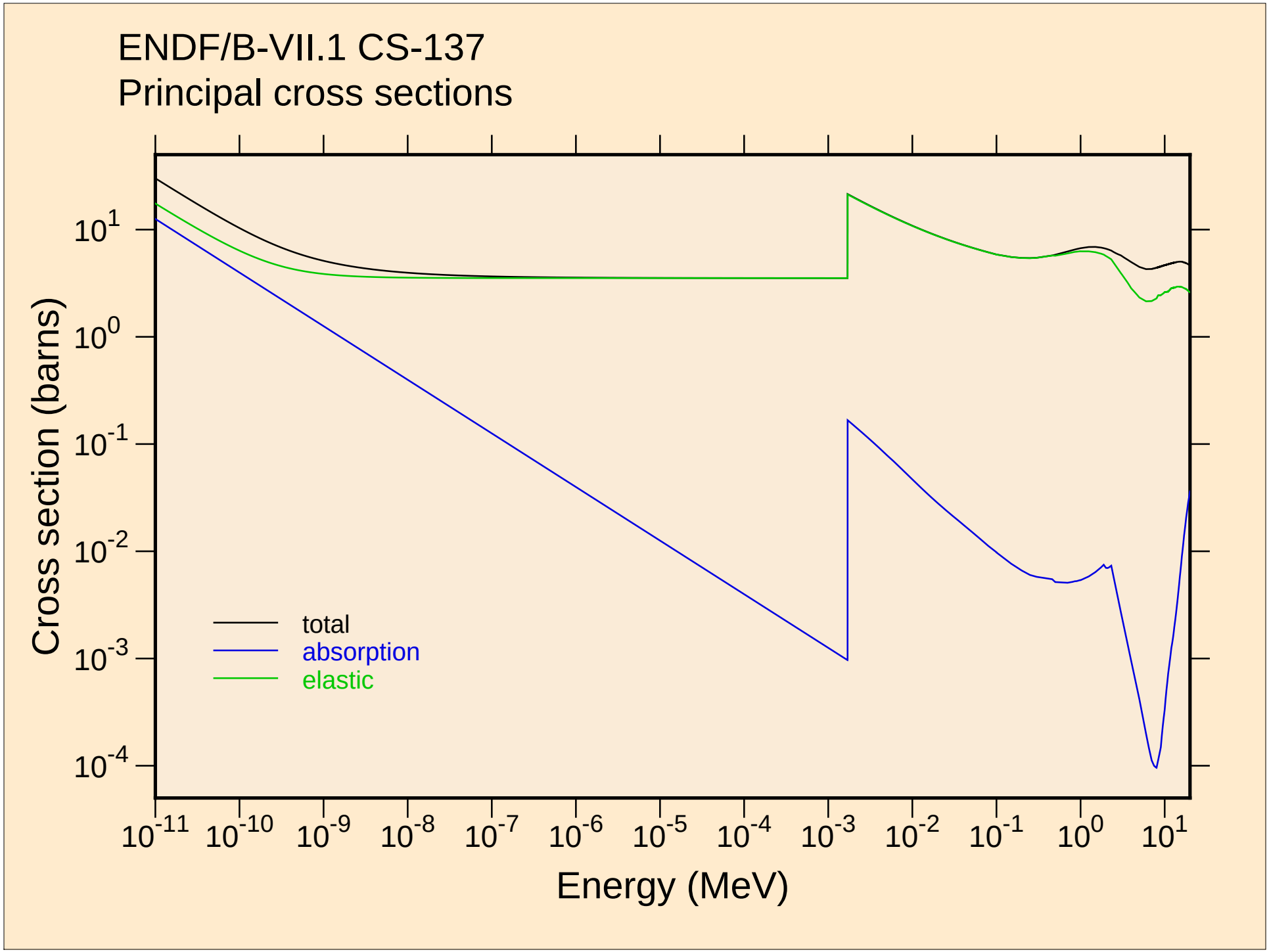
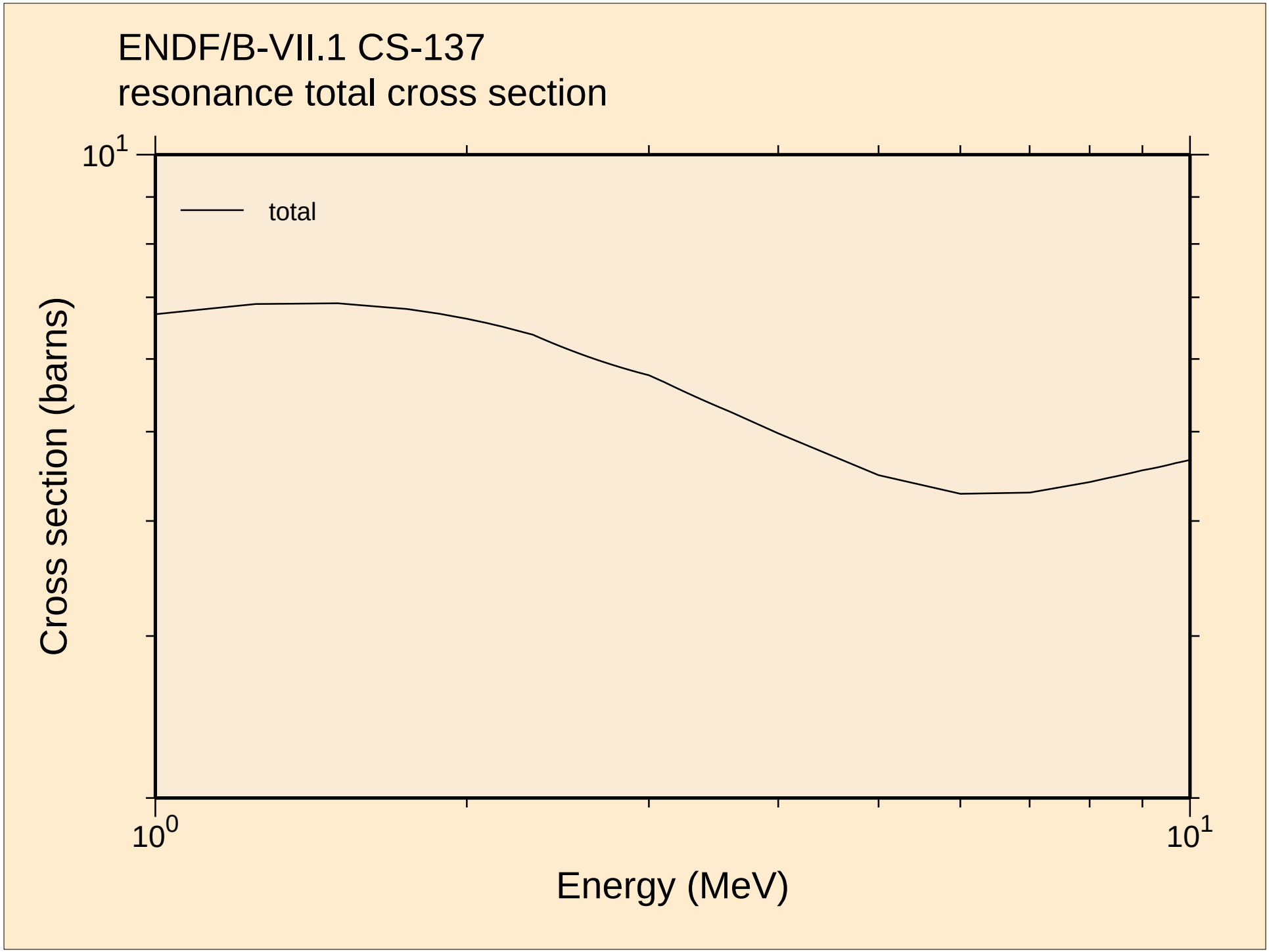
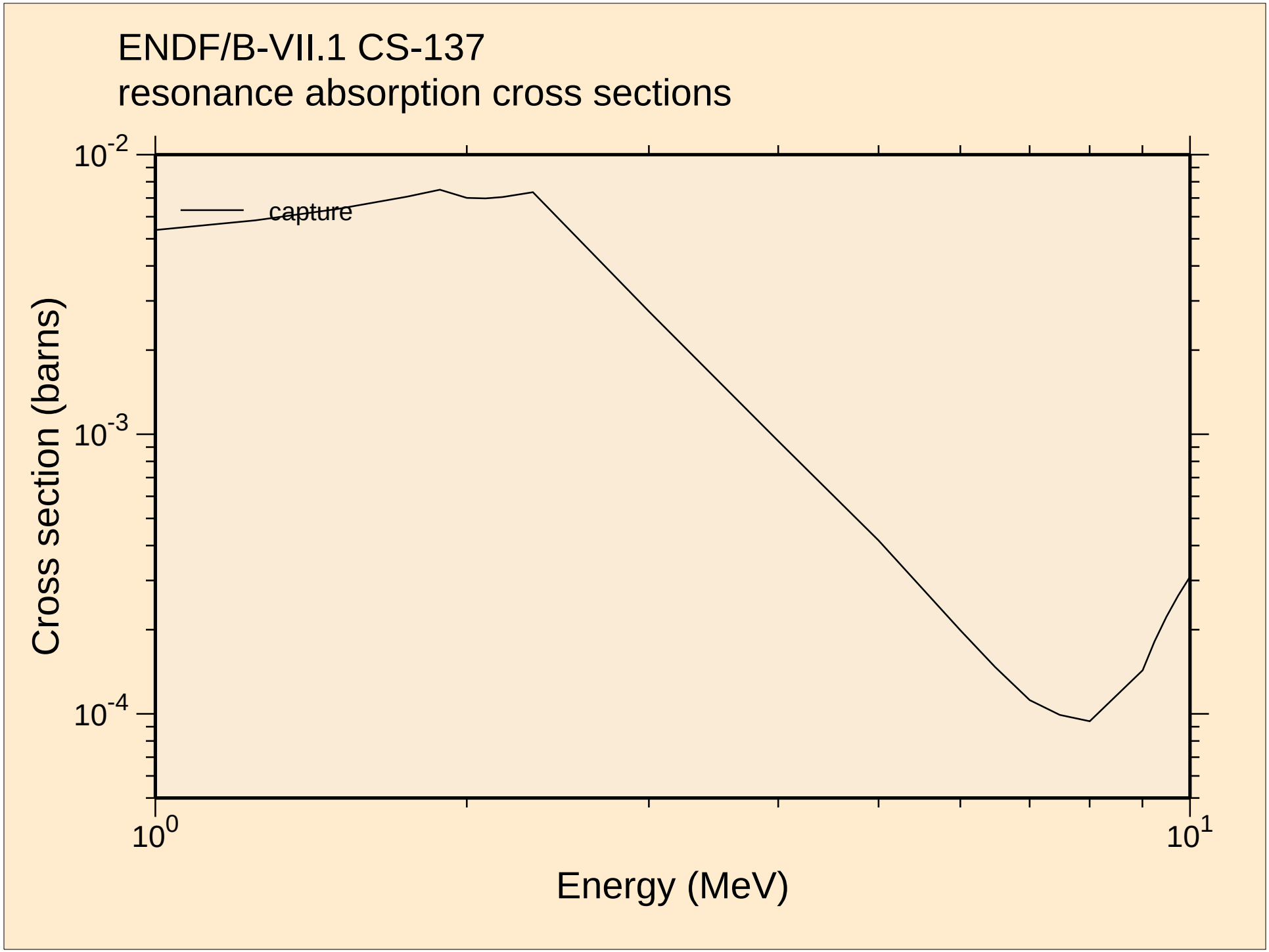
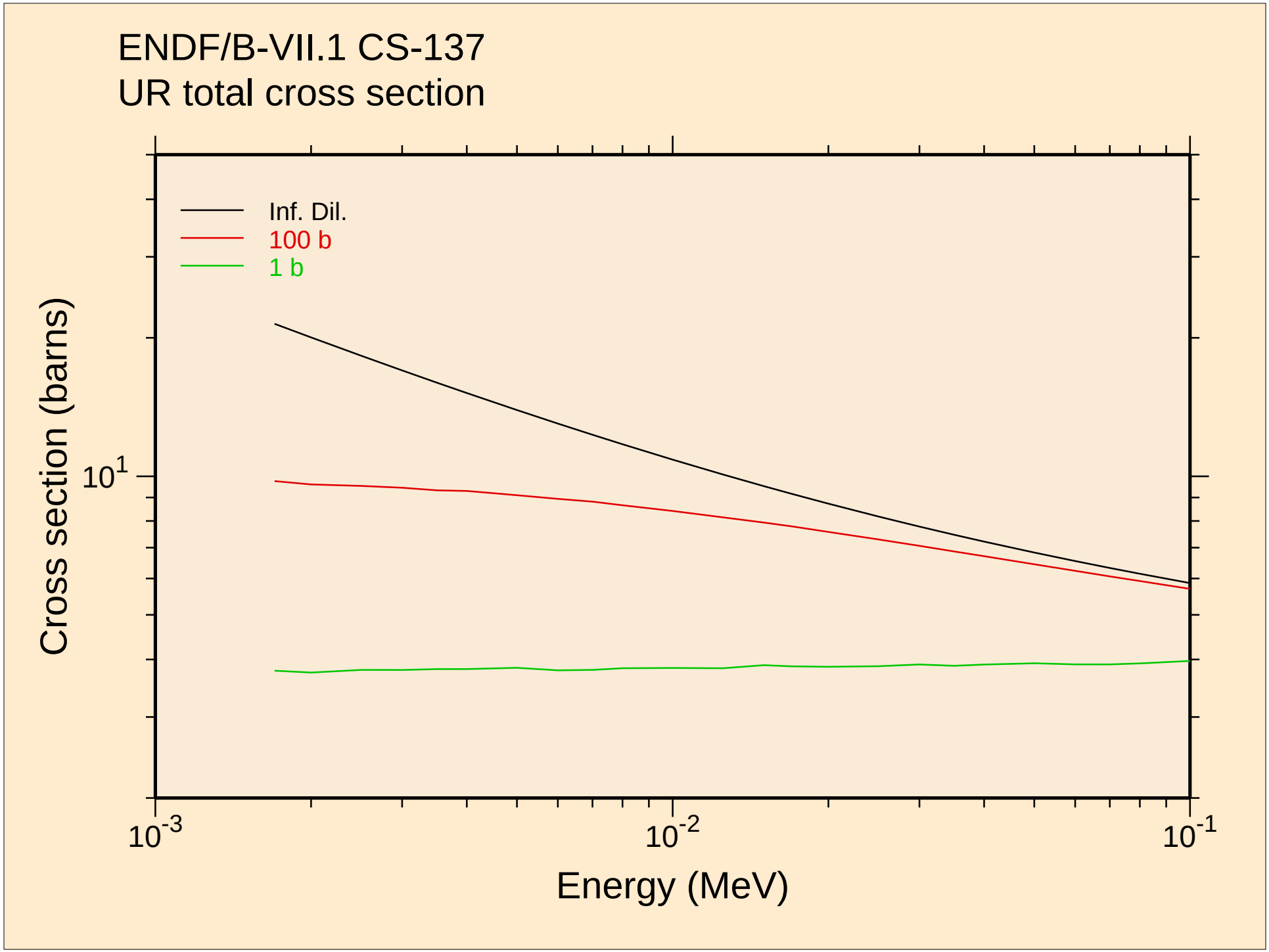
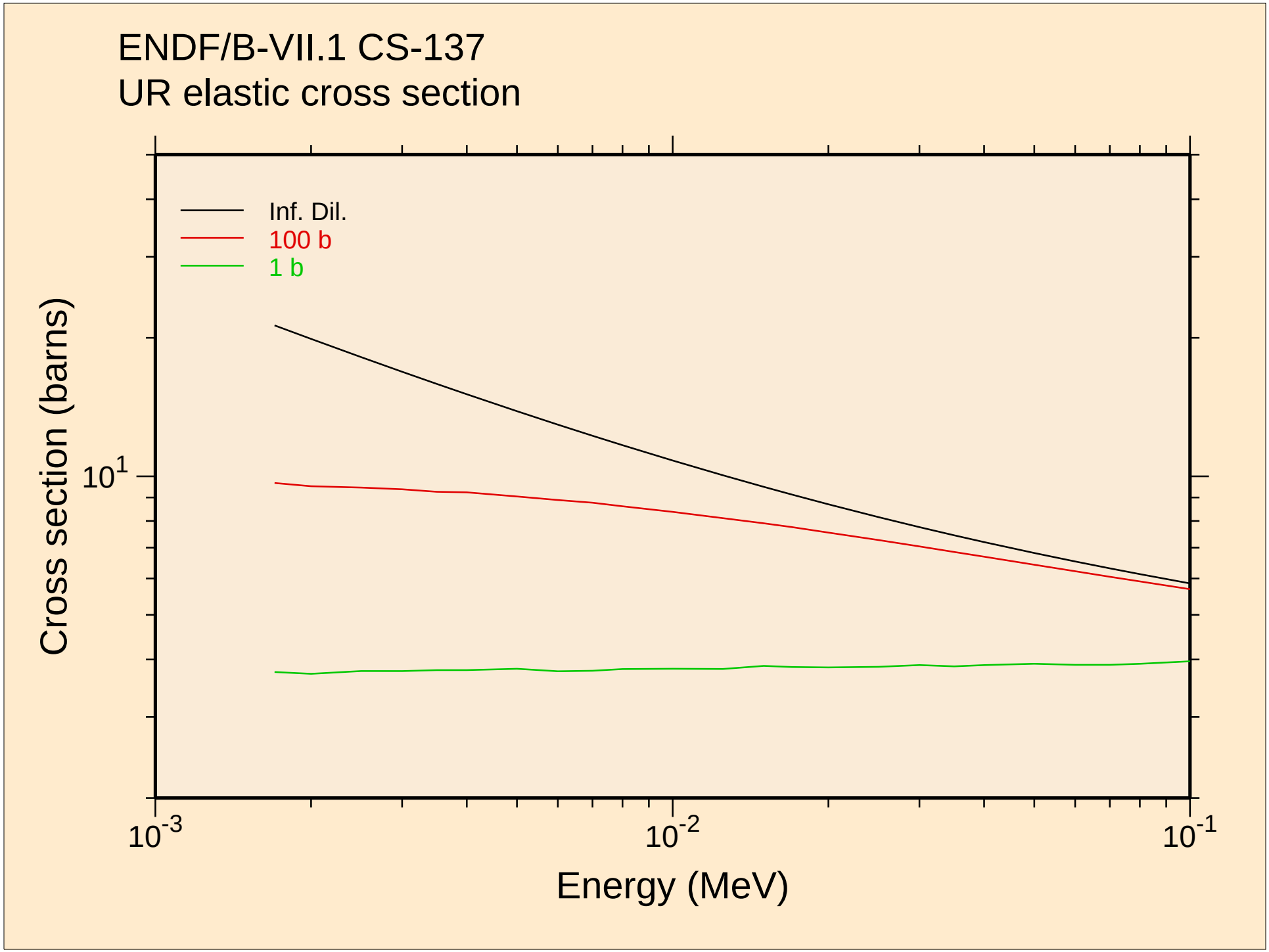
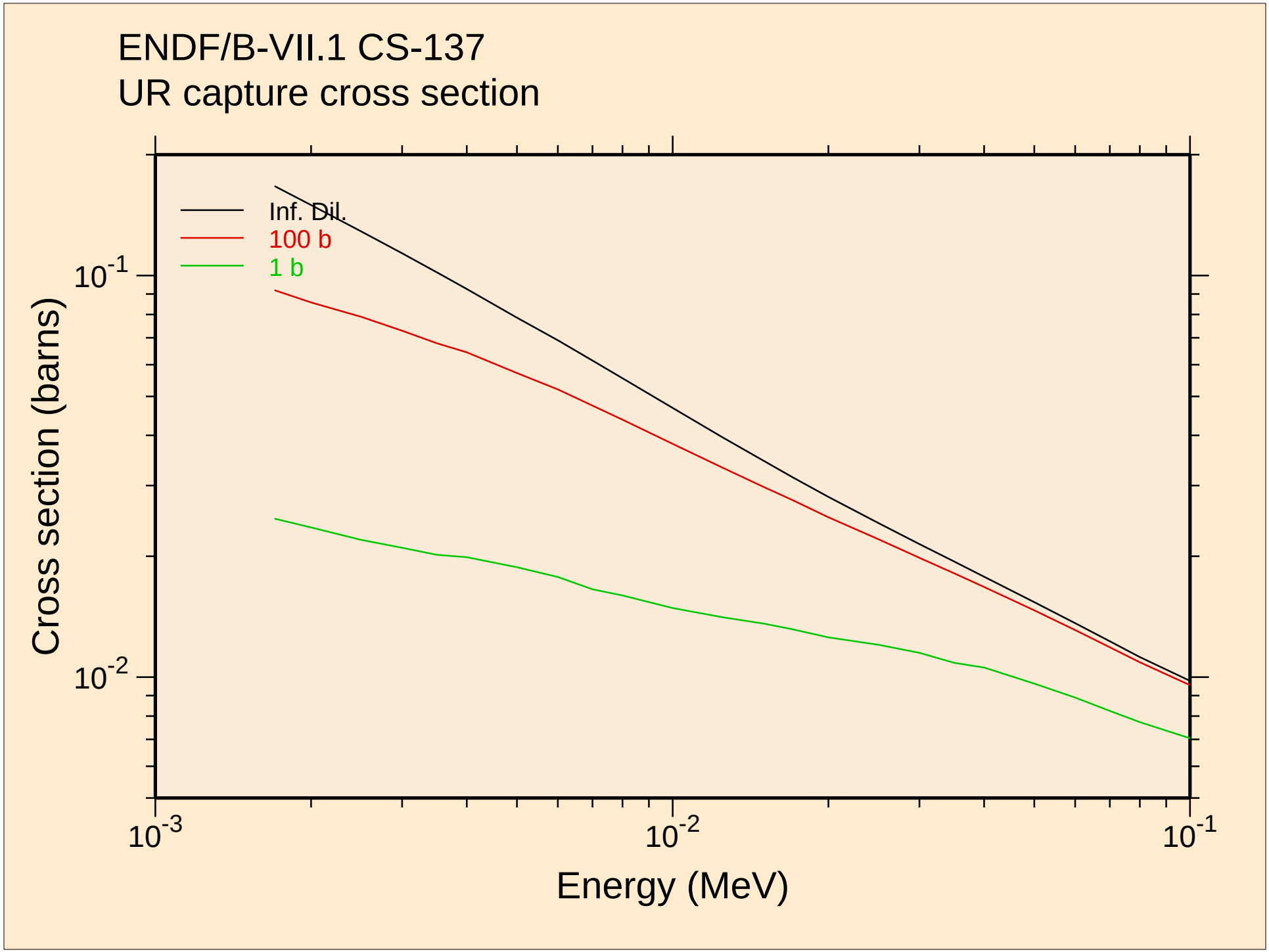

