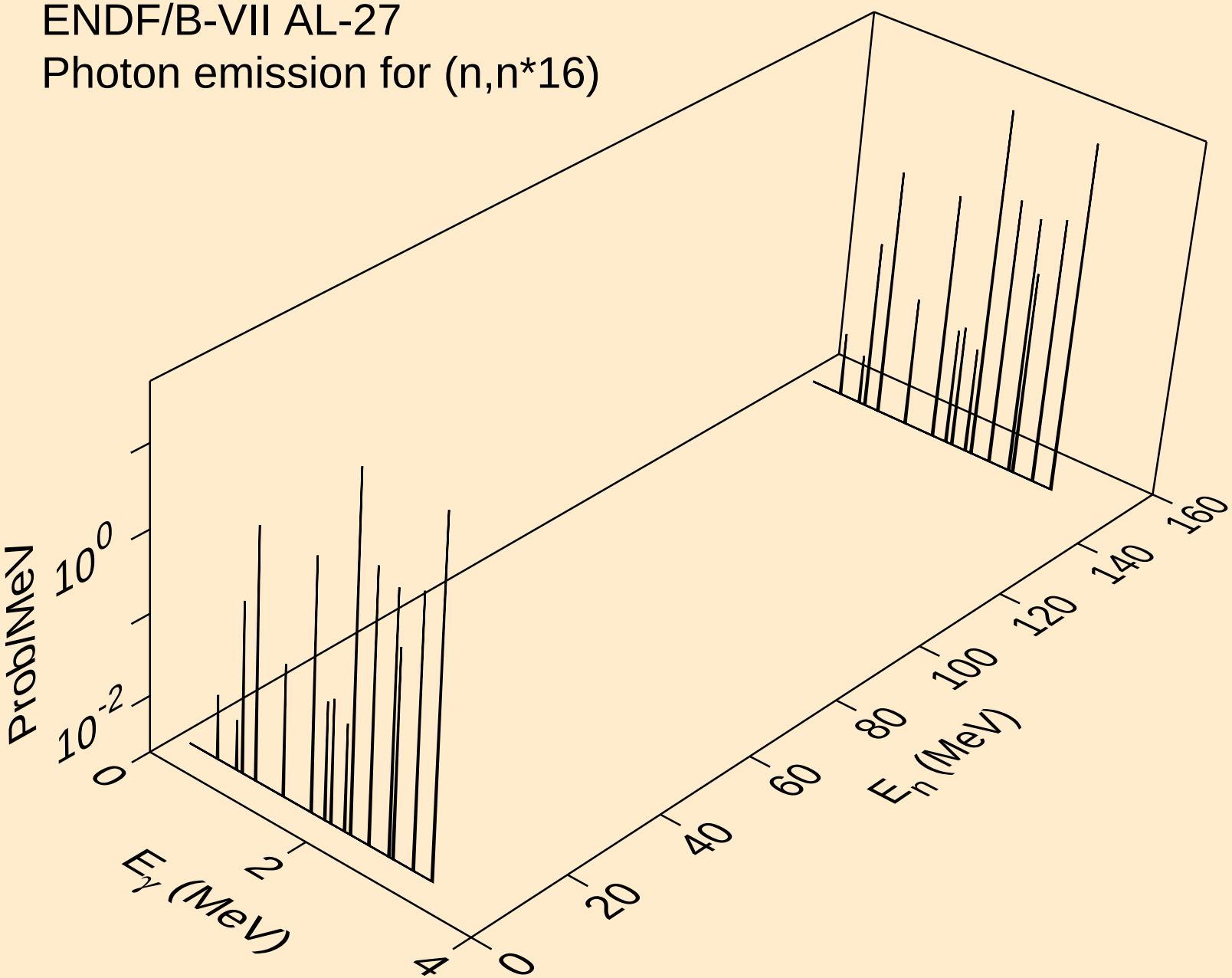


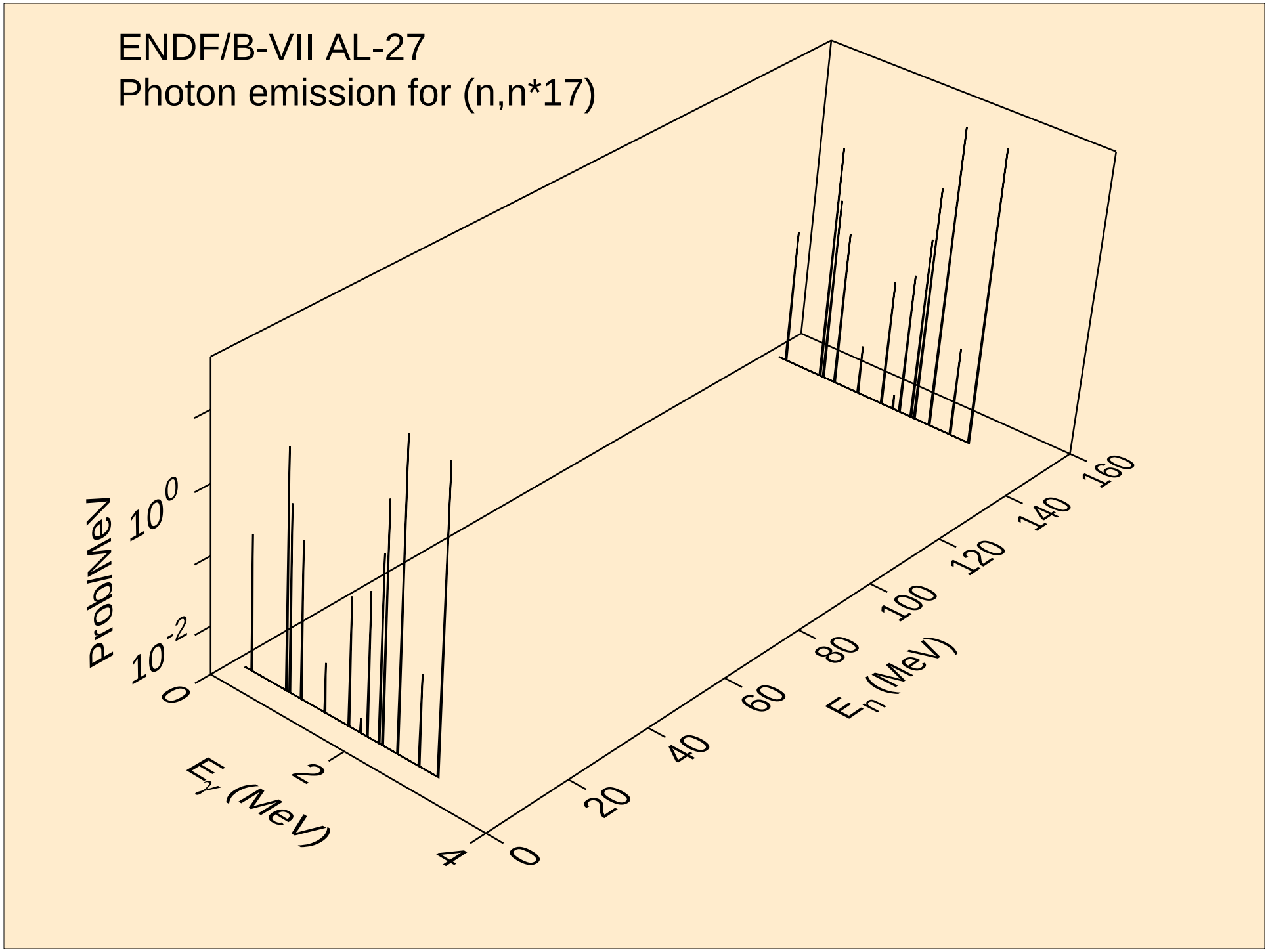
ENDF/B-VII AL-27
Photon emission for (n,n*14)

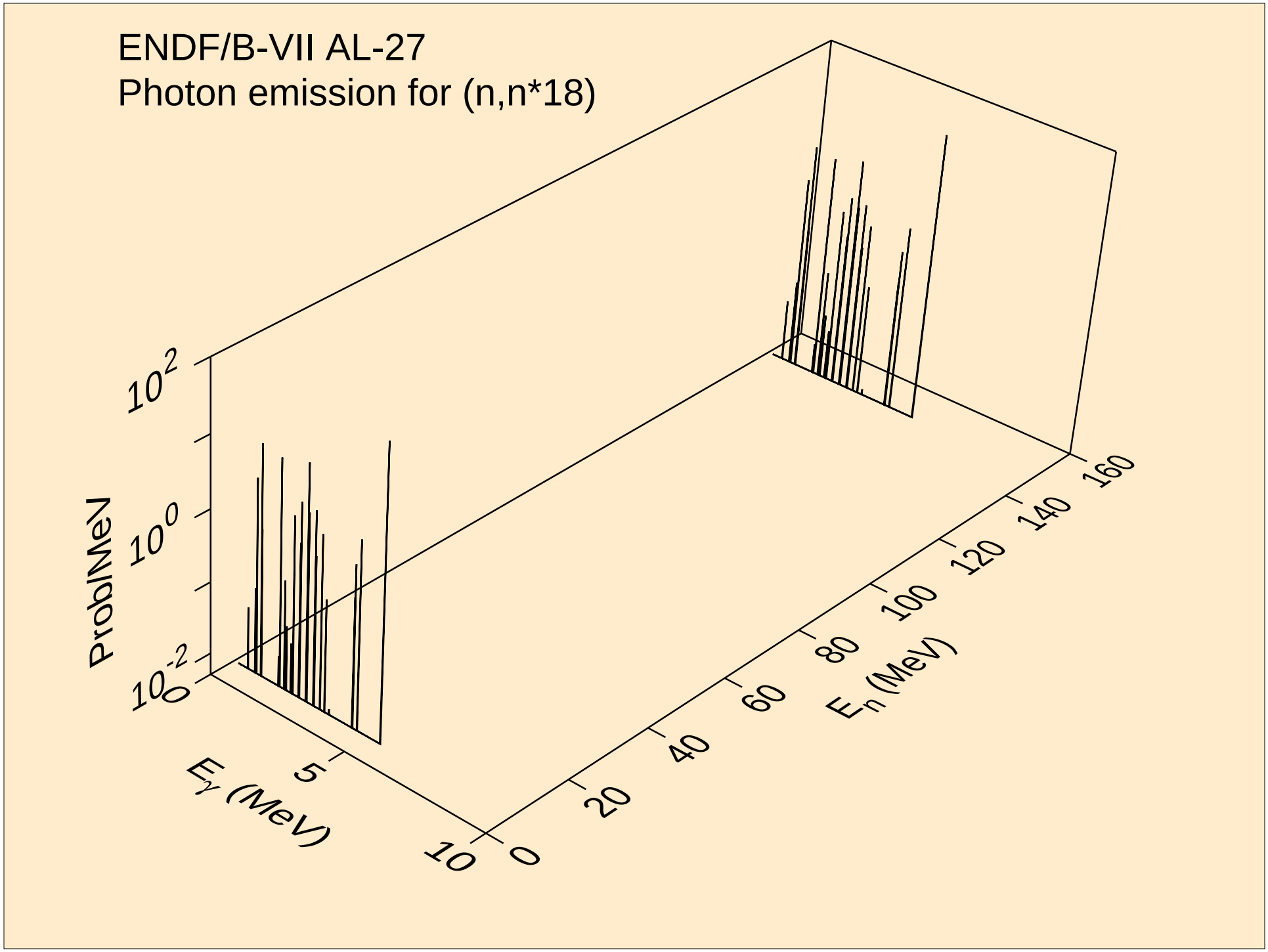


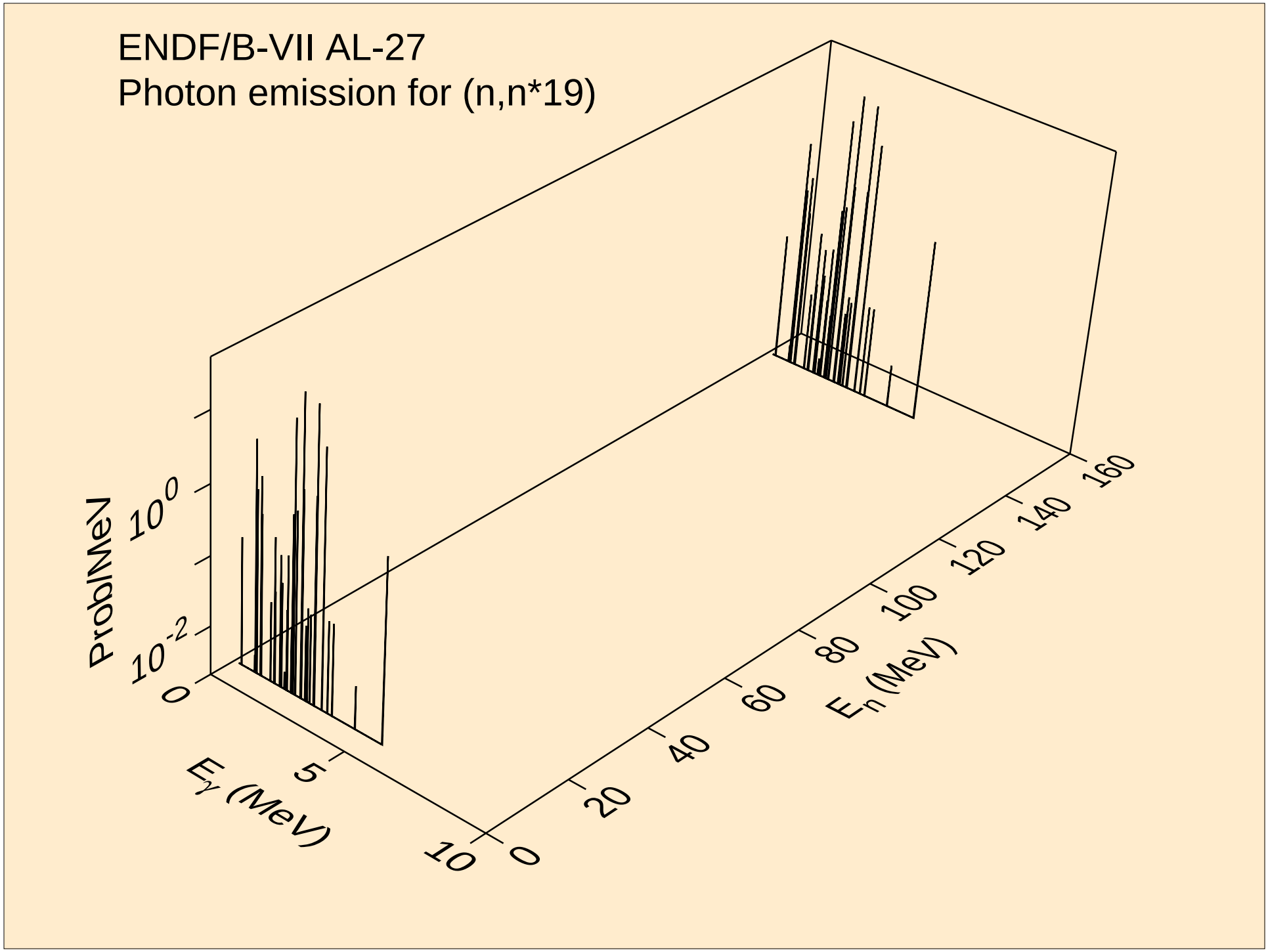

ENDF/B-VII AL-27
Photon emission for (n,n*15)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

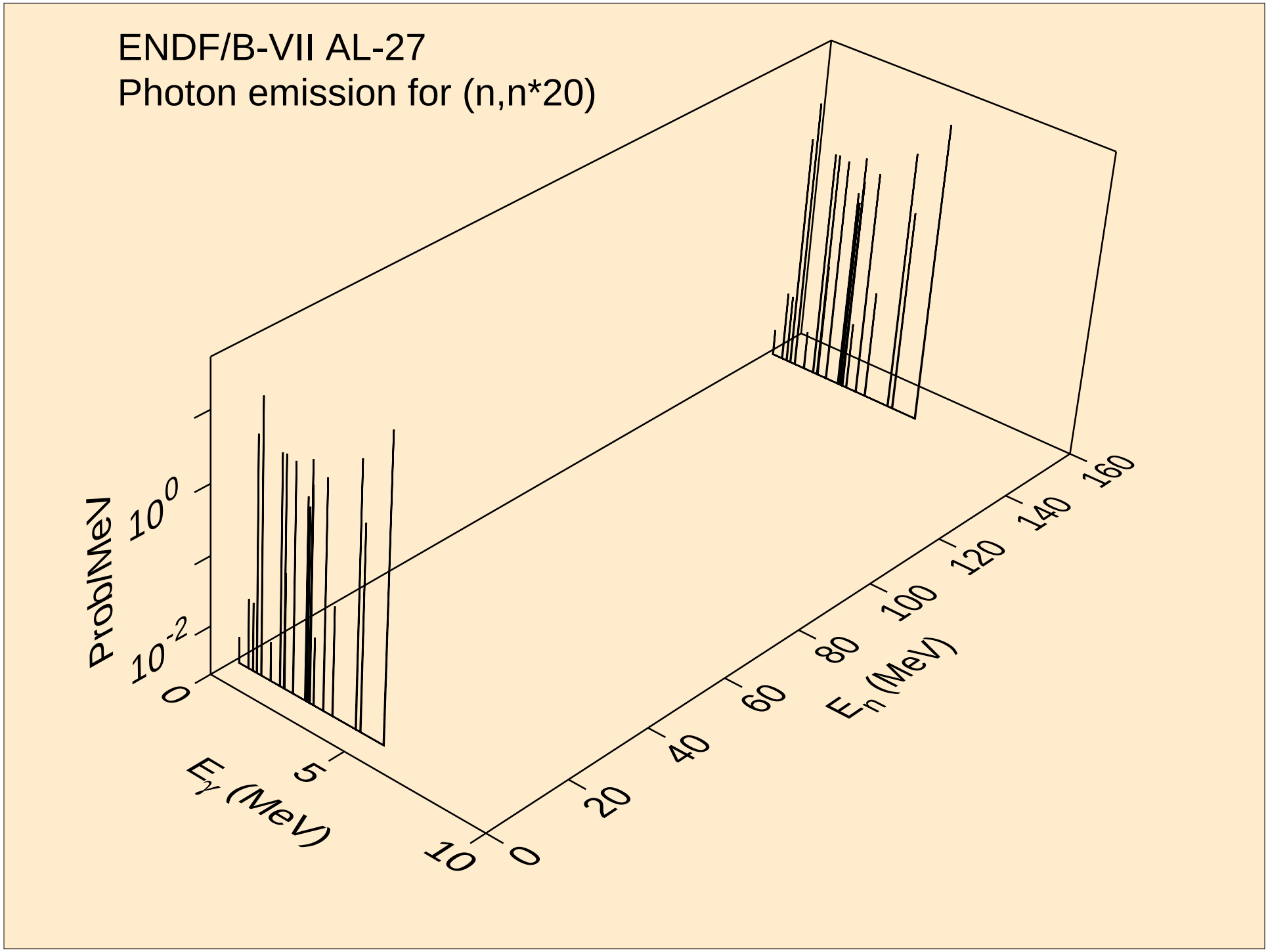
ENDF/B-VII AL-27
Photon emission for (n,n*16)

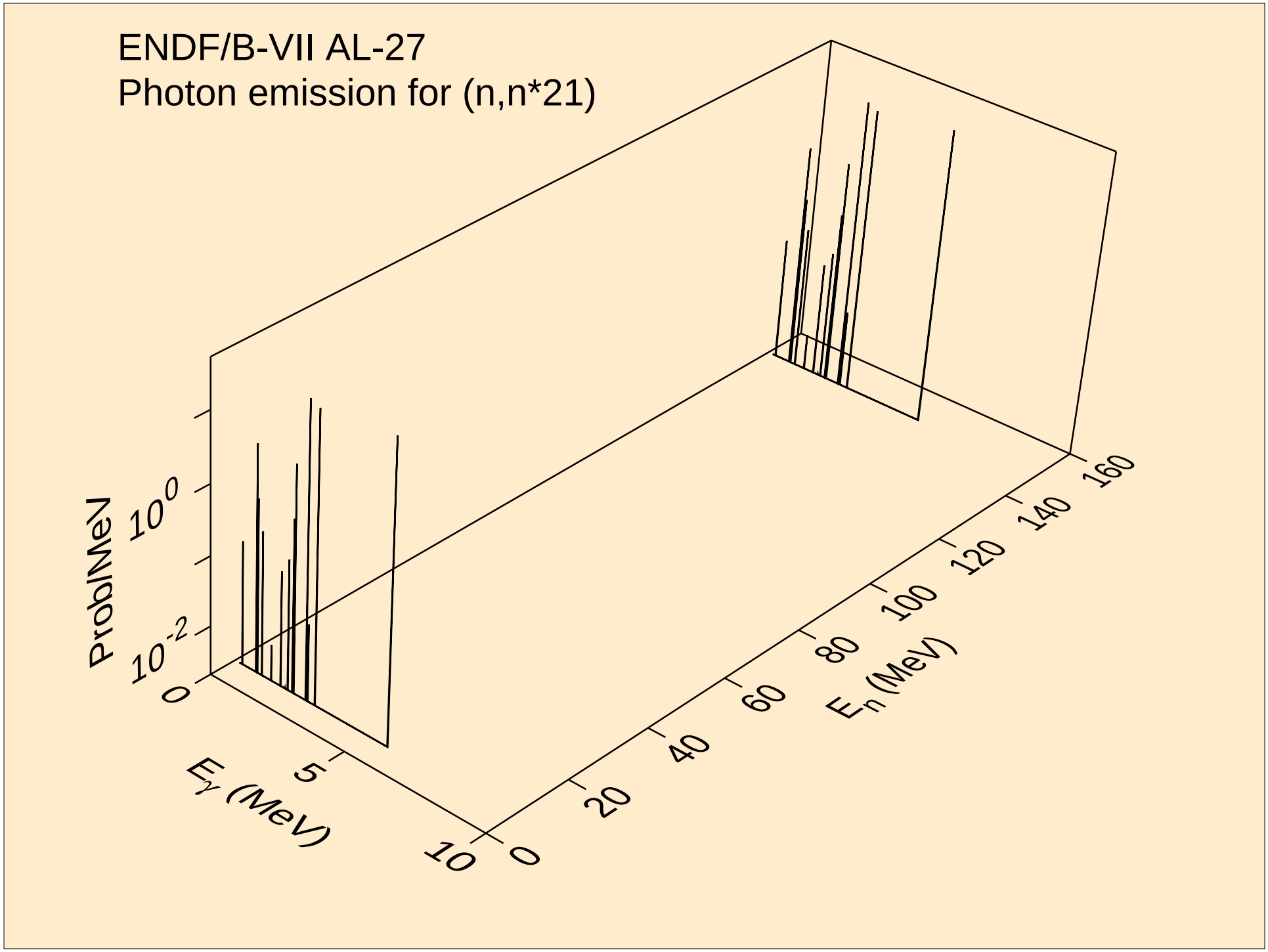


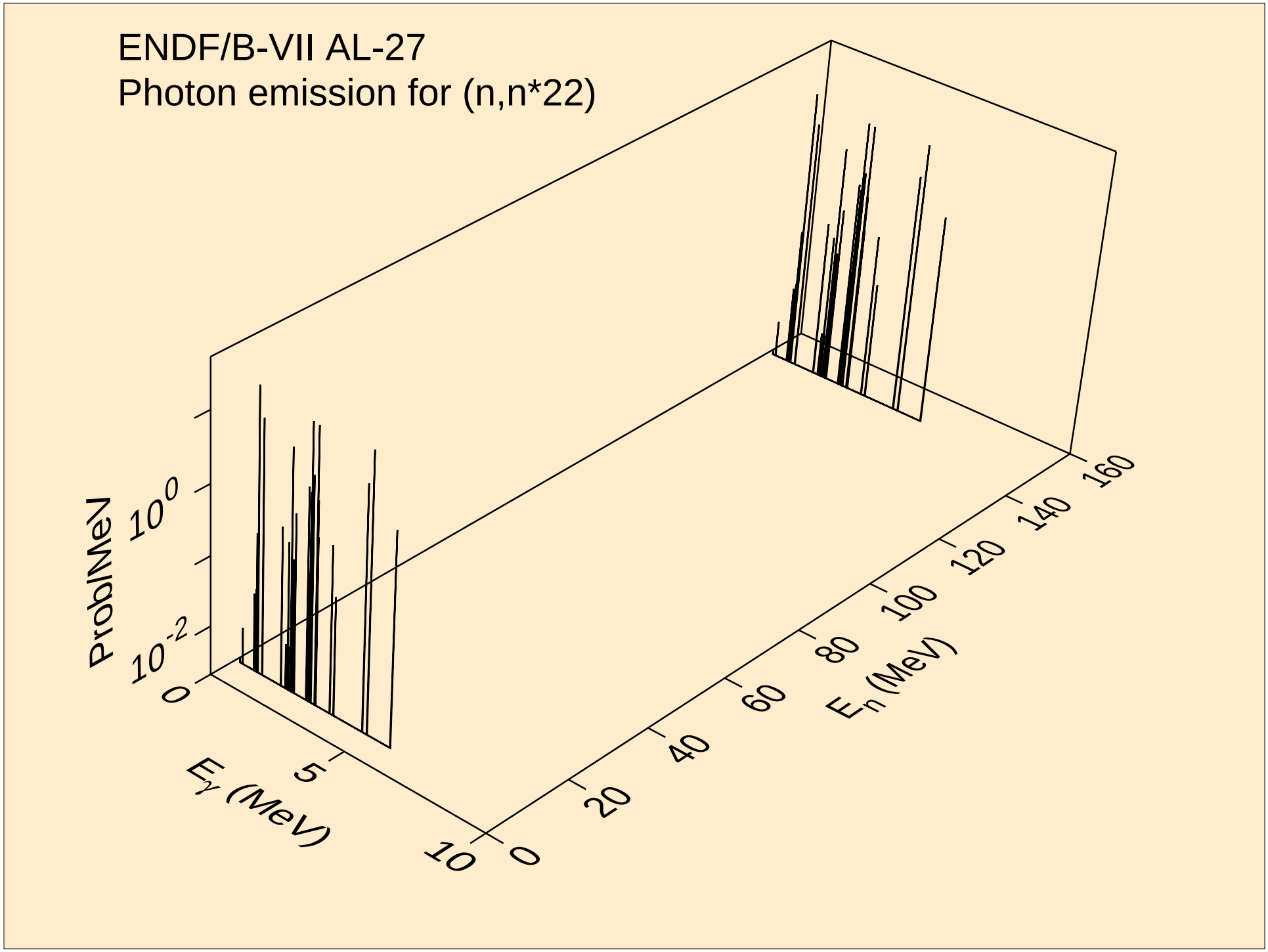

ENDF/B-VII AL-27
Photon emission for (n,n*17)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

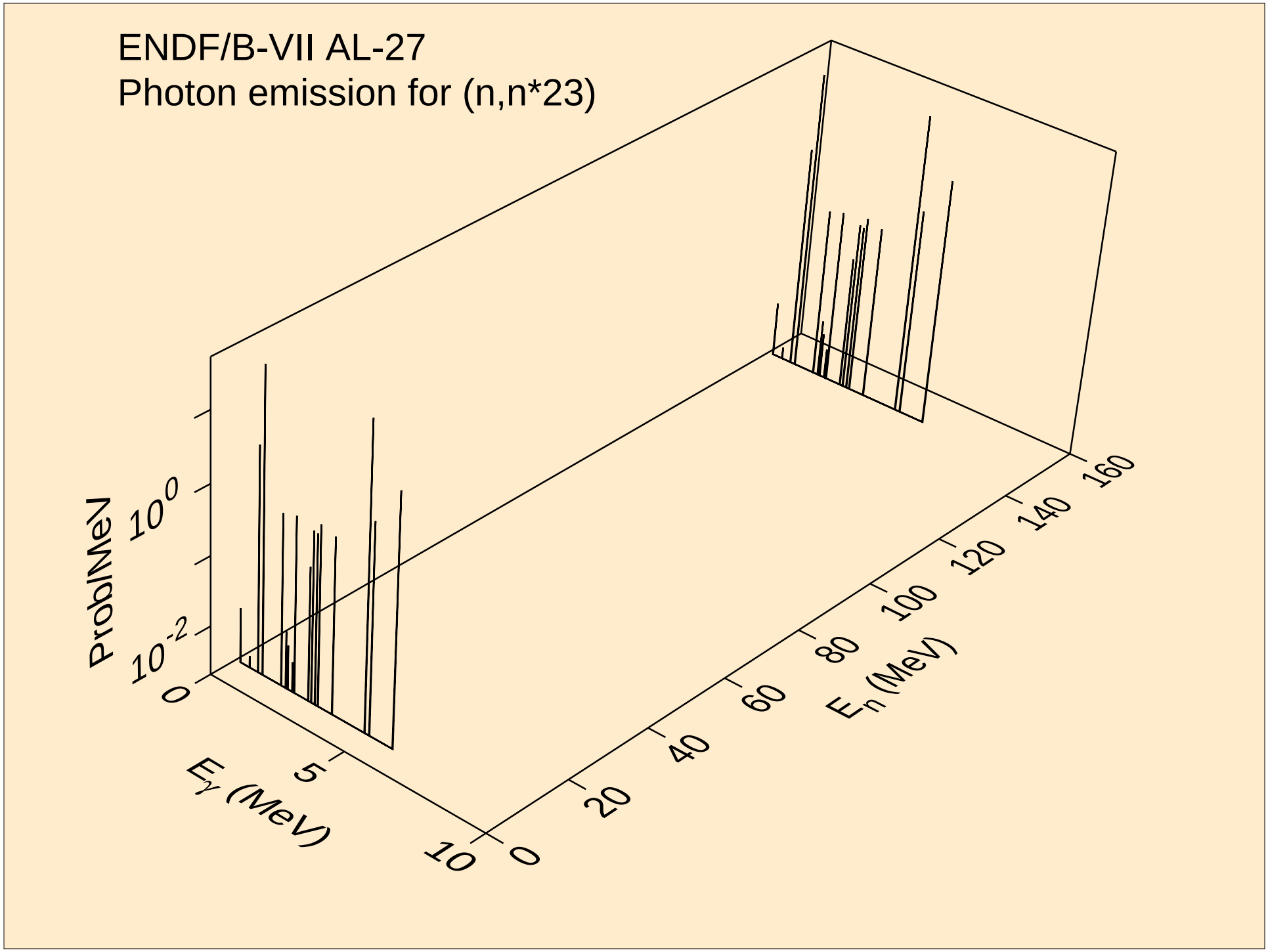

ENDF/B-VII AL-27
Photon emission for (n,n*18)
Prob/MeV
10^{2}
10^{0}
10^{-2}
E_γ (MeV)
0
5
10
E_n (MeV)
0
20
40
60
80
100
120
140
160

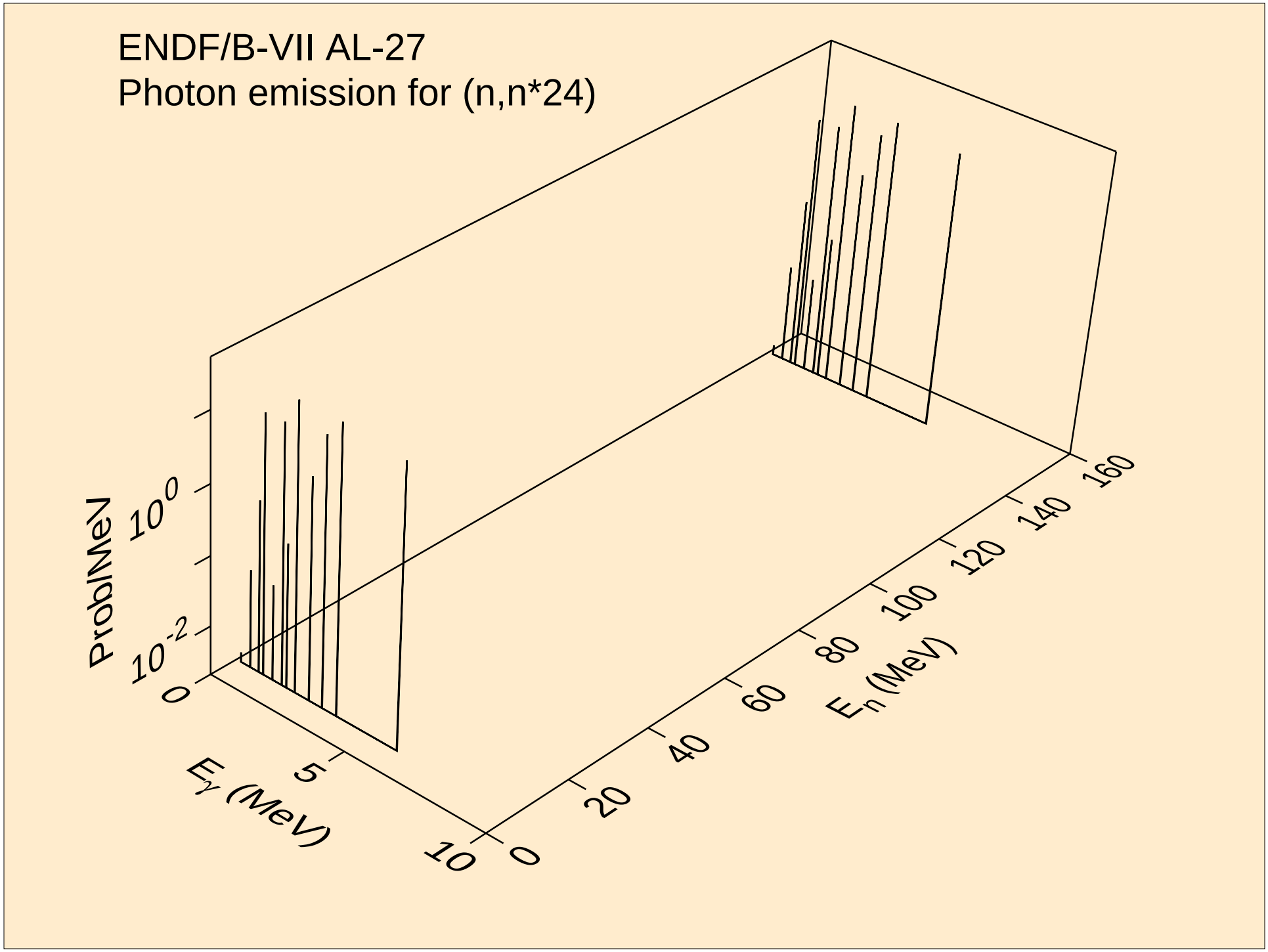

ENDF/B-VII AL-27
Photon emission for (n,n*19)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*20)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

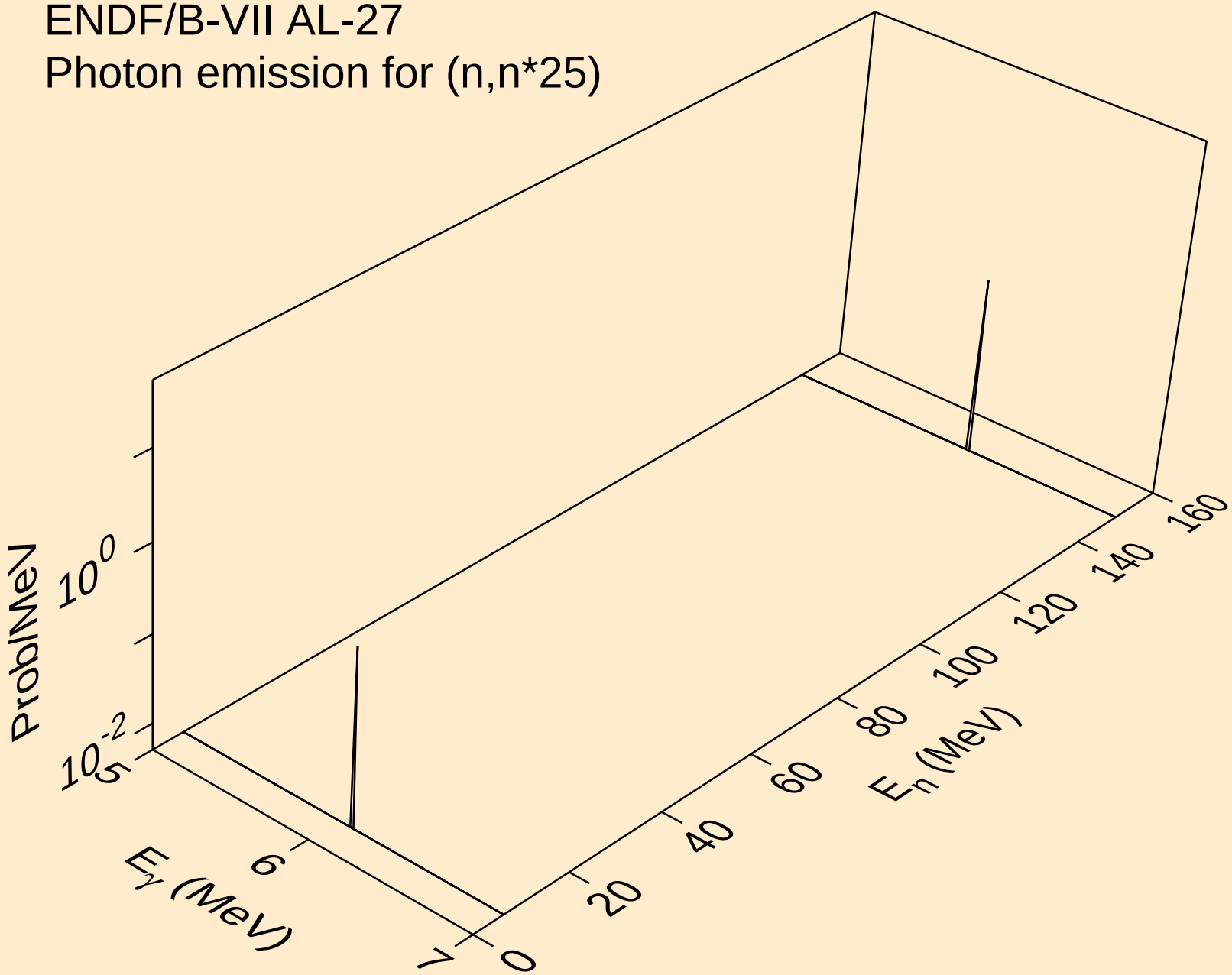

ENDF/B-VII AL-27
Photon emission for (n,n*21)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

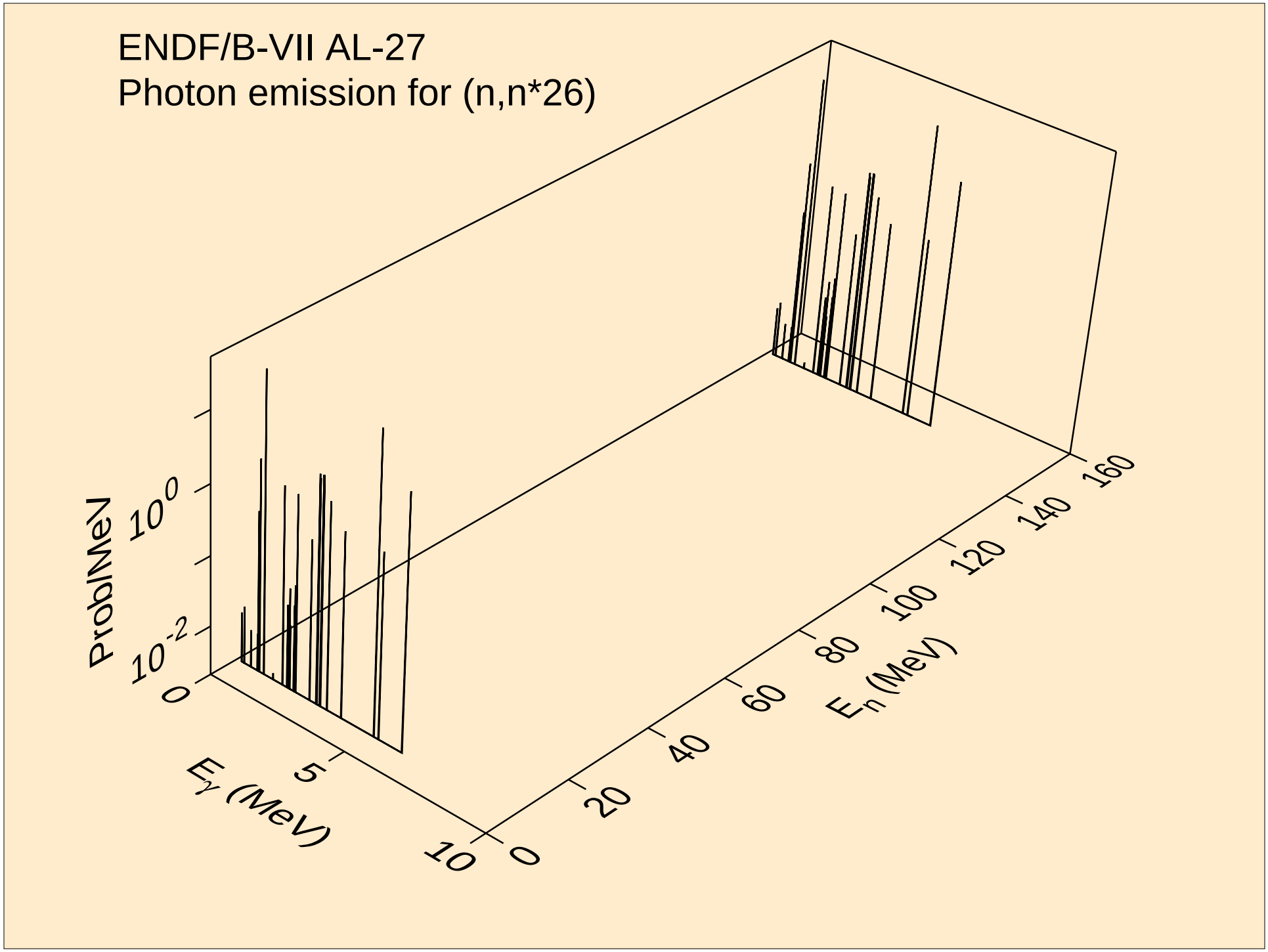

ENDF/B-VII AL-27
Photon emission for (n,n*22)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

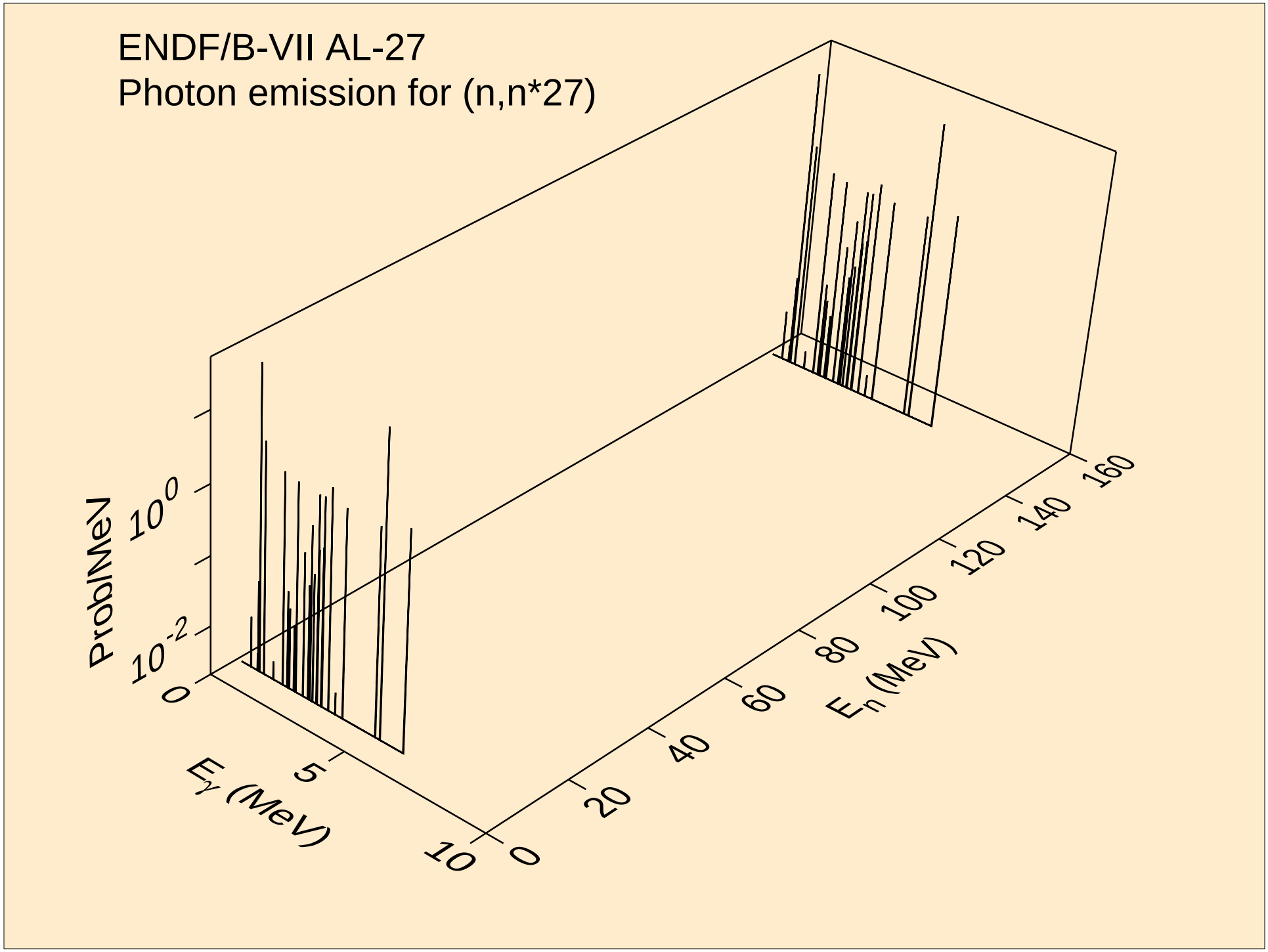

ENDF/B-VII AL-27
Photon emission for (n,n*23)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*24)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

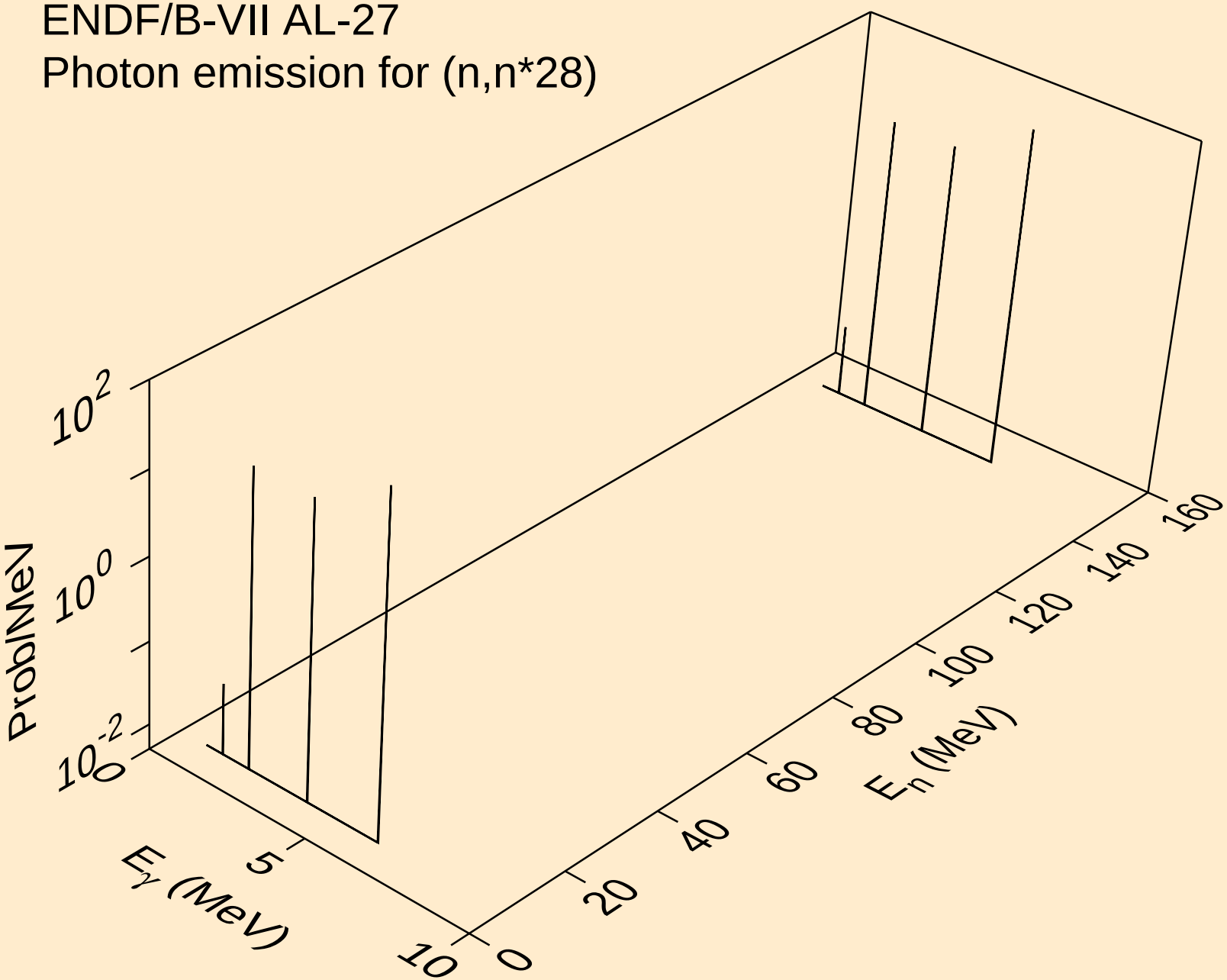
ENDF/B-VII AL-27
Photon emission for (n,n*25)

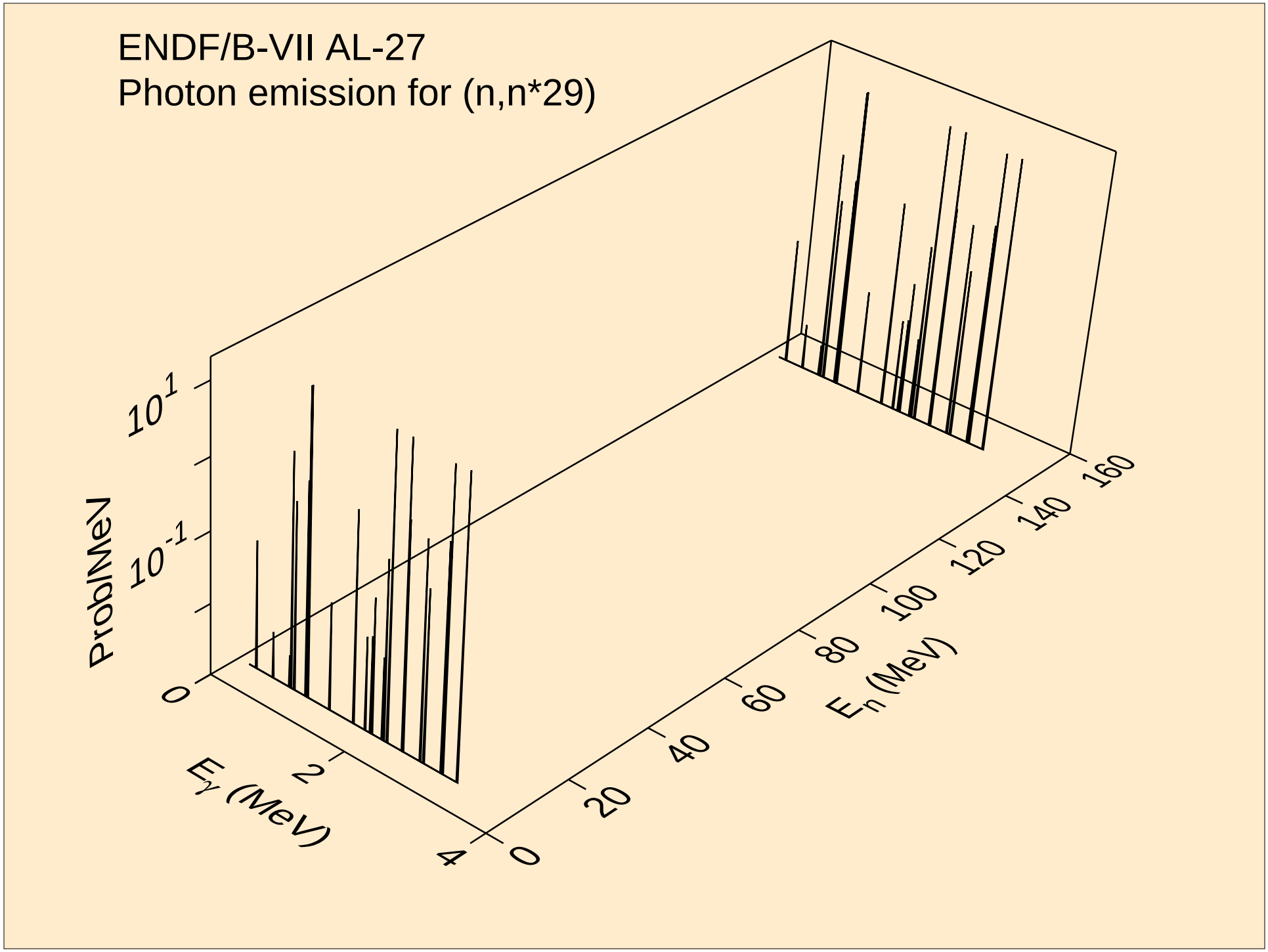


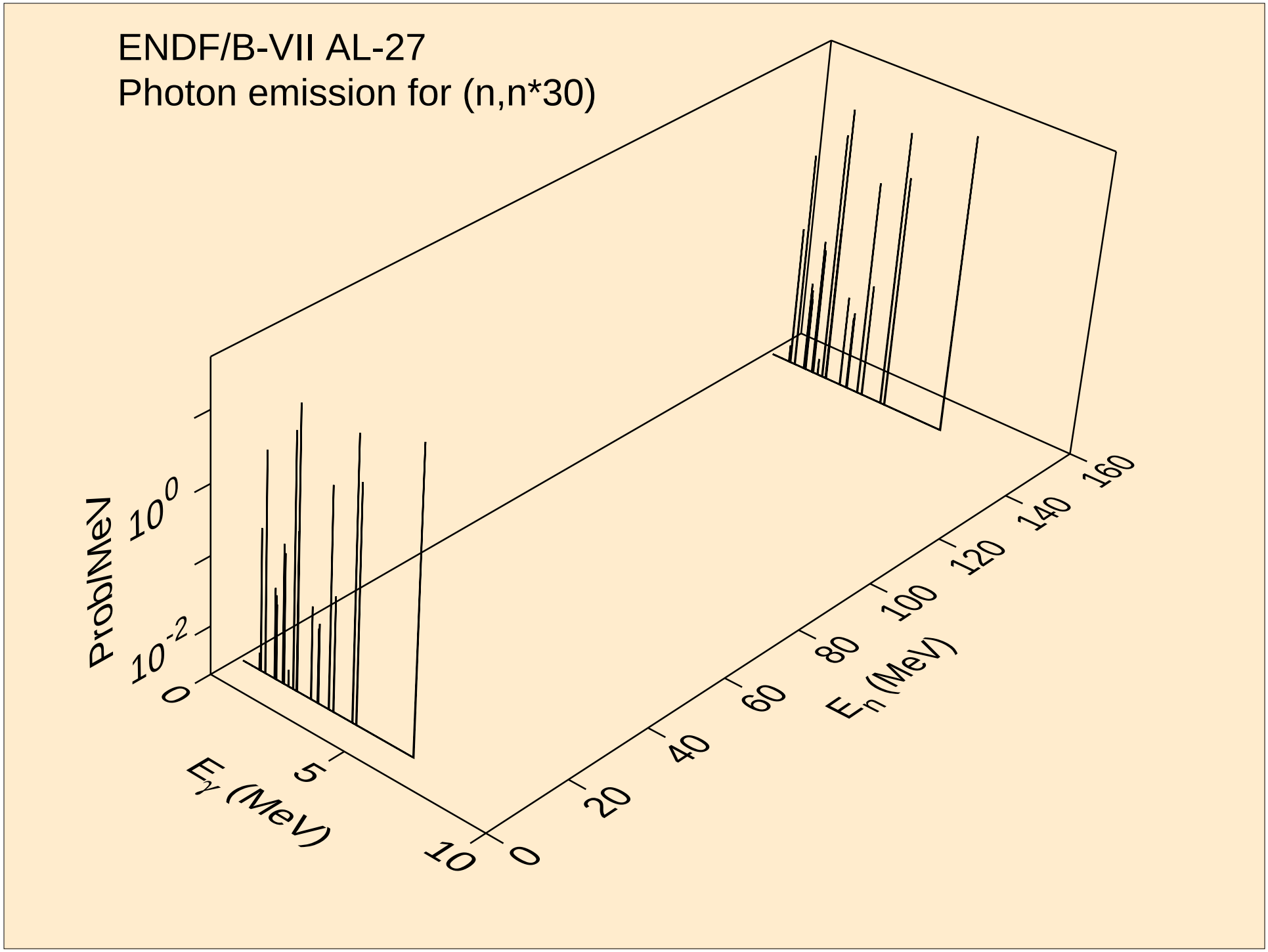

ENDF/B-VII AL-27
Photon emission for (n,n*26)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

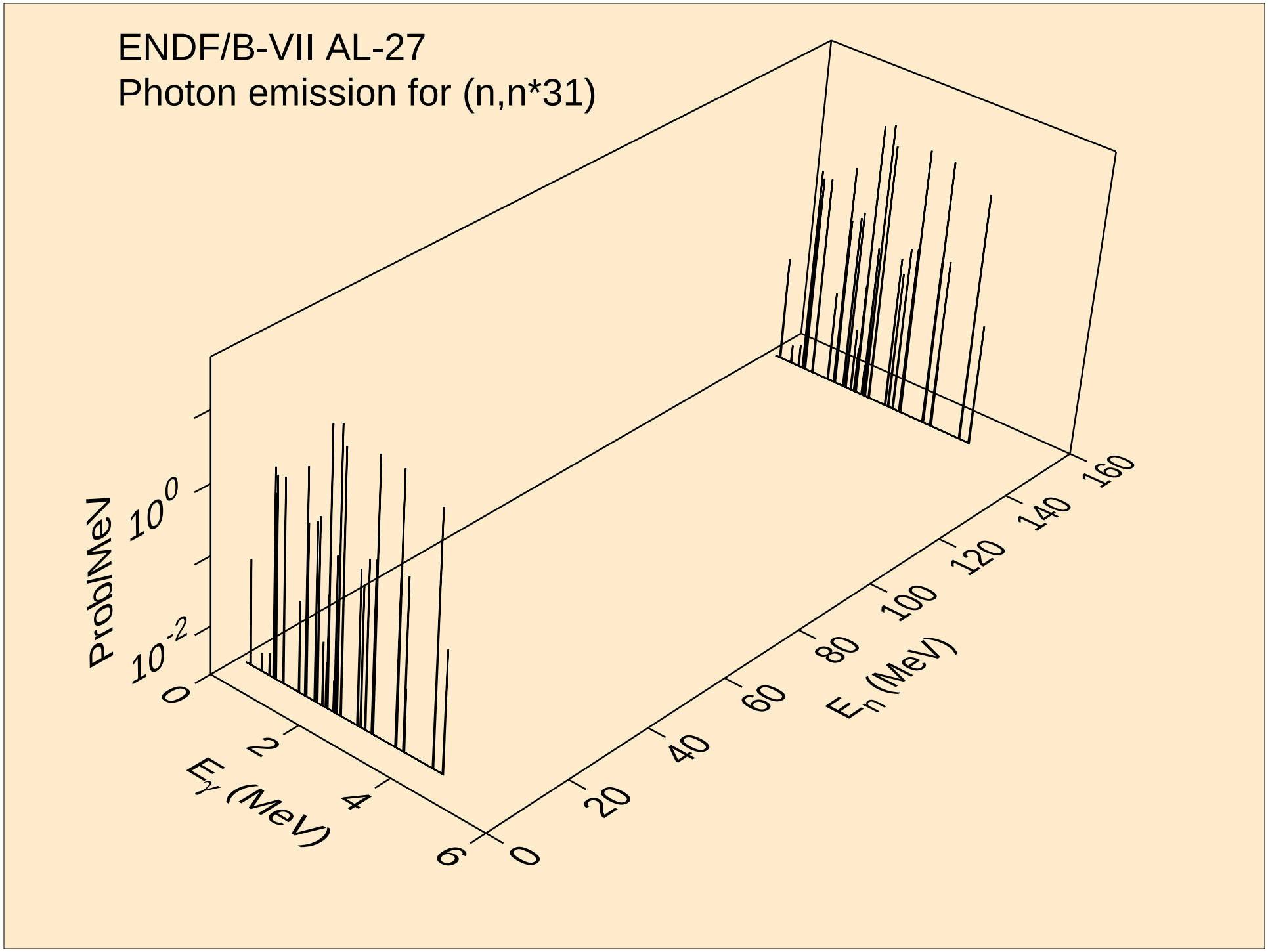

ENDF/B-VII AL-27
Photon emission for (n,n*27)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

ENDF/B-VII AL-27
Photon emission for (n,n*28)

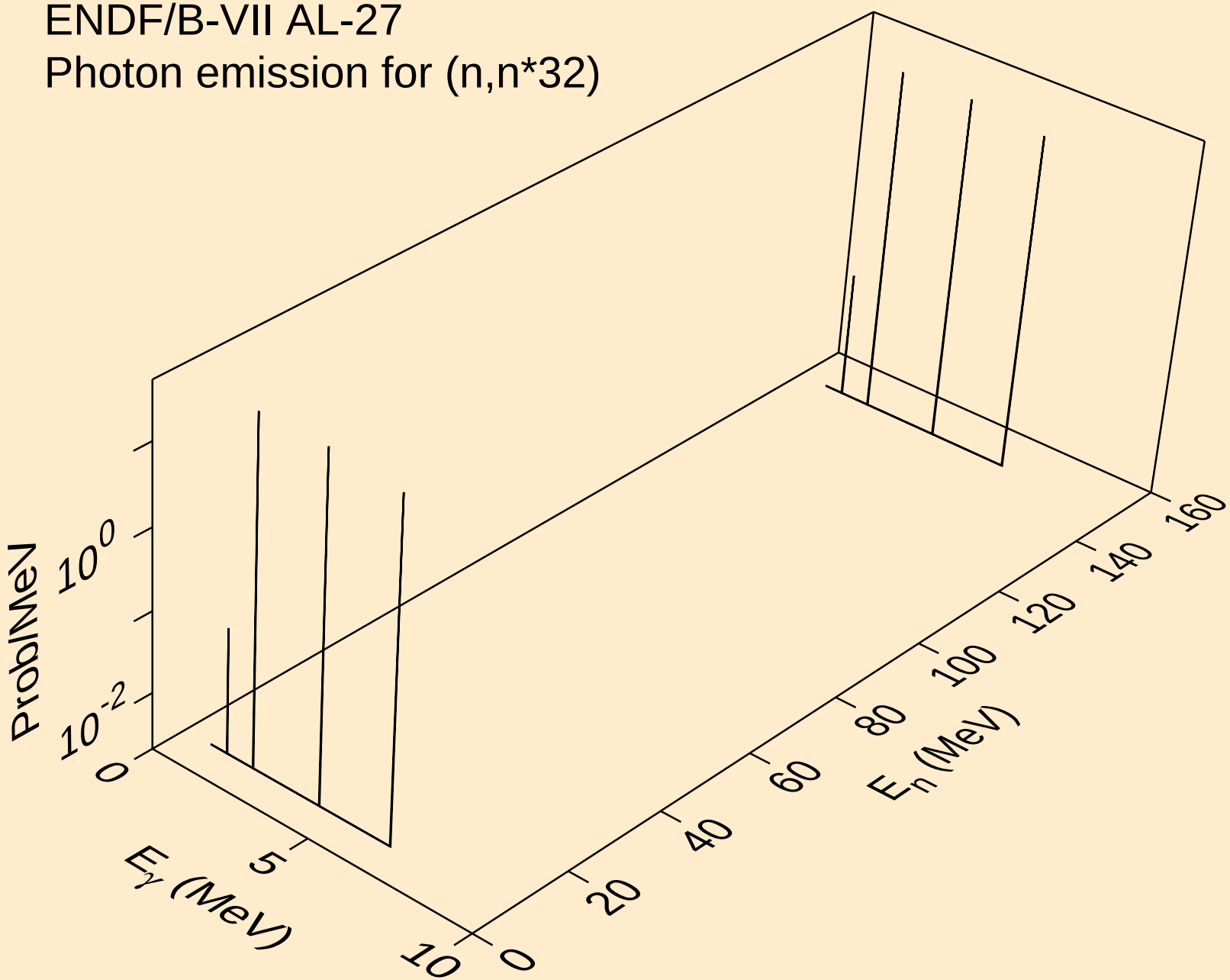


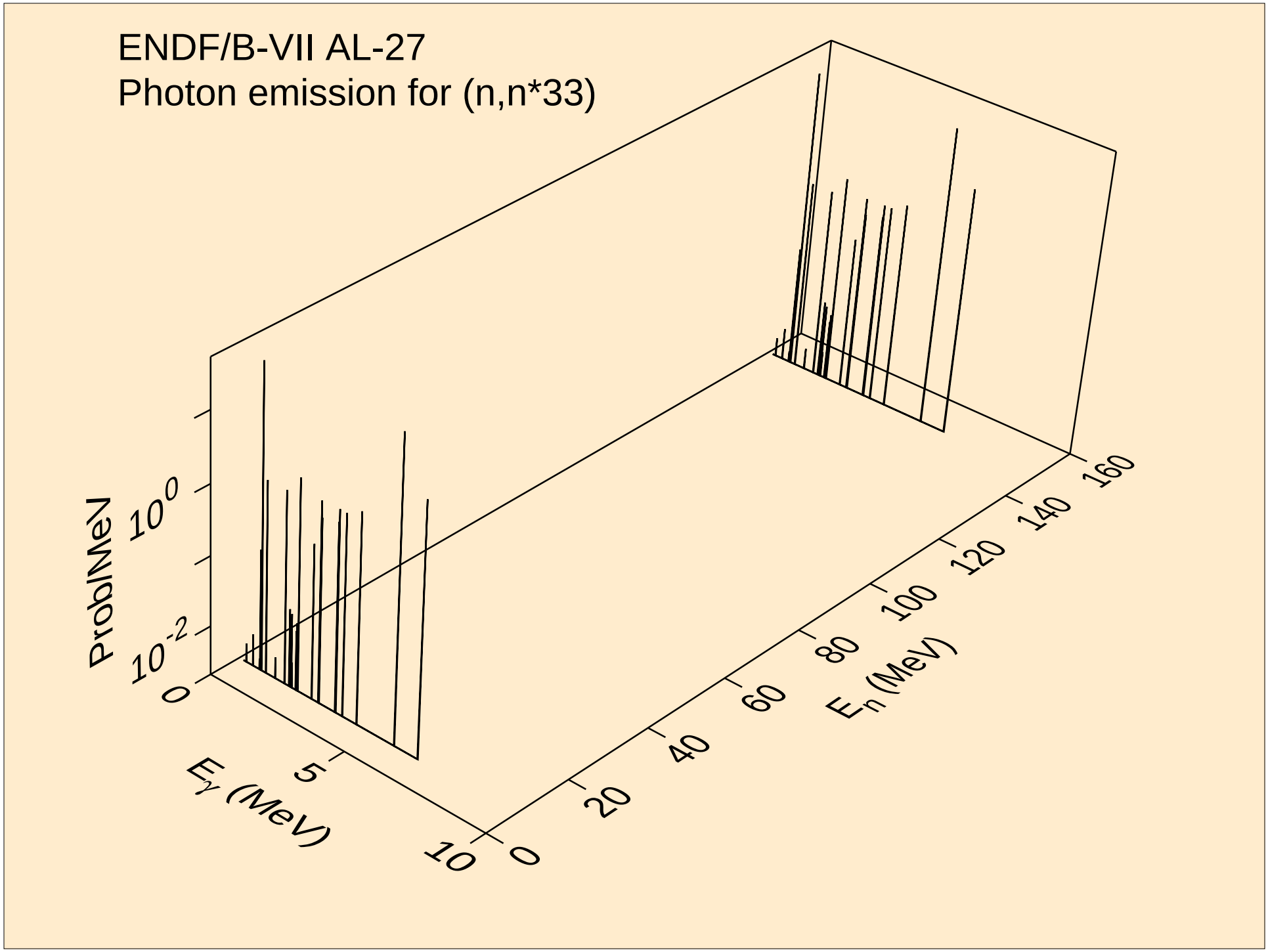

ENDF/B-VII AL-27
Photon emission for (n,n*29)
Prob/MeV
10^{1}
10^{-1}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

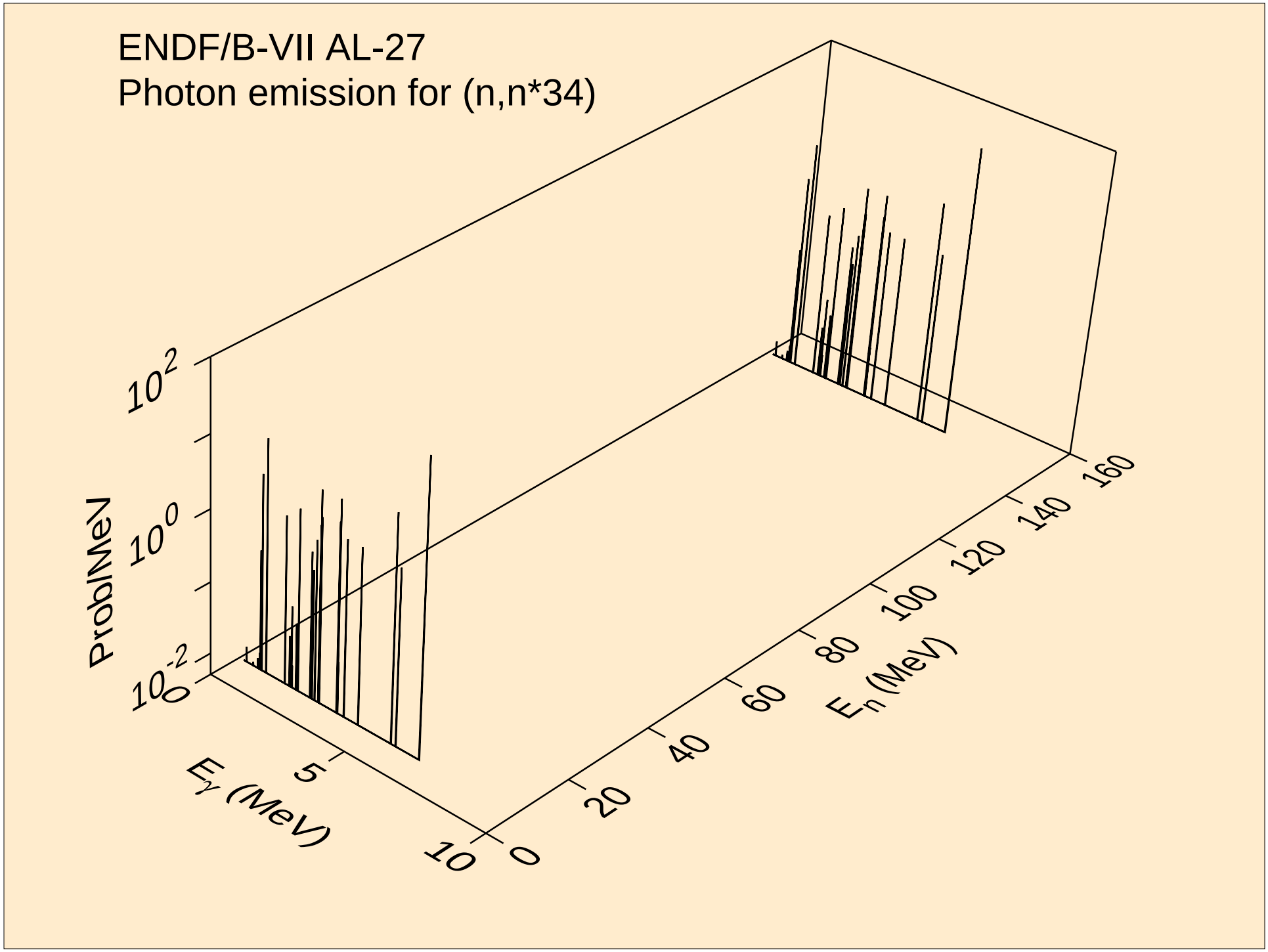

ENDF/B-VII AL-27
Photon emission for (n,n*30)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

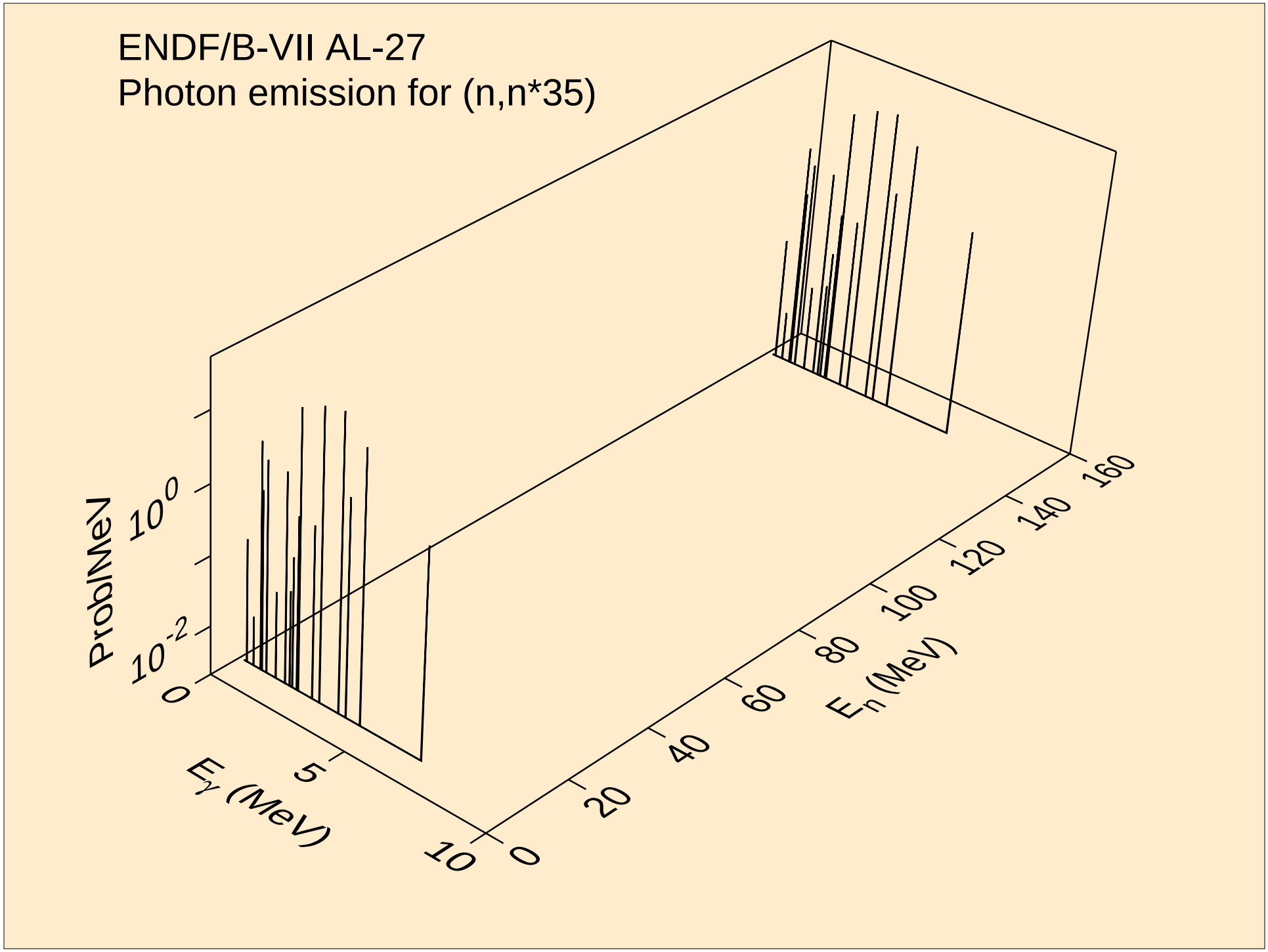

ENDF/B-VII AL-27
Photon emission for (n,n*31)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

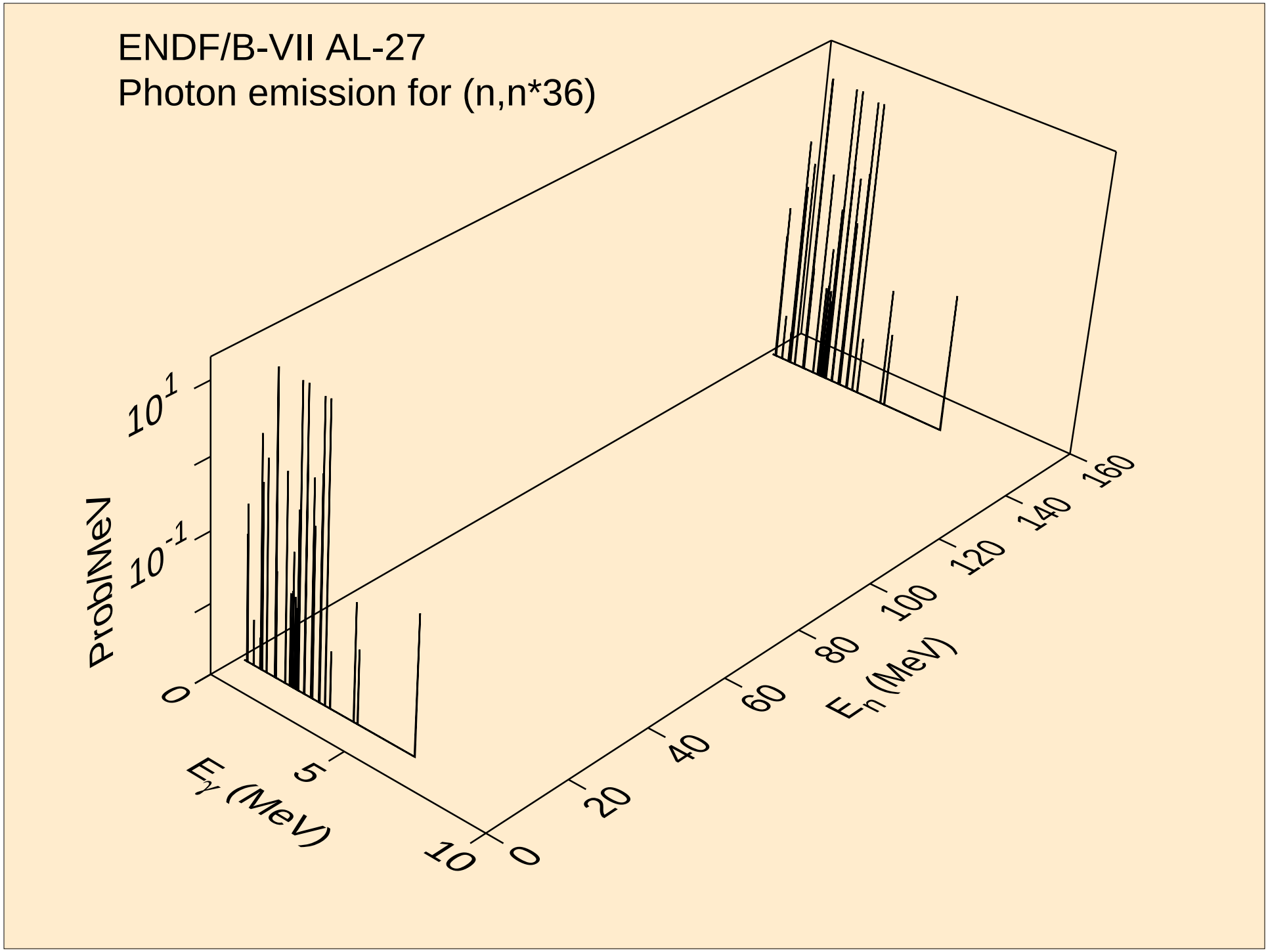
ENDF/B-VII AL-27
Photon emission for (n,n*32)

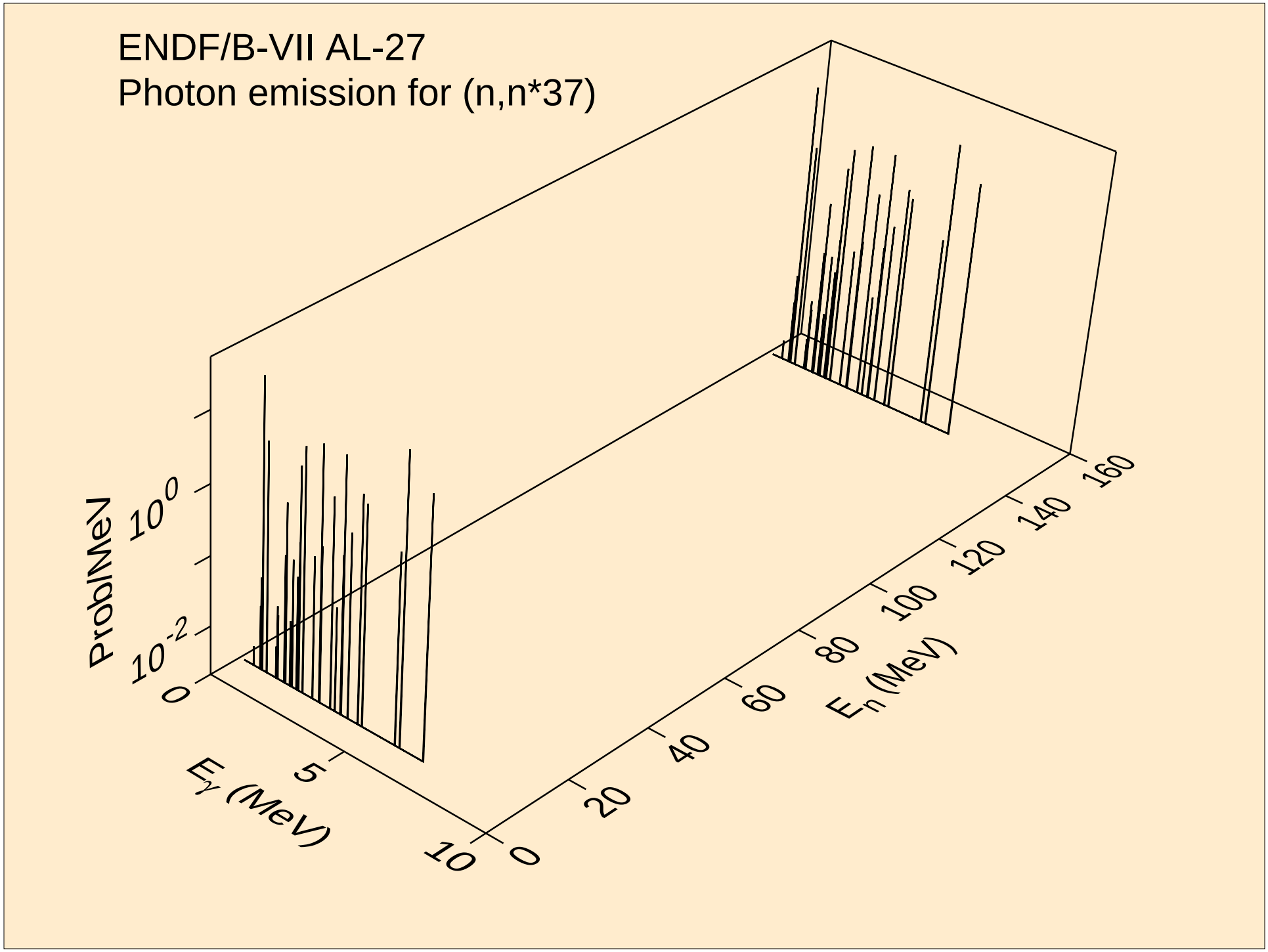


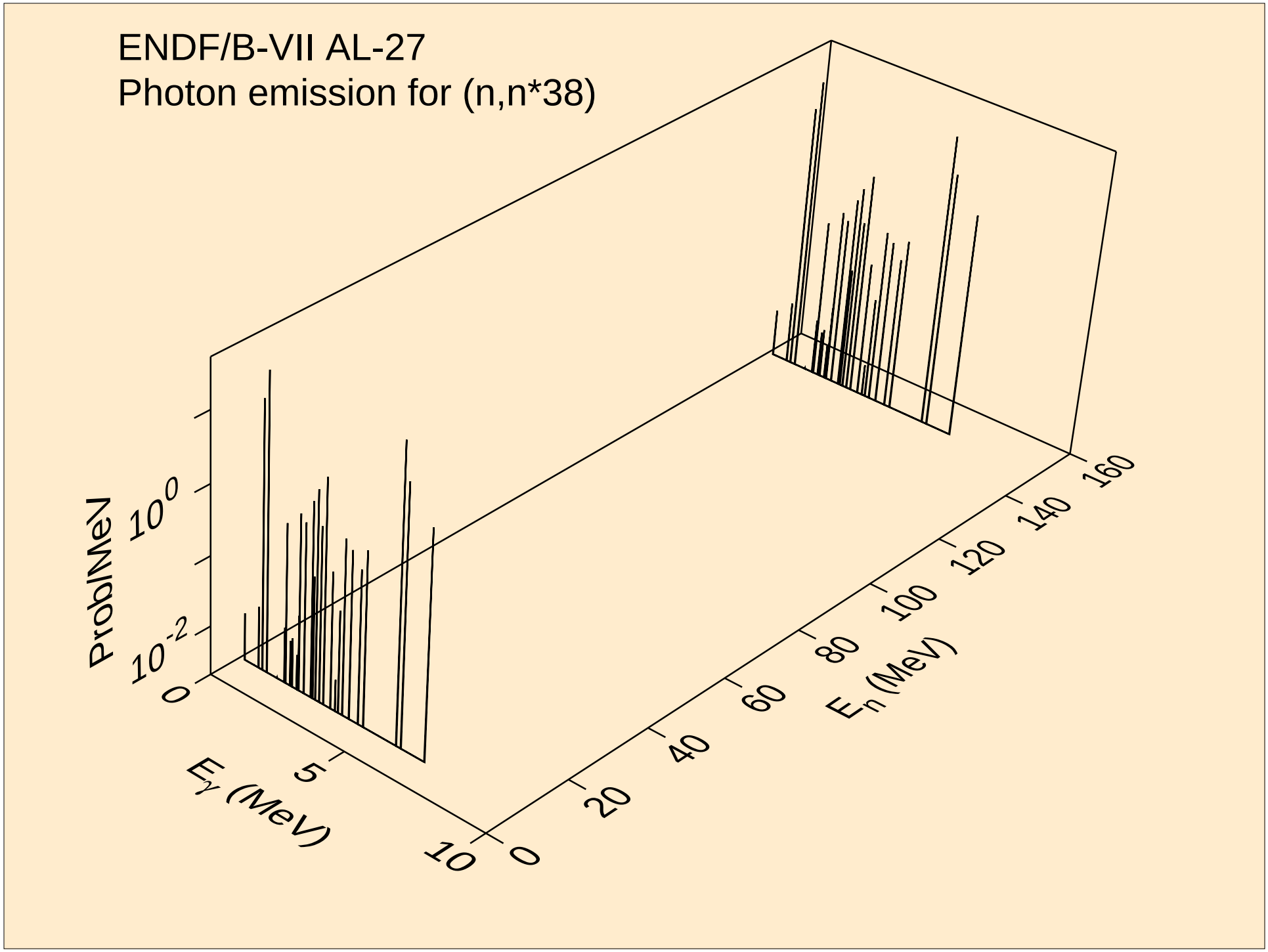

ENDF/B-VII AL-27
Photon emission for (n,n*33)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

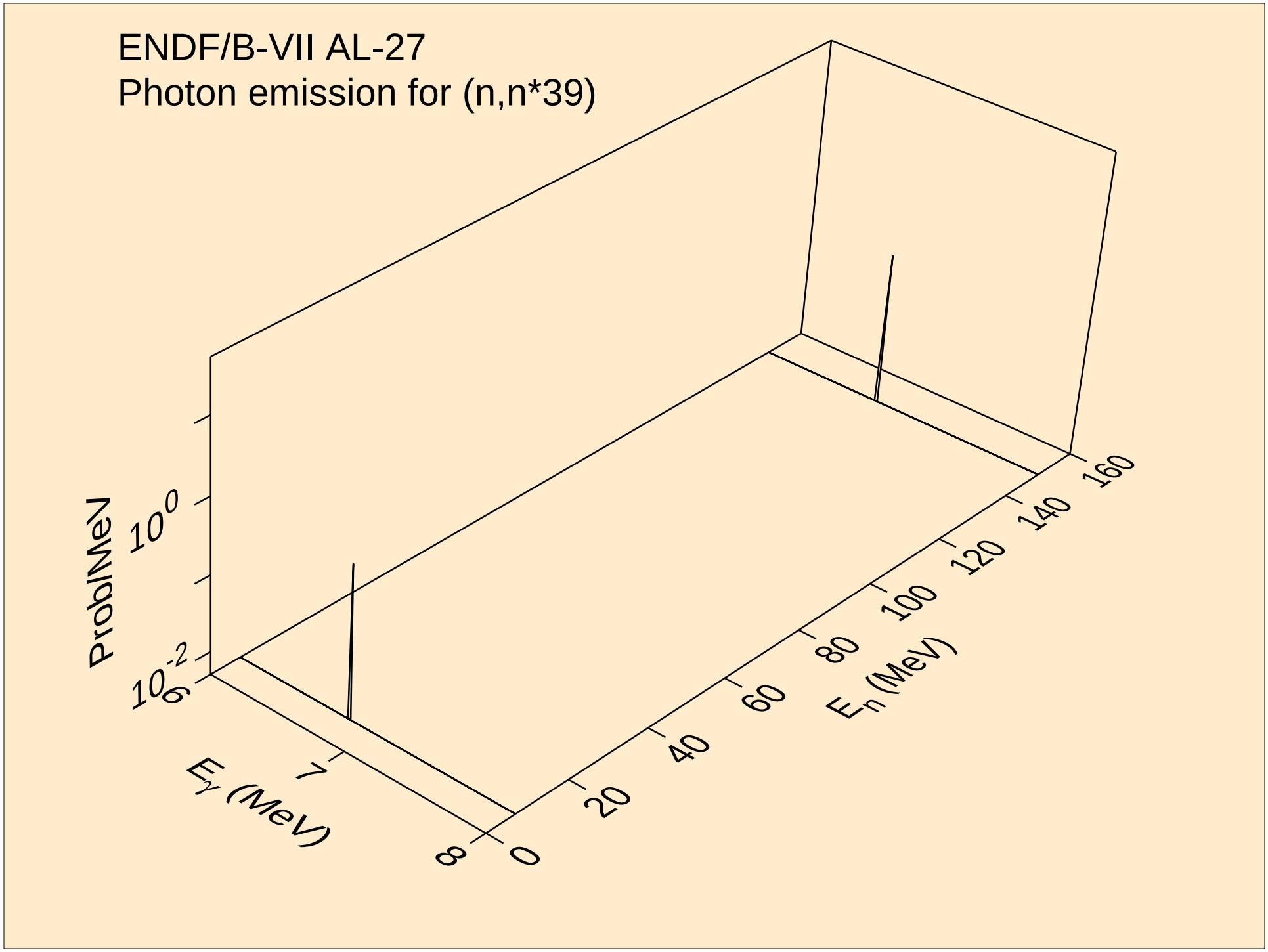

ENDF/B-VII AL-27
Photon emission for (n,n*34)
Prob/MeV
10^{2}
10^{0}
10^{-2}
E_γ (MeV)
0
5
10
E_n (MeV)
0
20
40
60
80
100
120
140
160

