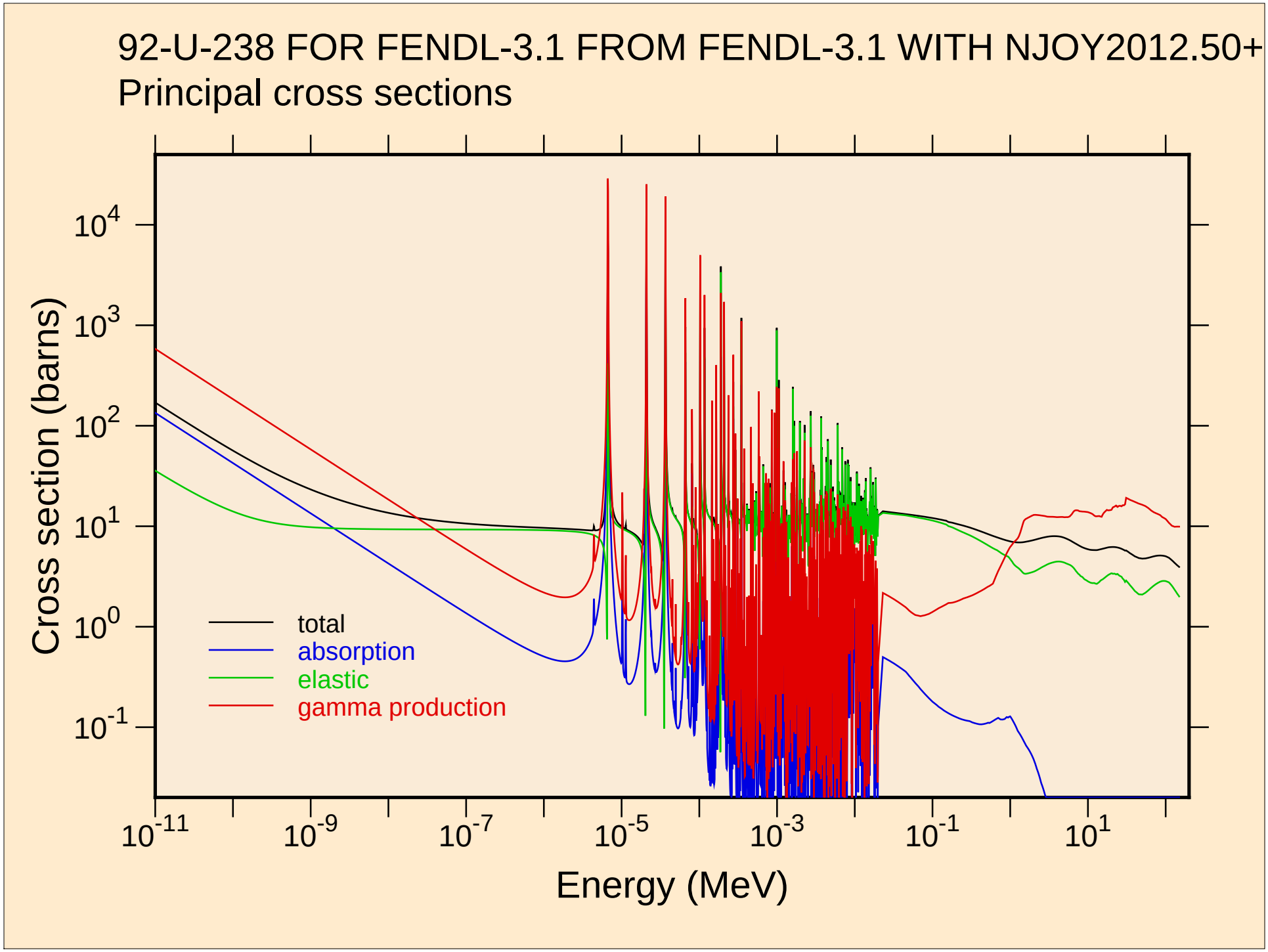
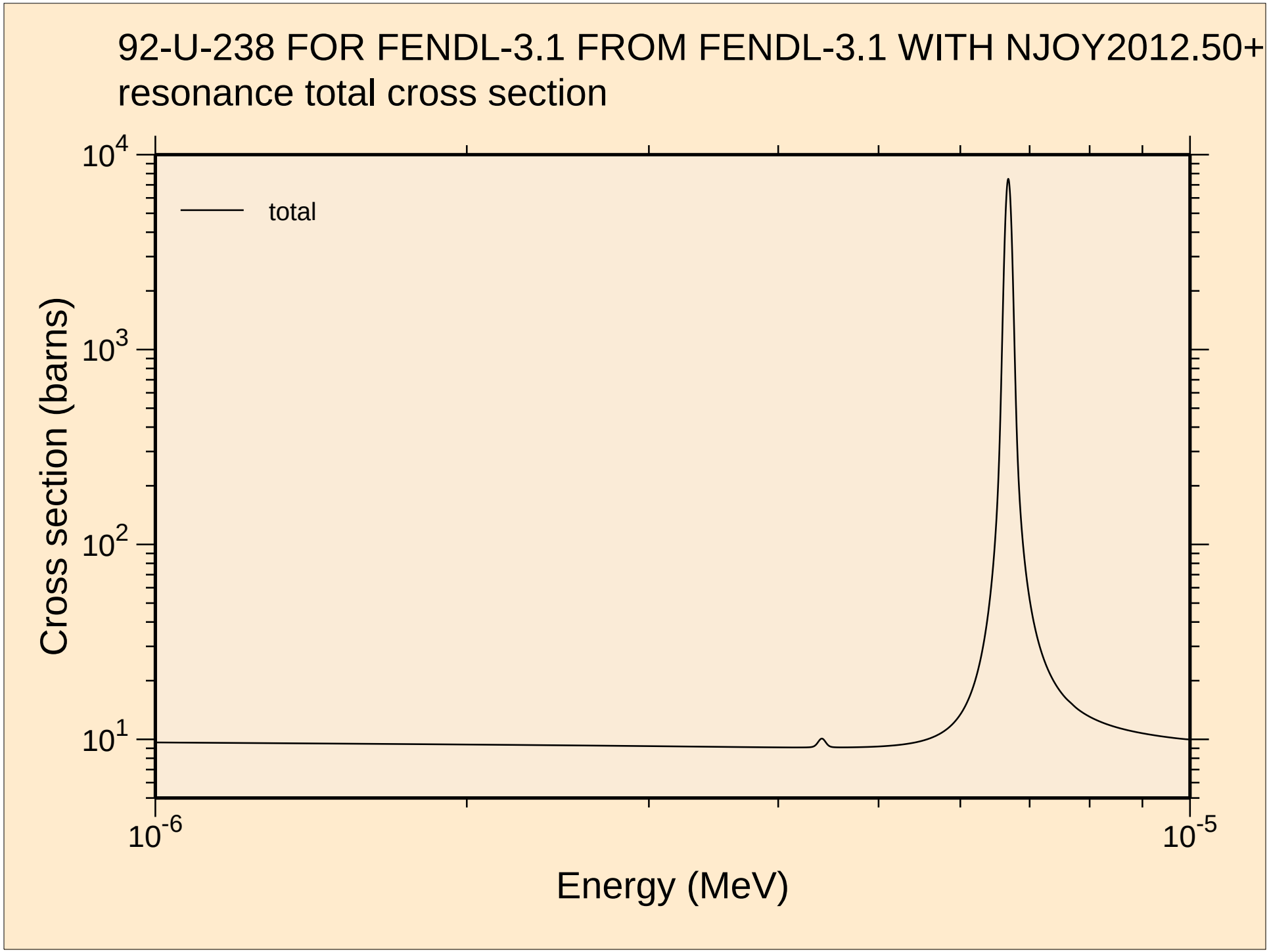
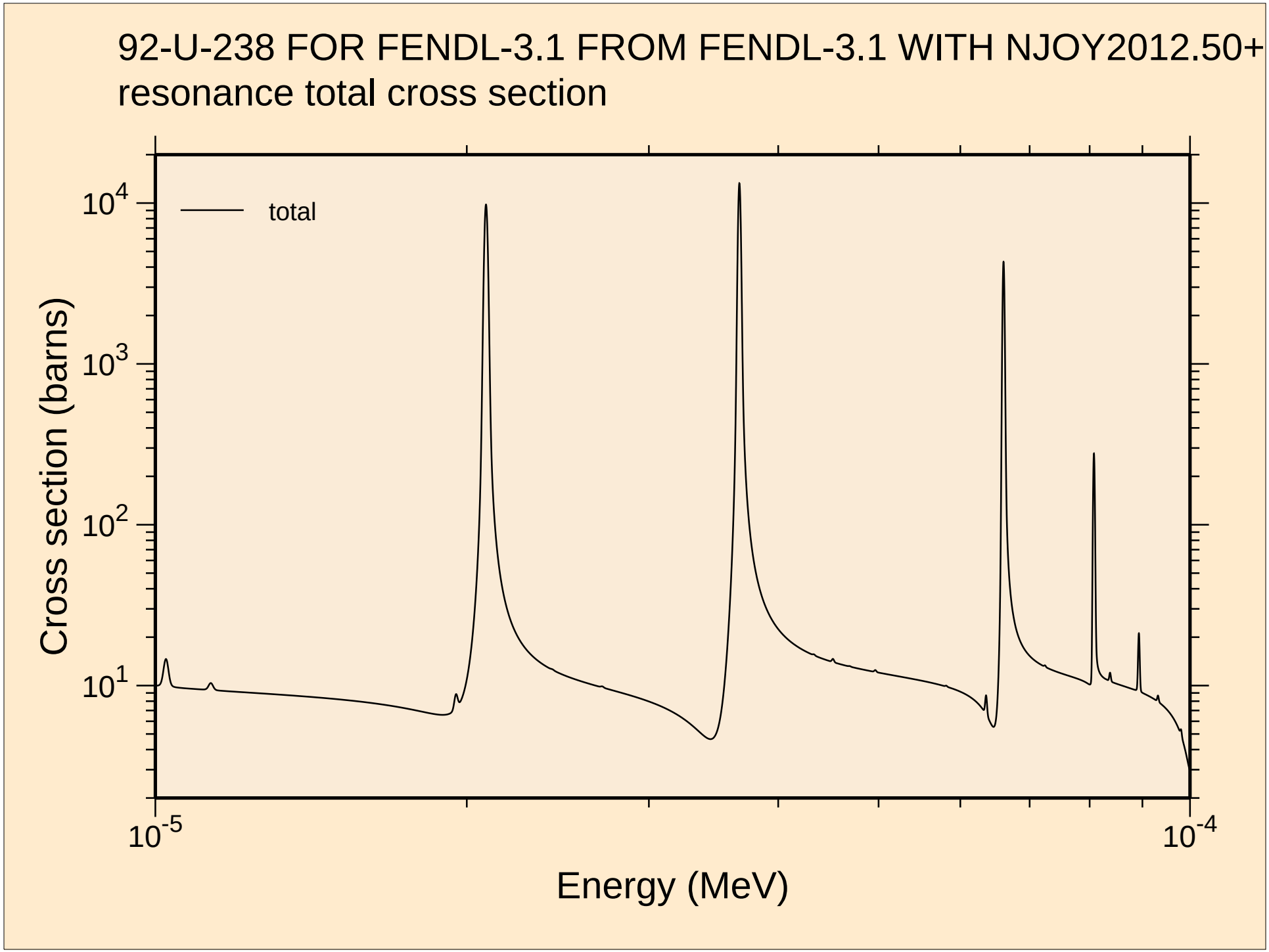
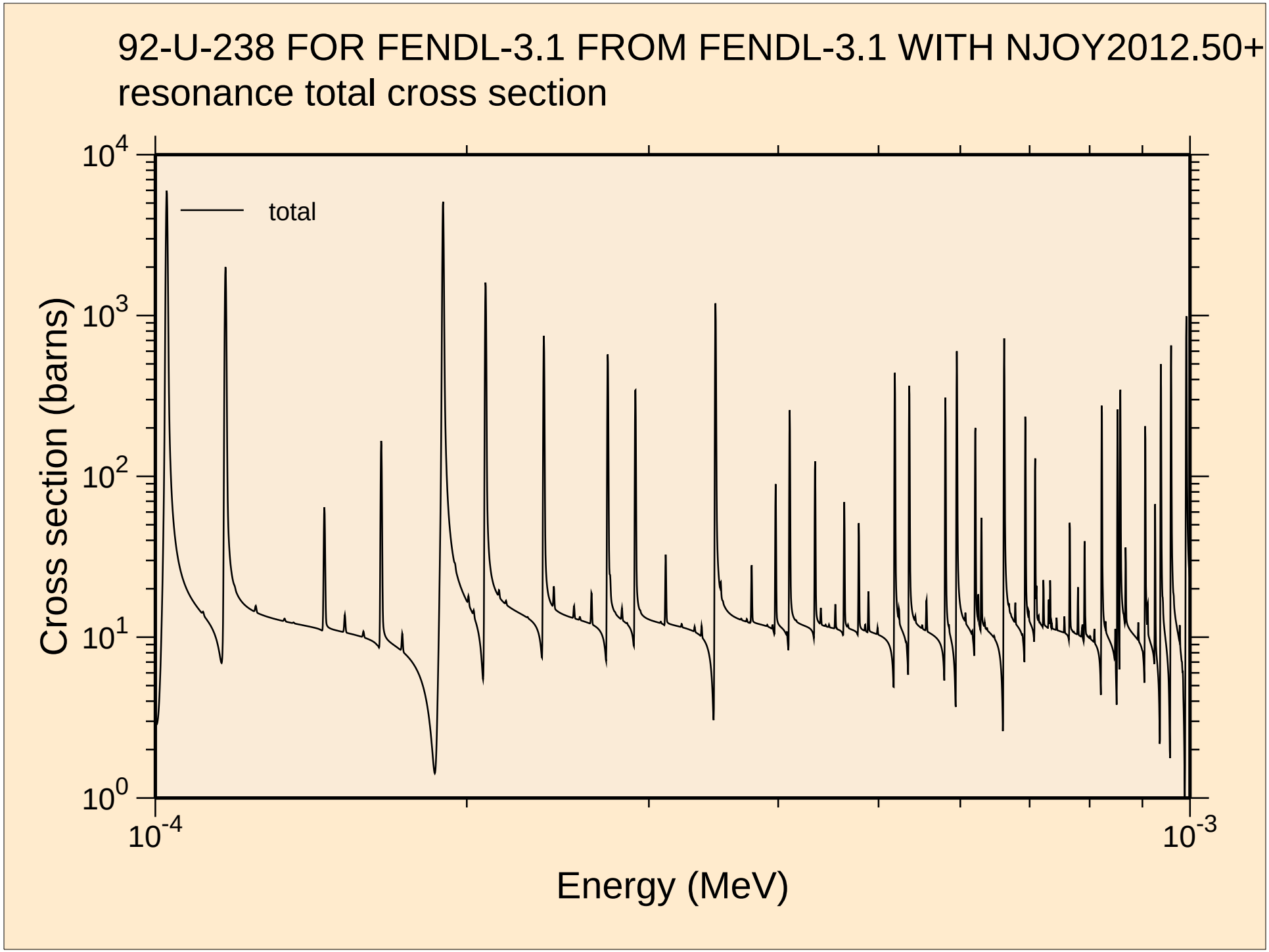
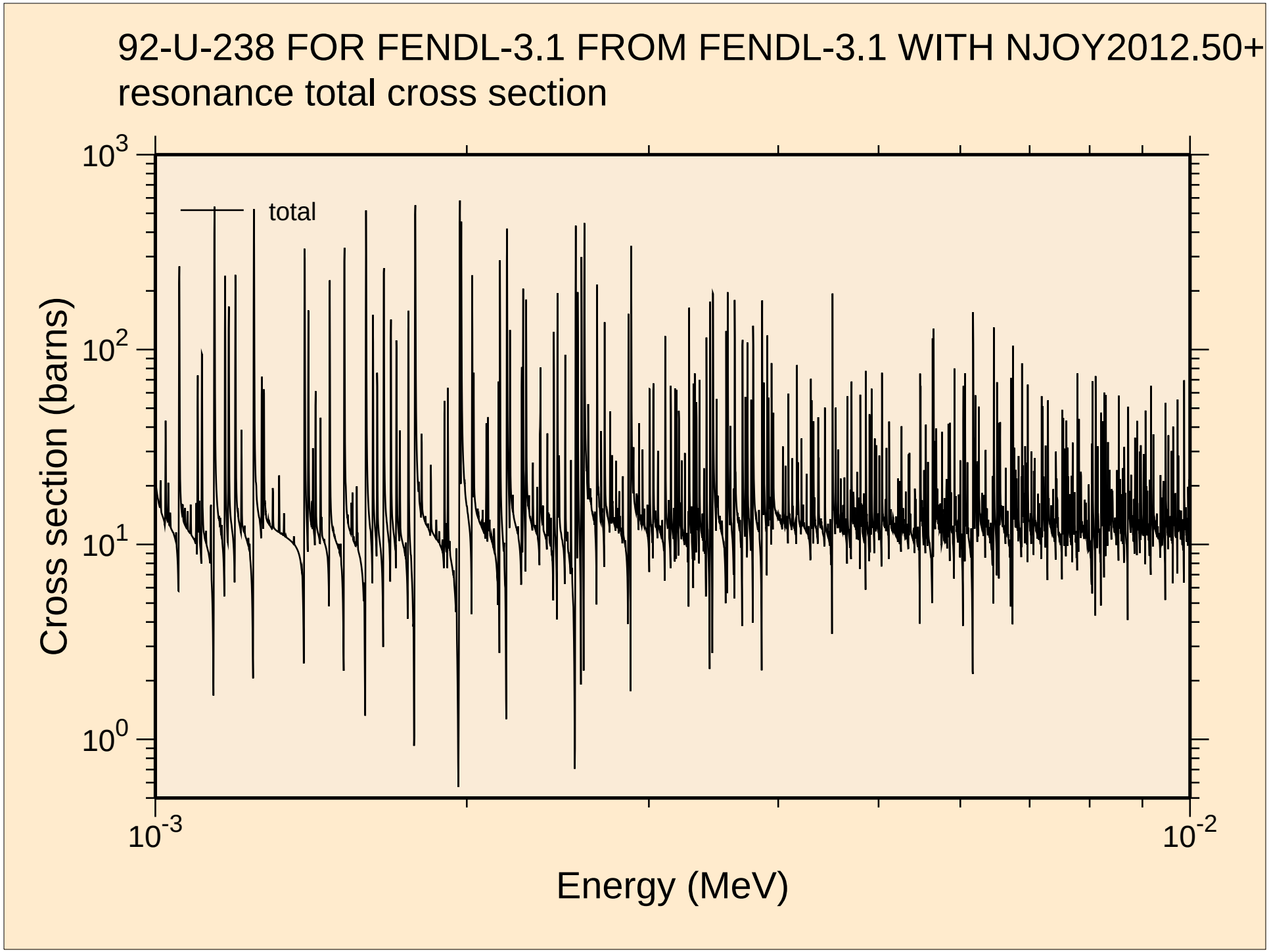
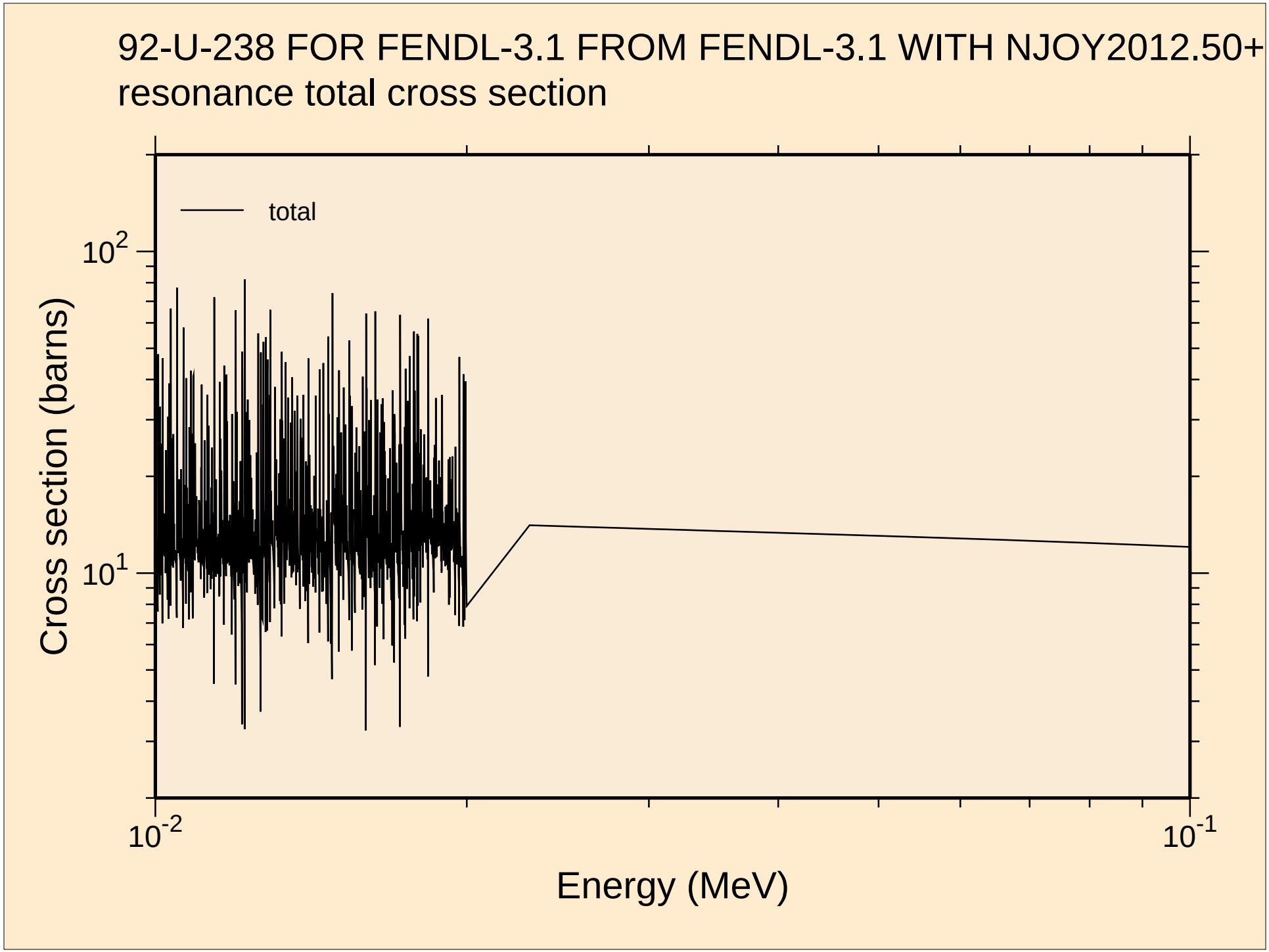

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Principal cross sections
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
total
absorption
elastic
gamma production
10^{-11}
10^{-9}
10^{-7}
10^{-5}
10^{-3}
10^{-1}
10^{1}
Energy (MeV)

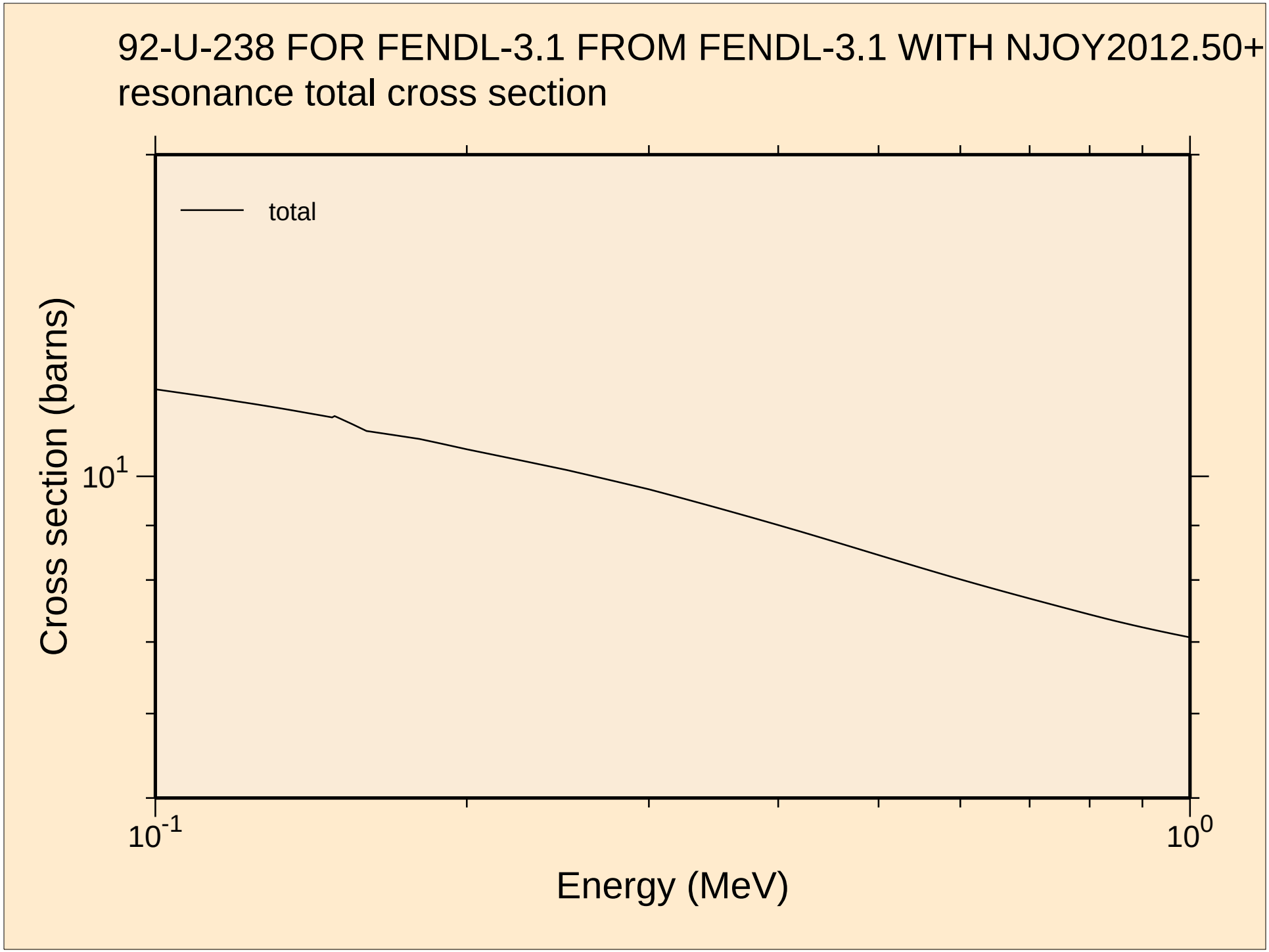

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^-6
10^-5
Energy (MeV)

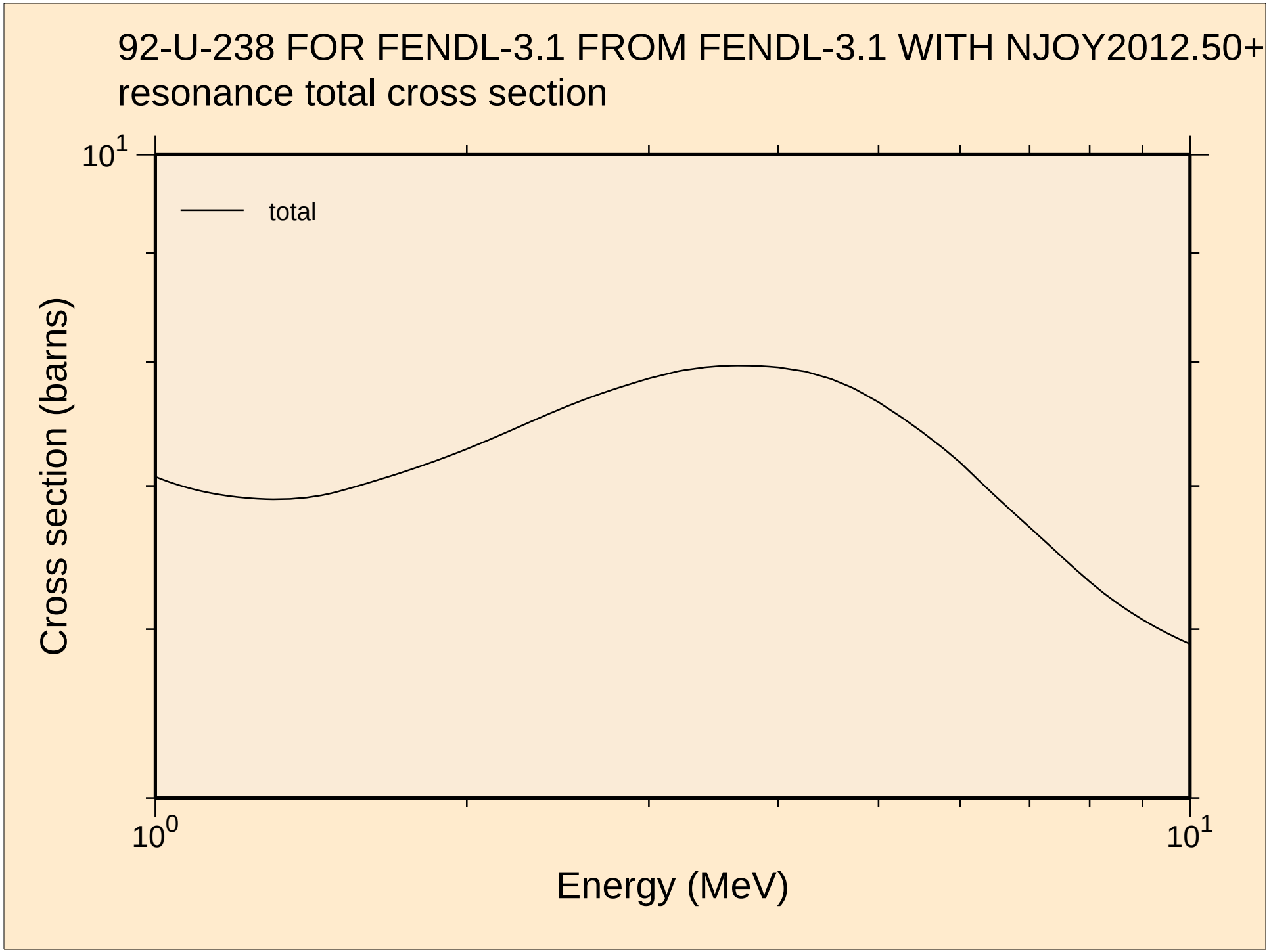

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^-5
10^-4
Energy (MeV)

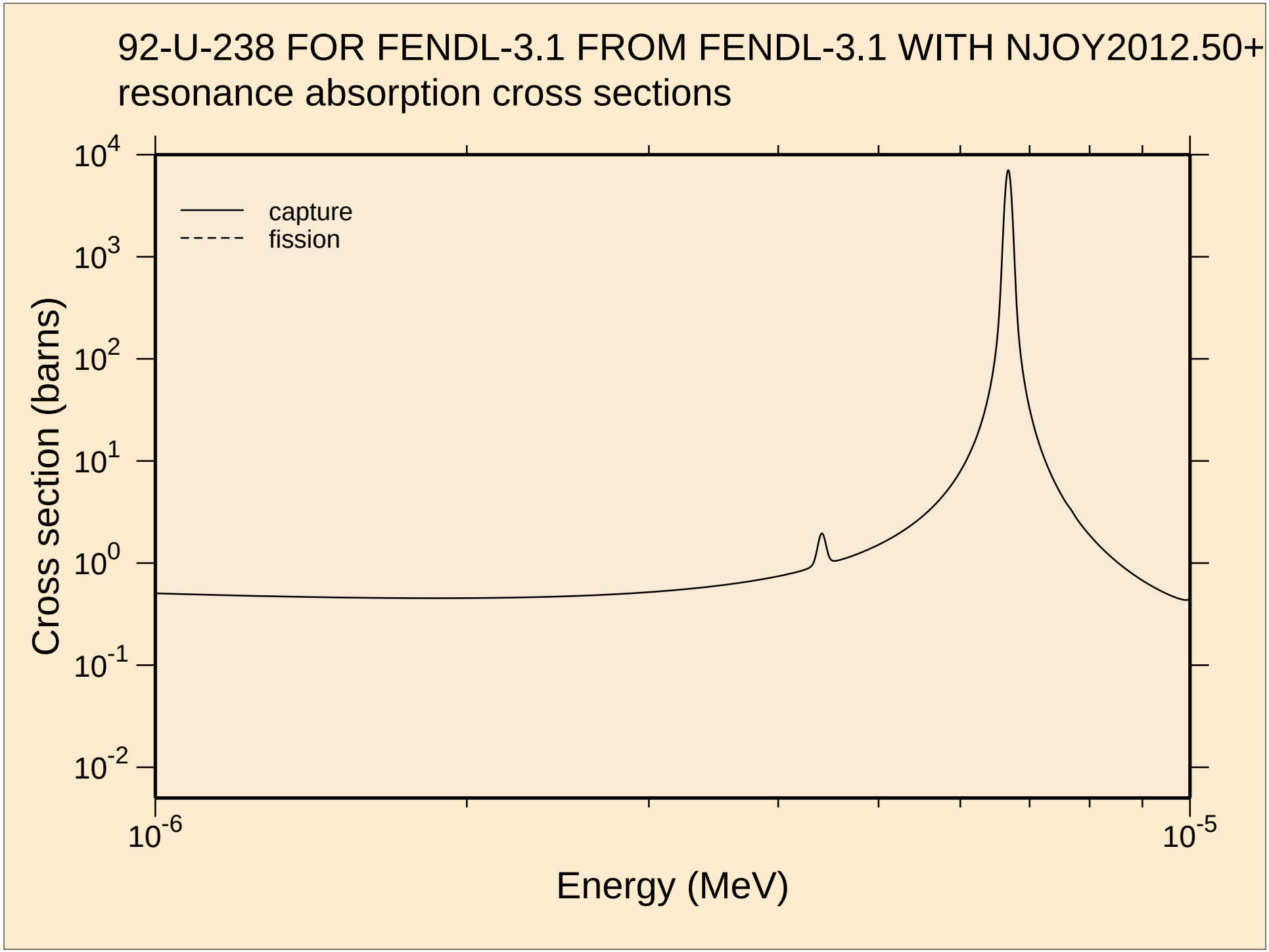

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
total
Cross section (barns)
10^4
10^3
10^2
10^1
10^0
10^{-4}
10^{-3}
Energy (MeV)

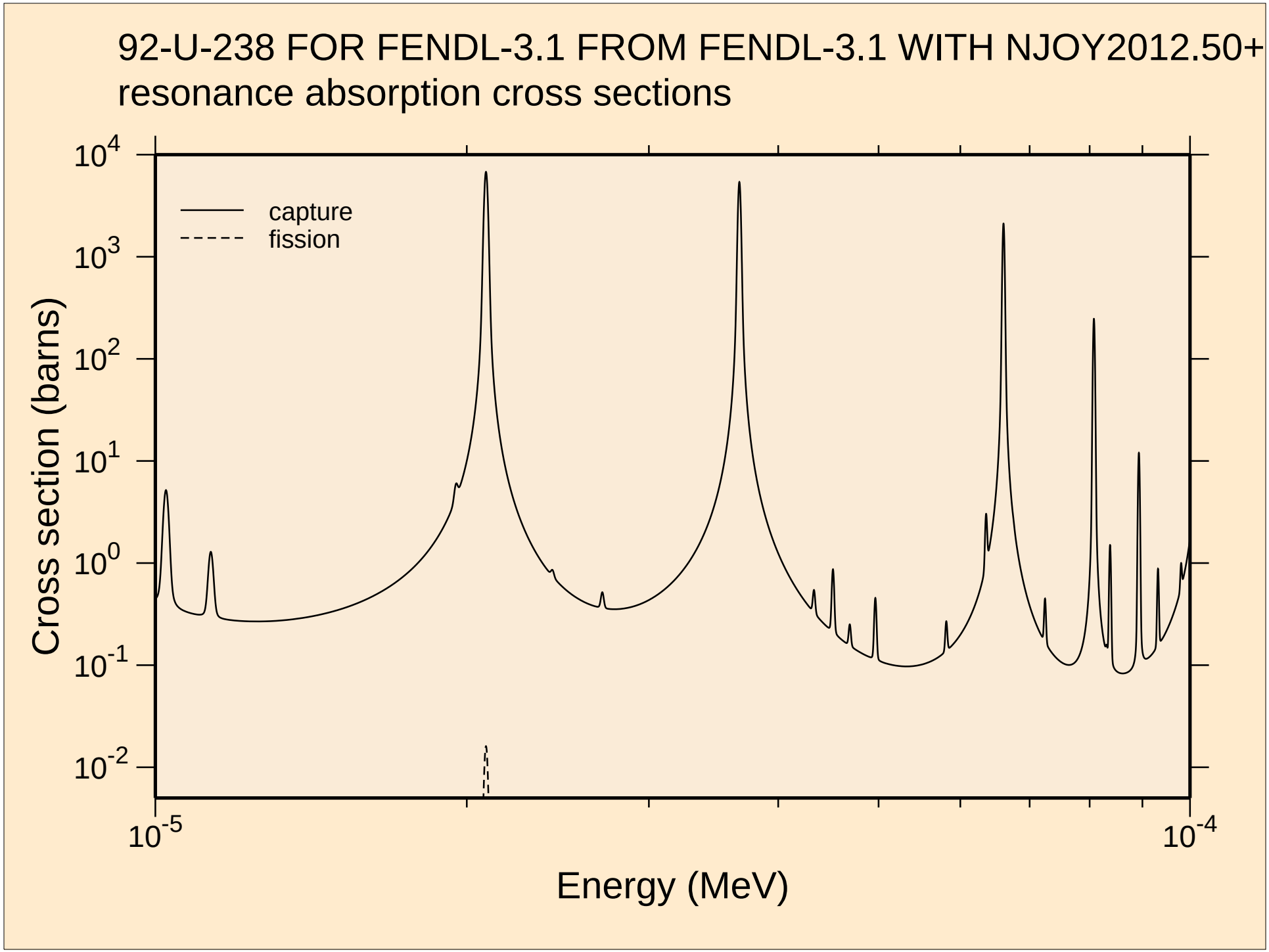

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
total
Cross section (barns)
10^3
10^2
10^1
10^0
10^-3
10^-2
Energy (MeV)

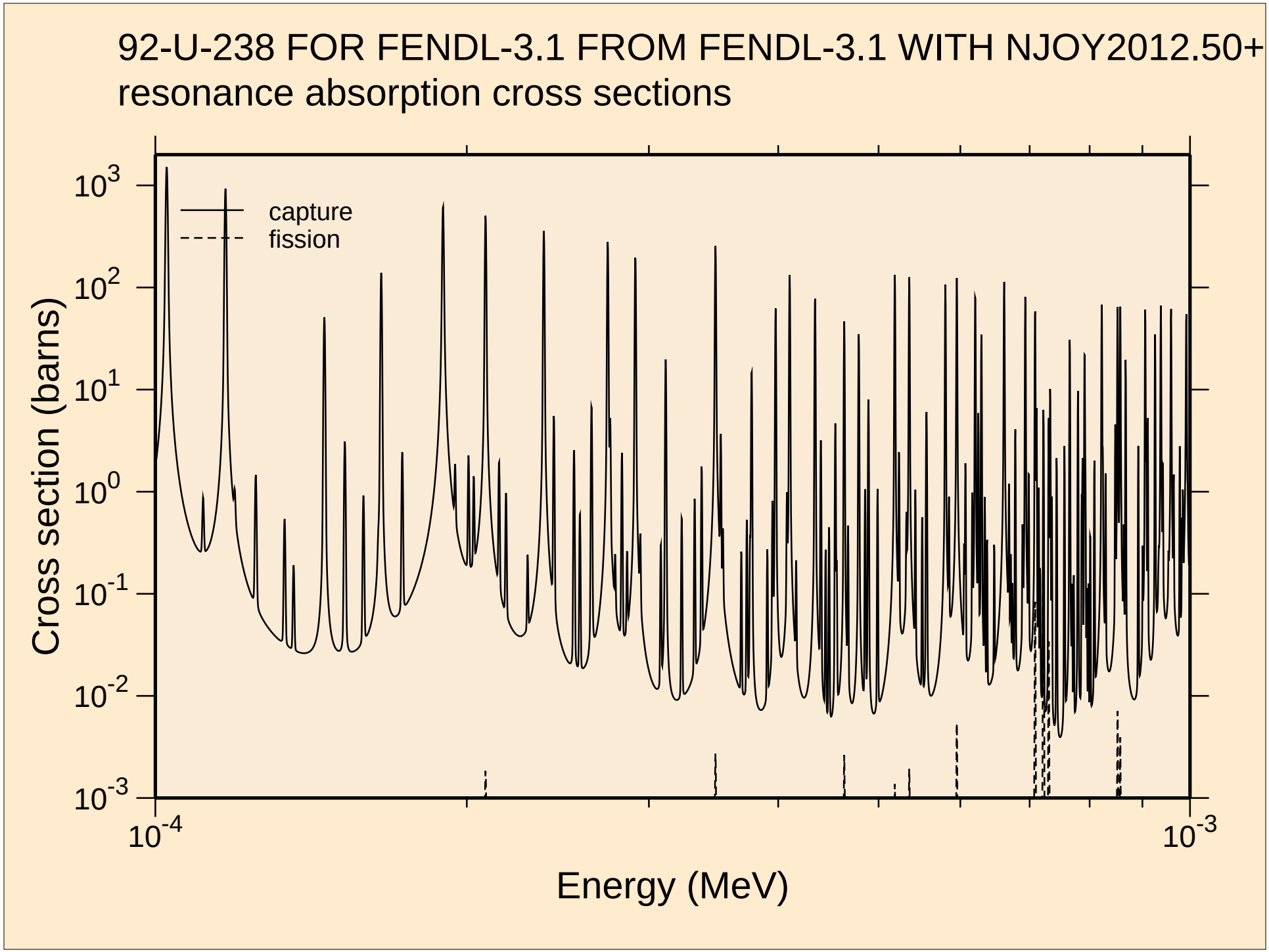

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
total
10^2
10^1
Cross section (barns)
10^{-2}
10^{-1}
Energy (MeV)

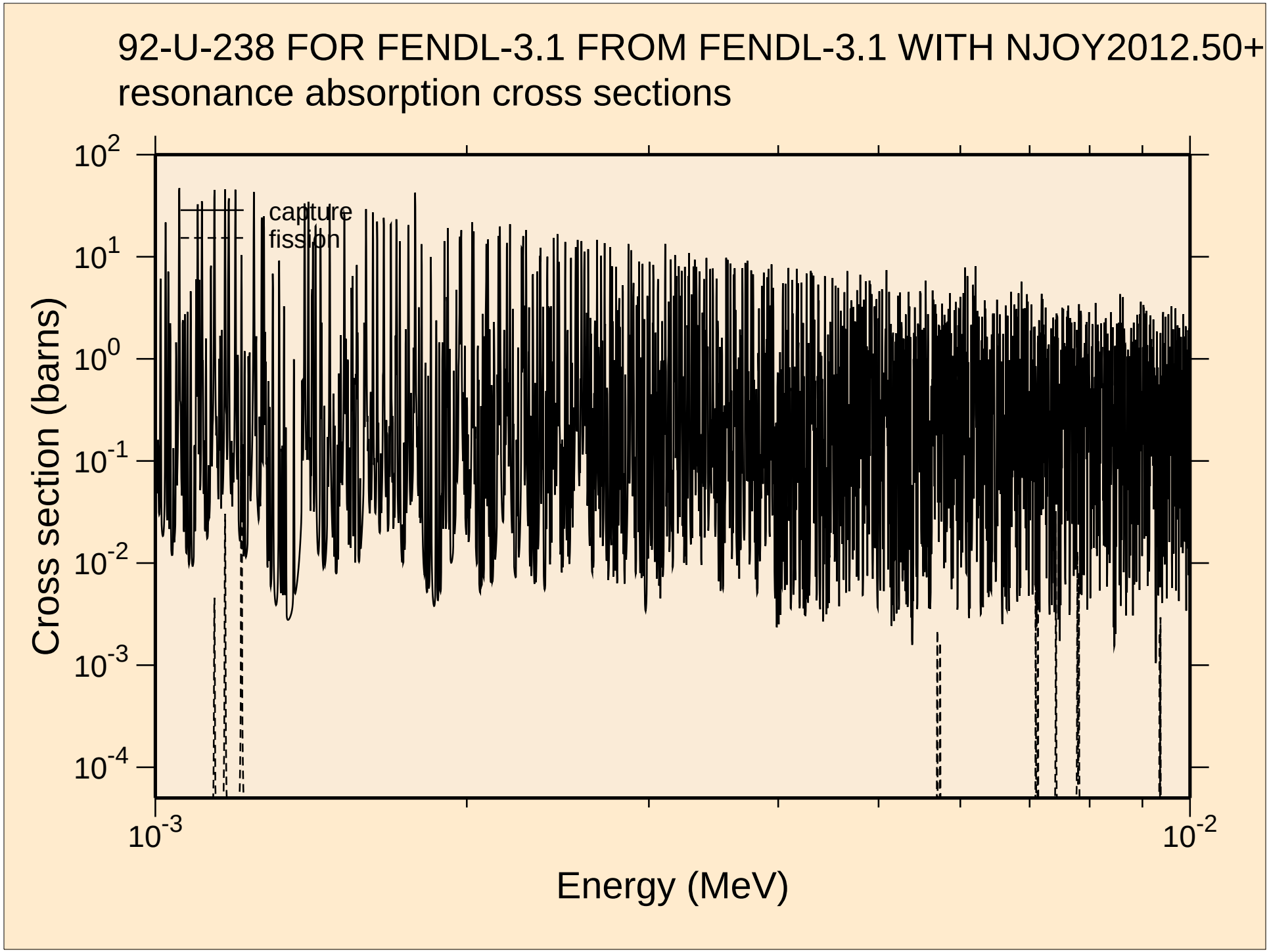

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
total
Cross section (barns)
10^1
10^-1
10^0
Energy (MeV)

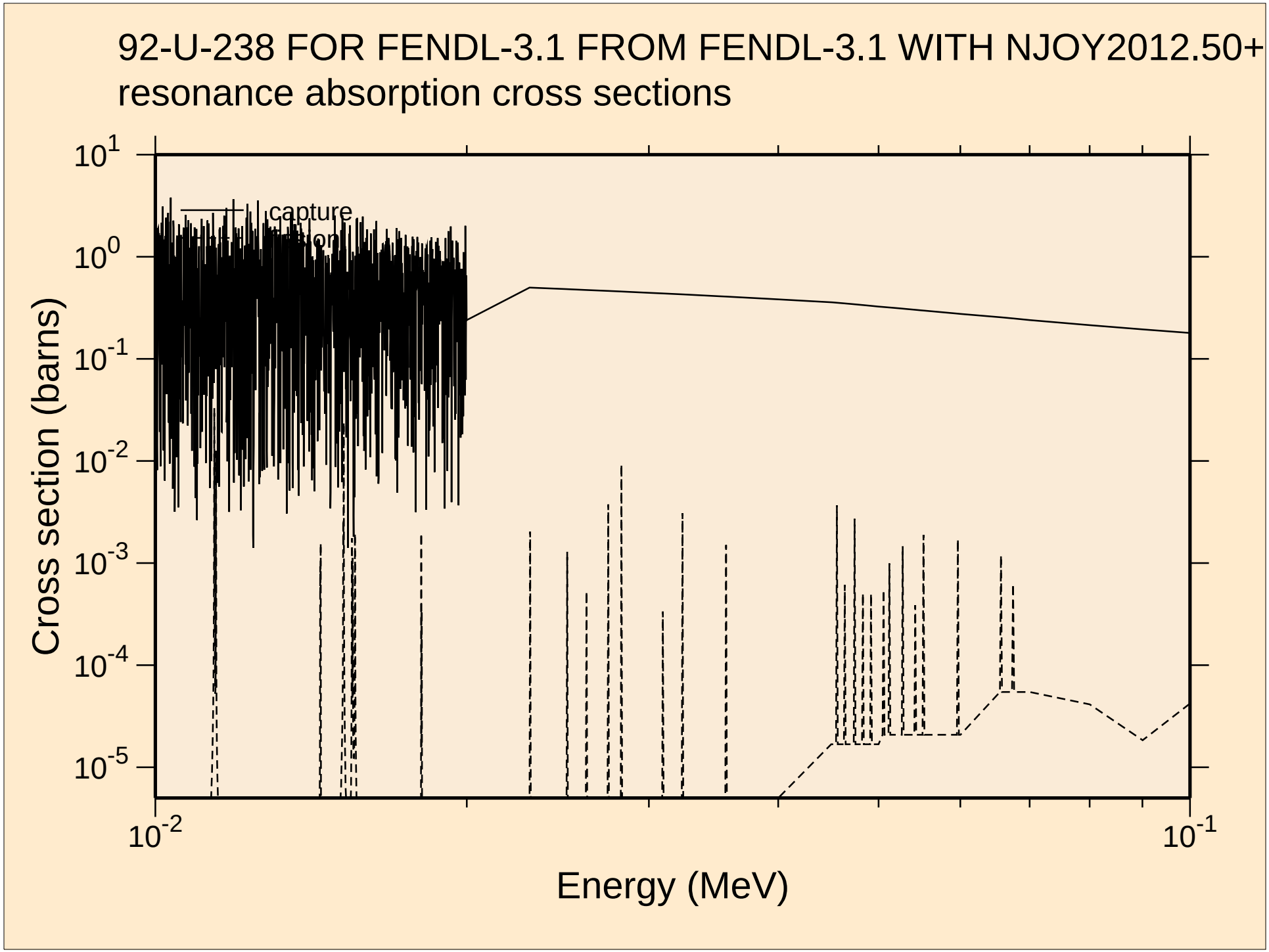

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance total cross section
10^1
total
Cross section (barns)
10^0
10^1
Energy (MeV)


92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections
capture
fission
Cross section (barns)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-6
10^-5
Energy (MeV)

