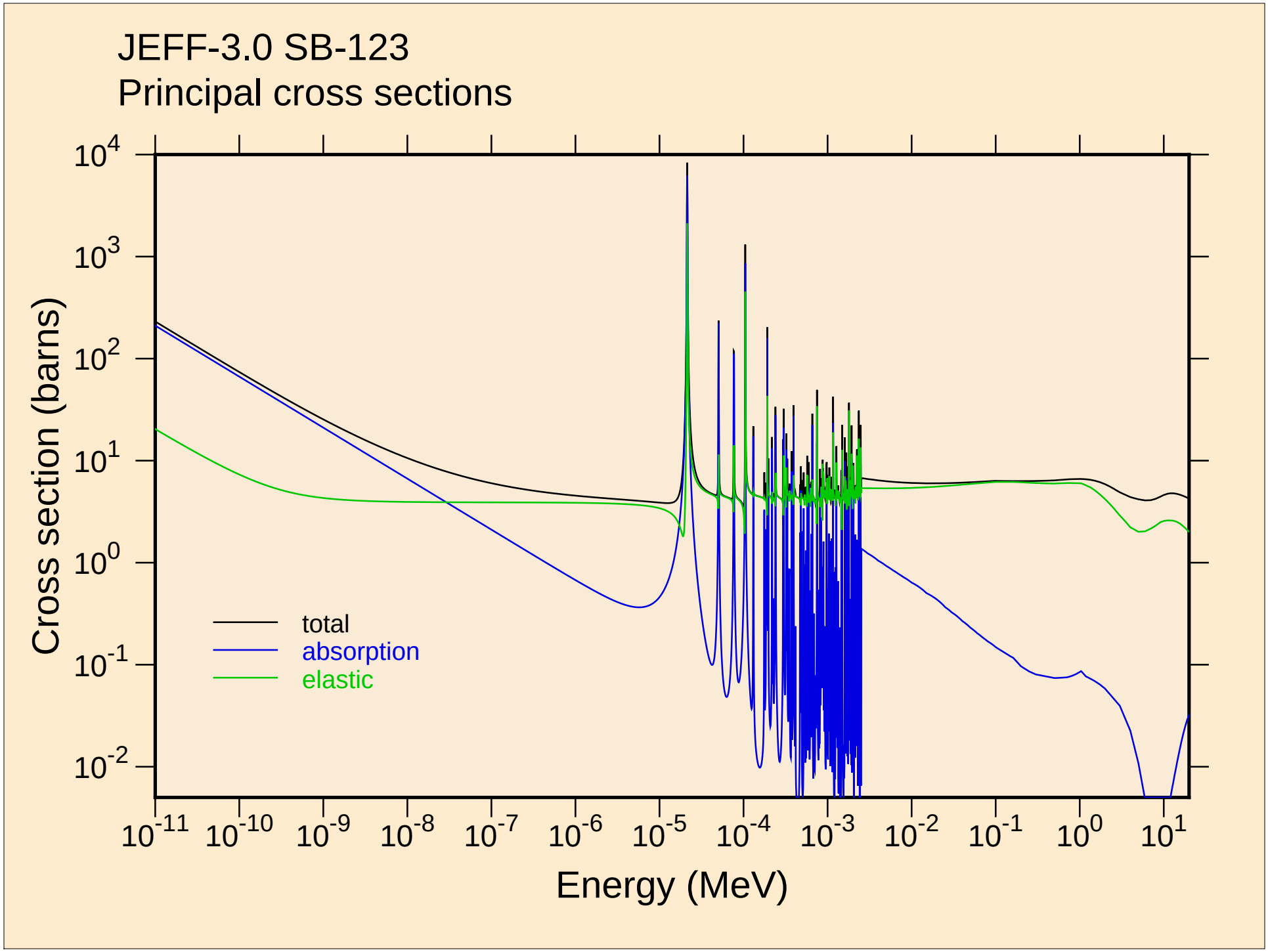
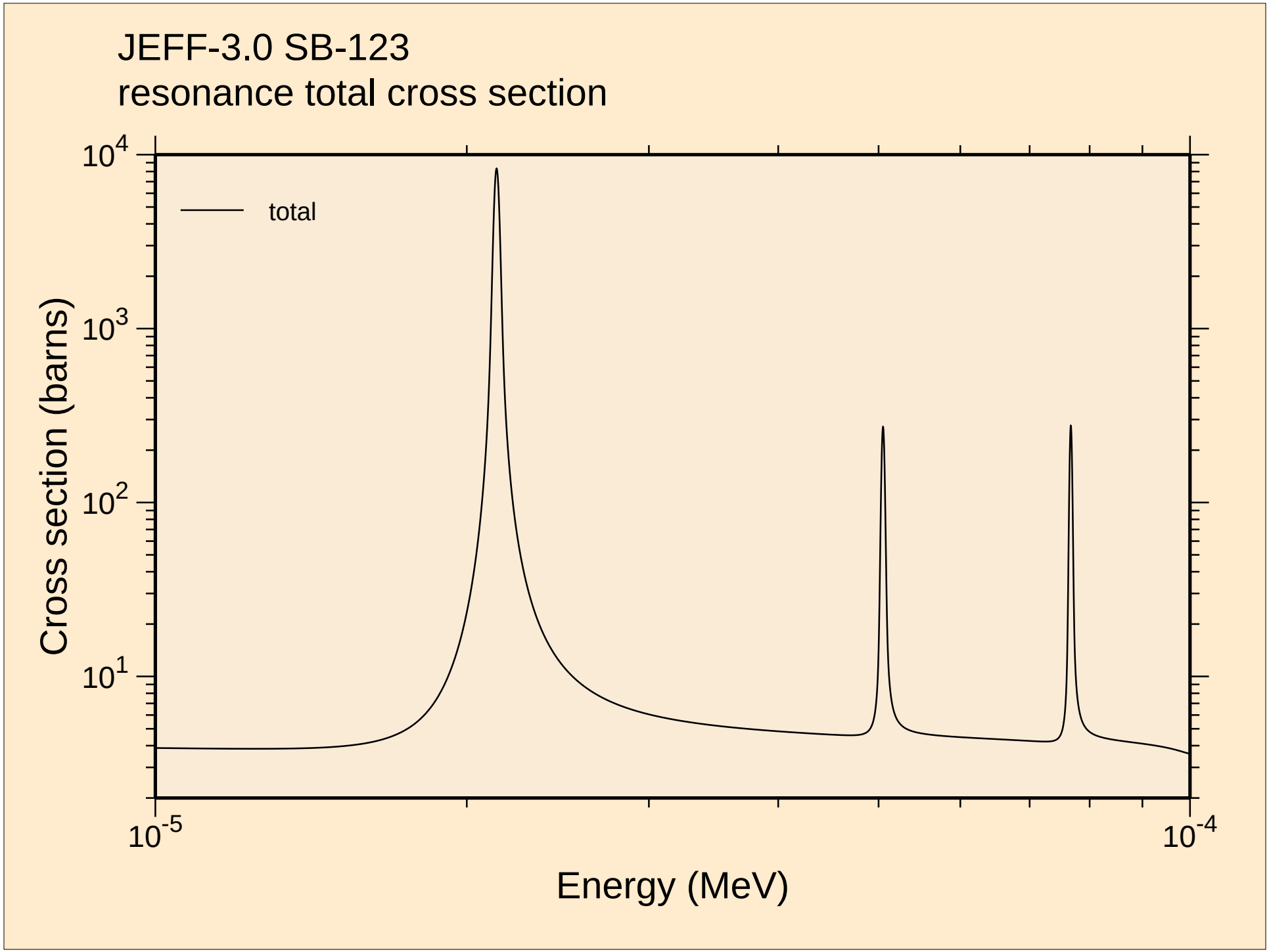
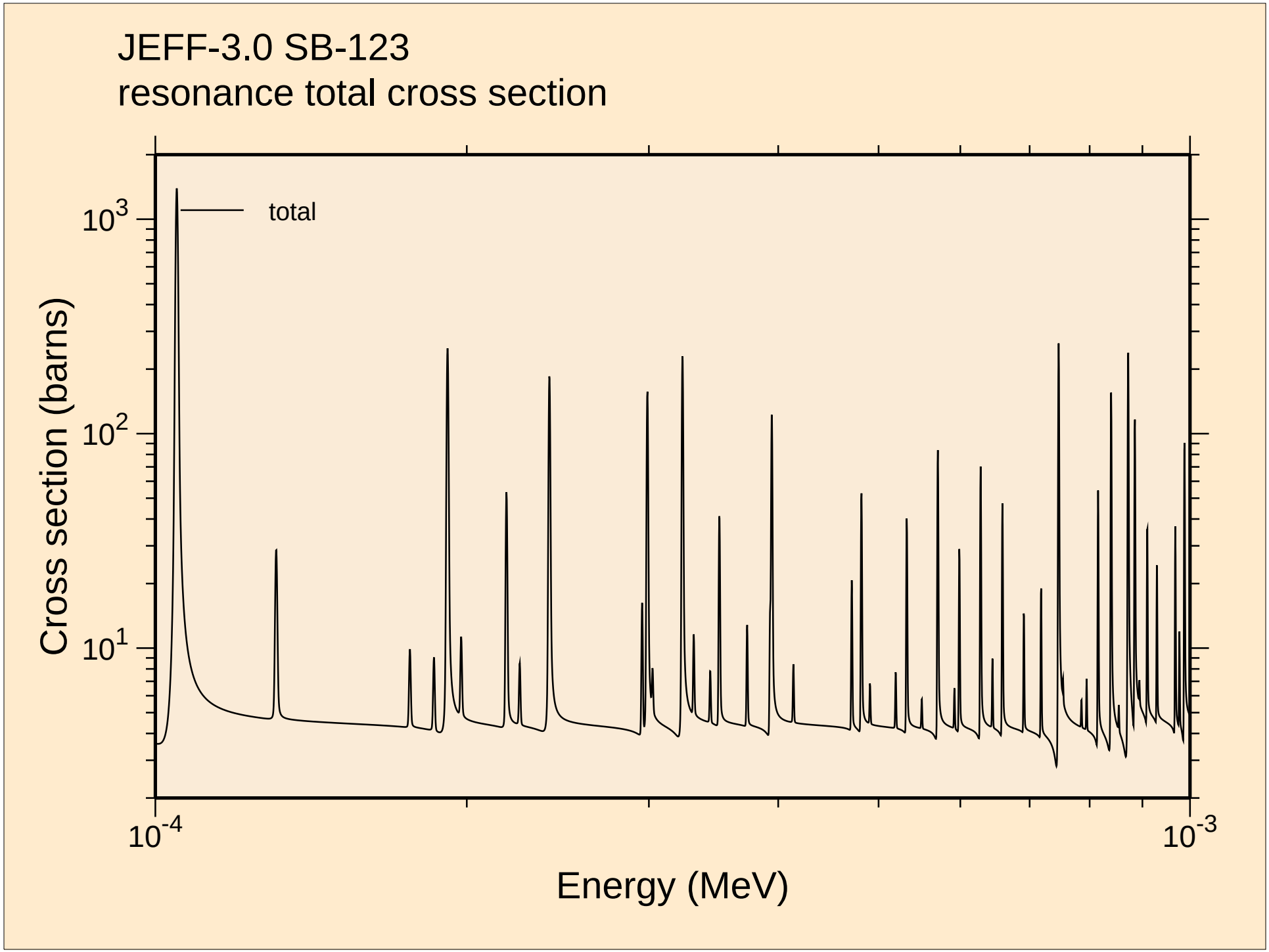
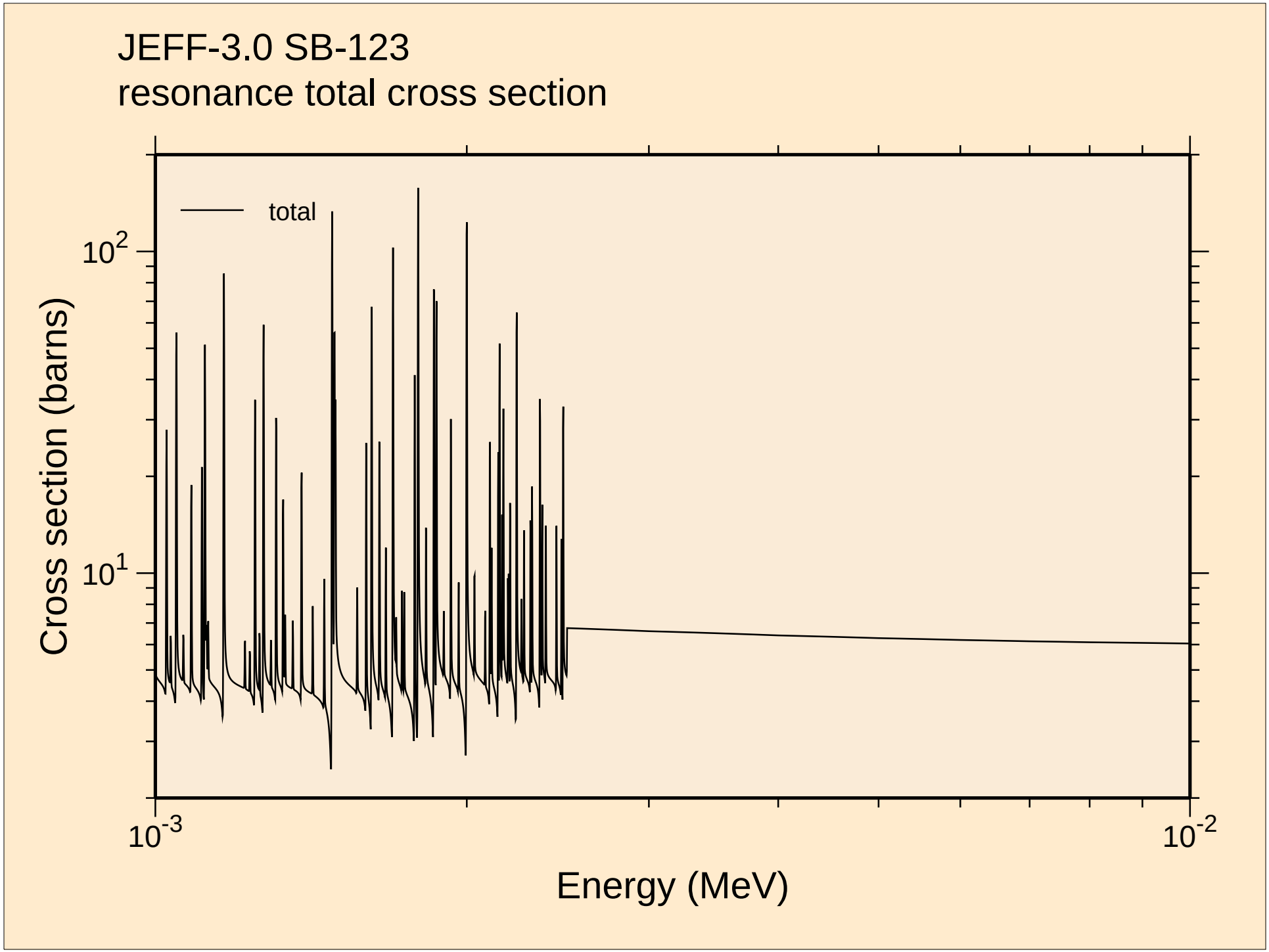
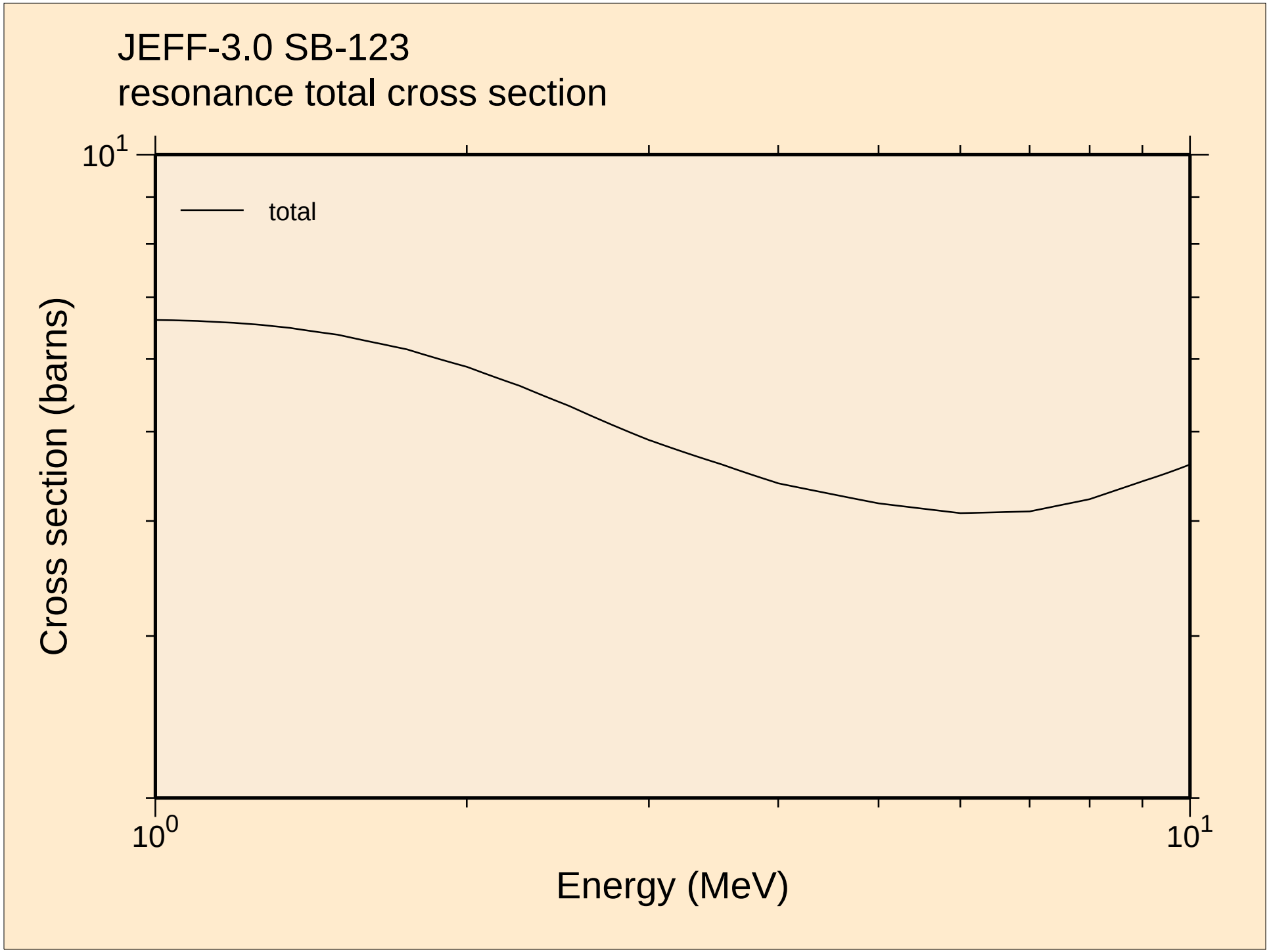
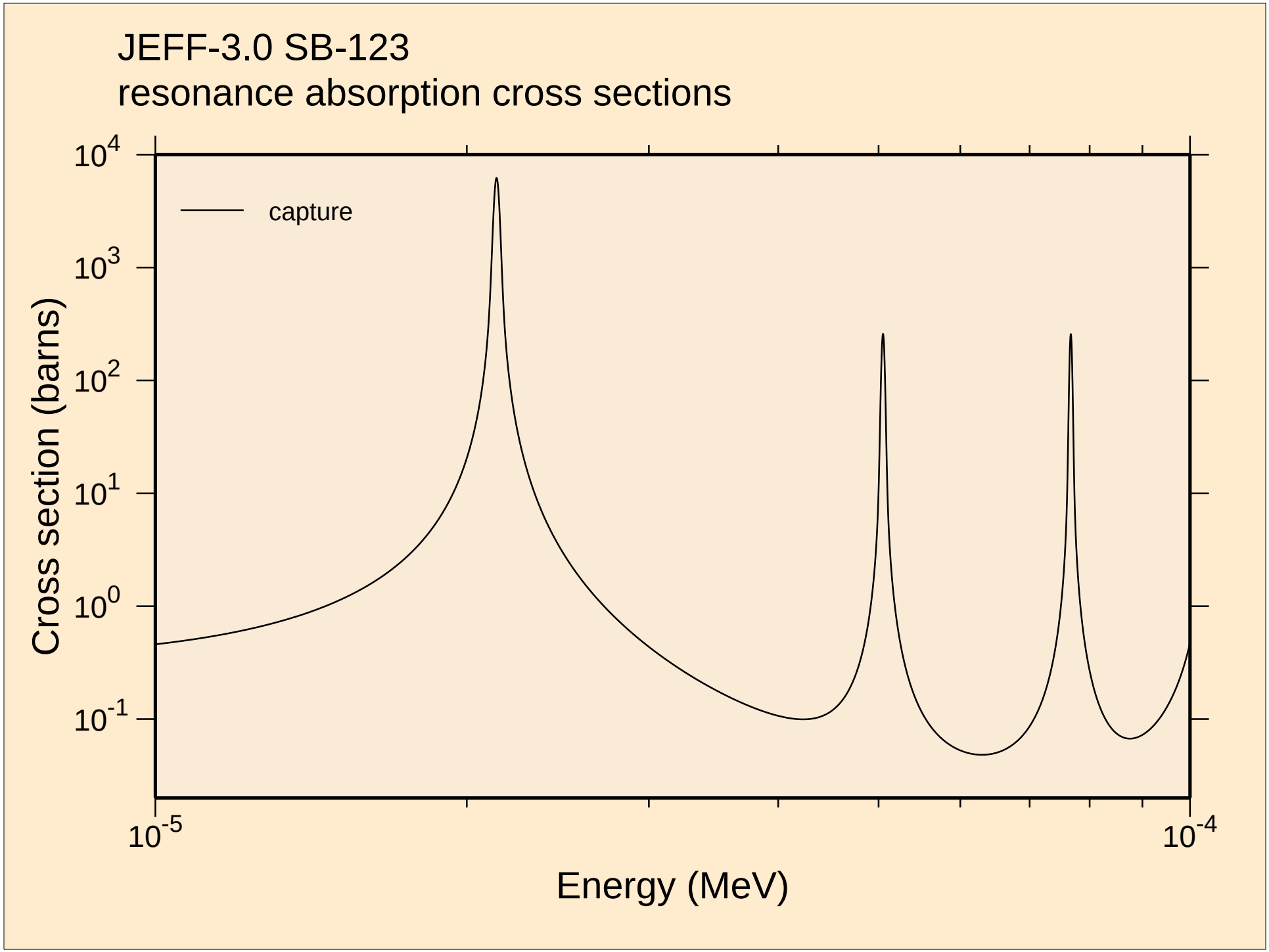

