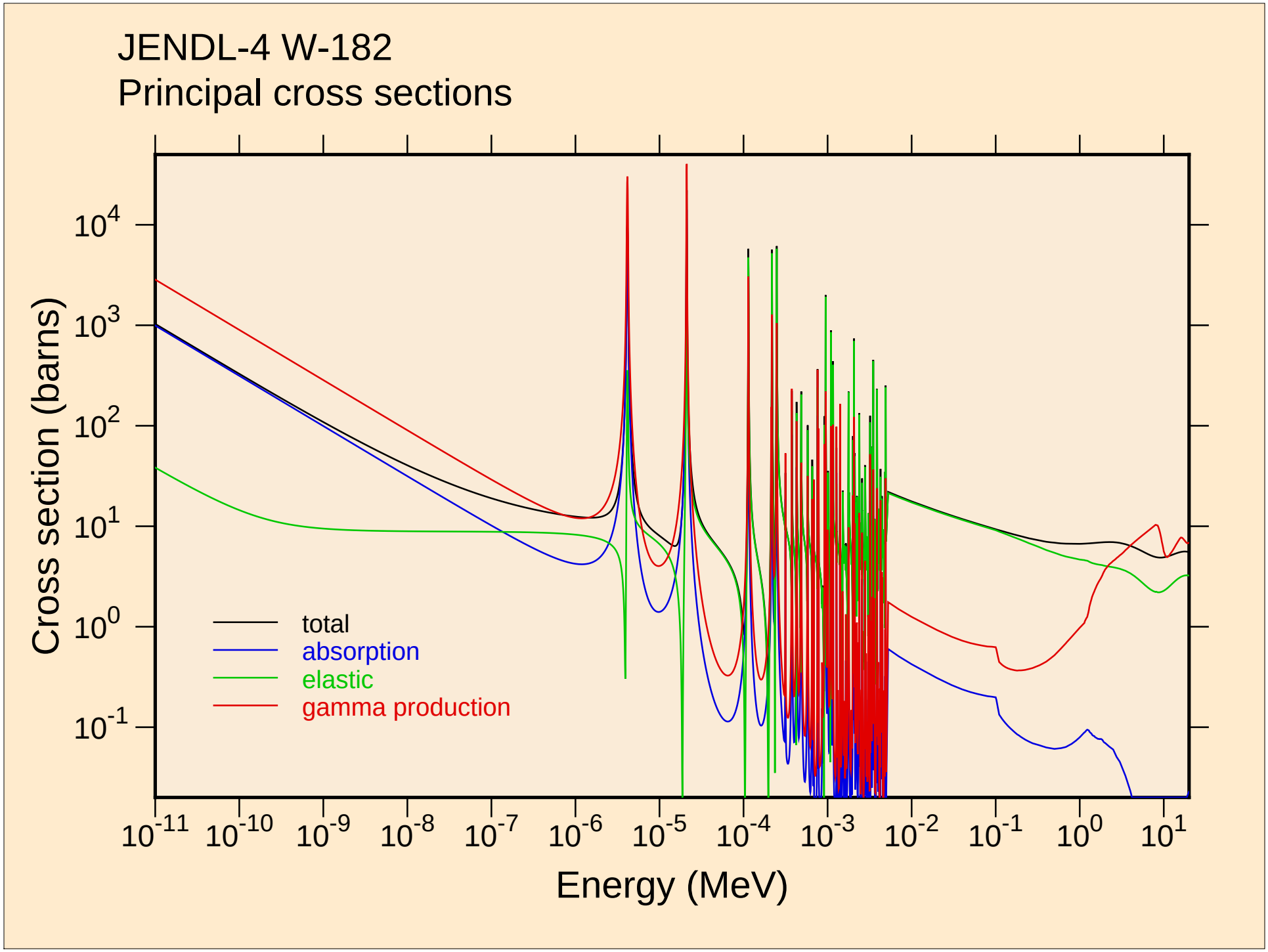
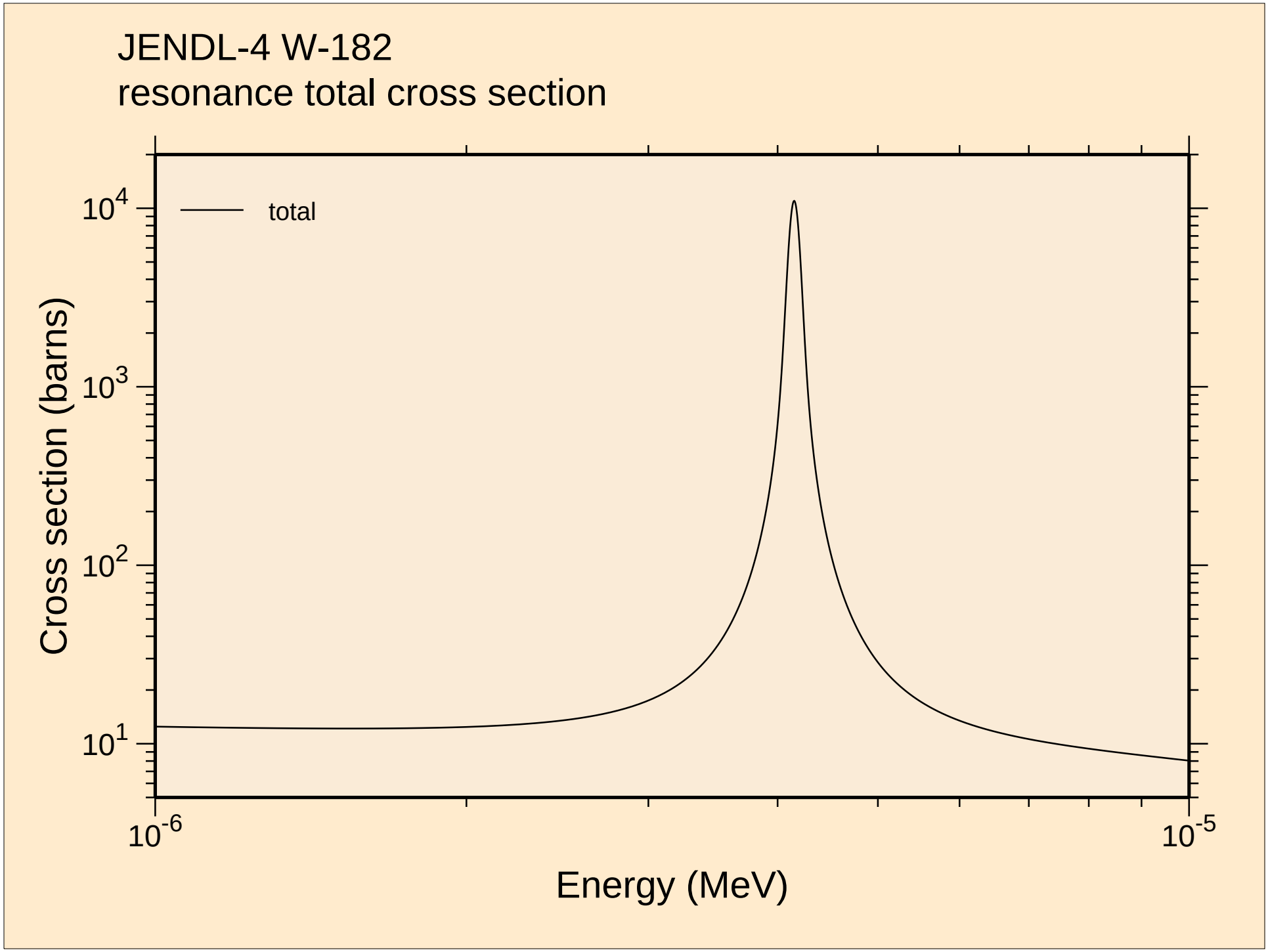