ENDF/B-VII.1 CS-137
Principal cross sections
Cross section (barns)
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
total
absorption
elastic
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

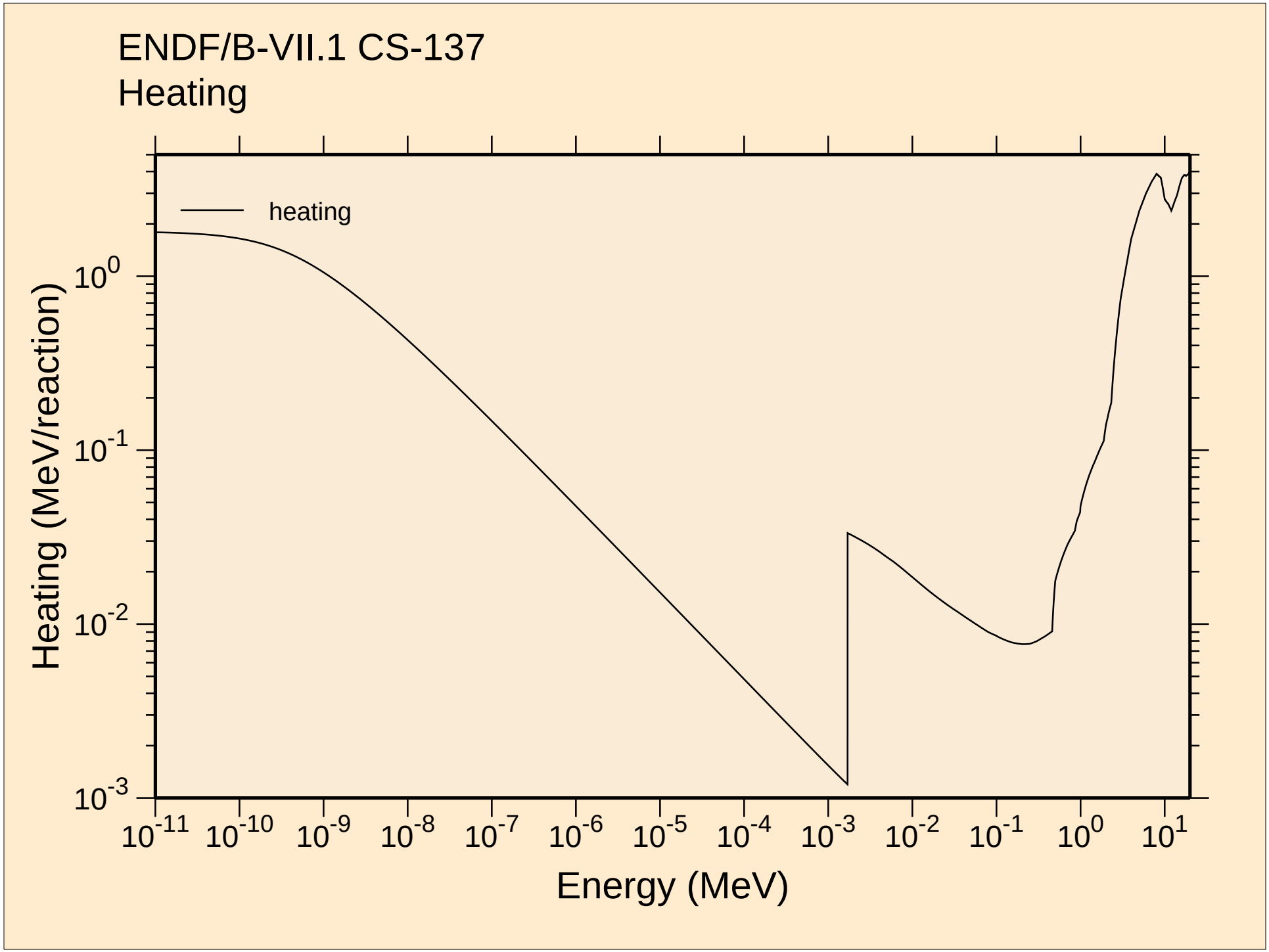

ENDF/B-VII.1 CS-137
resonance total cross section
10^1
total
Cross section (barns)
10^0
10^1
Energy (MeV)

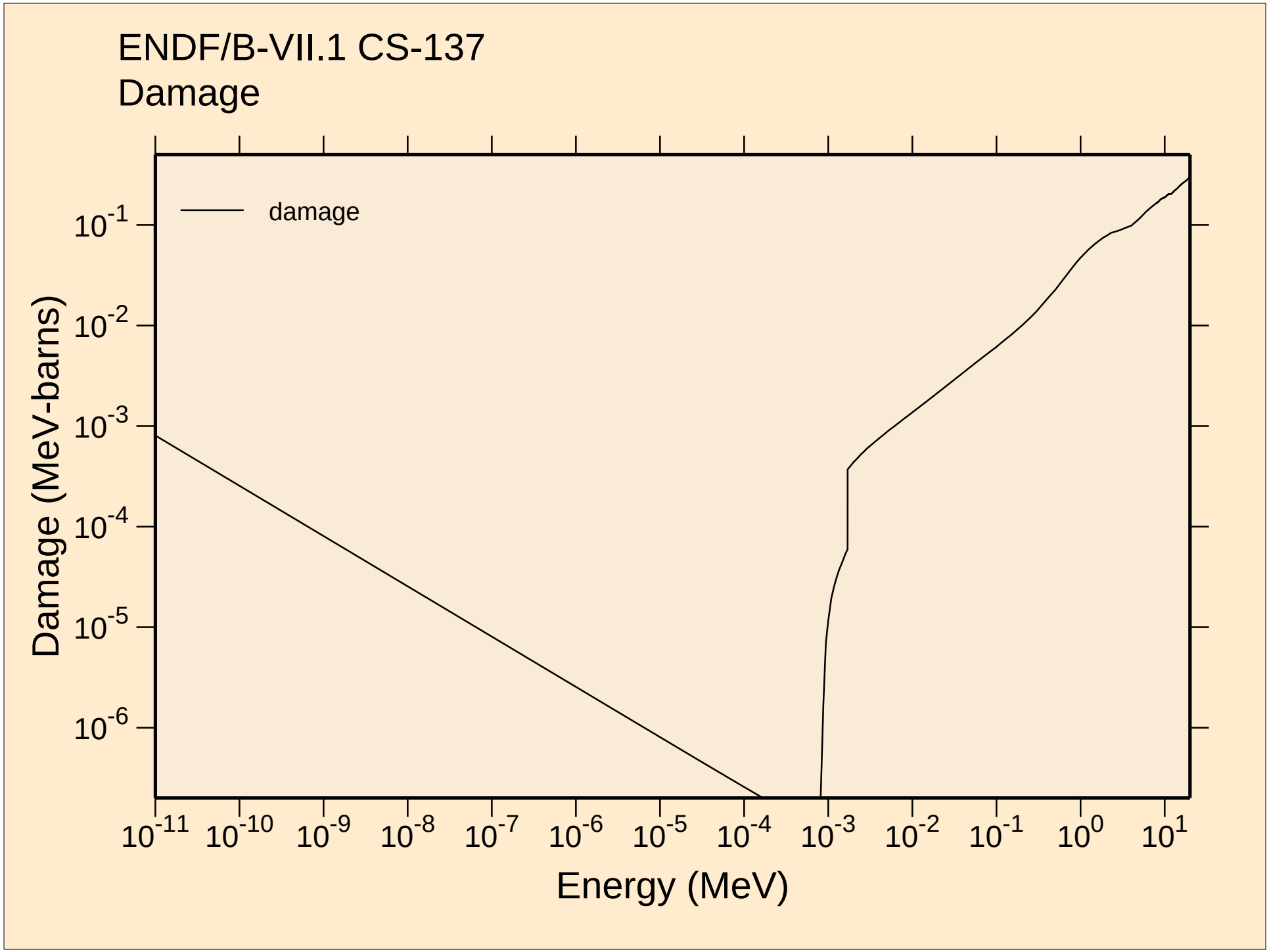

ENDF/B-VII.1 CS-137
resonance absorption cross sections
capture
Cross section (barns)
10-2
10-3
10-4
100
101
Energy (MeV)

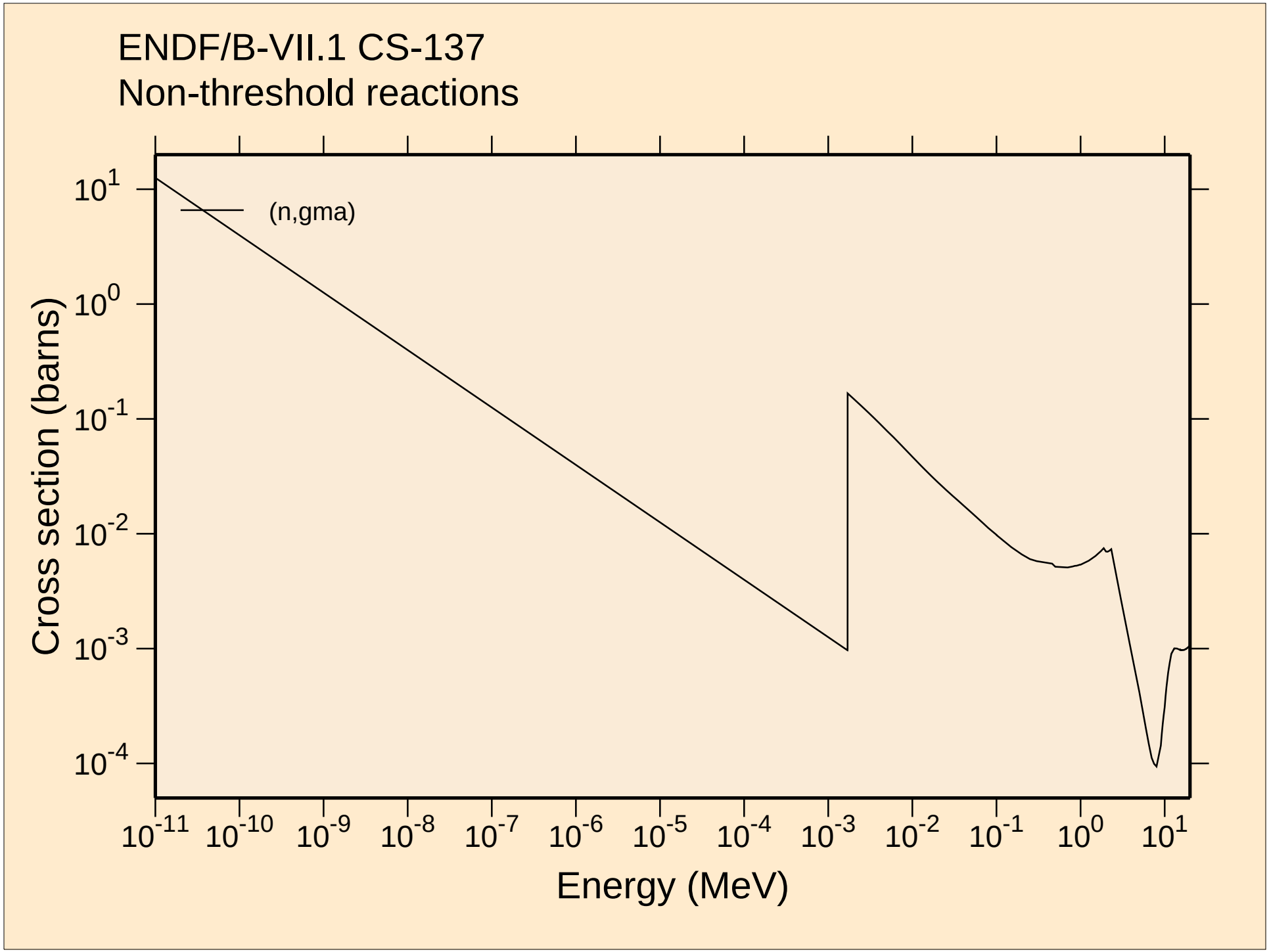

ENDF/B-VII.1 CS-137
UR total cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-3
10^-2
10^-1
Energy (MeV)

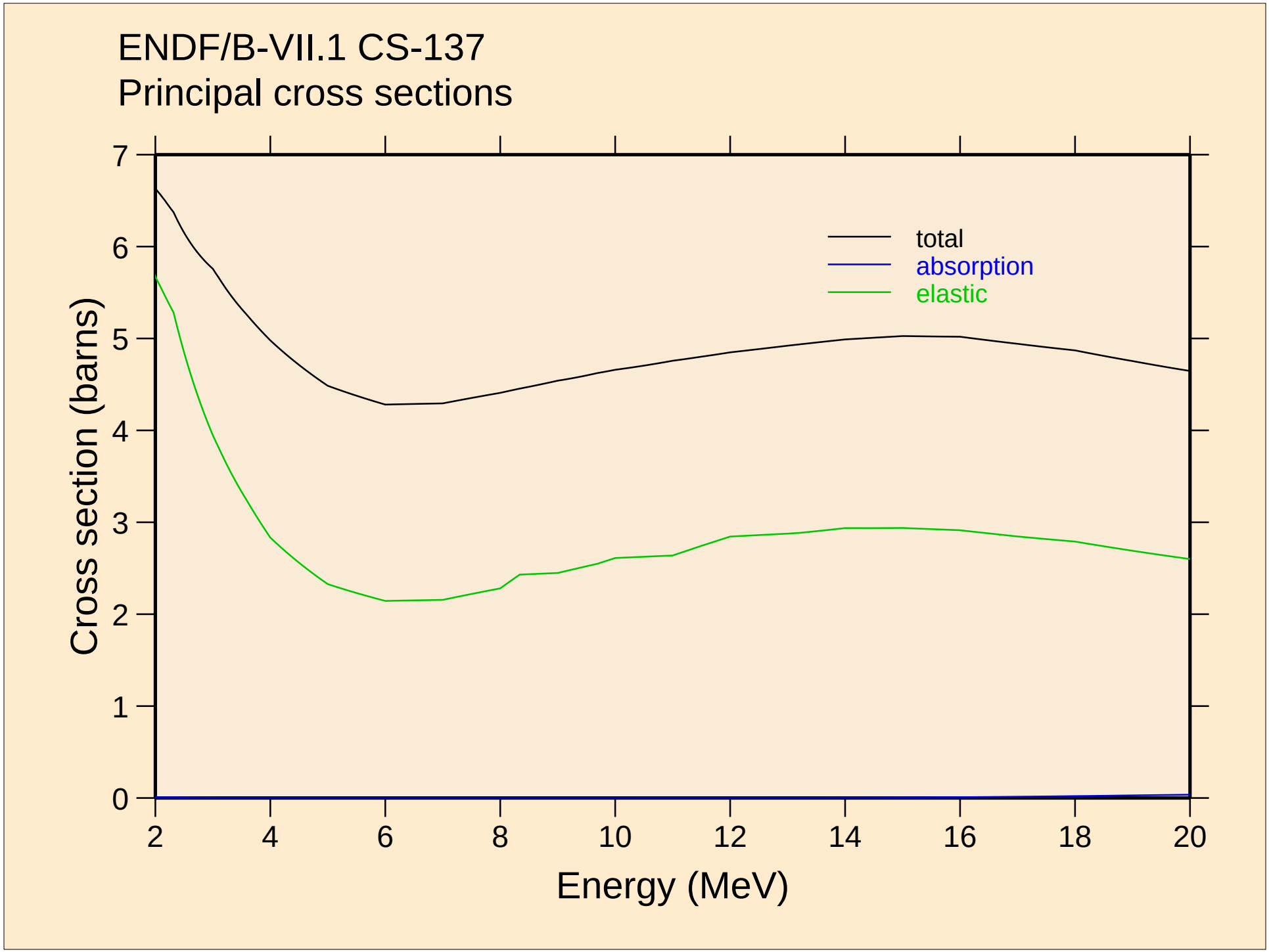

ENDF/B-VII.1 CS-137
UR elastic cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-3
10^-2
10^-1
Energy (MeV)