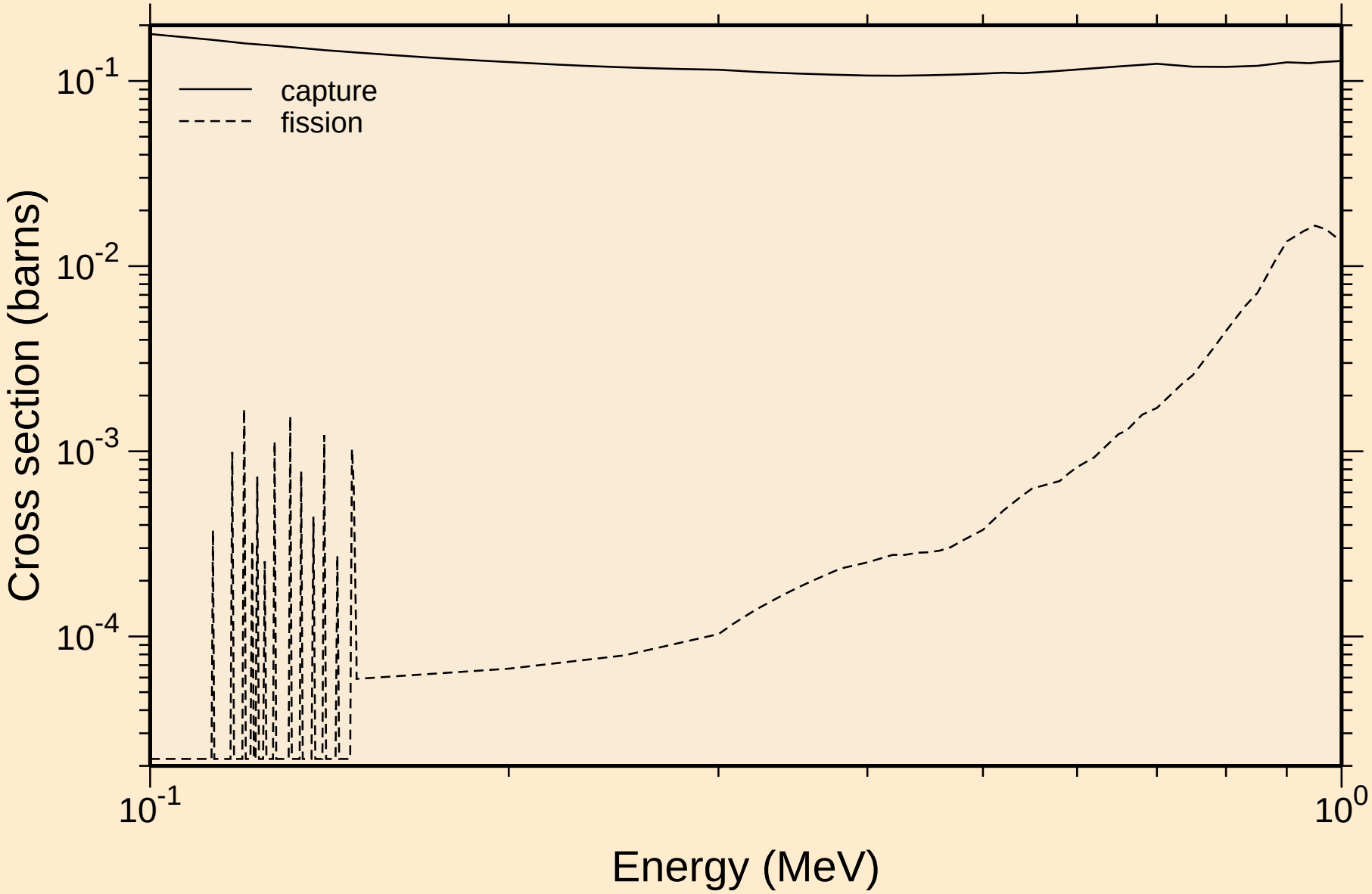

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections
capture
fission
Cross section (barns)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-5
10^-4
Energy (MeV)

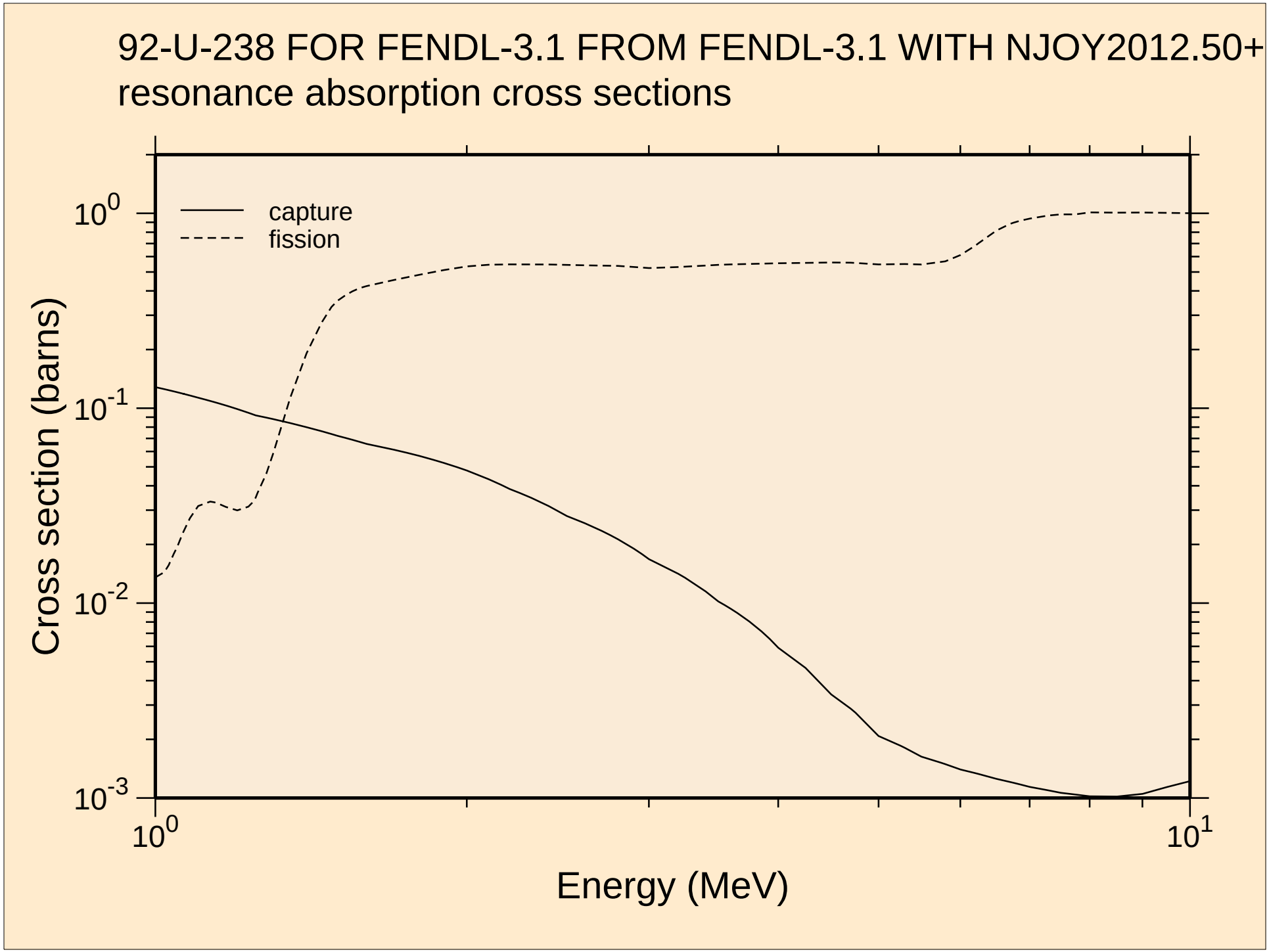

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections
capture
fission
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-3
Energy (MeV)

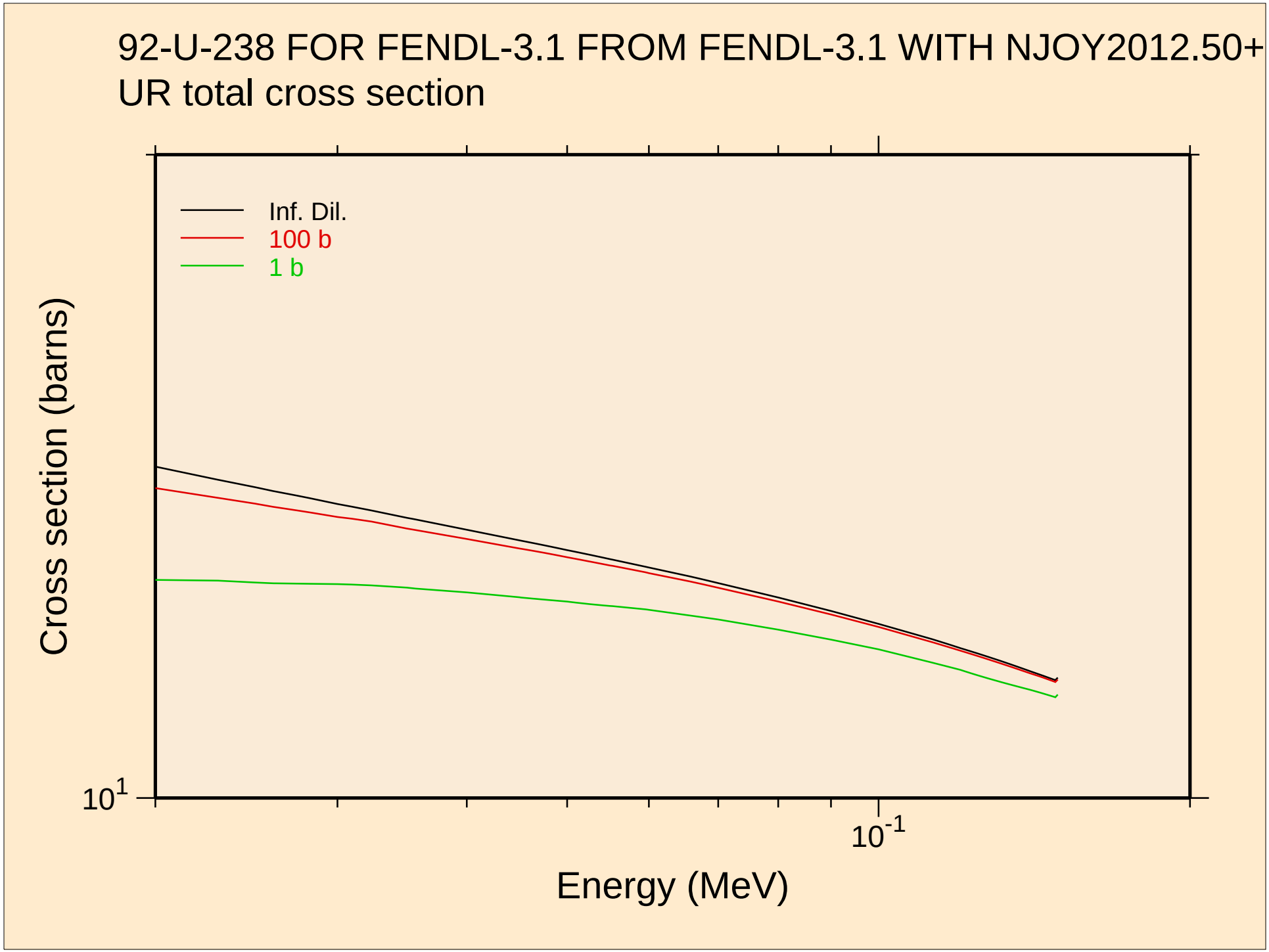

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections
capture
fission
Cross section (barns)
10^{2}
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-3}
10^{-2}
Energy (MeV)

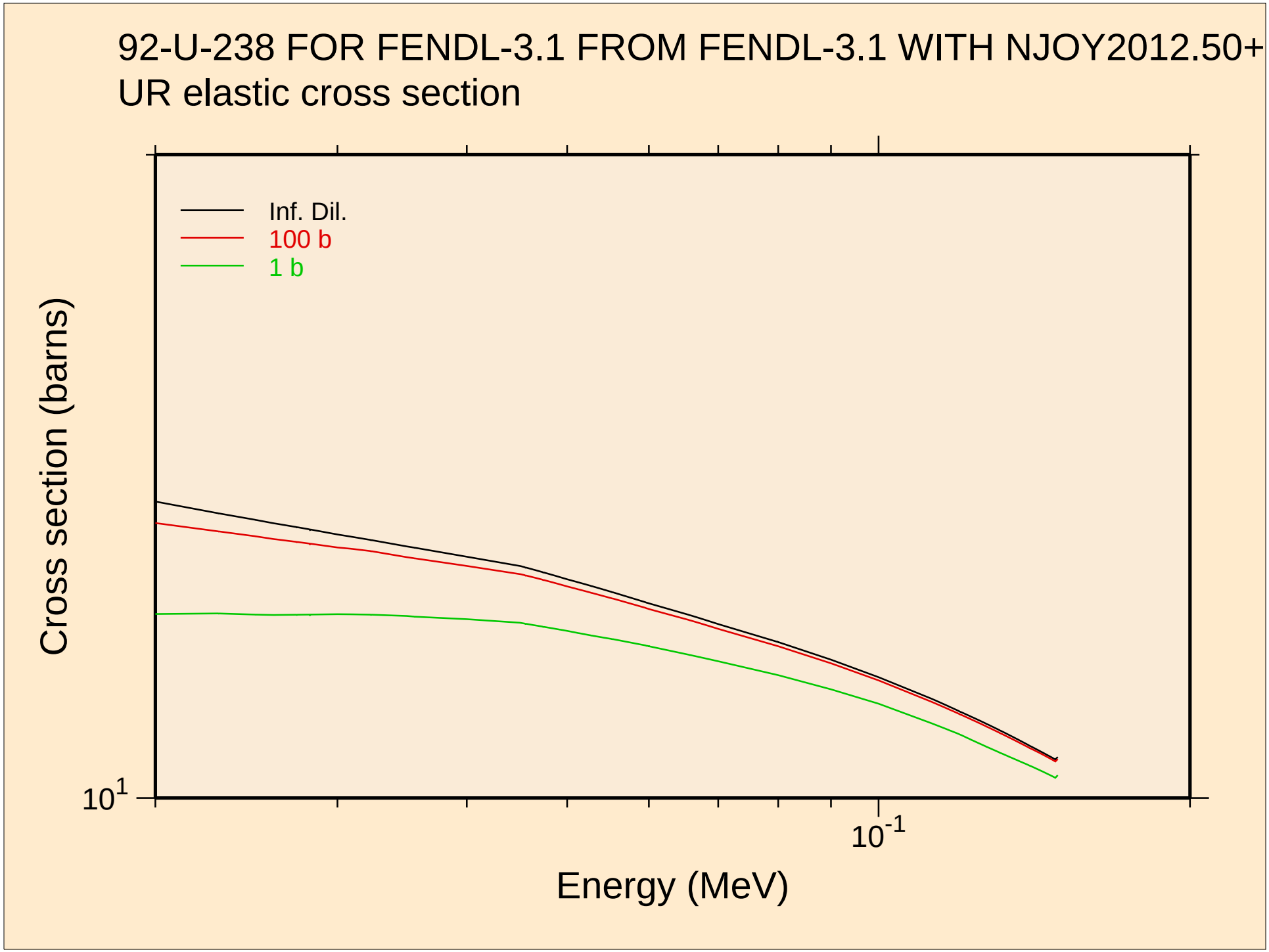

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections
capture
Cross section (barns)
Energy (MeV)
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-2
10^-1

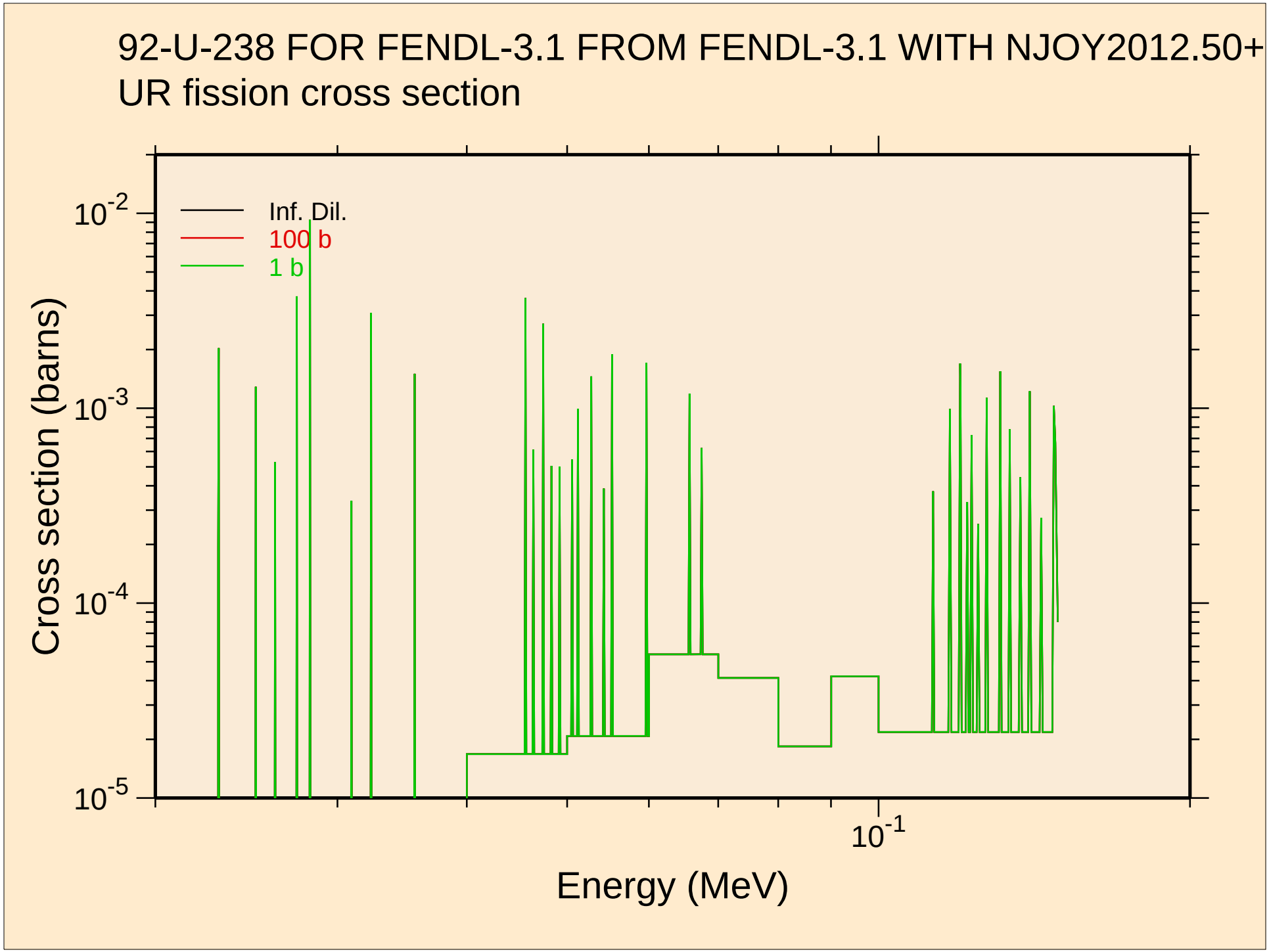
92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections

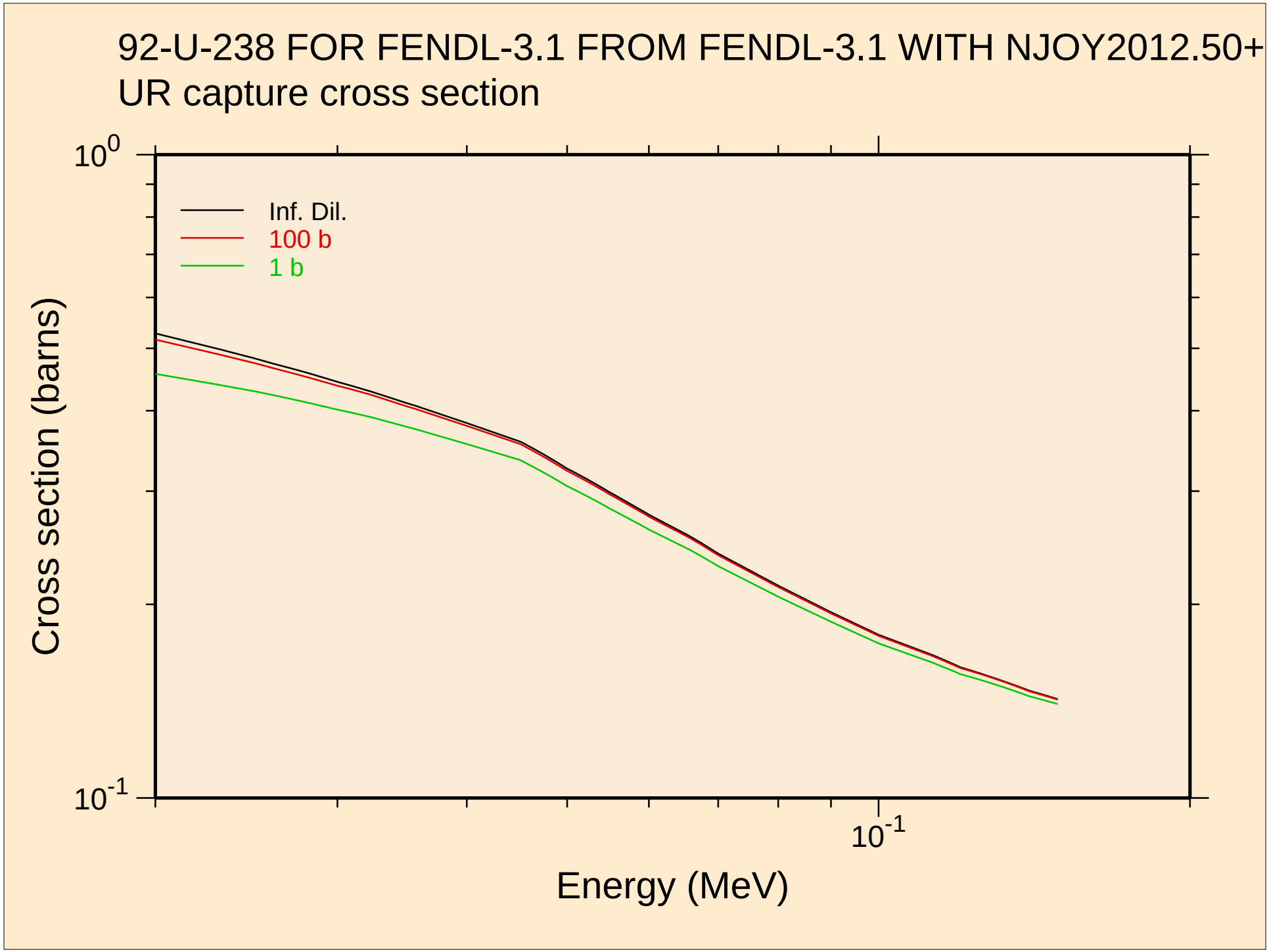


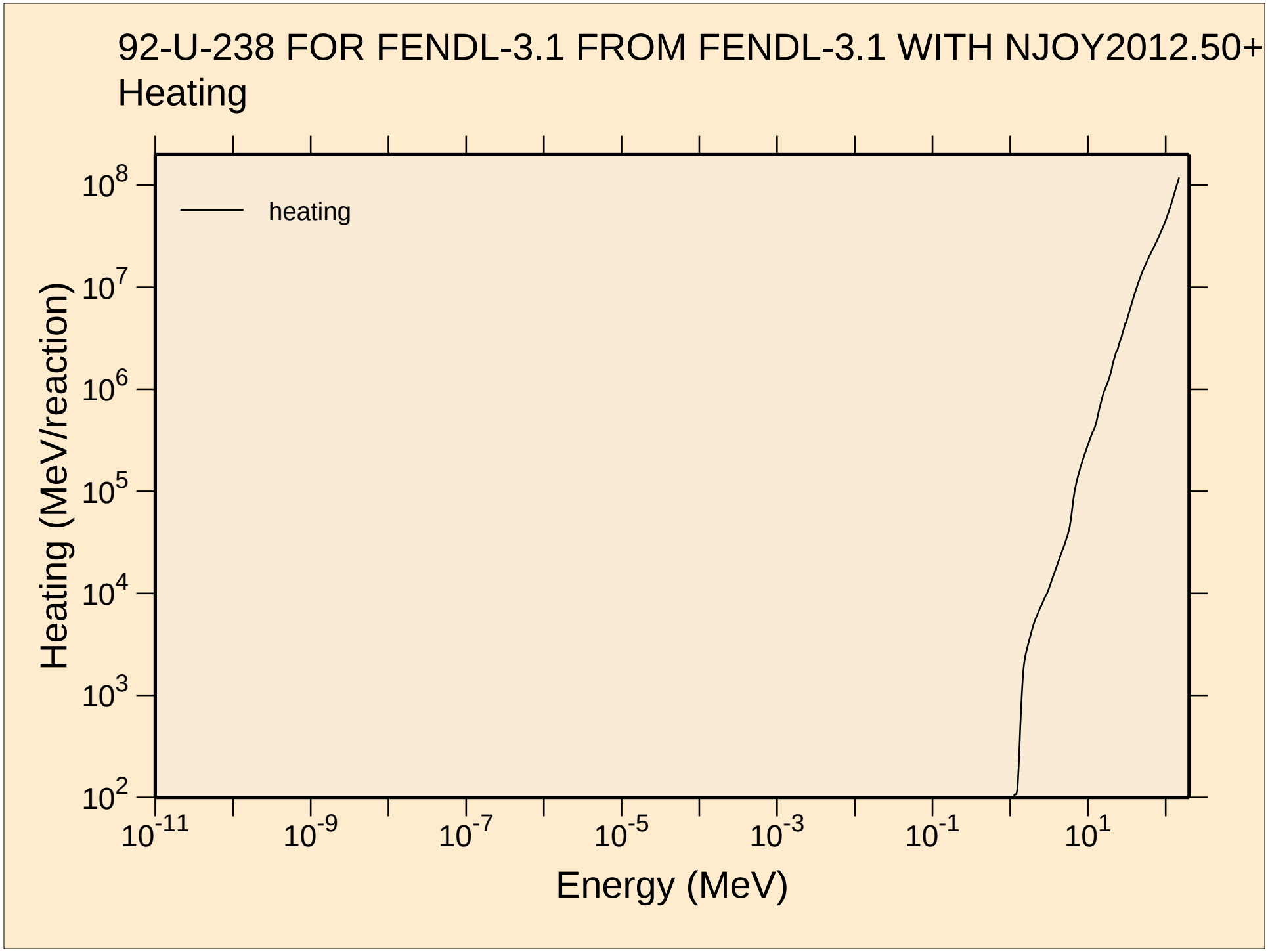

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
resonance absorption cross sections
capture
fission
Cross section (barns)
10^0
10^-1
10^-2
10^-3
10^0
10^1
Energy (MeV)

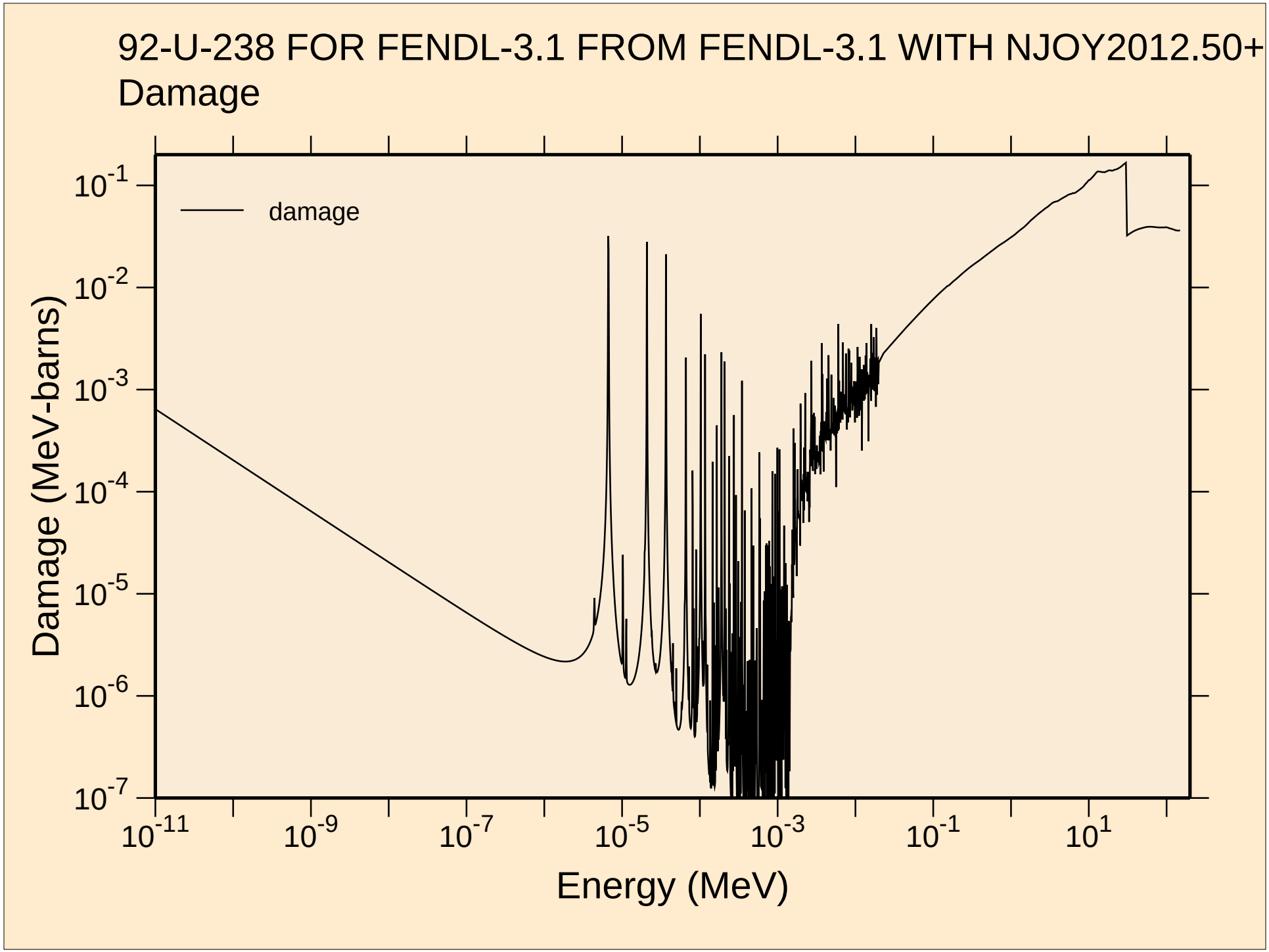

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
UR total cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-1
Energy (MeV)

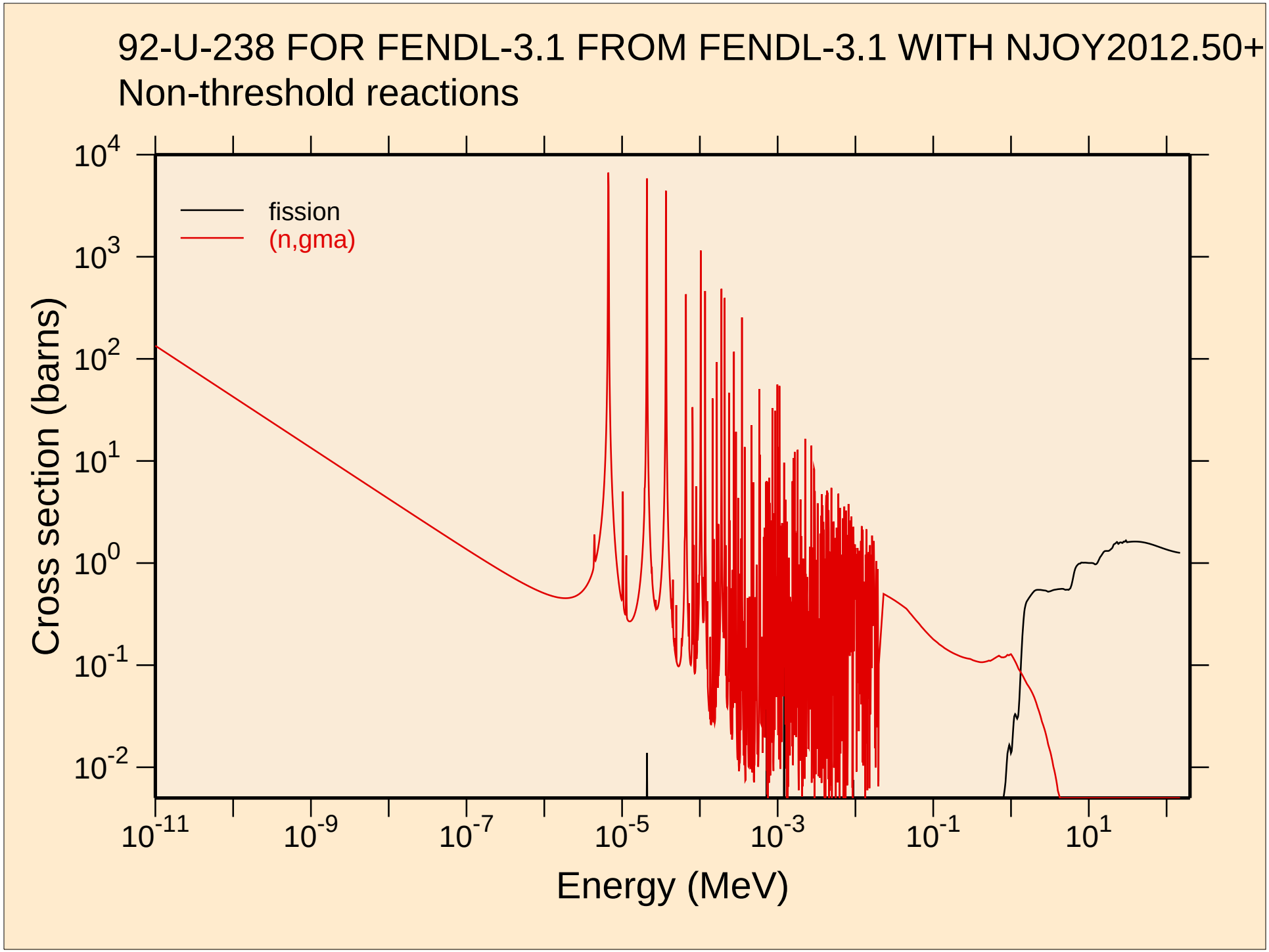

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
UR elastic cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-1
Energy (MeV)

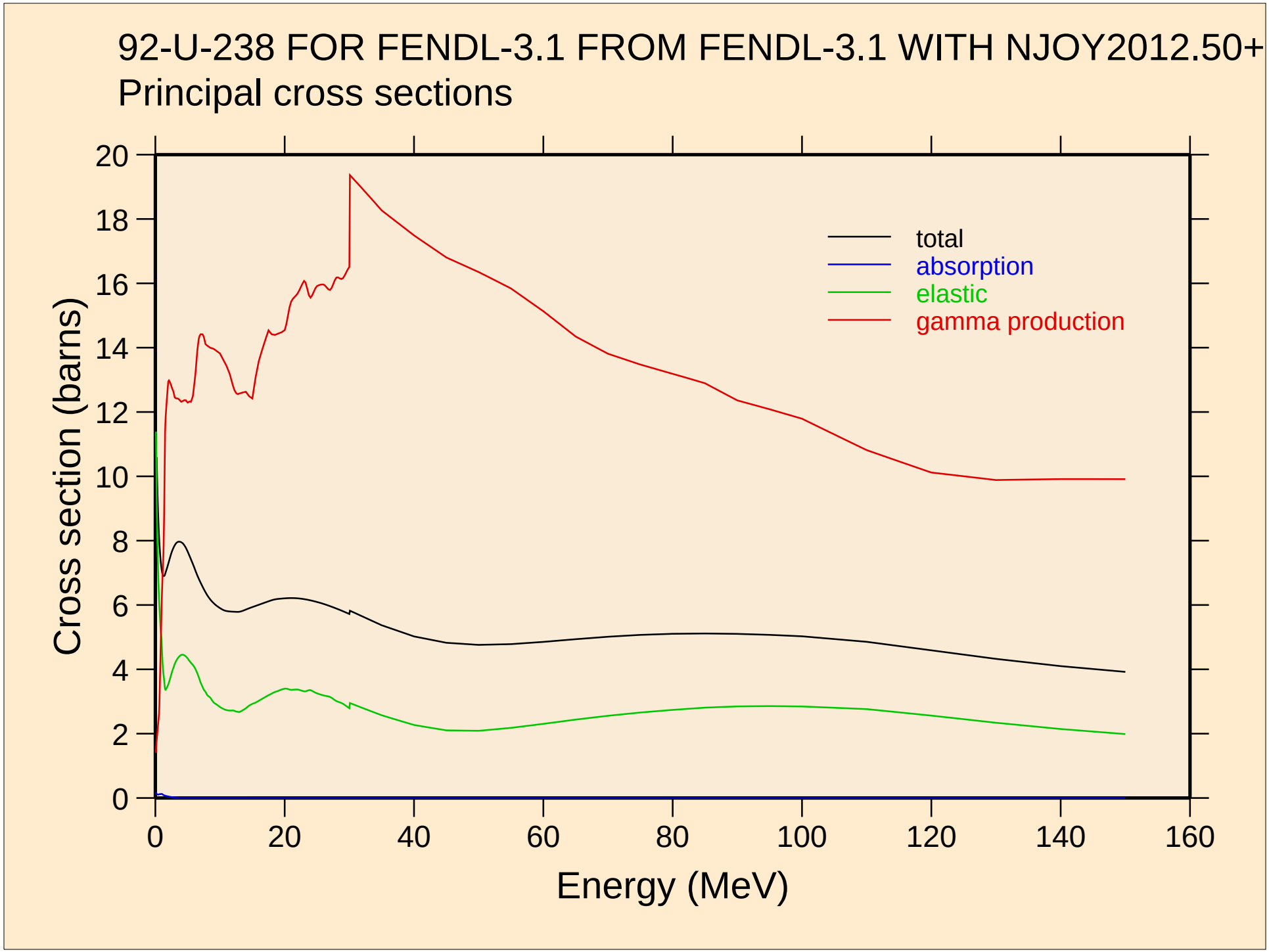

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
UR fission cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10-2
10-3
10-4
10-5
10-1
Energy (MeV)

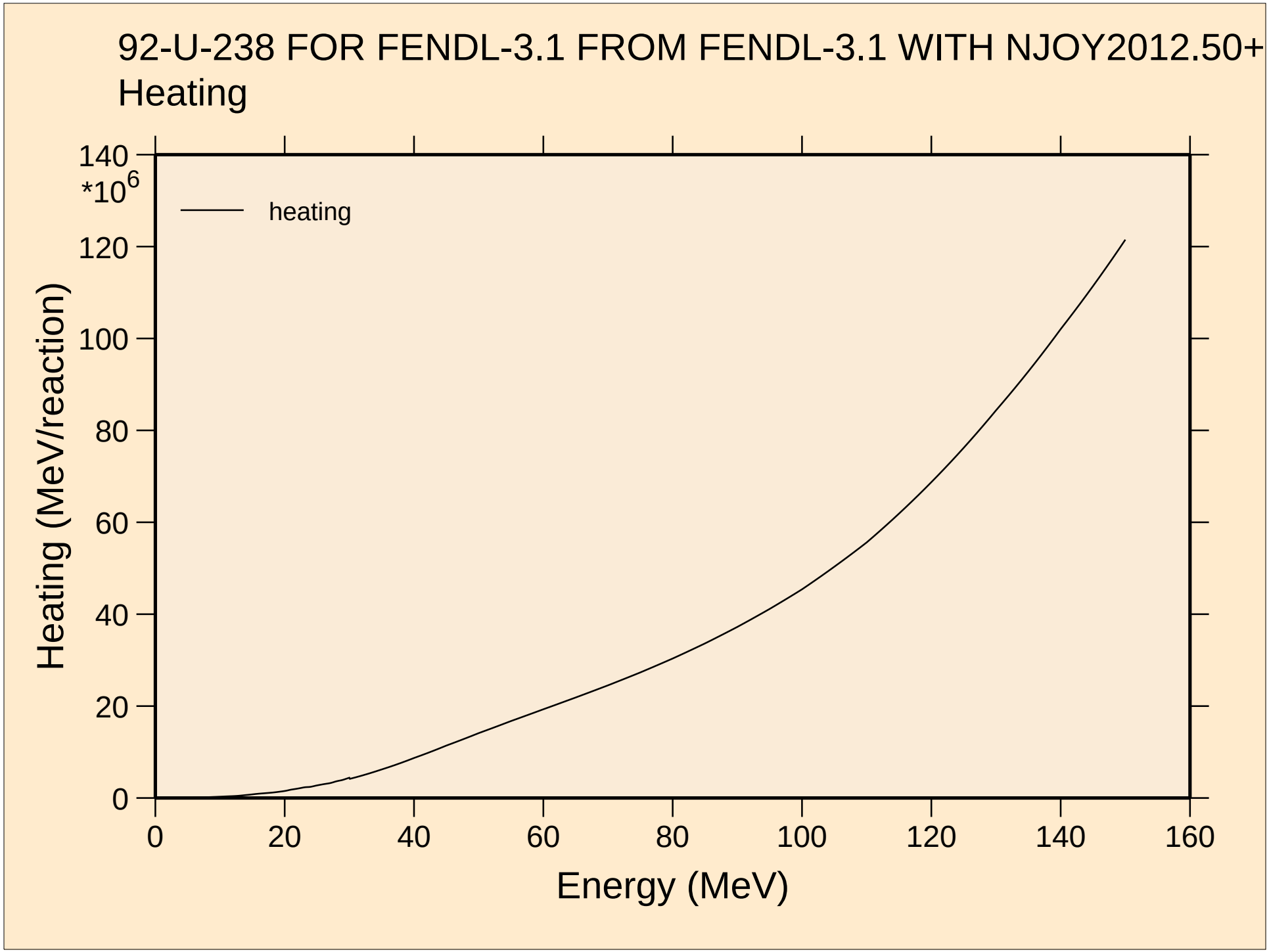

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
UR capture cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
Energy (MeV)
10^0
10^-1
10^-1

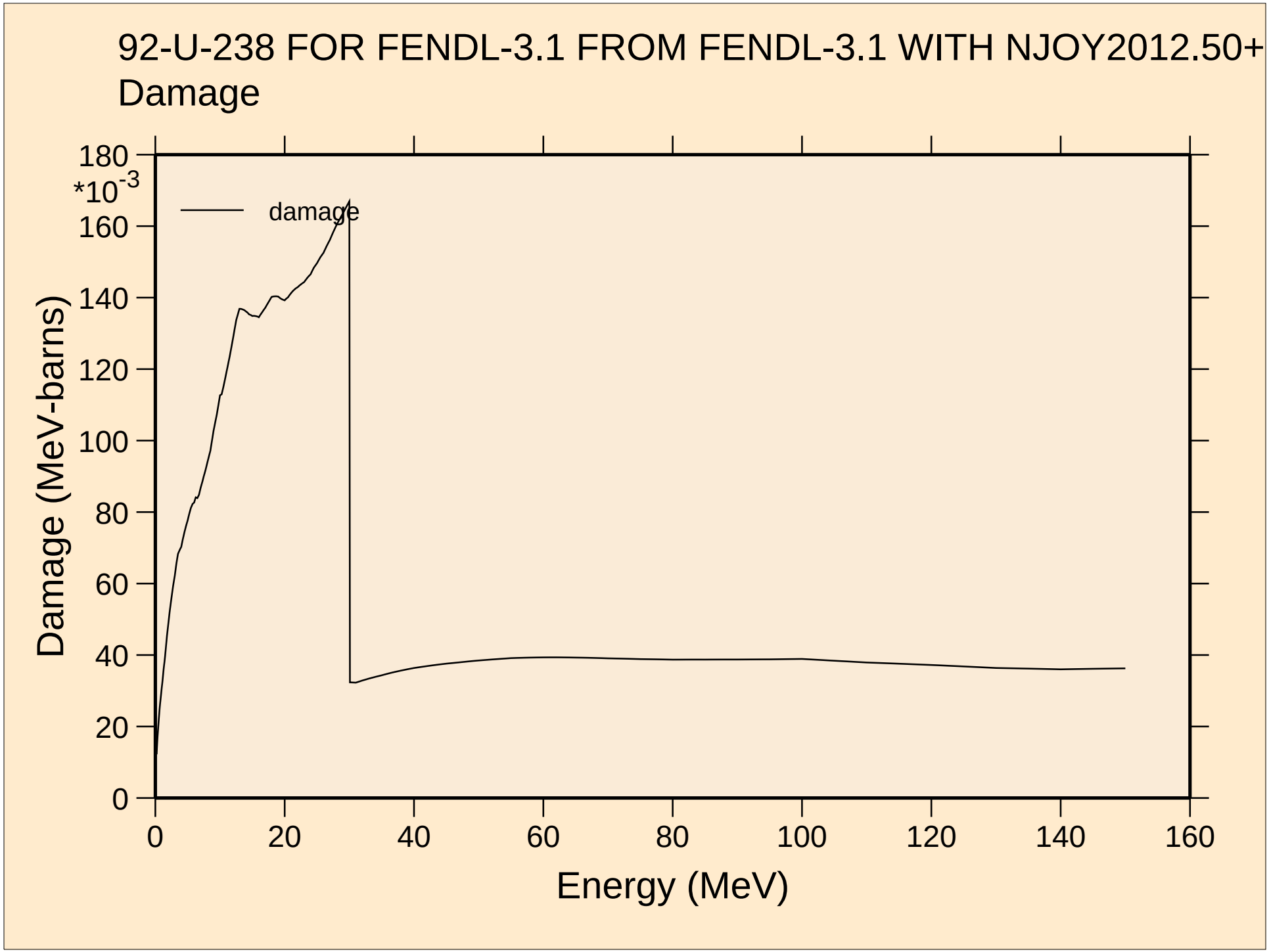

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Heating
heating
Heating (MeV/reaction)
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
10^{2}
10^{-11}
10^{-9}
10^{-7}
10^{-5}
10^{-3}
10^{-1}
10^{1}
Energy (MeV)

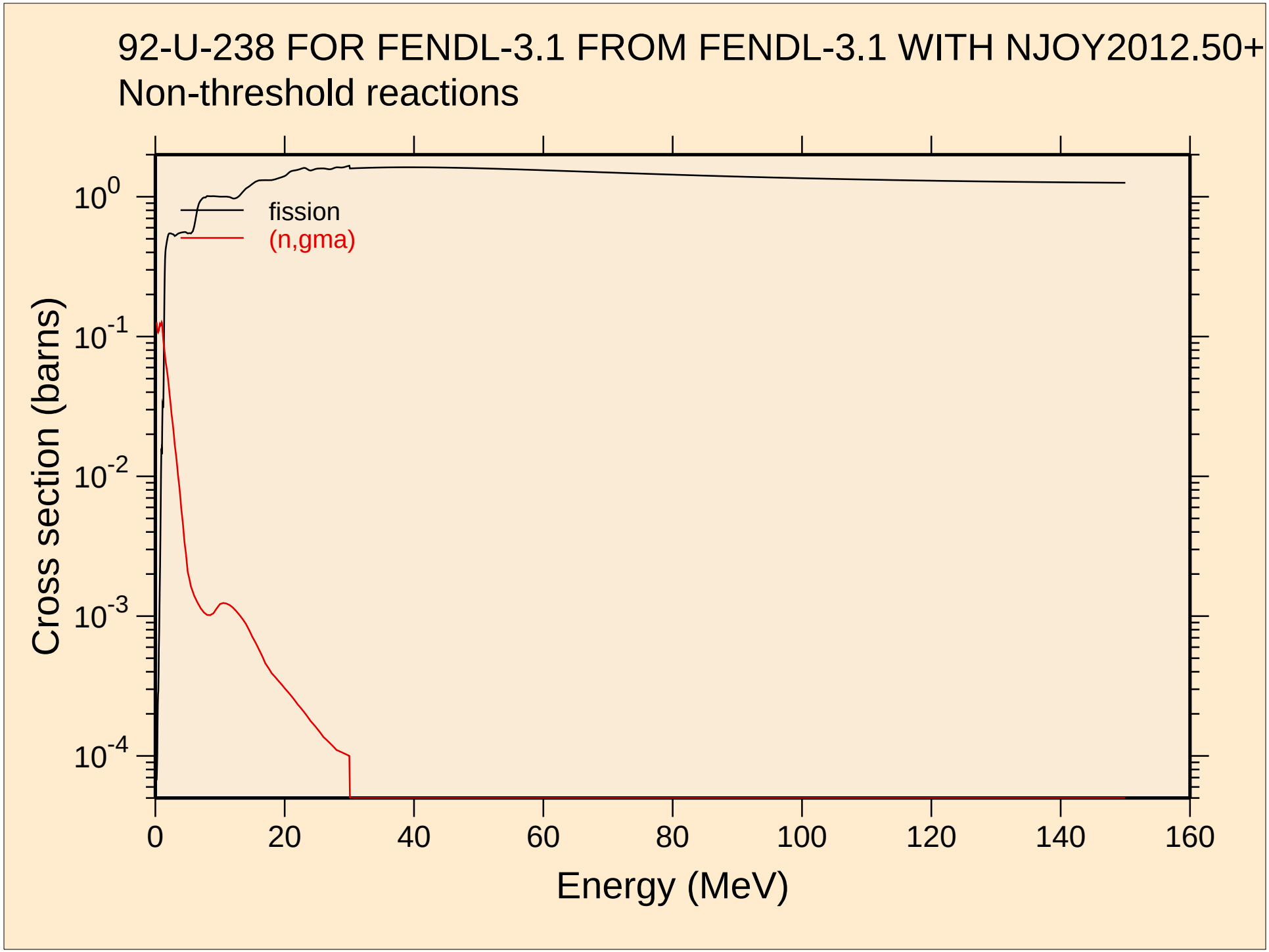

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10-1
10-2
10-3
10-4
10-5
10-6
10-7
10-11
10-9
10-7
10-5
10-3
10-1
101