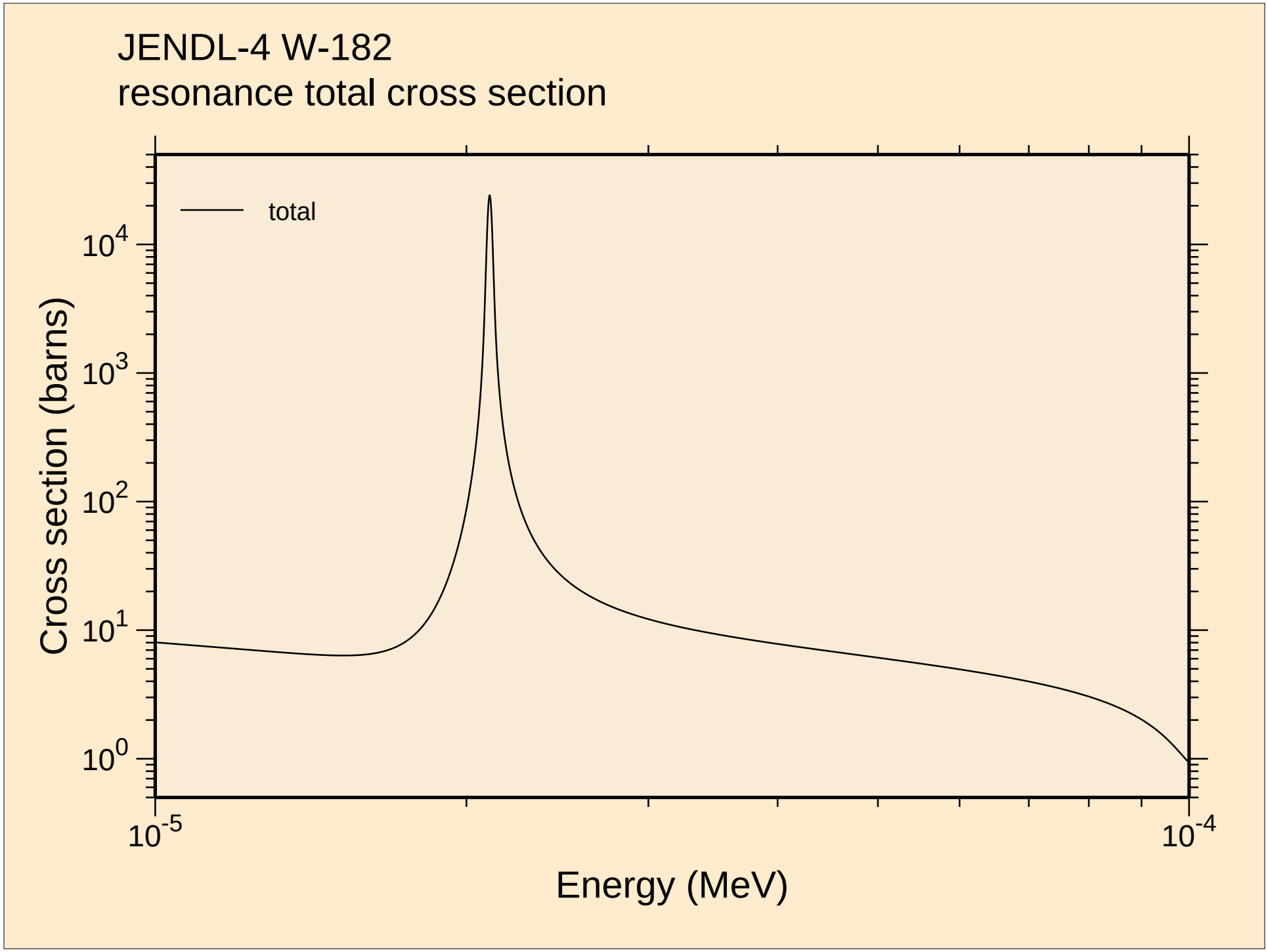
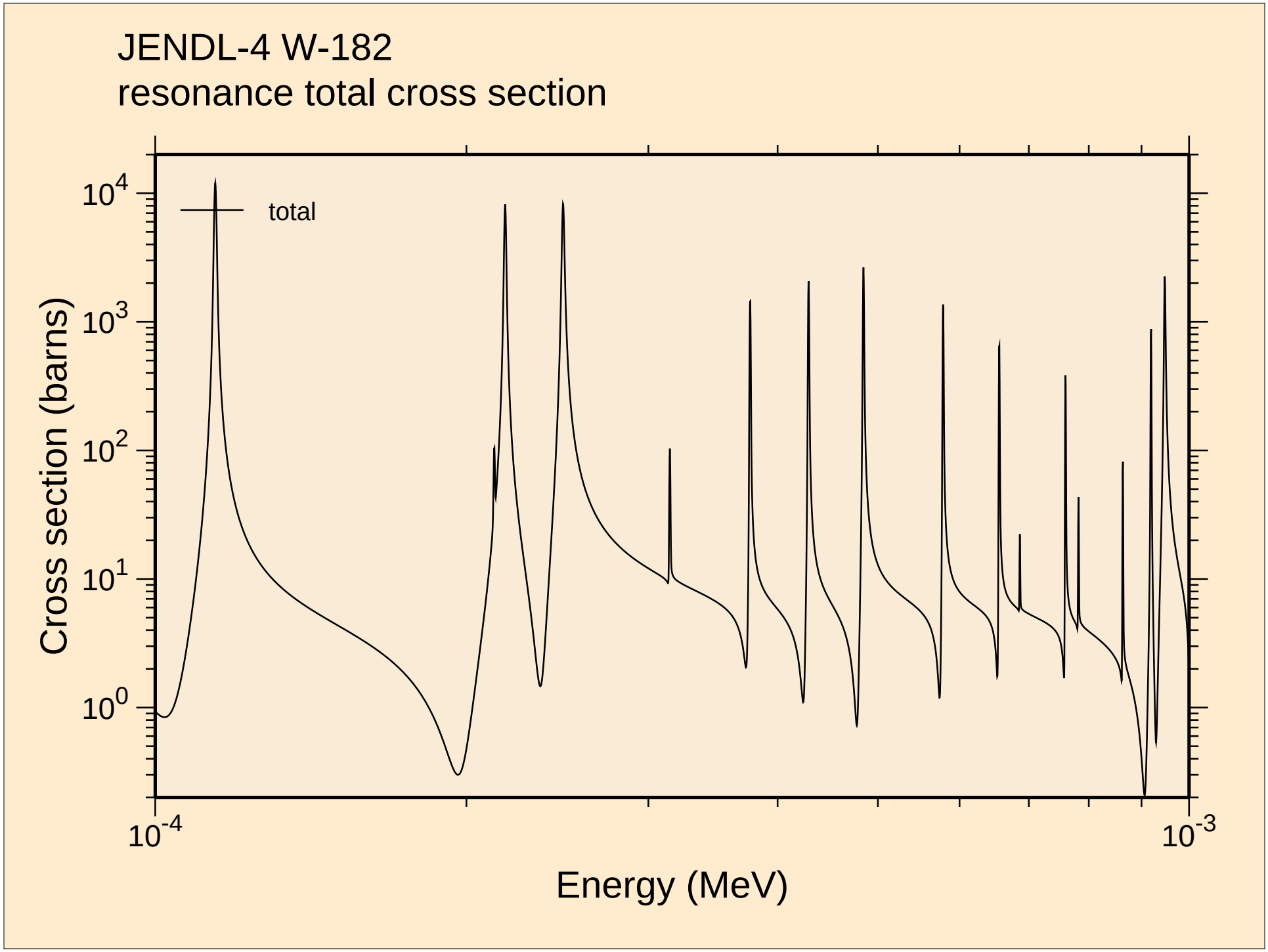
