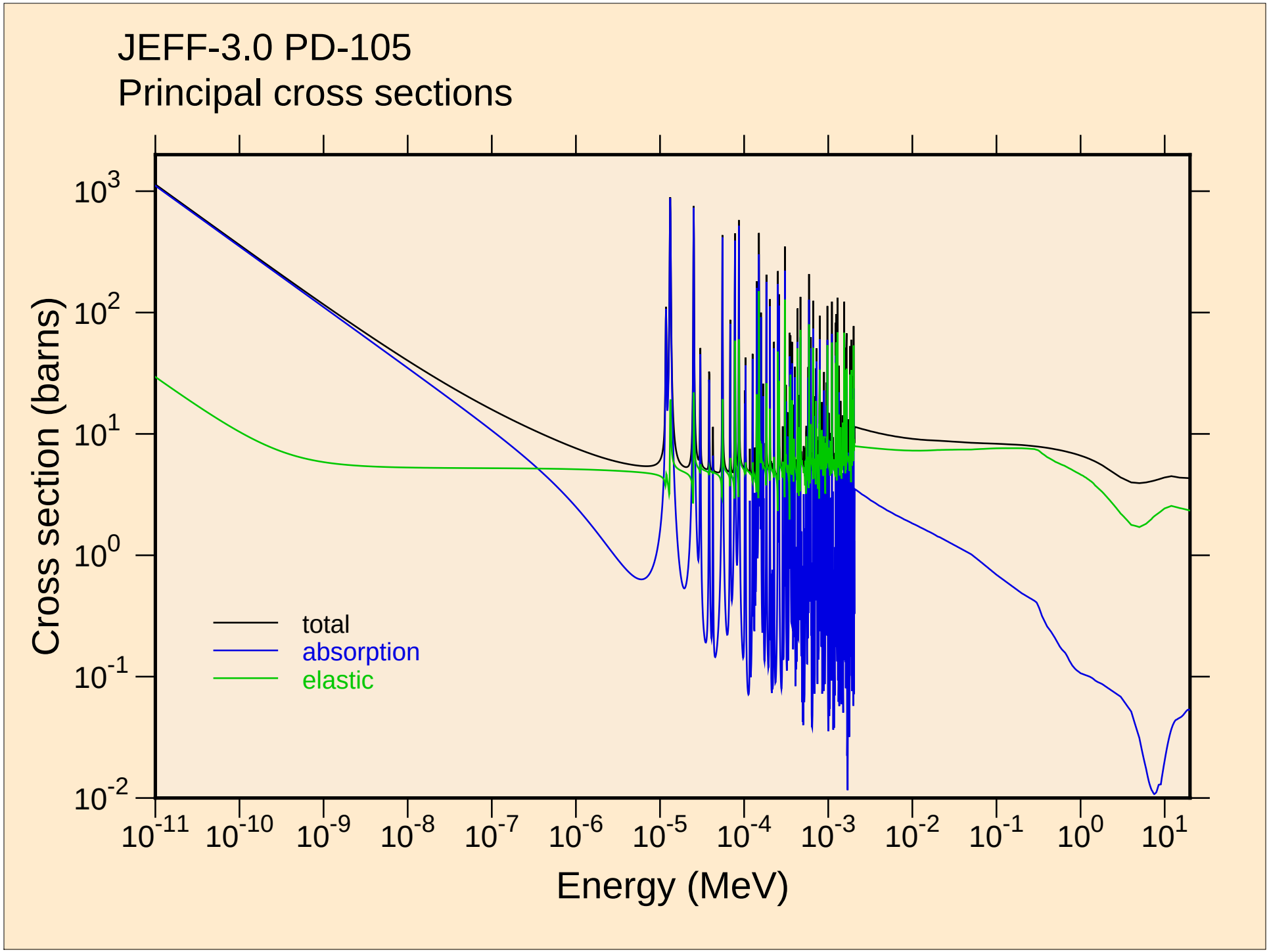
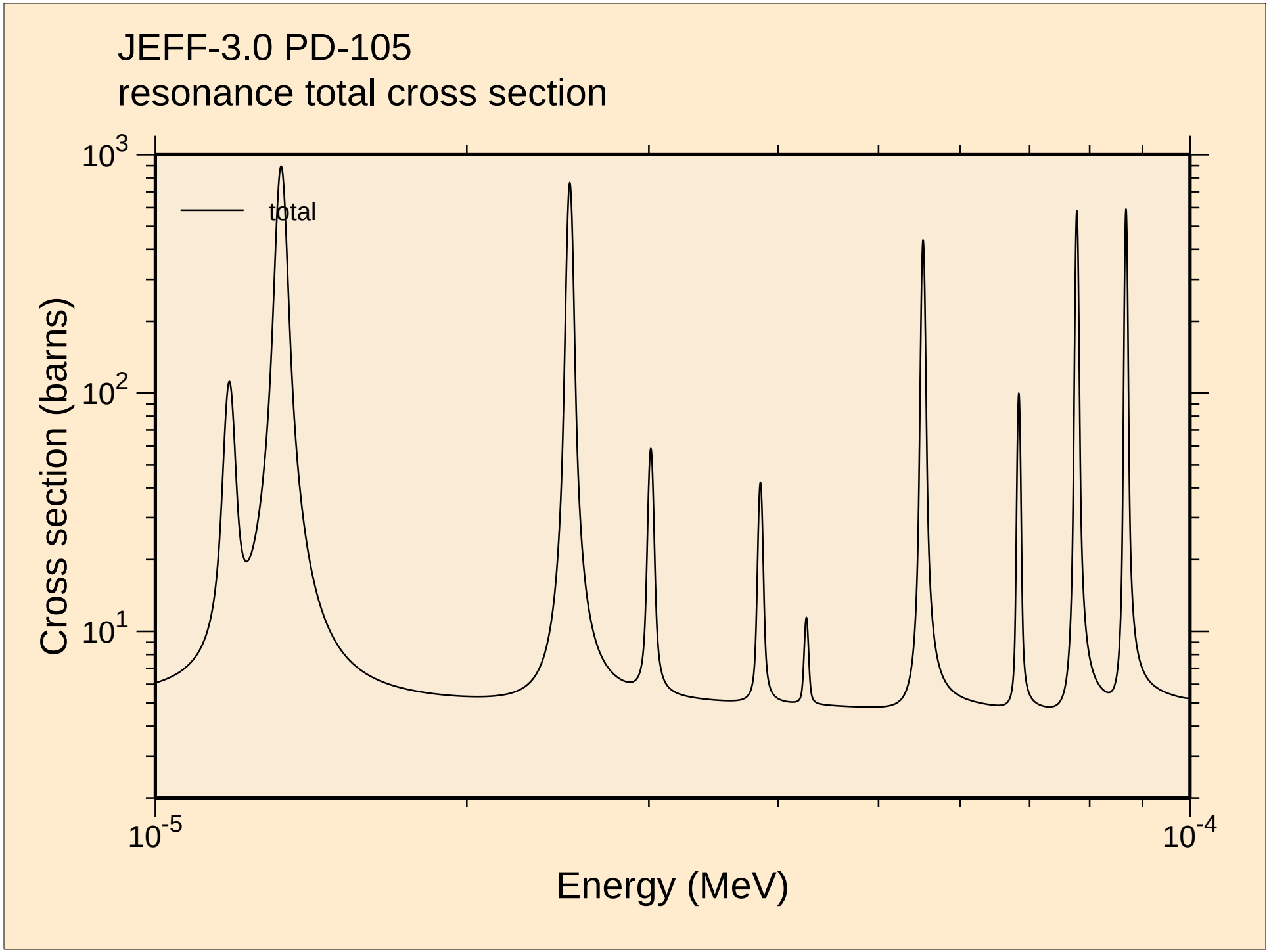
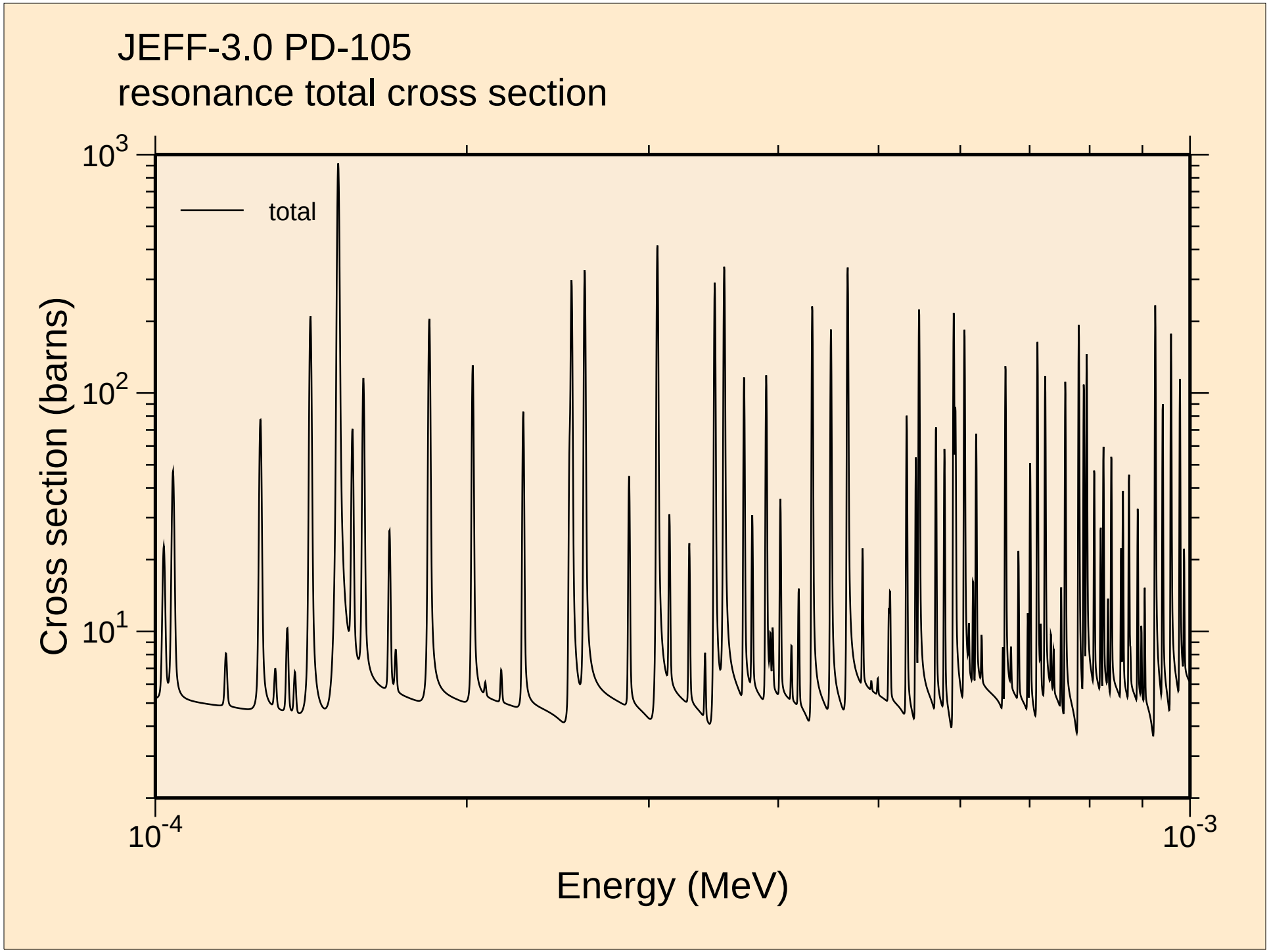
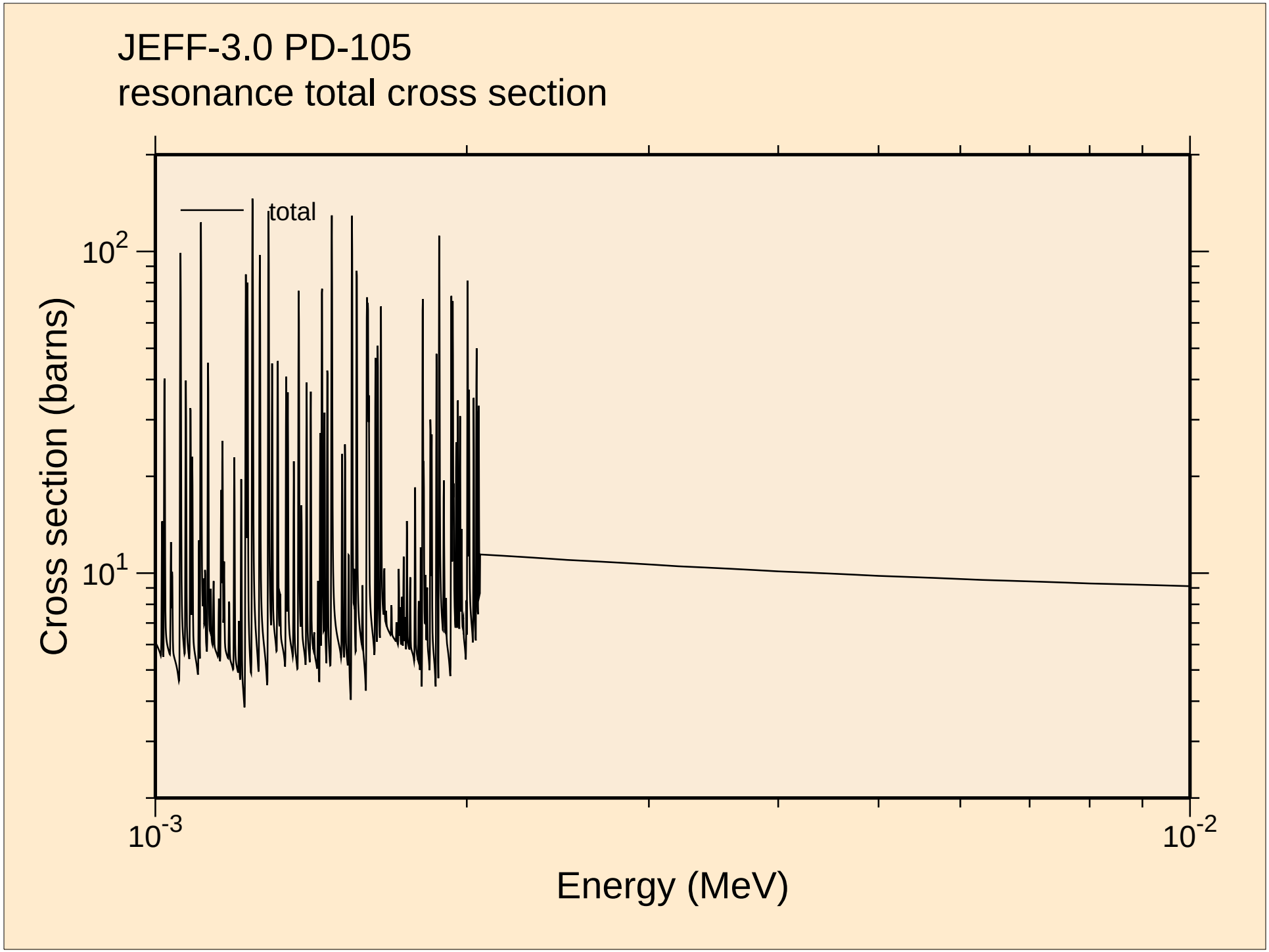
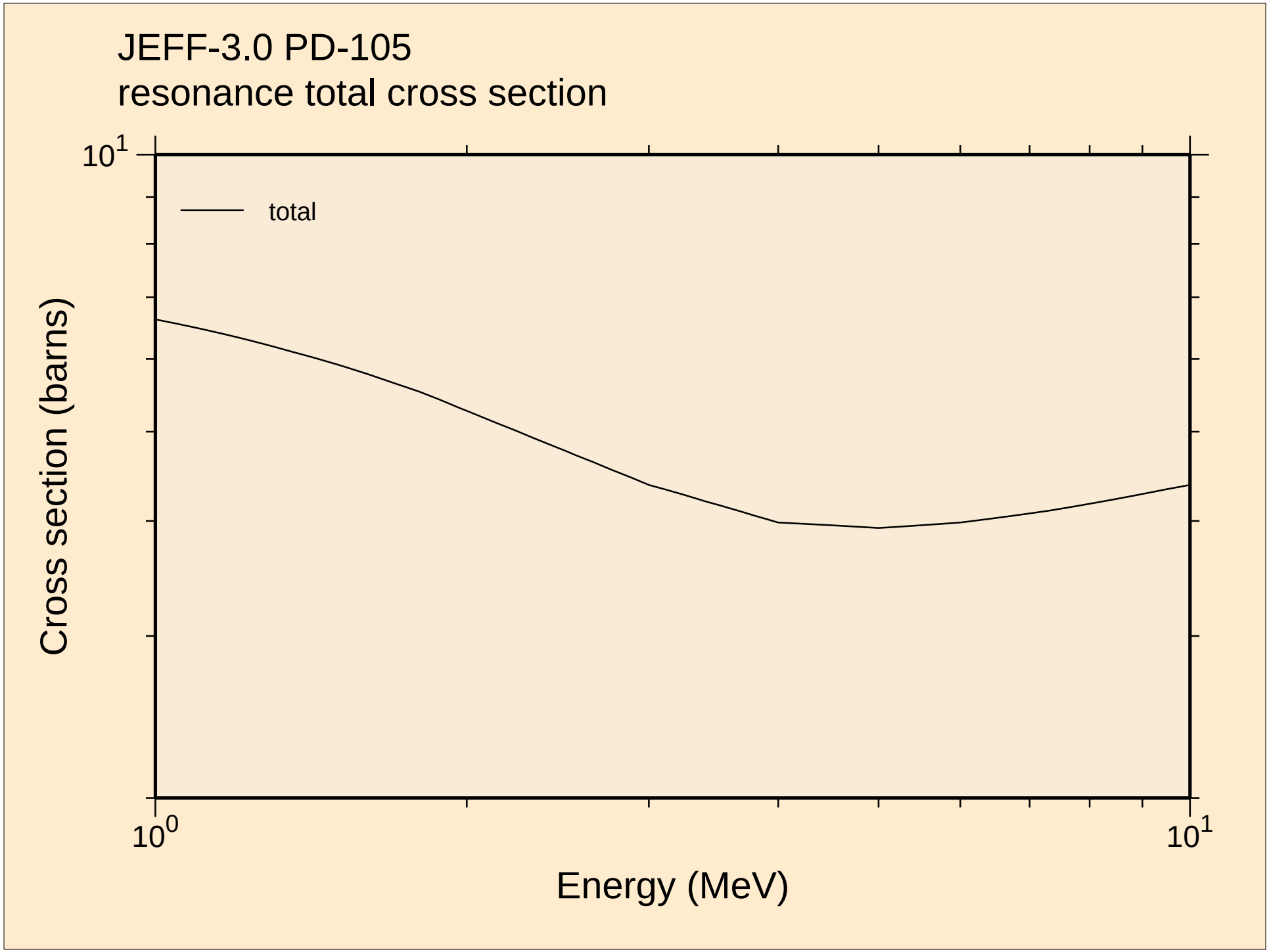
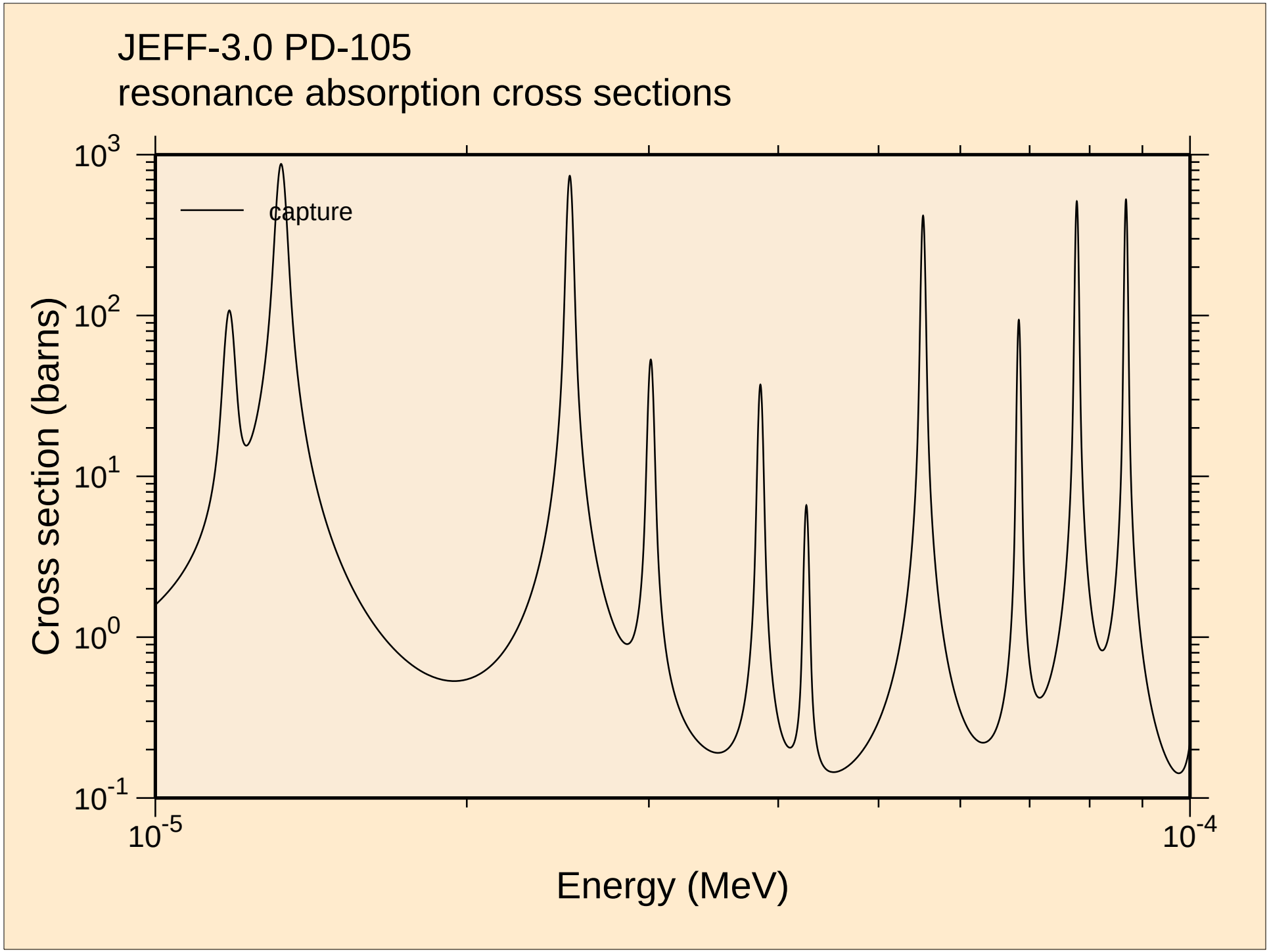

JEFF-3.0 PD-105
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

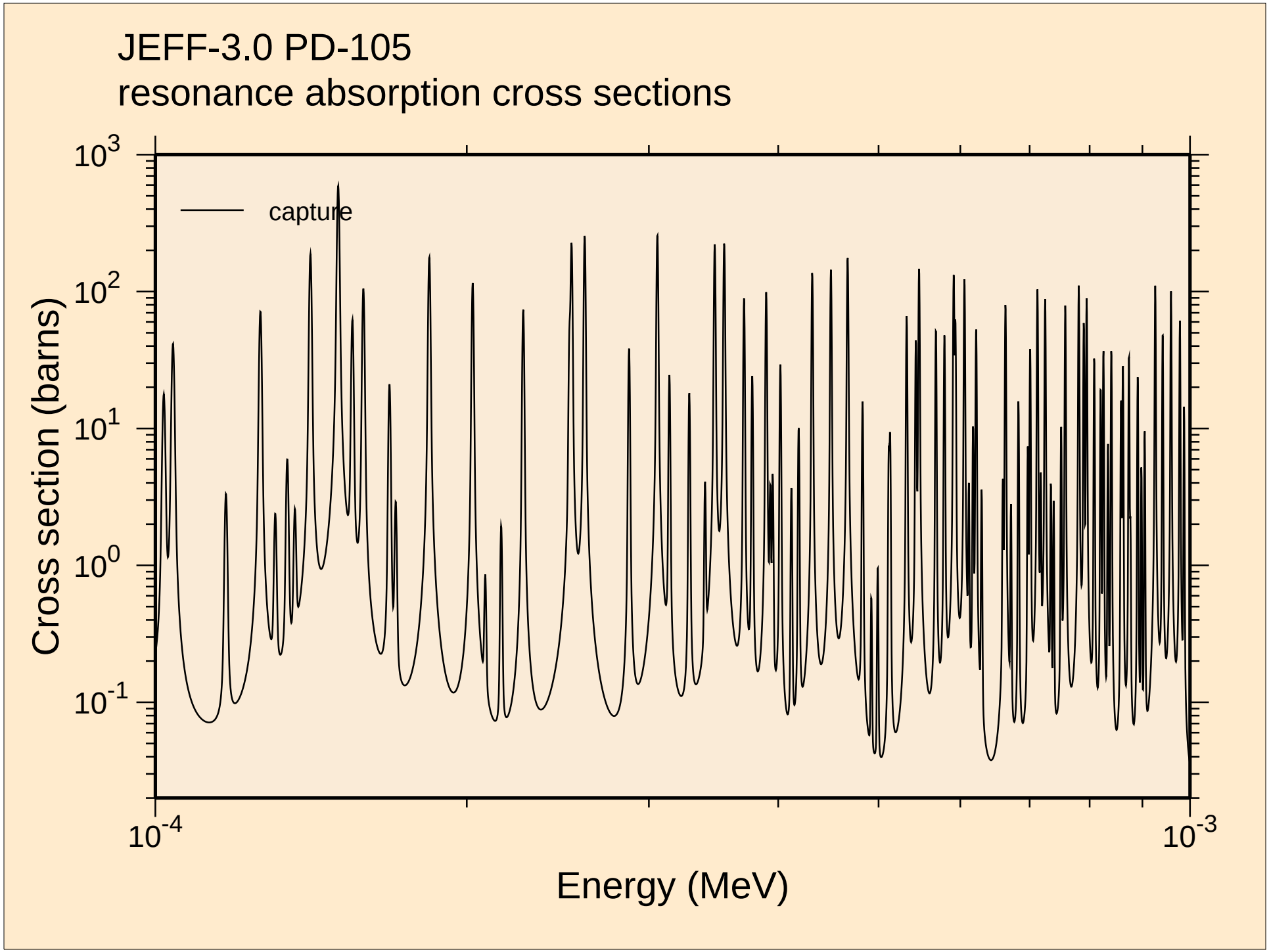

JEFF-3.0 PD-105
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^-5
10^-4
Energy (MeV)

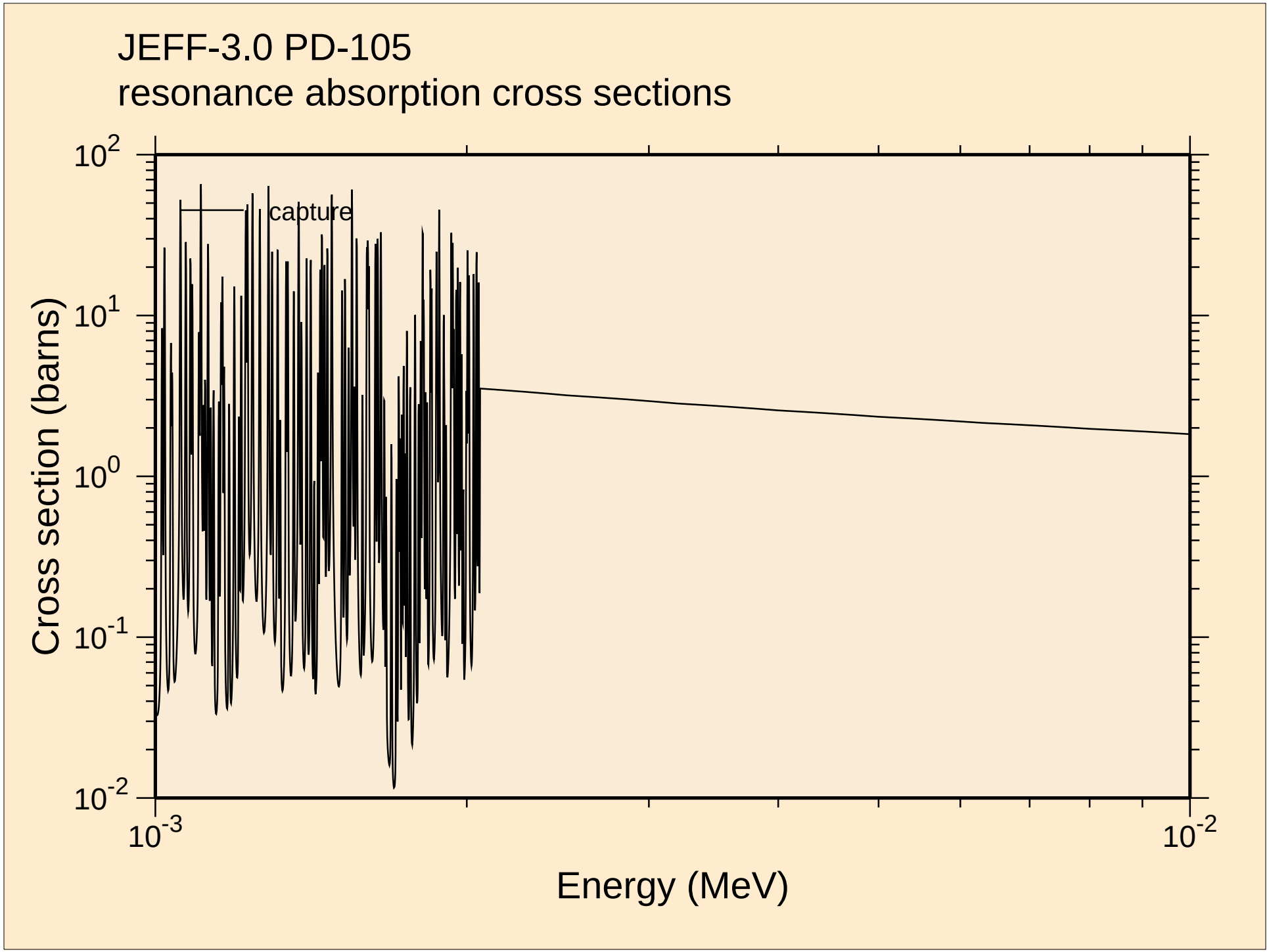

JEFF-3.0 PD-105
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^-4
10^-3
Energy (MeV)