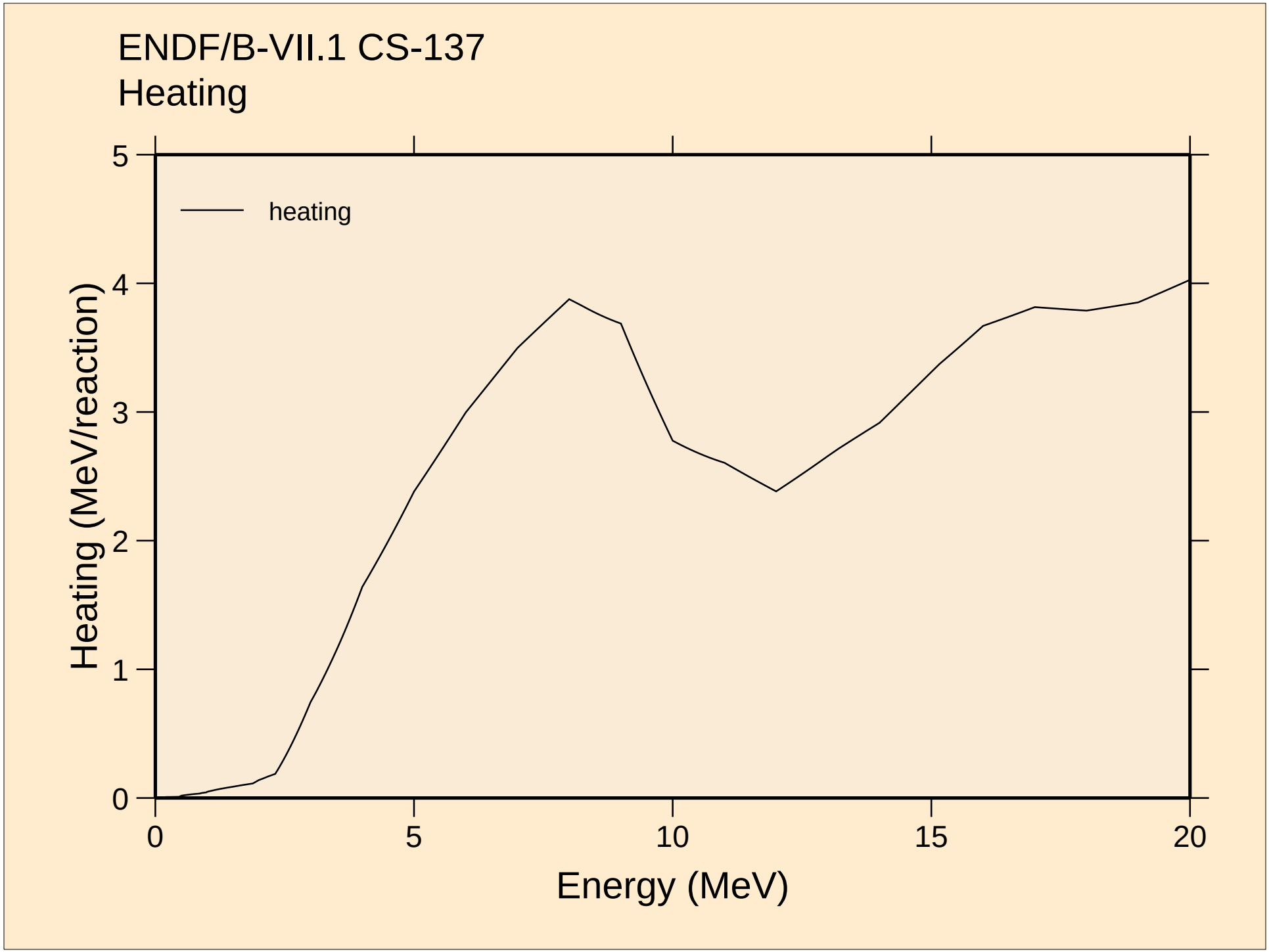

ENDF/B-VII.1 CS-137
UR capture cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10-1
10-2
10-3
10-2
10-1
Energy (MeV)

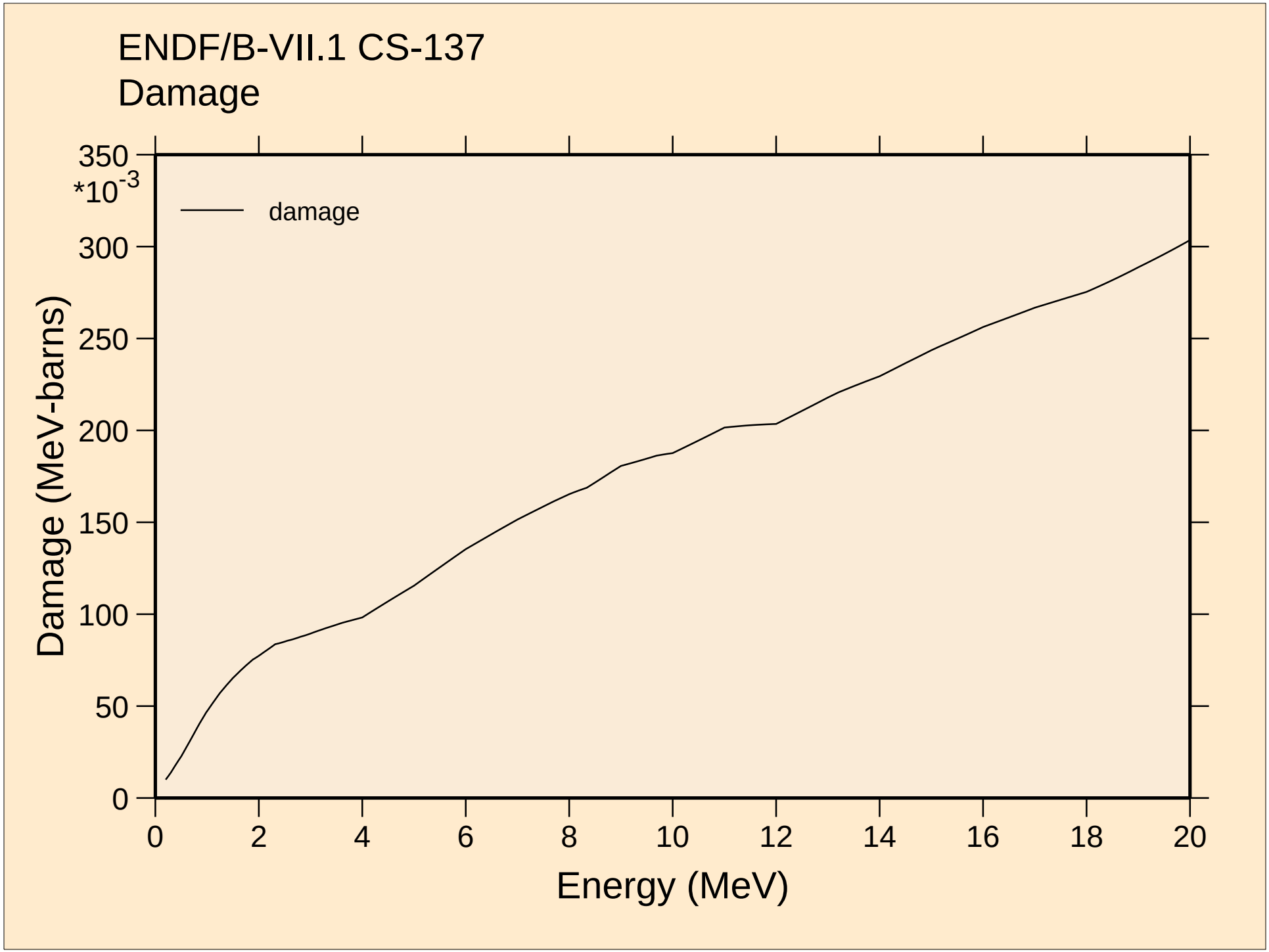

ENDF/B-VII.1 CS-137
Heating
heating
Heating (MeV/reaction)
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-11} 10^{-10} 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1}
Energy (MeV)

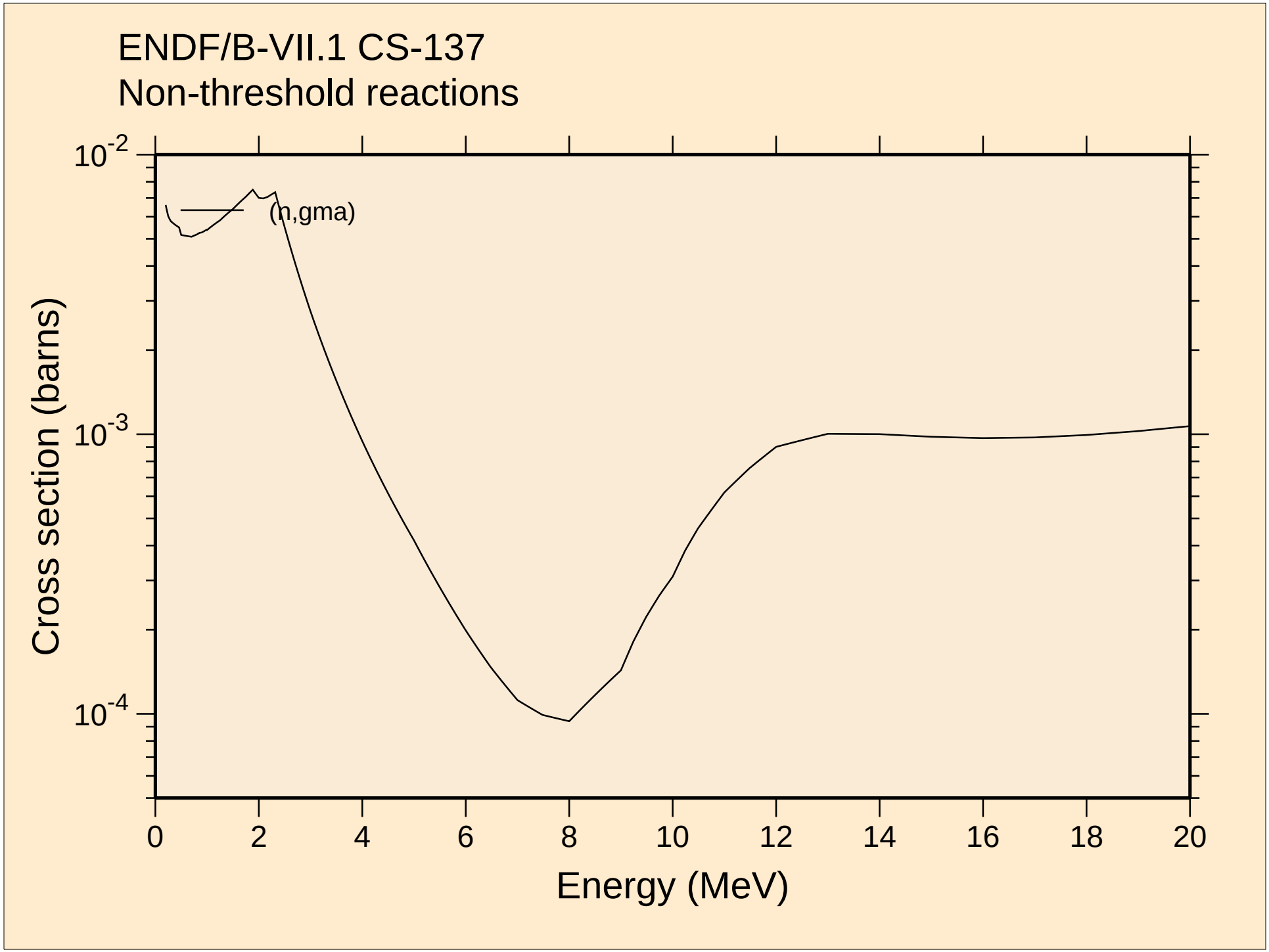

ENDF/B-VII.1 CS-137
Damage
damage
Damage (MeV-barns)
10-1
10-2
10-3
10-4
10-5
10-6
10-11 10-10 10-9 10-8 10-7 10-6 10-5 10-4 10-3 10-2 10-1 100 101
Energy (MeV)

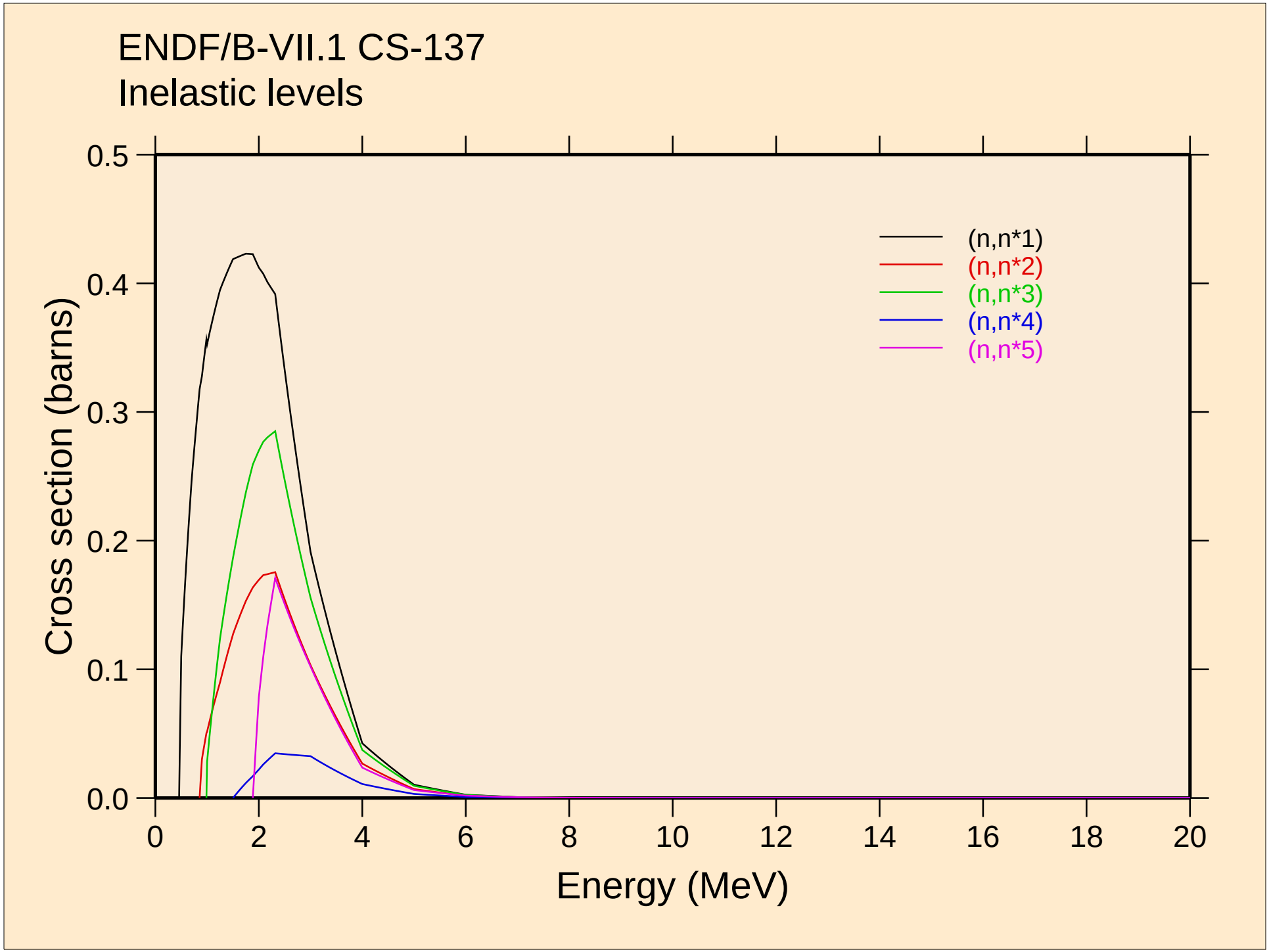

ENDF/B-VII.1 CS-137
Non-threshold reactions
(n,gma)
Cross section (barns)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-11 10^-10 10^-9 10^-8 10^-7 10^-6 10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1
Energy (MeV)

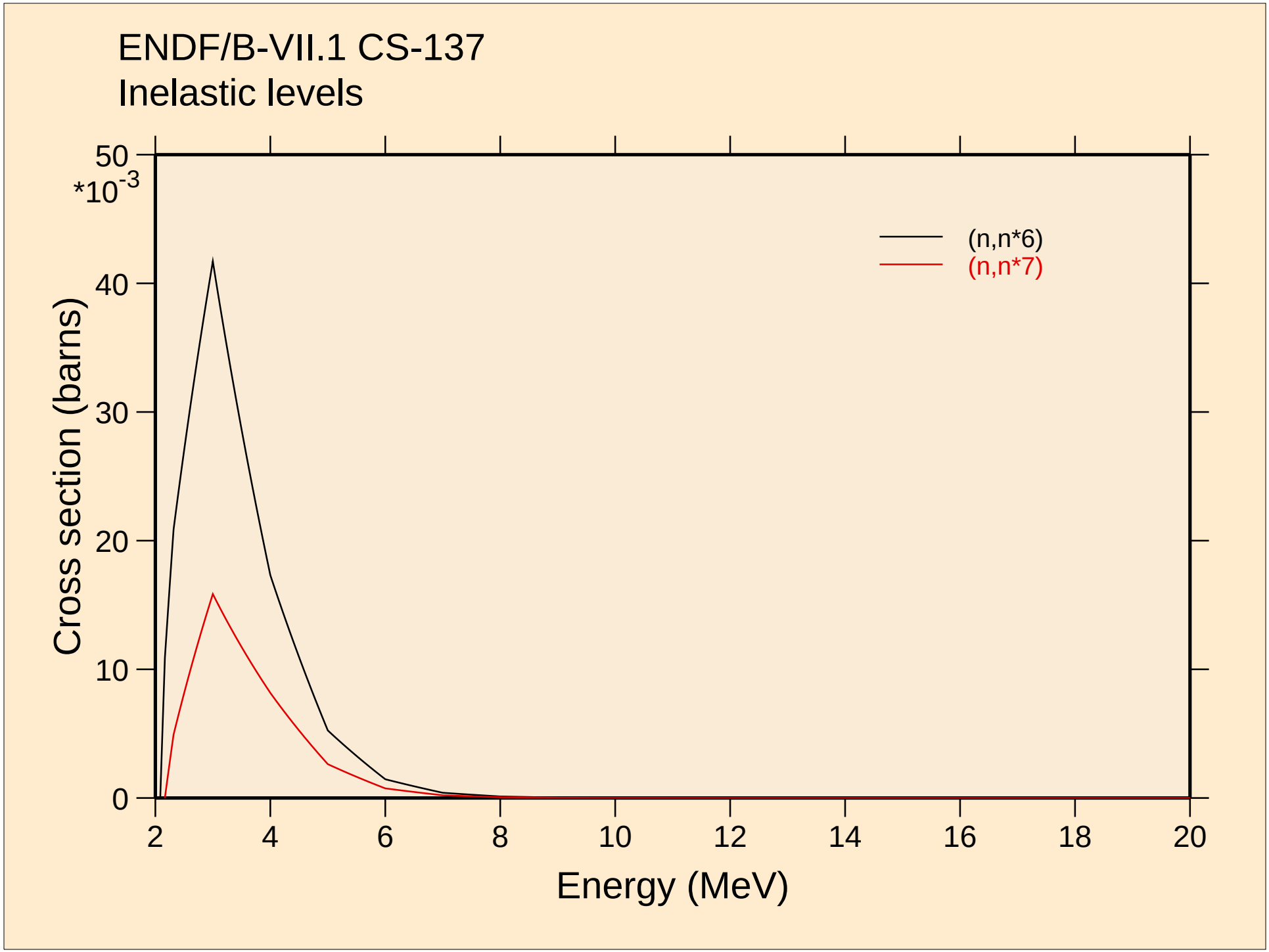

ENDF/B-VII.1 CS-137
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
0
1
2
3
4
5
6
7
2
4
6
8
10
12
14
16
18
20

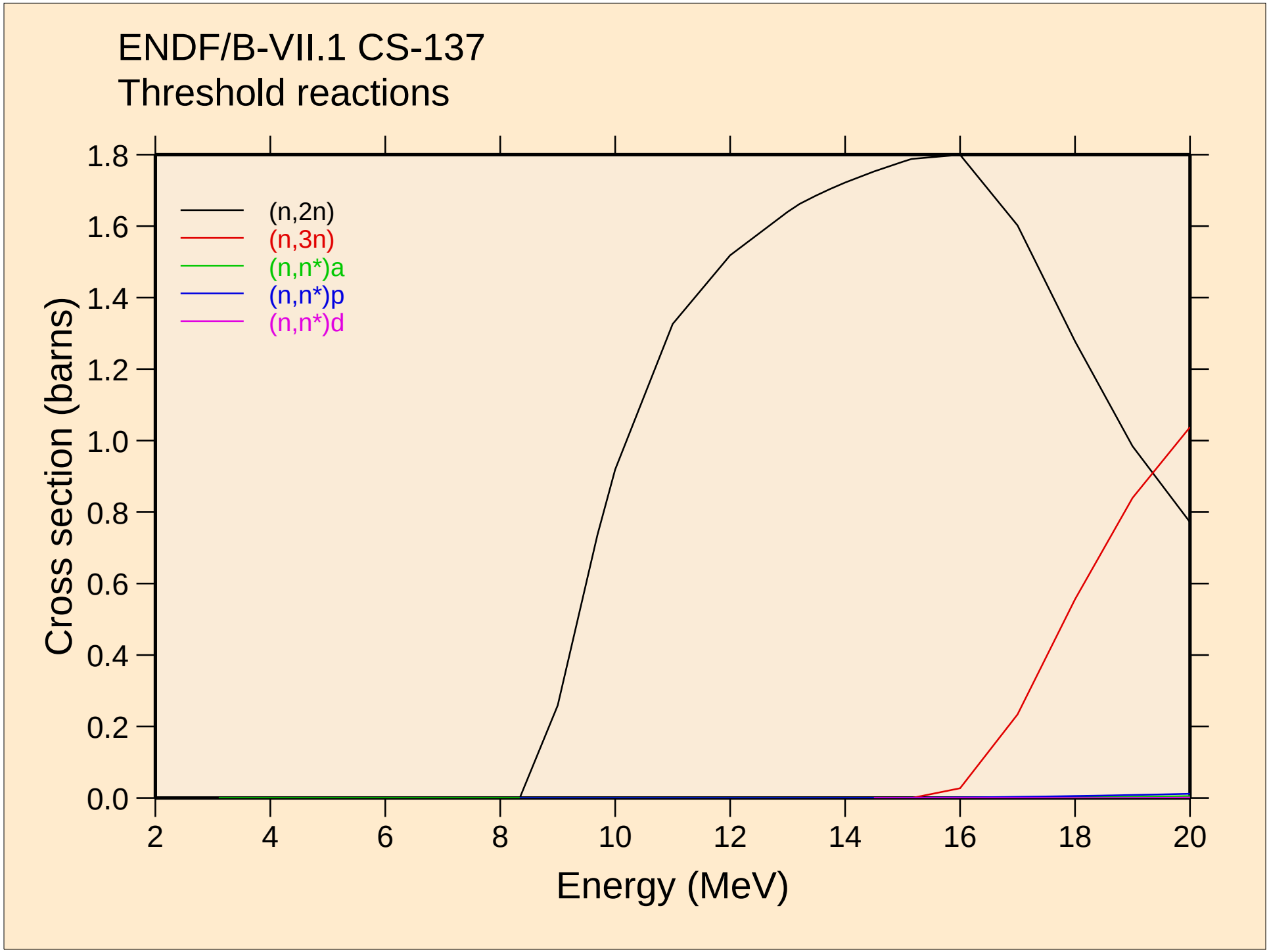

ENDF/B-VII.1 CS-137
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
1
2
3
4
5
0
5
10
15
20