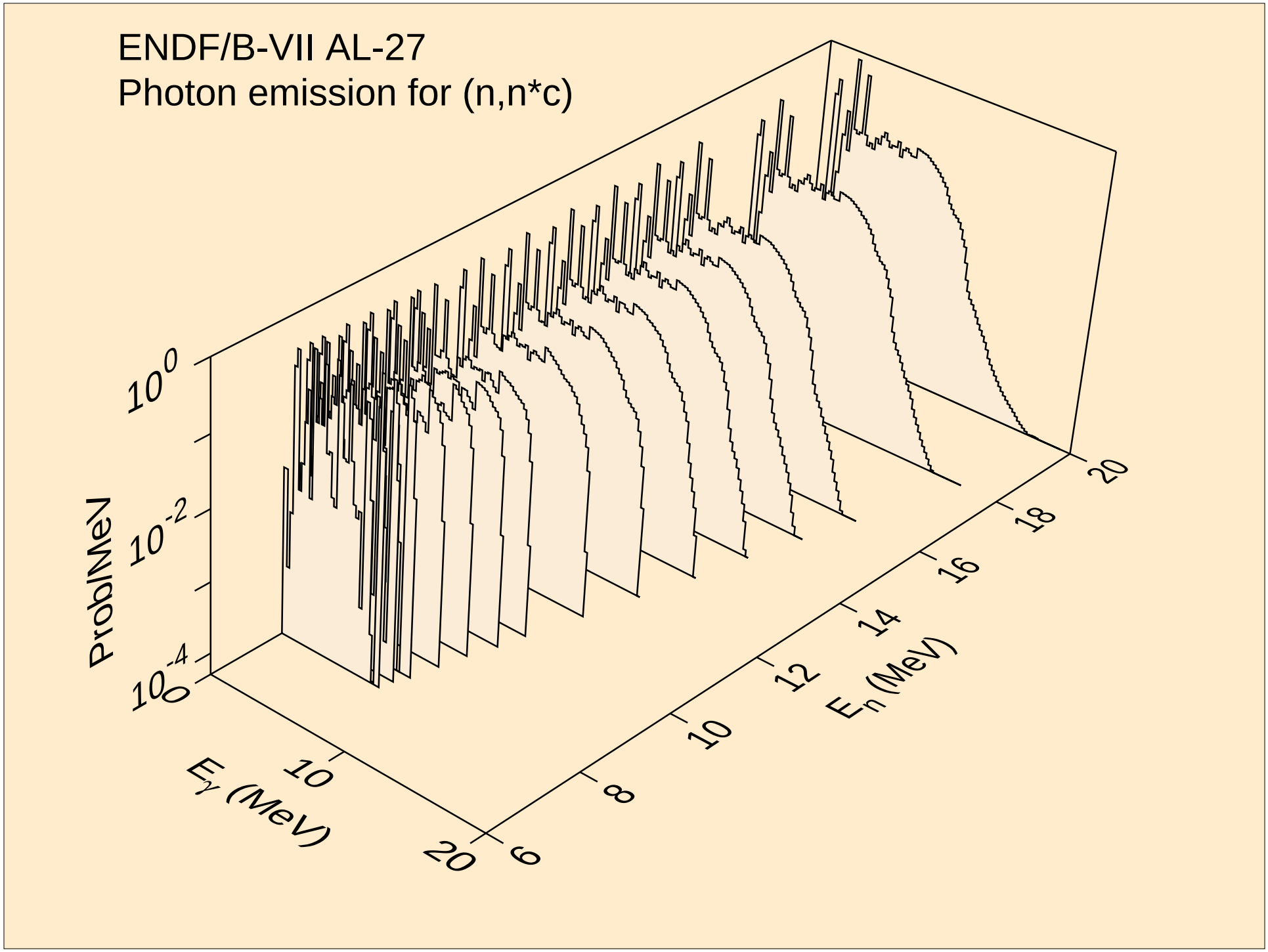

ENDF/B-VII AL-27
Photon emission for (n,n*35)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*36)
Prob/MeV
10^{1}
10^{-1}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

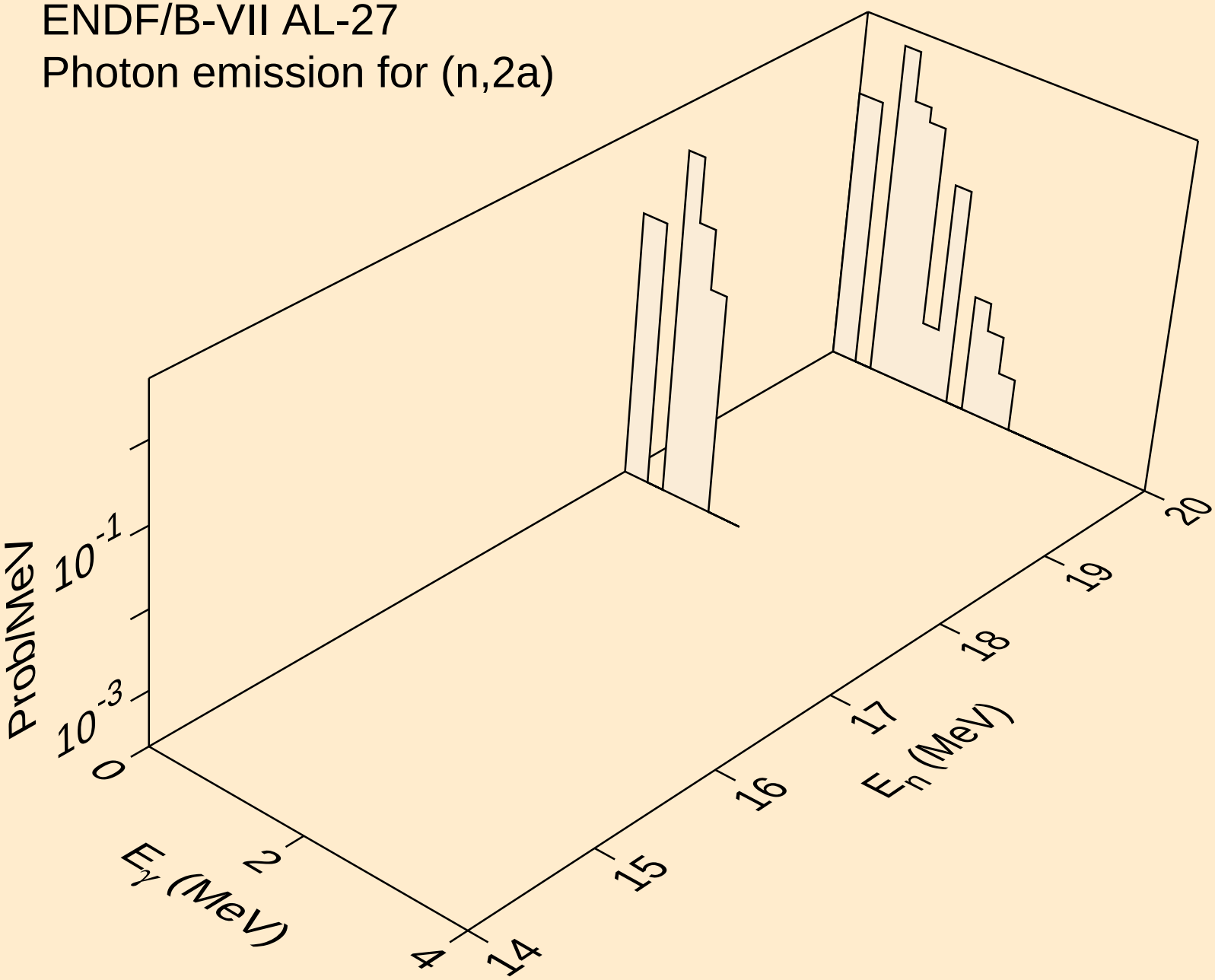

ENDF/B-VII AL-27
Photon emission for (n,n*37)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

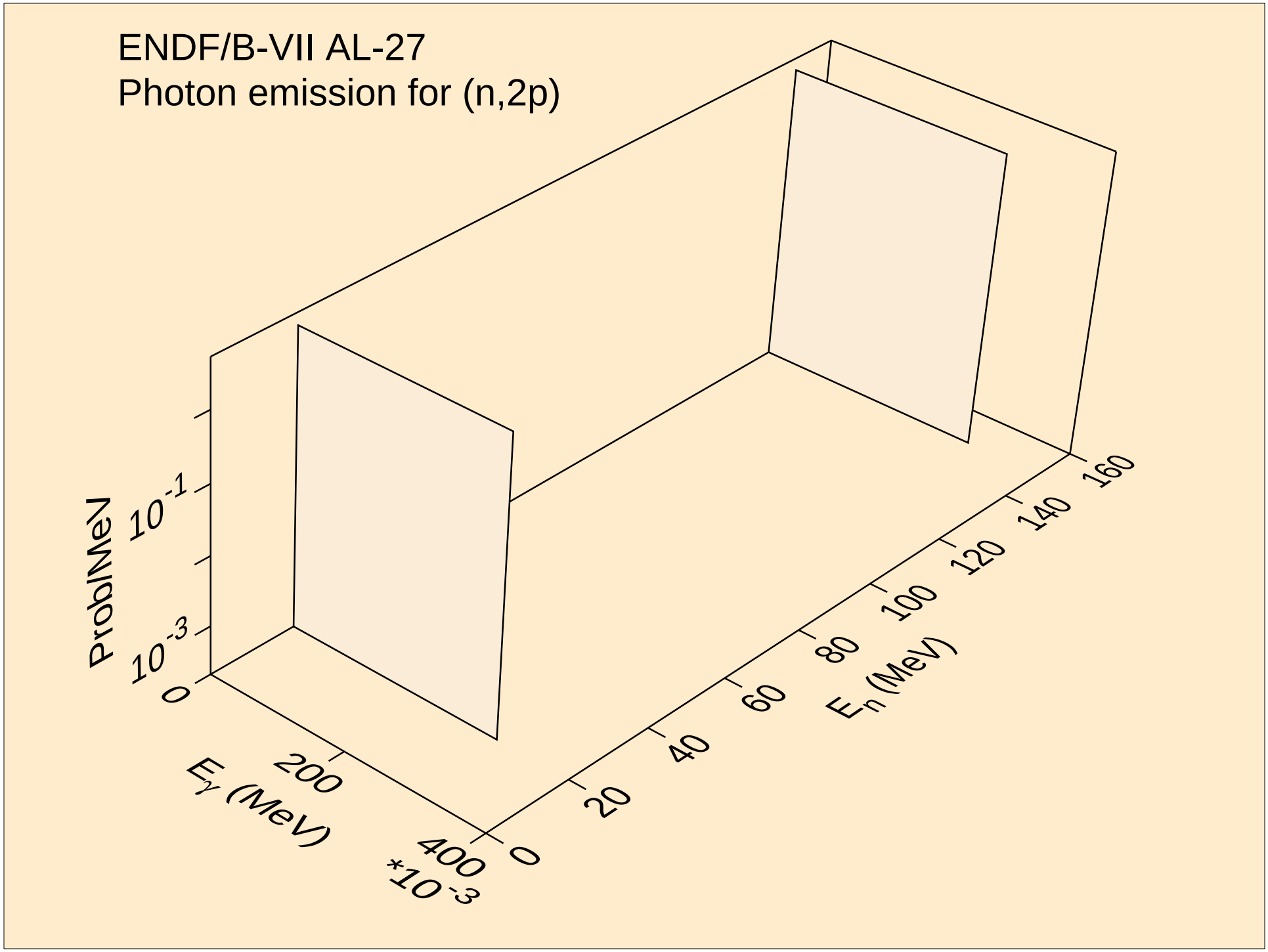

ENDF/B-VII AL-27
Photon emission for (n,n*38)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

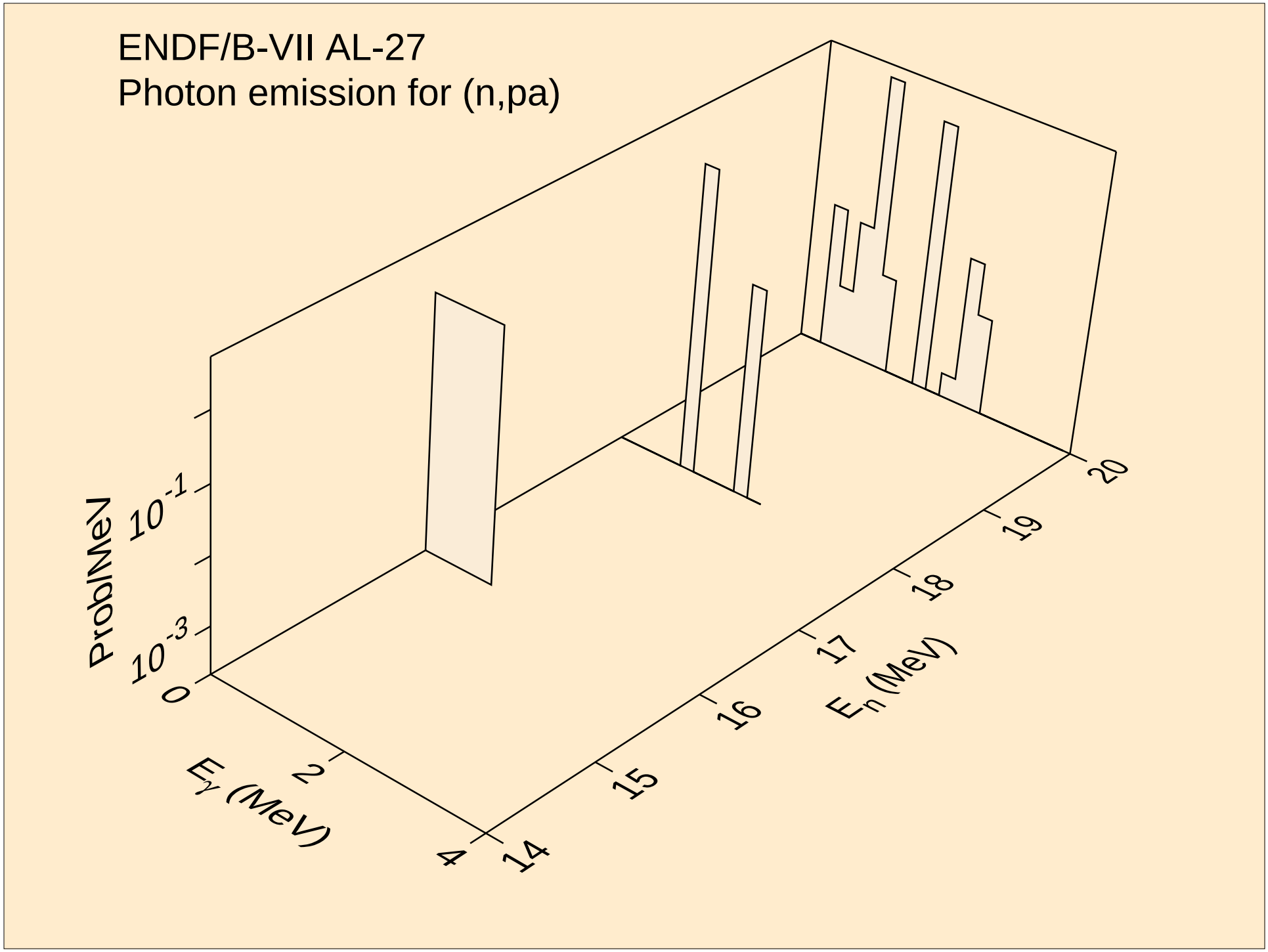

ENDF/B-VII AL-27
Photon emission for (n,n*39)
Prob/MeV
10^{0}
10^{-2}
6
7
8
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,n*c)
Prob/MeV
10^0
10^{-2}
10^{-4}
0
10
20
E_γ (MeV)
6
8
10
12
14
16
18
20
E_n (MeV)

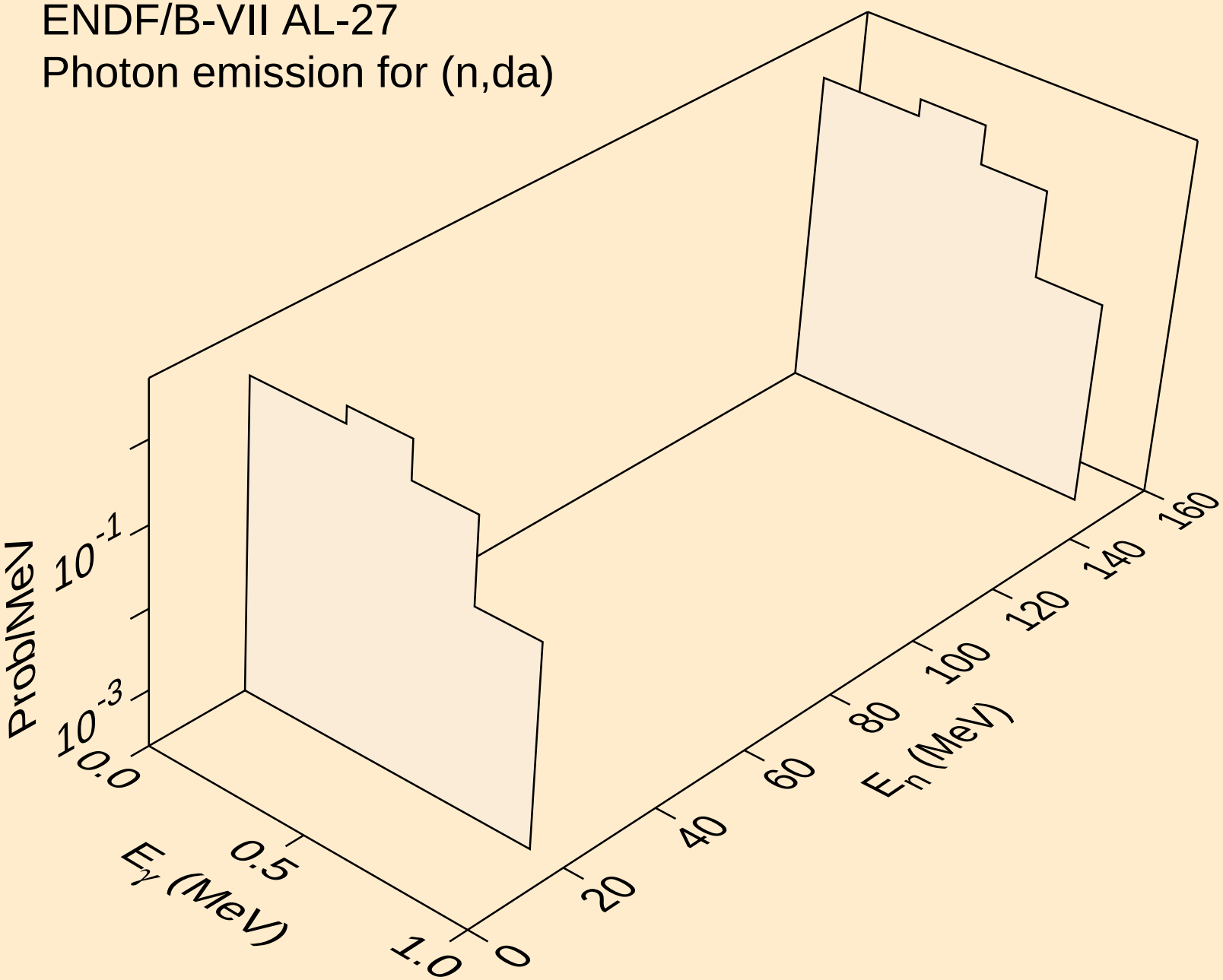
ENDF/B-VII AL-27
Photon emission for (n,2a)



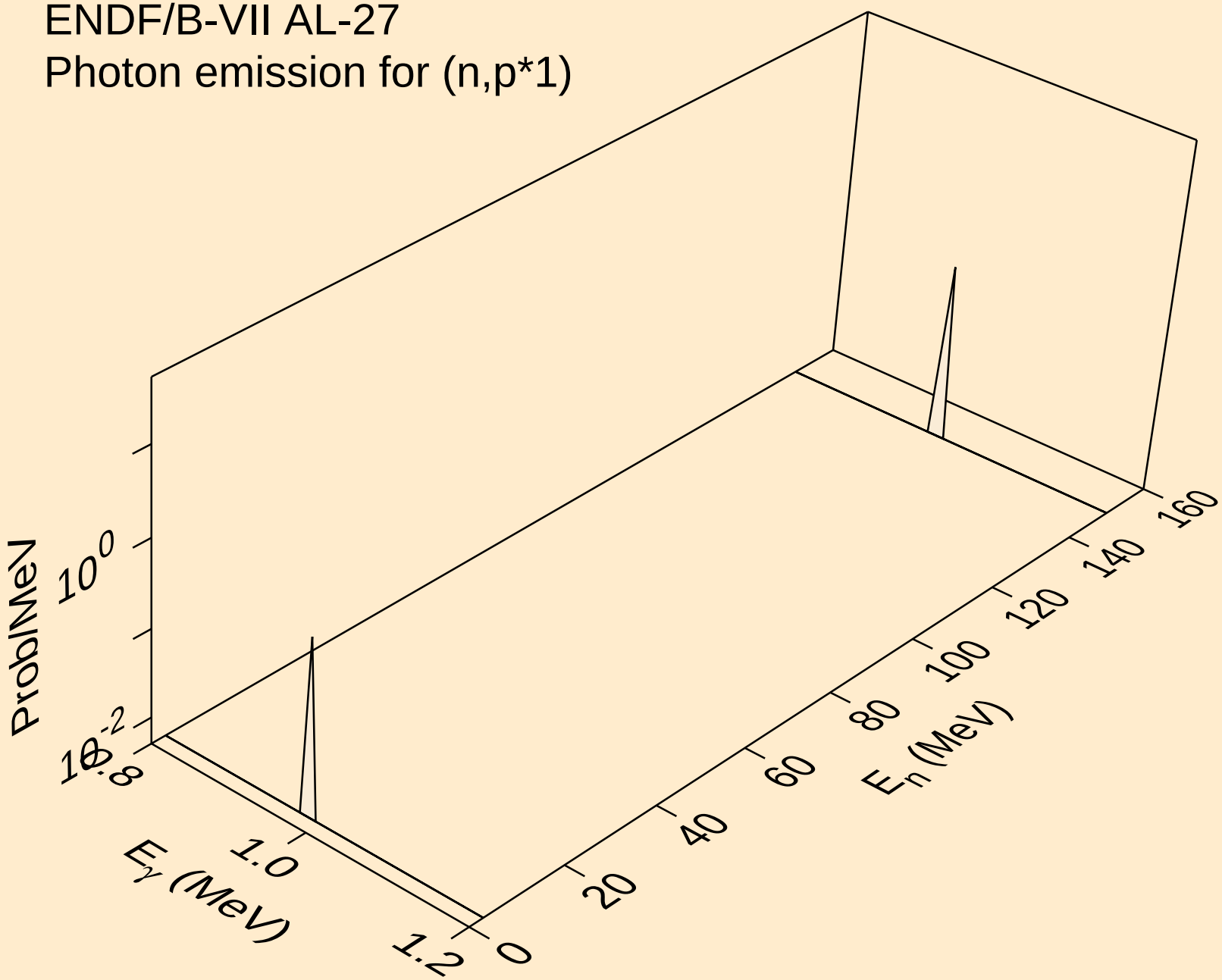

ENDF/B-VII AL-27
Photon emission for (n,2p)
Prob/MeV
10^-1
10^-3
0
200
400
*10^-3
Eγ (MeV)
0
20
40
60
80
100
120
140
160
En (MeV)


ENDF/B-VII AL-27
Photon emission for (n,pa)
Prob/MeV
10^-1
10^-3
0
2
4
E_γ (MeV)
14
15
16
17
18
19
20
E_n (MeV)

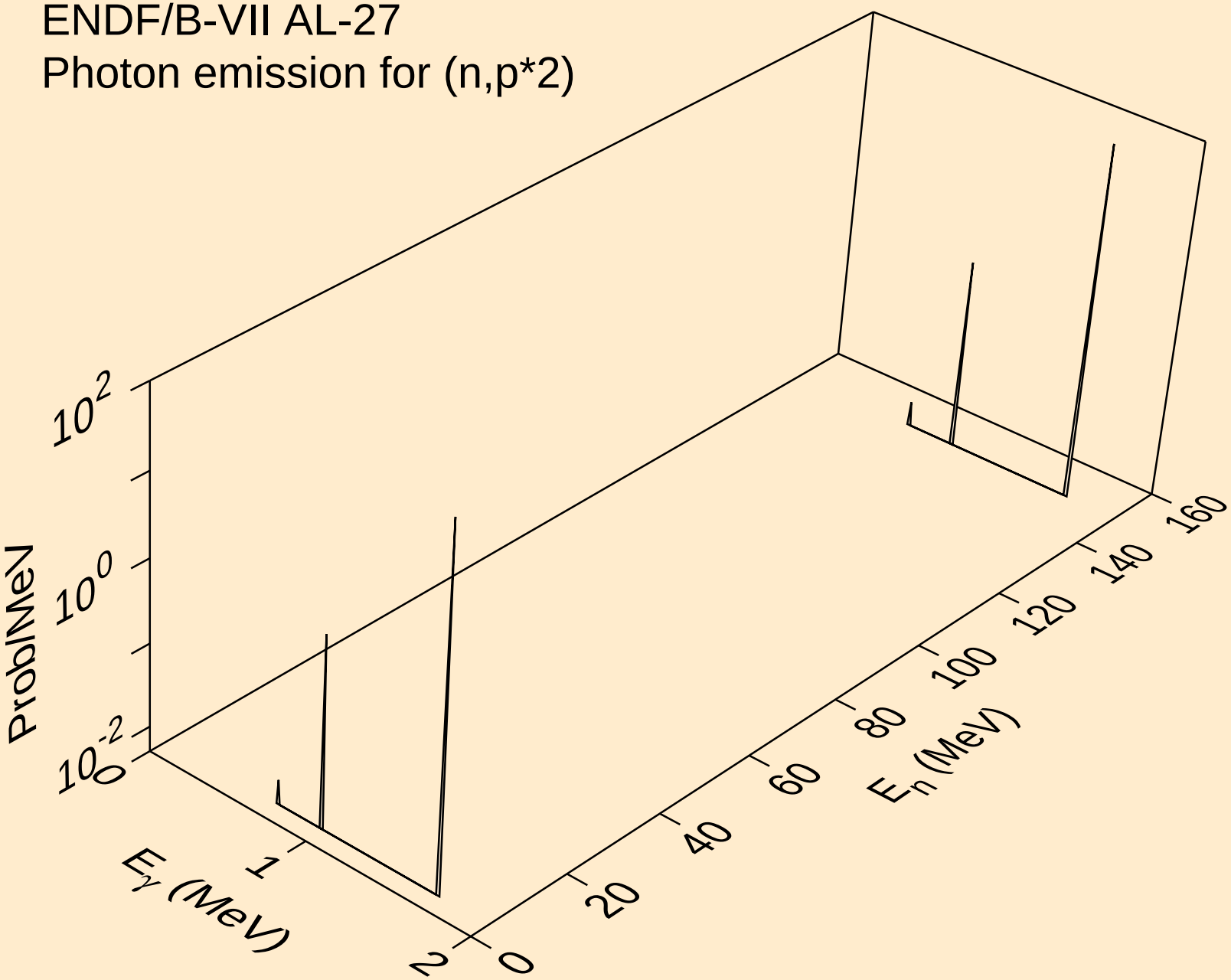
ENDF/B-VII AL-27
Photon emission for (n,da)

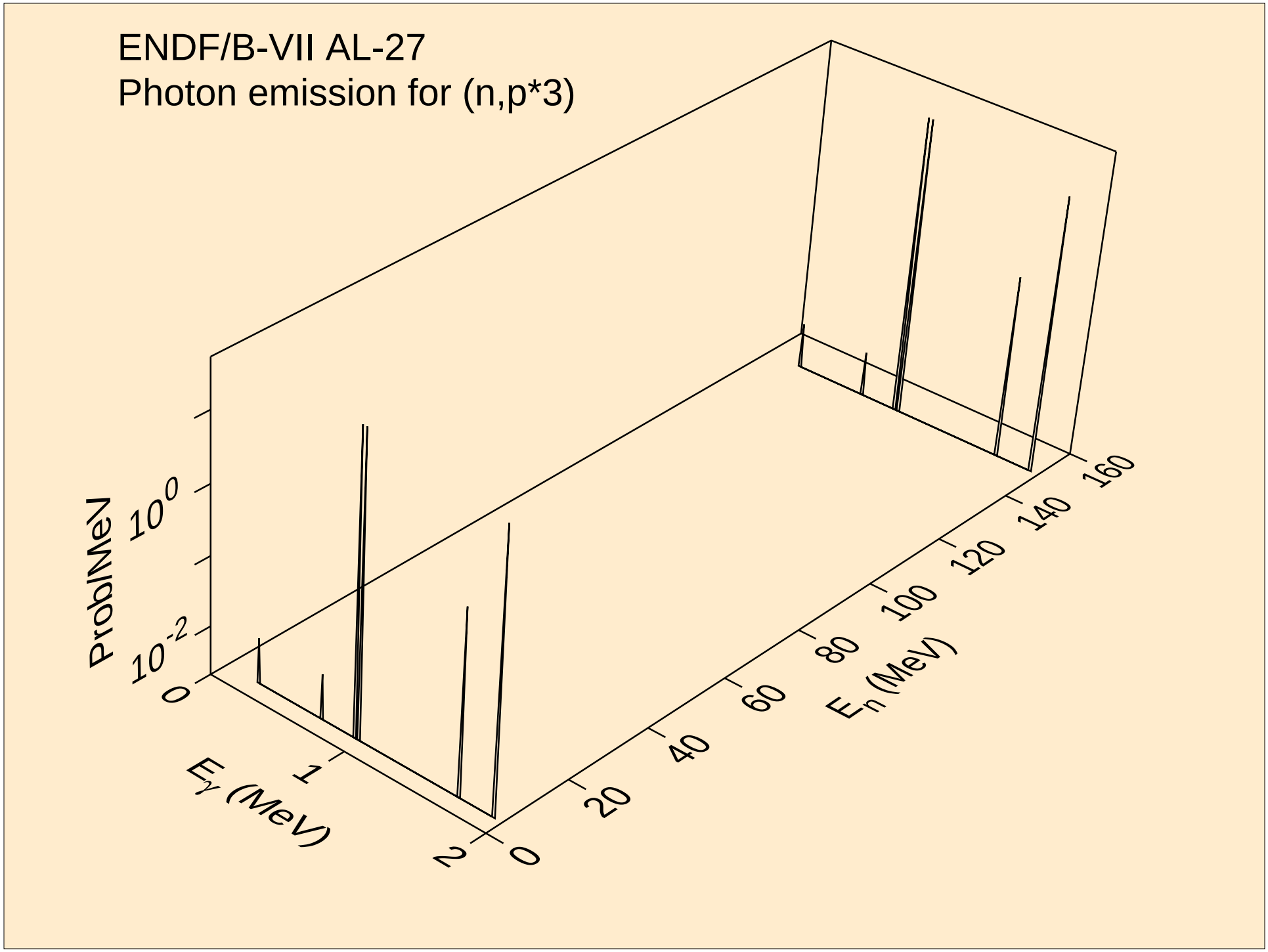


ENDF/B-VII AL-27
Photon emission for (n,p*1)

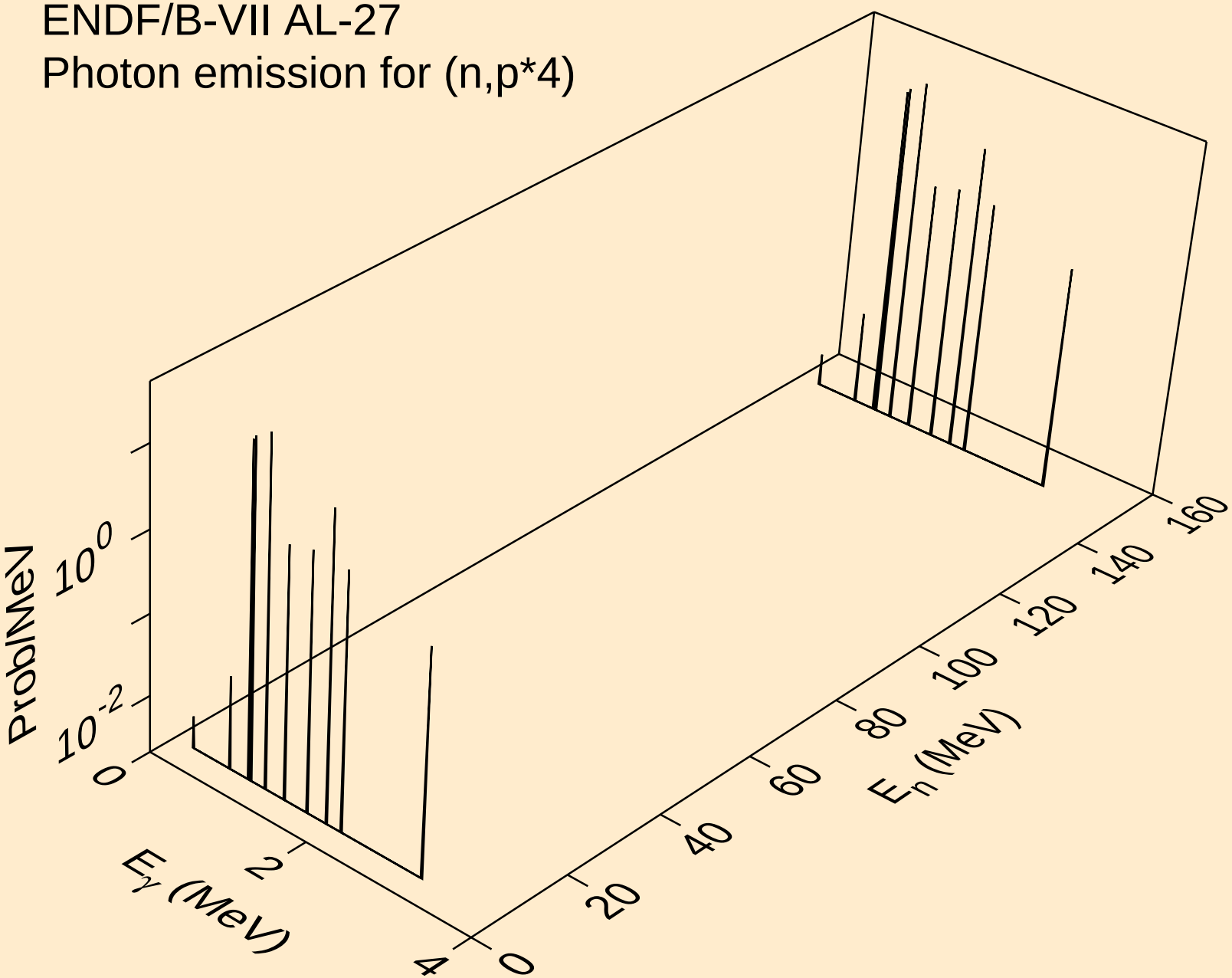


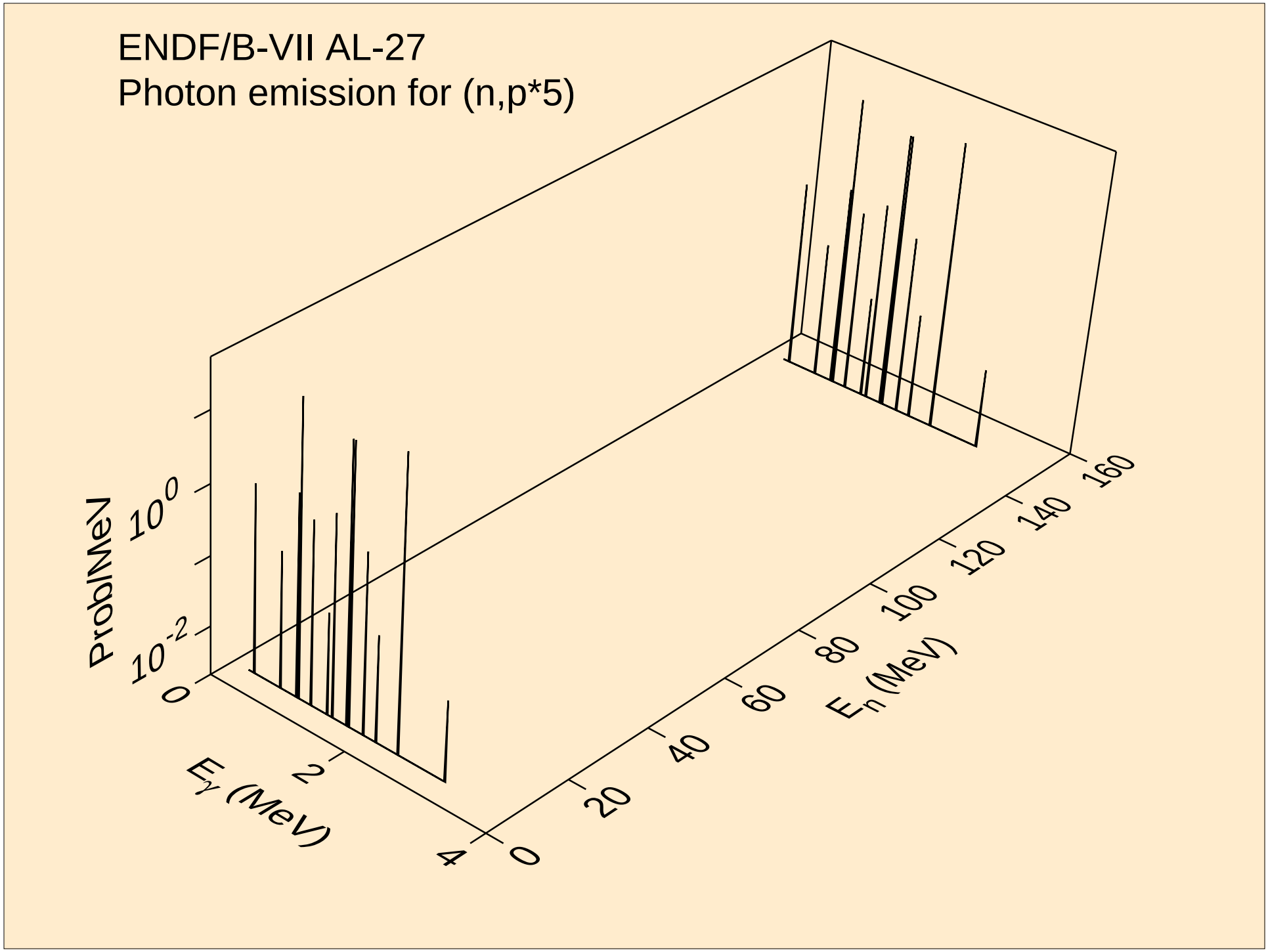
ENDF/B-VII AL-27
Photon emission for (n,p*2)



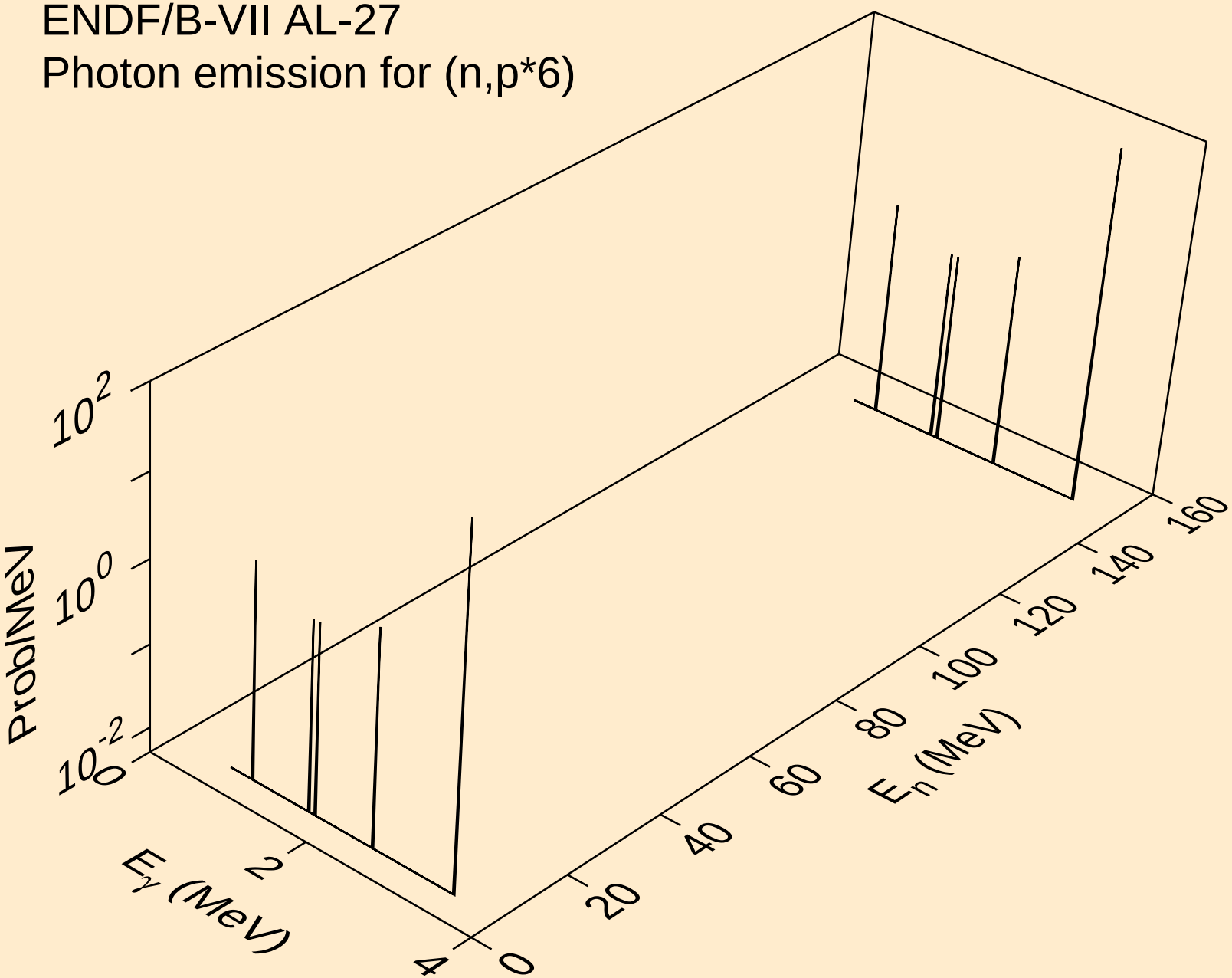

ENDF/B-VII AL-27
Photon emission for (n,p*3)
Prob/MeV
10^0
10^{-2}
0
1
2
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

ENDF/B-VII AL-27
Photon emission for (n,p*4)

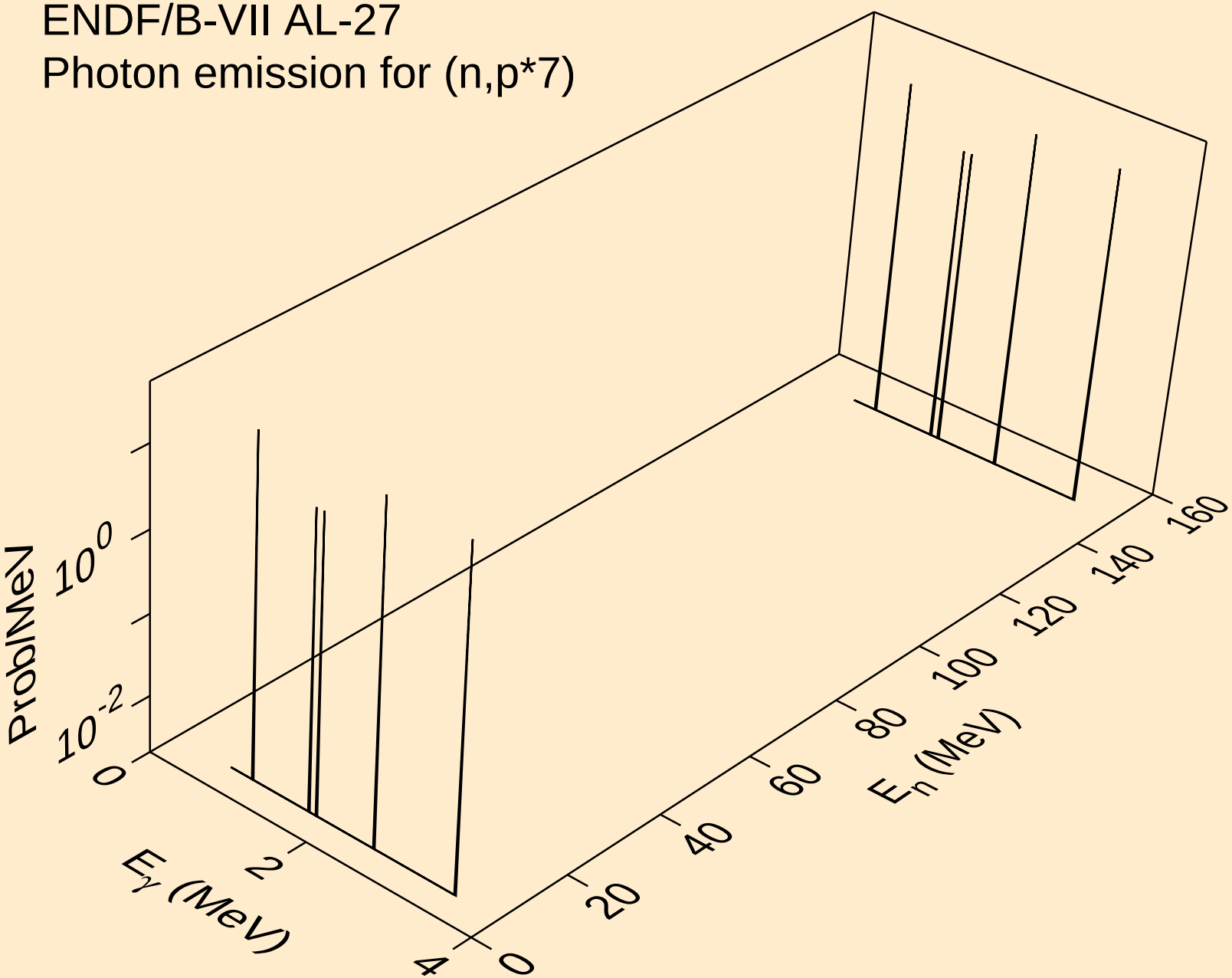



ENDF/B-VII AL-27
Photon emission for (n,p*5)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

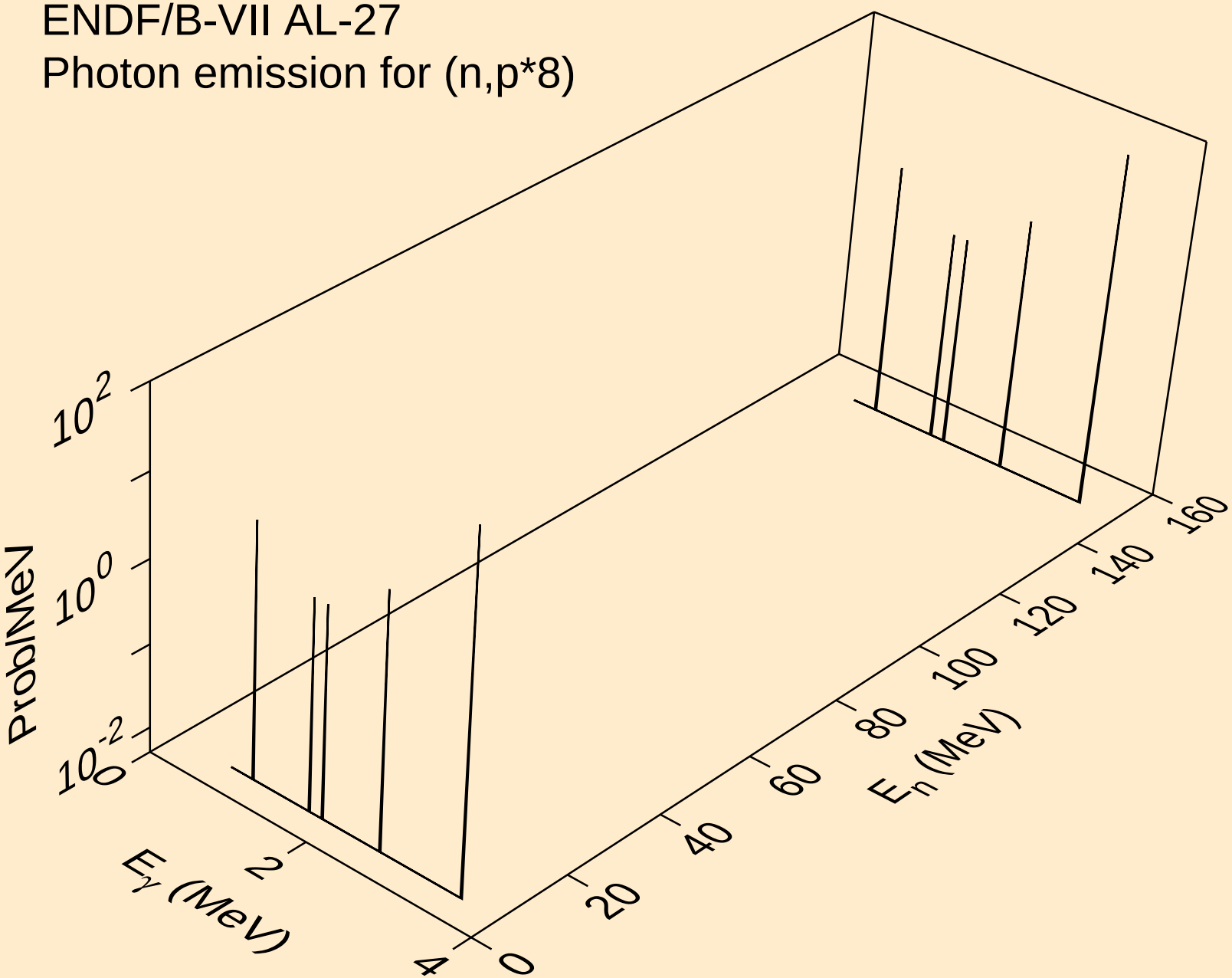
ENDF/B-VII AL-27
Photon emission for (n,p*6)

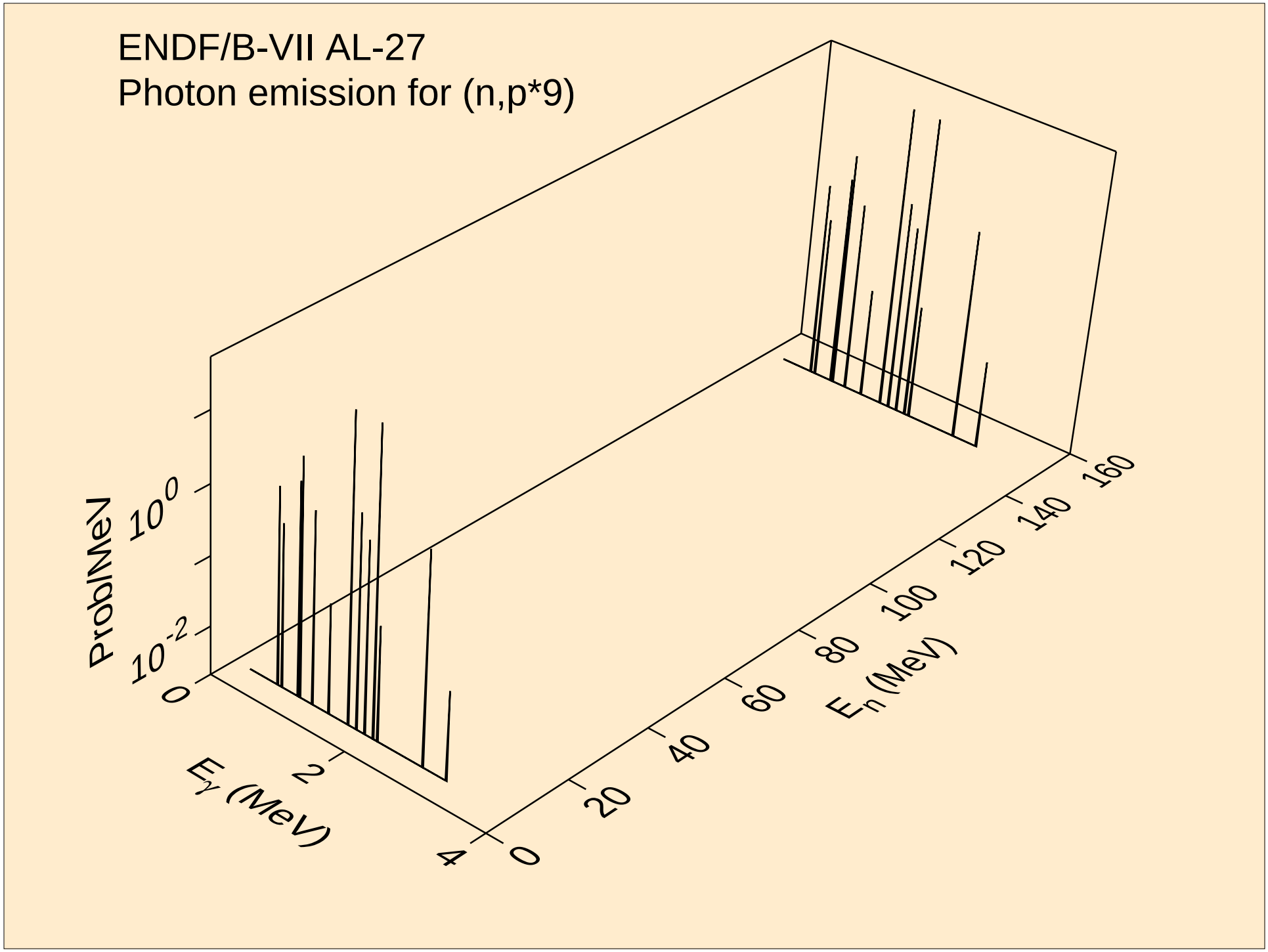


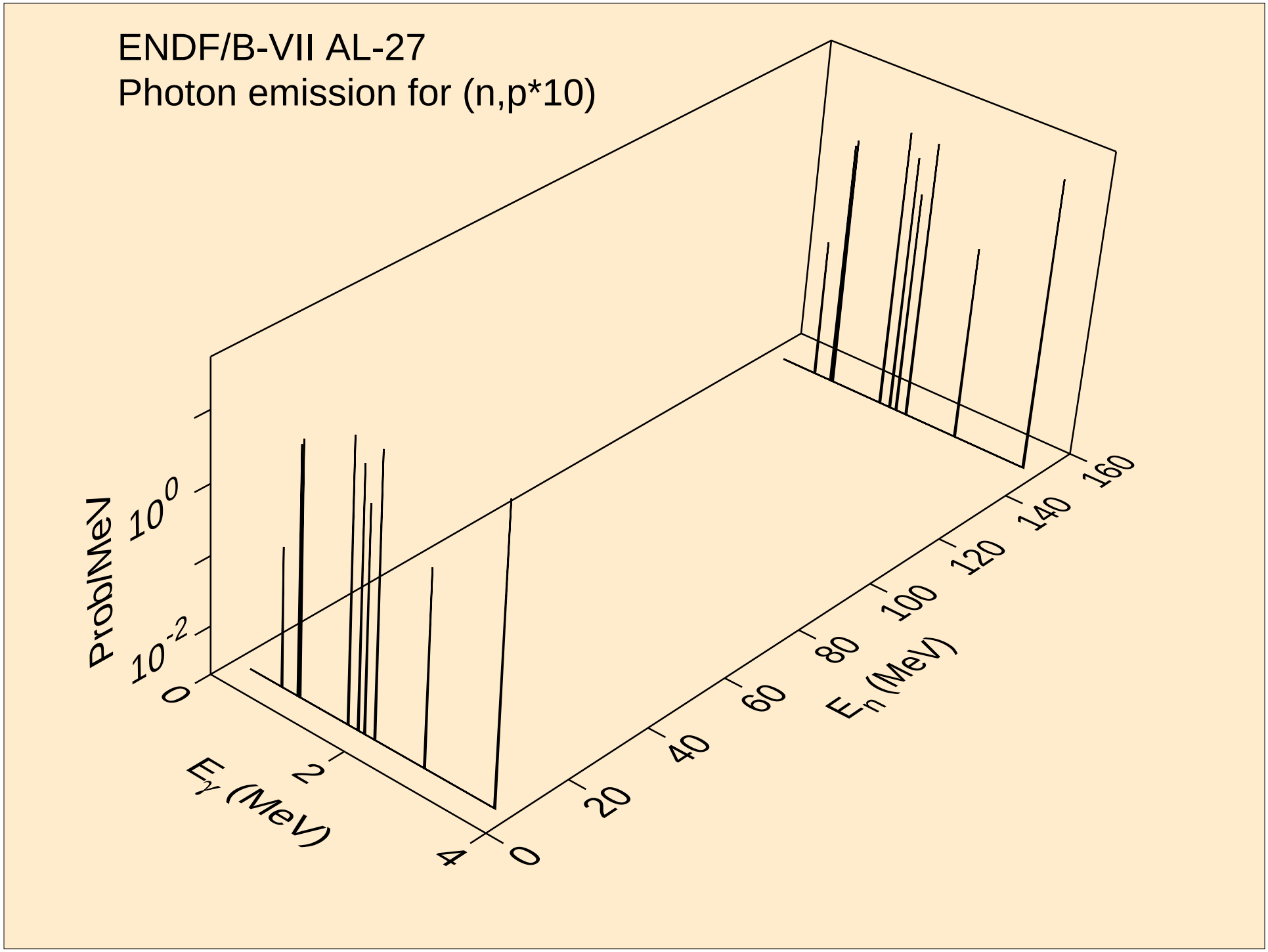
ENDF/B-VII AL-27
Photon emission for (n,p*7)

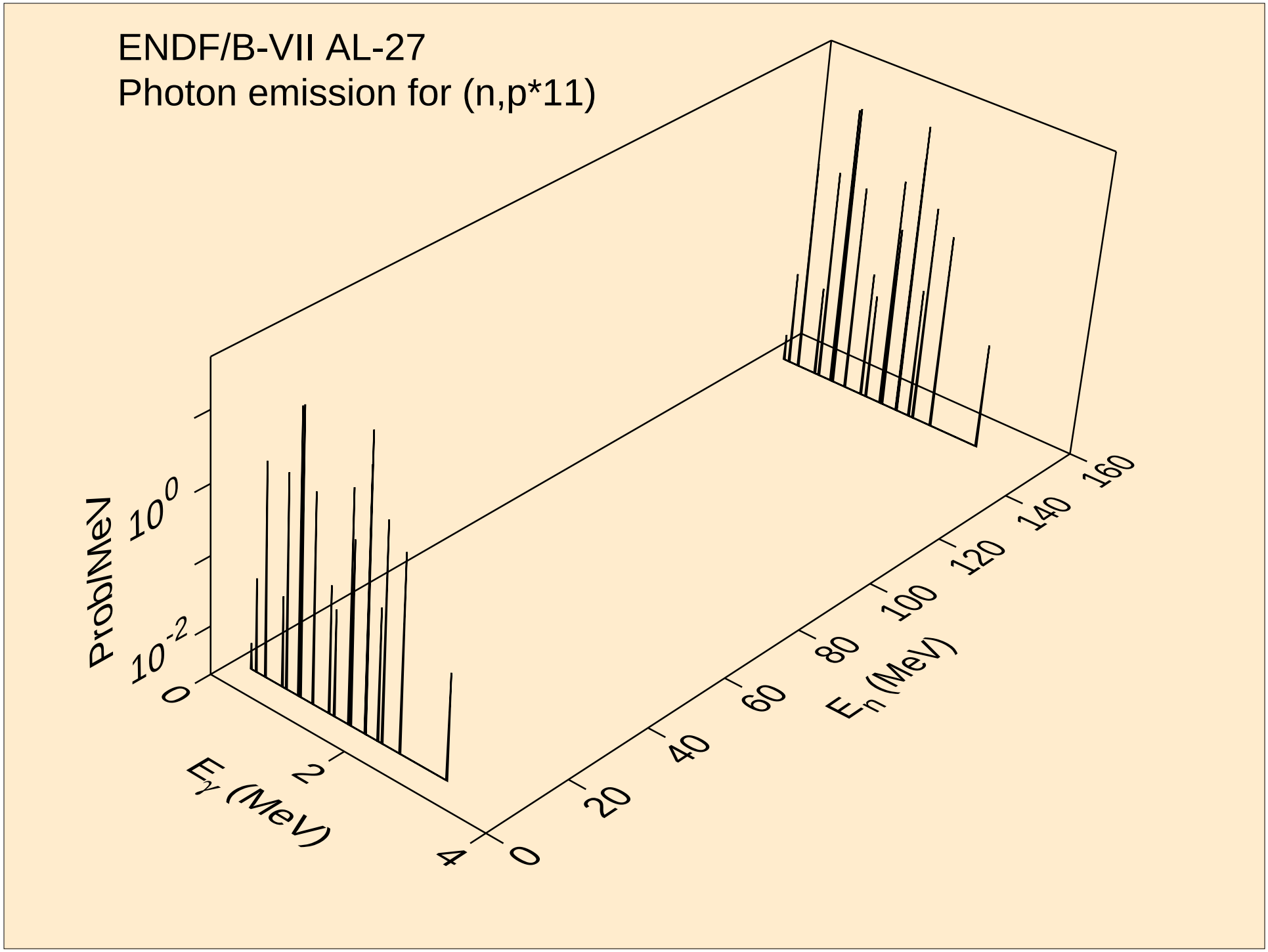


ENDF/B-VII AL-27
Photon emission for (n,p*8)

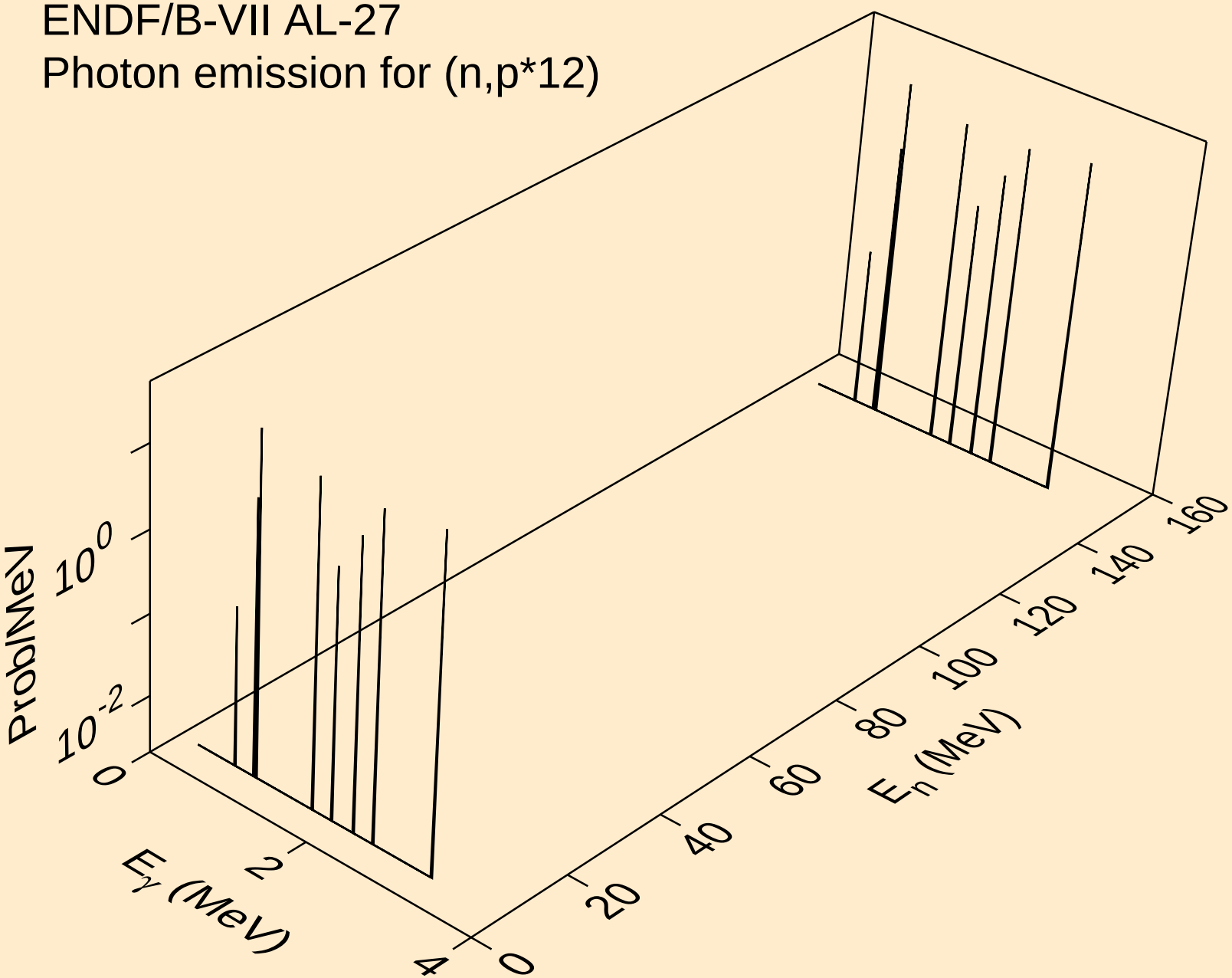


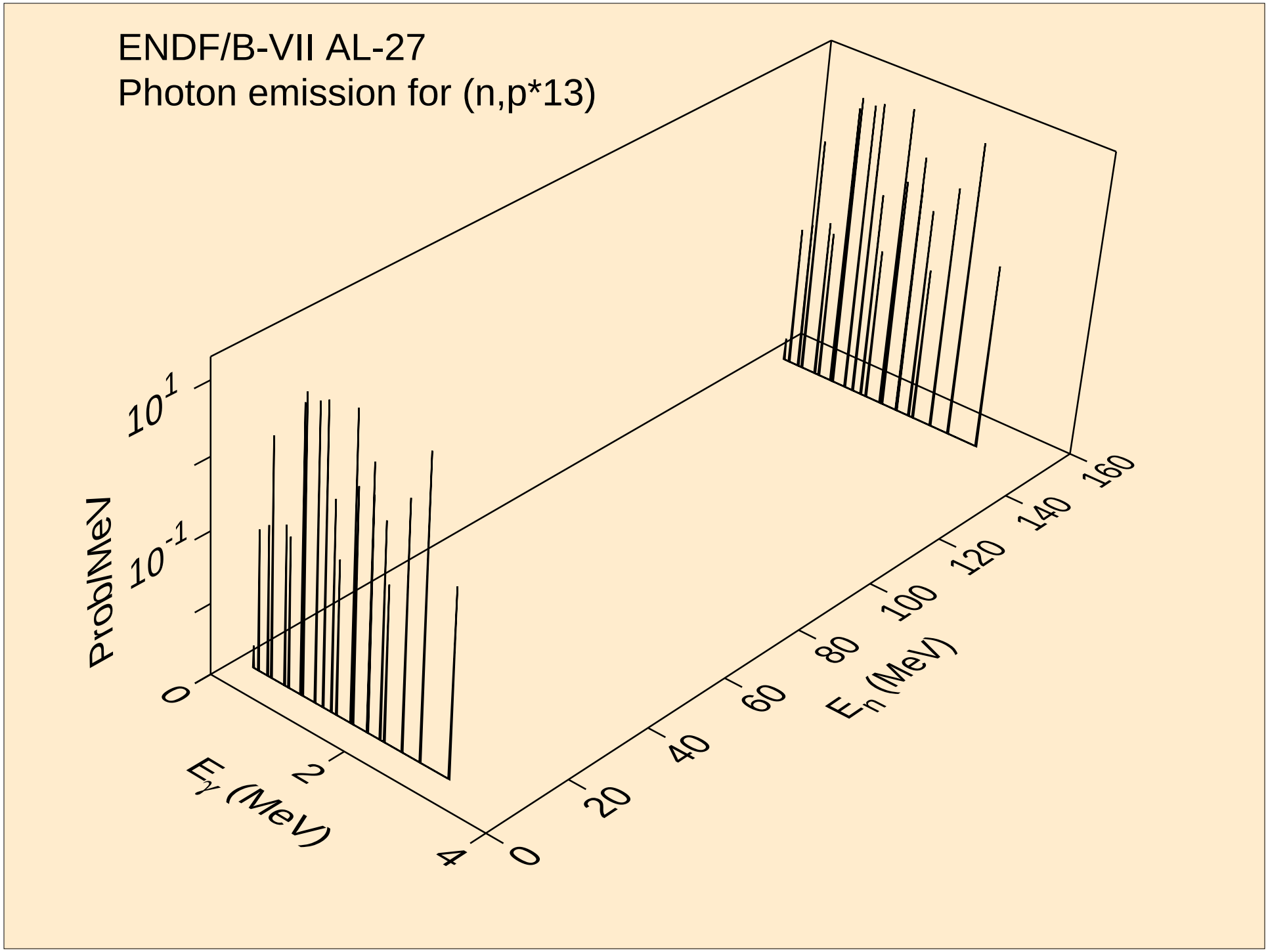

ENDF/B-VII AL-27
Photon emission for (n,p*9)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

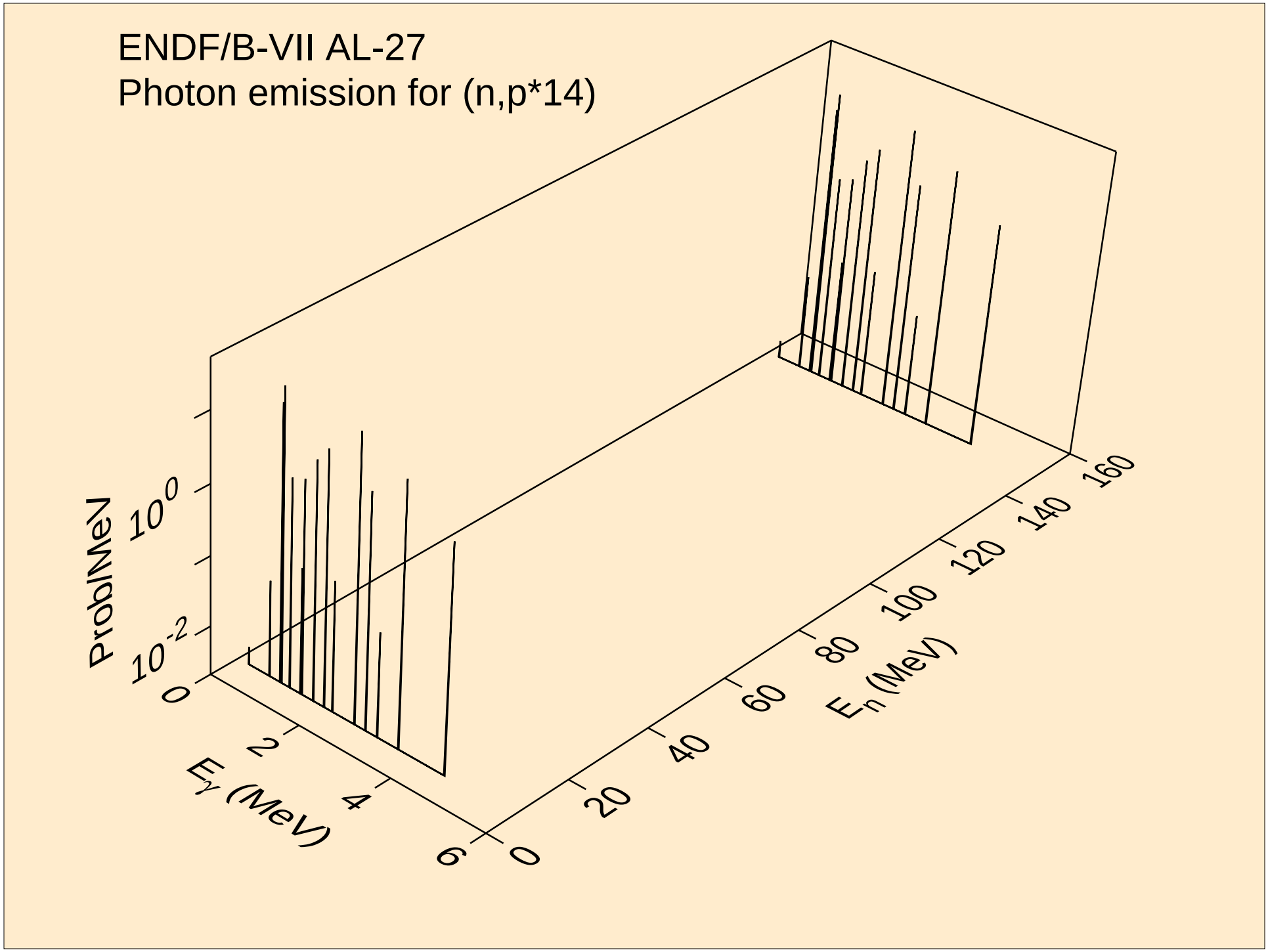

ENDF/B-VII AL-27
Photon emission for (n,p*10)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

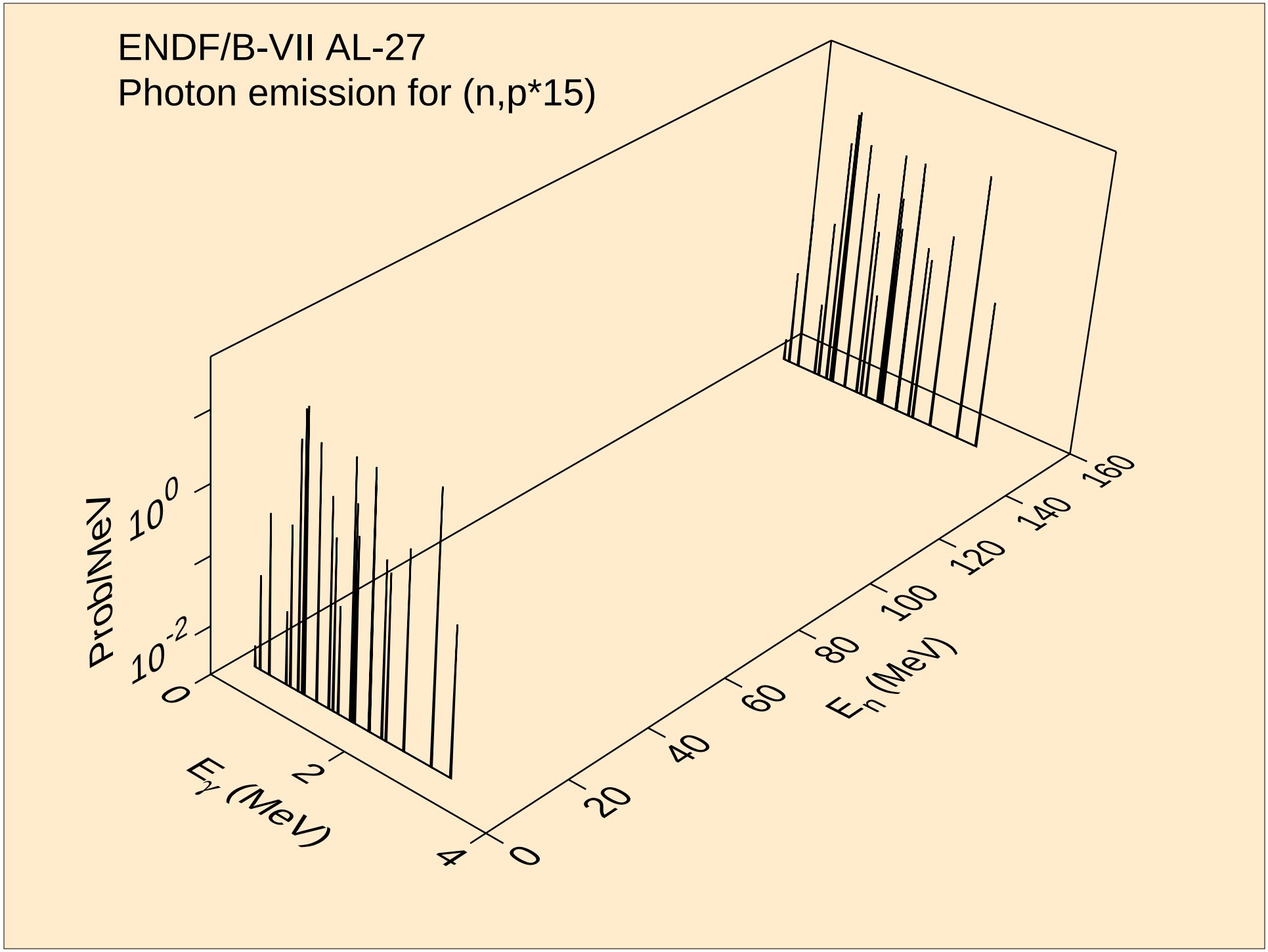

ENDF/B-VII AL-27
Photon emission for (n,p*11)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

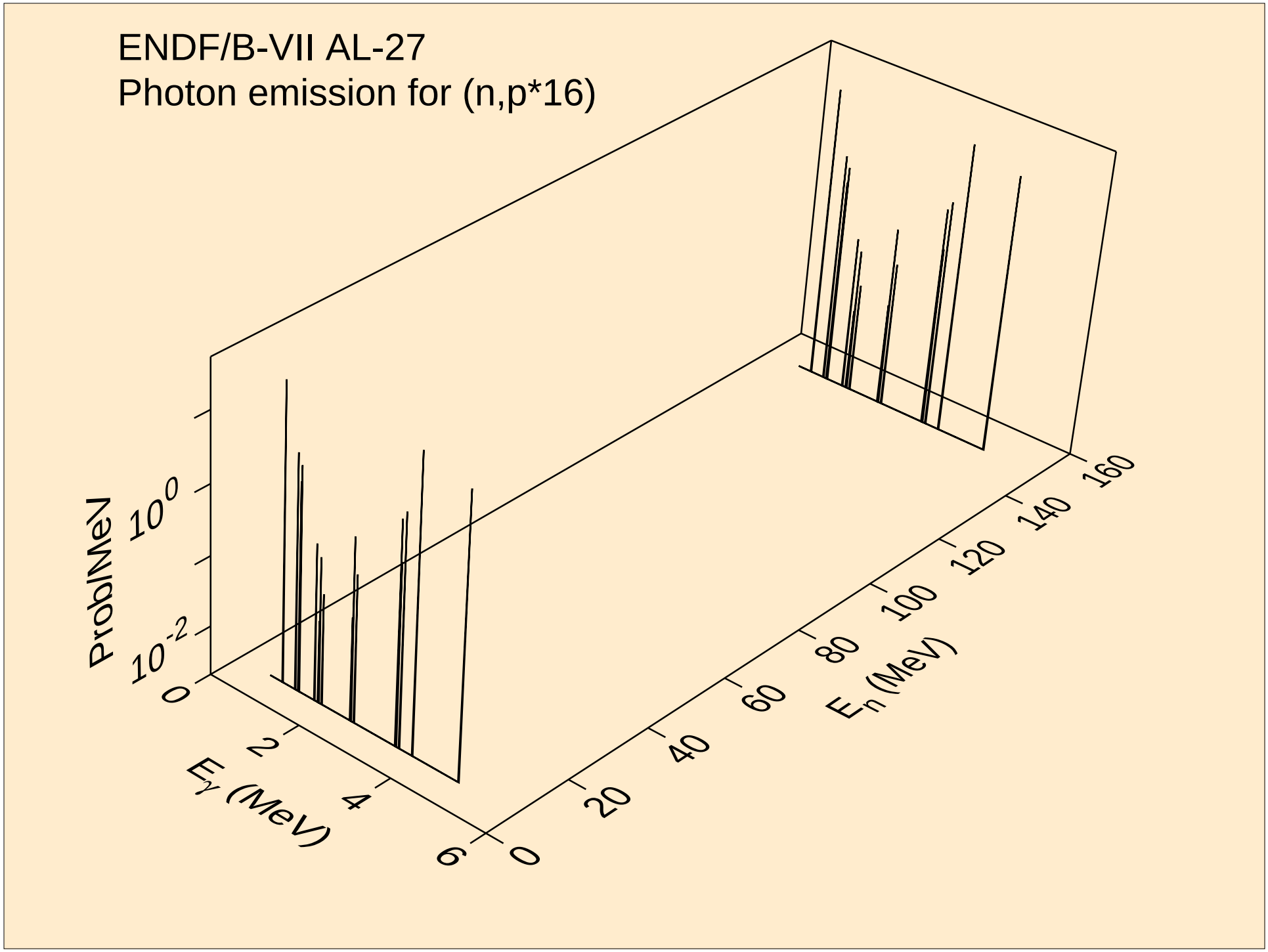
ENDF/B-VII AL-27
Photon emission for (n,p*12)

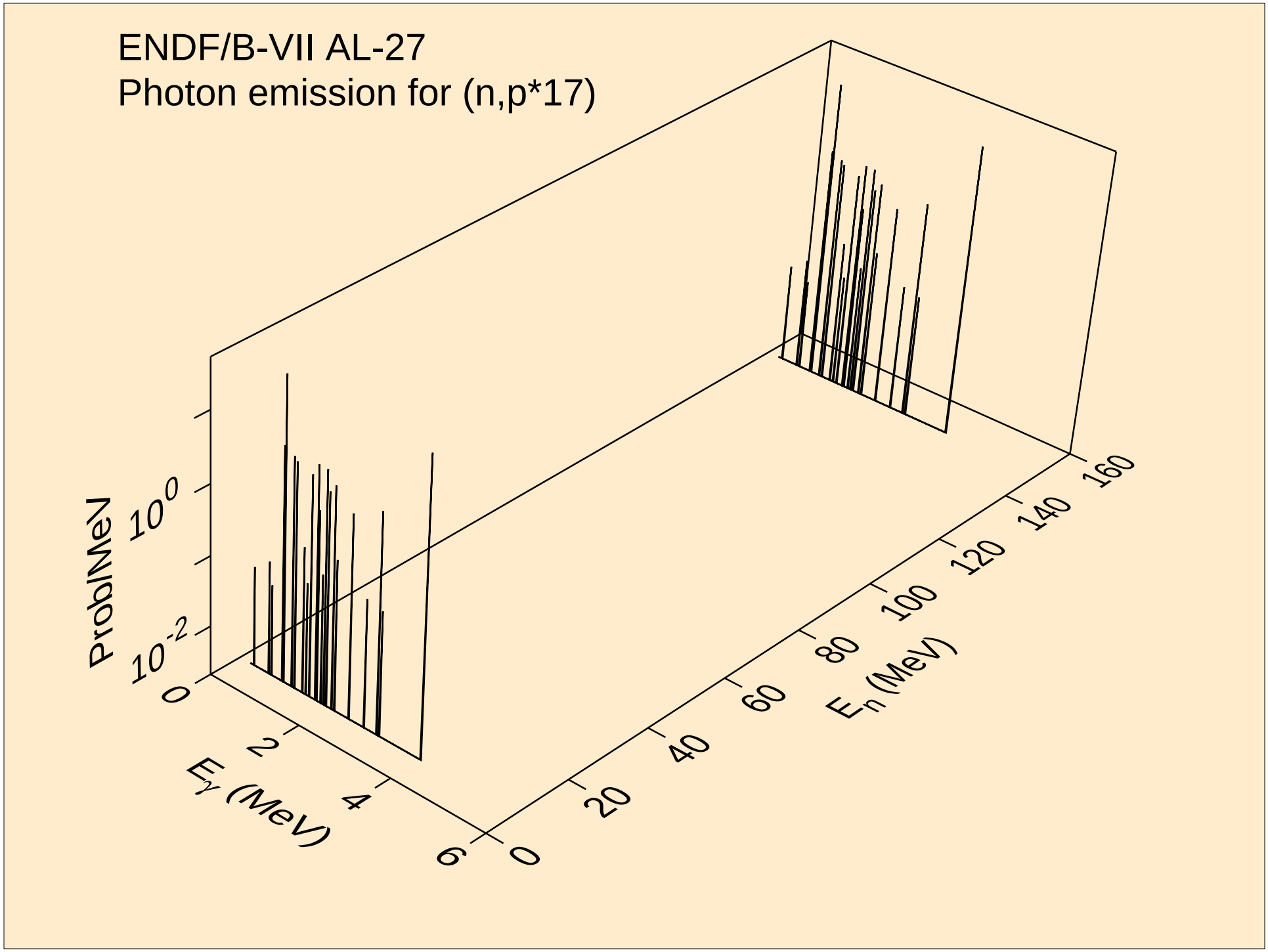


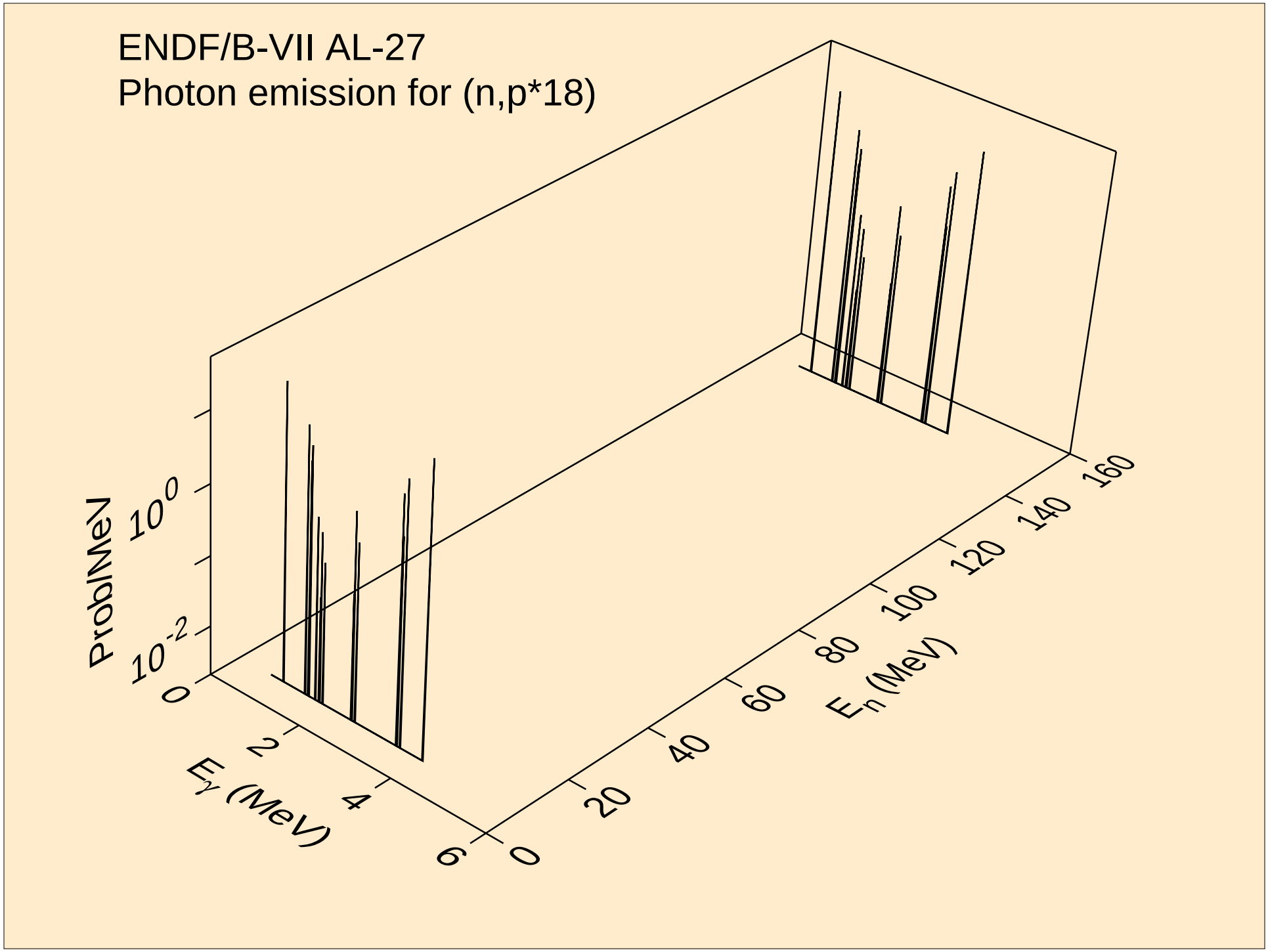

ENDF/B-VII AL-27
Photon emission for (n,p*13)
Prob/MeV
10^{1}
10^{-1}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

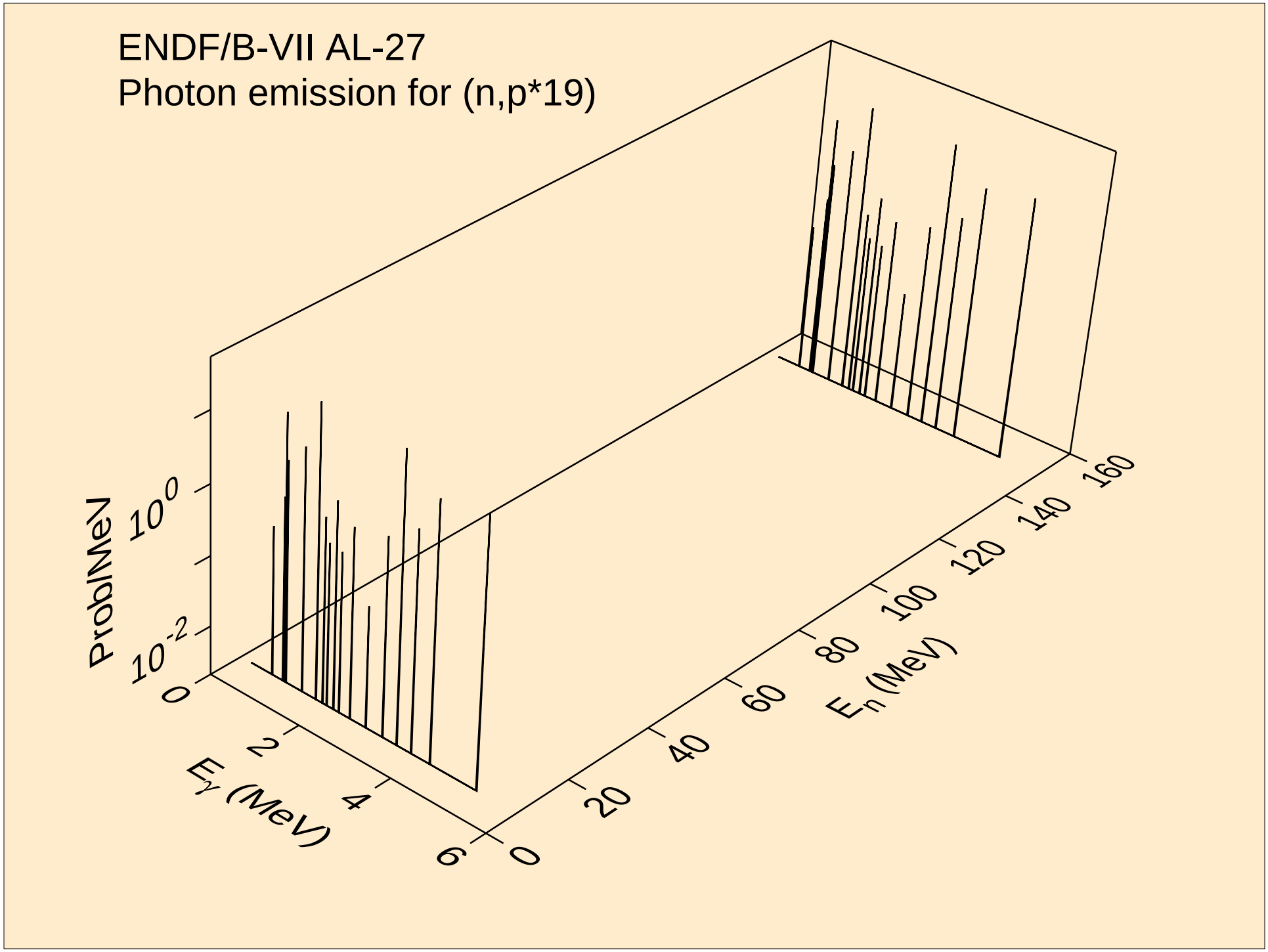

ENDF/B-VII AL-27
Photon emission for (n,p*14)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

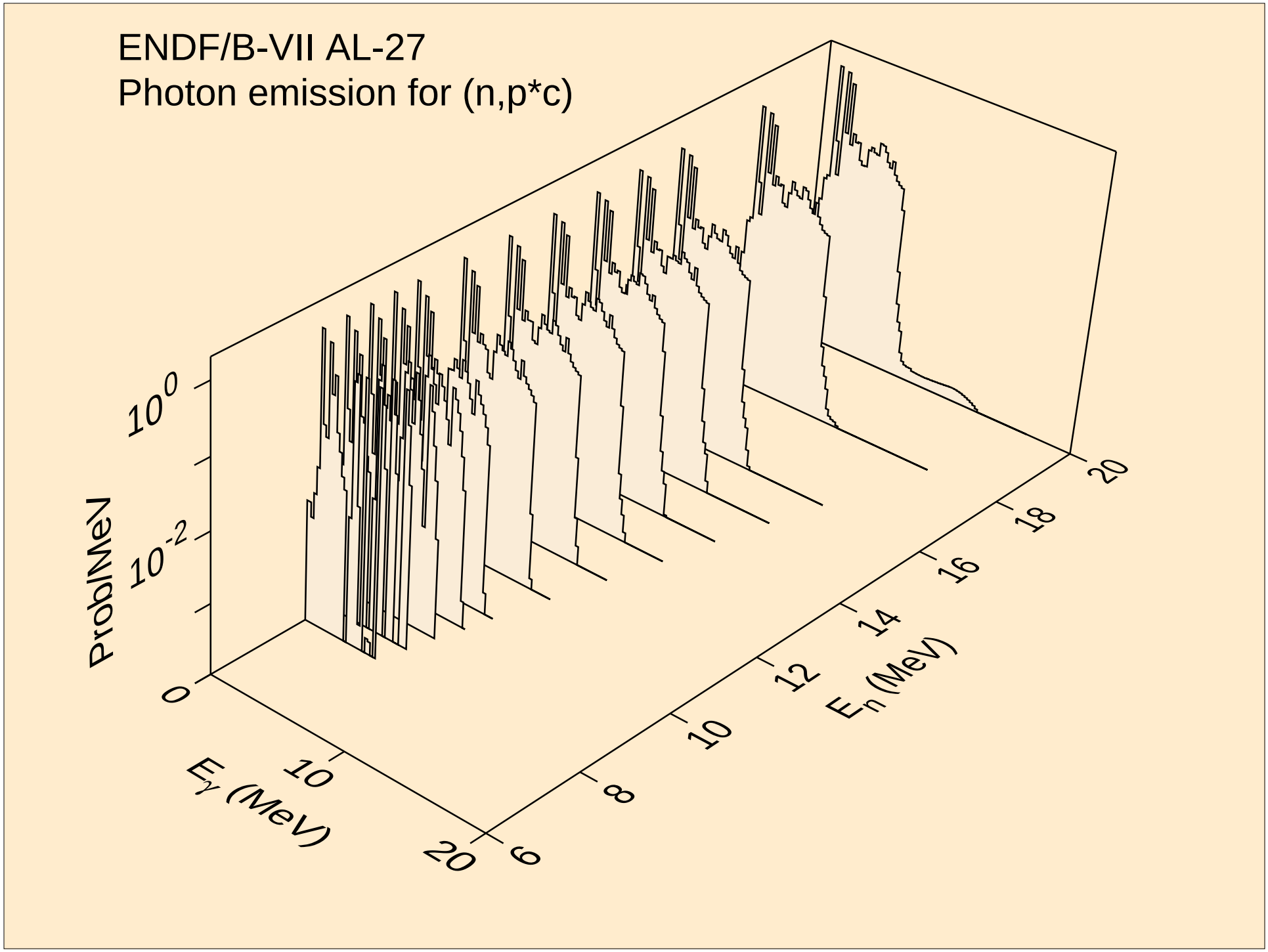

ENDF/B-VII AL-27
Photon emission for (n,p*15)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,p*16)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