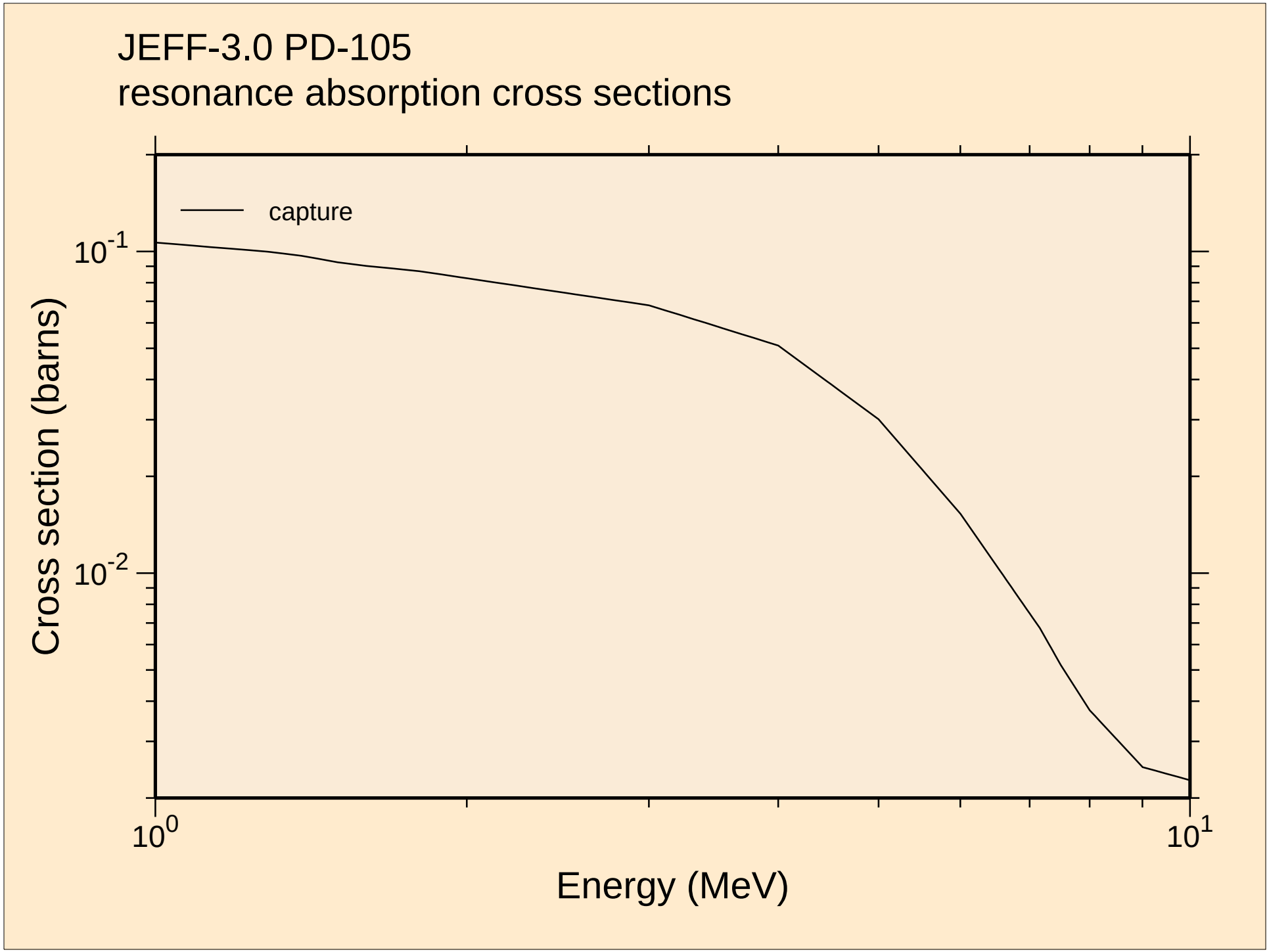

JEFF-3.0 PD-105
resonance total cross section
total
10^2
10^1
Cross section (barns)
10^{-3}
10^{-2}
Energy (MeV)

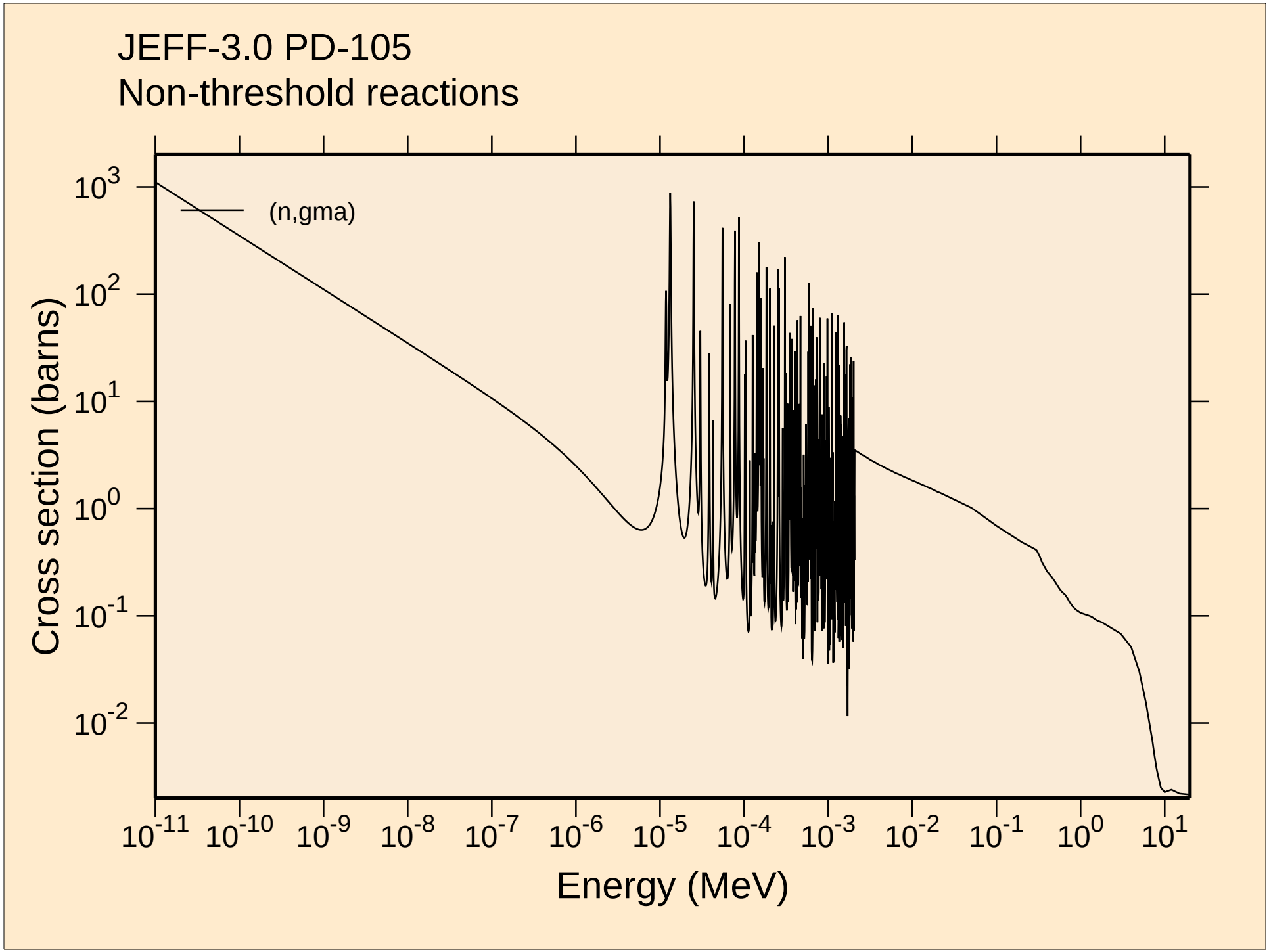

JEFF-3.0 PD-105
resonance total cross section
10^1
total
Cross section (barns)
10^0
10^1
Energy (MeV)

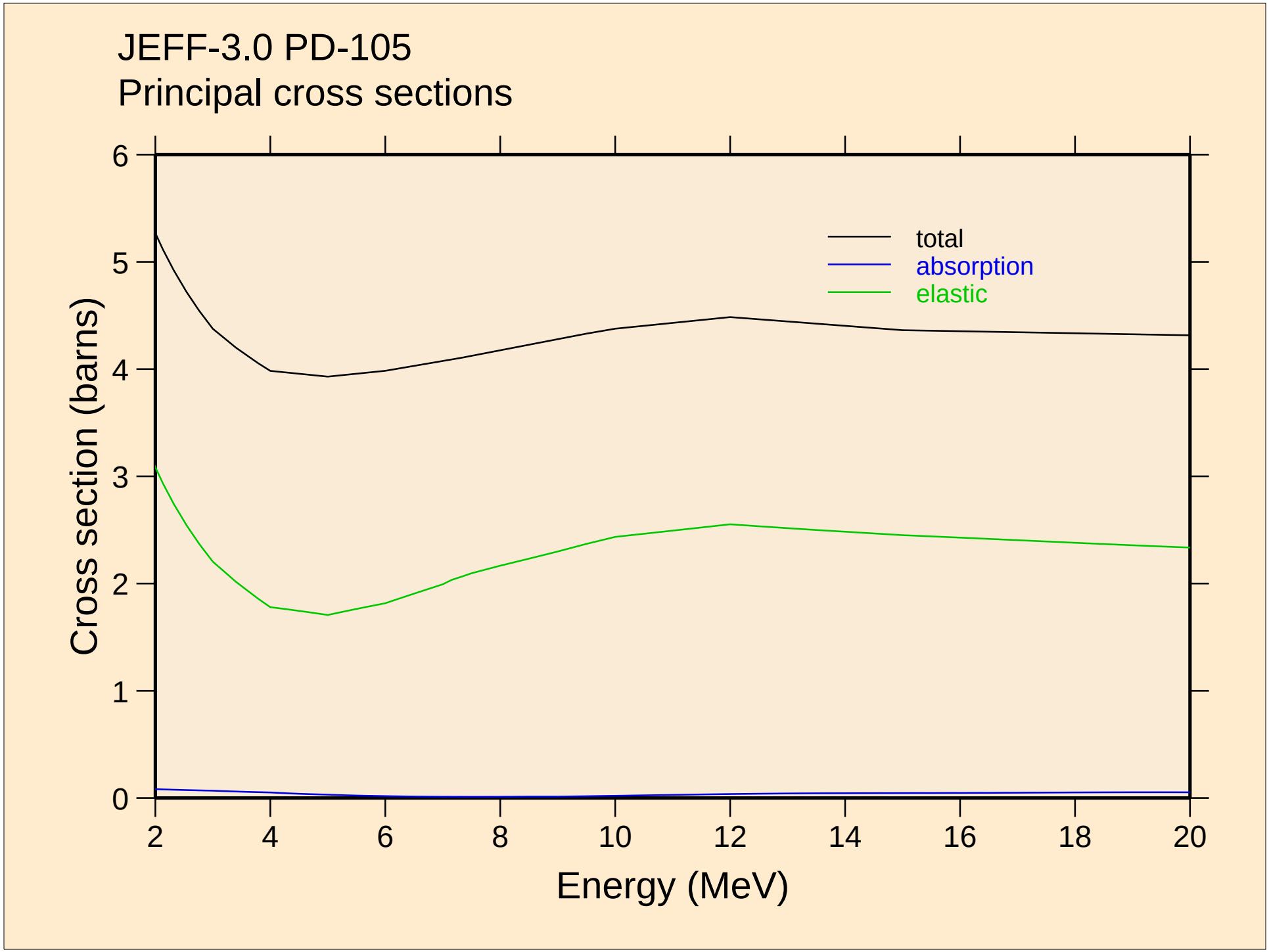

JEFF-3.0 PD-105
resonance absorption cross sections
capture
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-5
10^-4
Energy (MeV)

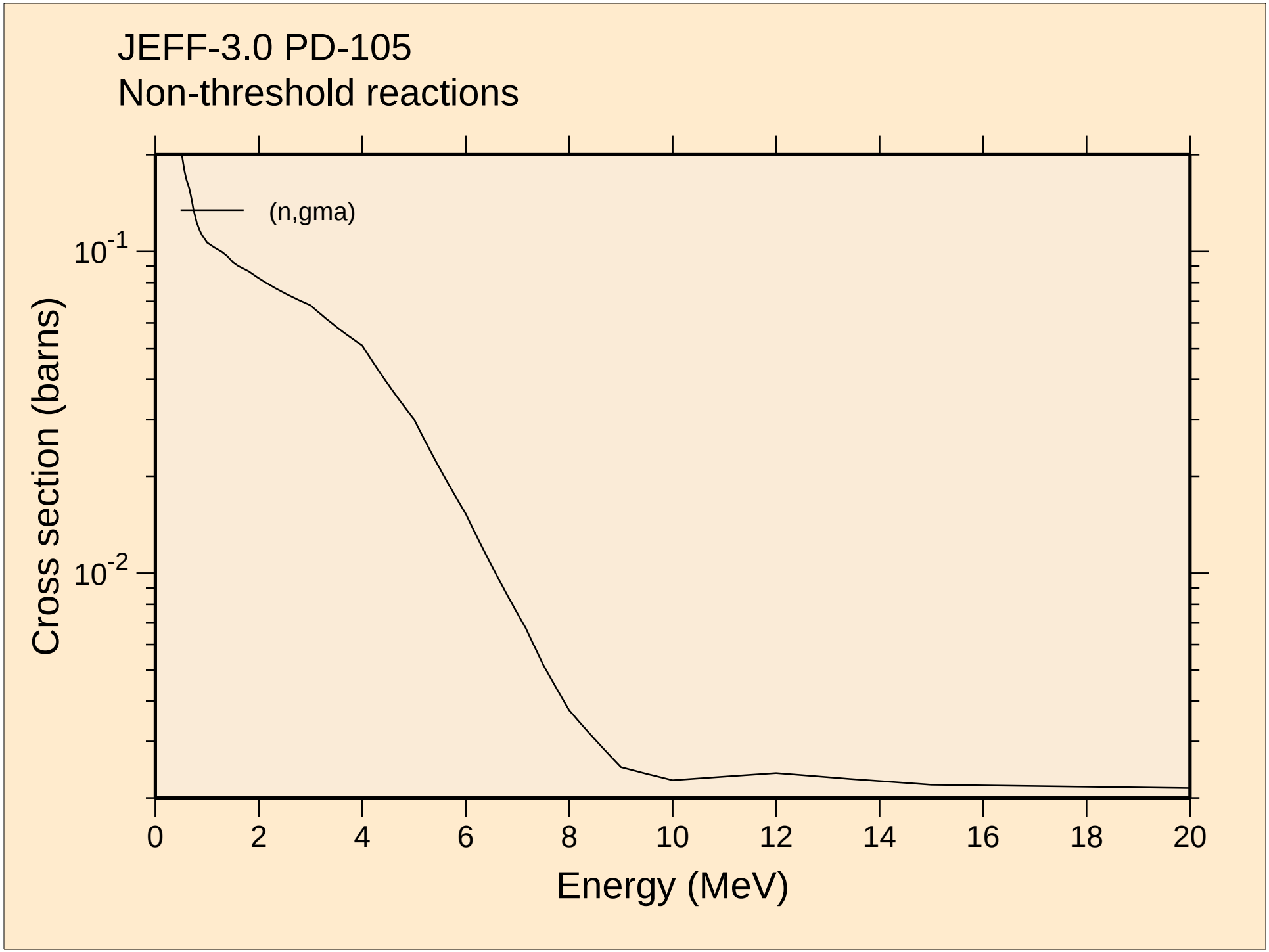

JEFF-3.0 PD-105
resonance absorption cross sections
capture
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-4
10^-3
Energy (MeV)

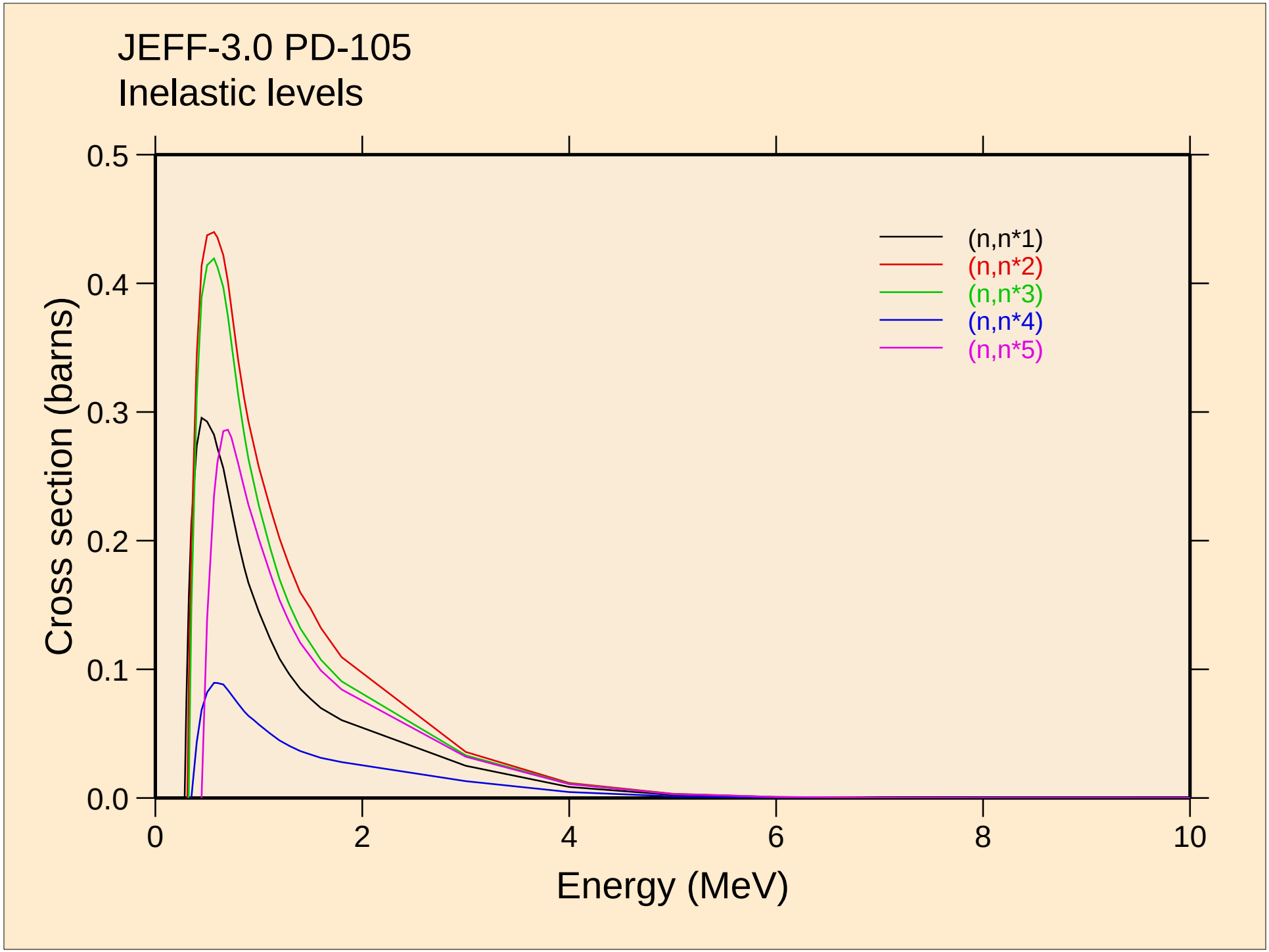

JEFF-3.0 PD-105
resonance absorption cross sections
capture
Cross section (barns)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-2}
Energy (MeV)

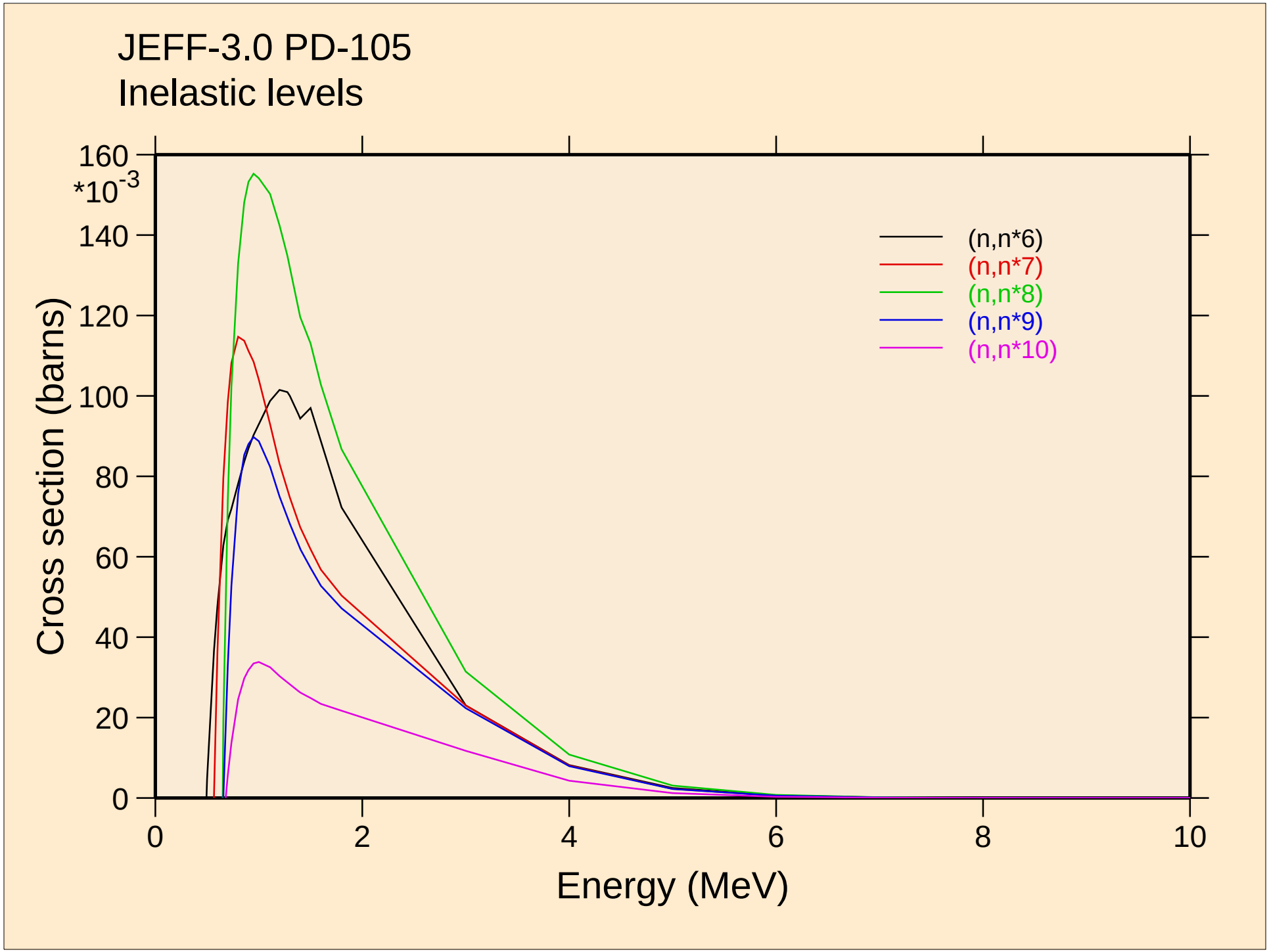

JEFF-3.0 PD-105
resonance absorption cross sections
capture
Cross section (barns)
10-1
10-2
100
101
Energy (MeV)

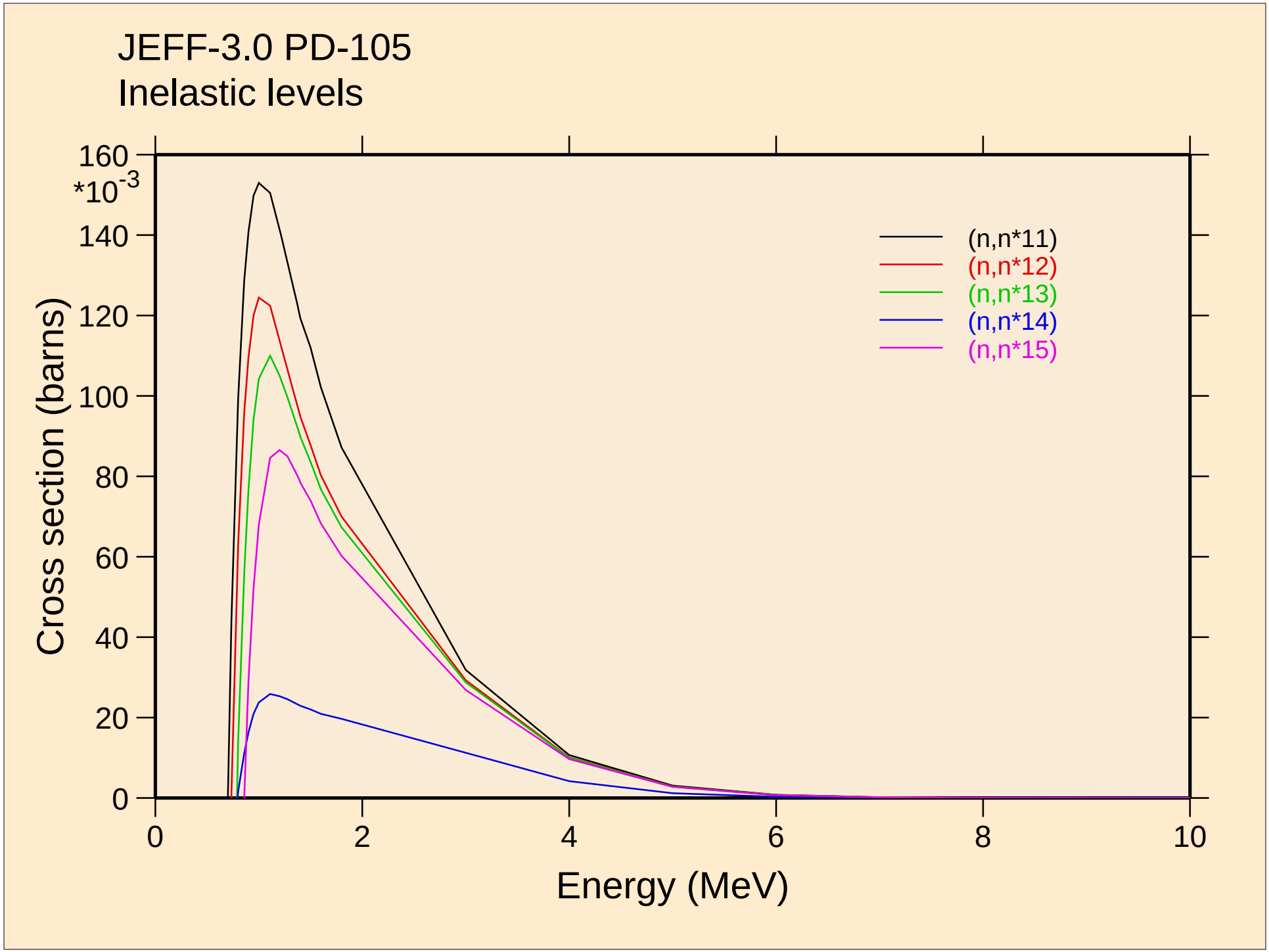

JEFF-3.0 PD-105
Non-threshold reactions
(n,gma)
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-11 10^-10 10^-9 10^-8 10^-7 10^-6 10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1
Energy (MeV)

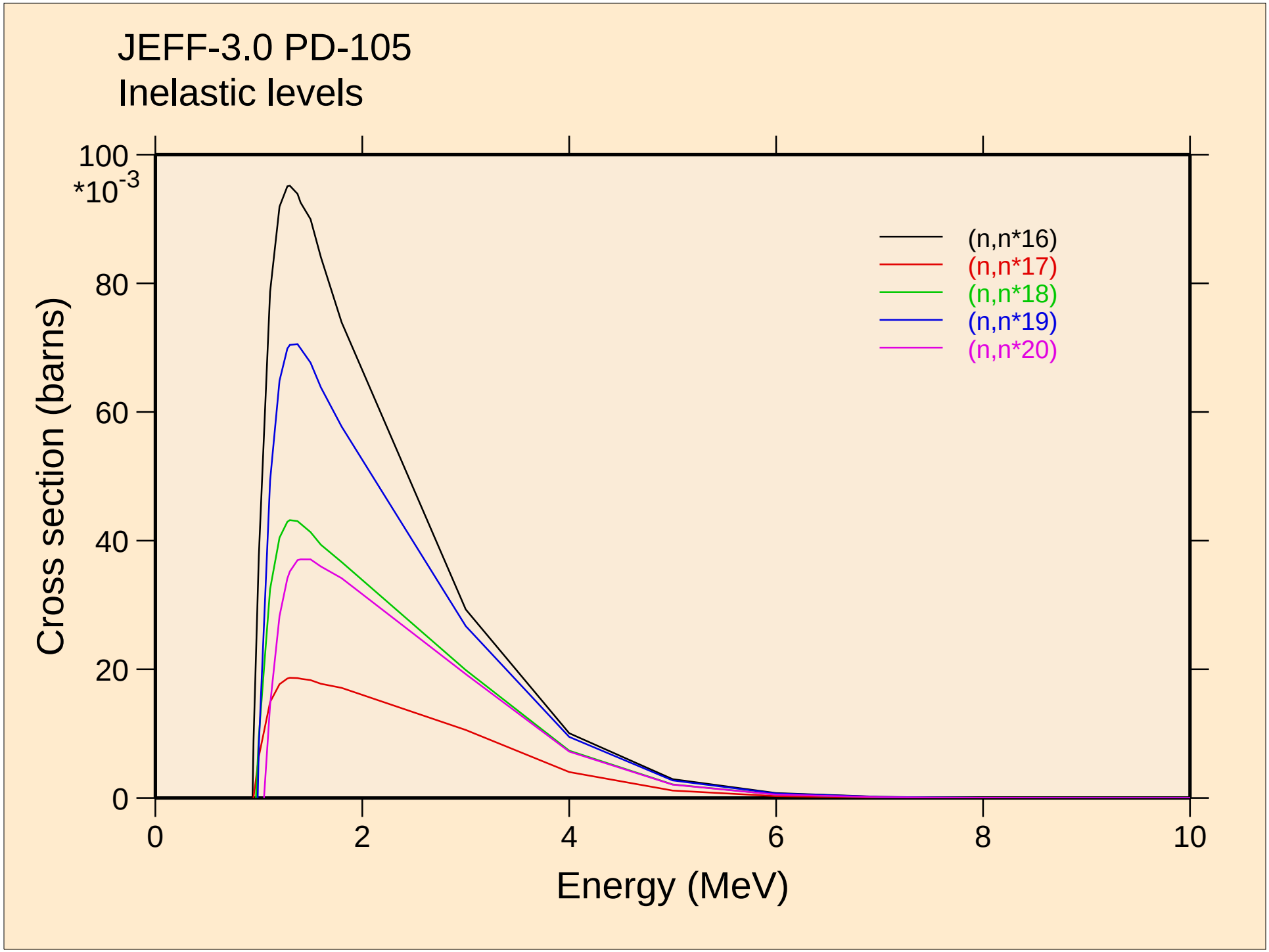

JEFF-3.0 PD-105
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
0
1
2
3
4
5
6
2
4
6
8
10
12
14
16
18
20