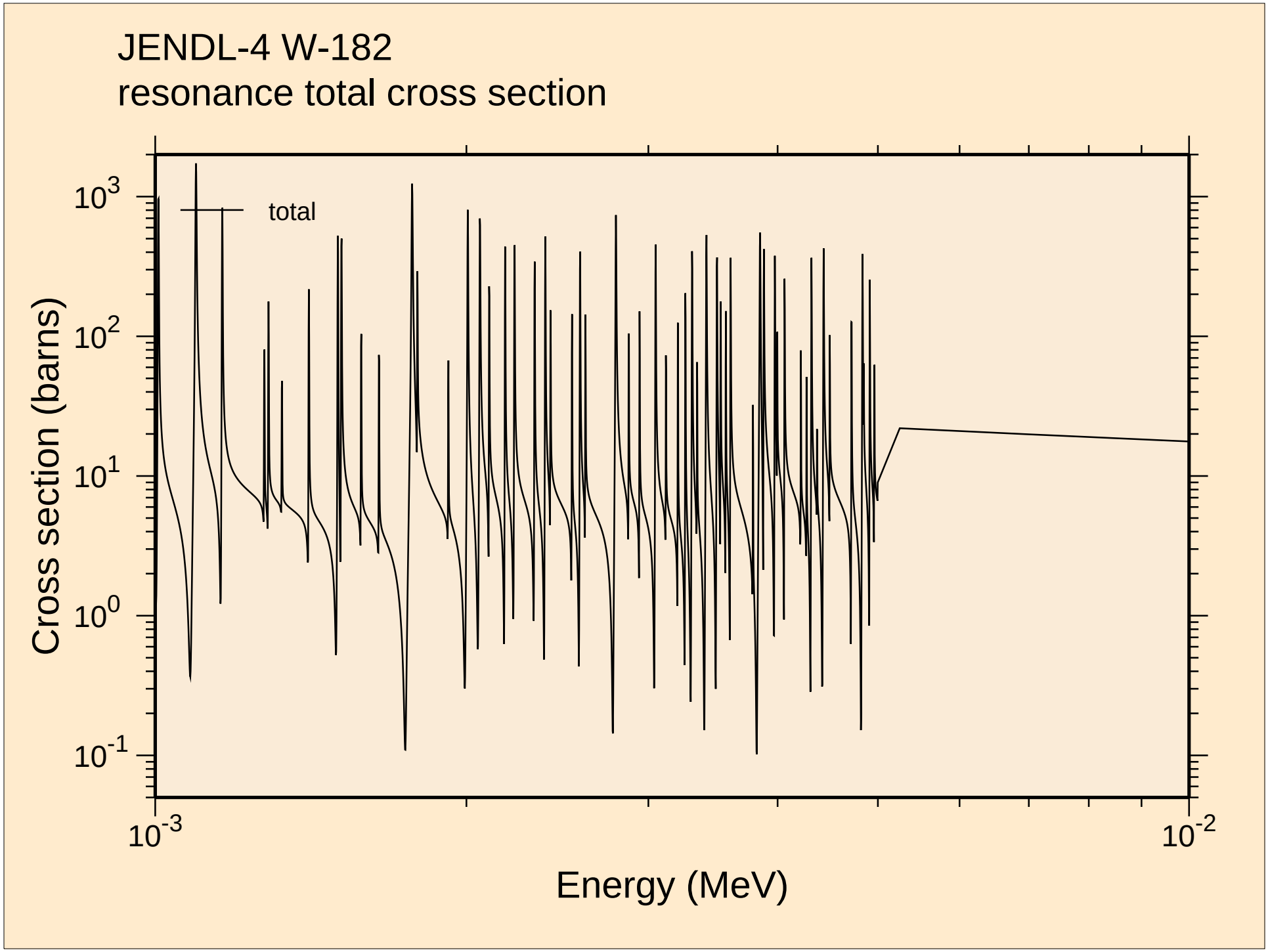
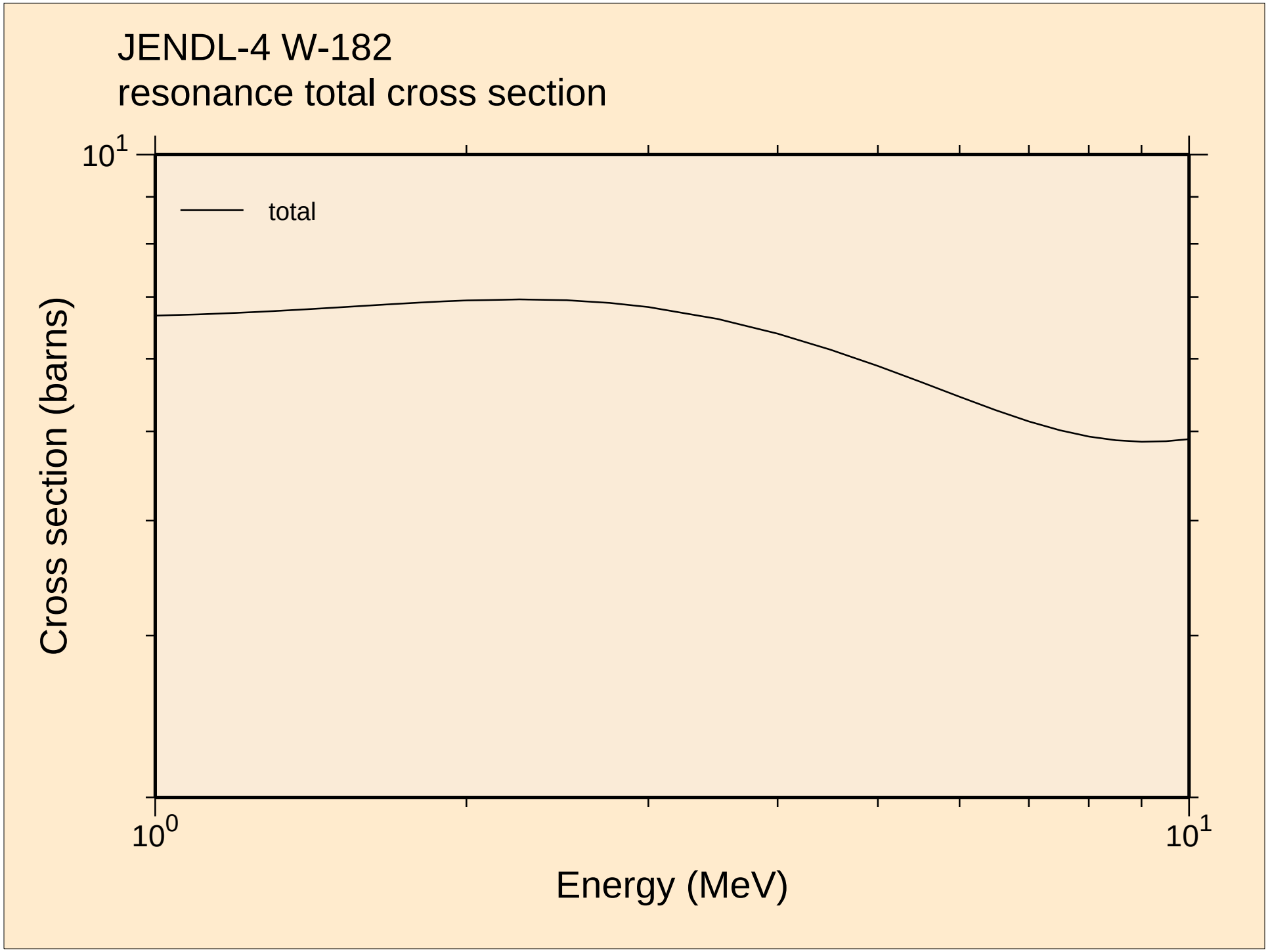