JEFF-3.0 SB-123
Principal cross sections
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
total
absorption
elastic
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

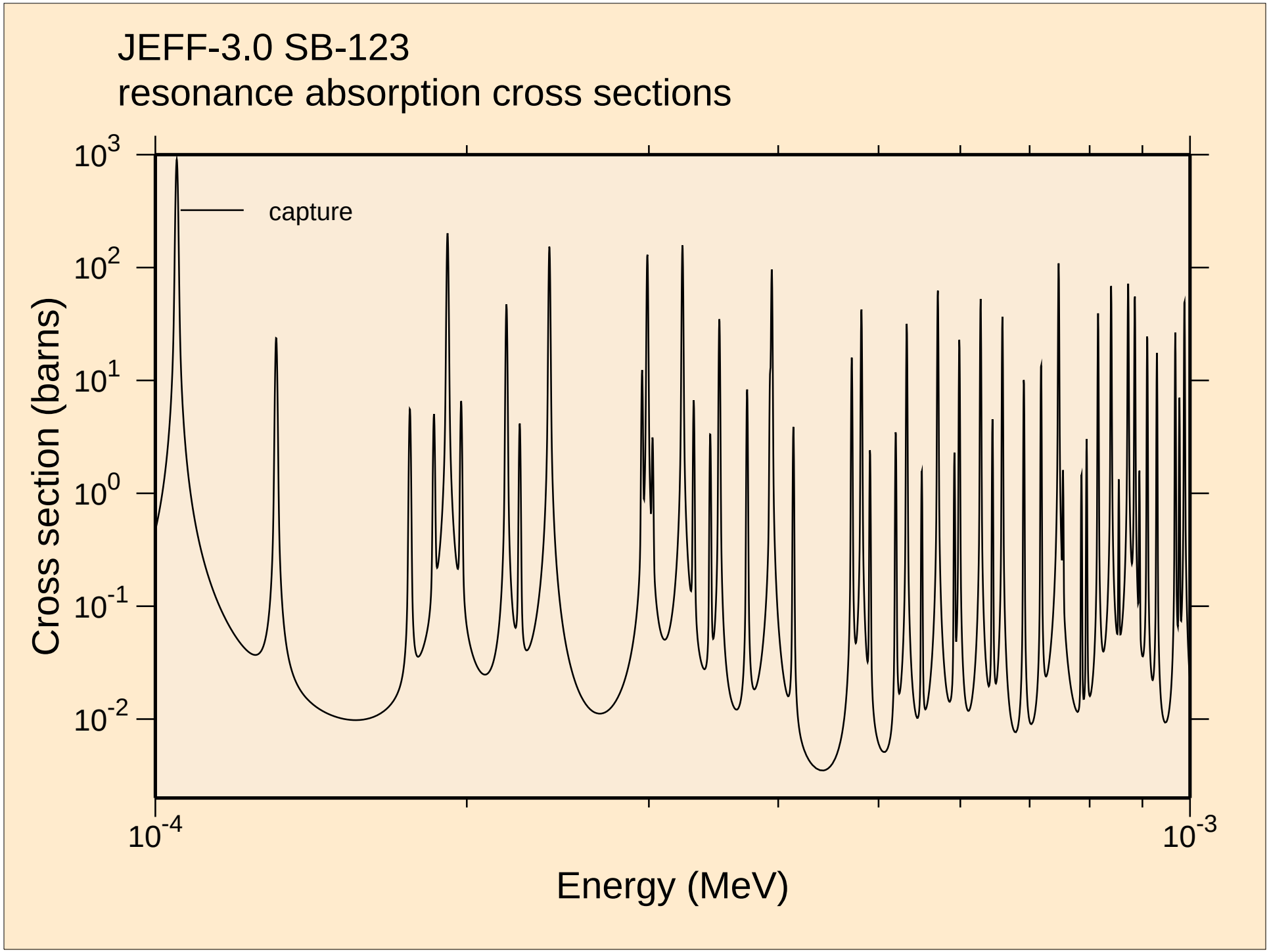

JEFF-3.0 SB-123
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^{-5}
10^{-4}
Energy (MeV)


JEFF-3.0 SB-123
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^-4
10^-3
Energy (MeV)

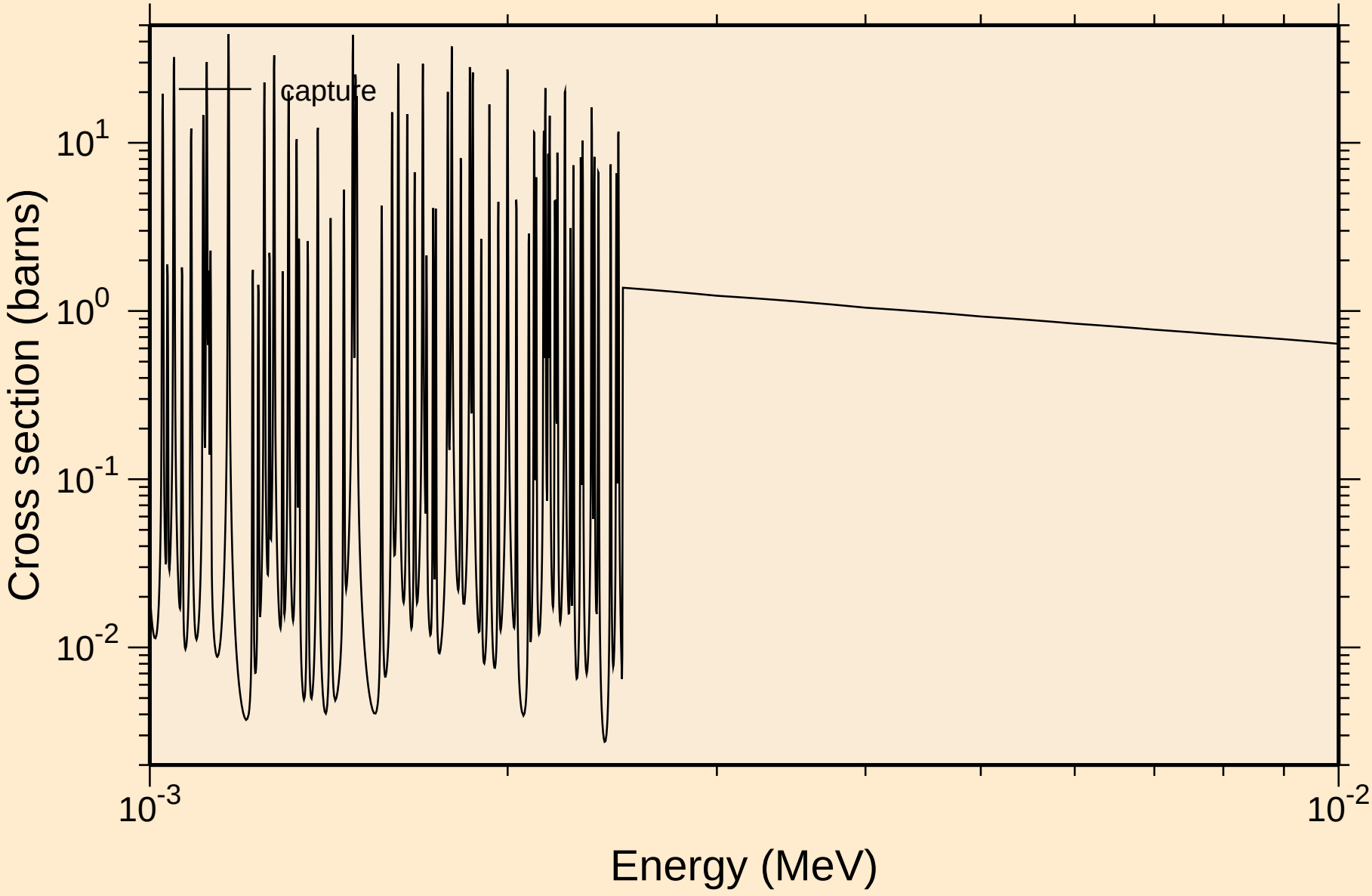

JEFF-3.0 SB-123
resonance total cross section
total
10^2
10^1
Cross section (barns)
10^{-3}
10^{-2}
Energy (MeV)

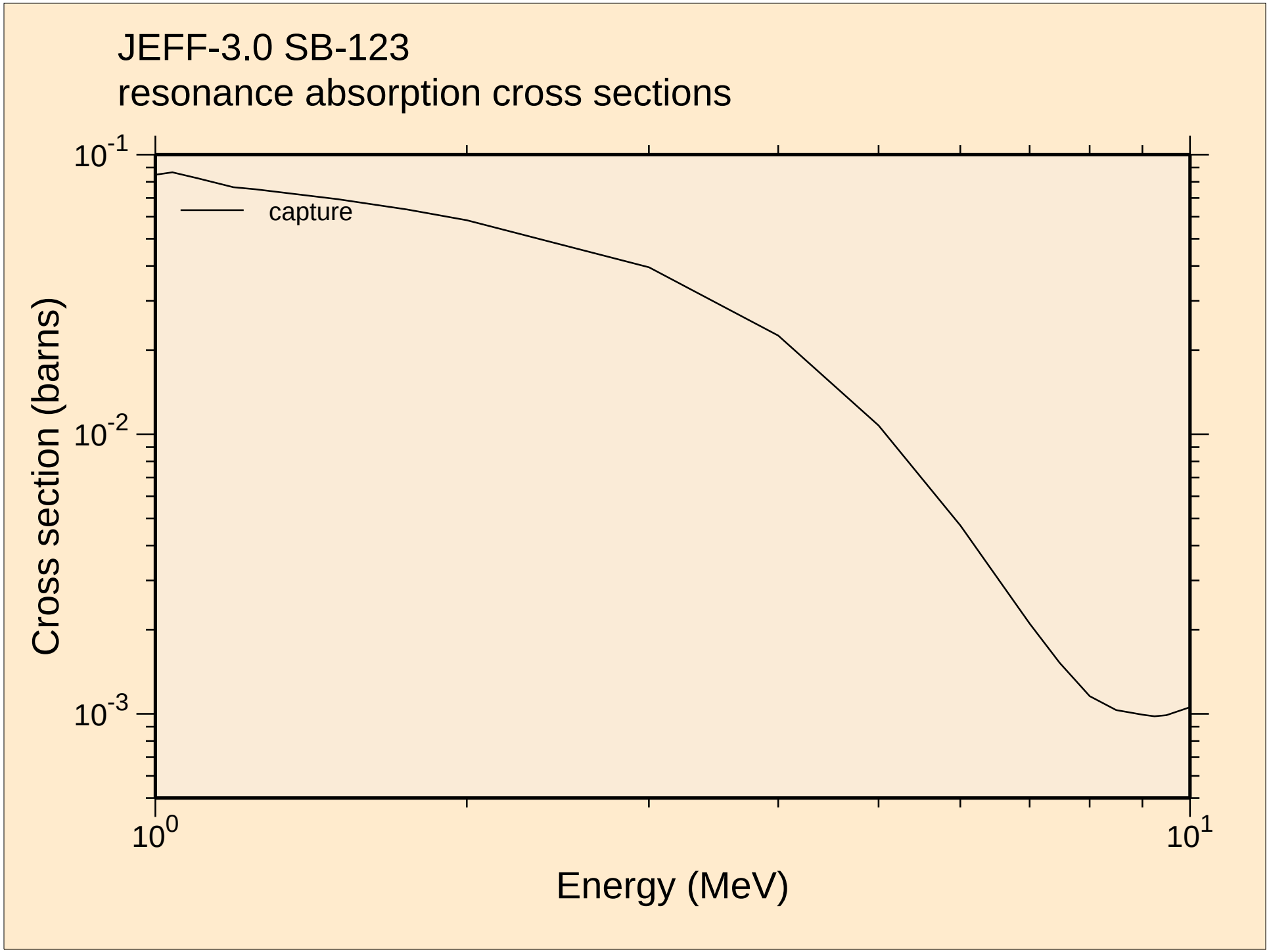

JEFF-3.0 SB-123
resonance total cross section
10^1
total
Cross section (barns)
10^0
10^1
Energy (MeV)