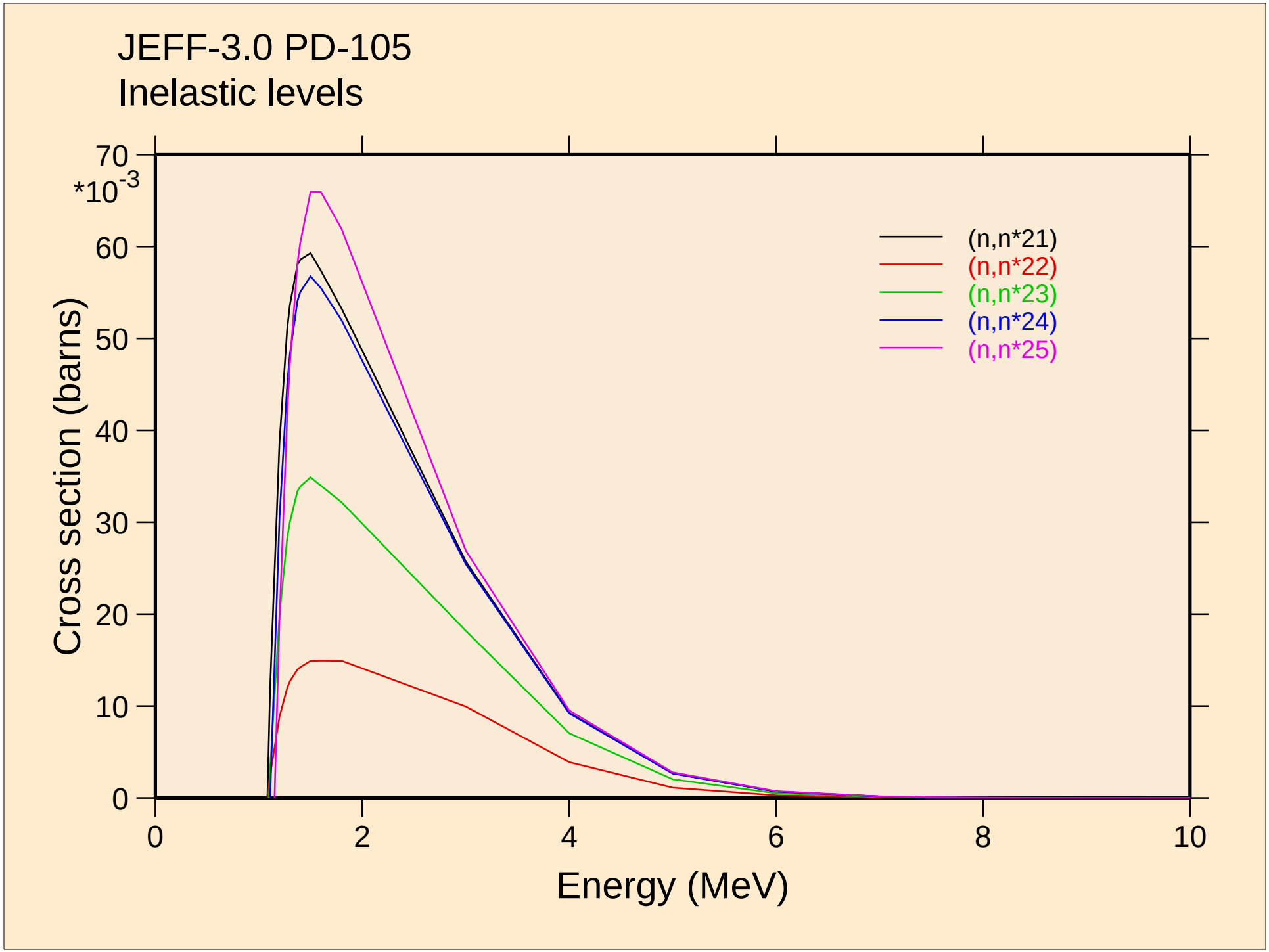

JEFF-3.0 PD-105
Non-threshold reactions
(n,gma)
Cross section (barns)
10-1
10-2
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

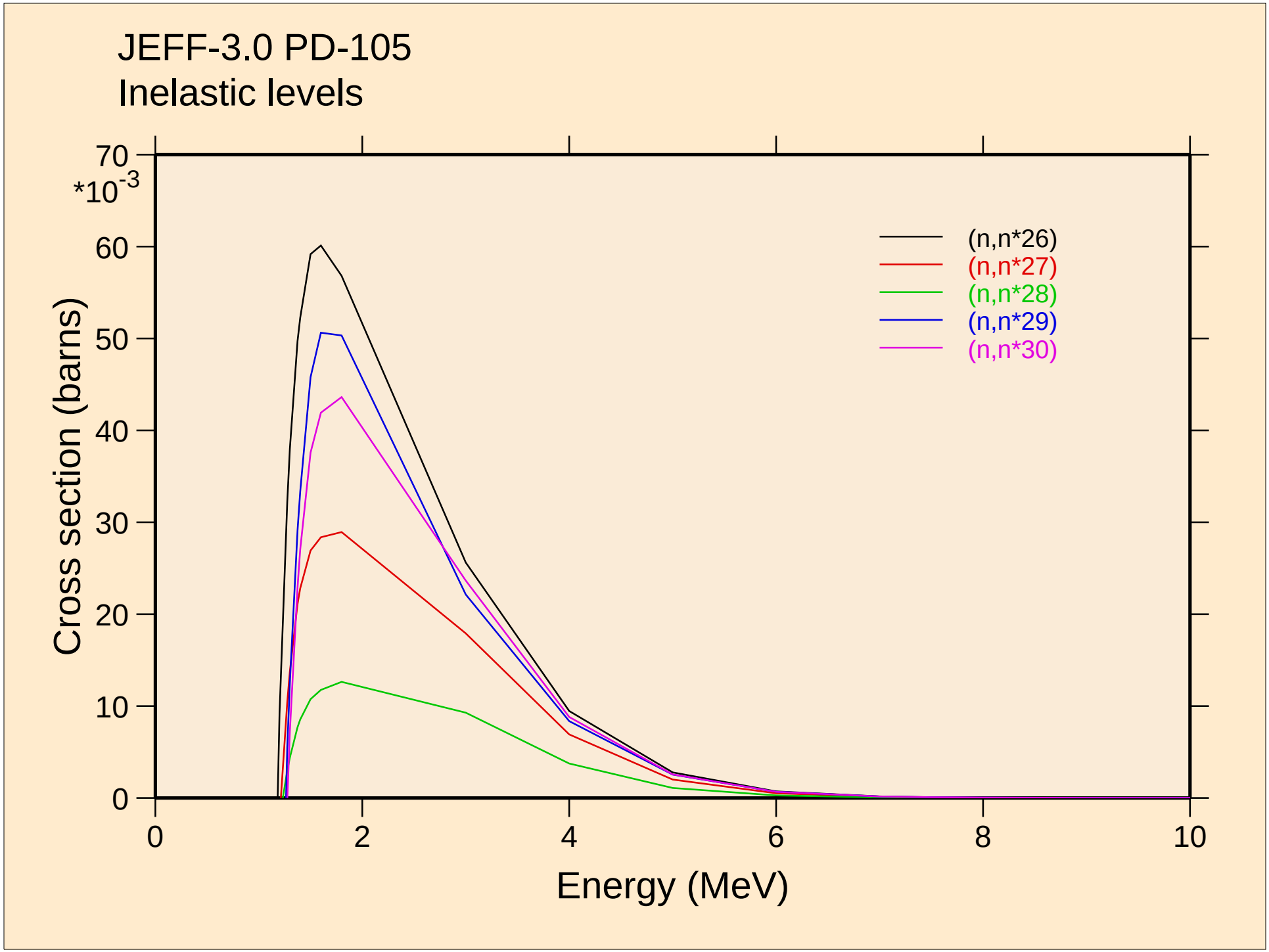

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
0.0
0.1
0.2
0.3
0.4
0.5
0
2
4
6
8
10
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

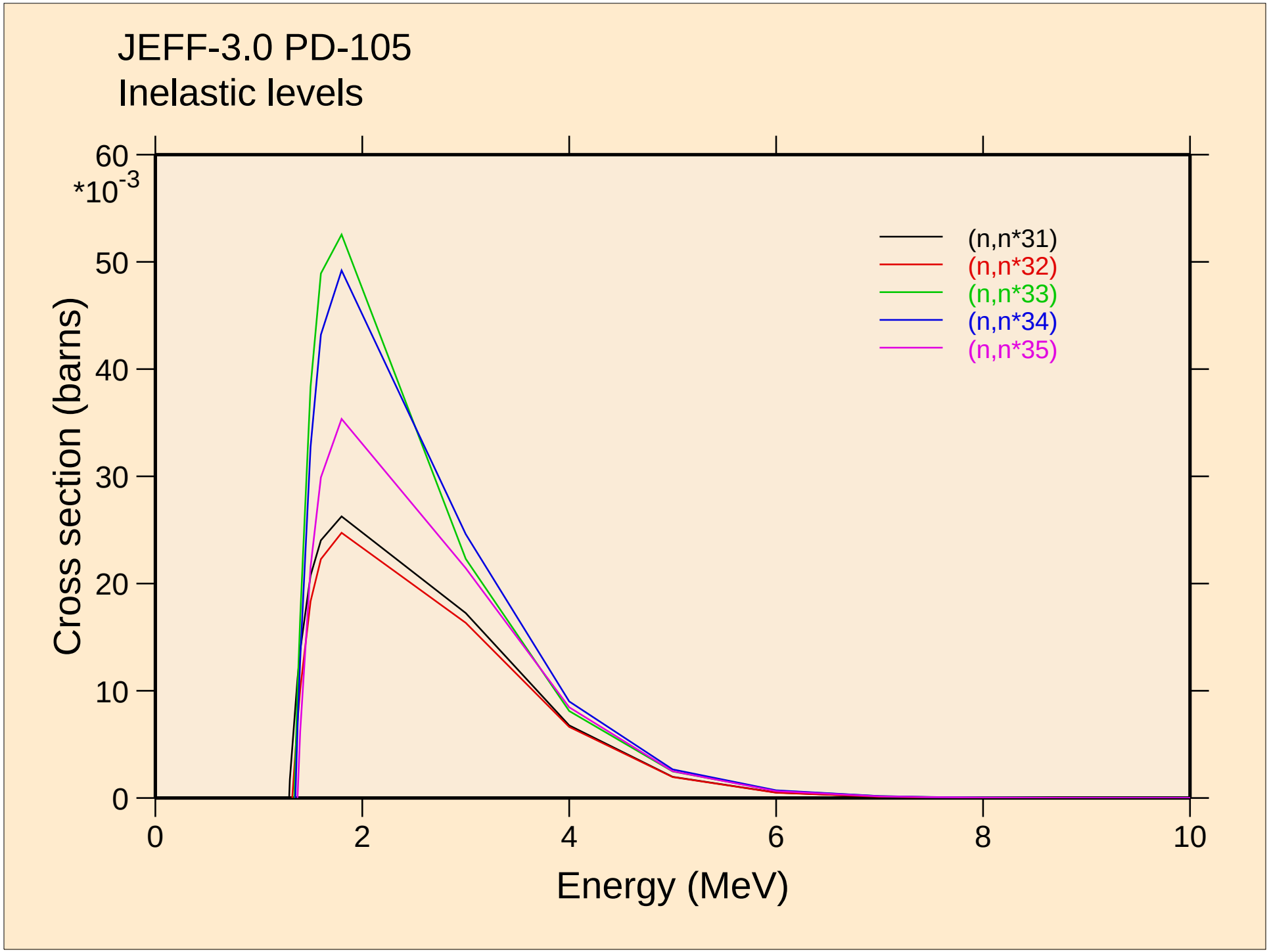

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
*10-3
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

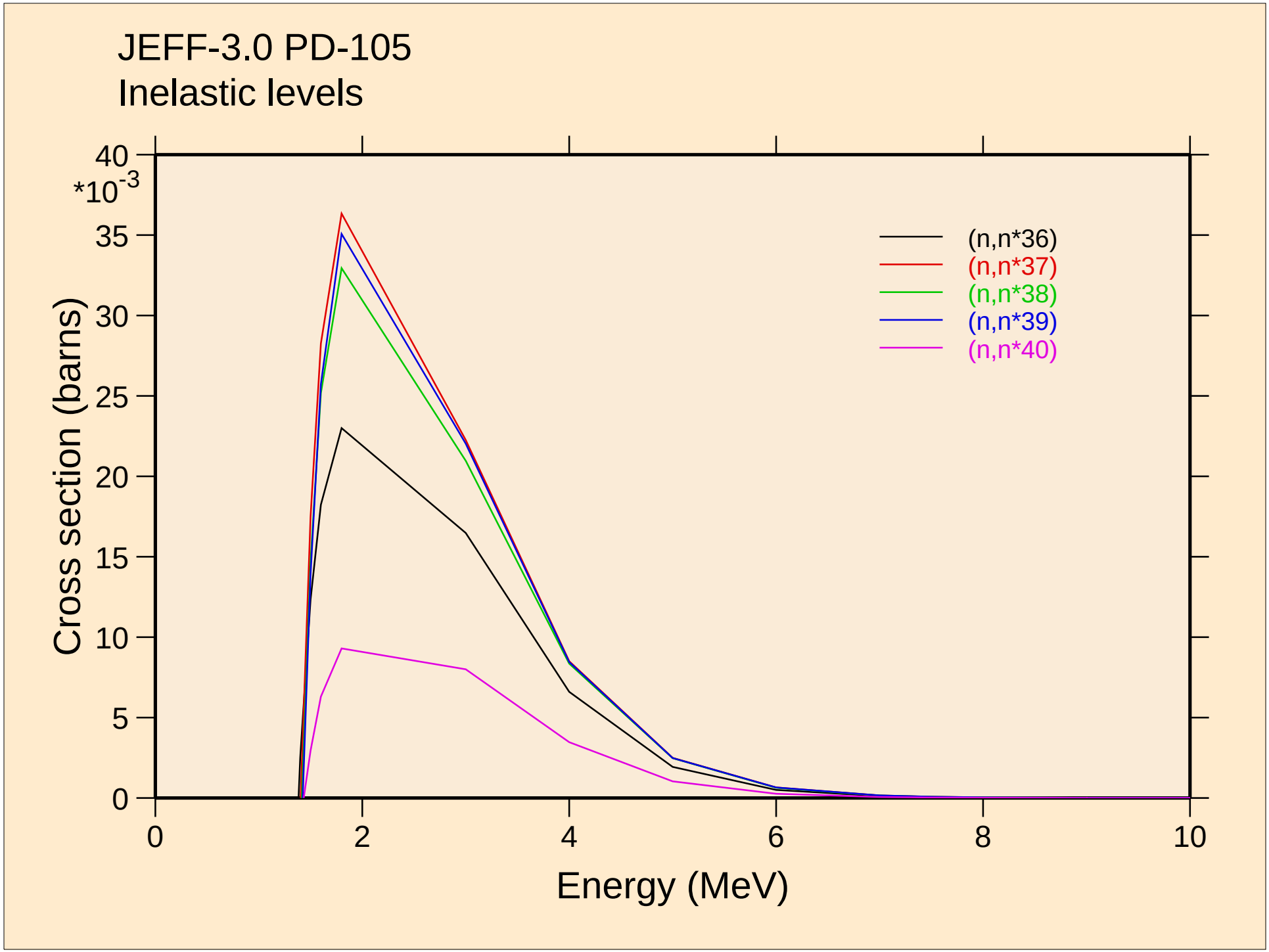

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
*10-3
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

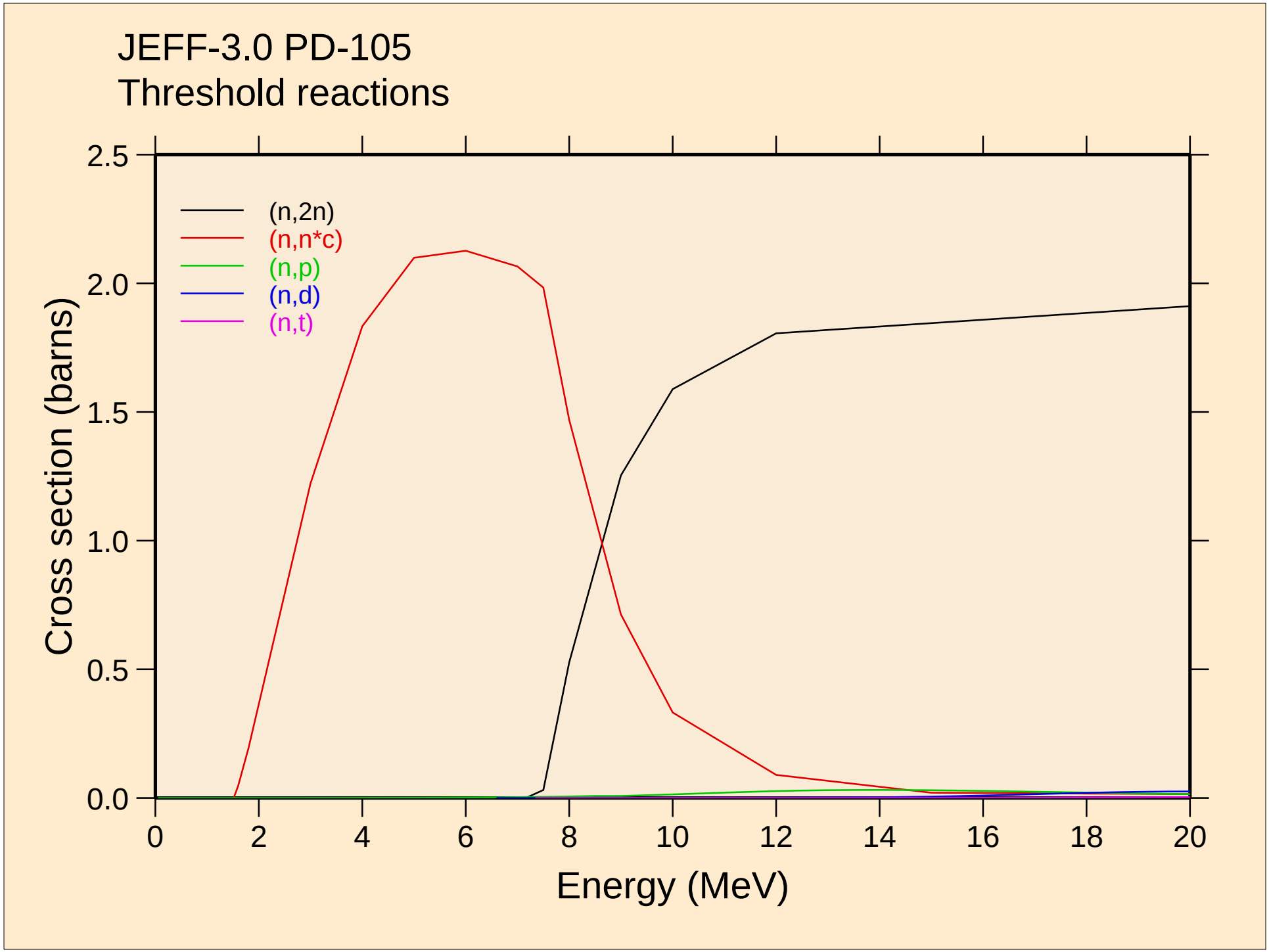

JEFF-3.0 PD-105
Inelastic levels
100
*10-3
80
60
40
20
0
Cross section (barns)
0
2
4
6
8
10
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

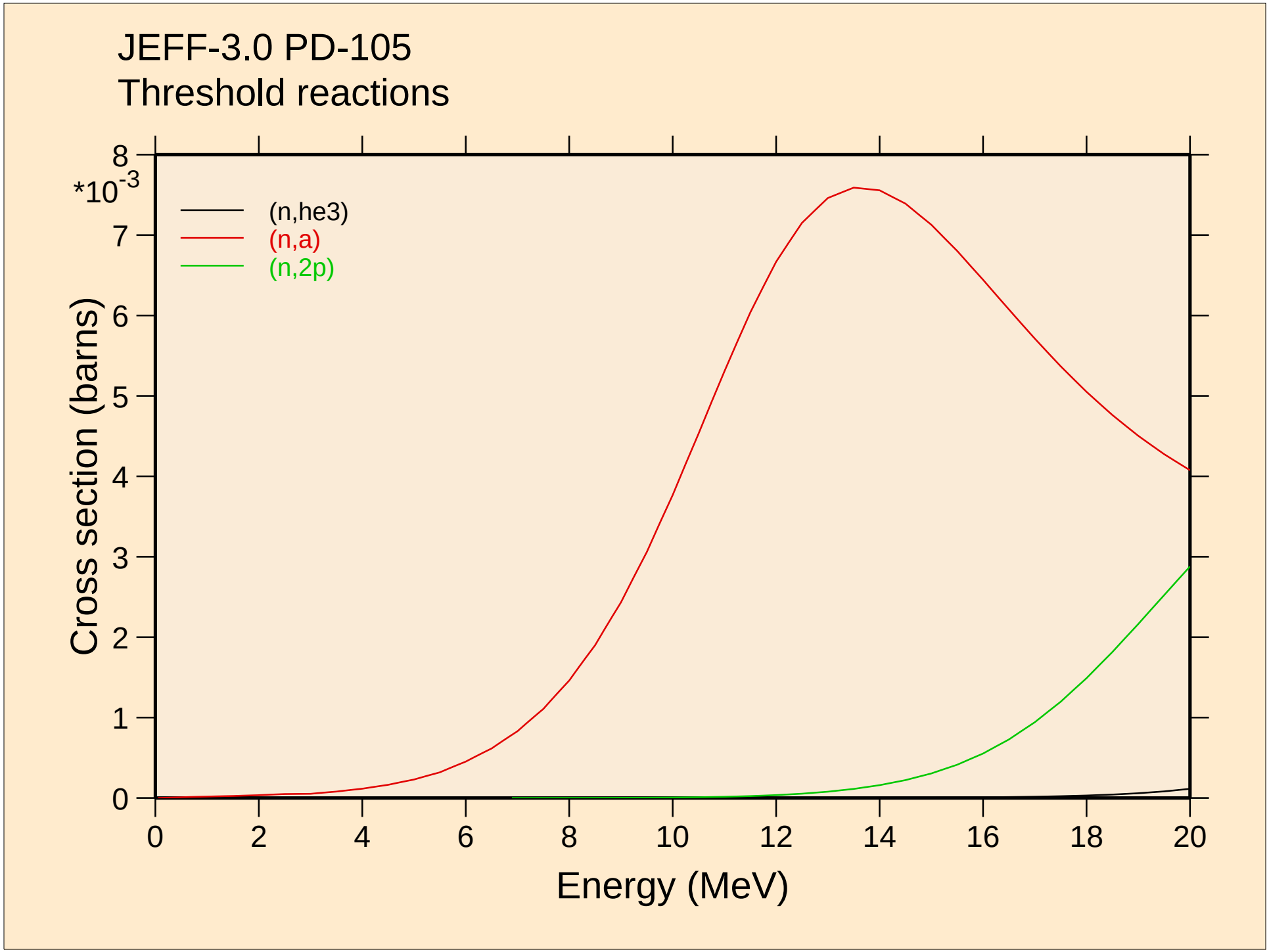

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
*10-3
70
60
50
40
30
20
10
0
0
2
4
6
8
10
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)

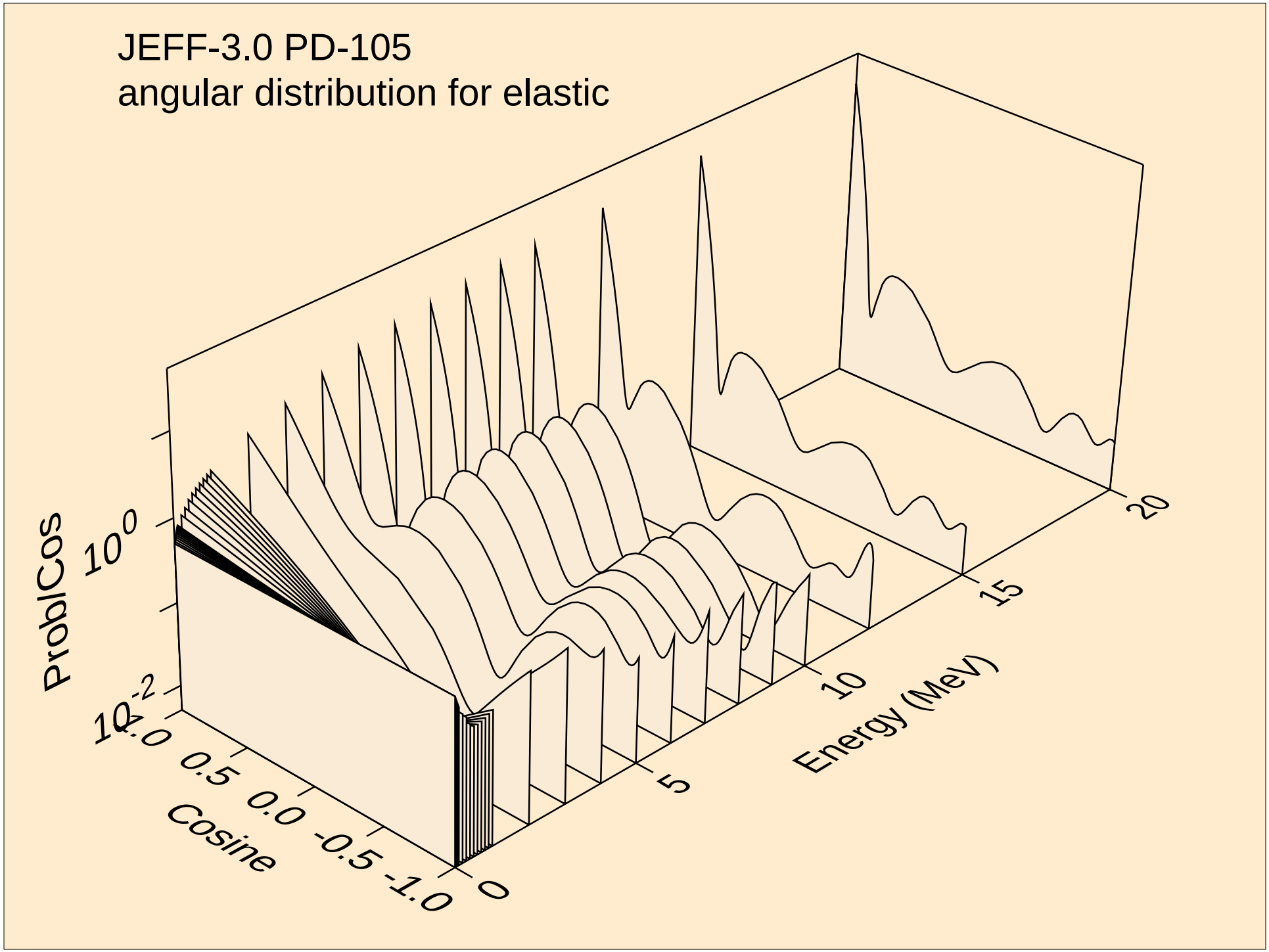

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
*10-3
70
60
50
40
30
20
10
0
0
2
4
6
8
10
Energy (MeV)
(n,n*26)
(n,n*27)
(n,n*28)
(n,n*29)
(n,n*30)

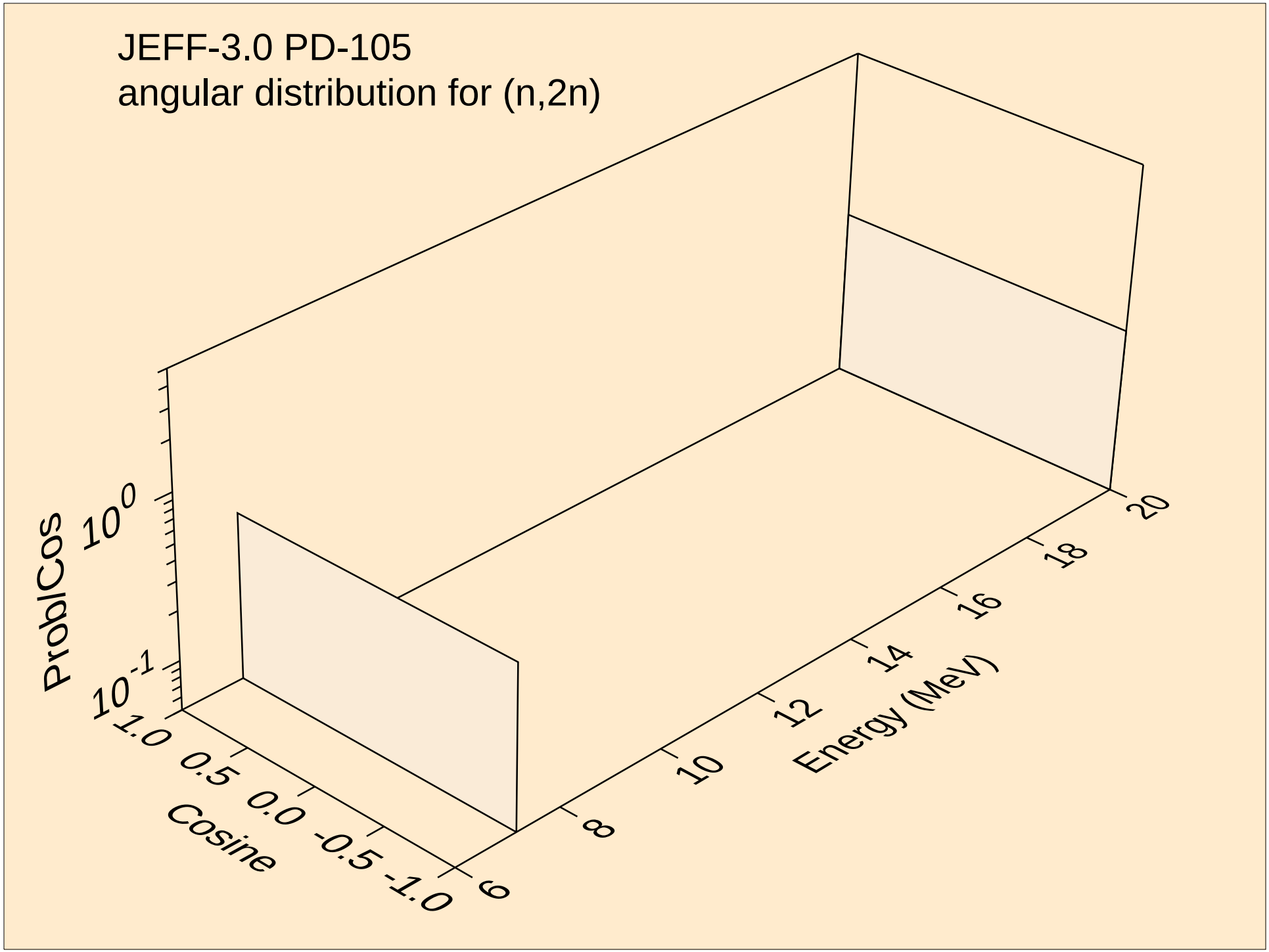

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
*10-3
60
50
40
30
20
10
0
0
2
4
6
8
10
Energy (MeV)
(n,n*31)
(n,n*32)
(n,n*33)
(n,n*34)
(n,n*35)