JENDL-4 W-182
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
$10^{4}$
$10^{3}$
$10^{2}$
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-11}$
$10^{-10}$
$10^{-9}$
$10^{-8}$
$10^{-7}$
$10^{-6}$
$10^{-5}$
$10^{-4}$
$10^{-3}$
$10^{-2}$
$10^{-1}$
$10^{0}$
$10^{1}$

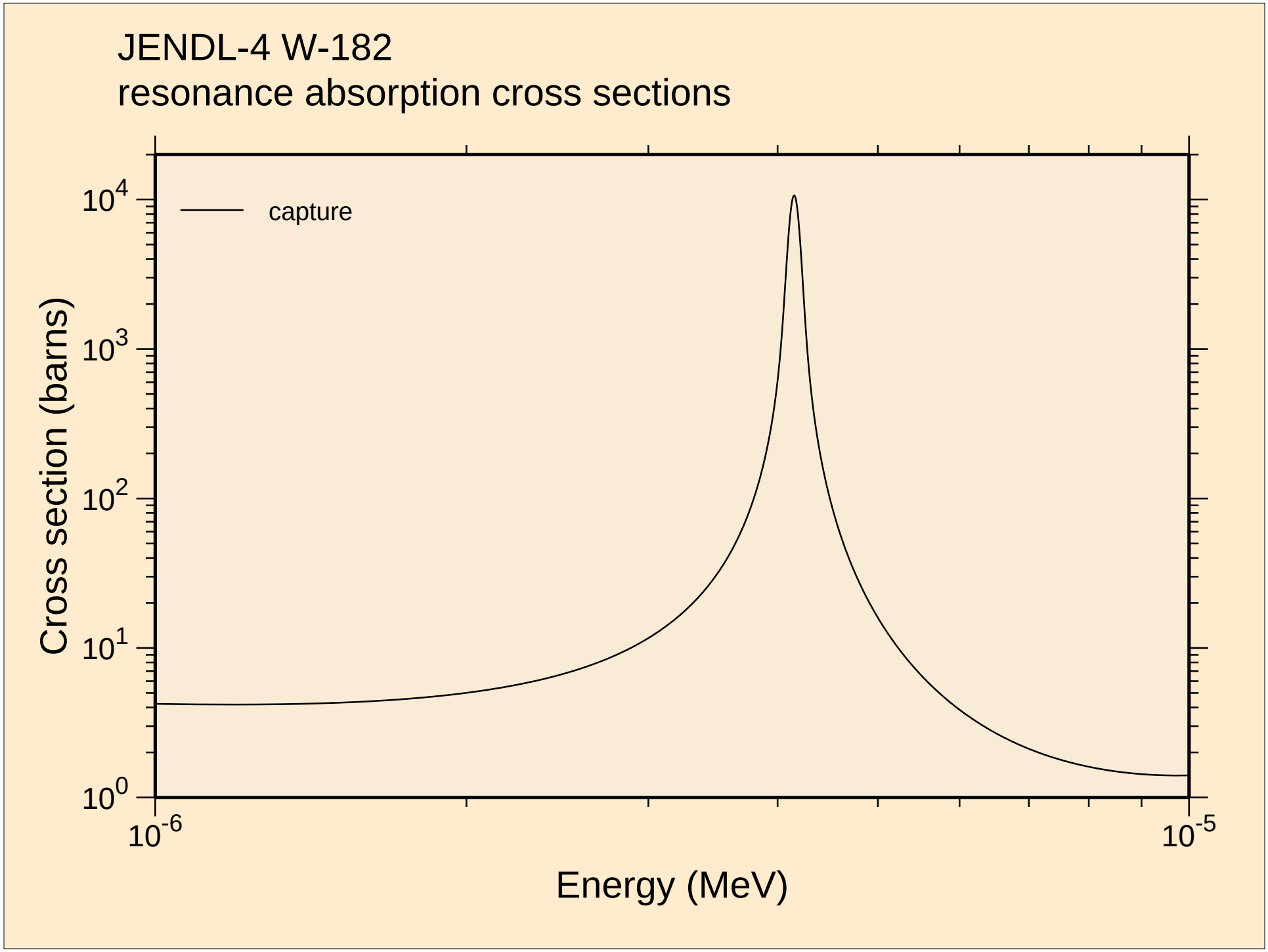

JENDL-4 W-182
resonance total cross section
total
Cross section (barns)
$10^4$
$10^3$
$10^2$
$10^1$
$10^{-6}$
$10^{-5}$
Energy (MeV)

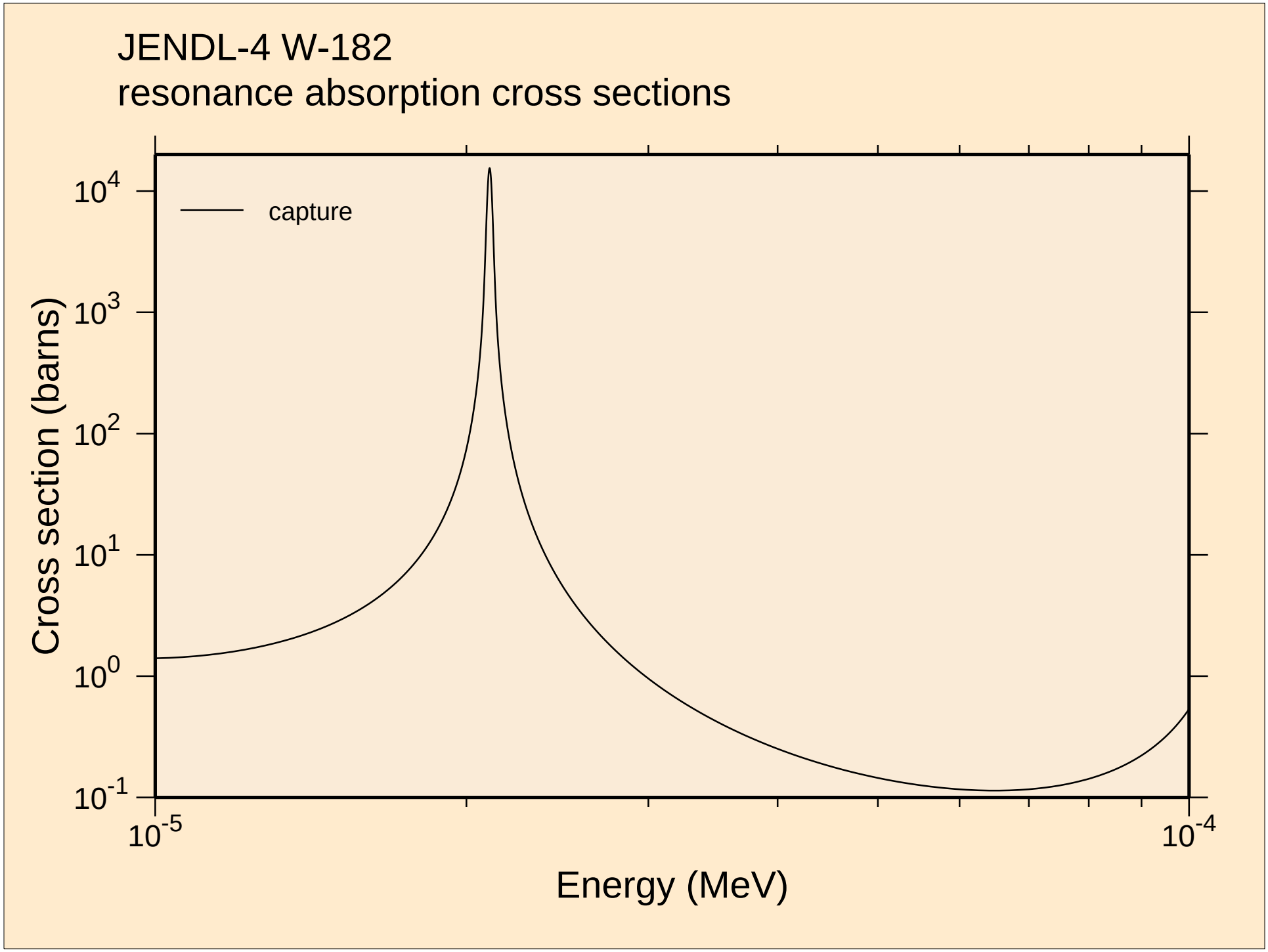

JENDL-4 W-182
resonance total cross section
total
Cross section (barns)
$10^4$
$10^3$
$10^2$
$10^1$
$10^0$
$10^{-5}$
$10^{-4}$
Energy (MeV)


JENDL-4 W-182
resonance total cross section
total
Cross section (barns)
$10^4$
$10^3$
$10^2$
$10^1$
$10^0$
$10^{-4}$
$10^{-3}$
Energy (MeV)