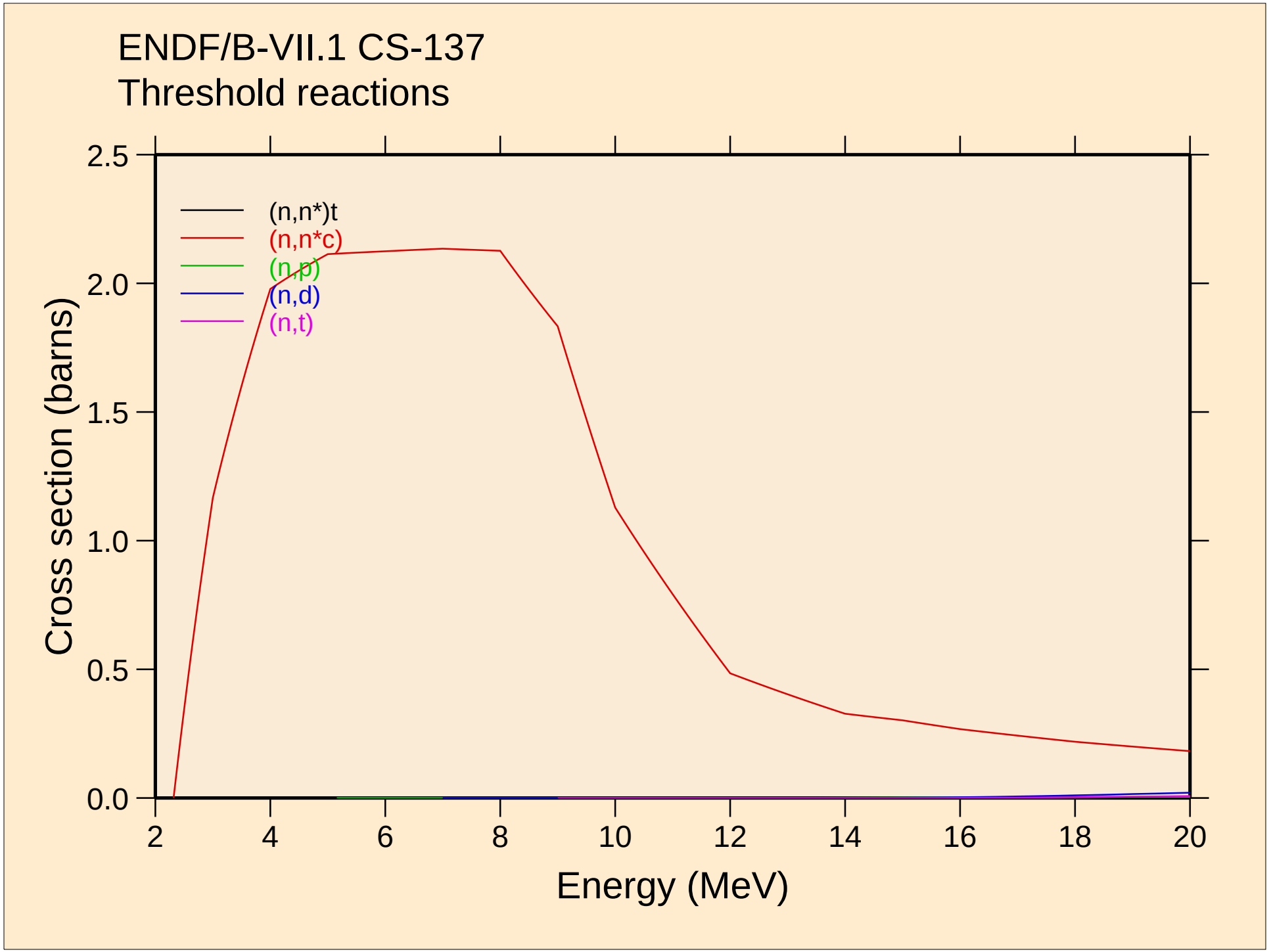

ENDF/B-VII.1 CS-137
Damage
350
*10-3
300
250
200
150
100
50
0
damage
Damage (MeV-barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

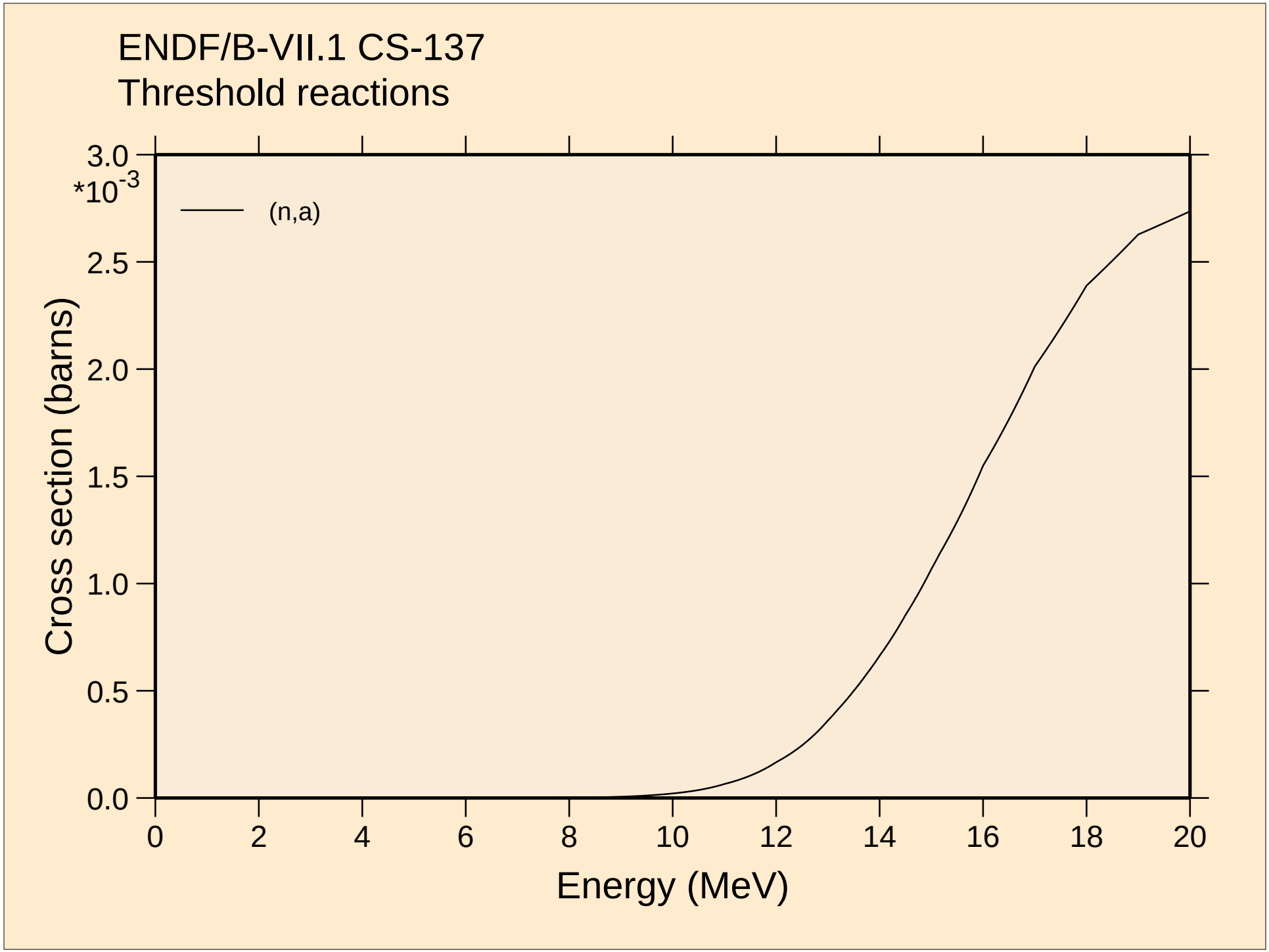

ENDF/B-VII.1 CS-137
Non-threshold reactions
(n,gma)
Cross section (barns)
10-2
10-3
10-4
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

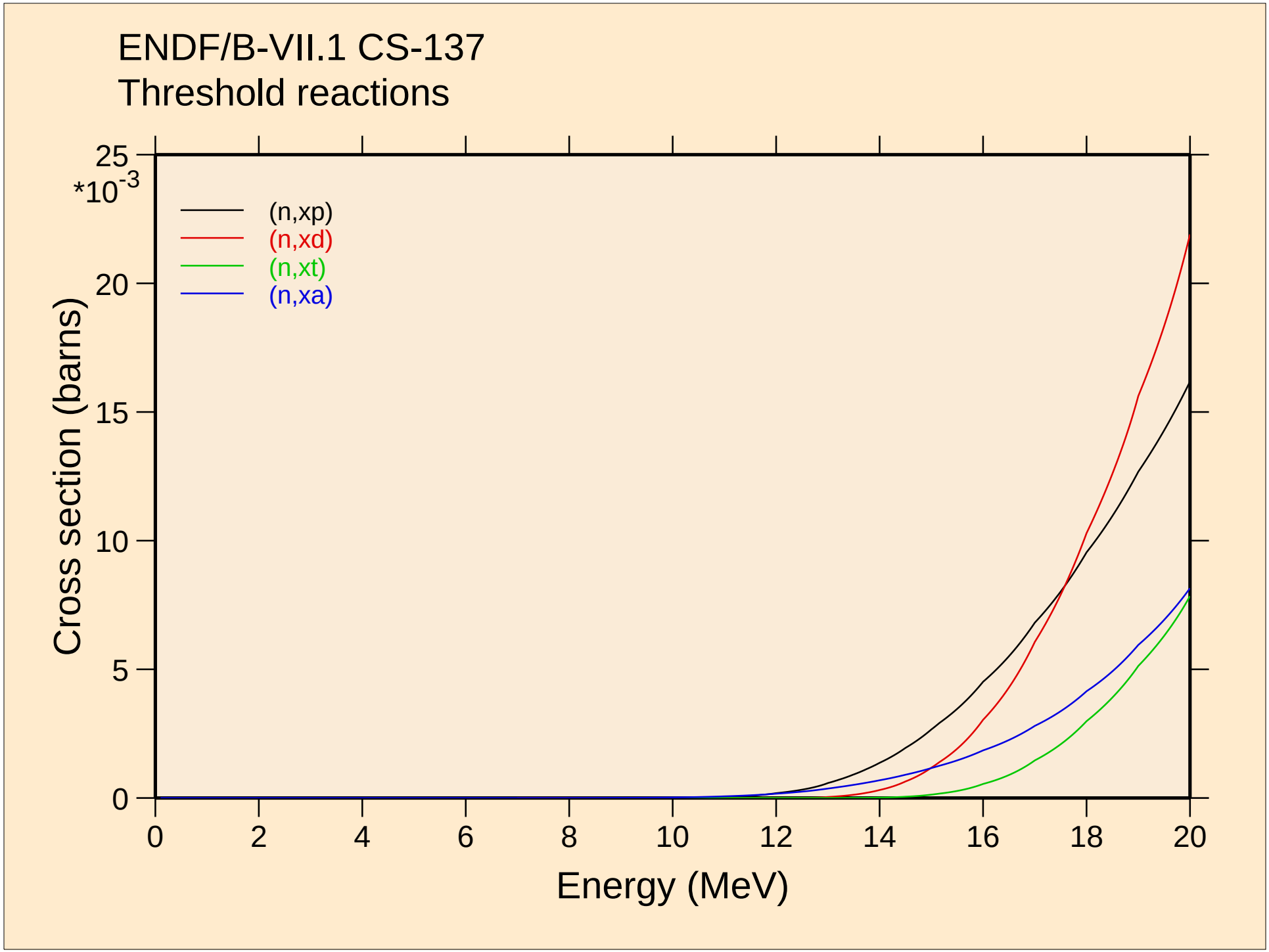

ENDF/B-VII.1 CS-137
Inelastic levels
Cross section (barns)
Energy (MeV)
0.0
0.1
0.2
0.3
0.4
0.5
0
2
4
6
8
10
12
14
16
18
20
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

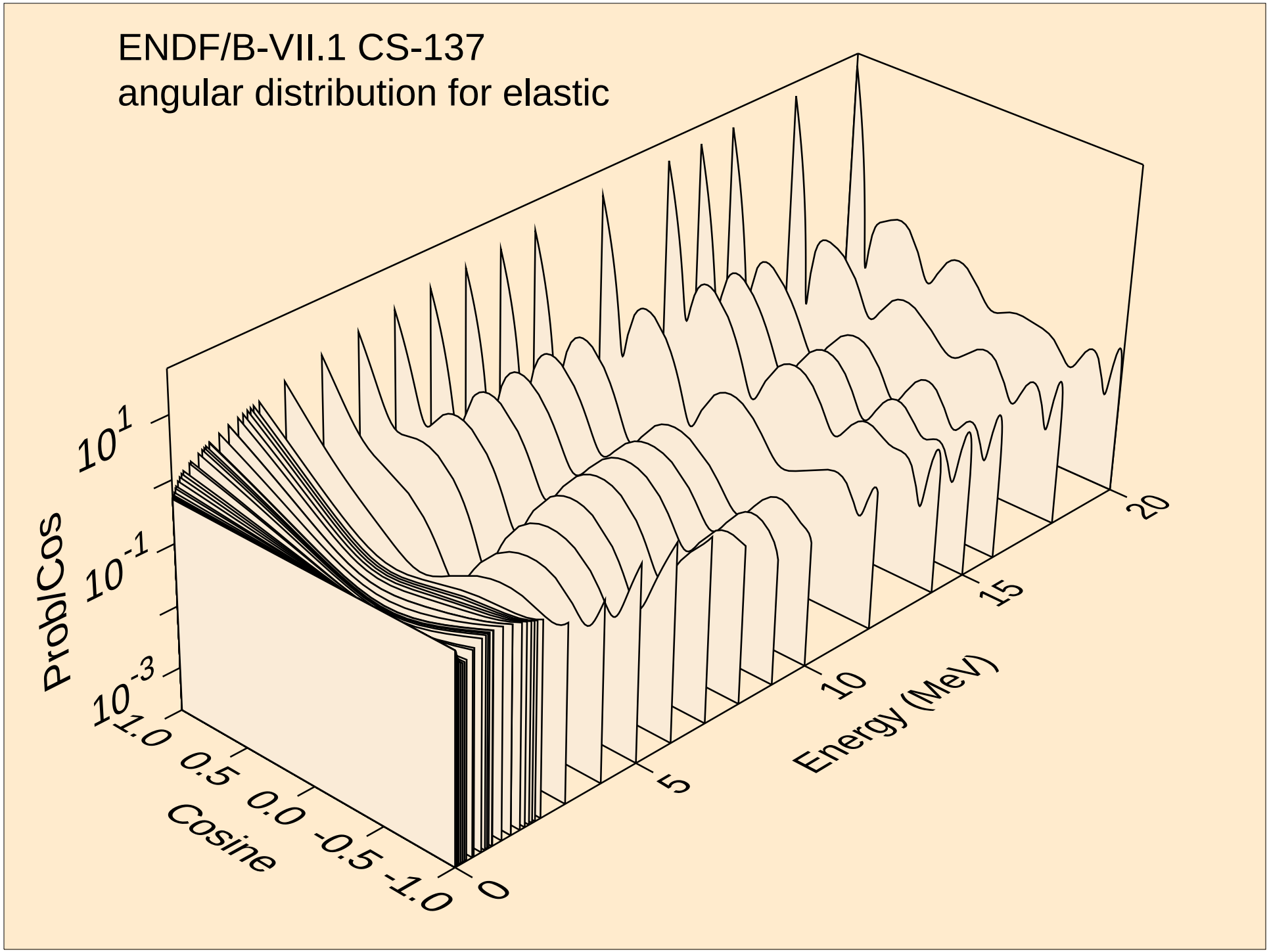

ENDF/B-VII.1 CS-137
Inelastic levels
50
*10-3
40
30
20
10
0
Cross section (barns)
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)

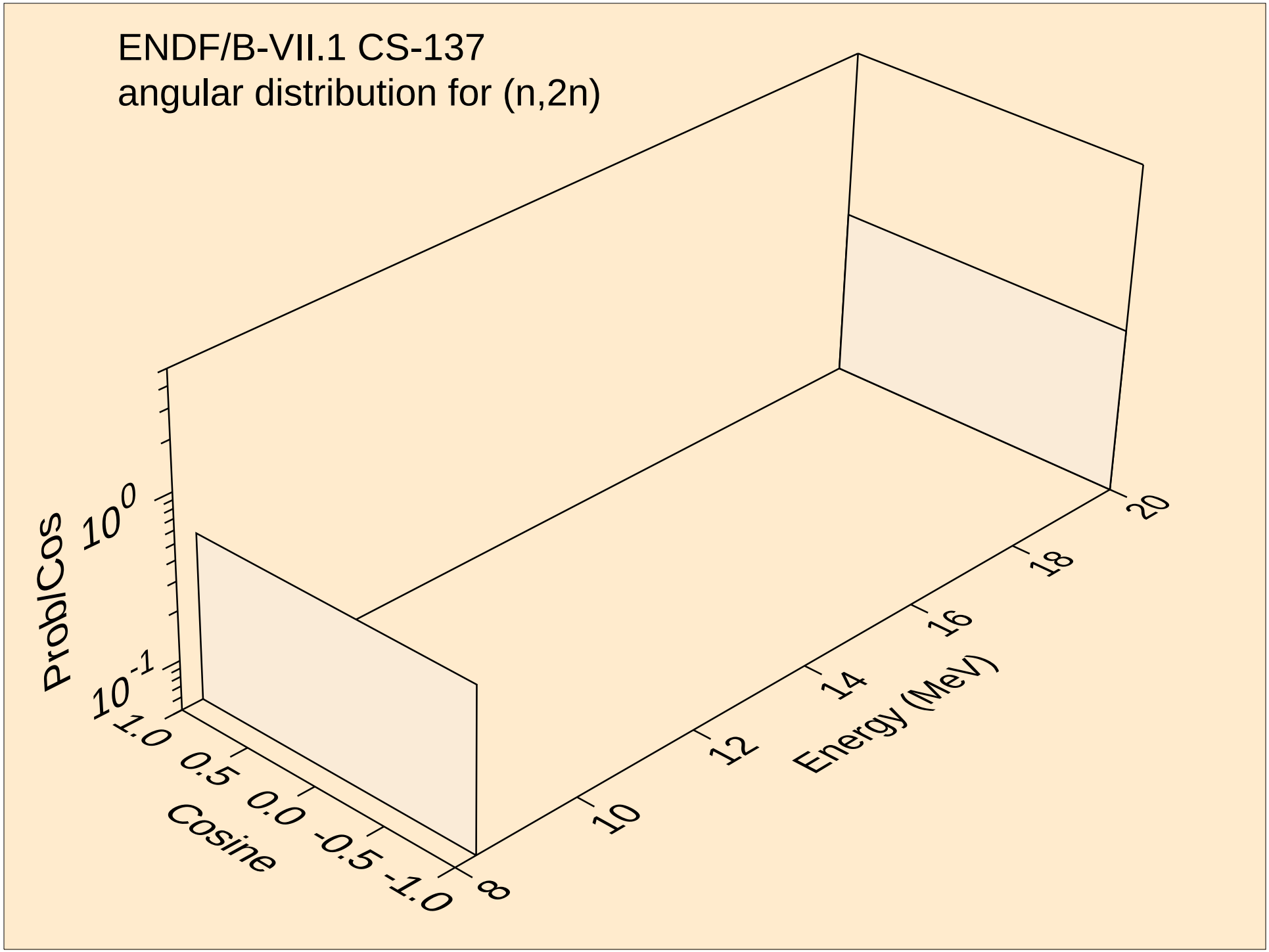

ENDF/B-VII.1 CS-137
Threshold reactions
(n,2n)
(n,3n)
(n,n*)a
(n,n*)p
(n,n*)d
Cross section (barns)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