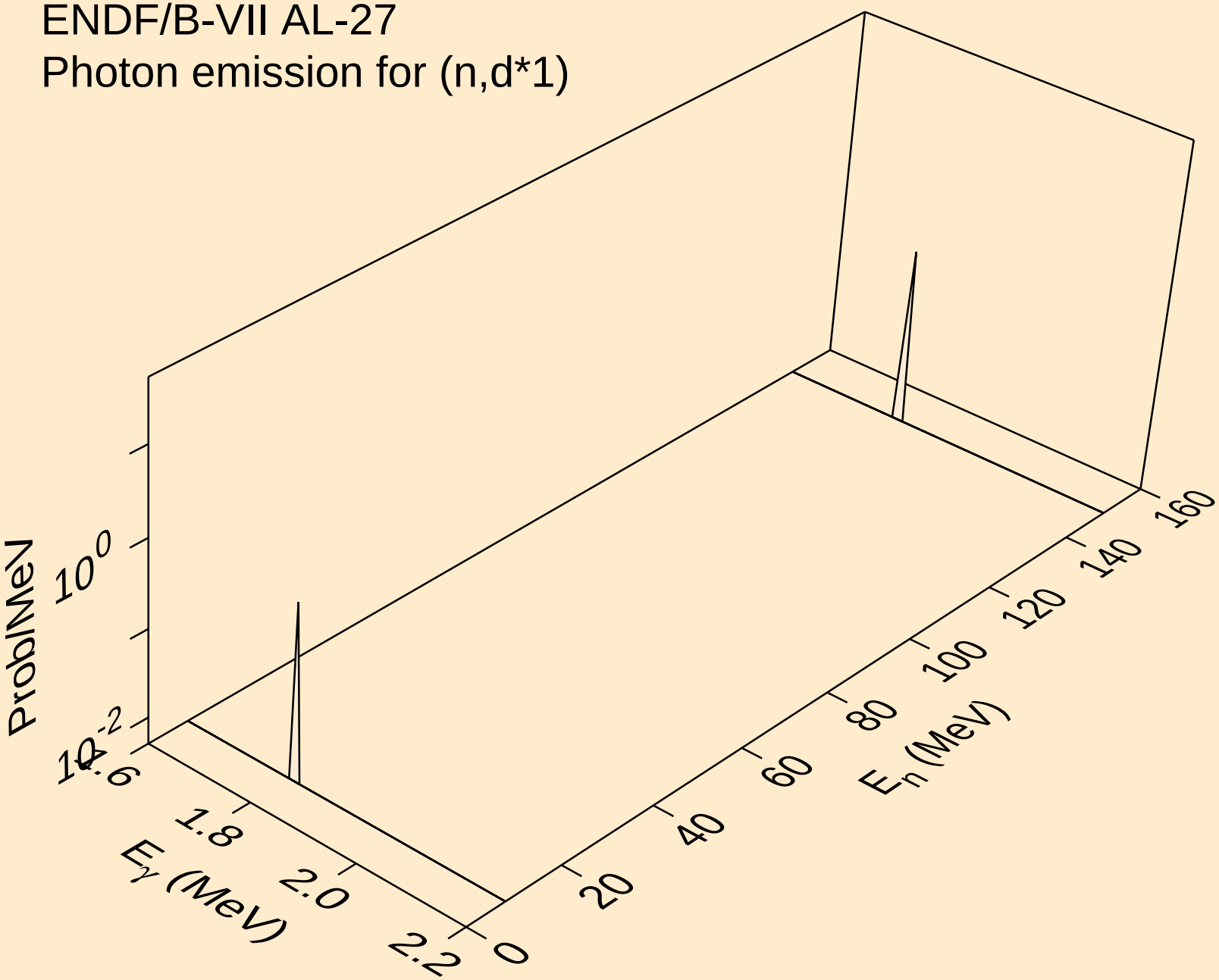

ENDF/B-VII AL-27
Photon emission for (n,p*17)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

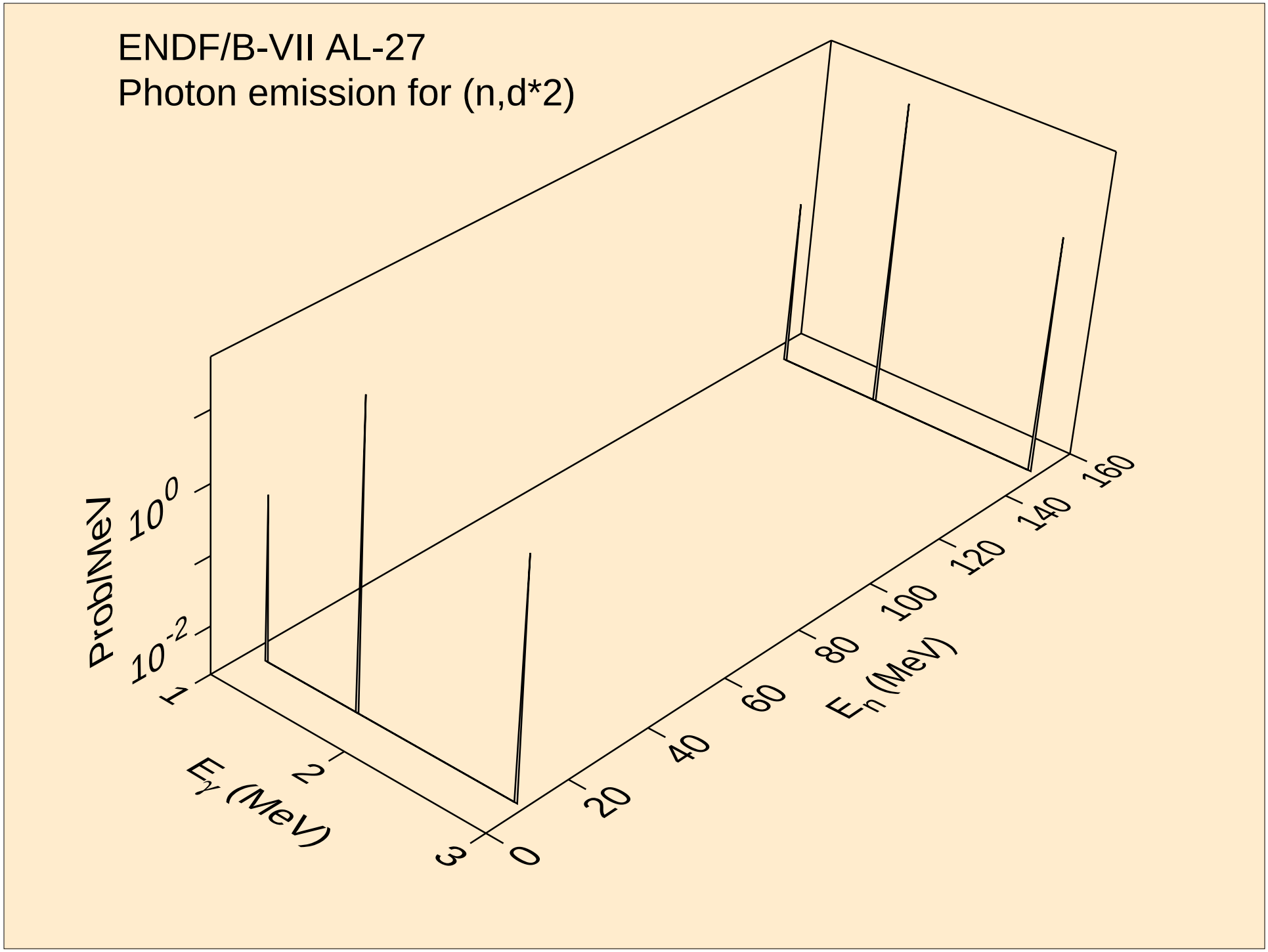

ENDF/B-VII AL-27
Photon emission for (n,p*18)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,p*19)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

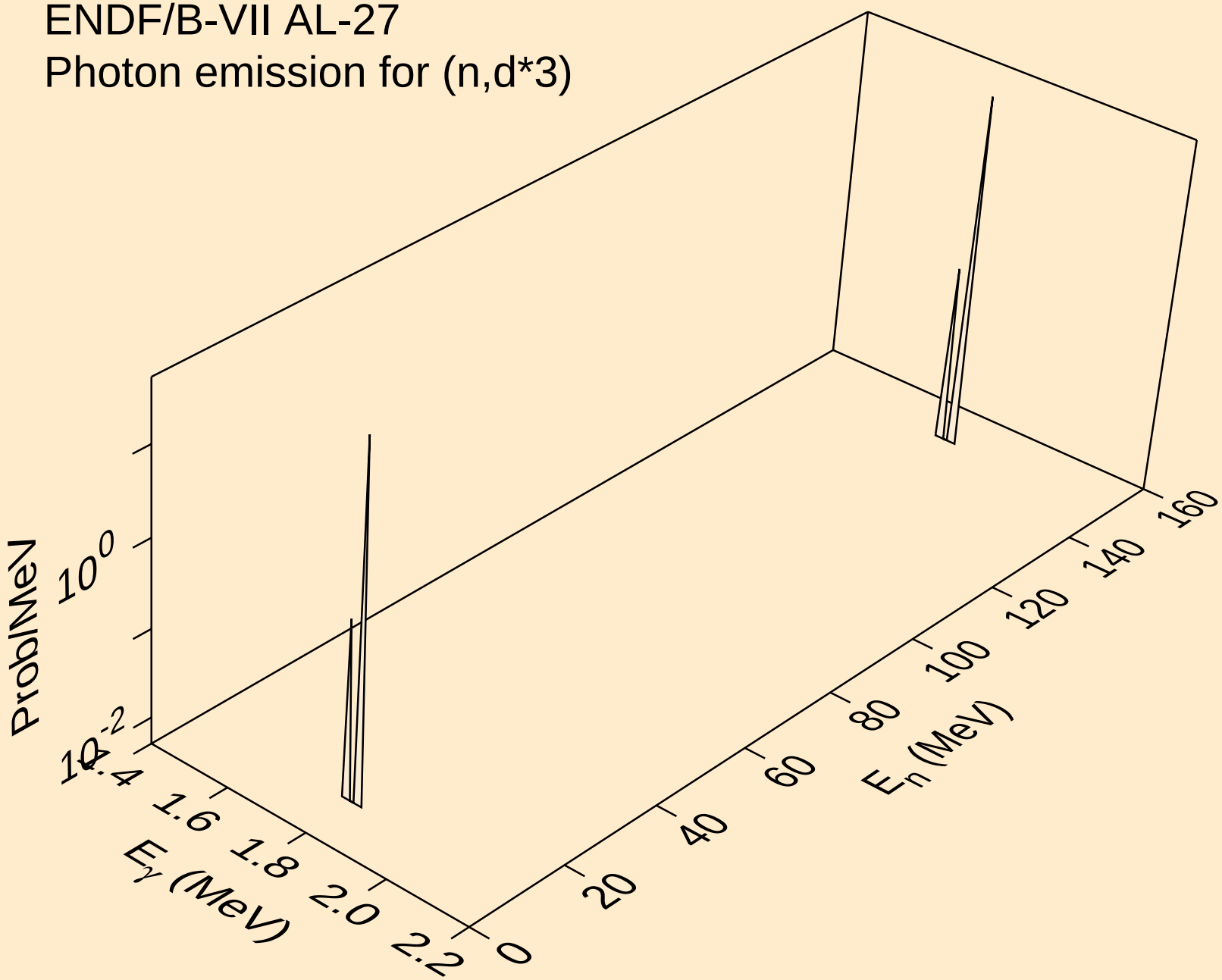

ENDF/B-VII AL-27
Photon emission for (n,p*c)
Prob/MeV
10^0
10^{-2}
0
10
20
E_γ (MeV)
6
8
10
12
14
16
18
20
E_n (MeV)

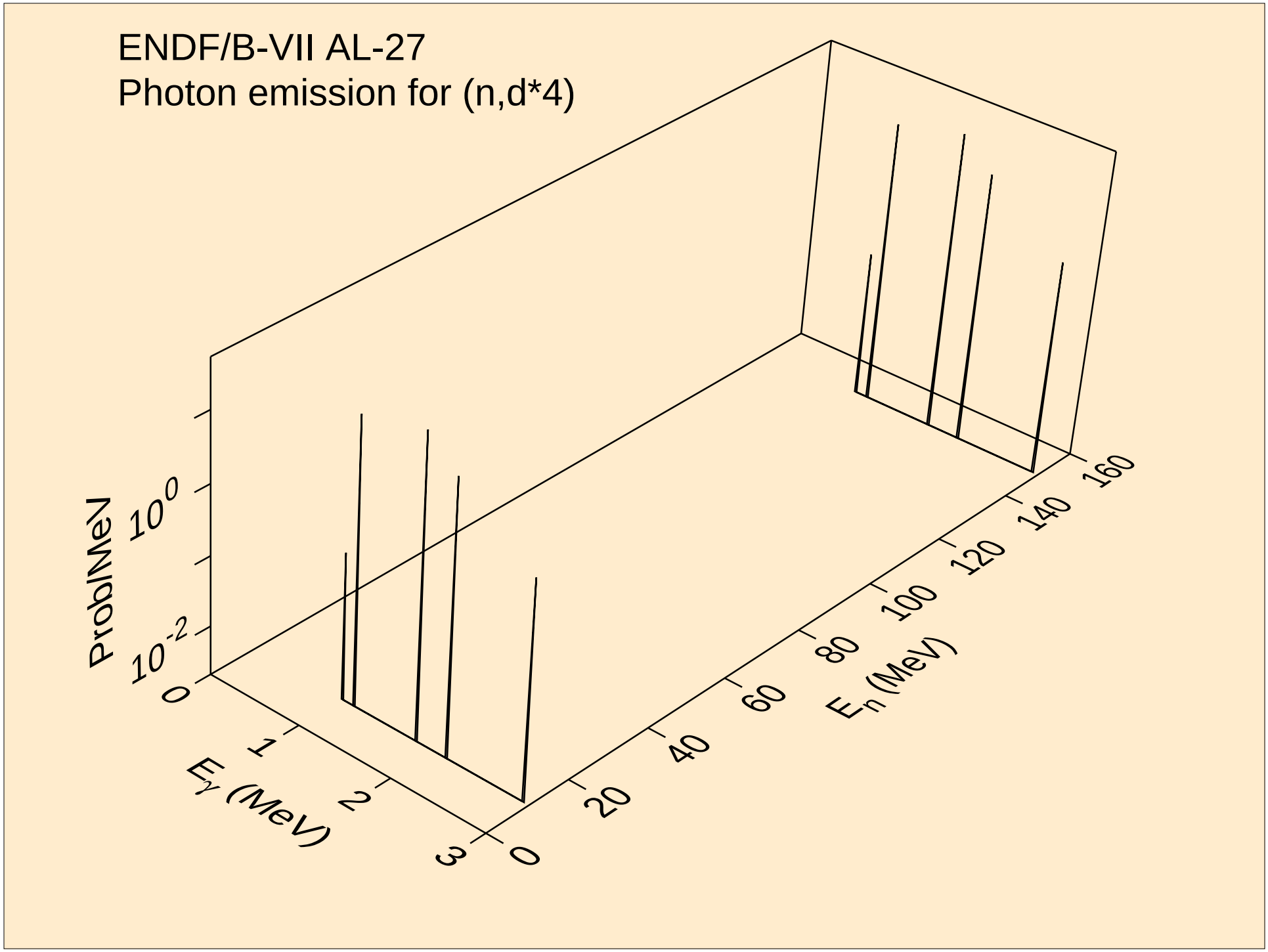
ENDF/B-VII AL-27
Photon emission for (n,d*1)

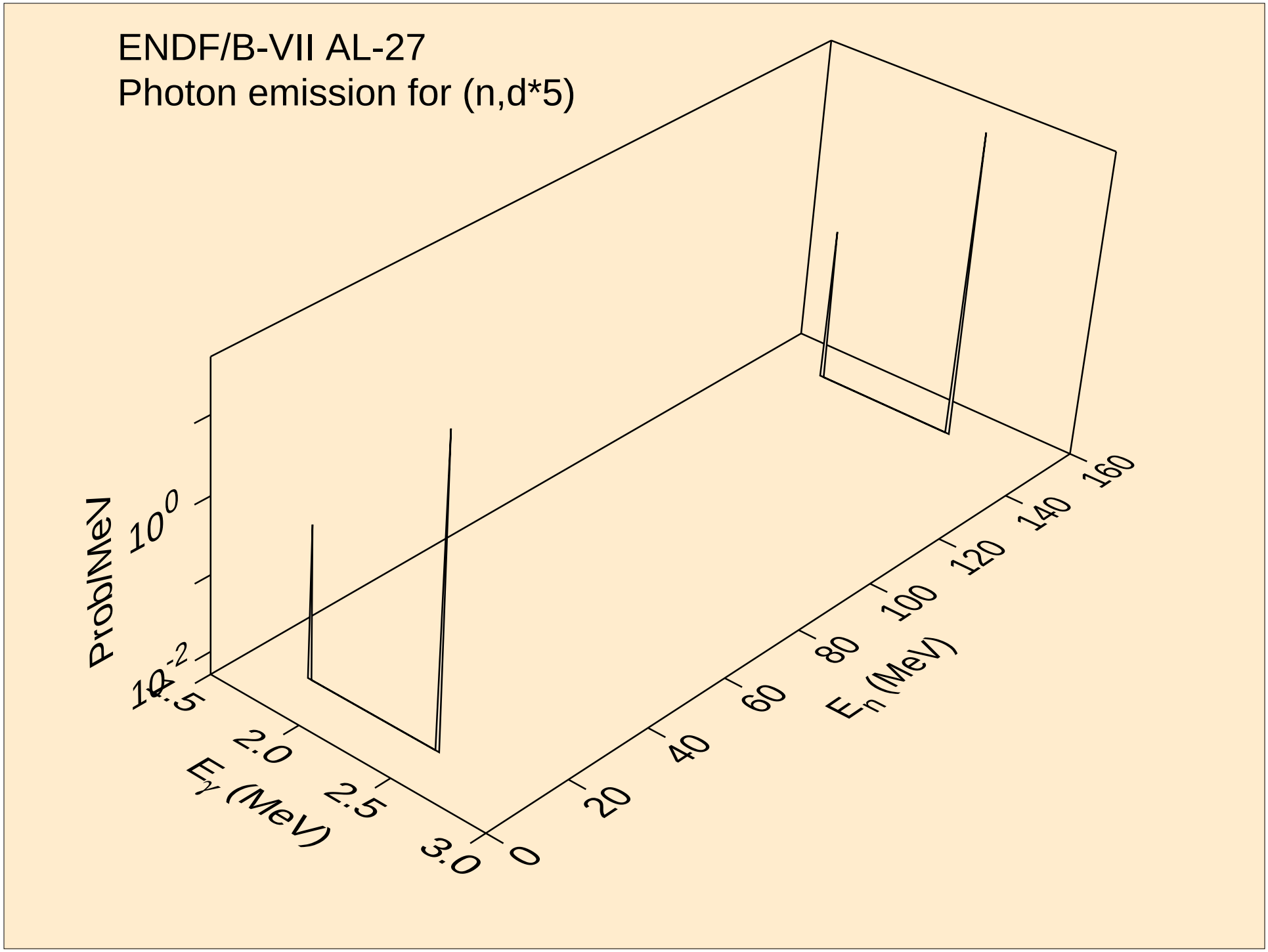


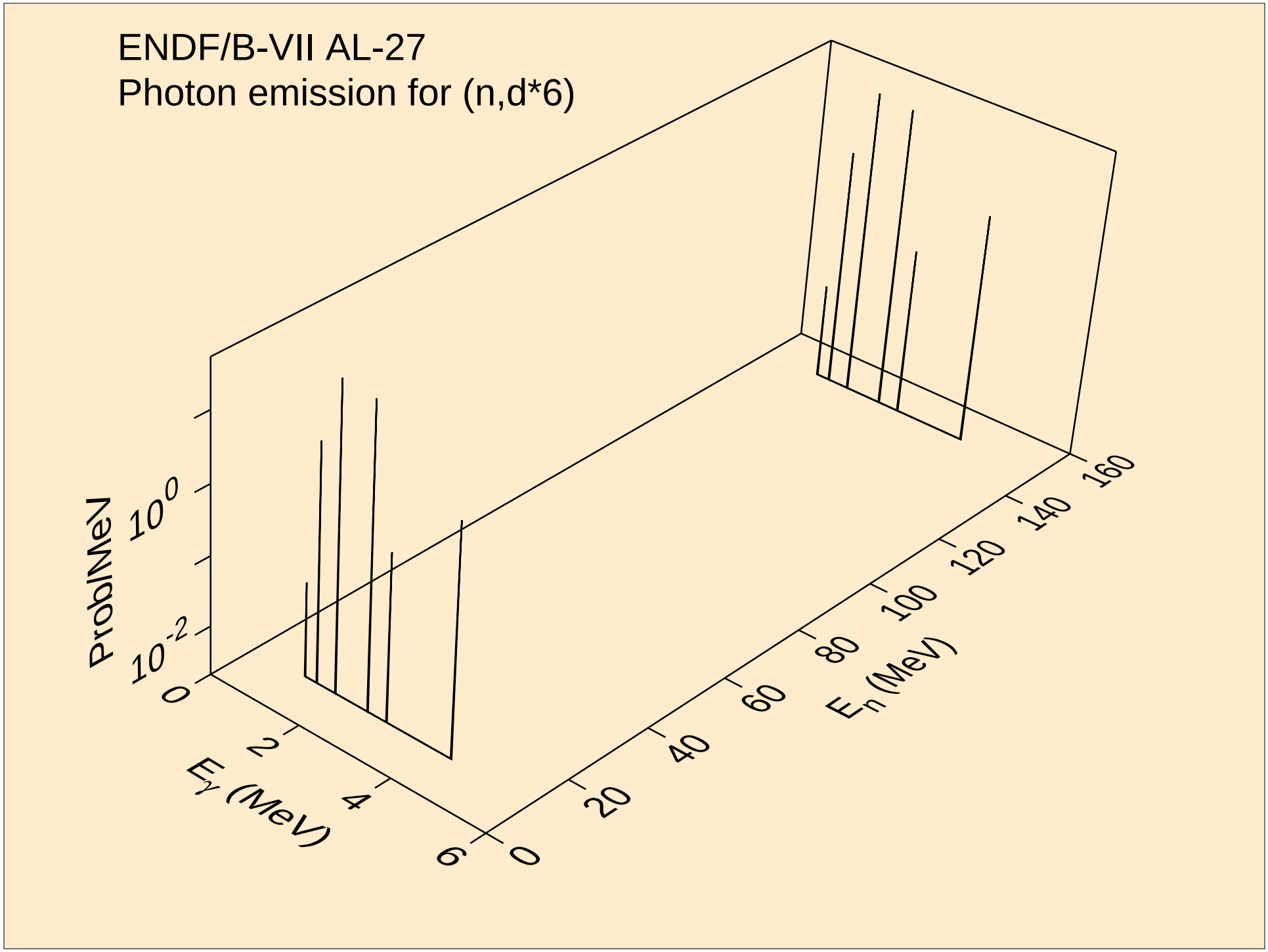

ENDF/B-VII AL-27
Photon emission for (n,d*2)
Prob/MeV
10^0
10^{-2}
1
2
3
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

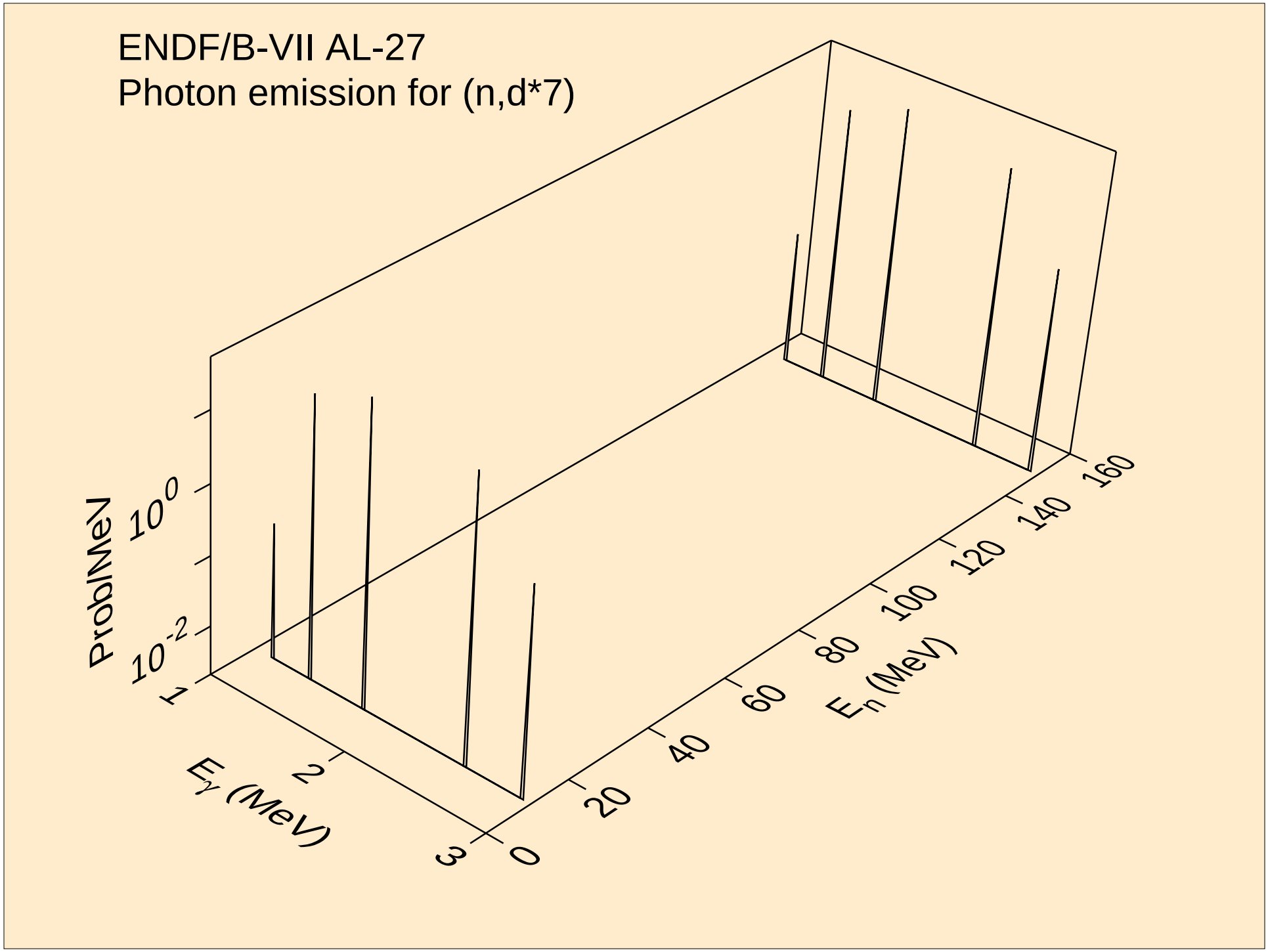
ENDF/B-VII AL-27
Photon emission for (n,d*3)

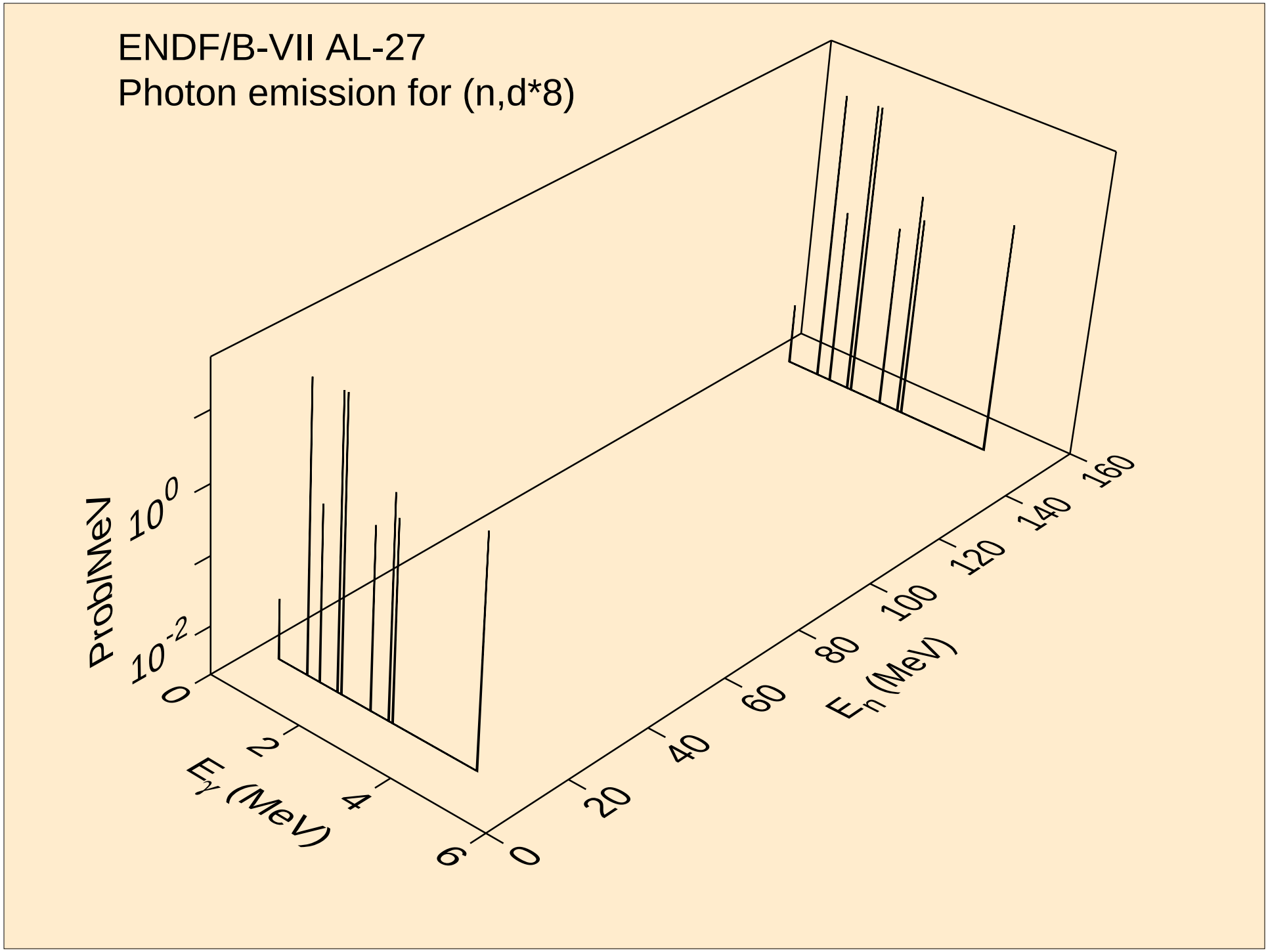


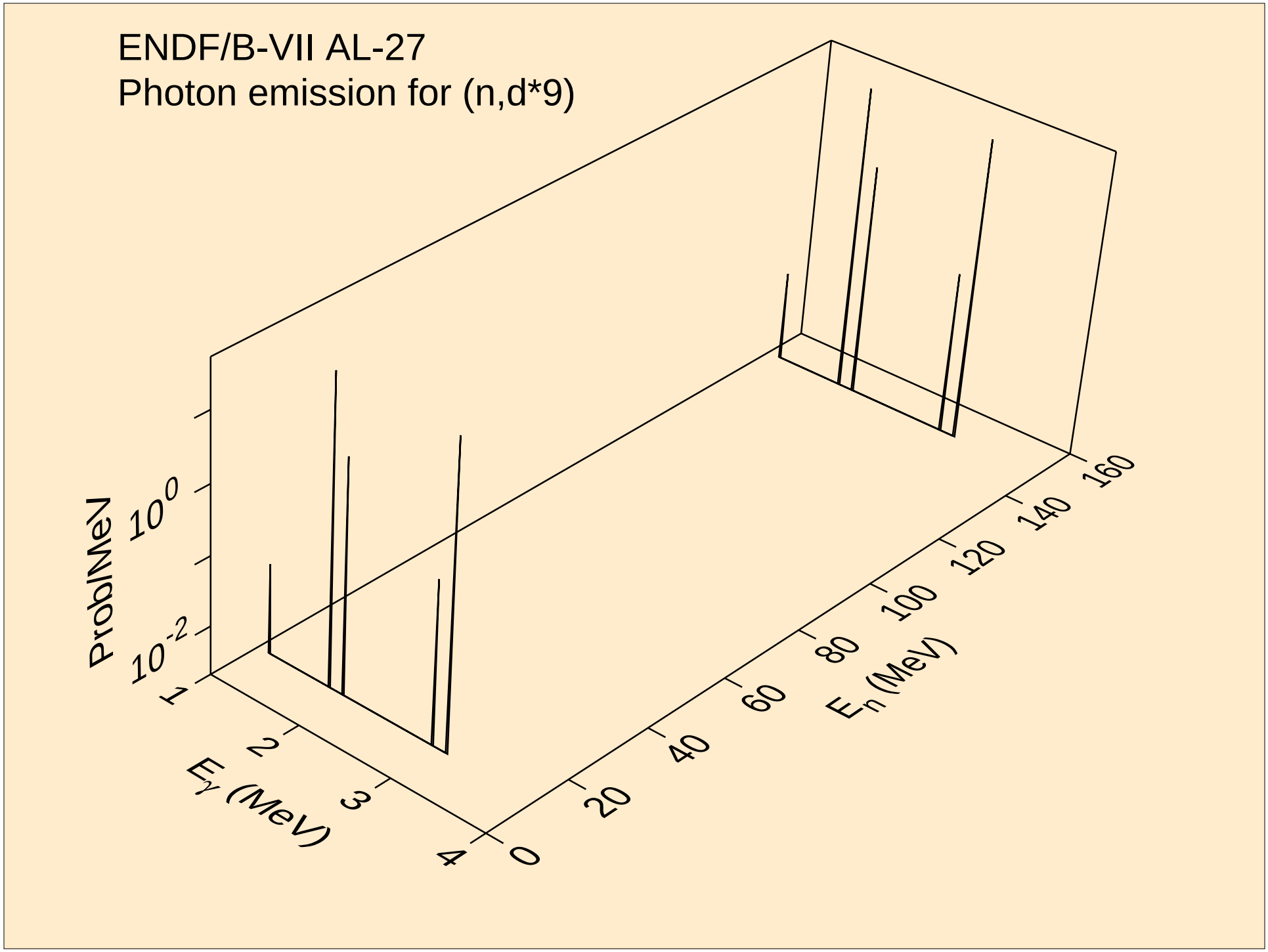

ENDF/B-VII AL-27
Photon emission for (n,d*4)
Prob/MeV
10^0
10^{-2}
0
1
2
3
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,d*5)
Prob/MeV
10^0
10^{-2}
1.5
2.0
2.5
3.0
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

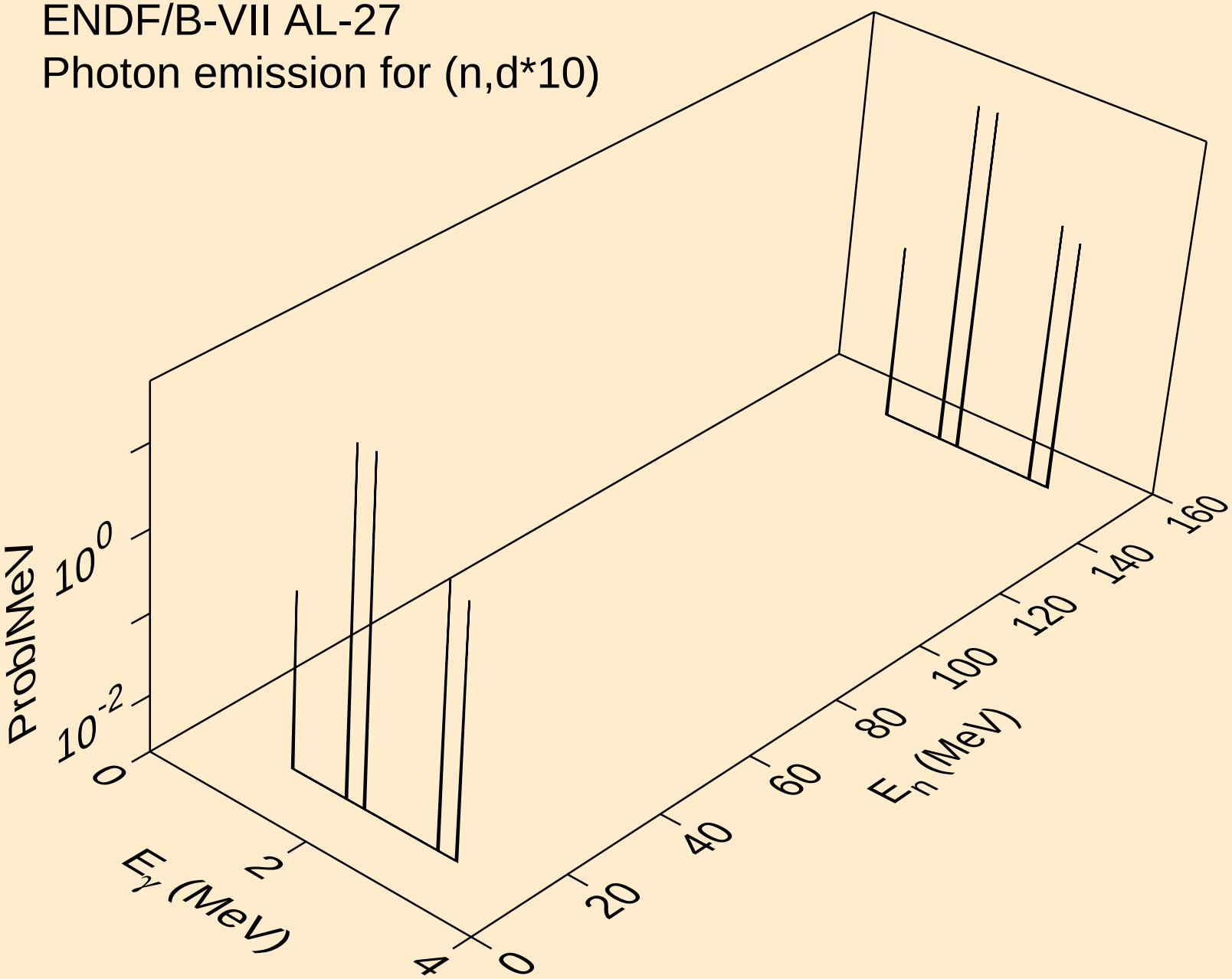

ENDF/B-VII AL-27
Photon emission for (n,d*6)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

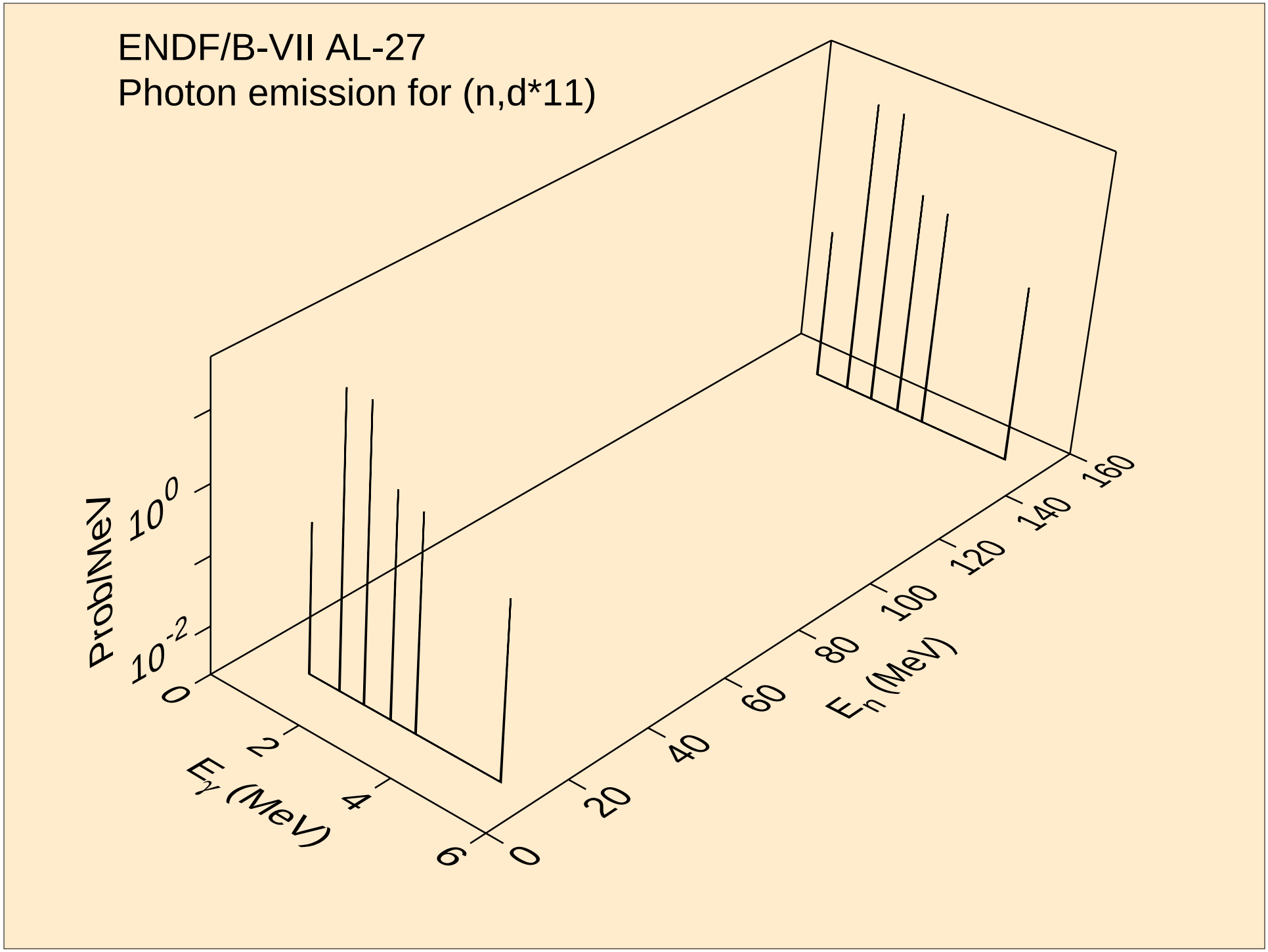

ENDF/B-VII AL-27
Photon emission for (n,d*7)
Prob/MeV
10^0
10^{-2}
1
2
3
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,d*8)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

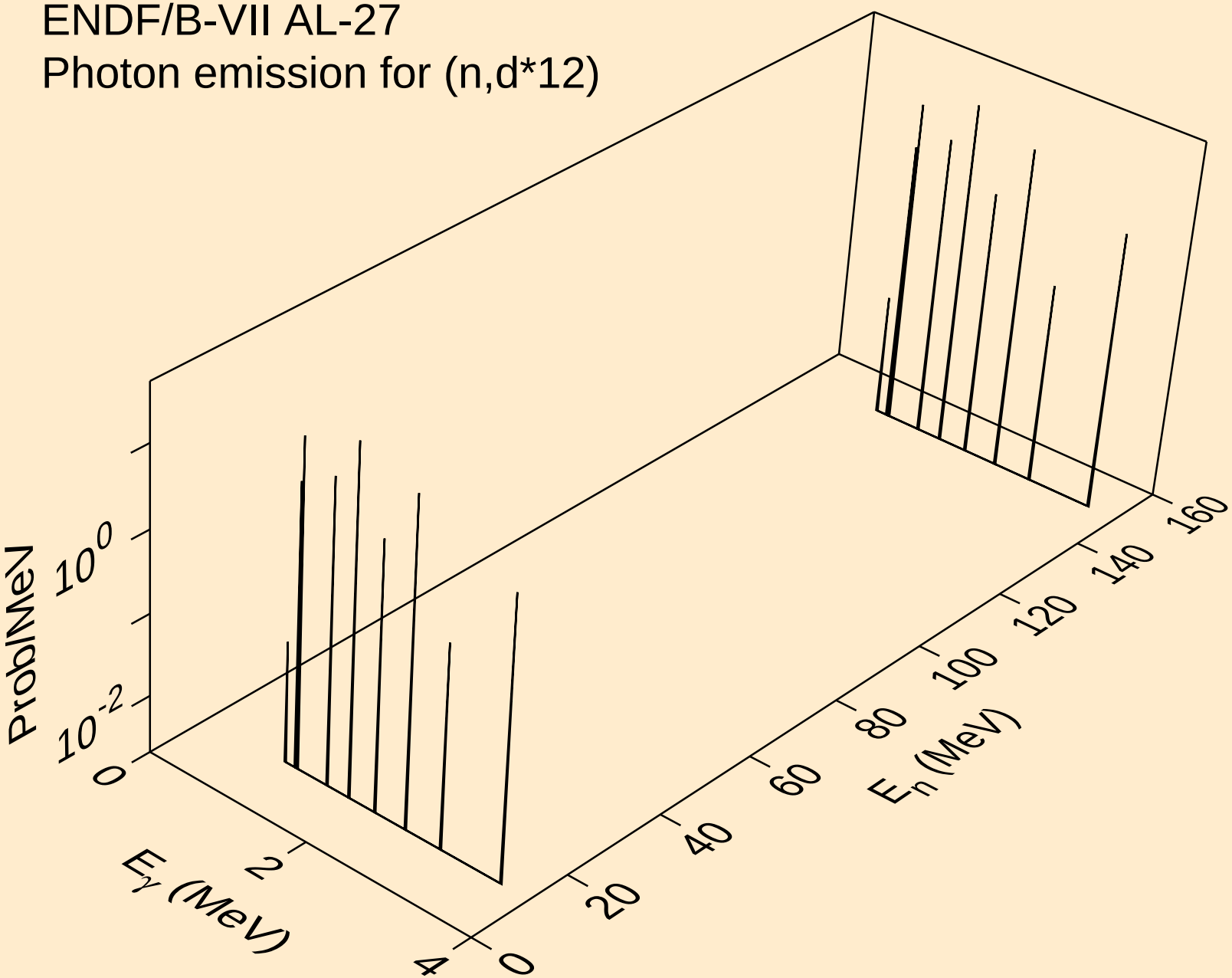

ENDF/B-VII AL-27
Photon emission for (n,d*9)
Prob/MeV
10^0
10^{-2}
1
2
3
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

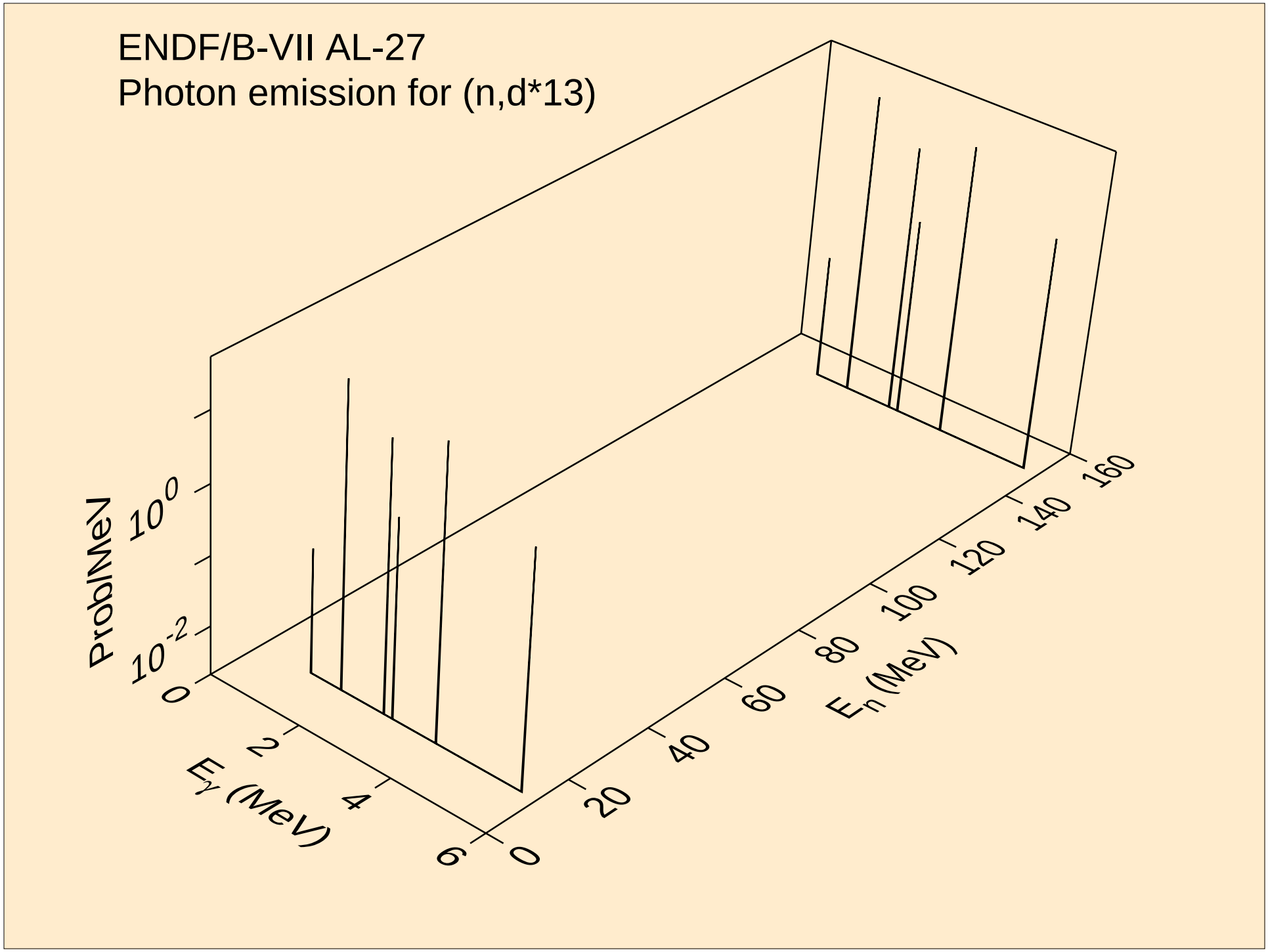
ENDF/B-VII AL-27
Photon emission for (n,d*10)

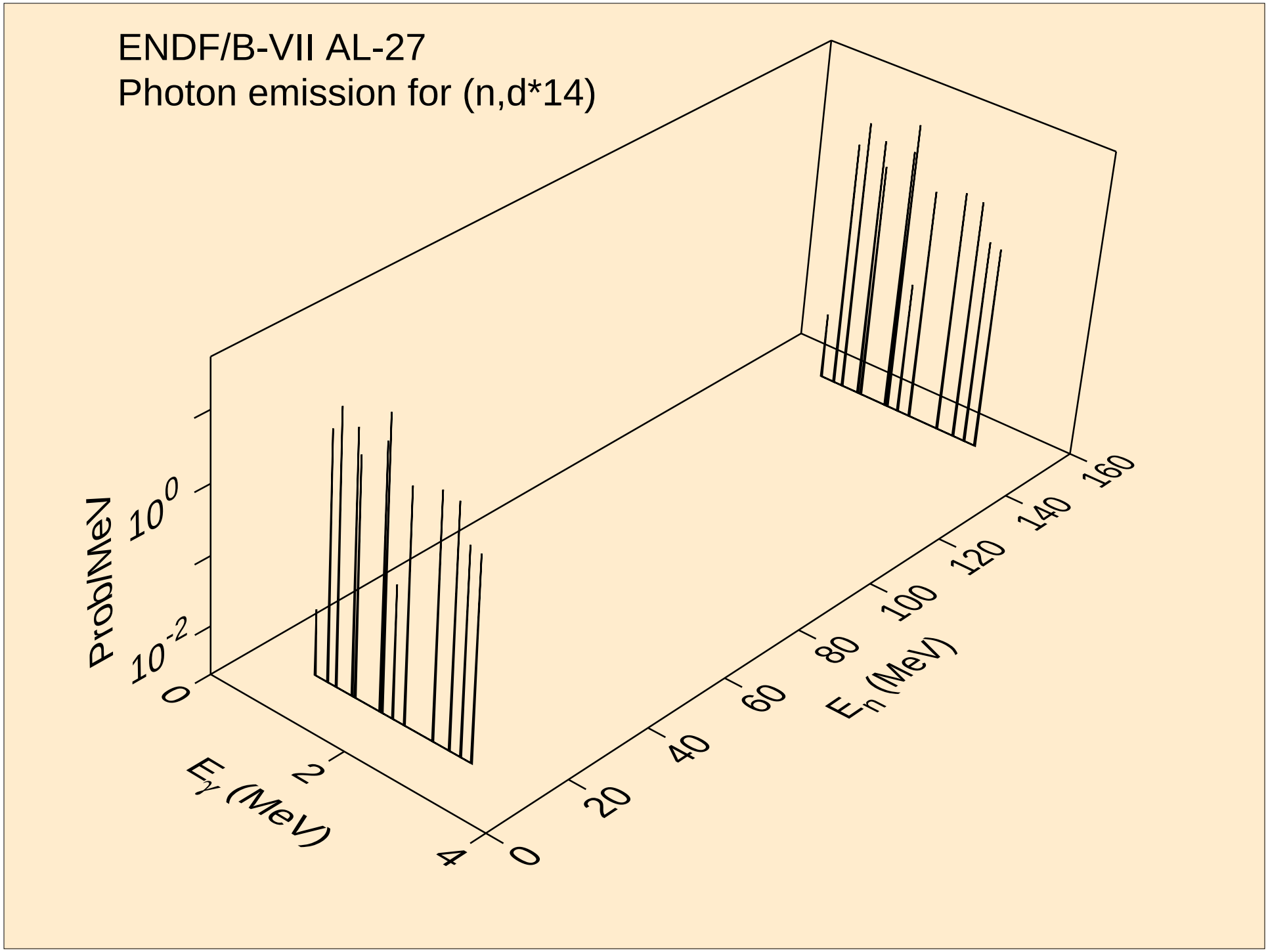



ENDF/B-VII AL-27
Photon emission for (n,d*11)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

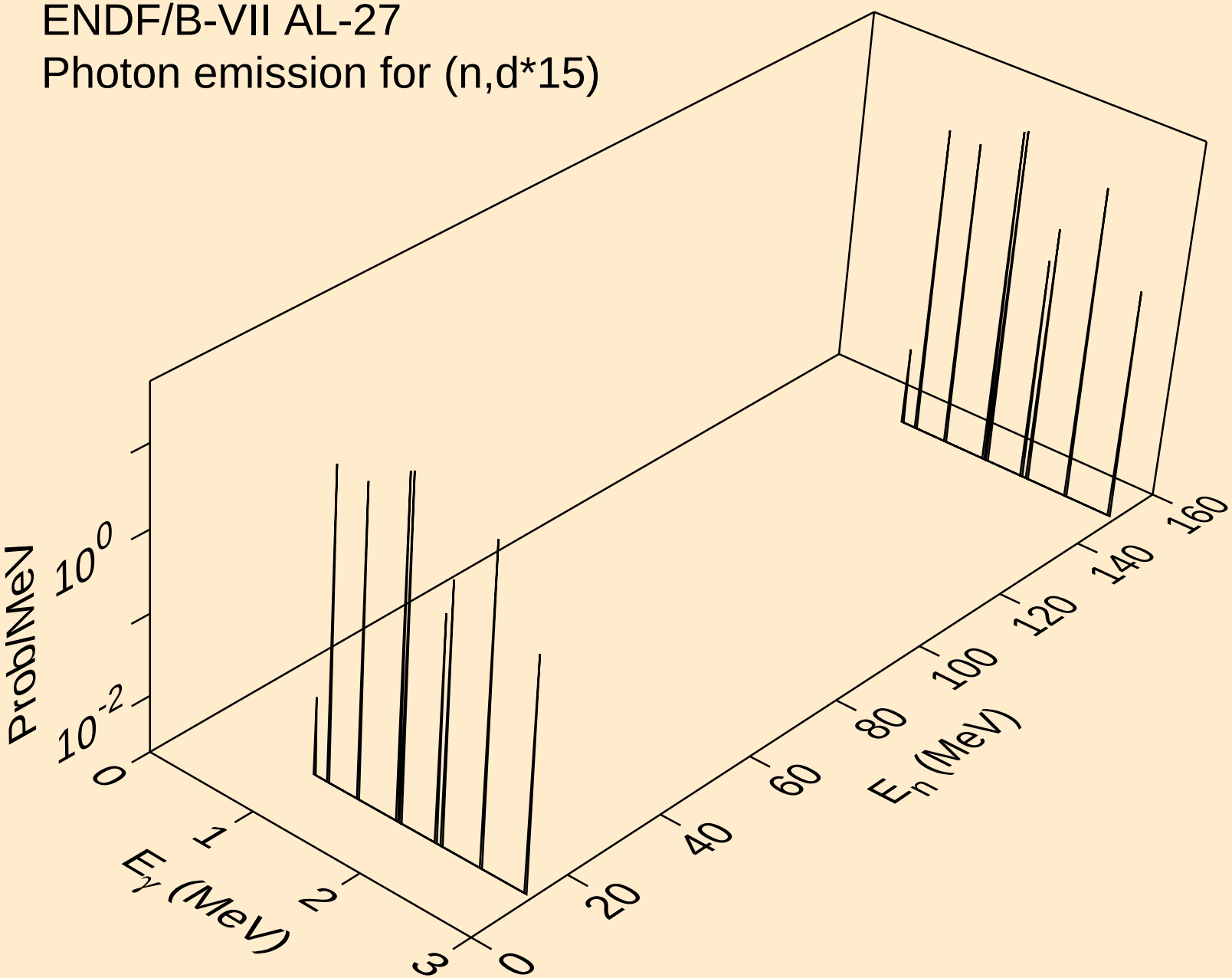
ENDF/B-VII AL-27
Photon emission for (n,d*12)

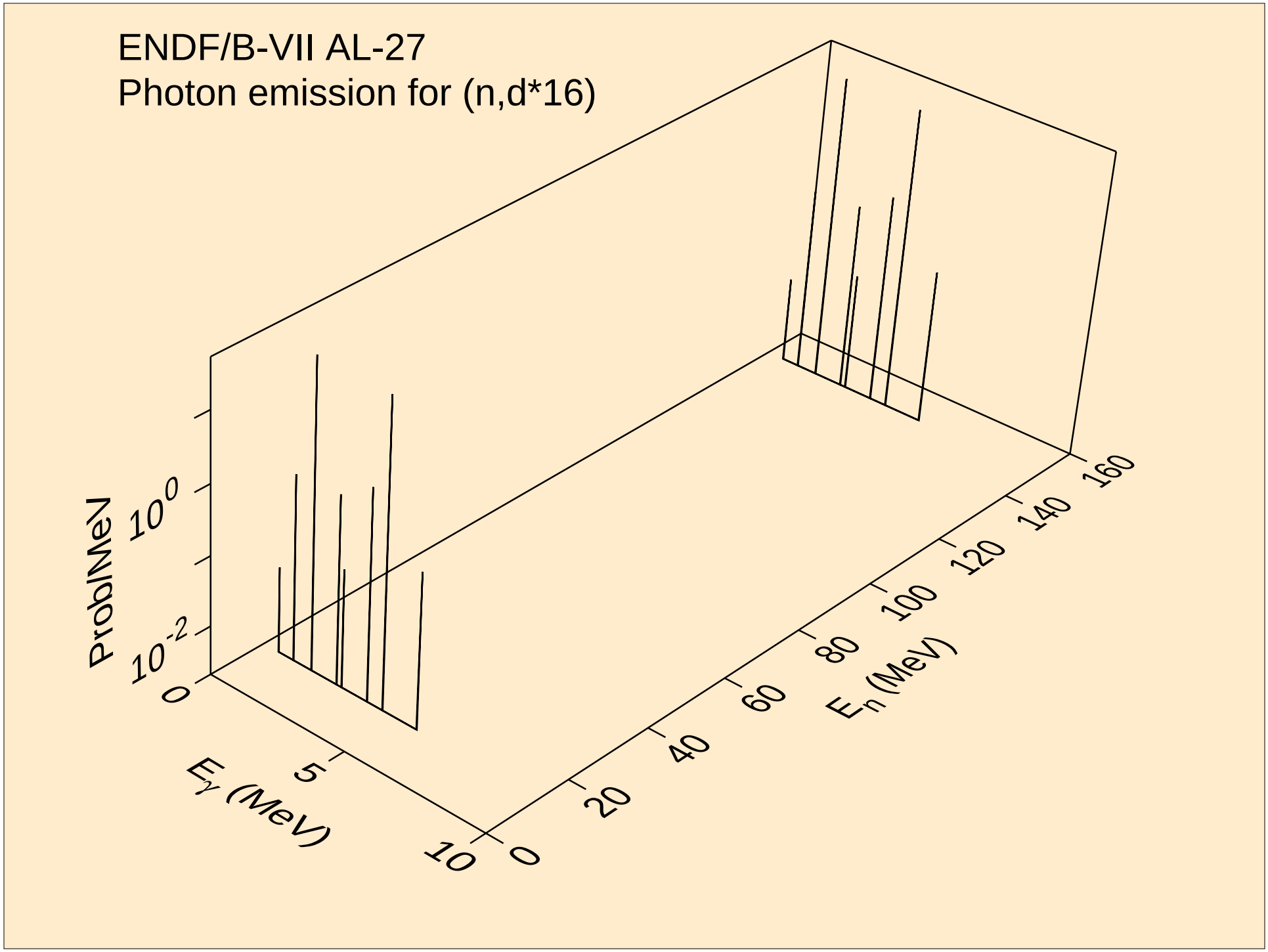



ENDF/B-VII AL-27
Photon emission for (n,d*13)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

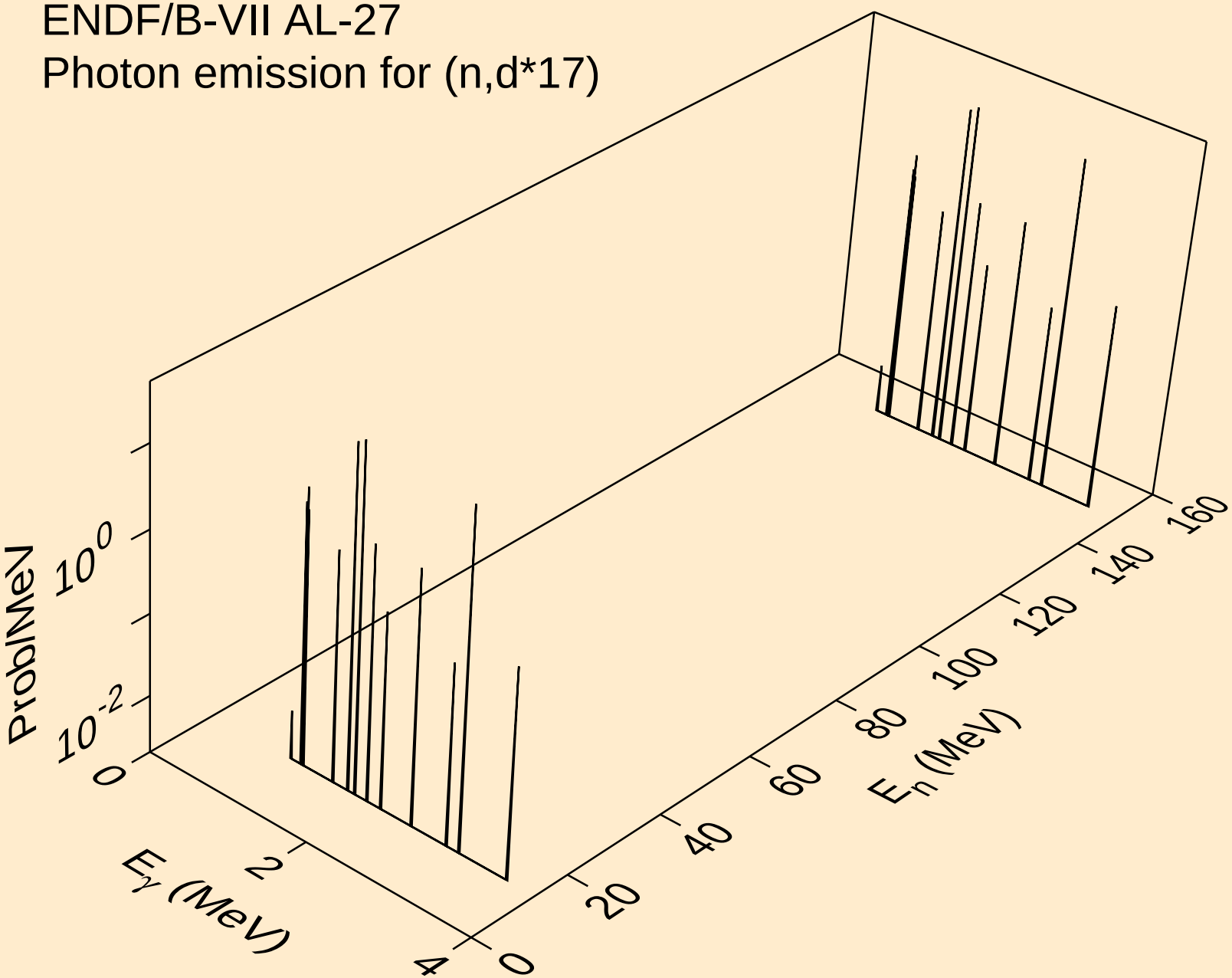

ENDF/B-VII AL-27
Photon emission for (n,d*14)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

ENDF/B-VII AL-27
Photon emission for (n,d*15)

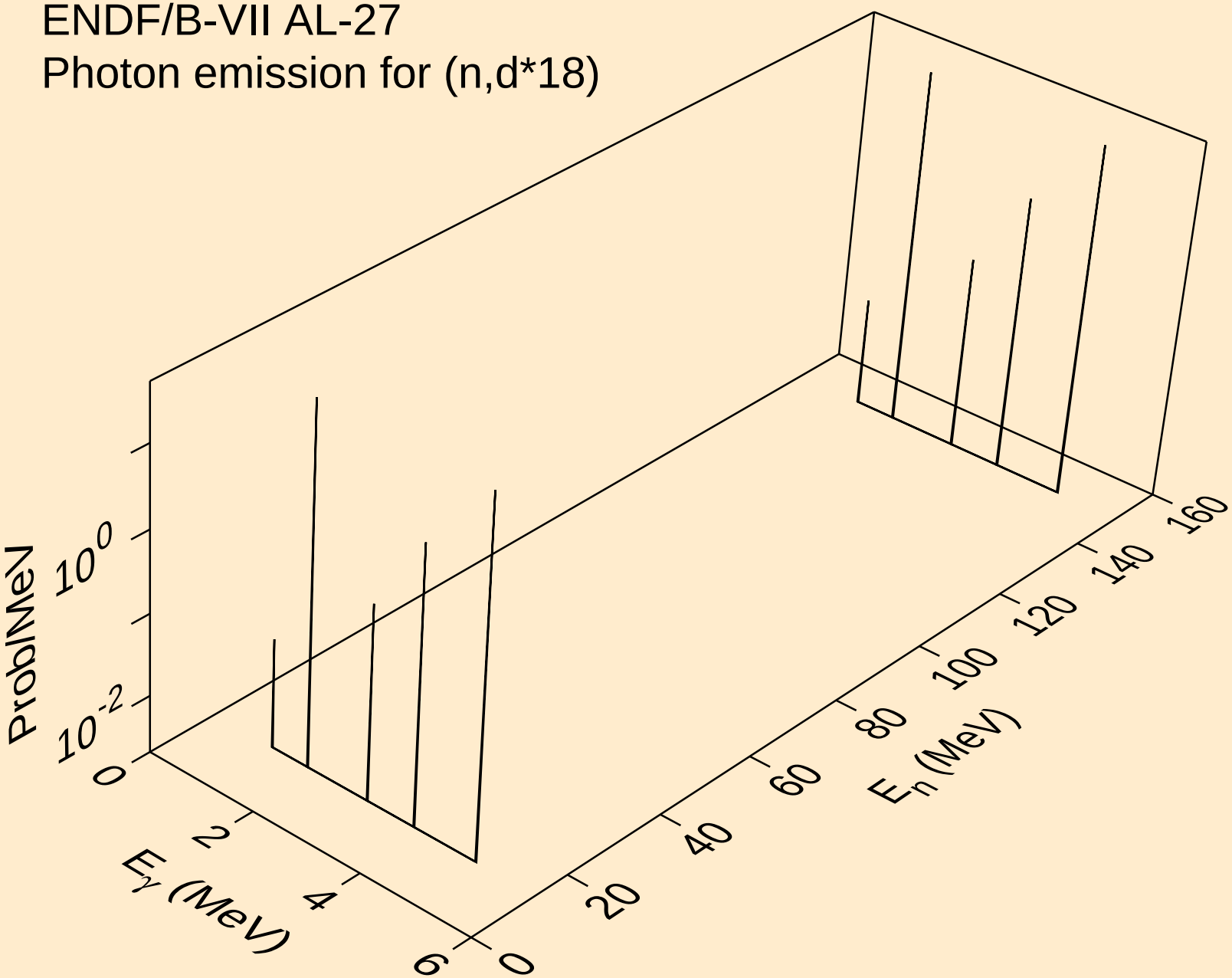


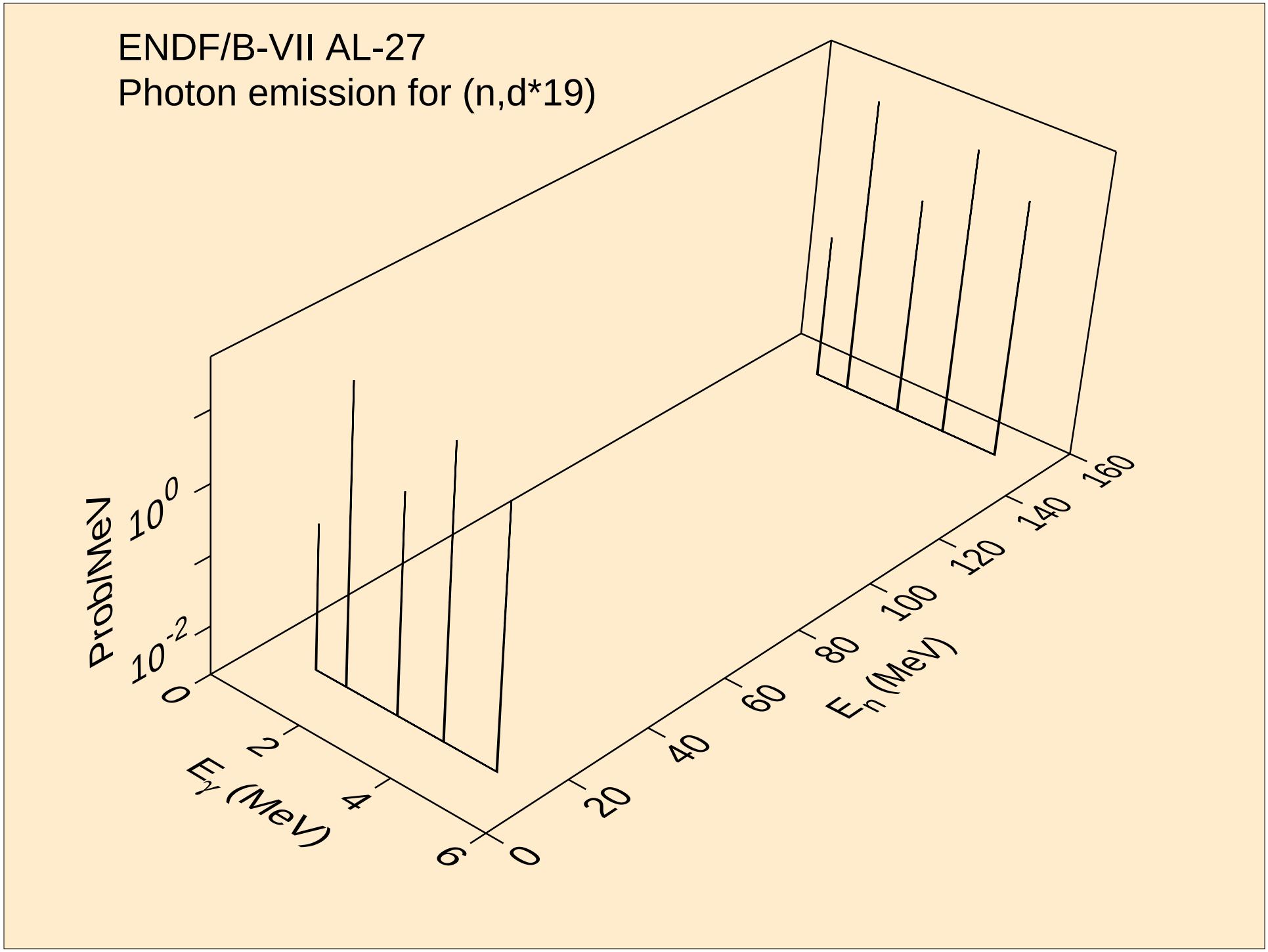

ENDF/B-VII AL-27
Photon emission for (n,d*16)
Prob/MeV
10^0
10^{-2}
0
5
10
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

ENDF/B-VII AL-27
Photon emission for (n,d*17)

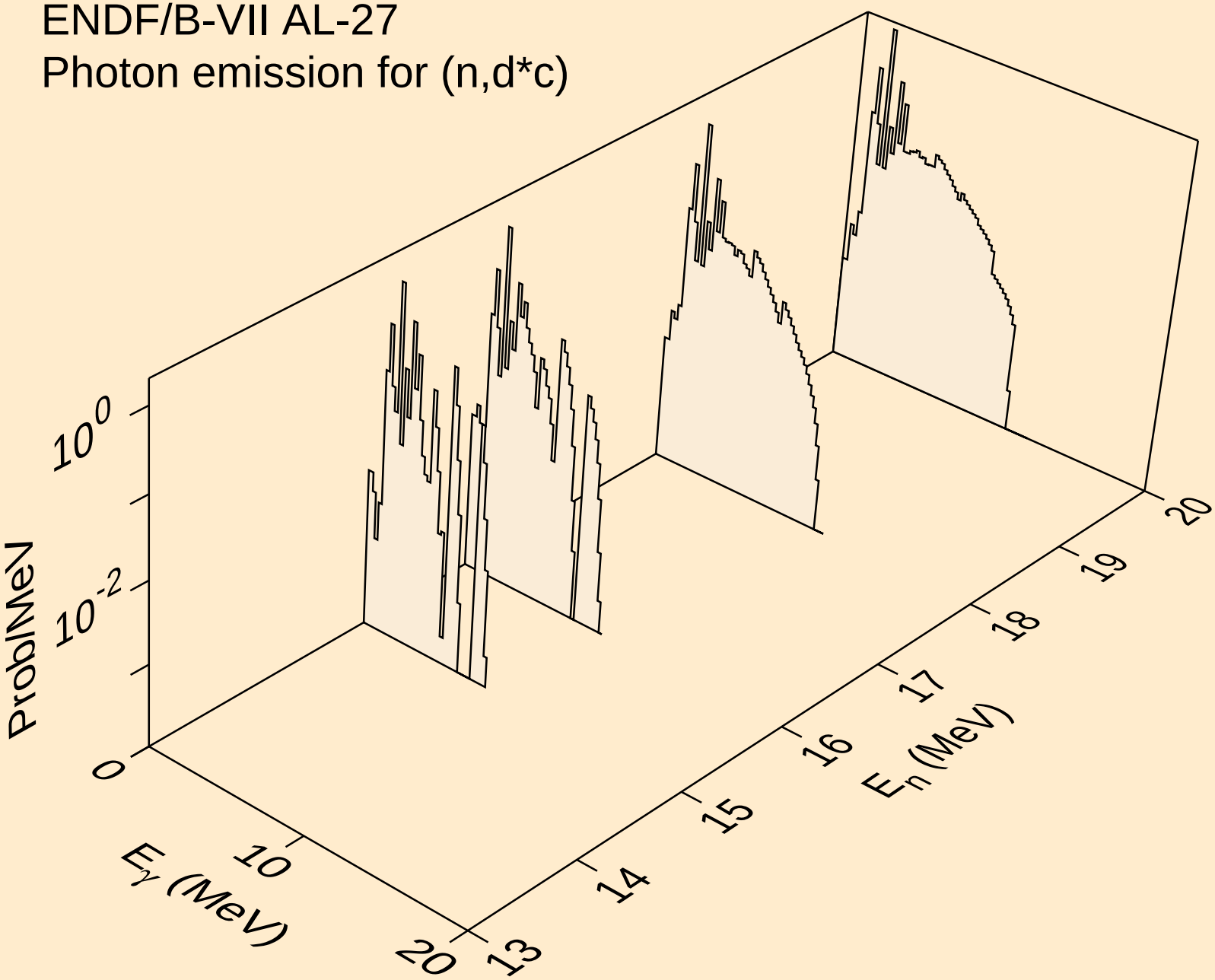


ENDF/B-VII AL-27
Photon emission for (n,d*18)

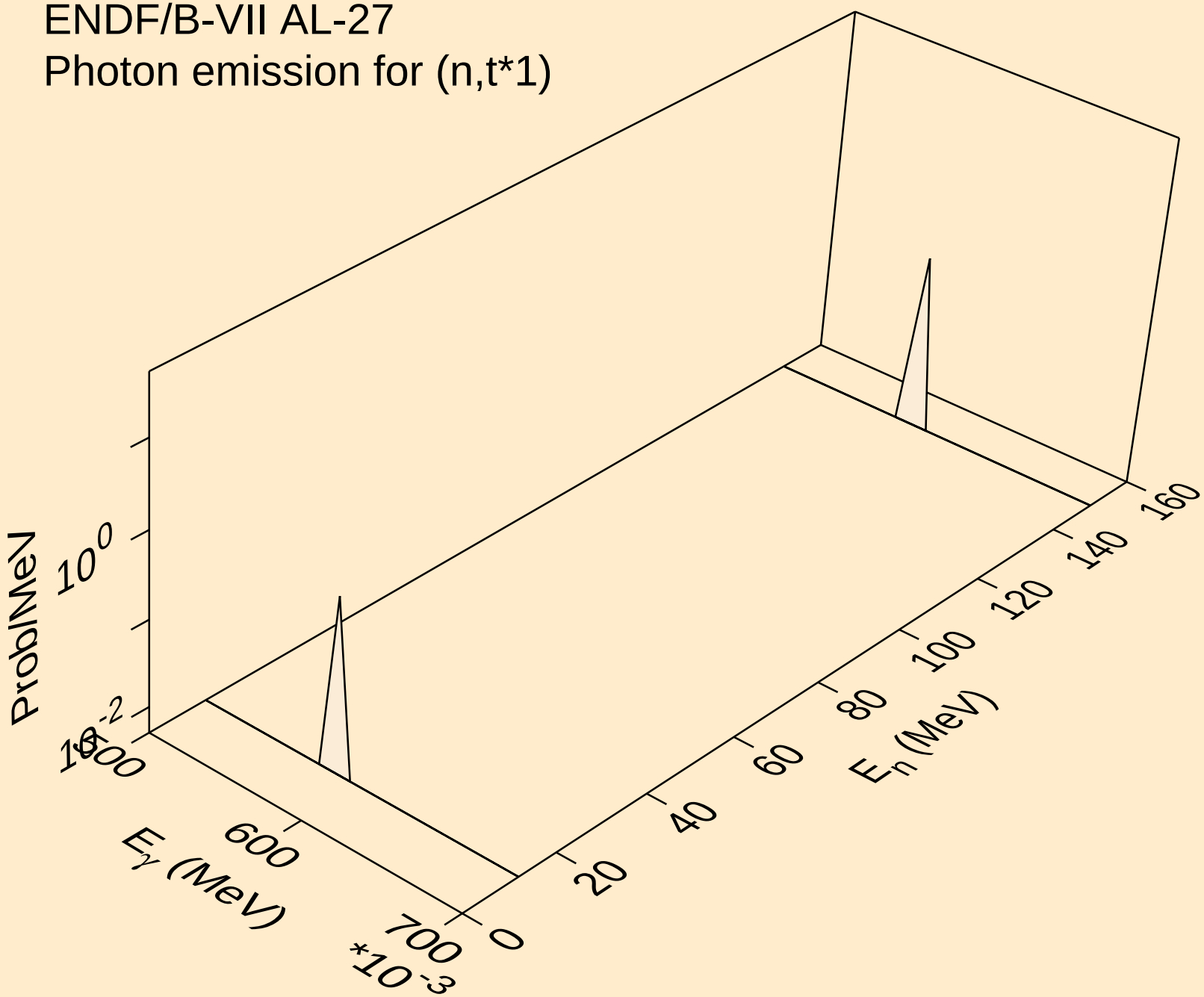



ENDF/B-VII AL-27
Photon emission for (n,d*19)
Prob/MeV
10^0
10^{-2}
0
2
4
6
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

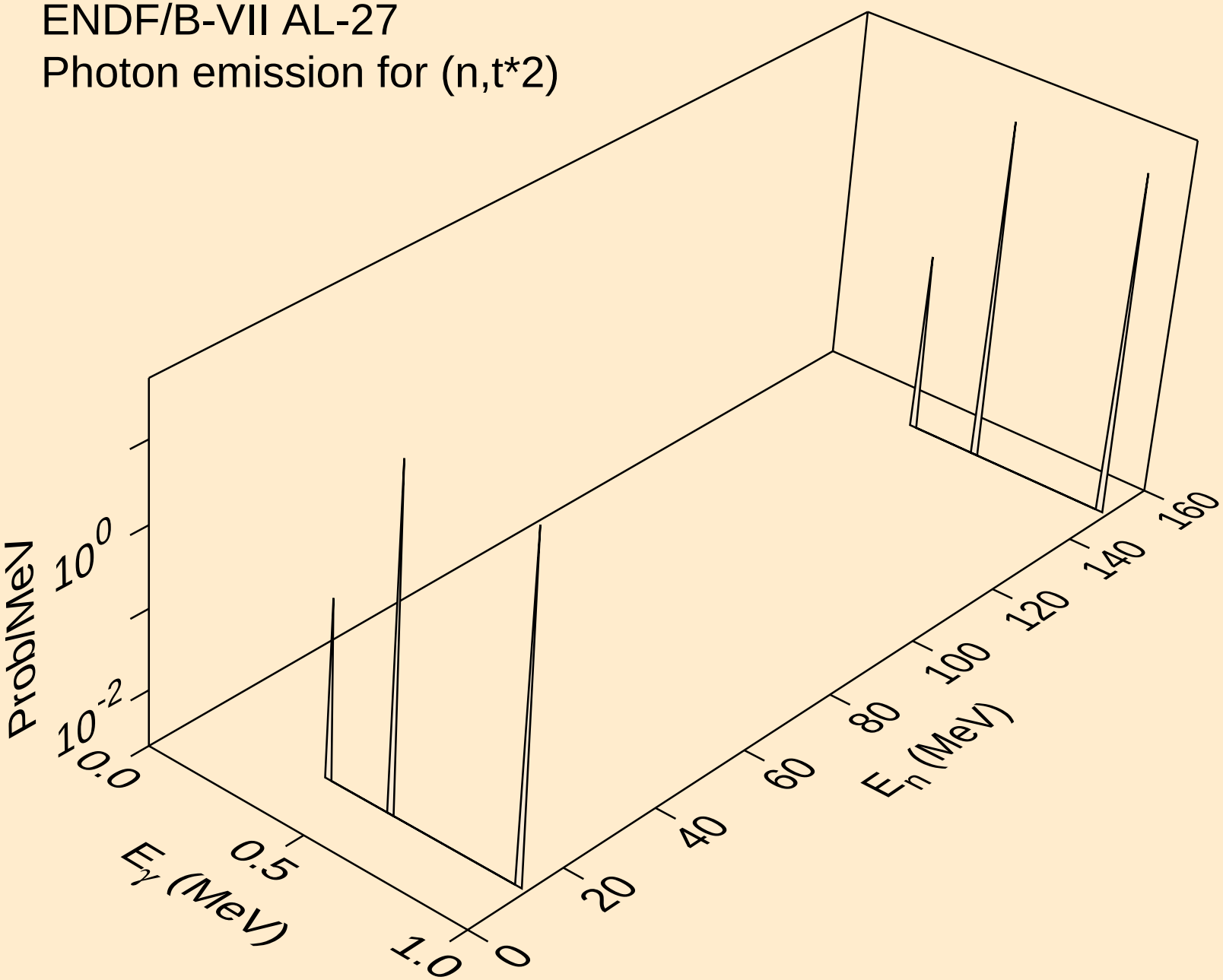
ENDF/B-VII AL-27
Photon emission for (n,d*c)



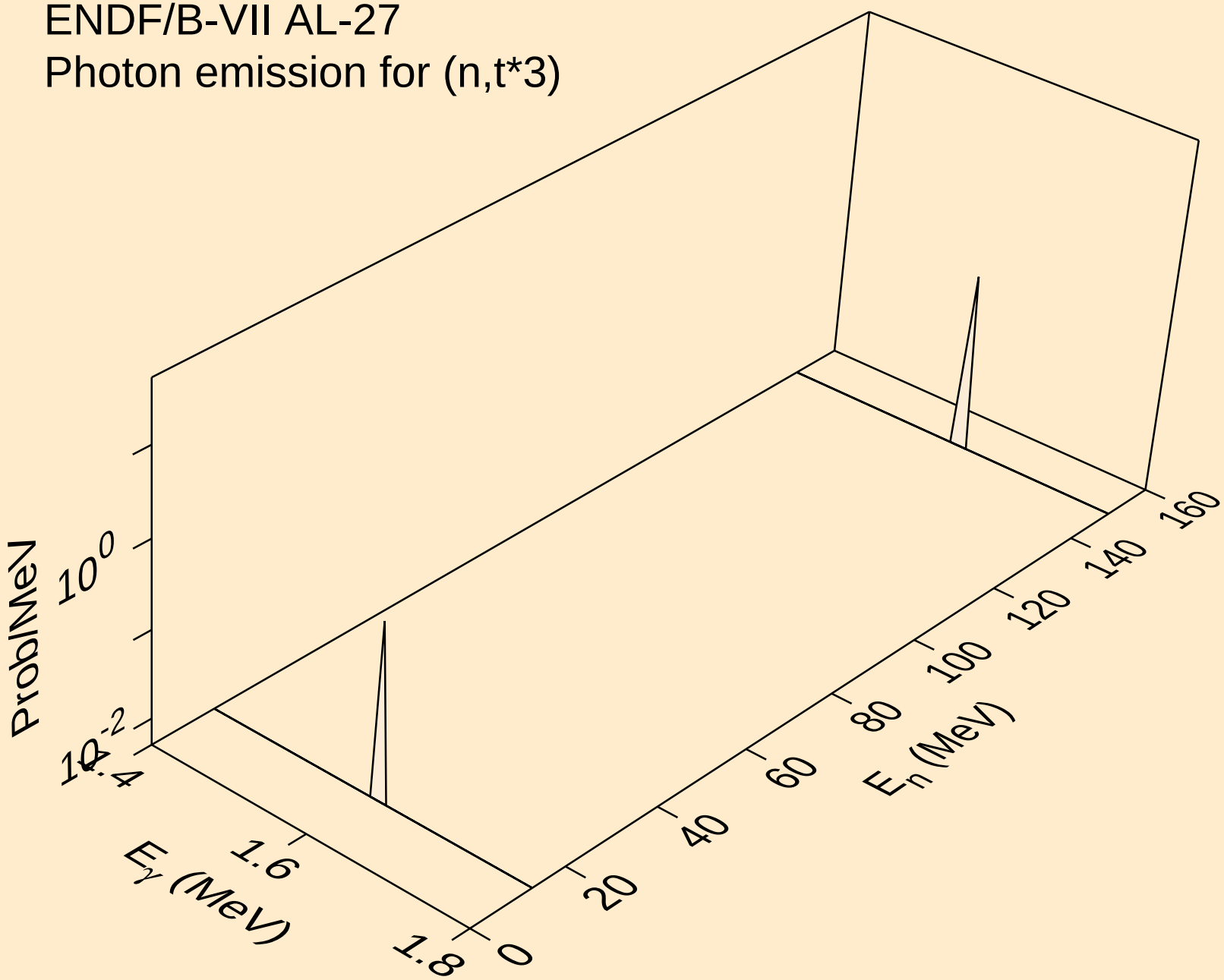
ENDF/B-VII AL-27
Photon emission for (n,t*1)

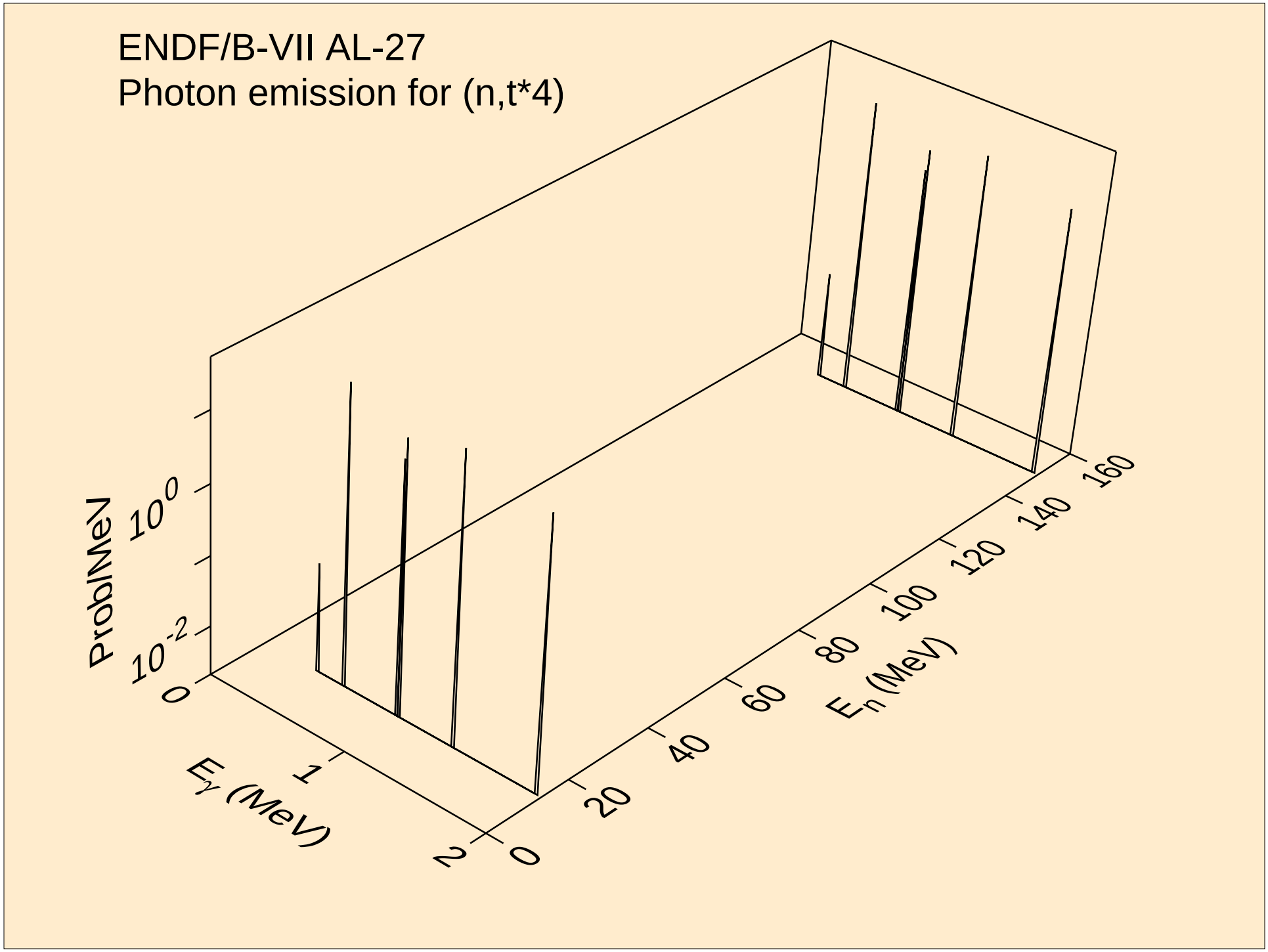


ENDF/B-VII AL-27
Photon emission for (n,t*2)