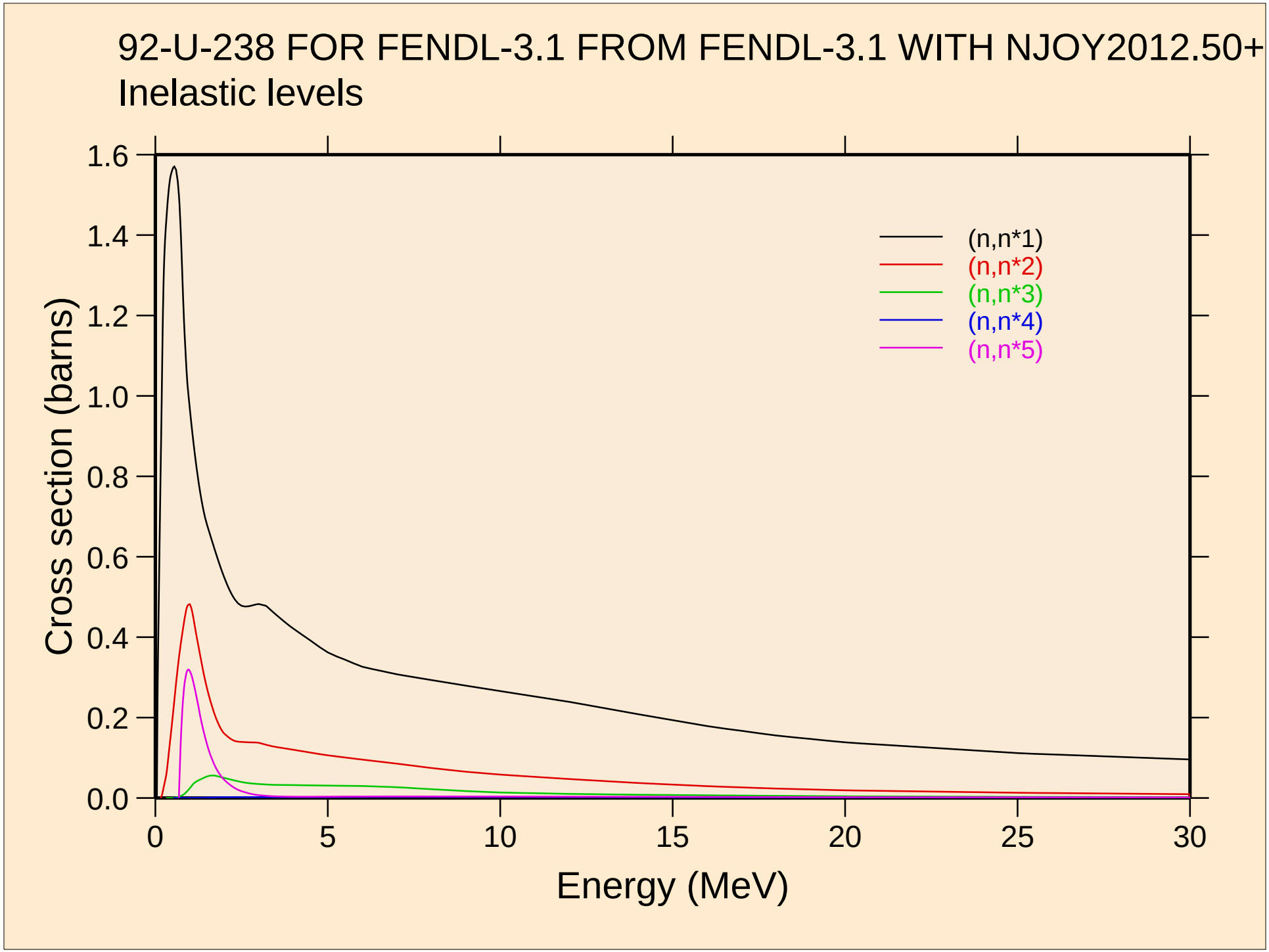

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
Energy (MeV)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-11
10^-9
10^-7
10^-5
10^-3
10^-1
10^1

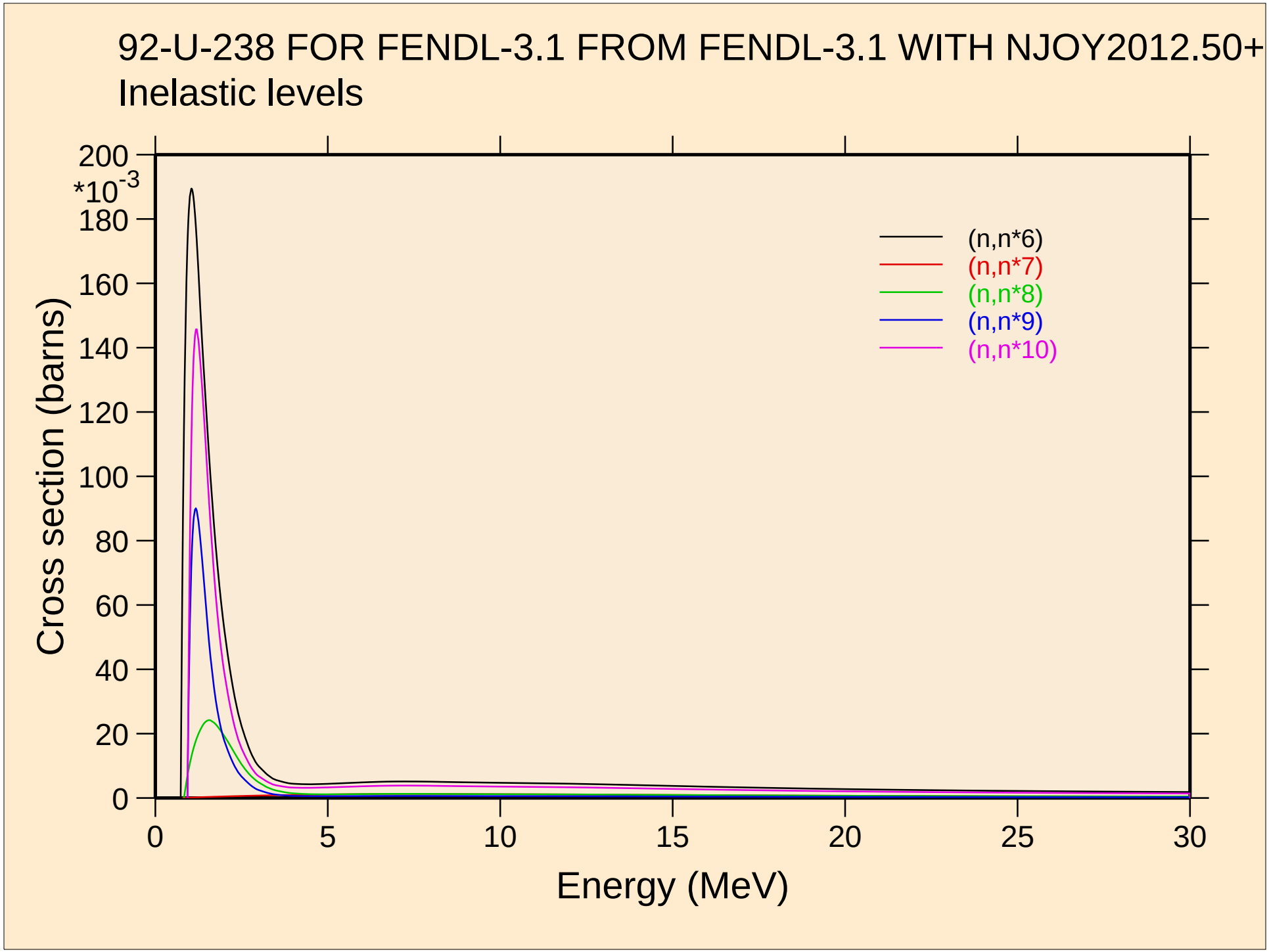

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Principal cross sections
Cross section (barns)
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20
0
20
40
60
80
100
120
140
160
total
absorption
elastic
gamma production

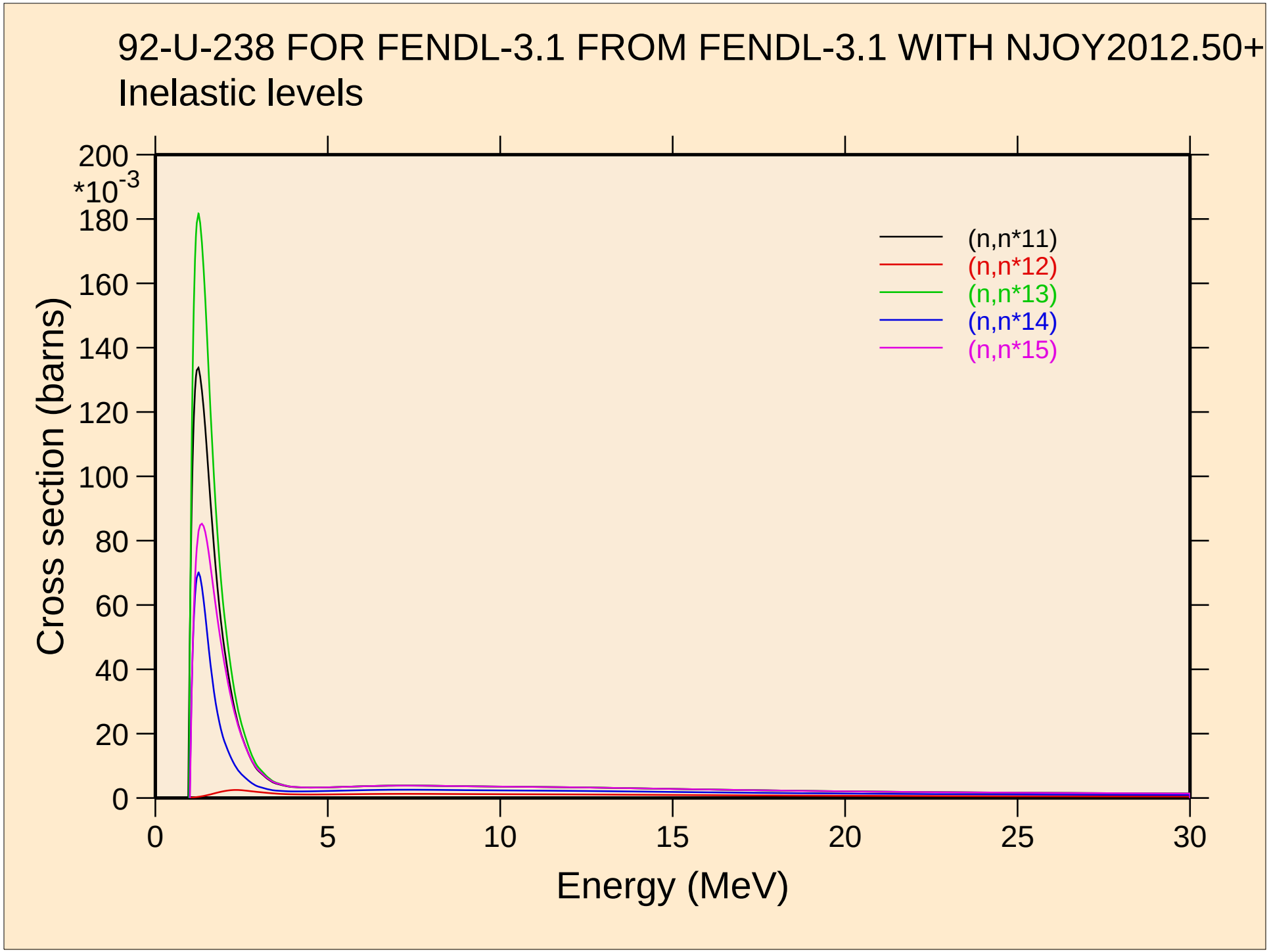

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Heating
*10^6
heating
Heating (MeV/reaction)
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
160
Energy (MeV)

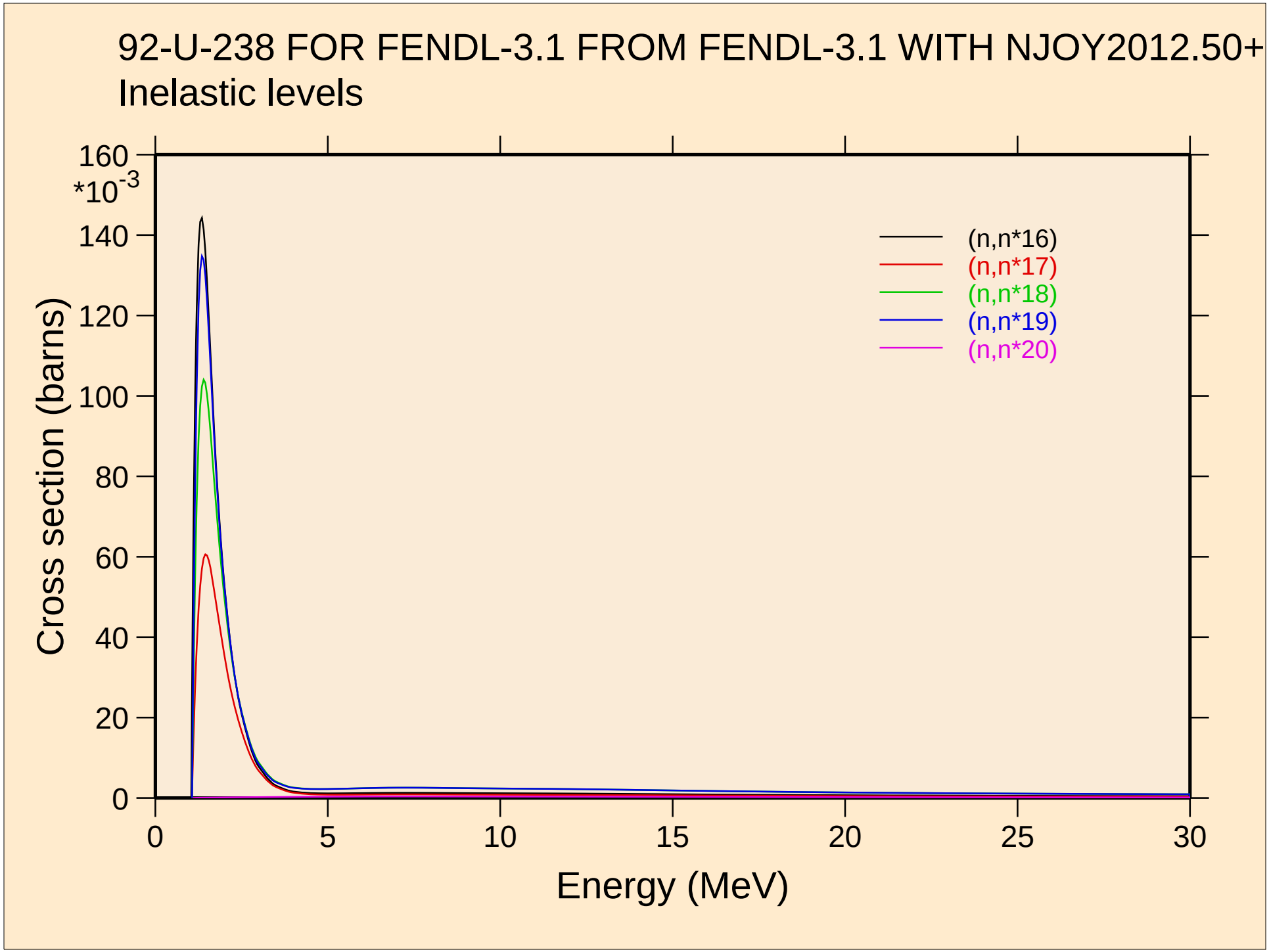

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Damage
*10-3
damage
Damage (MeV-barns)
180
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
160
Energy (MeV)

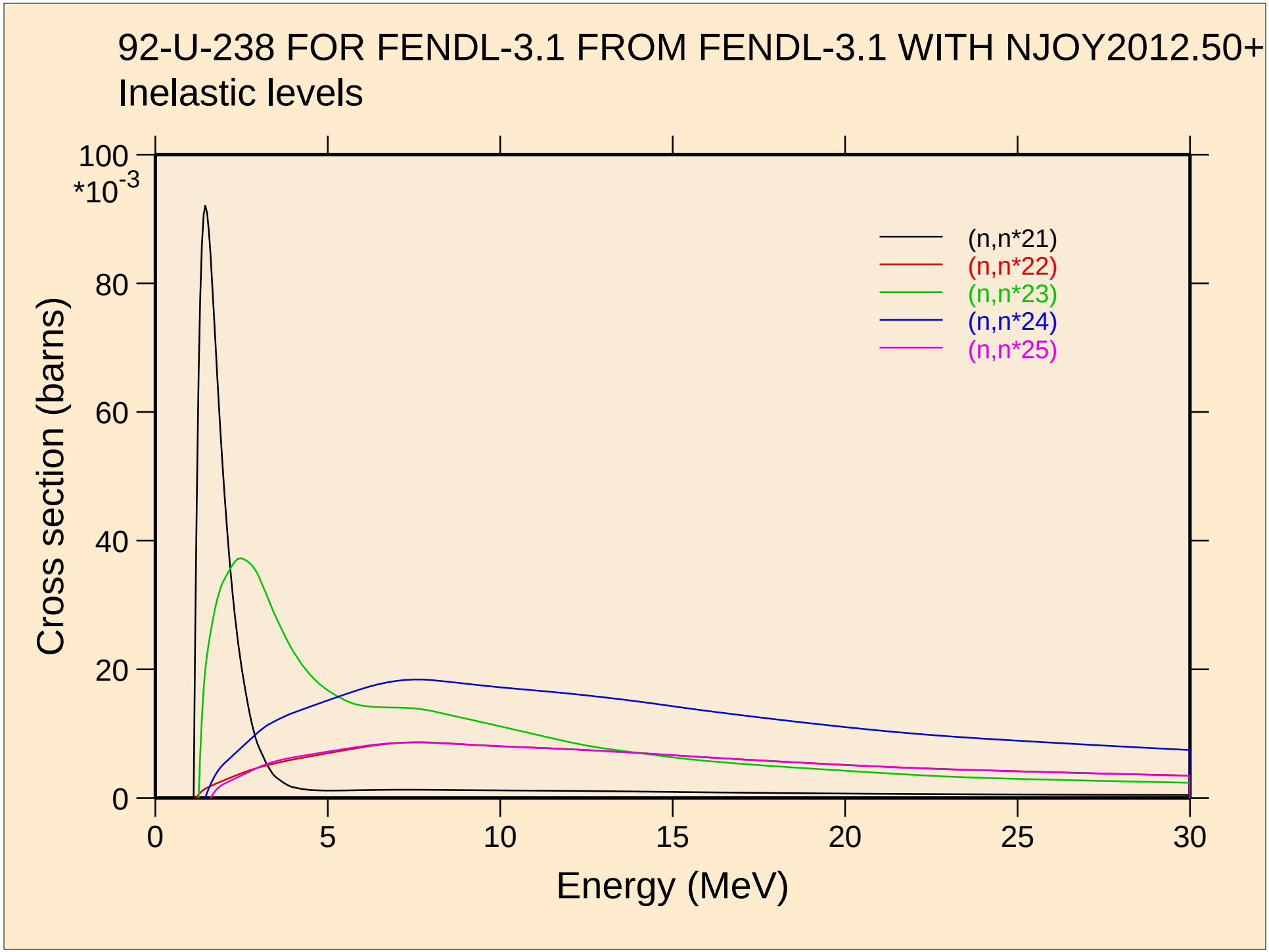

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Non-threshold reactions
fission
(n,gma)
Cross section (barns)
10^0
10^-1
10^-2
10^-3
10^-4
0
20
40
60
80
100
120
140
160
Energy (MeV)

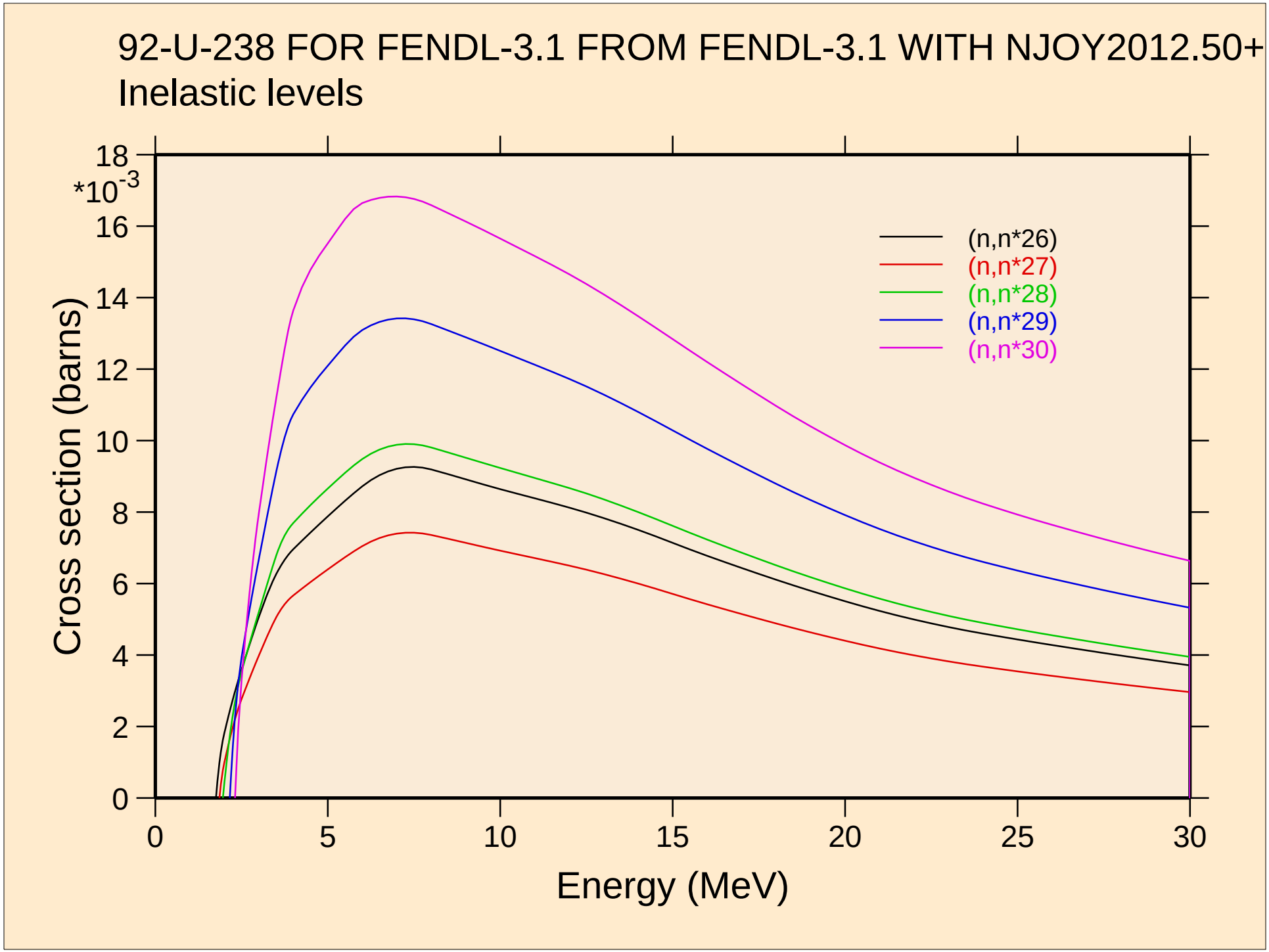

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
5
10
15
20
25
30
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

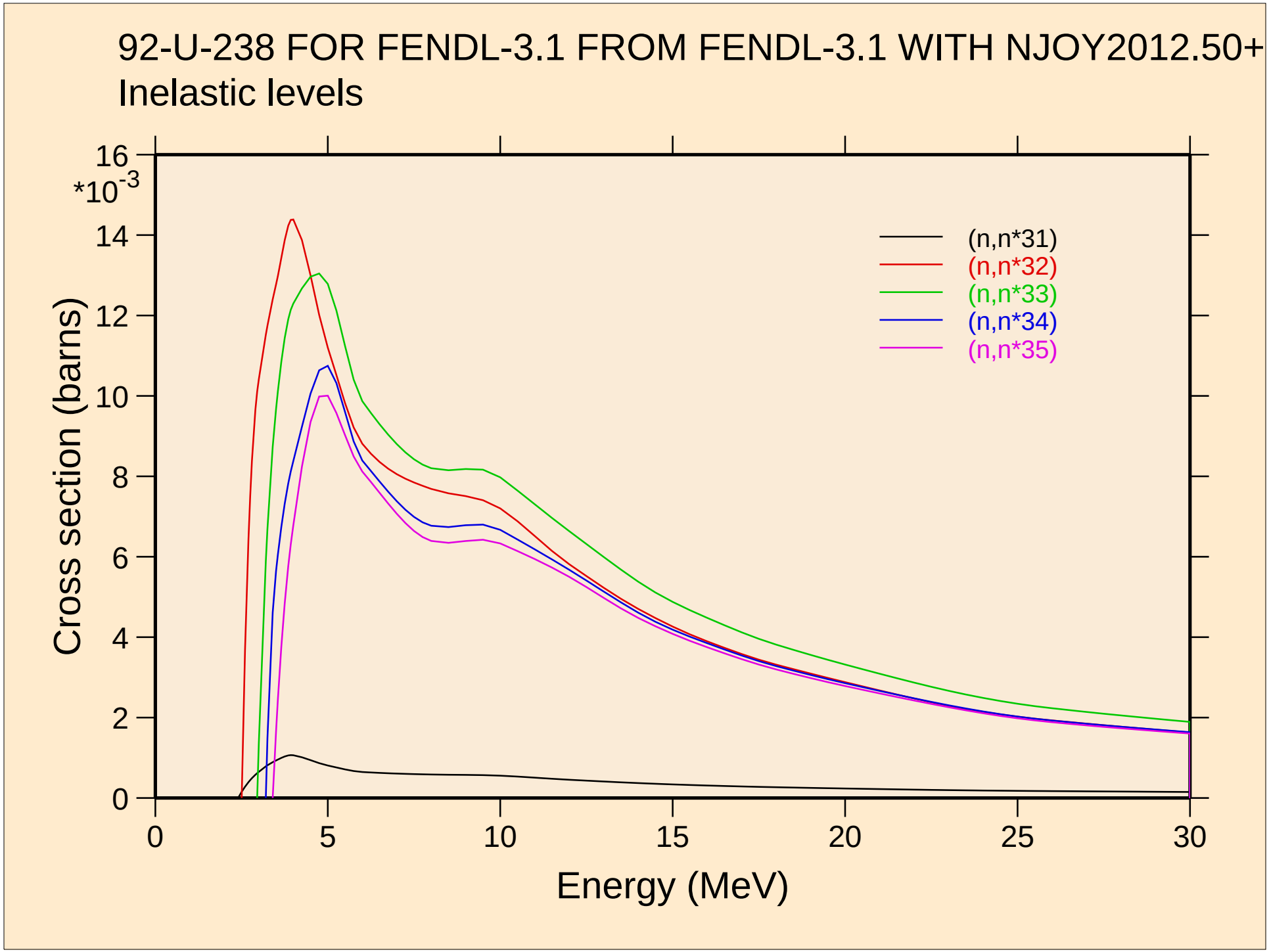

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
*10-3
200
180
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

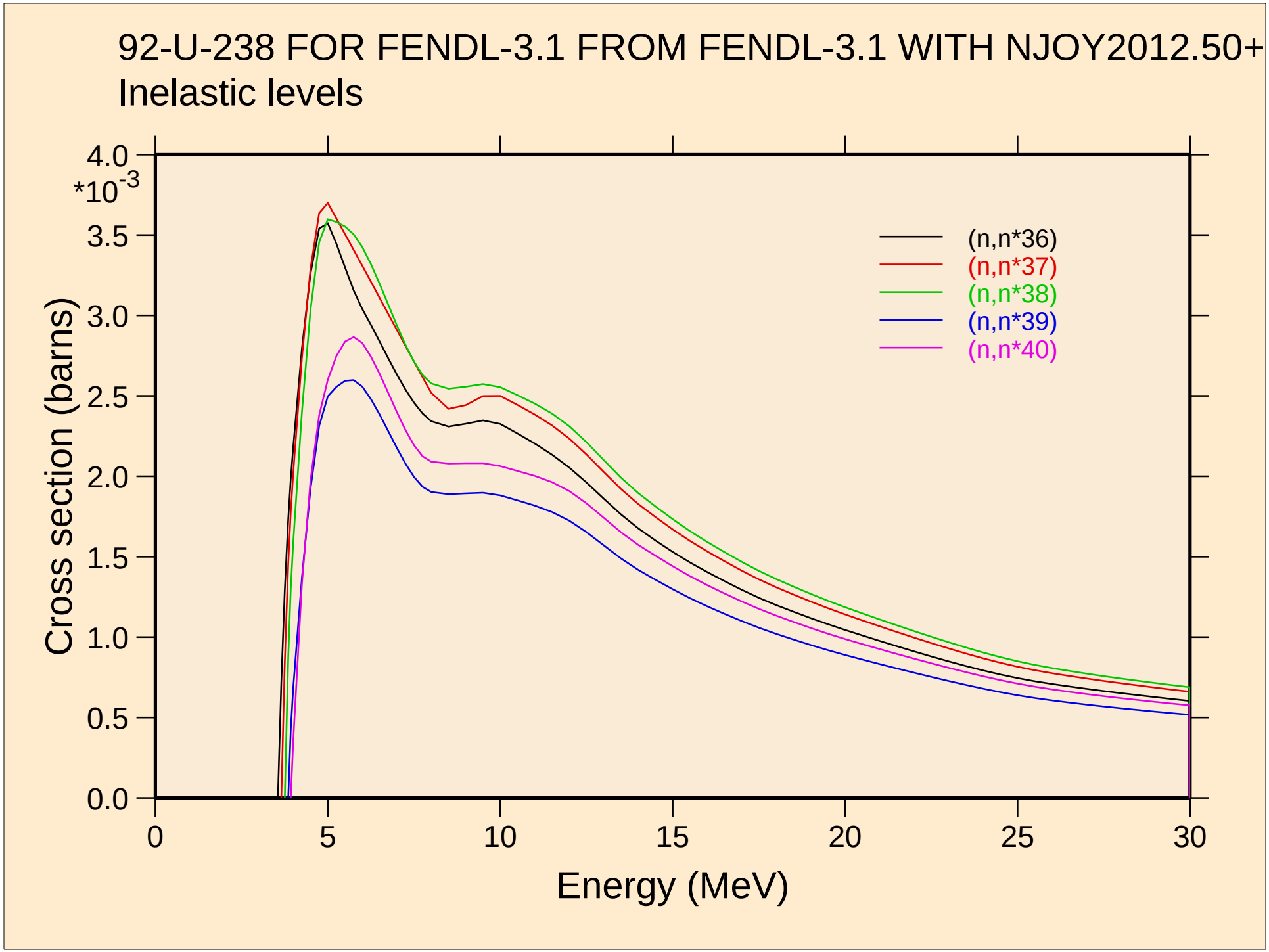

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
*10-3
200
180
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

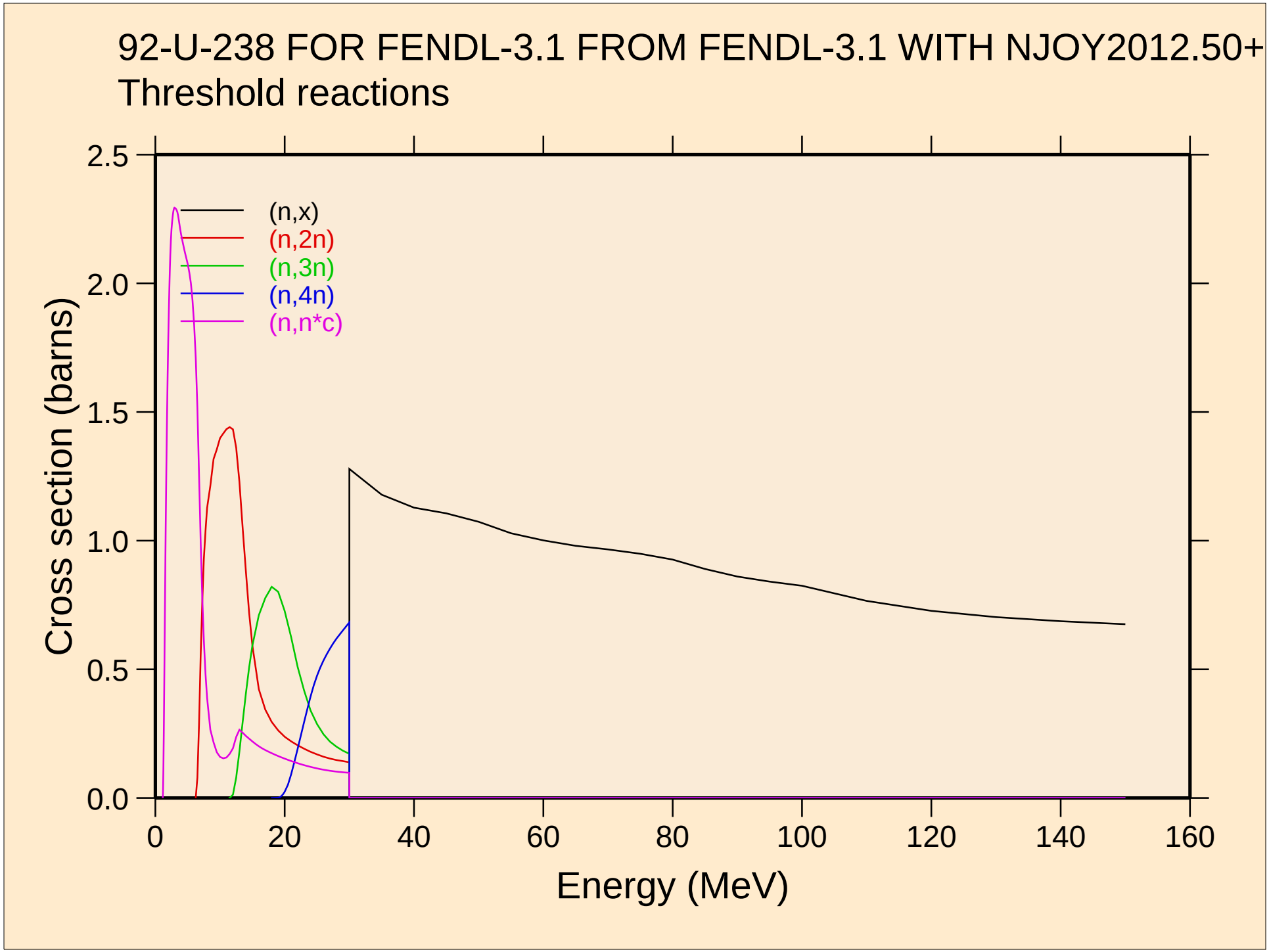

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
*10-3
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

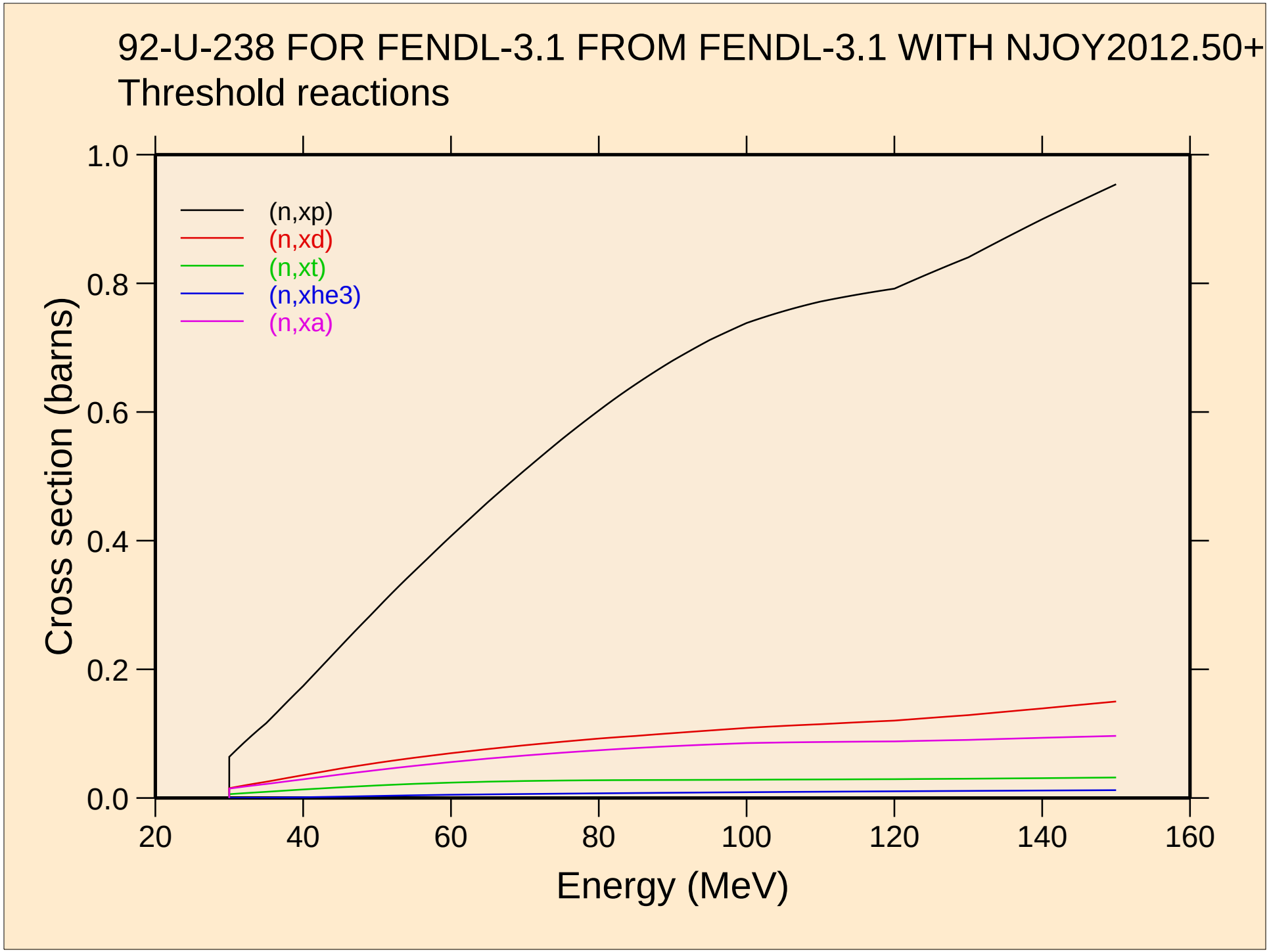

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
100
*10-3
80
60
40
20
0
Cross section (barns)
0
5
10
15
20
25
30
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)

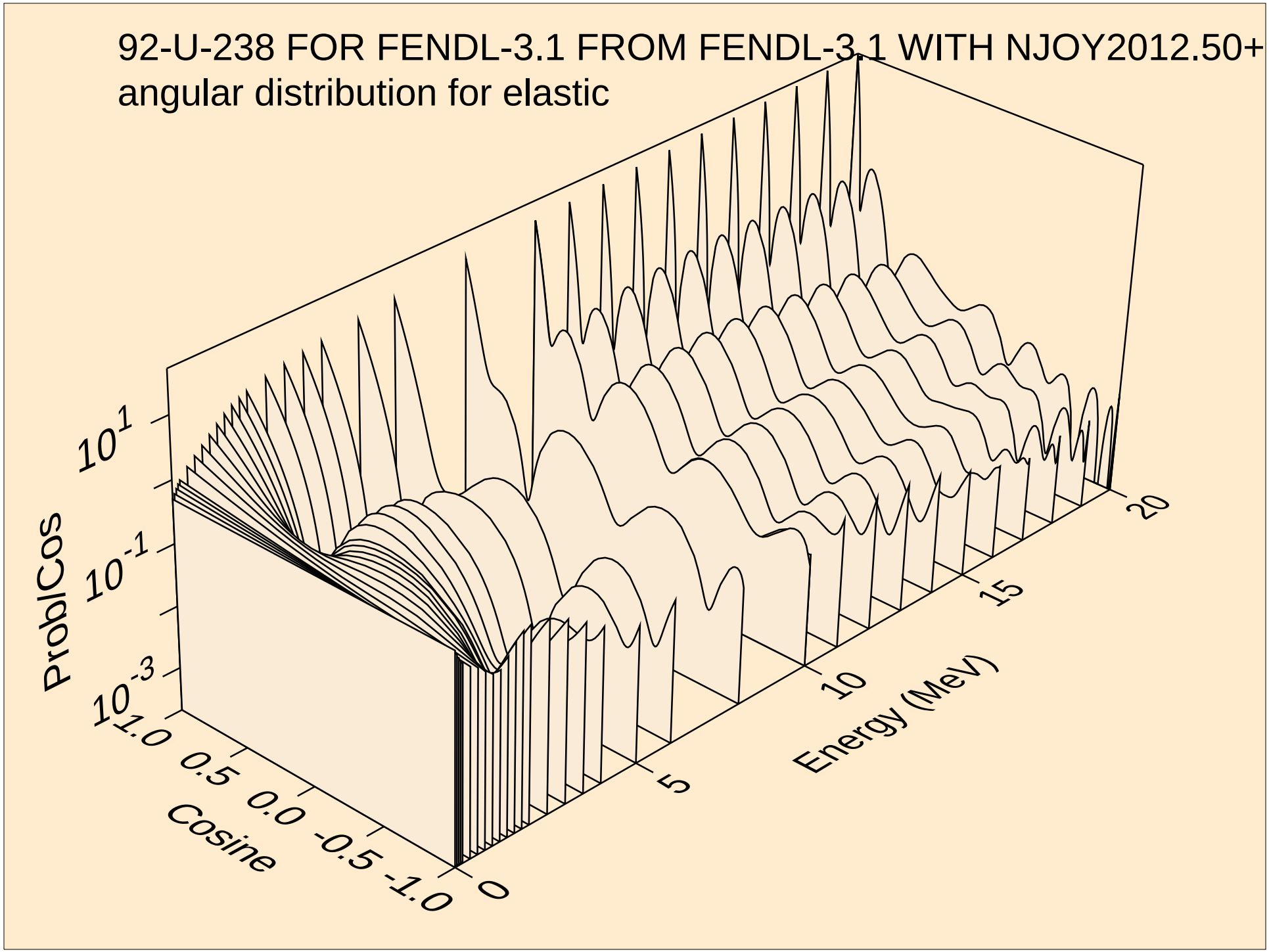

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
*10-3
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
25
30
Energy (MeV)
(n,n*26)
(n,n*27)
(n,n*28)
(n,n*29)
(n,n*30)

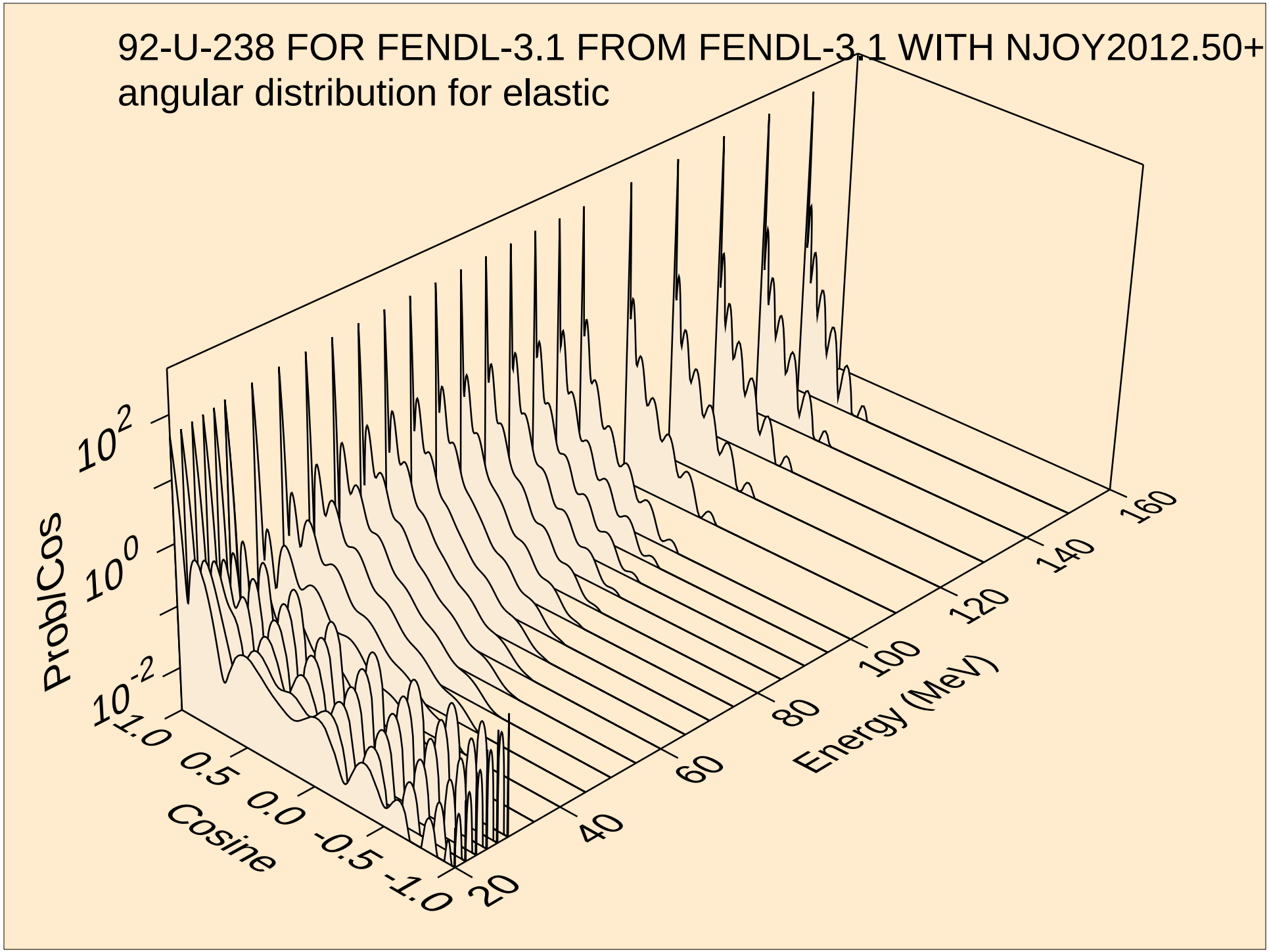

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
*10-3
16
14
12
10
8
6
4
2
0
0
5
10
15
20
25
30
Energy (MeV)
(n,n*31)
(n,n*32)
(n,n*33)
(n,n*34)
(n,n*35)

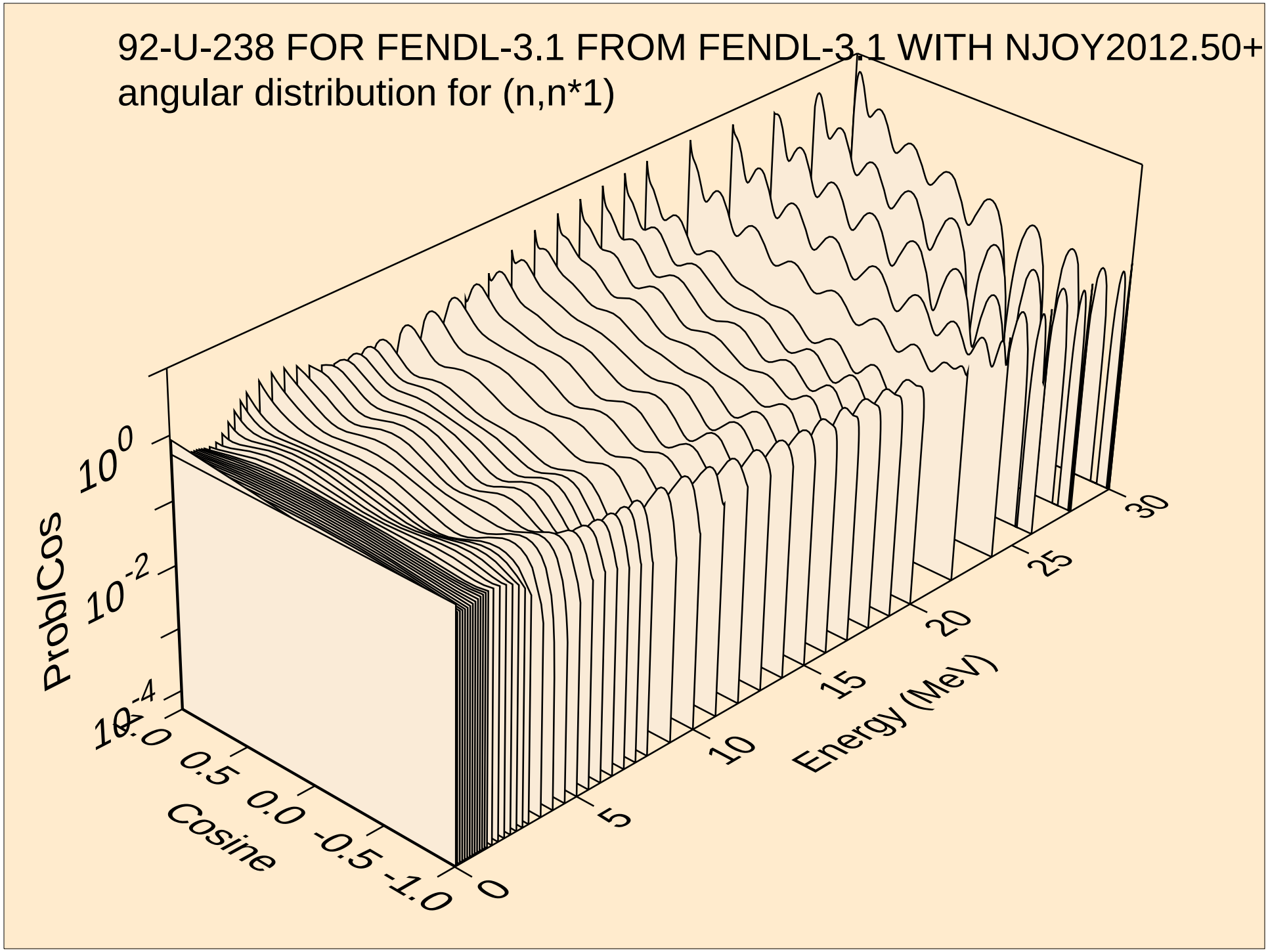

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Inelastic levels
Cross section (barns)
*10-3
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
25
30
Energy (MeV)
(n,n*36)
(n,n*37)
(n,n*38)
(n,n*39)
(n,n*40)