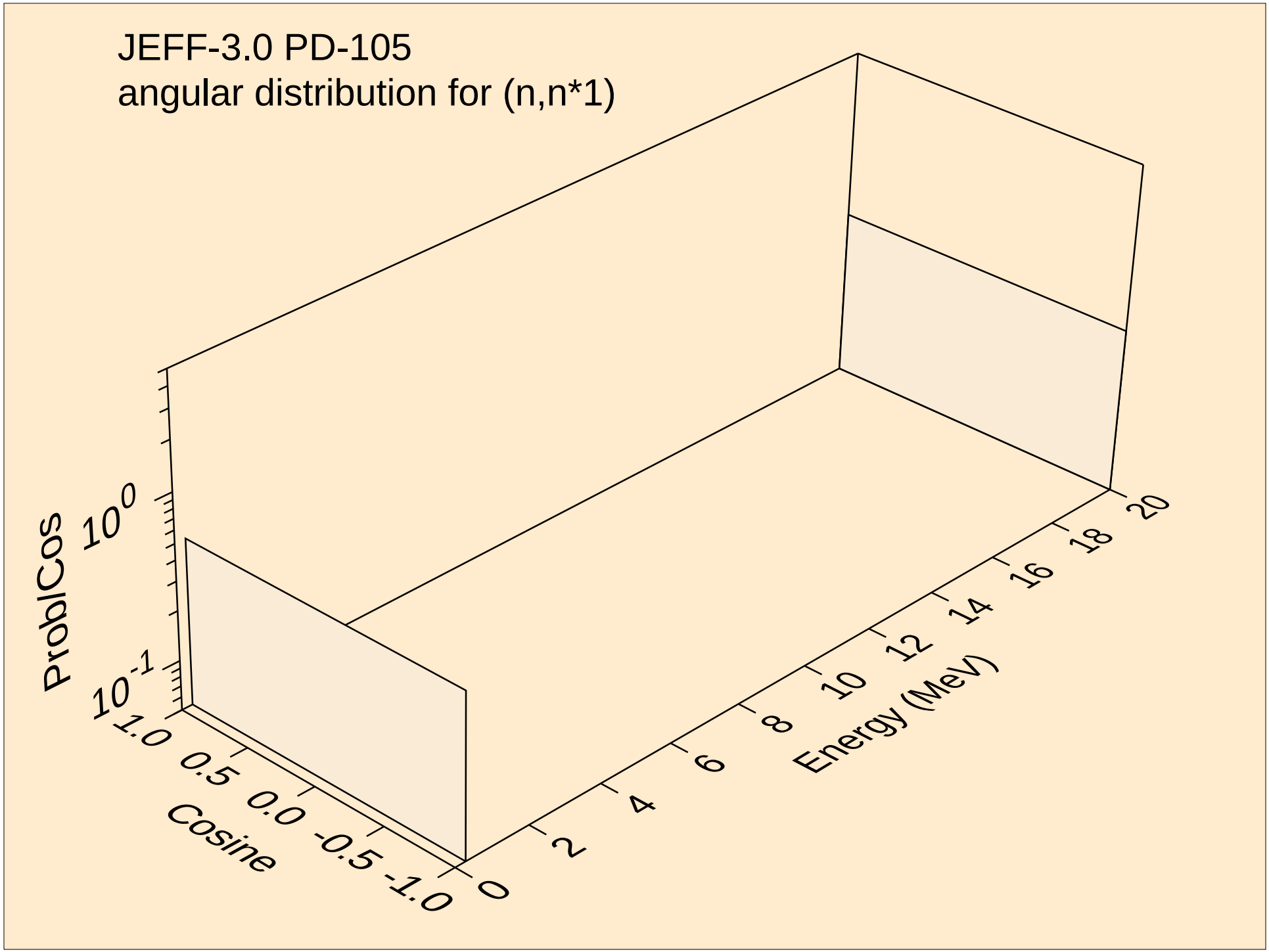

JEFF-3.0 PD-105
Inelastic levels
Cross section (barns)
*10-3
40
35
30
25
20
15
10
5
0
0
2
4
6
8
10
Energy (MeV)
(n,n*36)
(n,n*37)
(n,n*38)
(n,n*39)
(n,n*40)

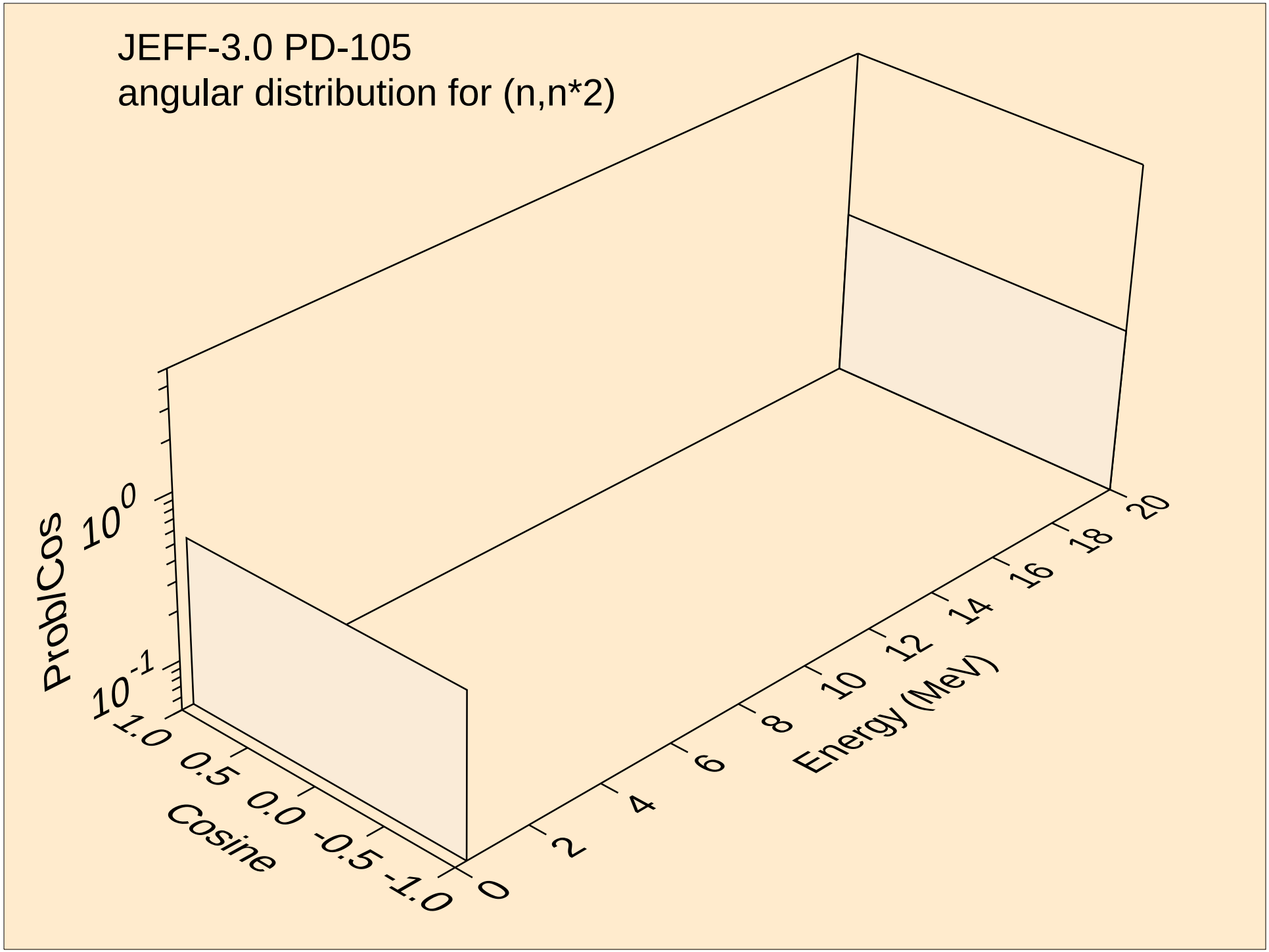

JEFF-3.0 PD-105
Threshold reactions
(n,2n)
(n,n*c)
(n,p)
(n,d)
(n,t)
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
0
2
4
6
8
10
12
14
16
18
20

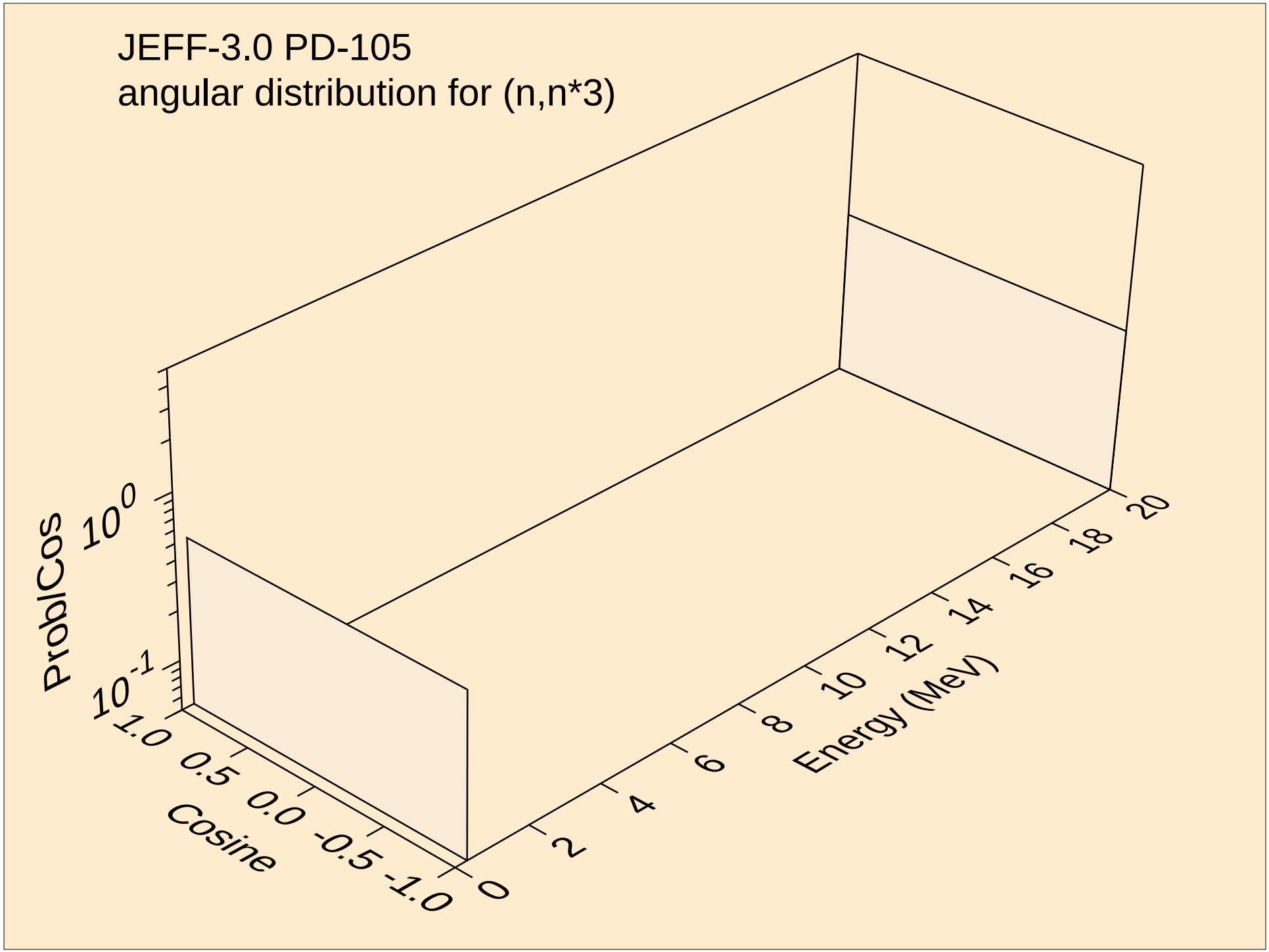

JEFF-3.0 PD-105
Threshold reactions
*10-3
Cross section (barns)
(n,he3)
(n,a)
(n,2p)
0
1
2
3
4
5
6
7
8
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

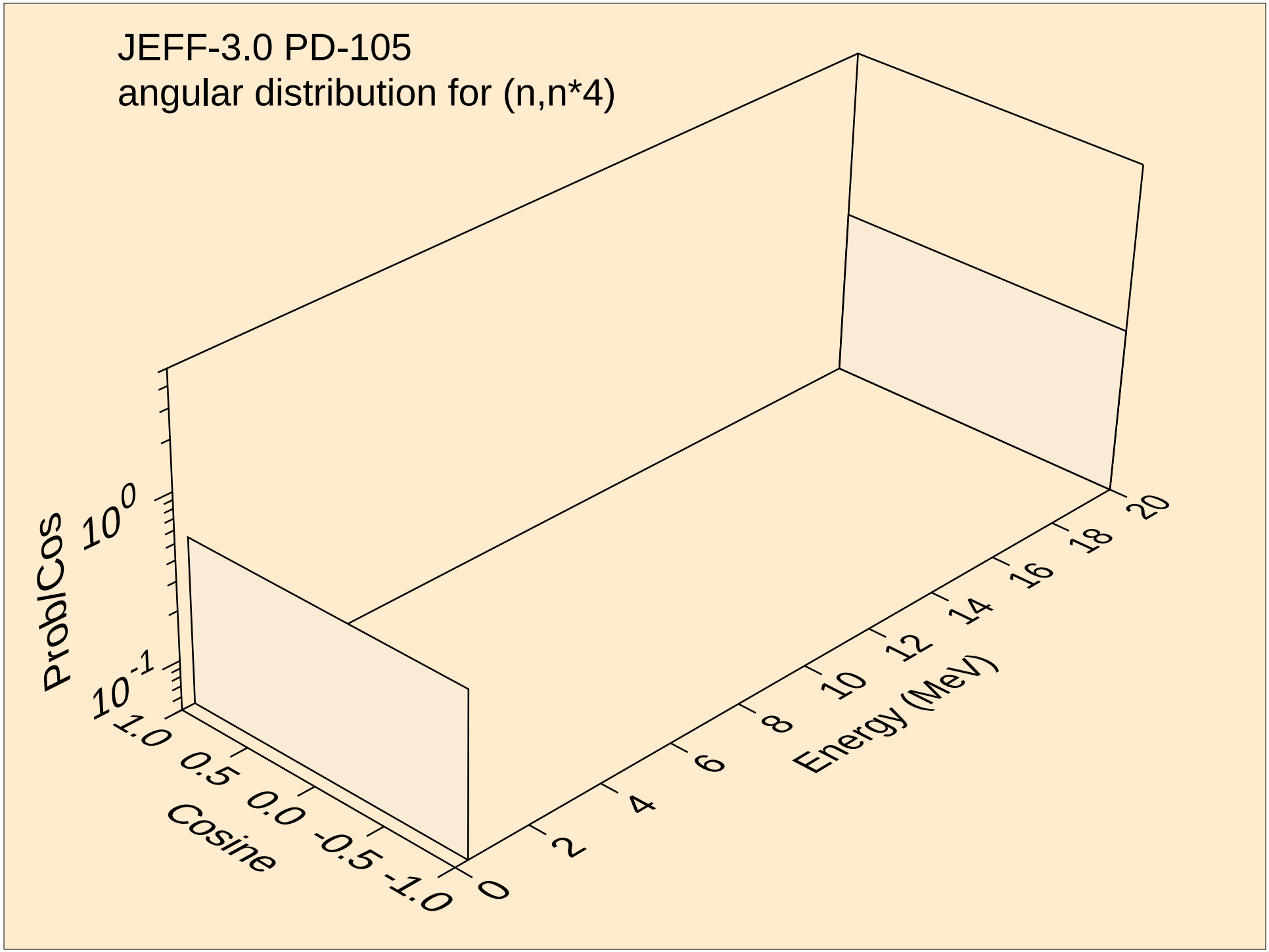

JEFF-3.0 PD-105
angular distribution for elastic
ProbICos
10^{0}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

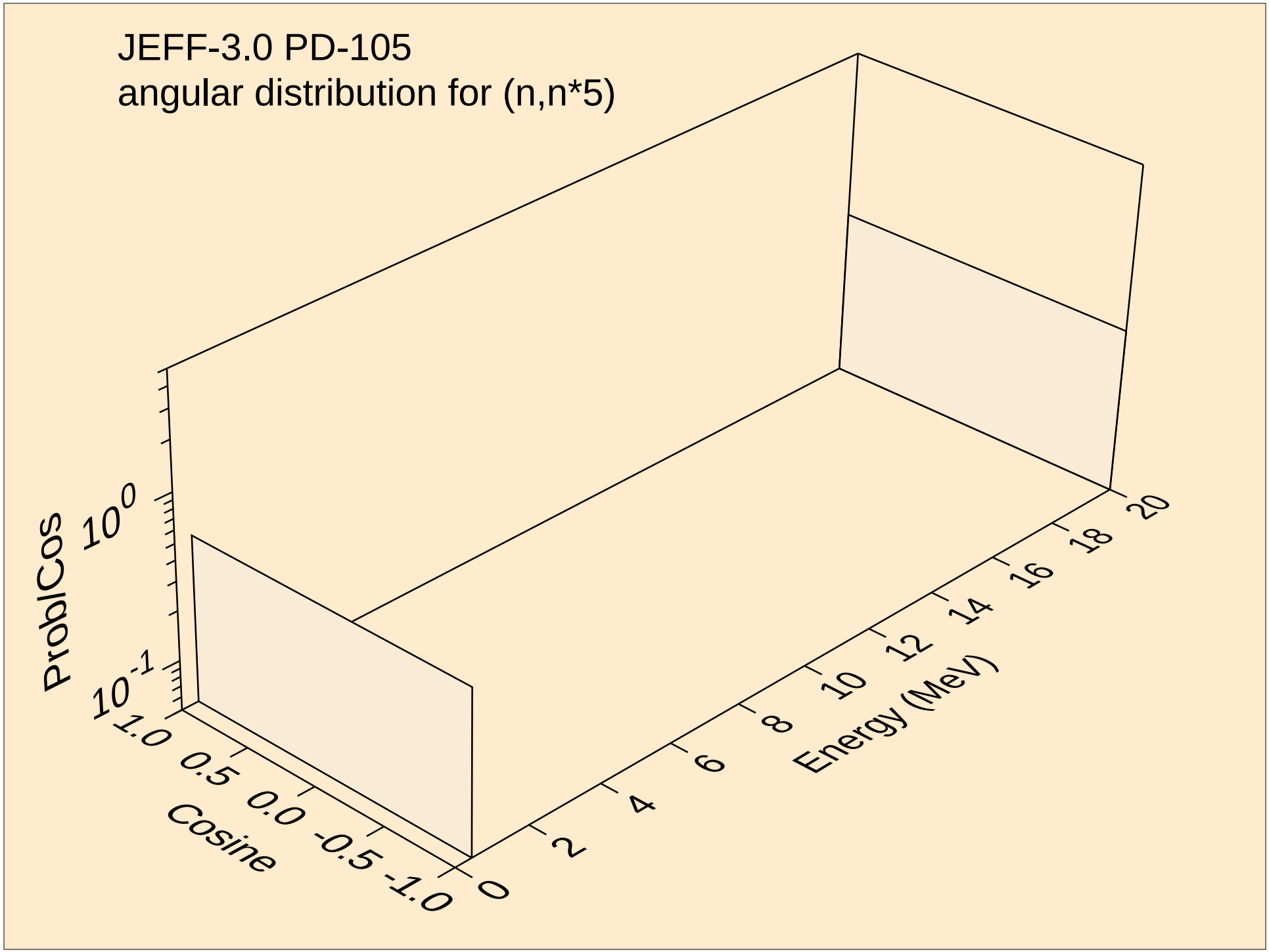

JEFF-3.0 PD-105
angular distribution for (n,2n)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
6
8
10
12
14
16
18
20
Energy (MeV)

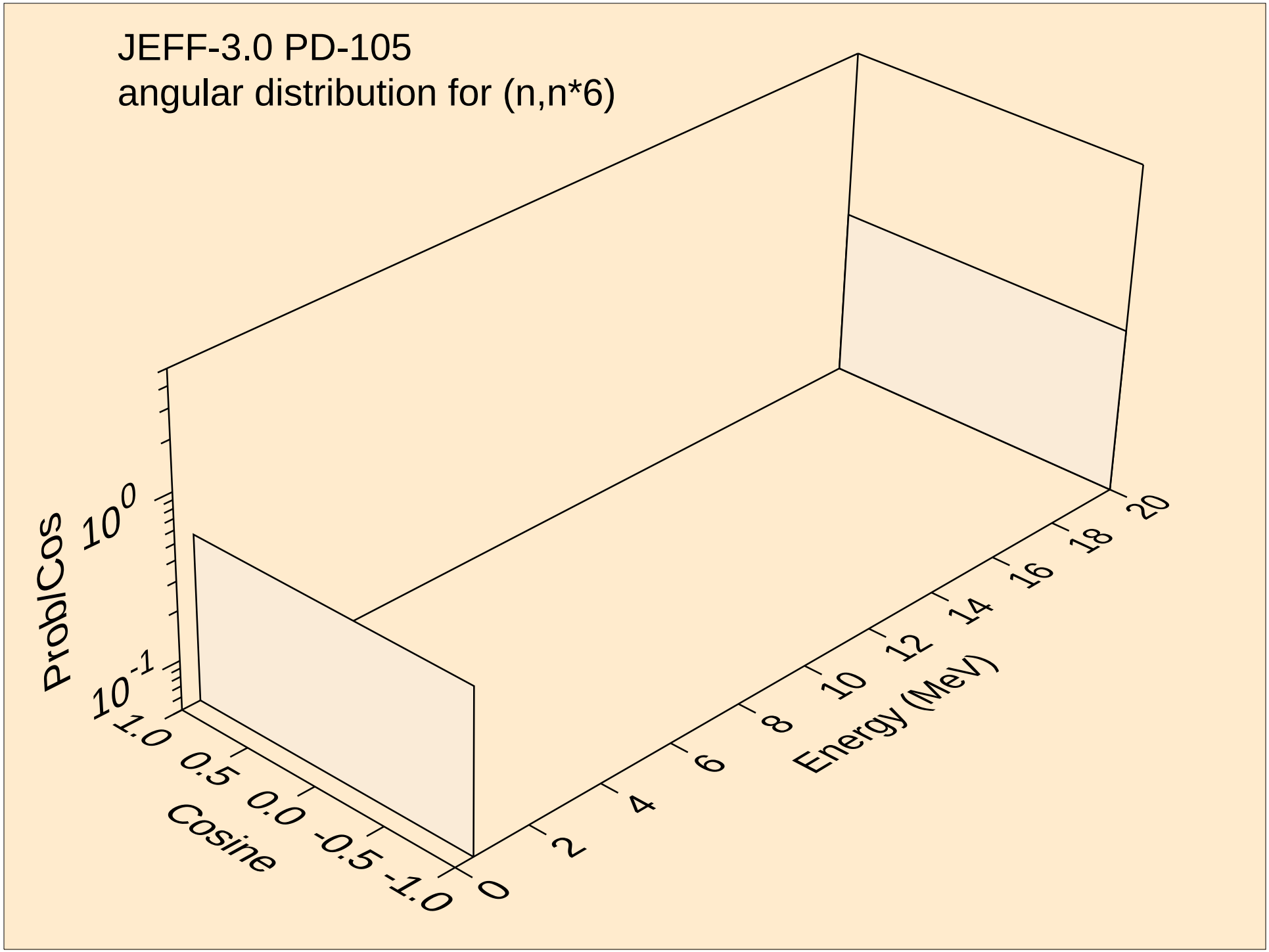

JEFF-3.0 PD-105
angular distribution for (n,n*1)
Prob\Cos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

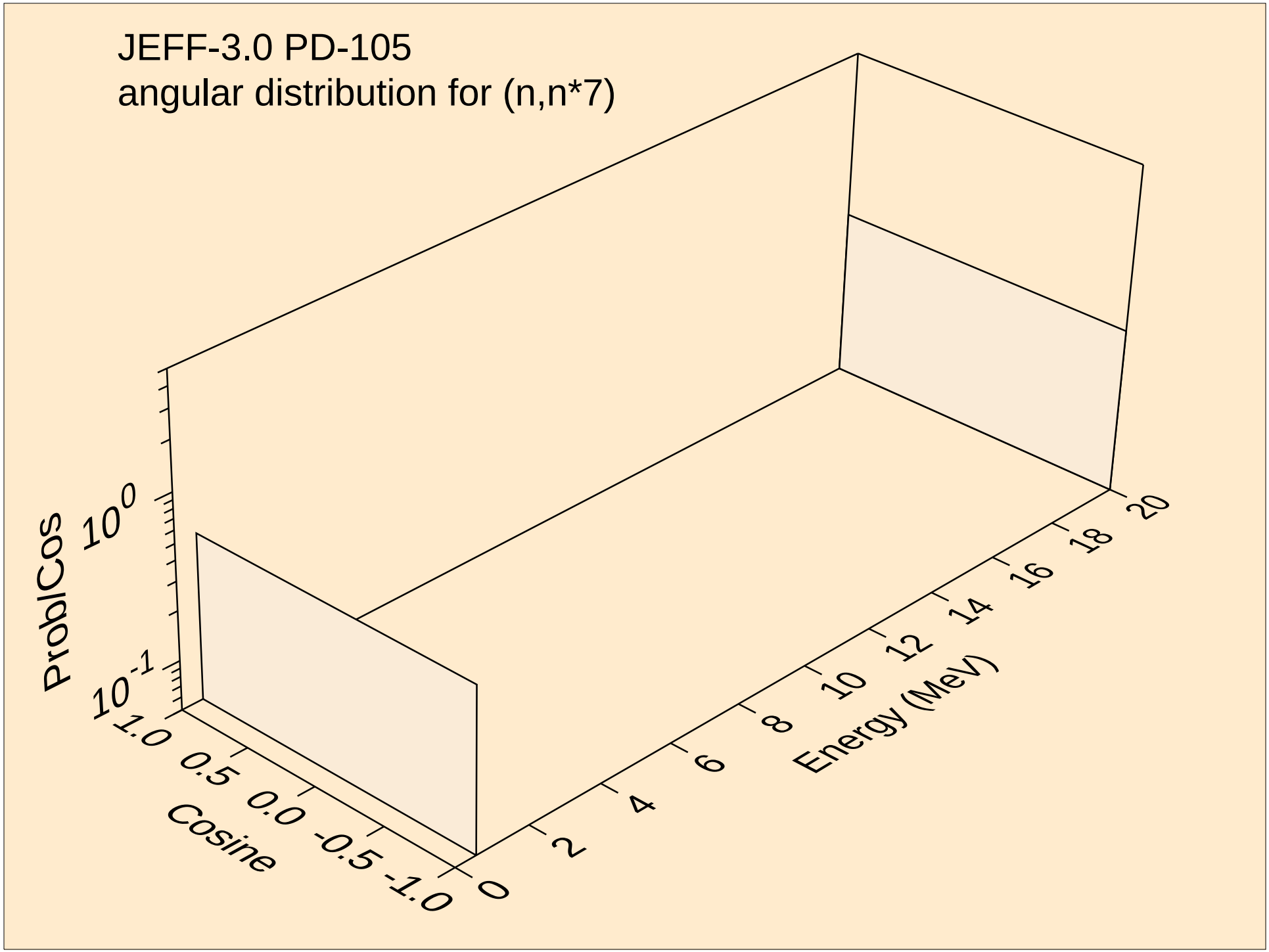

JEFF-3.0 PD-105
angular distribution for (n,n*2)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

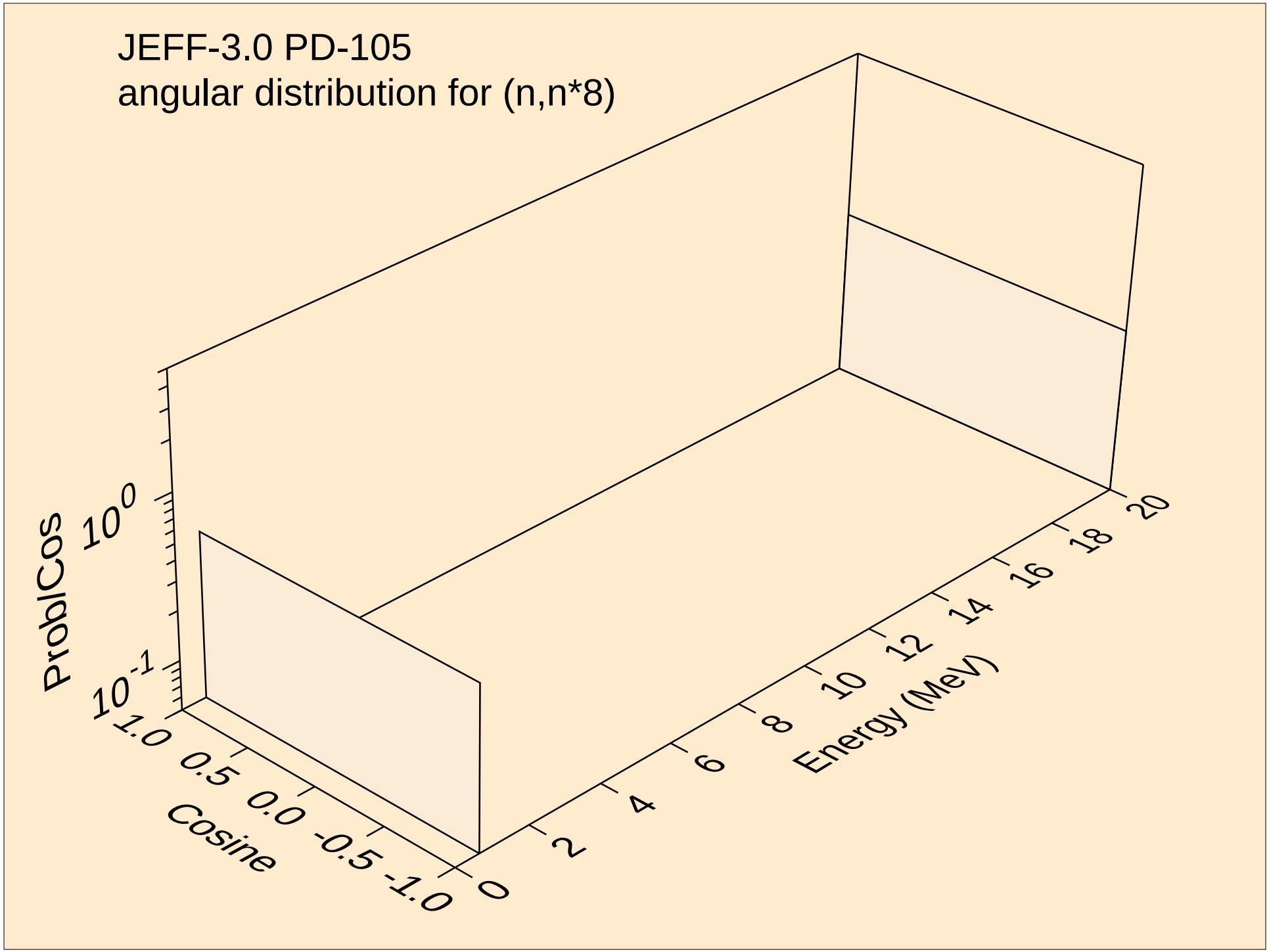

JEFF-3.0 PD-105
angular distribution for (n,n*3)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