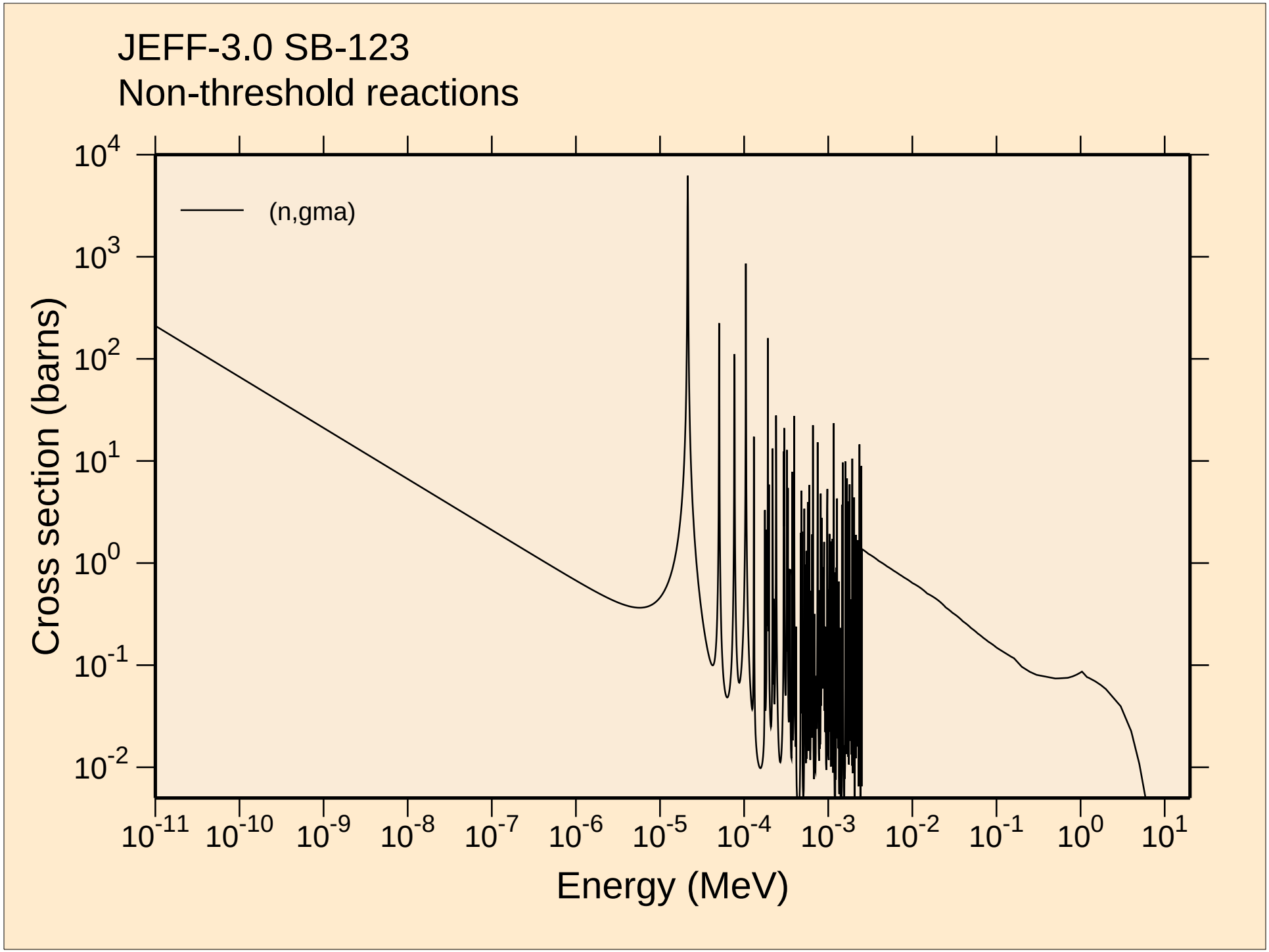

JEFF-3.0 SB-123
resonance absorption cross sections
capture
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-5}
10^{-4}
Energy (MeV)

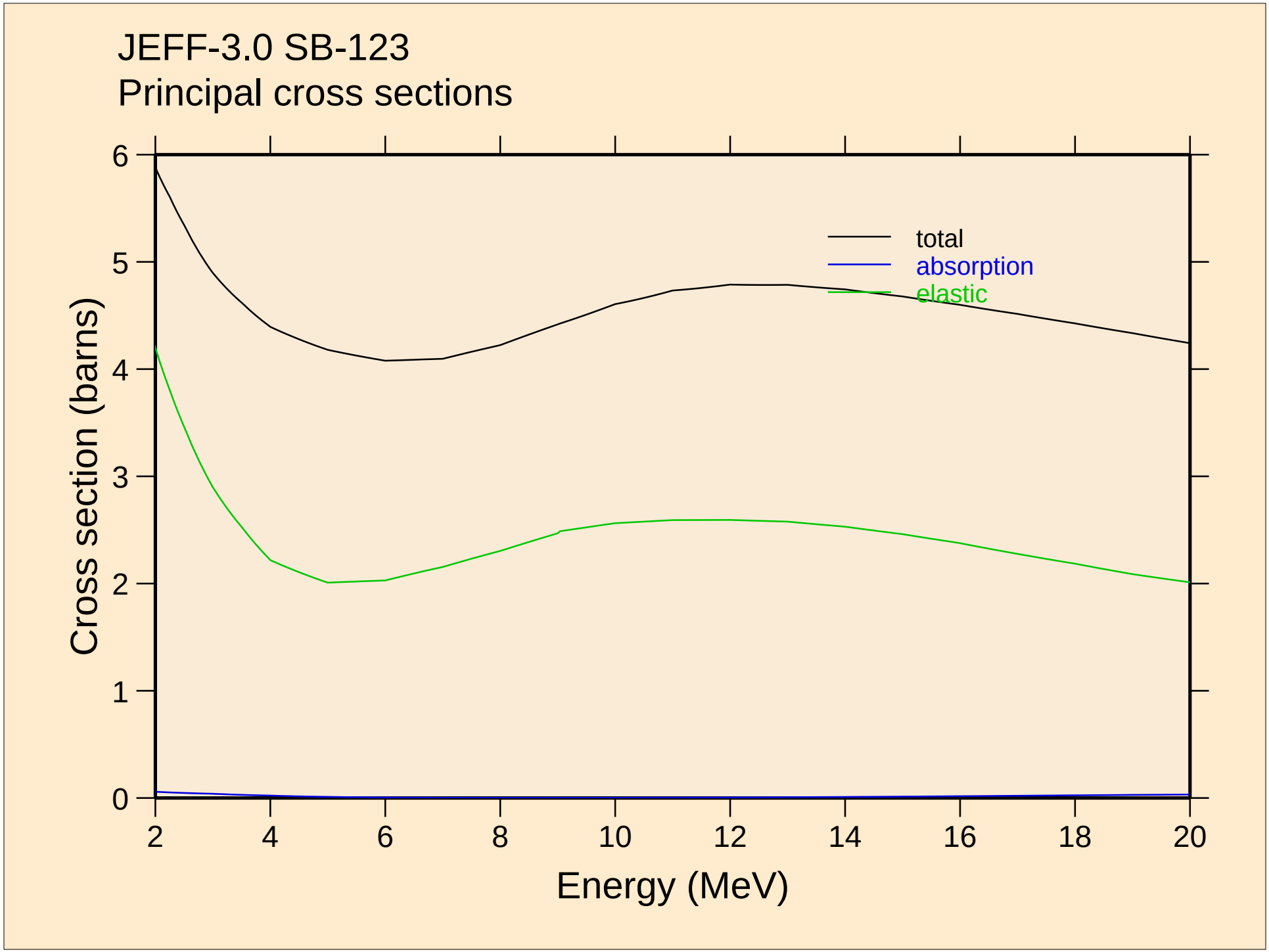

JEFF-3.0 SB-123
resonance absorption cross sections
capture
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-4
10^-3
Energy (MeV)

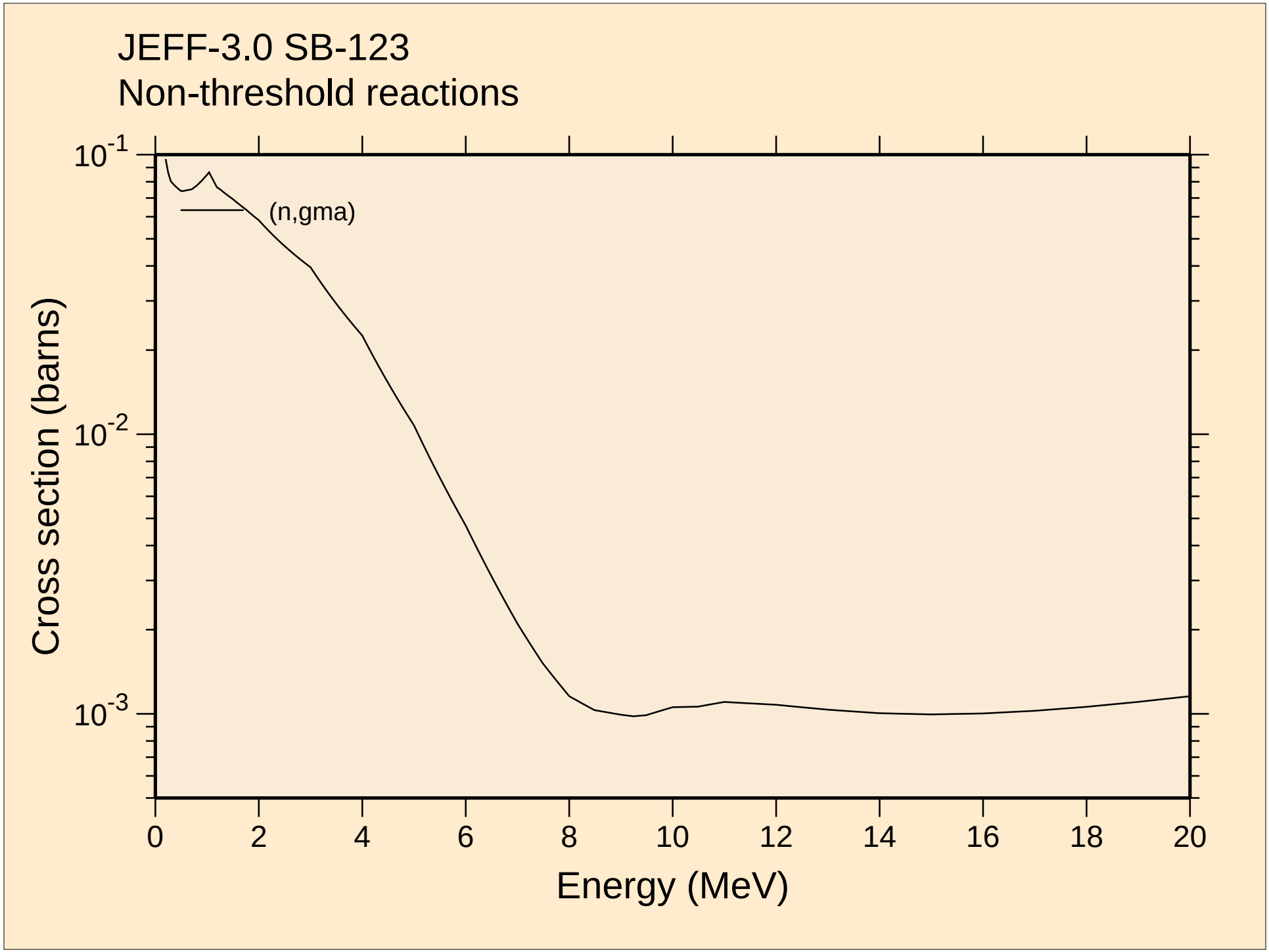
JEFF-3.0 SB-123
resonance absorption cross sections