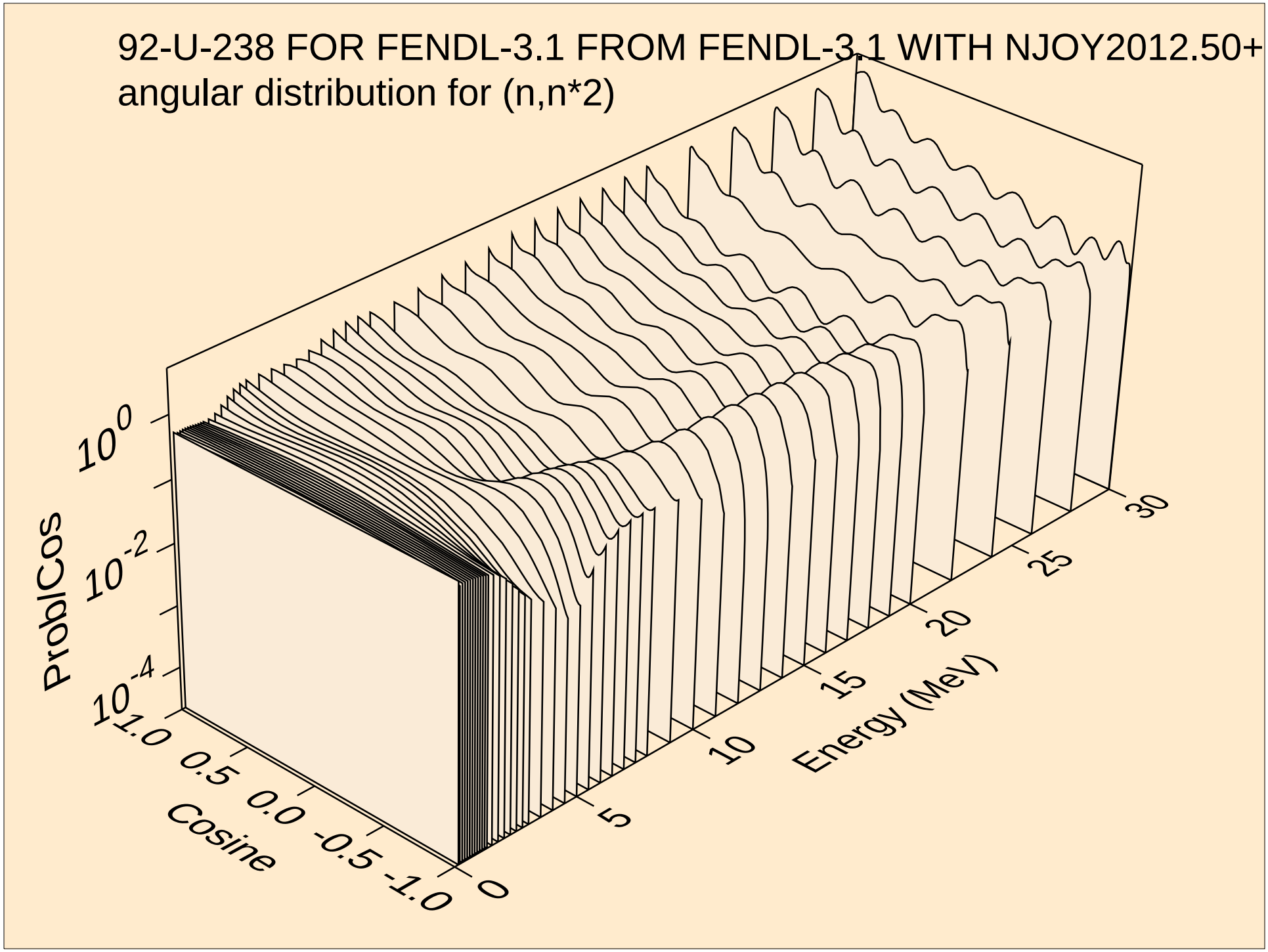

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Threshold reactions
(n,x)
(n,2n)
(n,3n)
(n,4n)
(n,n*c)
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
0
20
40
60
80
100
120
140
160

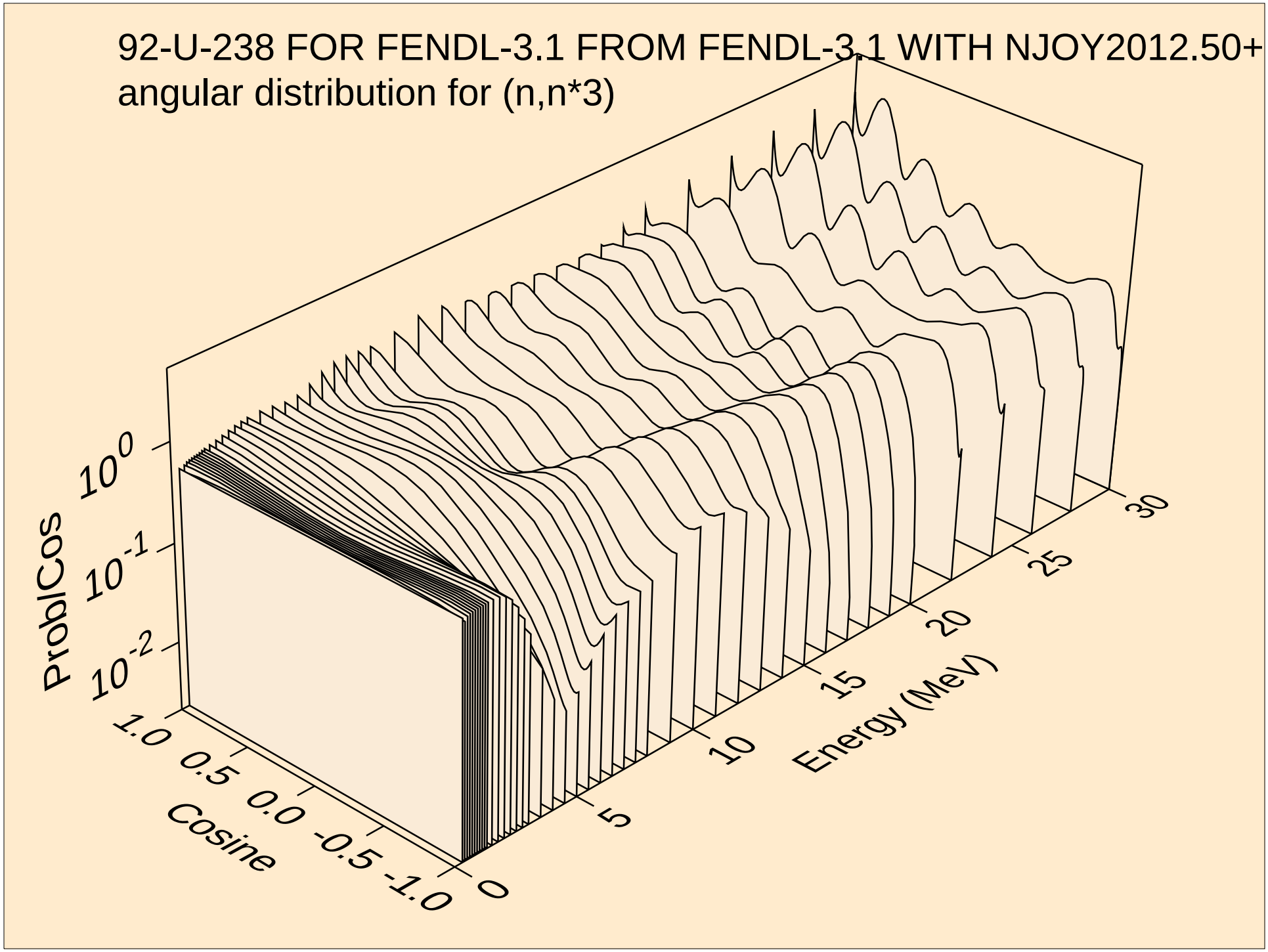

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Threshold reactions
(n,xp)
(n,xd)
(n,xt)
(n,xhe3)
(n,xa)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
20
40
60
80
100
120
140
160

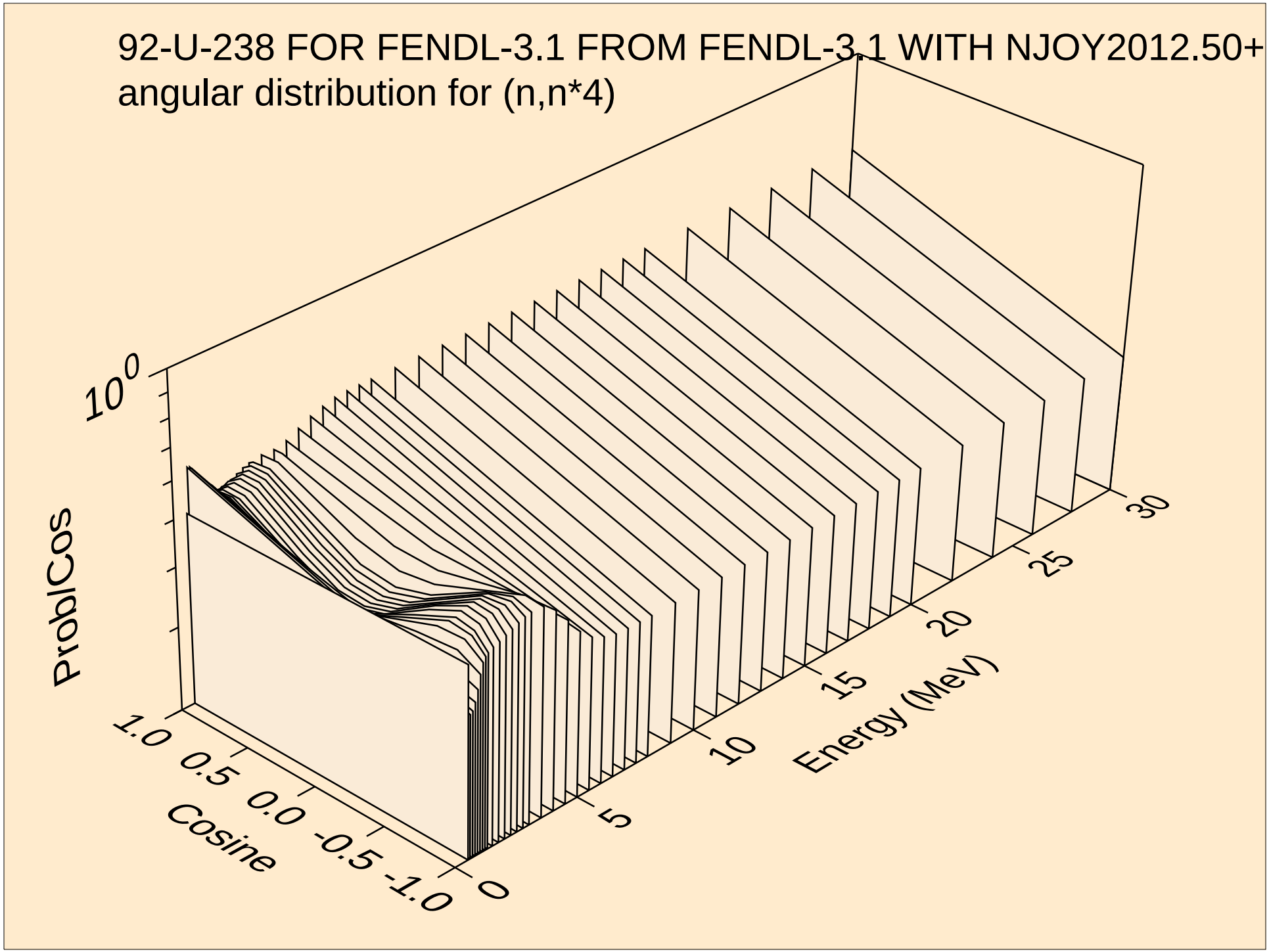

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for elastic
ProblCos
10^{1}
10^{-1}
10^{-3}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

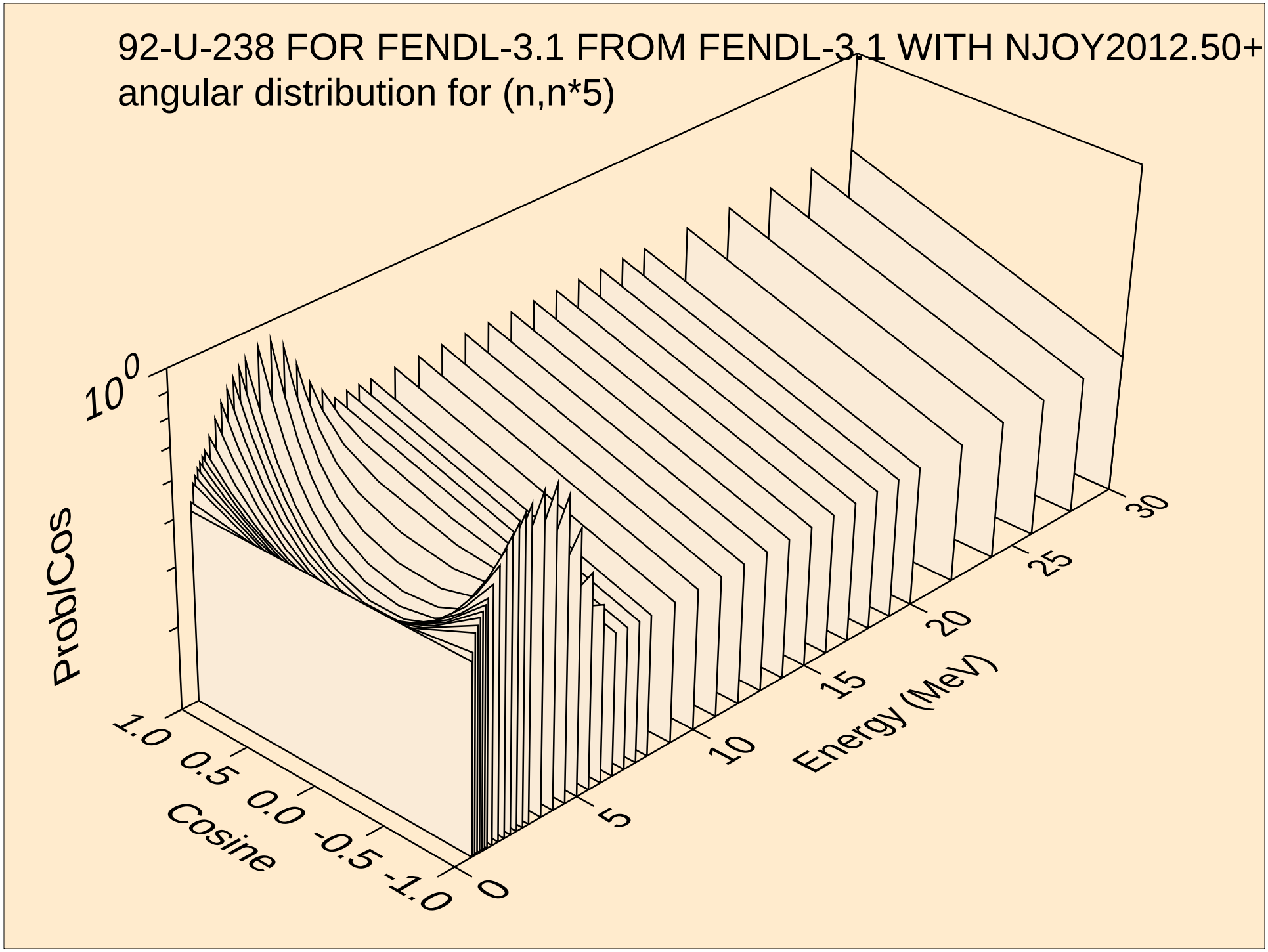

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for elastic
ProblCos
10^{2}
10^{0}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
20
40
60
80
100
120
140
160

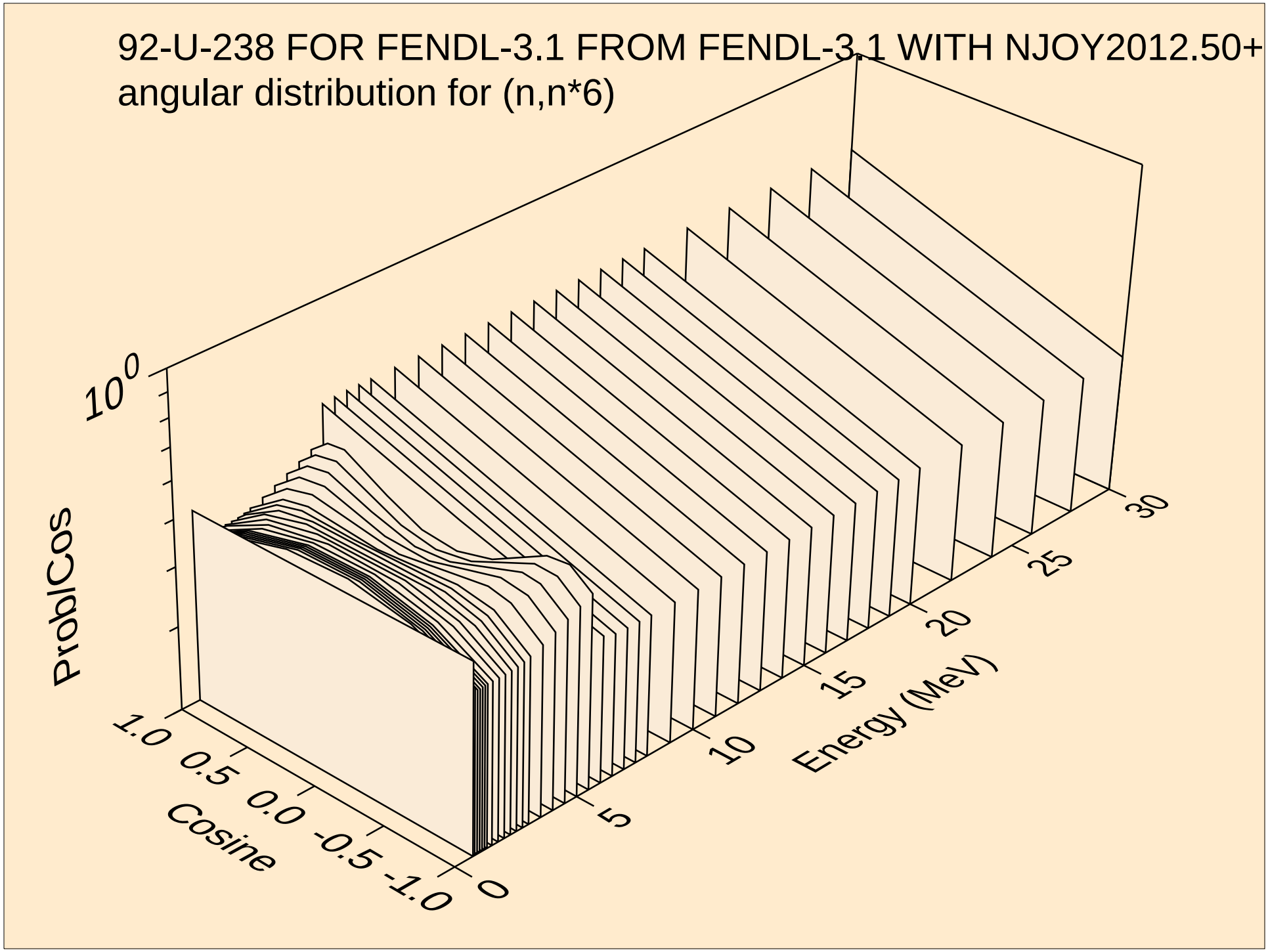

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*1)
Prob/Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

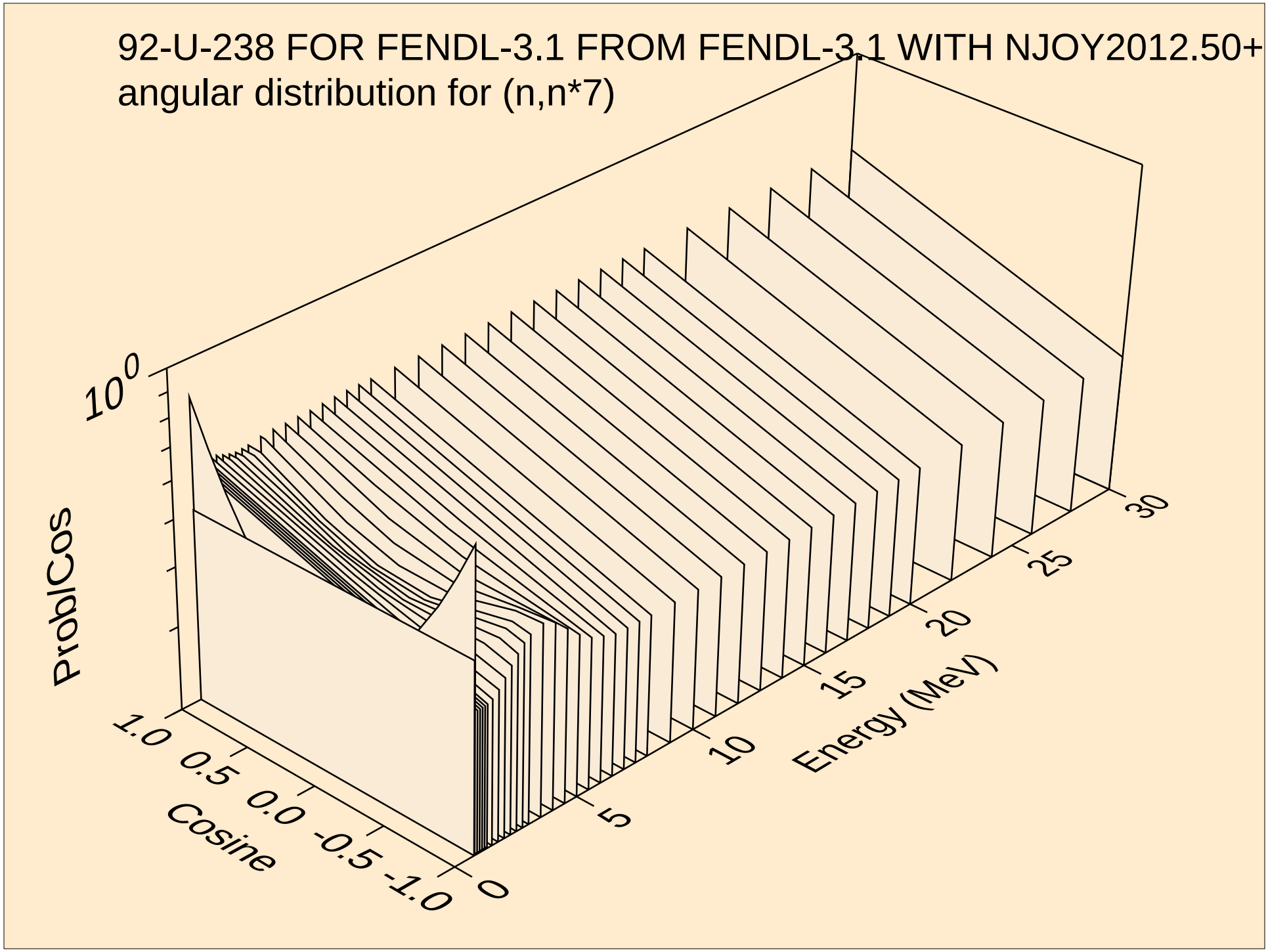

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*2)
ProbICos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

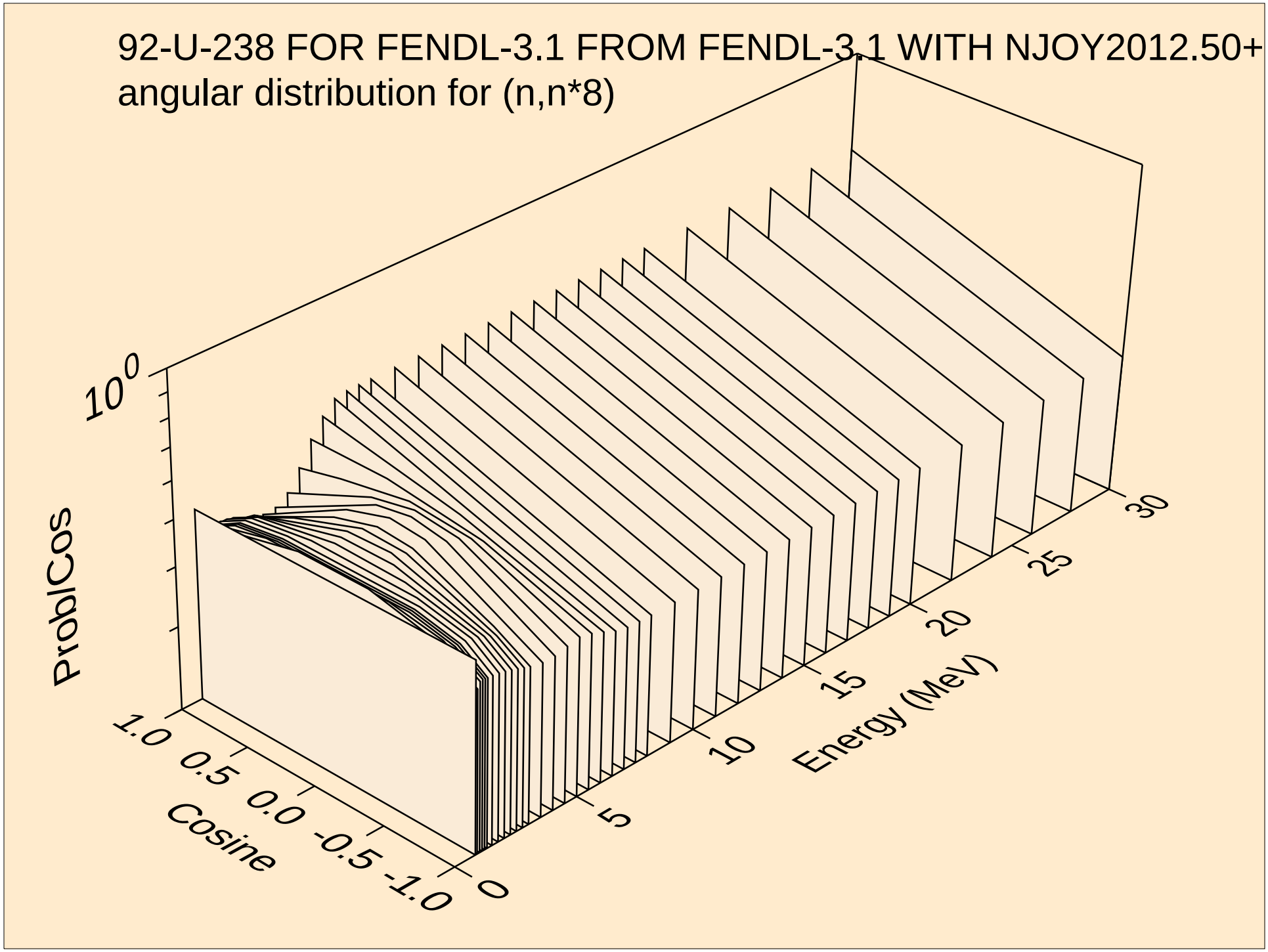

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*3)
ProbCos
10^{0}
10^{-1}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

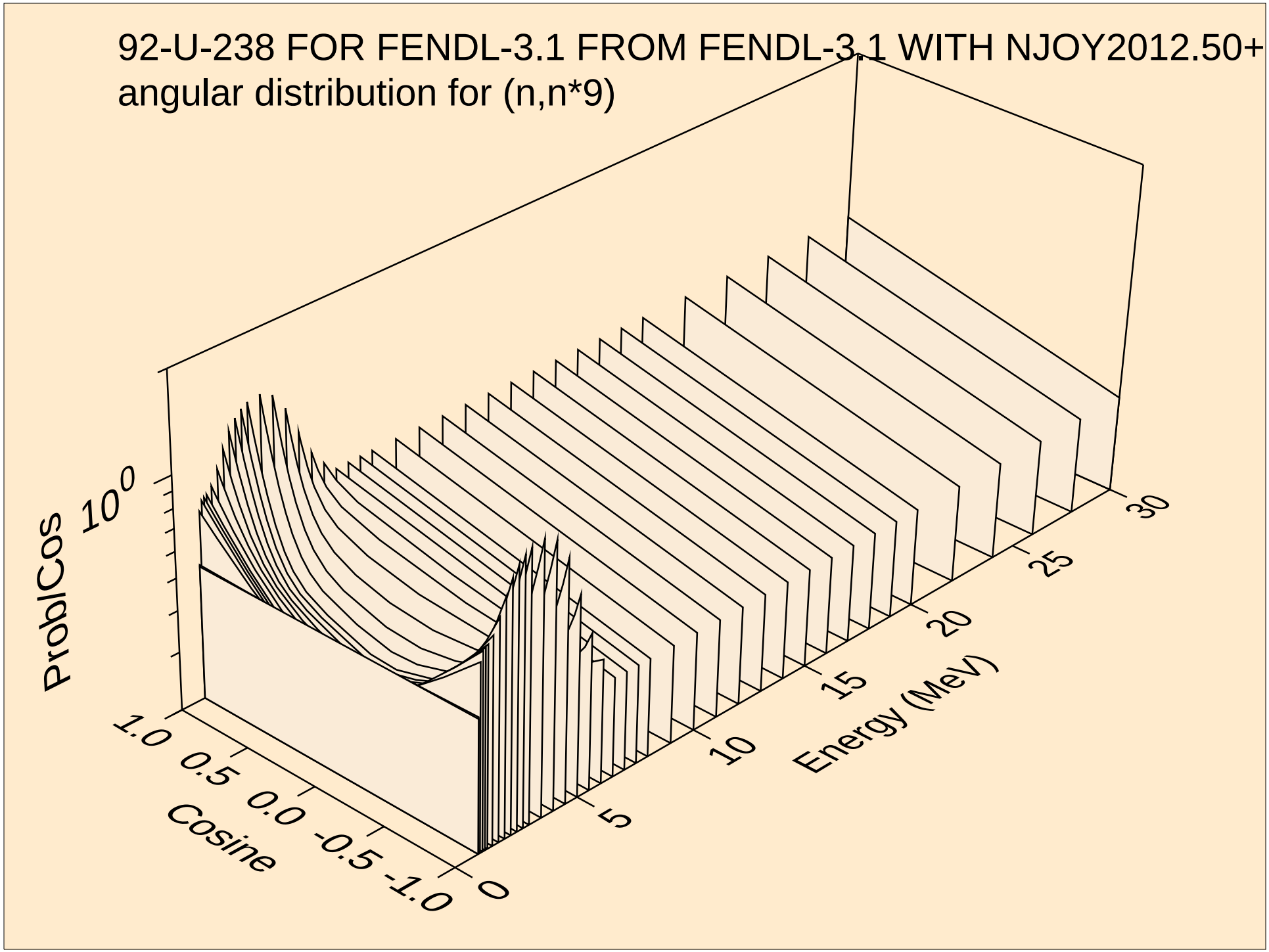

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*4)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

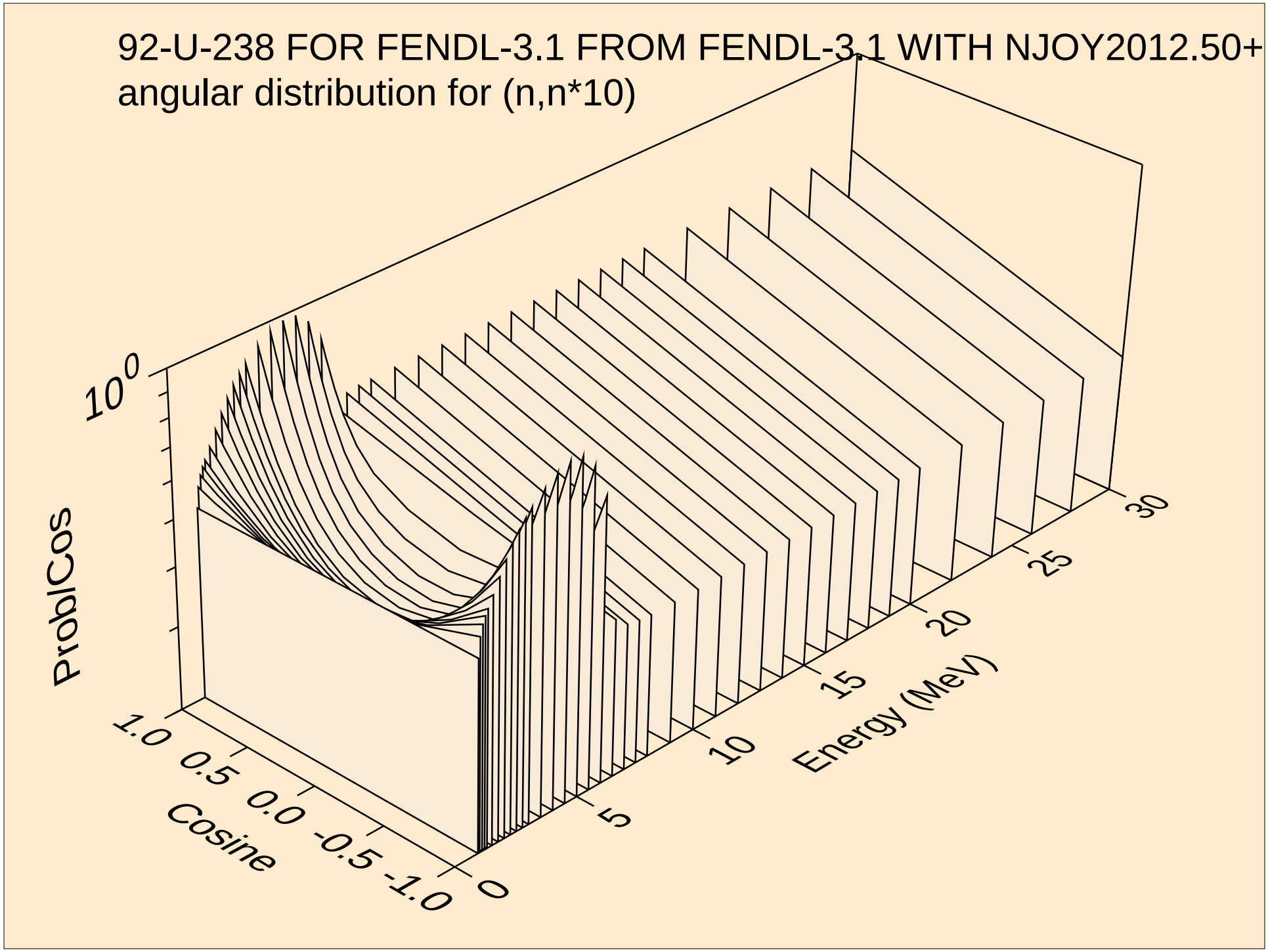

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*5)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

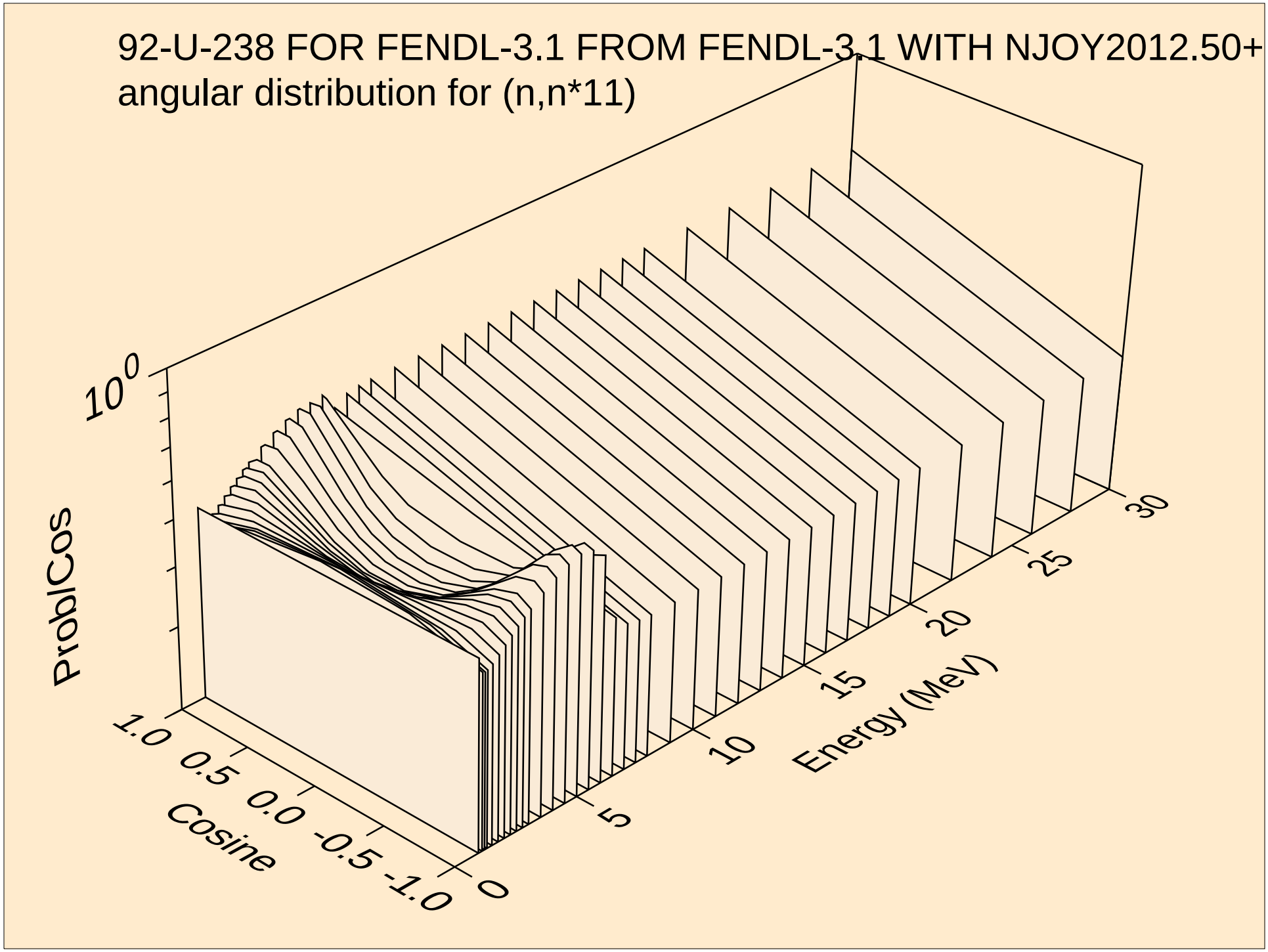

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*6)
ProbICos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

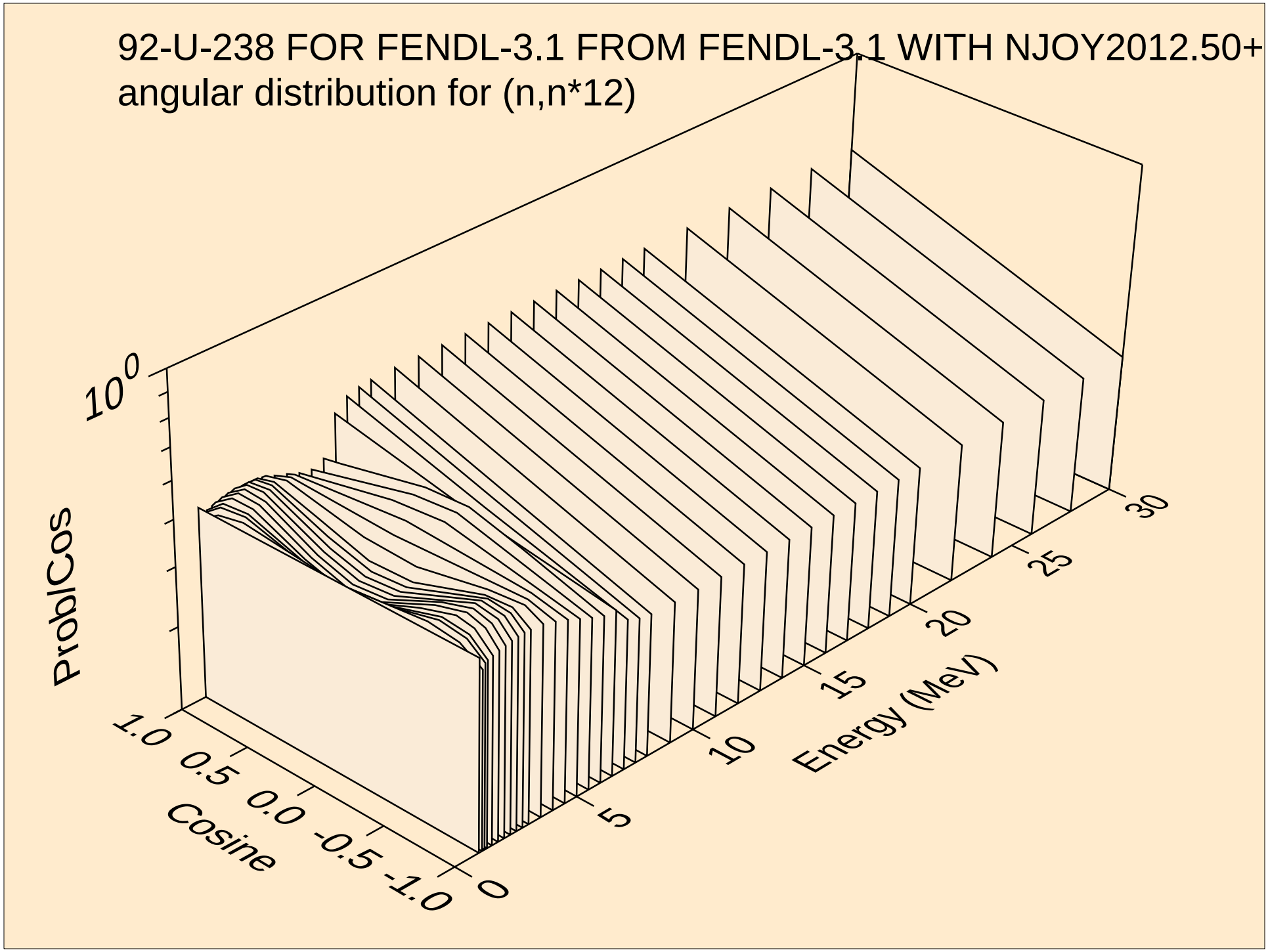

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*7)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

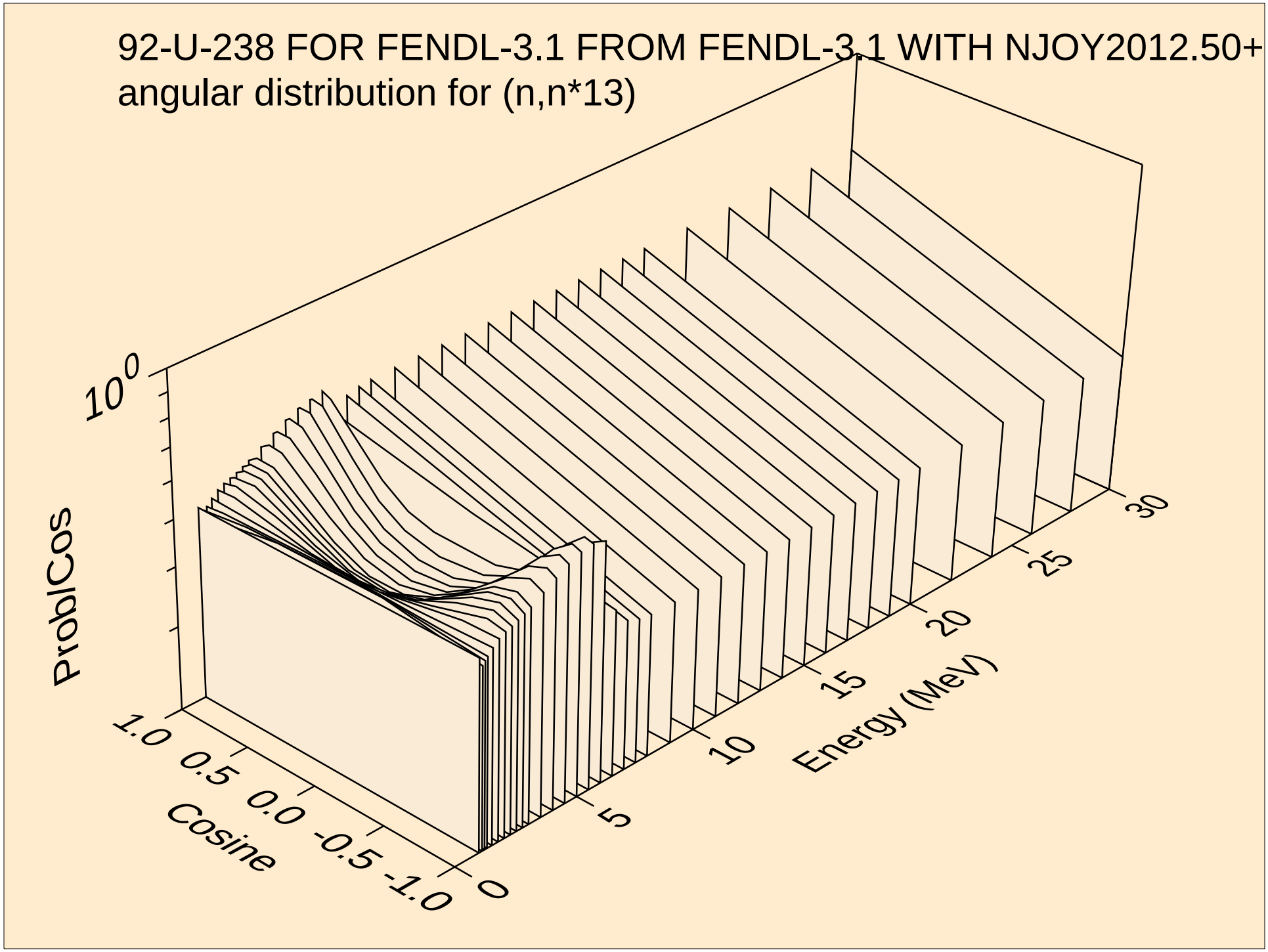

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*8)
ProbICos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

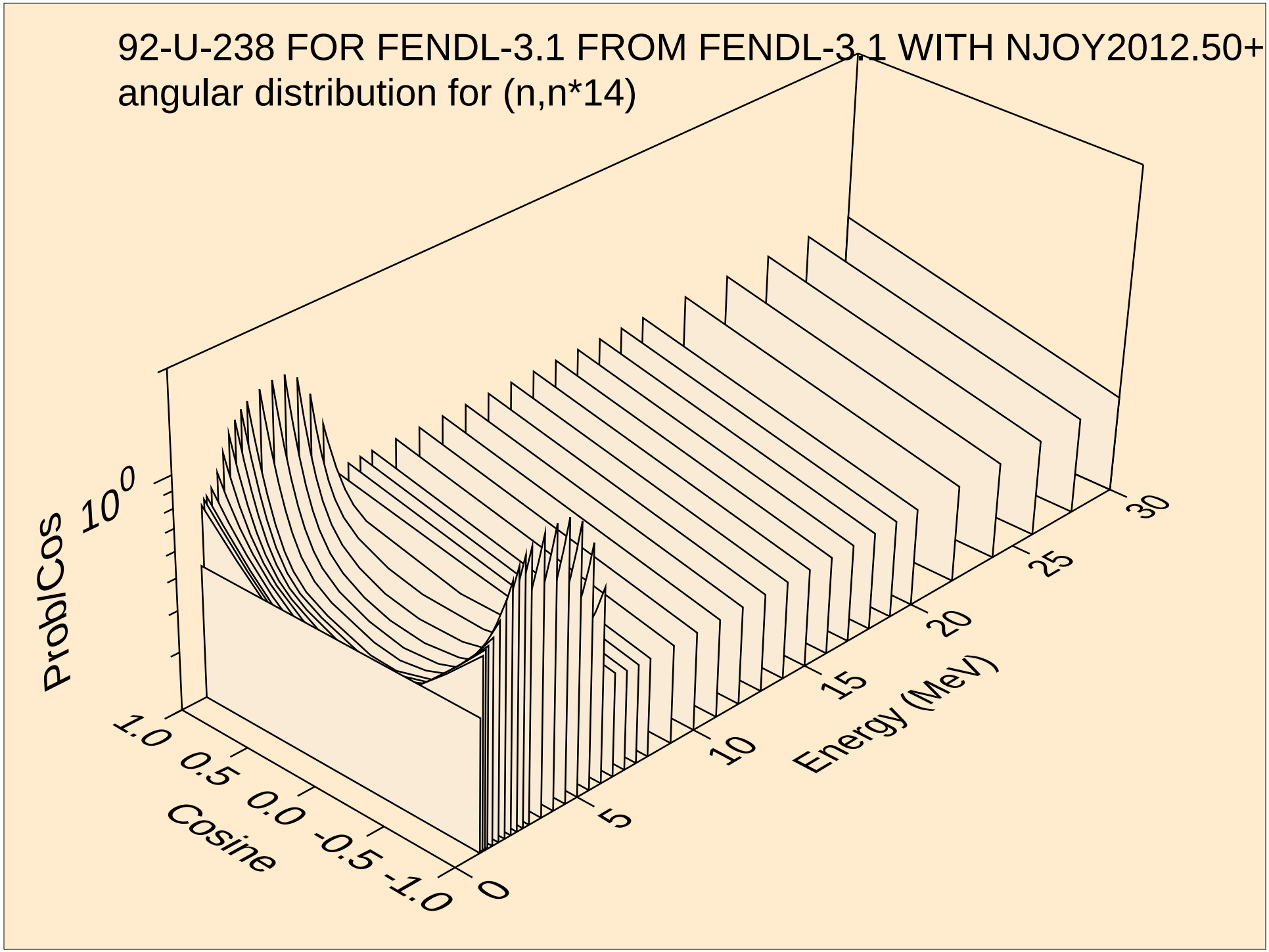

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*9)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