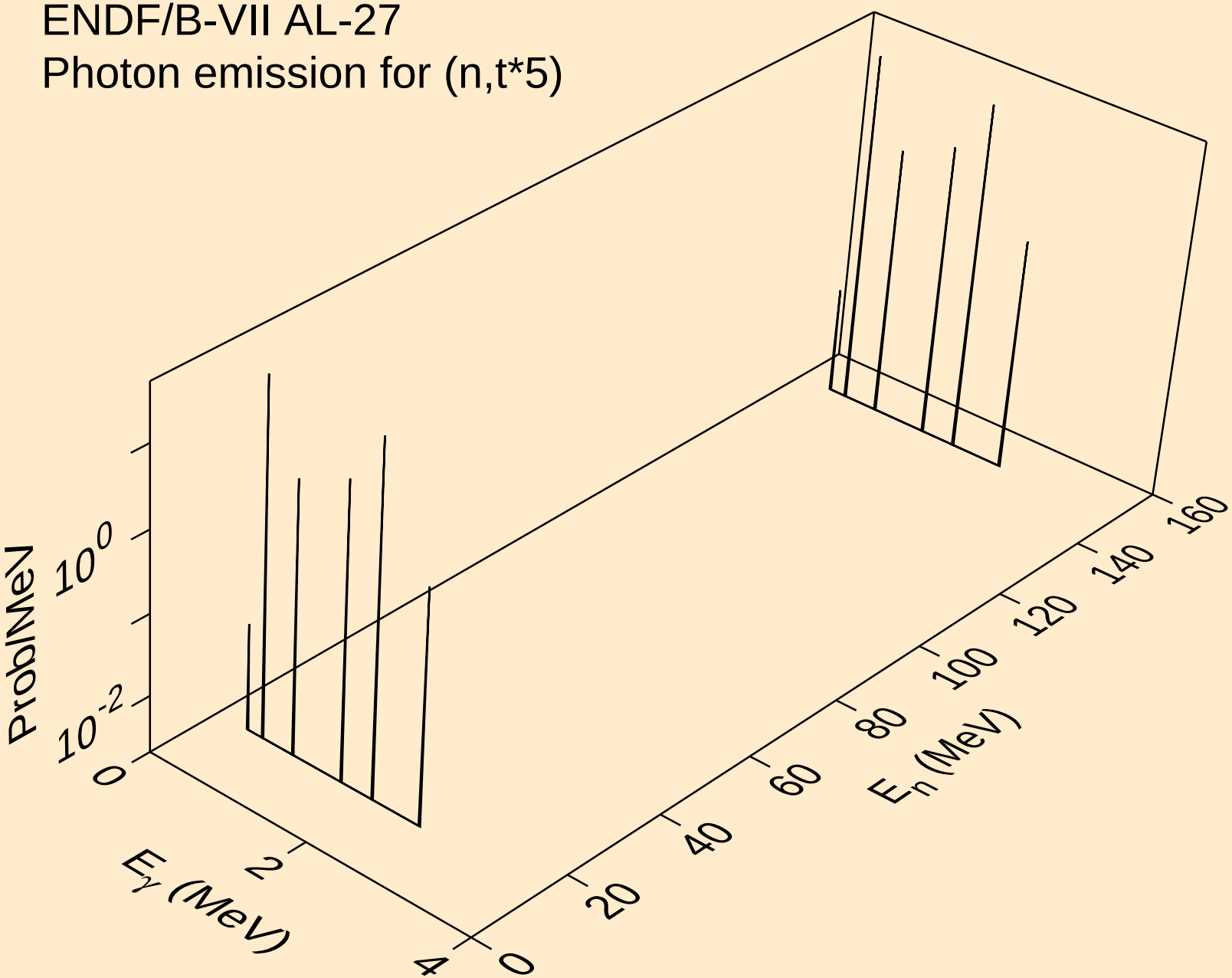


ENDF/B-VII AL-27
Photon emission for (n,t*3)

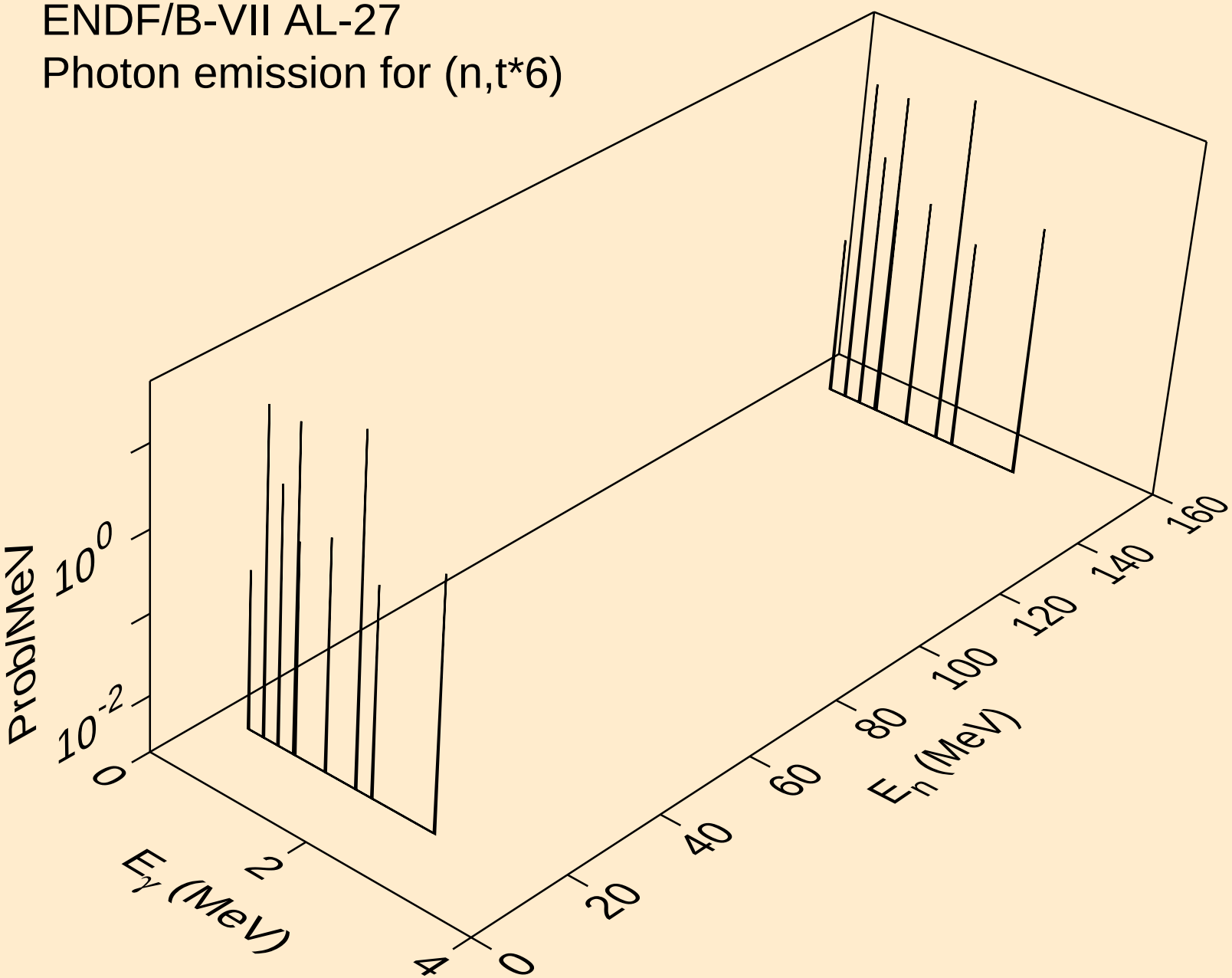



ENDF/B-VII AL-27
Photon emission for (n,t*4)
Prob/MeV
10^0
10^{-2}
0
1
2
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

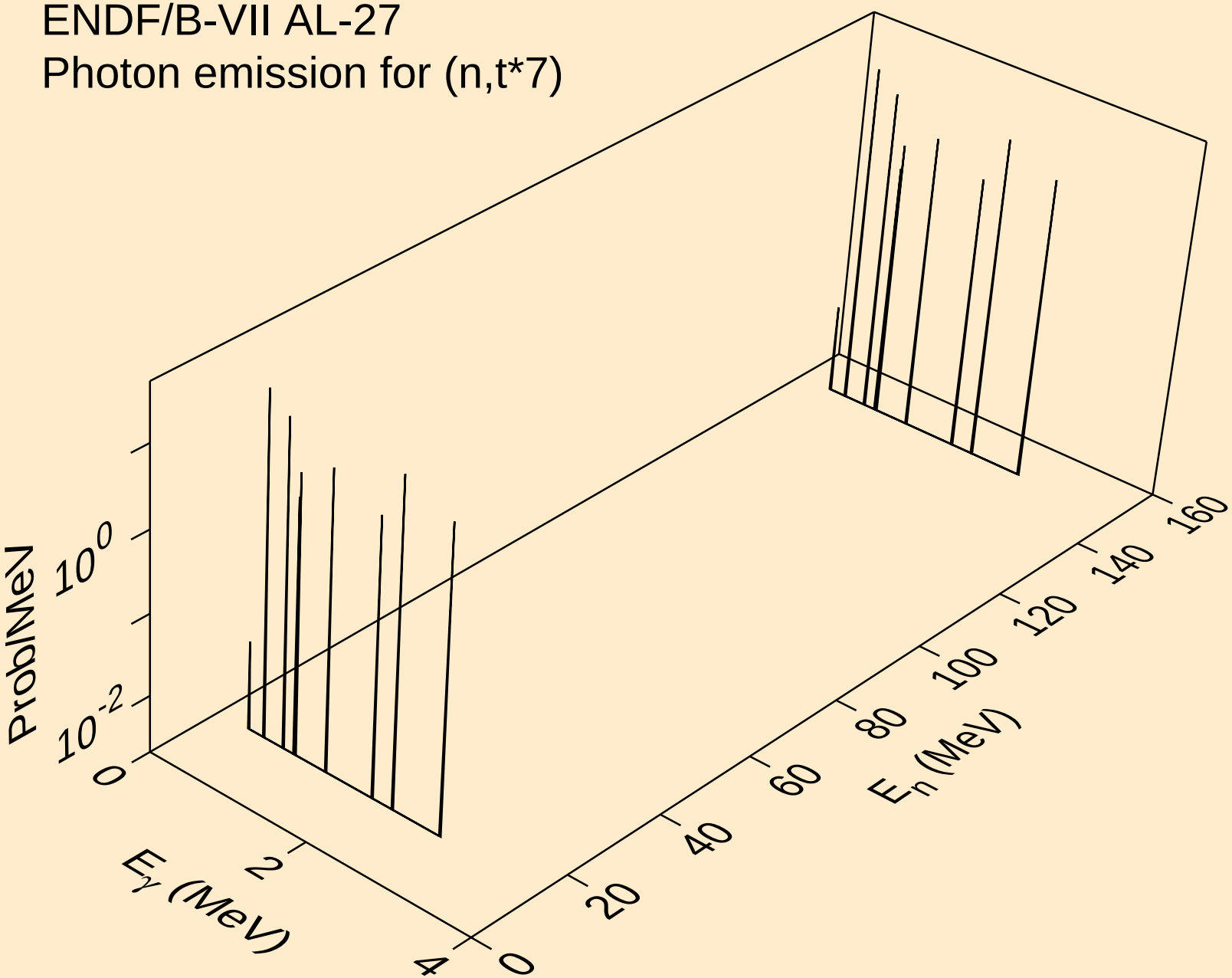
ENDF/B-VII AL-27
Photon emission for (n,t*5)



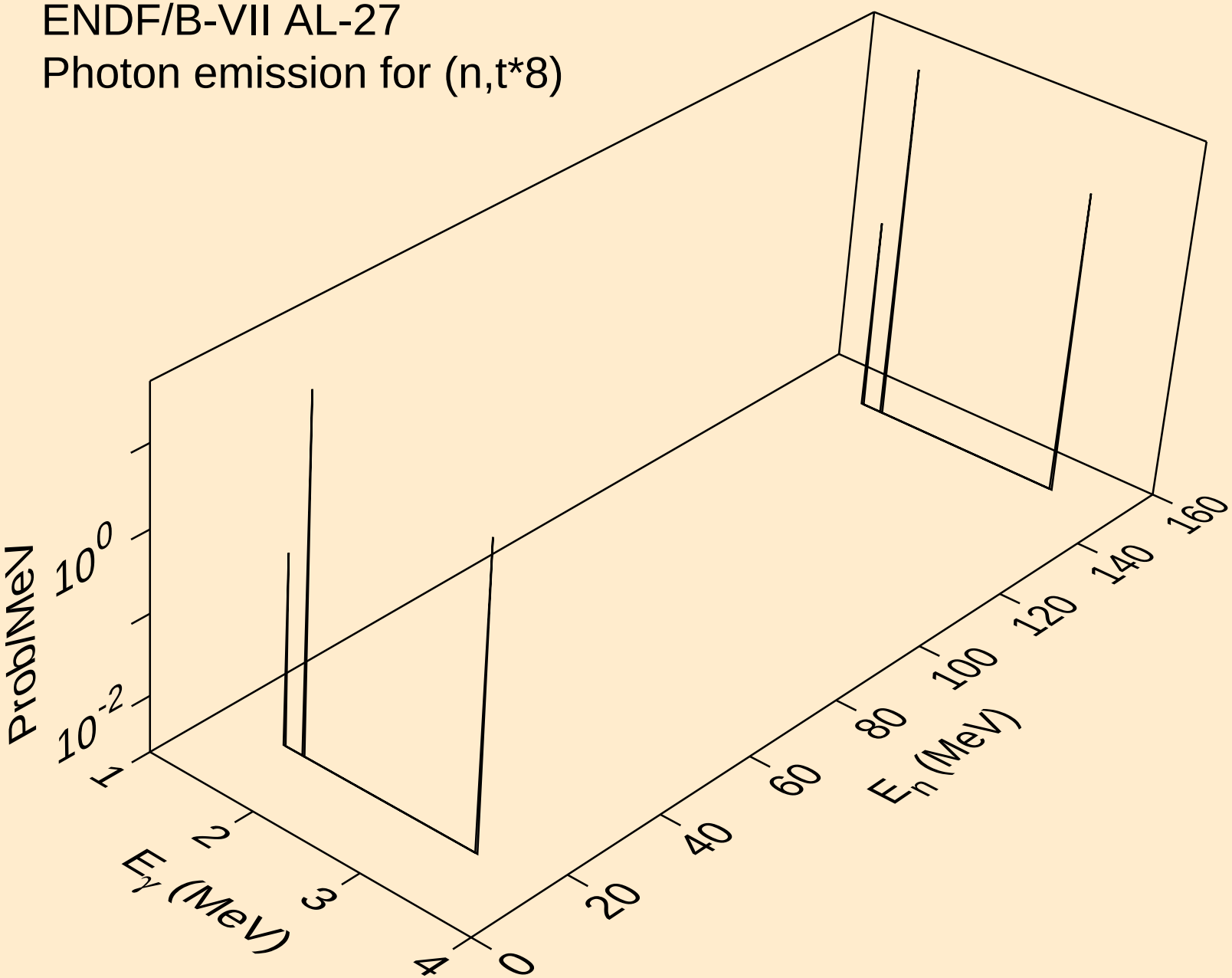
ENDF/B-VII AL-27
Photon emission for (n,t*6)

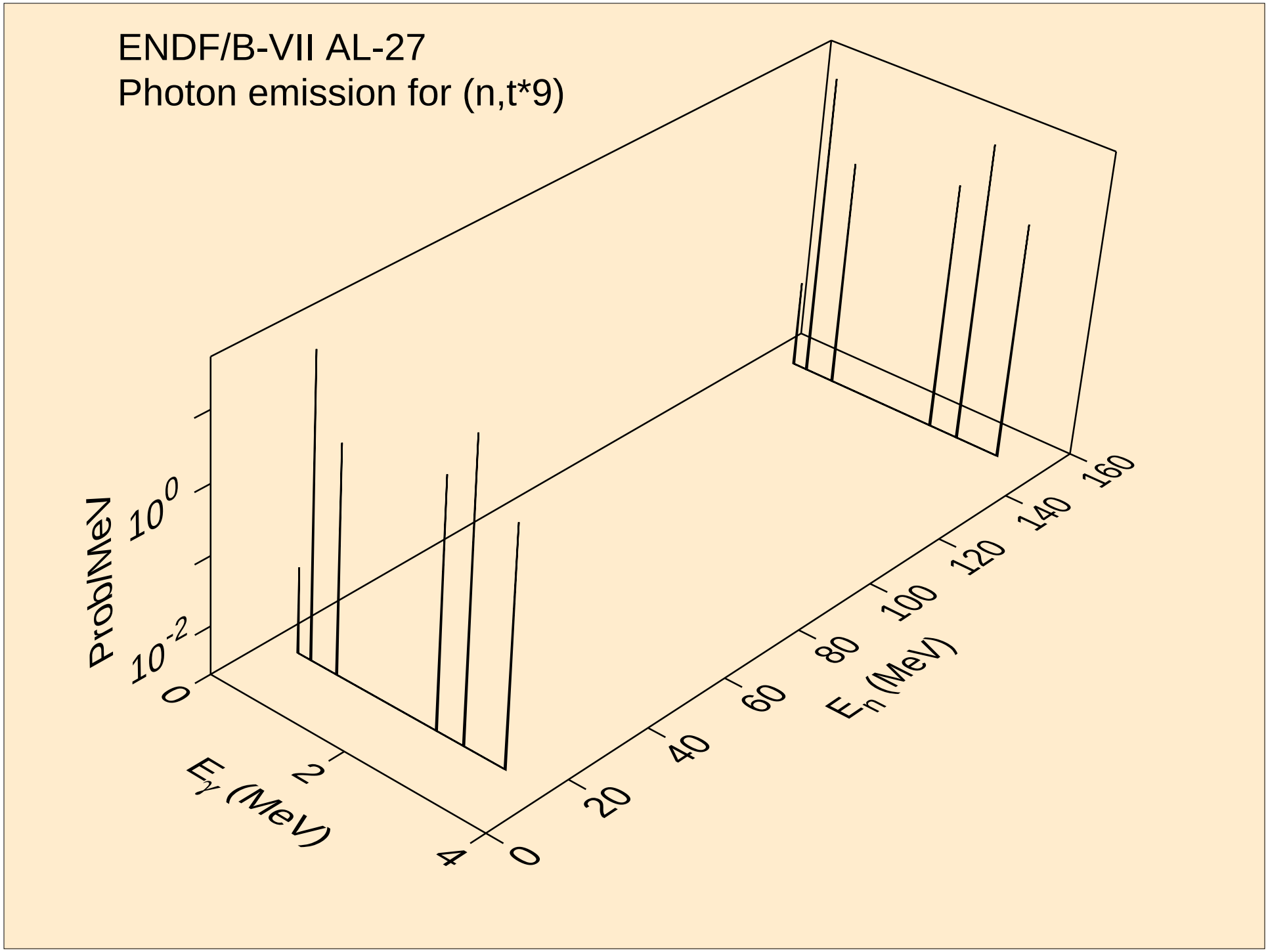


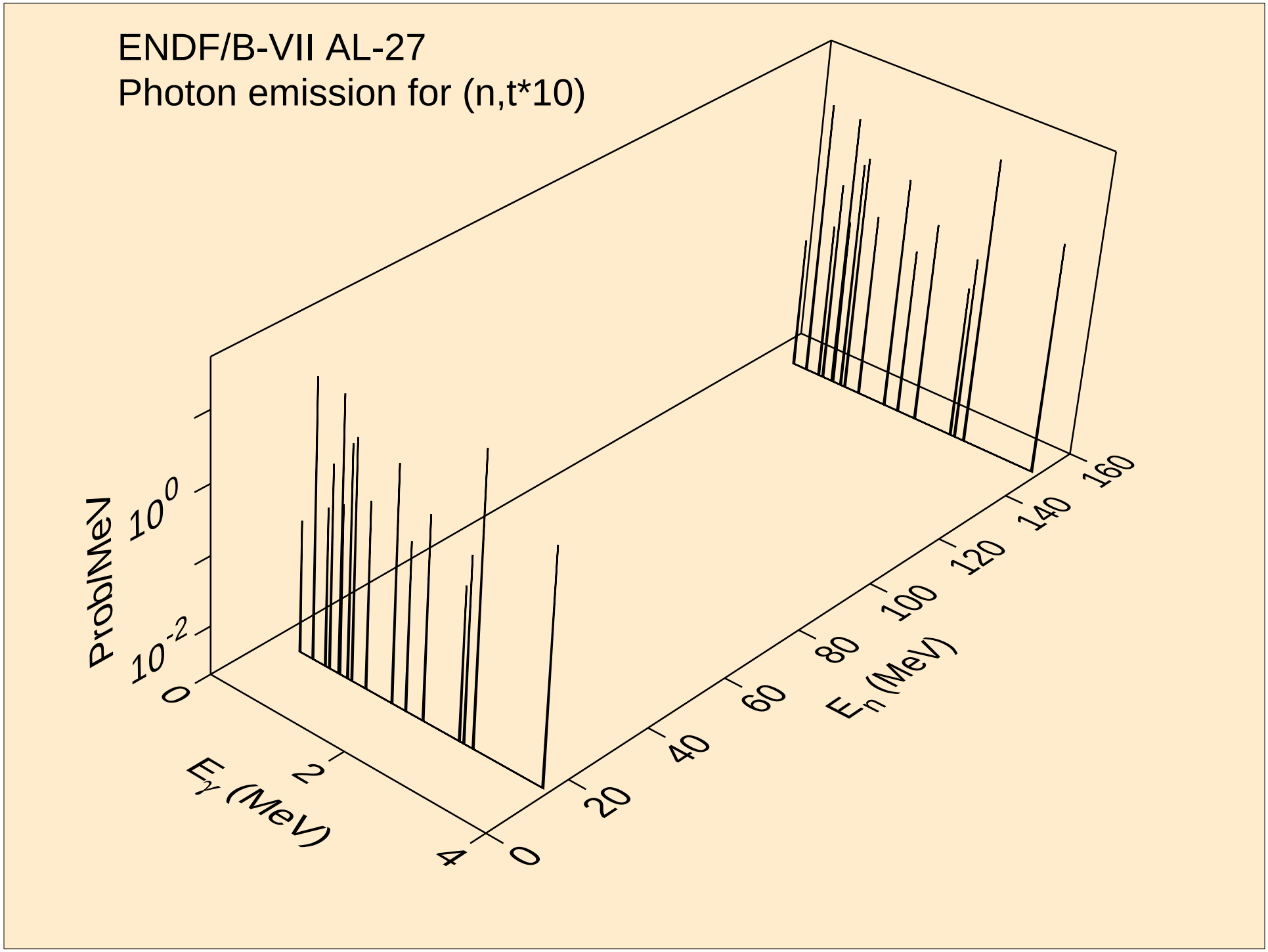
ENDF/B-VII AL-27
Photon emission for (n,t*7)



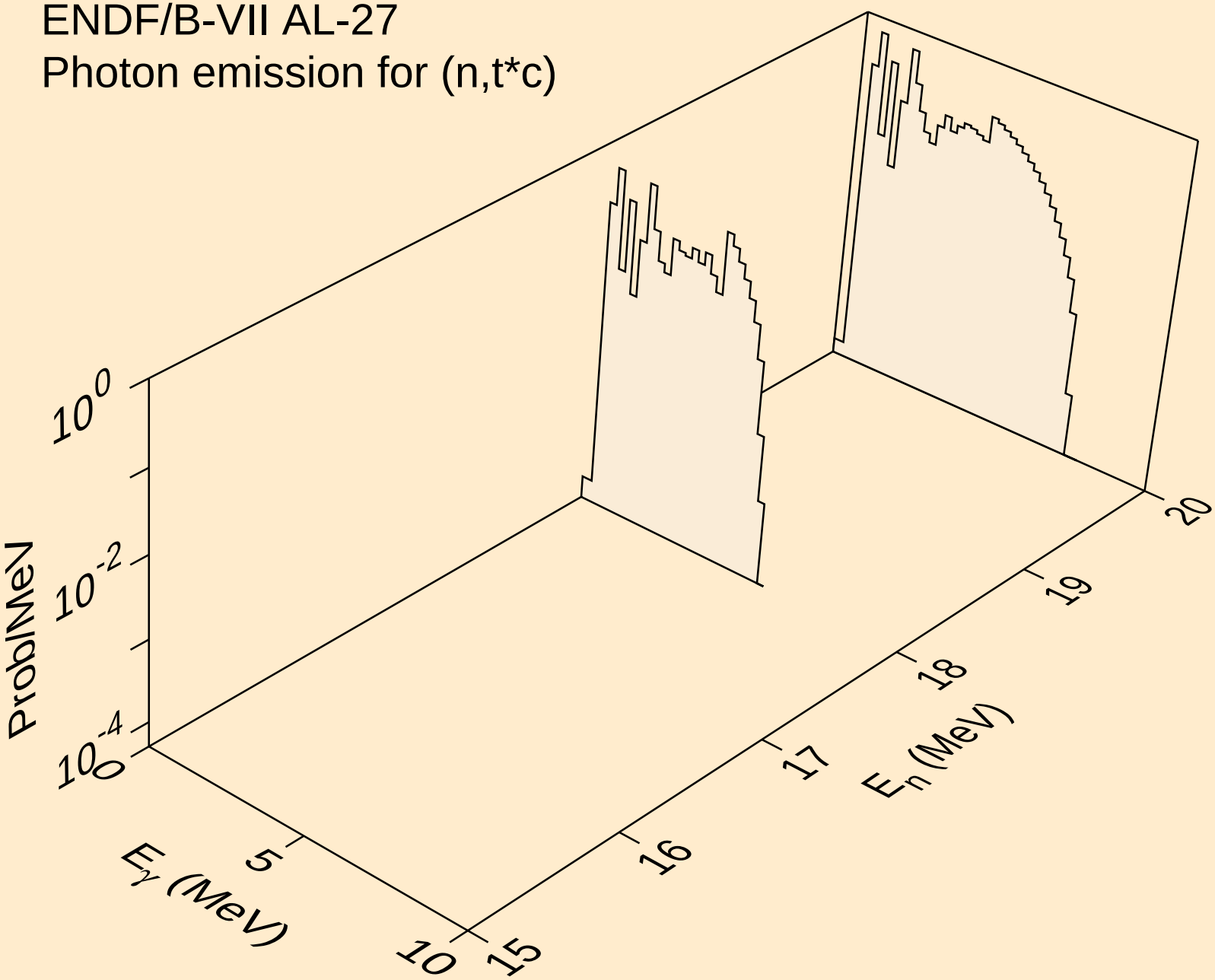
ENDF/B-VII AL-27
Photon emission for (n,t*8)



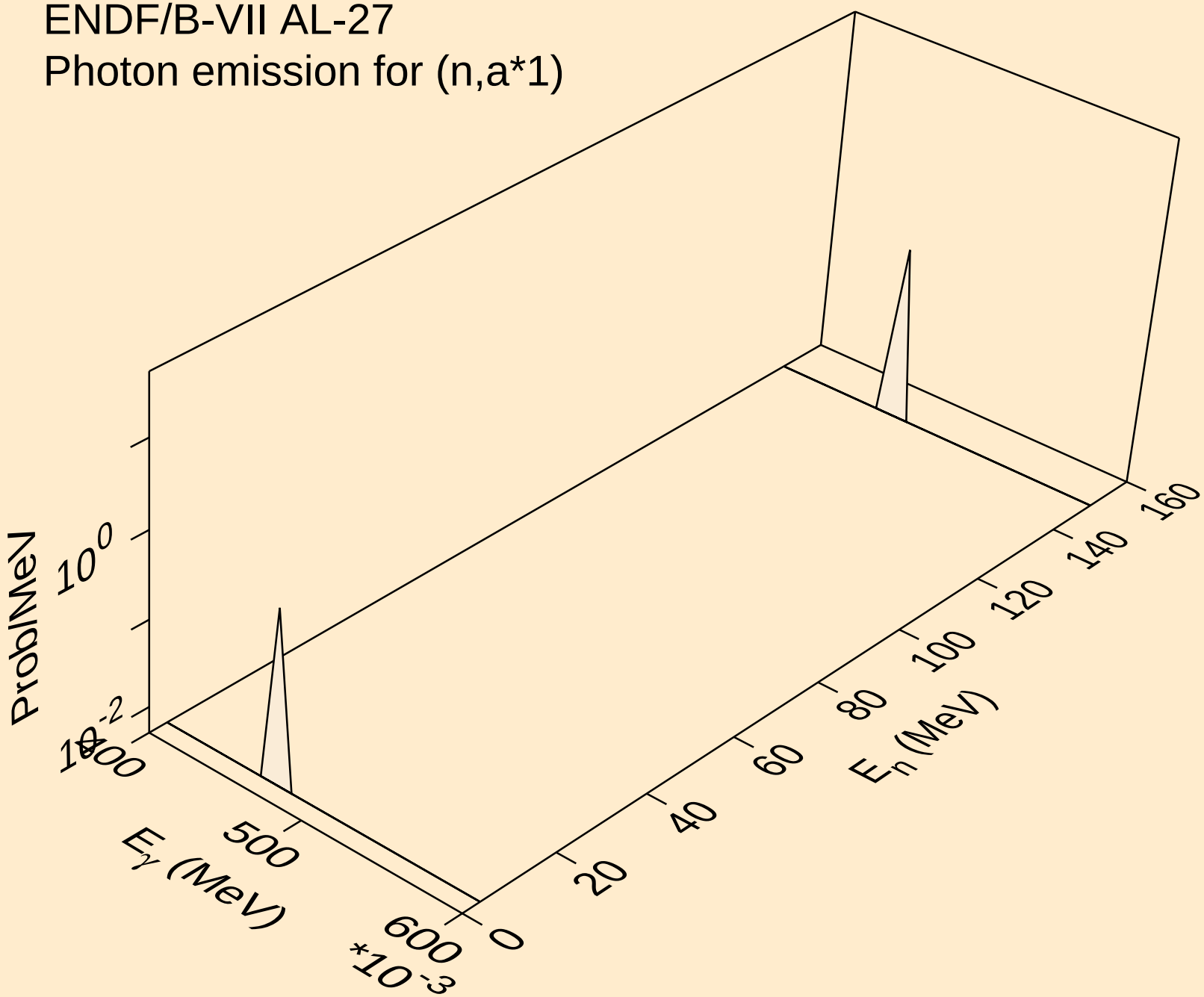

ENDF/B-VII AL-27
Photon emission for (n,t*9)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

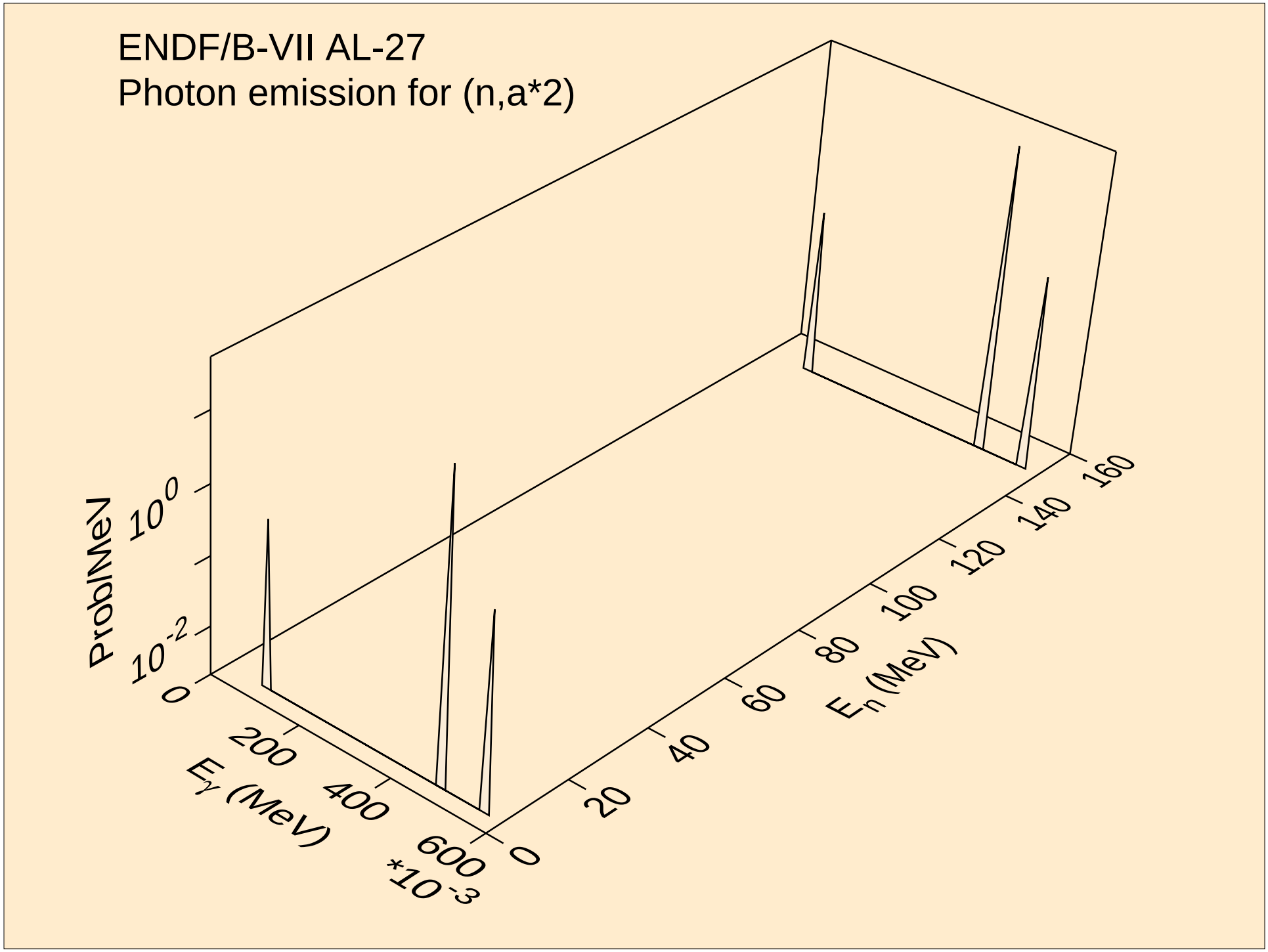

ENDF/B-VII AL-27
Photon emission for (n,t*10)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

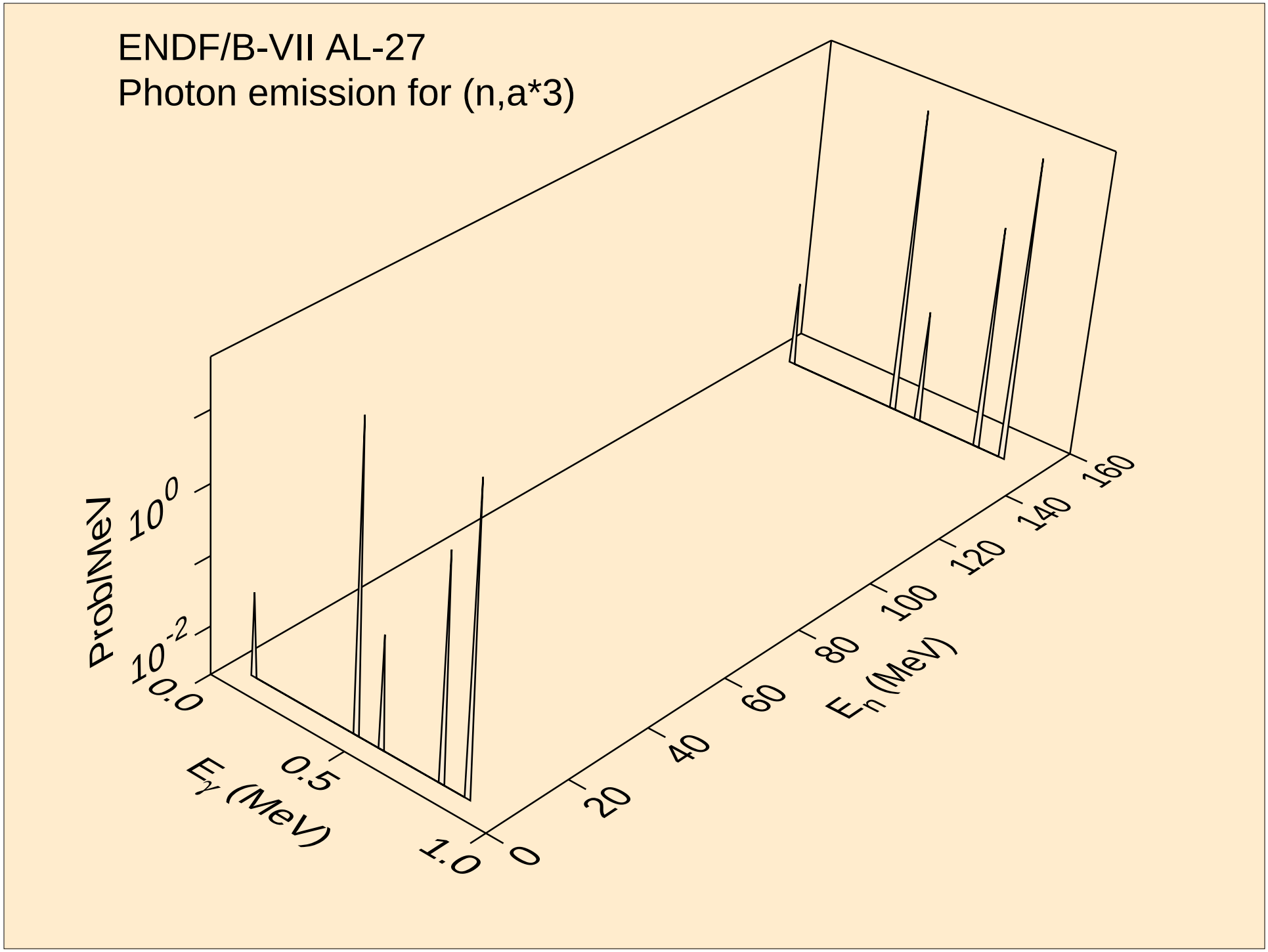
ENDF/B-VII AL-27
Photon emission for (n,t*c)

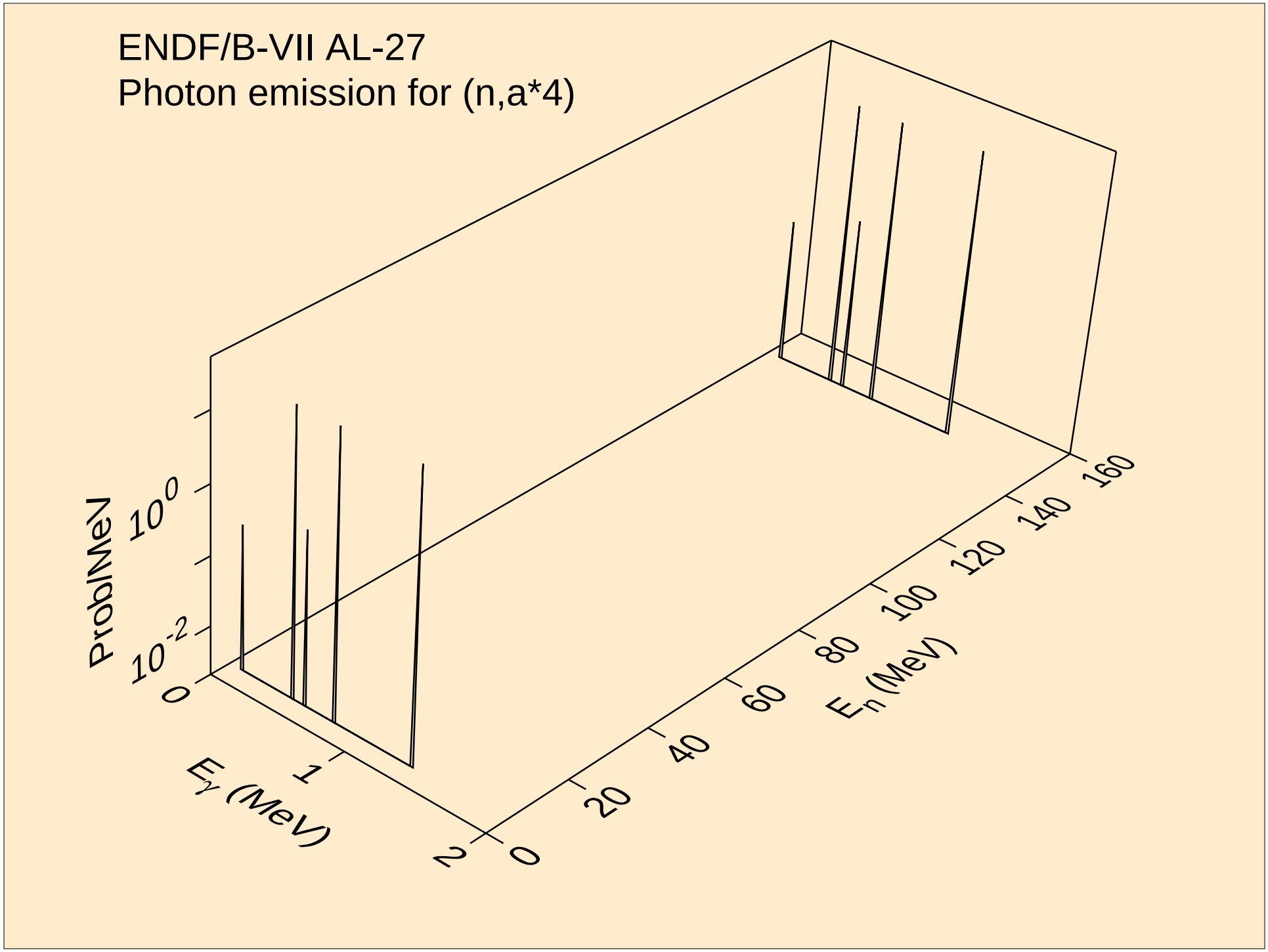


ENDF/B-VII AL-27
Photon emission for (n,a*1)

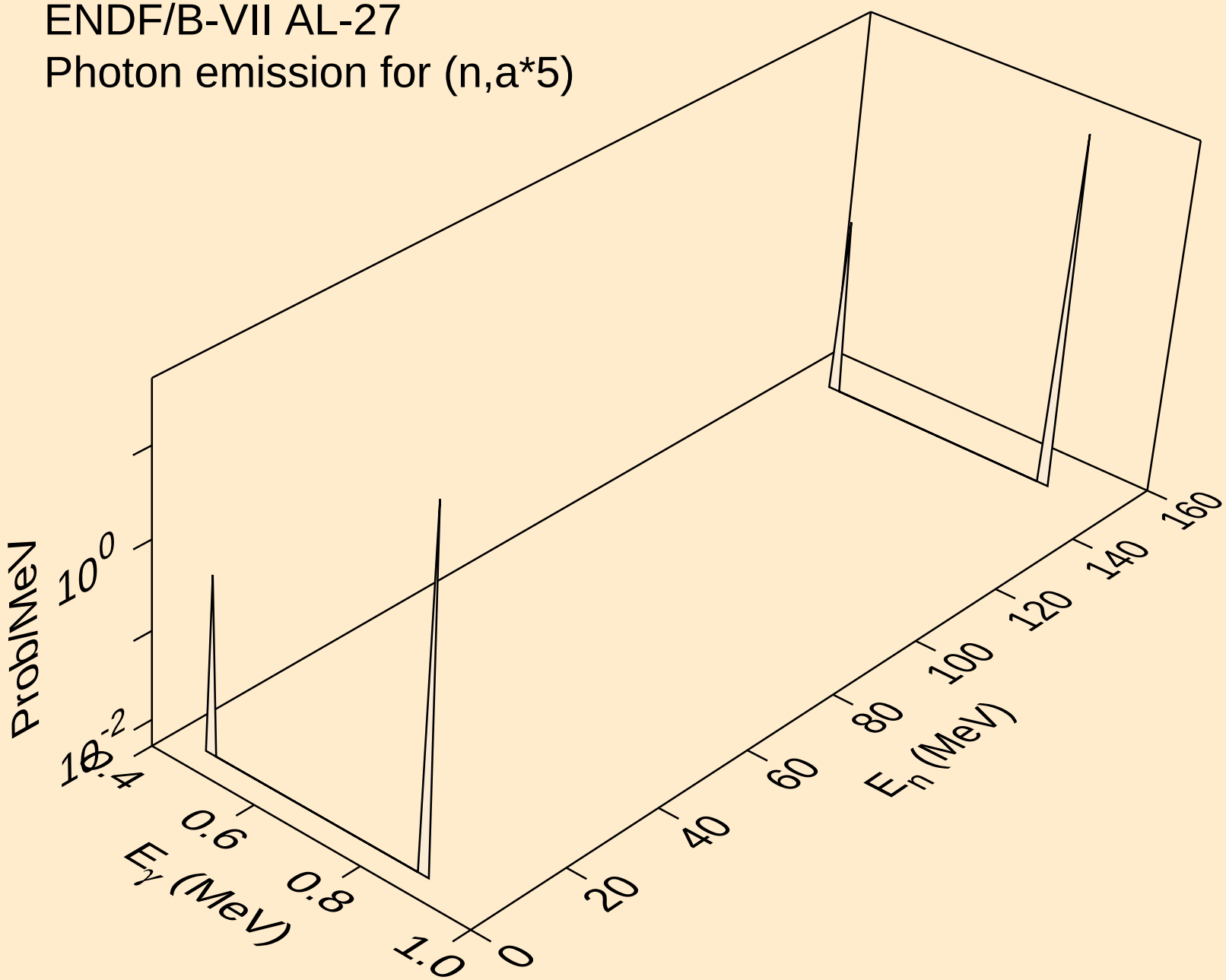



ENDF/B-VII AL-27
Photon emission for (n,a*2)
Prob/MeV
10^0
10^{-2}
0
200
400
600
E_γ (MeV)
$*10^{-3}$
0
20
40
60
80
100
120
140
160
E_n (MeV)

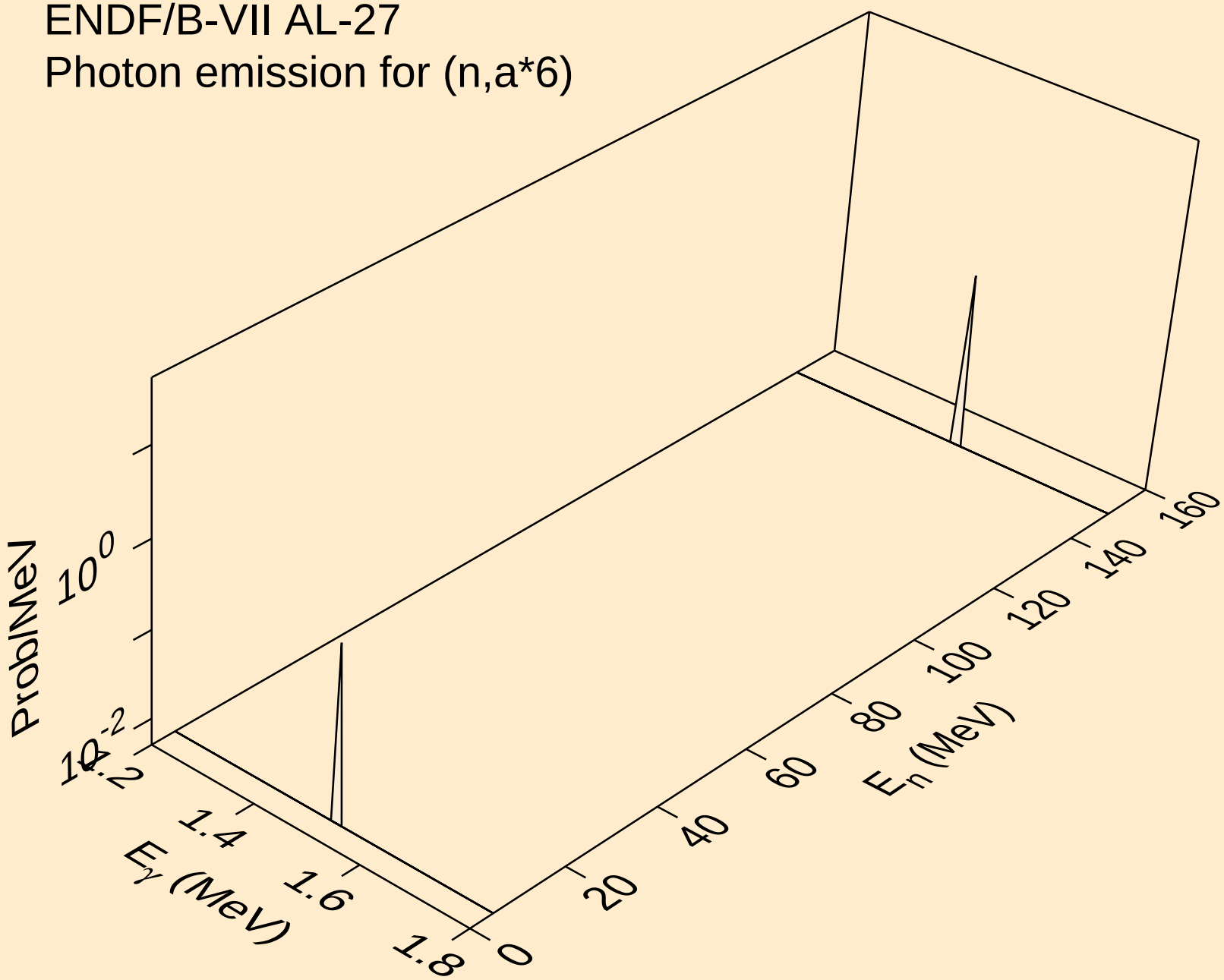

ENDF/B-VII AL-27
Photon emission for (n,a*3)
Prob/MeV
10^0
10^{-2}
0.0
0.5
1.0
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

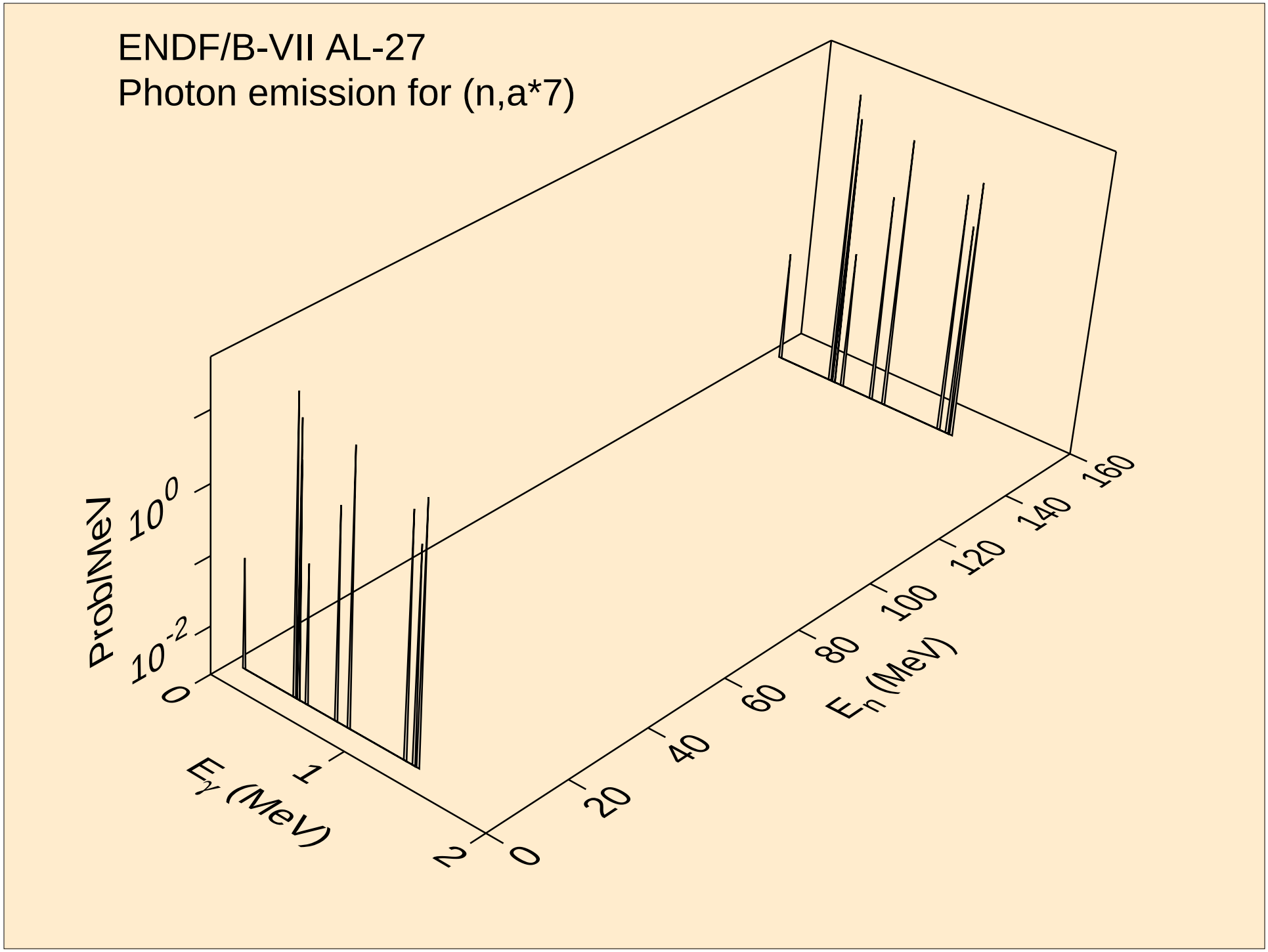

ENDF/B-VII AL-27
Photon emission for (n,a*4)
Prob/MeV
10^0
10^{-2}
0
1
2
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

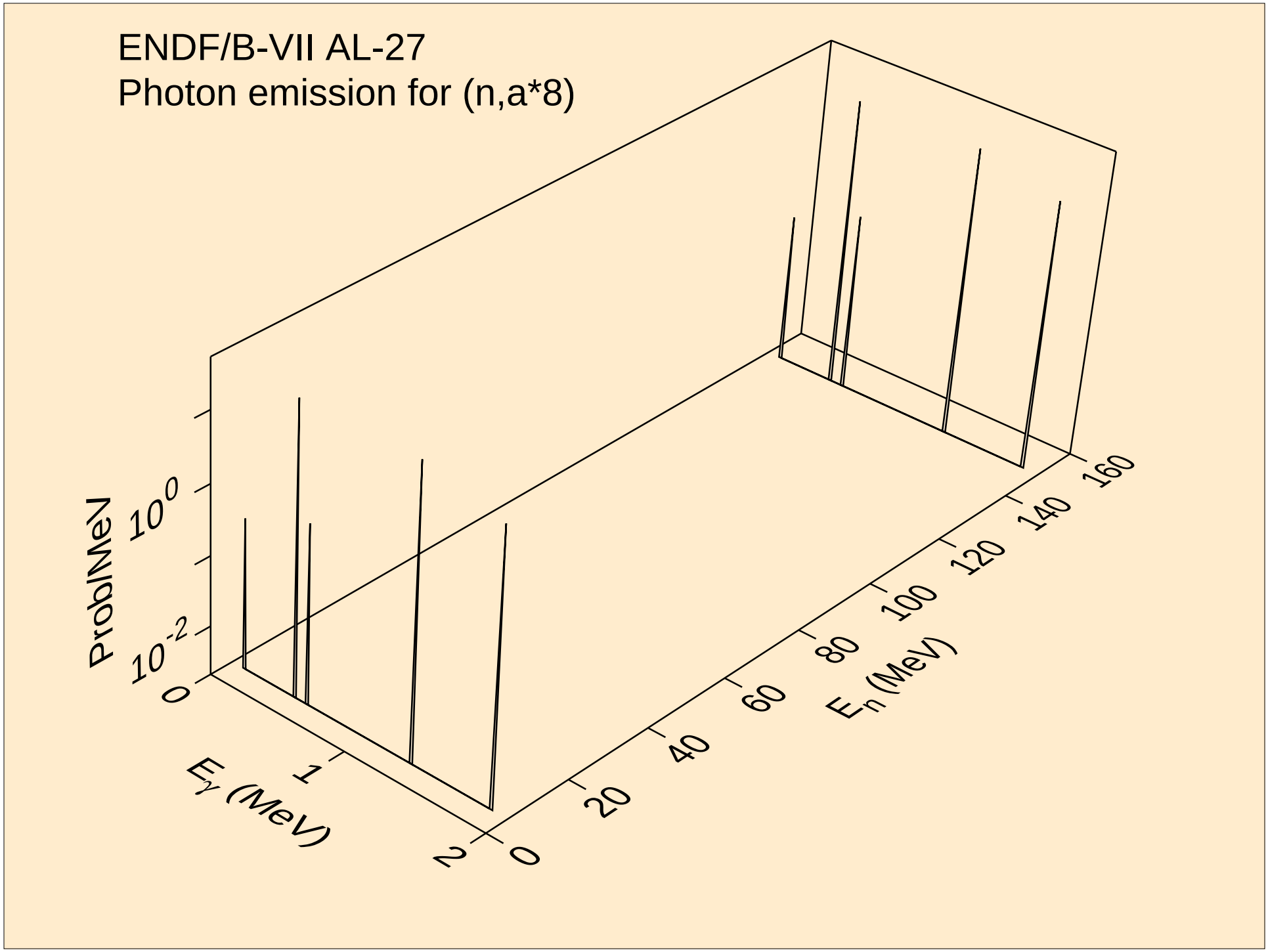
ENDF/B-VII AL-27
Photon emission for (n,a*5)



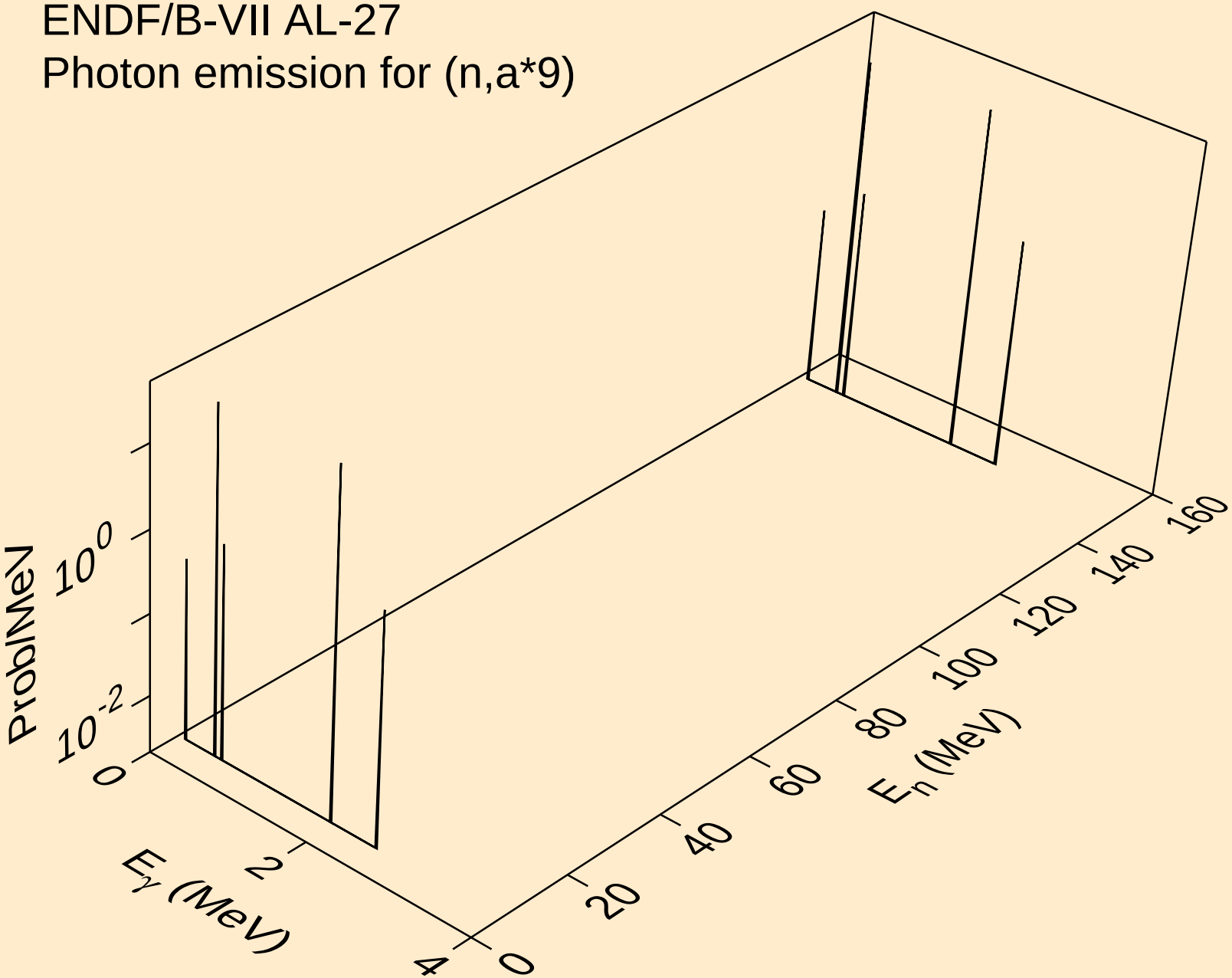
ENDF/B-VII AL-27
Photon emission for (n,a*6)

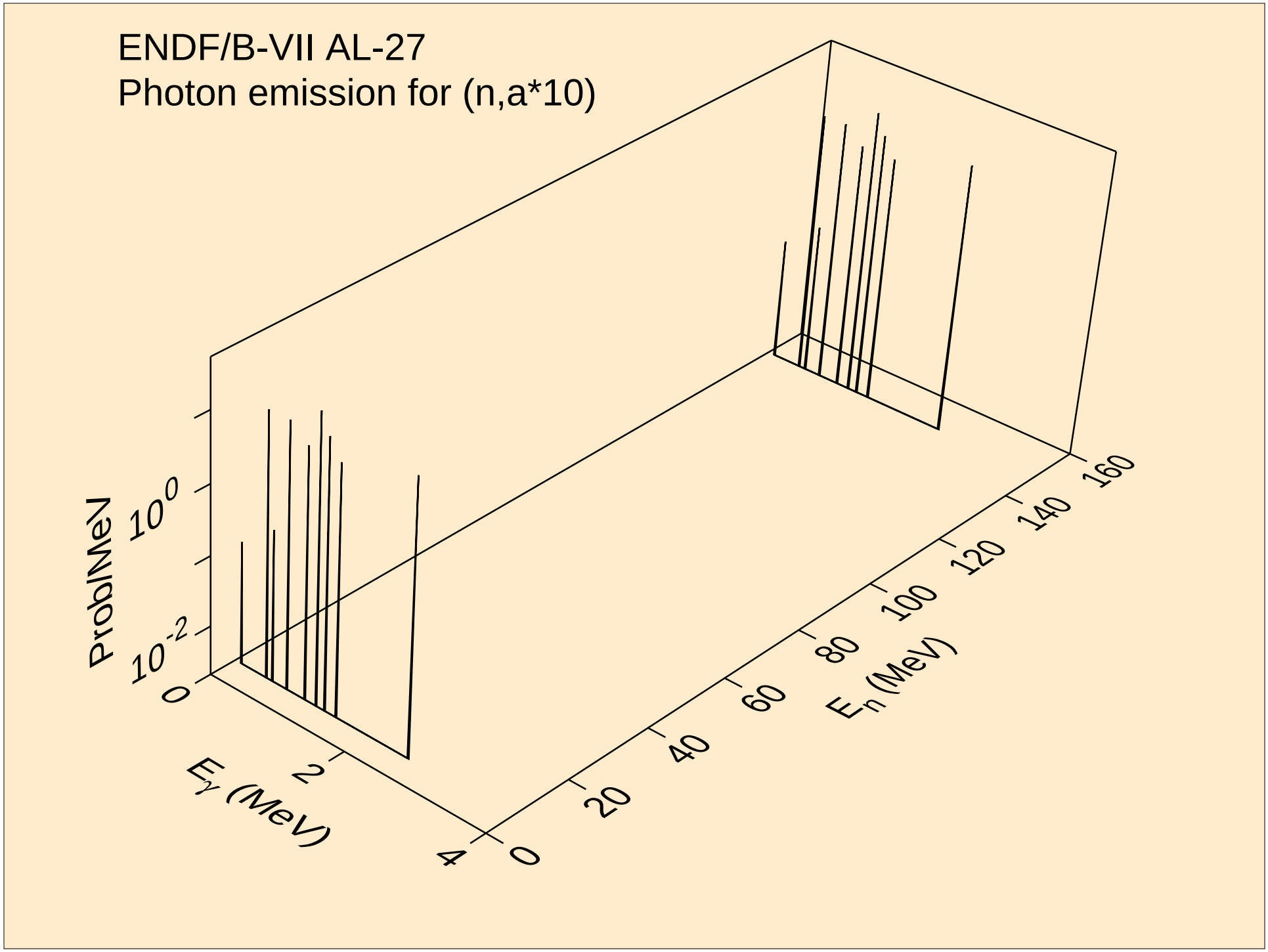


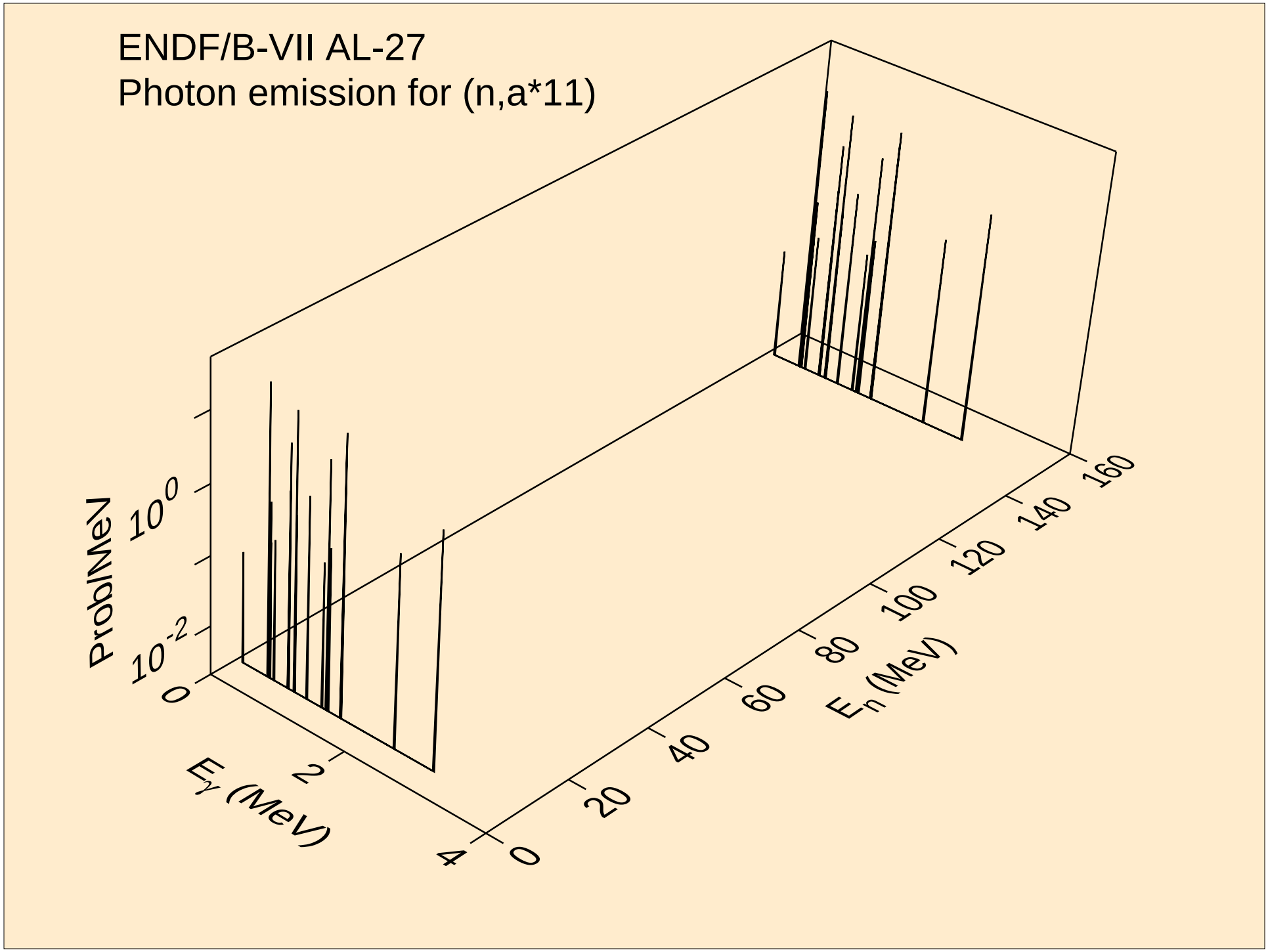

ENDF/B-VII AL-27
Photon emission for (n,a*7)
Prob/MeV
10^0
10^{-2}
0
1
2
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

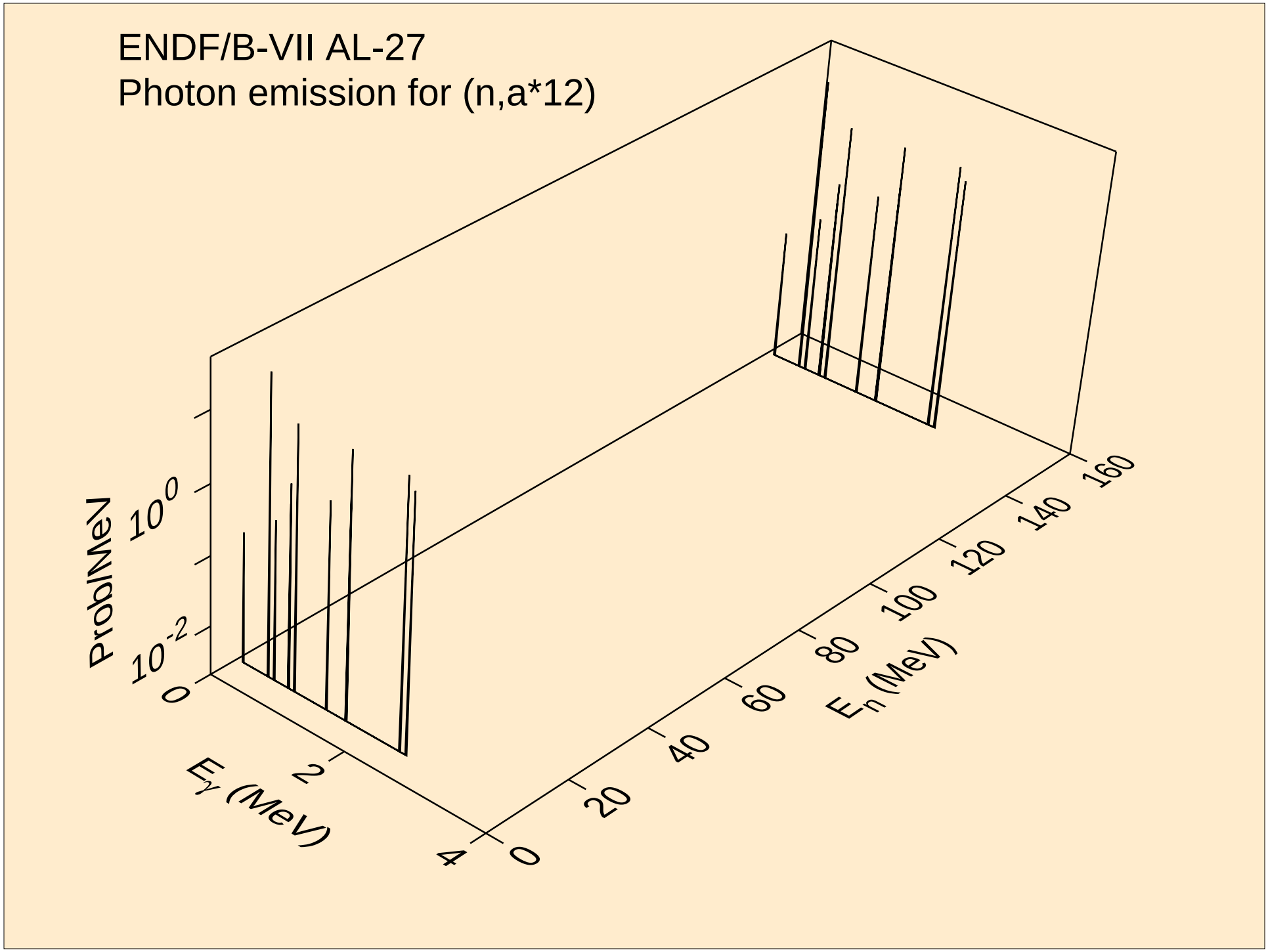

ENDF/B-VII AL-27
Photon emission for (n,a*8)
Prob/MeV
10^0
10^{-2}
0
1
2
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

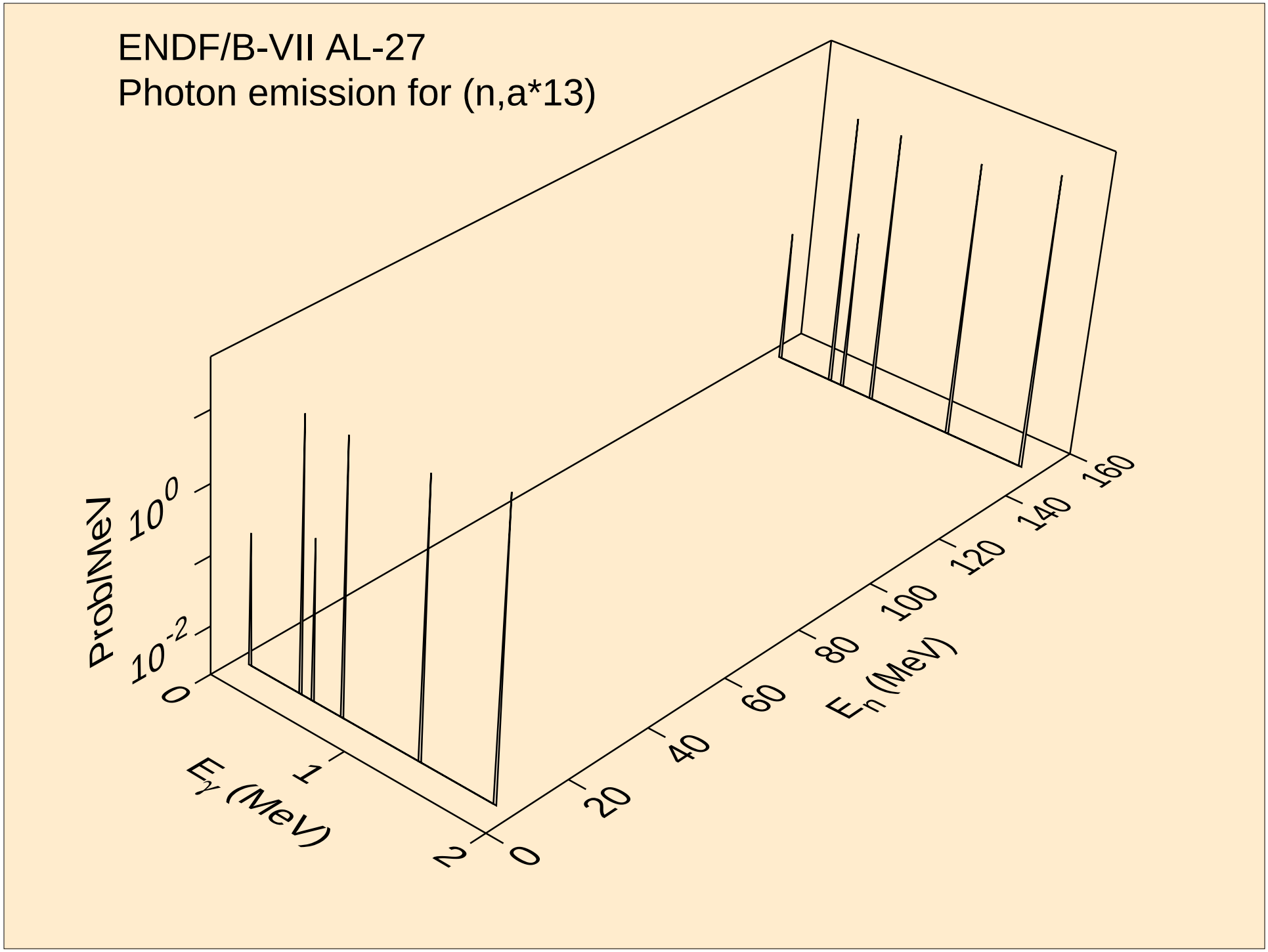
ENDF/B-VII AL-27
Photon emission for (n,a*9)

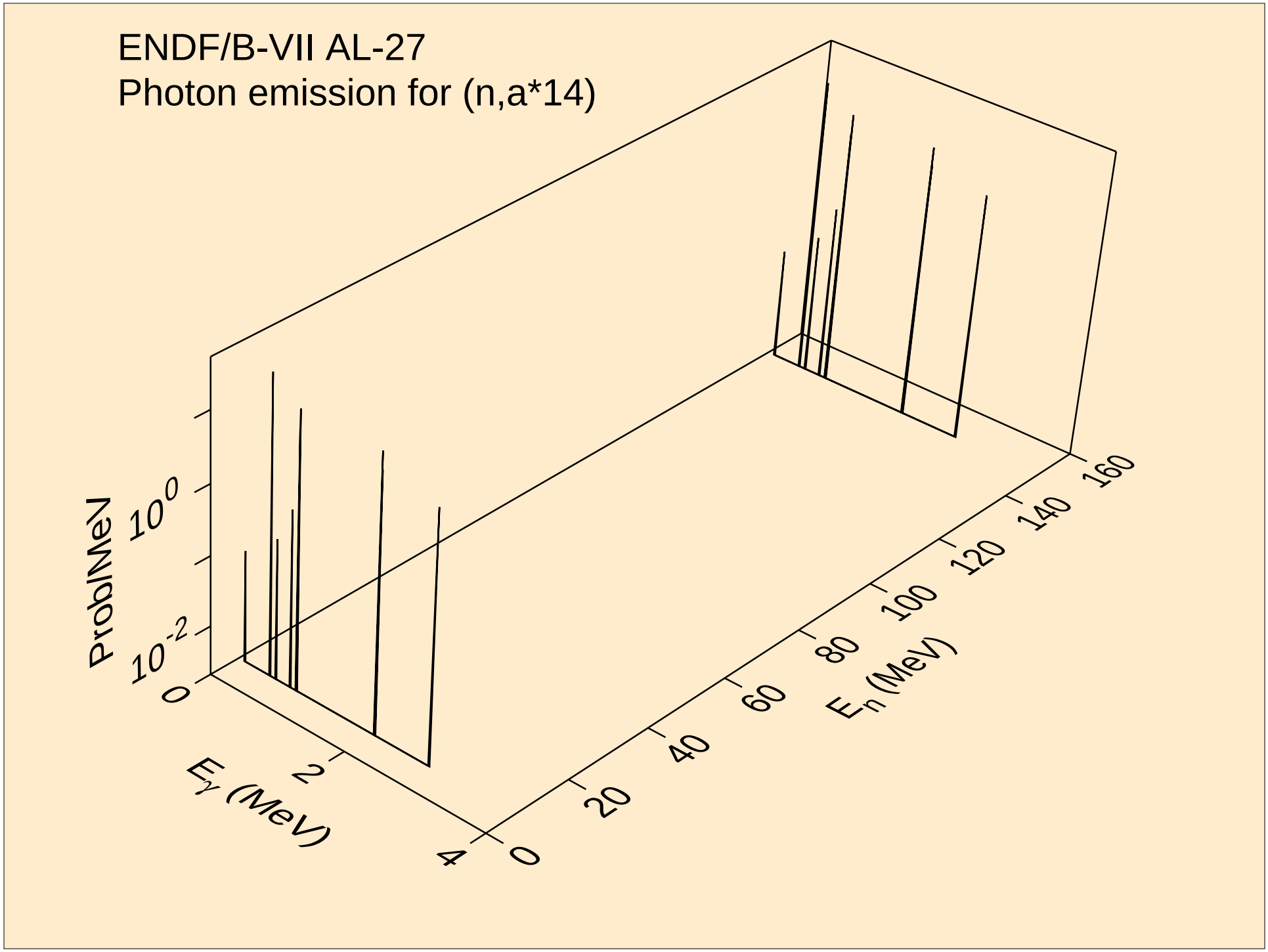


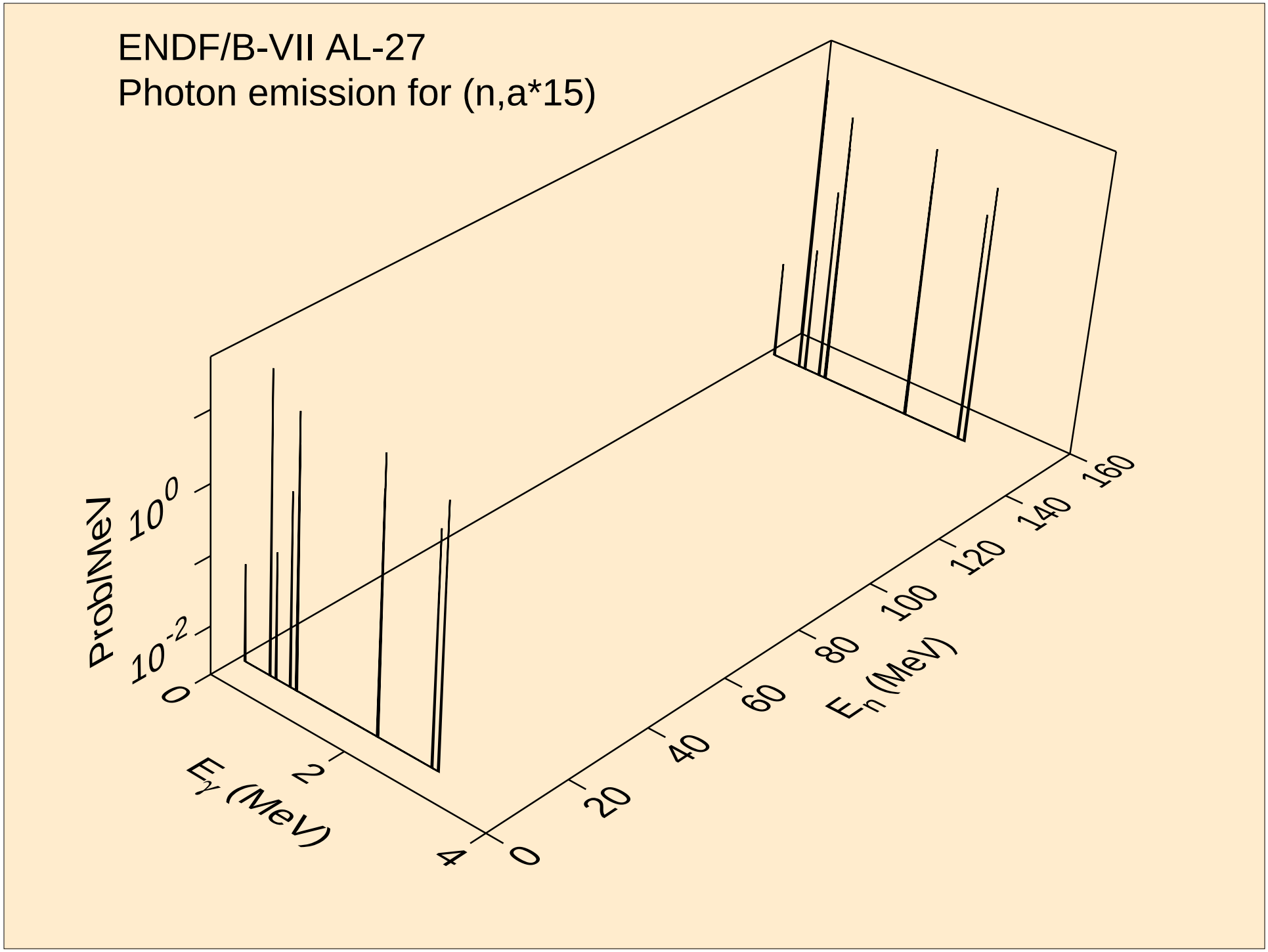

ENDF/B-VII AL-27
Photon emission for (n,a*10)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

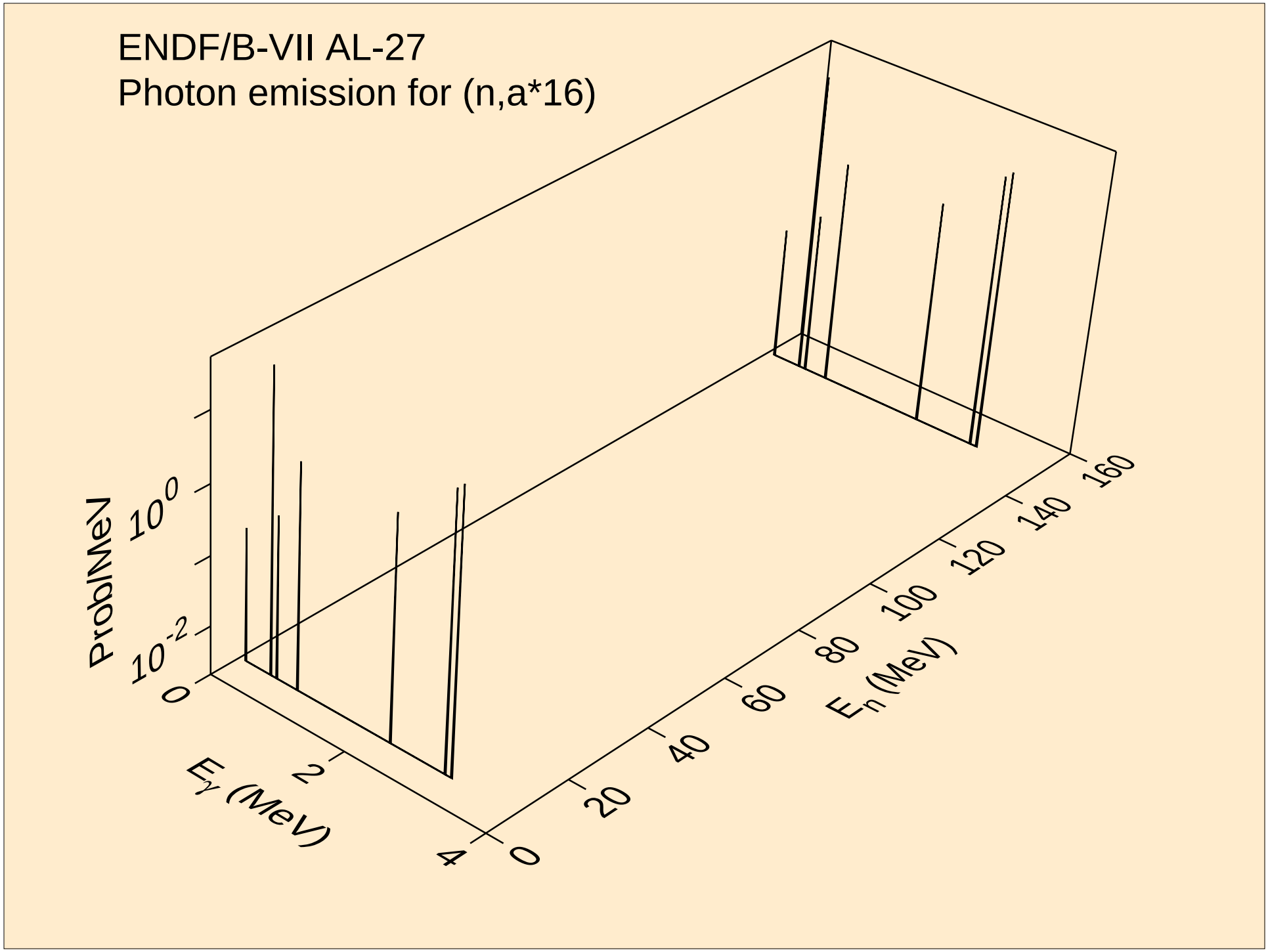

ENDF/B-VII AL-27
Photon emission for (n,a*11)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,a*12)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

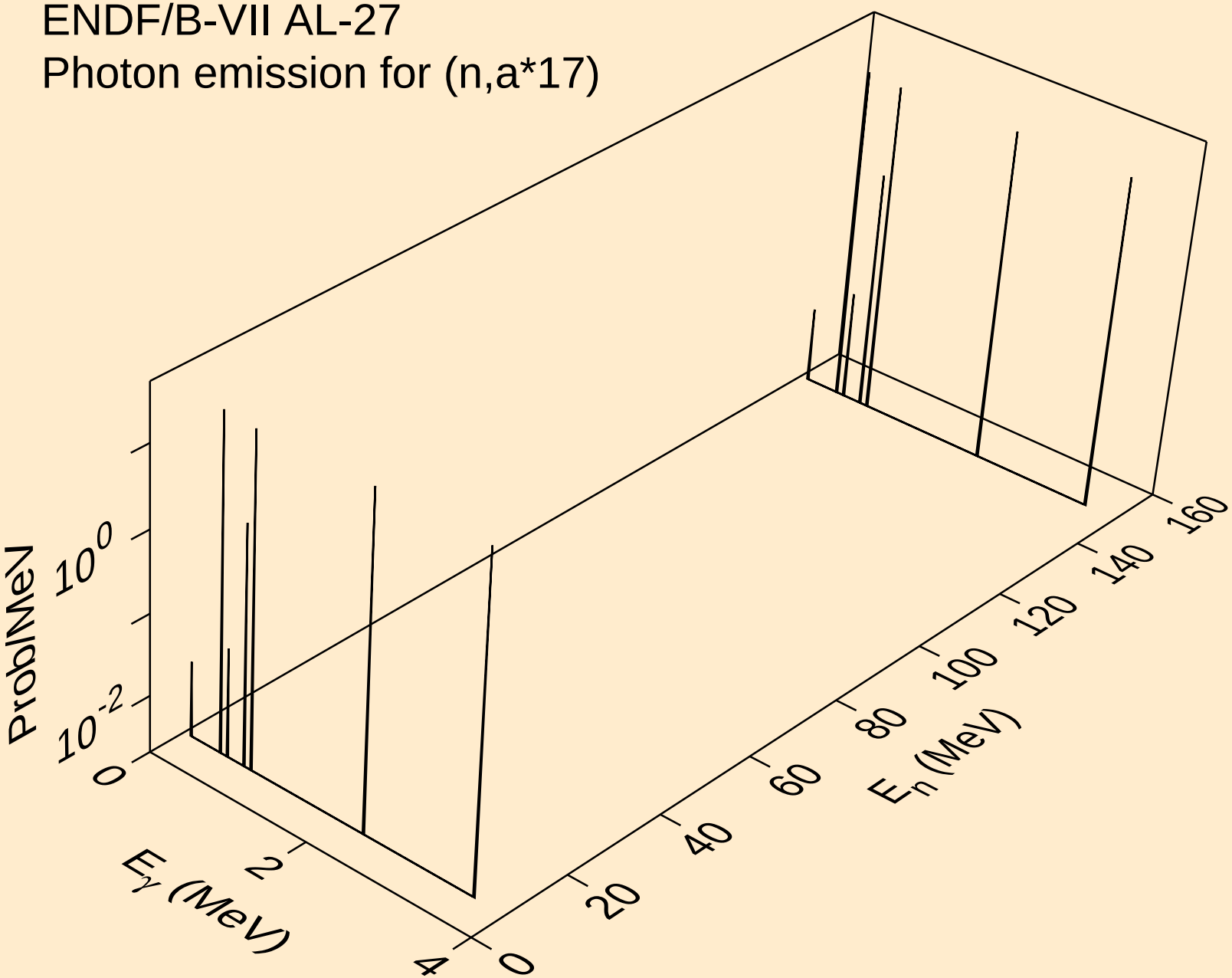

ENDF/B-VII AL-27
Photon emission for (n,a*13)
Prob/MeV
10^0
10^{-2}
0
1
2
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

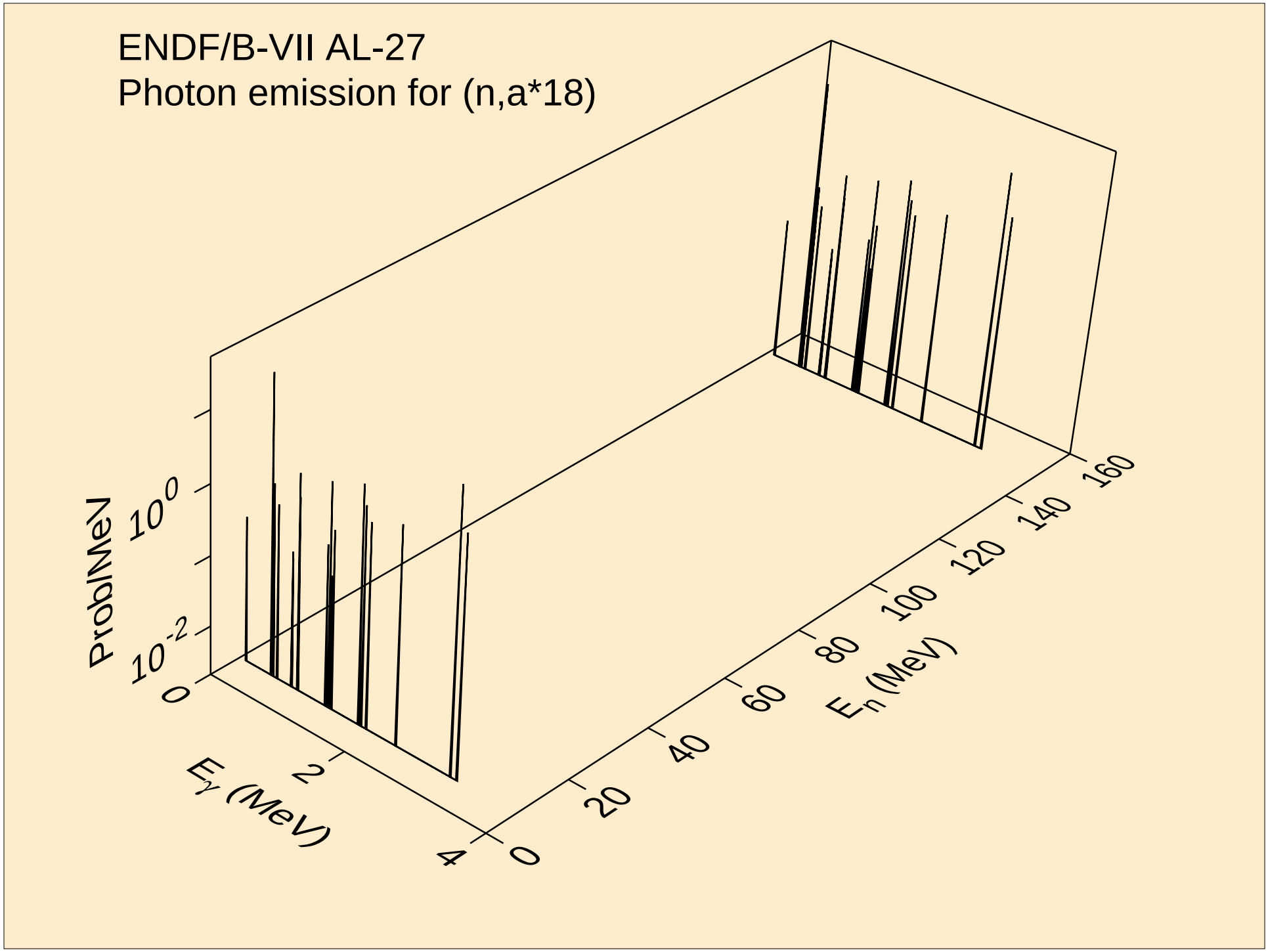

ENDF/B-VII AL-27
Photon emission for (n,a*14)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