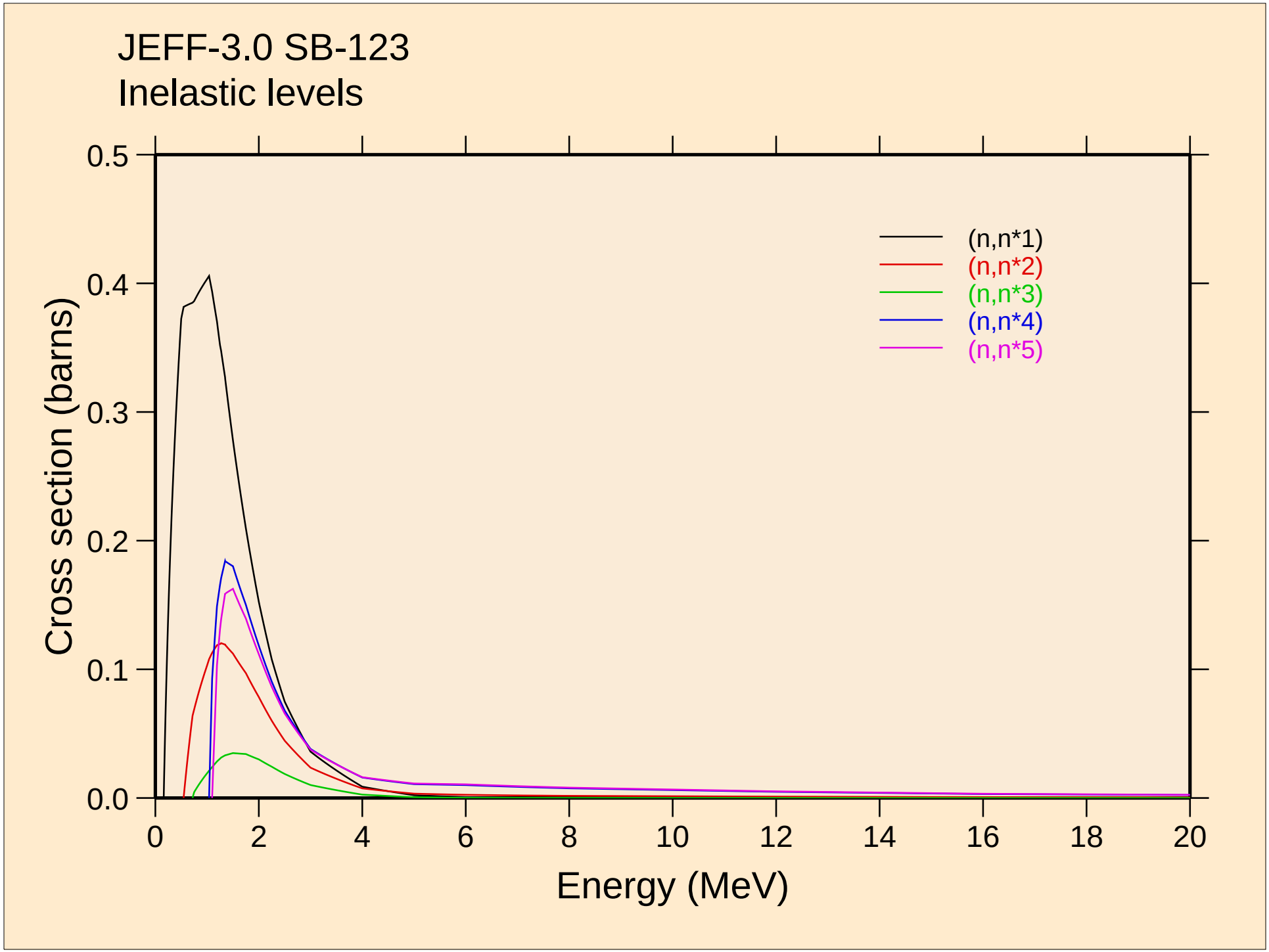


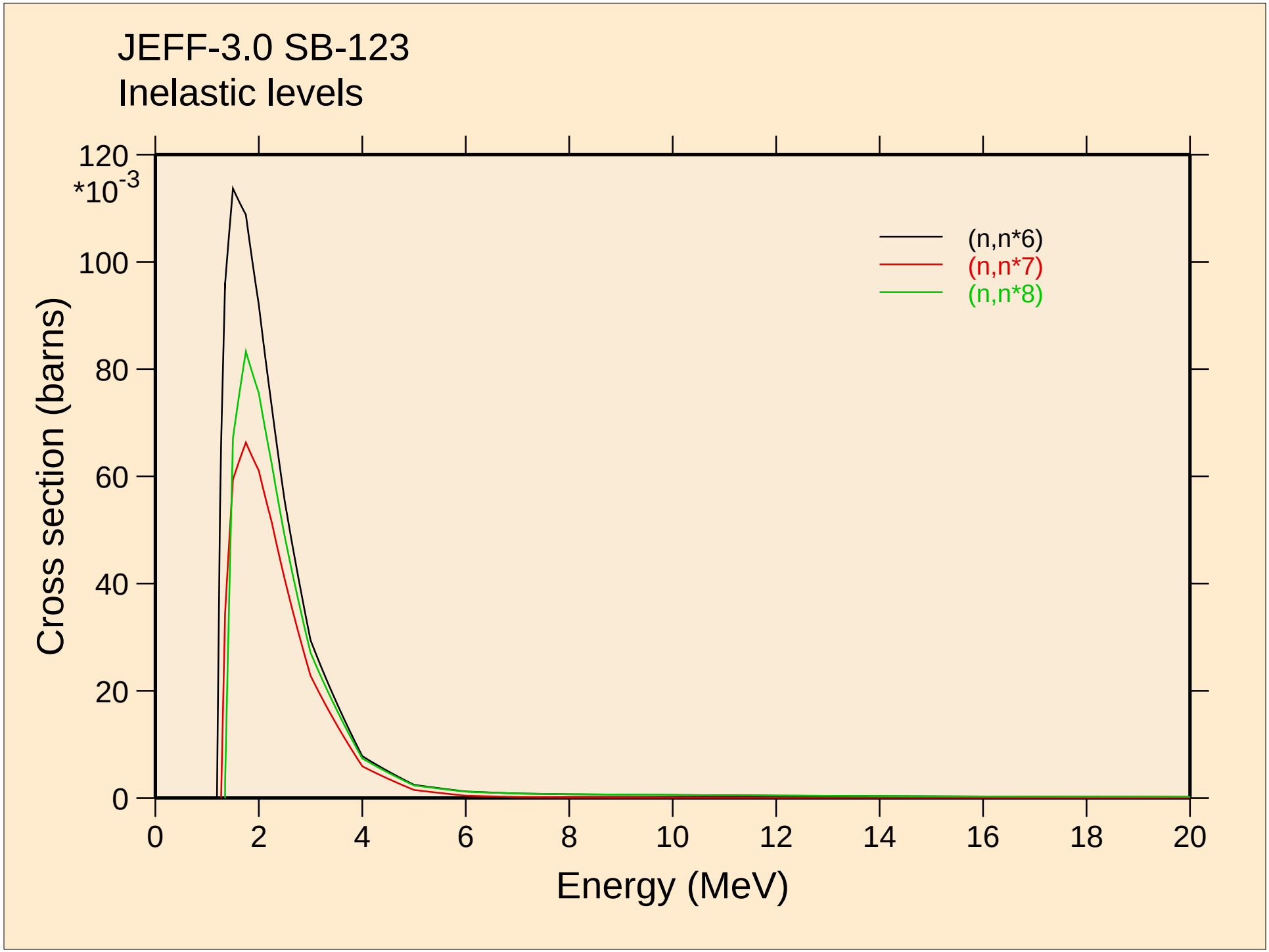

JEFF-3.0 SB-123
resonance absorption cross sections
capture
Cross section (barns)
10-1
10-2
10-3
100
101
Energy (MeV)

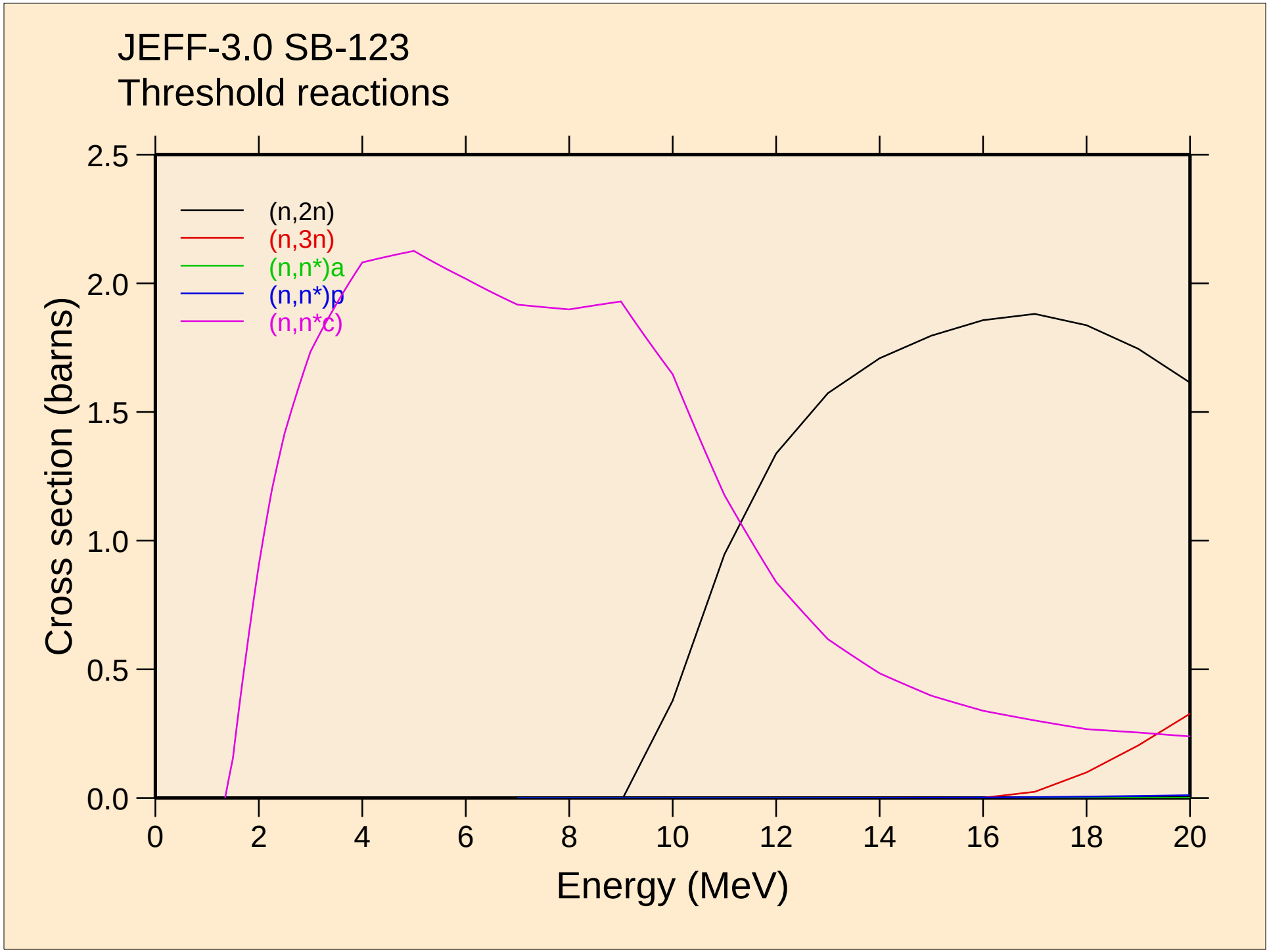

JEFF-3.0 SB-123
Non-threshold reactions
(n,gma)
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

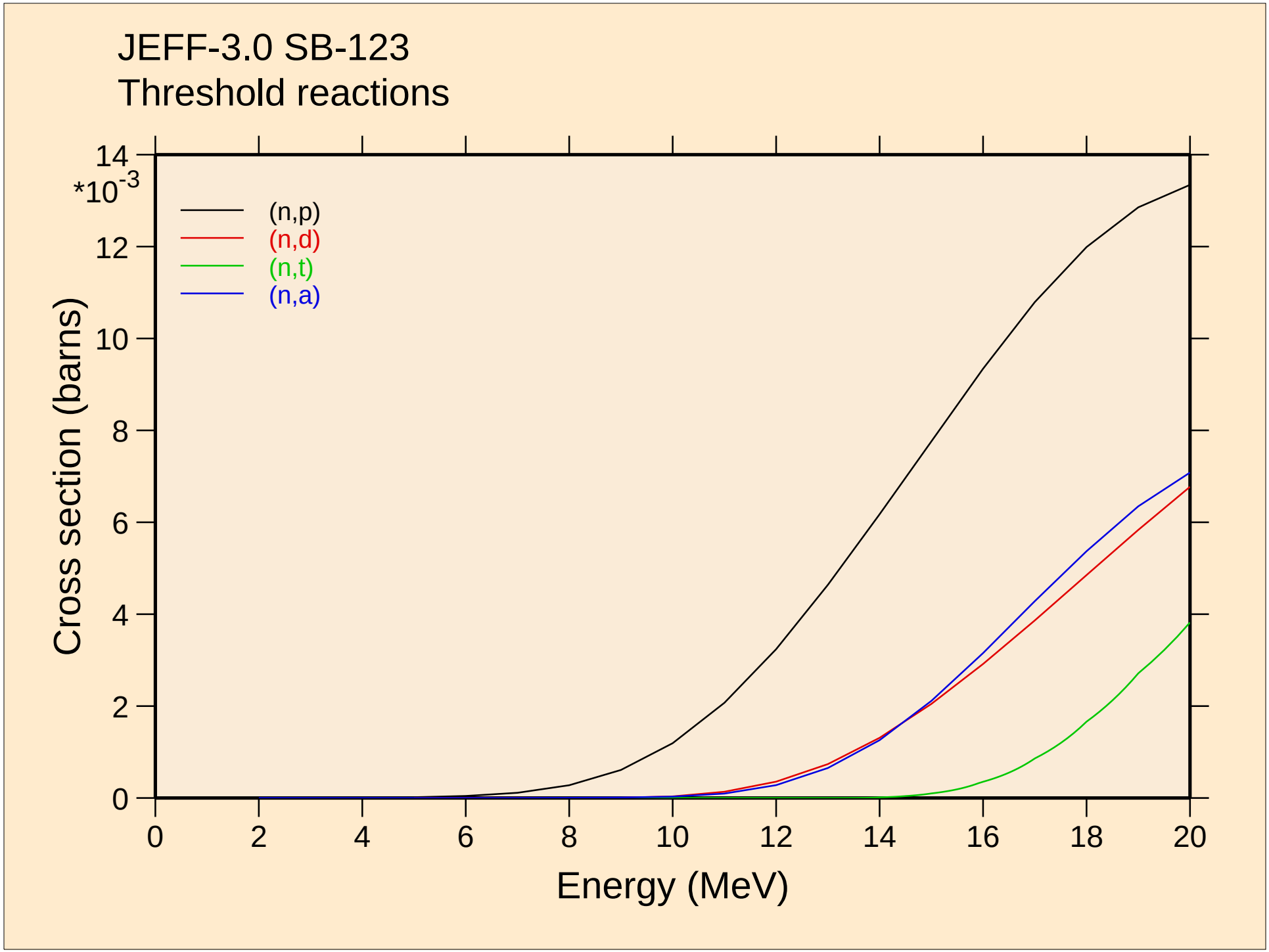

JEFF-3.0 SB-123
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
0
1
2
3
4
5
6
2
4
6
8
10
12
14
16
18
20

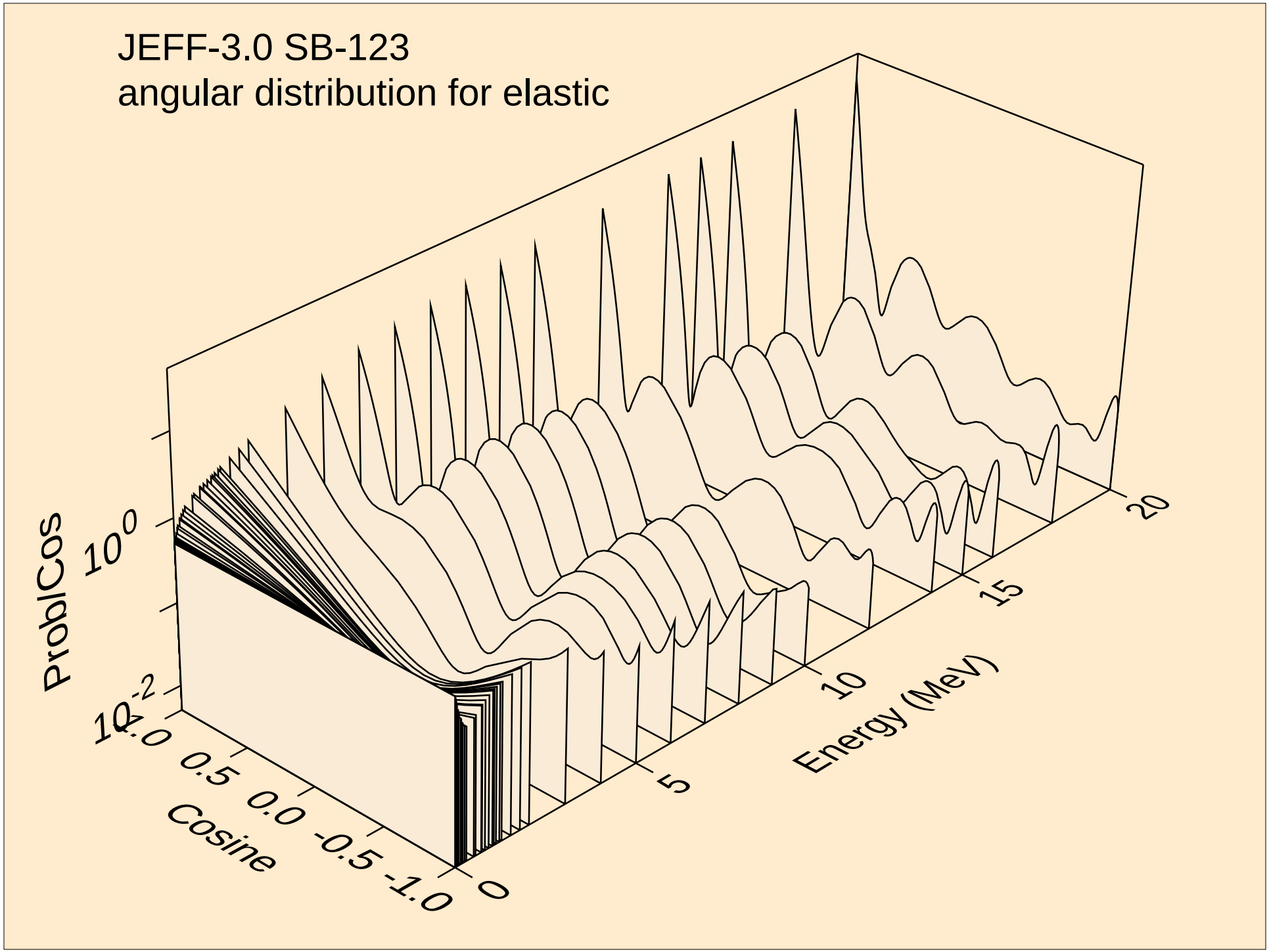

JEFF-3.0 SB-123
Non-threshold reactions
(n,gma)
Cross section (barns)
10-1
10-2
10-3
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

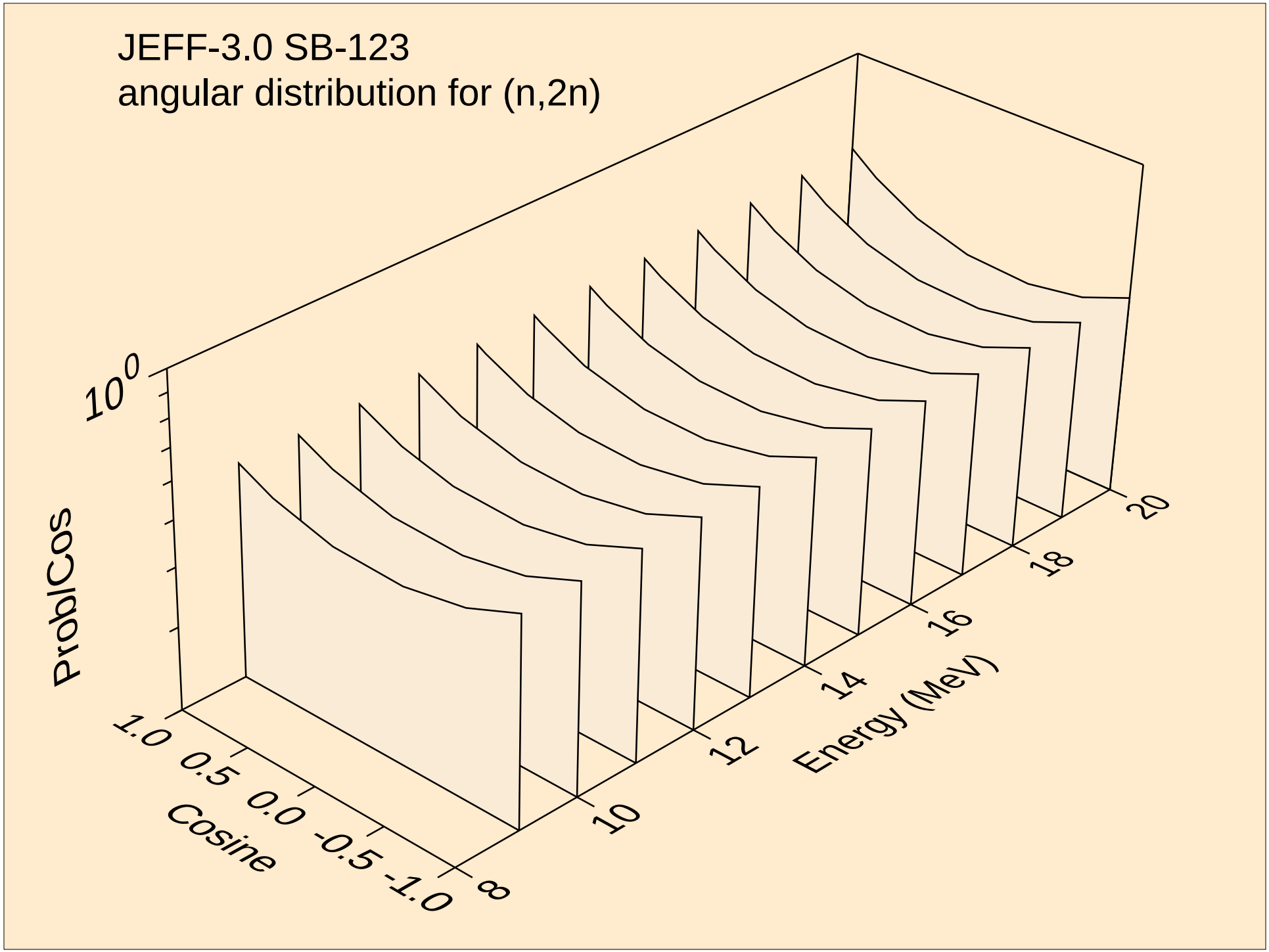

JEFF-3.0 SB-123
Inelastic levels
Cross section (barns)
Energy (MeV)
0.0
0.1
0.2
0.3
0.4
0.5
0
2
4
6
8
10
12
14
16
18
20
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