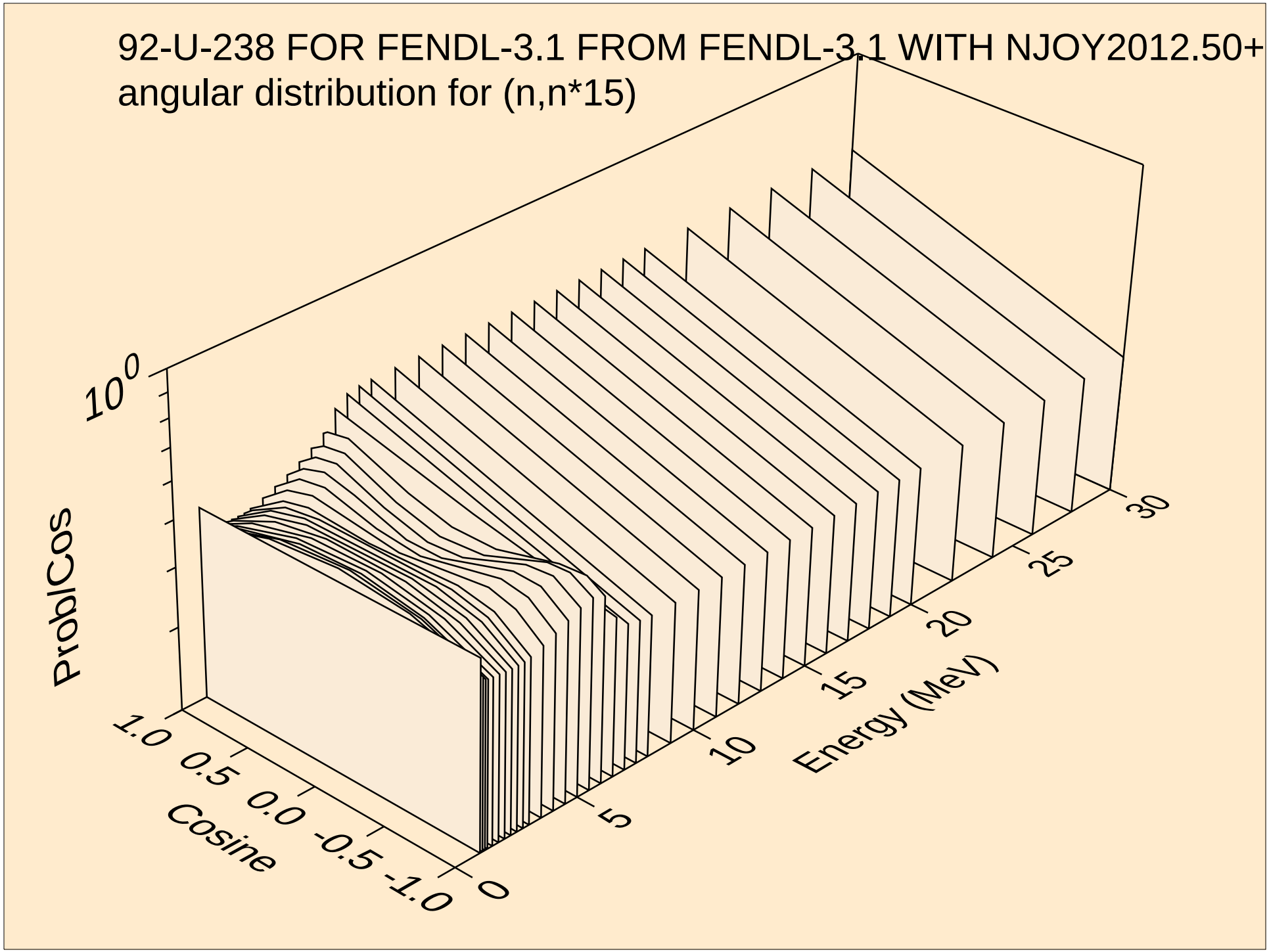

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*10)
ProbICos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

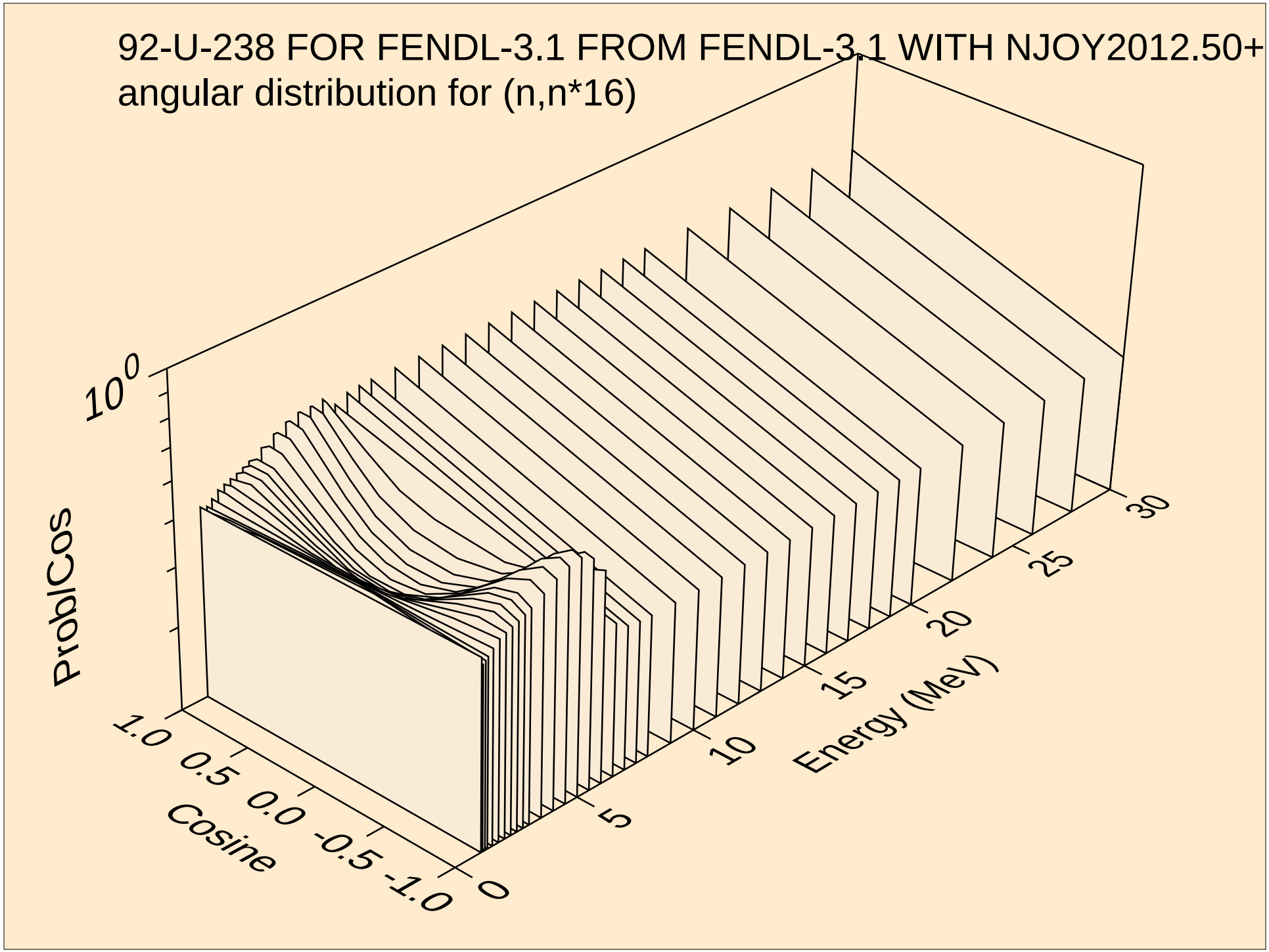

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*11)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

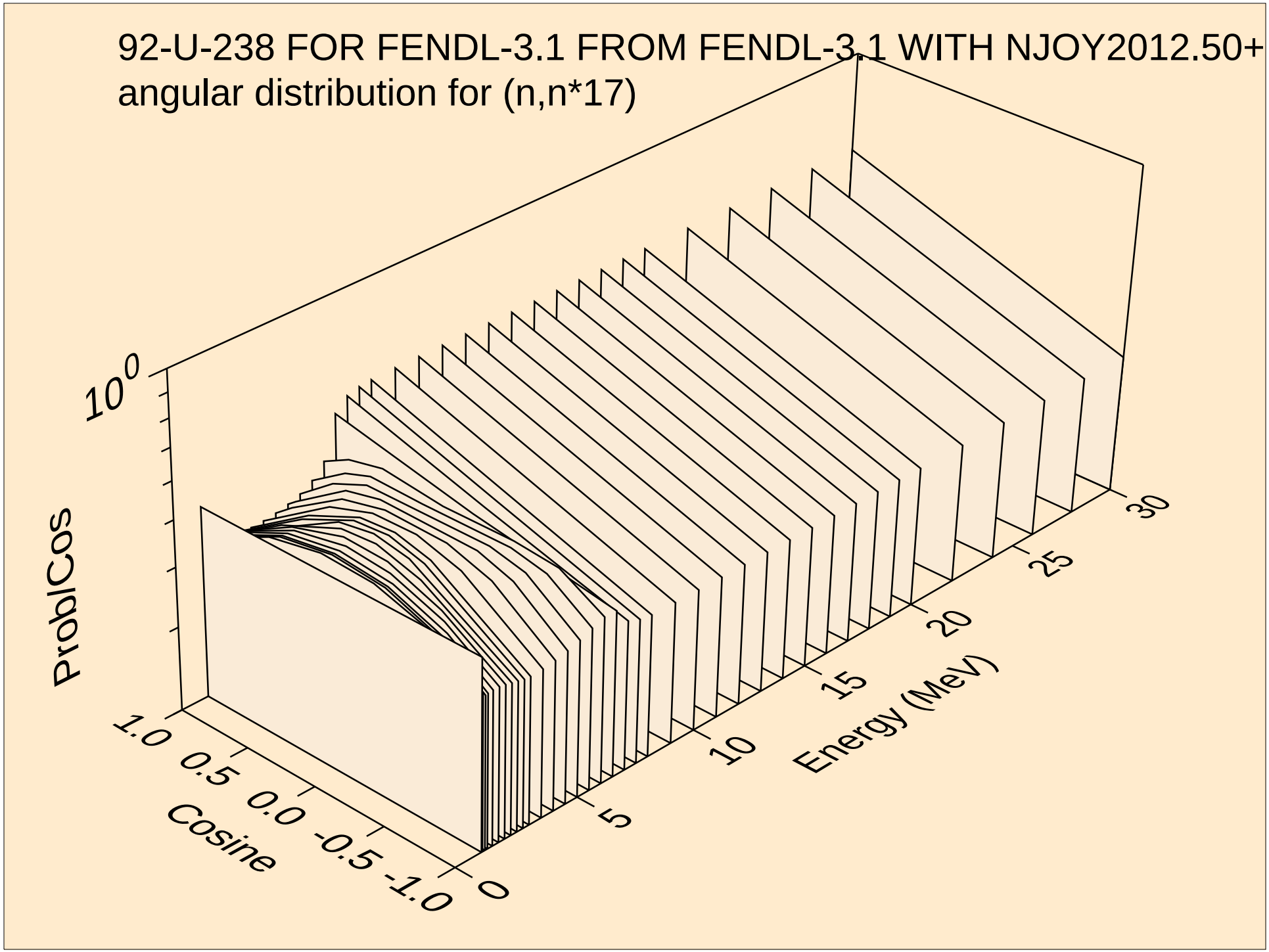

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*12)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

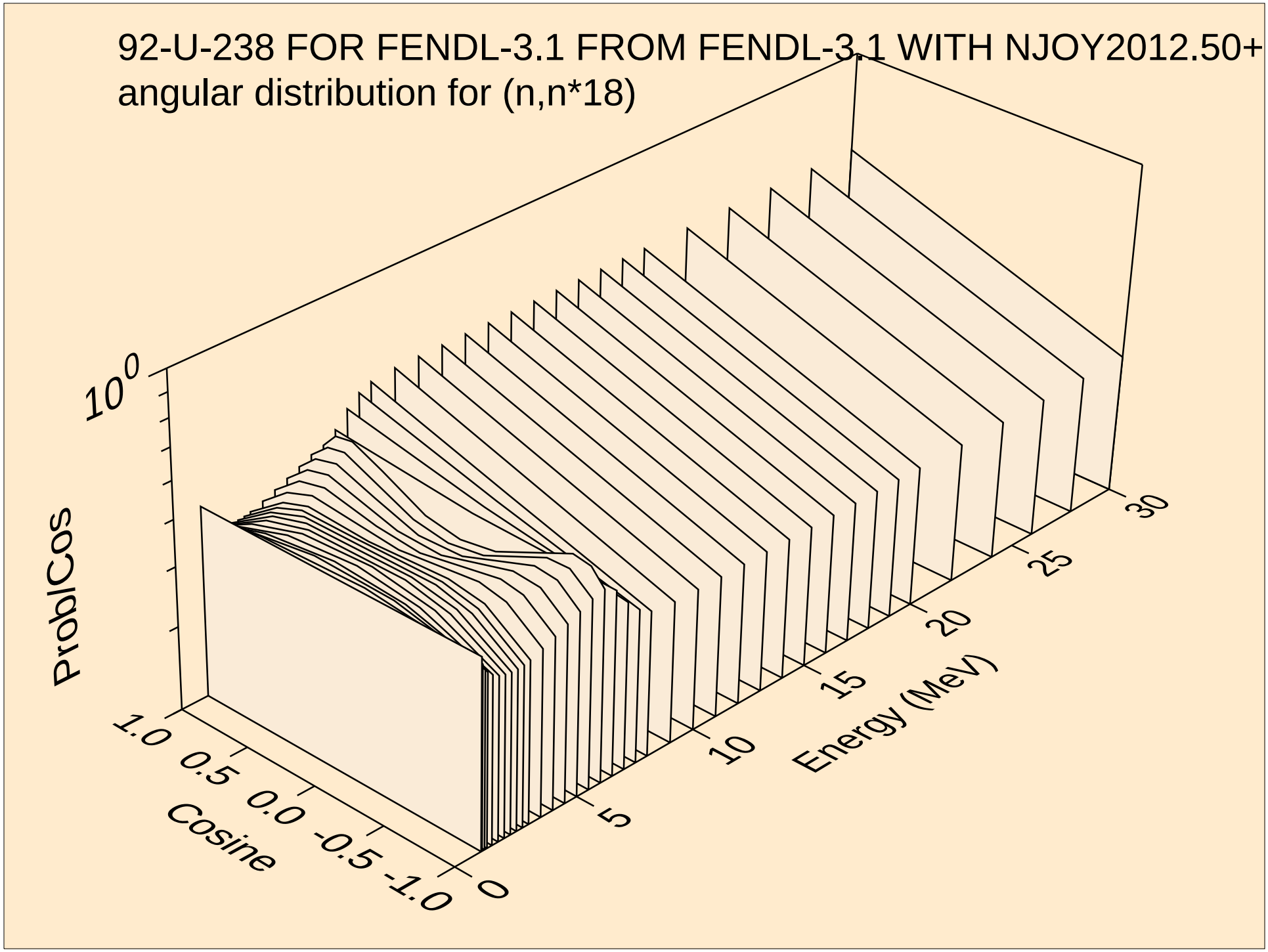

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*13)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

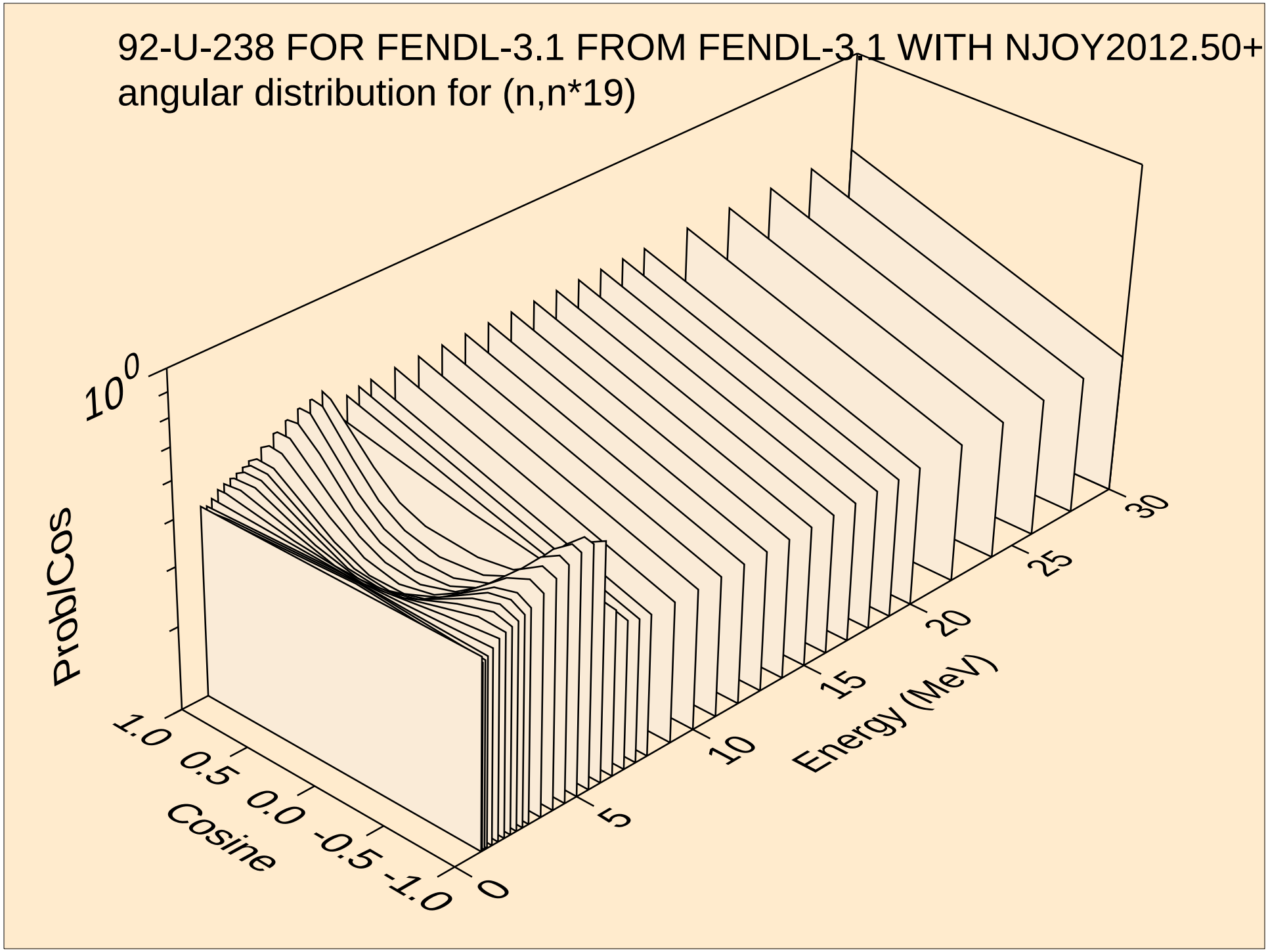

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*14)
ProblCos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

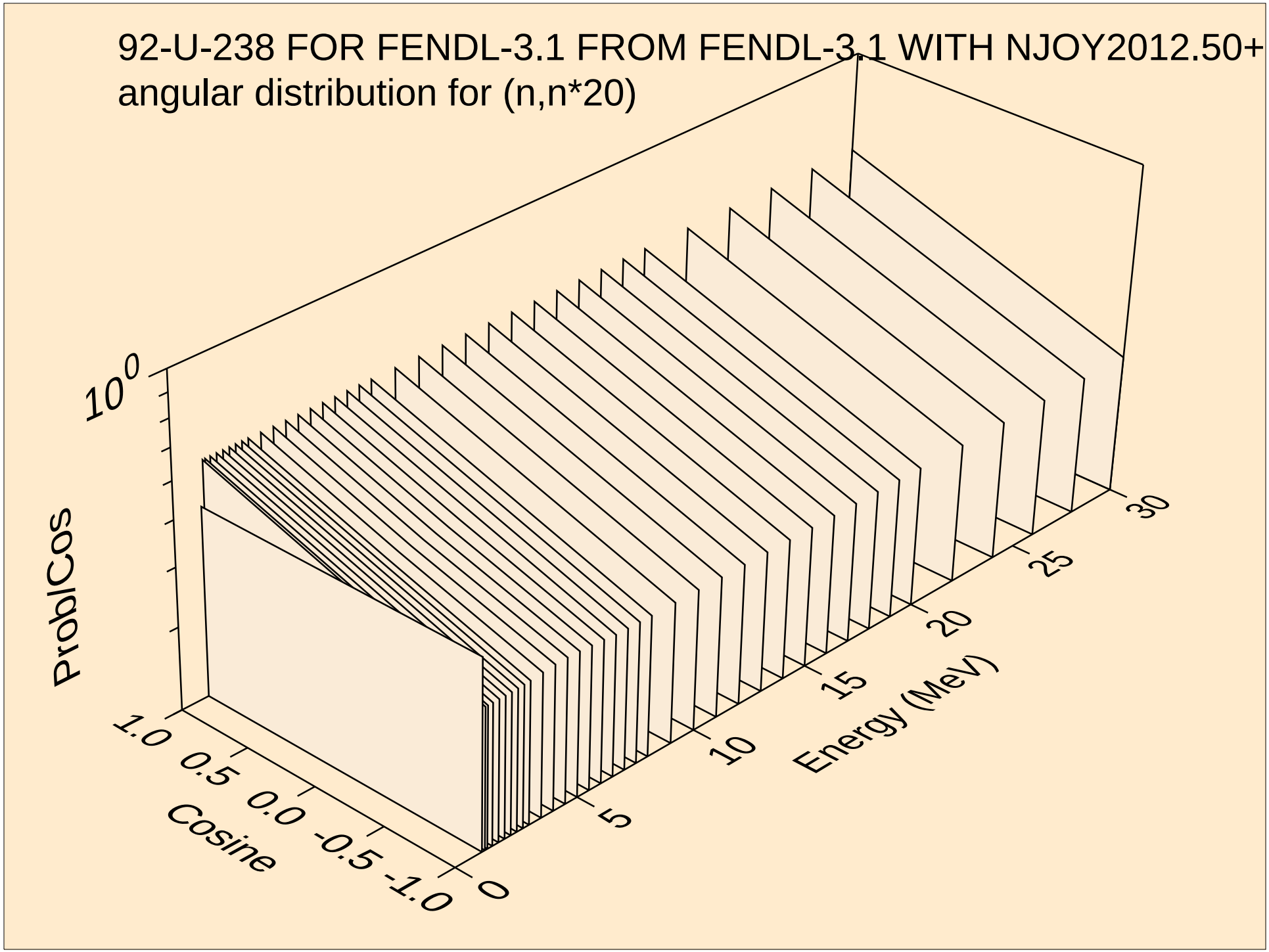

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*15)
ProbICos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

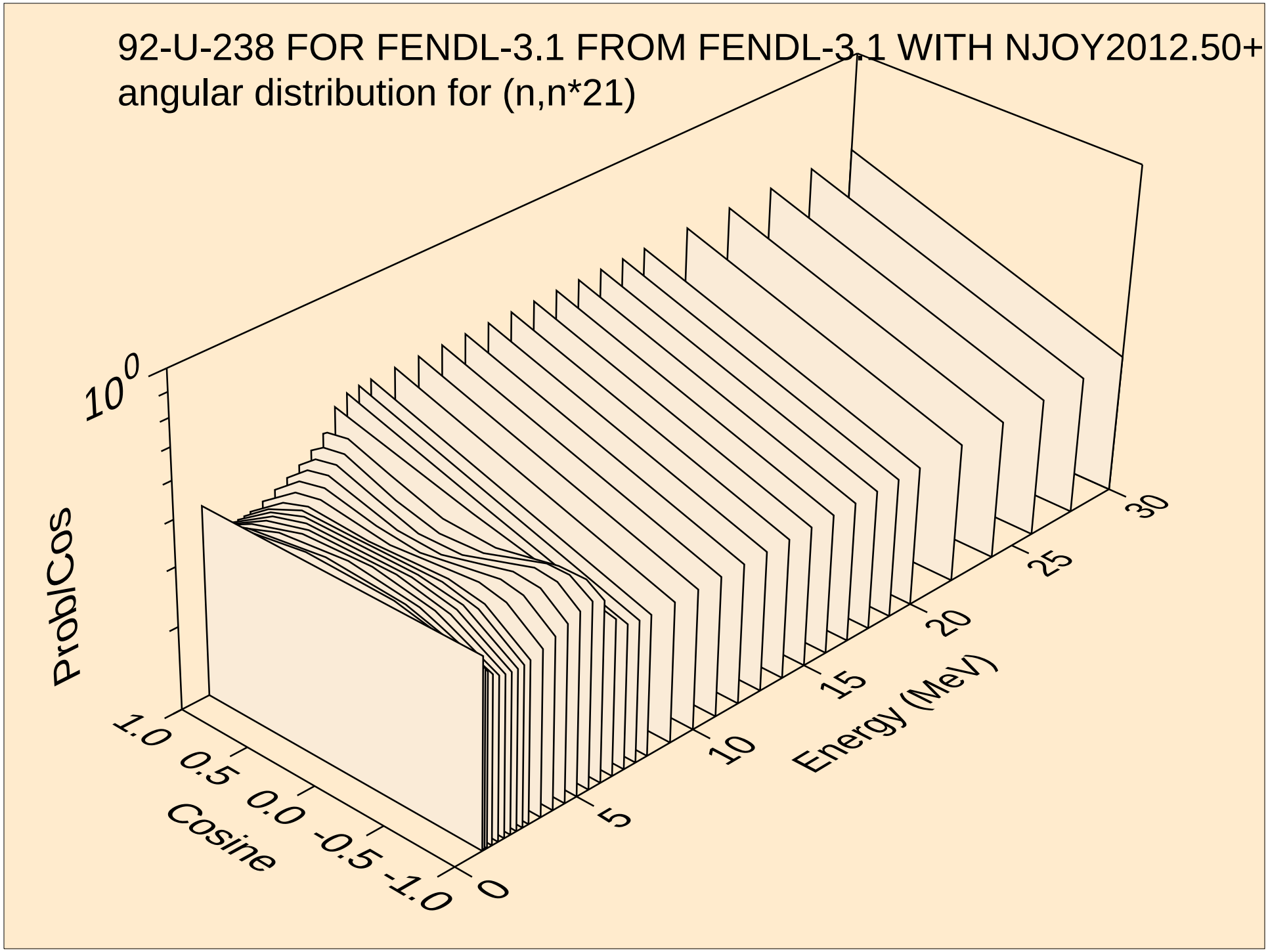

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*16)
ProbICos
10^0
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

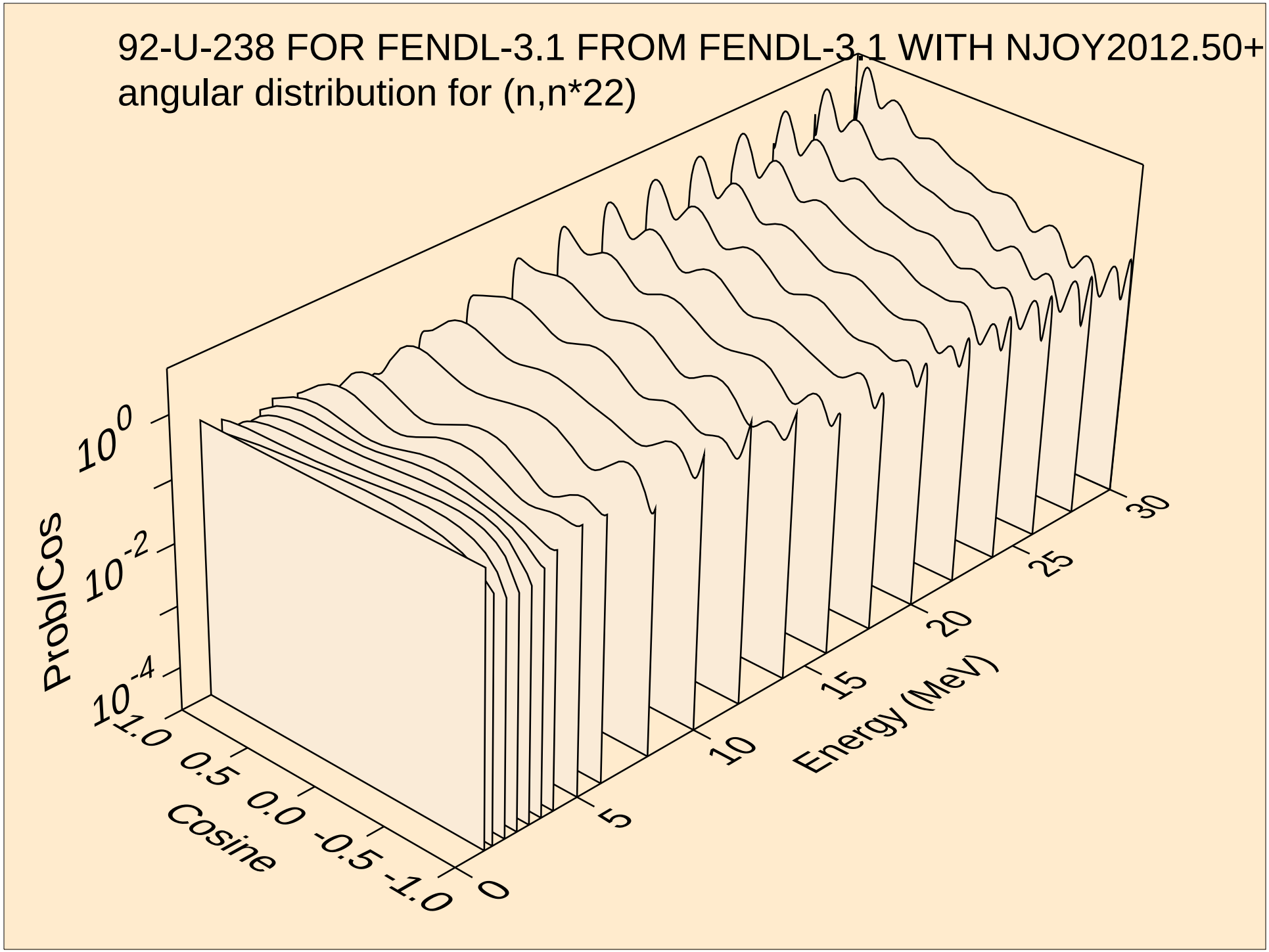

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*17)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

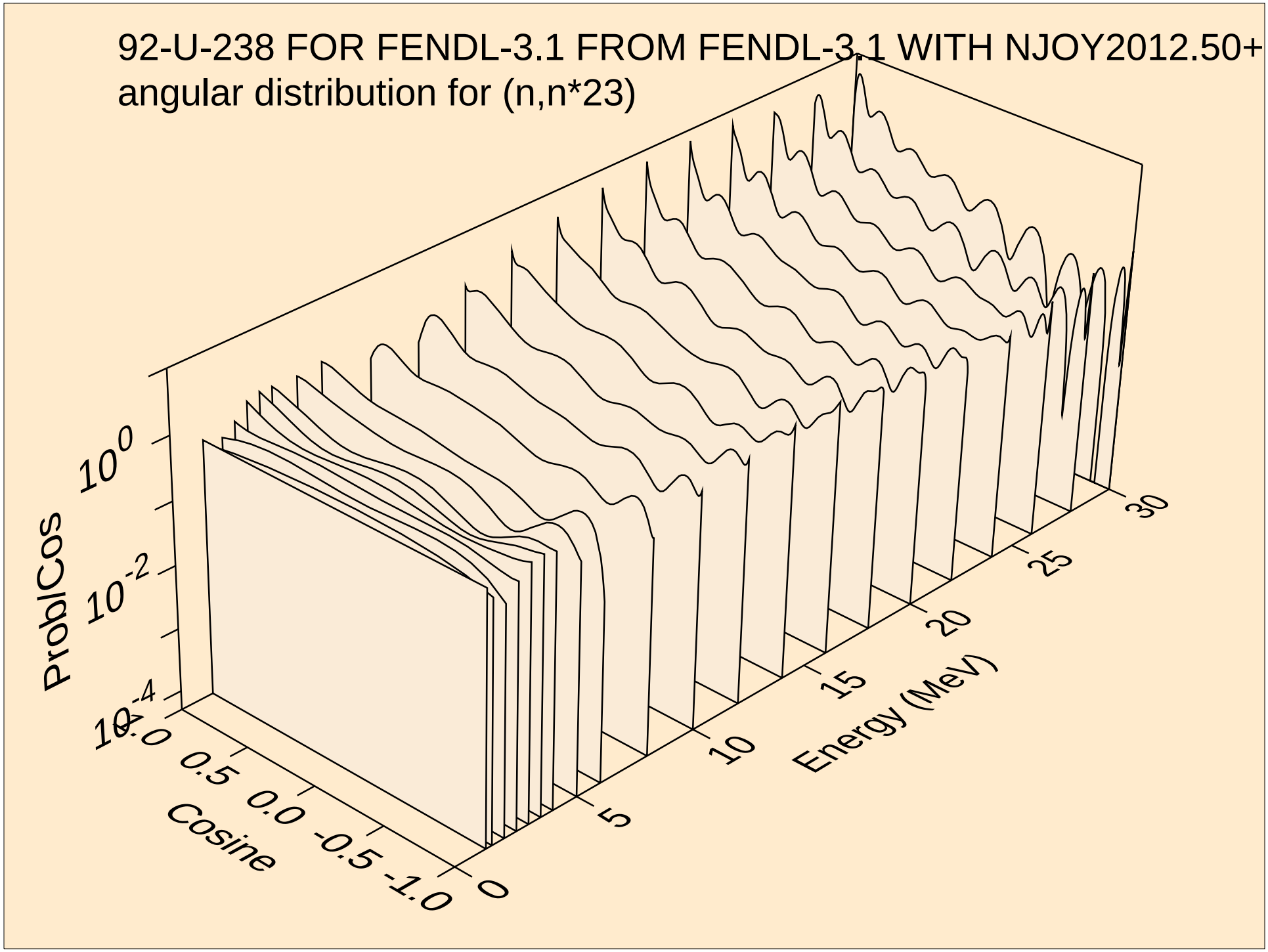

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*18)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

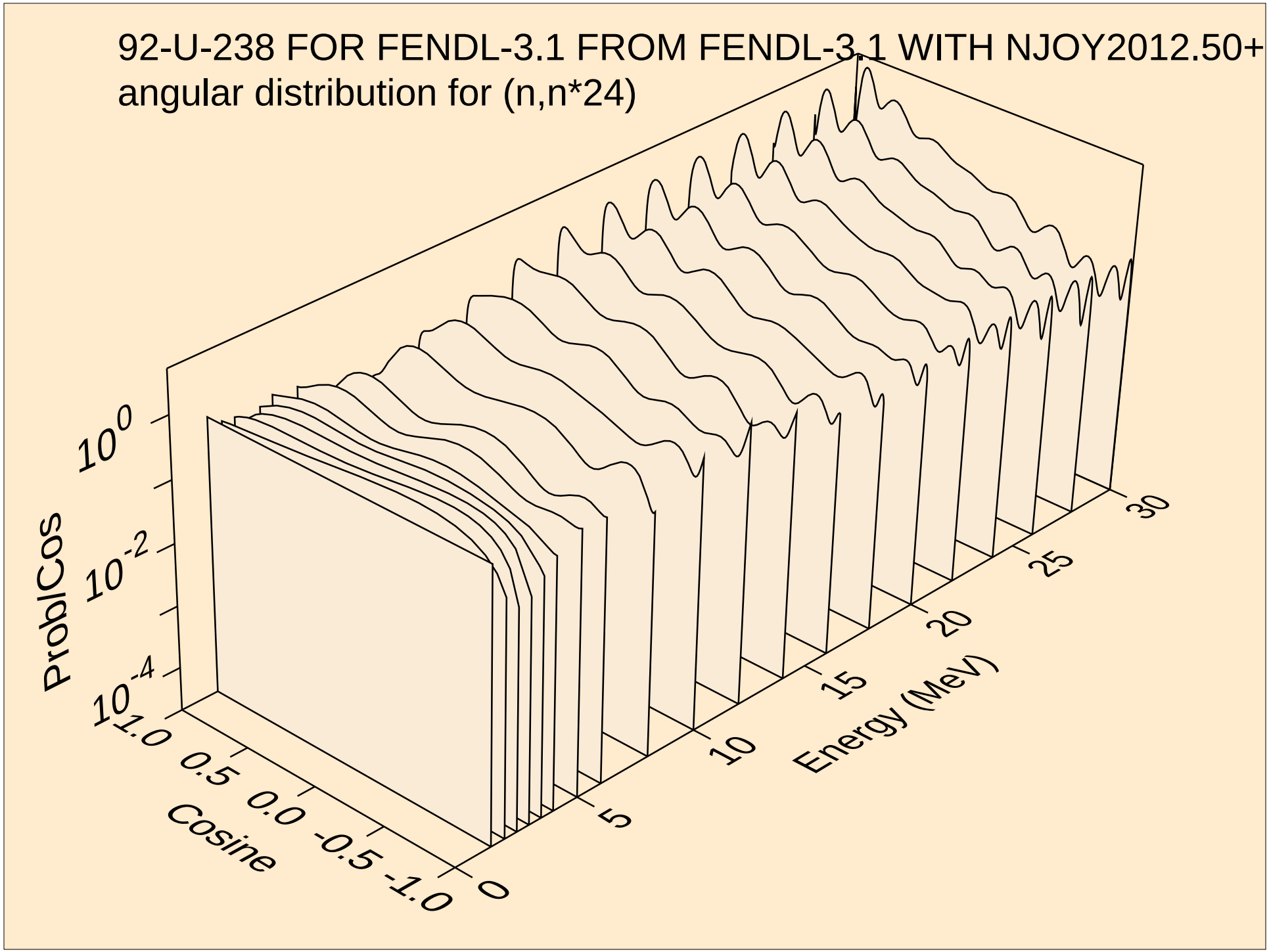

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*19)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

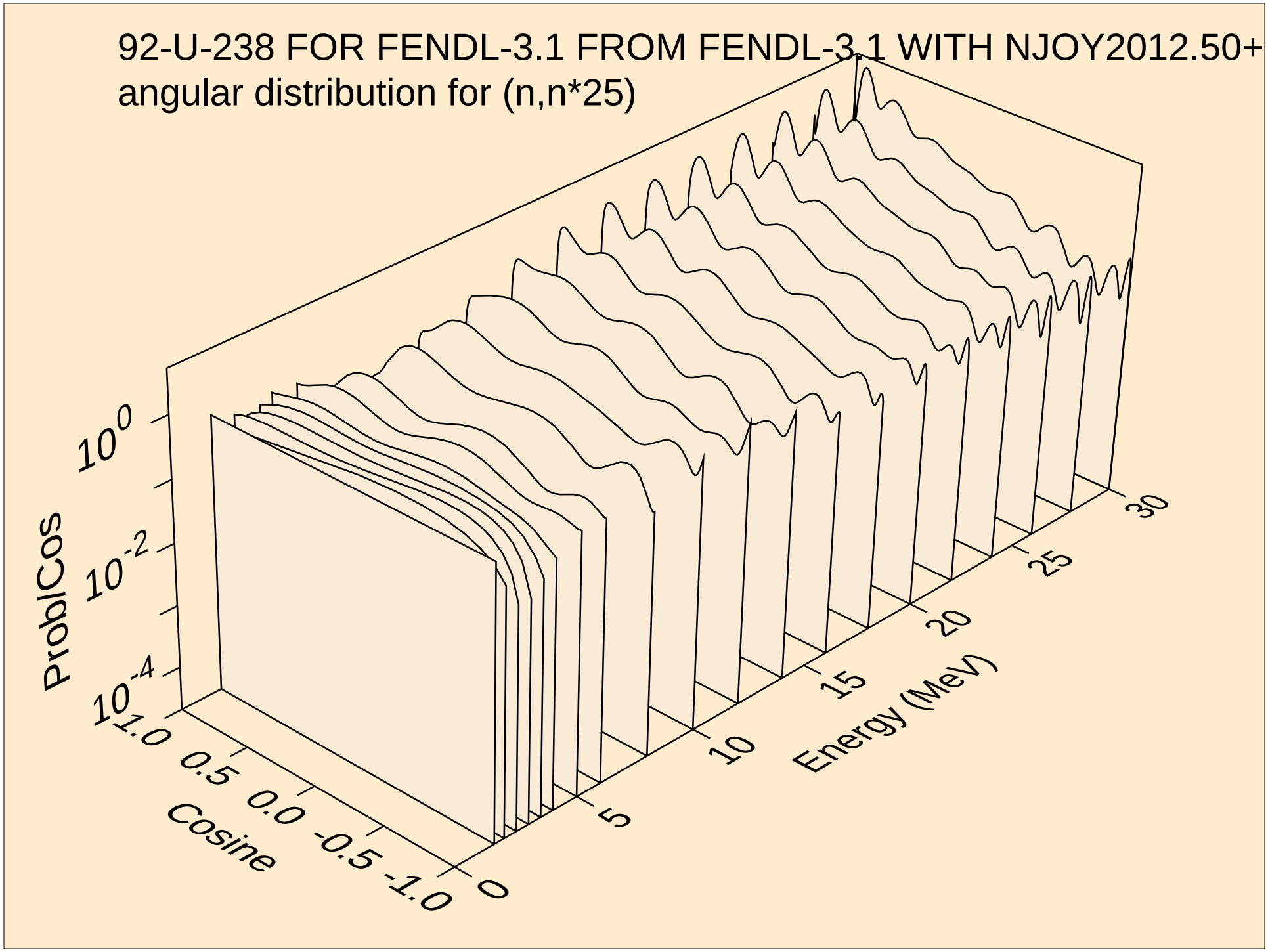

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*20)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

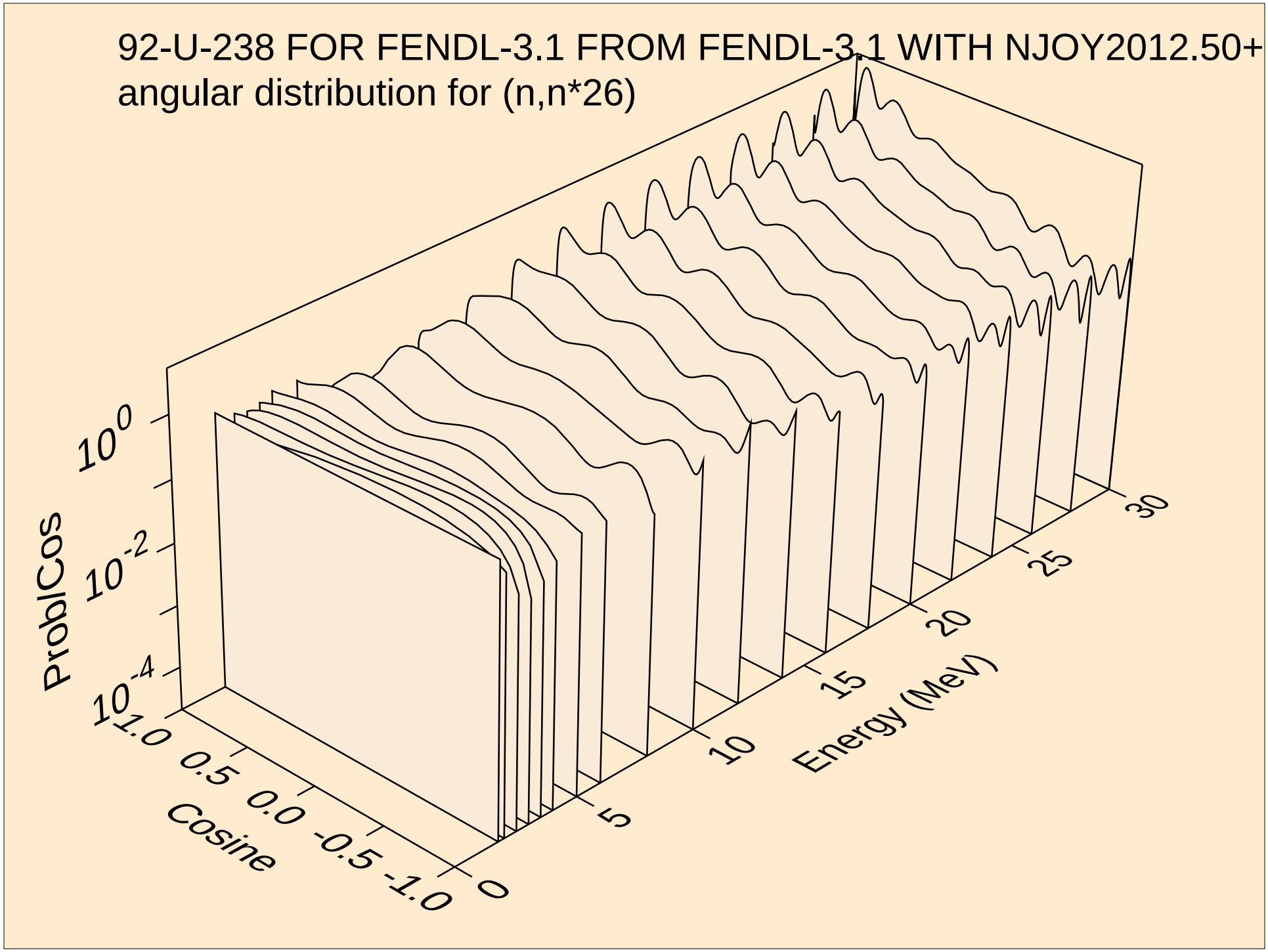

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*21)
10^0
ProbICos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

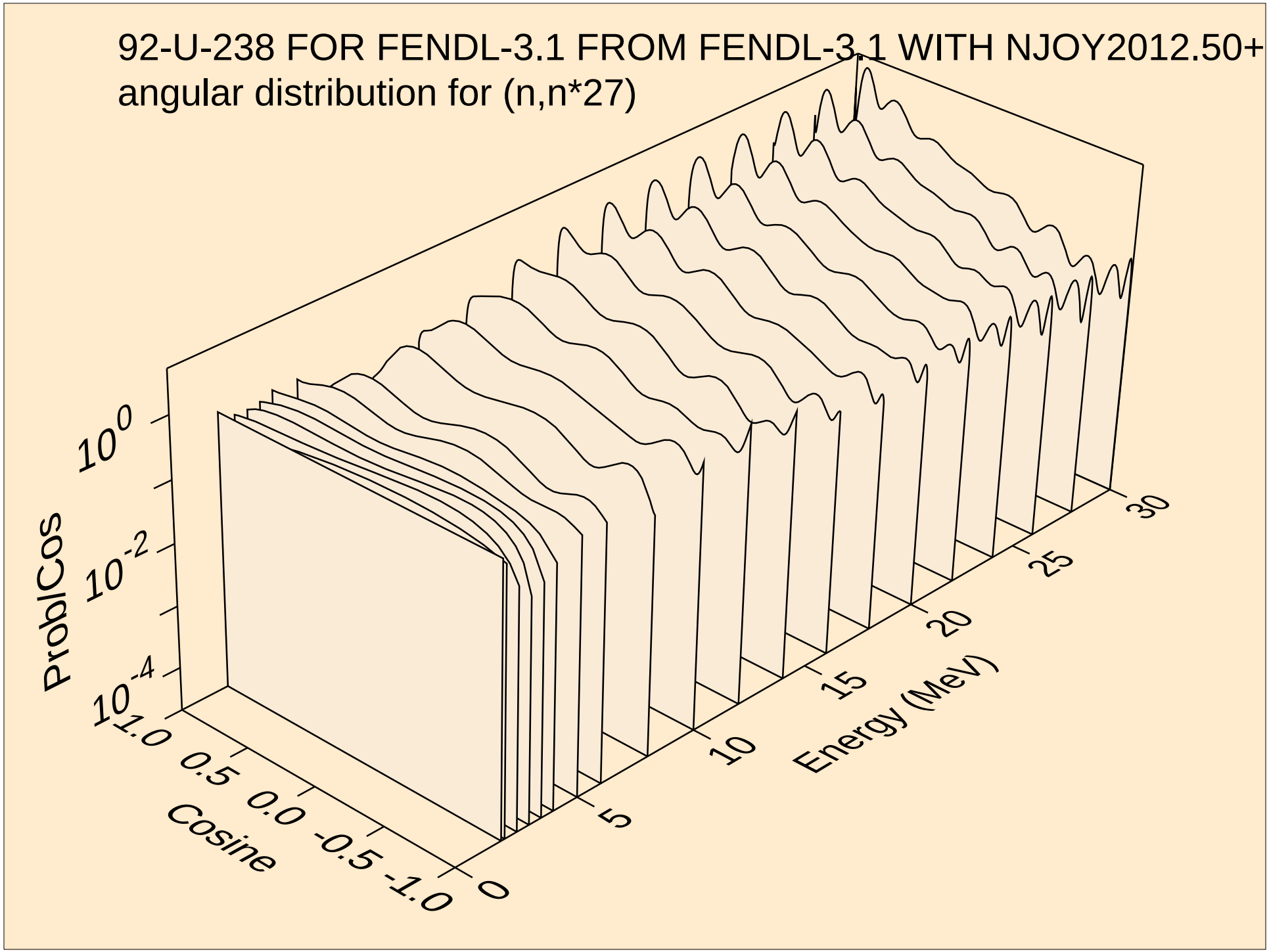

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*22)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