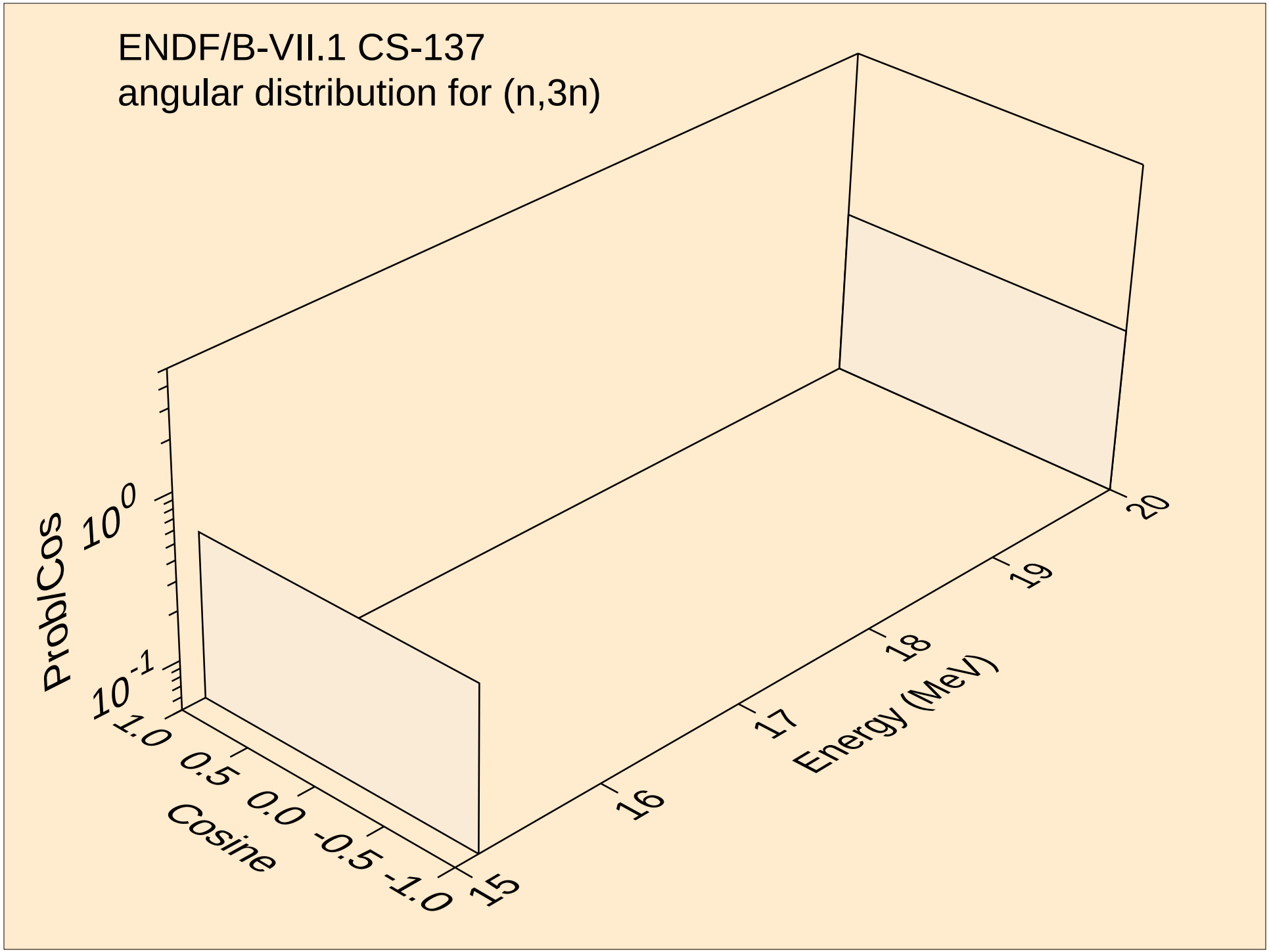

ENDF/B-VII.1 CS-137
Threshold reactions
(n,n*)t
(n,n*c)
(n,p)
(n,d)
(n,t)
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
2
4
6
8
10
12
14
16
18
20

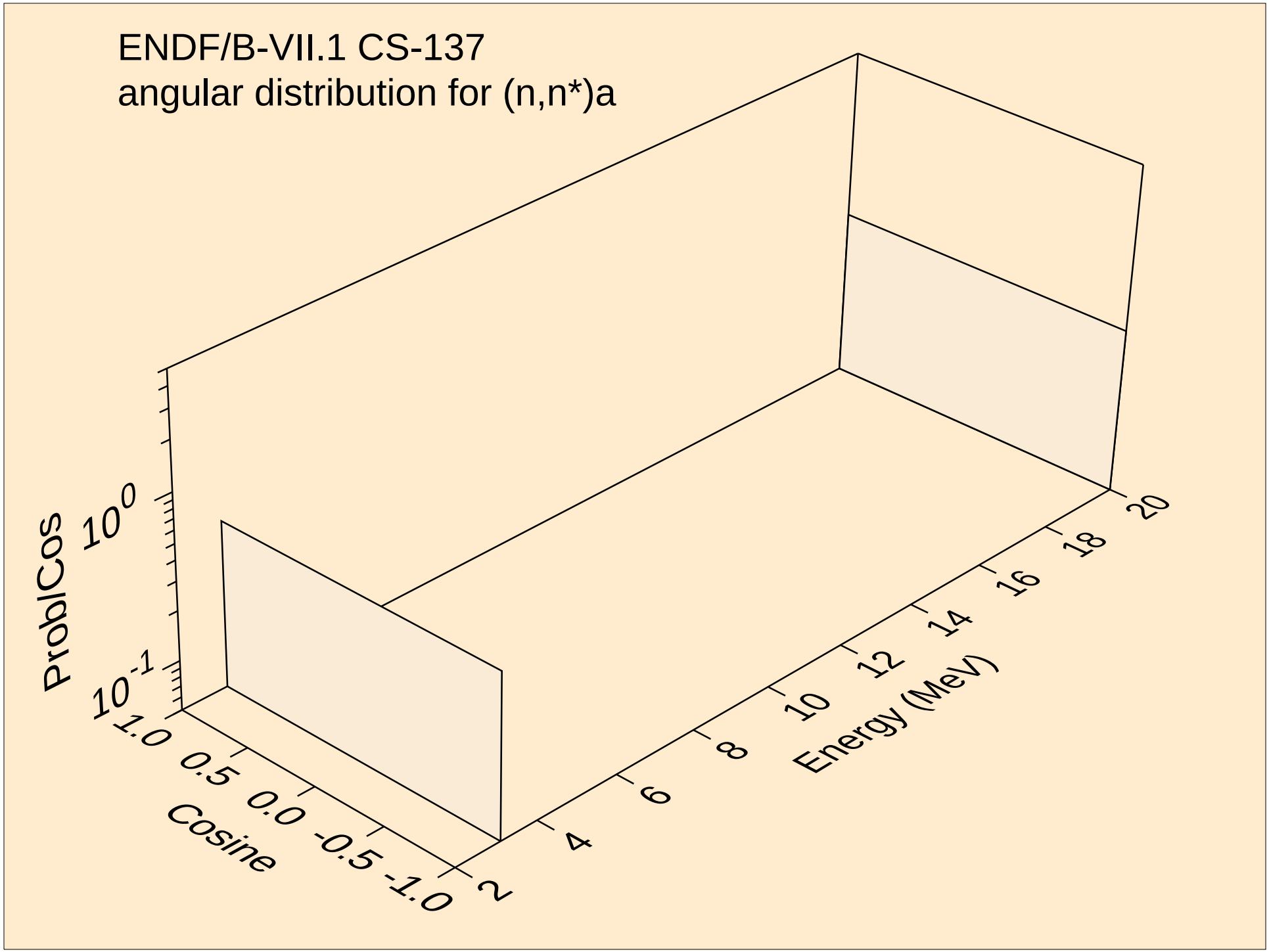

ENDF/B-VII.1 CS-137
Threshold reactions
3.0
*10-3
2.5
2.0
1.5
1.0
0.5
0.0
(n,a)
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

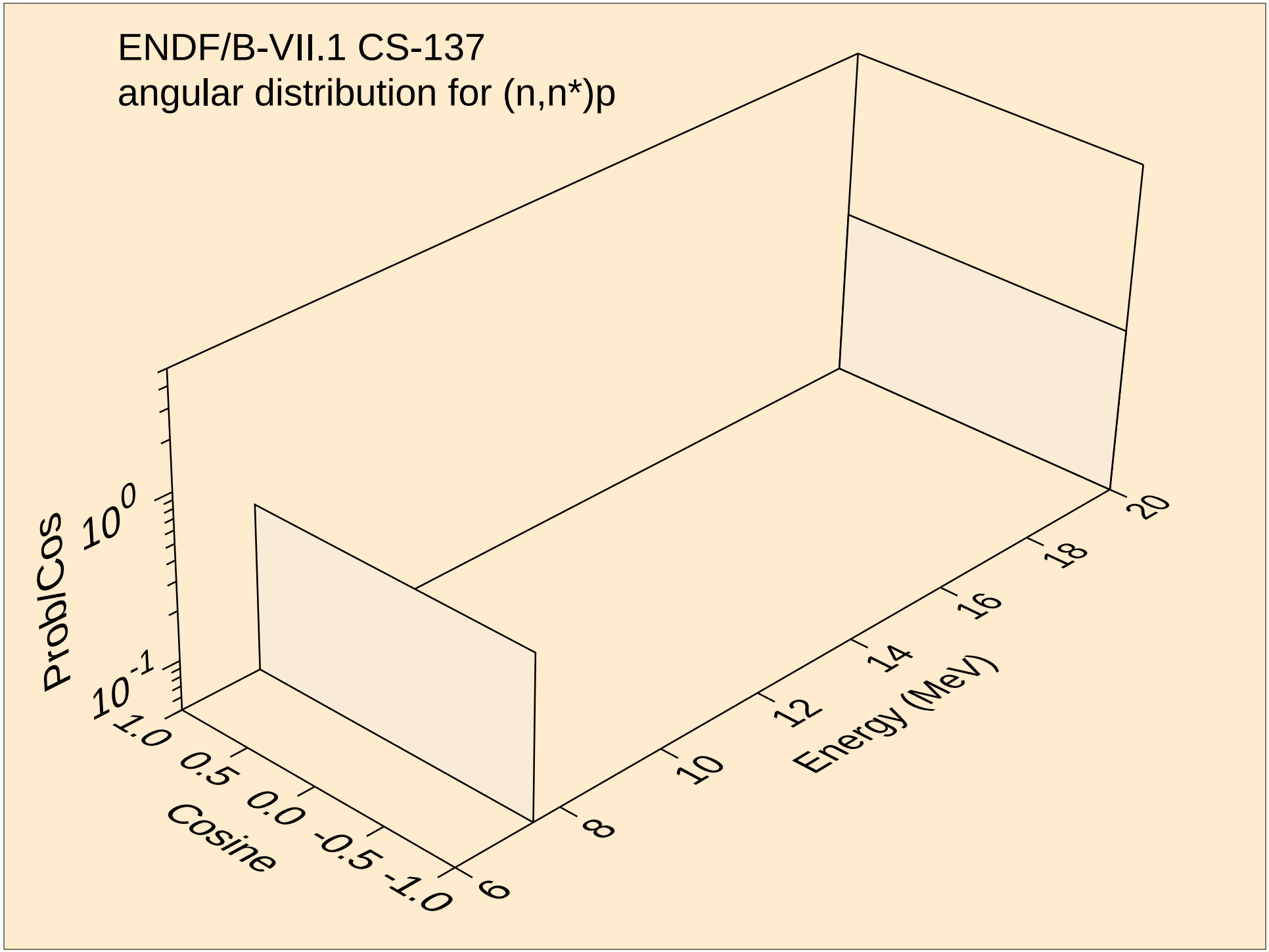

ENDF/B-VII.1 CS-137
Threshold reactions
*10-3
25
20
15
10
5
0
Cross section (barns)
(n,xp)
(n,xd)
(n,xt)
(n,xa)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

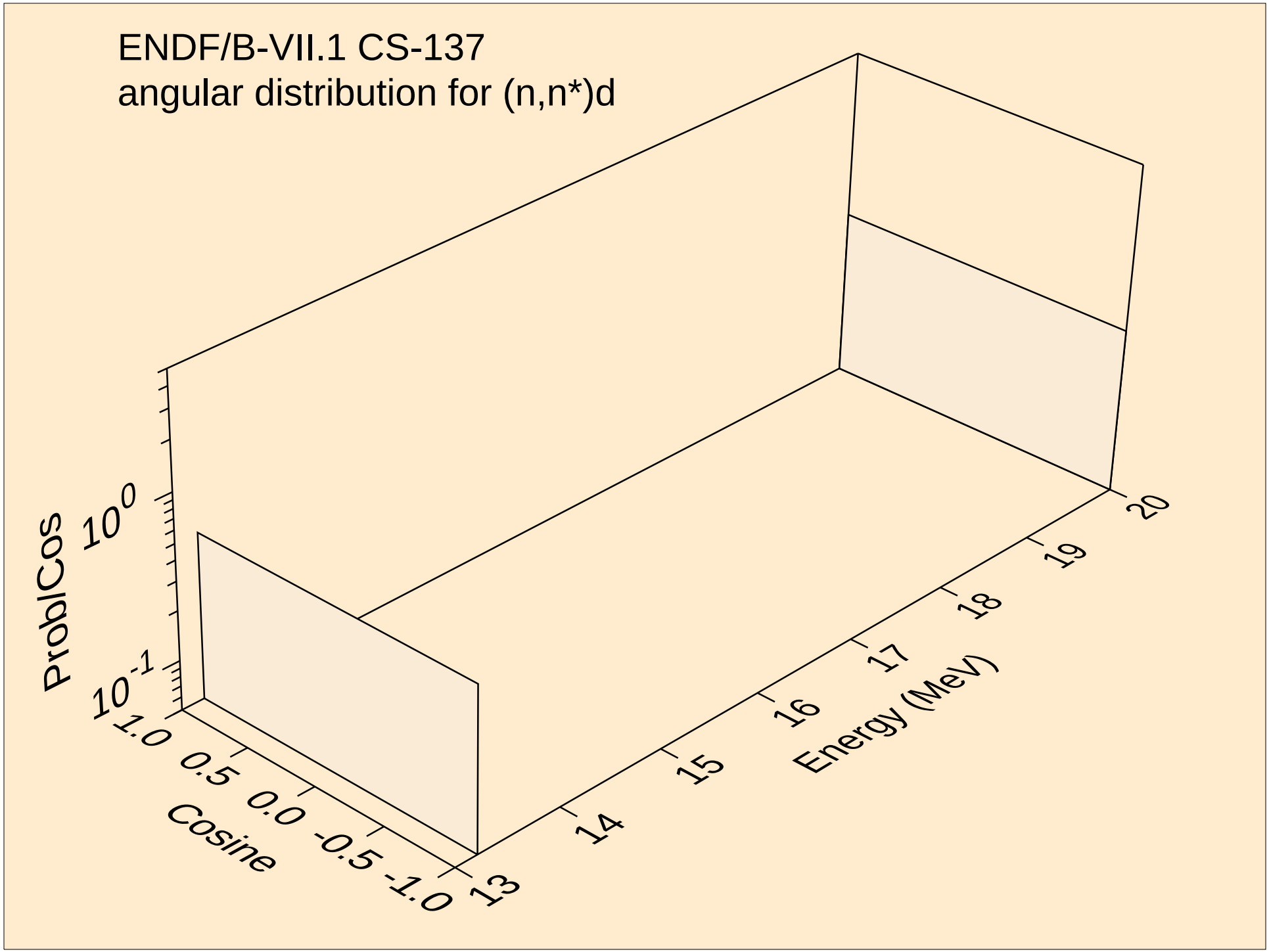

ENDF/B-VII.1 CS-137
angular distribution for elastic
ProbICos
10^{1}
10^{-1}
10^{-3}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

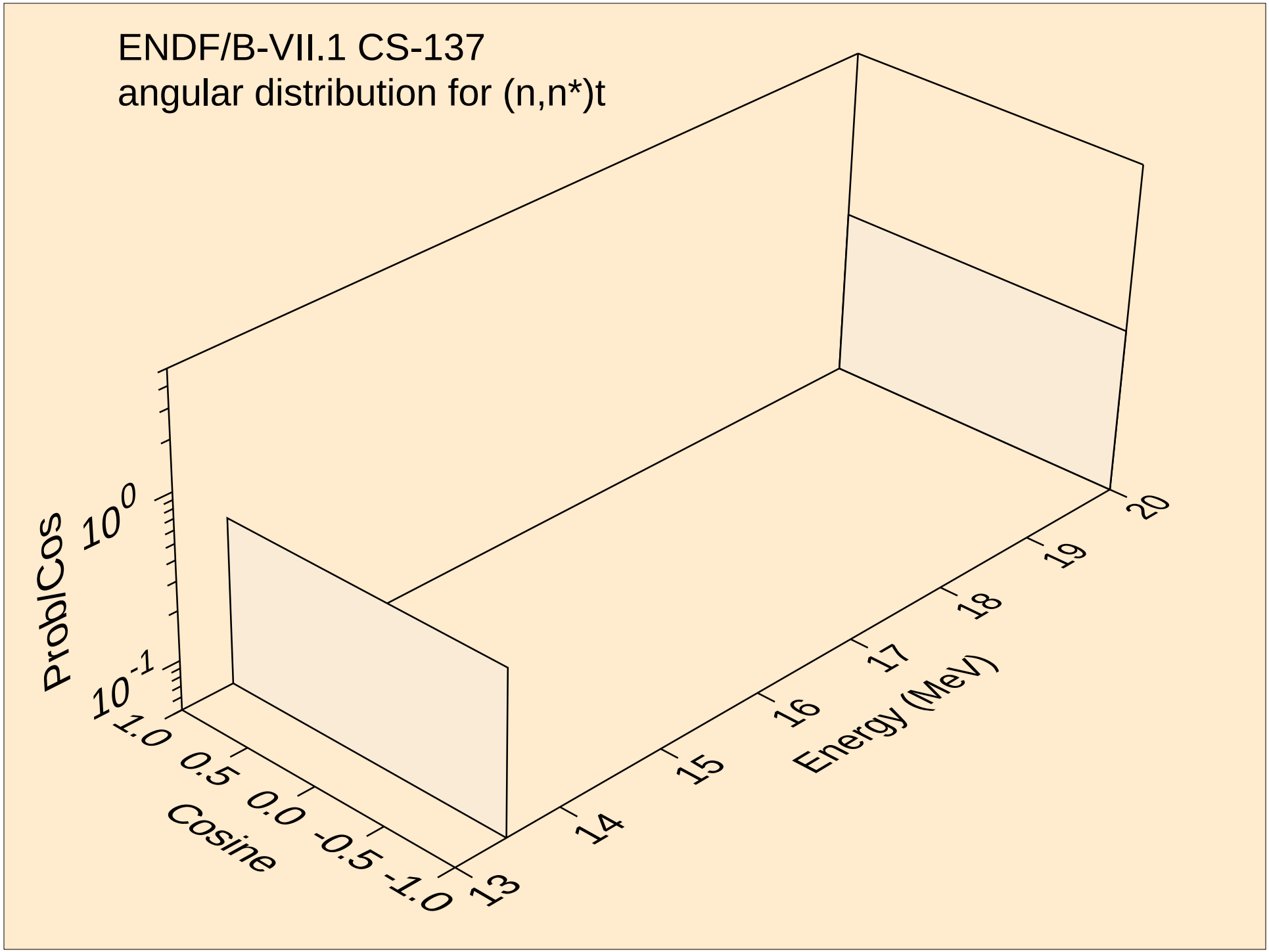

ENDF/B-VII.1 CS-137
angular distribution for (n,2n)
Prob\Cos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
8
10
12
14
16
18
20
Energy (MeV)