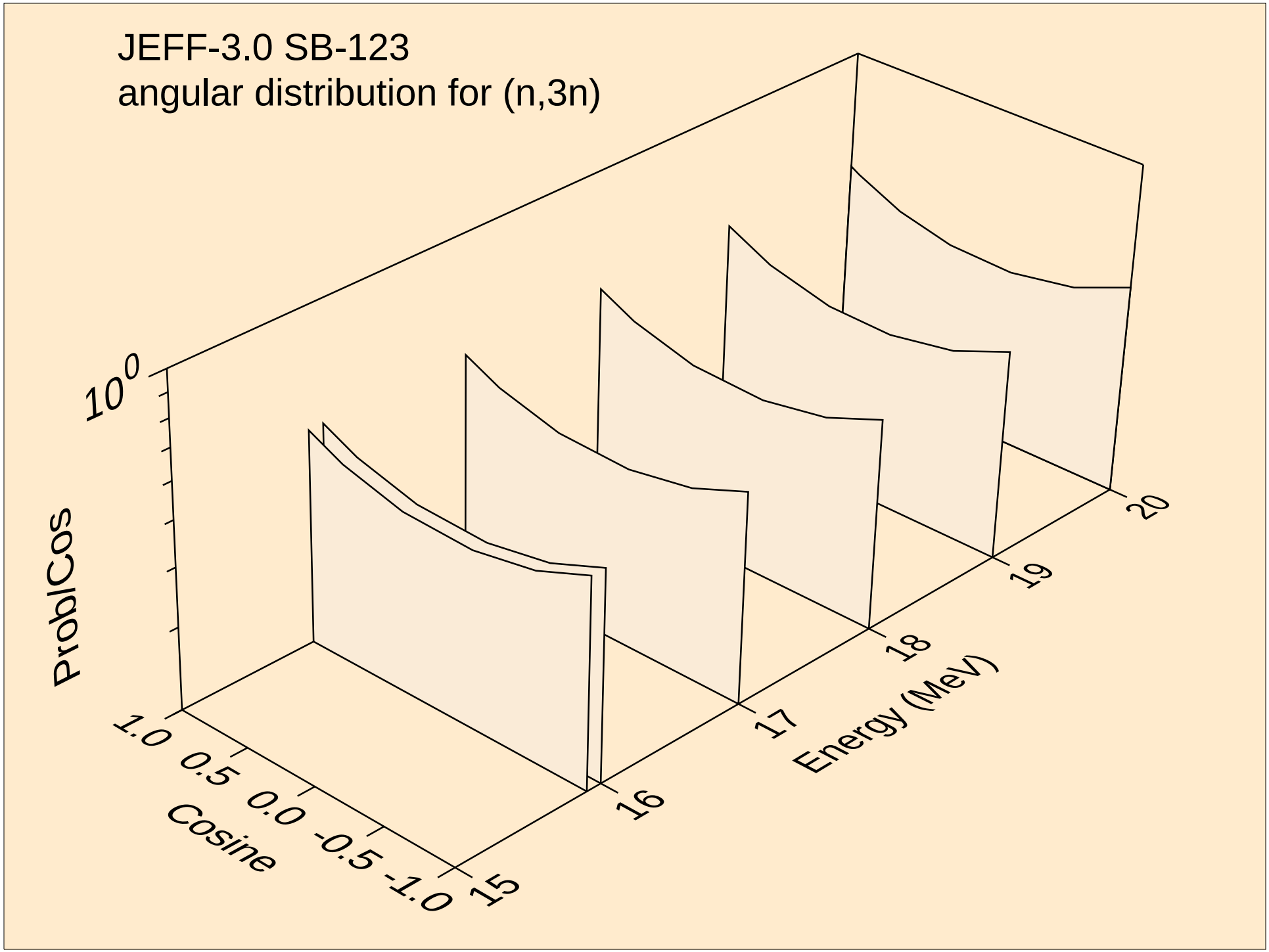

JEFF-3.0 SB-123
Inelastic levels
120
*10-3
100
80
60
40
20
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)

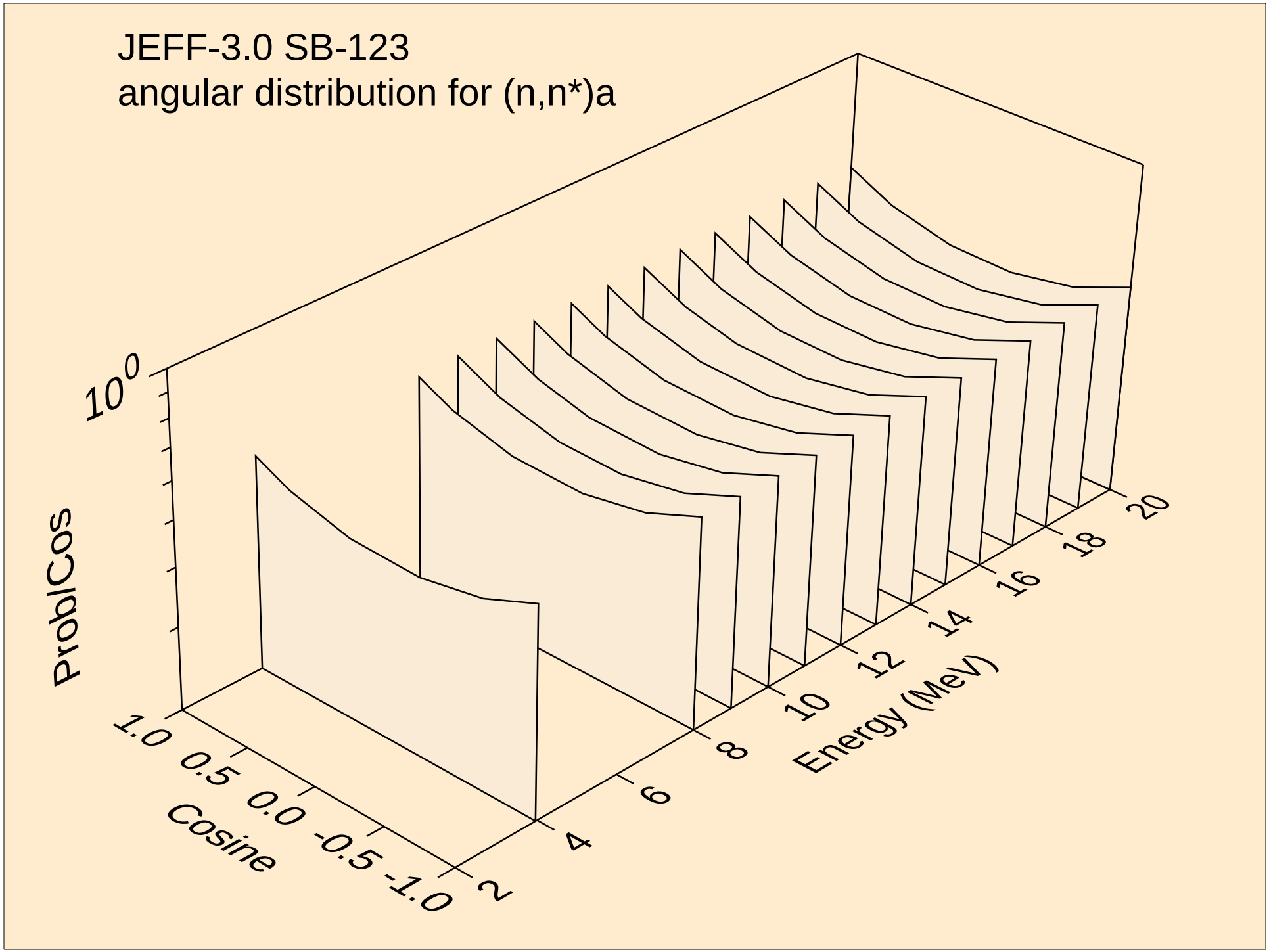

JEFF-3.0 SB-123
Threshold reactions
(n,2n)
(n,3n)
(n,n*)a
(n,n*)p
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
0
2
4
6
8
10
12
14
16
18
20

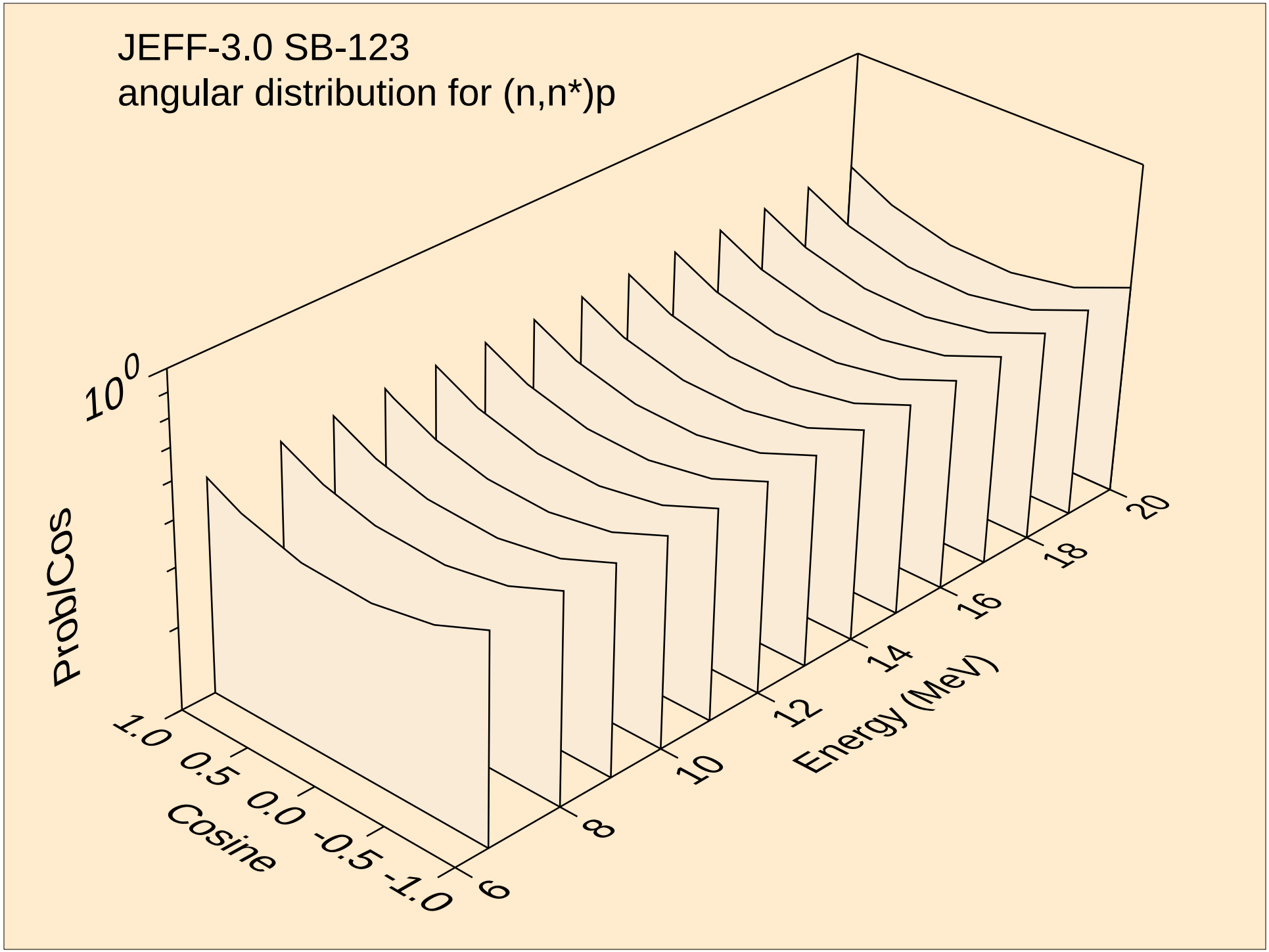

JEFF-3.0 SB-123
Threshold reactions
*10-3
14
12
10
8
6
4
2
0
(n,p)
(n,d)
(n,t)
(n,a)
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

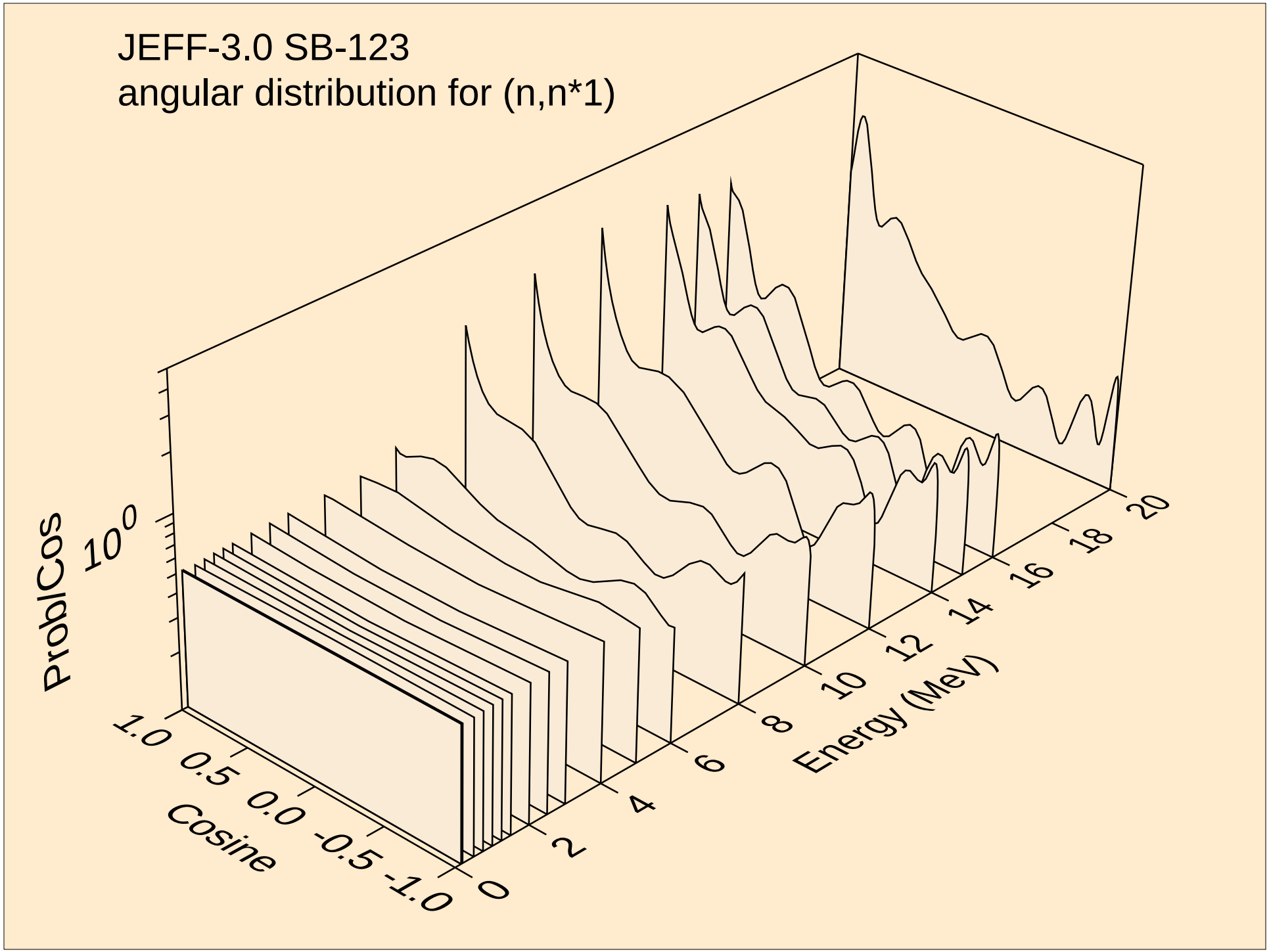

JEFF-3.0 SB-123
angular distribution for elastic
ProbICos
10^{0}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