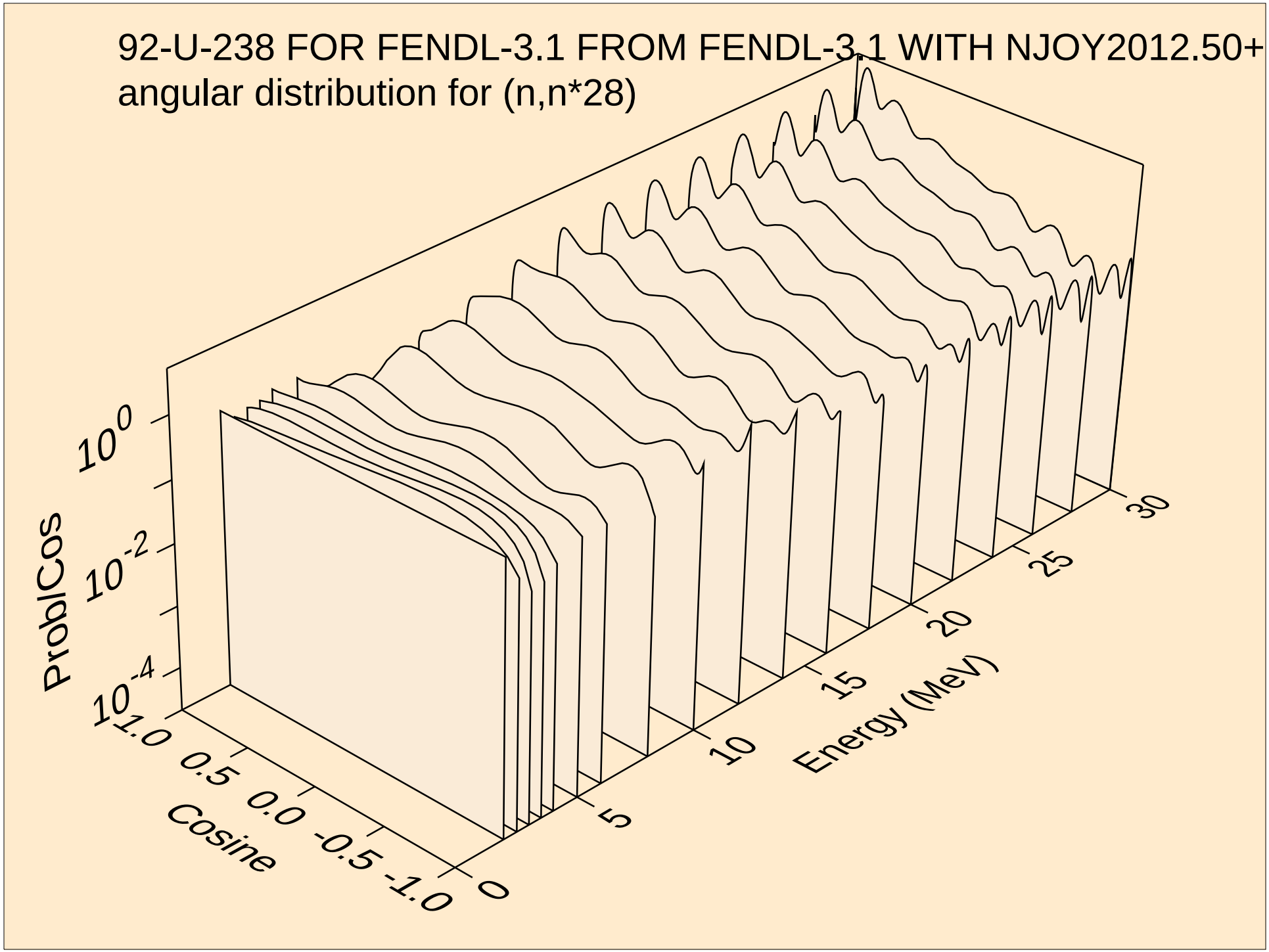

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*23)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

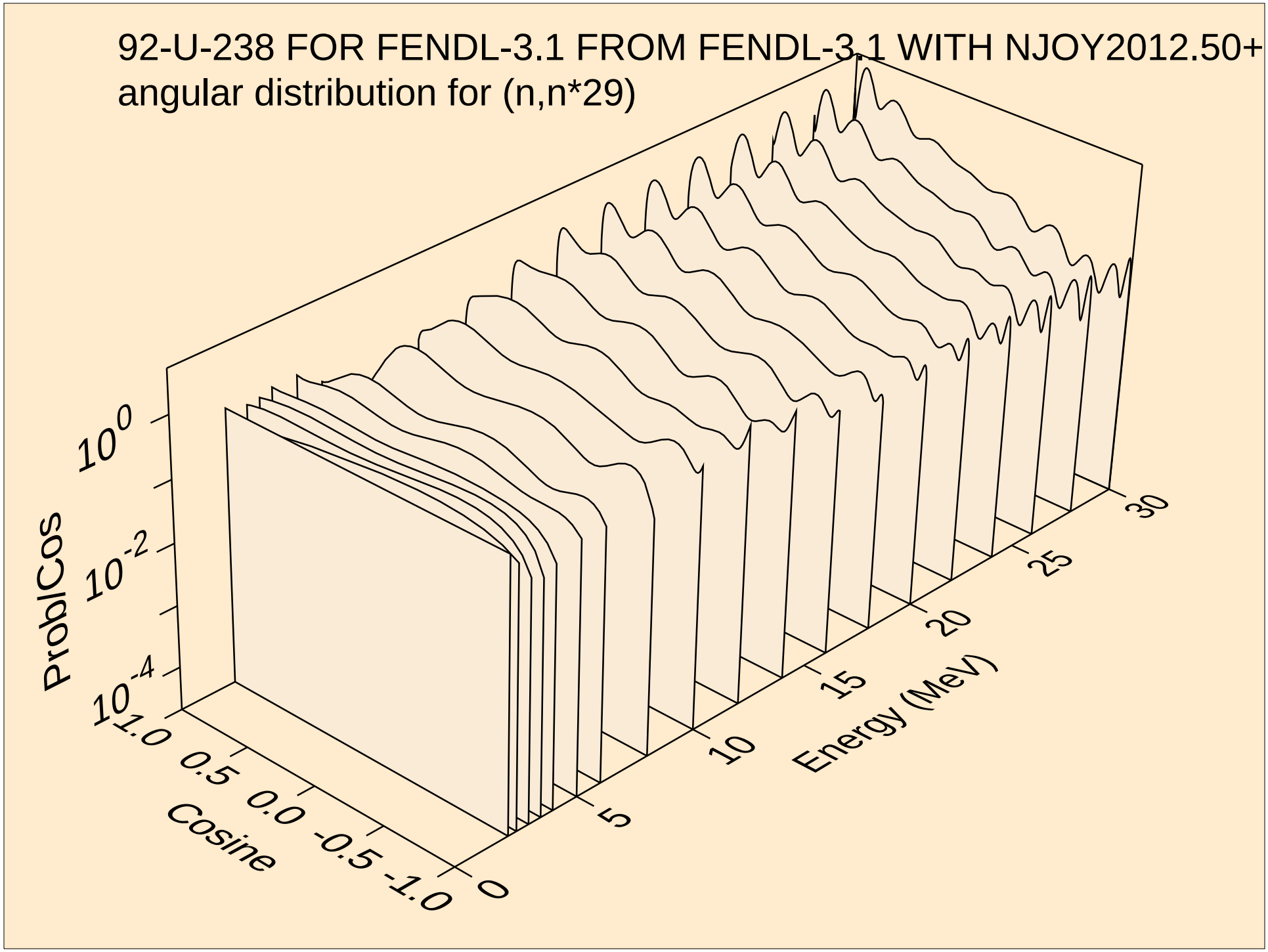

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*24)
ProbICos
10^{0}
10^{-2}
10^{-4}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

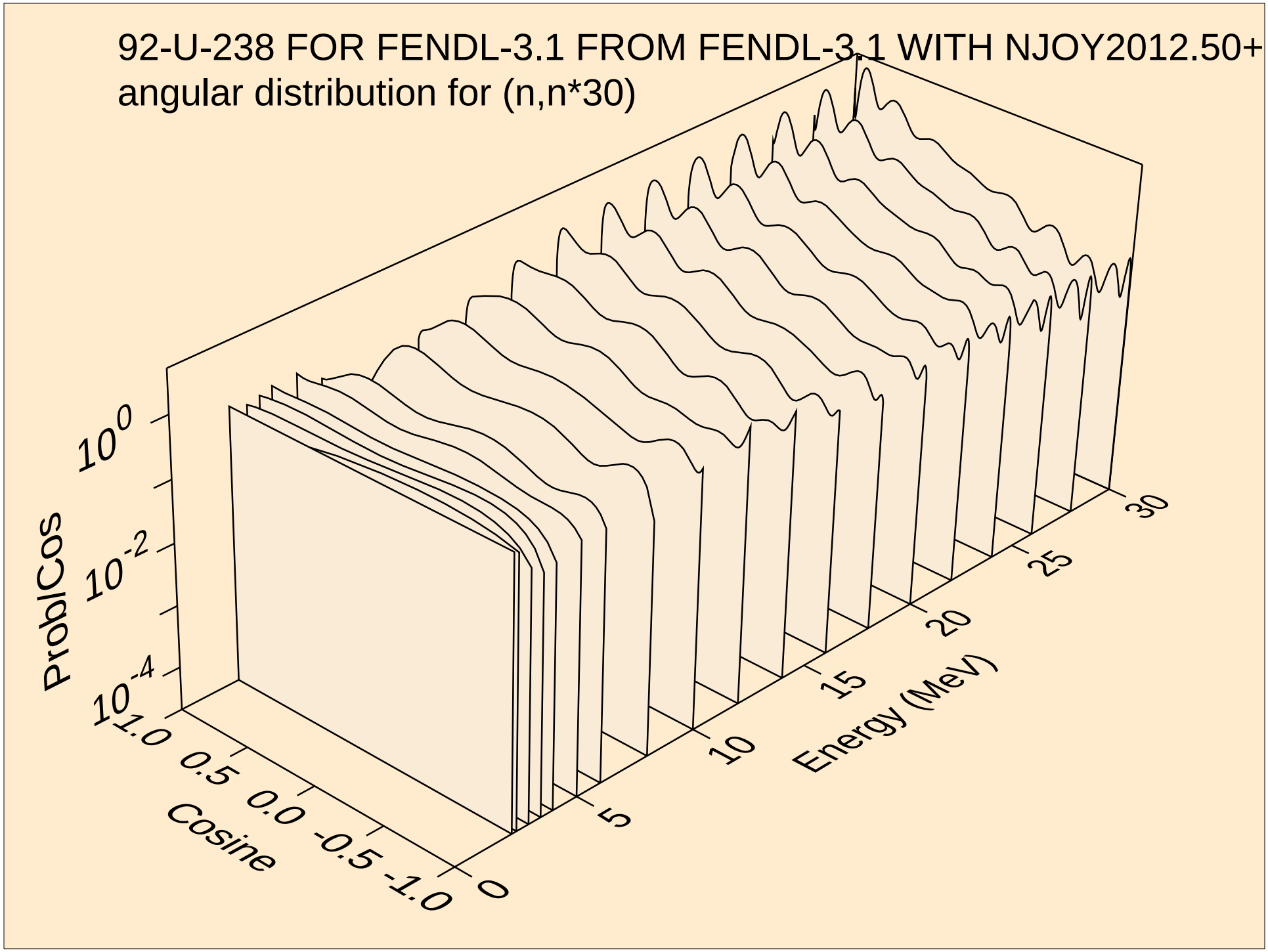

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*25)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

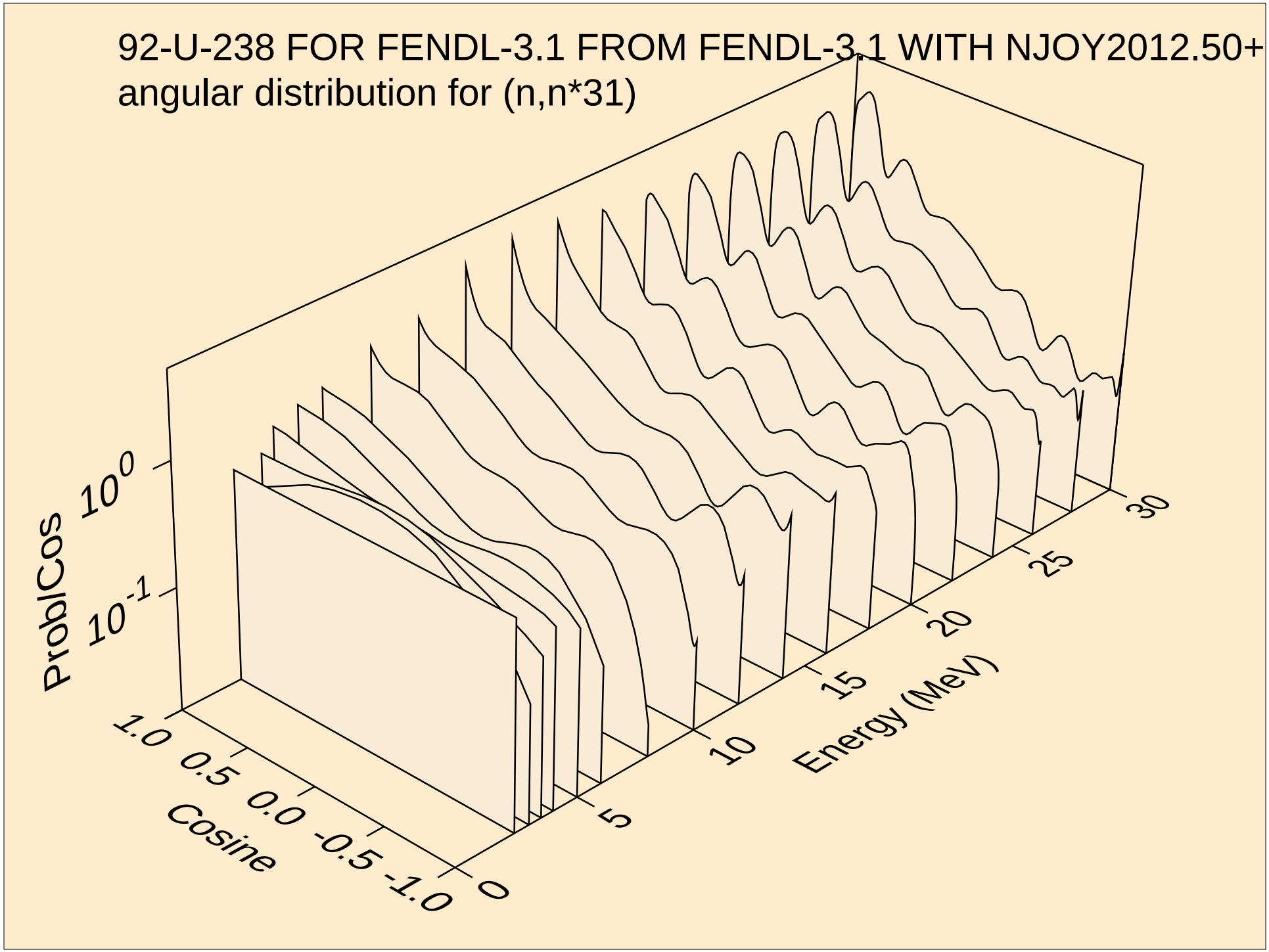

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*26)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

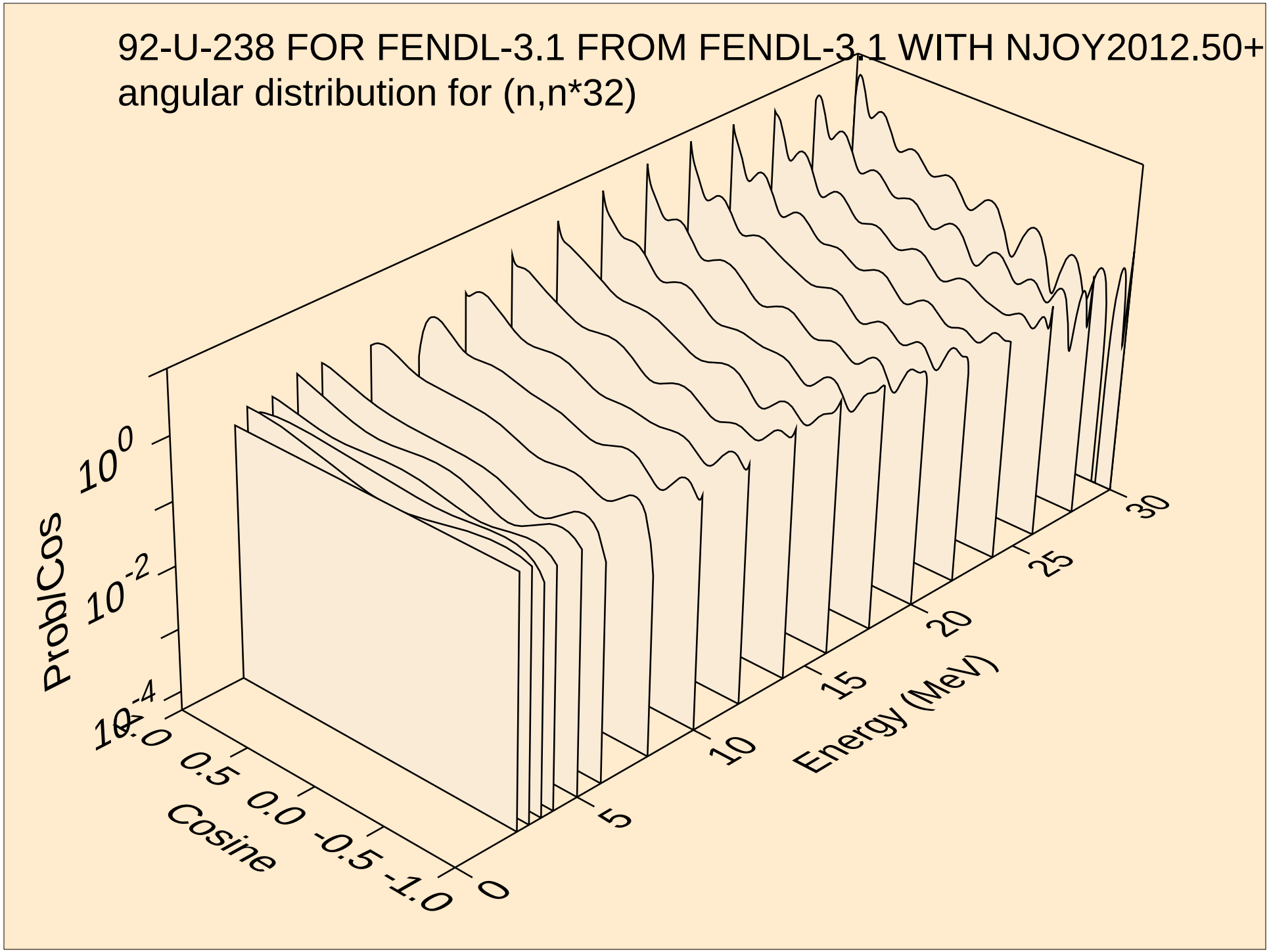

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*27)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

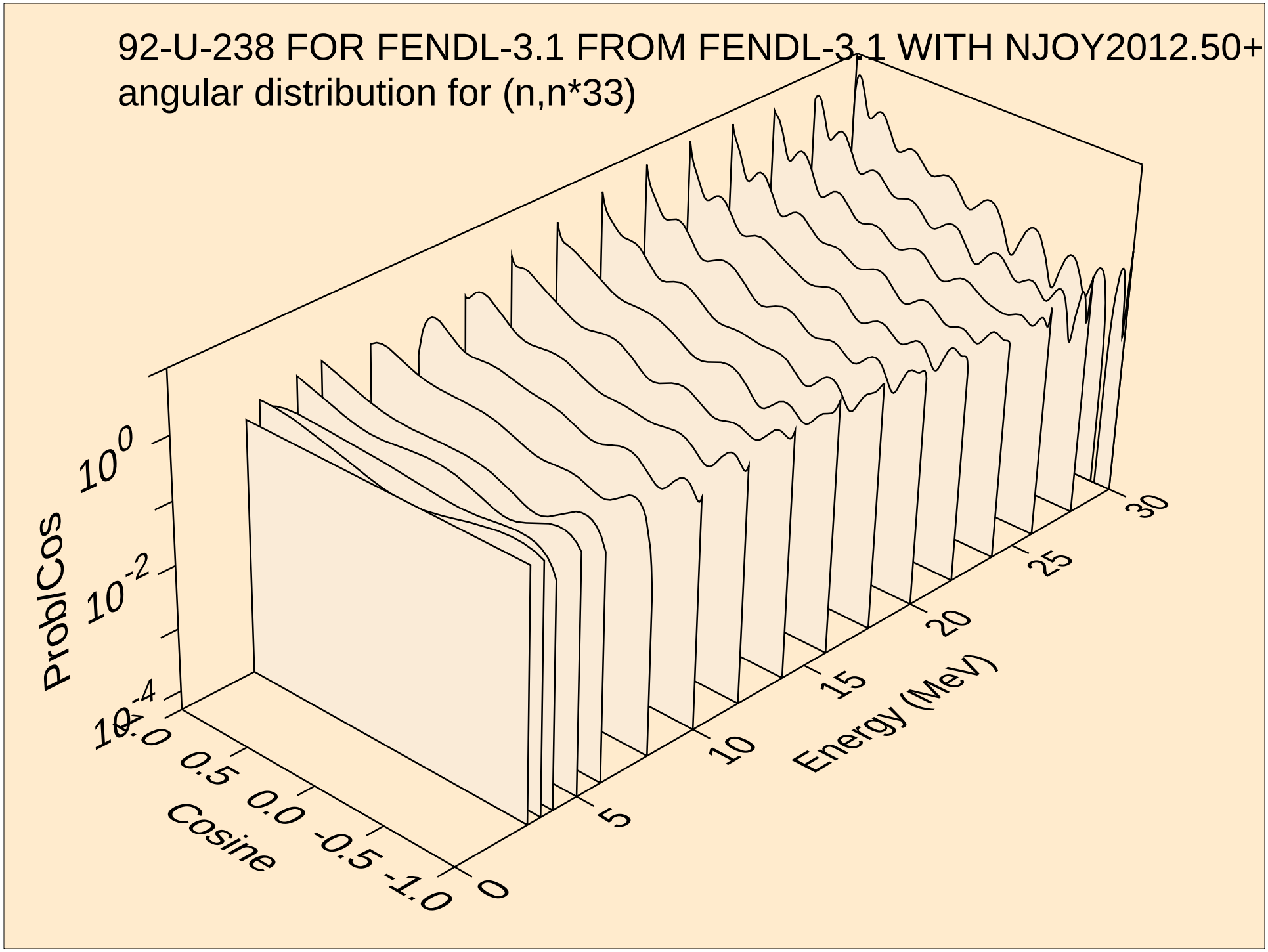

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*28)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

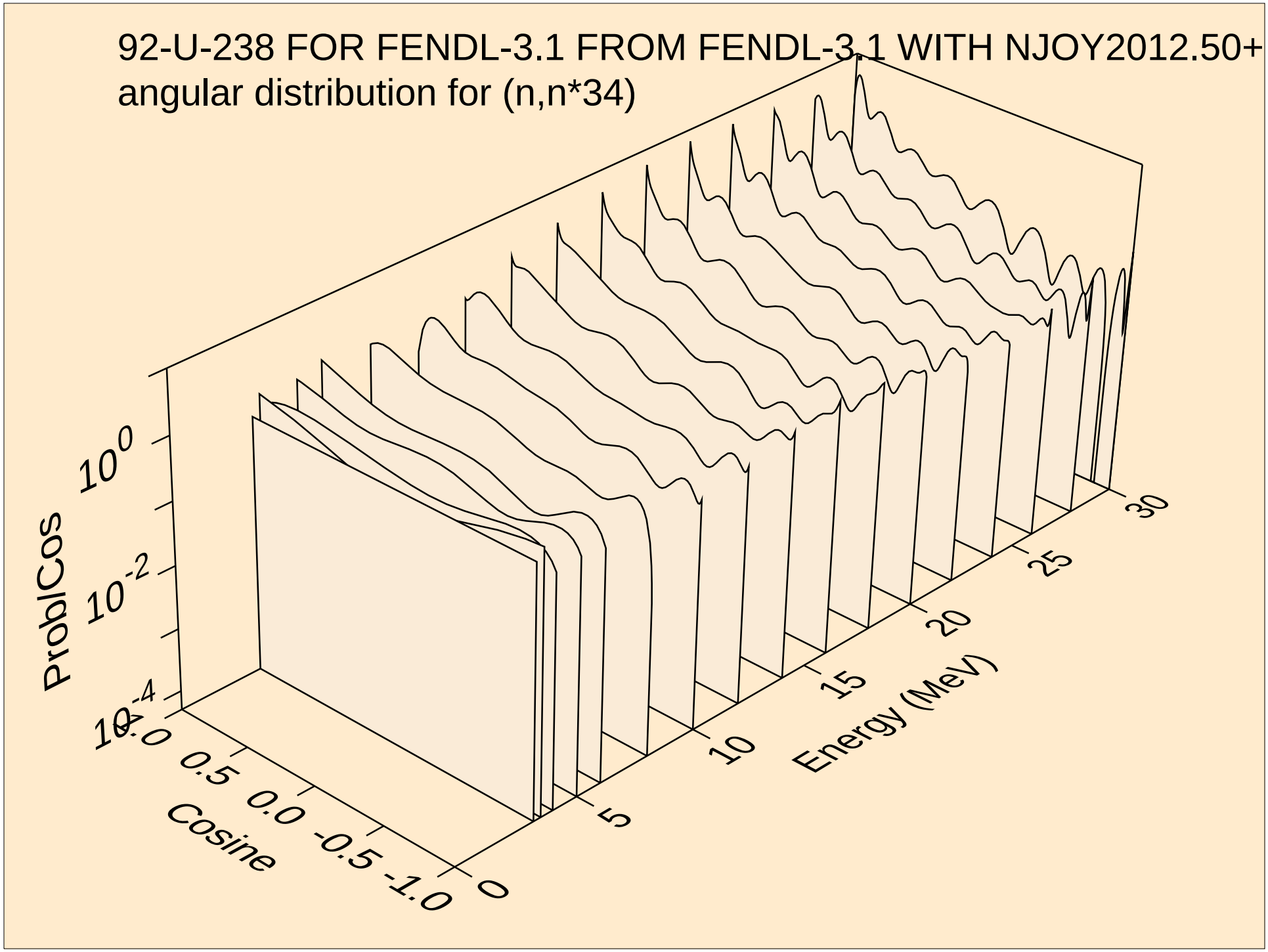

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*29)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

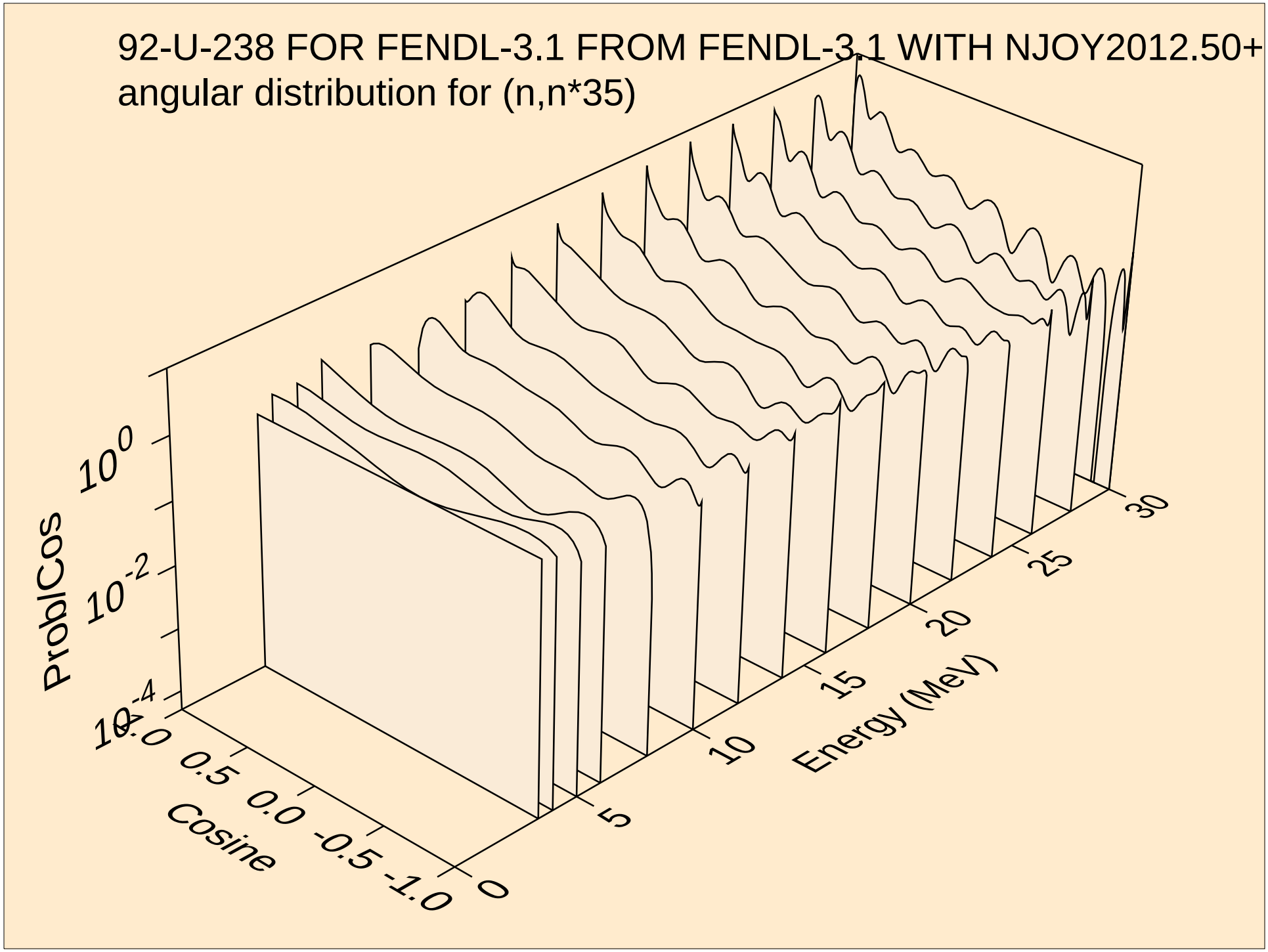

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*30)
ProbCos
10^{0}
10^{-2}
10^{-4}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
5
10
15
20
25
30

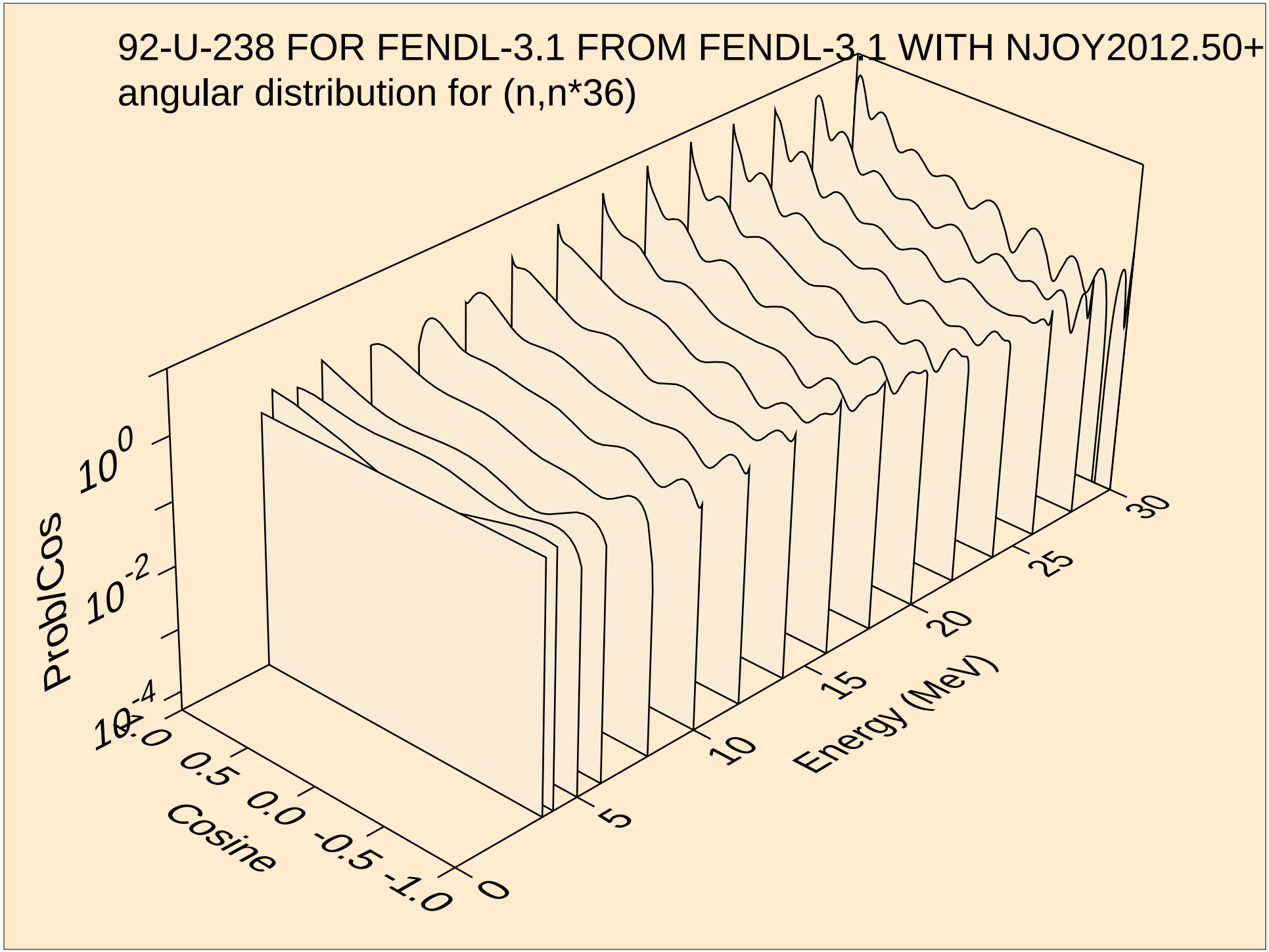

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*31)
ProbCos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

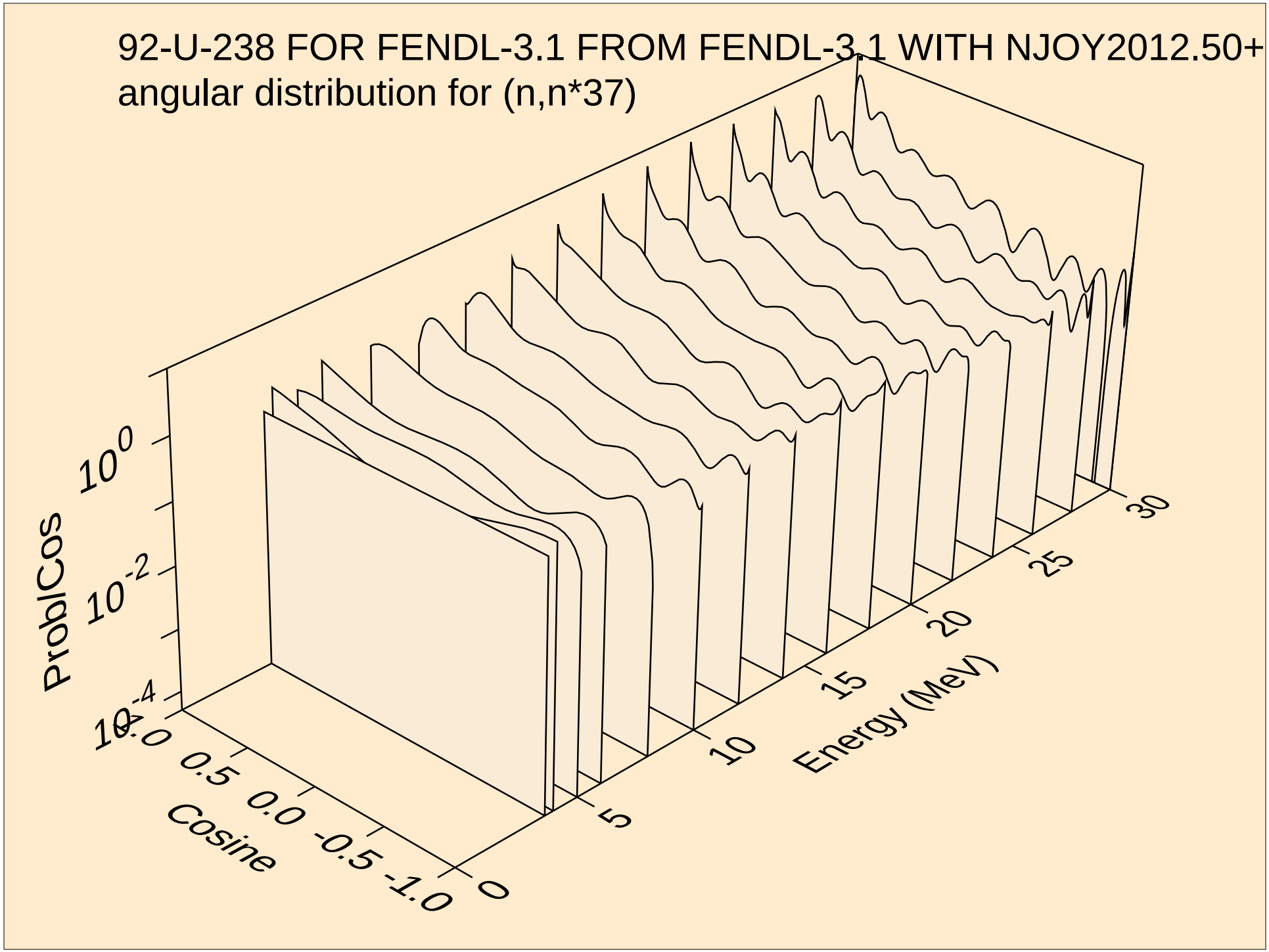

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*32)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

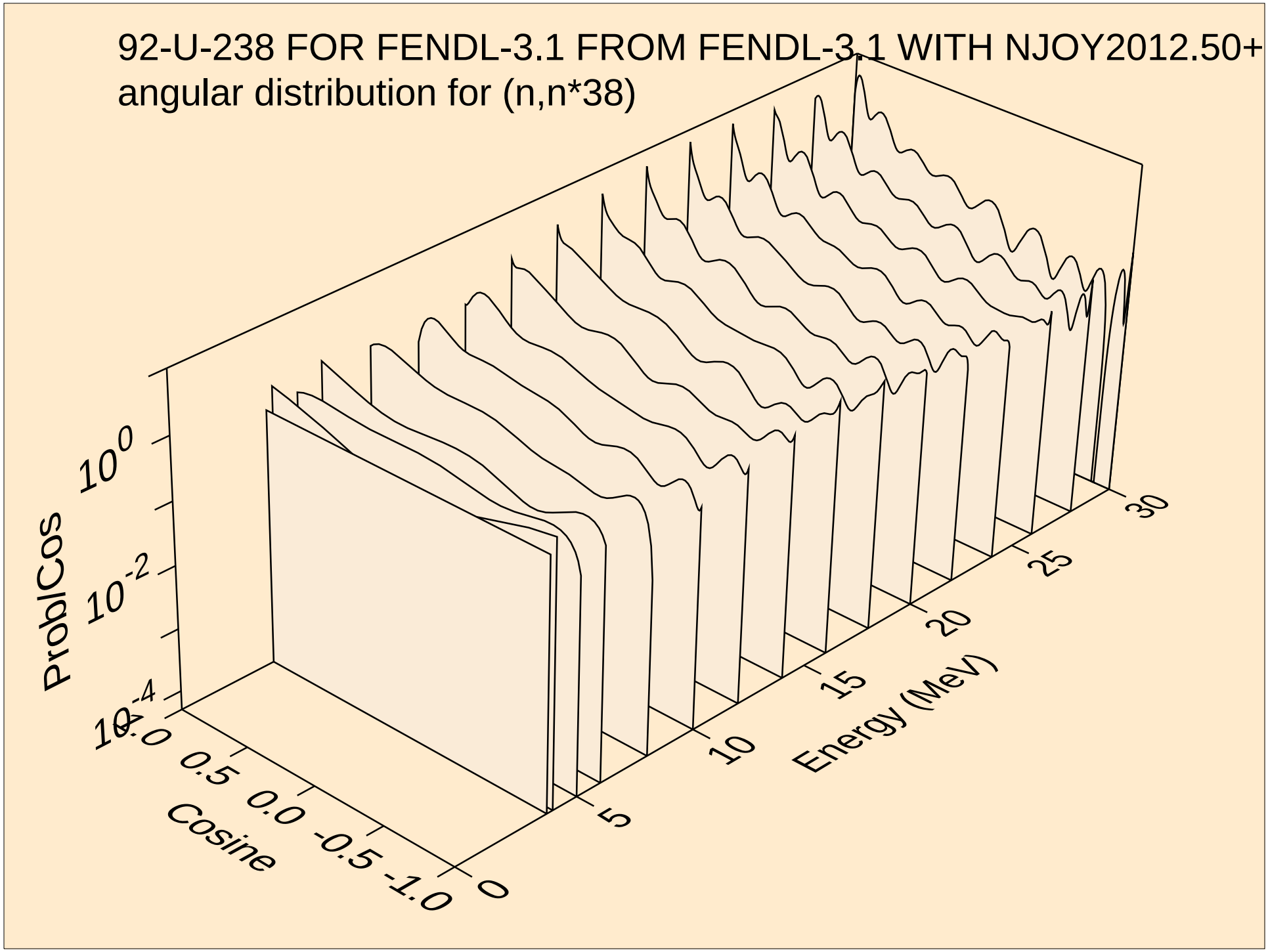

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*33)
Prob\Cos
10^{0}
10^{-2}
10^{-4}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

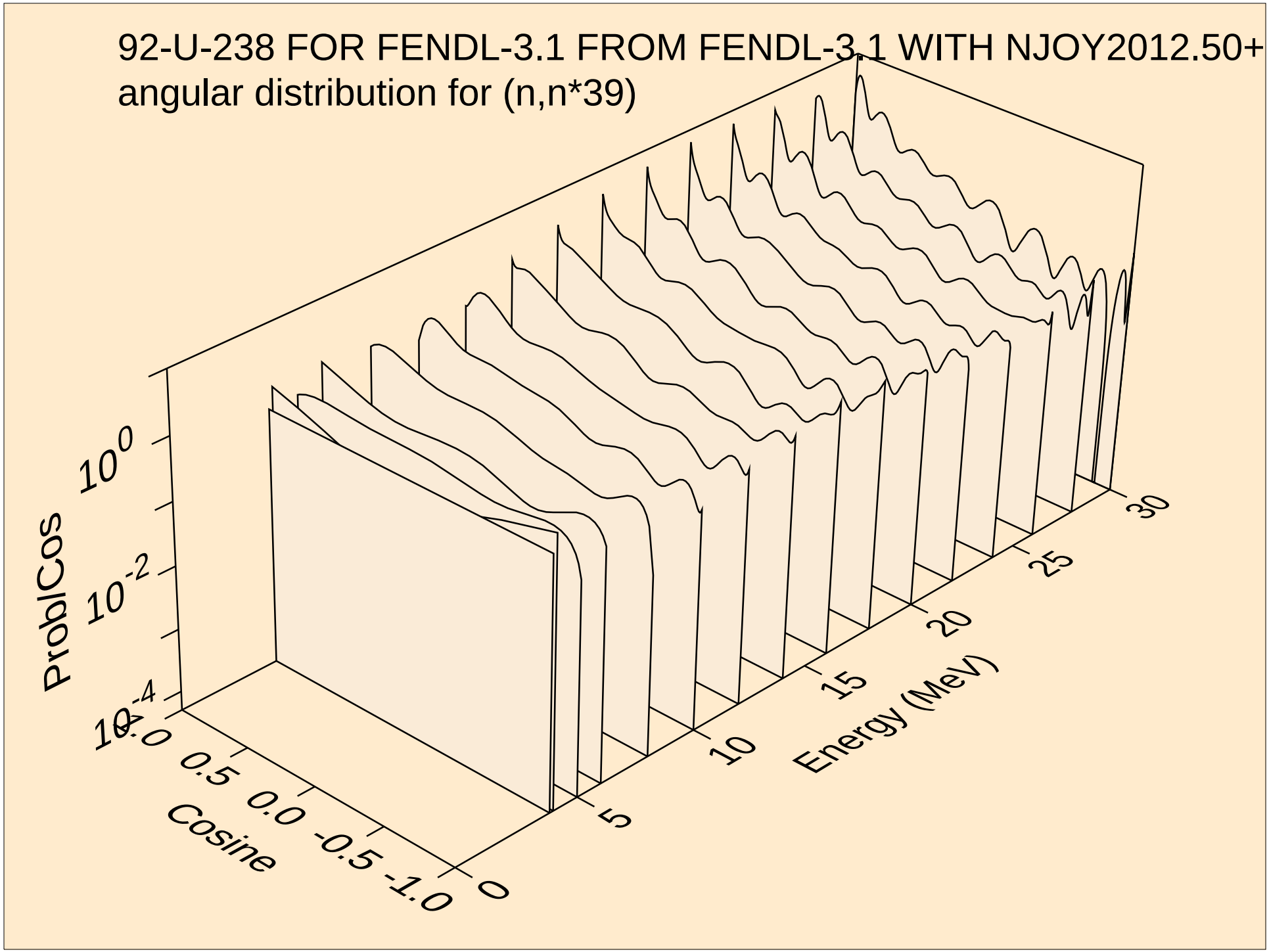

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*34)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

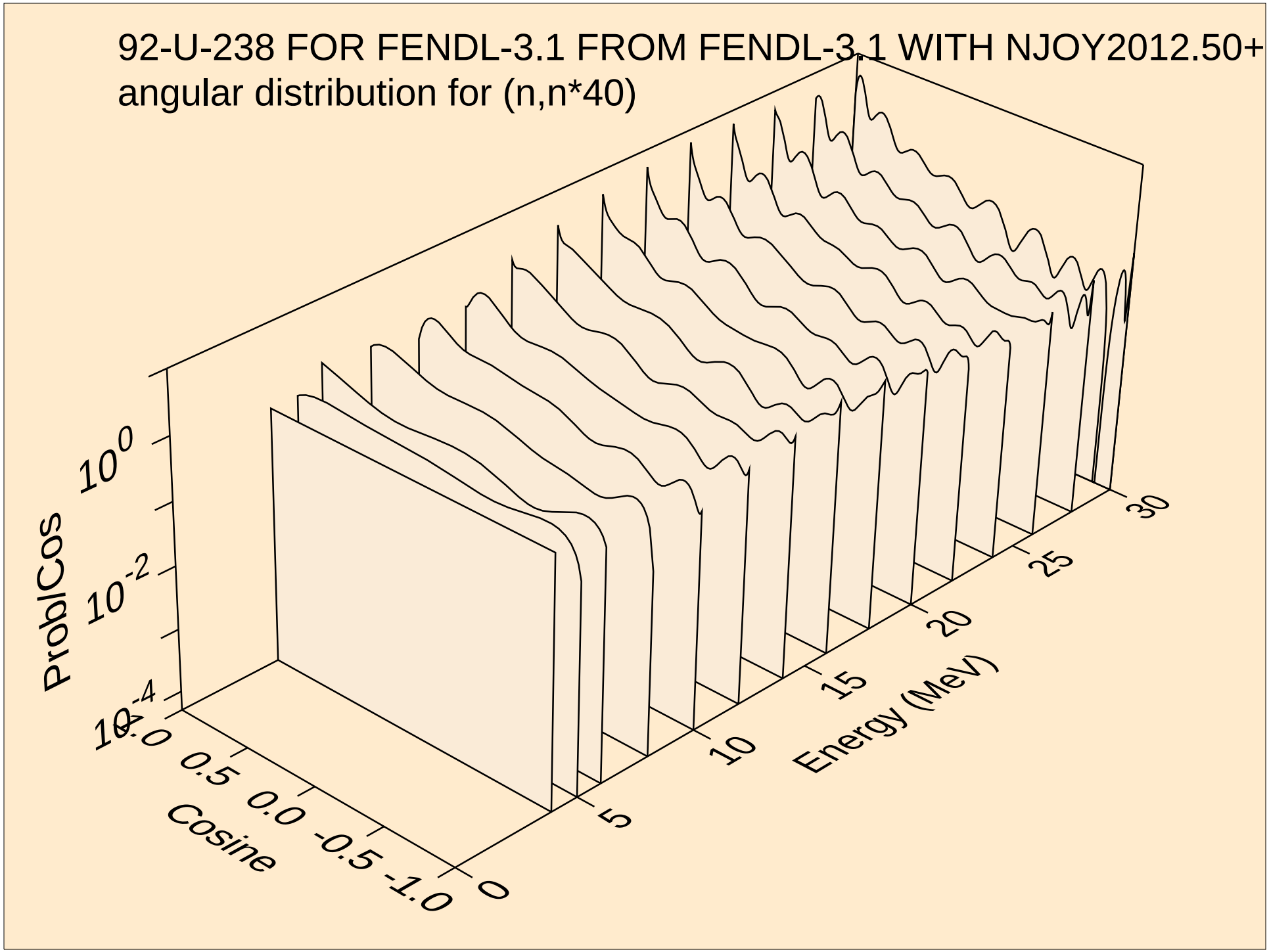

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*35)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