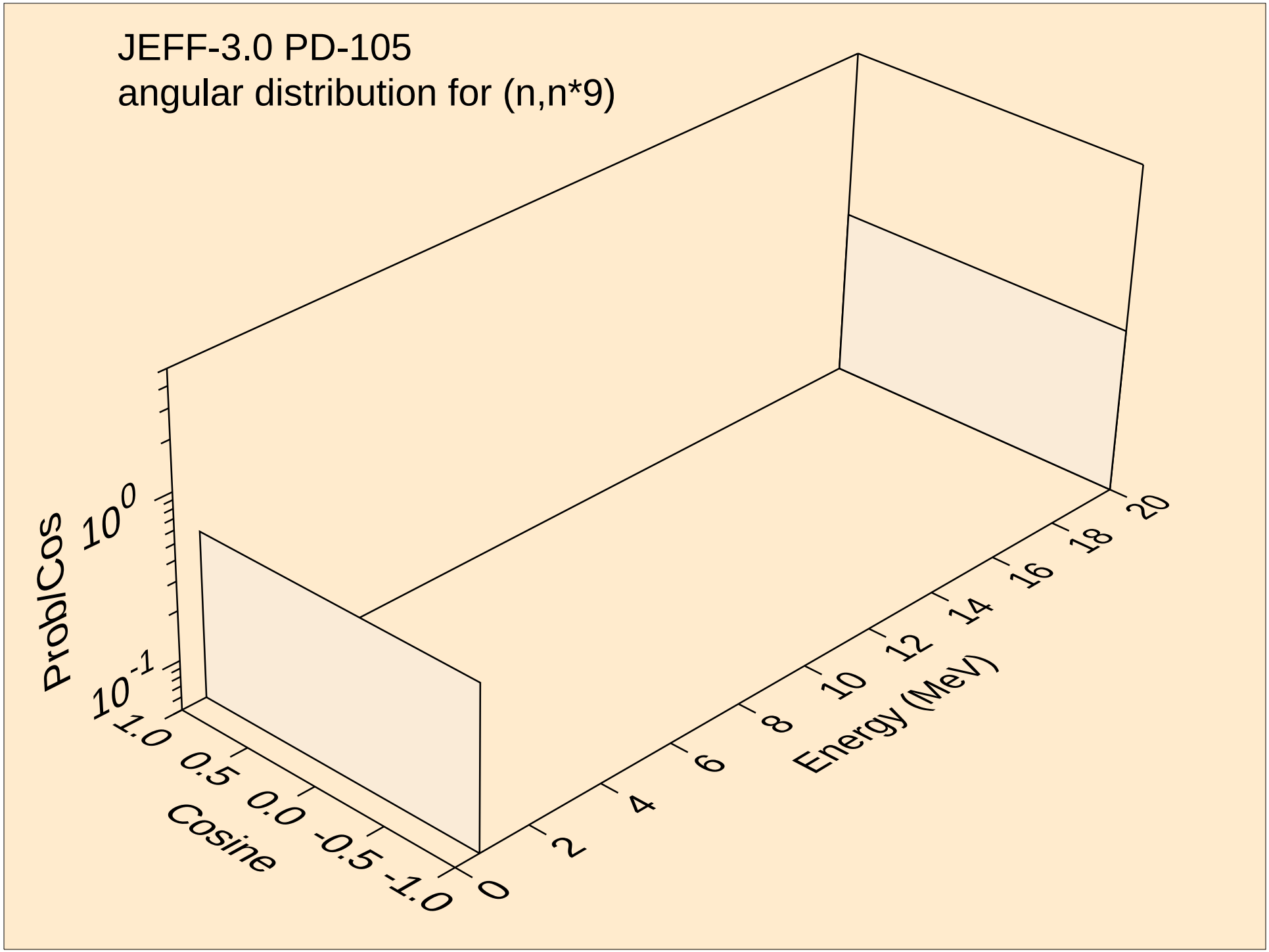

JEFF-3.0 PD-105
angular distribution for (n,n*4)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

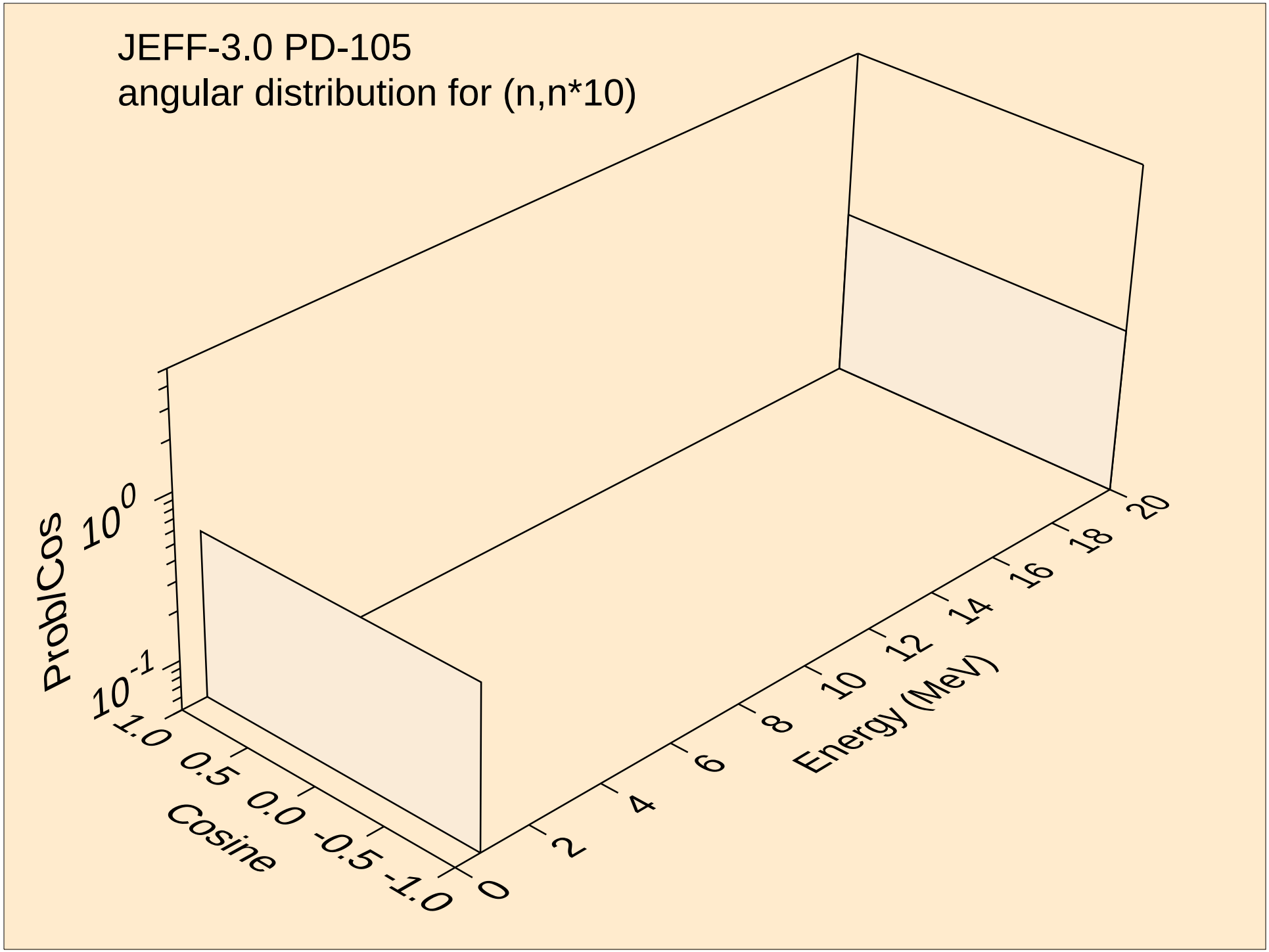

JEFF-3.0 PD-105
angular distribution for (n,n*5)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

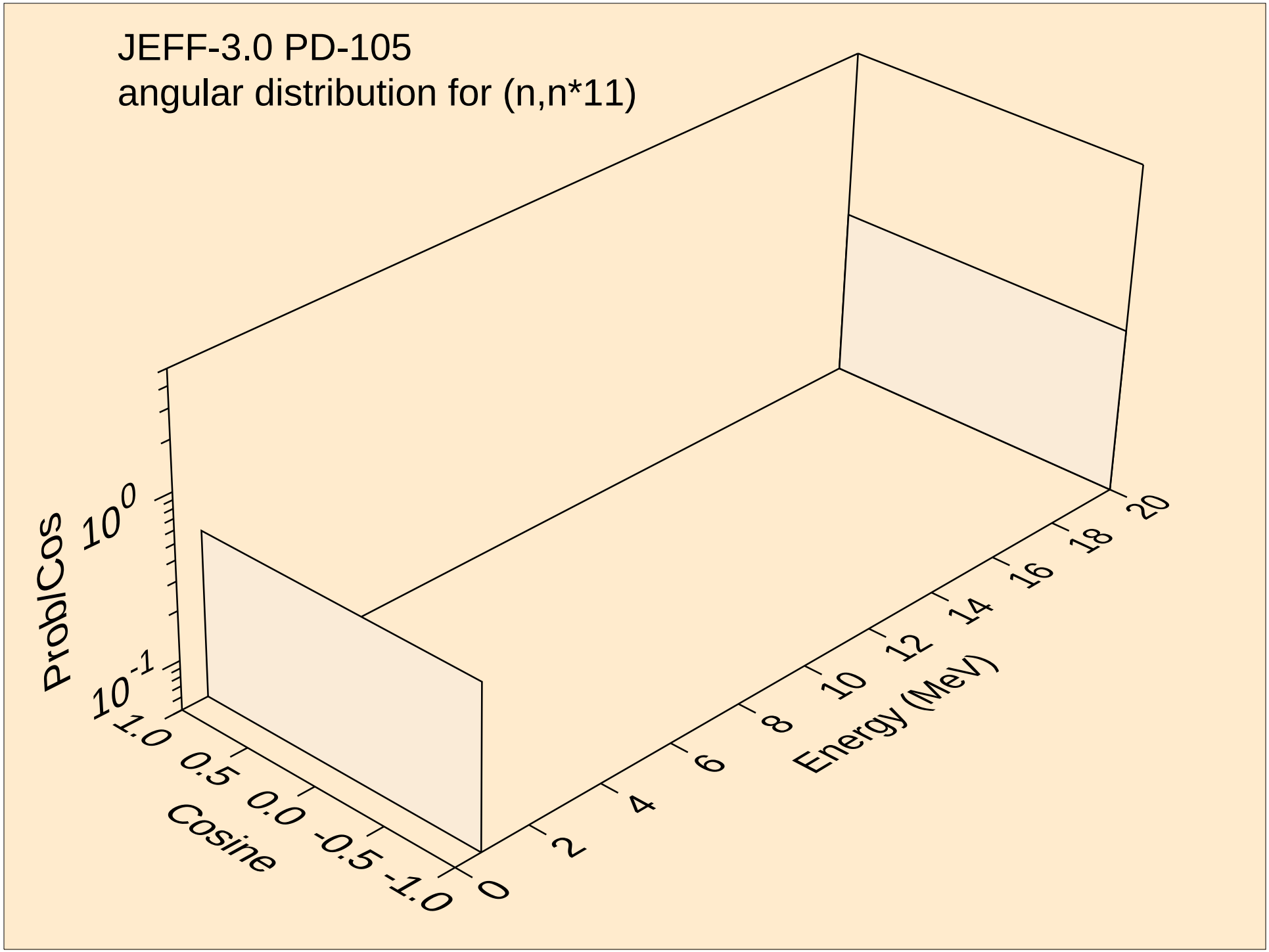

JEFF-3.0 PD-105
angular distribution for (n,n*6)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

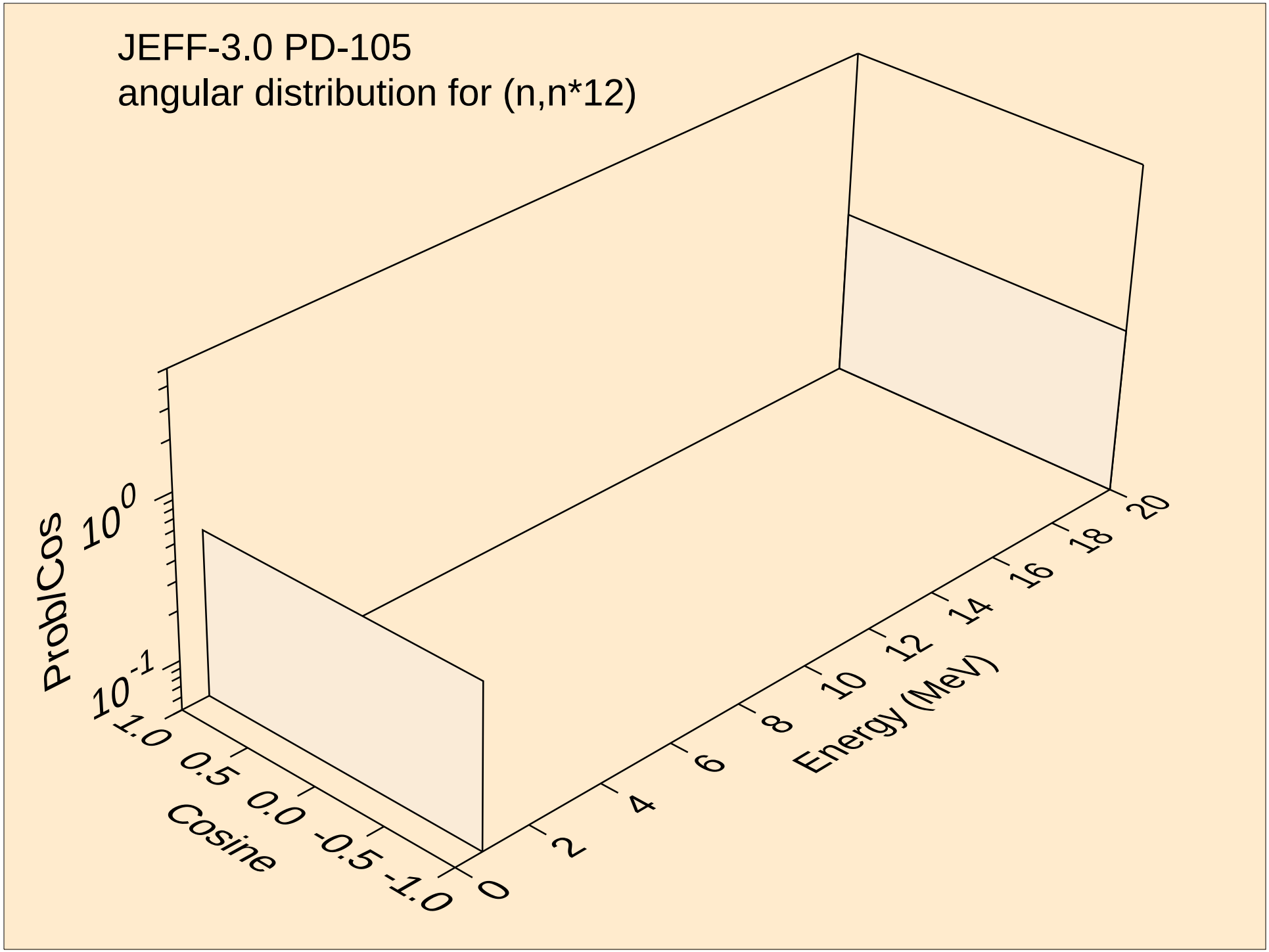

JEFF-3.0 PD-105
angular distribution for (n,n*7)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

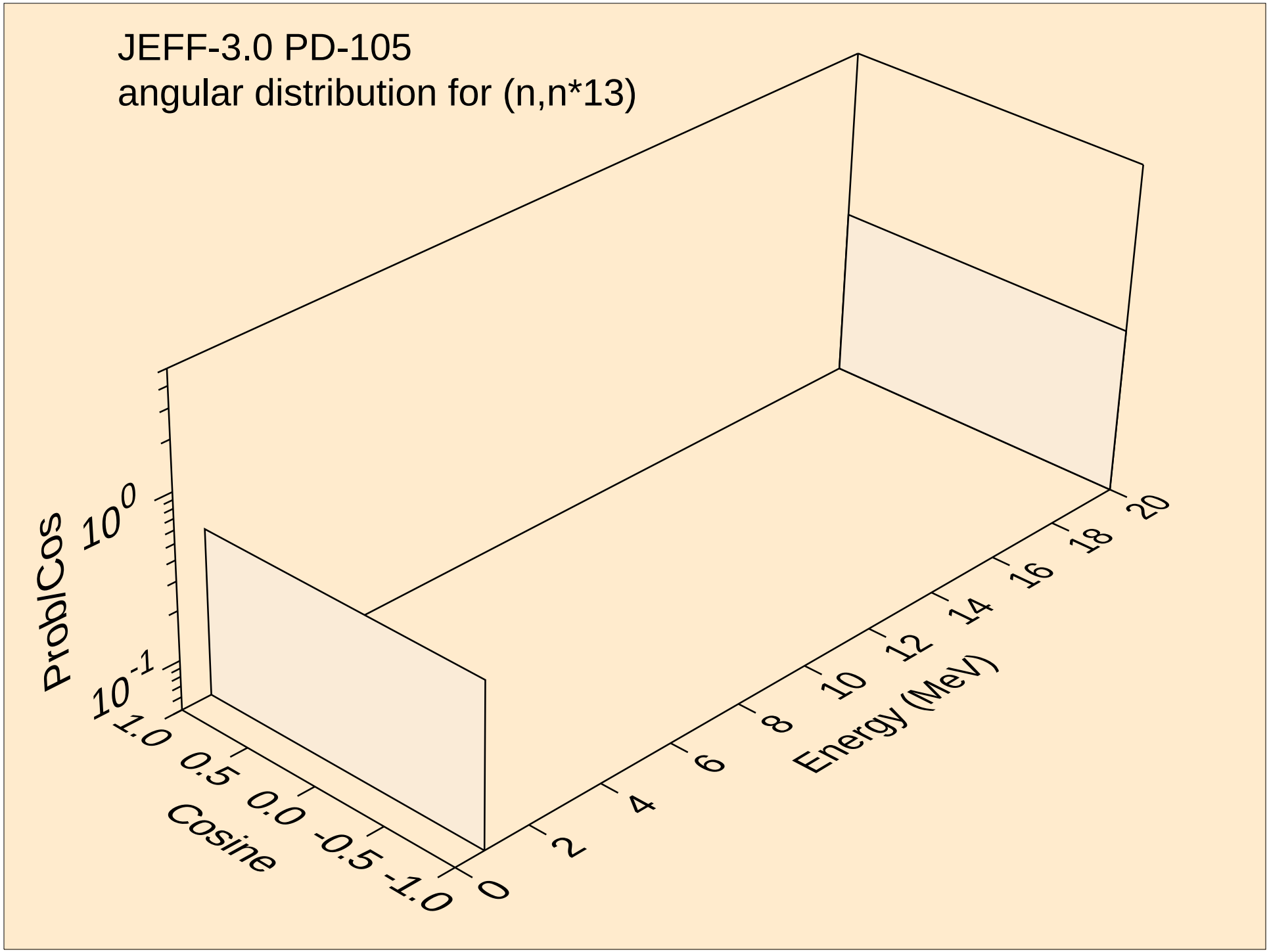

JEFF-3.0 PD-105
angular distribution for (n,n*8)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

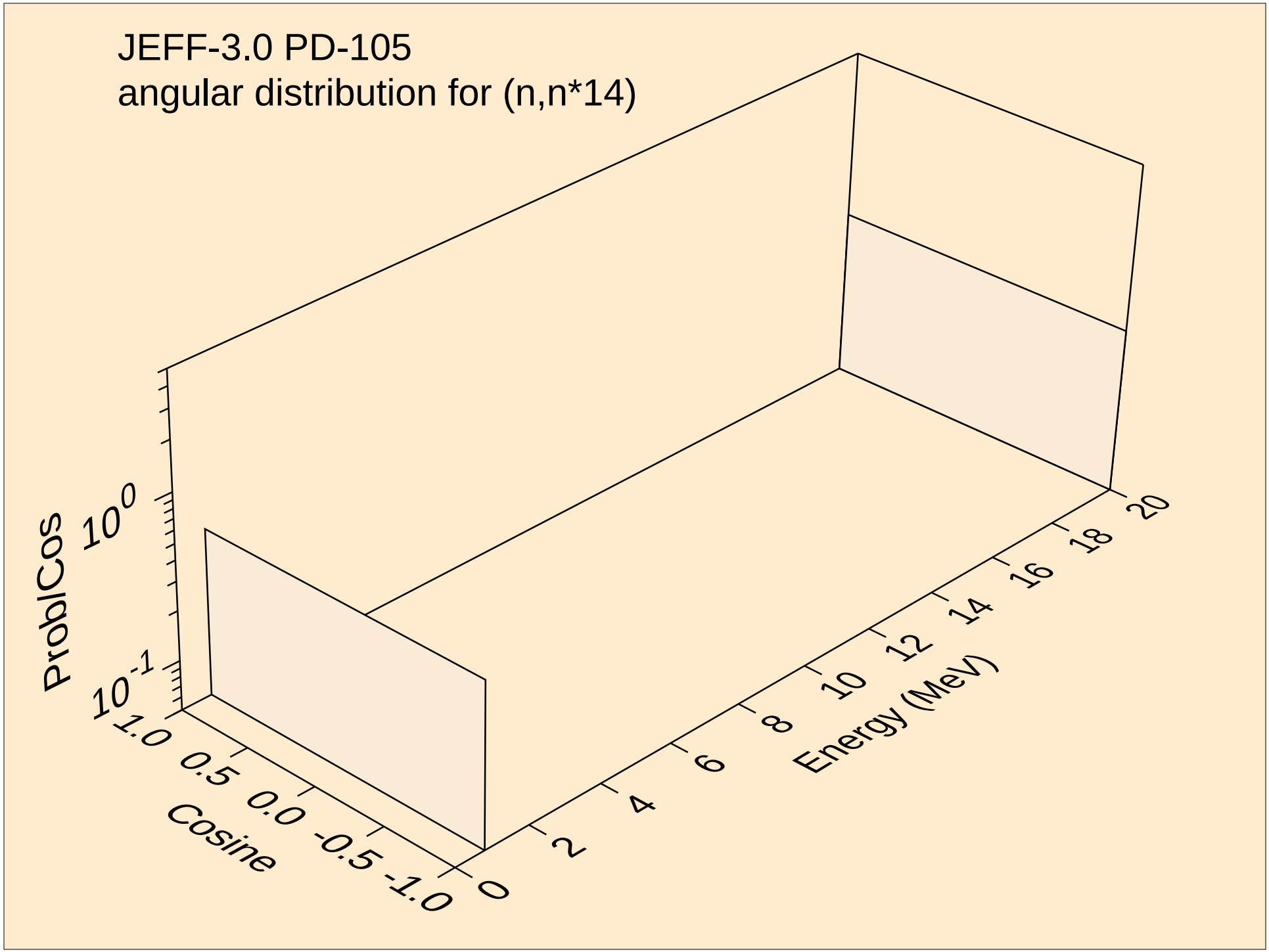

JEFF-3.0 PD-105
angular distribution for (n,n*9)
ProbCos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

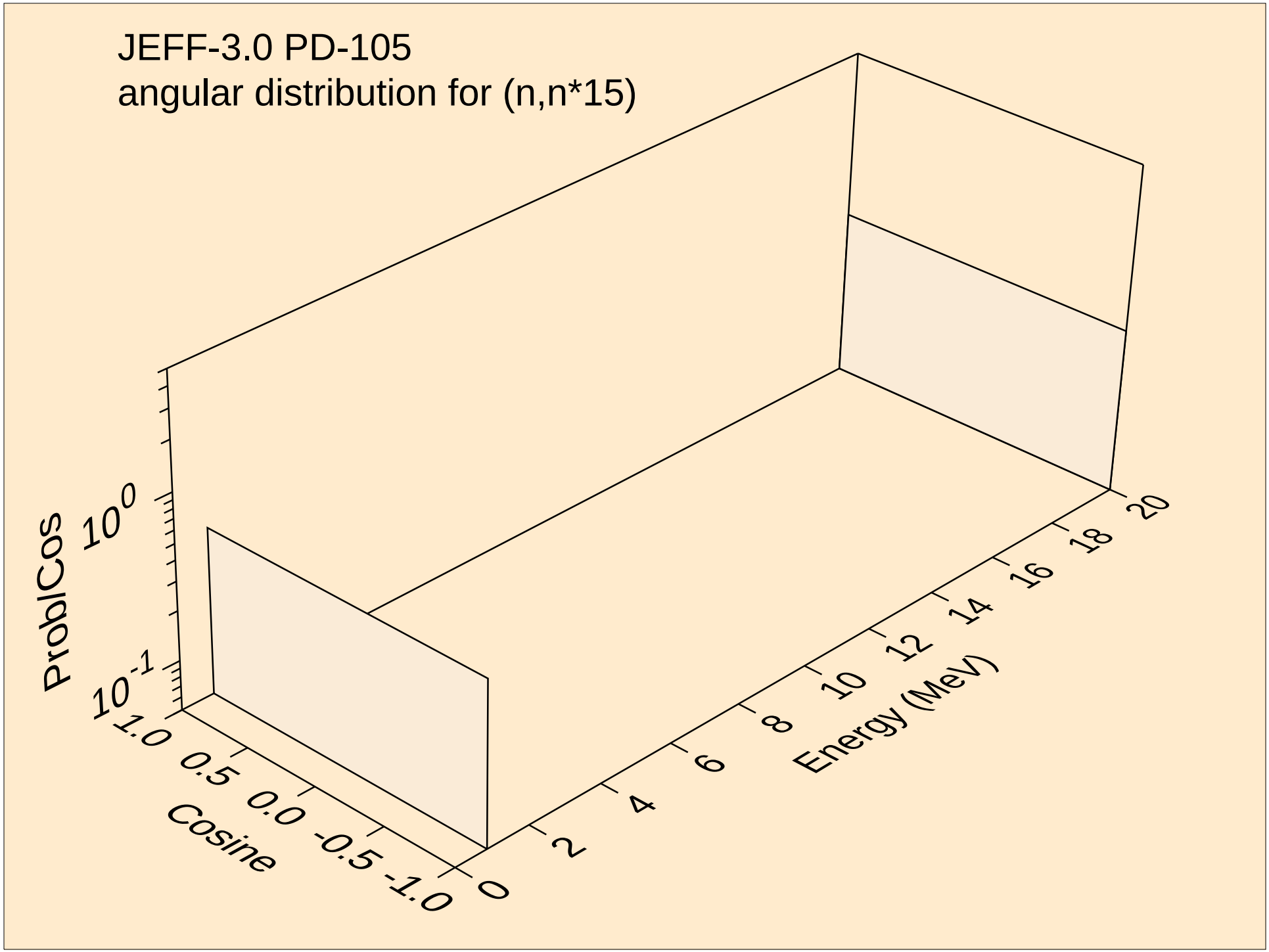

JEFF-3.0 PD-105
angular distribution for (n,n*10)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

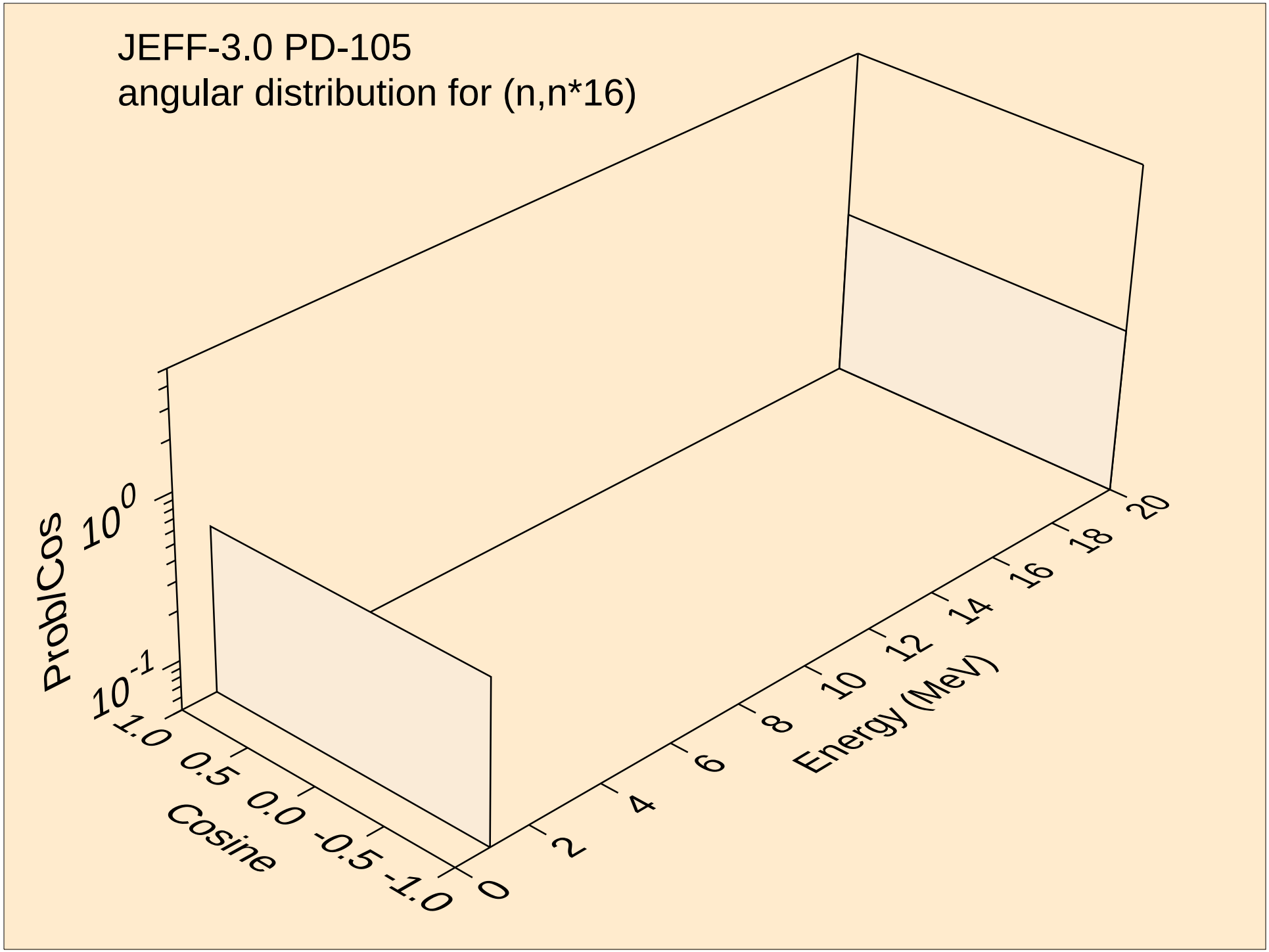

JEFF-3.0 PD-105
angular distribution for (n,n*11)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

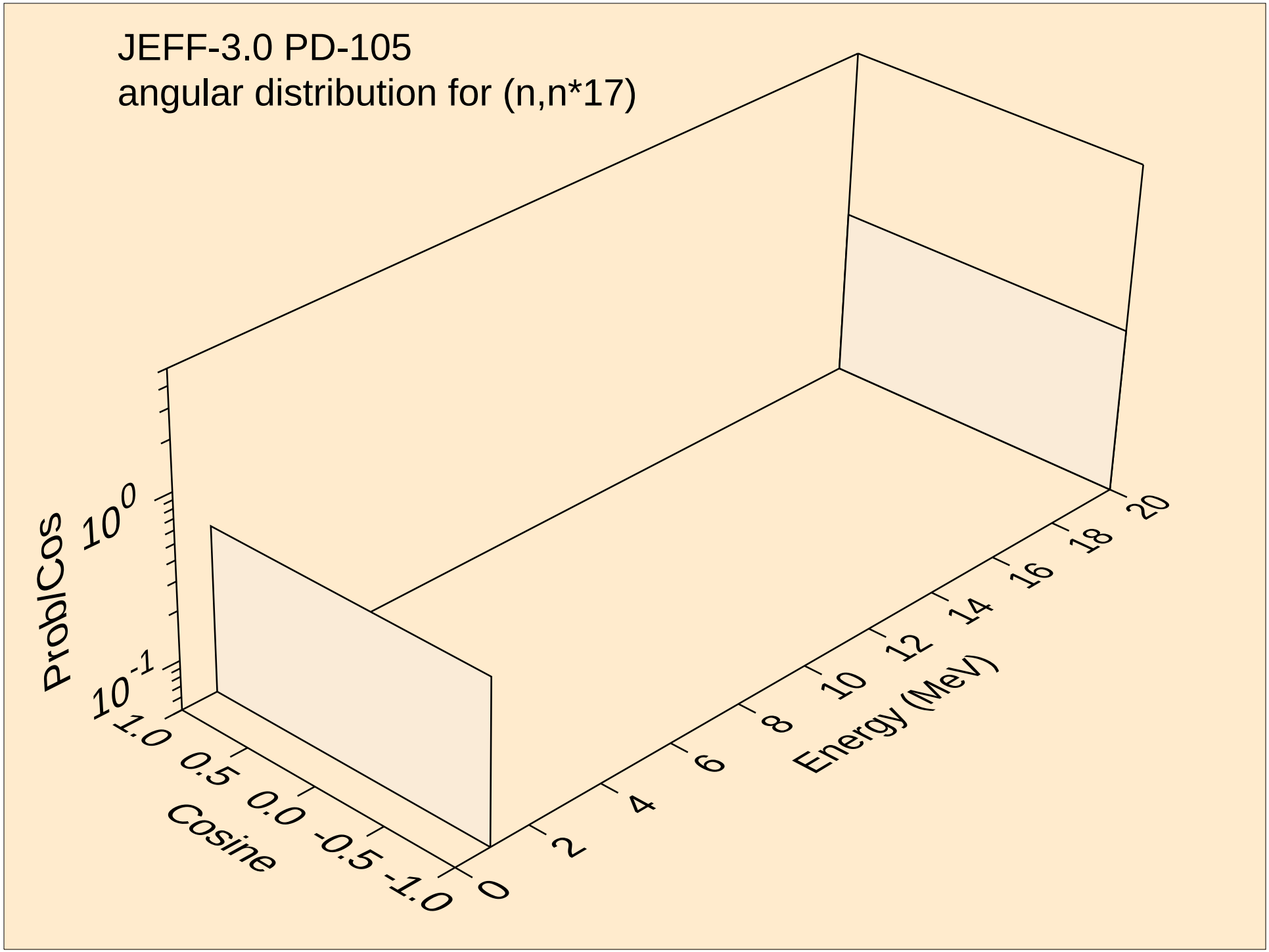

JEFF-3.0 PD-105
angular distribution for (n,n*12)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