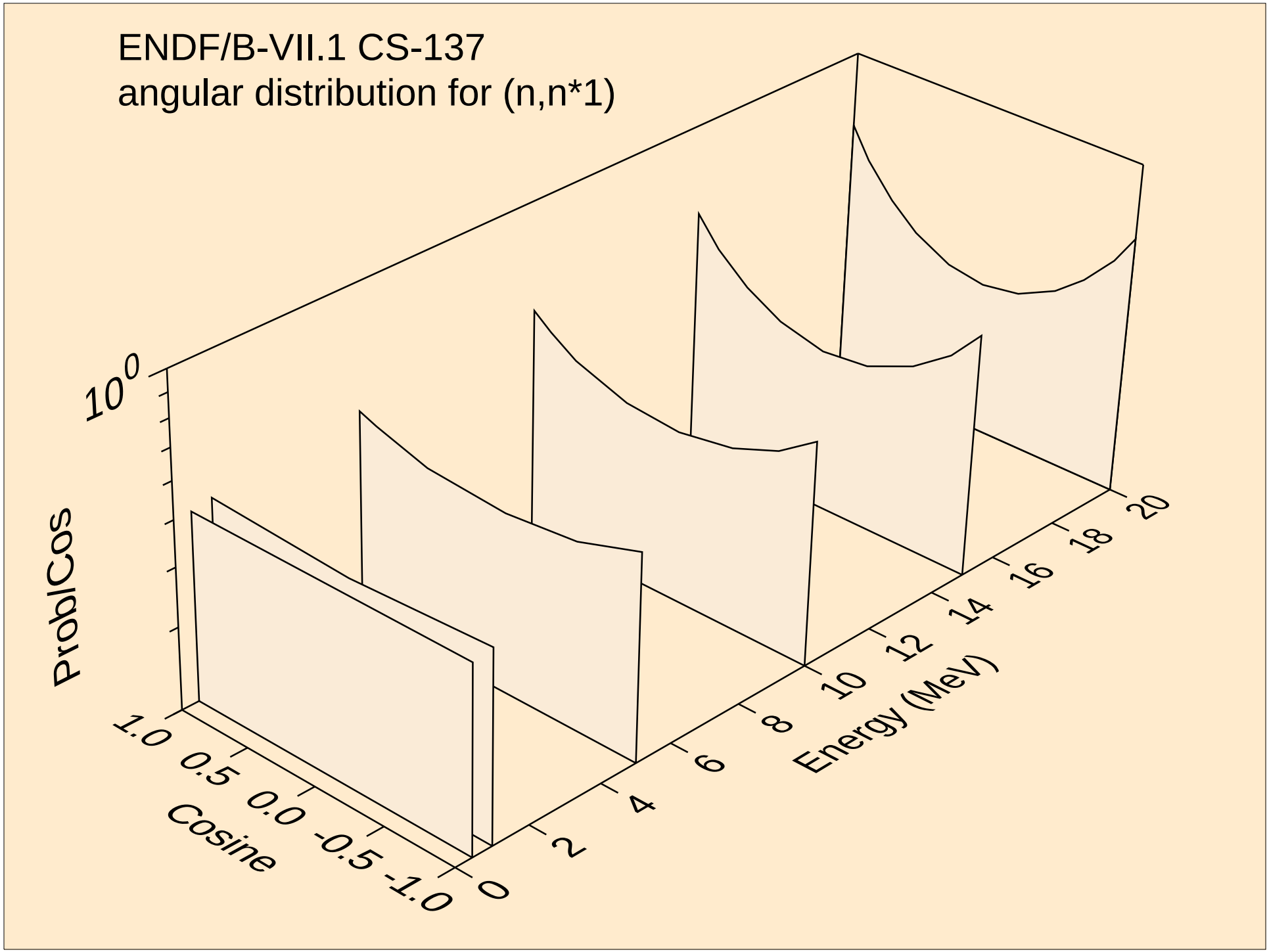

ENDF/B-VII.1 CS-137
angular distribution for (n,3n)
Prob|Cos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
15
16
17
18
19
20
Energy (MeV)

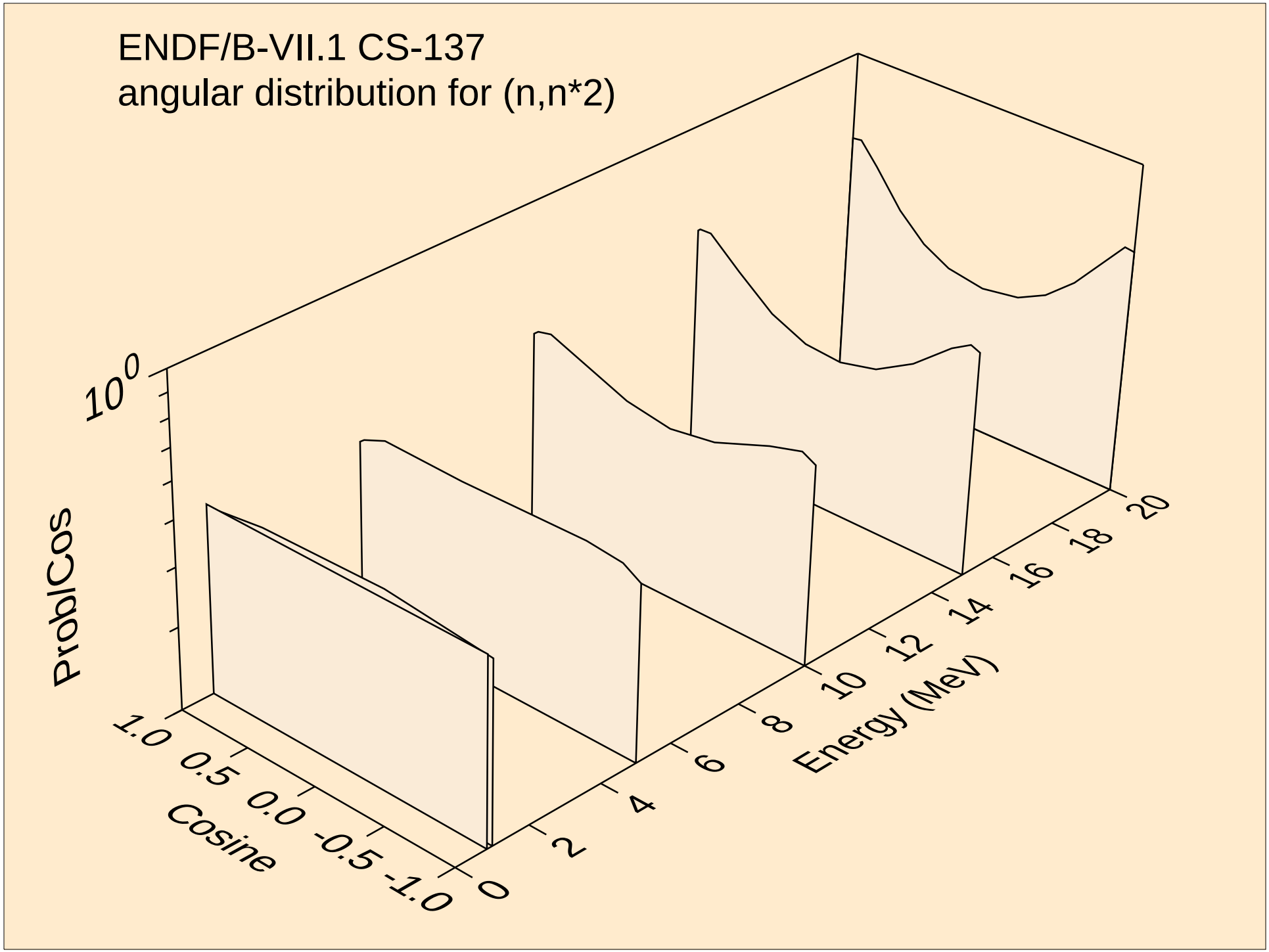

ENDF/B-VII.1 CS-137
angular distribution for (n,n*)a
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

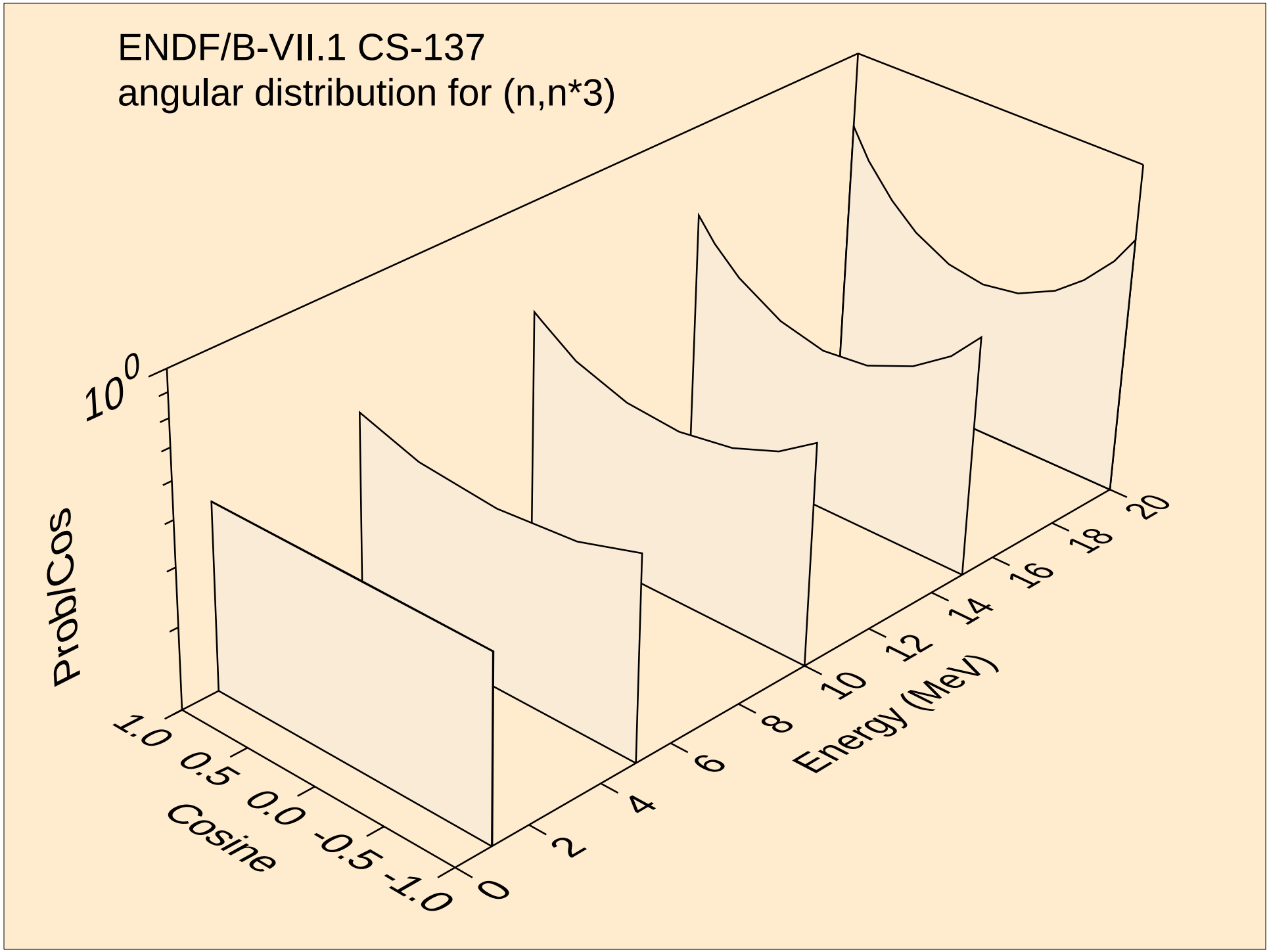

ENDF/B-VII.1 CS-137
angular distribution for (n,n*)p
Prob\Cos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
6
8
10
12
14
16
18
20
Energy (MeV)

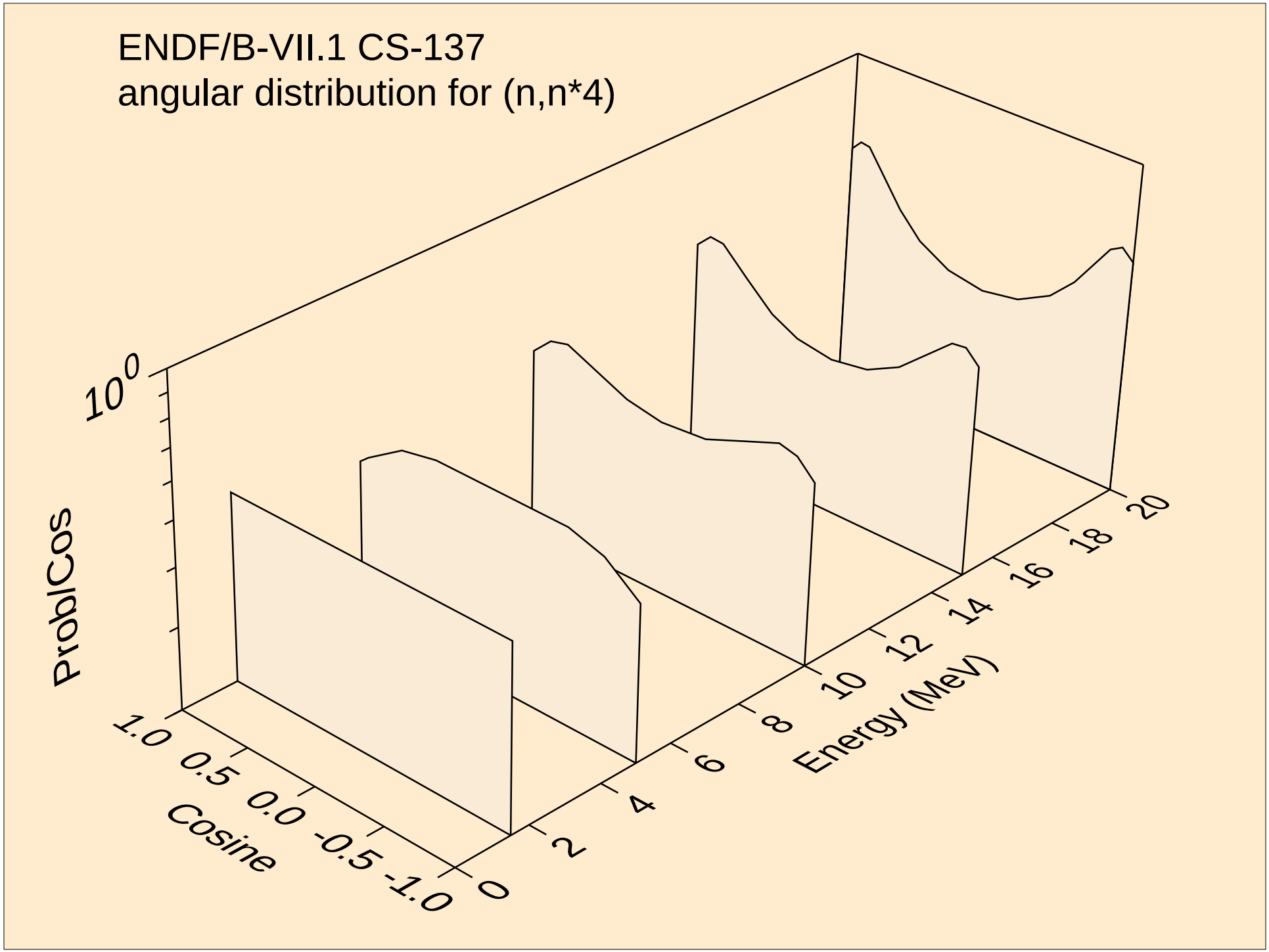

ENDF/B-VII.1 CS-137
angular distribution for (n,n*)d
Prob\Cos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
13
14
15
16
17
18
19
20
Energy (MeV)

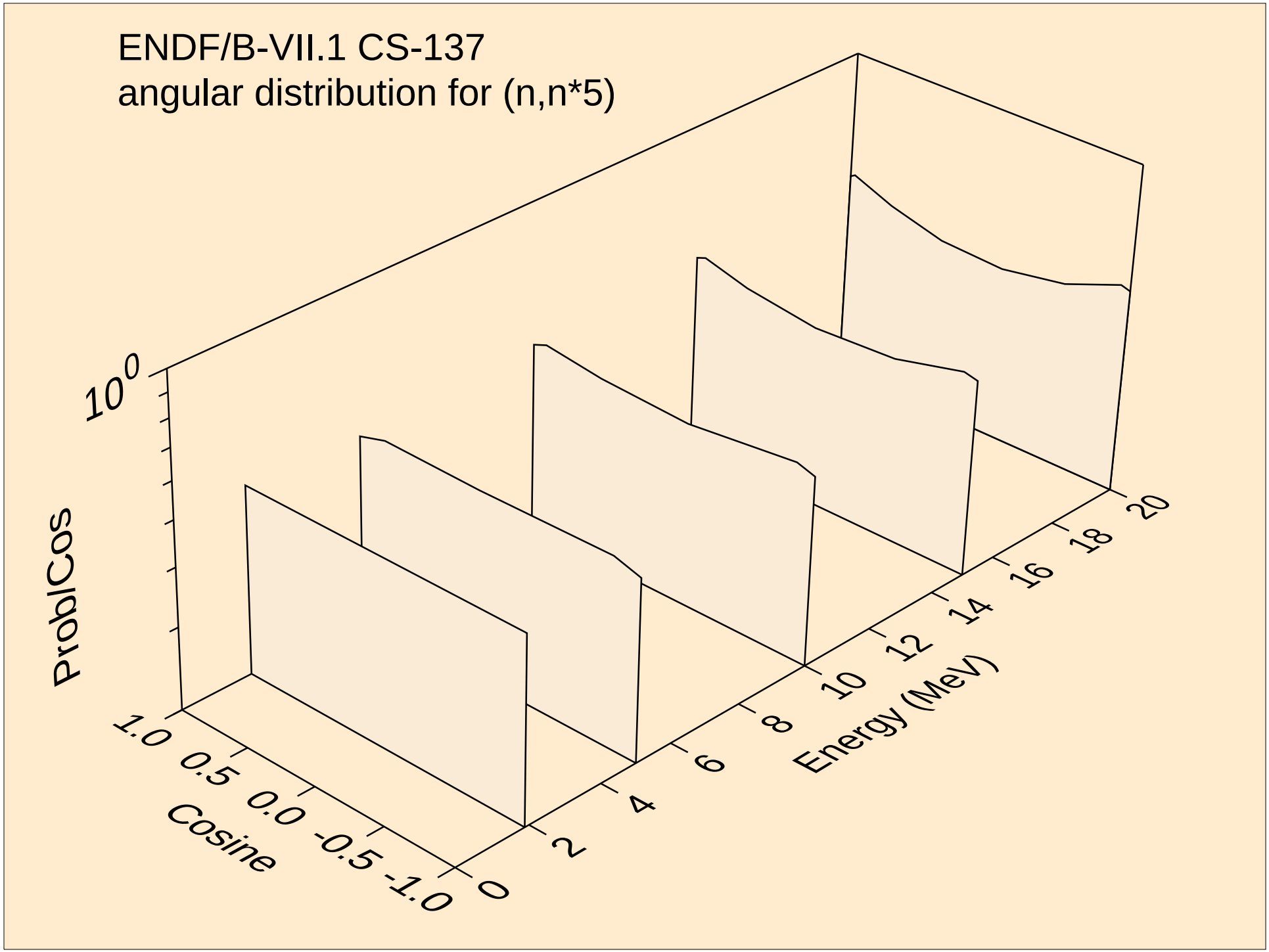

ENDF/B-VII.1 CS-137
angular distribution for (n,n*)t
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
13
14
15
16
17
18
19
20
Energy (MeV)