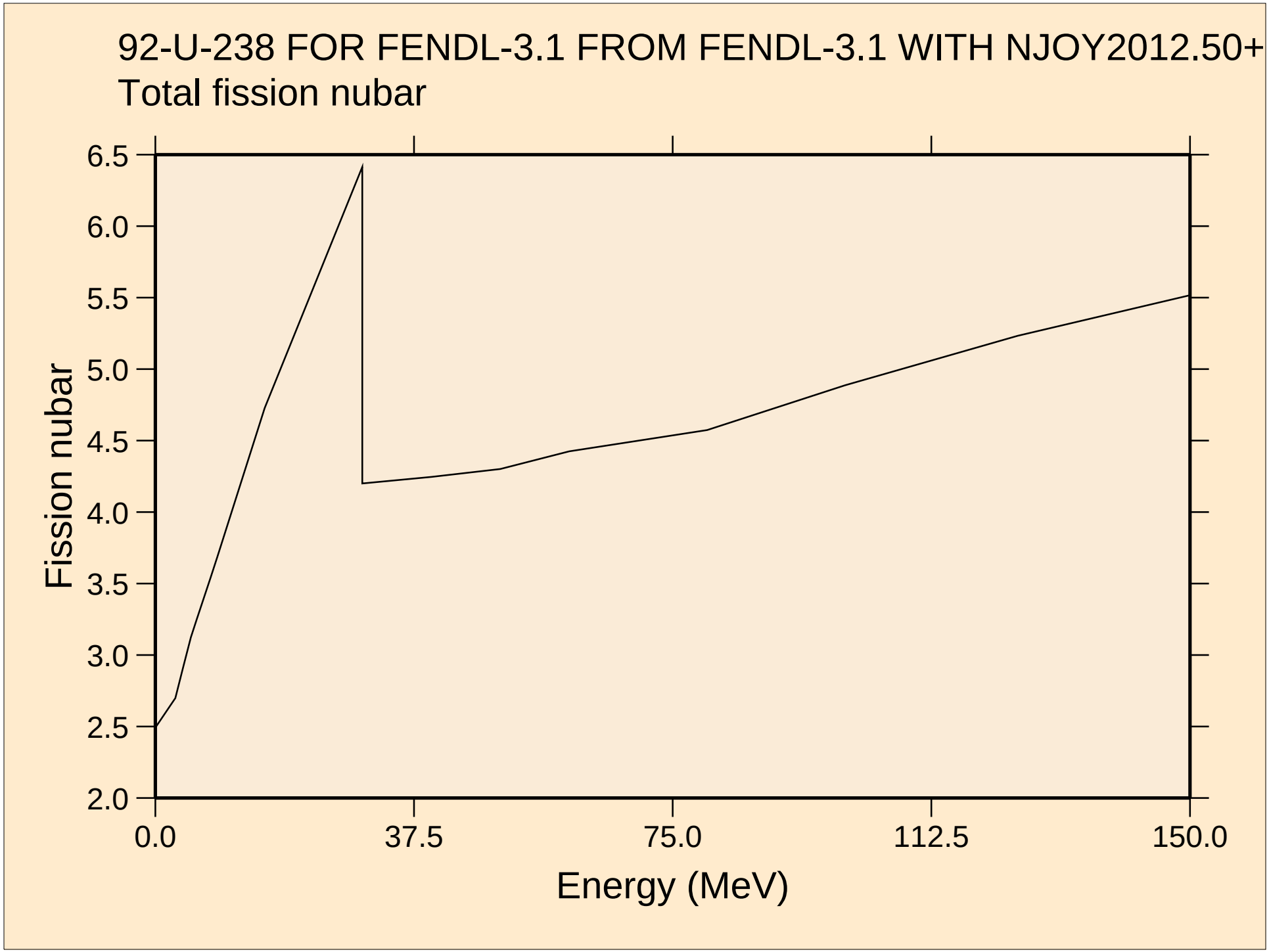

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*36)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

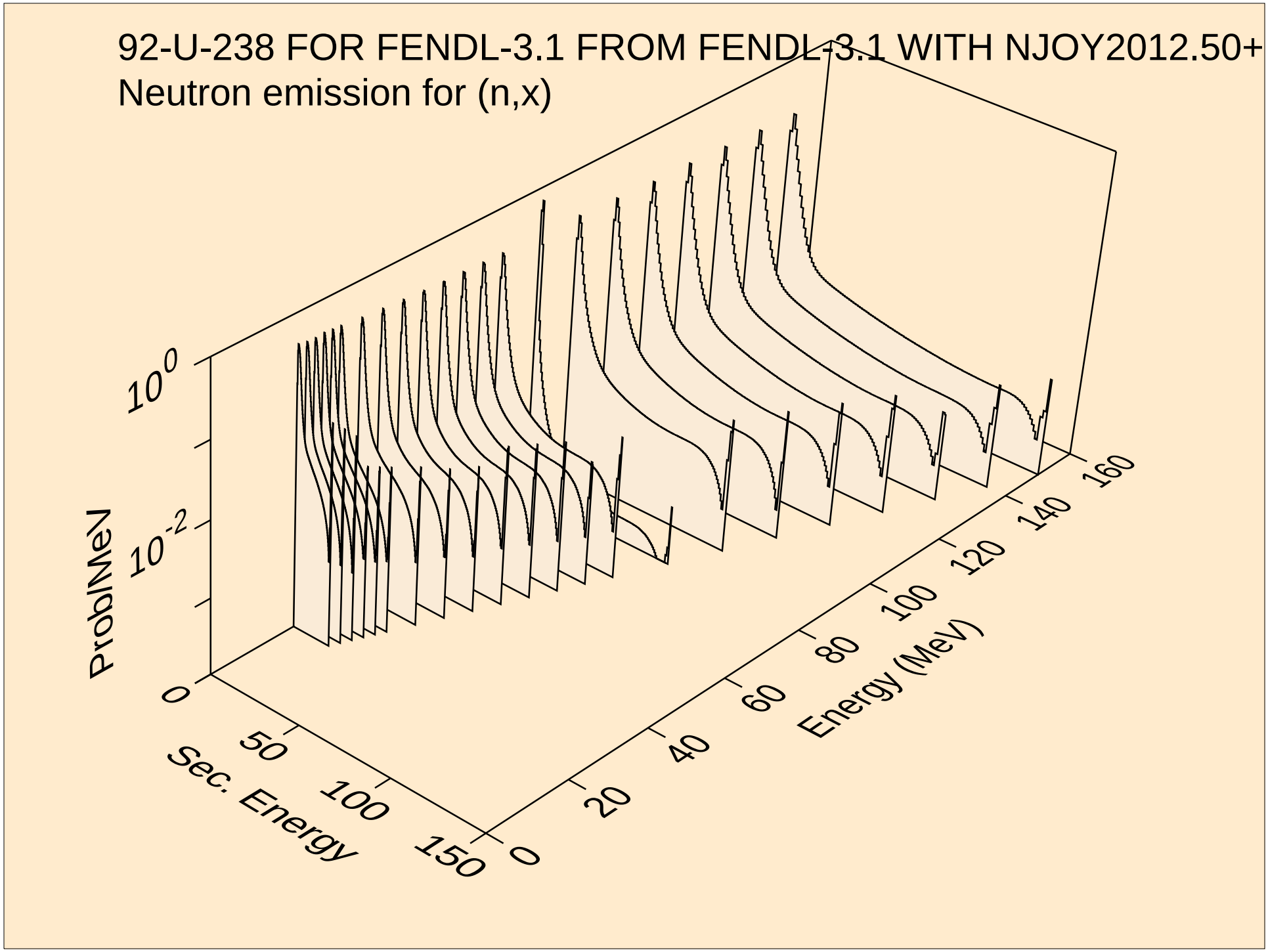

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*37)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

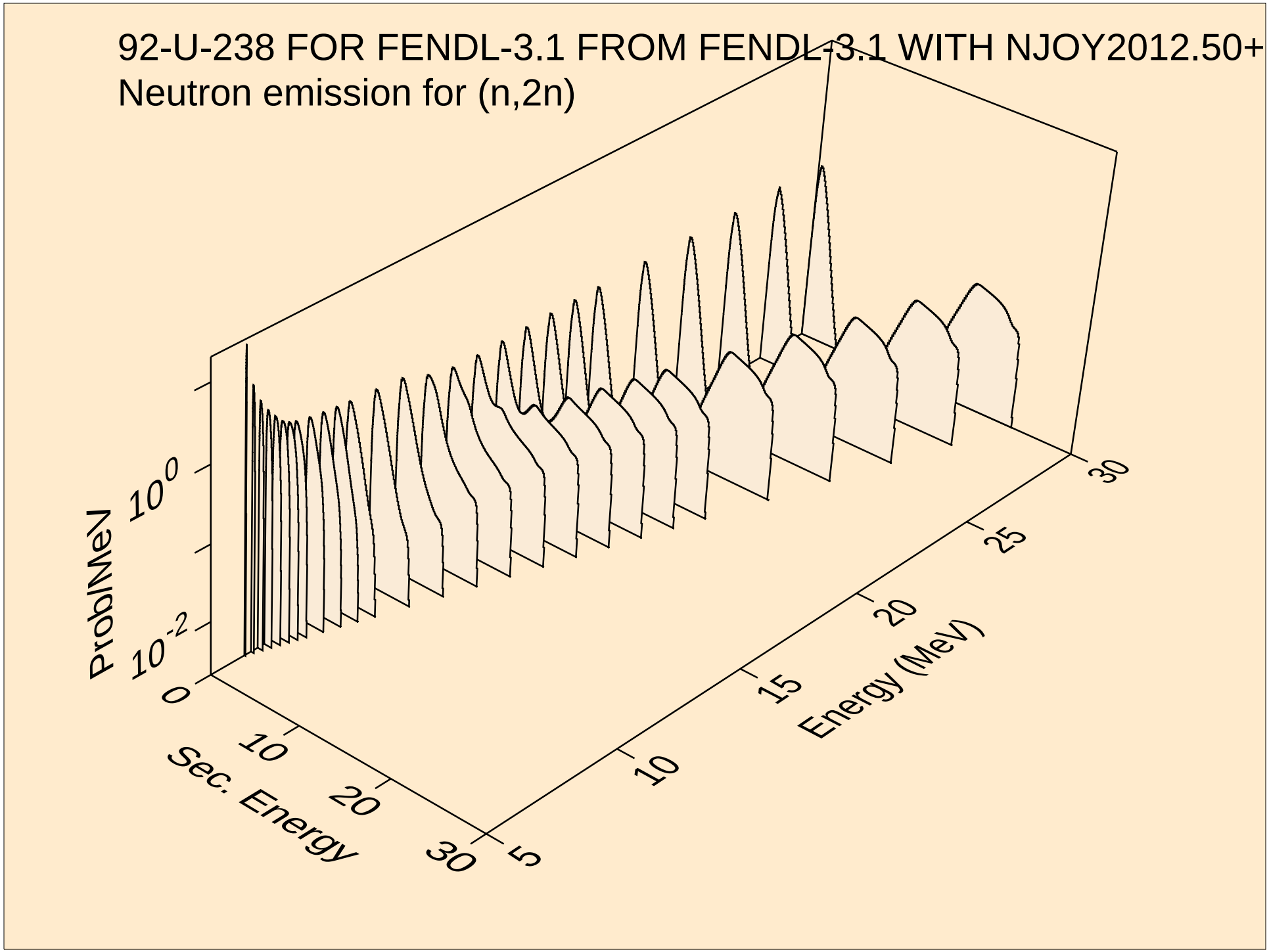

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*38)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

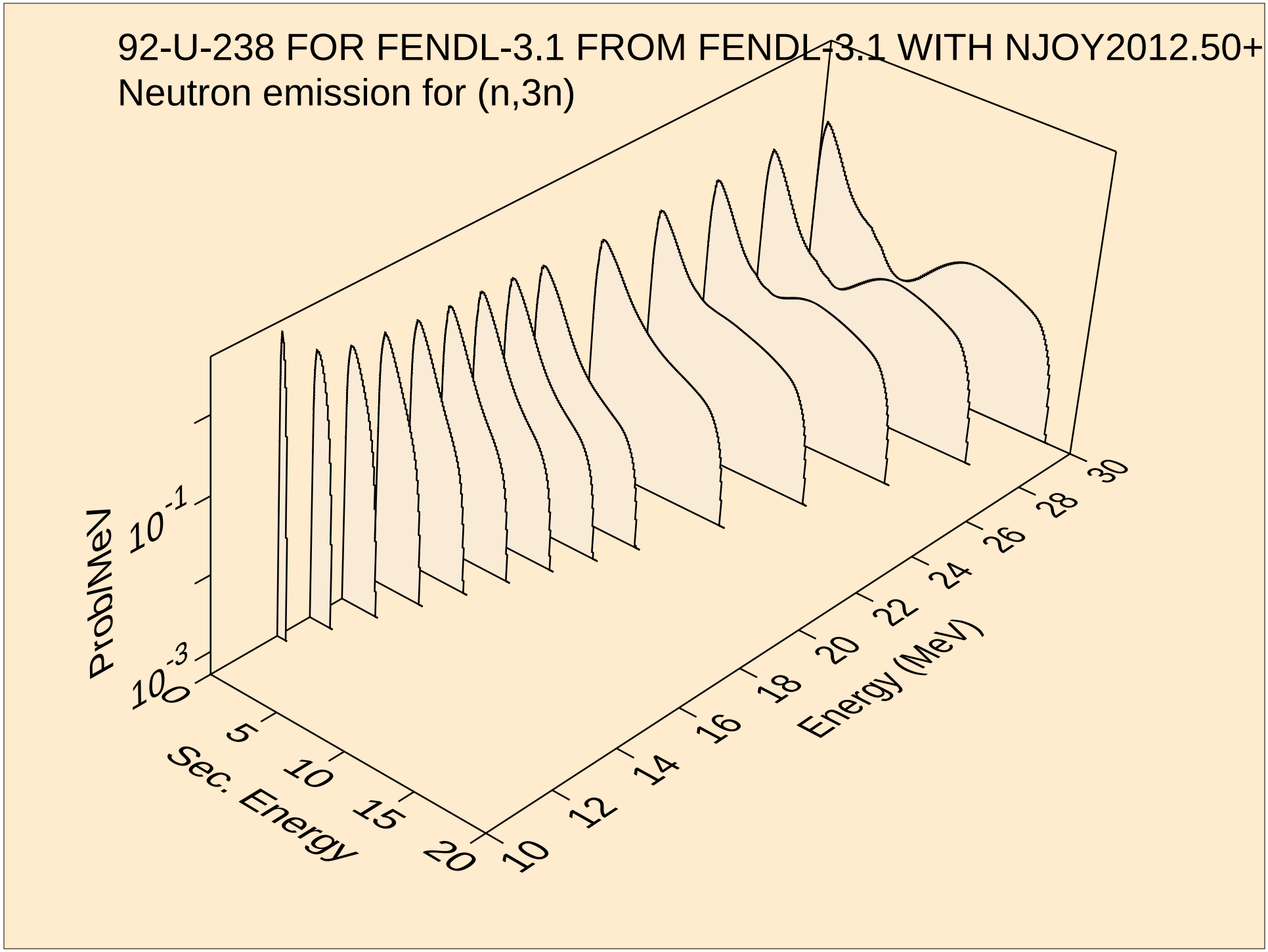

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*39)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

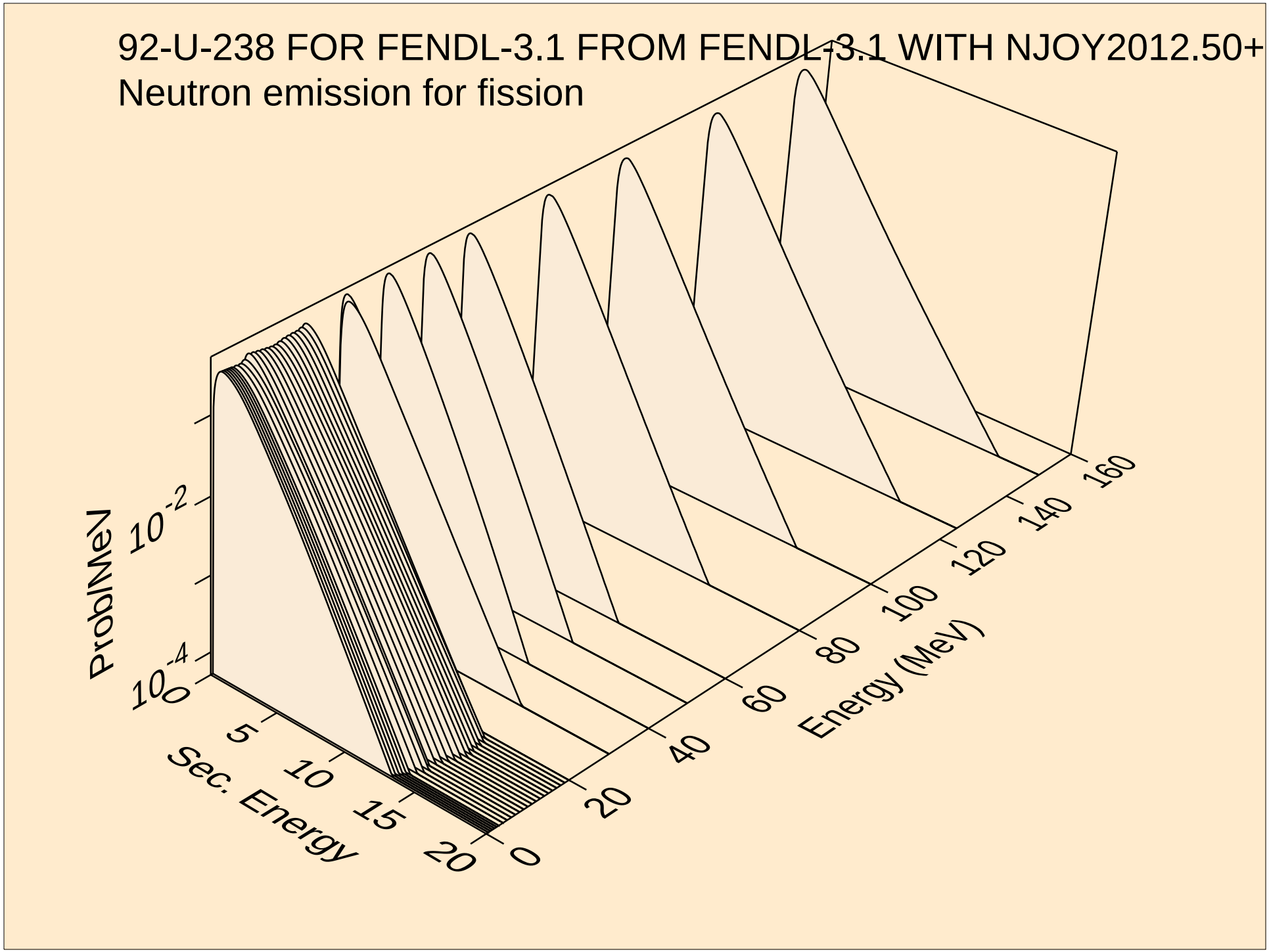

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
angular distribution for (n,n*40)
Prob\Cos
10^0
10^-2
10^-4
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)

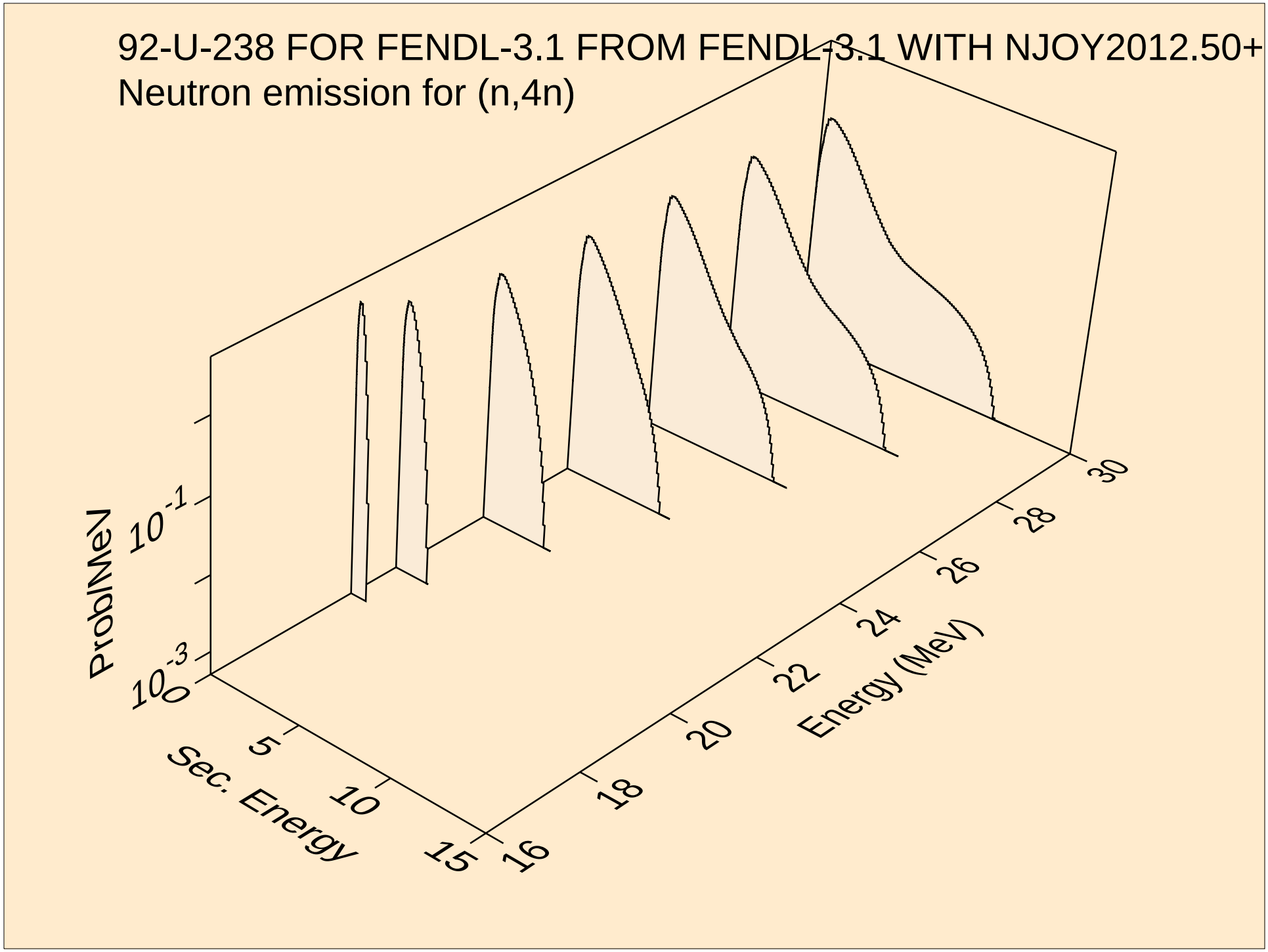

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Total fission nubar
Fission nubar
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
0.0
37.5
75.0
112.5
150.0
Energy (MeV)

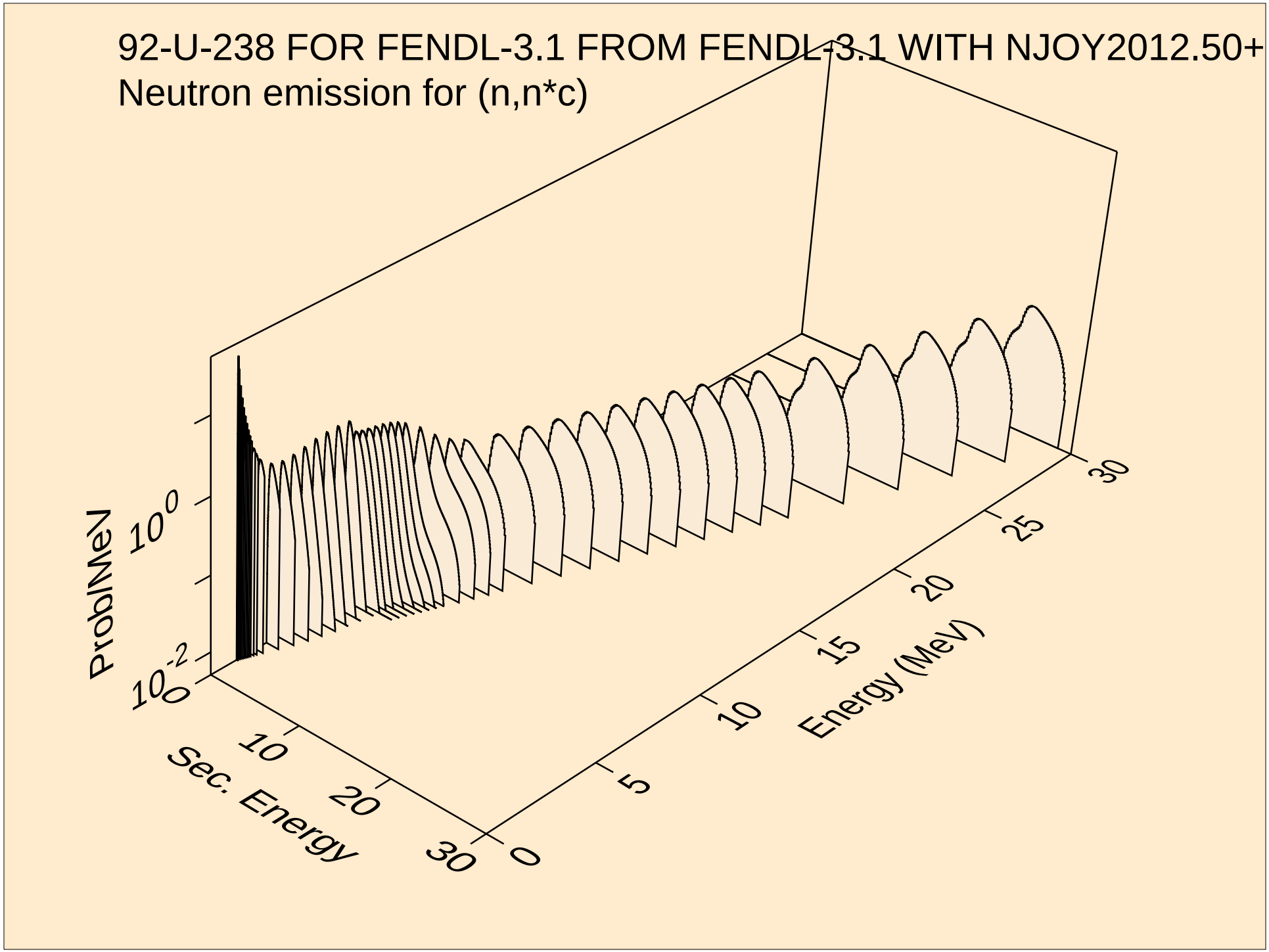

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Neutron emission for (n,x)
Prob/MeV
10^0
10^-2
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

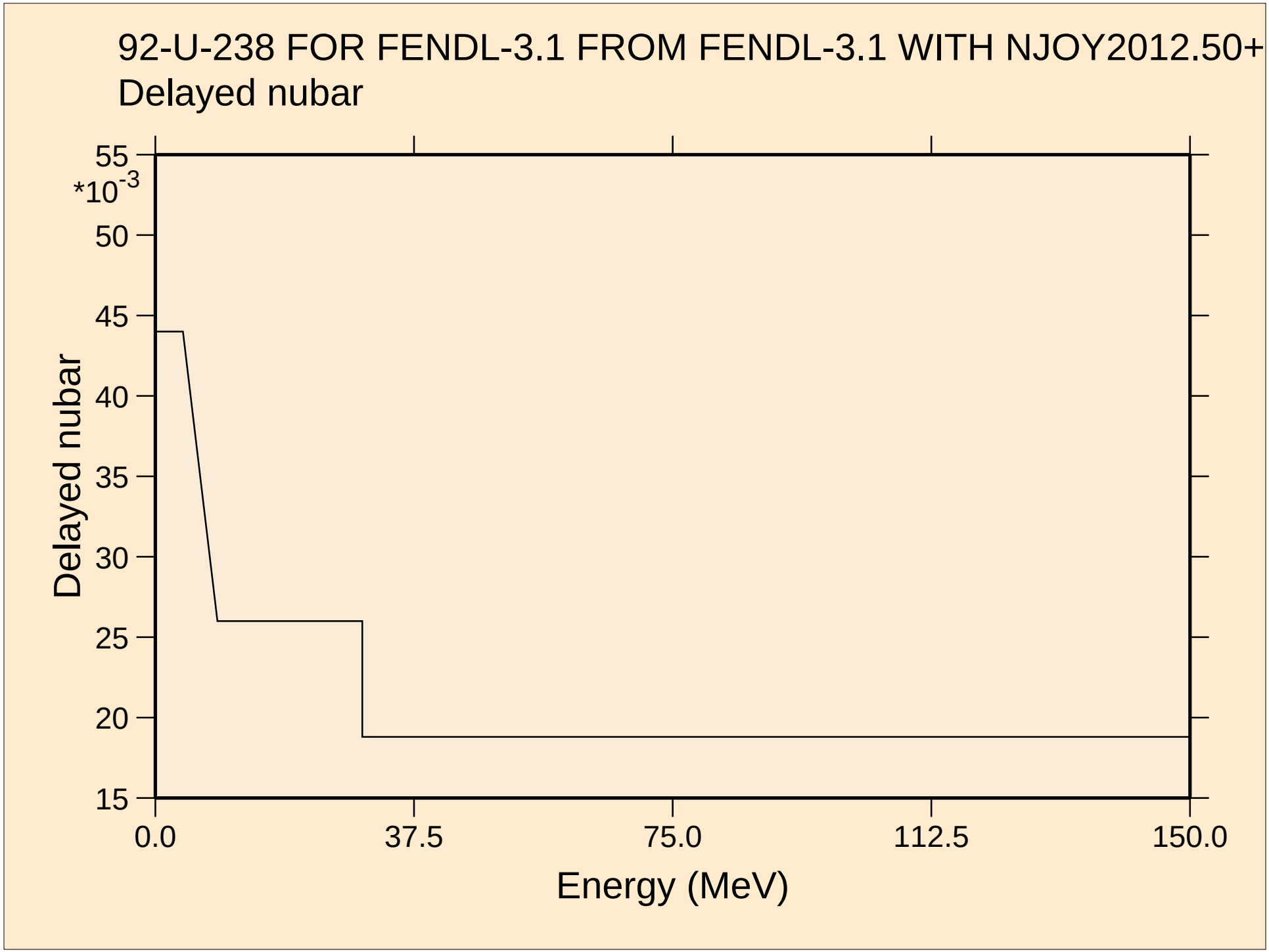

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Neutron emission for (n,2n)
Prob/MeV
10^0
10^-2
0
10
20
30
Sec. Energy
5
10
15
20
25
30
Energy (MeV)

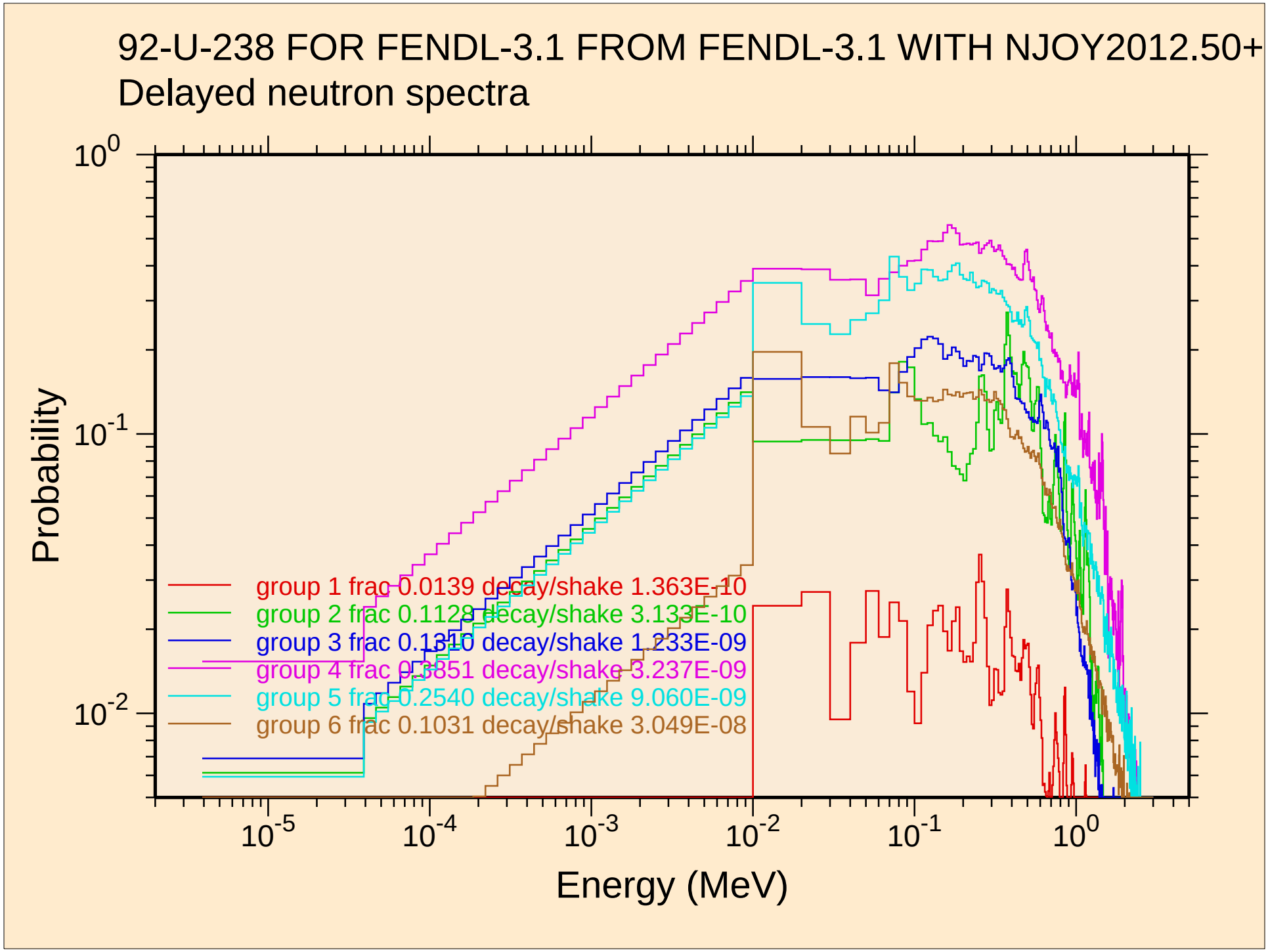

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Neutron emission for (n,3n)
Prob/MeV
10-1
10-3
0
5
10
15
20
Sec. Energy
10
12
14
16
18
20
22
24
26
28
30
Energy (MeV)

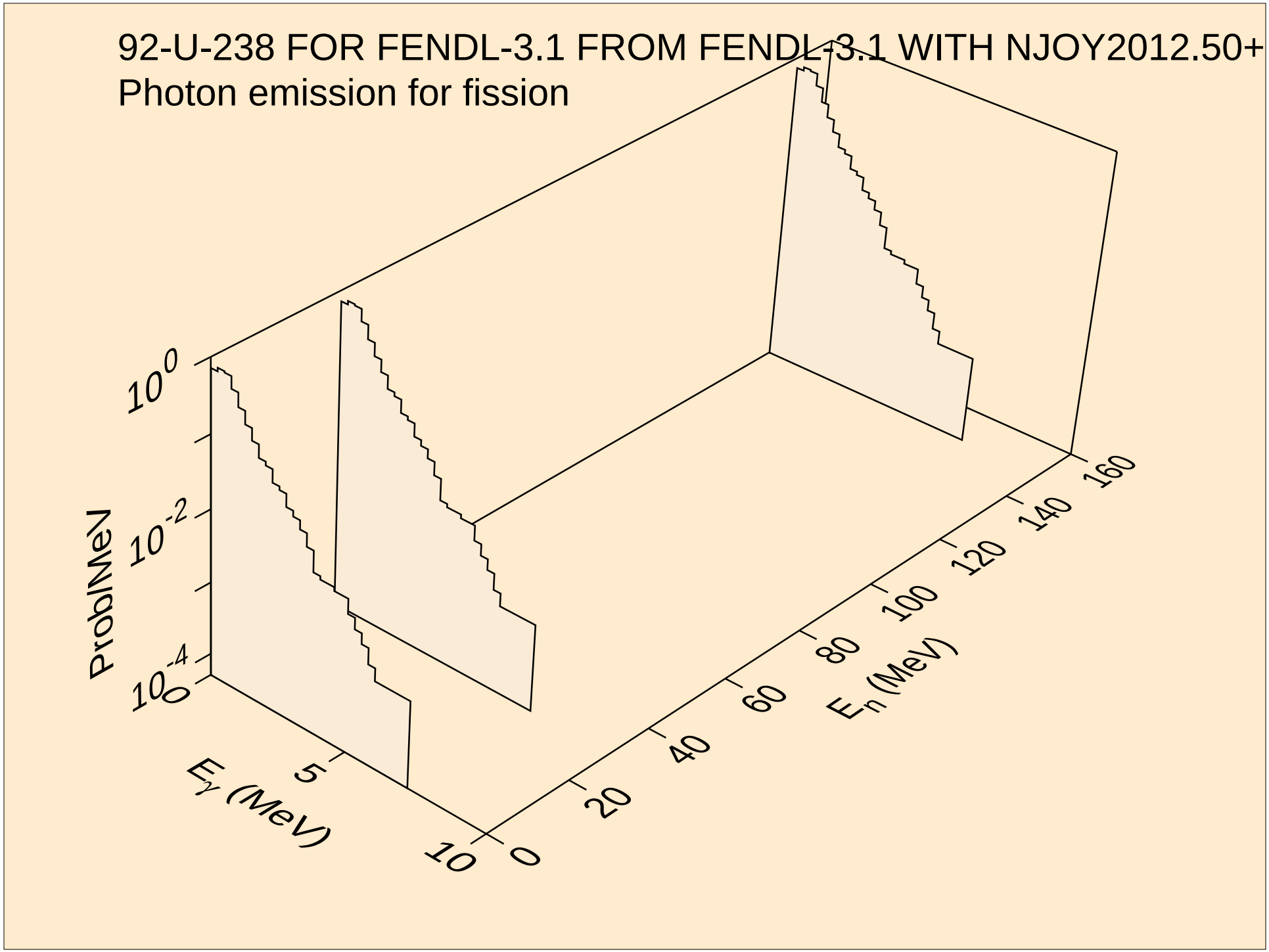

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Neutron emission for fission
Prob/MeV
10-2
10-4
0
5
10
15
20
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

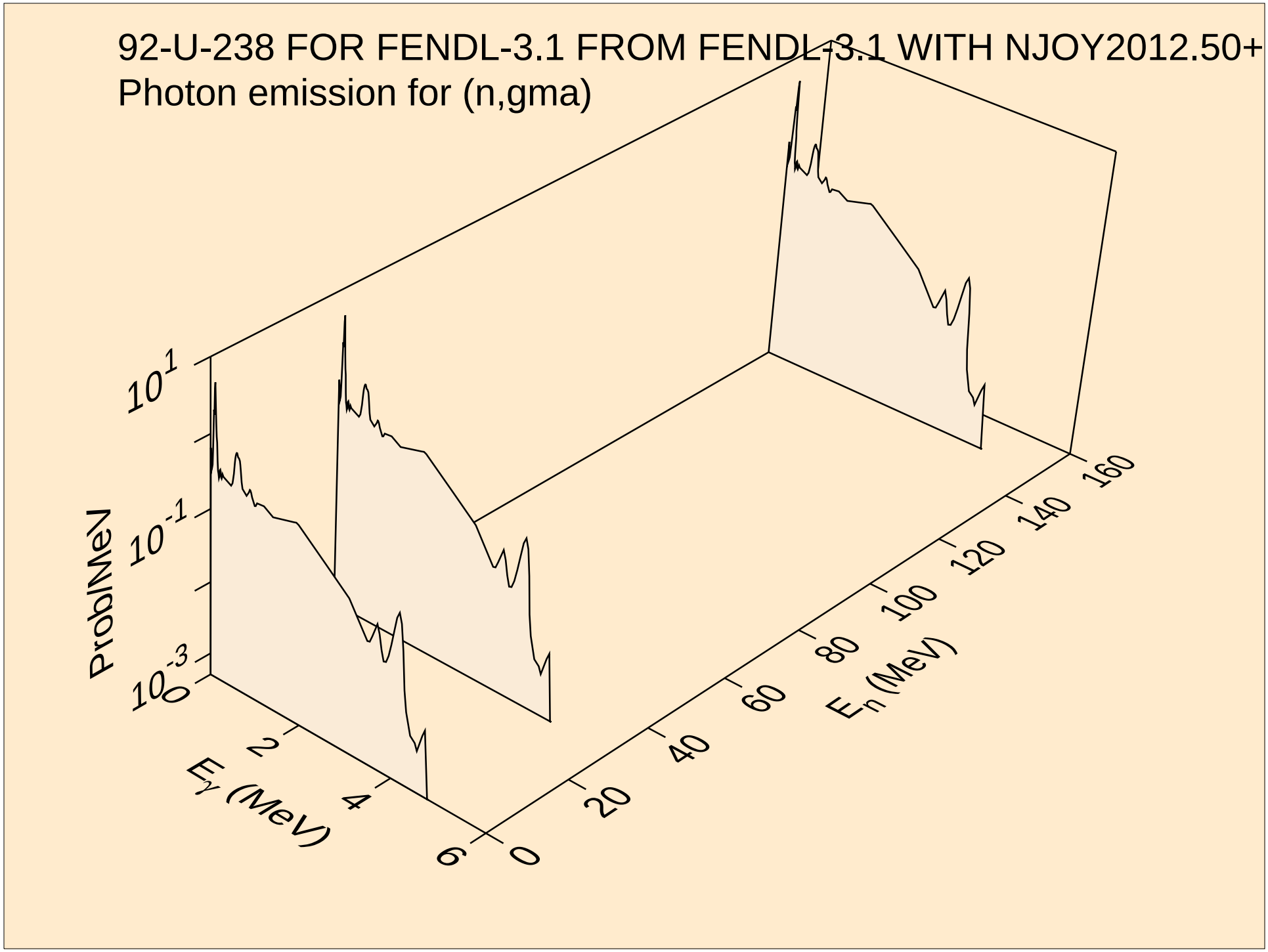

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Neutron emission for (n,4n)
Prob/MeV
10-1
10-3
0
5
10
15
16
18
20
22
24
26
28
30
Sec. Energy
Energy (MeV)

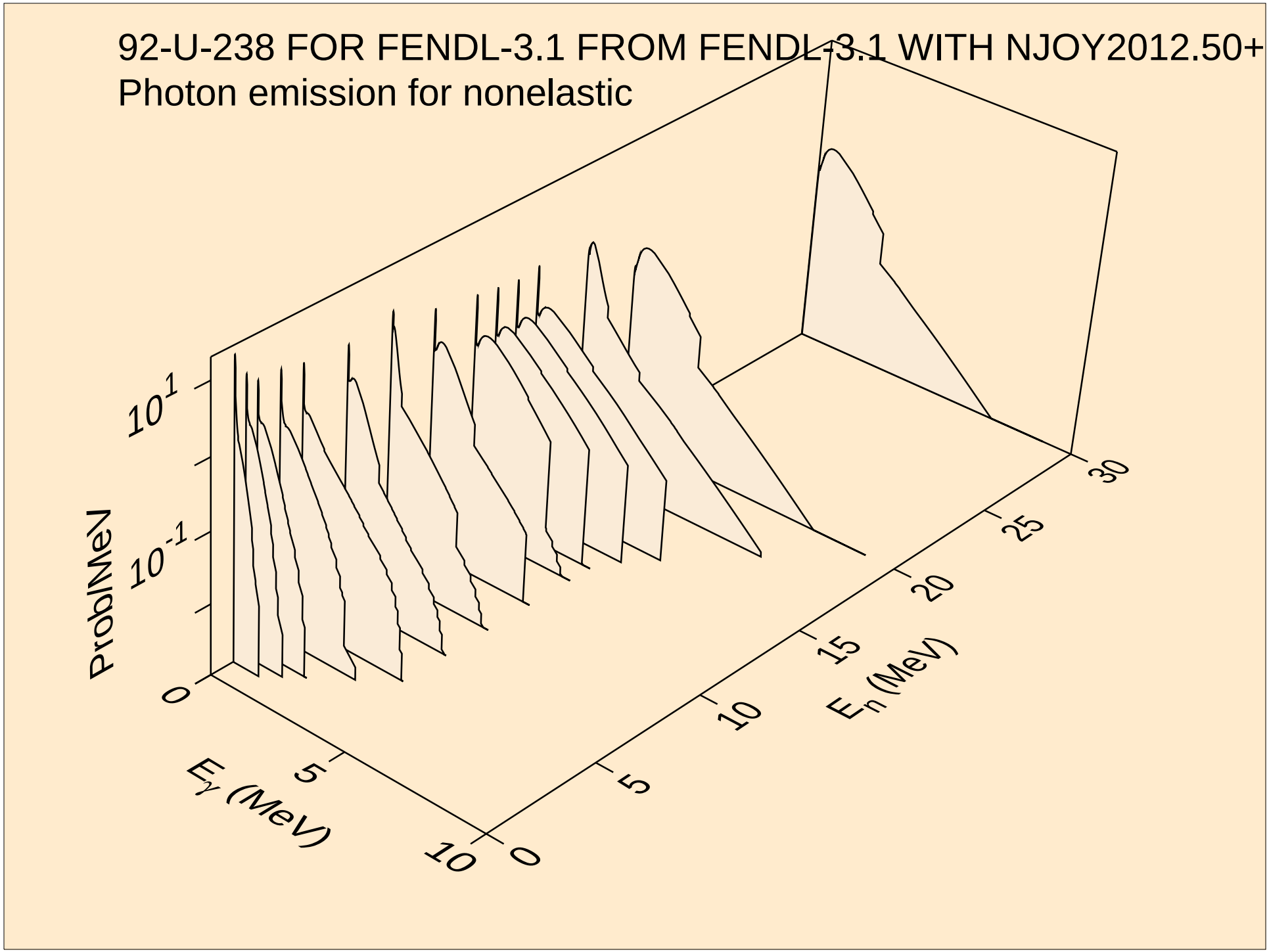

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Neutron emission for (n,n*c)
Prob/MeV
10^0
10^-2
0
10
20
30
Sec. Energy
0
5
10
15
20
25
30
Energy (MeV)

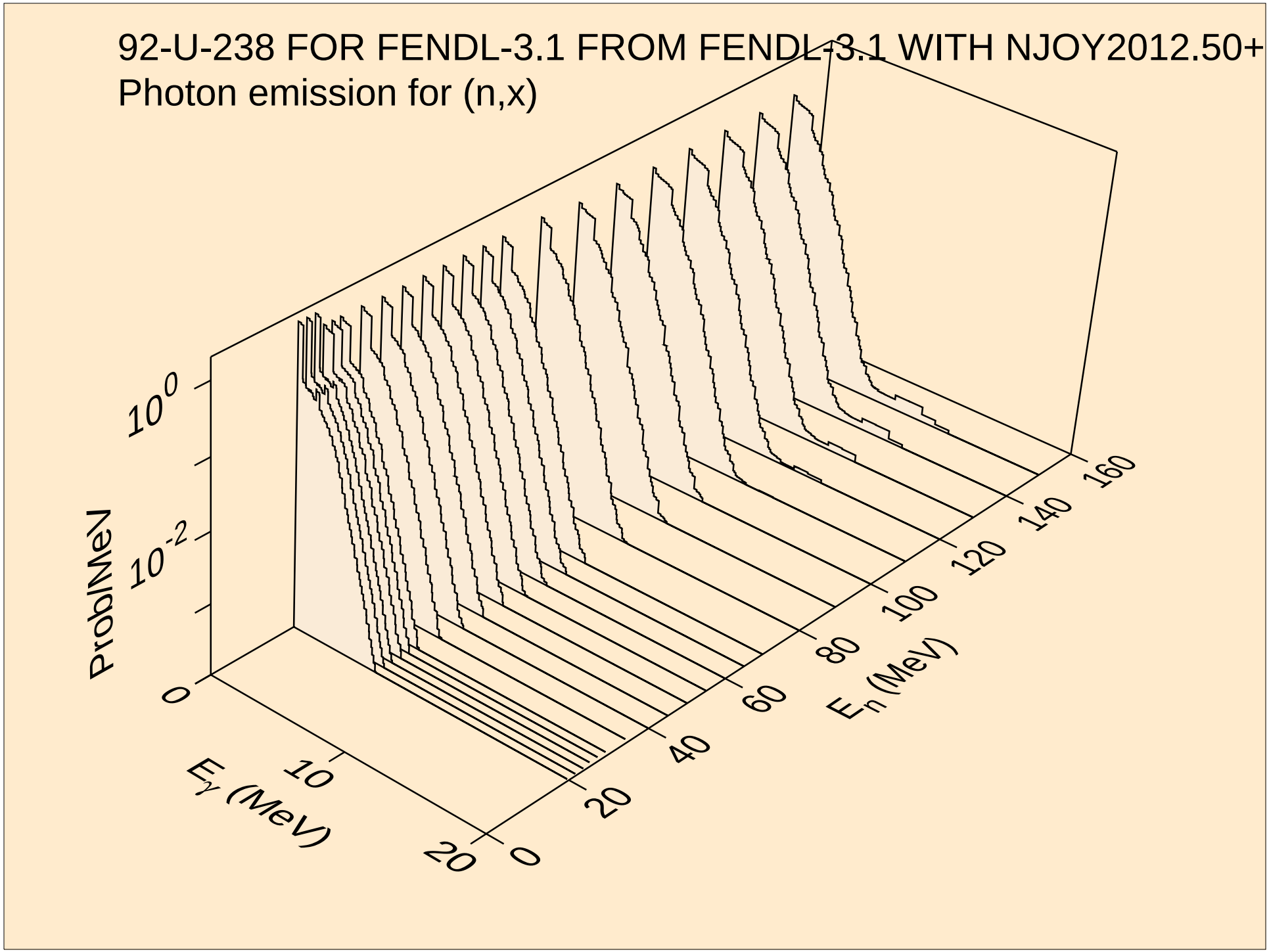

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Delayed nubar
55
*10-3
50
45
40
35
30
25
20
15
Delayed nubar
0.0
37.5
75.0
112.5
150.0
Energy (MeV)