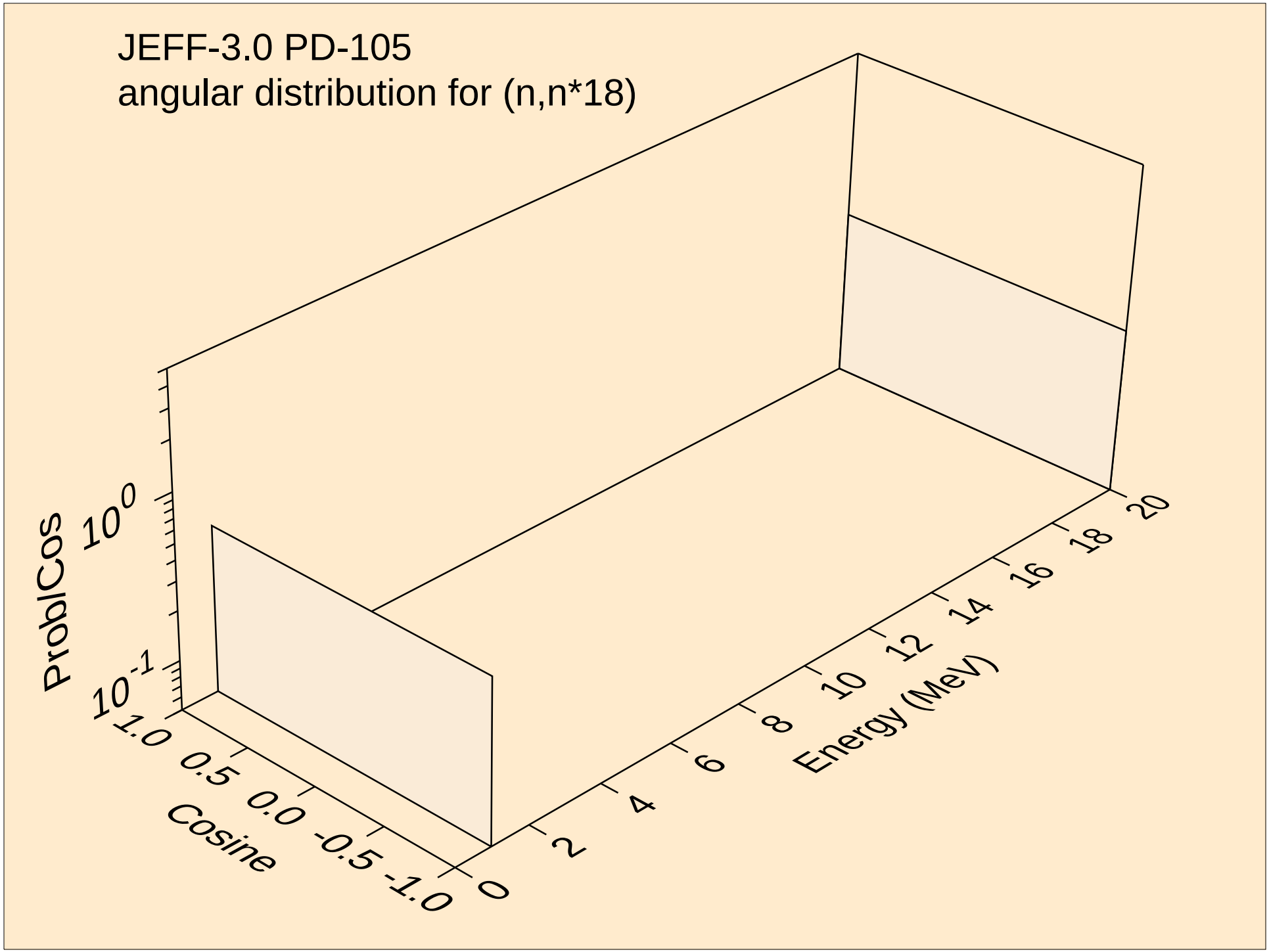

JEFF-3.0 PD-105
angular distribution for (n,n*13)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

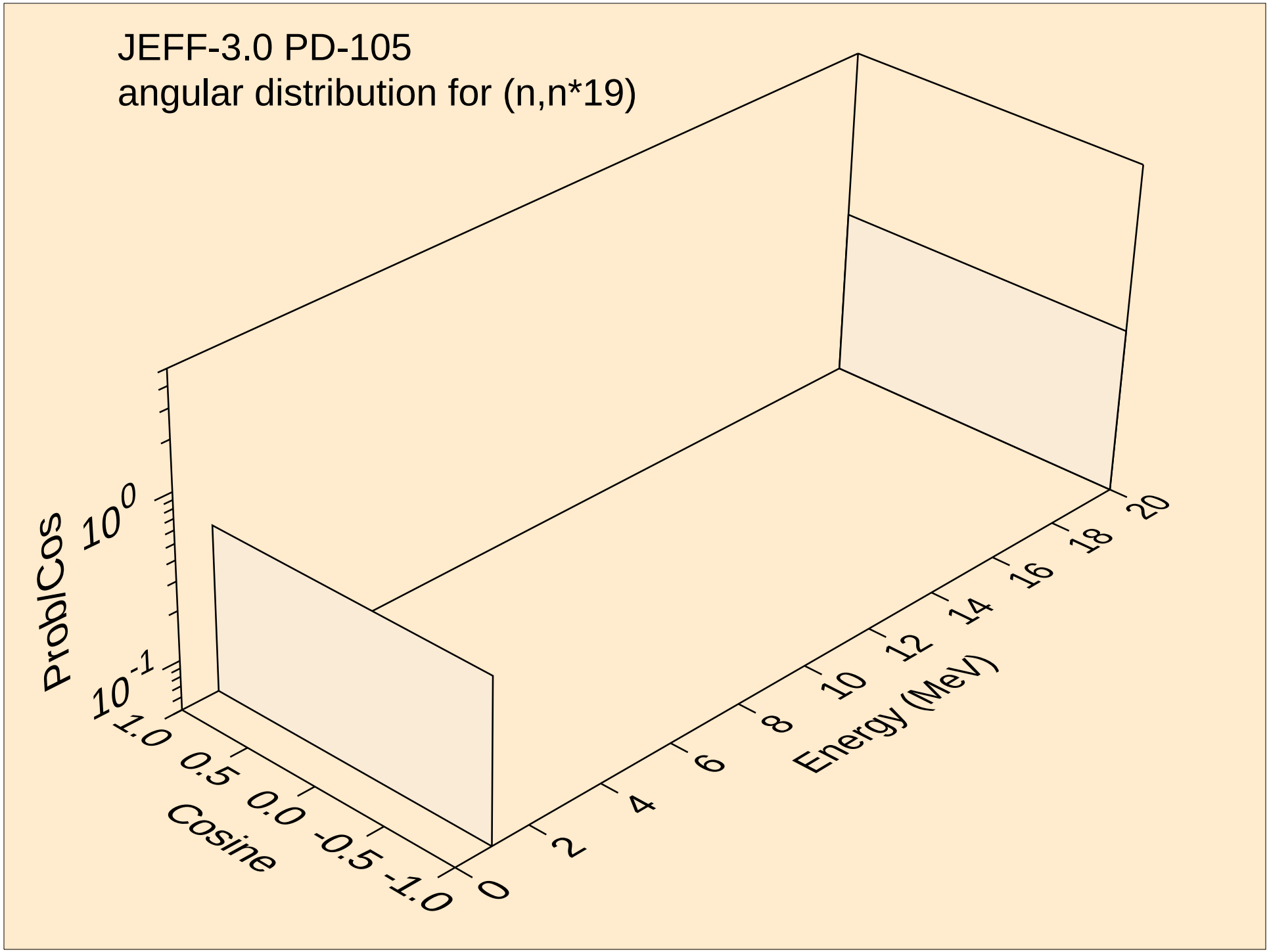

JEFF-3.0 PD-105
angular distribution for (n,n*14)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

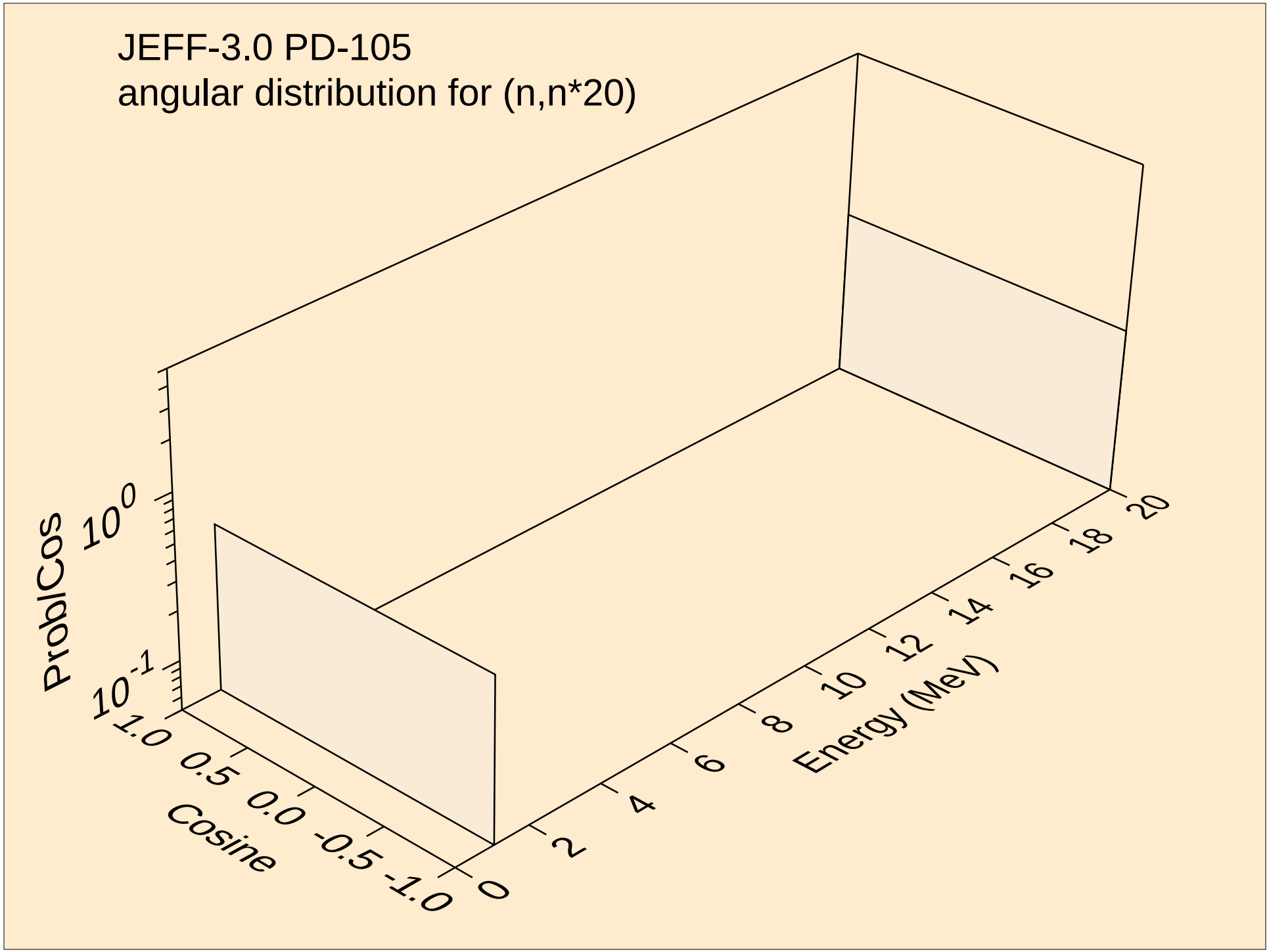

JEFF-3.0 PD-105
angular distribution for (n,n*15)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

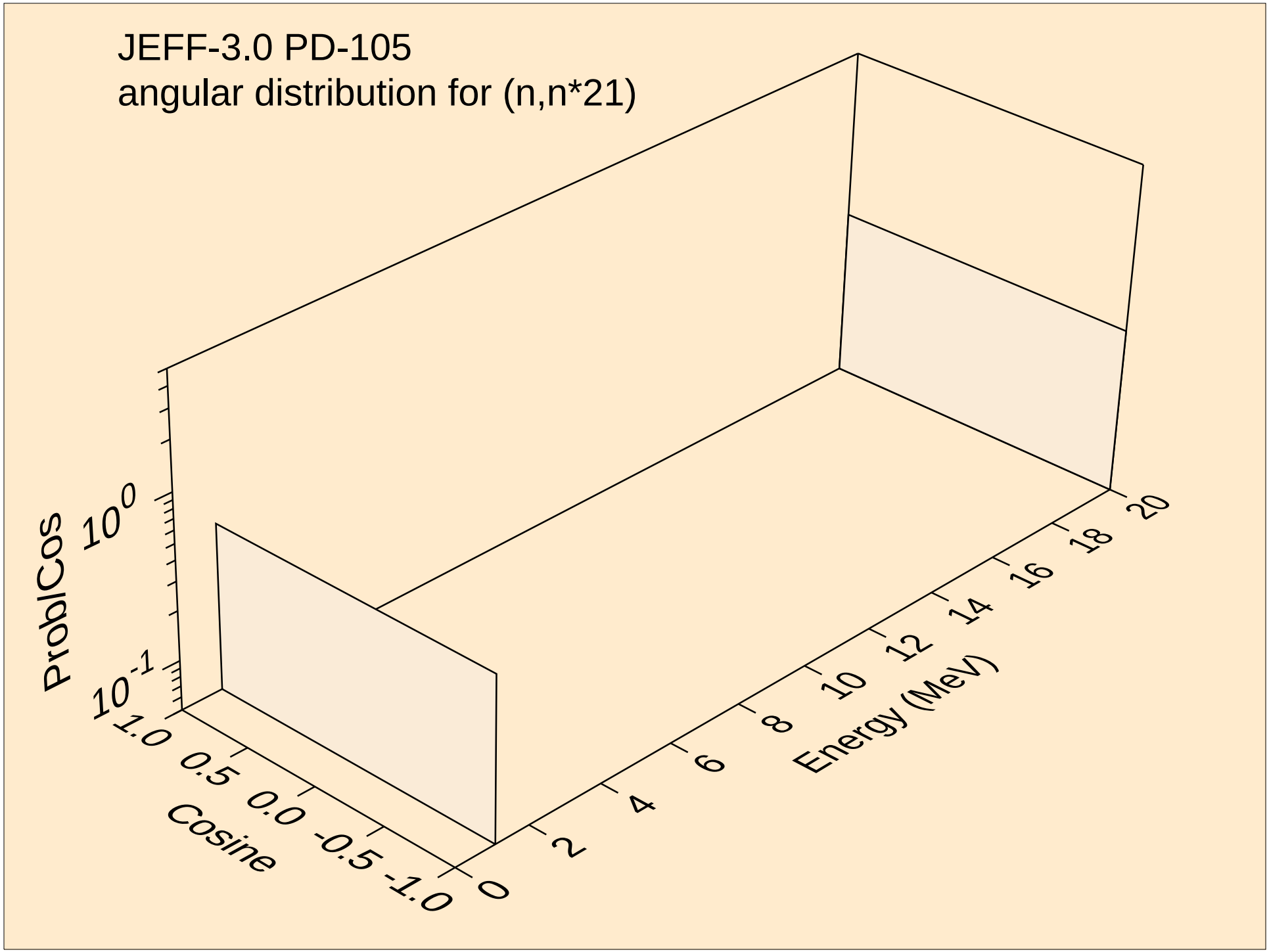

JEFF-3.0 PD-105
angular distribution for (n,n*16)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

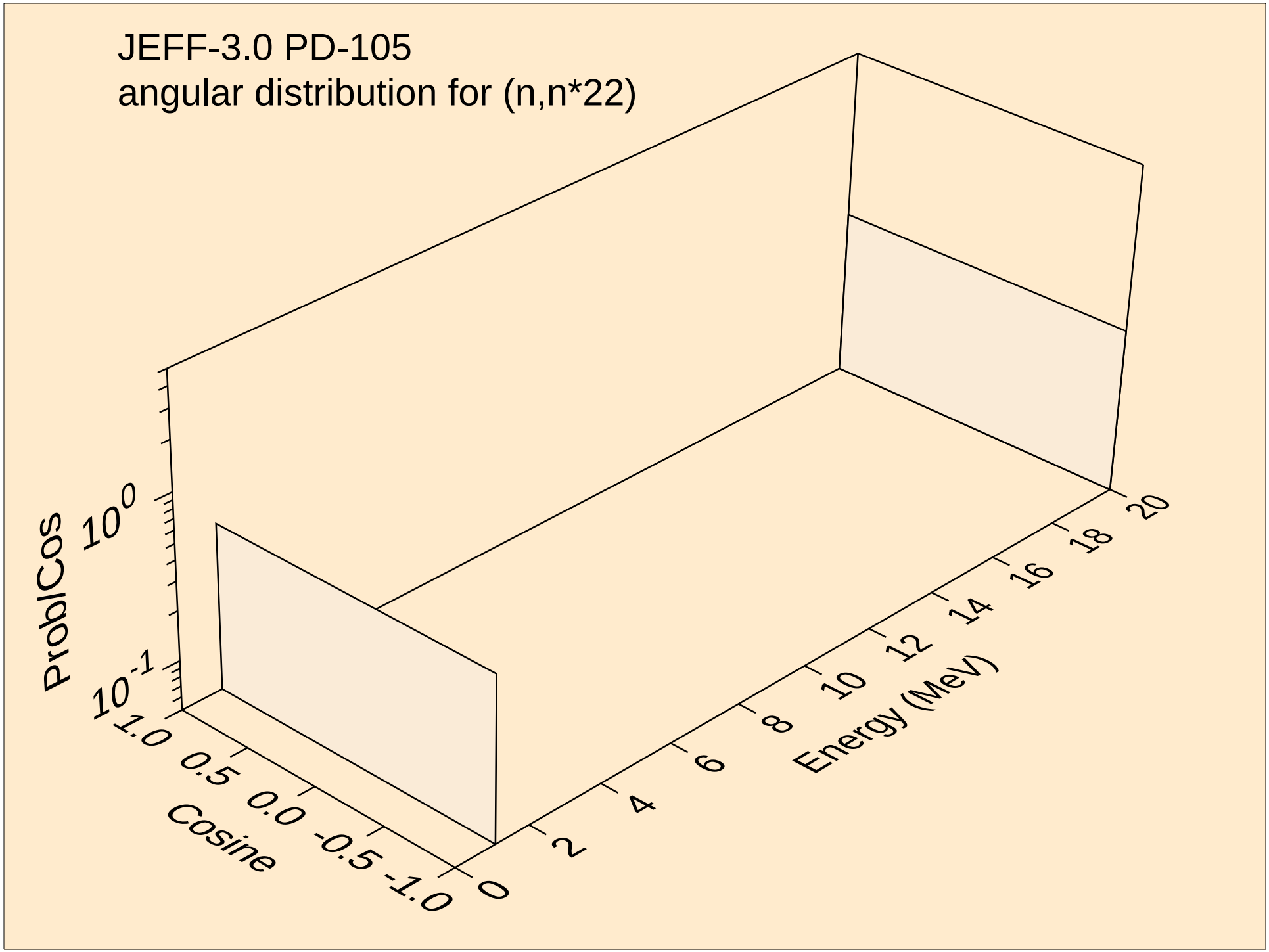

JEFF-3.0 PD-105
angular distribution for (n,n*17)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

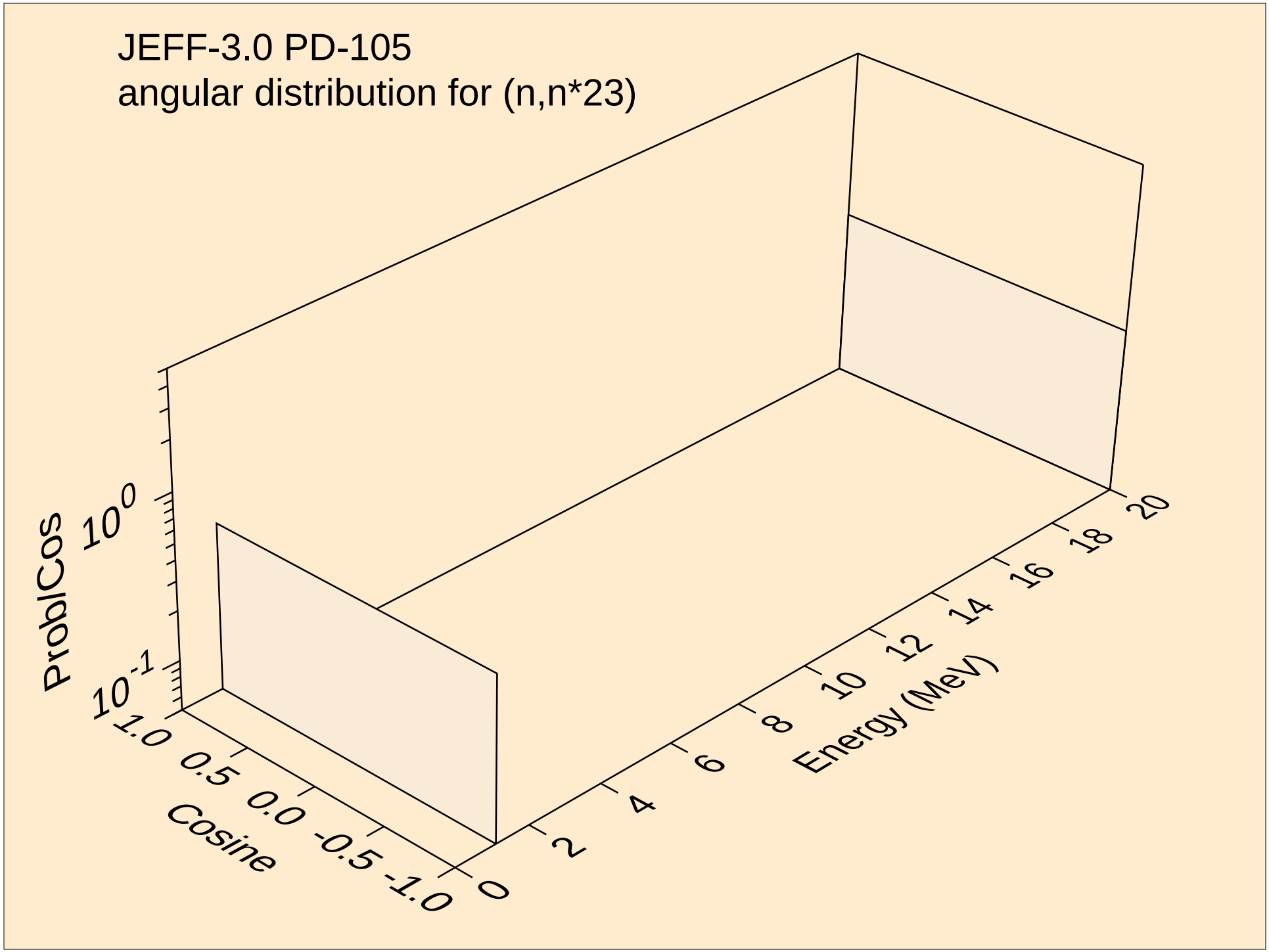

JEFF-3.0 PD-105
angular distribution for (n,n*18)
Prob\Cos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

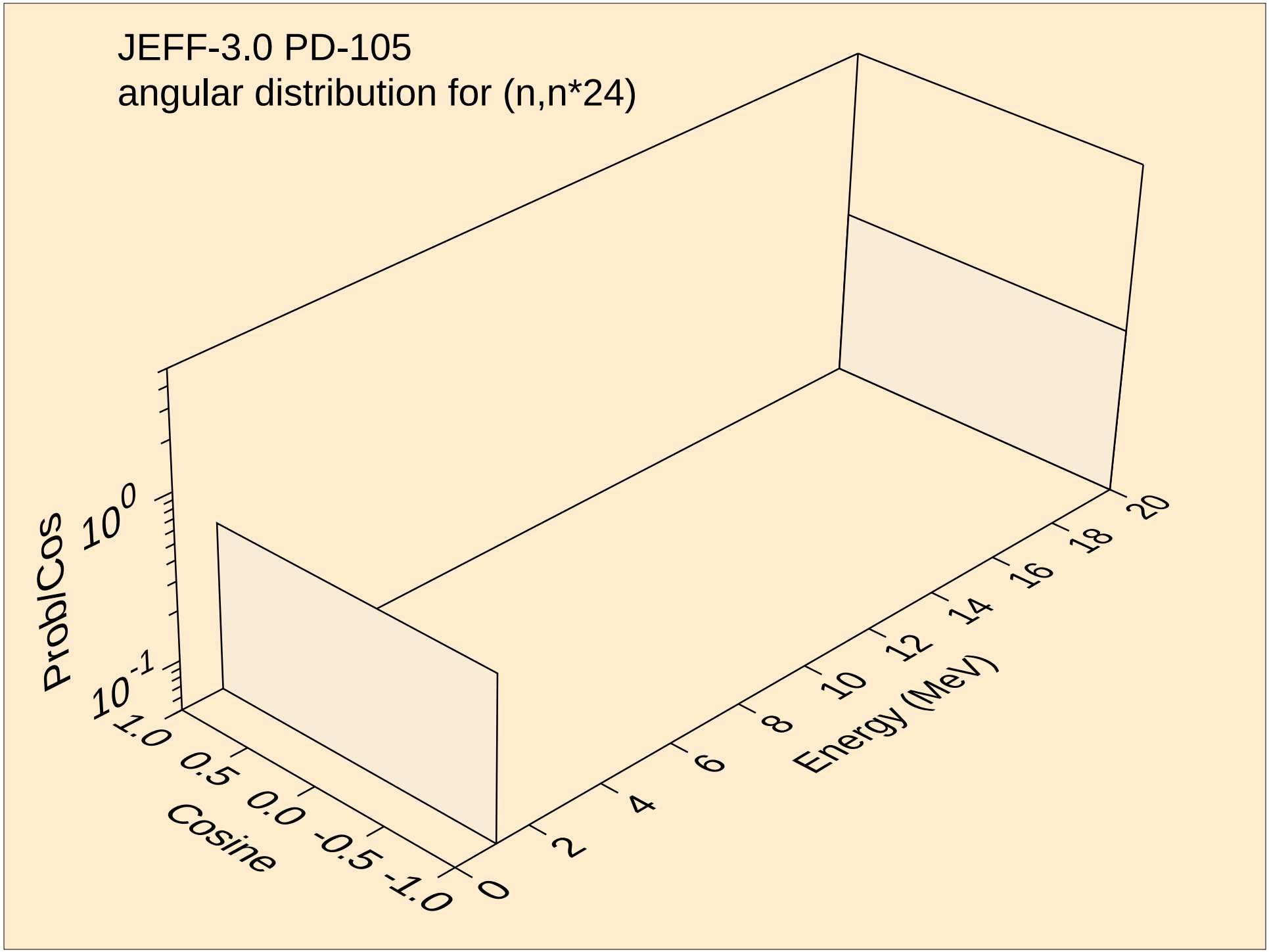

JEFF-3.0 PD-105
angular distribution for (n,n*19)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

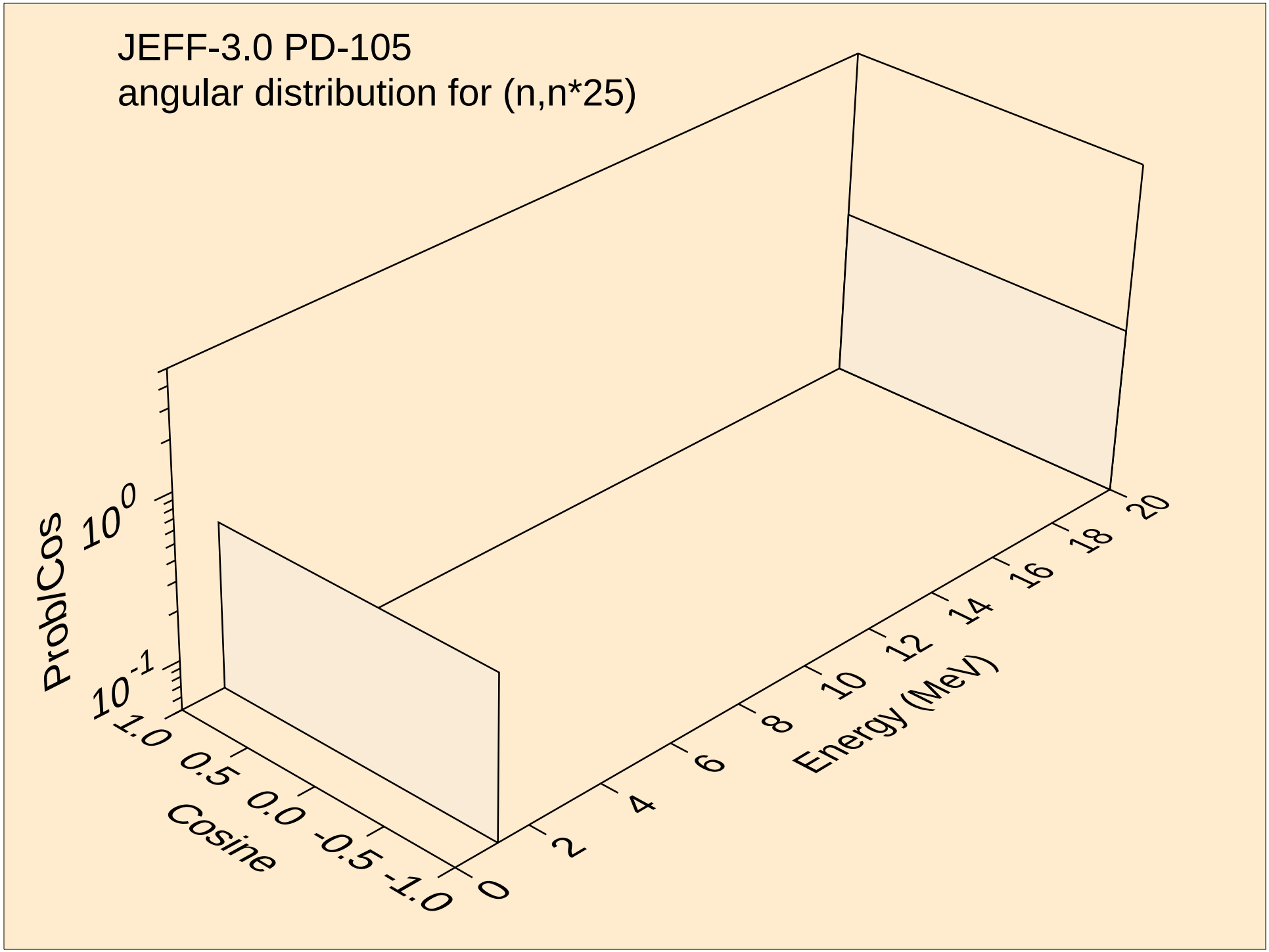

JEFF-3.0 PD-105
angular distribution for (n,n*20)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