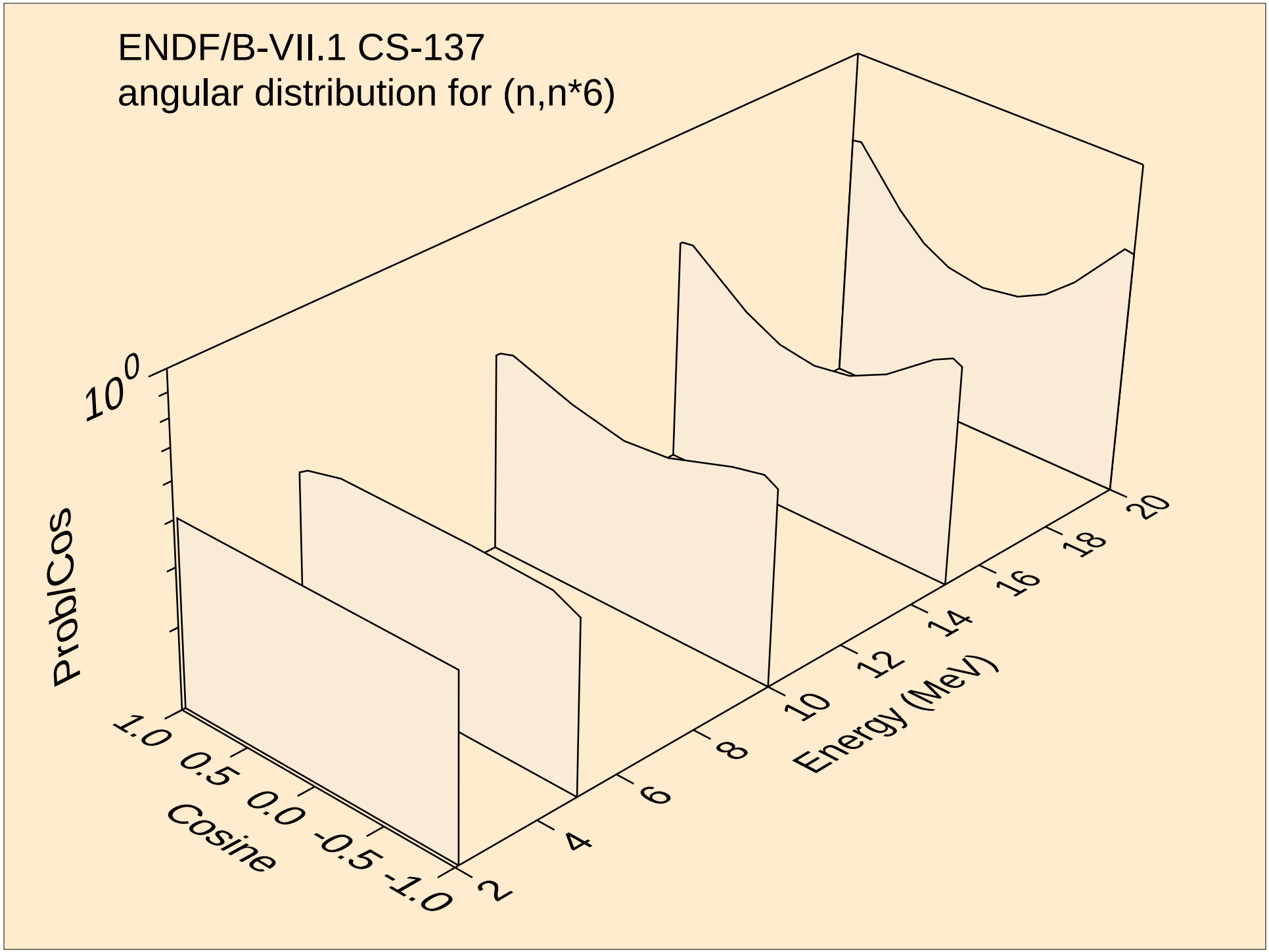

ENDF/B-VII.1 CS-137
angular distribution for (n,n*1)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

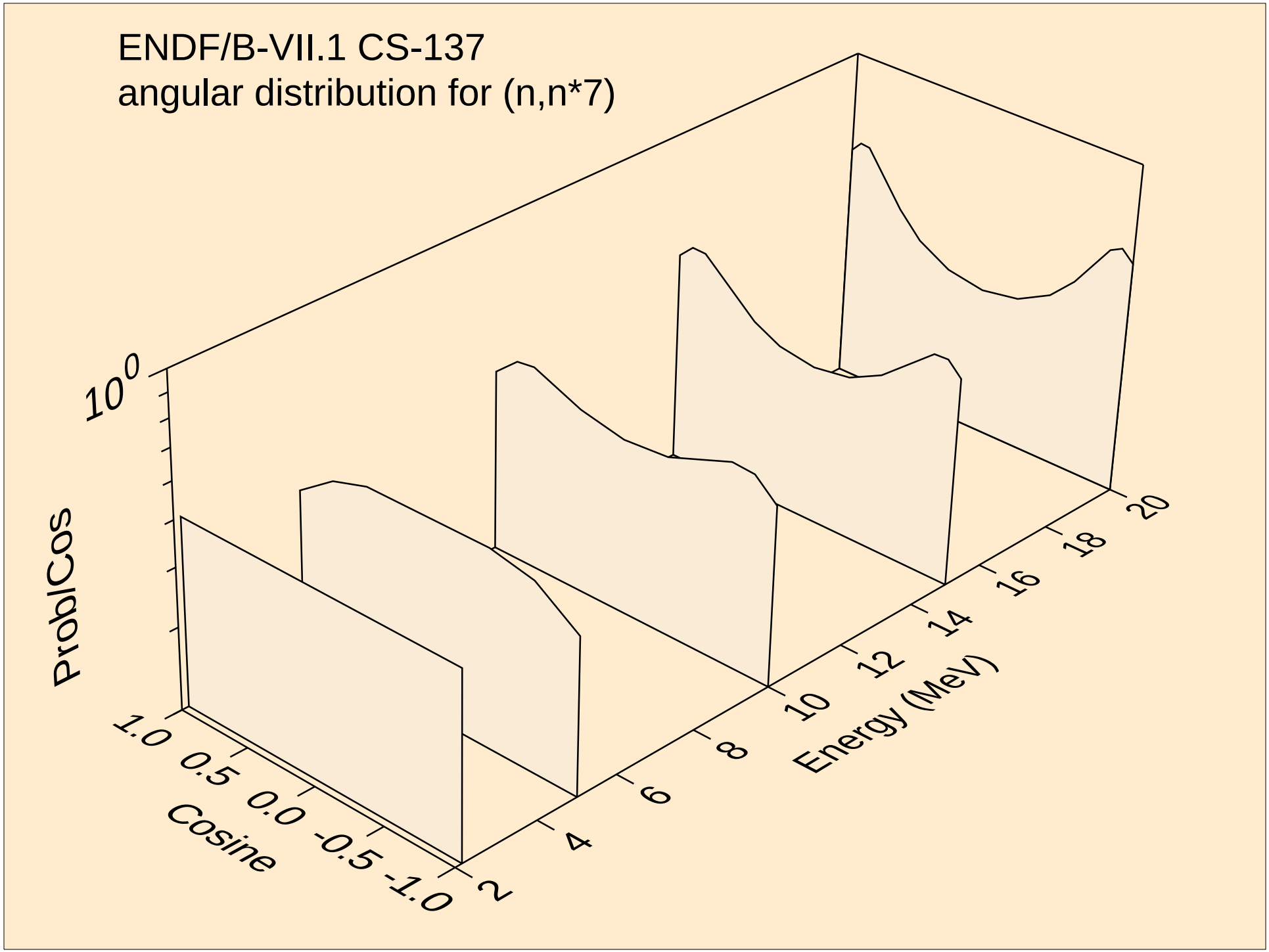

ENDF/B-VII.1 CS-137
angular distribution for (n,n*2)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

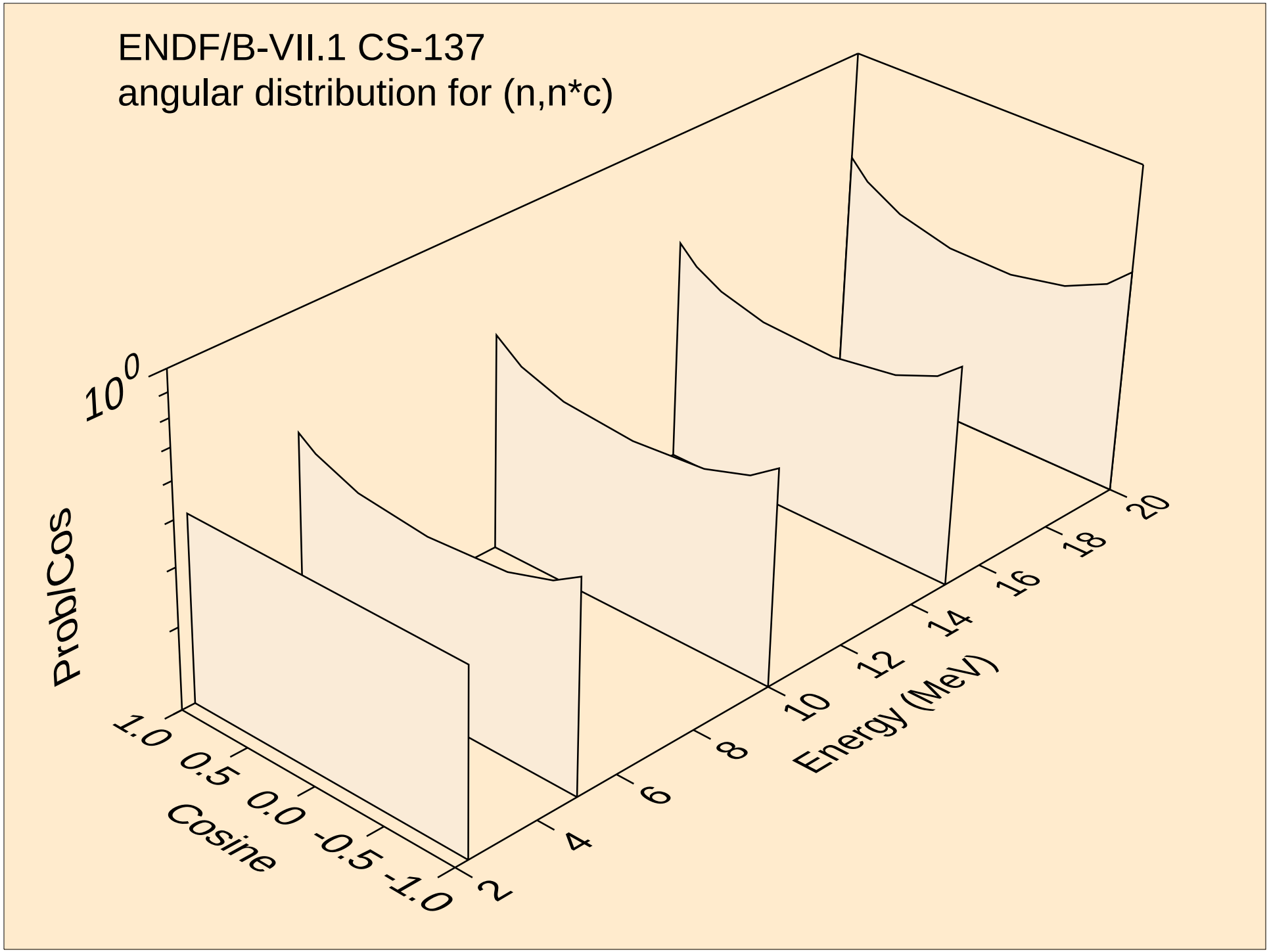

ENDF/B-VII.1 CS-137
angular distribution for (n,n*3)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

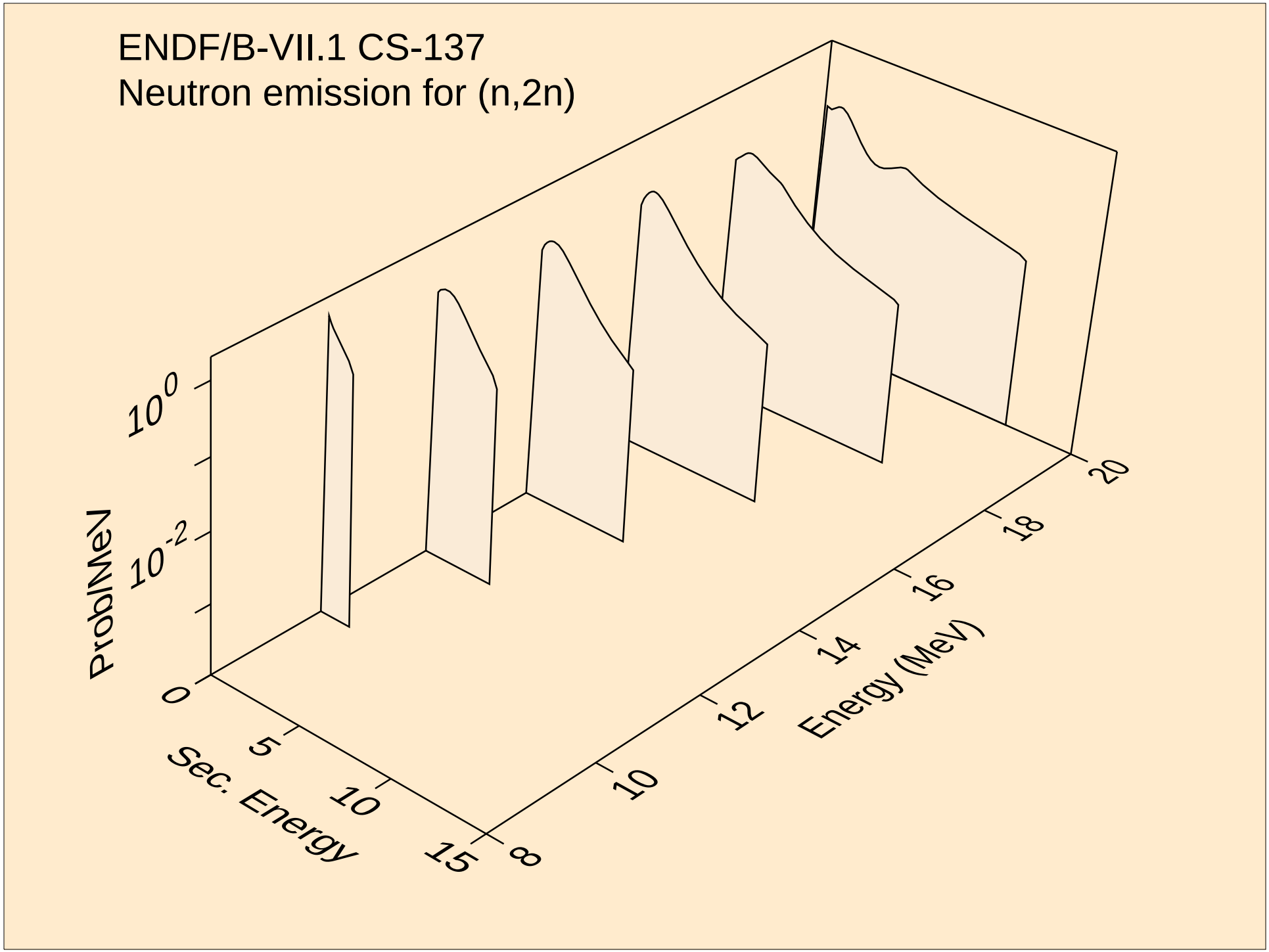

ENDF/B-VII.1 CS-137
angular distribution for (n,n*4)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

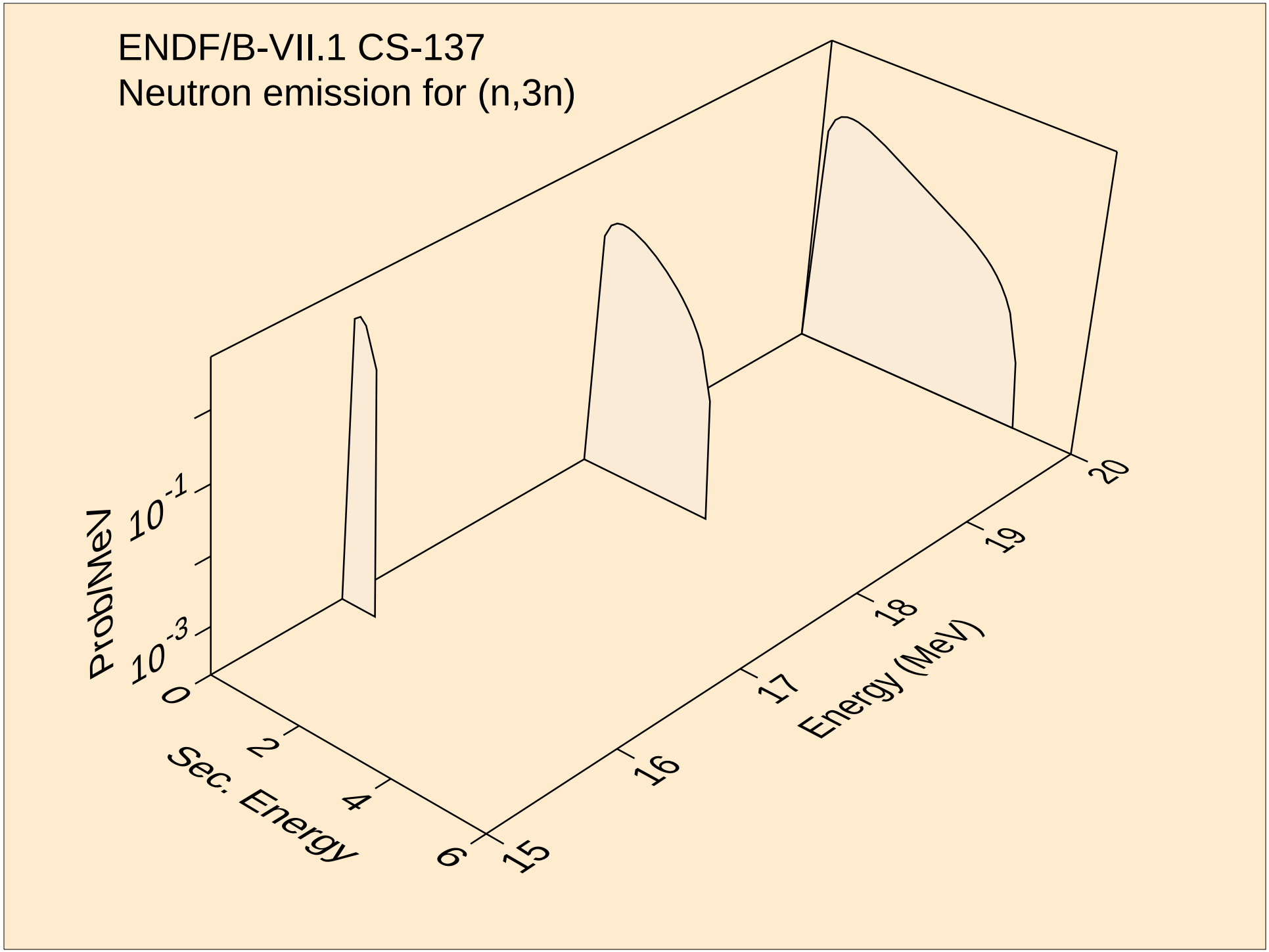

ENDF/B-VII.1 CS-137
angular distribution for (n,n*5)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