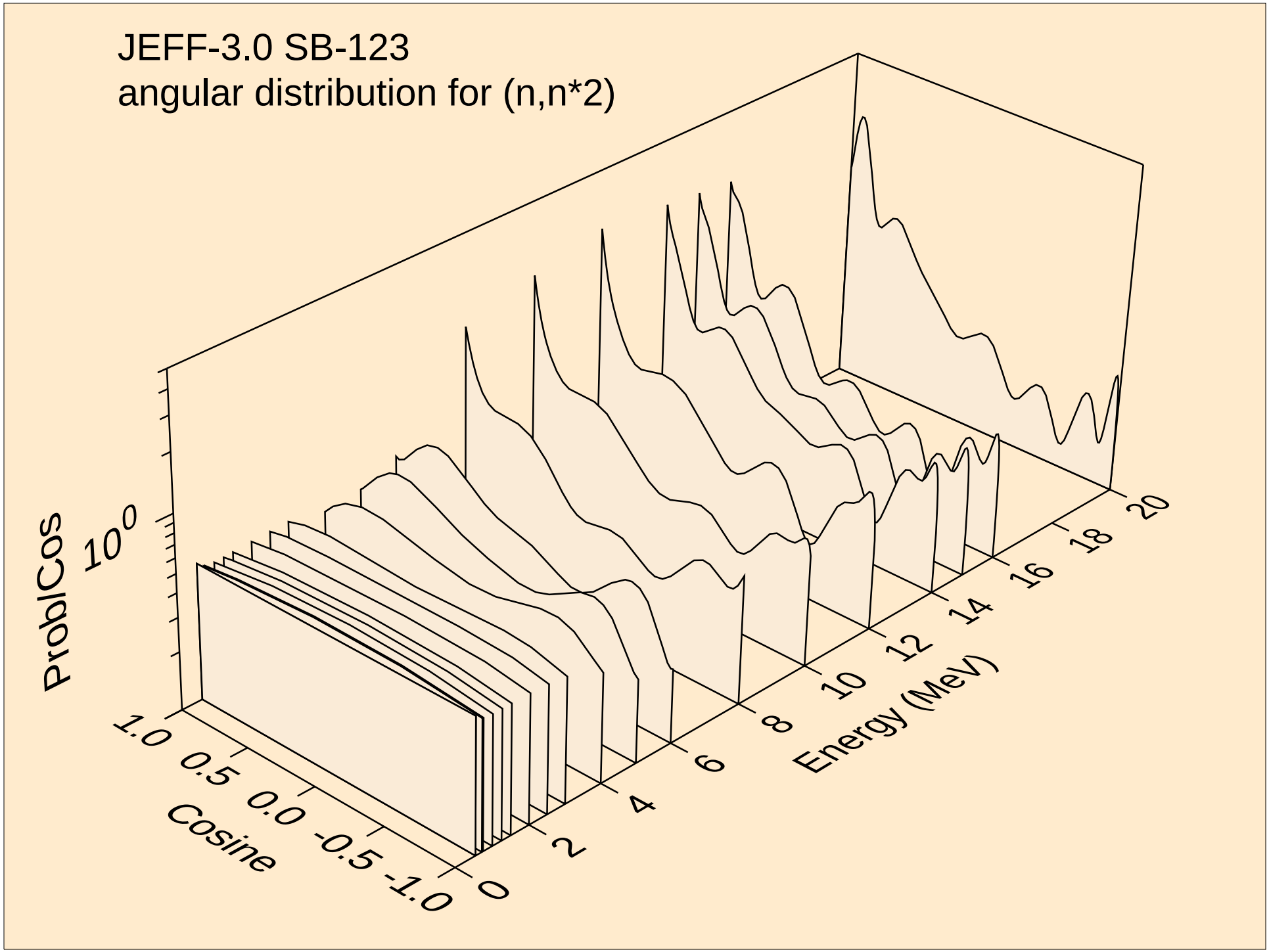

JEFF-3.0 SB-123
angular distribution for (n,2n)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
8
10
12
14
16
18
20
Energy (MeV)

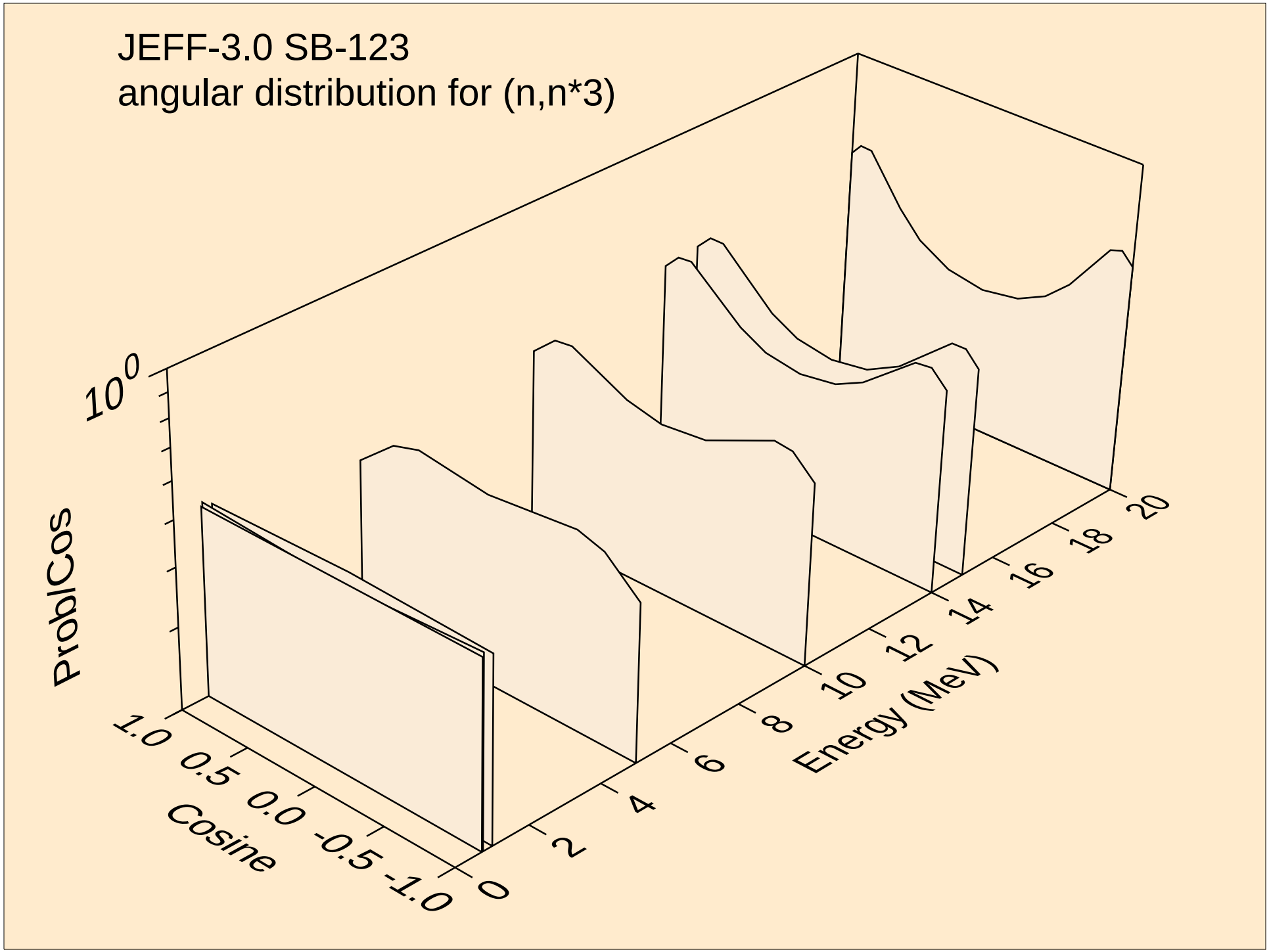

JEFF-3.0 SB-123
angular distribution for (n,3n)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
15
16
17
18
19
20
Energy (MeV)

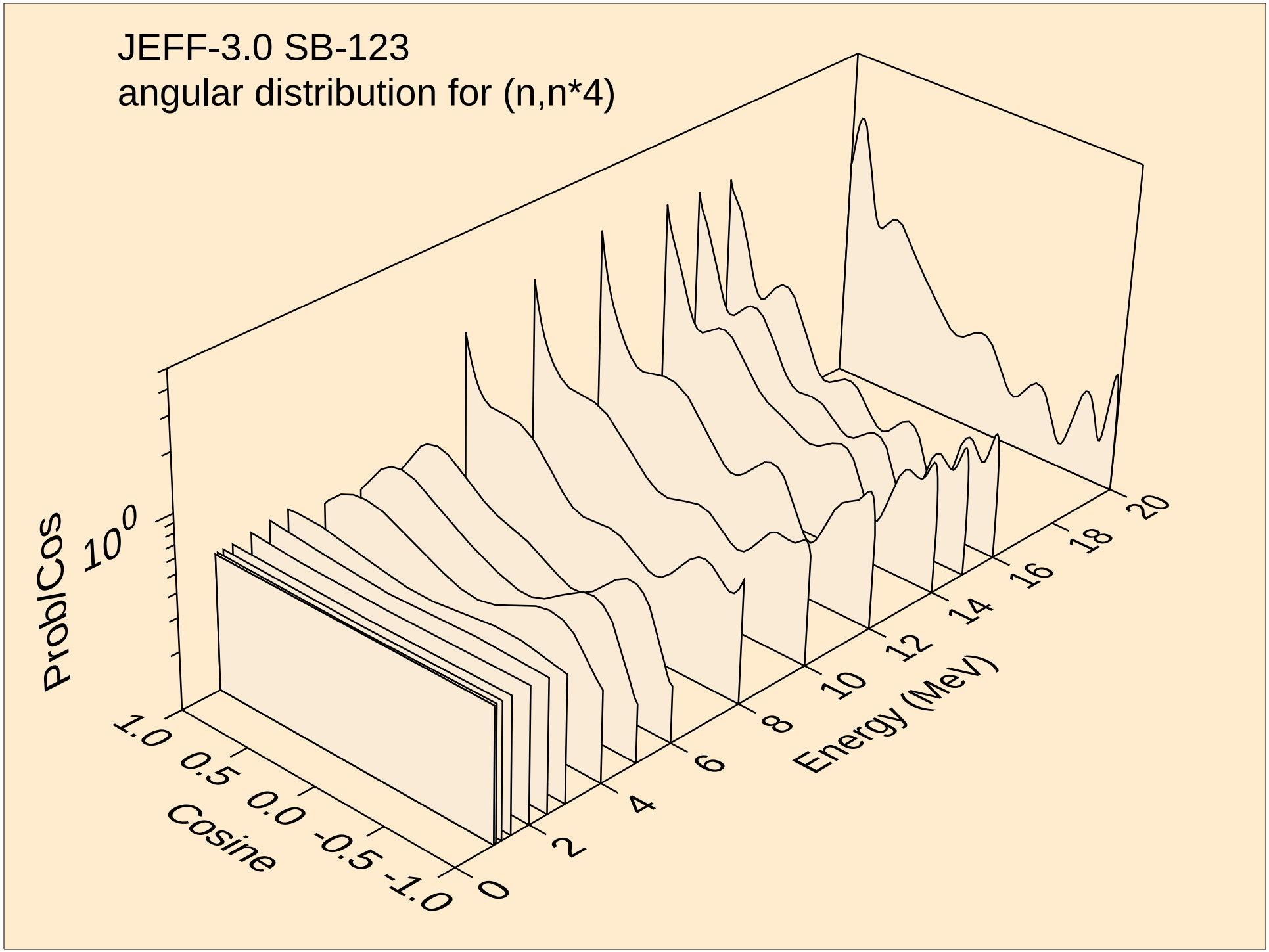

JEFF-3.0 SB-123
angular distribution for (n,n*)a
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

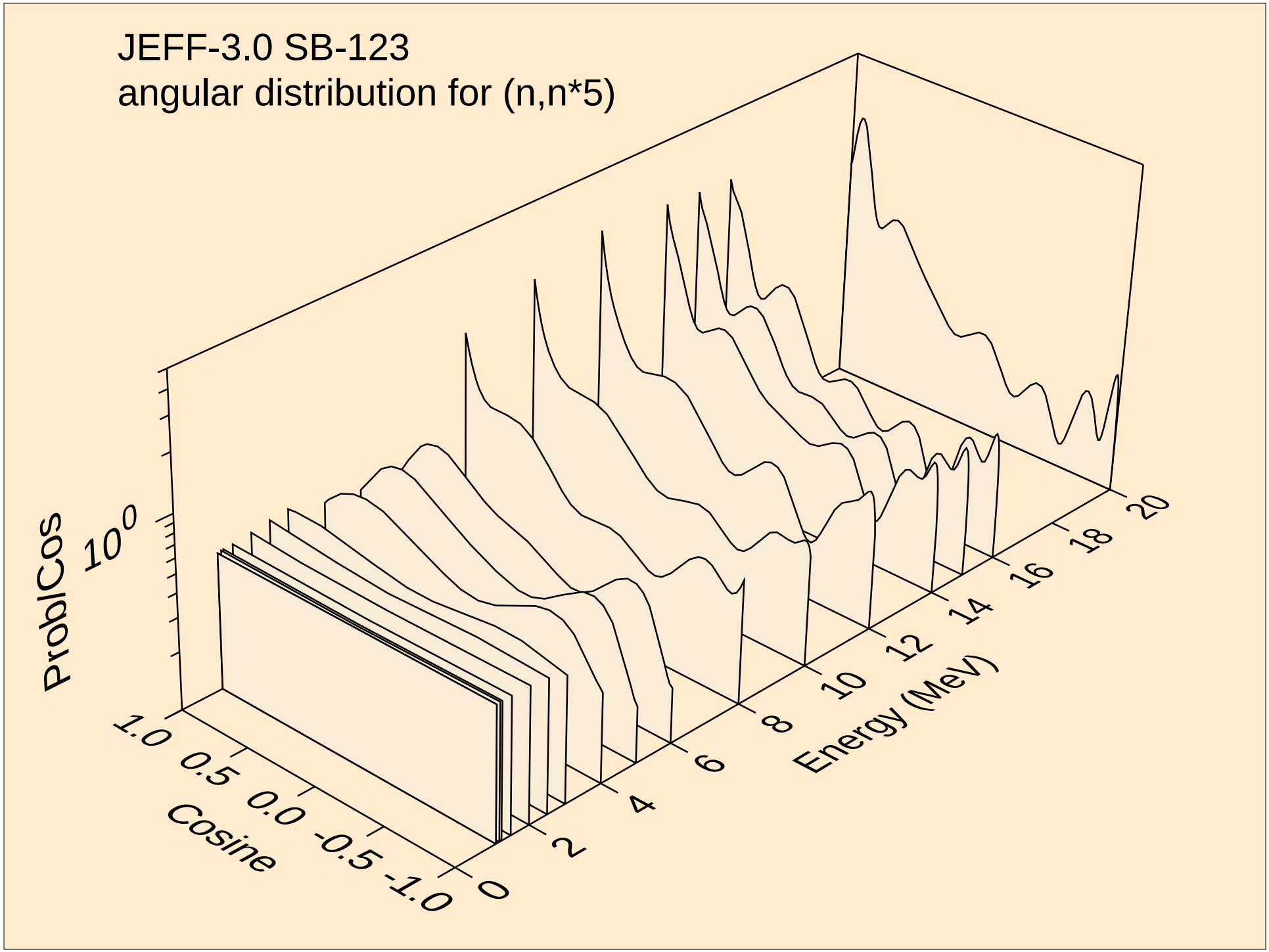

JEFF-3.0 SB-123
angular distribution for (n,n*)p
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
6
8
10
12
14
16
18
20
Energy (MeV)