ENDF/B-VII AL-27
Photon emission for (n,a*15)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

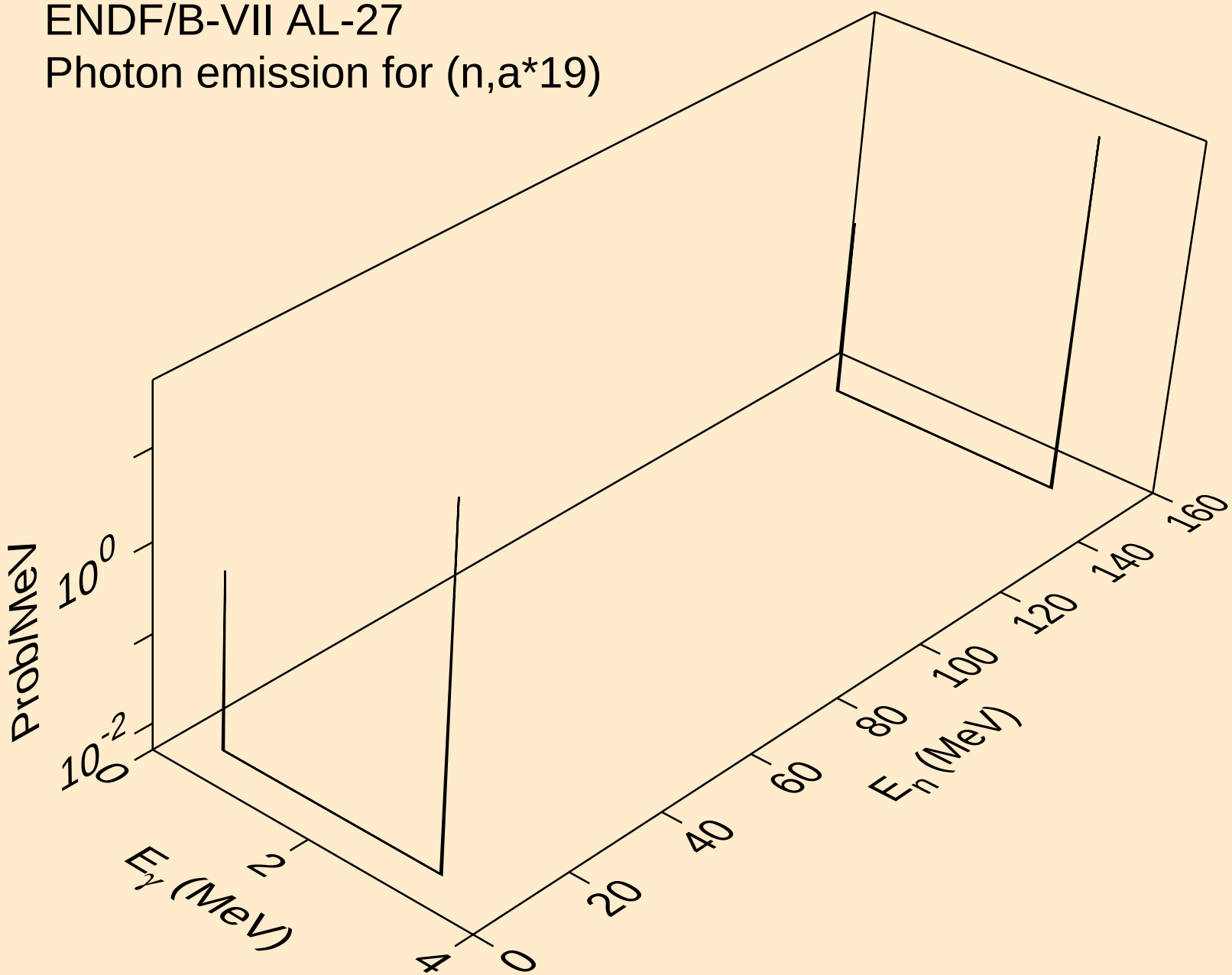

ENDF/B-VII AL-27
Photon emission for (n,a*16)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

ENDF/B-VII AL-27
Photon emission for (n,a*17)

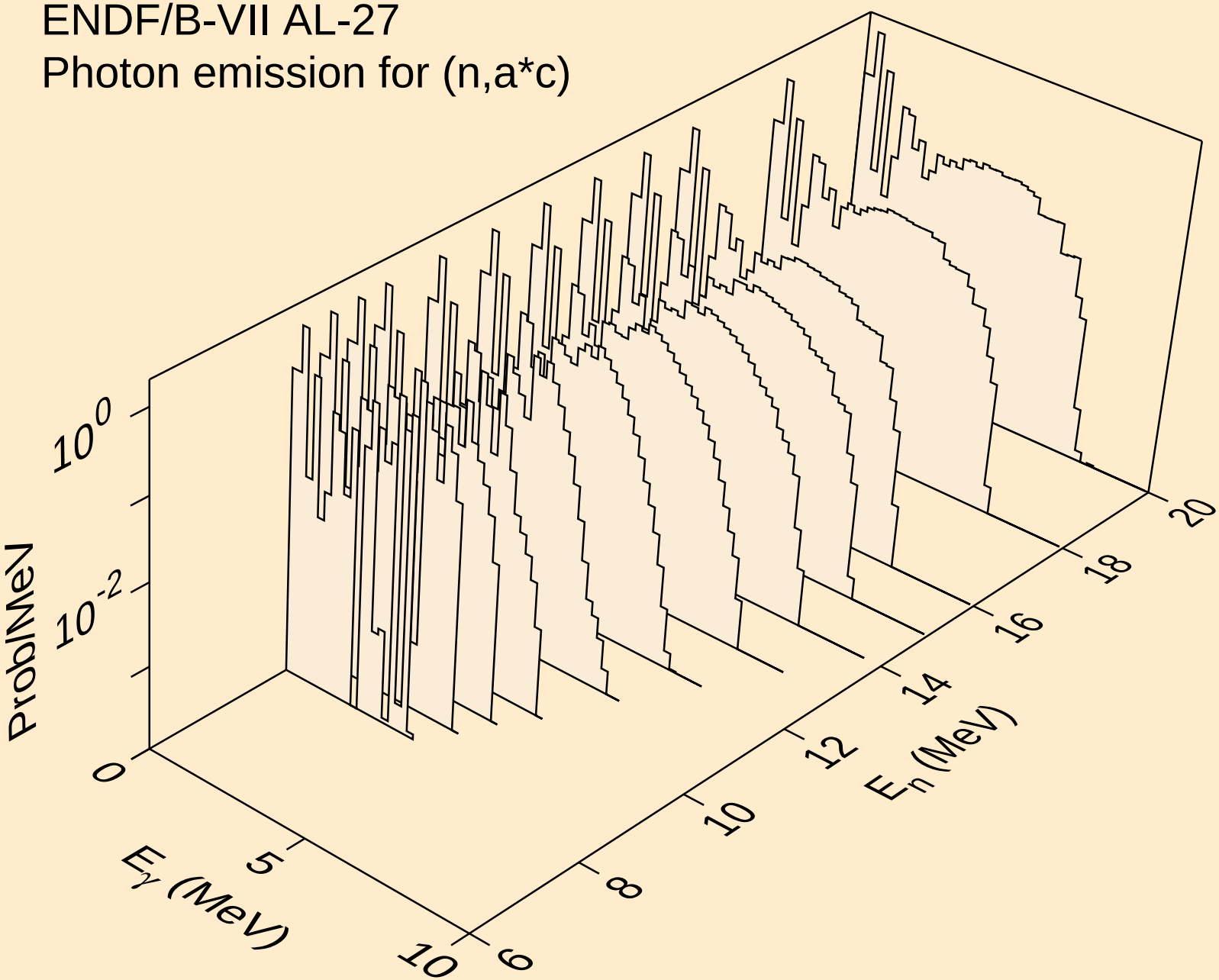


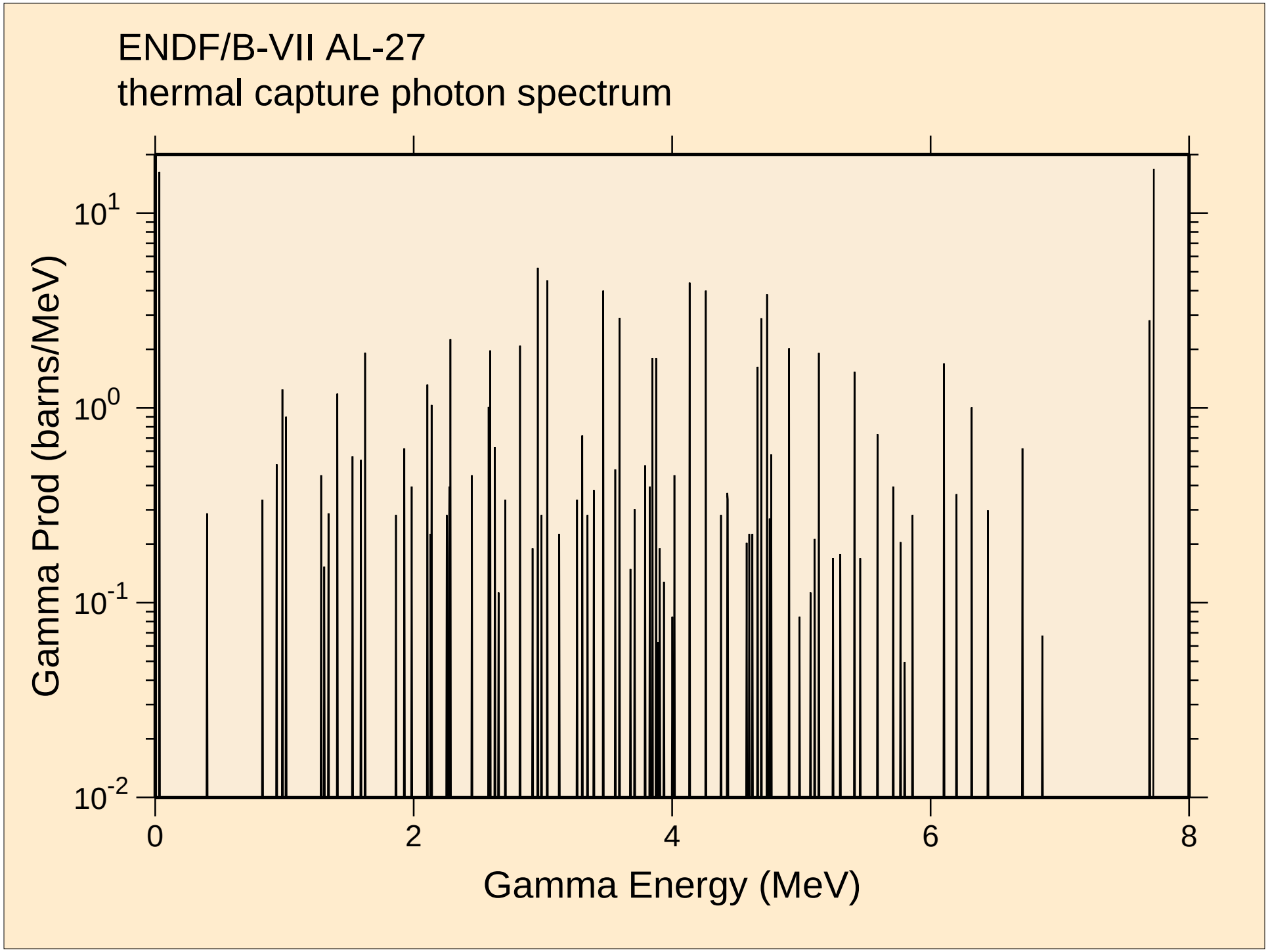

ENDF/B-VII AL-27
Photon emission for (n,a*18)
Prob/MeV
10^0
10^{-2}
0
2
4
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

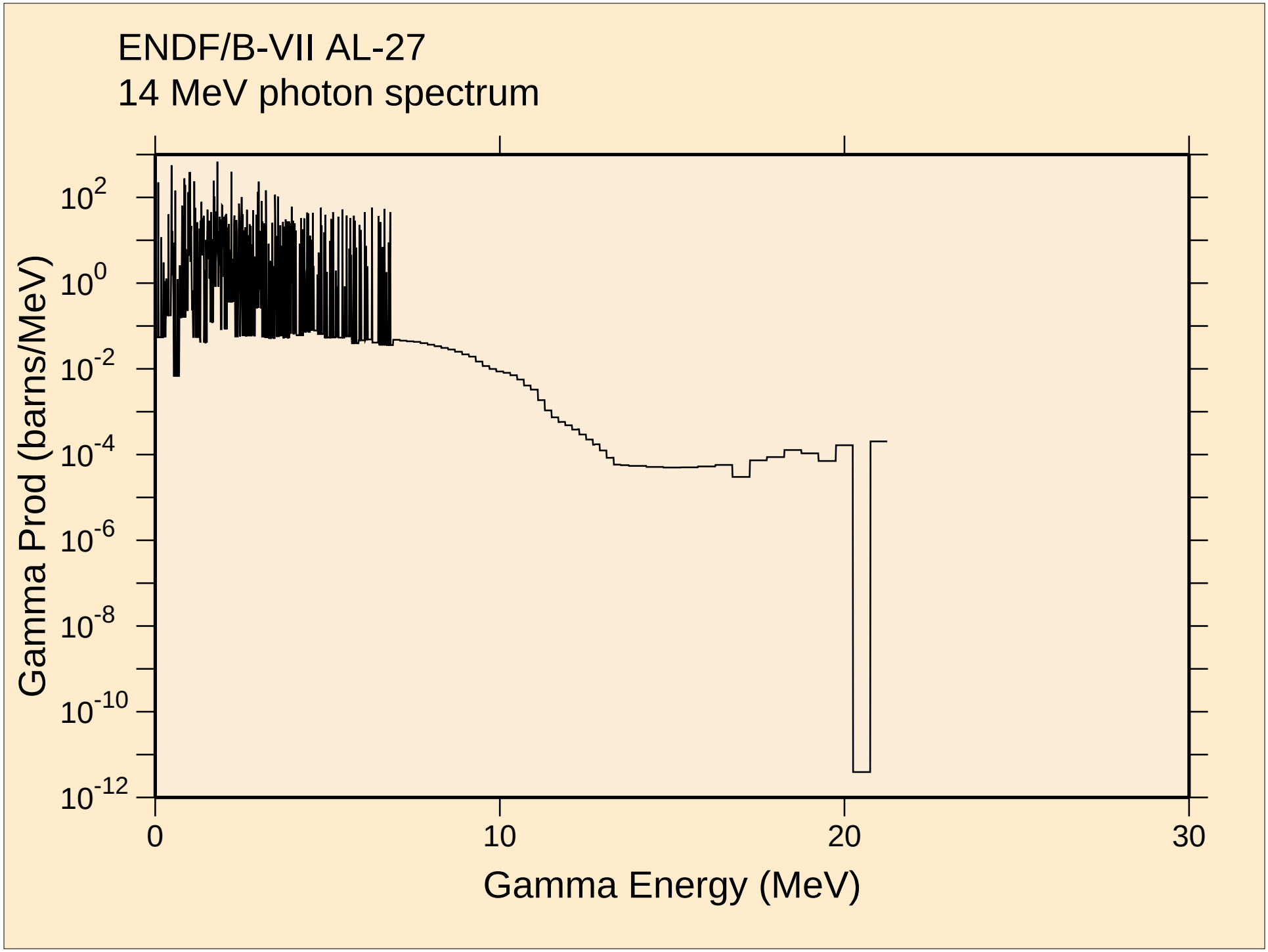
ENDF/B-VII AL-27
Photon emission for (n,a*19)

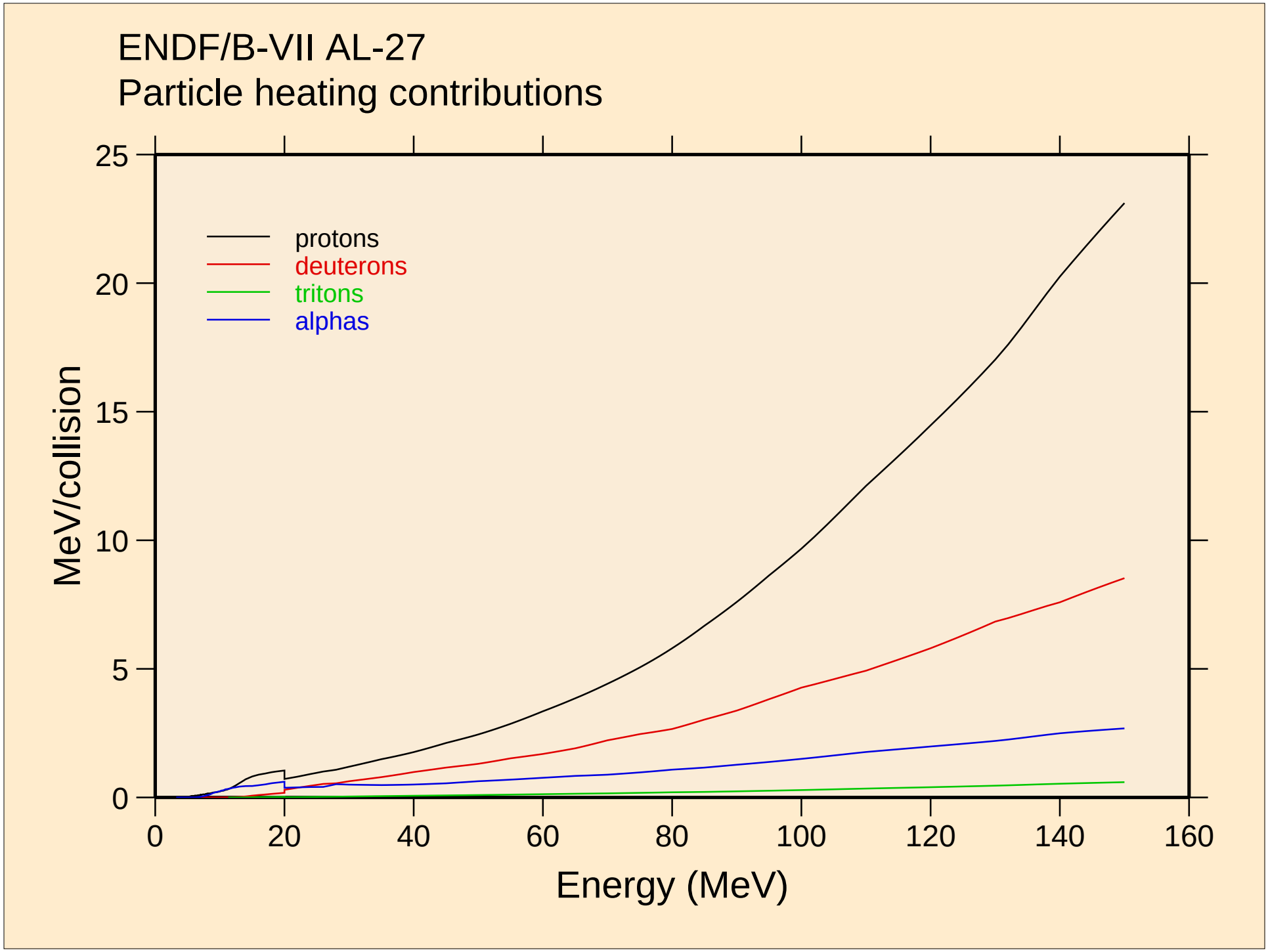


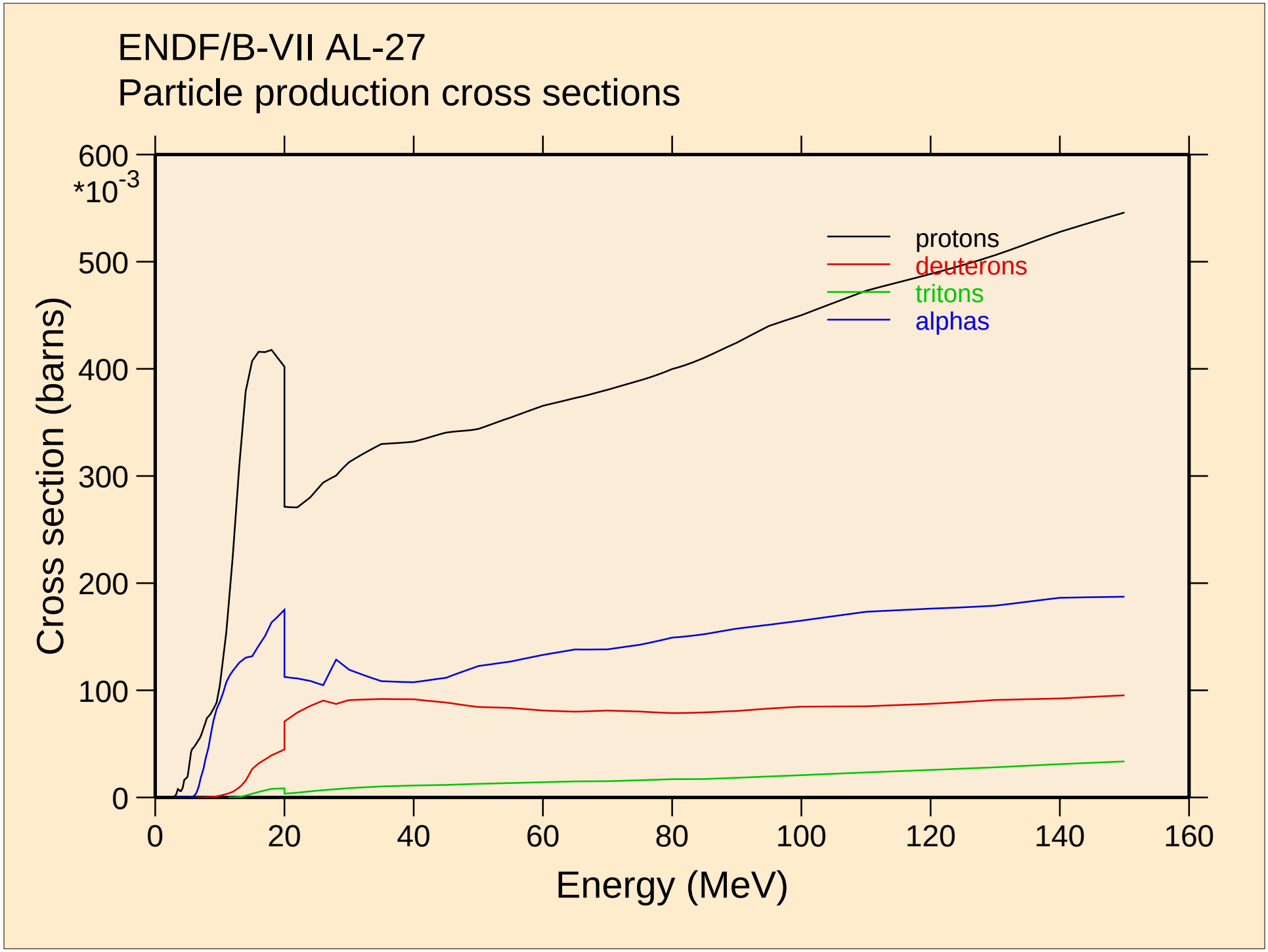
ENDF/B-VII AL-27
Photon emission for (n,a*c)

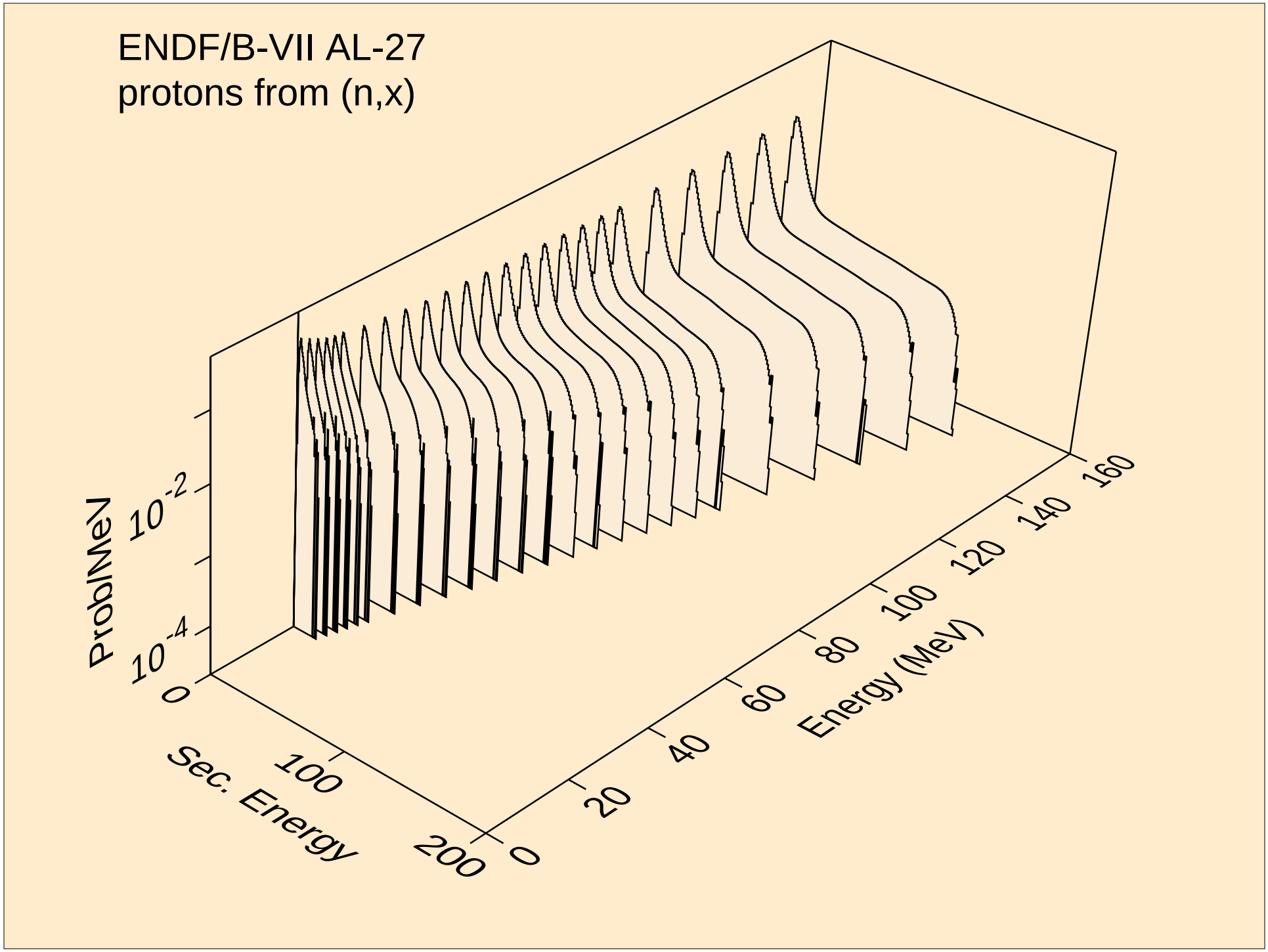


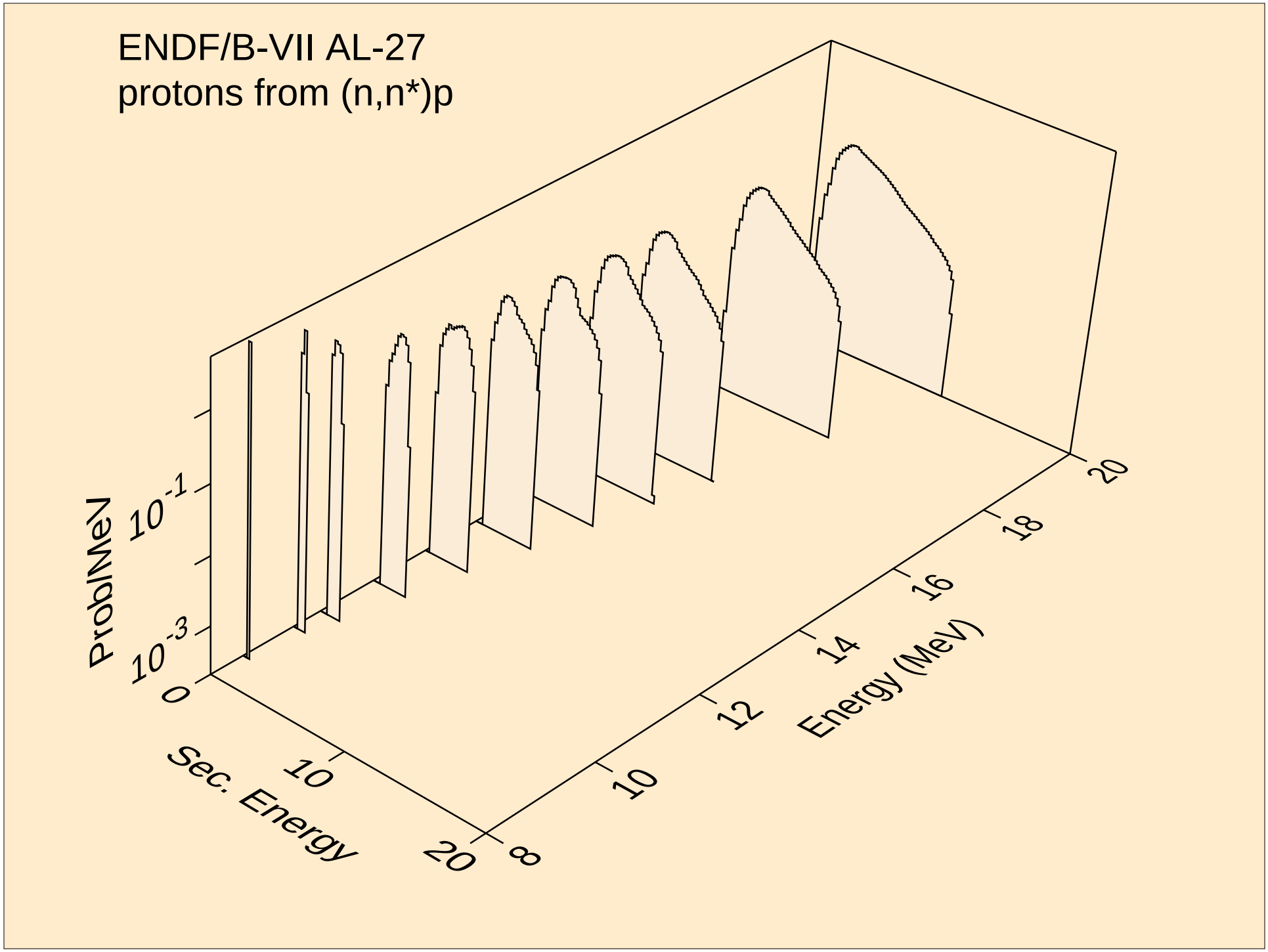

ENDF/B-VII AL-27
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^{1}
10^{0}
10^{-1}
10^{-2}
0
2
4
6
8
Gamma Energy (MeV)

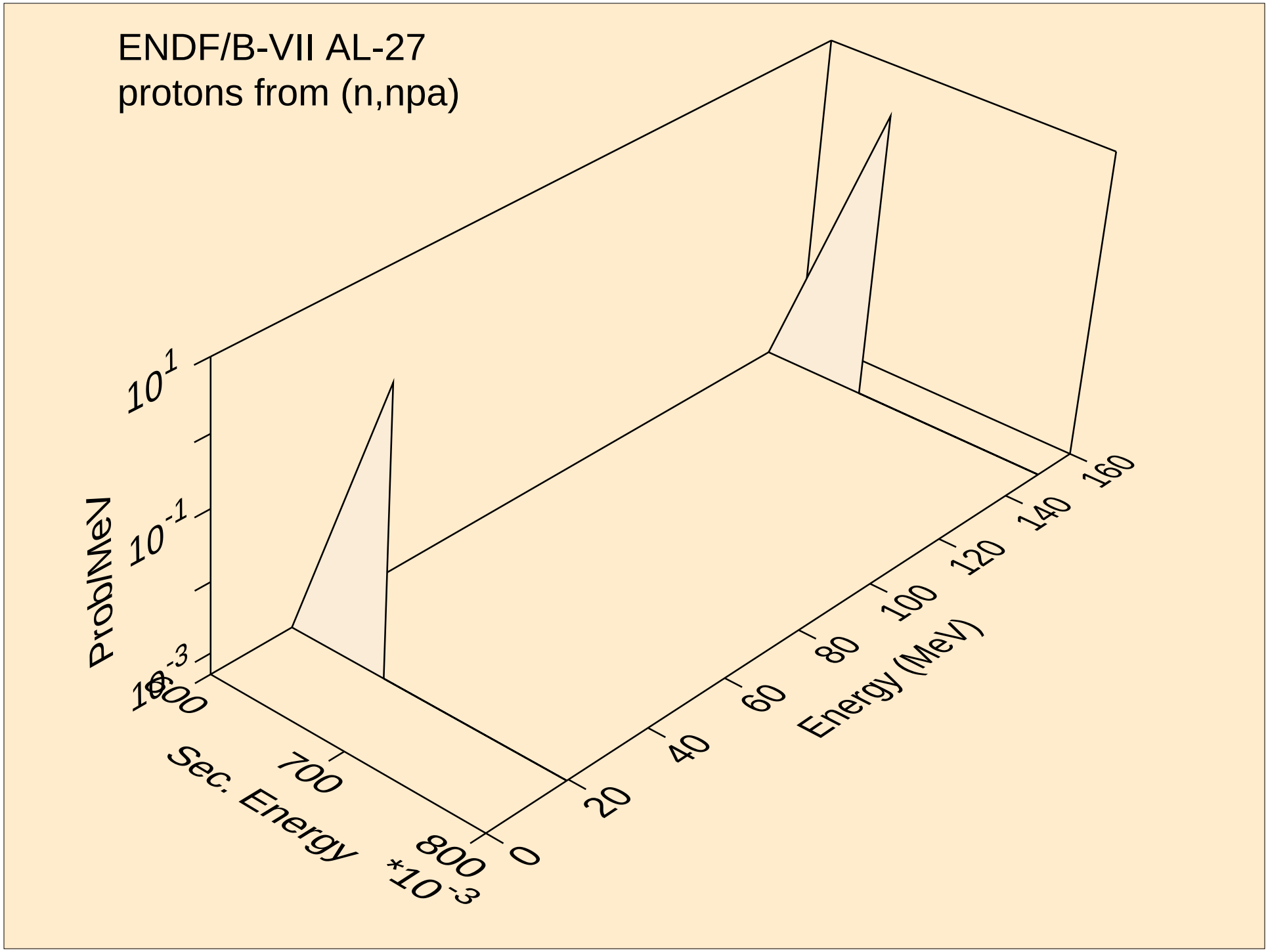

ENDF/B-VII AL-27
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^2
10^0
10^-2
10^-4
10^-6
10^-8
10^-10
10^-12
0
10
20
30
Gamma Energy (MeV)

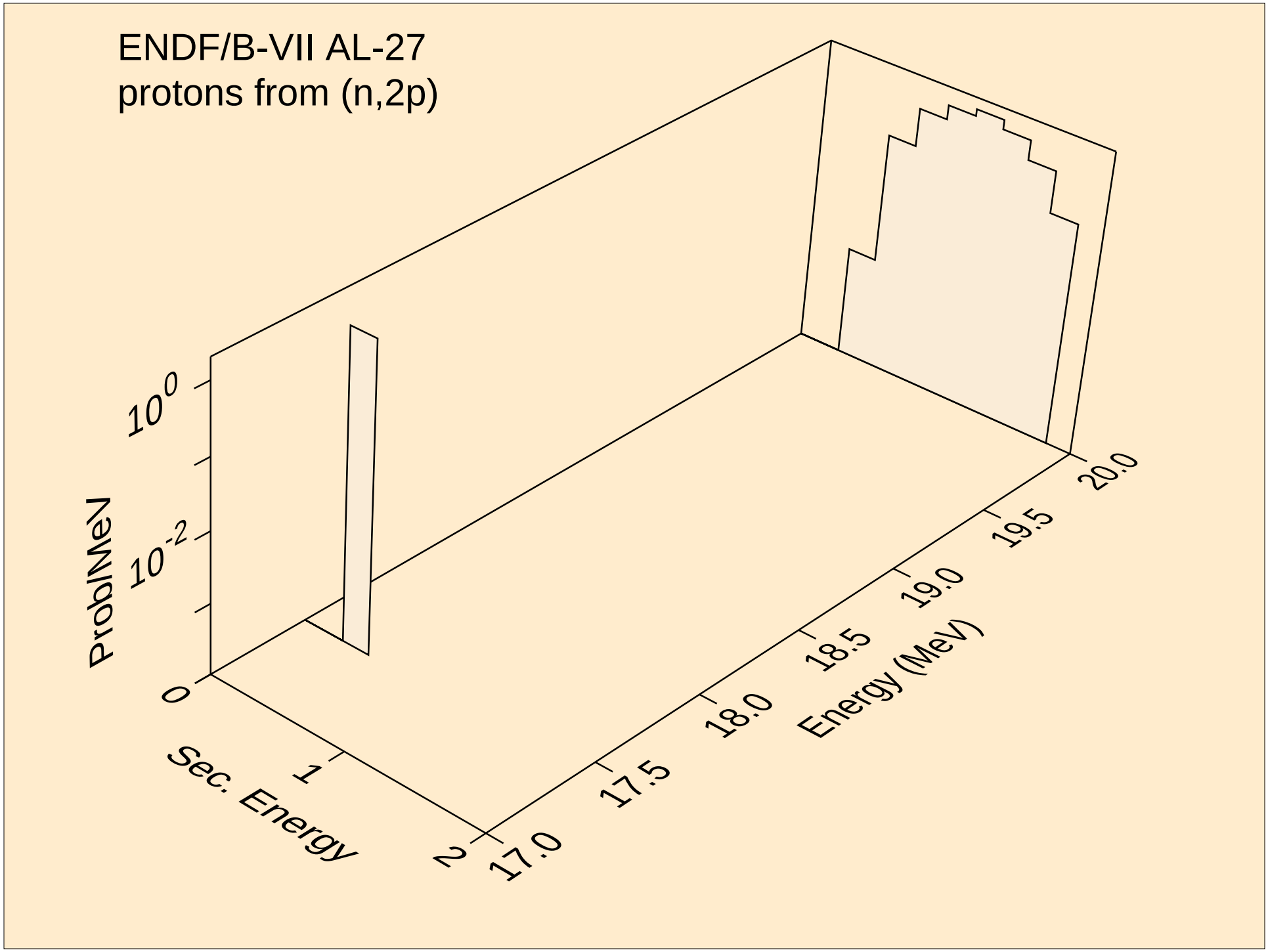

ENDF/B-VII AL-27
Particle heating contributions
protons
deuterons
tritons
alphas
MeV/collision
Energy (MeV)
0
5
10
15
20
25
0
20
40
60
80
100
120
140
160

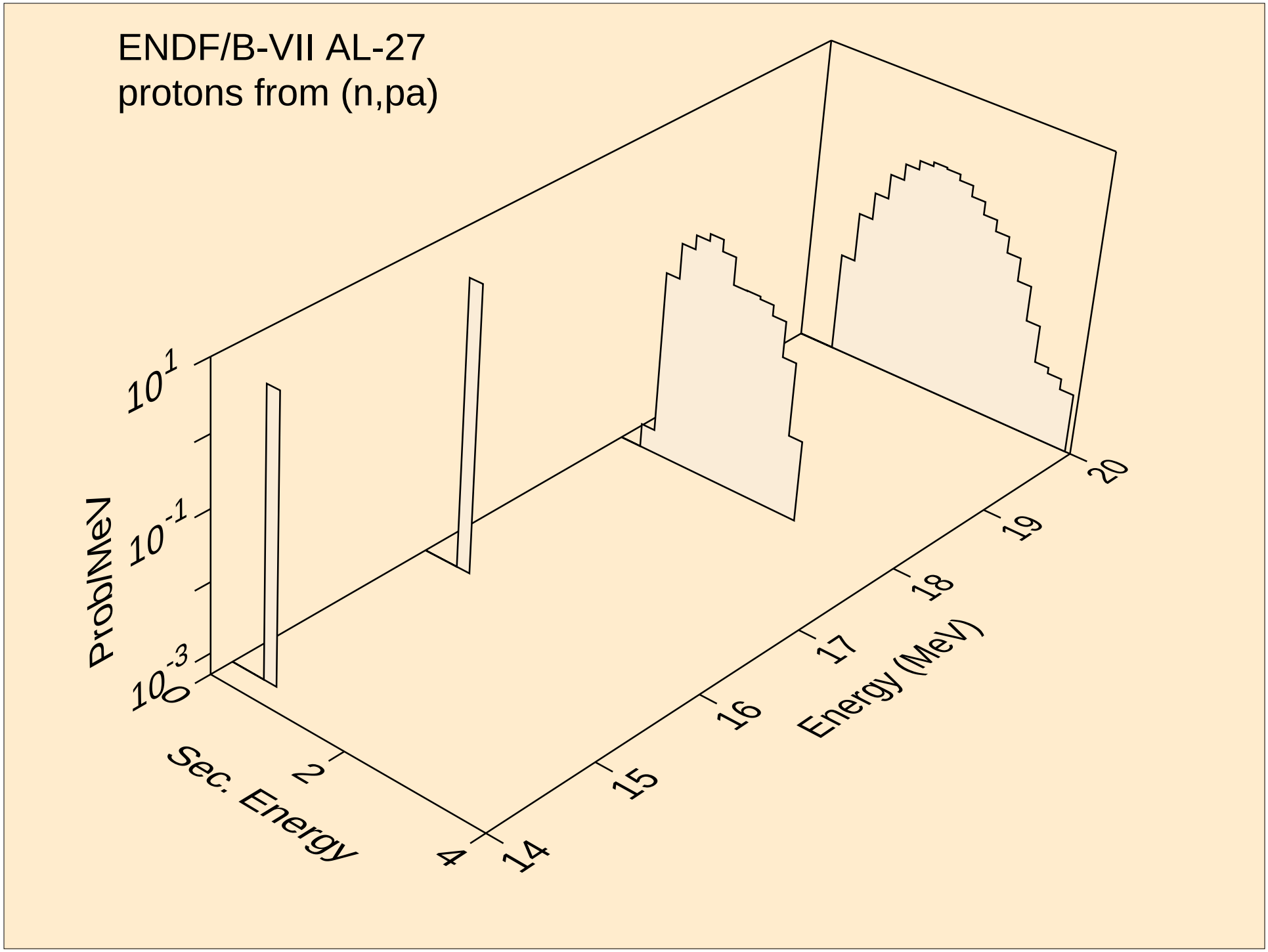

ENDF/B-VII AL-27
Particle production cross sections
Cross section (barns)
*10^-3
600
500
400
300
200
100
0
0
20
40
60
80
100
120
140
160
Energy (MeV)
protons
deuterons
tritons
alphas

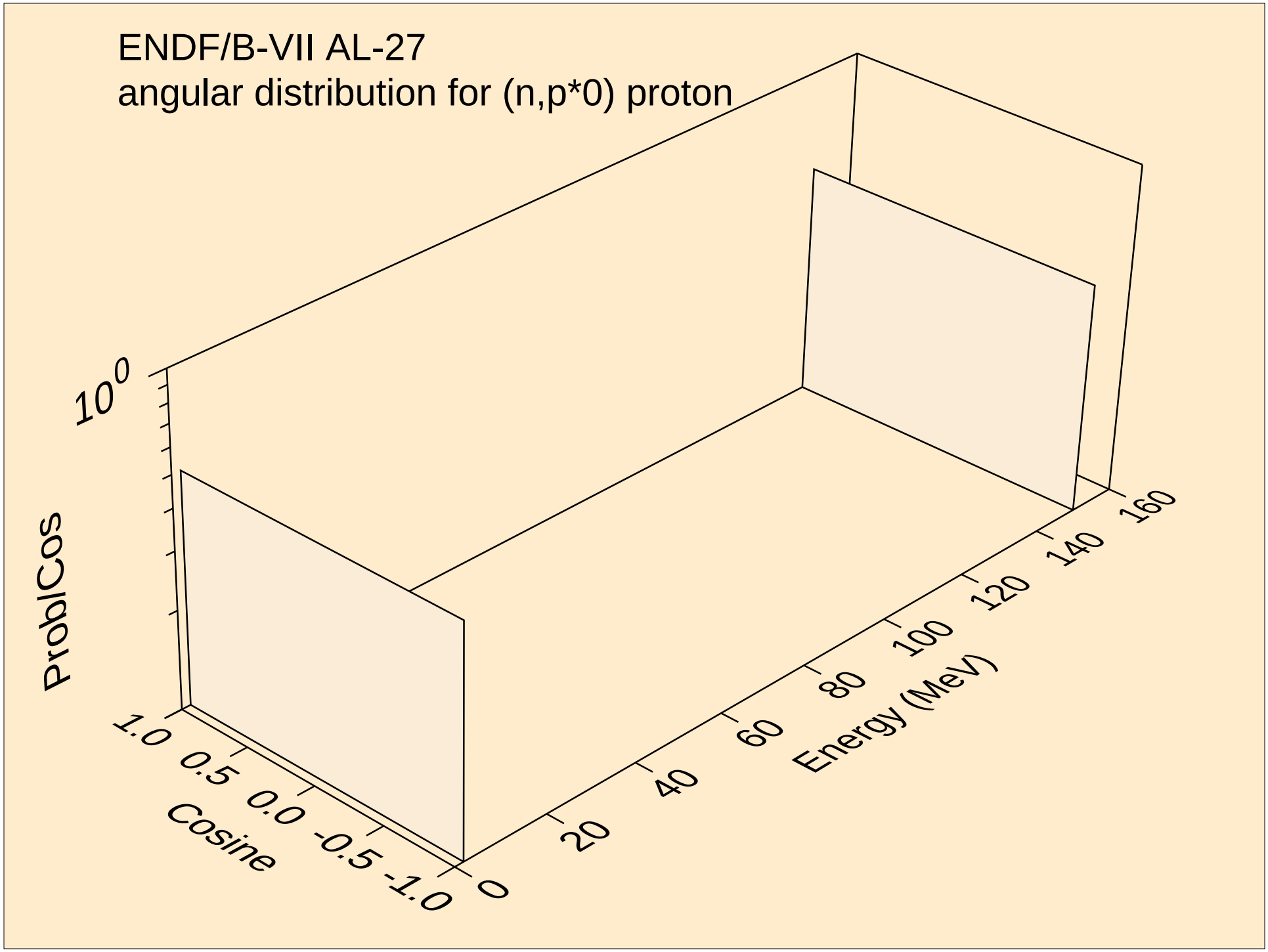

ENDF/B-VII AL-27
protons from (n,x)
Prob/MeV
10^{-2}
10^{-4}
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

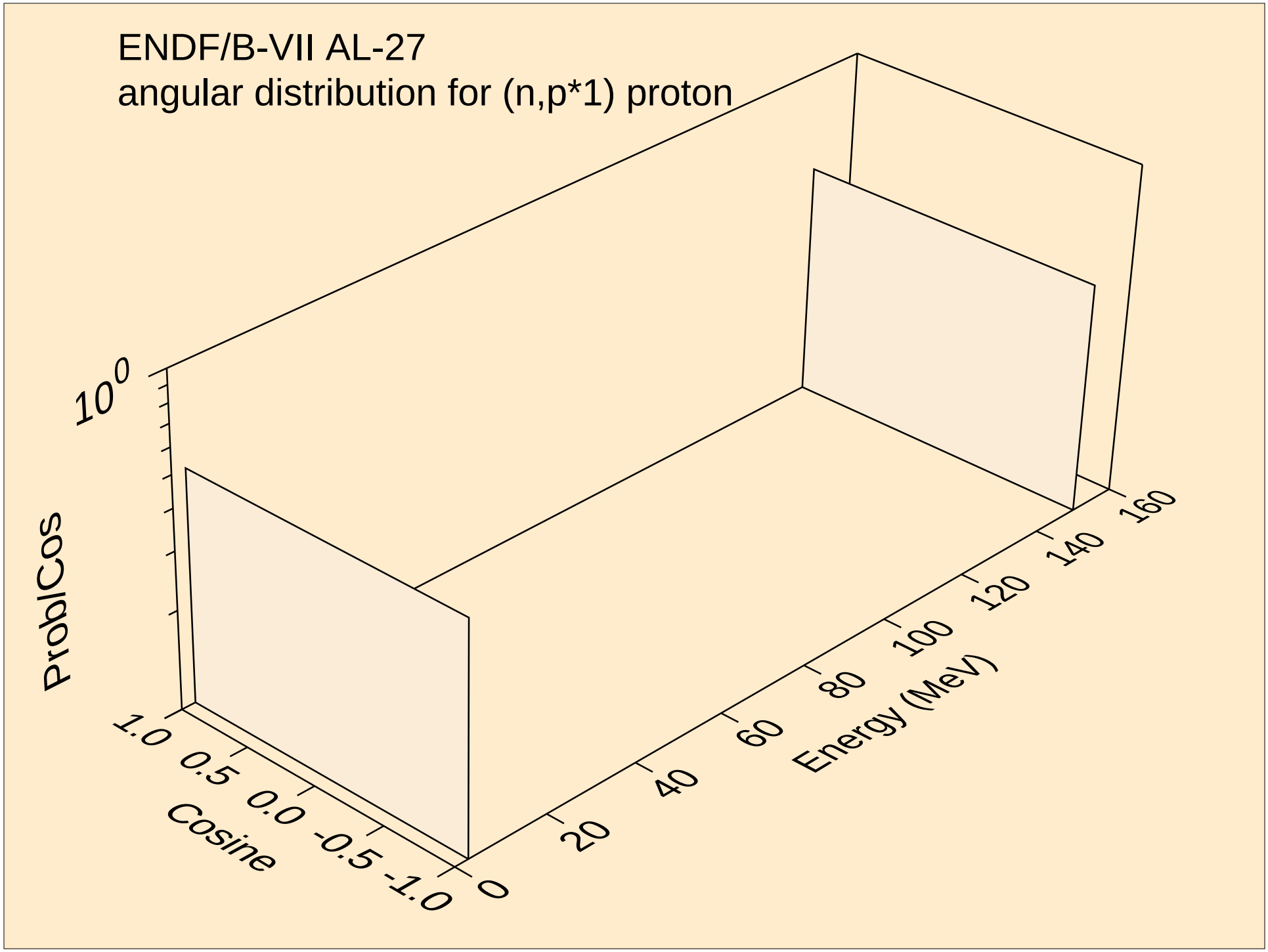

ENDF/B-VII AL-27
protons from (n,n*)p
Prob/MeV
10^-1
10^-3
0
Sec. Energy
10
20
8
10
12
14
16
18
20
Energy (MeV)

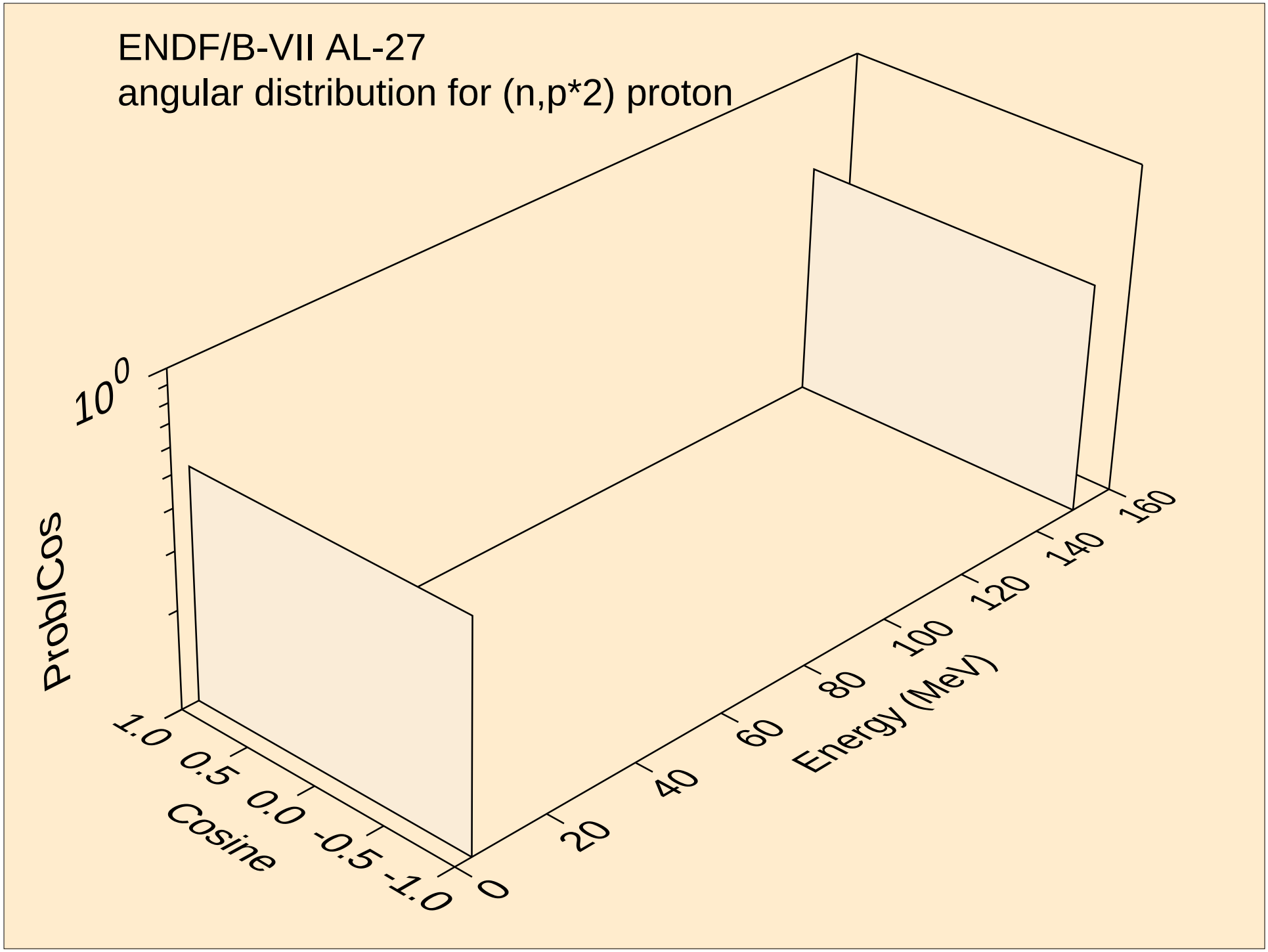

ENDF/B-VII AL-27
protons from (n,npa)
Prob/MeV
10^1
10^-1
10^-3
600
700
800
Sec. Energy
*10^-3
0
20
40
60
80
100
120
140
160
Energy (MeV)

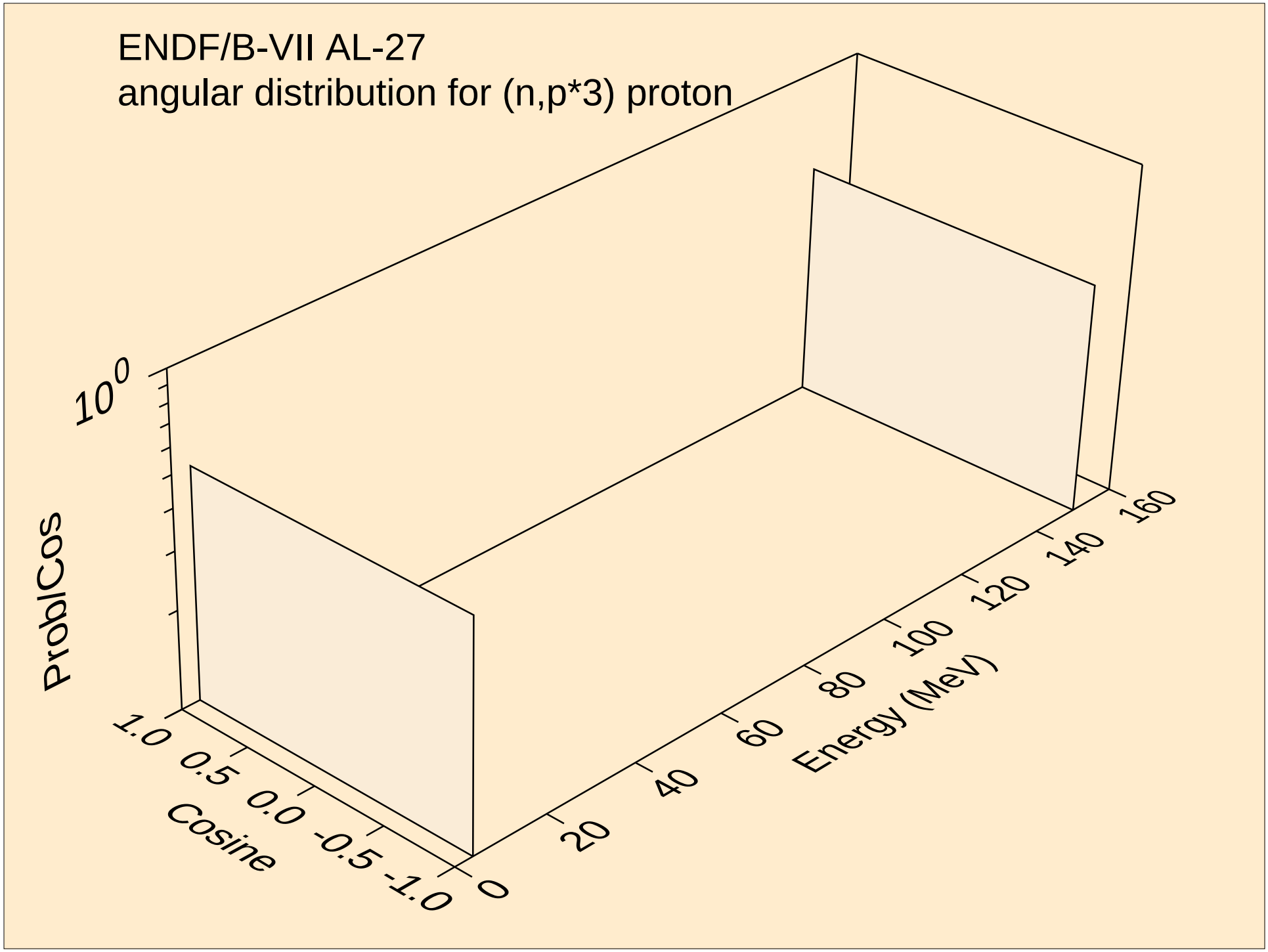

ENDF/B-VII AL-27
protons from (n,2p)
Prob/MeV
10^0
10^{-2}
0
1
2
Sec. Energy
17.0
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

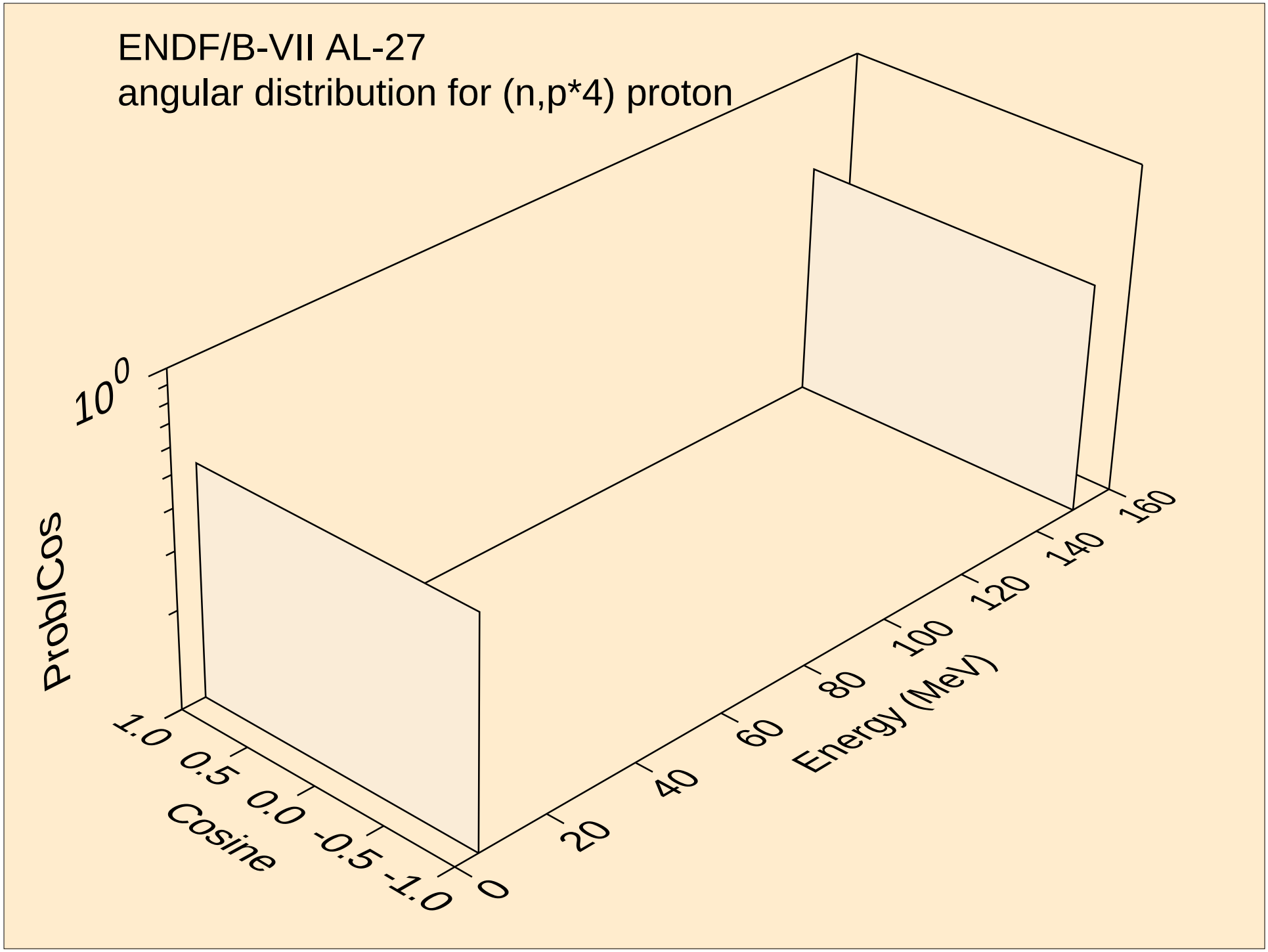

ENDF/B-VII AL-27
protons from (n,pa)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
2
4
Sec. Energy
14
15
16
17
18
19
20
Energy (MeV)

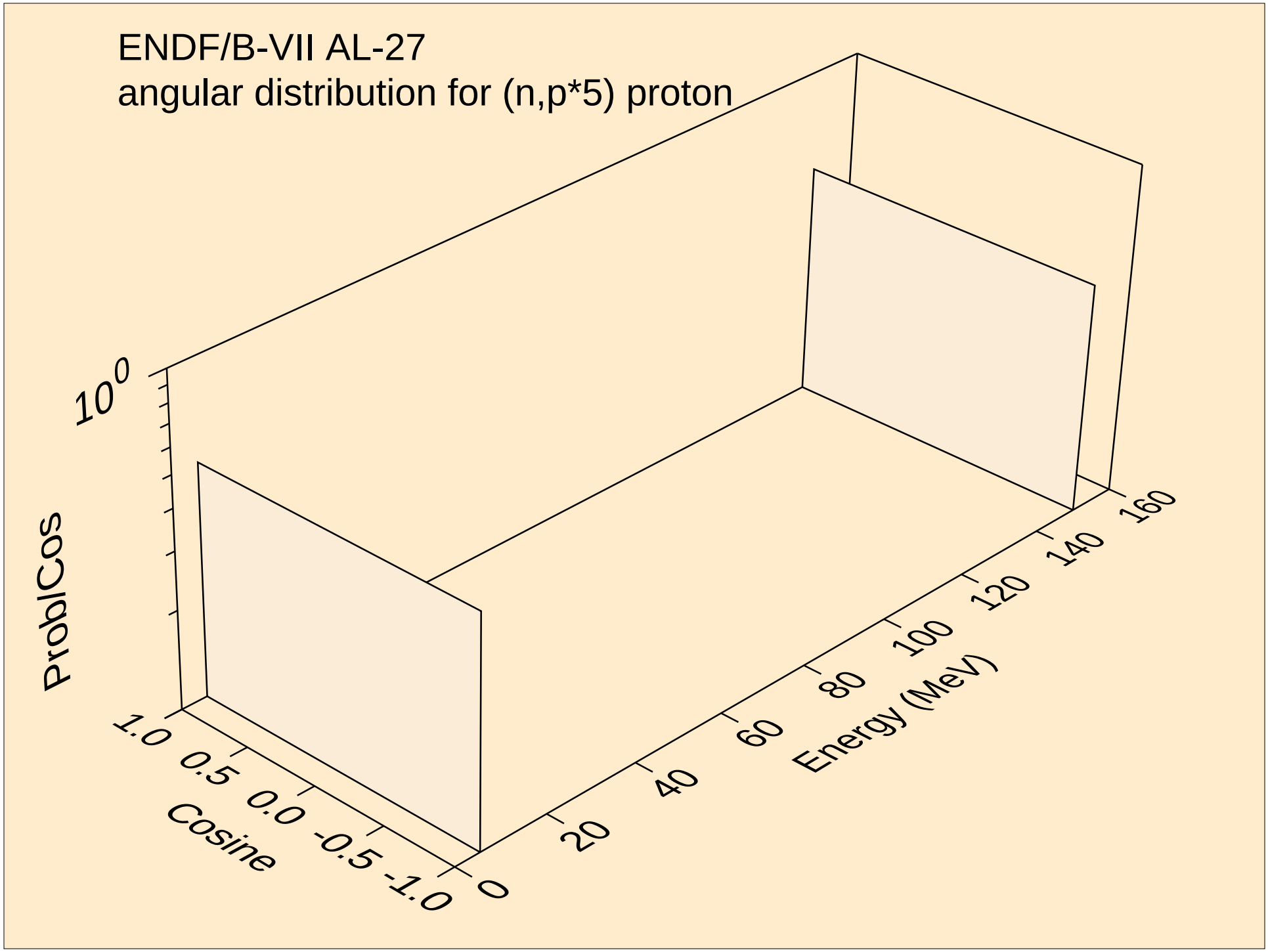

ENDF/B-VII AL-27
angular distribution for (n,p*0) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

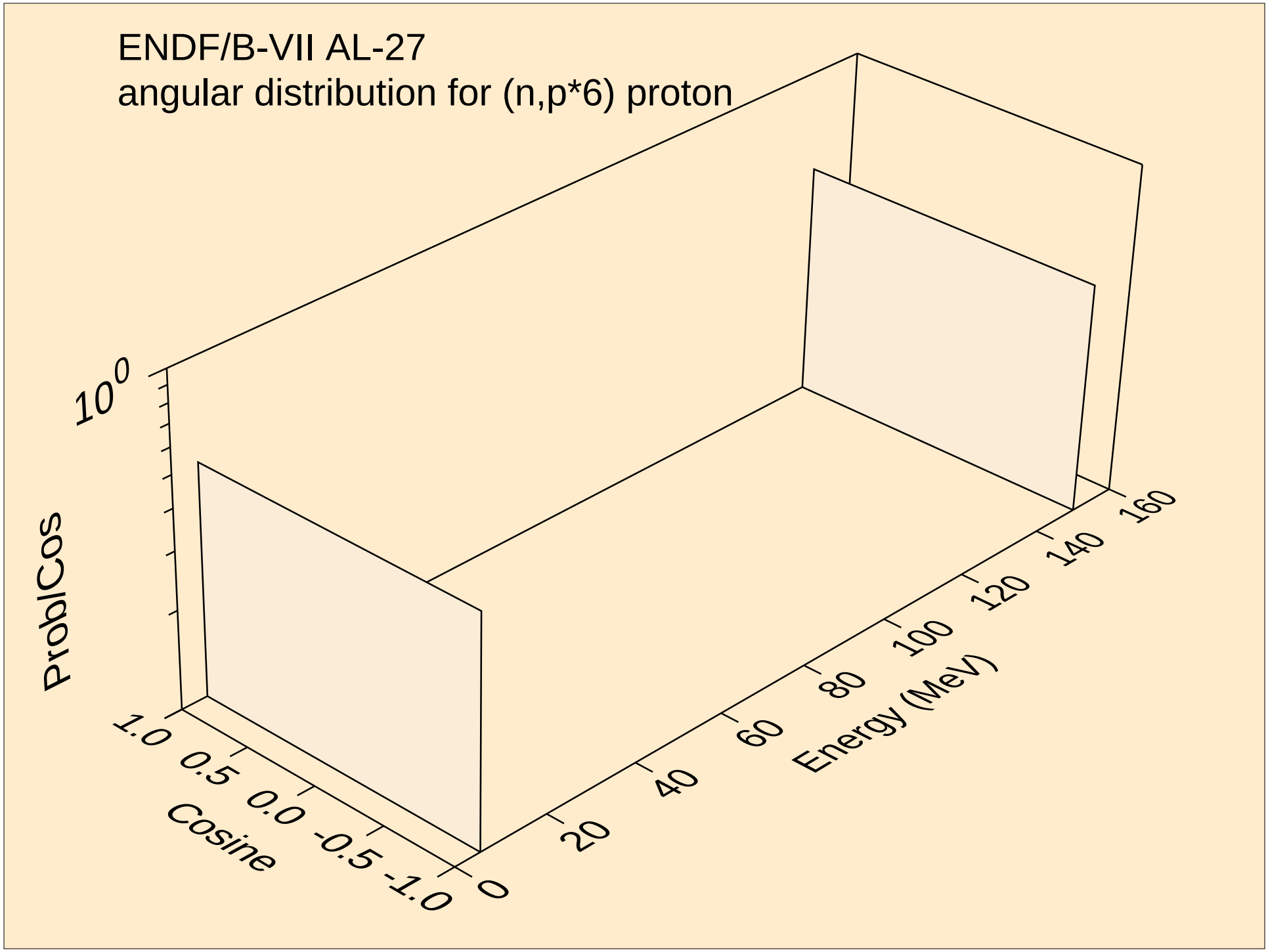

ENDF/B-VII AL-27
angular distribution for (n,p*1) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

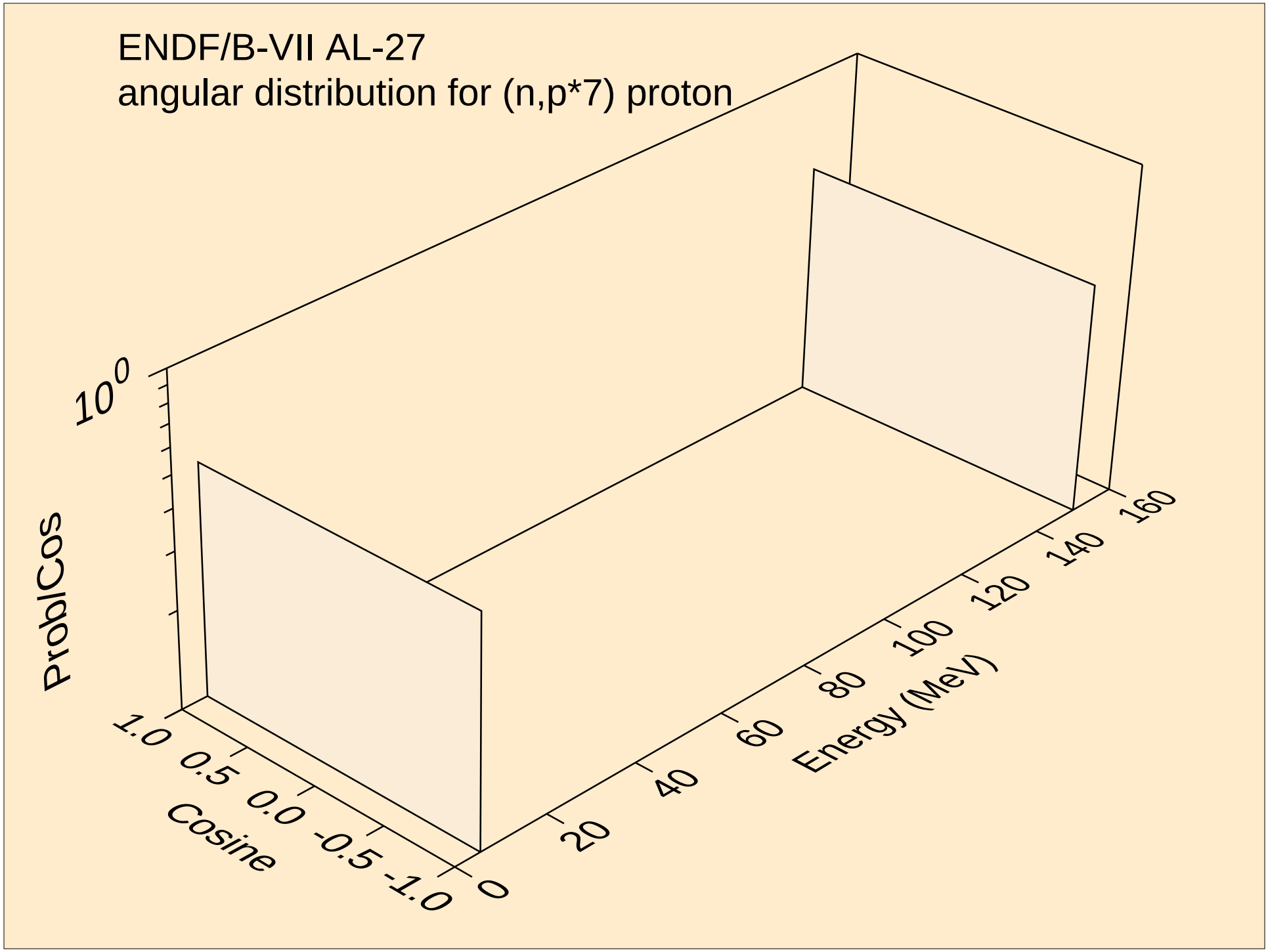

ENDF/B-VII AL-27
angular distribution for (n,p*2) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

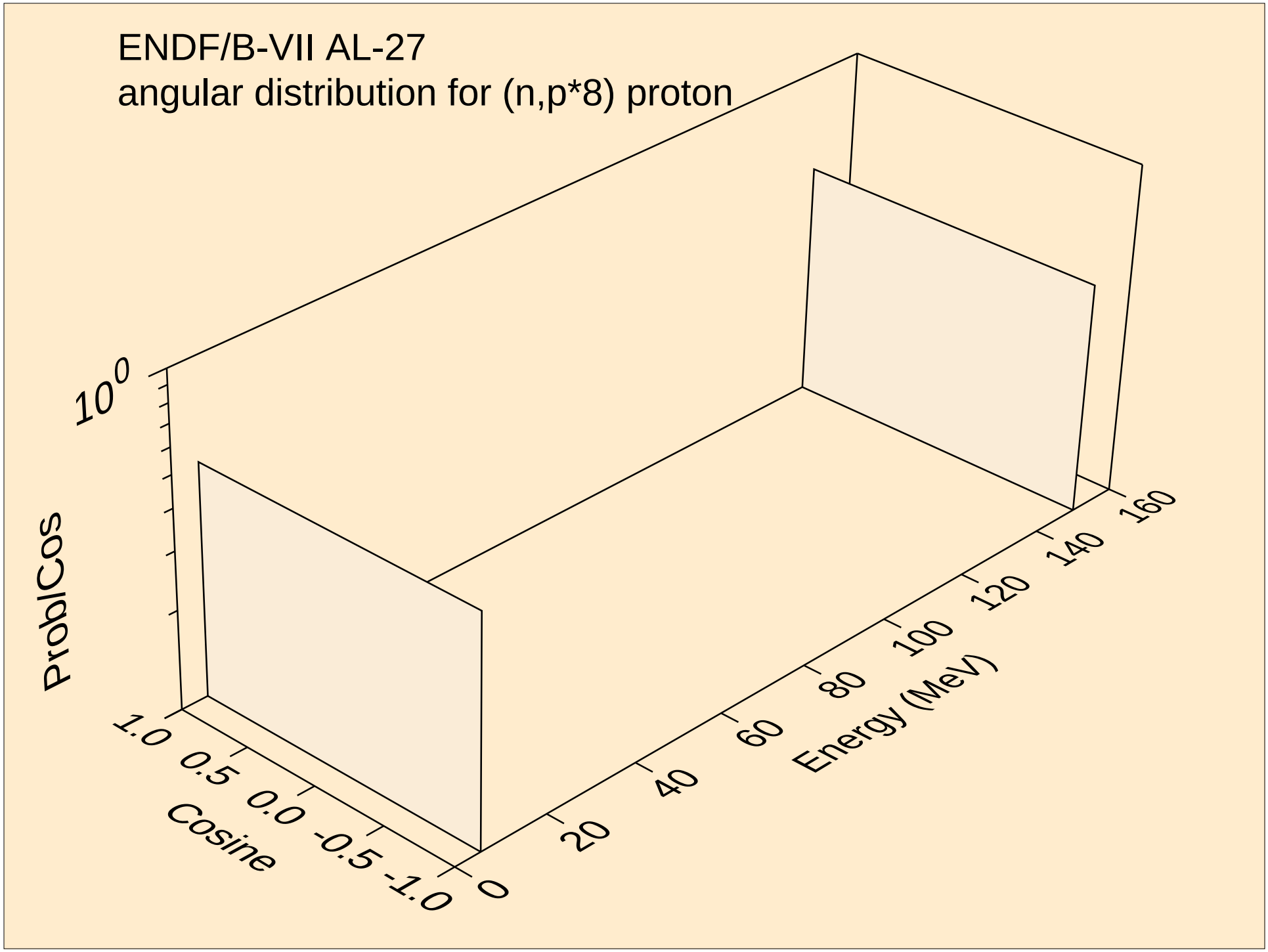

ENDF/B-VII AL-27
angular distribution for (n,p*3) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

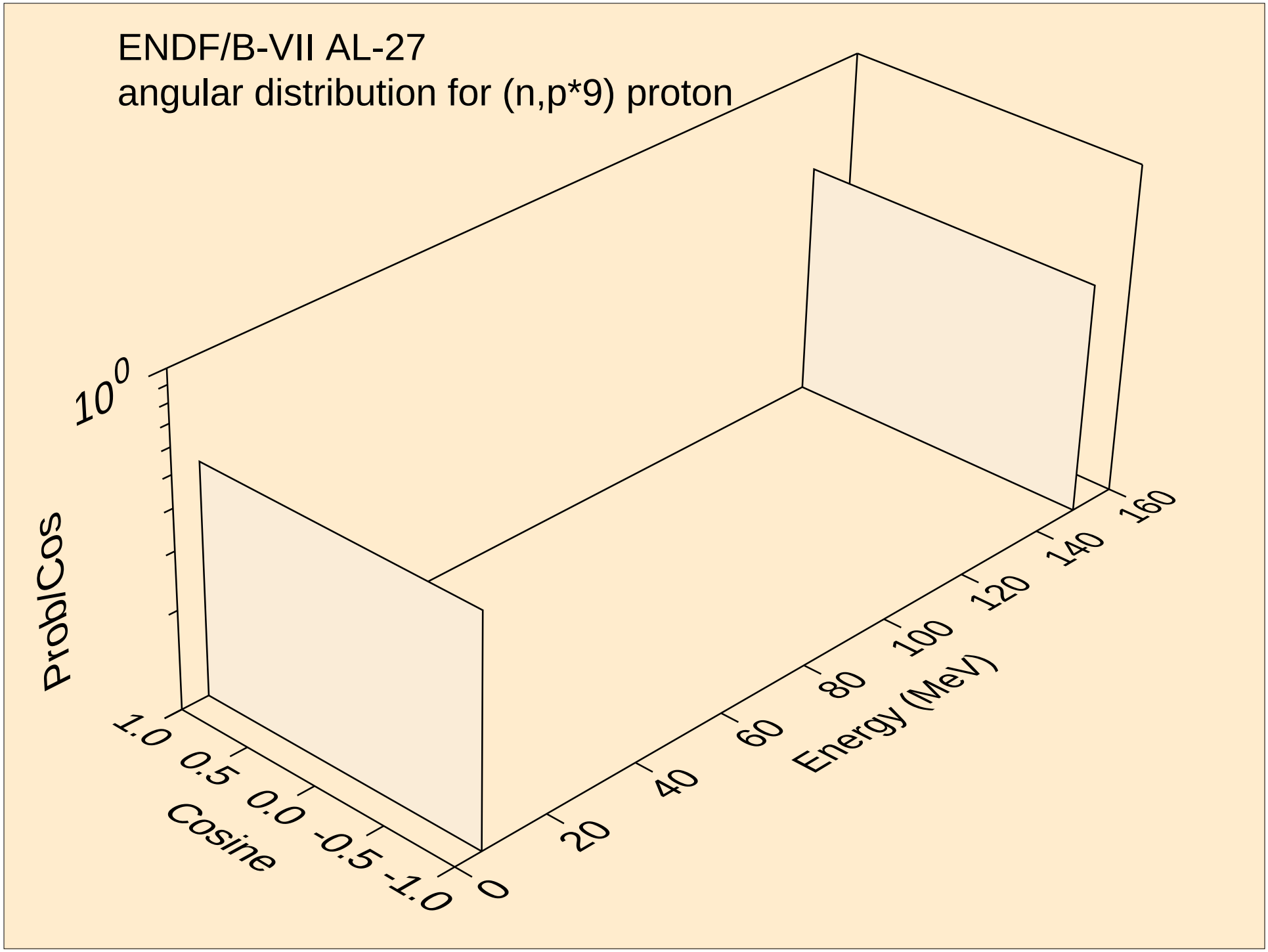

ENDF/B-VII AL-27
angular distribution for (n,p*4) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

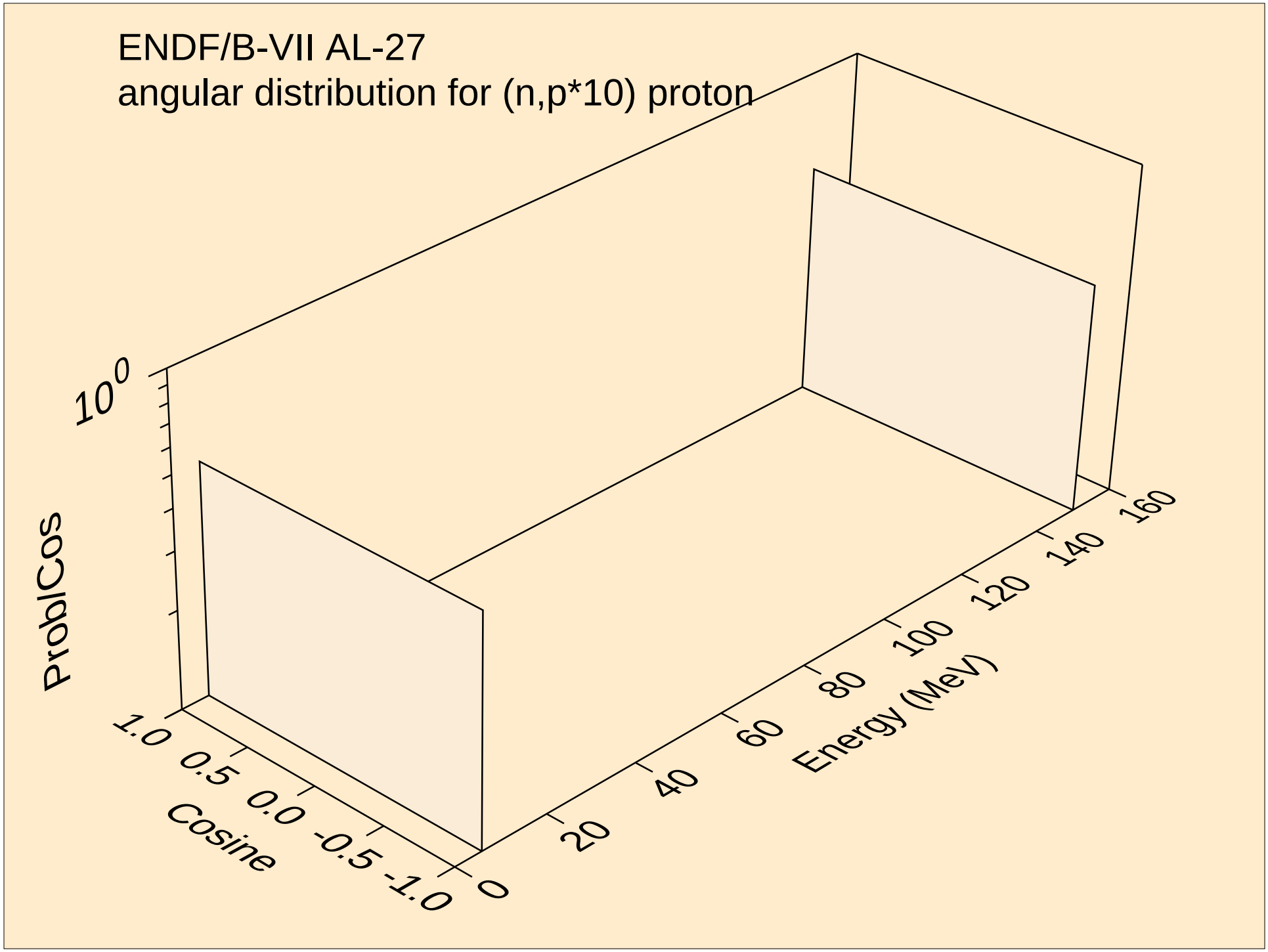

ENDF/B-VII AL-27
angular distribution for (n,p*5) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

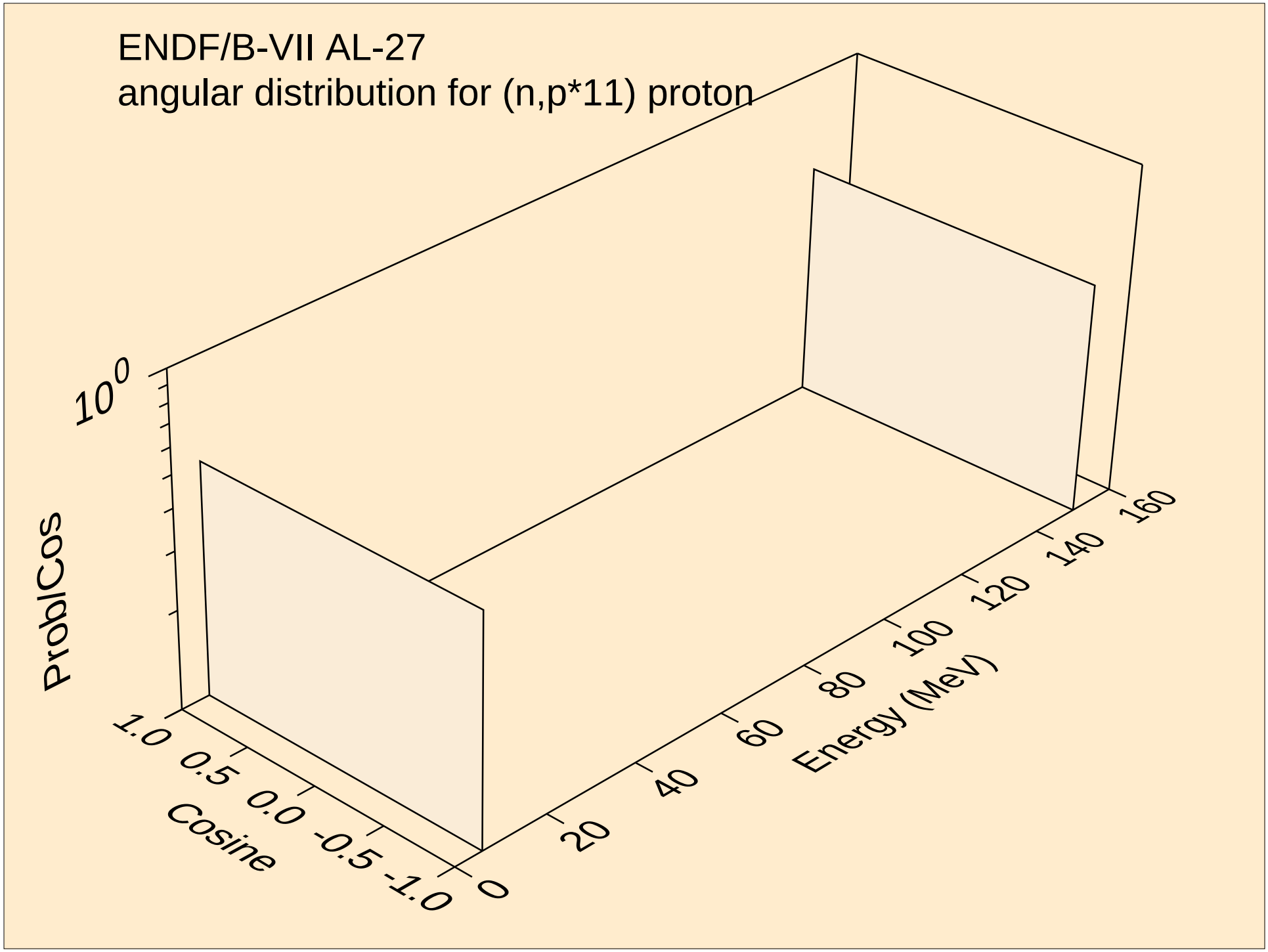

ENDF/B-VII AL-27
angular distribution for (n,p*6) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

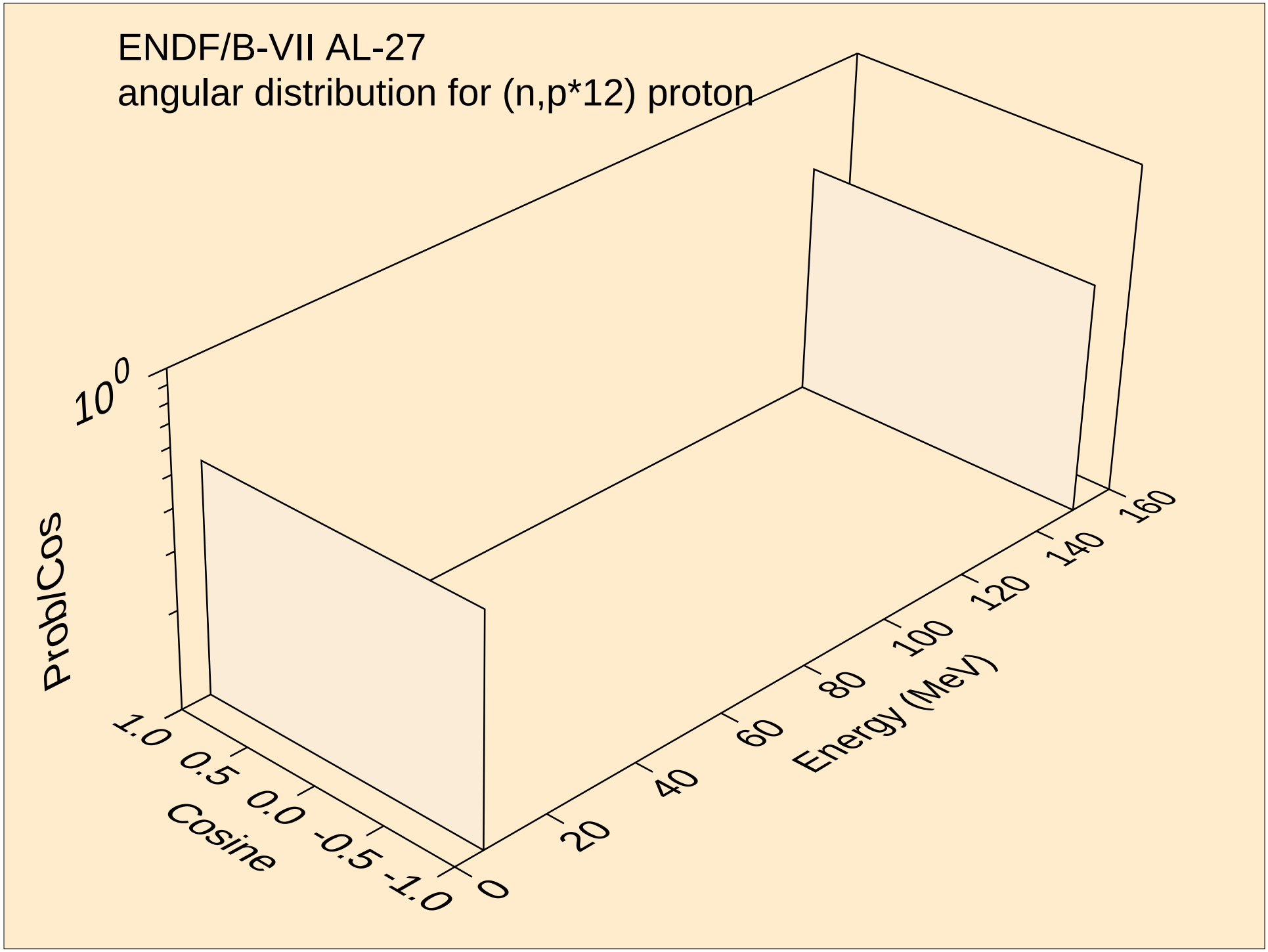

ENDF/B-VII AL-27
angular distribution for (n,p*7) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