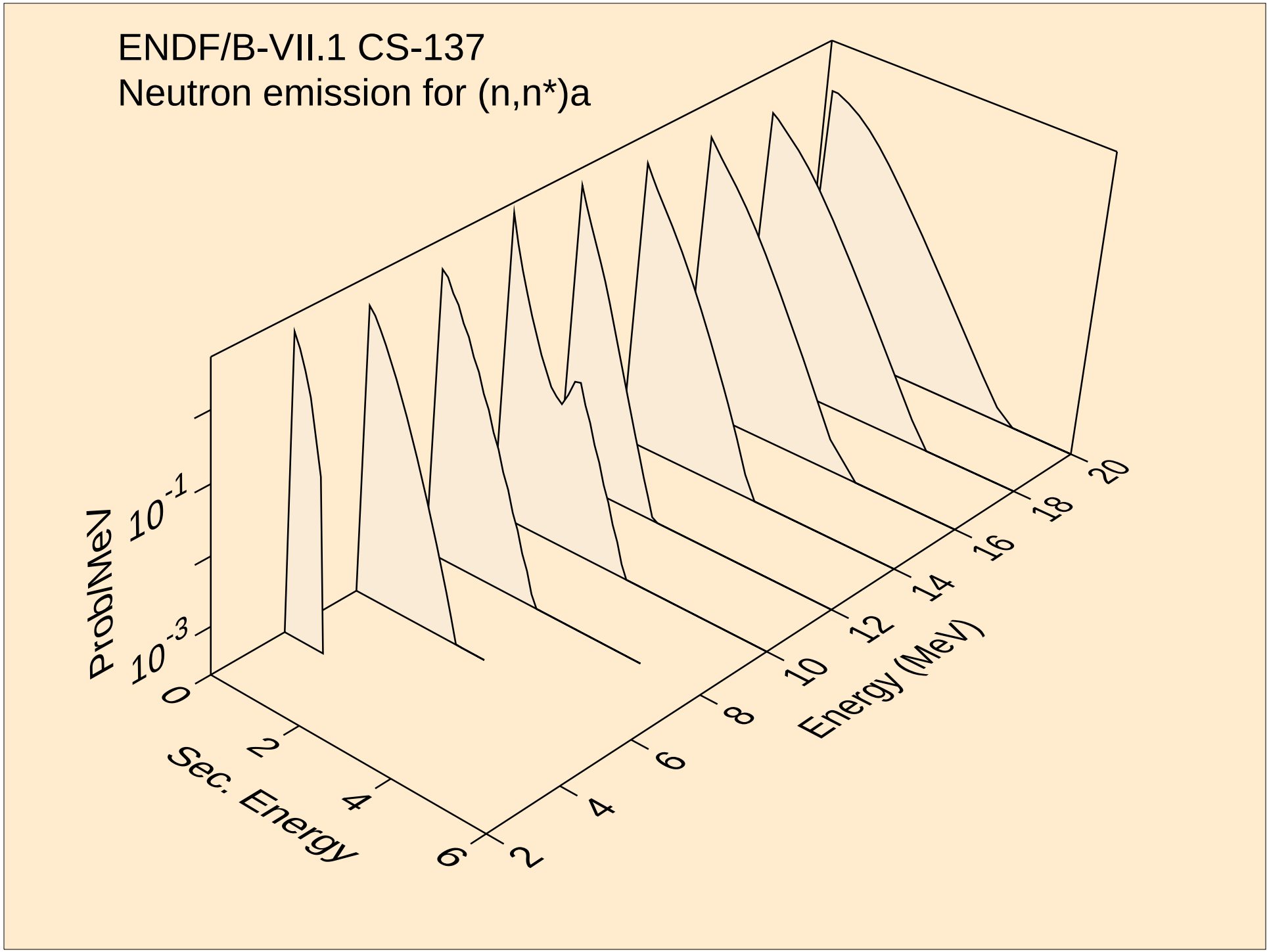

ENDF/B-VII.1 CS-137
angular distribution for (n,n*6)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

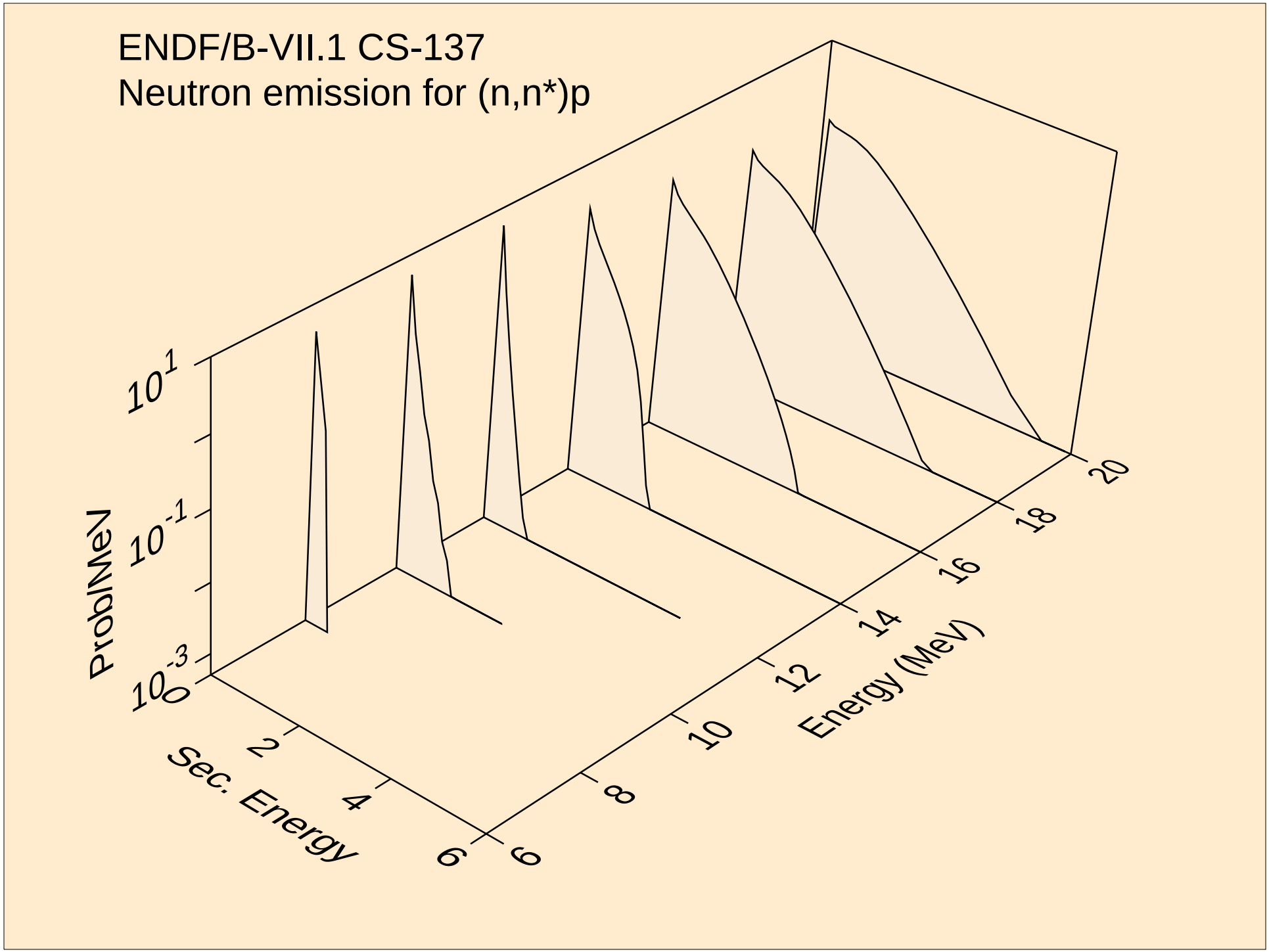

ENDF/B-VII.1 CS-137
angular distribution for (n,n*7)
10^0
Prob\Cos
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

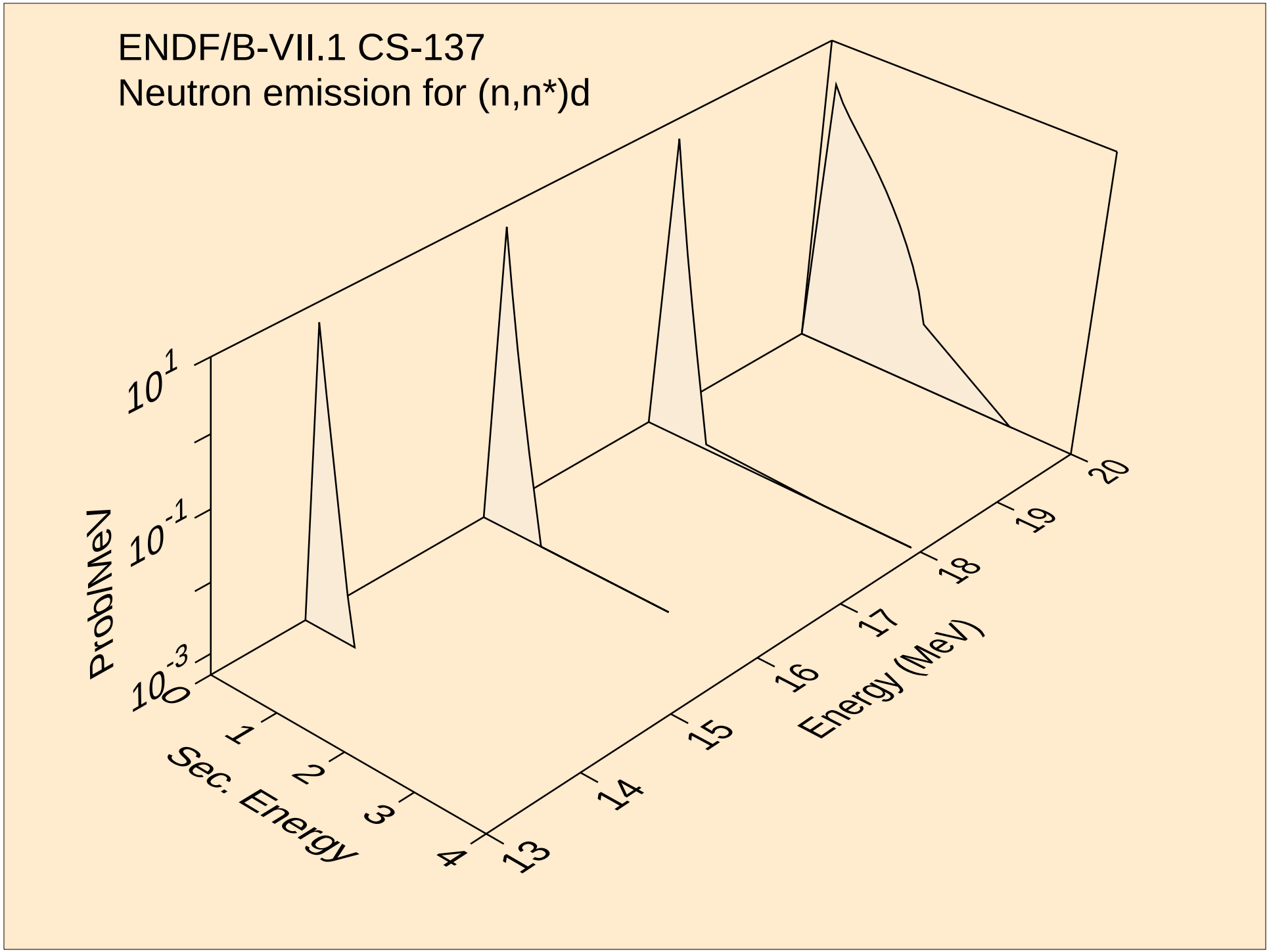

ENDF/B-VII.1 CS-137
angular distribution for (n,n*c)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

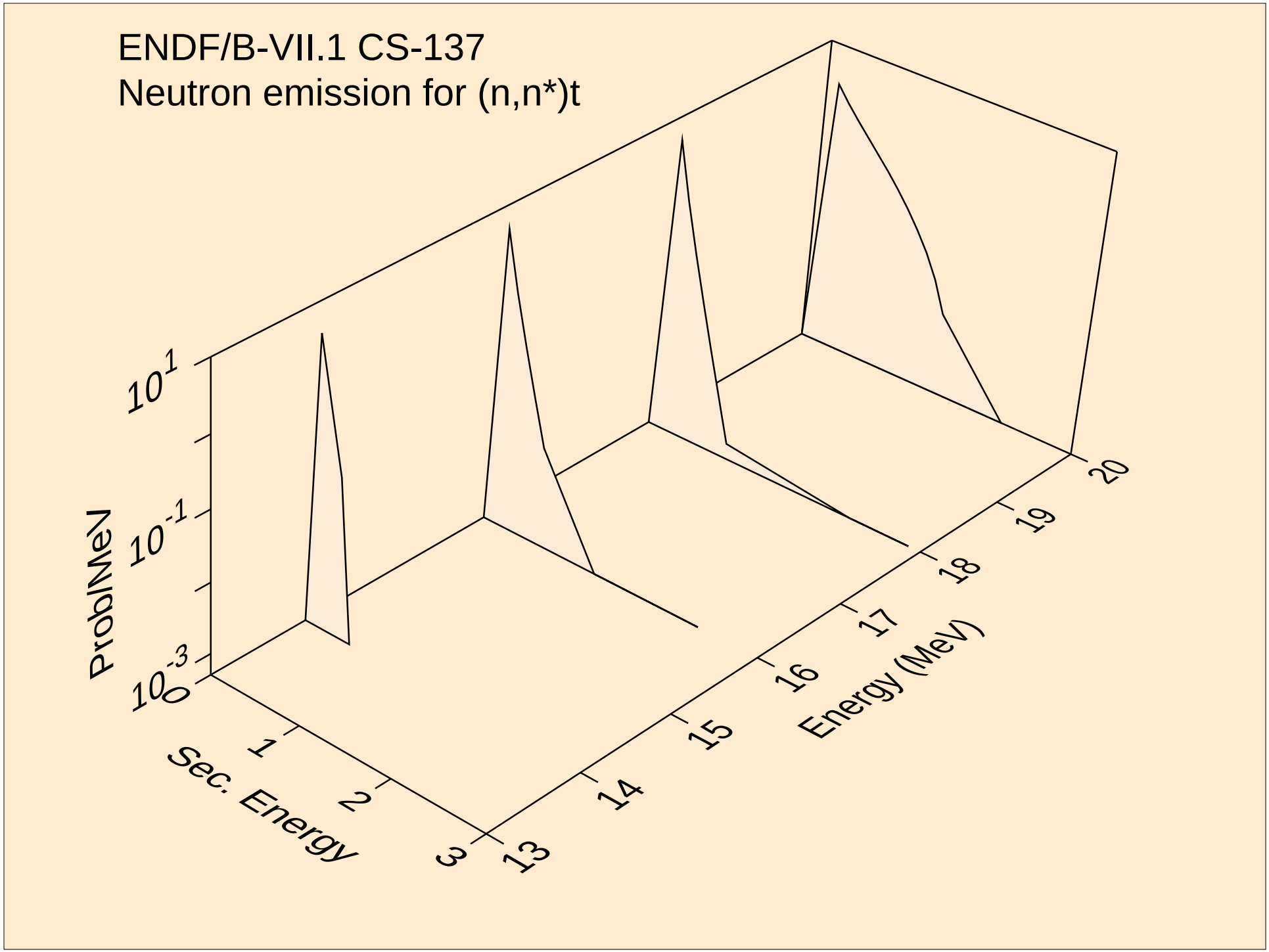

ENDF/B-VII.1 CS-137
Neutron emission for (n,2n)
Prob/MeV
10^{0}
10^{-2}
0
5
10
15
Sec. Energy
8
10
12
14
16
18
20
Energy (MeV)

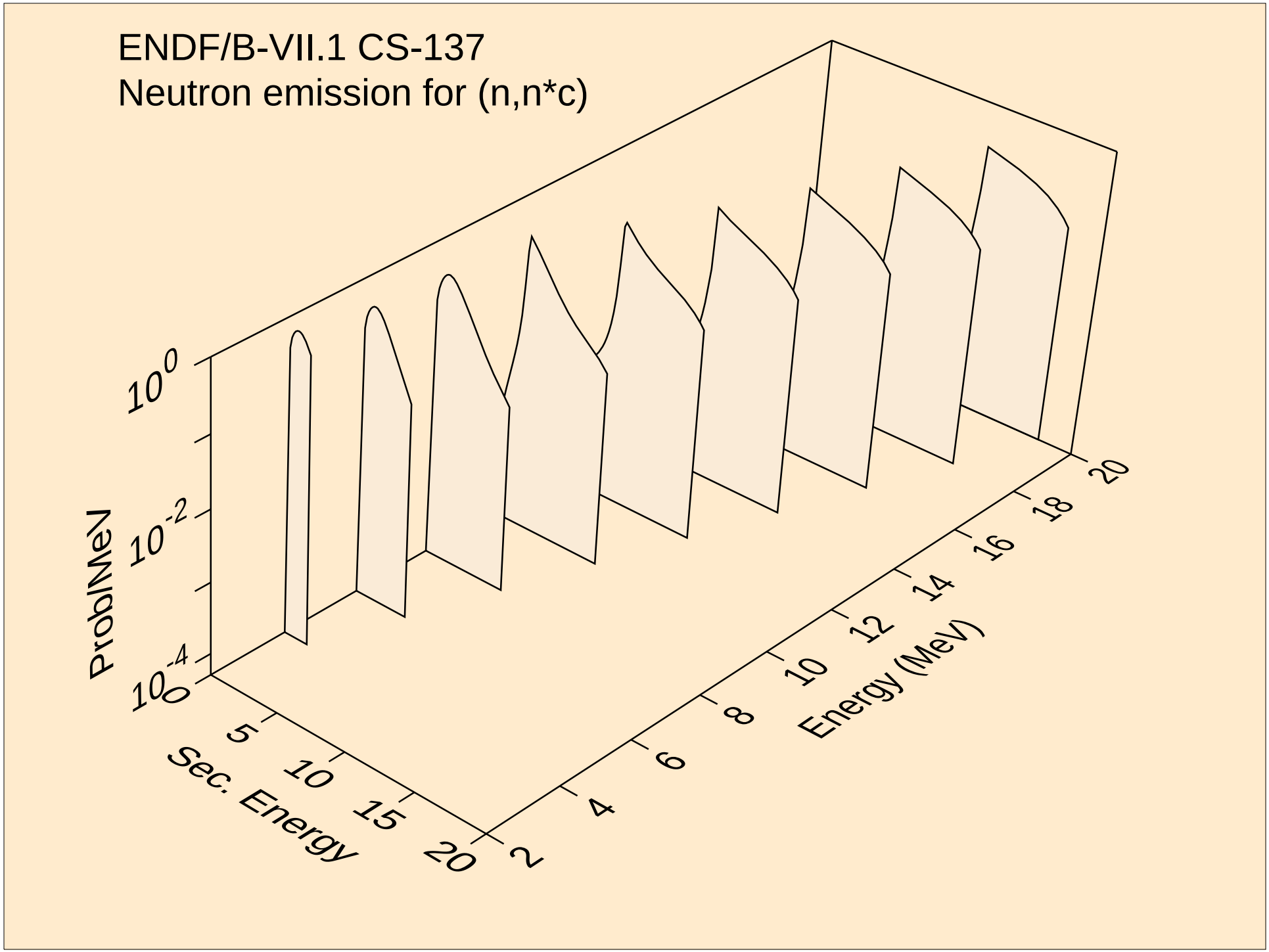

ENDF/B-VII.1 CS-137
Neutron emission for (n,3n)
Prob/MeV
10^-1
10^-3
0
Sec. Energy
2
4
6
15
16
17
18
19
20
Energy (MeV)


ENDF/B-VII.1 CS-137
Neutron emission for (n,n*)a
Prob/MeV
10^-1
10^-3
0
Sec. Energy
2
4
6
Energy (MeV)
2
4
6
8
10
12
14
16
18
20


ENDF/B-VII.1 CS-137
Neutron emission for (n,n*)p
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
2
4
6
Sec. Energy
8
10
12
14
16
18
20
Energy (MeV)


ENDF/B-VII.1 CS-137
Neutron emission for (n,n*)d
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
Sec. Energy
1
2
3
4
Energy (MeV)
13
14
15
16
17
18
19
20


ENDF/B-VII.1 CS-137
Neutron emission for (n,n*)t
Prob/MeV
10^1
10^-1
10^-3
0
1
2
3
Sec. Energy
13
14
15
16
17
18
19
20
Energy (MeV)


ENDF/B-VII.1 CS-137
Neutron emission for (n,n*c)
Prob/MeV
10^{0}
10^{-2}
10^{-4}
0
5
10
15
20
Sec. Energy
2
4
6
8
10
12
14
16
18
20
Energy (MeV)