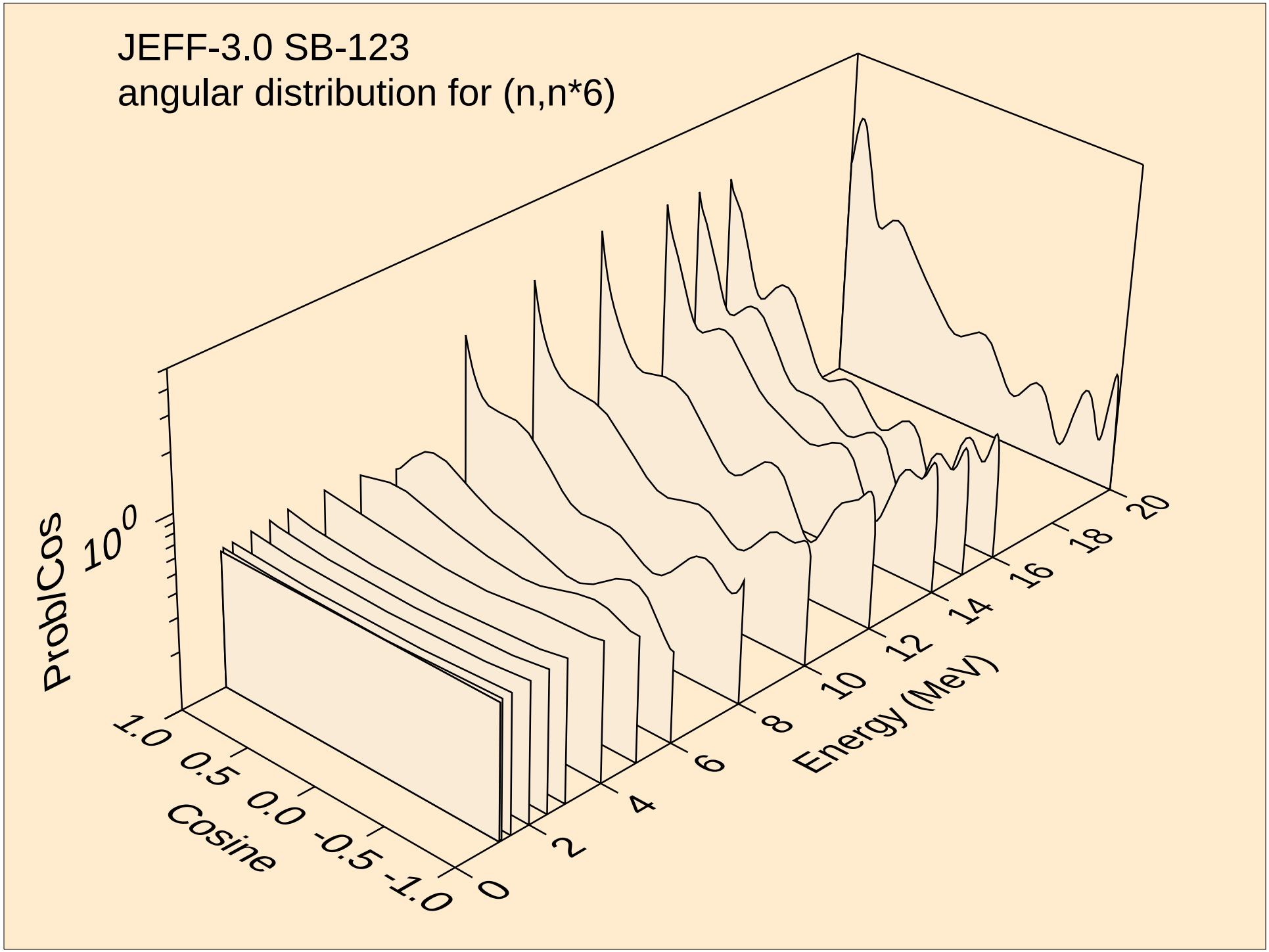

JEFF-3.0 SB-123
angular distribution for (n,n*1)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

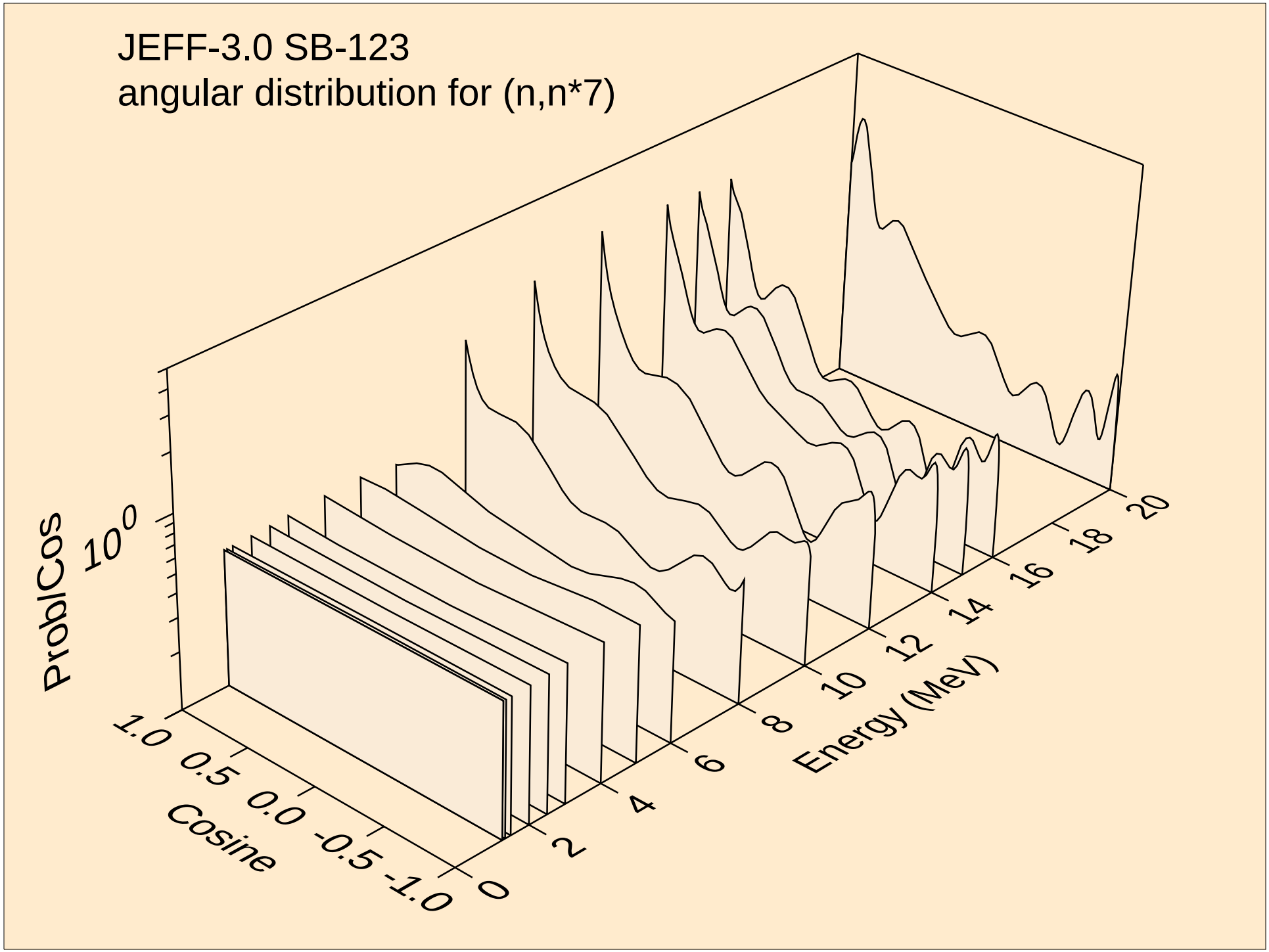

JEFF-3.0 SB-123
angular distribution for (n,n*2)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

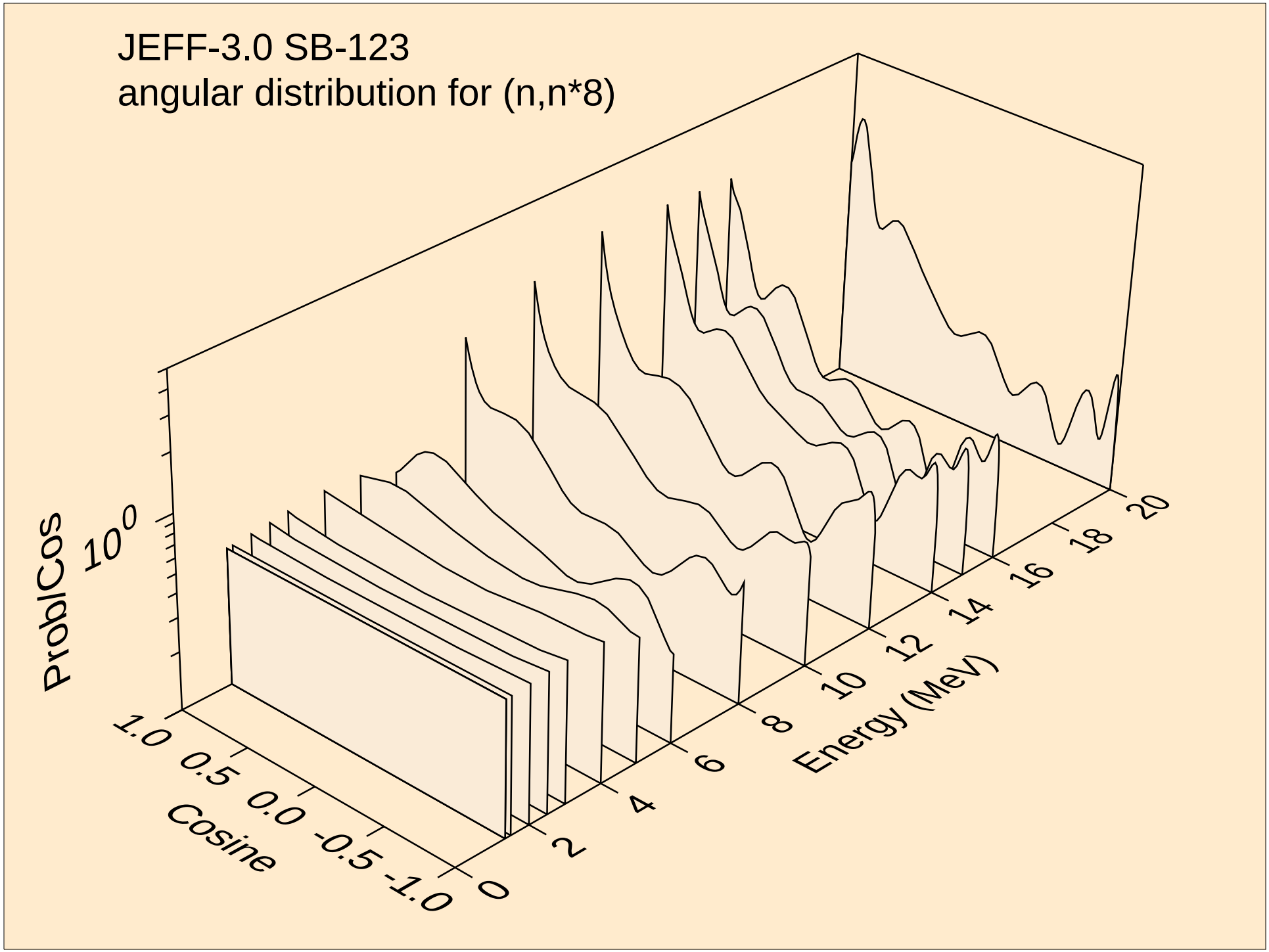

JEFF-3.0 SB-123
angular distribution for (n,n*3)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

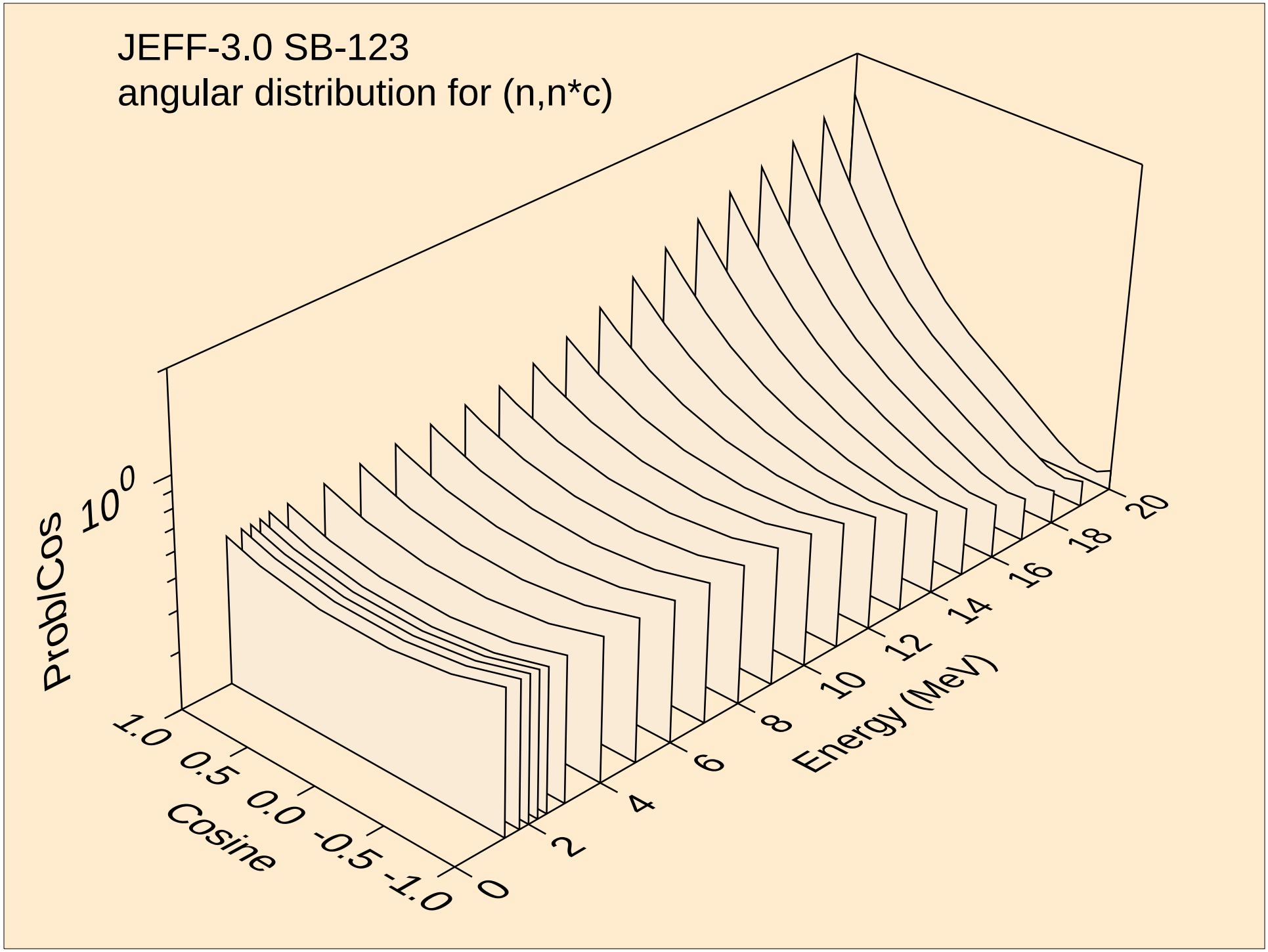

JEFF-3.0 SB-123
angular distribution for (n,n*4)
ProbCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

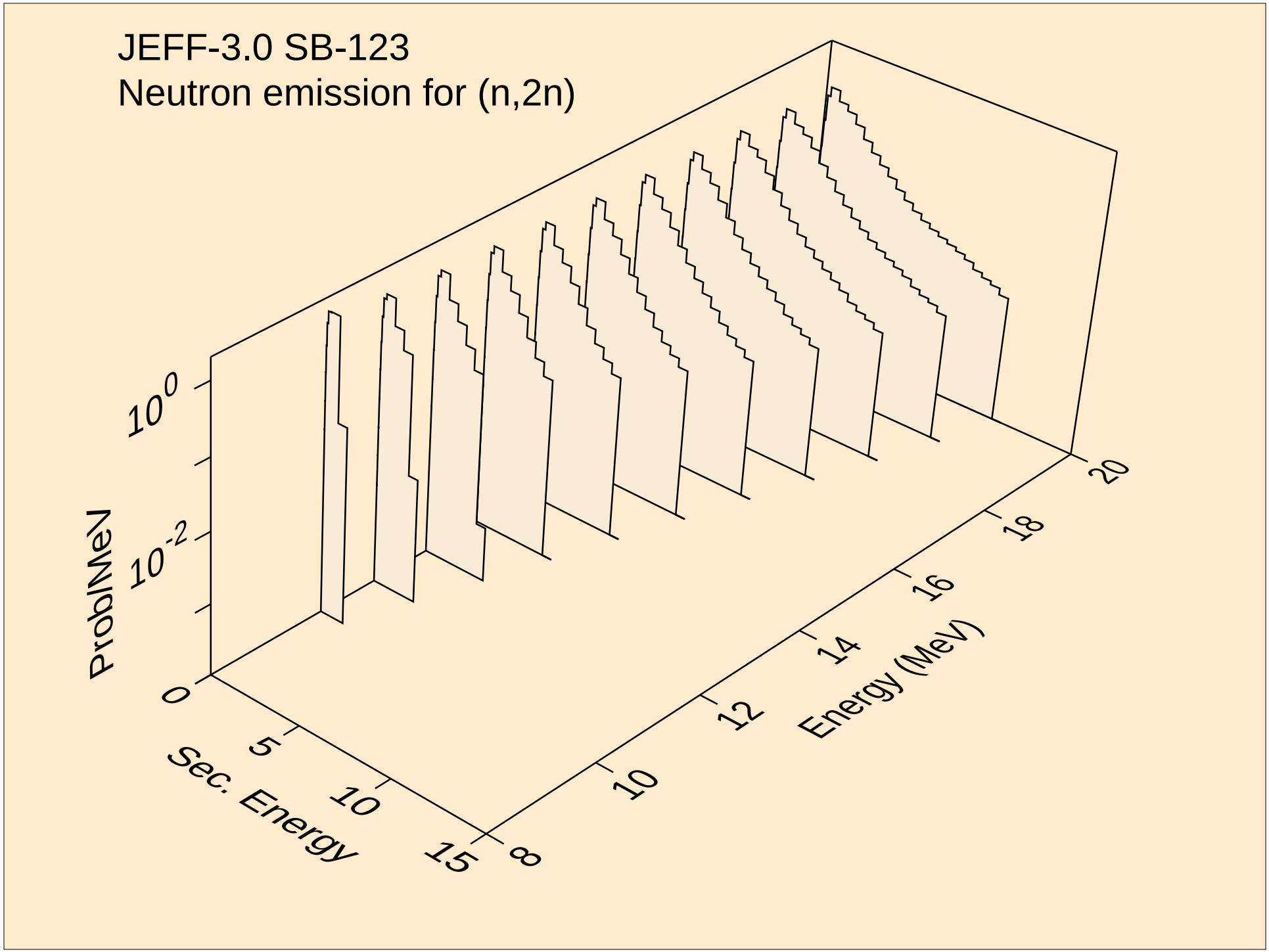

JEFF-3.0 SB-123
angular distribution for (n,n*5)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