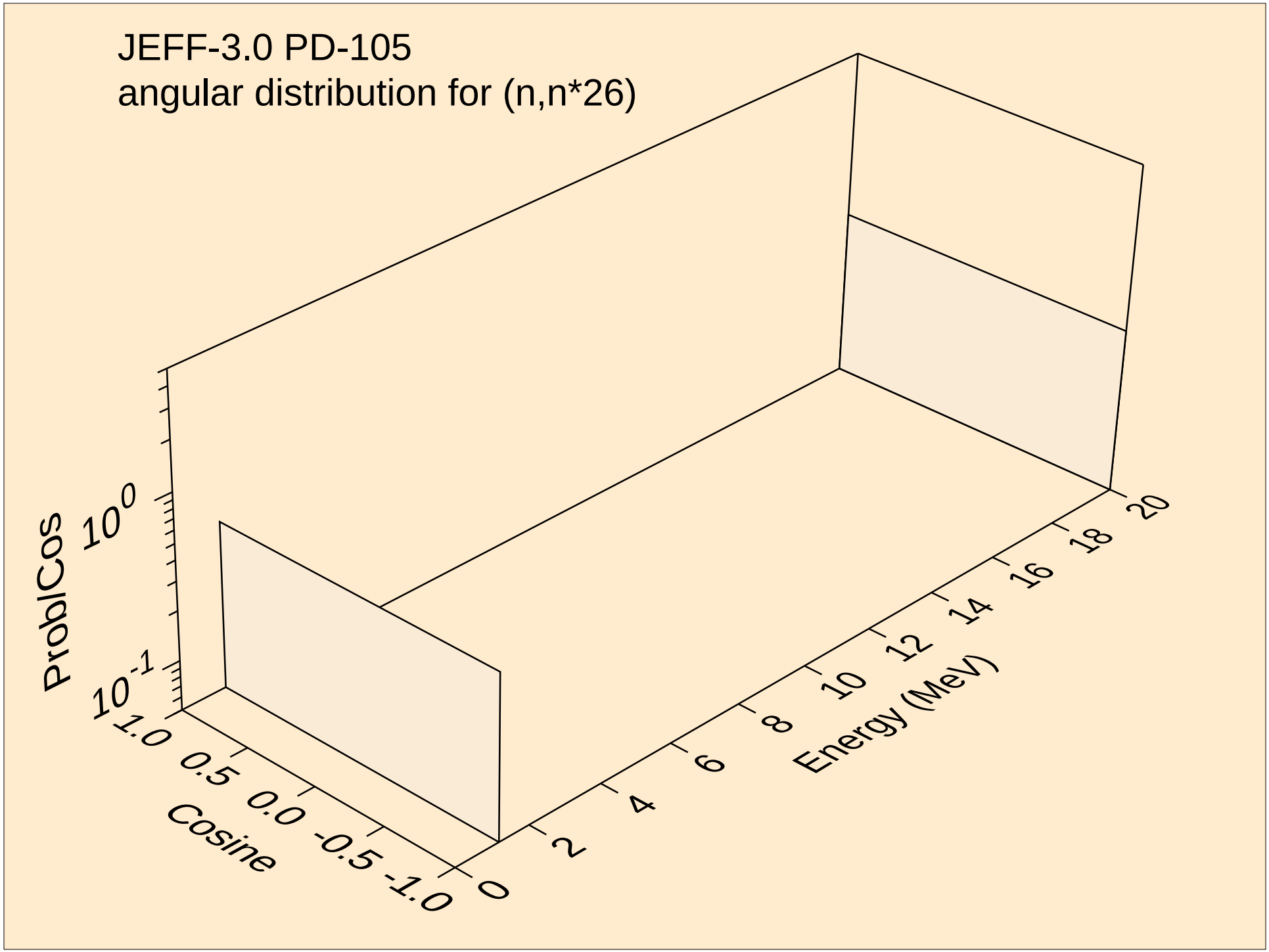

JEFF-3.0 PD-105
angular distribution for (n,n*21)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

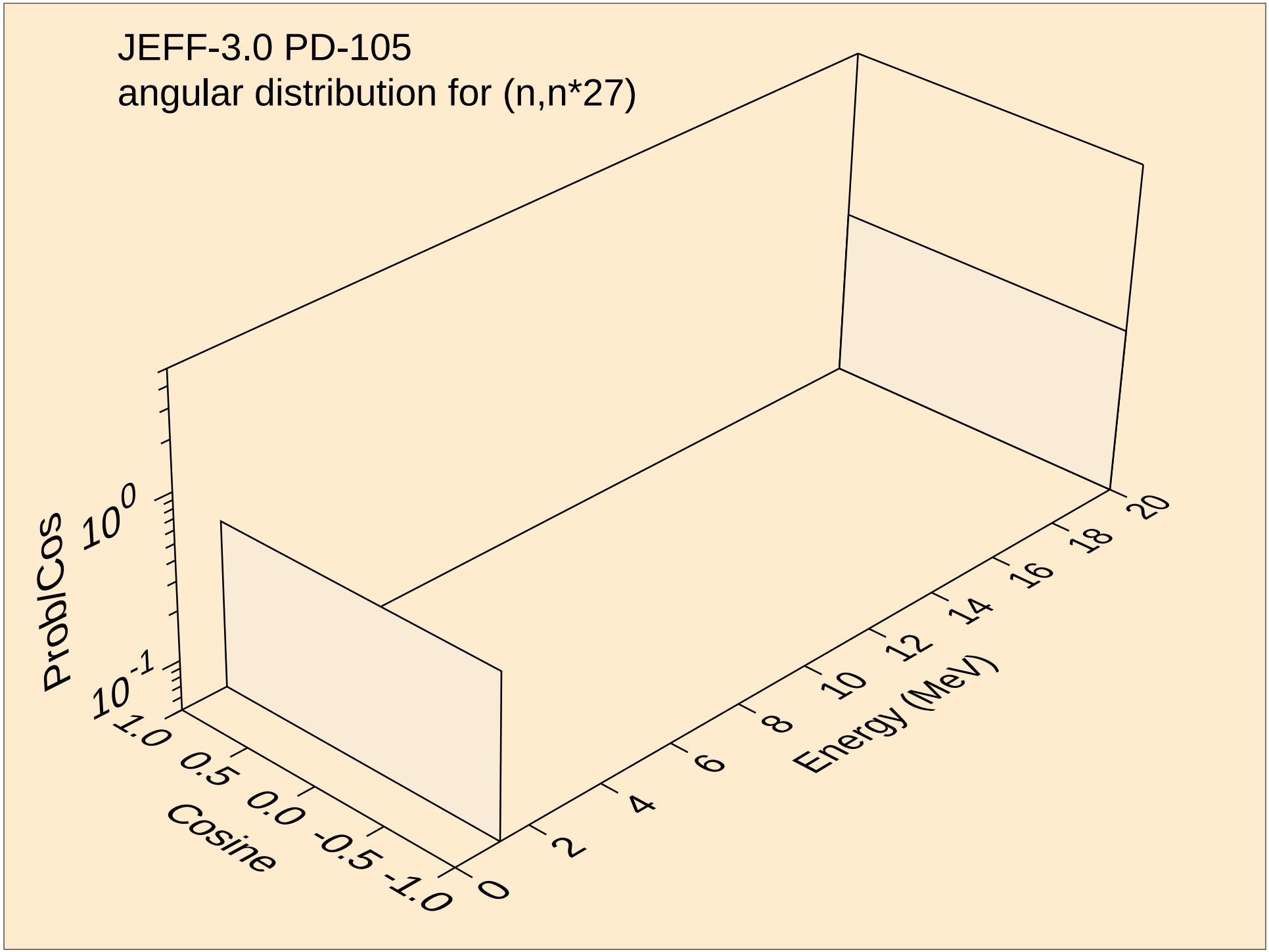

JEFF-3.0 PD-105
angular distribution for (n,n*22)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

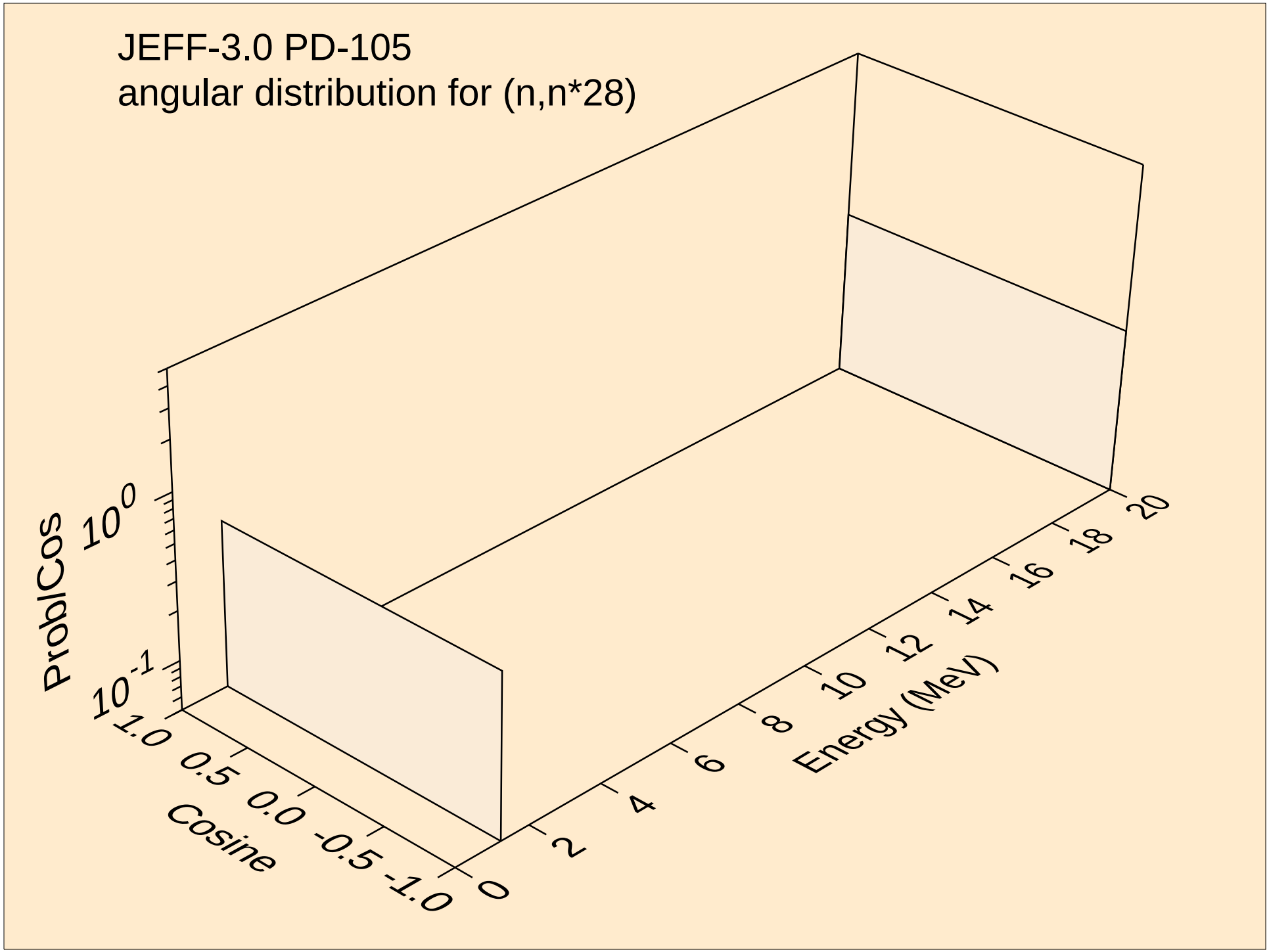

JEFF-3.0 PD-105
angular distribution for (n,n*23)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

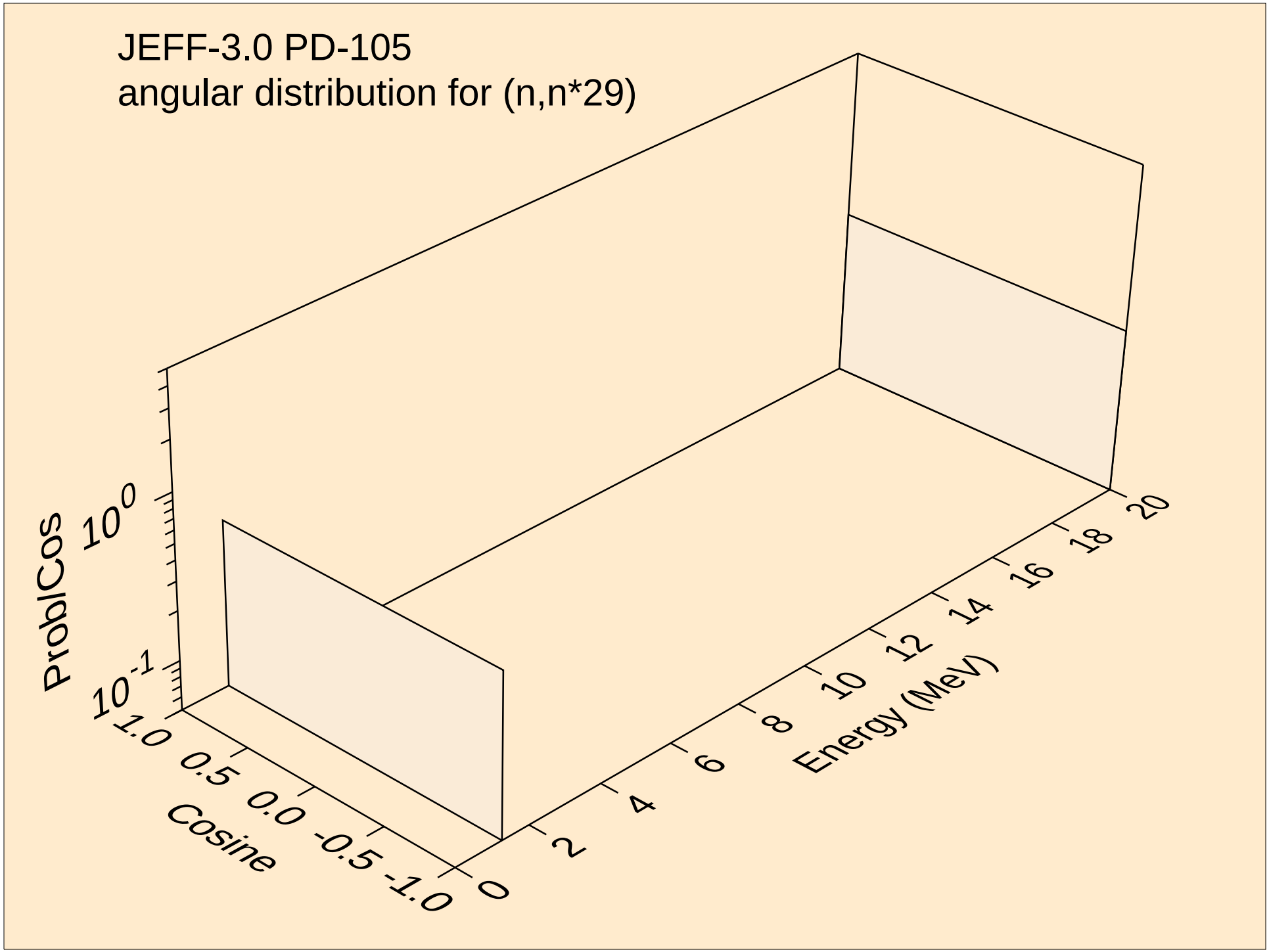

JEFF-3.0 PD-105
angular distribution for (n,n*24)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

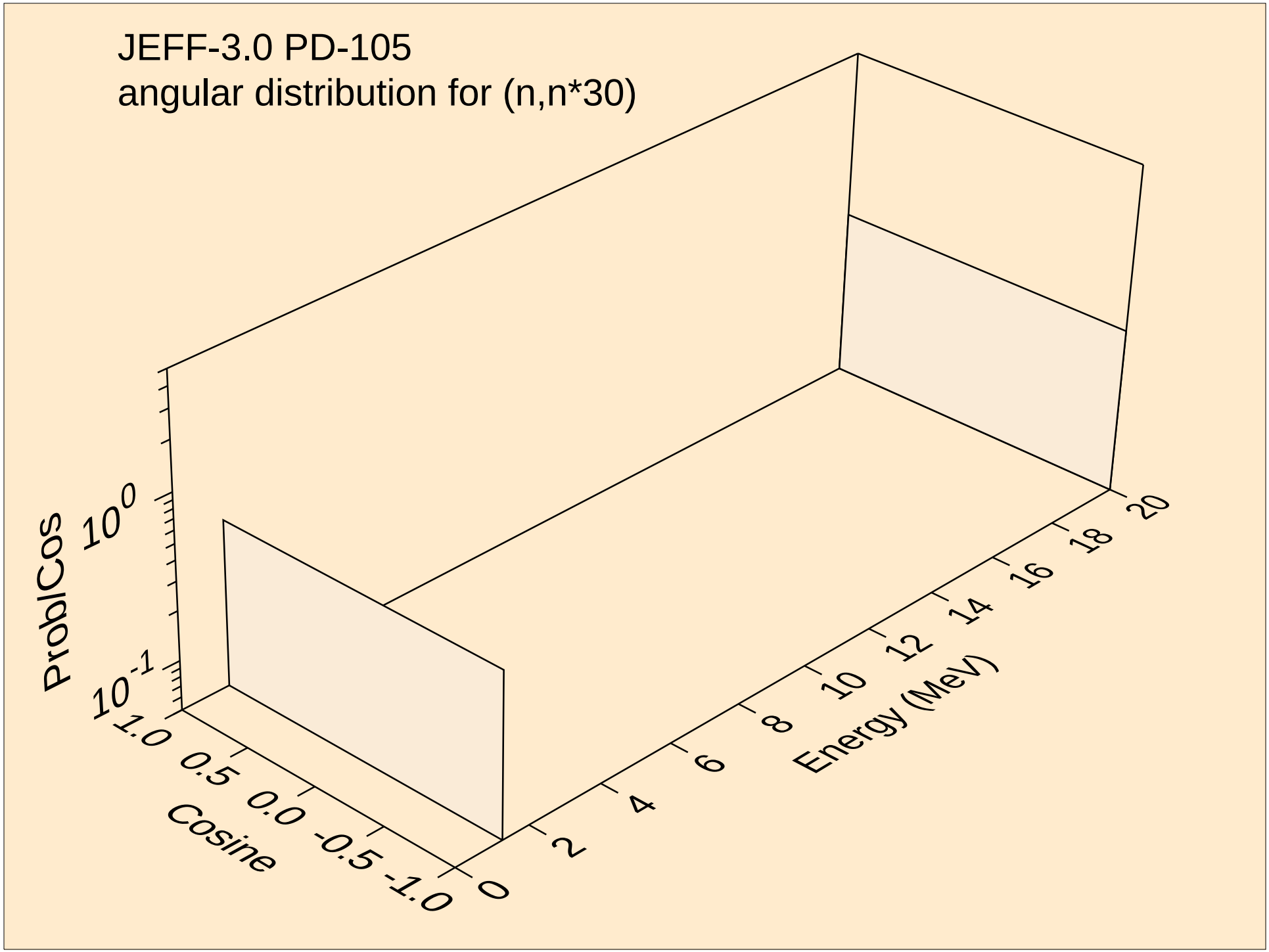

JEFF-3.0 PD-105
angular distribution for (n,n*25)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

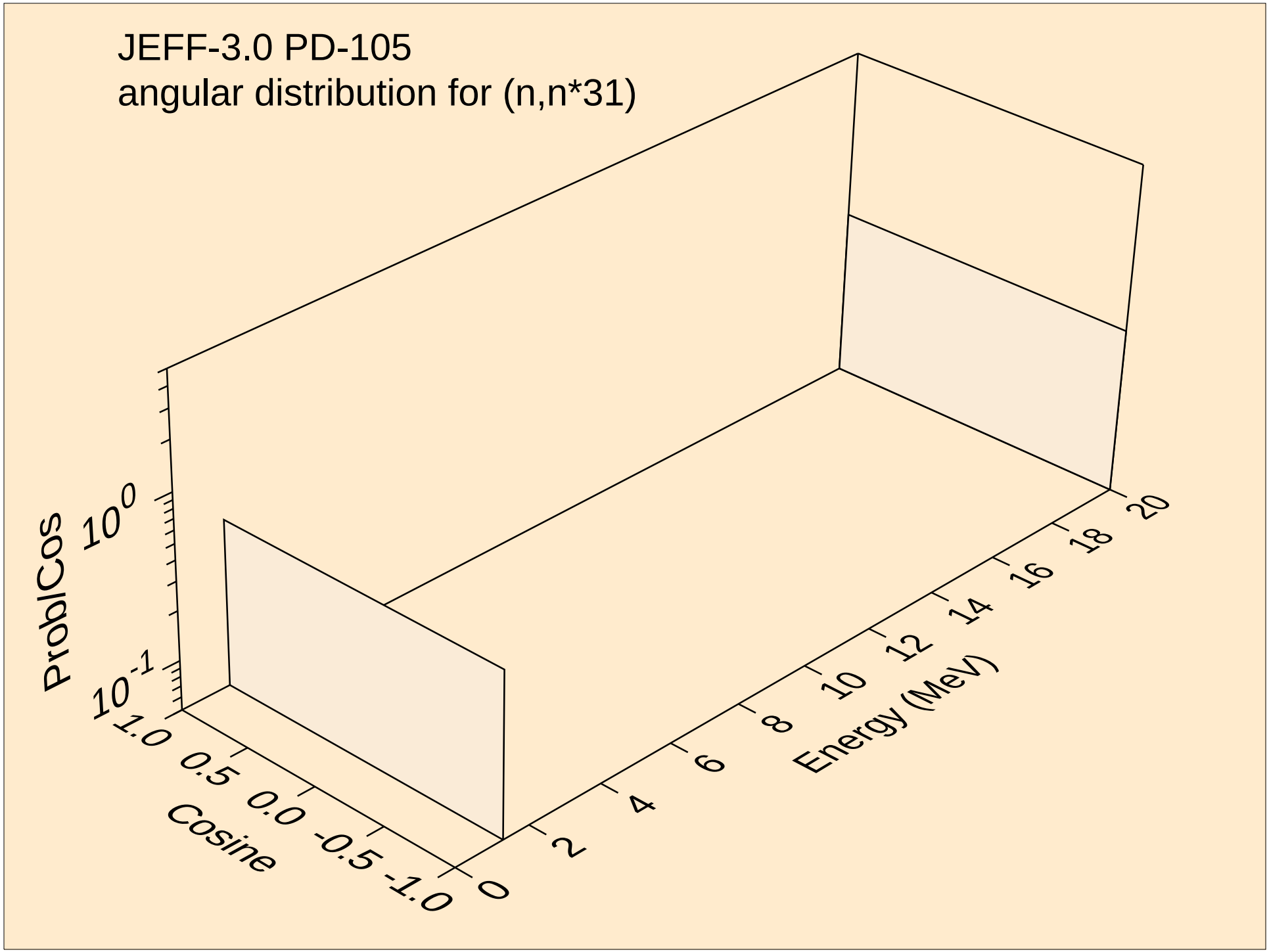

JEFF-3.0 PD-105
angular distribution for (n,n*26)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

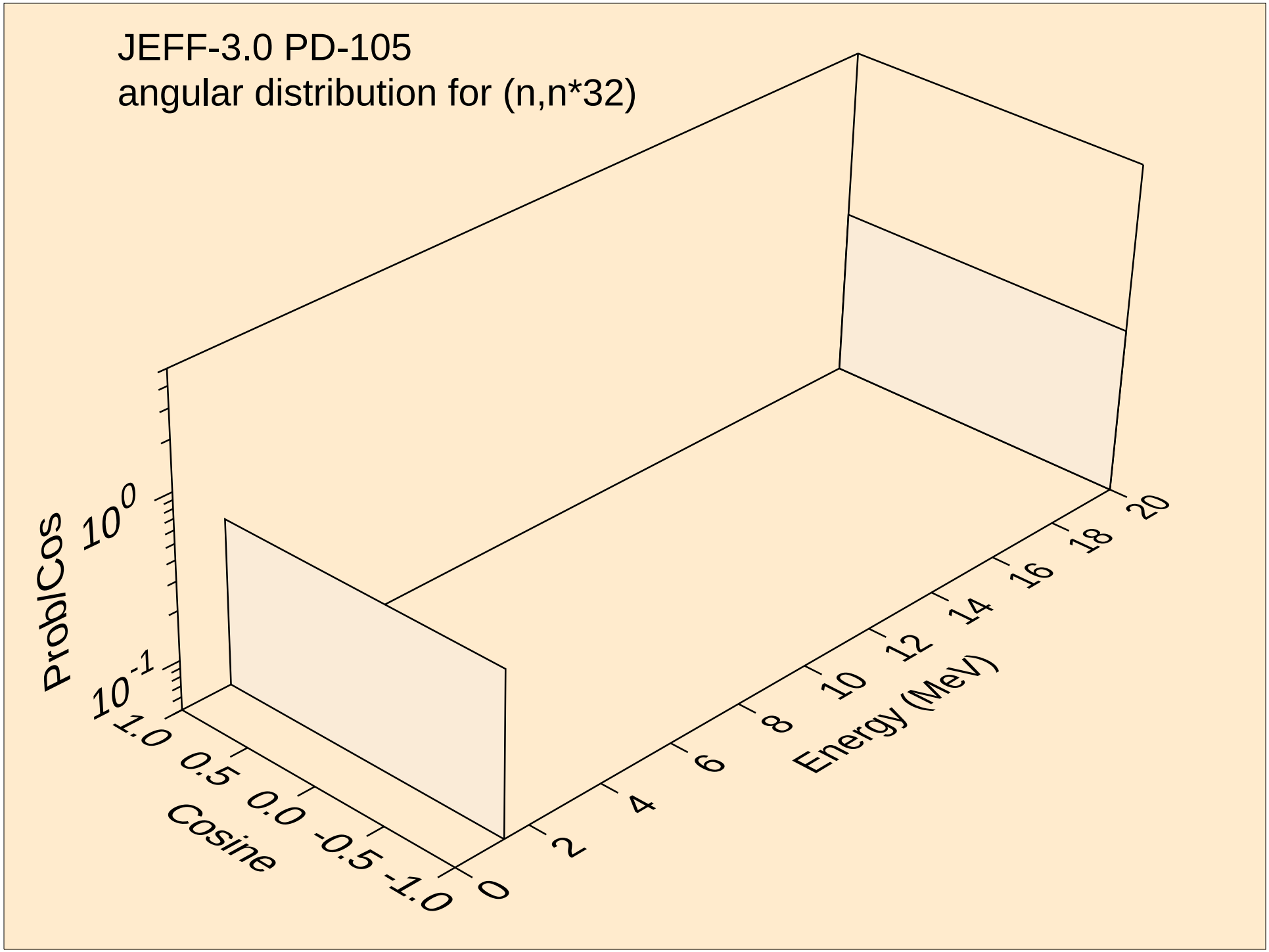

JEFF-3.0 PD-105
angular distribution for (n,n*27)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

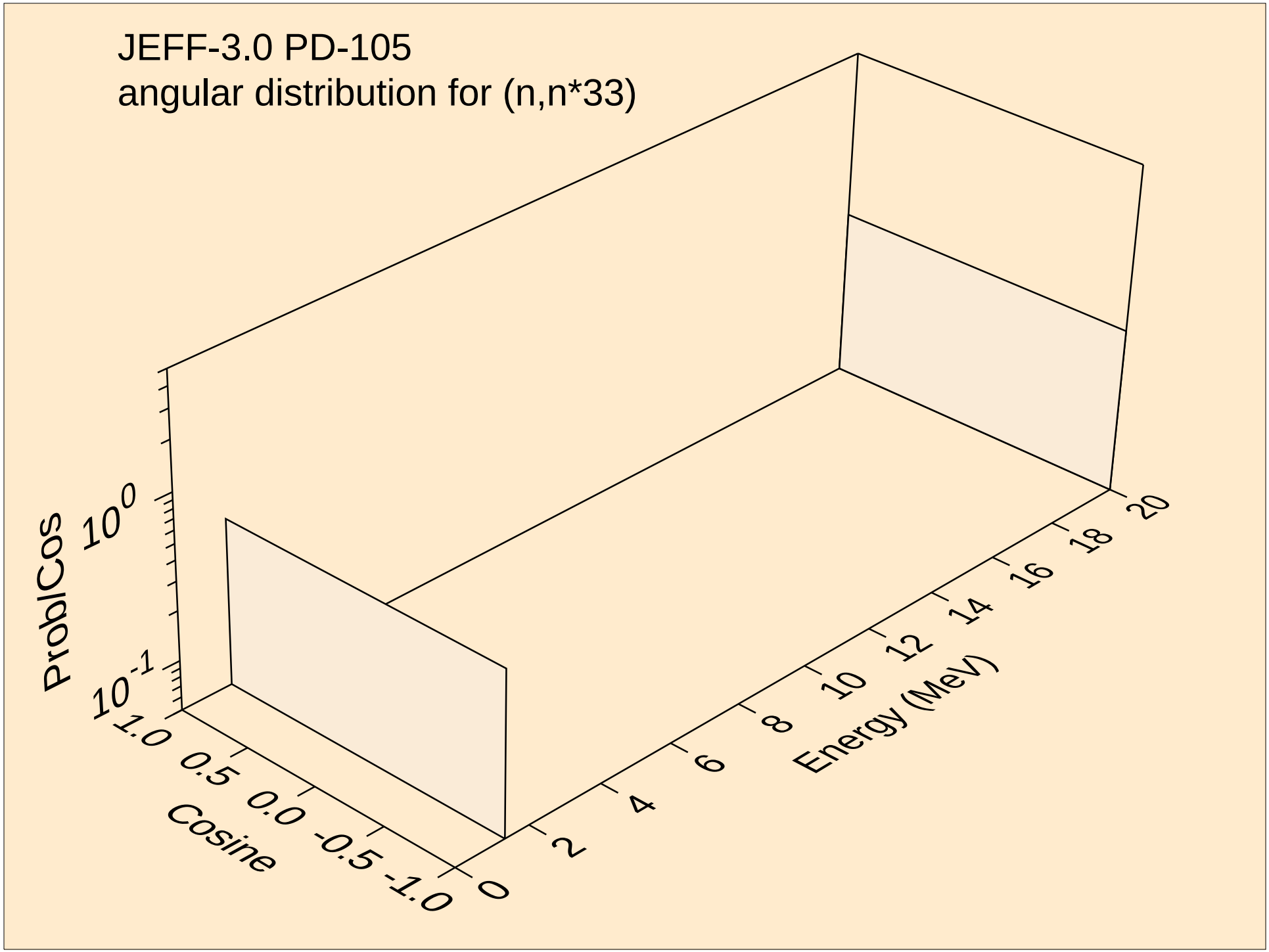

JEFF-3.0 PD-105
angular distribution for (n,n*28)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