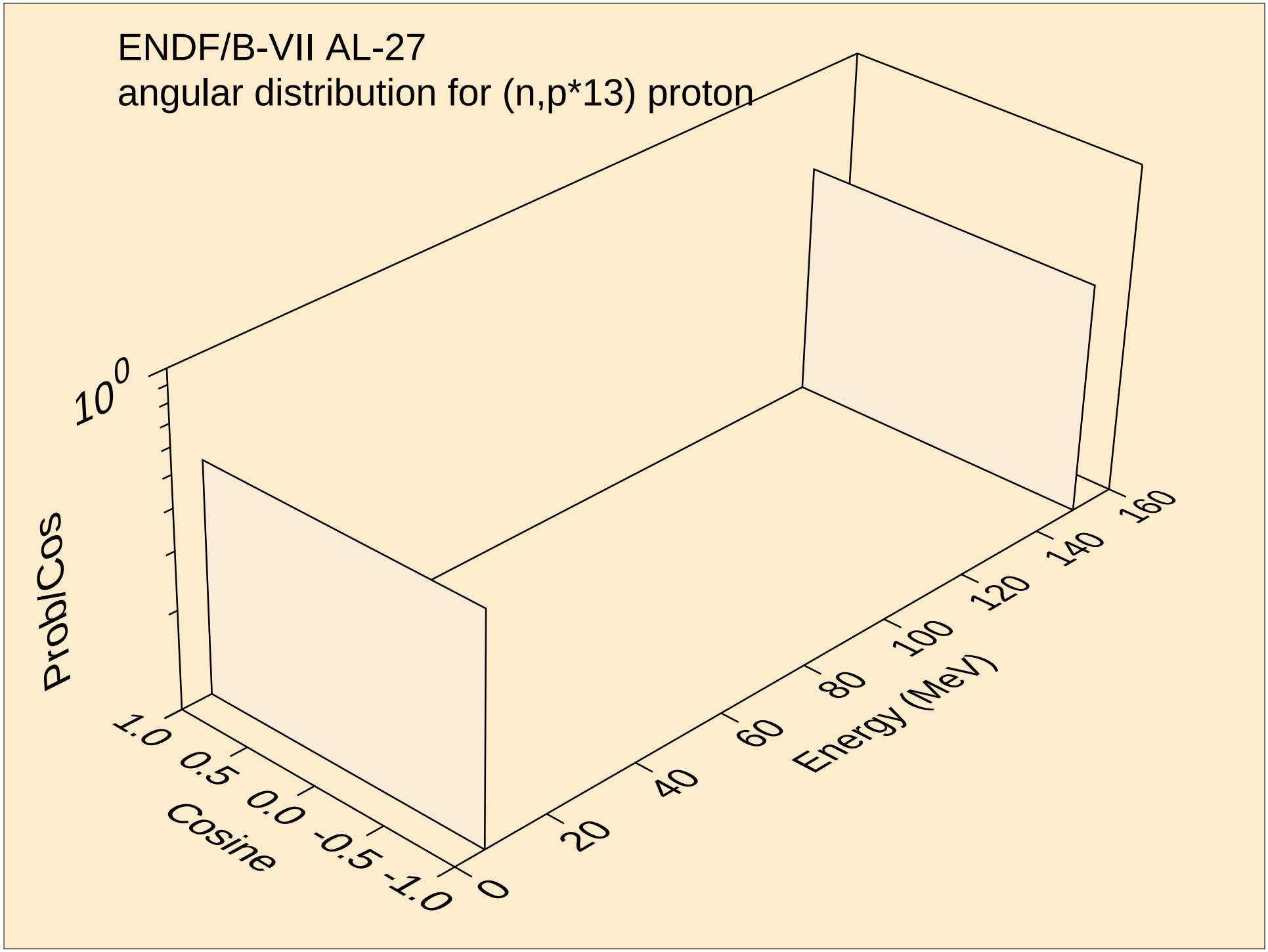

ENDF/B-VII AL-27
angular distribution for (n,p*8) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

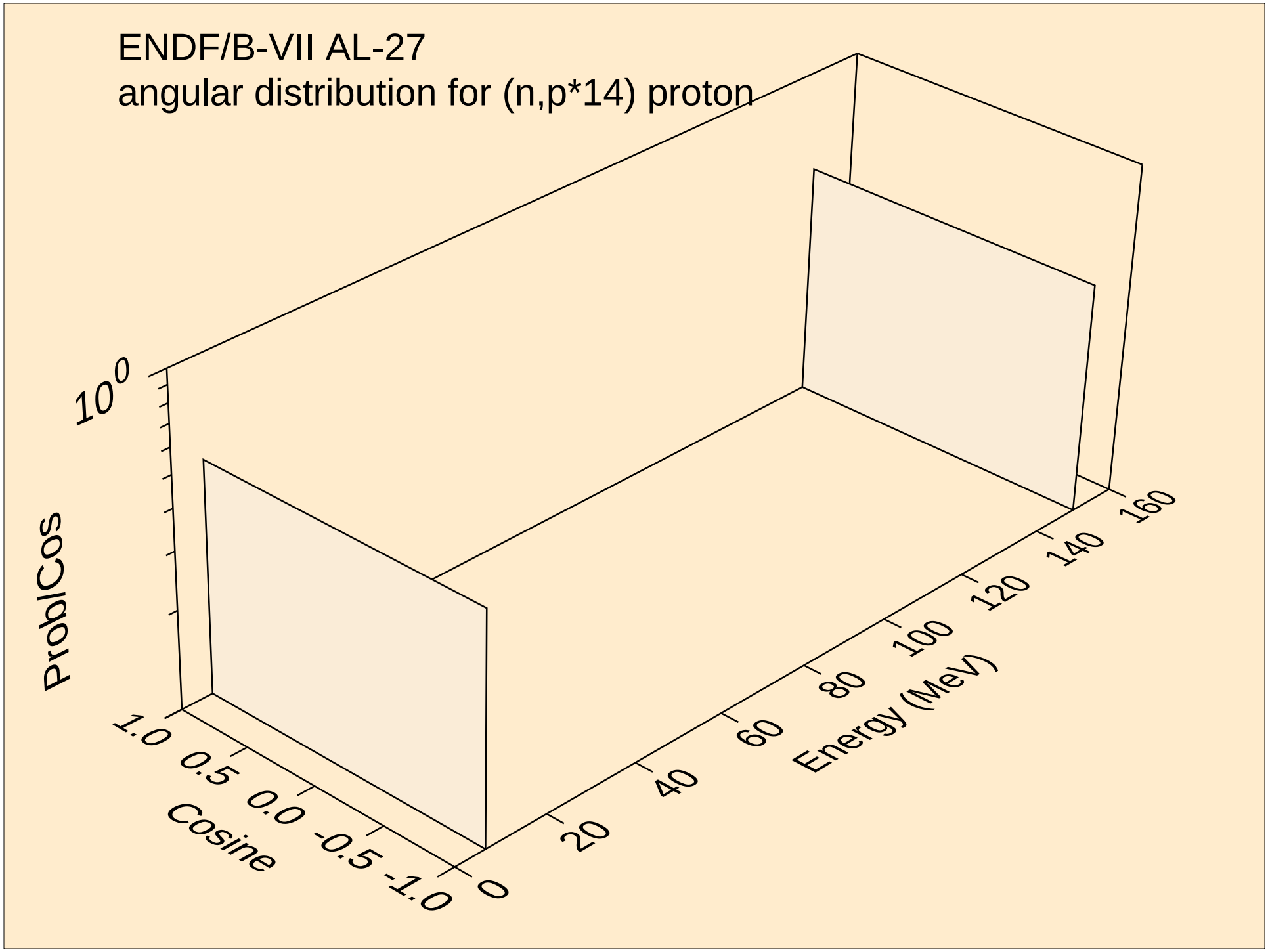

ENDF/B-VII AL-27
angular distribution for (n,p*9) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

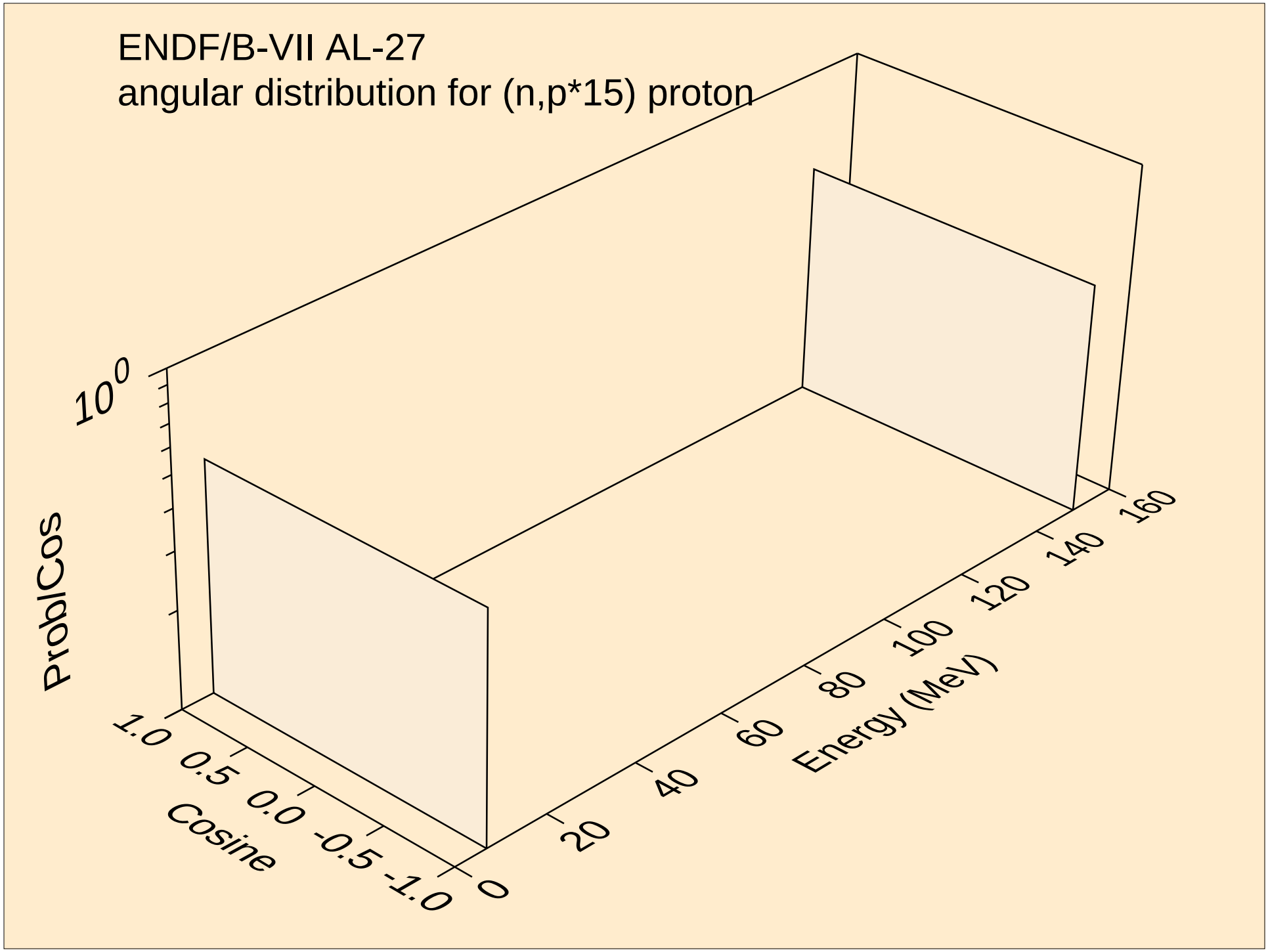

ENDF/B-VII AL-27
angular distribution for (n,p*10) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

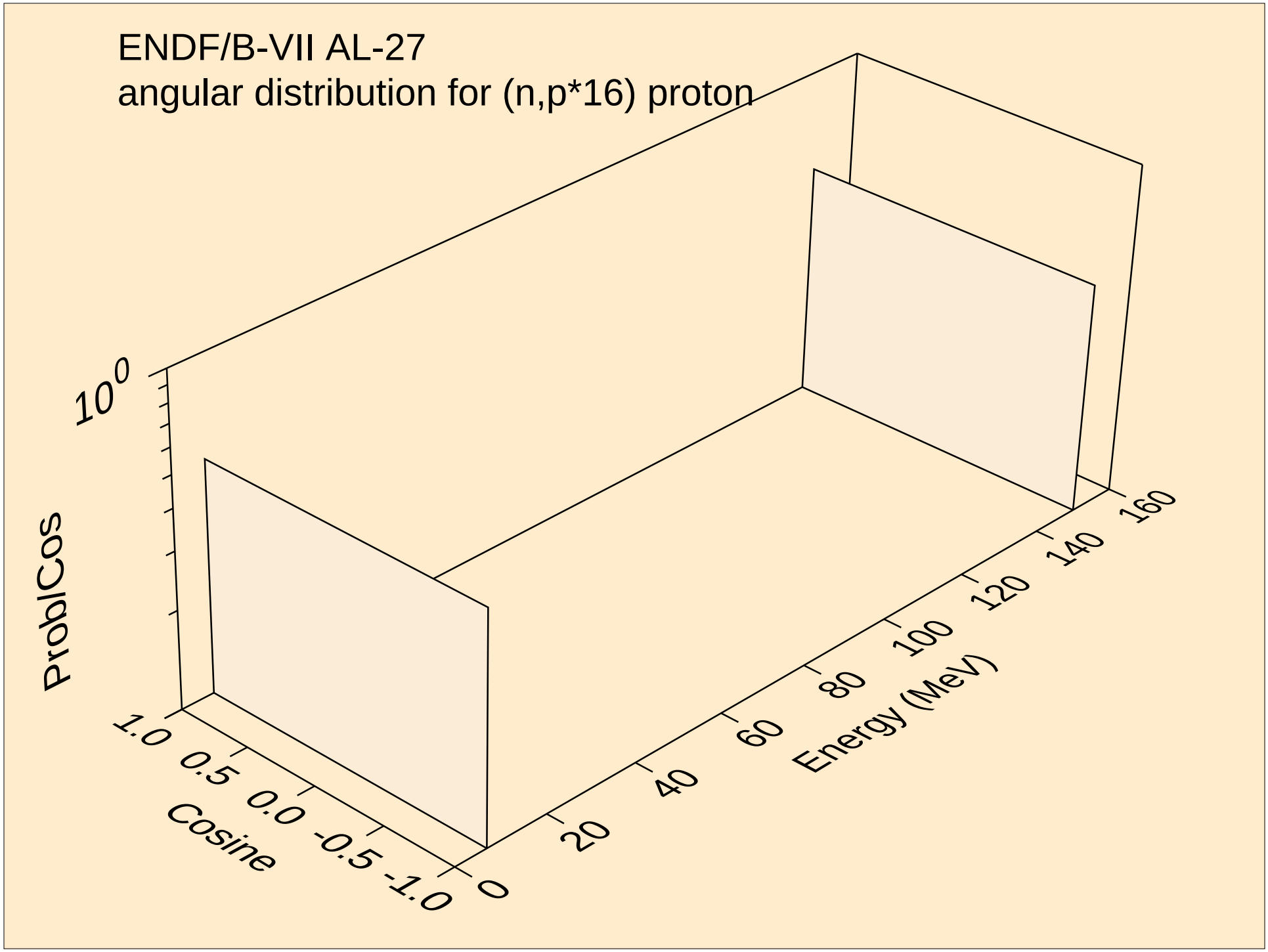

ENDF/B-VII AL-27
angular distribution for (n,p*11) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

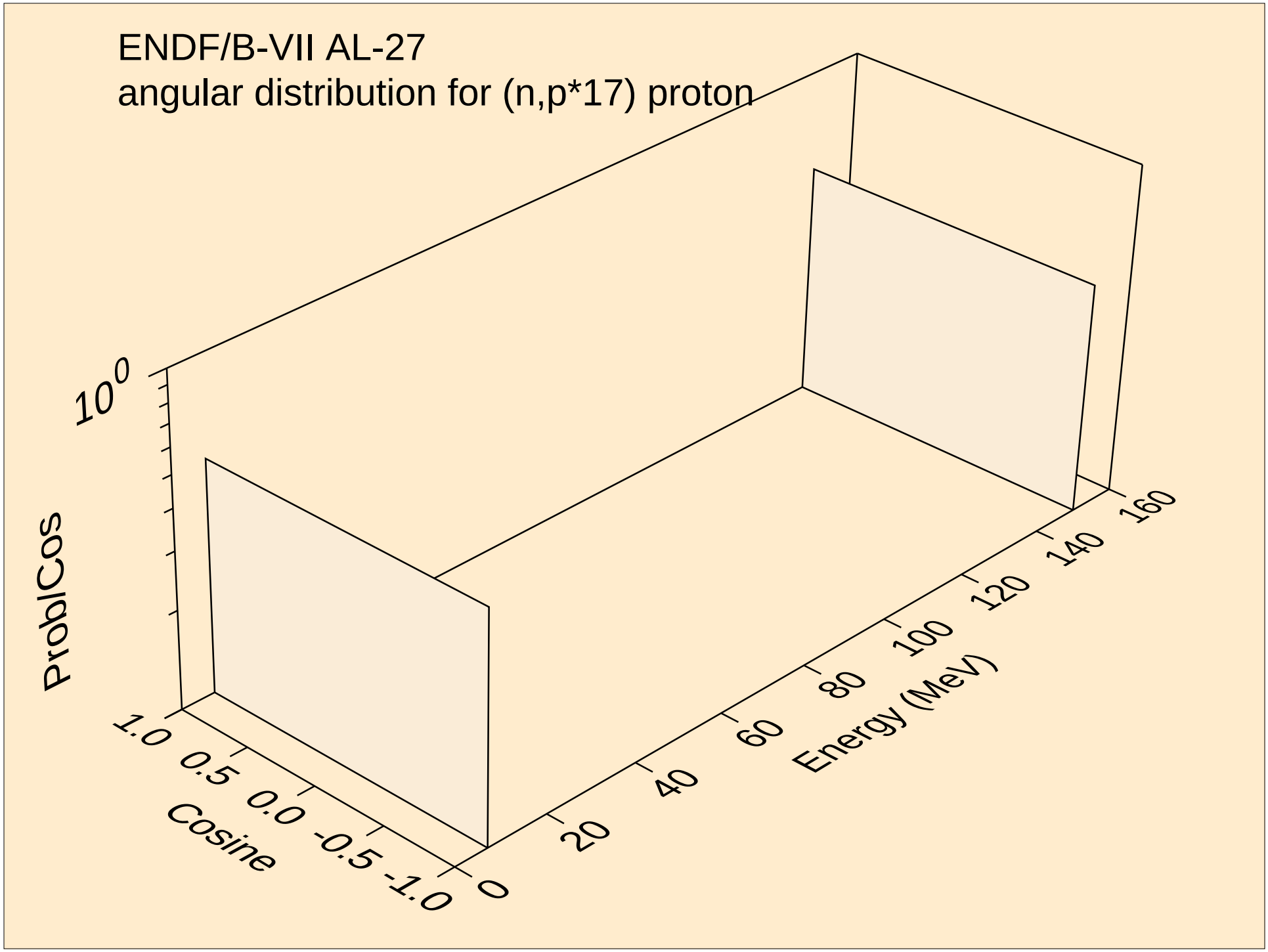

ENDF/B-VII AL-27
angular distribution for (n,p*12) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

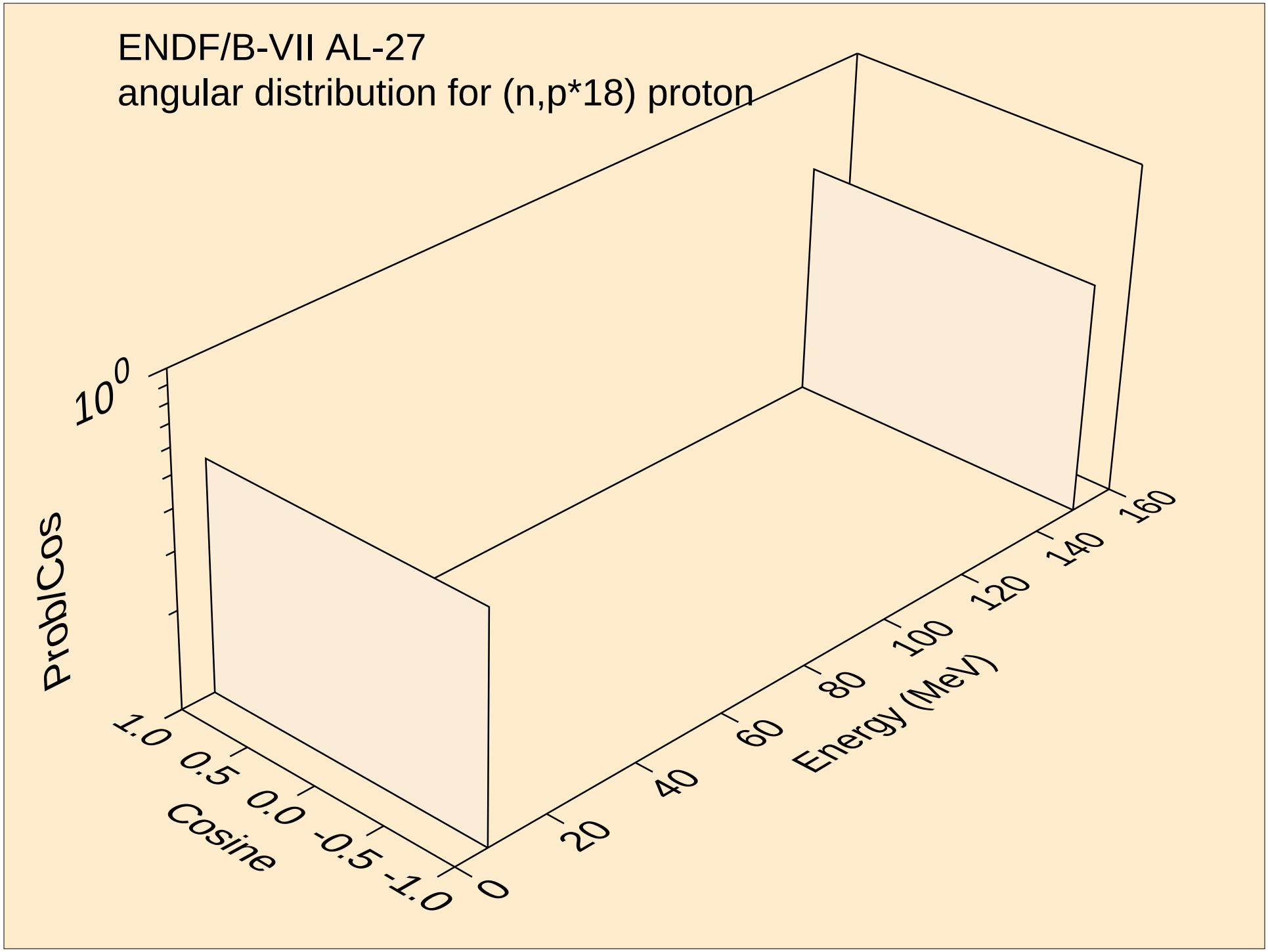

ENDF/B-VII AL-27
angular distribution for (n,p*13) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

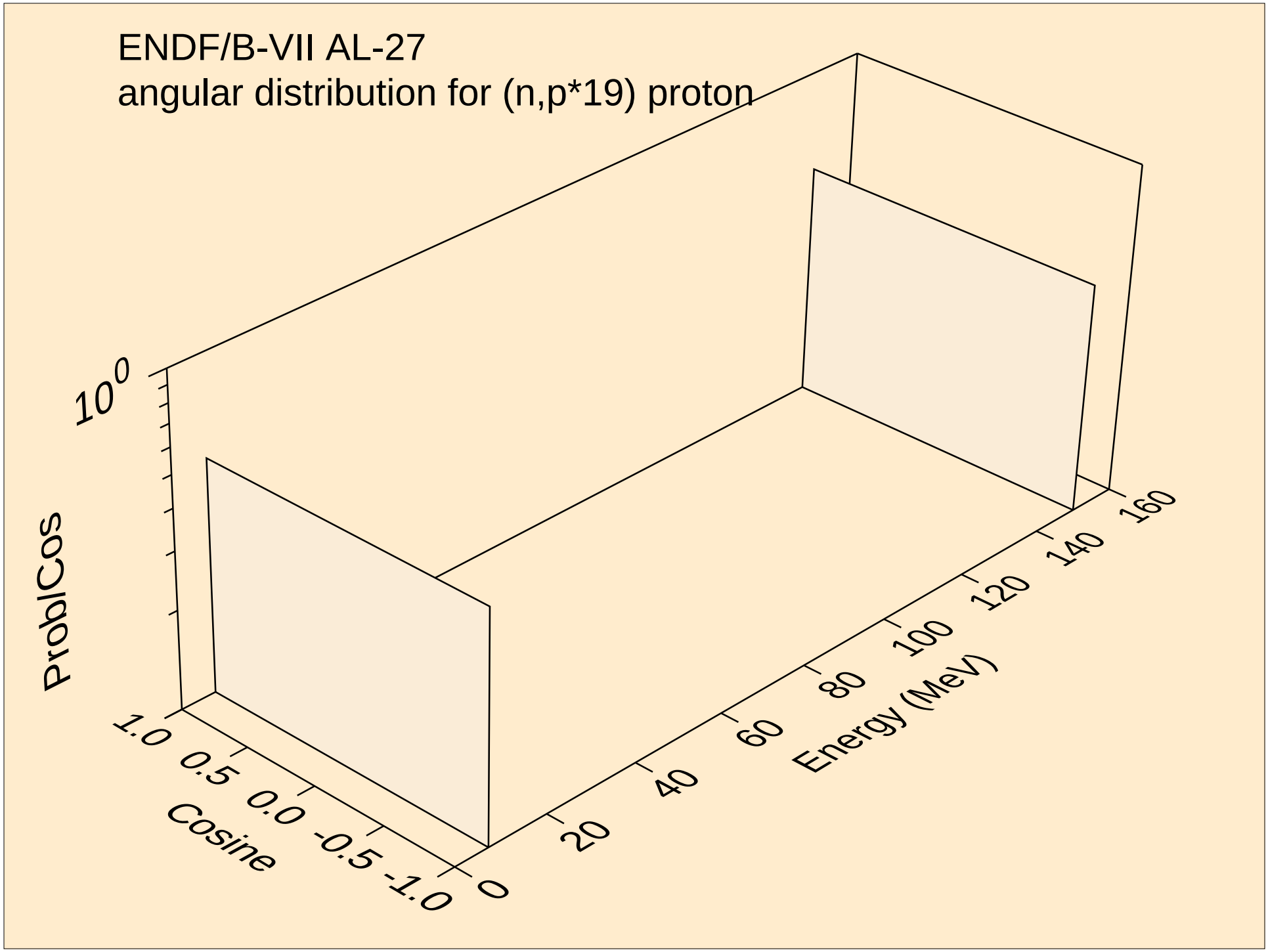

ENDF/B-VII AL-27
angular distribution for (n,p*14) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

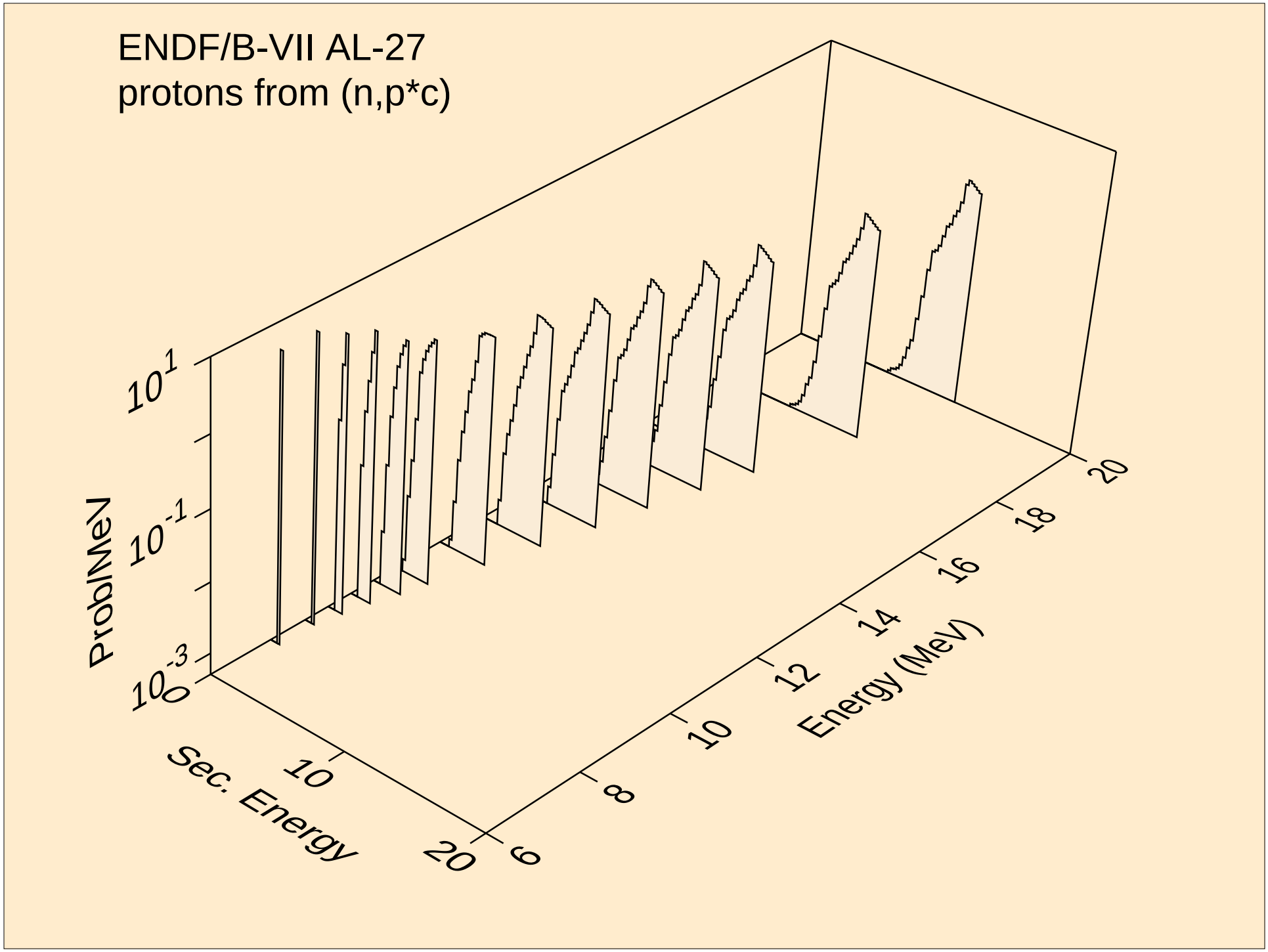

ENDF/B-VII AL-27
angular distribution for (n,p*15) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

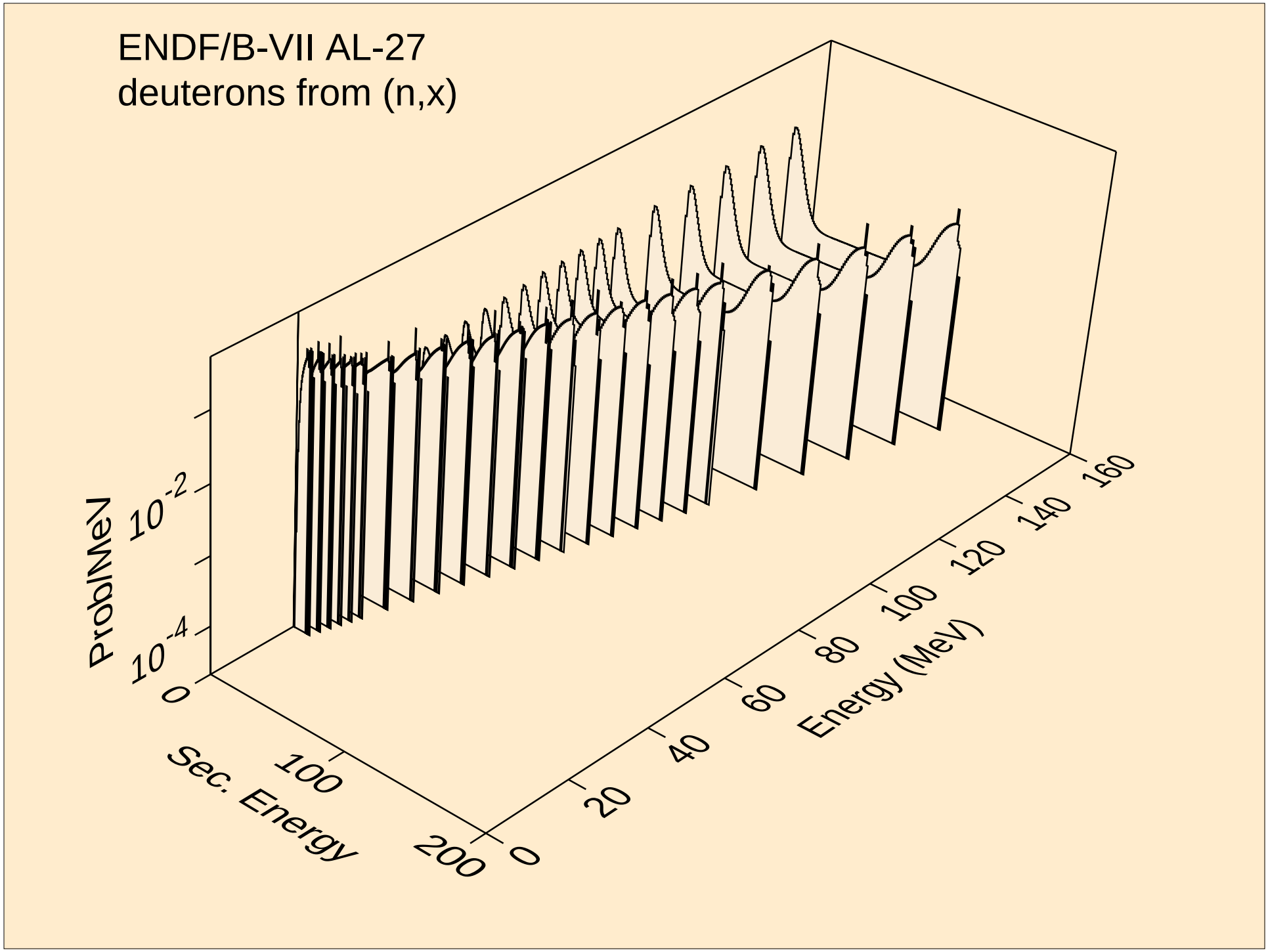

ENDF/B-VII AL-27
angular distribution for (n,p*16) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

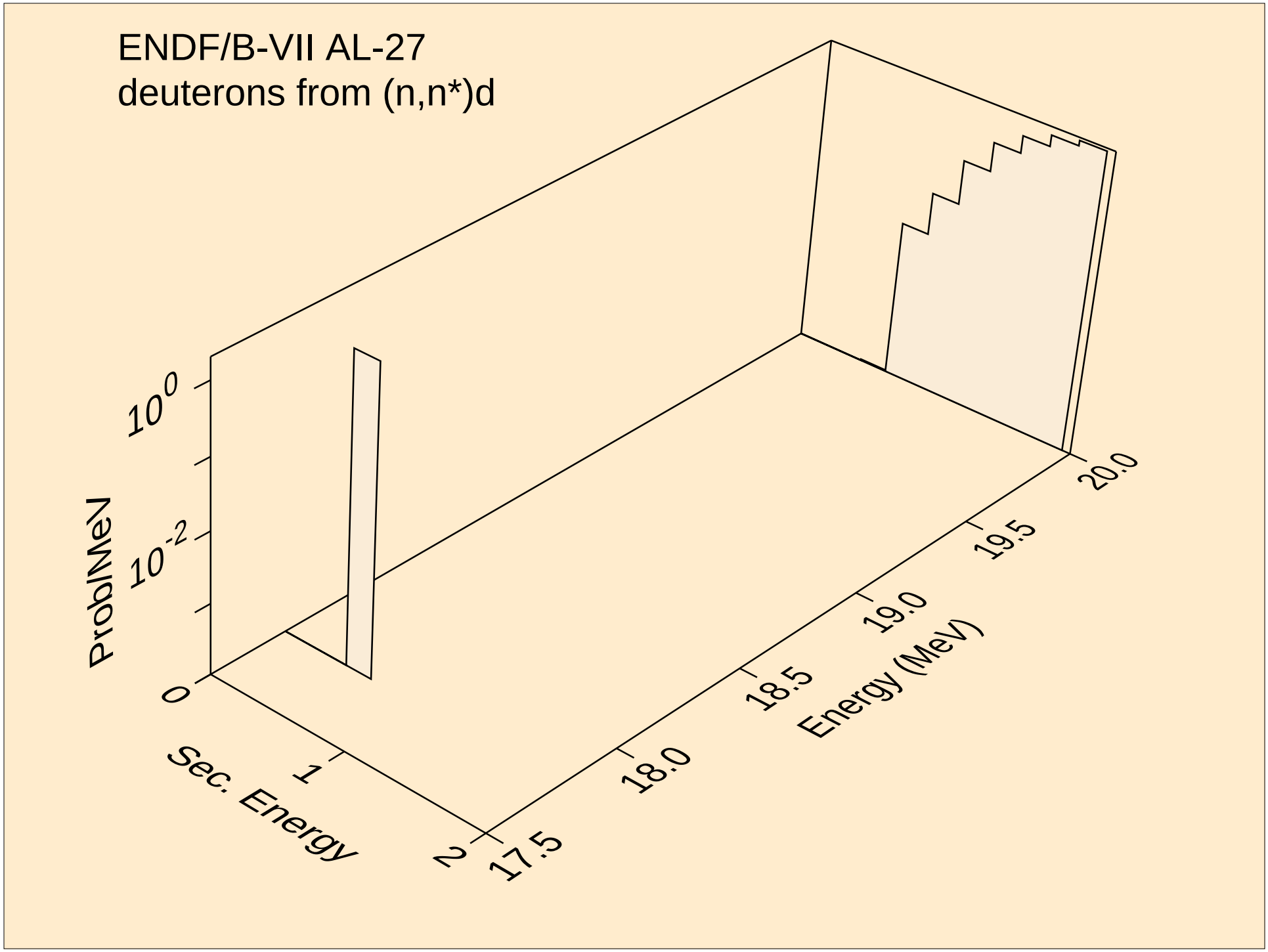

ENDF/B-VII AL-27
angular distribution for (n,p*17) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

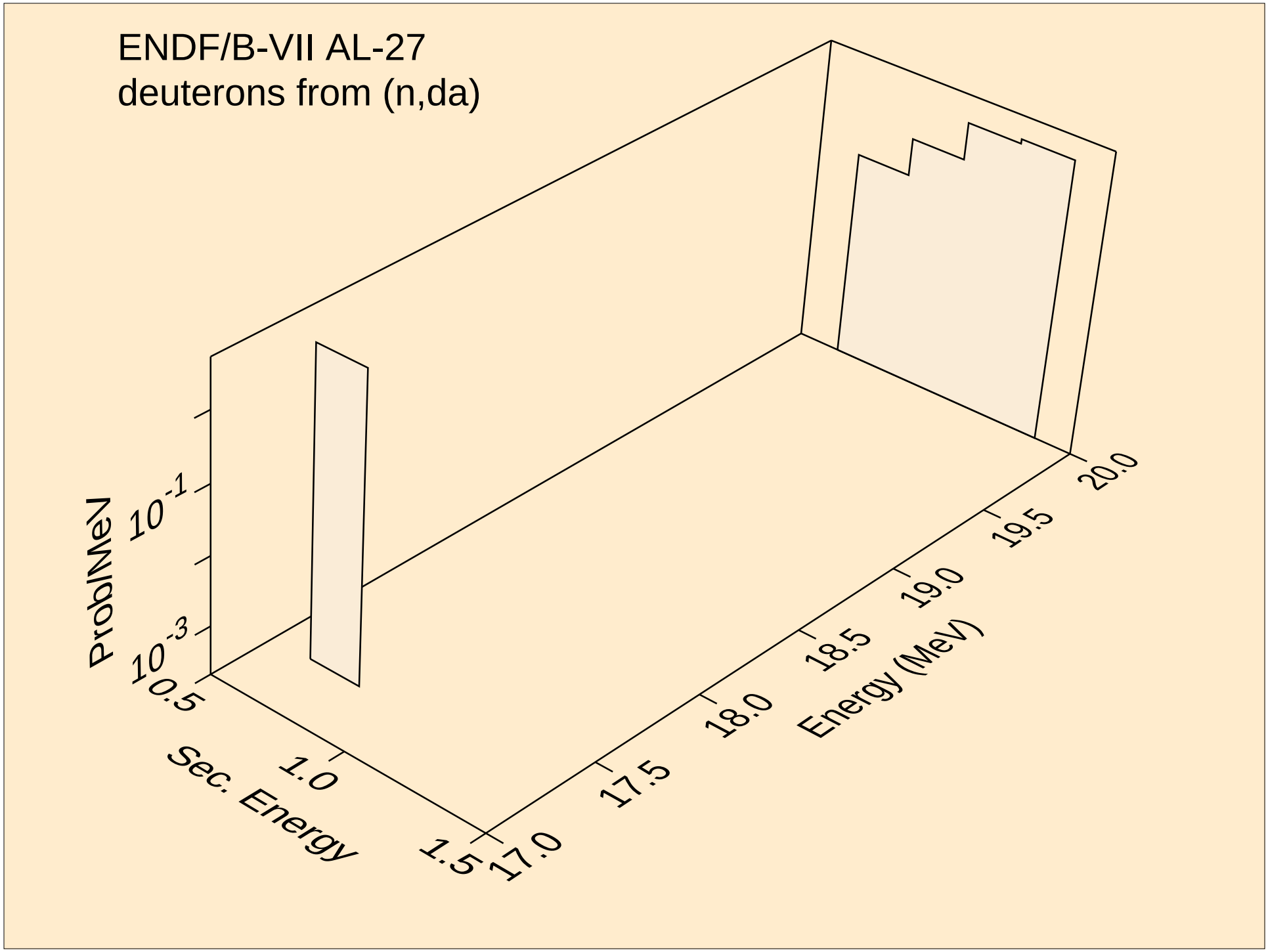

ENDF/B-VII AL-27
angular distribution for (n,p*18) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

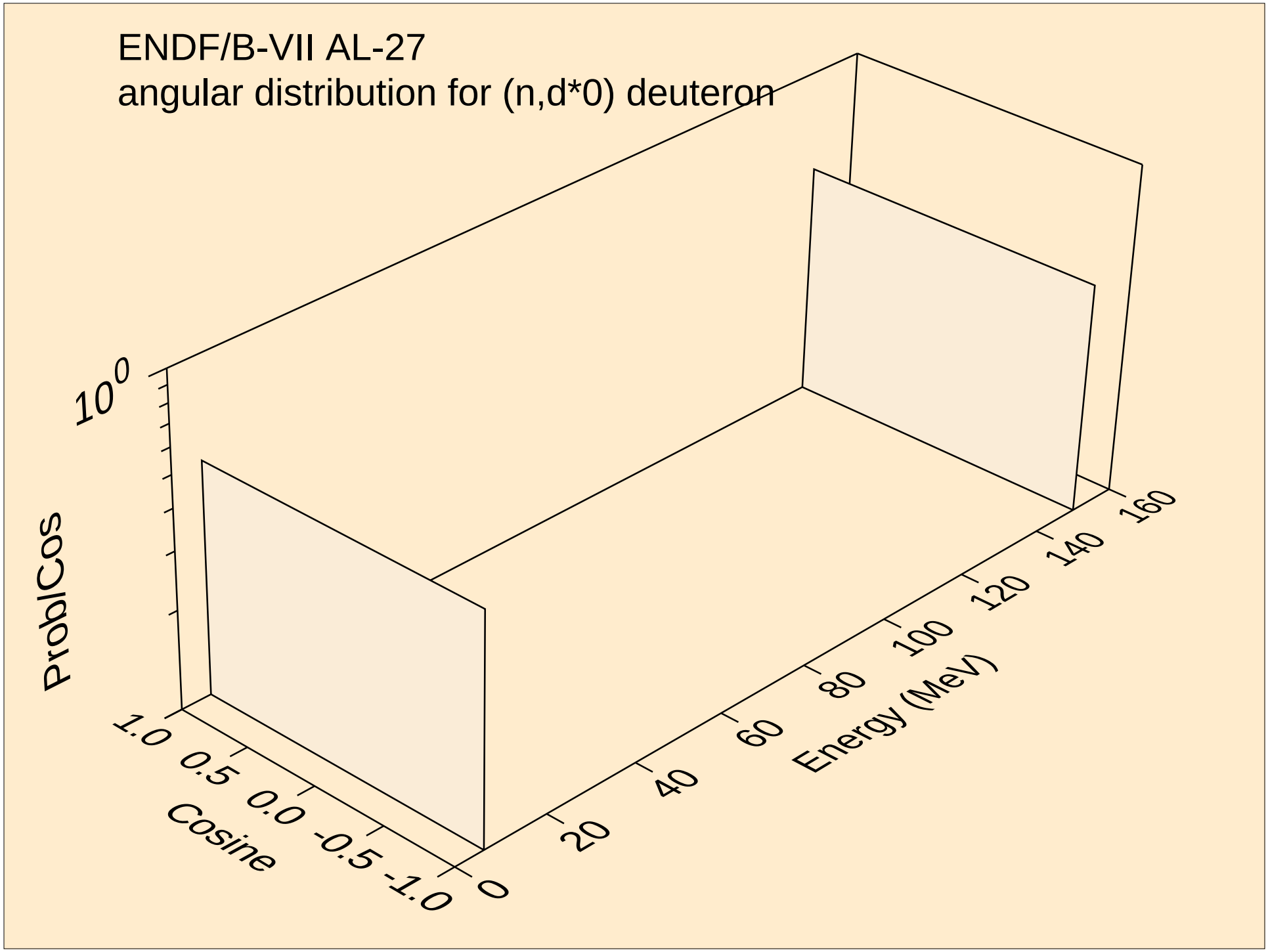

ENDF/B-VII AL-27
angular distribution for (n,p*19) proton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

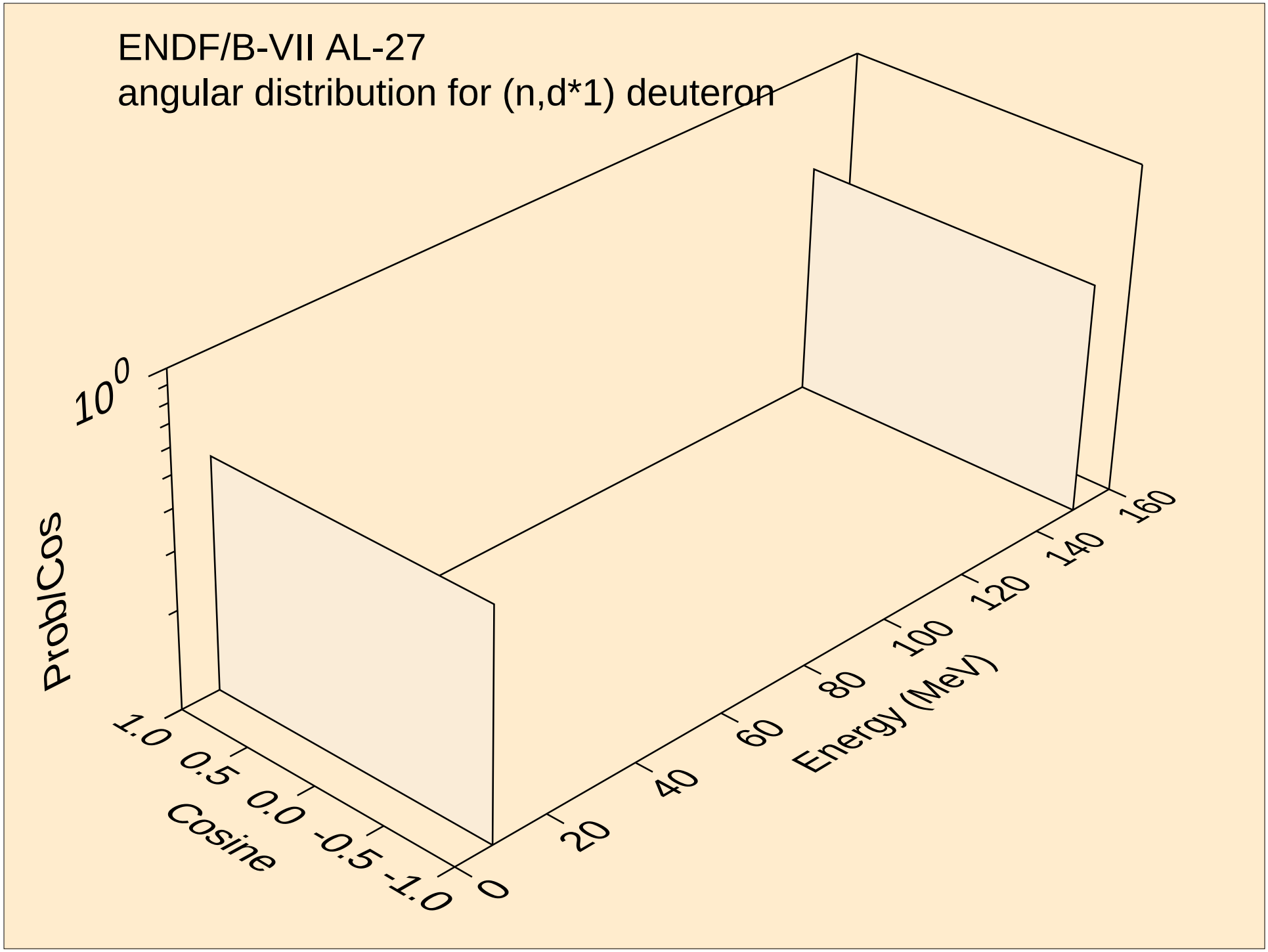

ENDF/B-VII AL-27
protons from (n,p*c)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
10
20
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

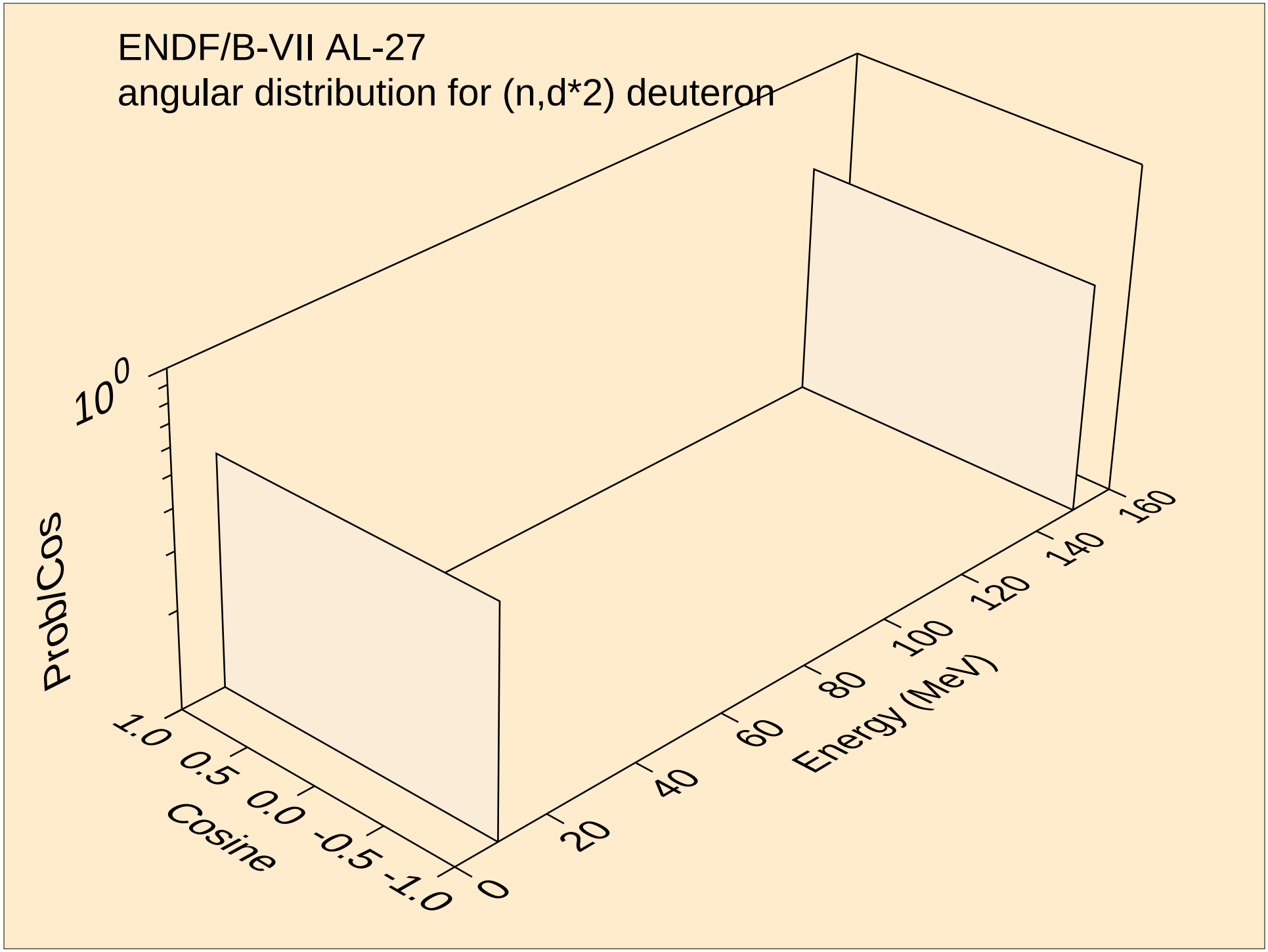

ENDF/B-VII AL-27
deuterons from (n,x)
Prob/MeV
10^-2
10^-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

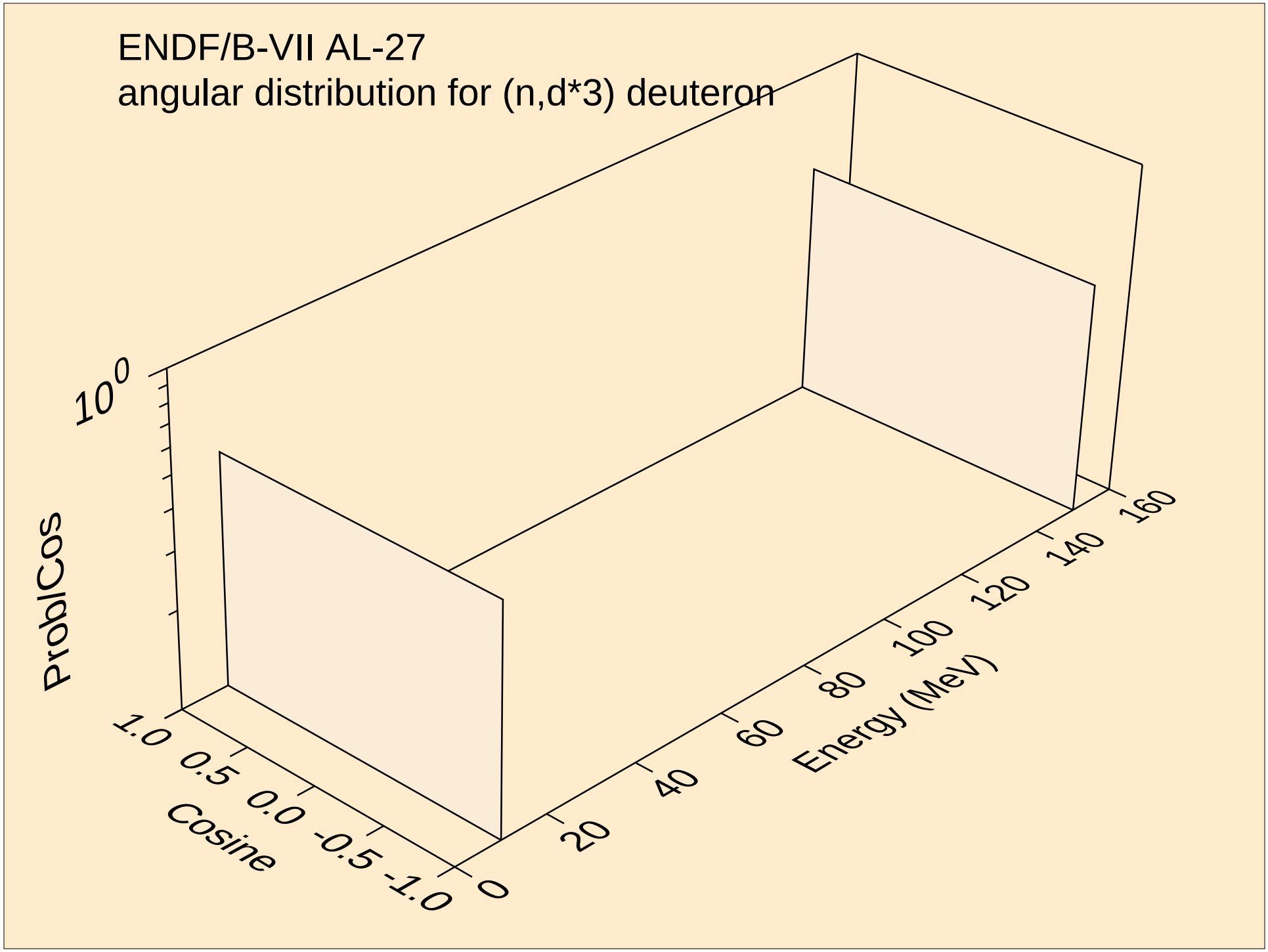

ENDF/B-VII AL-27
deuterons from (n,n*)d
Prob/MeV
10^0
10^{-2}
0
1
2
Sec. Energy
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

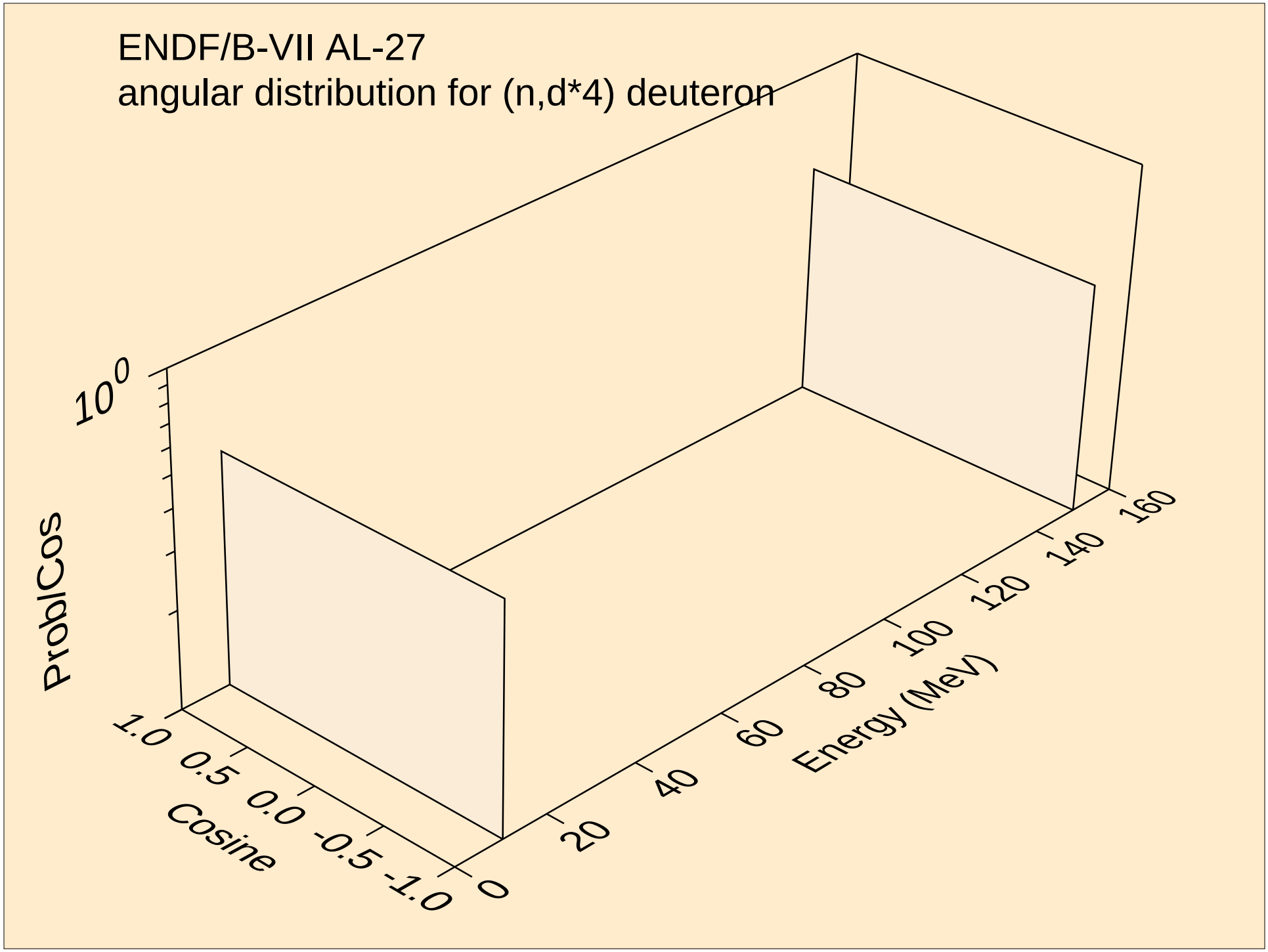

ENDF/B-VII AL-27
deuterons from (n,da)
Prob/MeV
10^-1
10^-3
0.5
1.0
1.5
Sec. Energy
17.0
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

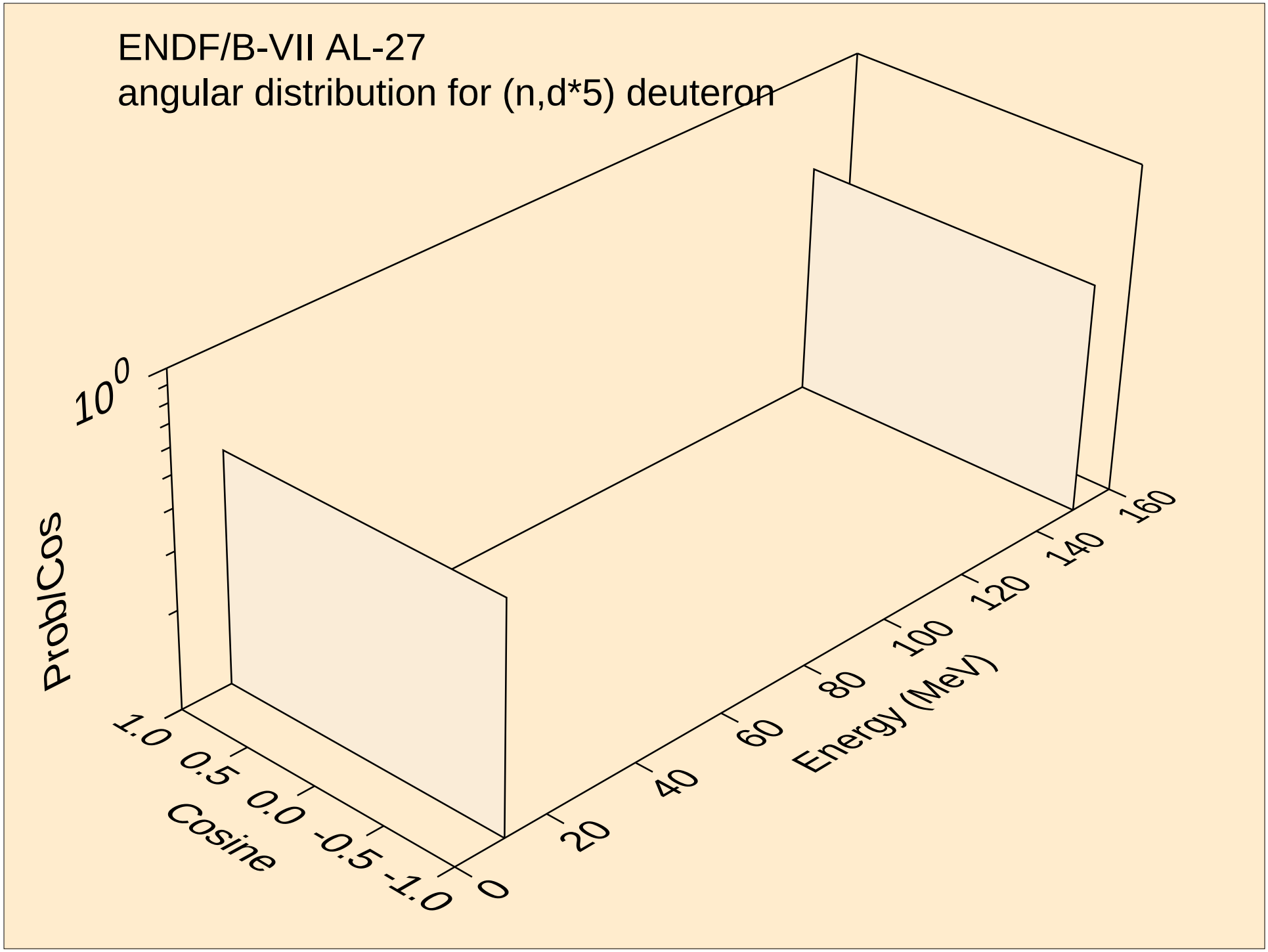

ENDF/B-VII AL-27
angular distribution for (n,d*0) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

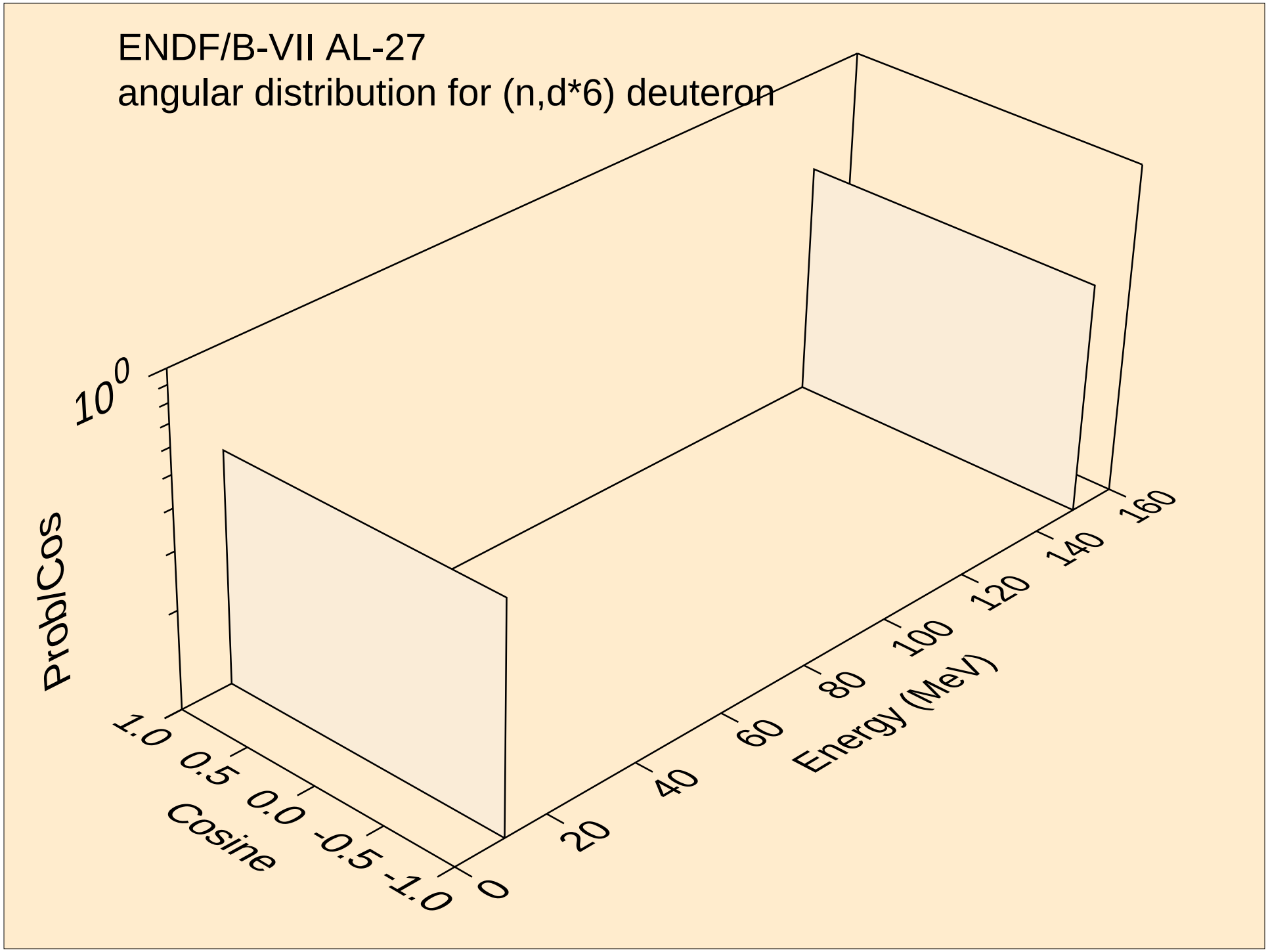

ENDF/B-VII AL-27
angular distribution for (n,d*1) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

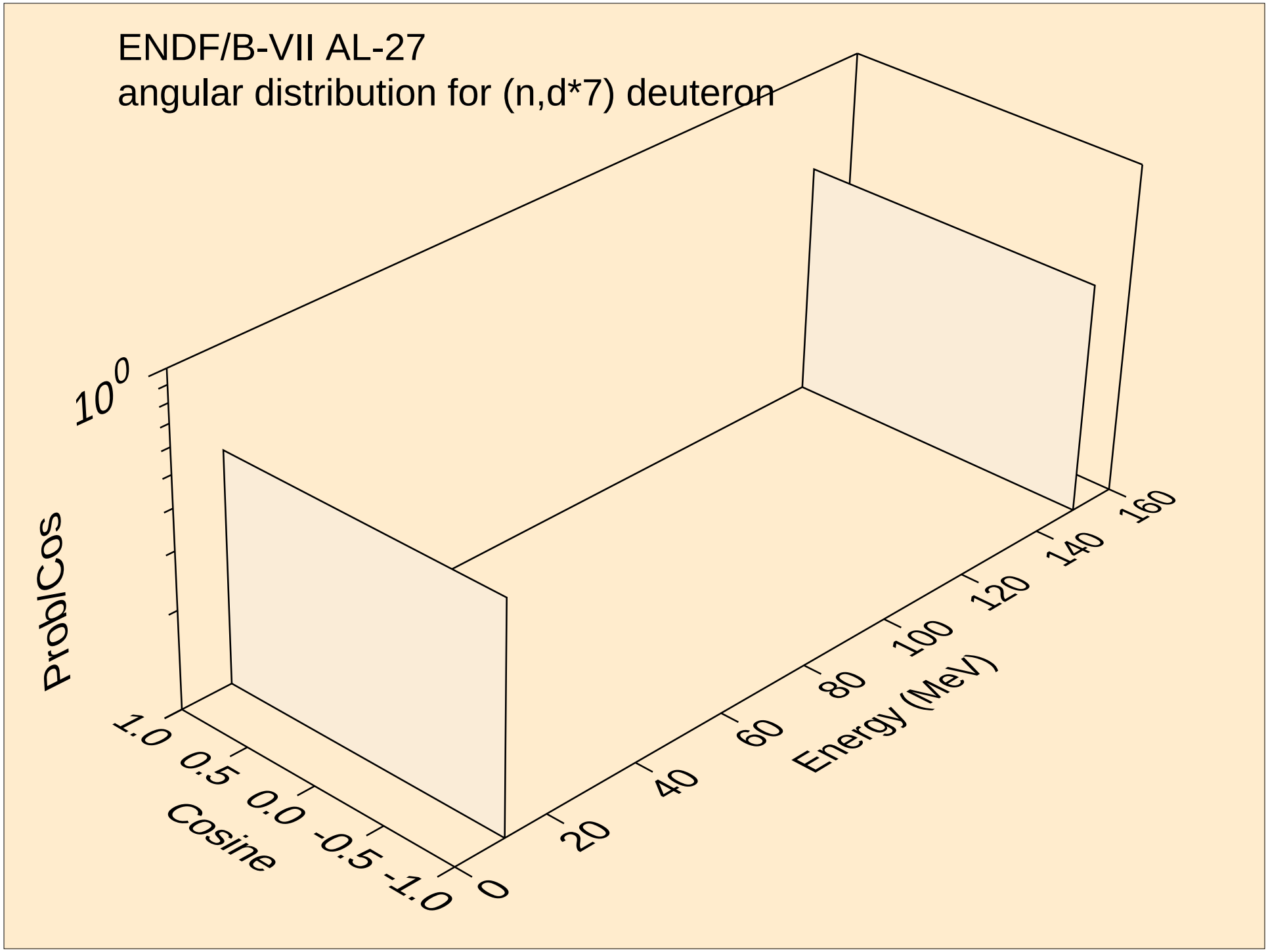

ENDF/B-VII AL-27
angular distribution for (n,d*2) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

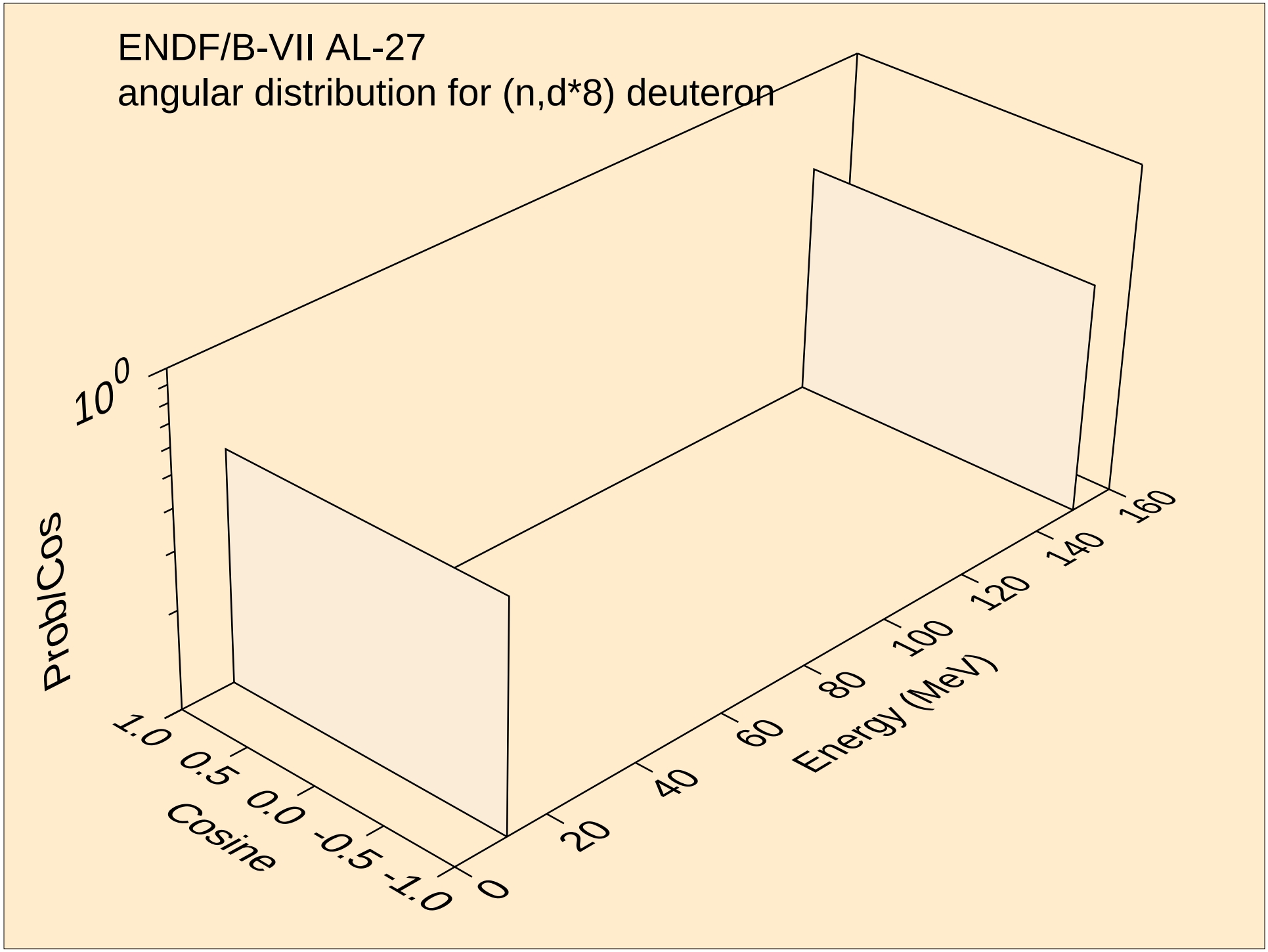

ENDF/B-VII AL-27
angular distribution for (n,d*3) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

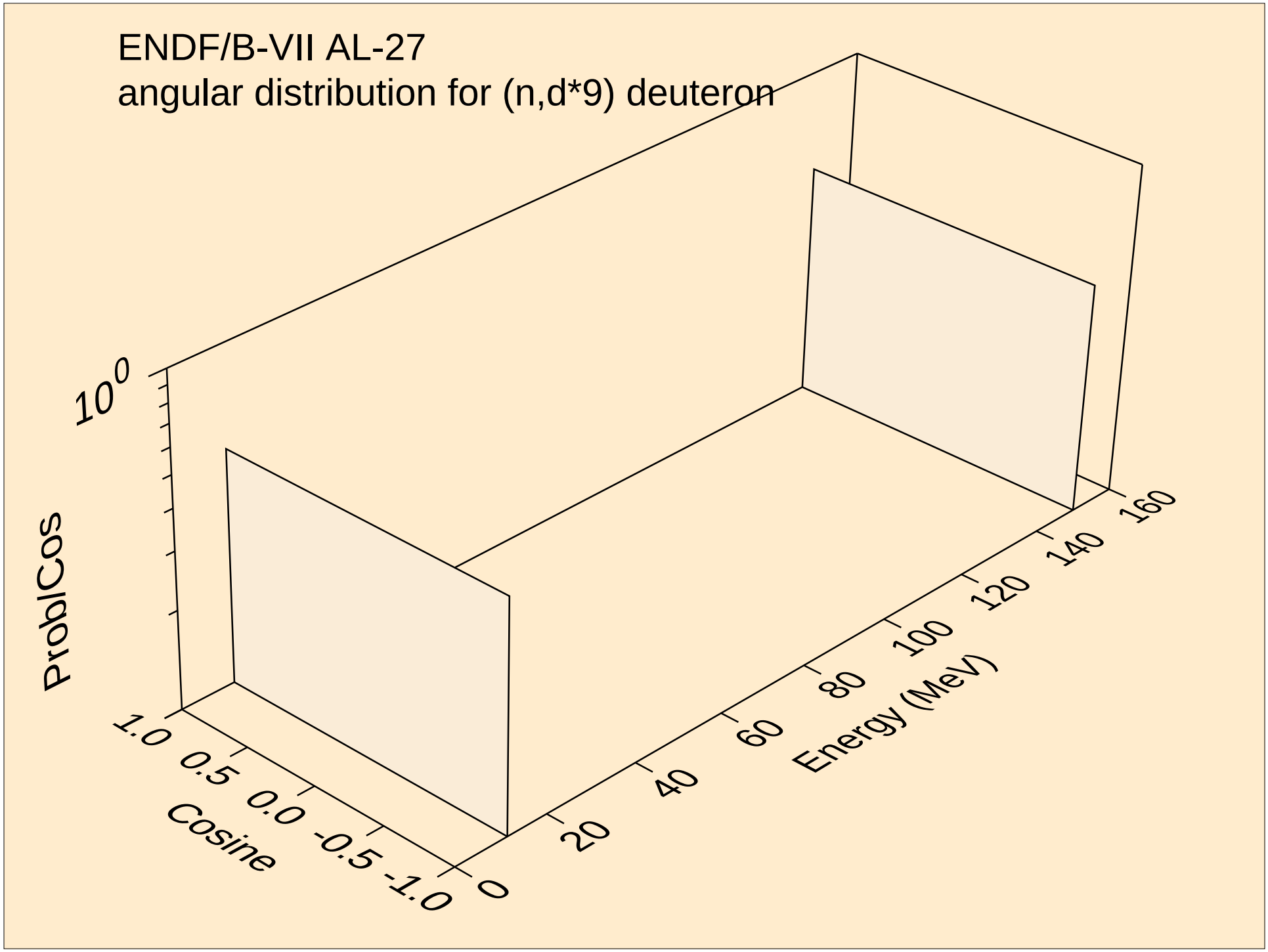

ENDF/B-VII AL-27
angular distribution for (n,d*4) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

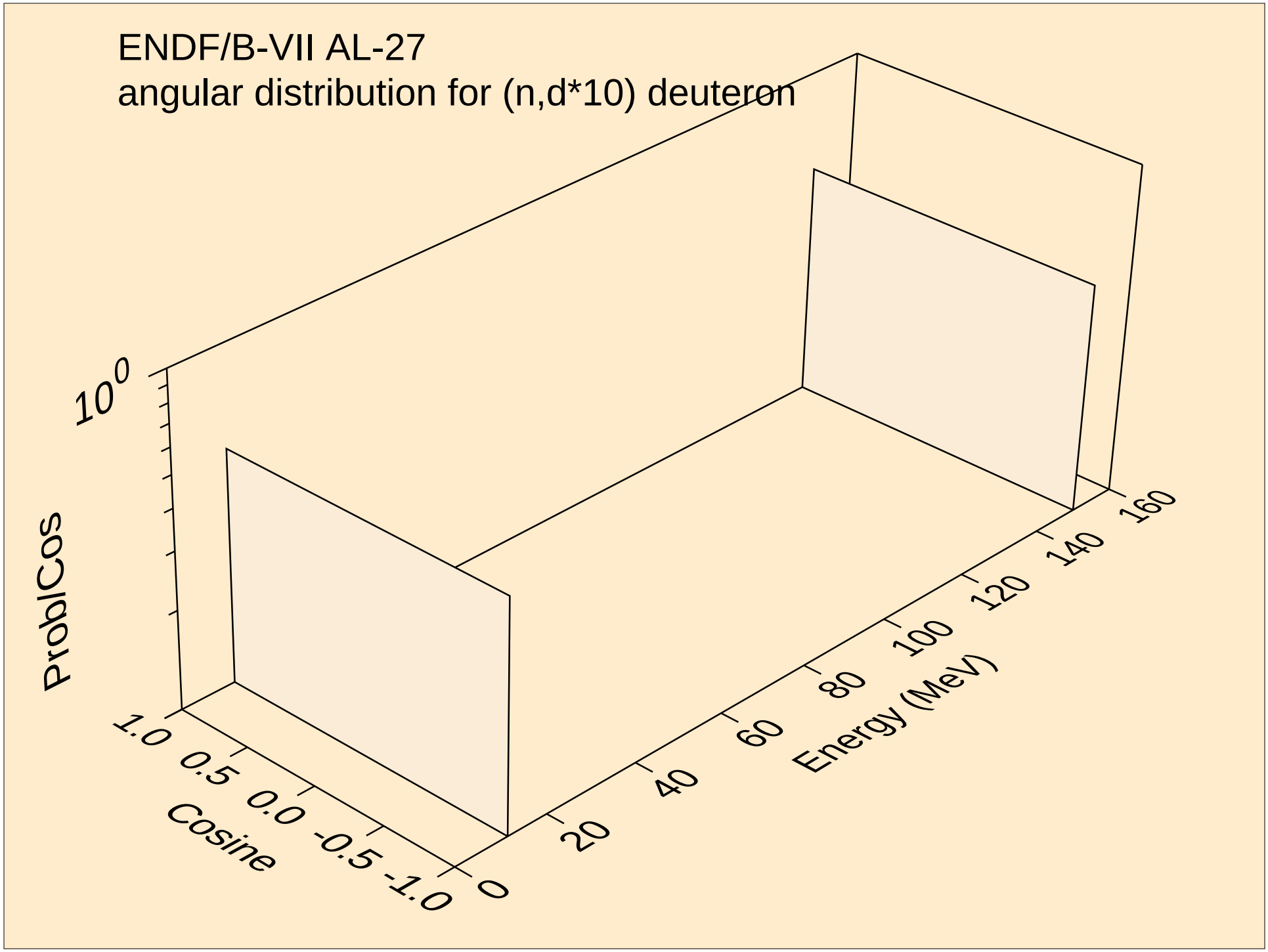

ENDF/B-VII AL-27
angular distribution for (n,d*5) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

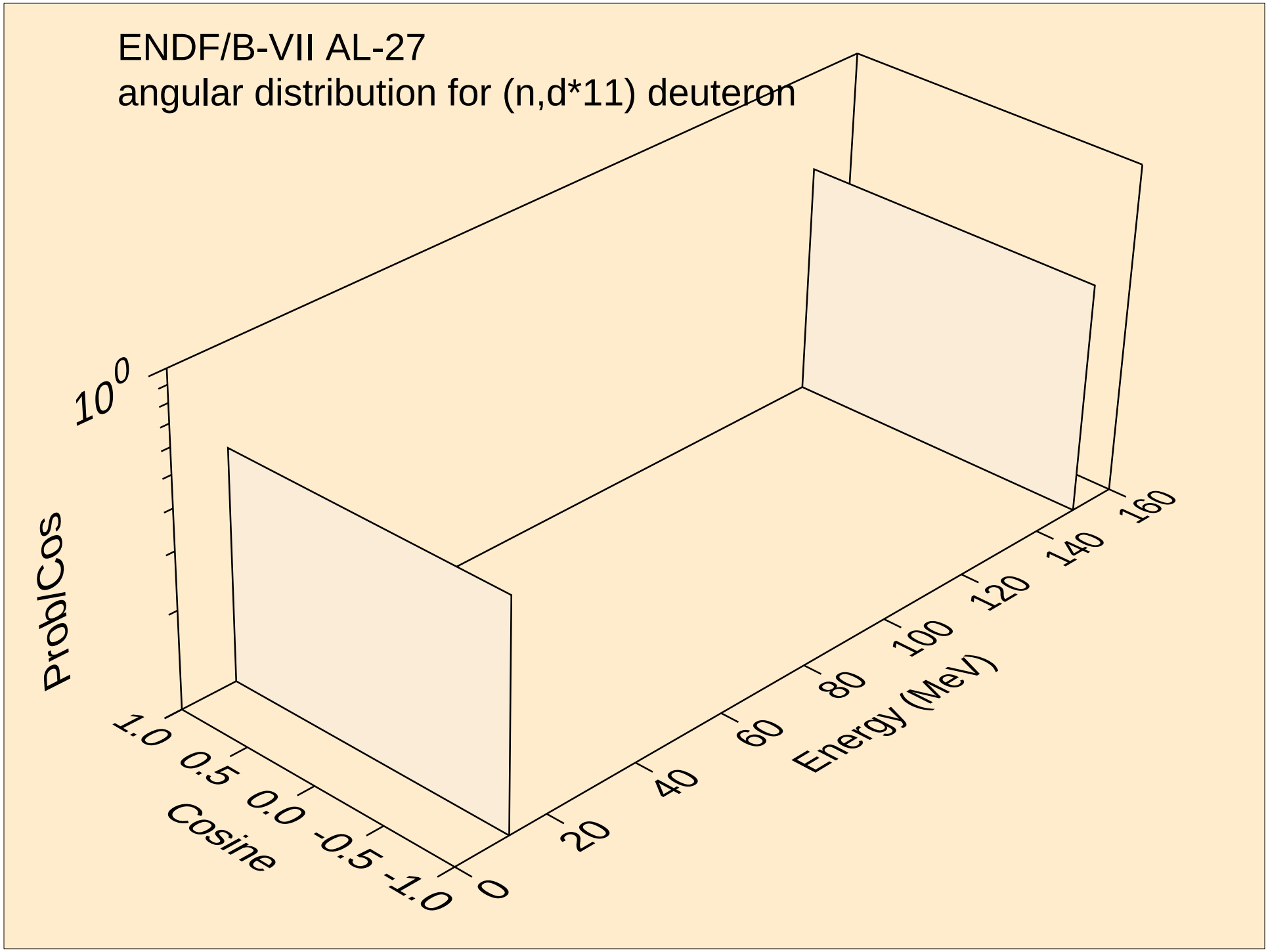

ENDF/B-VII AL-27
angular distribution for (n,d*6) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

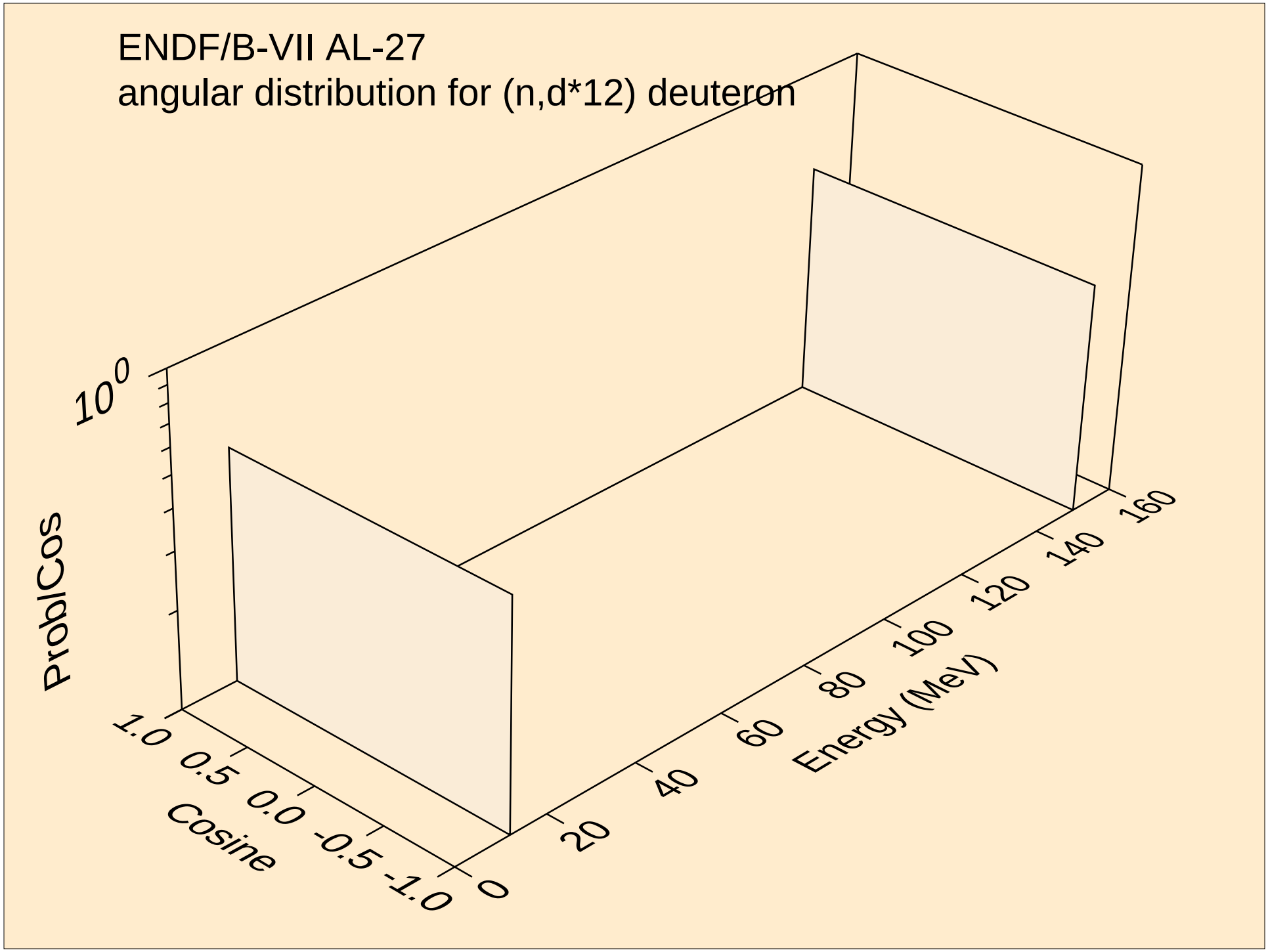

ENDF/B-VII AL-27
angular distribution for (n,d*7) deuteron
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