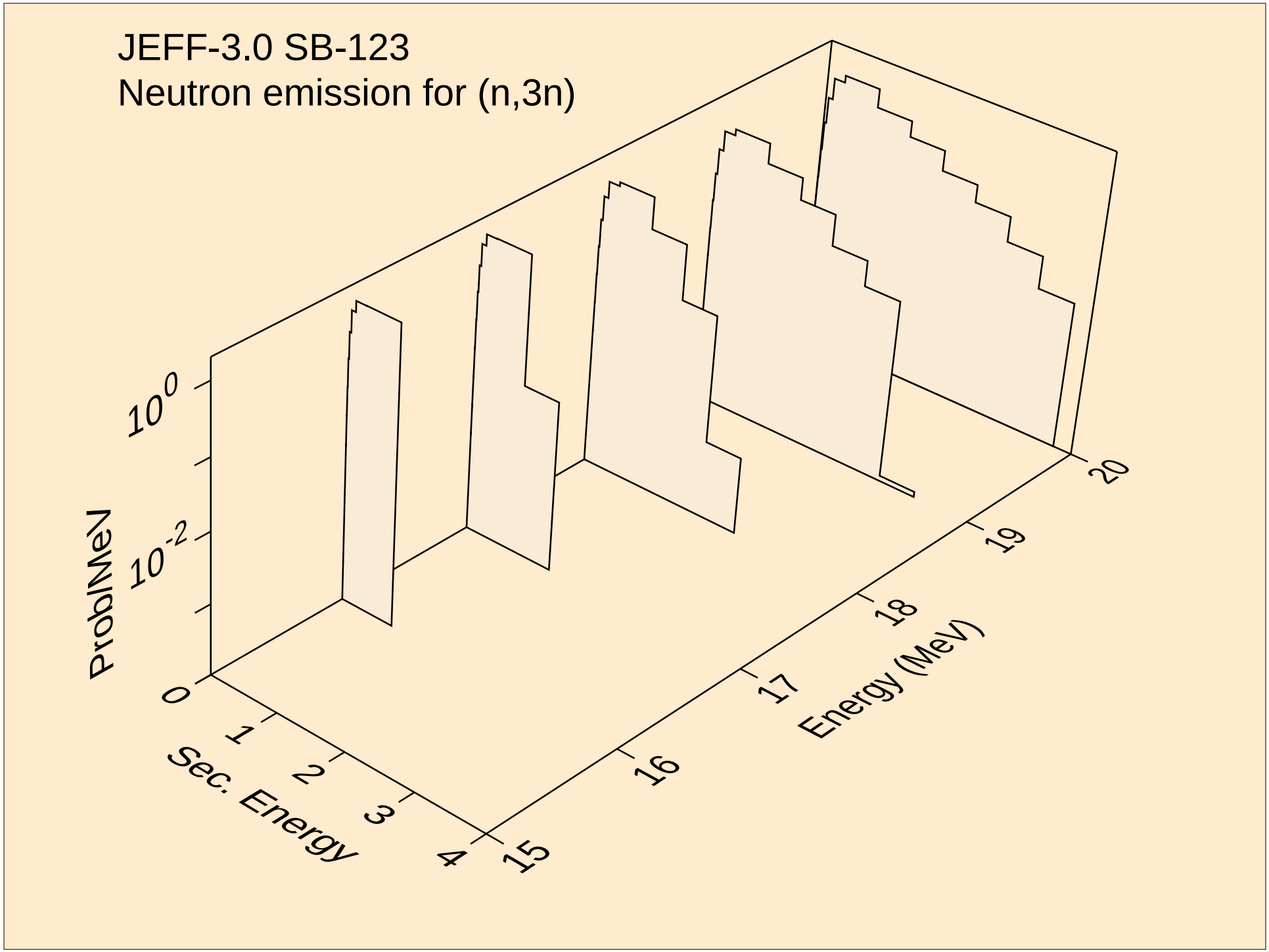

JEFF-3.0 SB-123
angular distribution for (n,n*6)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

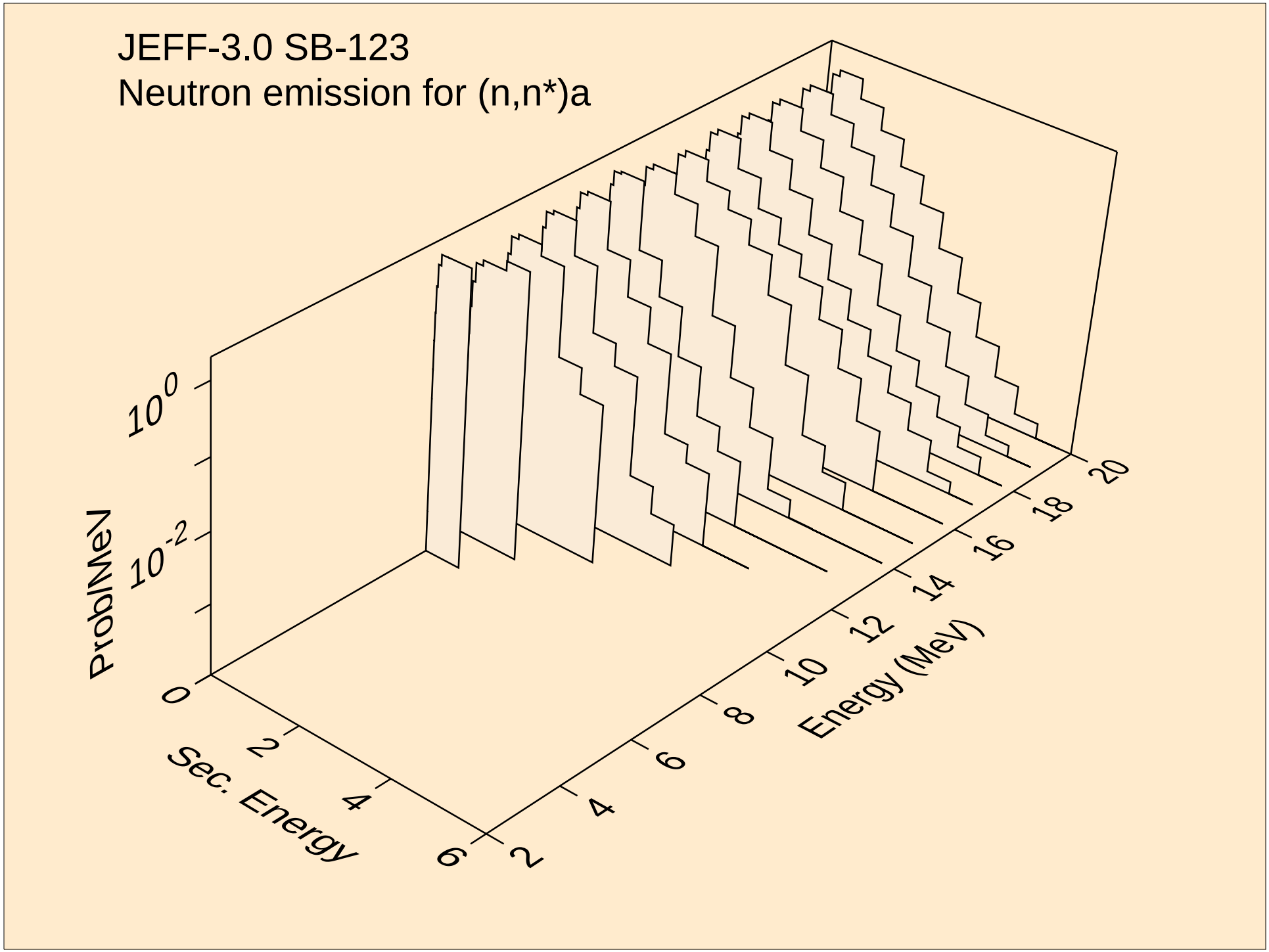

JEFF-3.0 SB-123
angular distribution for (n,n*7)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

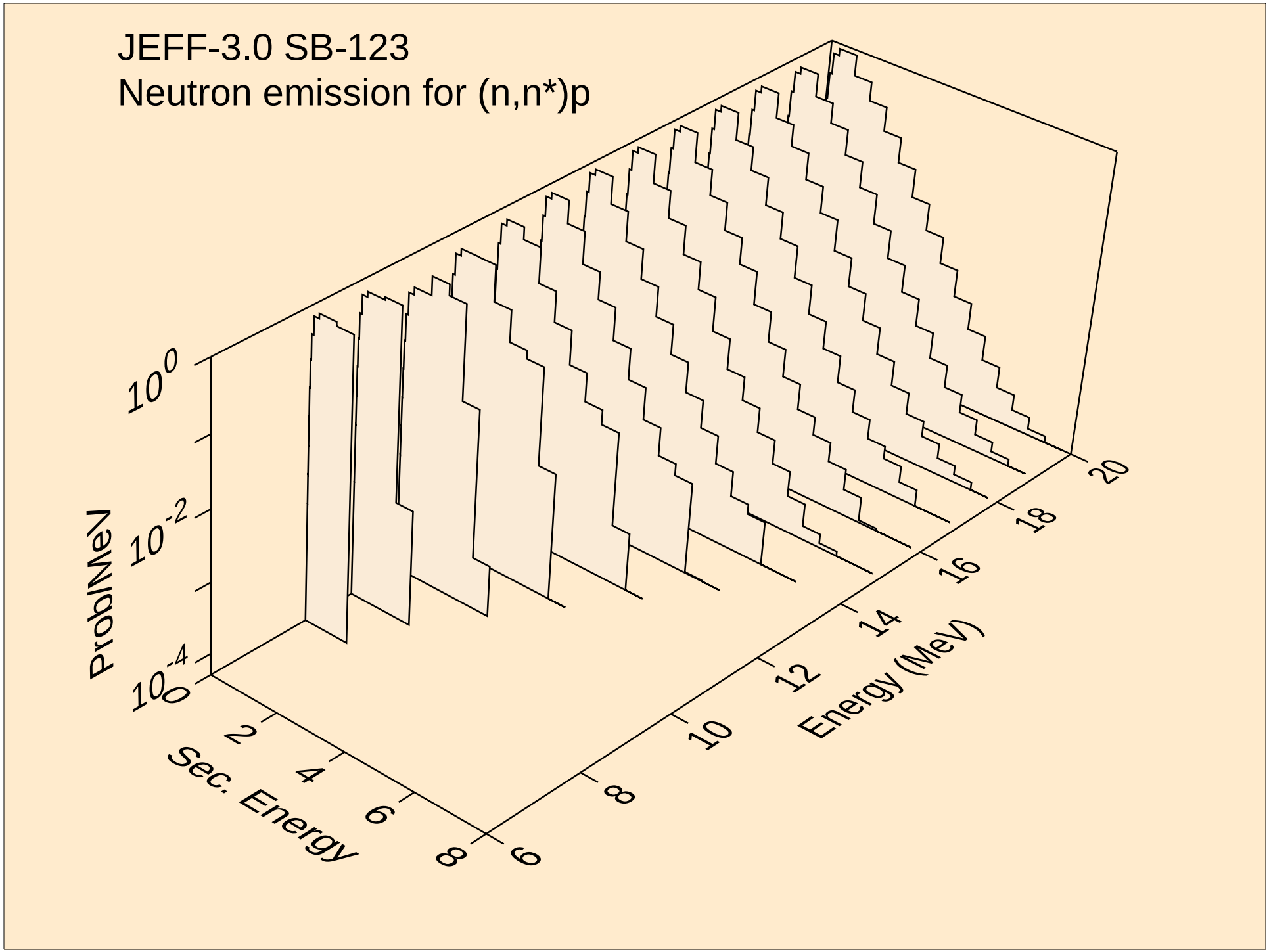

JEFF-3.0 SB-123
angular distribution for (n,n*8)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

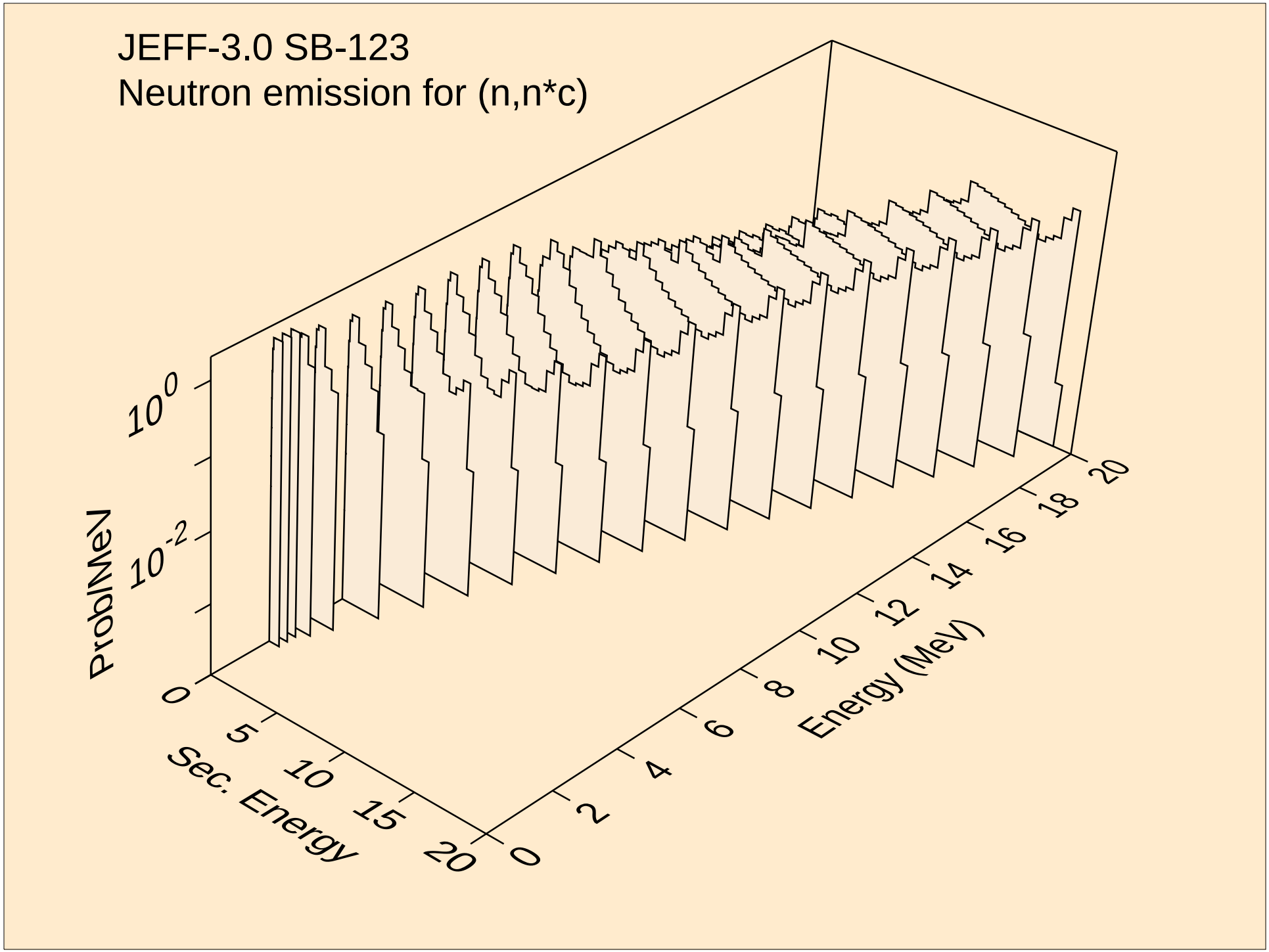

JEFF-3.0 SB-123
angular distribution for (n,n*c)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 SB-123
Neutron emission for (n,2n)
Prob/MeV
10^{0}
10^{-2}
0
5
10
15
Sec. Energy
8
10
12
14
16
18
20
Energy (MeV)


JEFF-3.0 SB-123
Neutron emission for (n,3n)
Prob/MeV
10^{0}
10^{-2}
0
1
2
3
4
Sec. Energy
15
16
17
18
19
20
Energy (MeV)


JEFF-3.0 SB-123
Neutron emission for (n,n*)a
Prob/MeV
10^0
10^-2
0
Sec. Energy
2
4
6
Energy (MeV)
2
4
6
8
10
12
14
16
18
20


JEFF-3.0 SB-123
Neutron emission for (n,n*)p
Prob/MeV
10^{0}
10^{-2}
10^{-4}
Sec. Energy
2
4
6
8
Energy (MeV)
6
8
10
12
14
16
18
20


JEFF-3.0 SB-123
Neutron emission for (n,n*c)
Prob/MeV
10^{0}
10^{-2}
0
5
10
15
20
Sec. Energy
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)