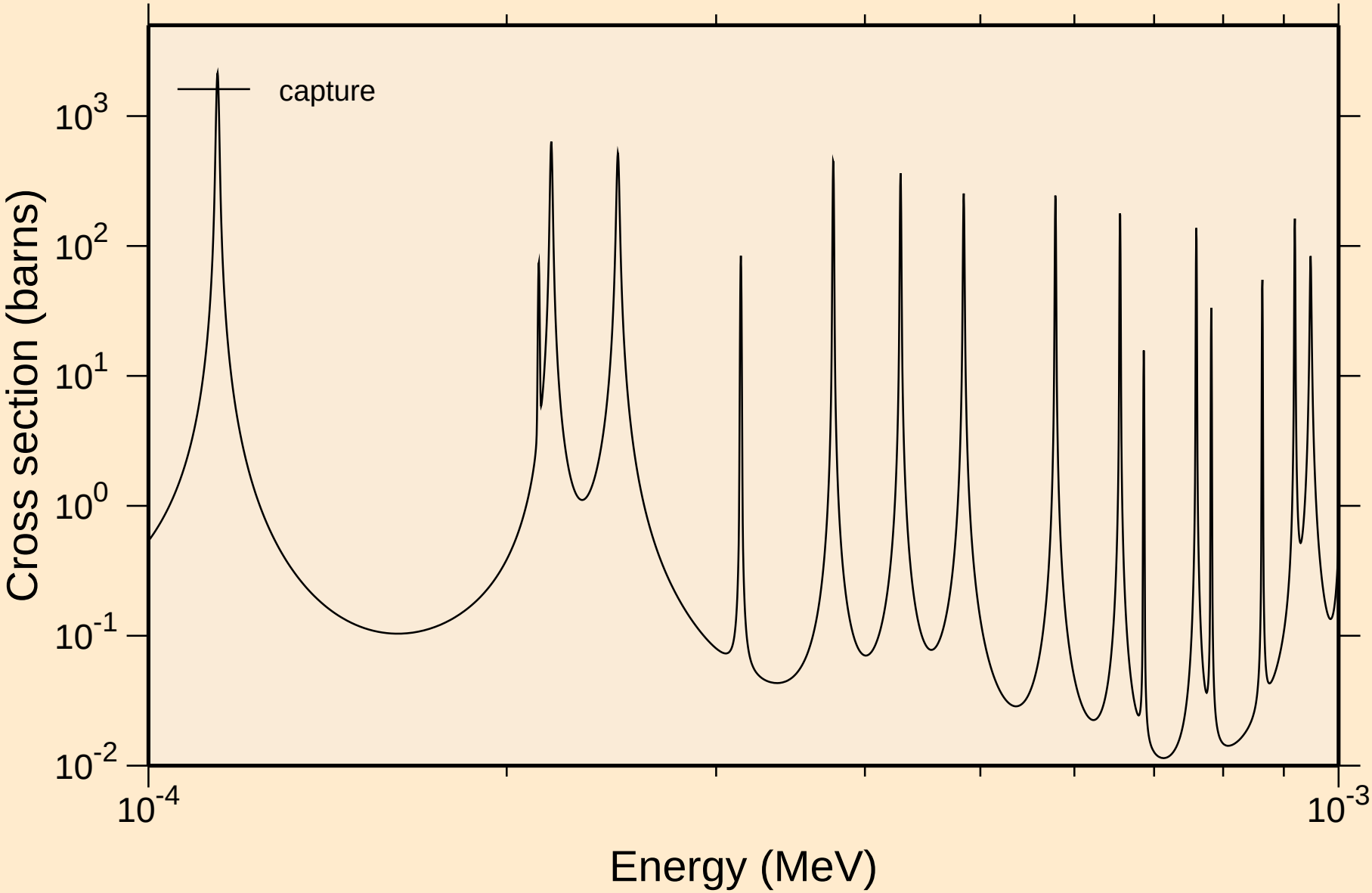

JENDL-4 W-182
resonance total cross section
total
Cross section (barns)
$10^{3}$
$10^{2}$
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-3}$
$10^{-2}$
Energy (MeV)


JENDL-4 W-182
resonance total cross section
total
Cross section (barns)
Energy (MeV)
$10^1$
$10^0$
$10^1$

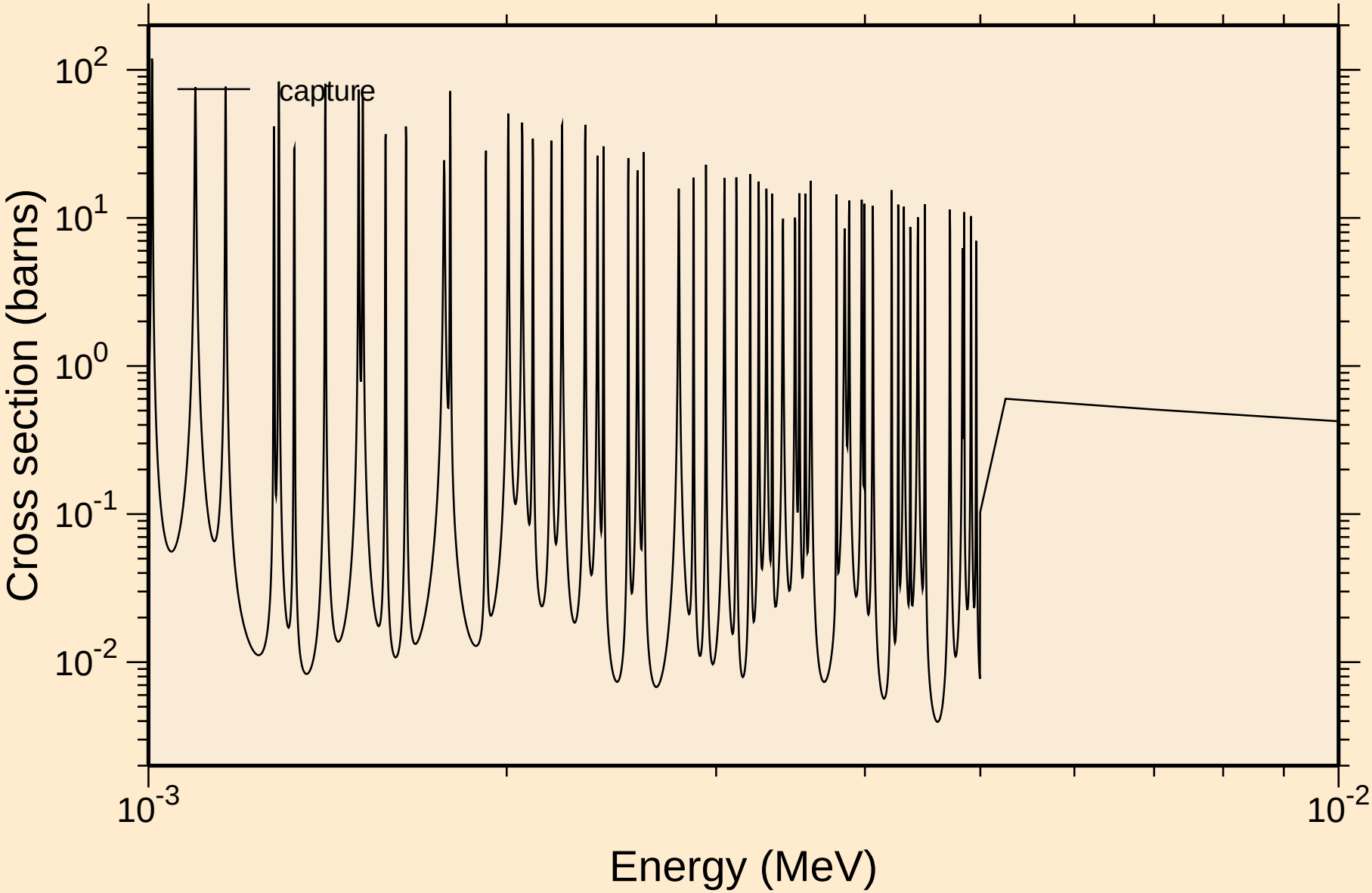

JENDL-4 W-182
resonance absorption cross sections
capture
Cross section (barns)
$10^4$
$10^3$
$10^2$
$10^1$
$10^0$
$10^{-6}$
$10^{-5}$
Energy (MeV)