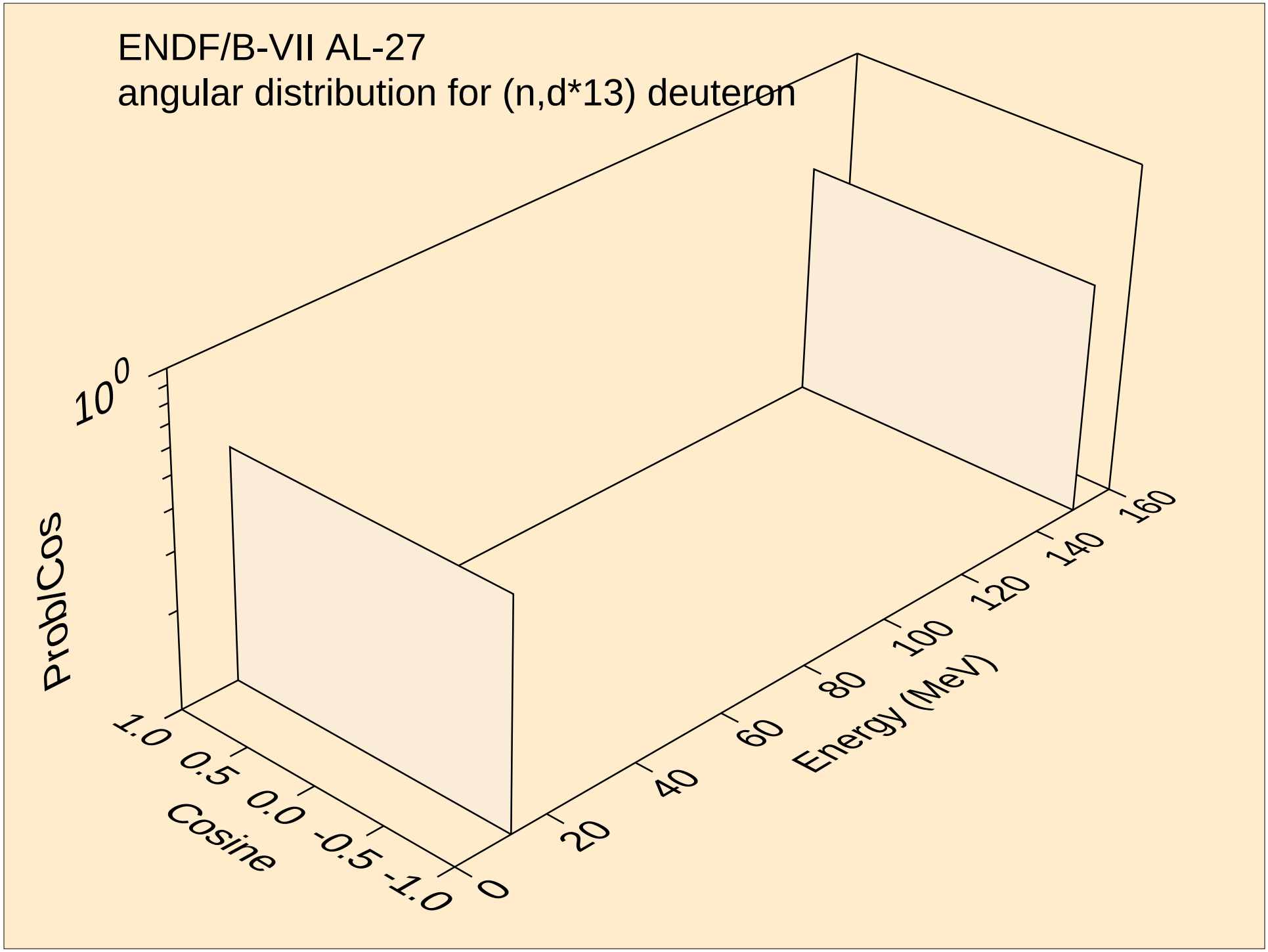

ENDF/B-VII AL-27
angular distribution for (n,d*8) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

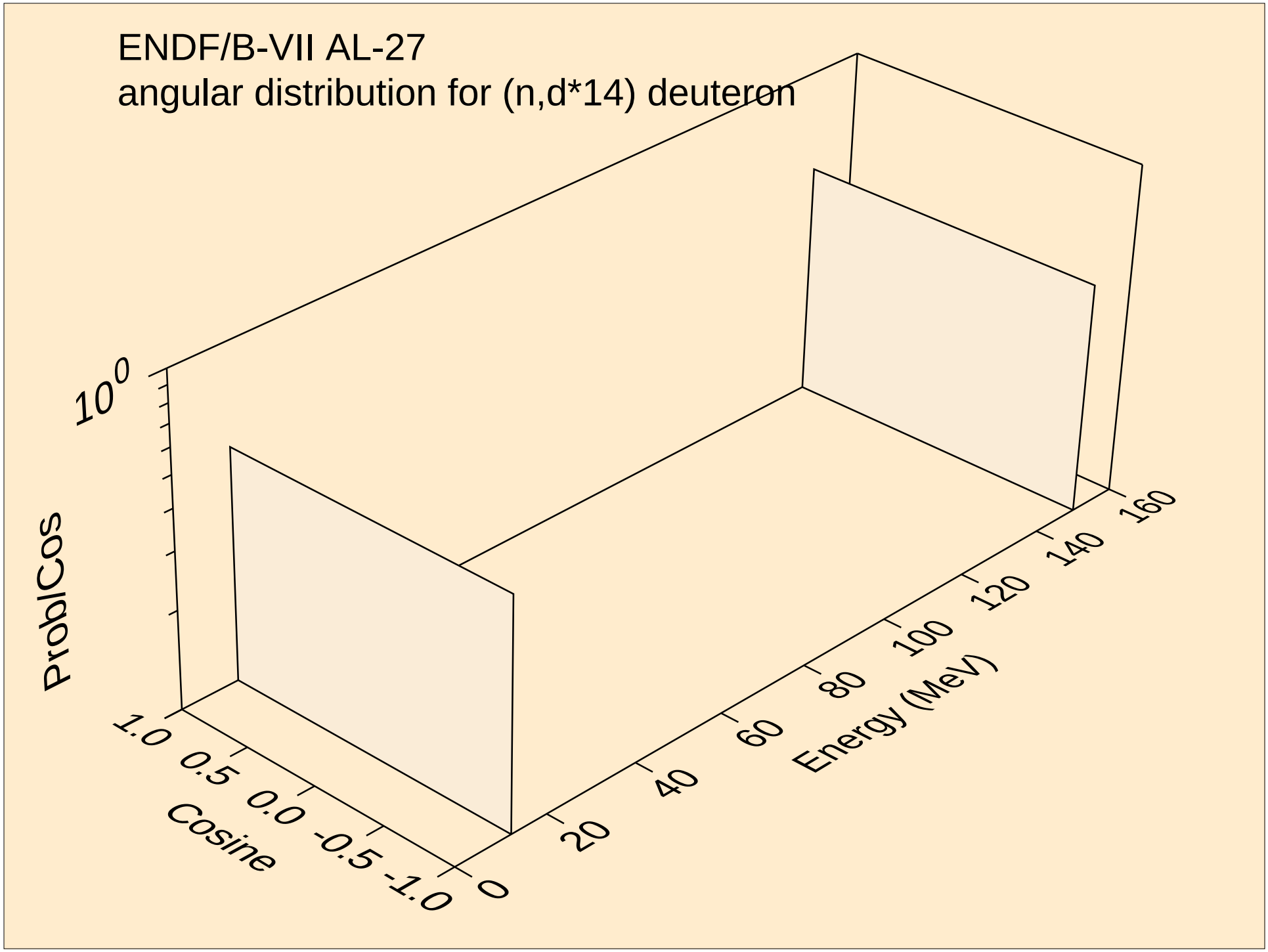

ENDF/B-VII AL-27
angular distribution for (n,d*9) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

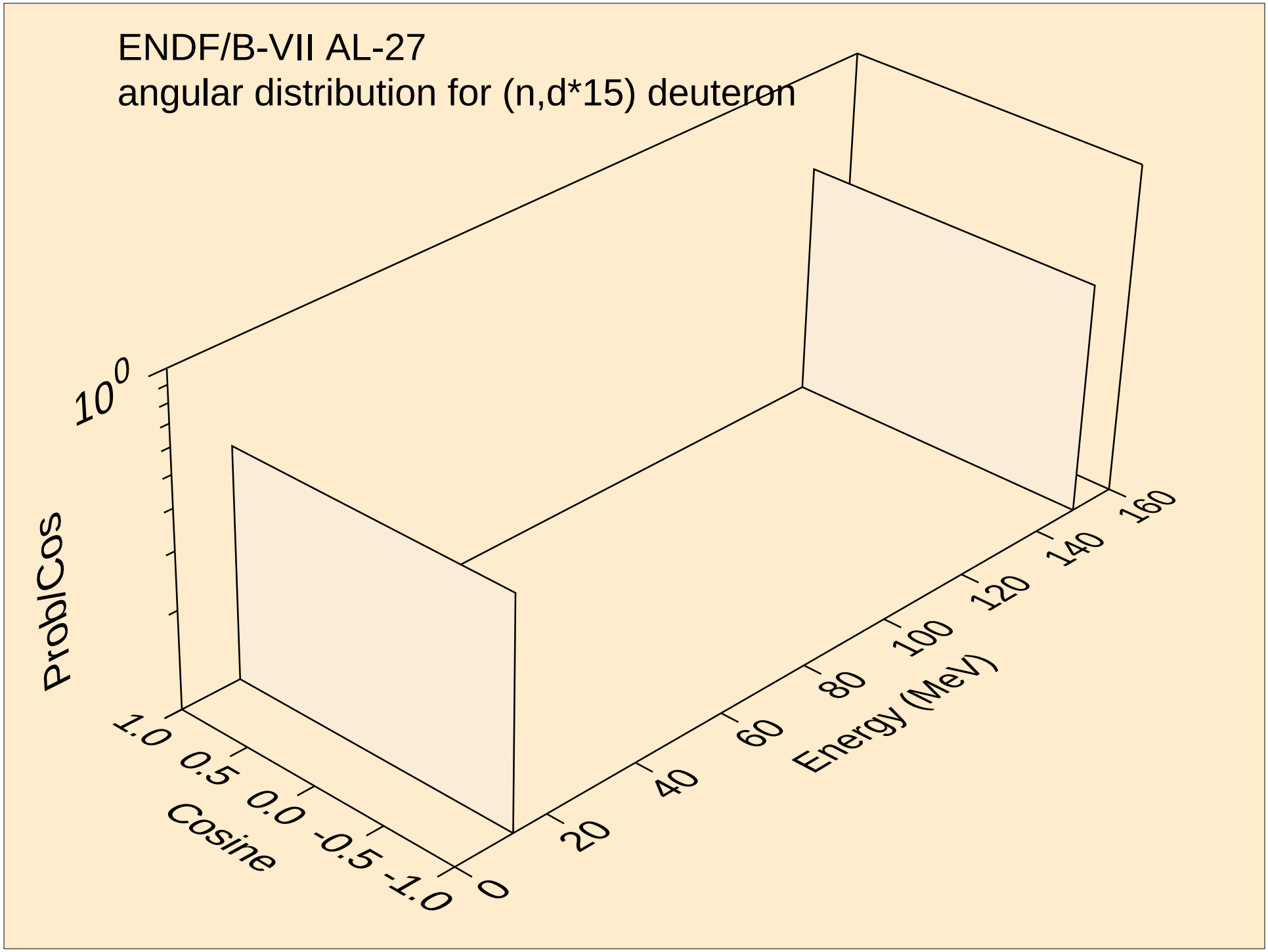

ENDF/B-VII AL-27
angular distribution for (n,d*10) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

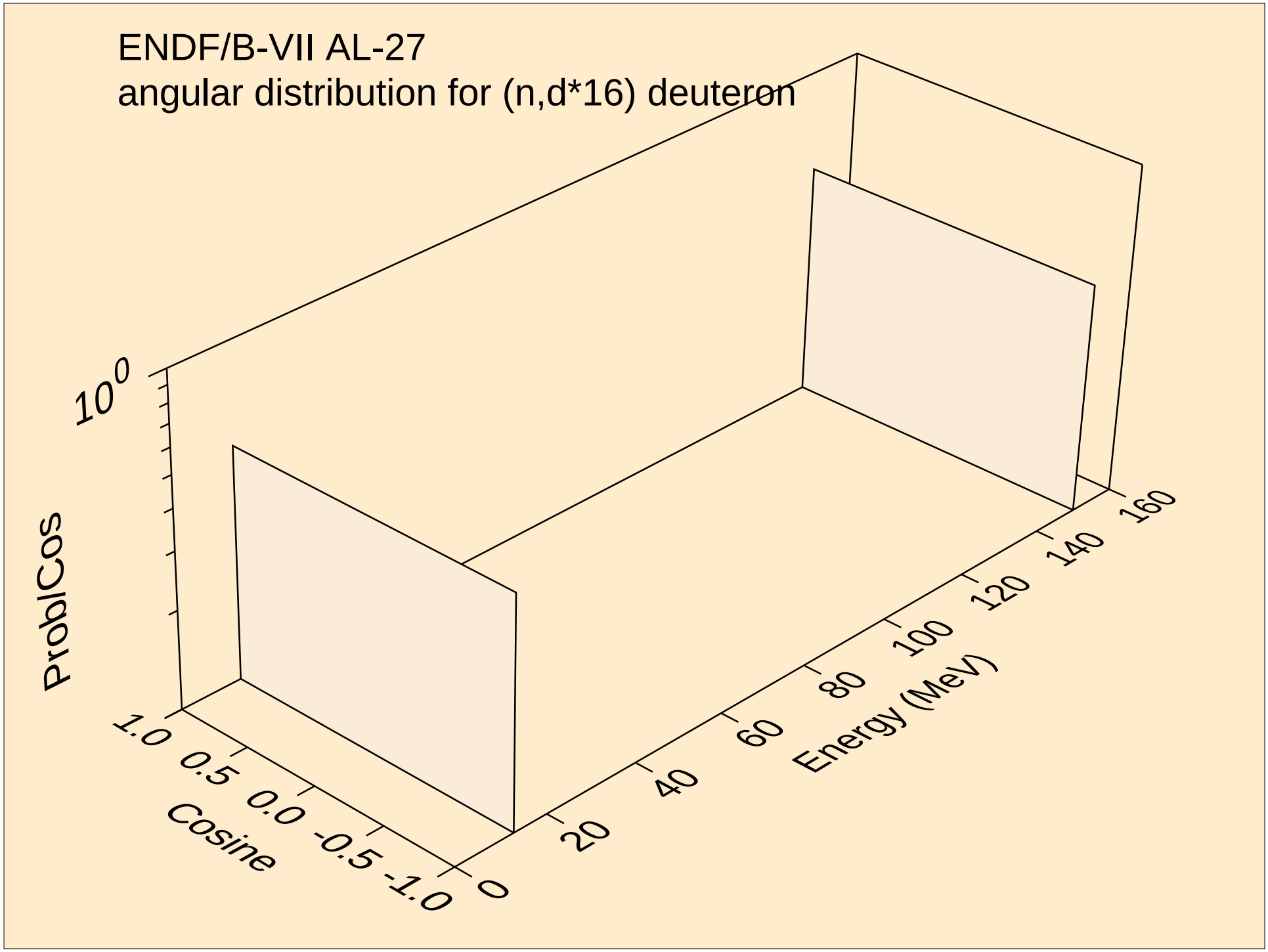

ENDF/B-VII AL-27
angular distribution for (n,d*11) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

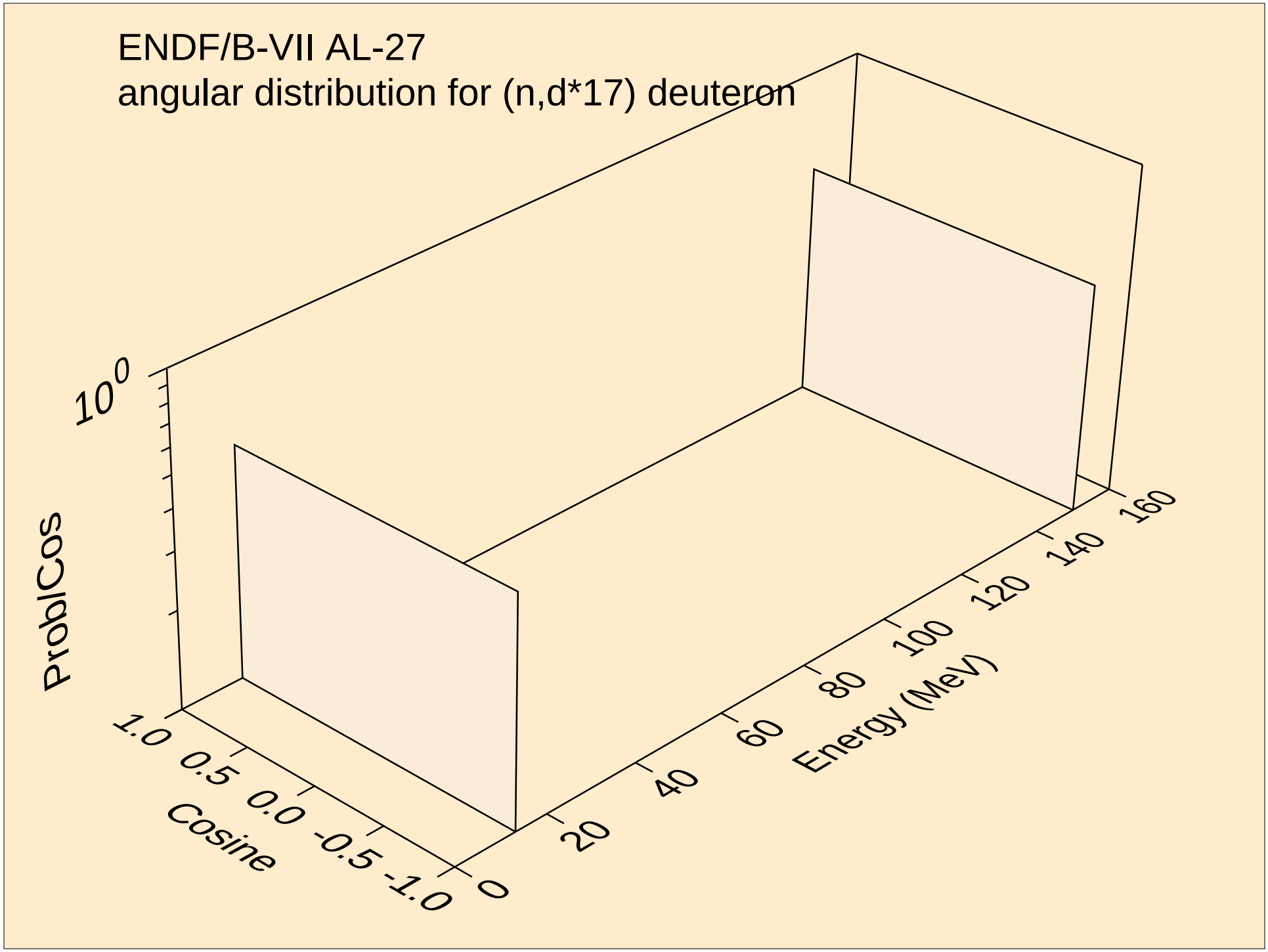

ENDF/B-VII AL-27
angular distribution for (n,d*12) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

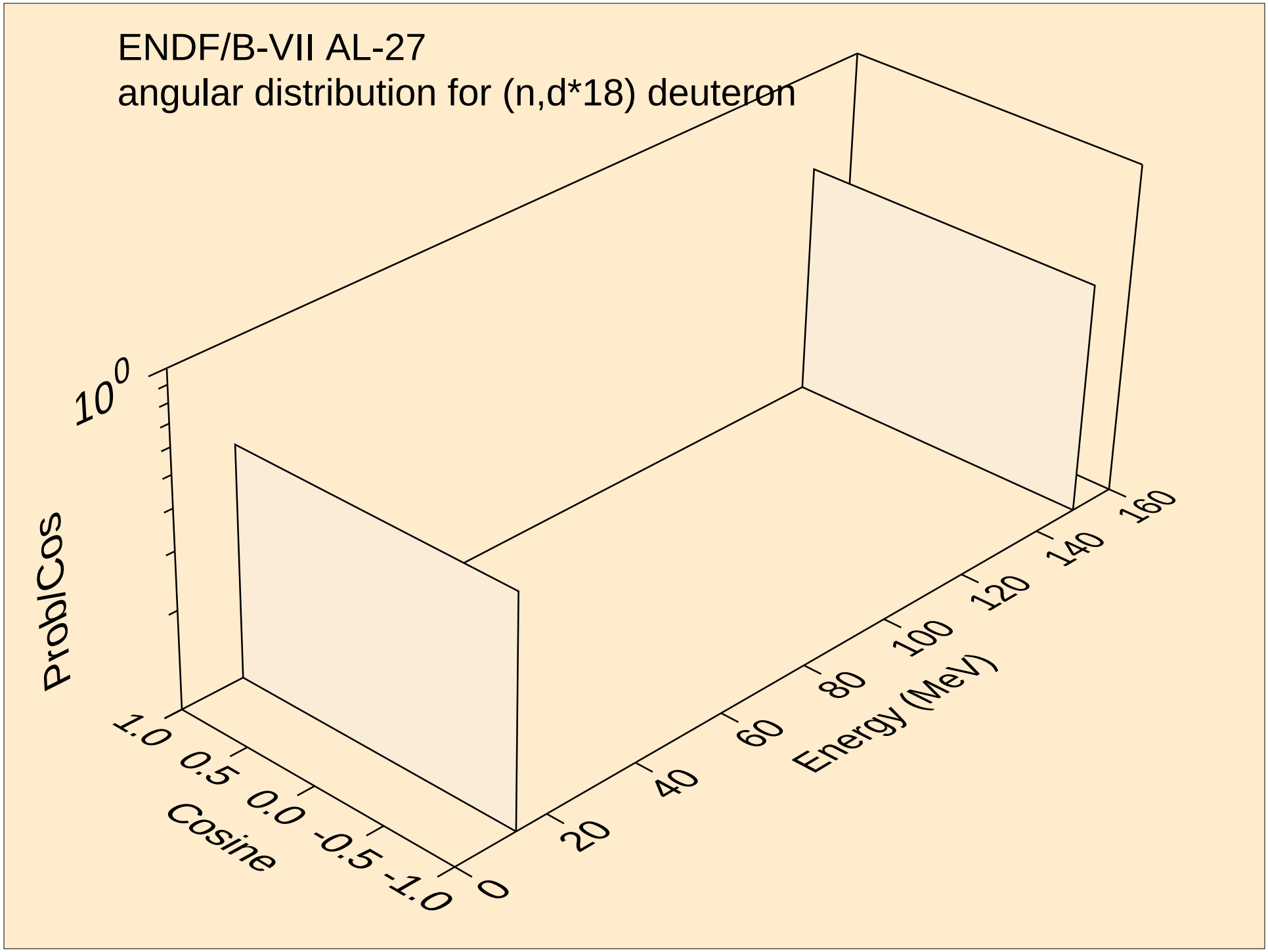

ENDF/B-VII AL-27
angular distribution for (n,d*13) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

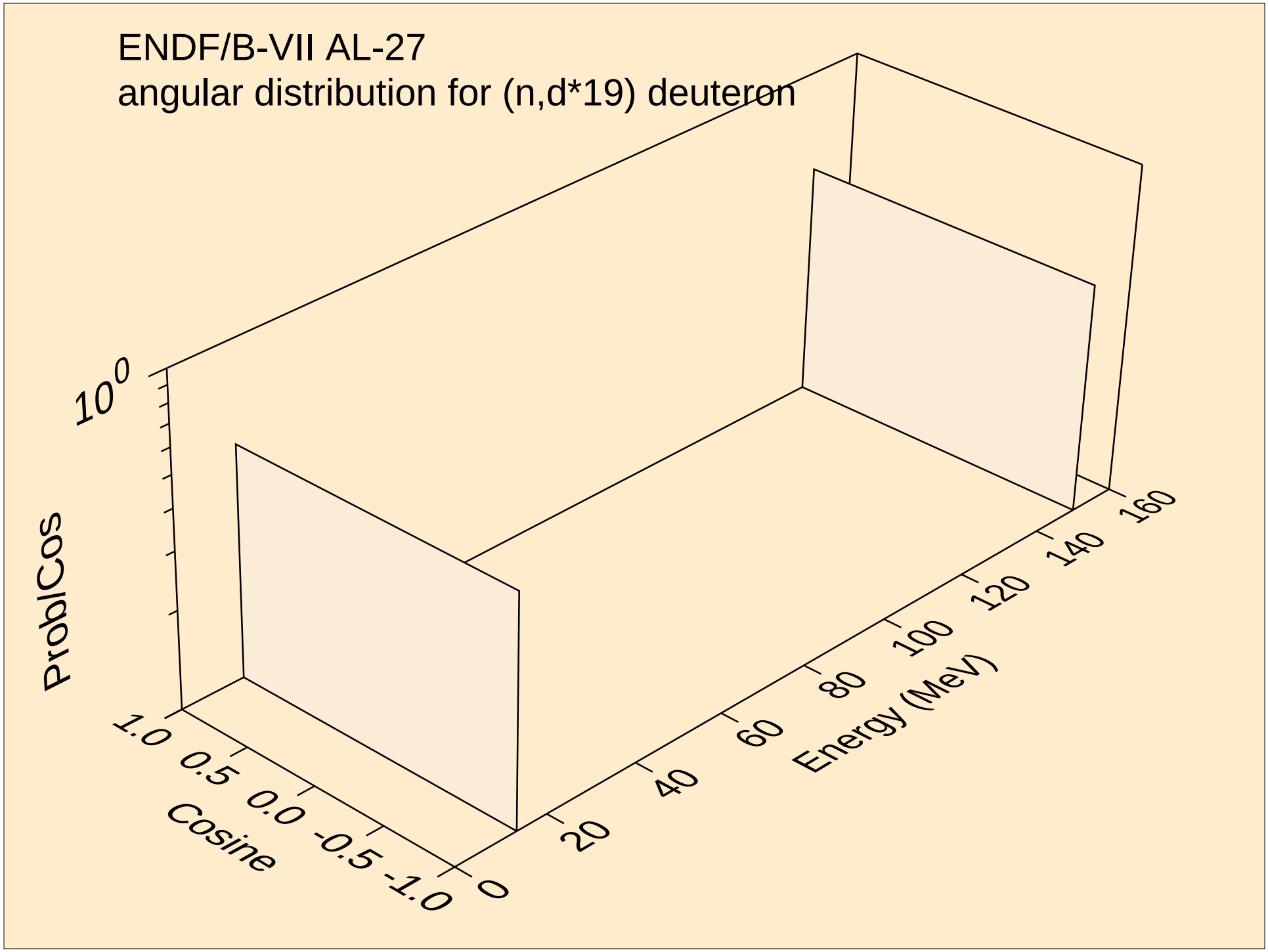

ENDF/B-VII AL-27
angular distribution for (n,d*14) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

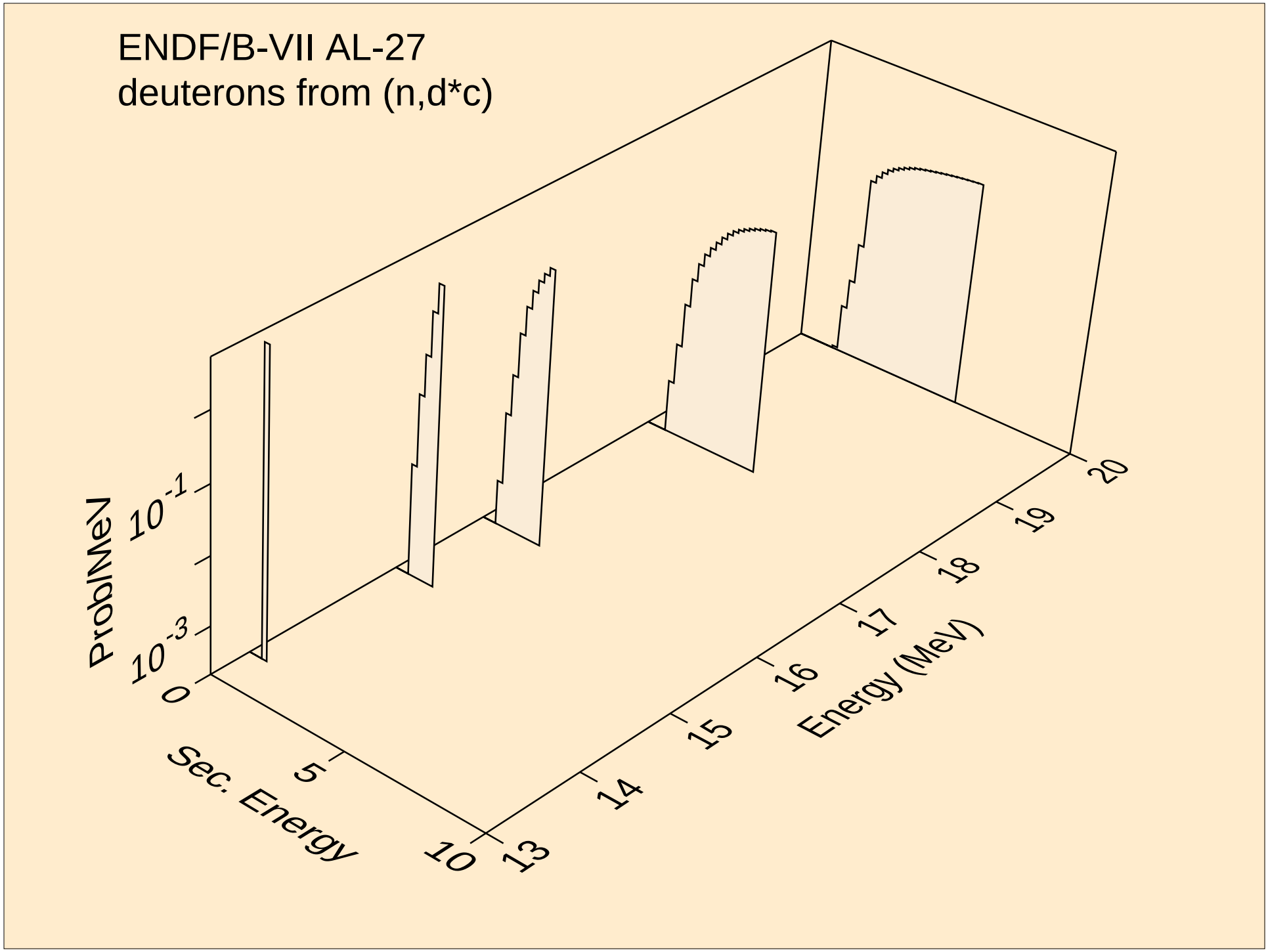

ENDF/B-VII AL-27
angular distribution for (n,d*15) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

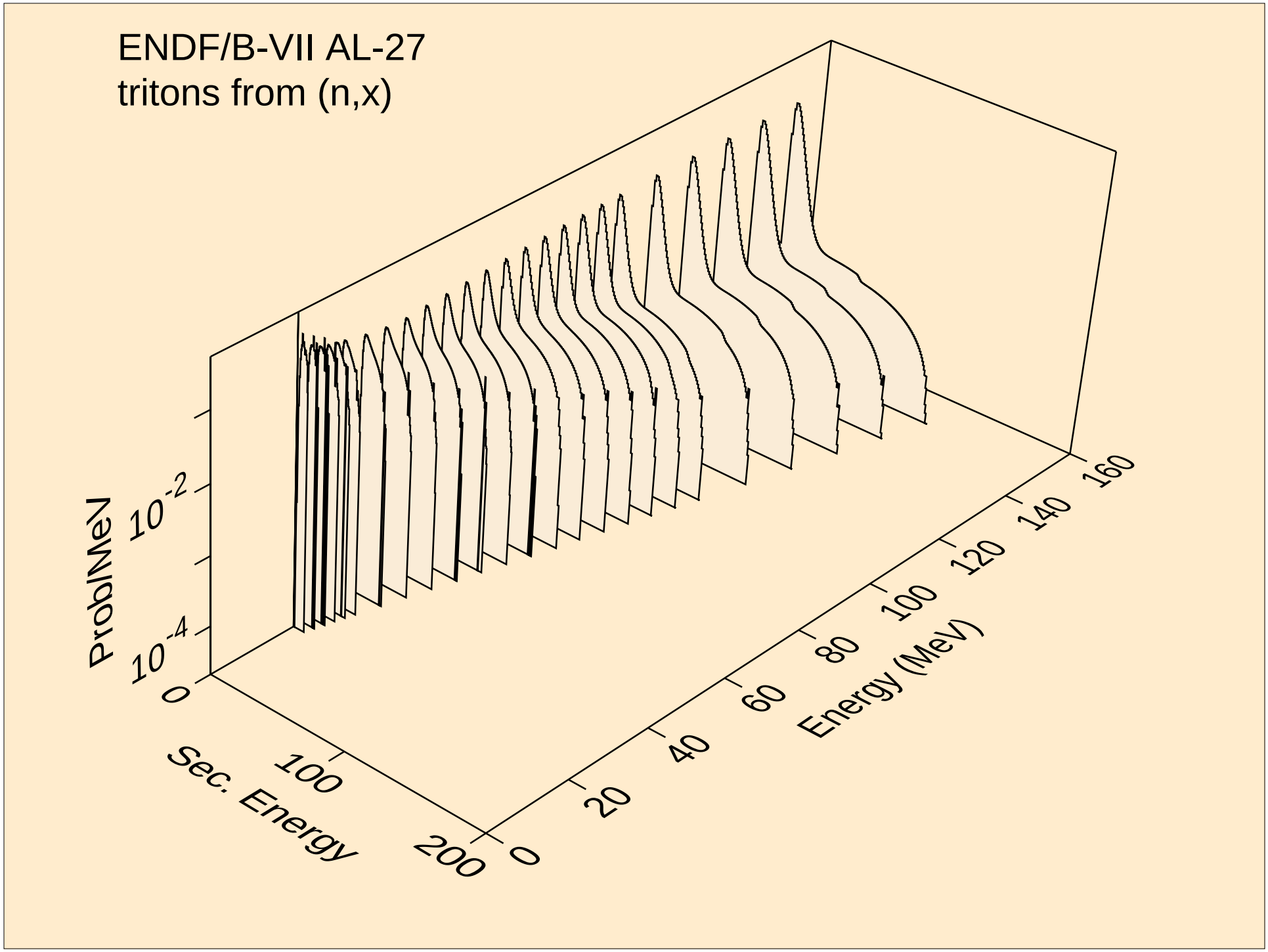

ENDF/B-VII AL-27
angular distribution for (n,d*16) deuteron
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

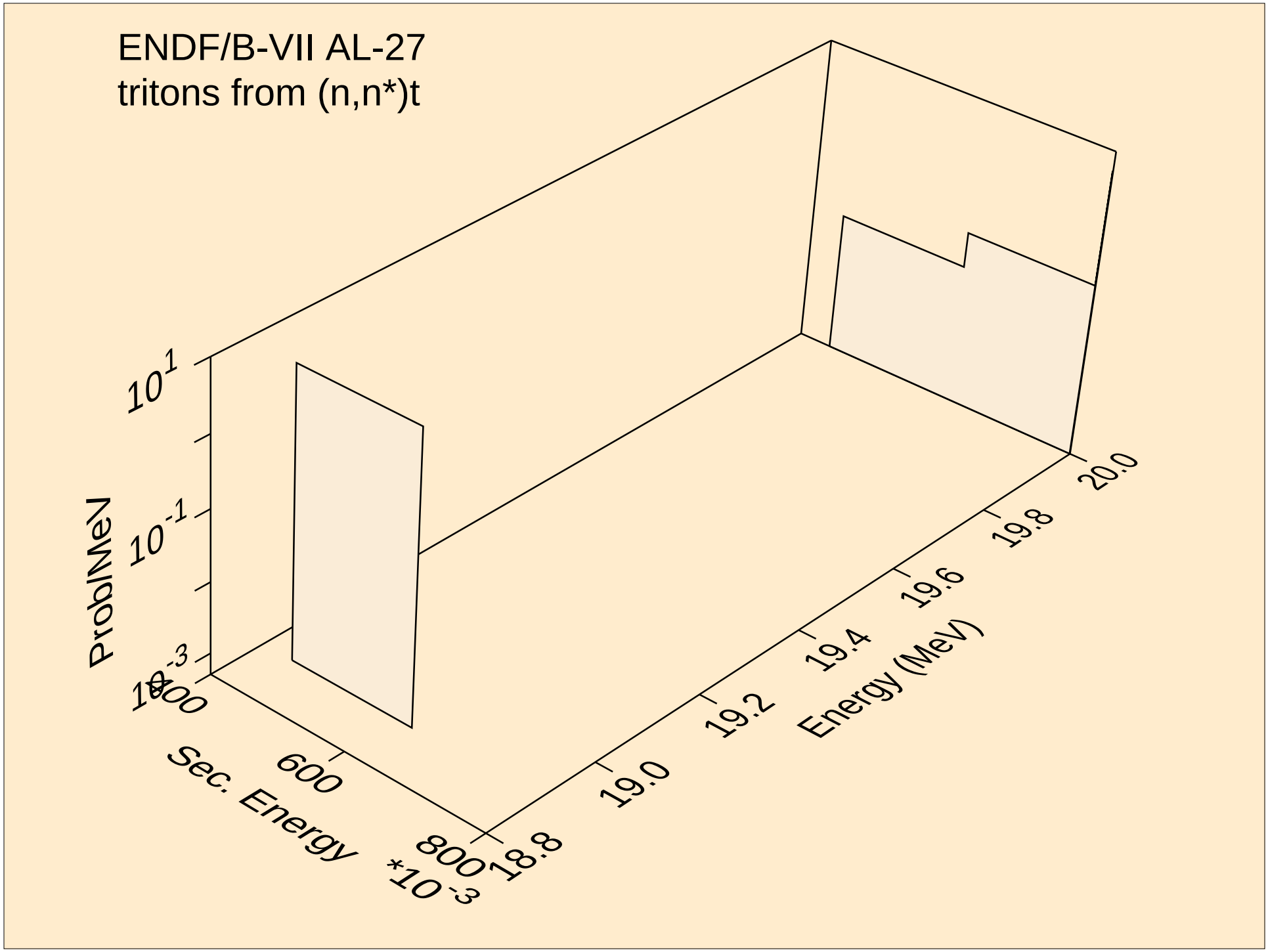

ENDF/B-VII AL-27
angular distribution for (n,d*17) deuteron
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

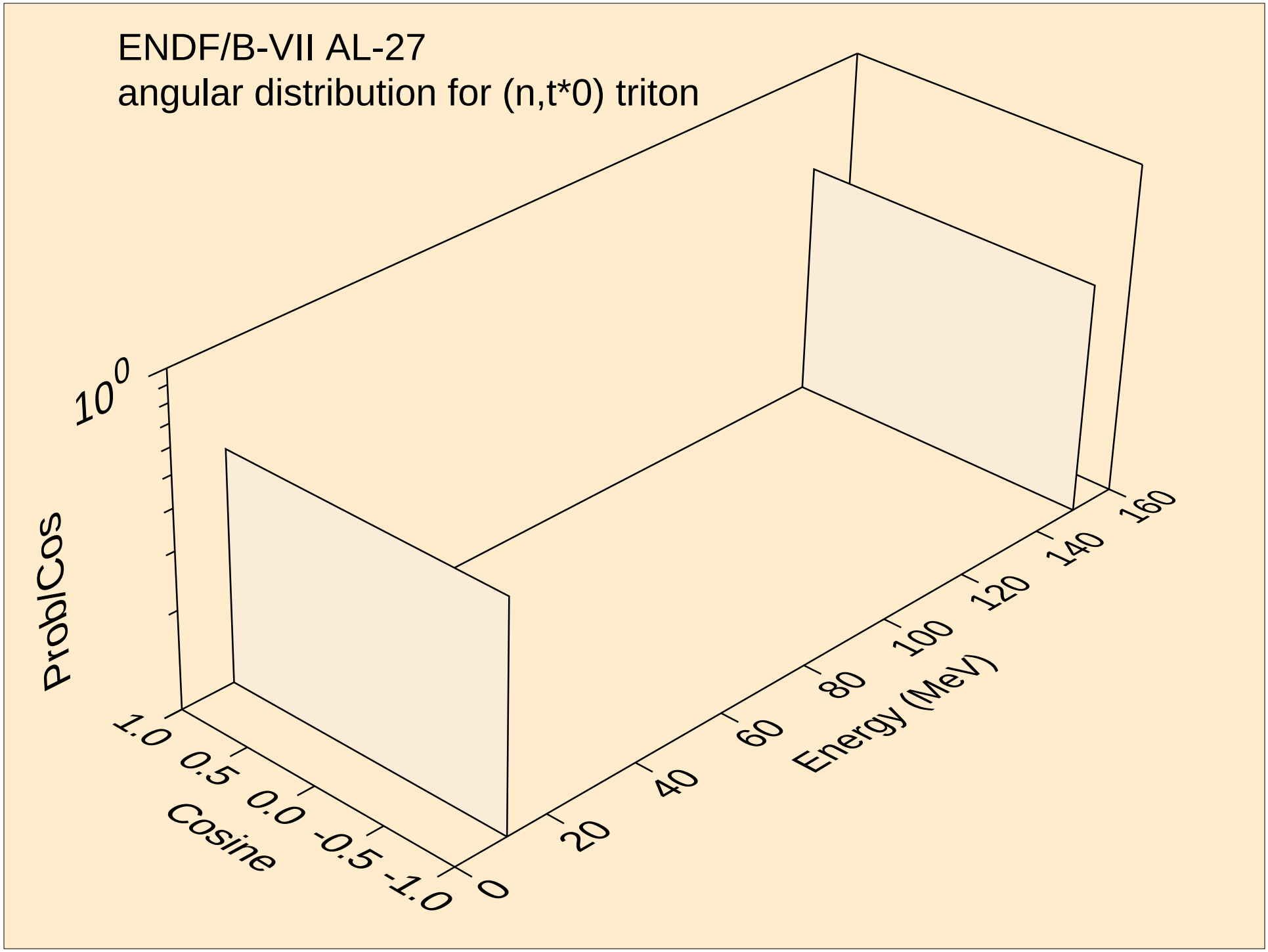

ENDF/B-VII AL-27
angular distribution for (n,d*18) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

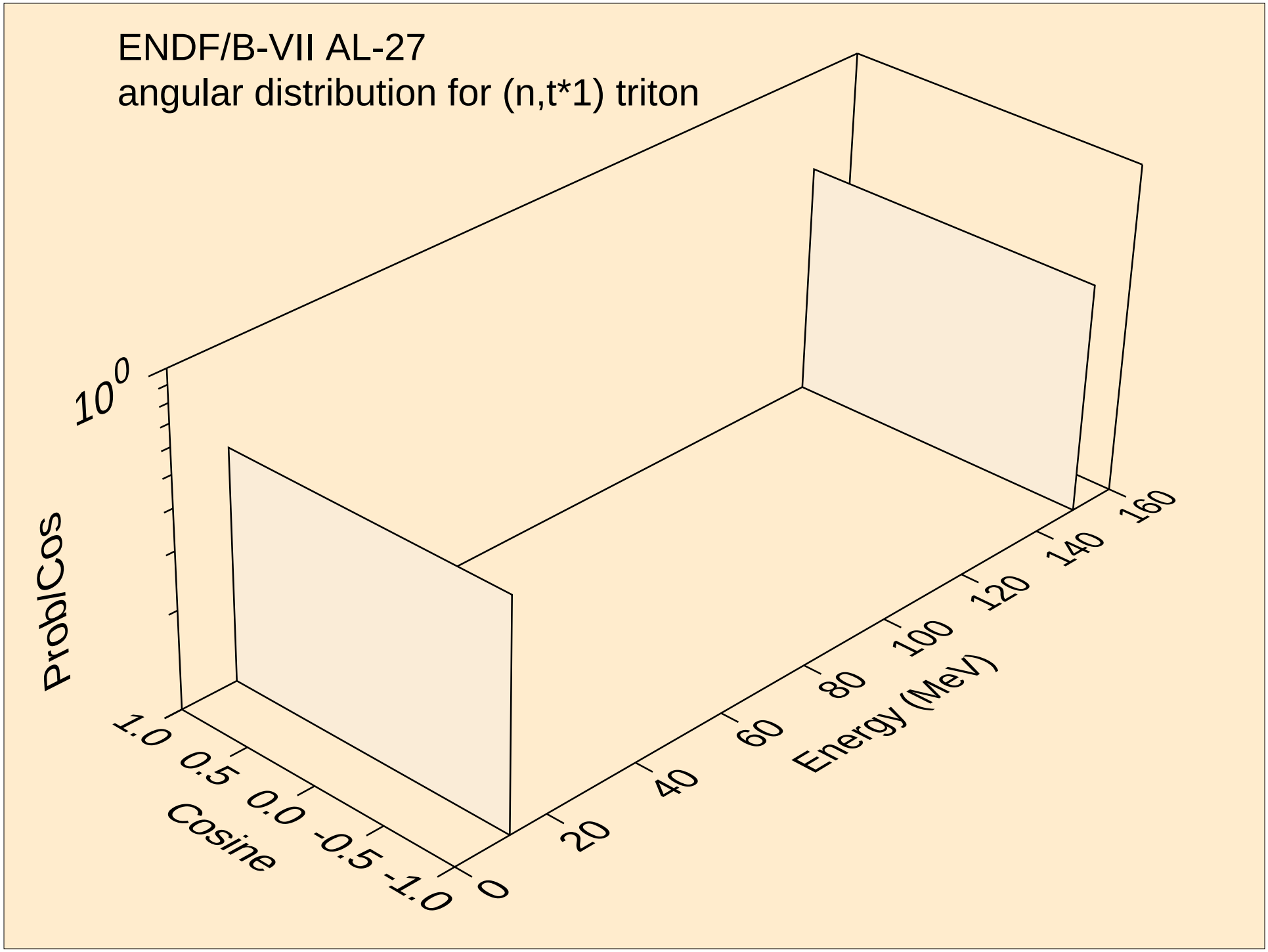

ENDF/B-VII AL-27
angular distribution for (n,d*19) deuteron
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

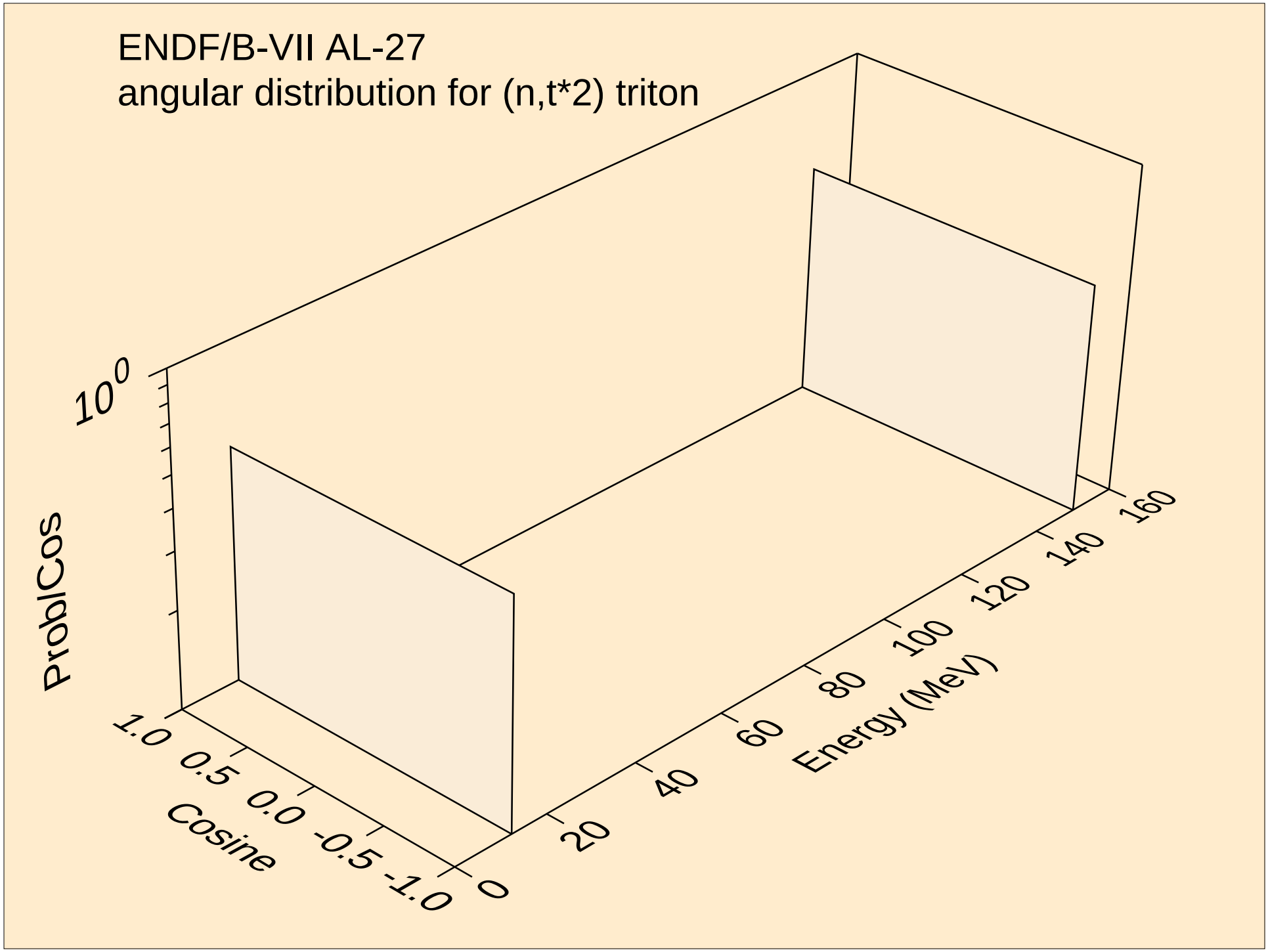

ENDF/B-VII AL-27
deuterons from (n,d*c)
Prob/MeV
10^-1
10^-3
0
Sec. Energy
5
10
13
14
15
16
17
18
19
20
Energy (MeV)

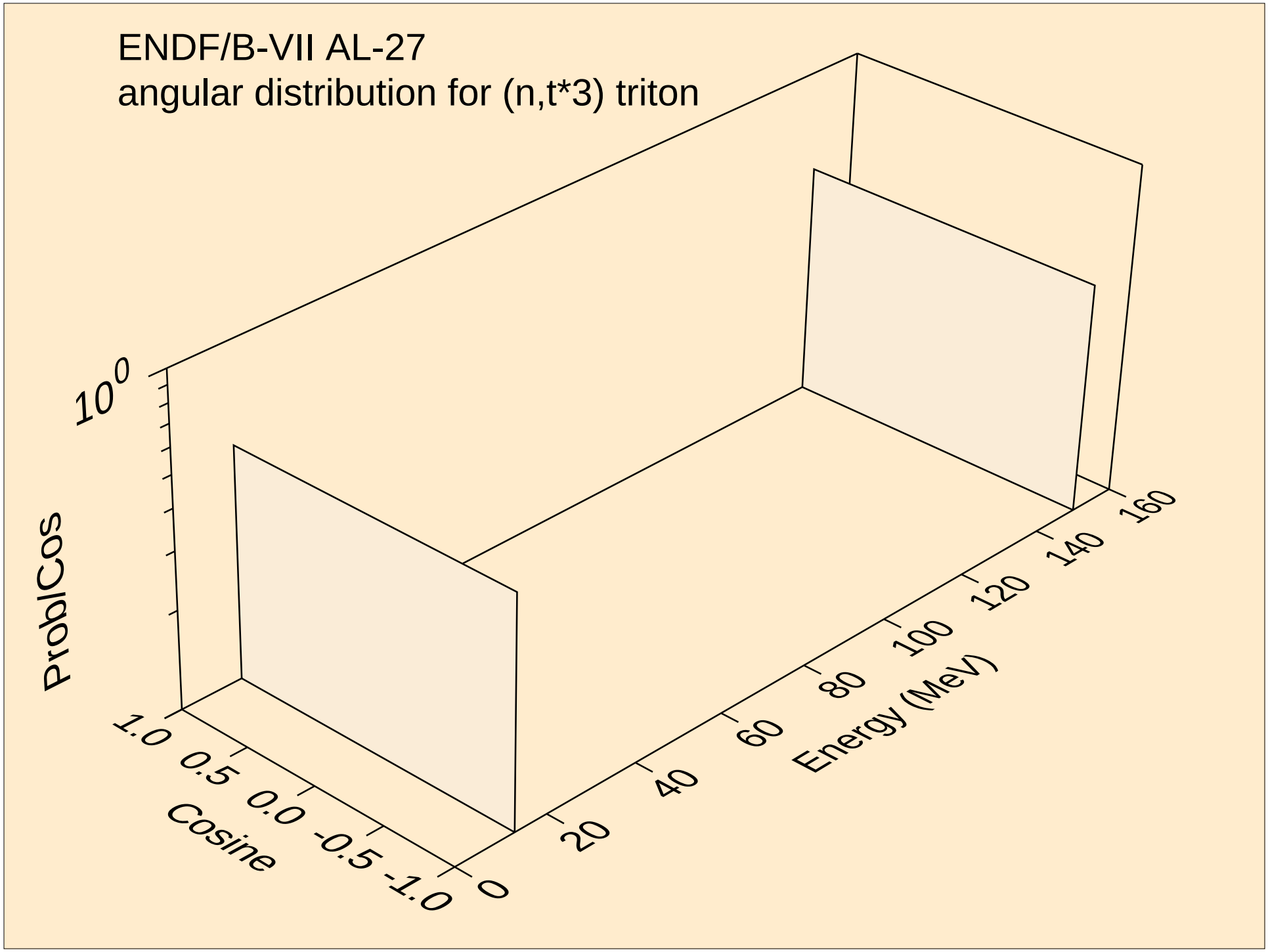

ENDF/B-VII AL-27
tritons from (n,x)
Prob/MeV
10^-2
10^-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

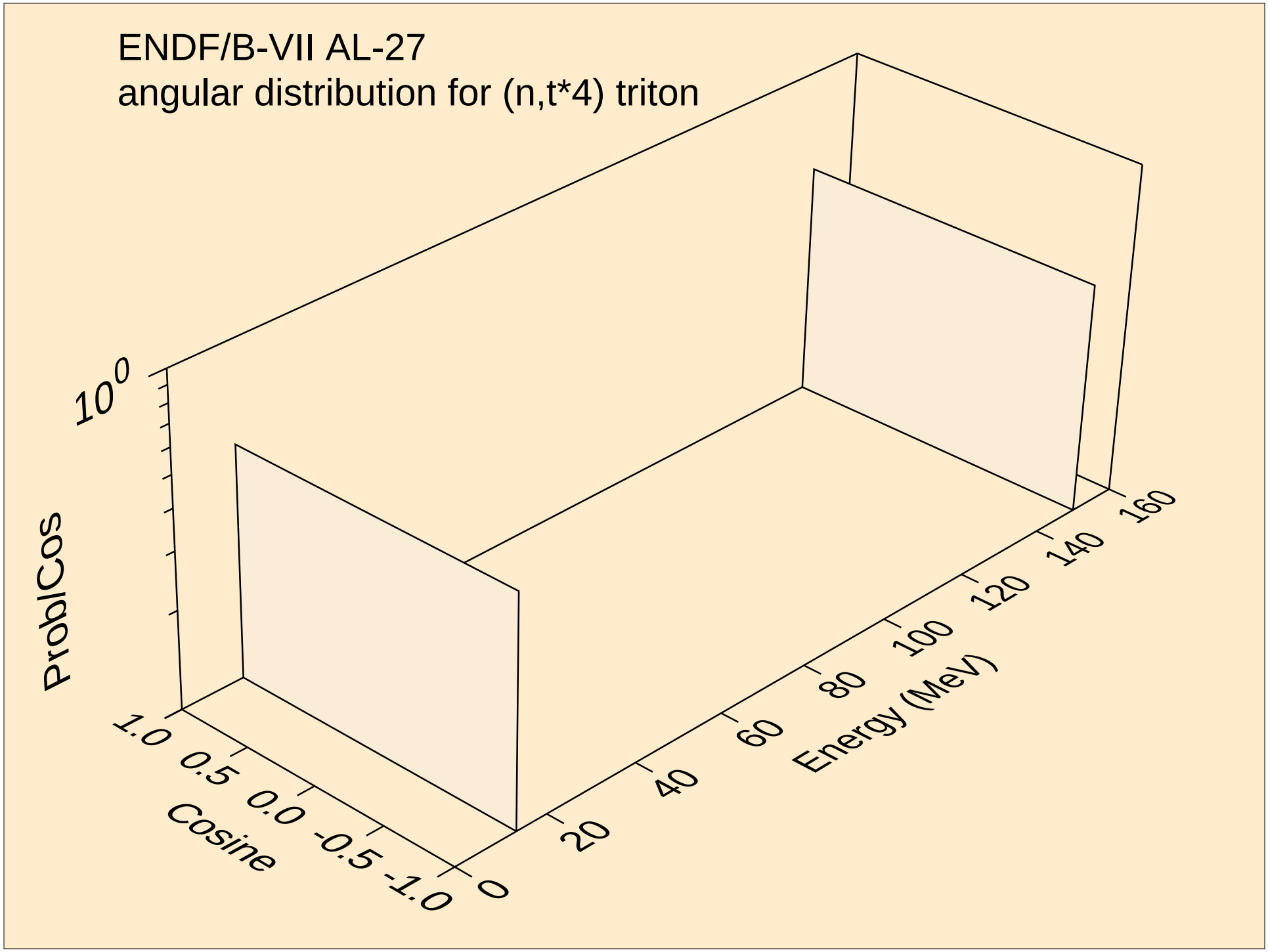

ENDF/B-VII AL-27
tritons from (n,n*)t
Prob/MeV
10^1
10^-1
10^-3
400
600
800
Sec. Energy
*10^-3
18.8
19.0
19.2
19.4
19.6
19.8
20.0
Energy (MeV)

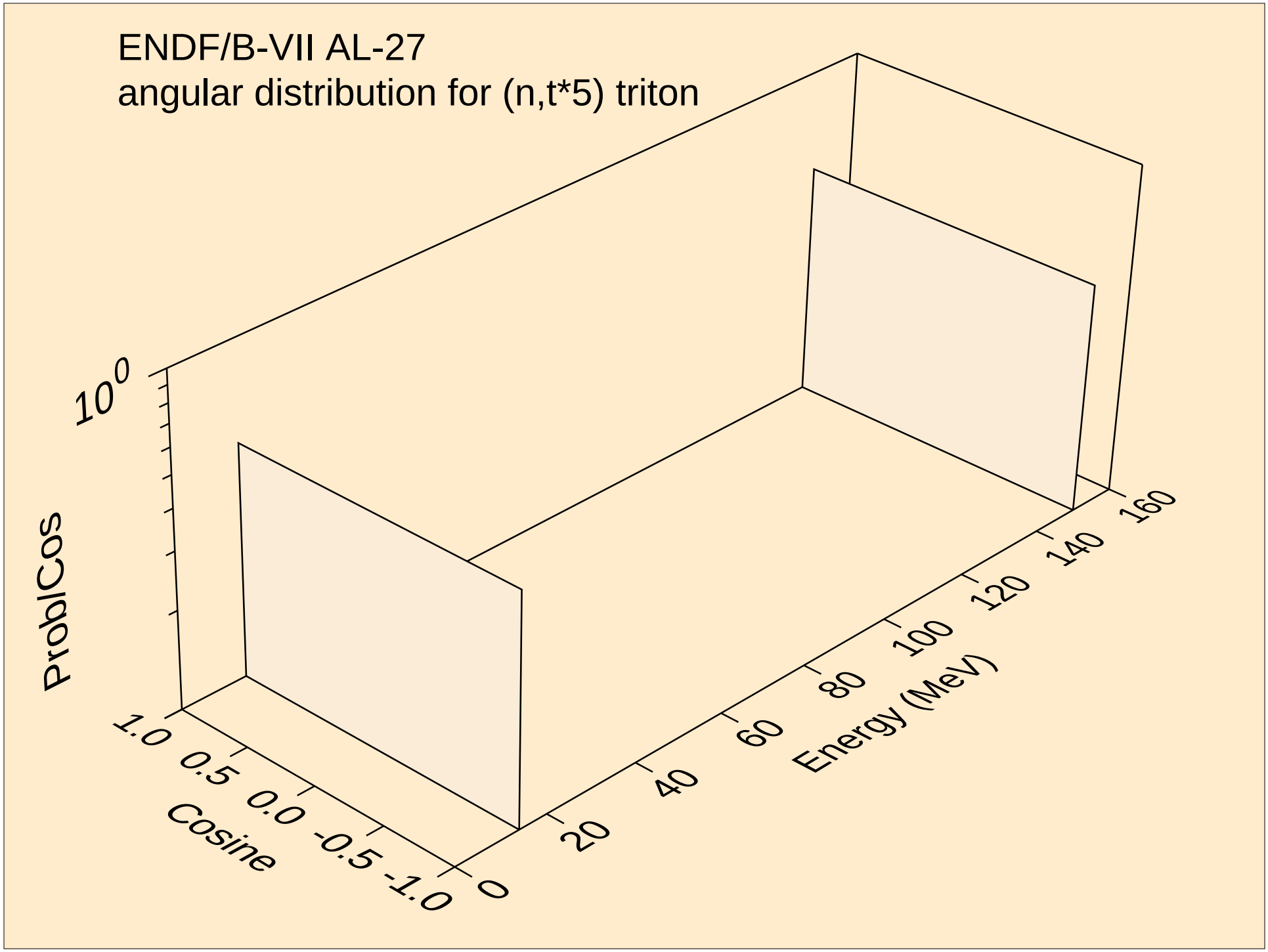

ENDF/B-VII AL-27
angular distribution for (n,t*0) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

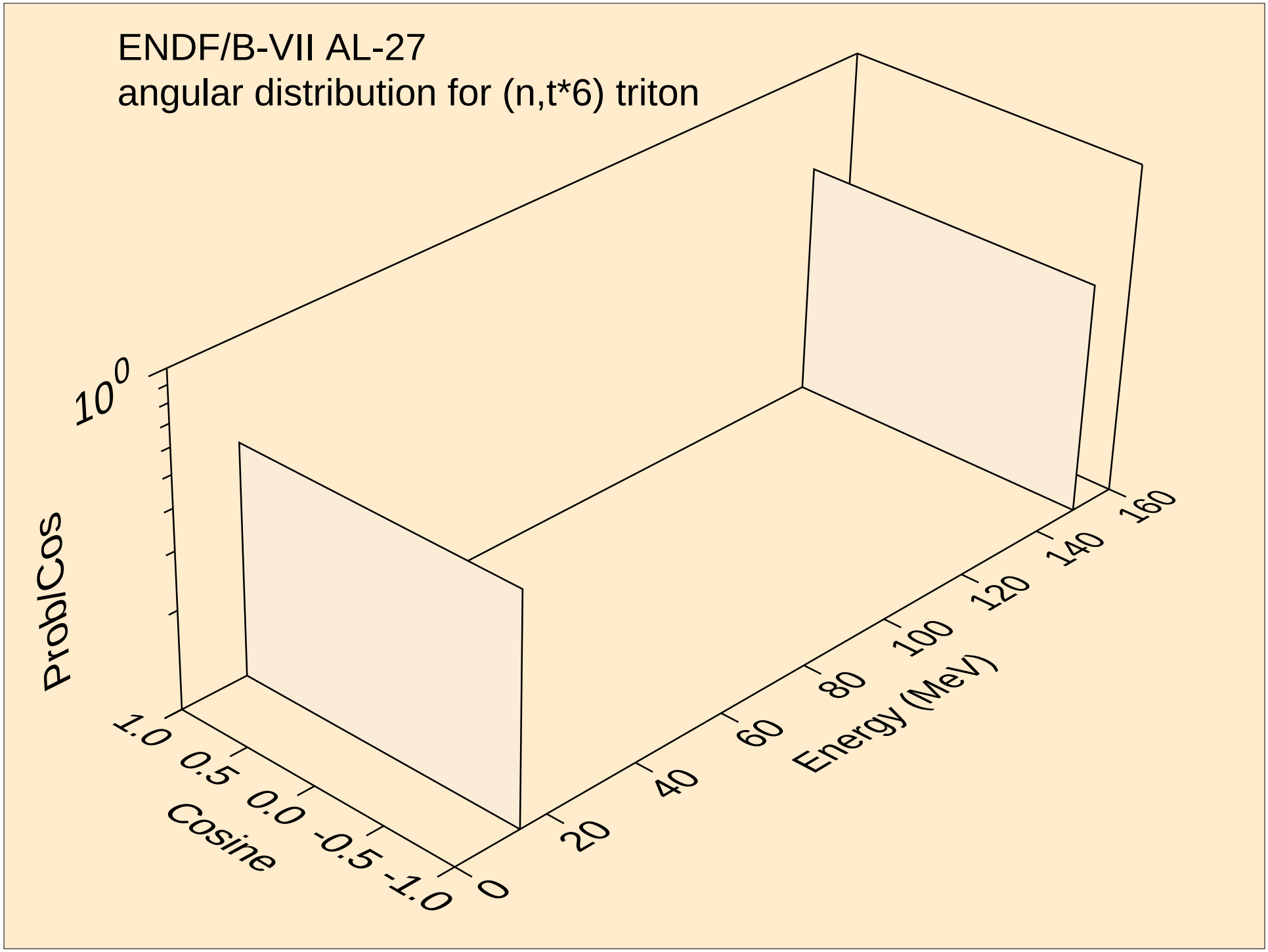

ENDF/B-VII AL-27
angular distribution for (n,t*1) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

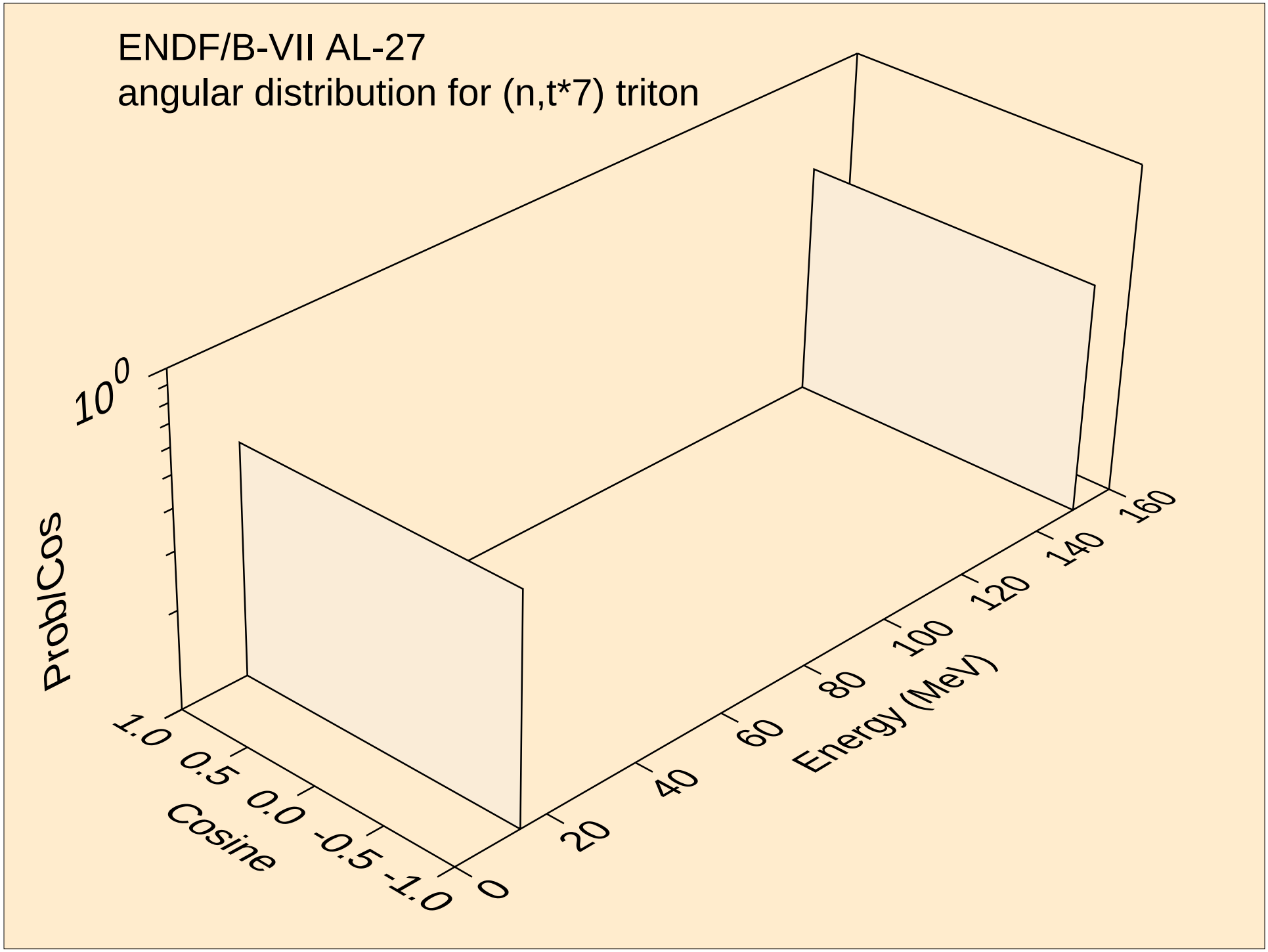

ENDF/B-VII AL-27
angular distribution for (n,t*2) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

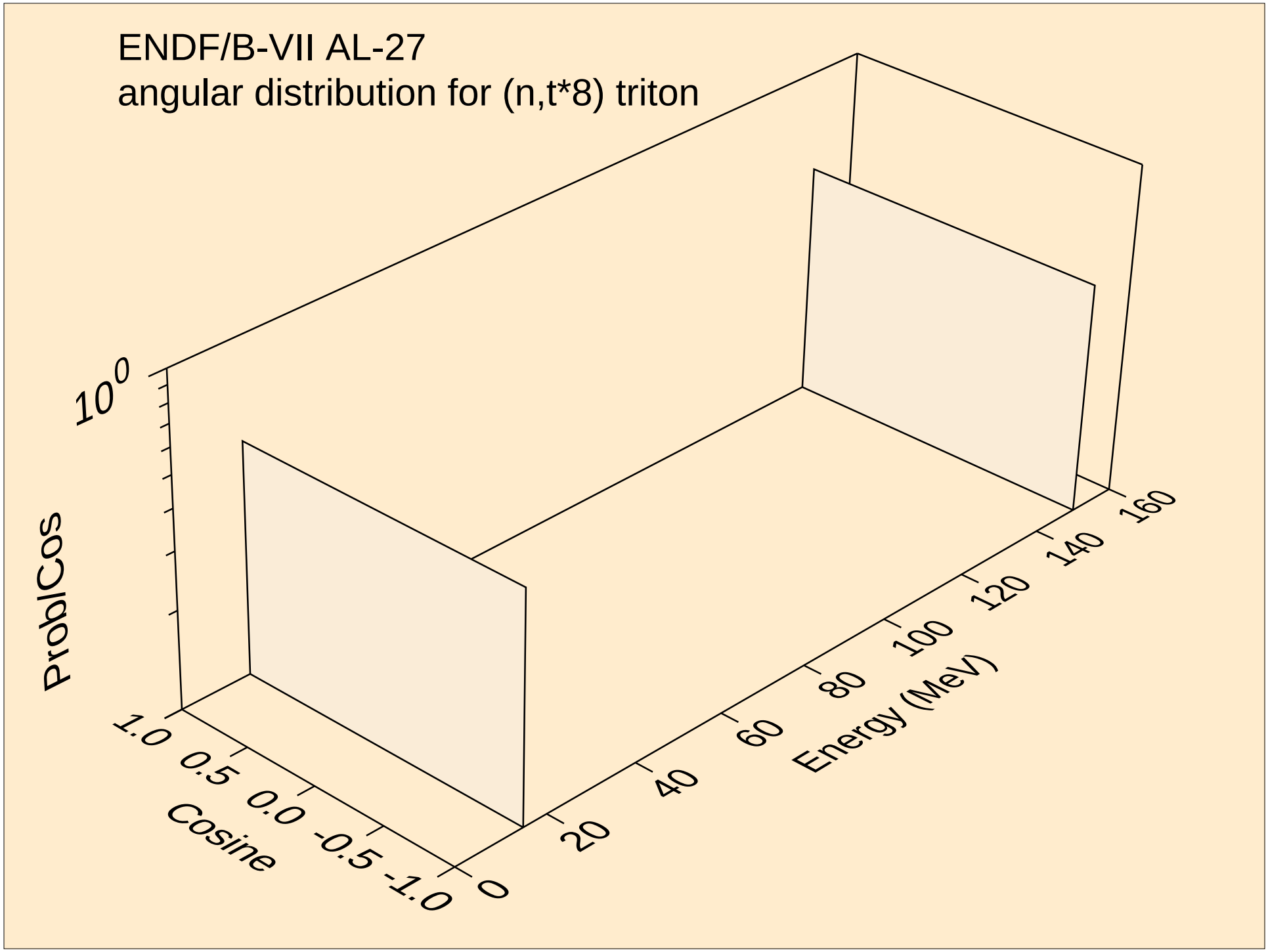

ENDF/B-VII AL-27
angular distribution for (n,t*3) triton
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

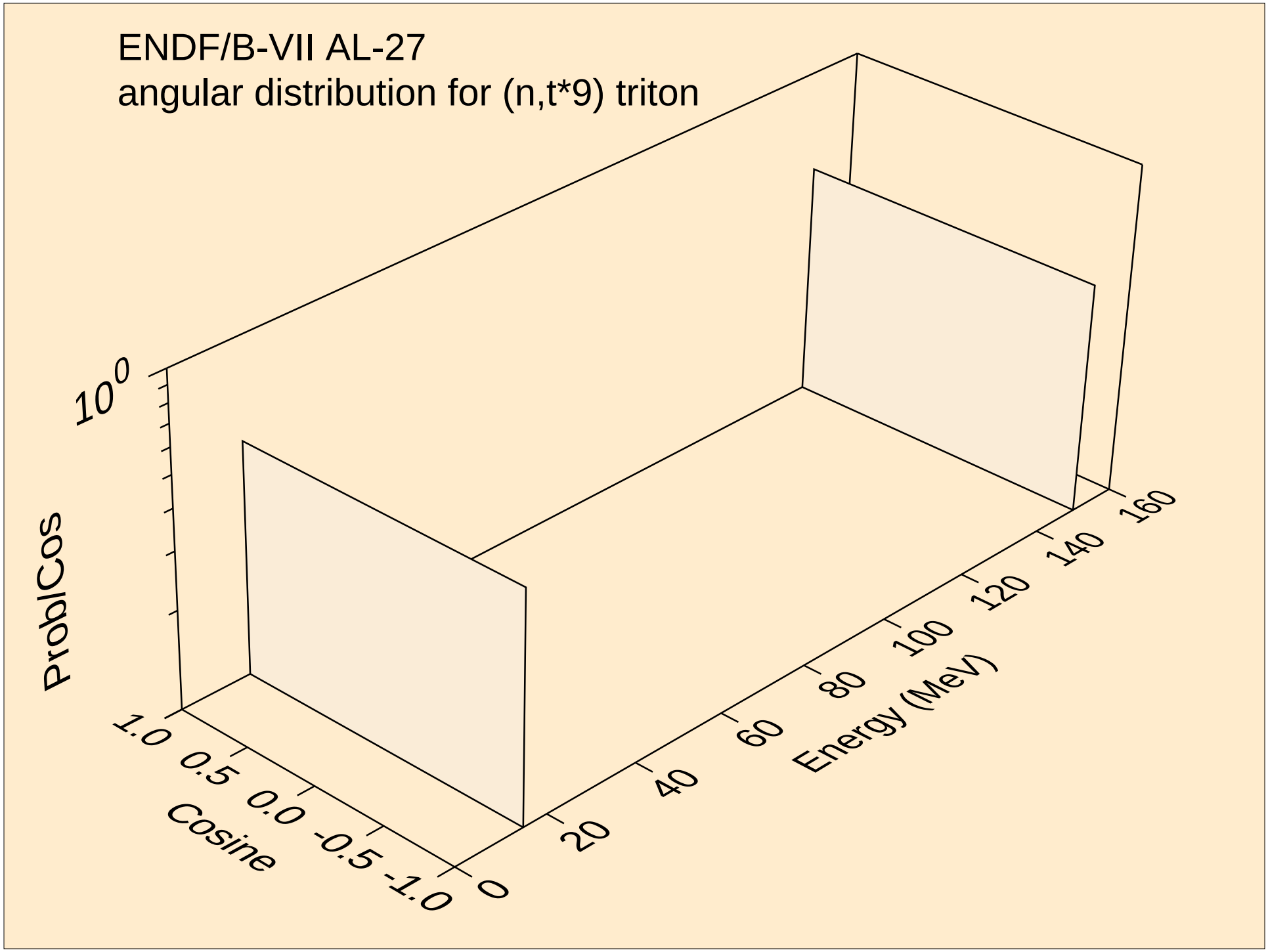

ENDF/B-VII AL-27
angular distribution for (n,t*4) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

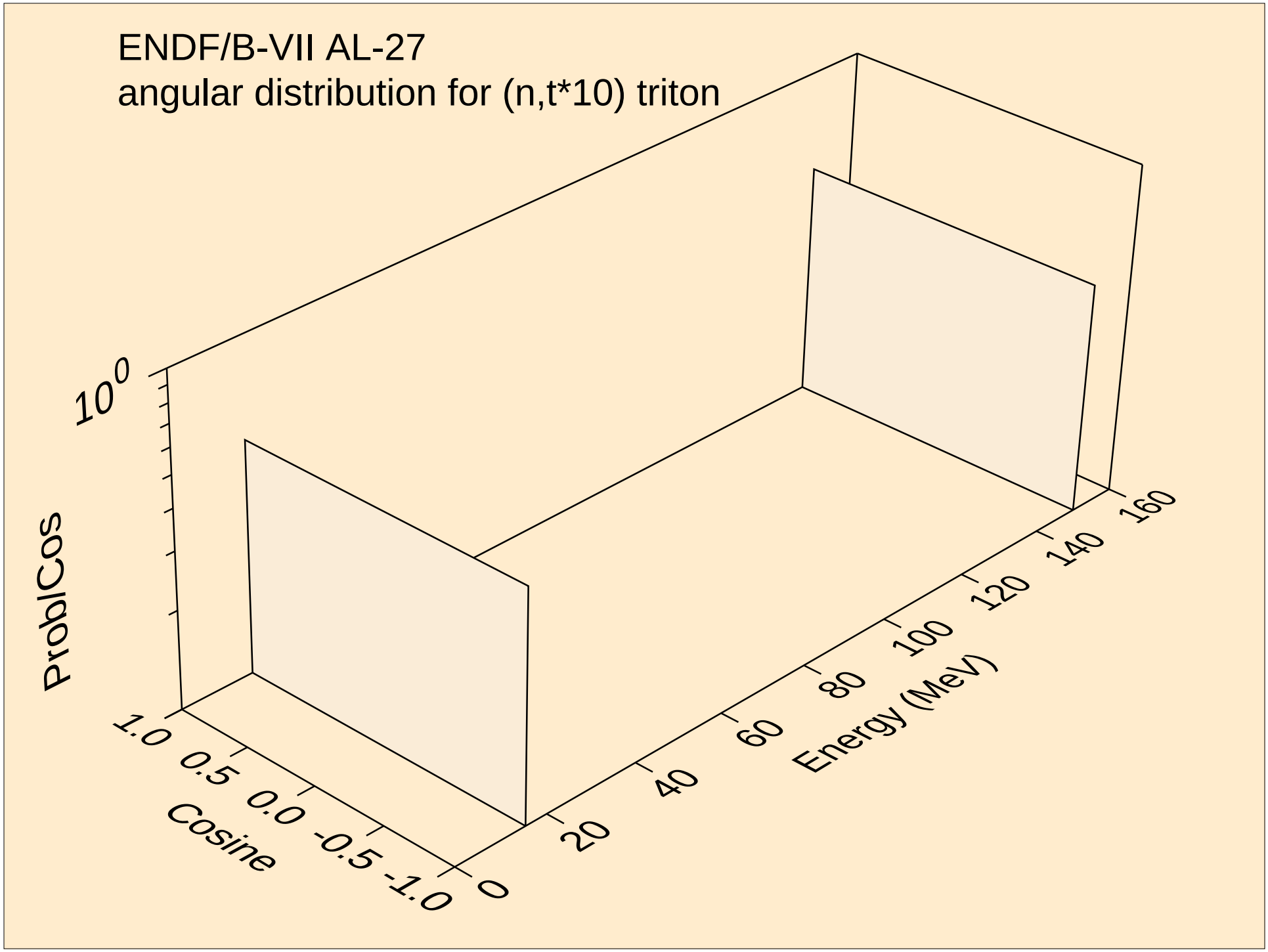

ENDF/B-VII AL-27
angular distribution for (n,t*5) triton
10^0
ProbCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

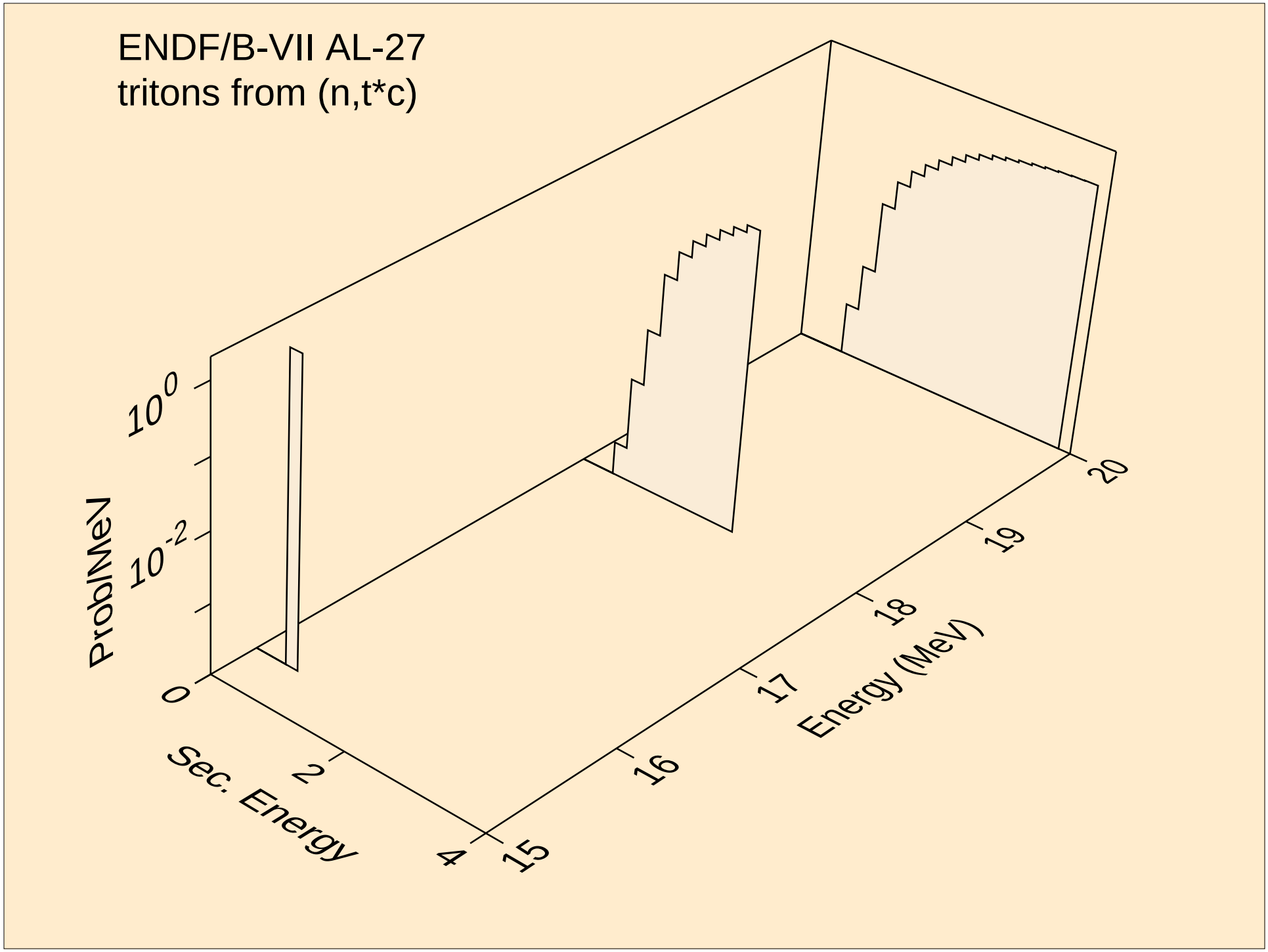

ENDF/B-VII AL-27
angular distribution for (n,t*6) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

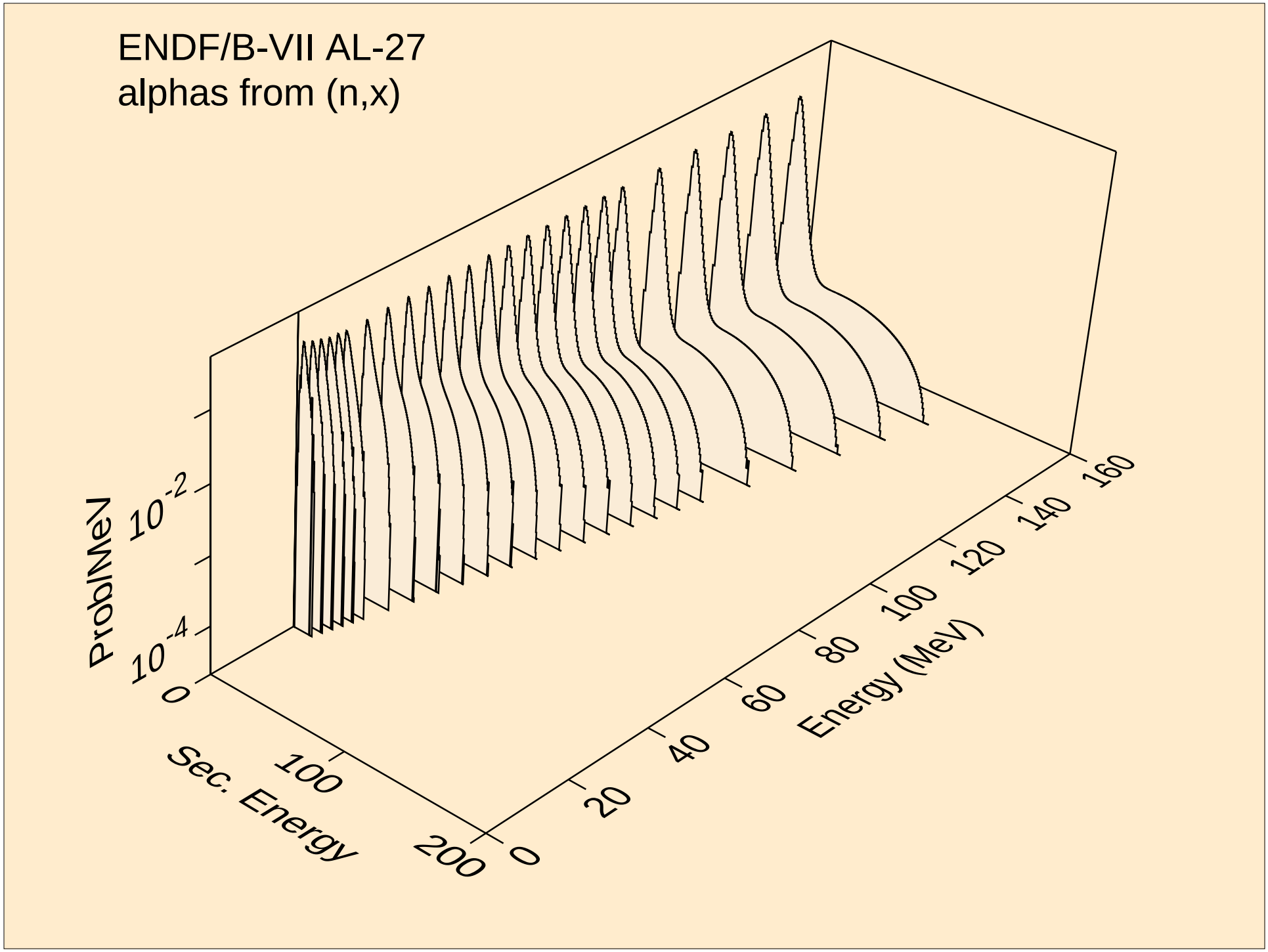

ENDF/B-VII AL-27
angular distribution for (n,t*7) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

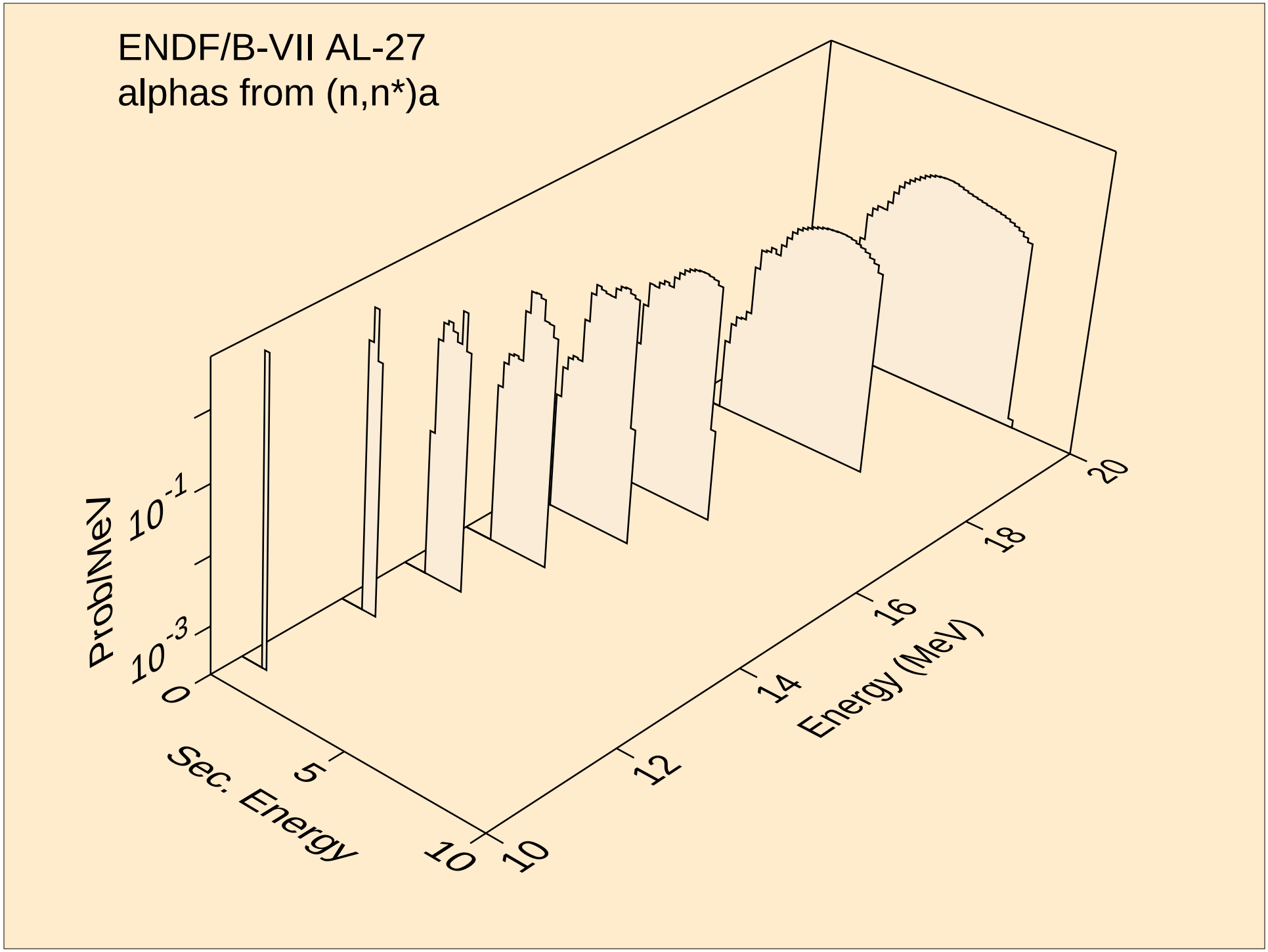

ENDF/B-VII AL-27
angular distribution for (n,t*8) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

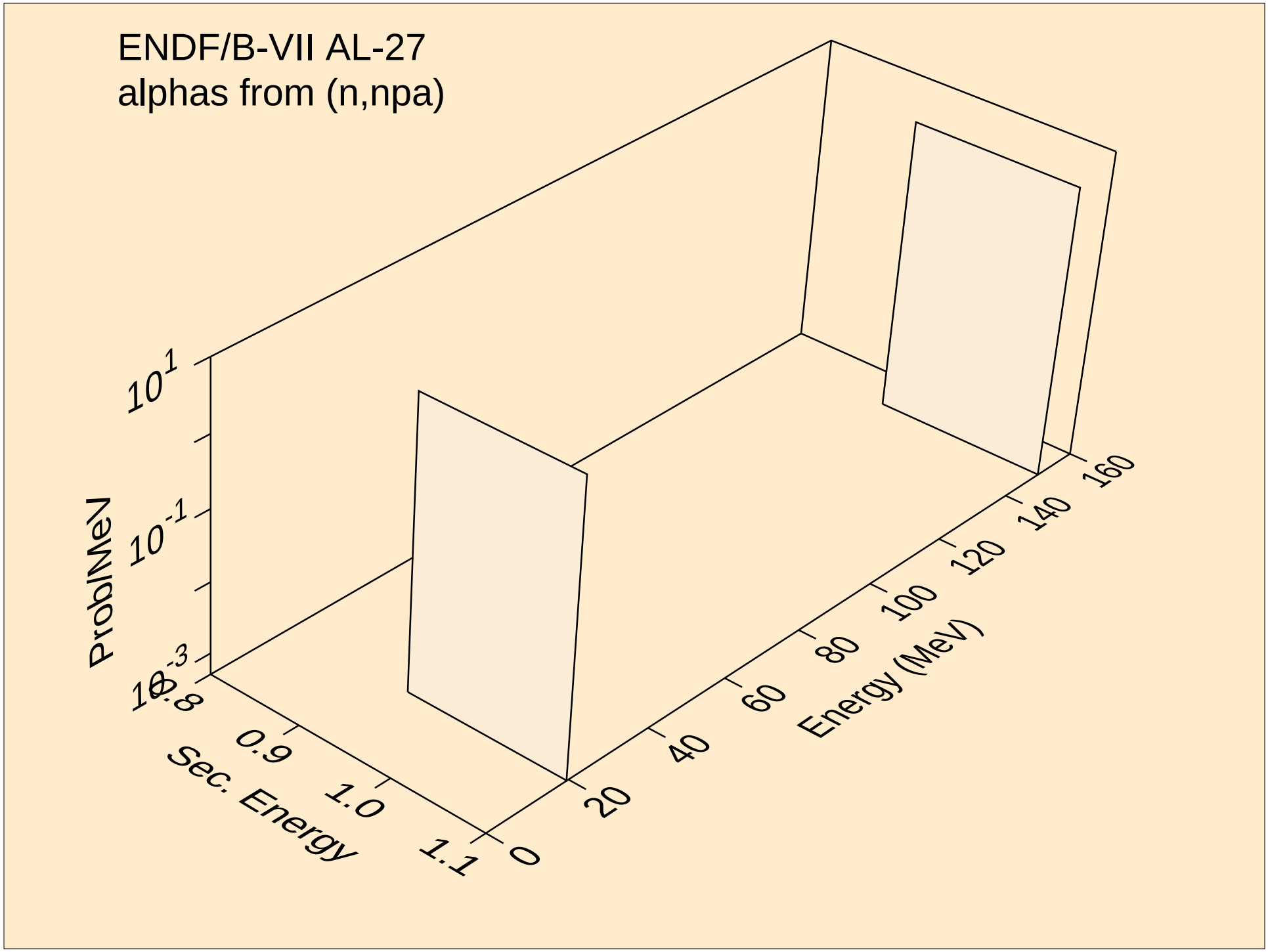

ENDF/B-VII AL-27
angular distribution for (n,t*9) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