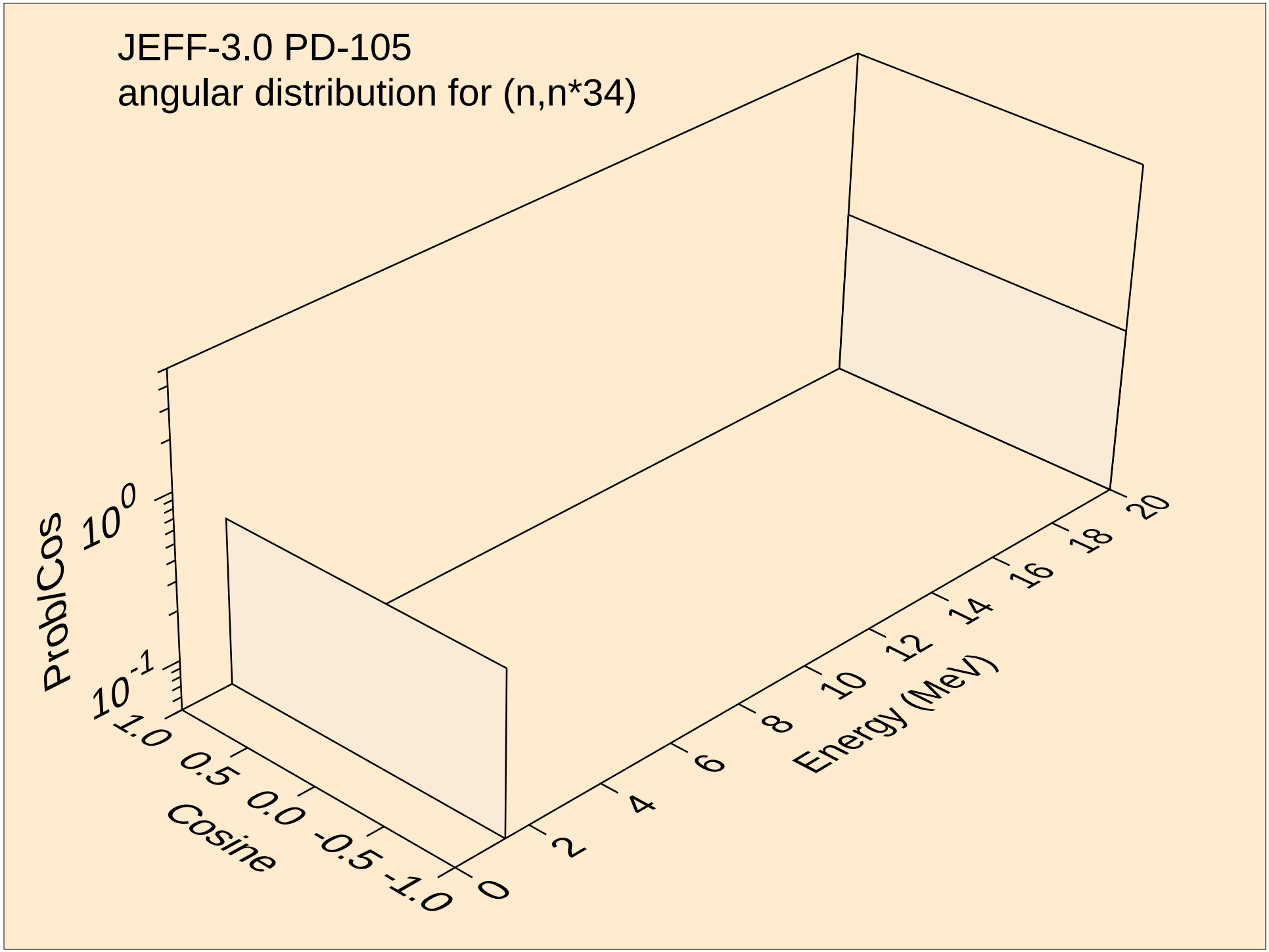

JEFF-3.0 PD-105
angular distribution for (n,n*29)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

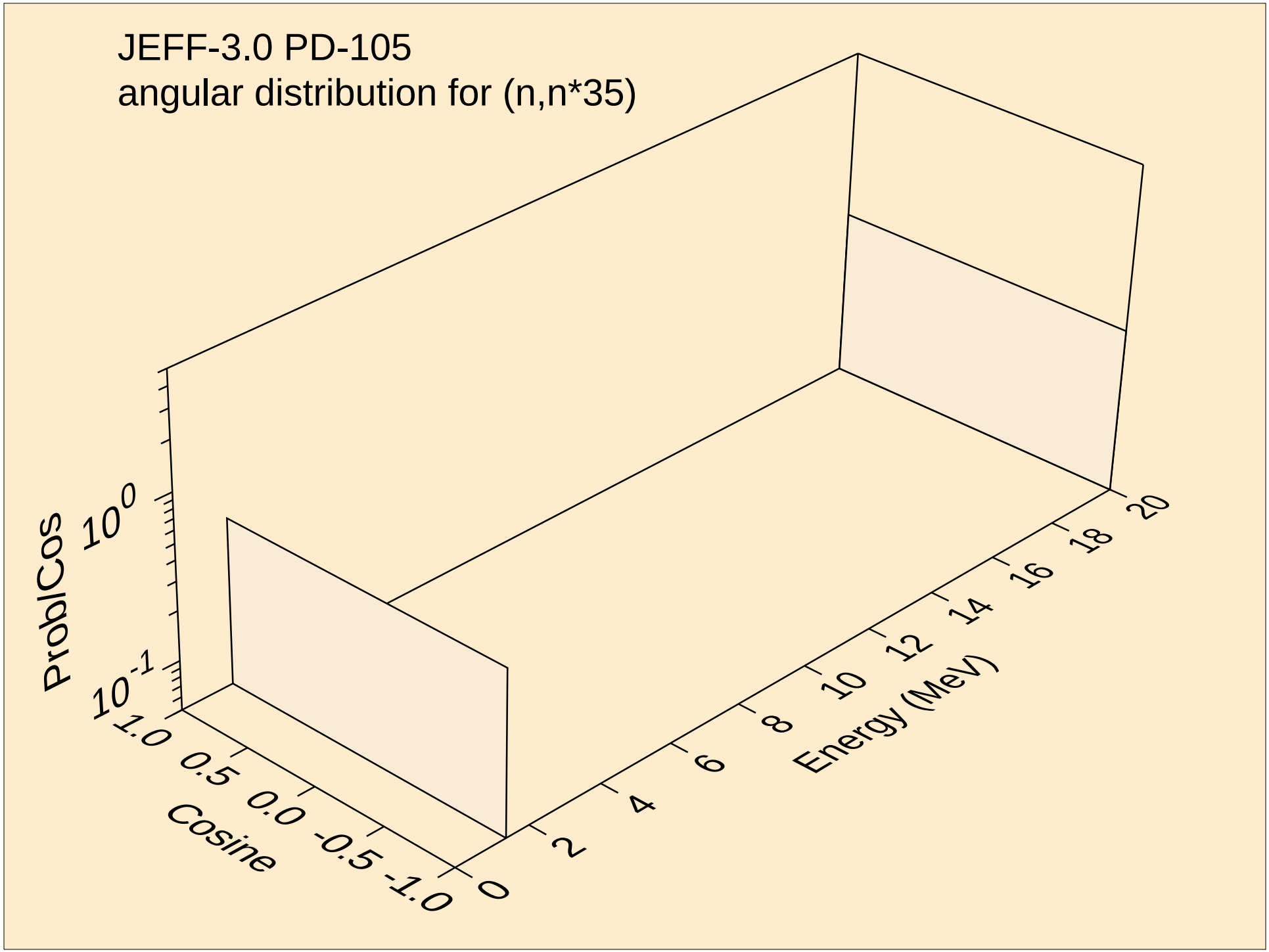

JEFF-3.0 PD-105
angular distribution for (n,n*30)
ProbCos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

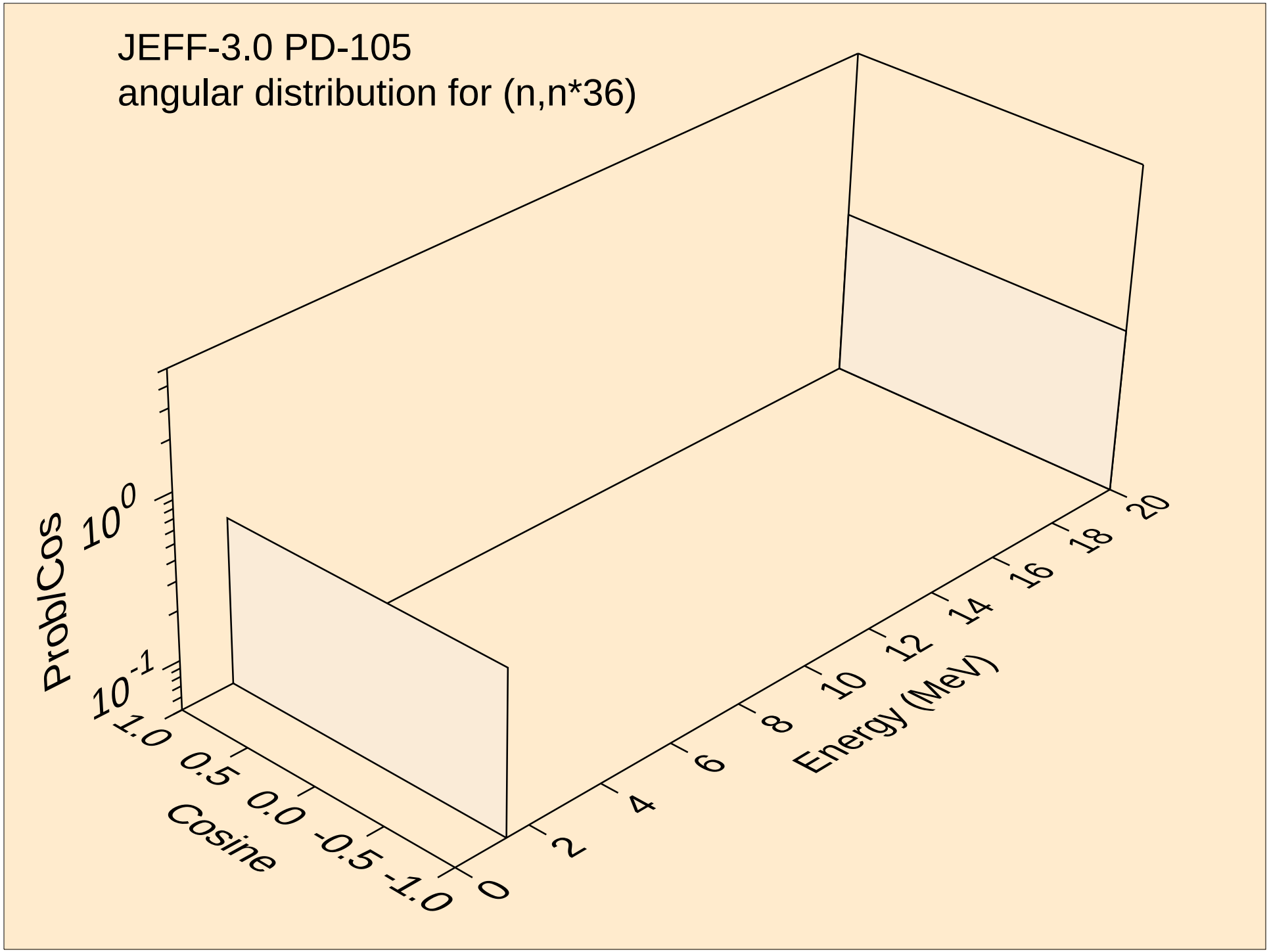

JEFF-3.0 PD-105
angular distribution for (n,n*31)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

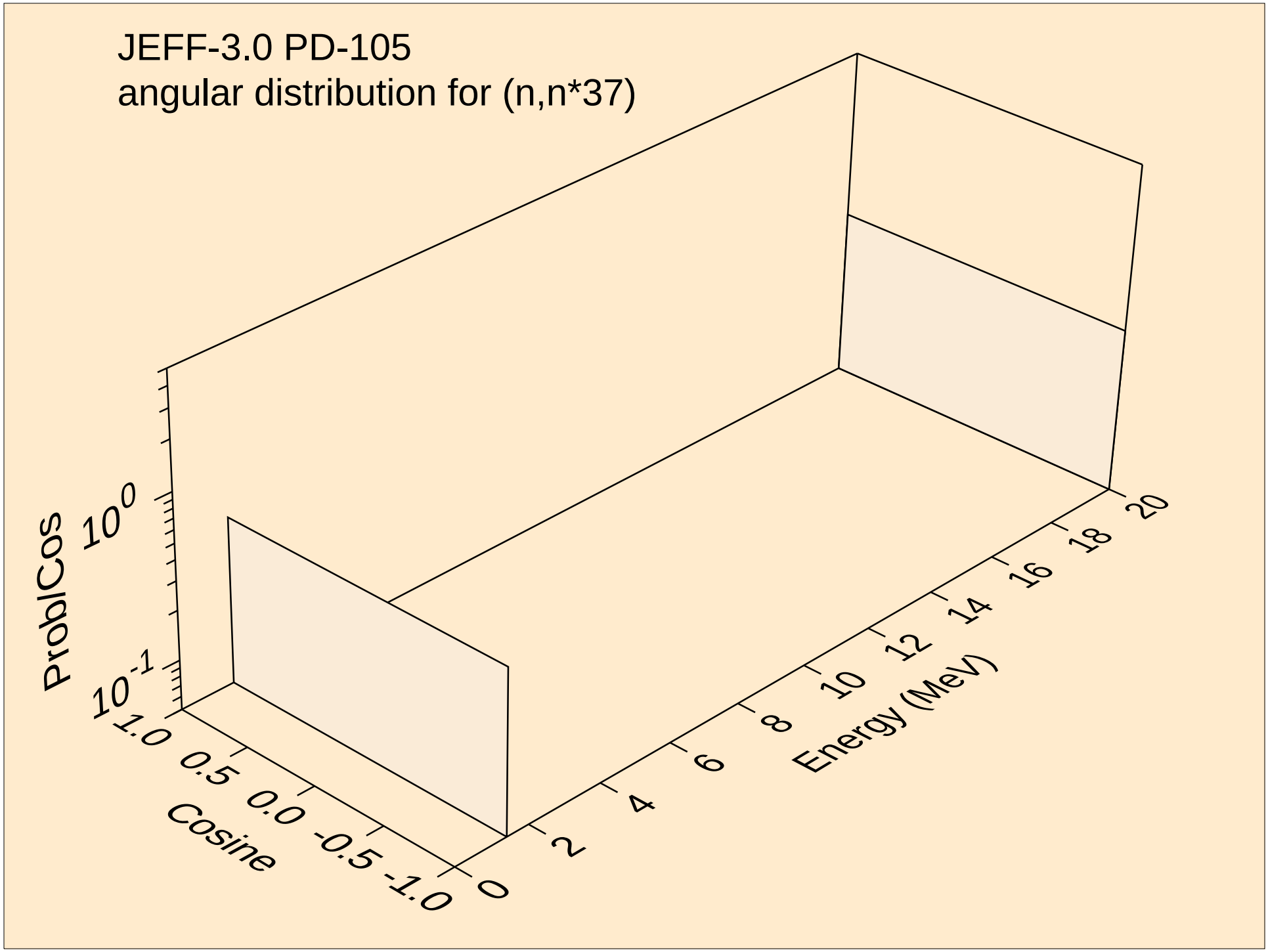

JEFF-3.0 PD-105
angular distribution for (n,n*32)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

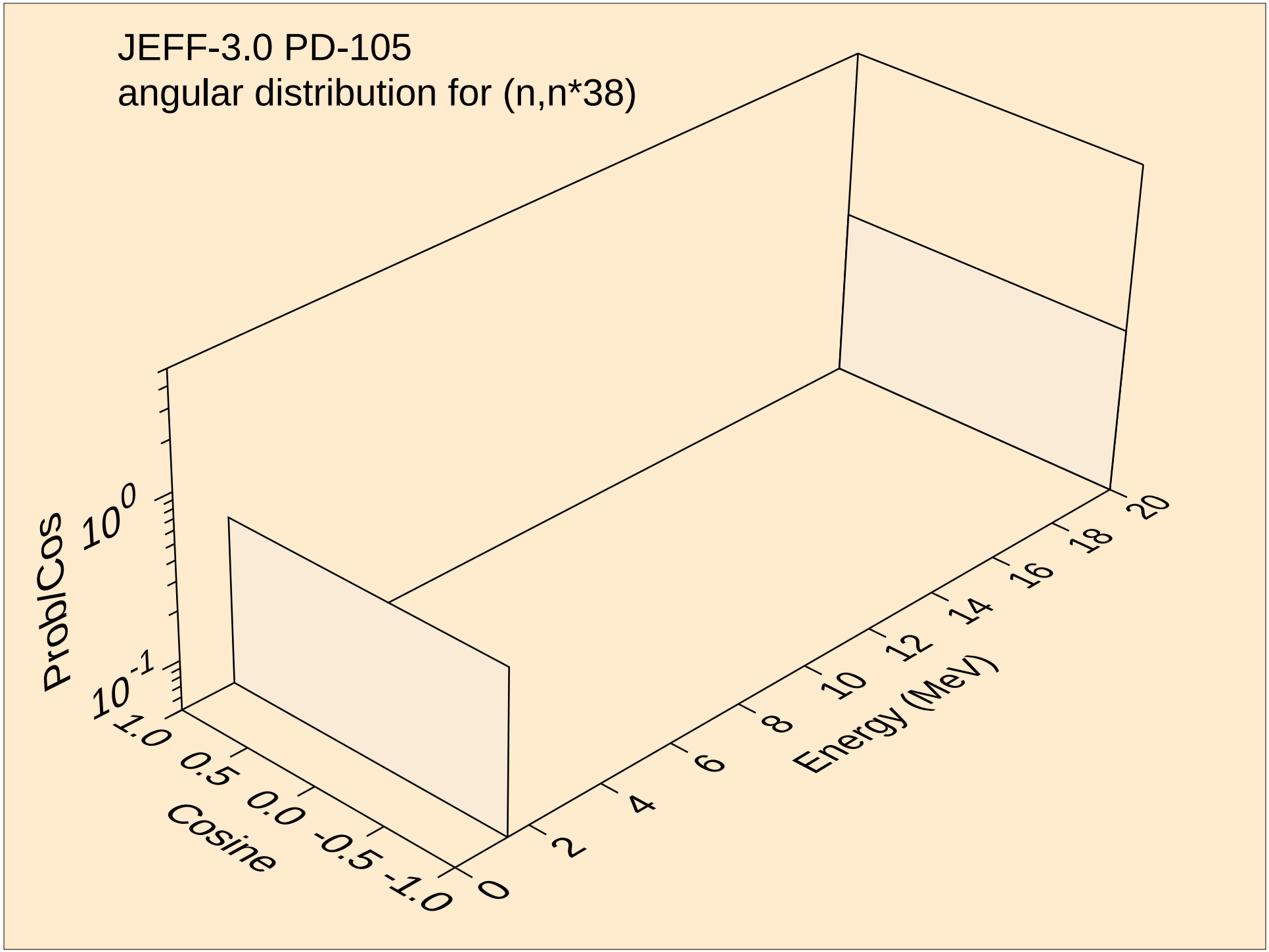

JEFF-3.0 PD-105
angular distribution for (n,n*33)
ProblCos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

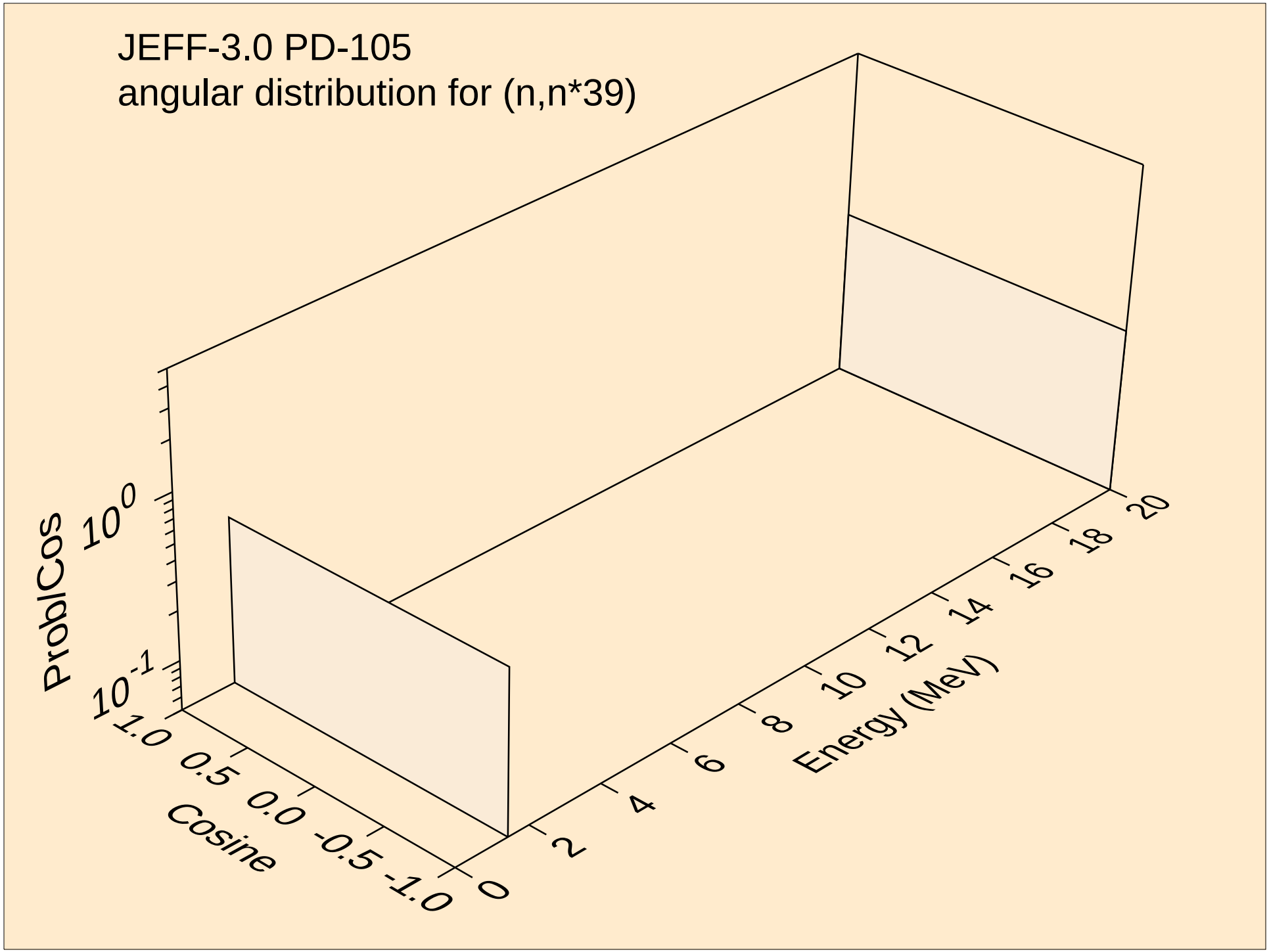

JEFF-3.0 PD-105
angular distribution for (n,n*34)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

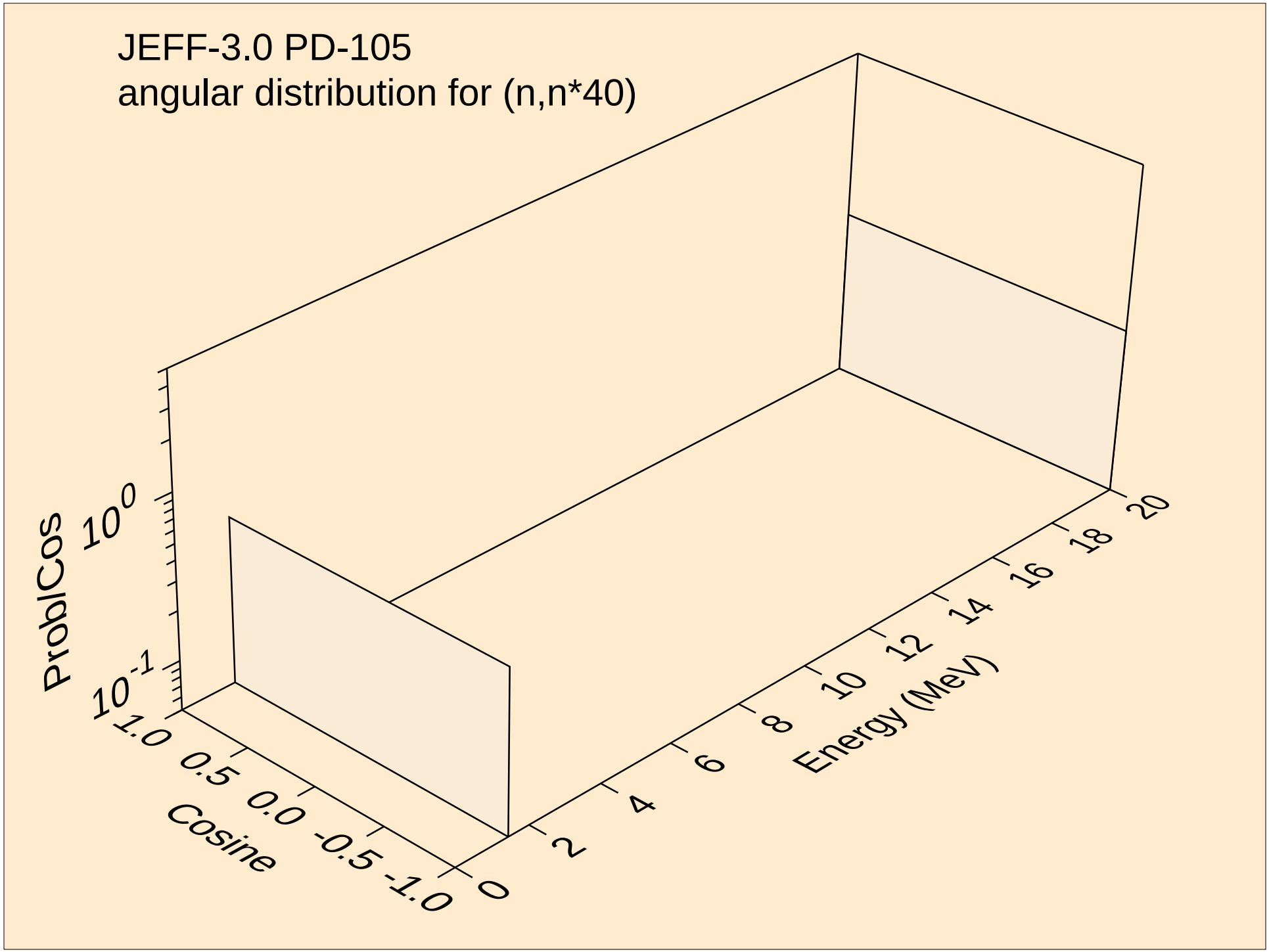

JEFF-3.0 PD-105
angular distribution for (n,n*35)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

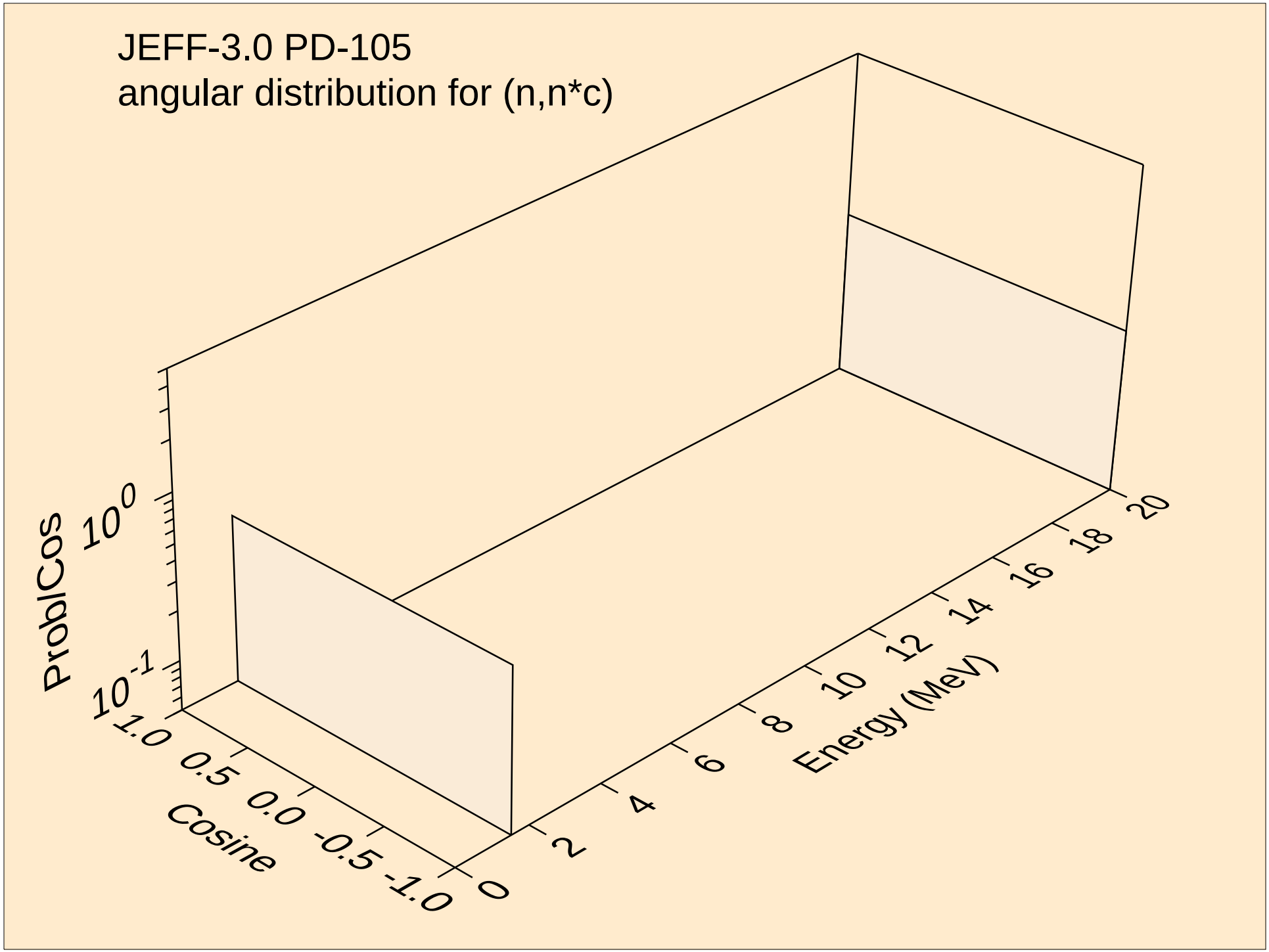

JEFF-3.0 PD-105
angular distribution for (n,n*36)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 PD-105
angular distribution for (n,n*37)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 PD-105
angular distribution for (n,n*38)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 PD-105
angular distribution for (n,n*39)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 PD-105
angular distribution for (n,n*40)
ProblCos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 PD-105
angular distribution for (n,n*c)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)