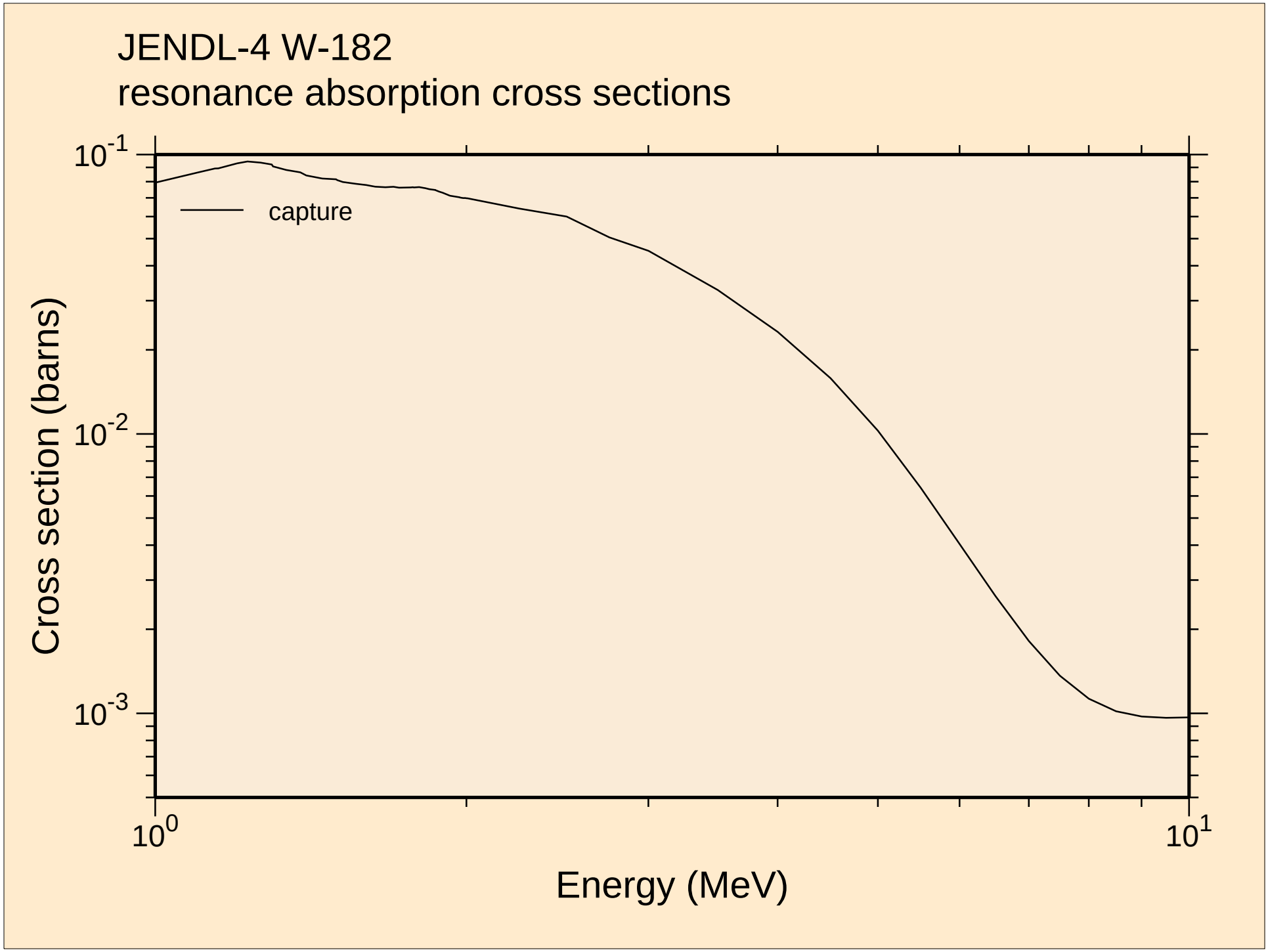

JENDL-4 W-182
resonance absorption cross sections
capture
Cross section (barns)
$10^{4}$
$10^{3}$
$10^{2}$
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-5}$
$10^{-4}$
Energy (MeV)

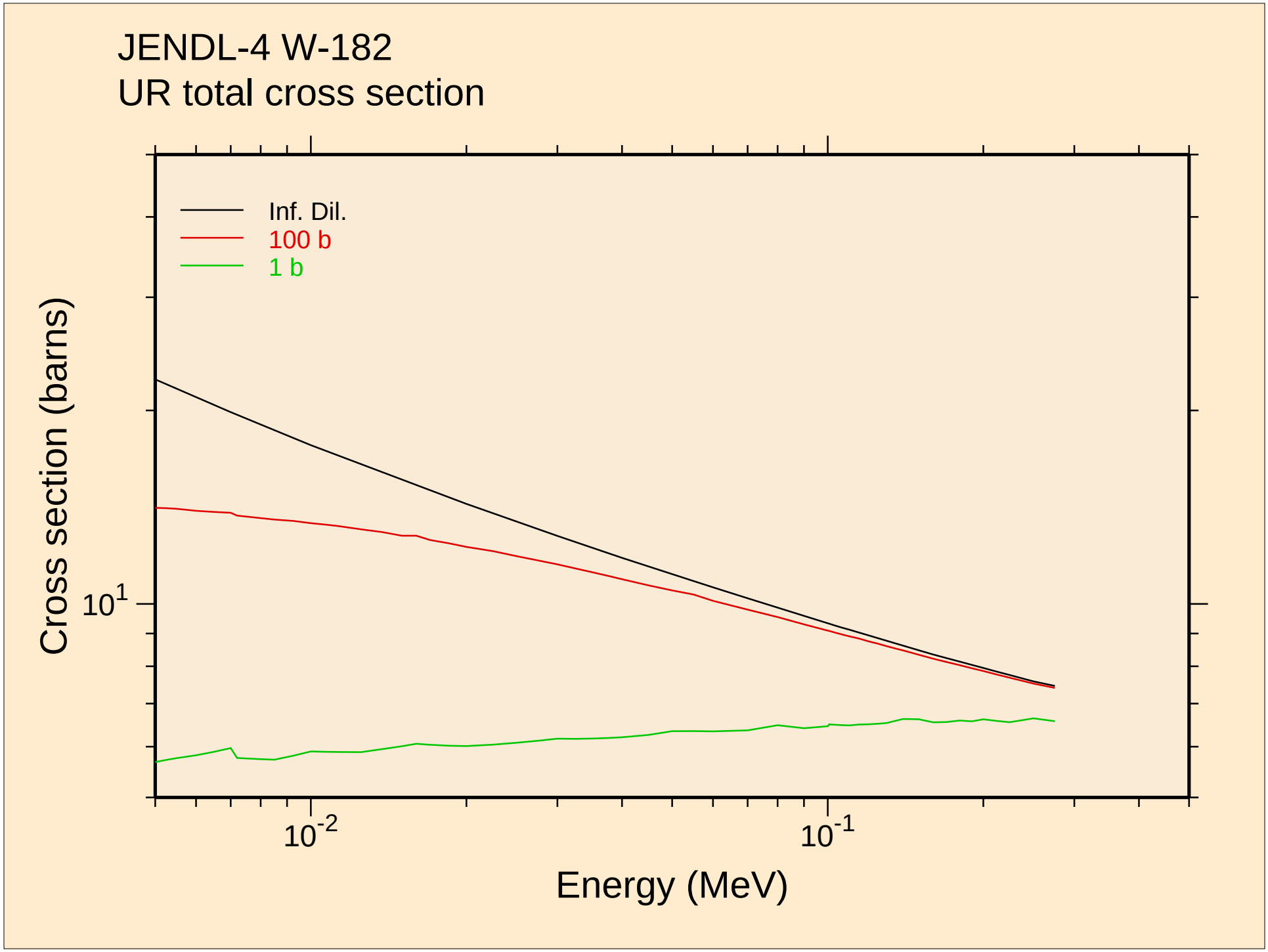
JENDL-4 W-182
resonance absorption cross sections