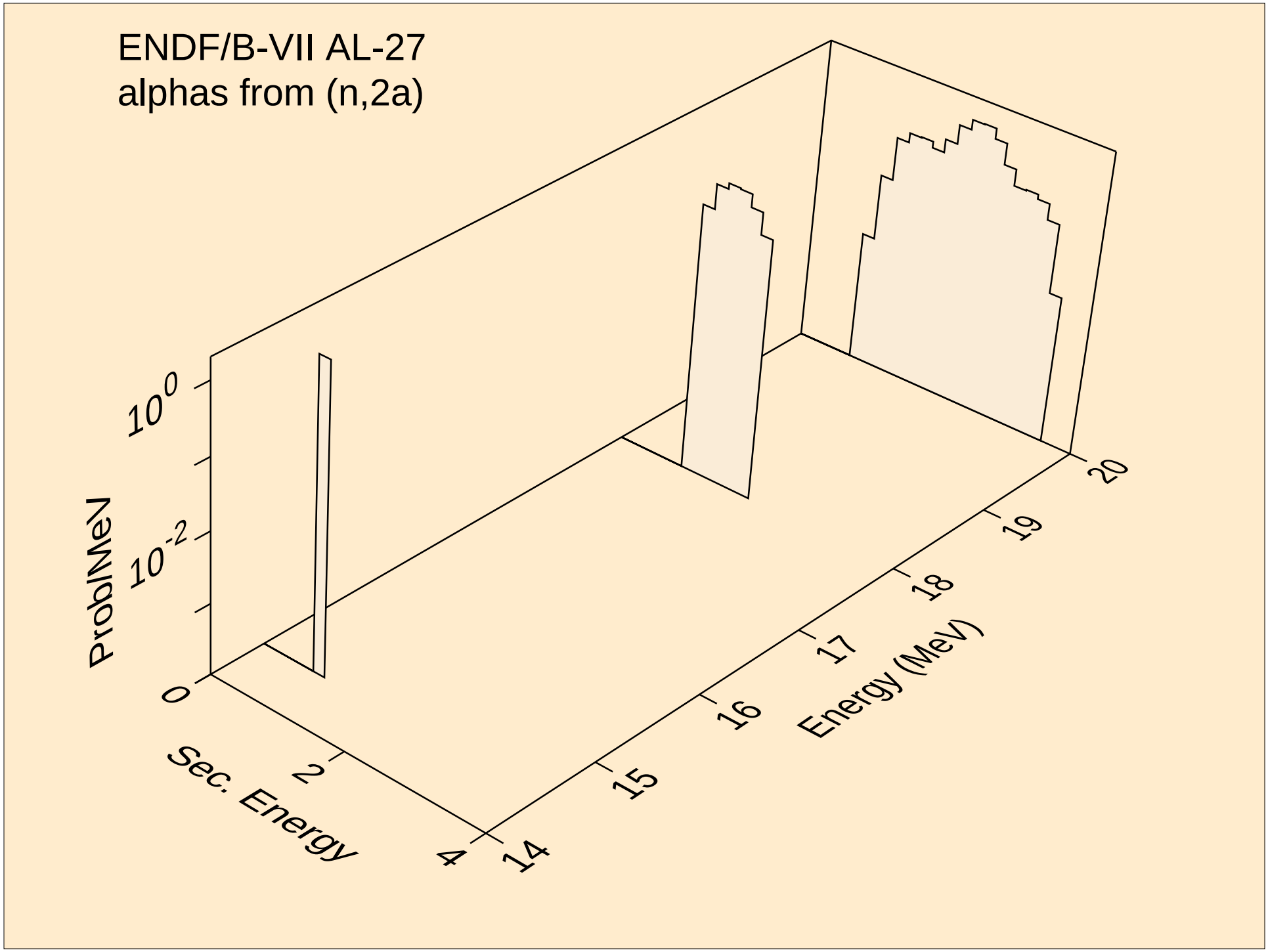

ENDF/B-VII AL-27
angular distribution for (n,t*10) triton
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

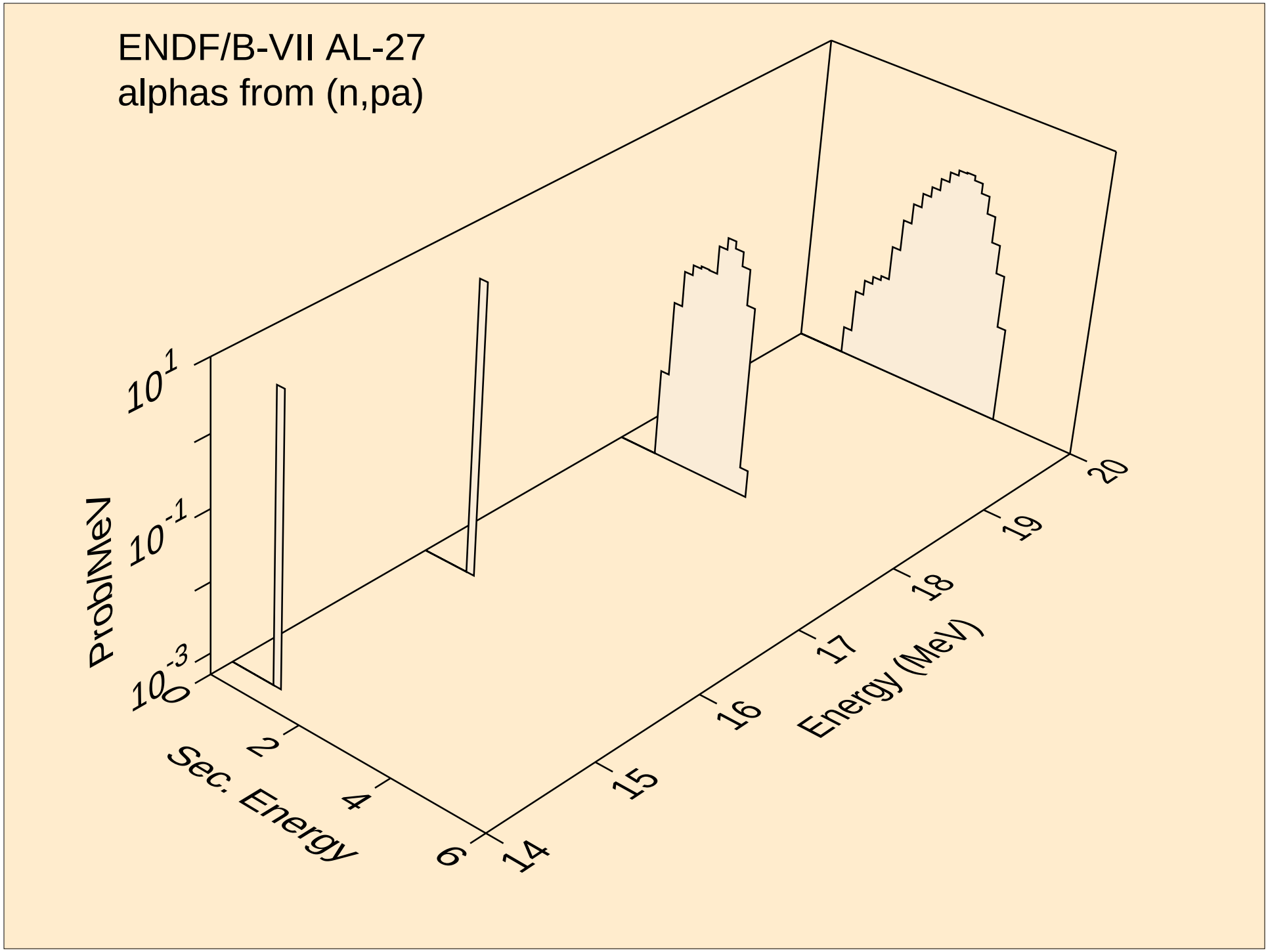

ENDF/B-VII AL-27
tritons from (n,t*c)
Prob/MeV
10^0
10^{-2}
0
2
4
Sec. Energy
15
16
17
18
19
20
Energy (MeV)

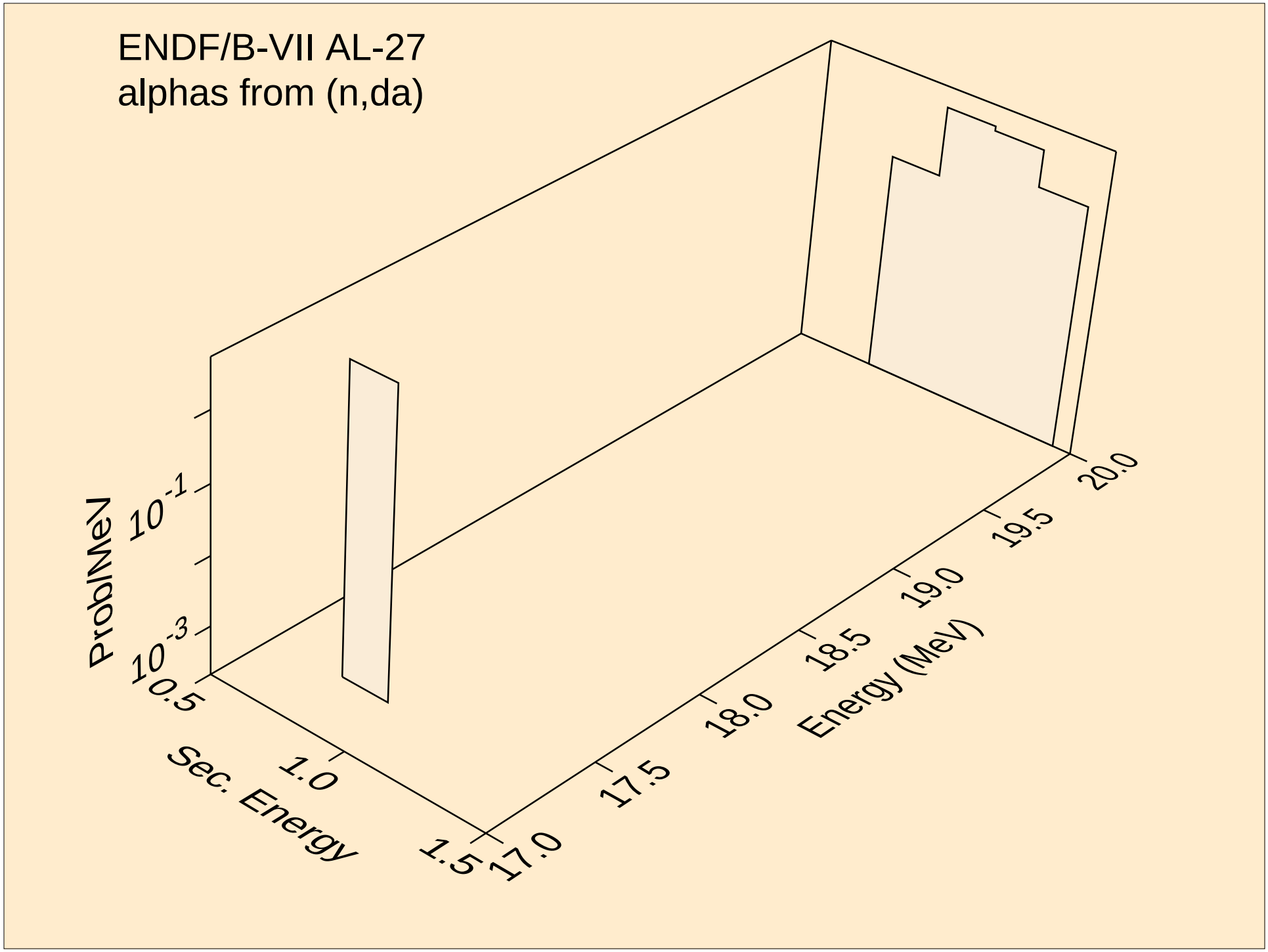

ENDF/B-VII AL-27
alphas from (n,x)
Prob/MeV
10^-2
10^-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

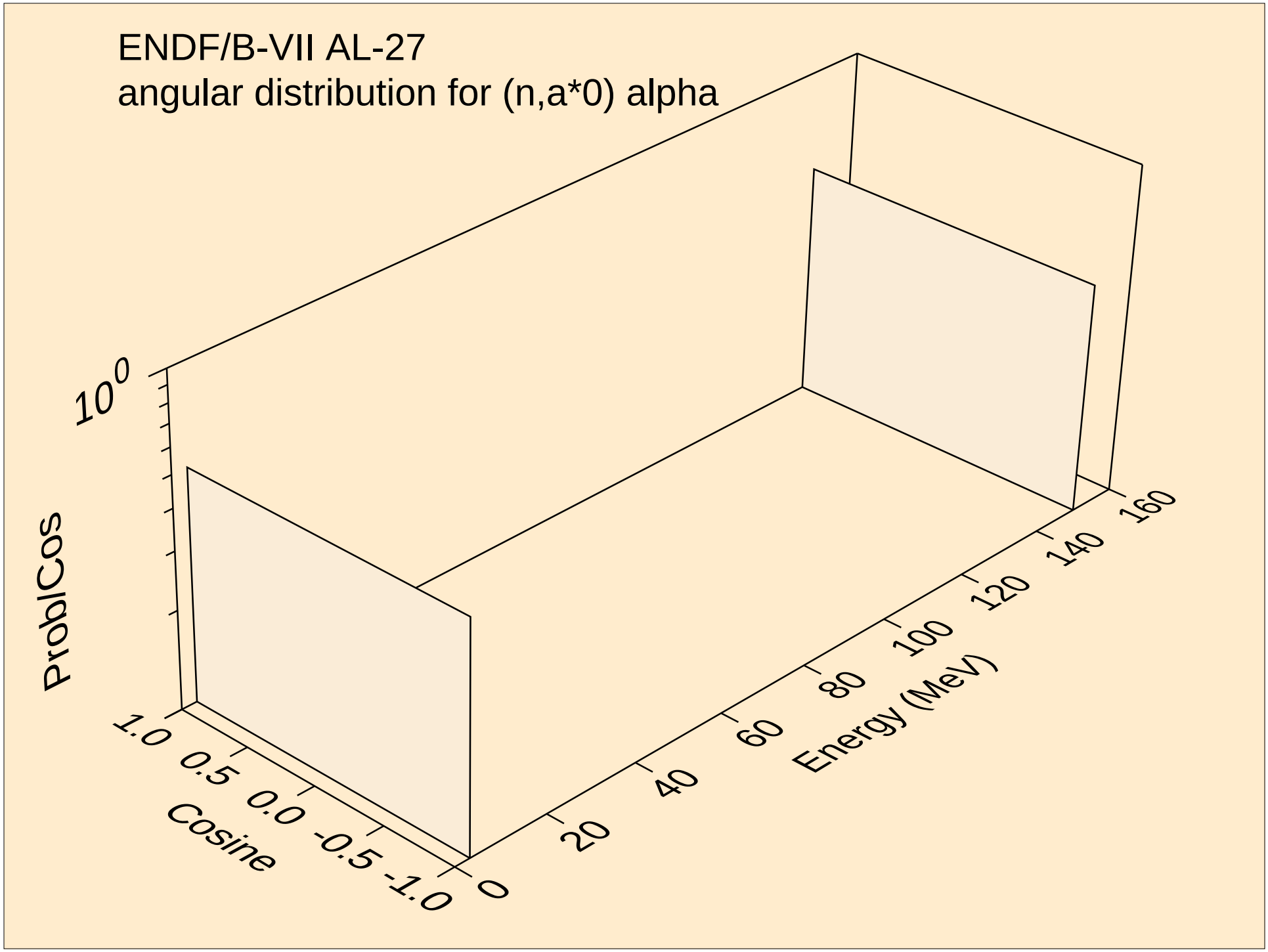

ENDF/B-VII AL-27
alphas from (n,n*)a
Prob/MeV
10^-1
10^-3
0
Sec. Energy
5
10
10
12
14
16
18
20
Energy (MeV)

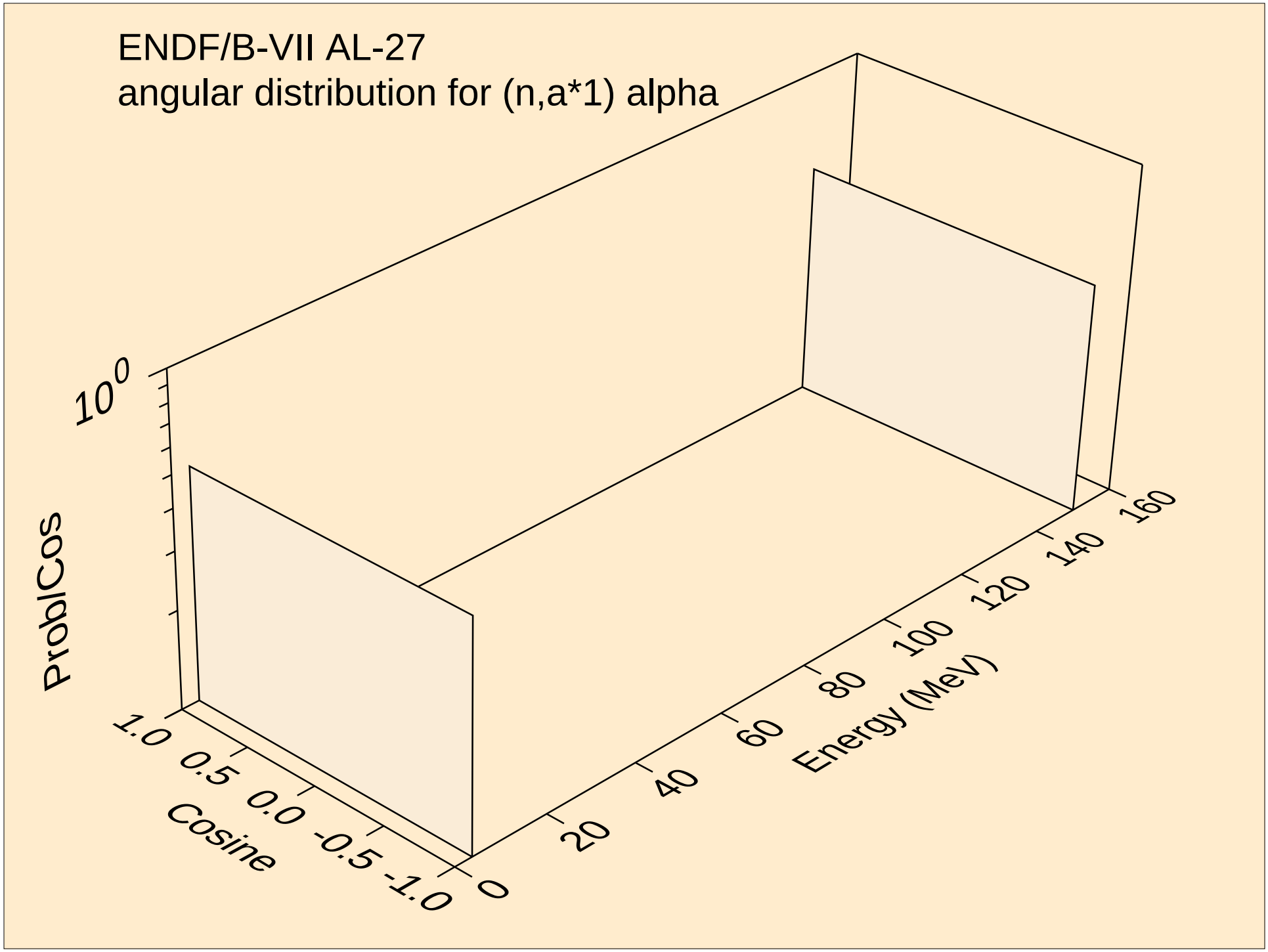

ENDF/B-VII AL-27
alphas from (n,npa)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0.8
0.9
1.0
1.1
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

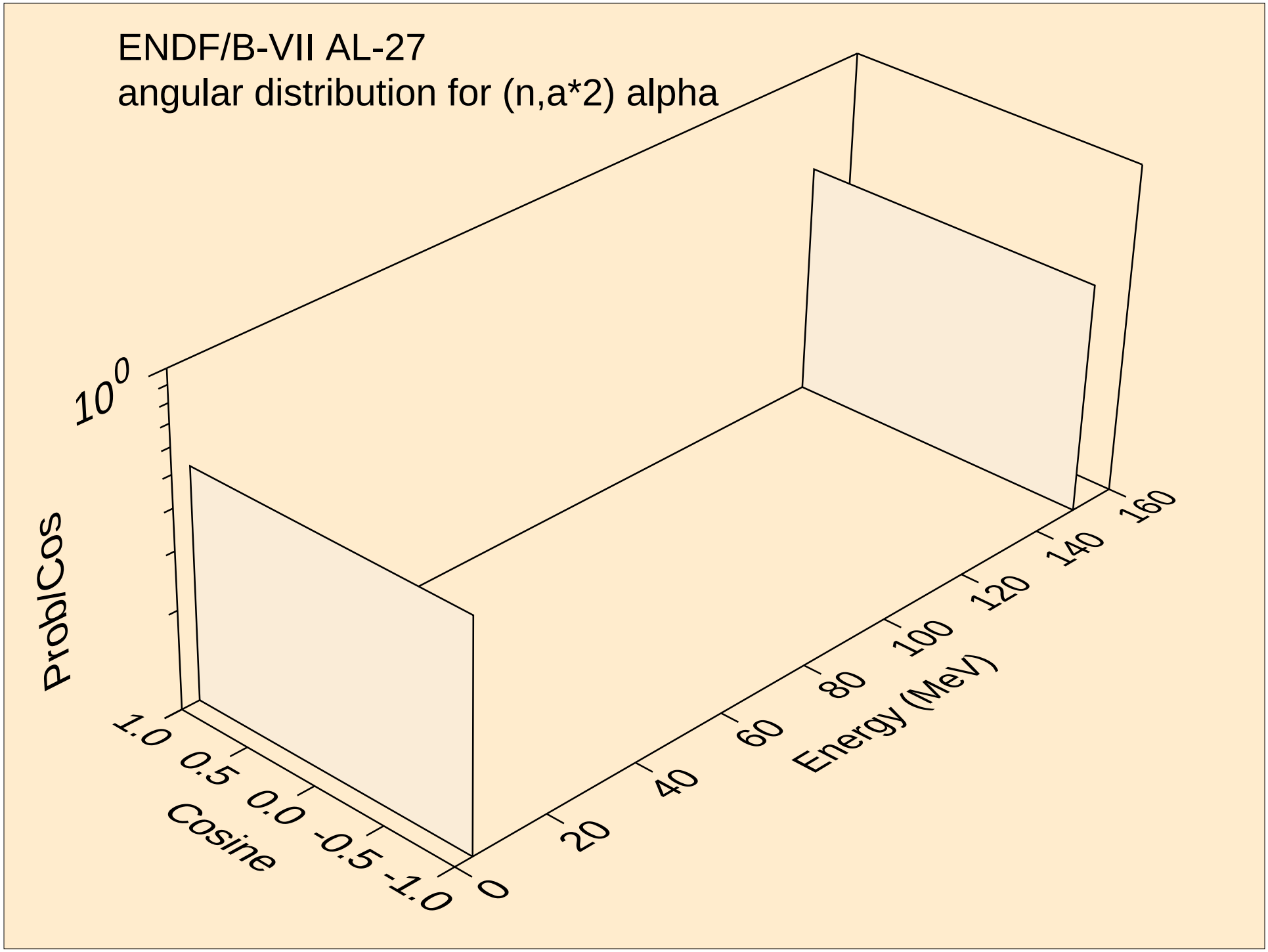

ENDF/B-VII AL-27
alphas from (n,2a)
Prob/MeV
10^0
10^{-2}
0
Sec. Energy
2
4
14
15
16
17
18
19
20
Energy (MeV)

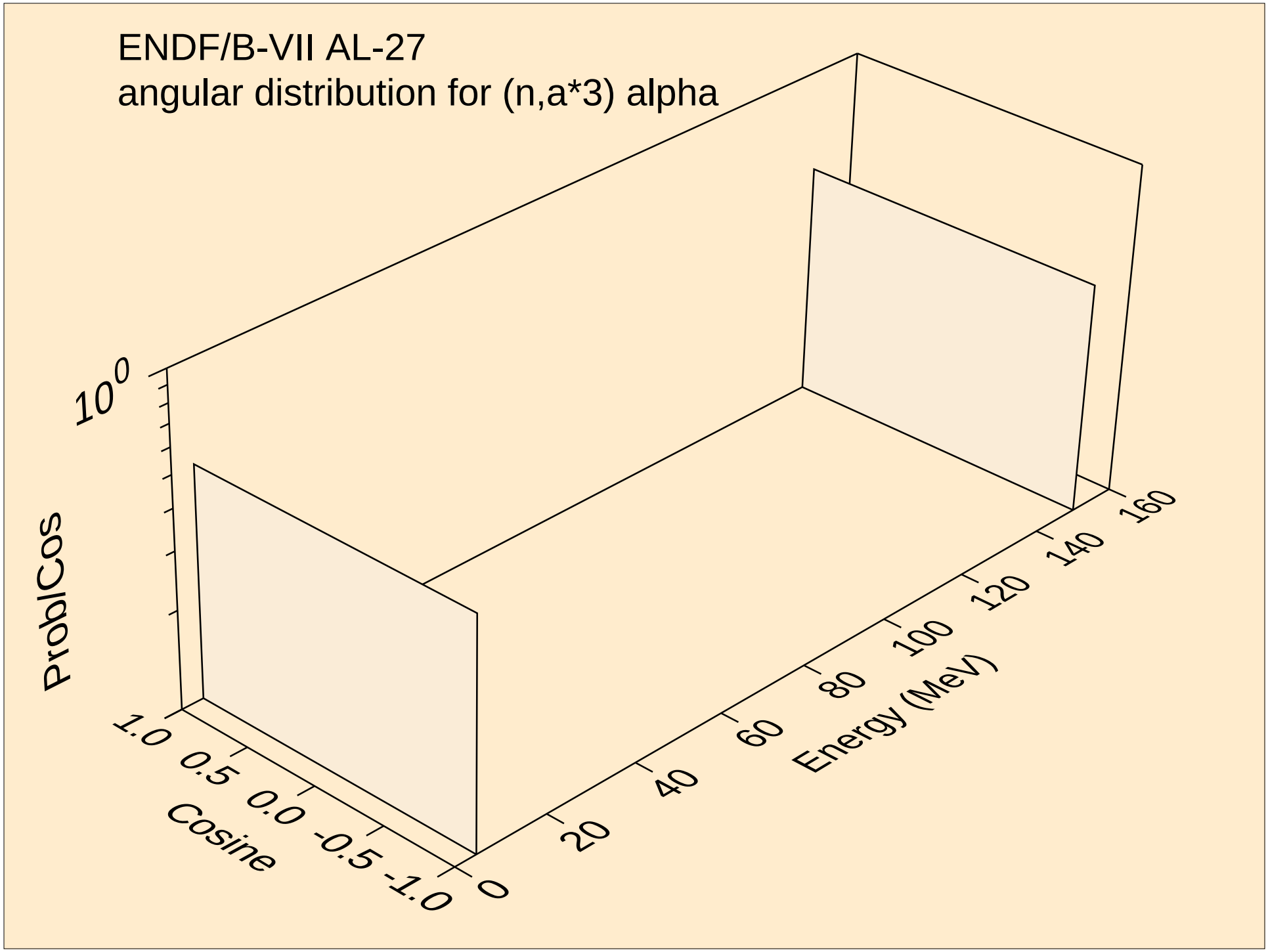

ENDF/B-VII AL-27
alphas from (n,pa)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
2
4
6
Sec. Energy
14
15
16
17
18
19
20
Energy (MeV)

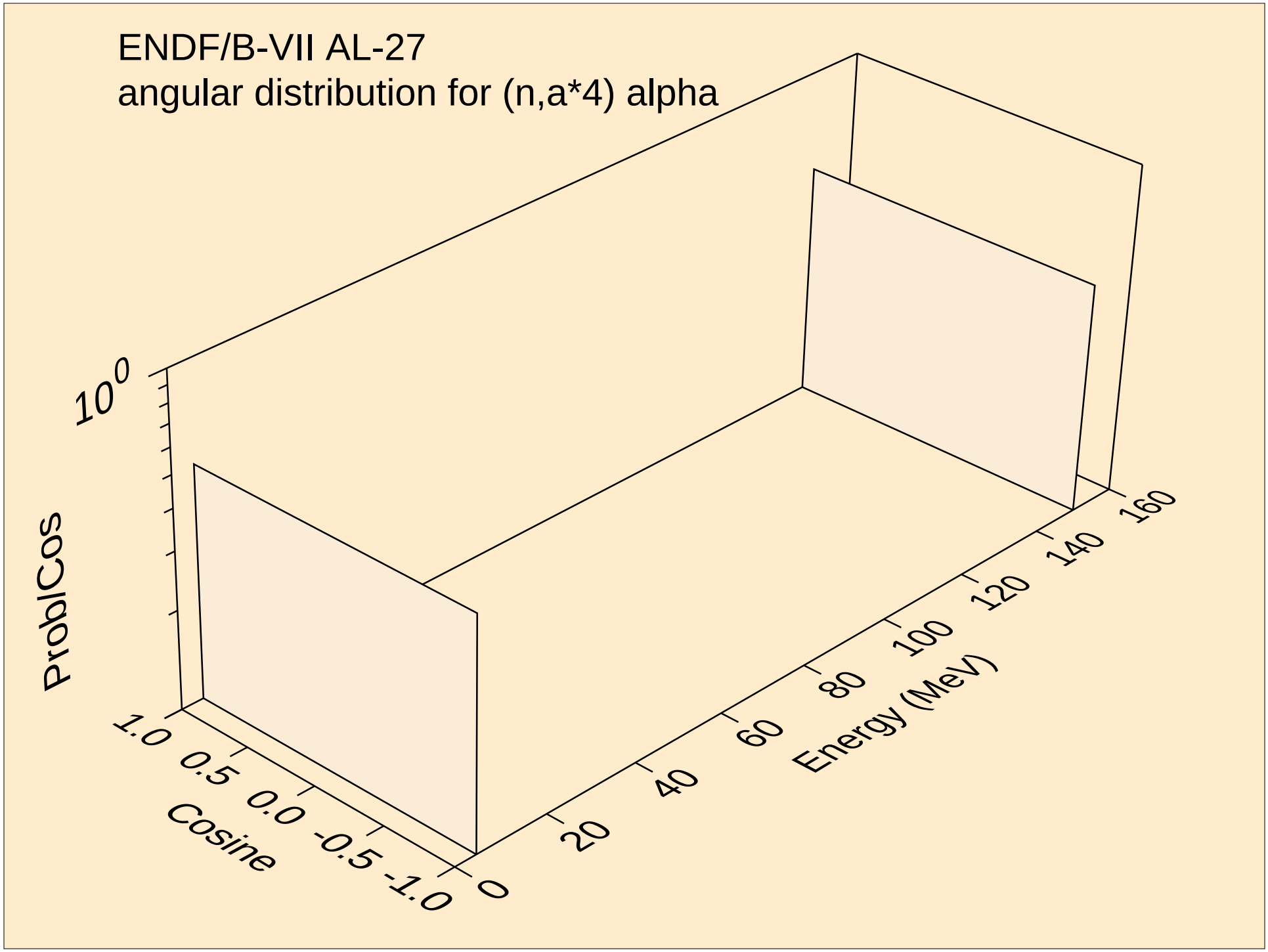

ENDF/B-VII AL-27
alphas from (n,da)
Prob/MeV
10^-1
10^-3
0.5
1.0
1.5
Sec. Energy
17.0
17.5
18.0
18.5
19.0
19.5
20.0
Energy (MeV)

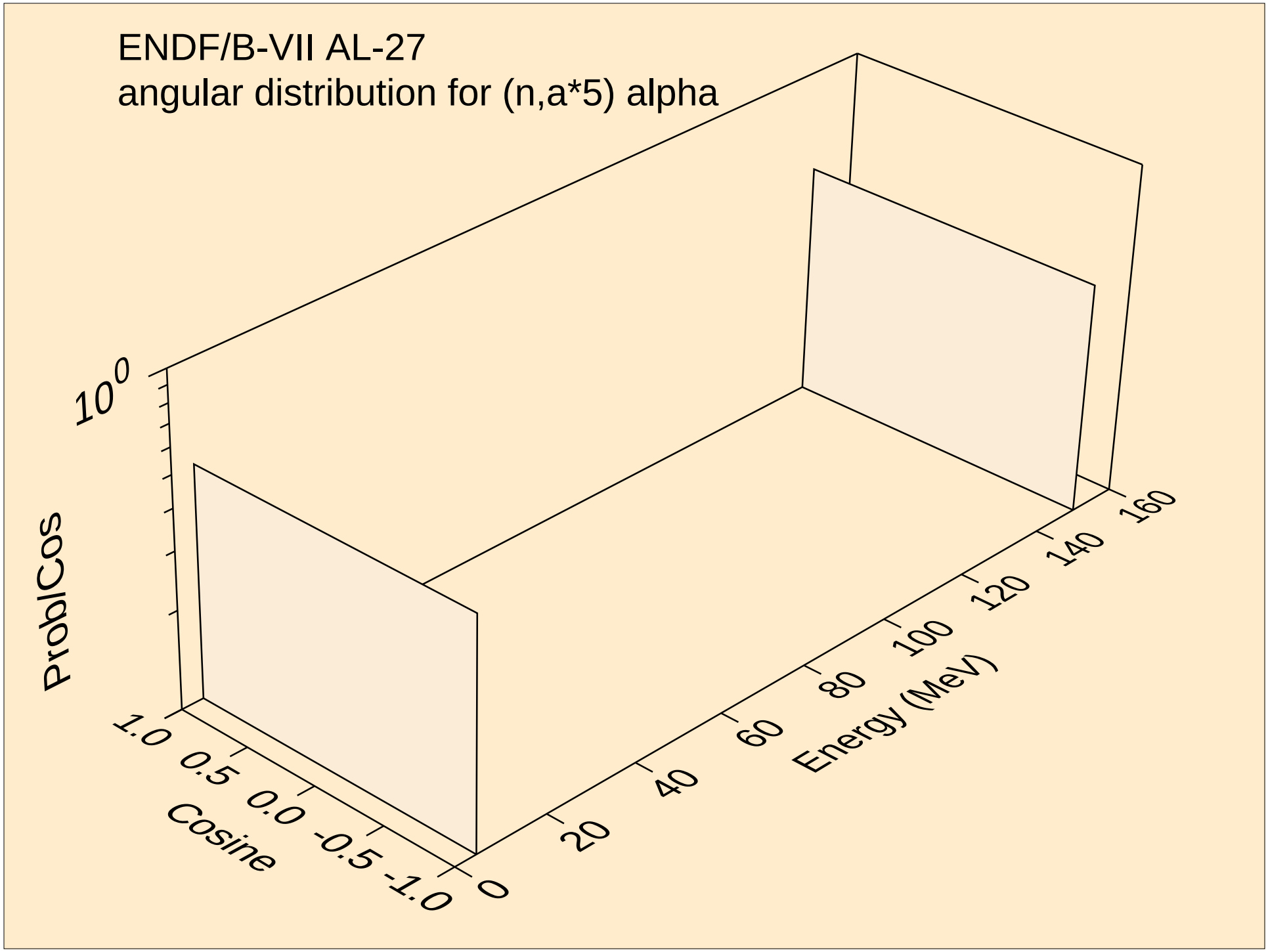

ENDF/B-VII AL-27
angular distribution for (n,a*0) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

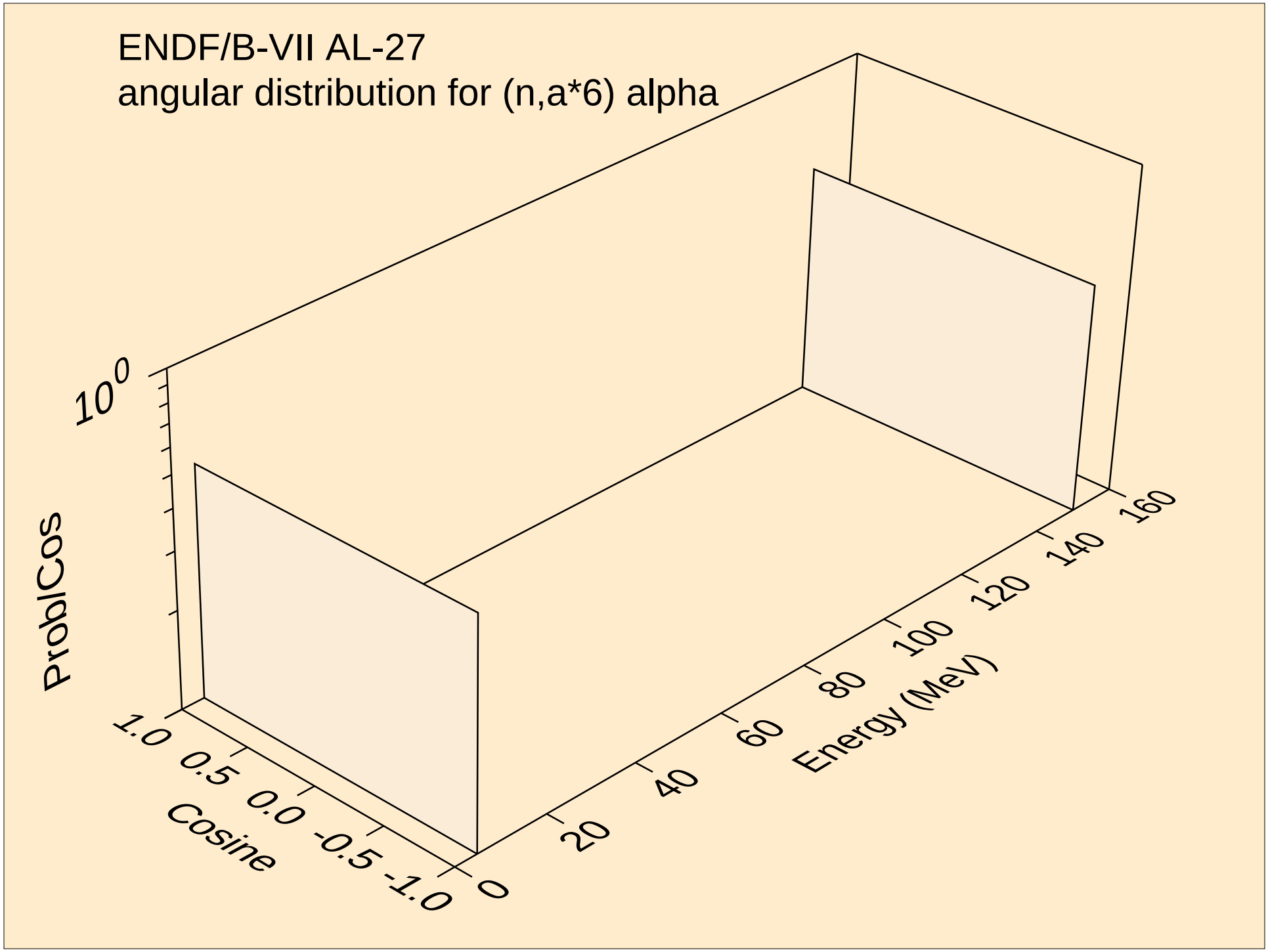

ENDF/B-VII AL-27
angular distribution for (n,a*1) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

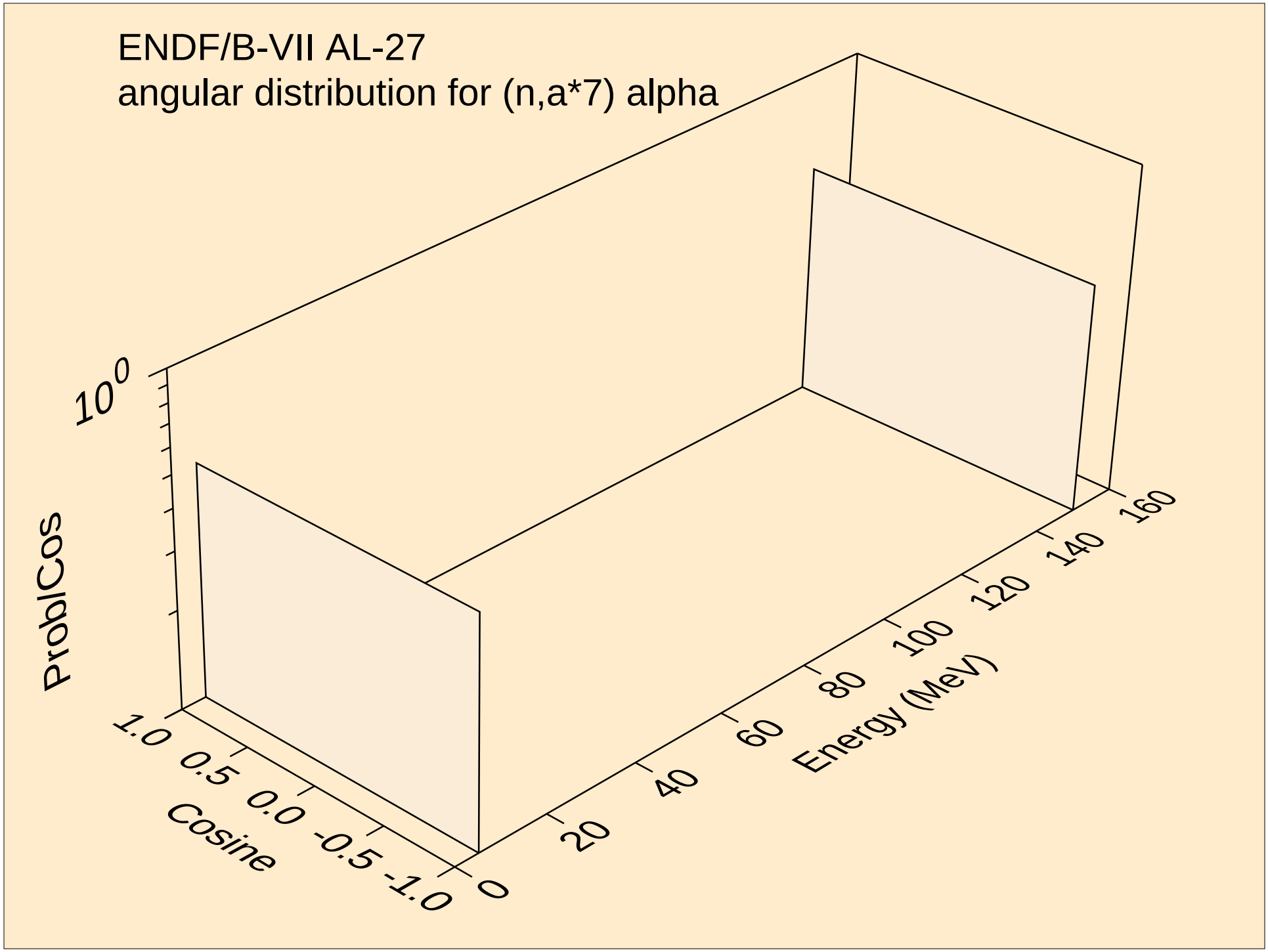

ENDF/B-VII AL-27
angular distribution for (n,a*2) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

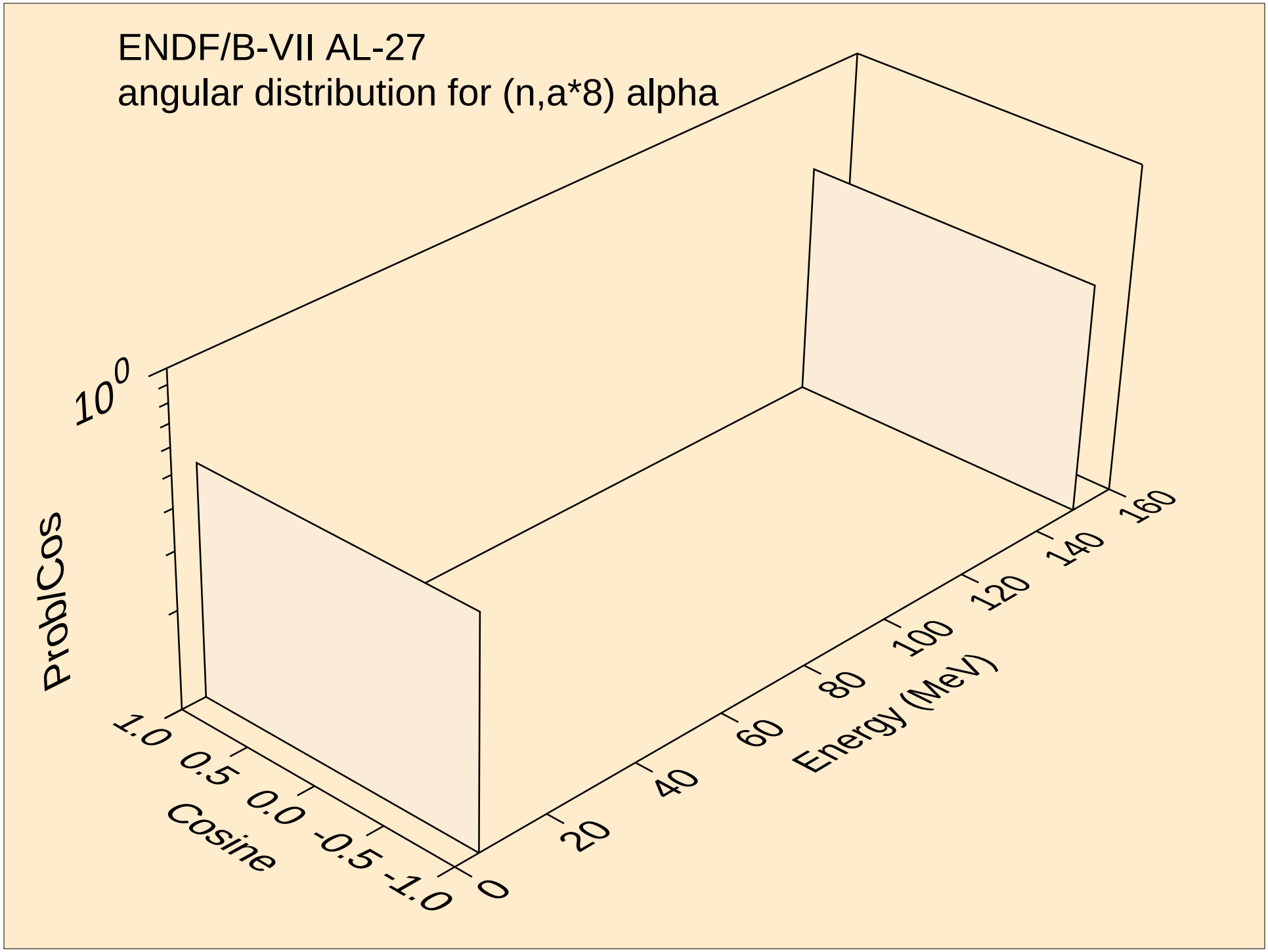

ENDF/B-VII AL-27
angular distribution for (n,a*3) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

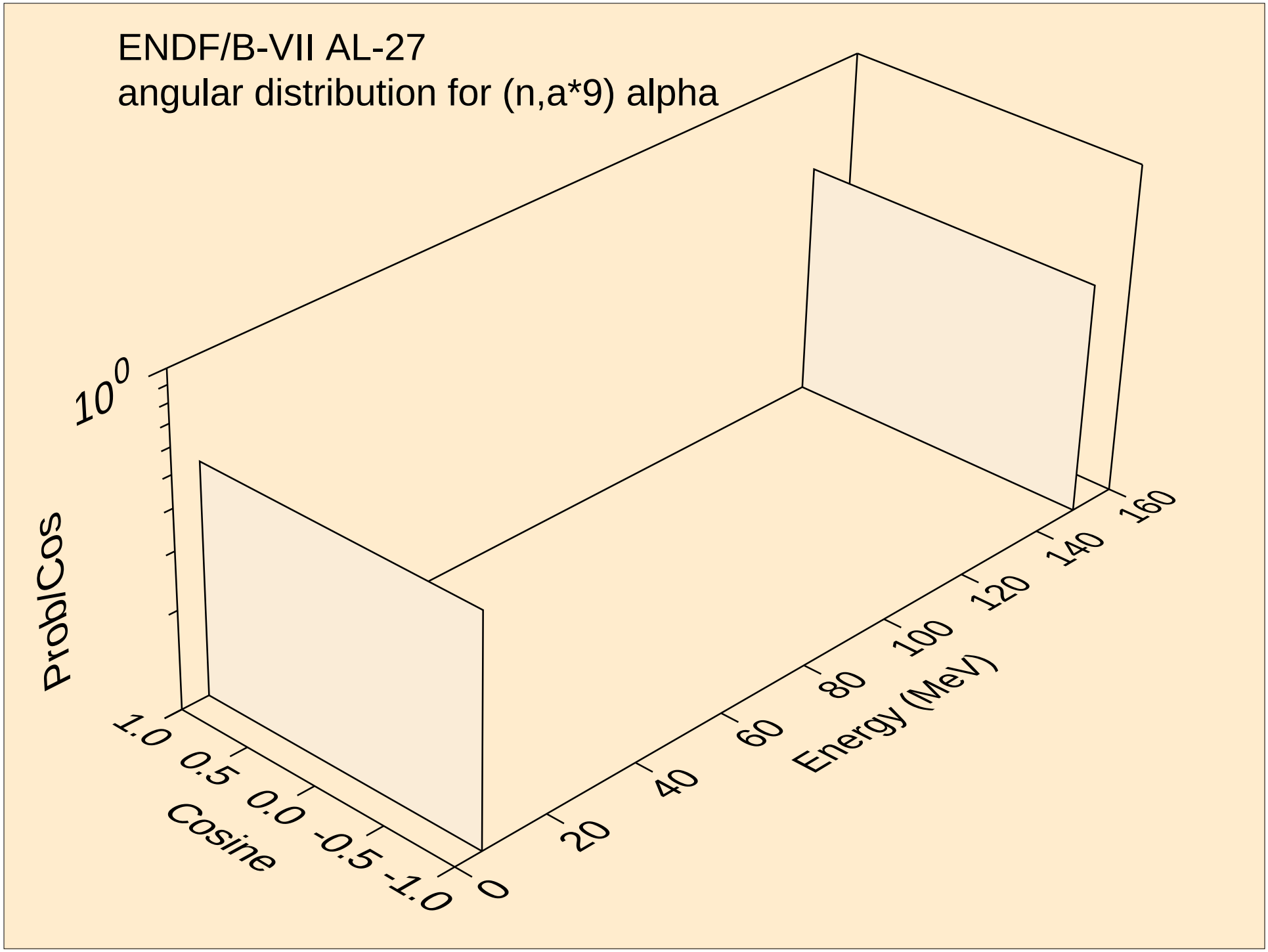

ENDF/B-VII AL-27
angular distribution for (n,a*4) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

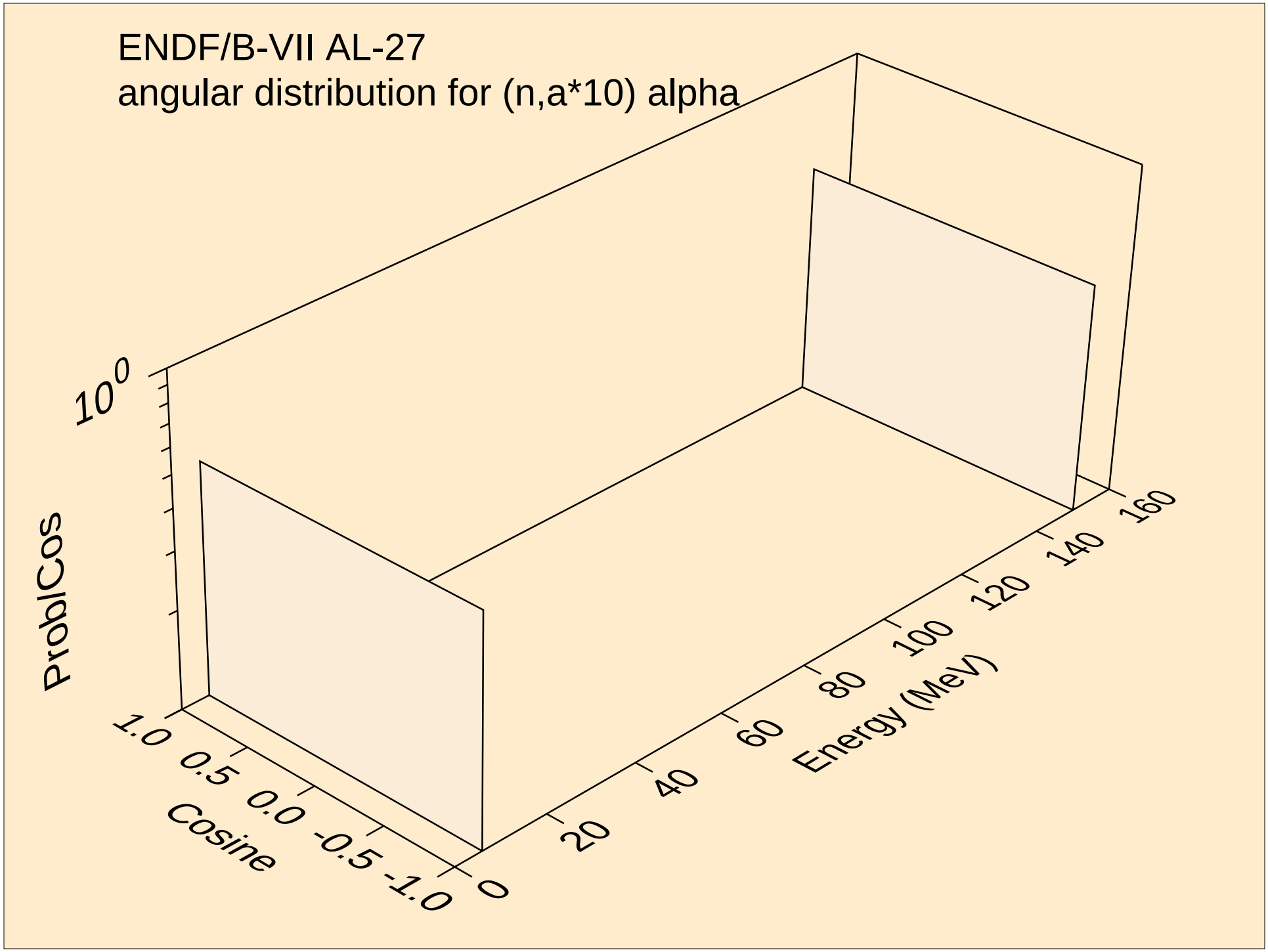

ENDF/B-VII AL-27
angular distribution for (n,a*5) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

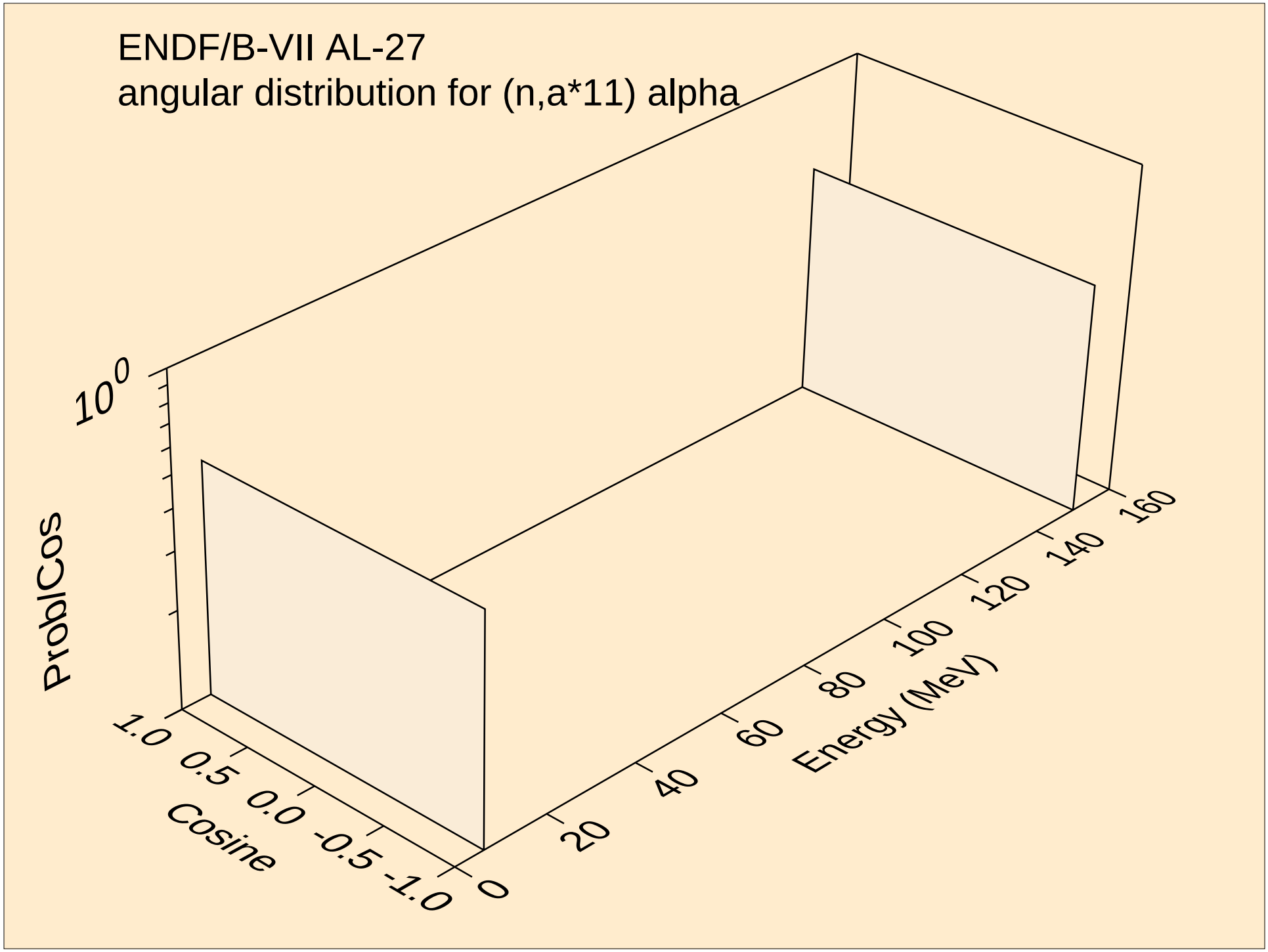

ENDF/B-VII AL-27
angular distribution for (n,a*6) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

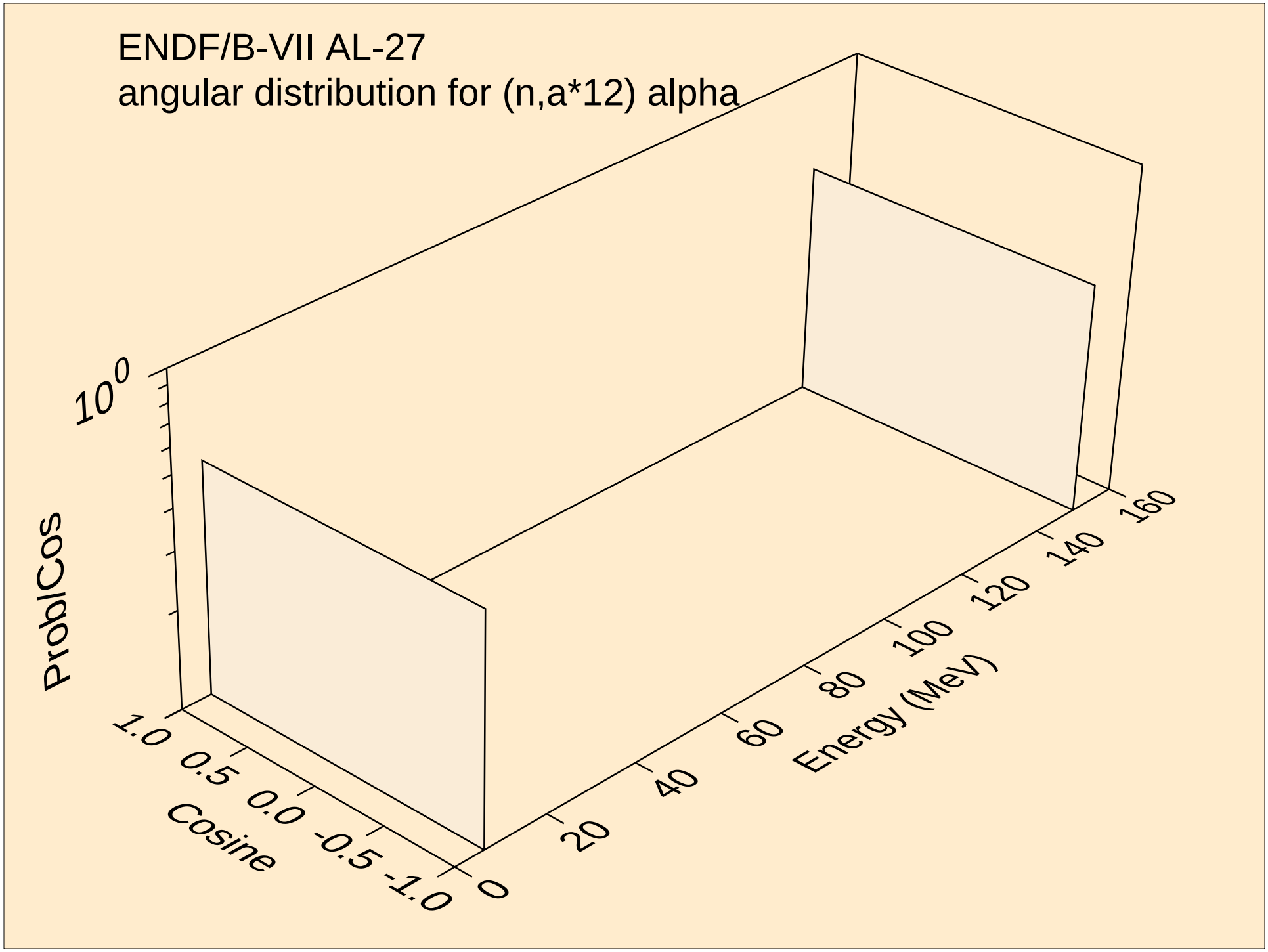

ENDF/B-VII AL-27
angular distribution for (n,a*7) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

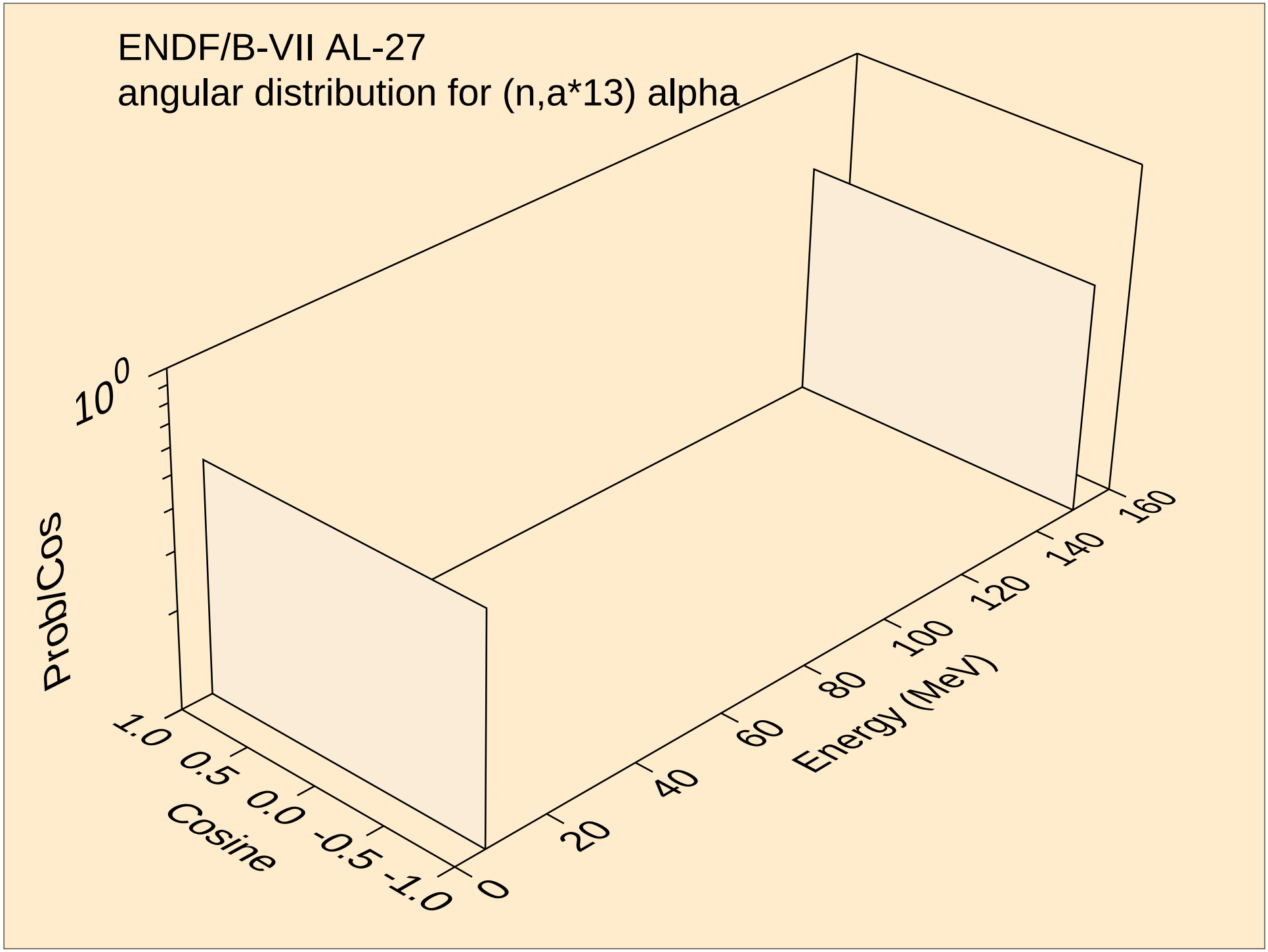

ENDF/B-VII AL-27
angular distribution for (n,a*8) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

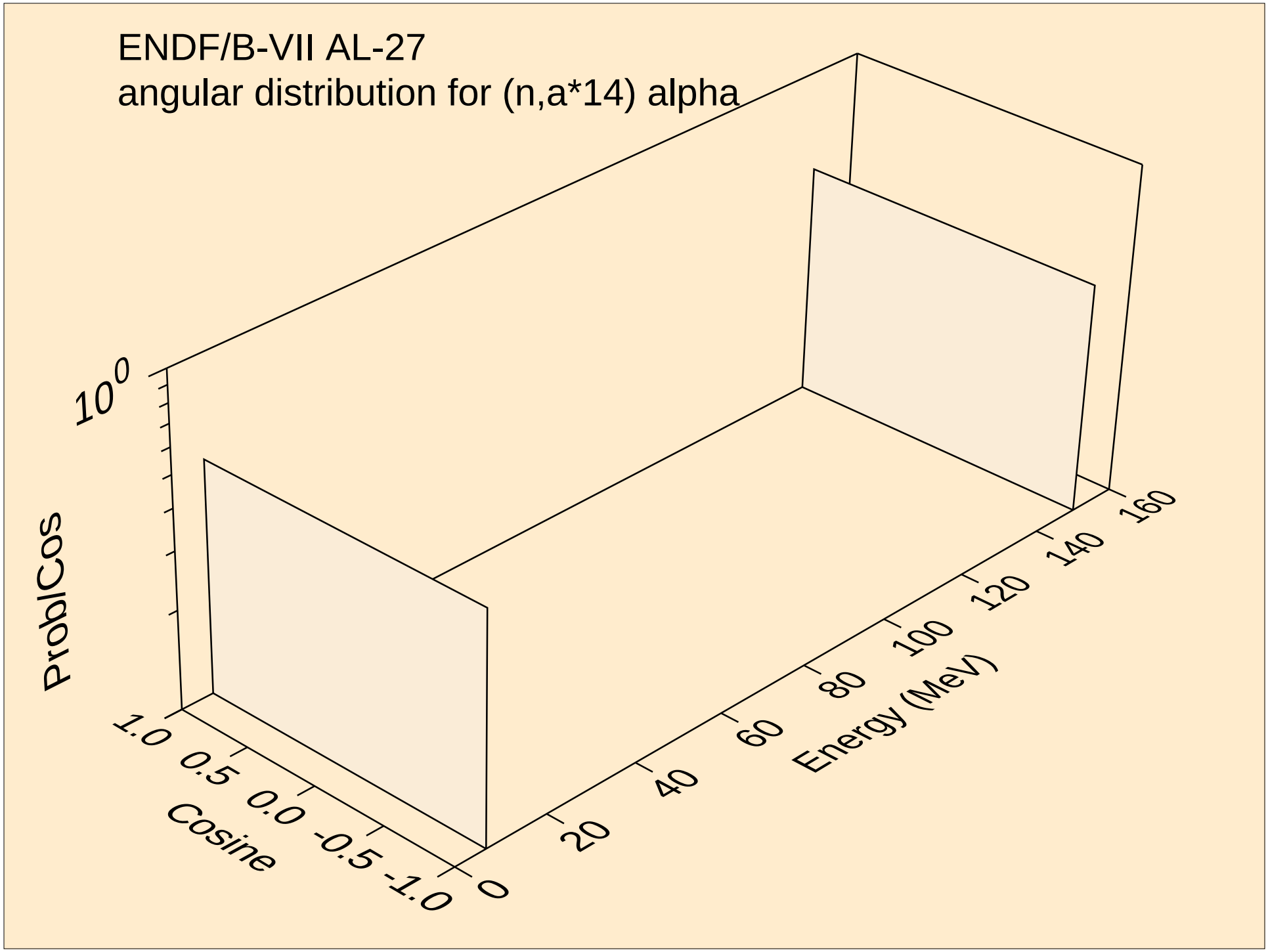

ENDF/B-VII AL-27
angular distribution for (n,a*9) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

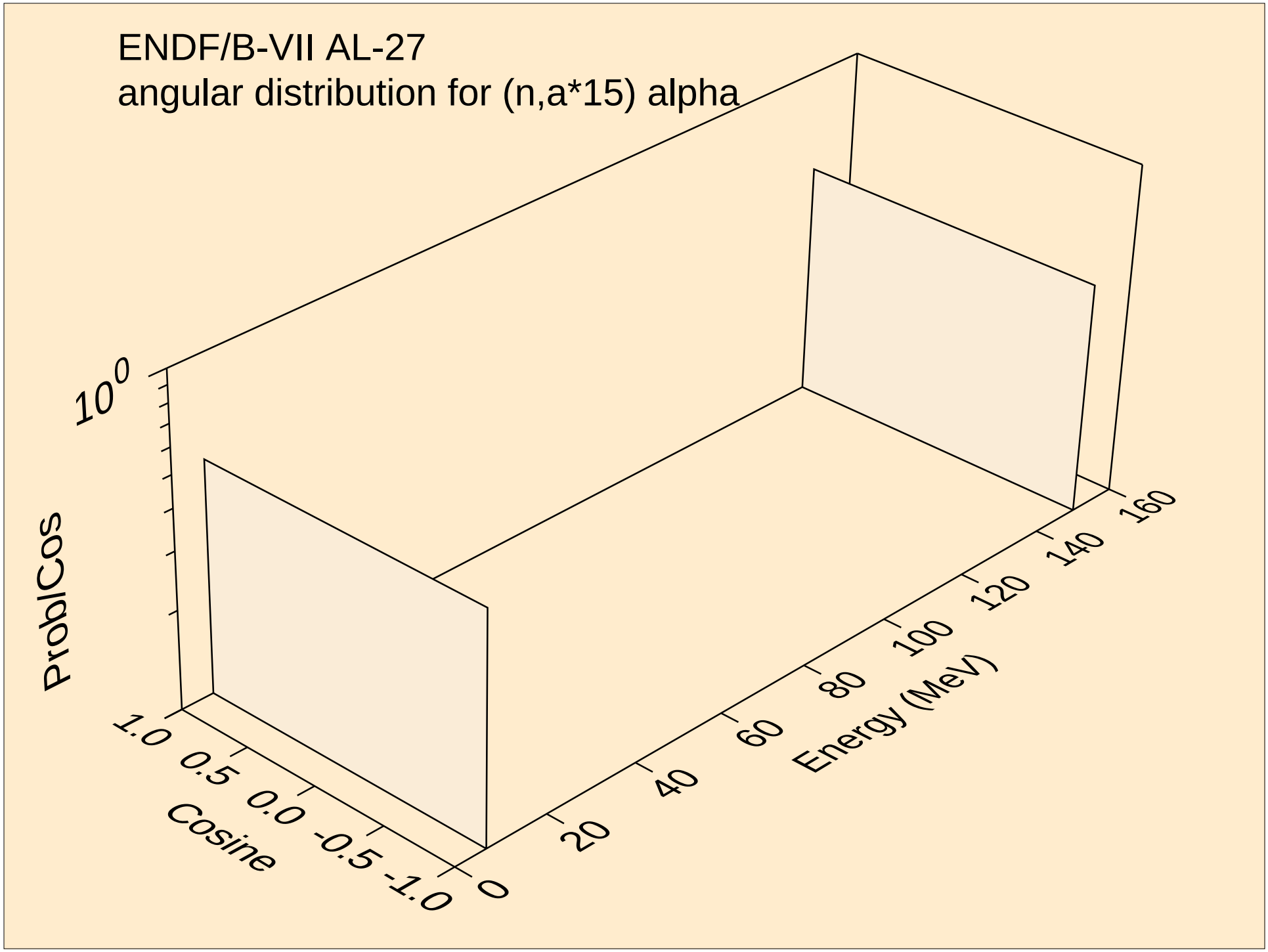

ENDF/B-VII AL-27
angular distribution for (n,a*10) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

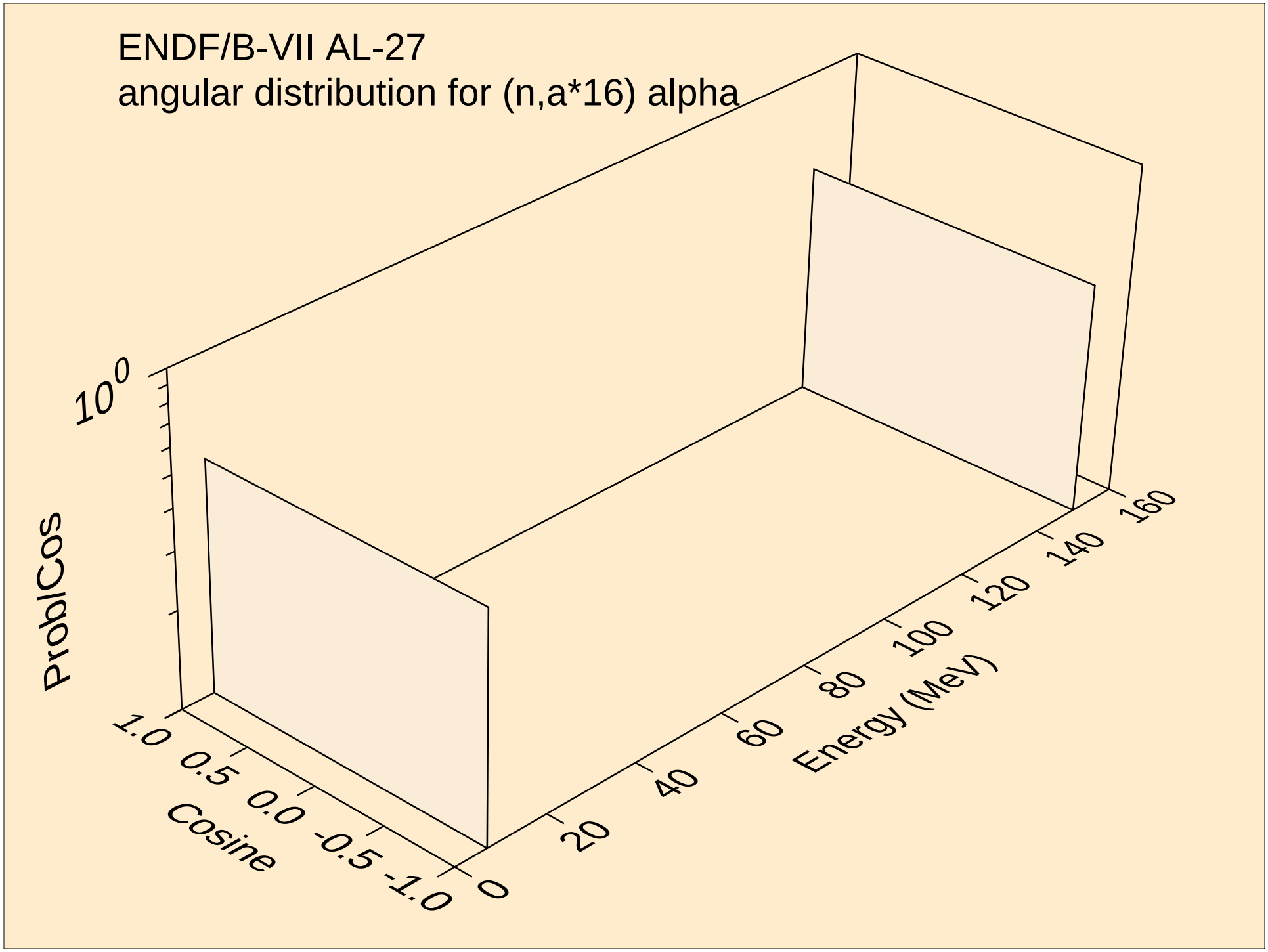

ENDF/B-VII AL-27
angular distribution for (n,a*11) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

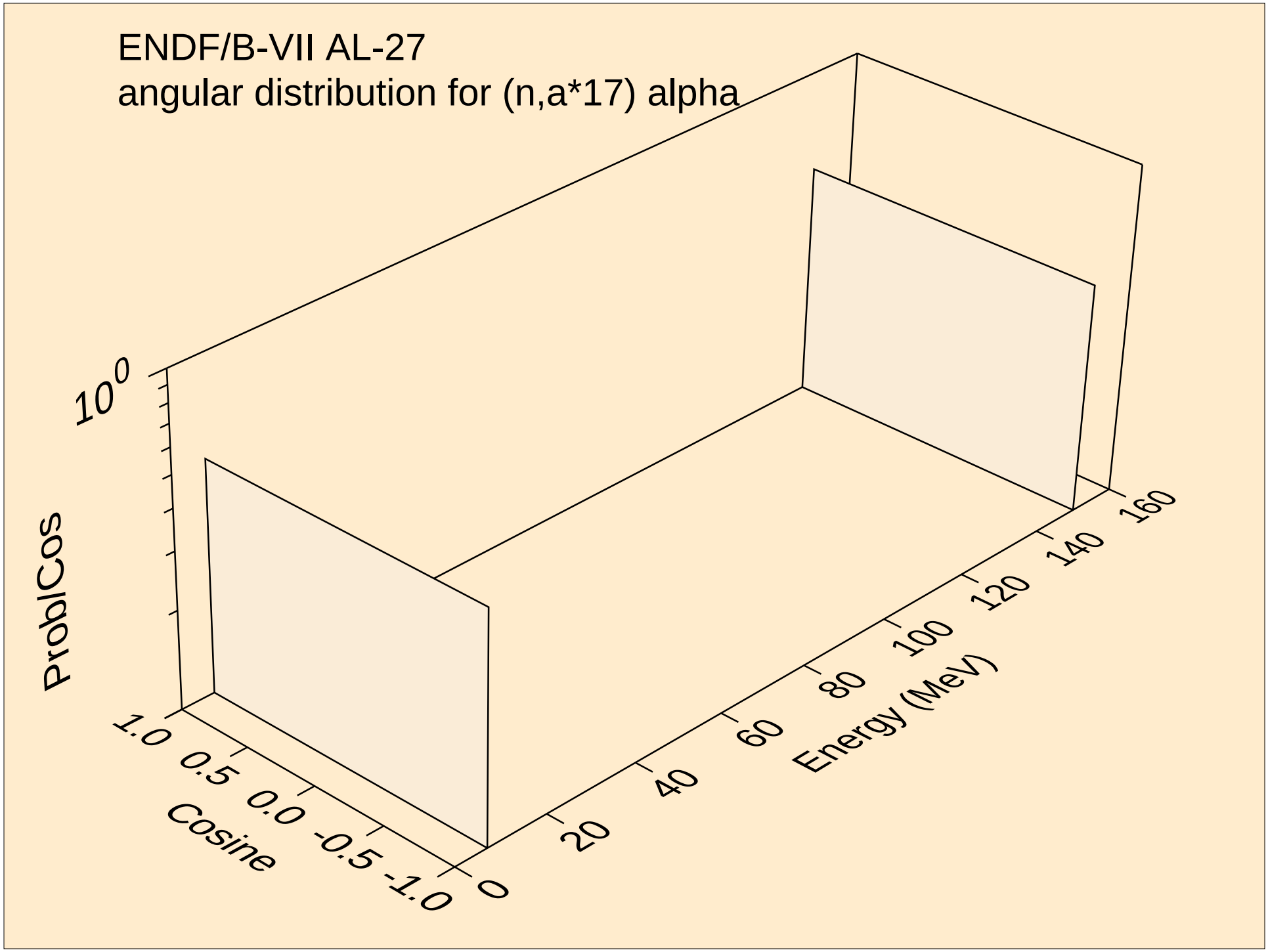

ENDF/B-VII AL-27
angular distribution for (n,a*12) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

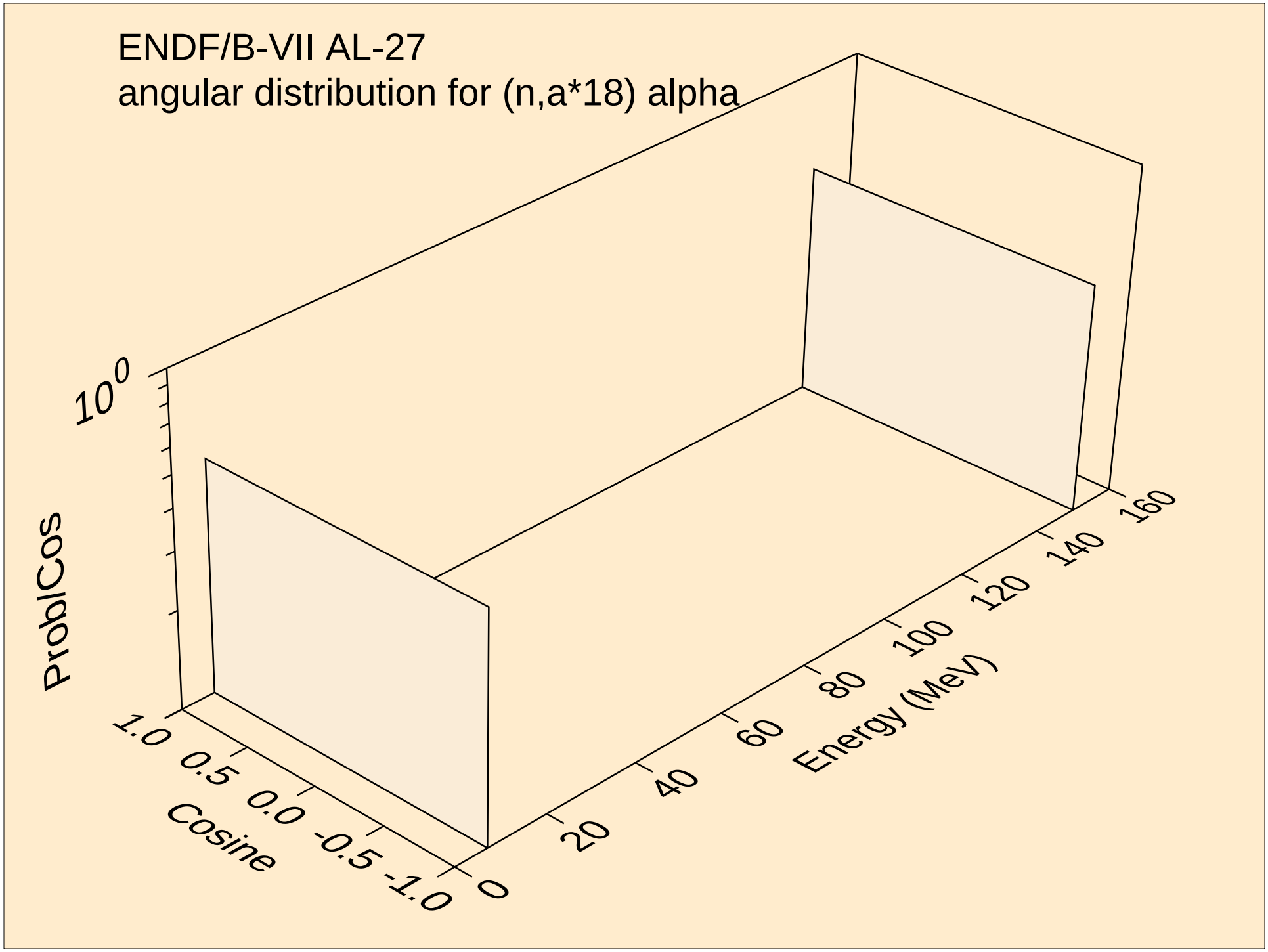

ENDF/B-VII AL-27
angular distribution for (n,a*13) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

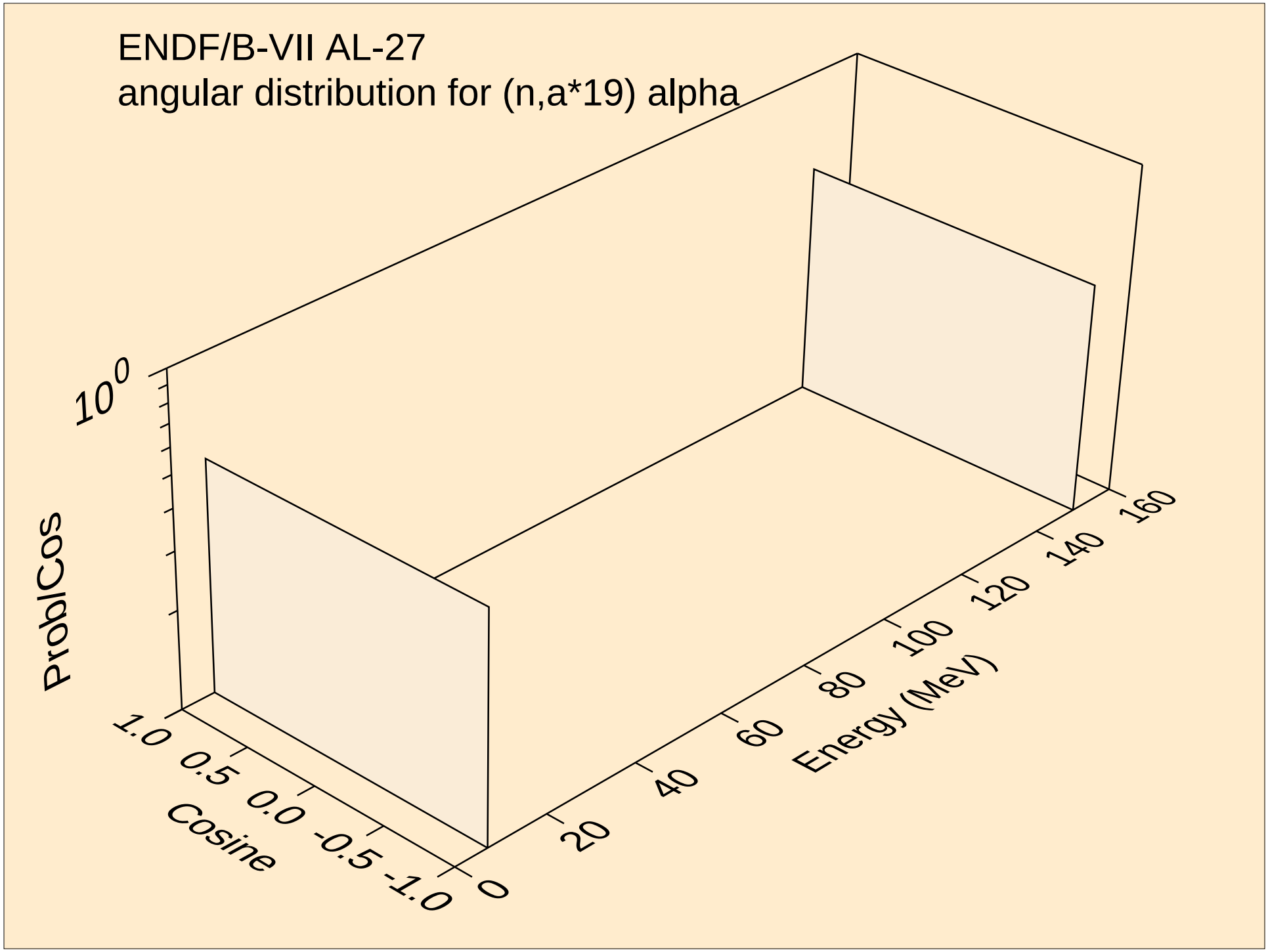

ENDF/B-VII AL-27
angular distribution for (n,a*14) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)

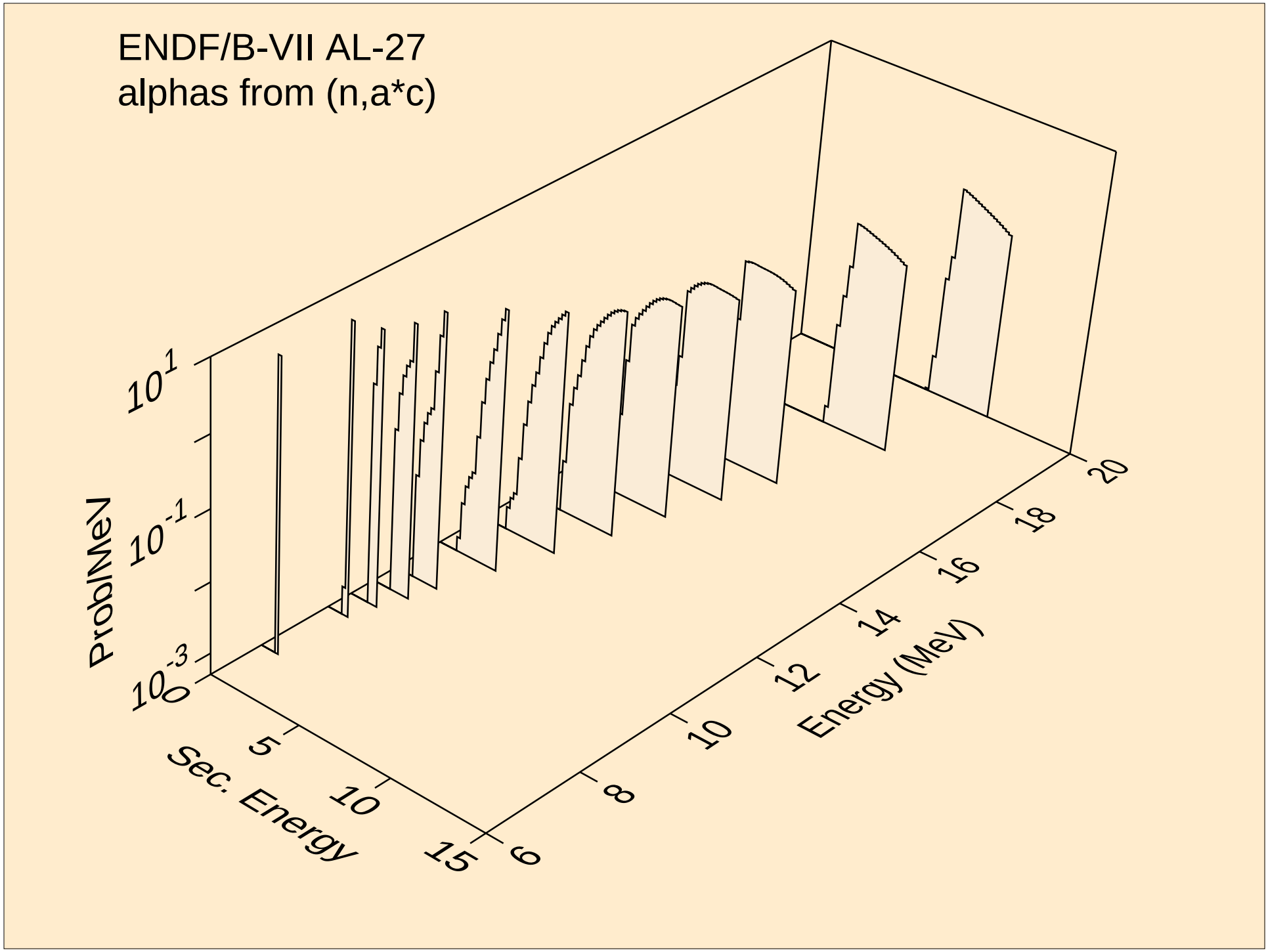

ENDF/B-VII AL-27
angular distribution for (n,a*15) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII AL-27
angular distribution for (n,a*16) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII AL-27
angular distribution for (n,a*17) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII AL-27
angular distribution for (n,a*18) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII AL-27
angular distribution for (n,a*19) alpha
10^0
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
20
40
60
80
100
120
140
160
Energy (MeV)


ENDF/B-VII AL-27
alphas from (n,a*c)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
5
10
15
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)