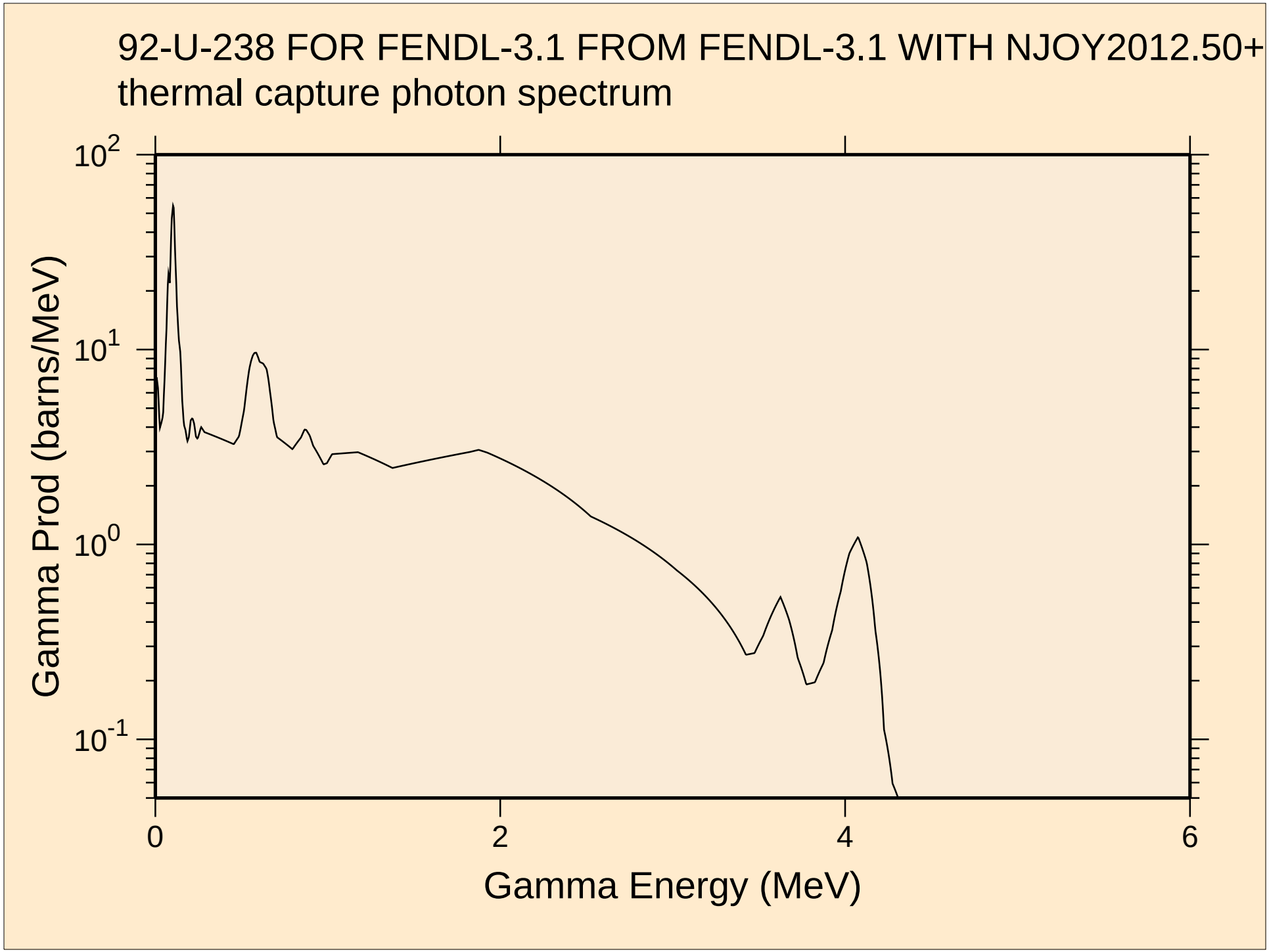

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Delayed neutron spectra
Probability
Energy (MeV)
group 1 frac 0.0139 decay/shake 1.363E-10
group 2 frac 0.1128 decay/shake 3.133E-10
group 3 frac 0.1310 decay/shake 1.233E-09
group 4 frac 0.3851 decay/shake 3.237E-09
group 5 frac 0.2540 decay/shake 9.060E-09
group 6 frac 0.1031 decay/shake 3.049E-08

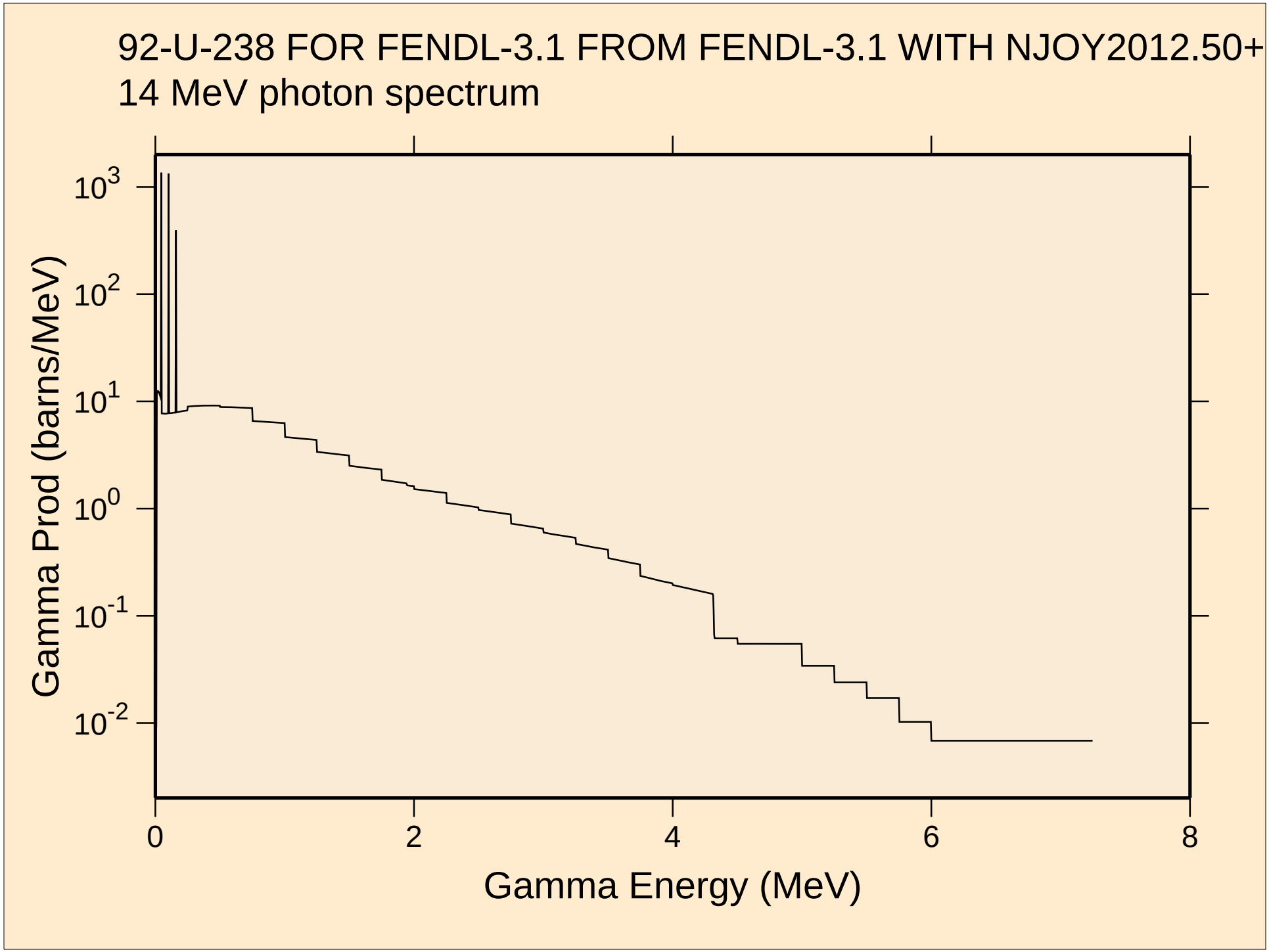

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Photon emission for fission
Prob/MeV
10^{0}
10^{-2}
10^{-4}
E_γ (MeV)
0
5
10
E_n (MeV)
0
20
40
60
80
100
120
140
160

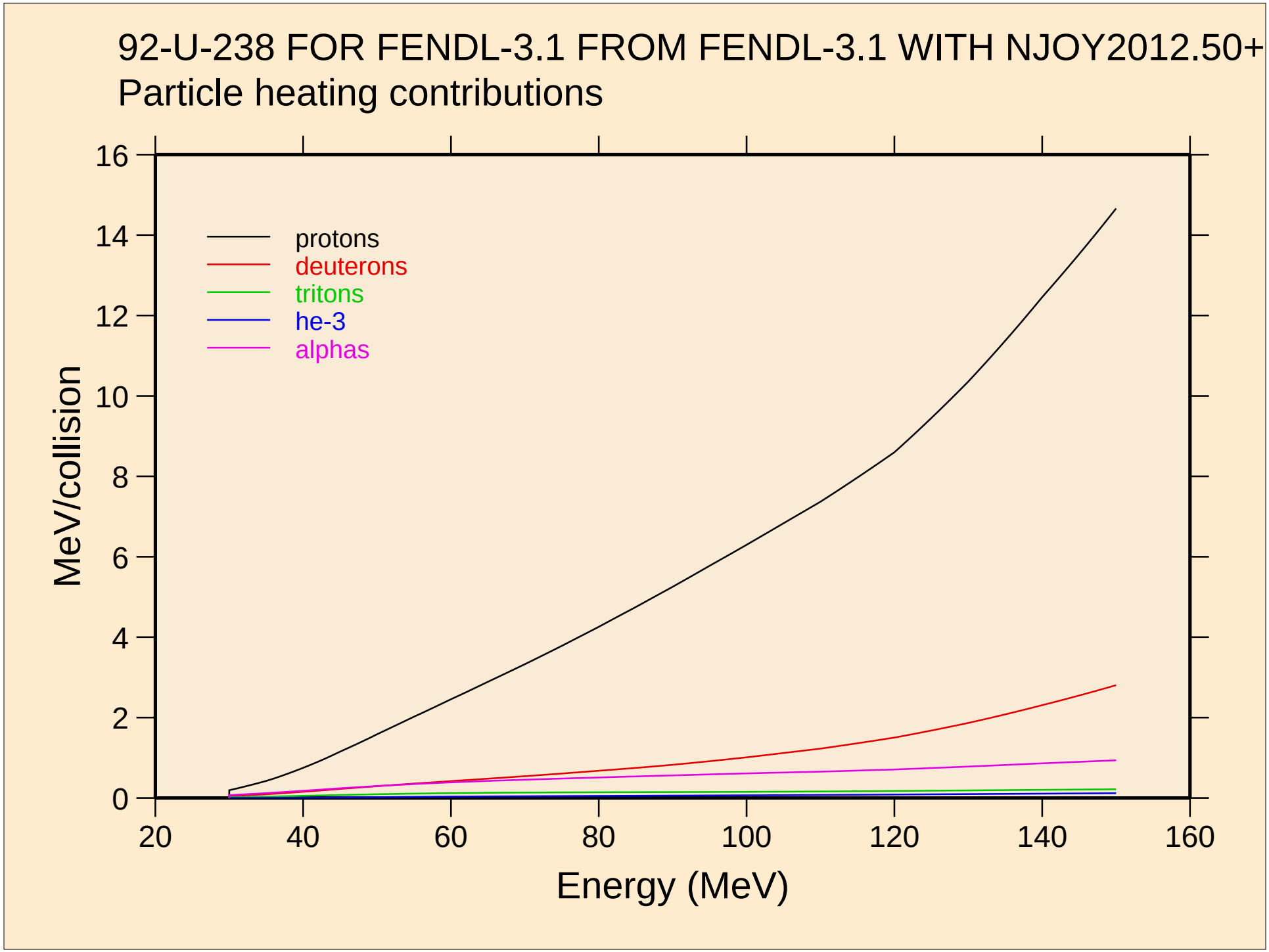

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Photon emission for (n,gma)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
E_γ (MeV)
0
2
4
6
E_n (MeV)
0
20
40
60
80
100
120
140
160

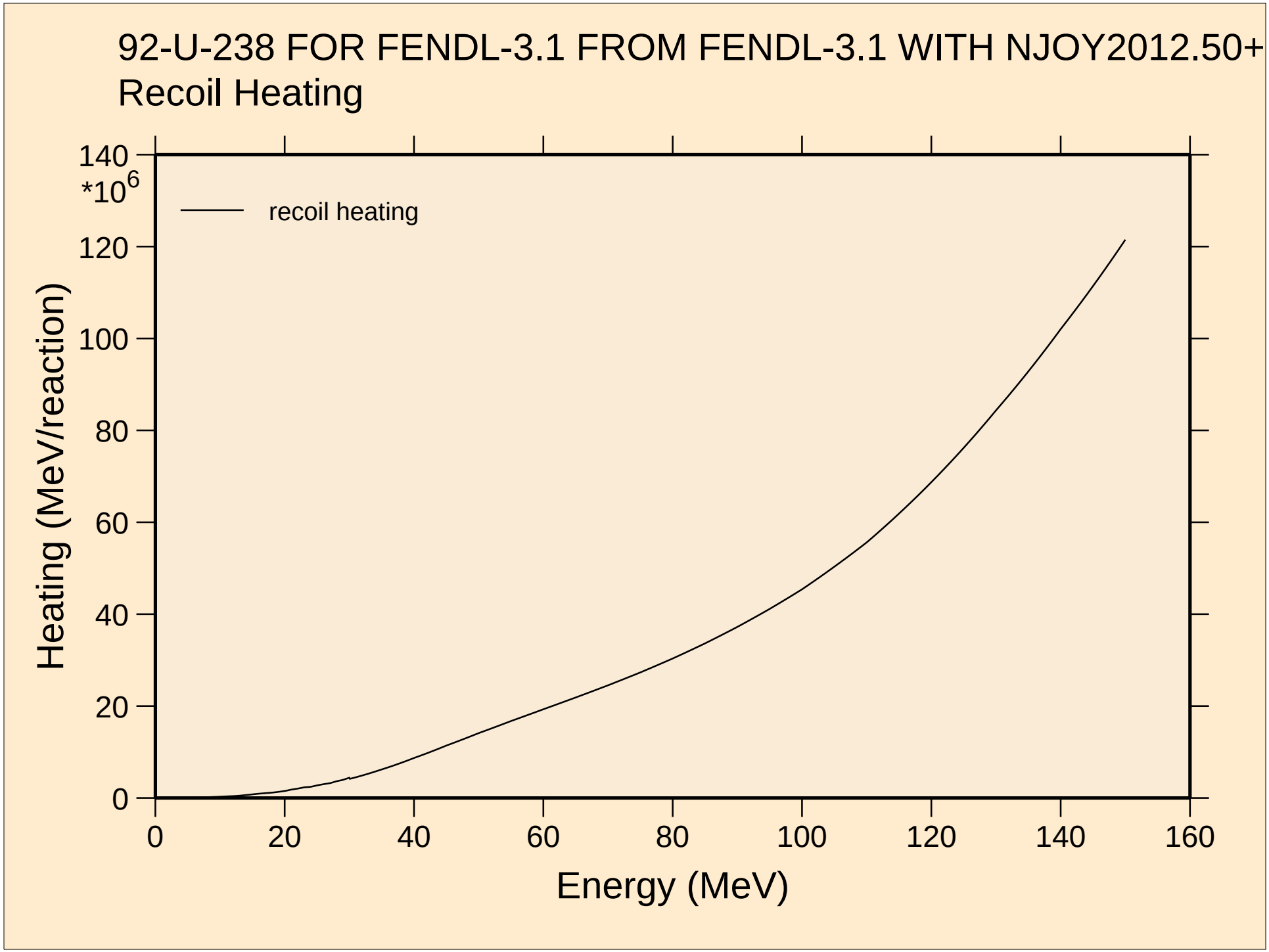

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Photon emission for nonelastic
Prob/MeV
10^{1}
10^{-1}
0
E_γ (MeV)
5
10
0
5
10
15
20
25
30
E_n (MeV)

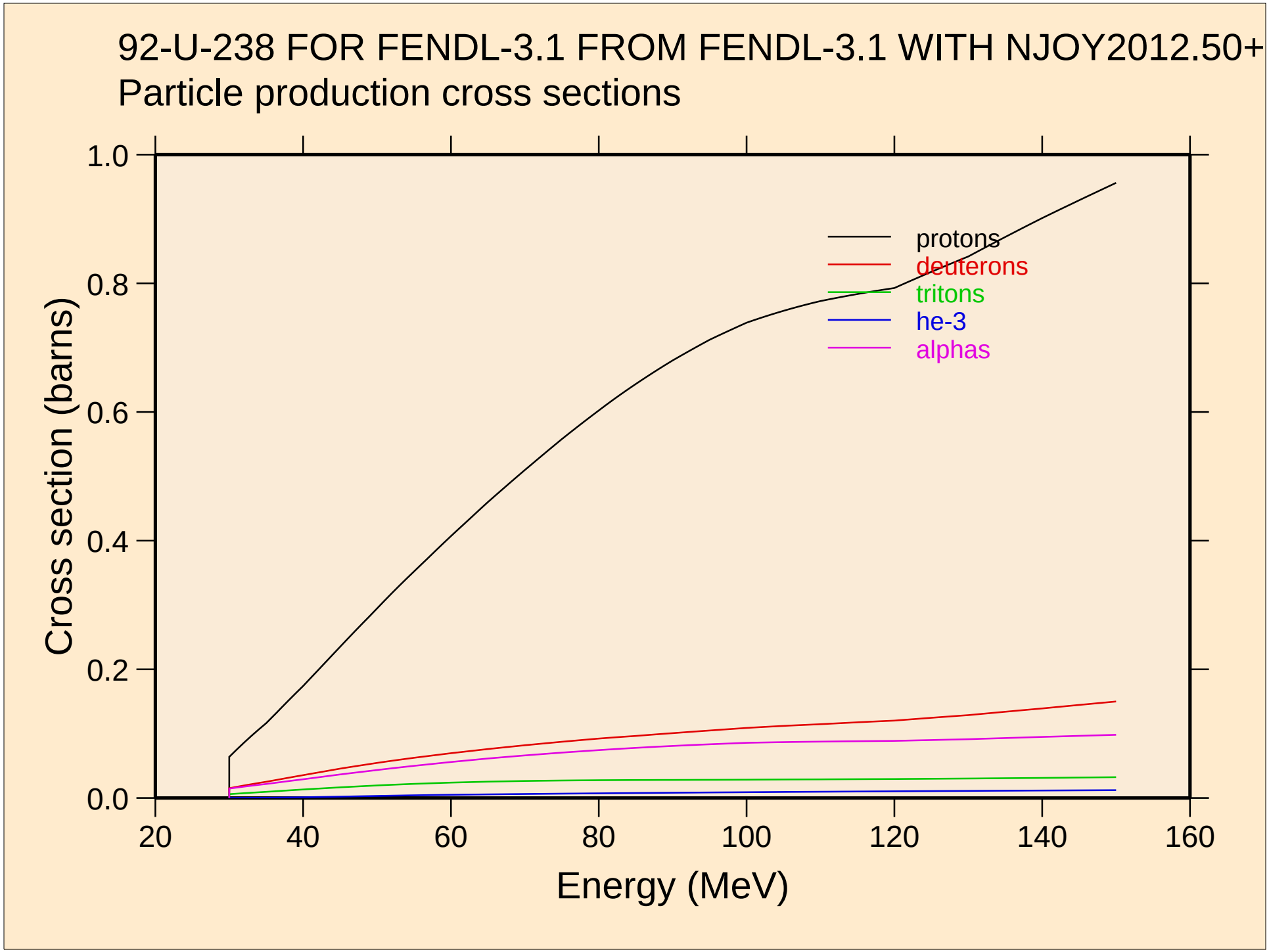

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Photon emission for (n,x)
Prob/MeV
10^{0}
10^{-2}
0
10
20
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)

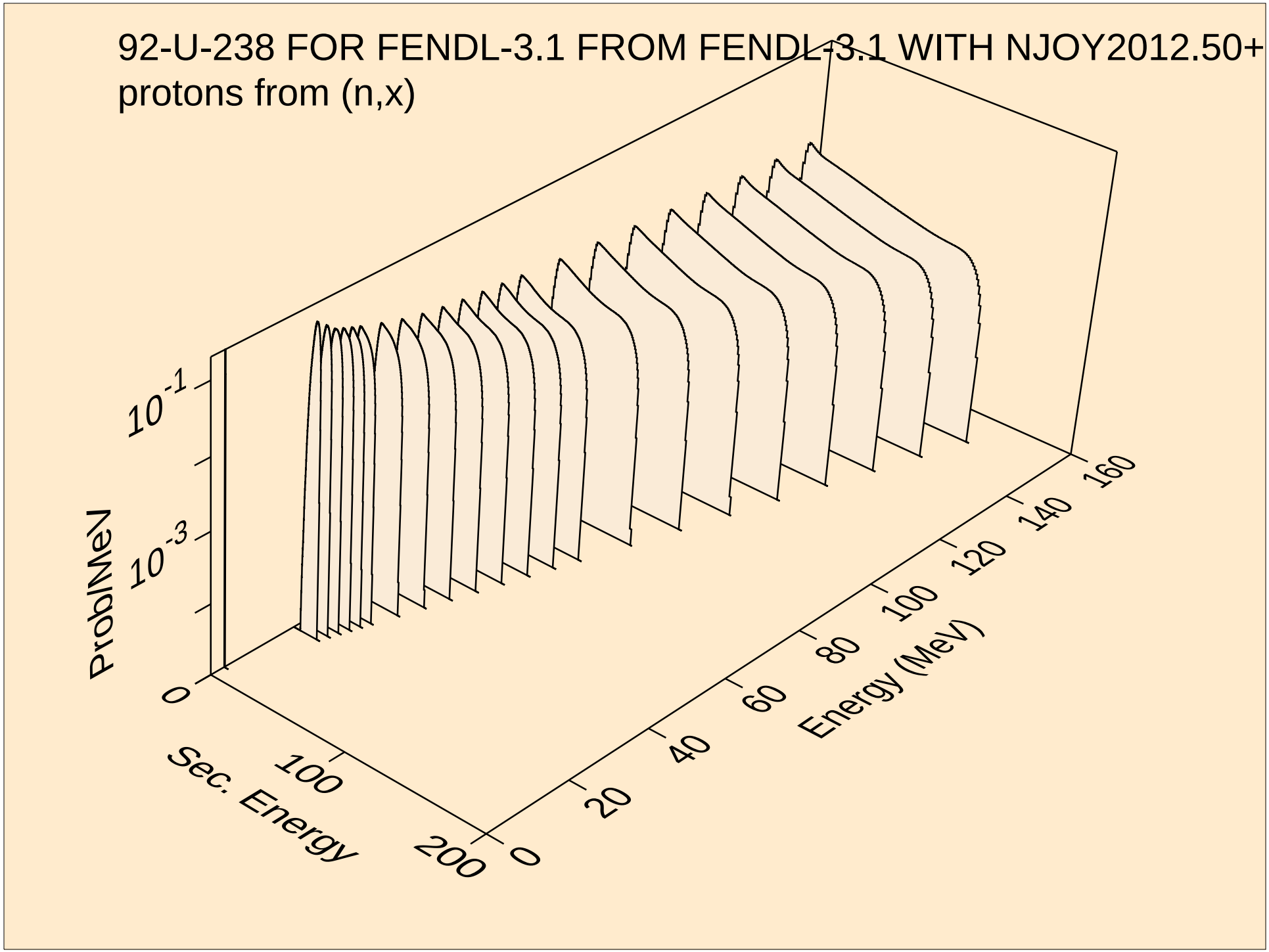

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^2
10^1
10^0
10^-1
0
2
4
6
Gamma Energy (MeV)

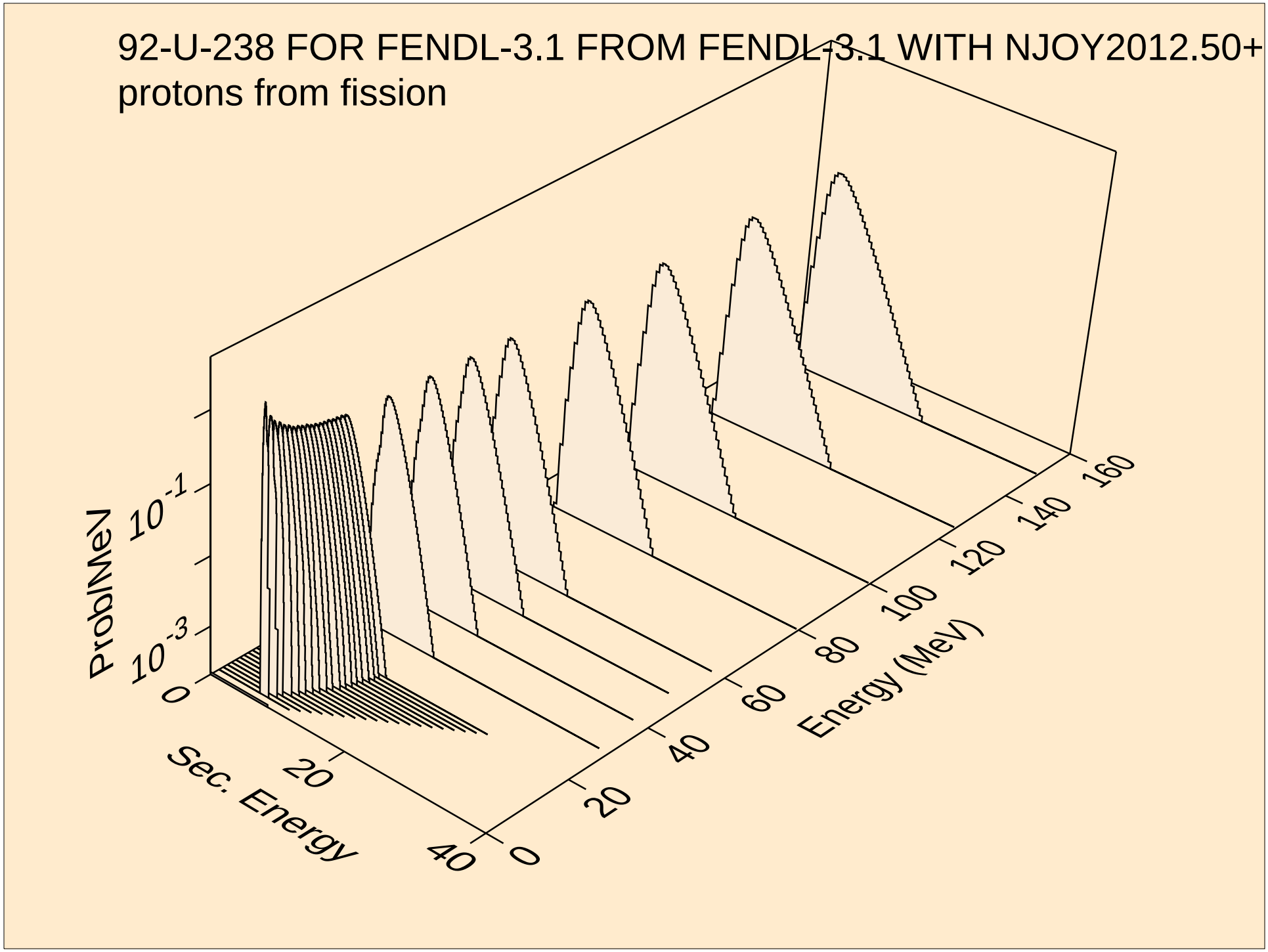

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^3
10^2
10^1
10^0
10^-1
10^-2
0
2
4
6
8
Gamma Energy (MeV)

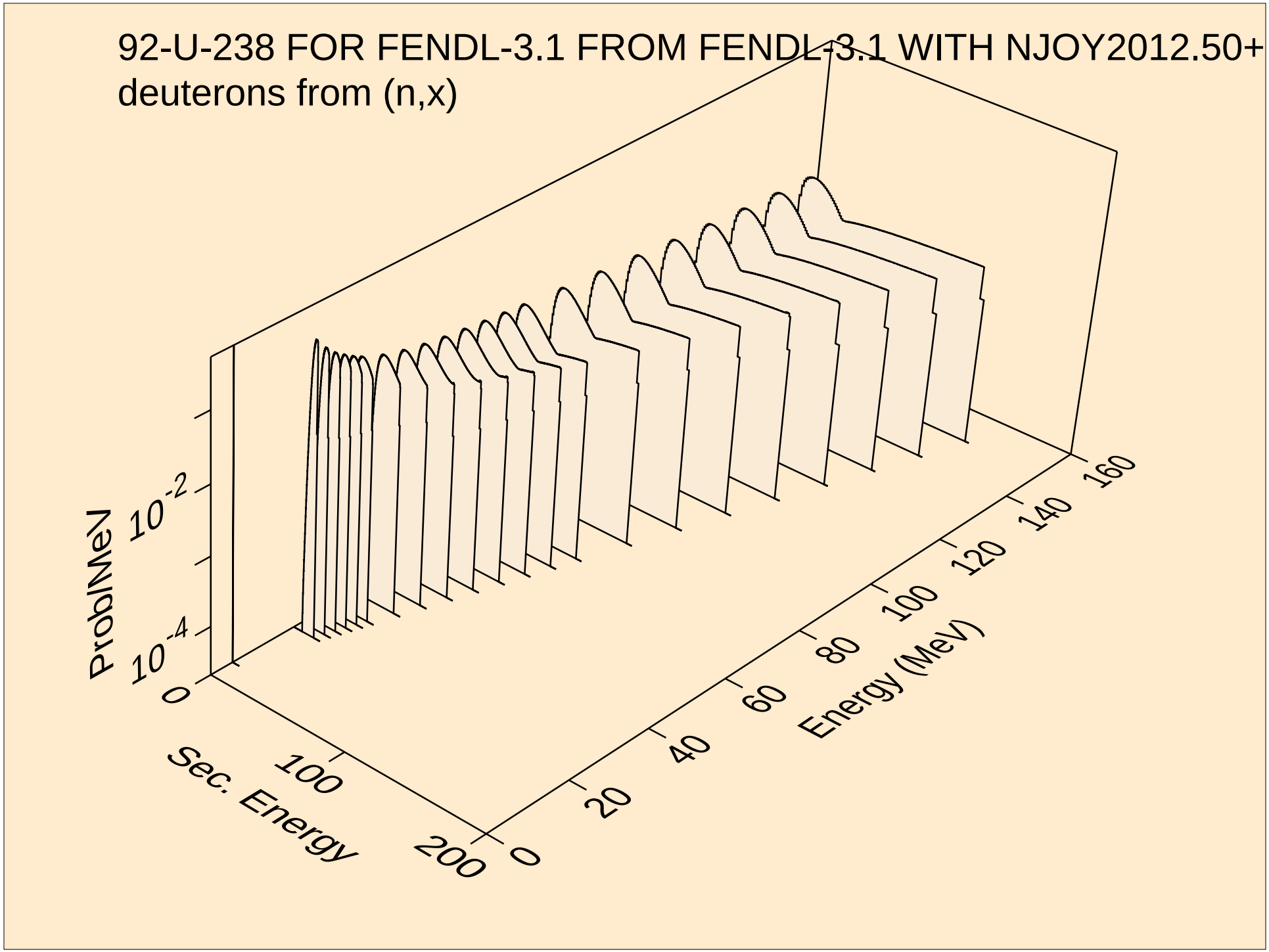

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Particle heating contributions
protons
deuterons
tritons
he-3
alphas
MeV/collision
Energy (MeV)
0
2
4
6
8
10
12
14
16
20
40
60
80
100
120
140
160

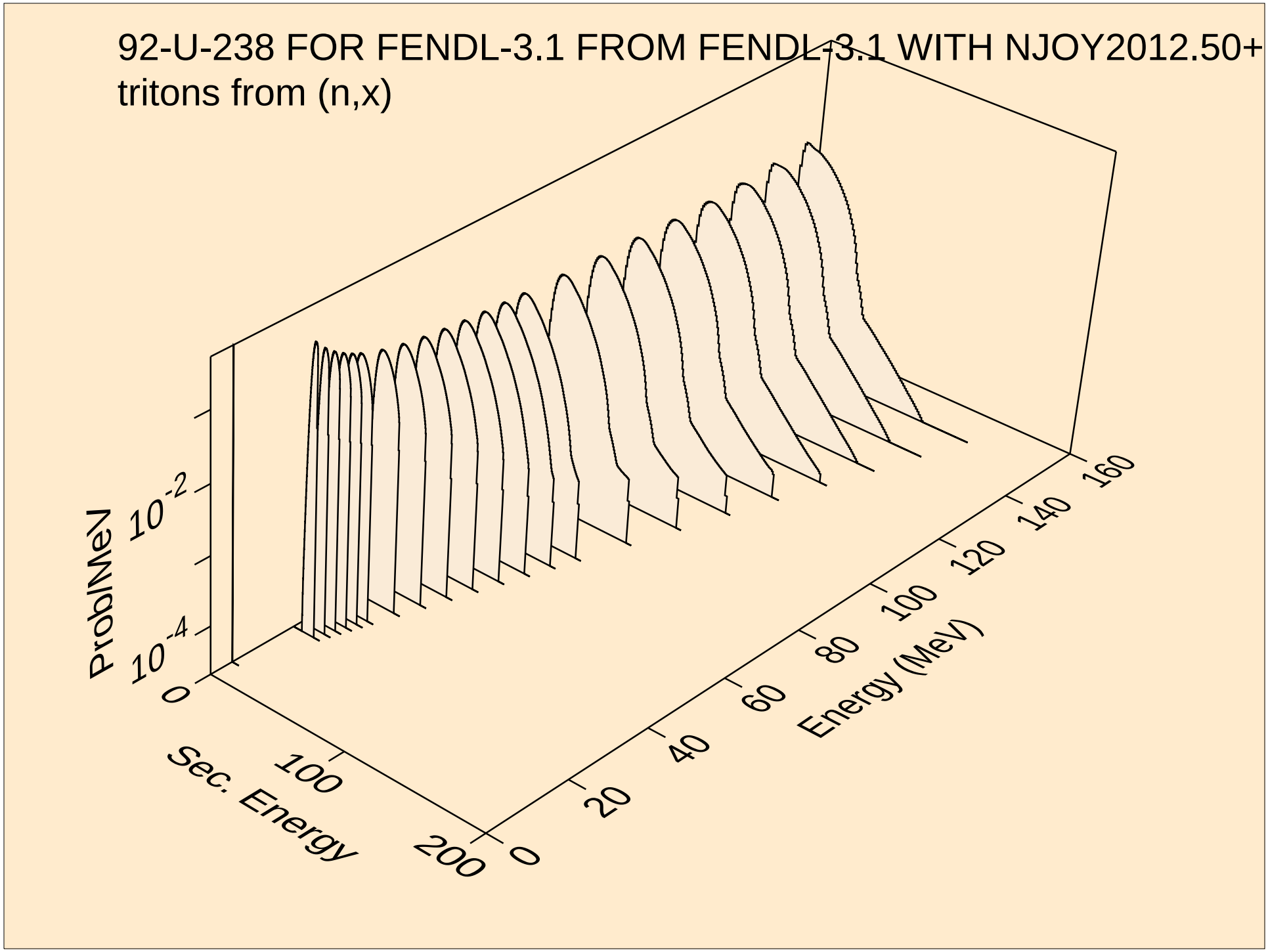

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Recoil Heating
recoil heating
Heating (MeV/reaction)
*10^6
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
160
Energy (MeV)

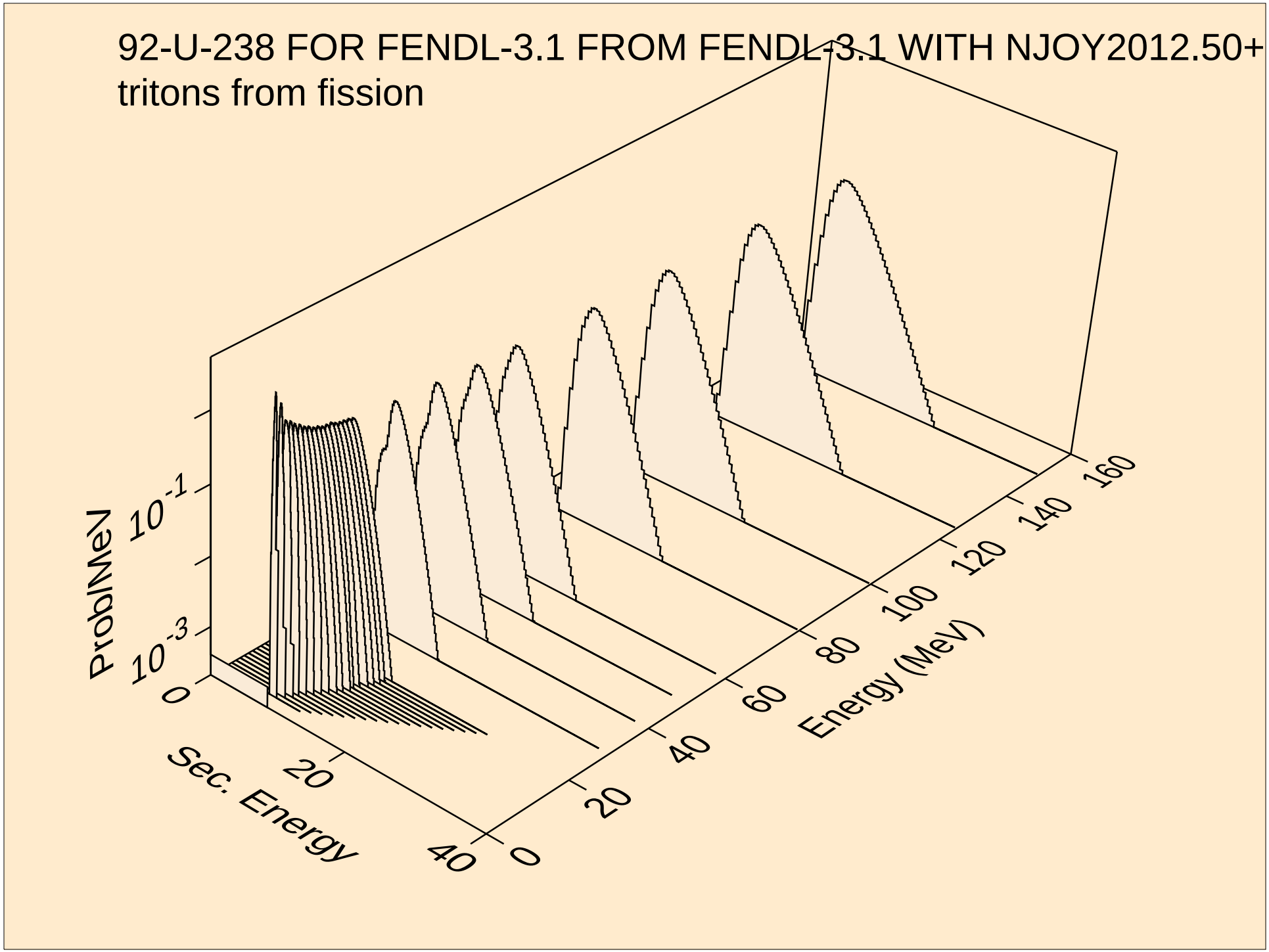

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
Particle production cross sections
Cross section (barns)
Energy (MeV)
1.0
0.8
0.6
0.4
0.2
0.0
20
40
60
80
100
120
140
160
protons
deuterons
tritons
he-3
alphas

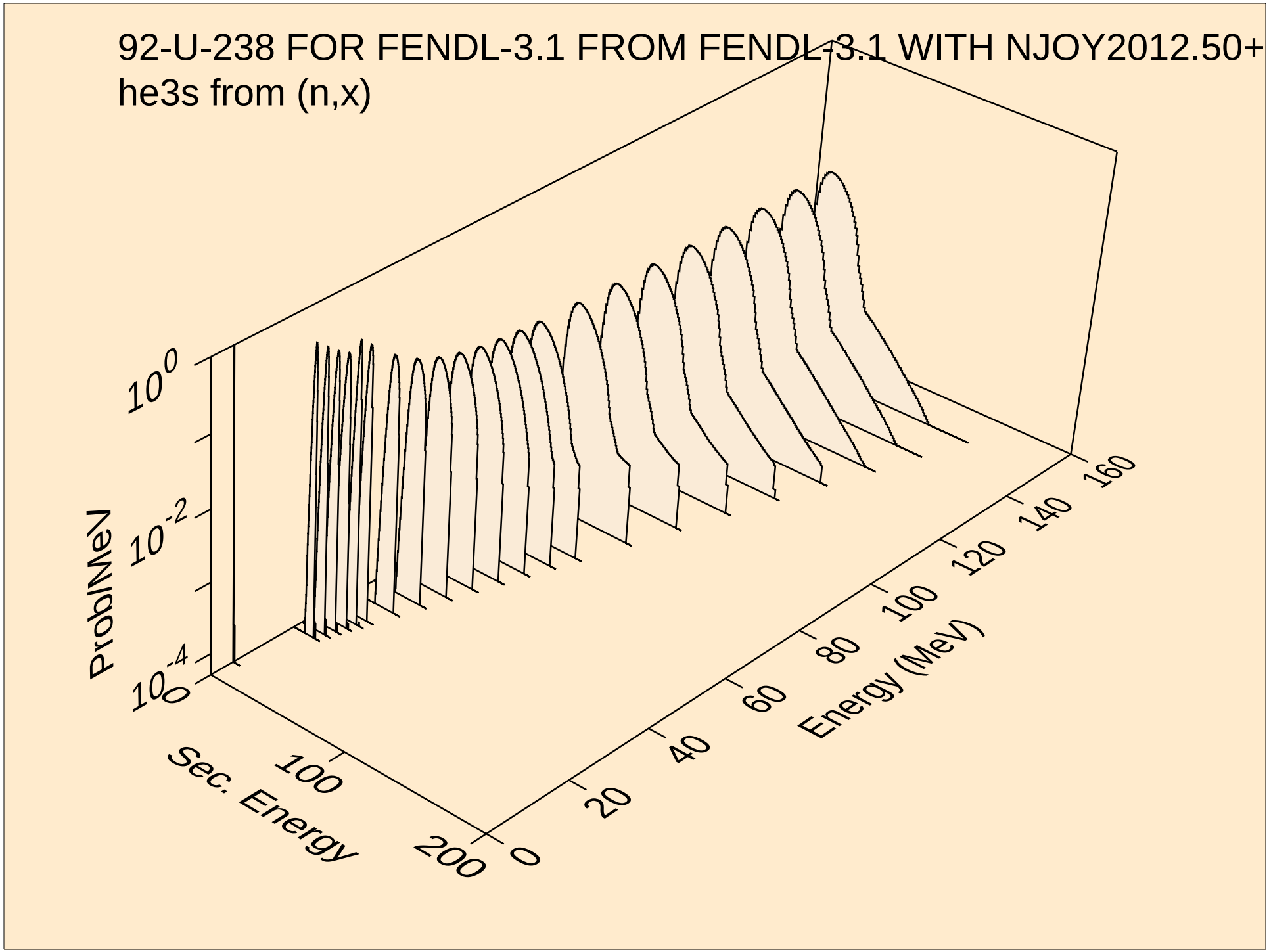

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
protons from (n,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

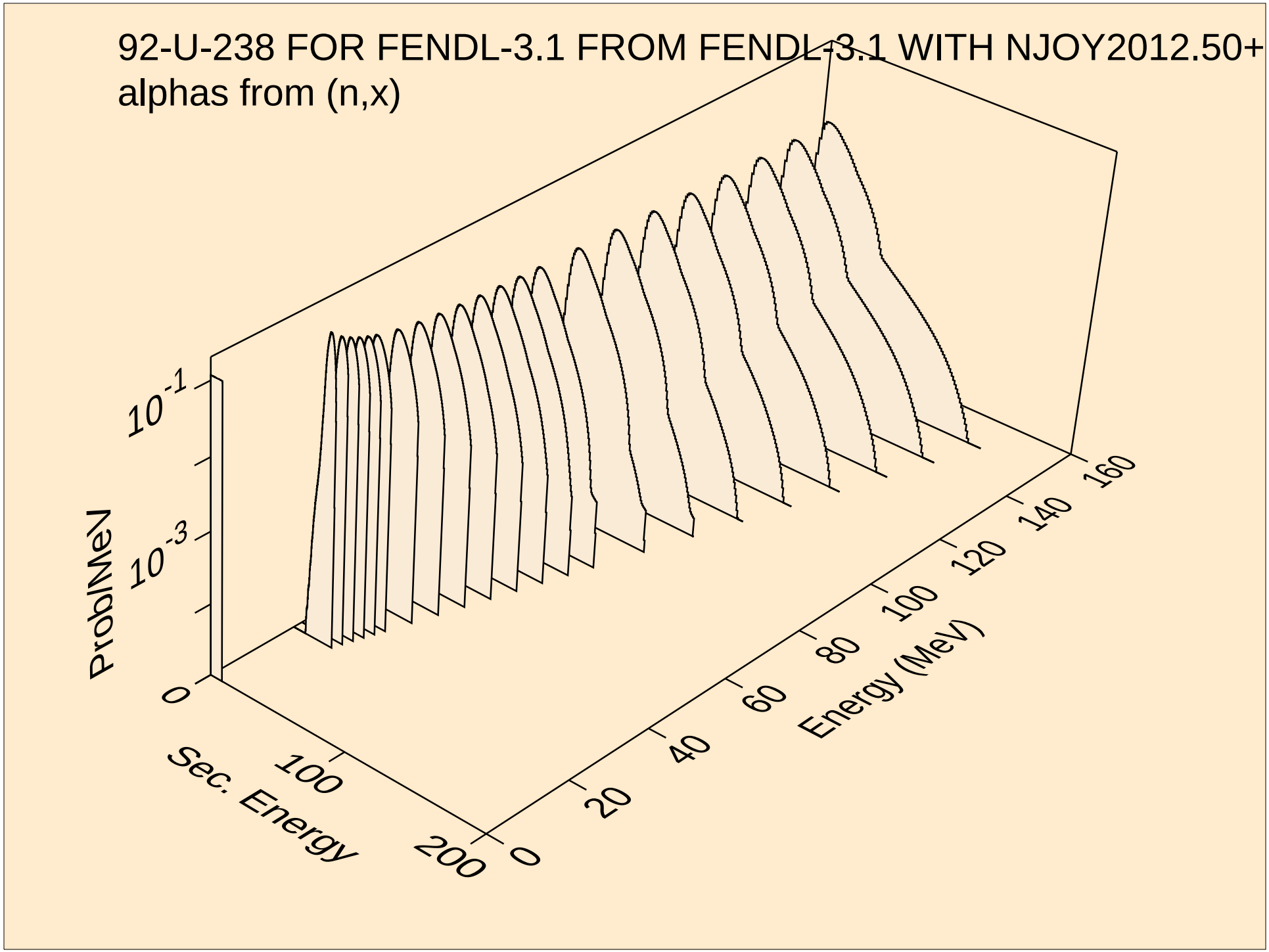

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
protons from fission
Prob/MeV
10-1
10-3
0
Sec. Energy
20
40
0
20
40
60
80
100
120
140
160
Energy (MeV)

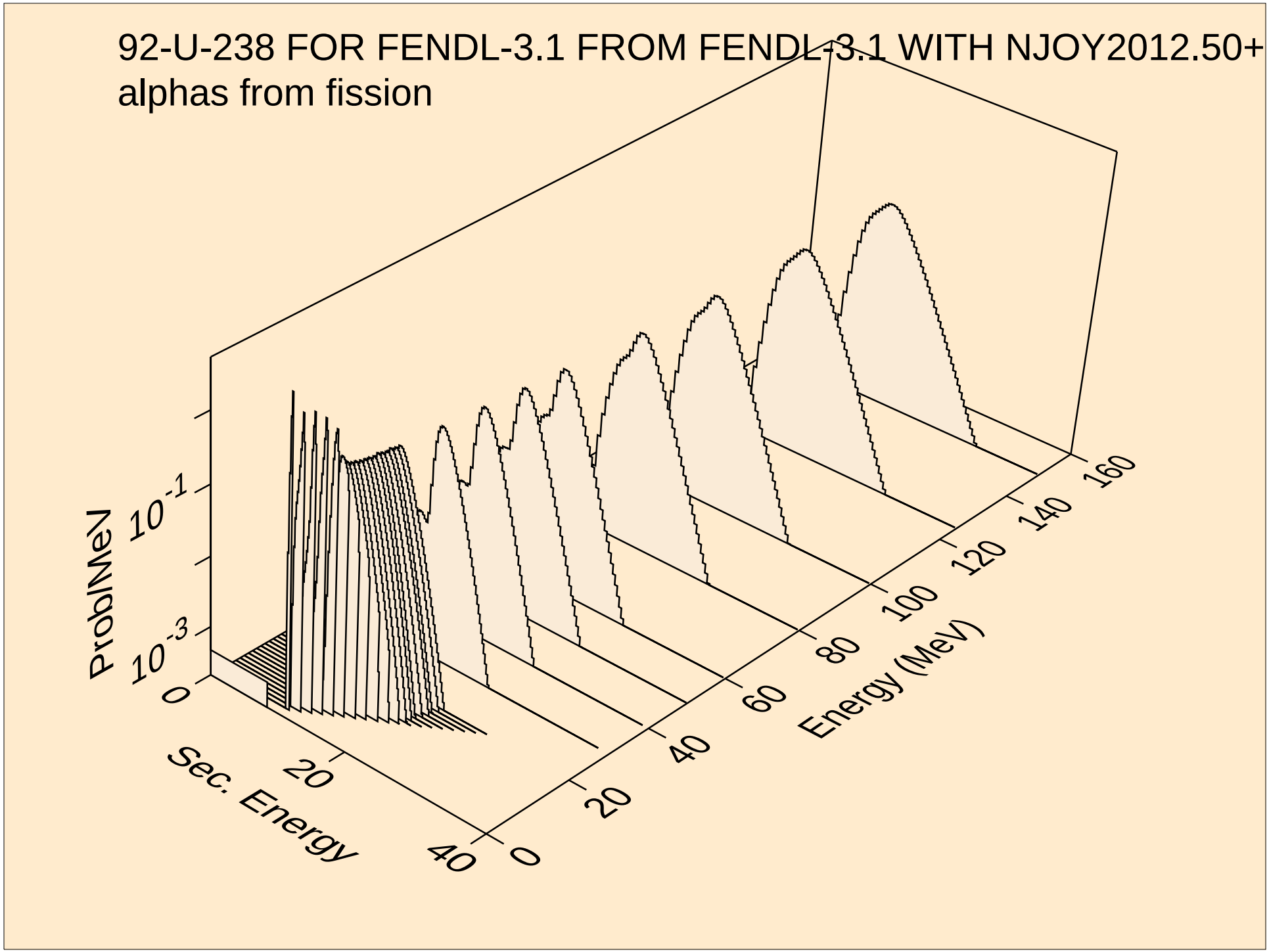

92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
deuterons from (n,x)
Prob/MeV
10-2
10-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
tritons from (n,x)
Prob/MeV
10-2
10-4
0
100
200
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)


92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
tritons from fission
Prob/MeV
10-1
10-3
0
Sec. Energy
20
40
0
20
40
60
80
100
120
140
160
Energy (MeV)


92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
he3s from (n,x)
Prob/MeV
10^0
10^-2
10^-4
Sec. Energy
0
100
200
Energy (MeV)
0
20
40
60
80
100
120
140
160


92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
alphas from (n,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


92-U-238 FOR FENDL-3.1 FROM FENDL-3.1 WITH NJOY2012.50+
alphas from fission
Prob/MeV
10-1
10-3
0
Sec. Energy
20
40
0
20
40
60
80
100
120
140
160
Energy (MeV)