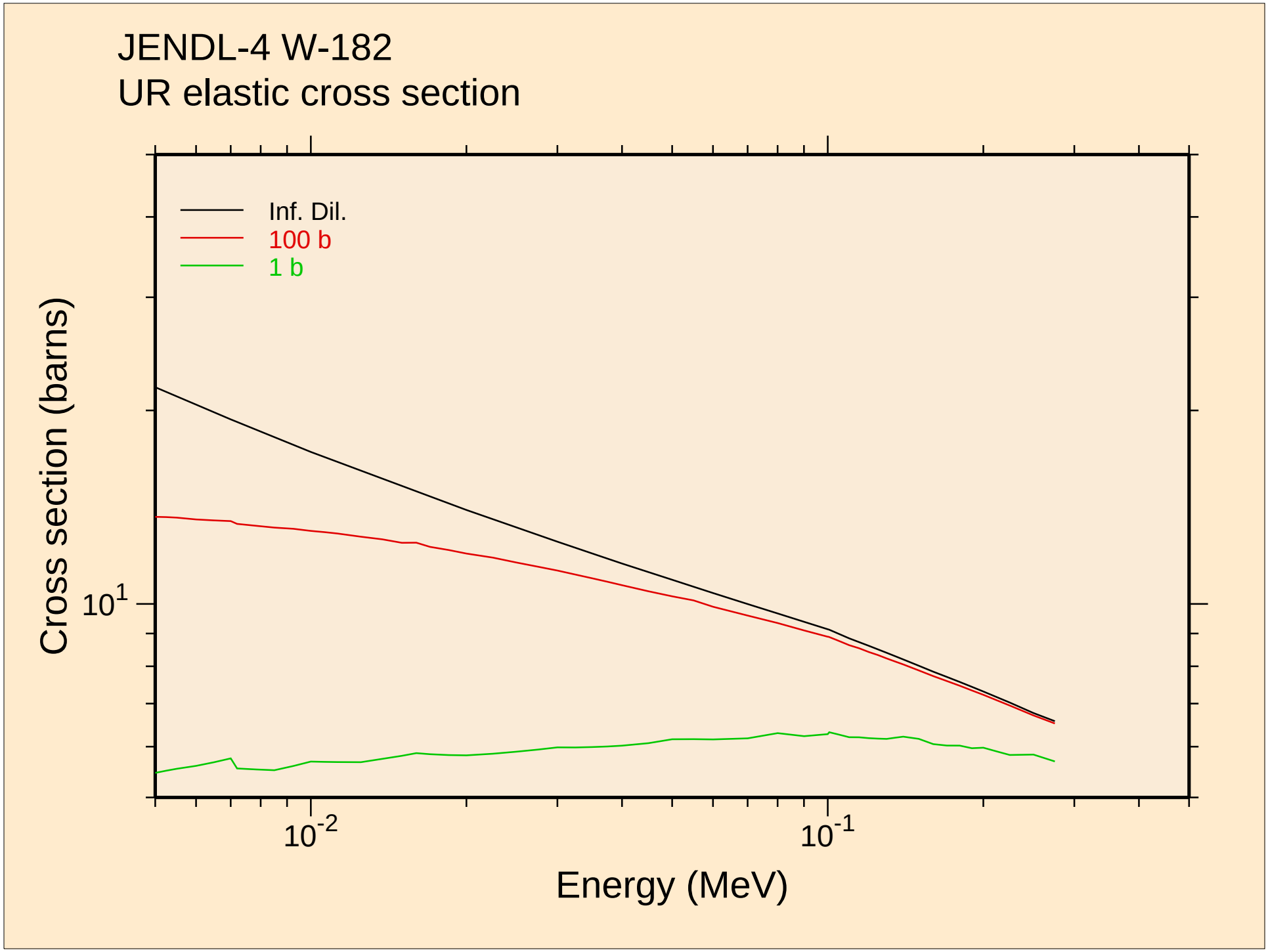


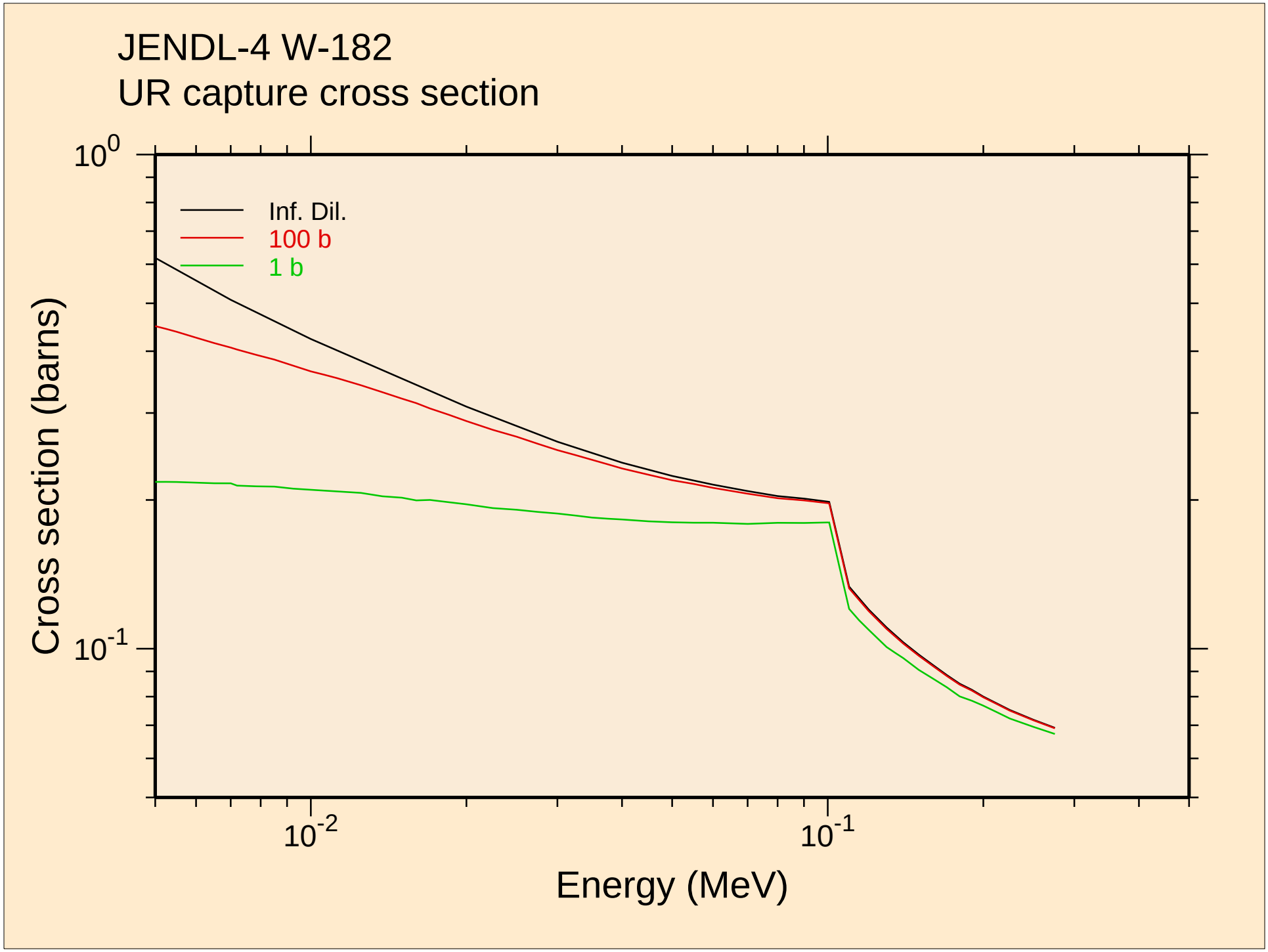
JENDL-4 W-182
resonance absorption cross sections

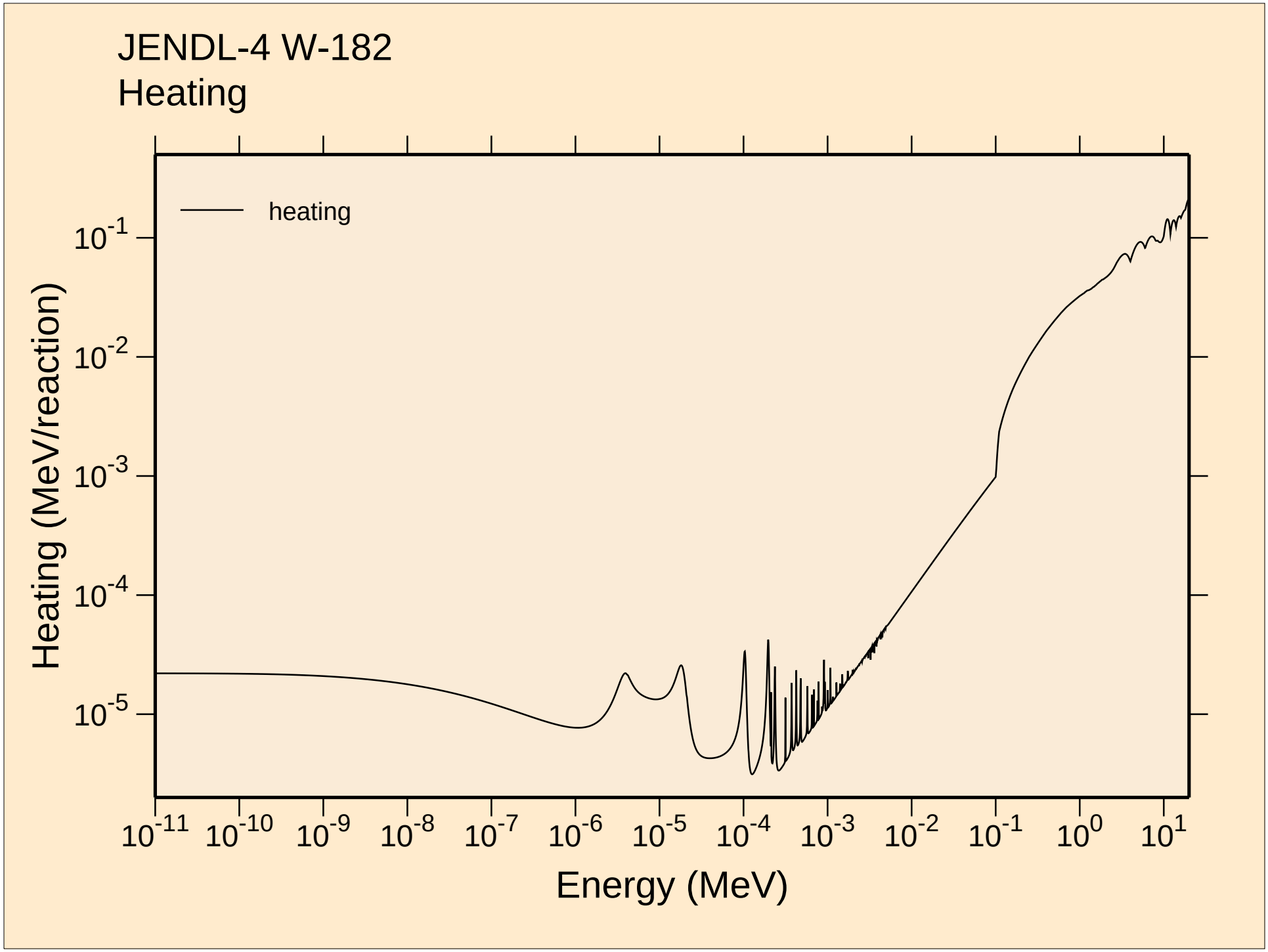


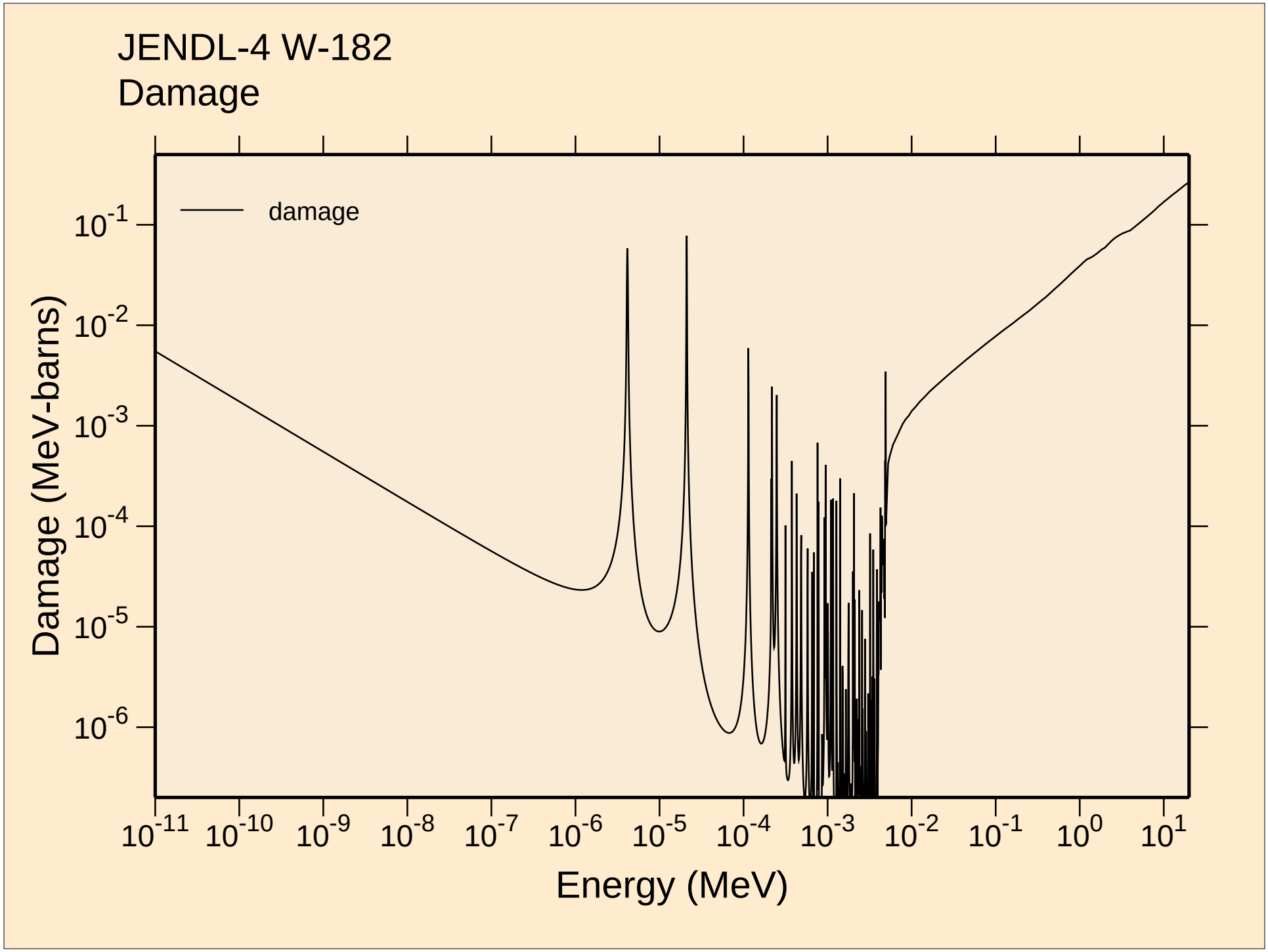

JENDL-4 W-182
resonance absorption cross sections
capture
Cross section (barns)
Energy (MeV)
10-1
10-2
10-3
100
101

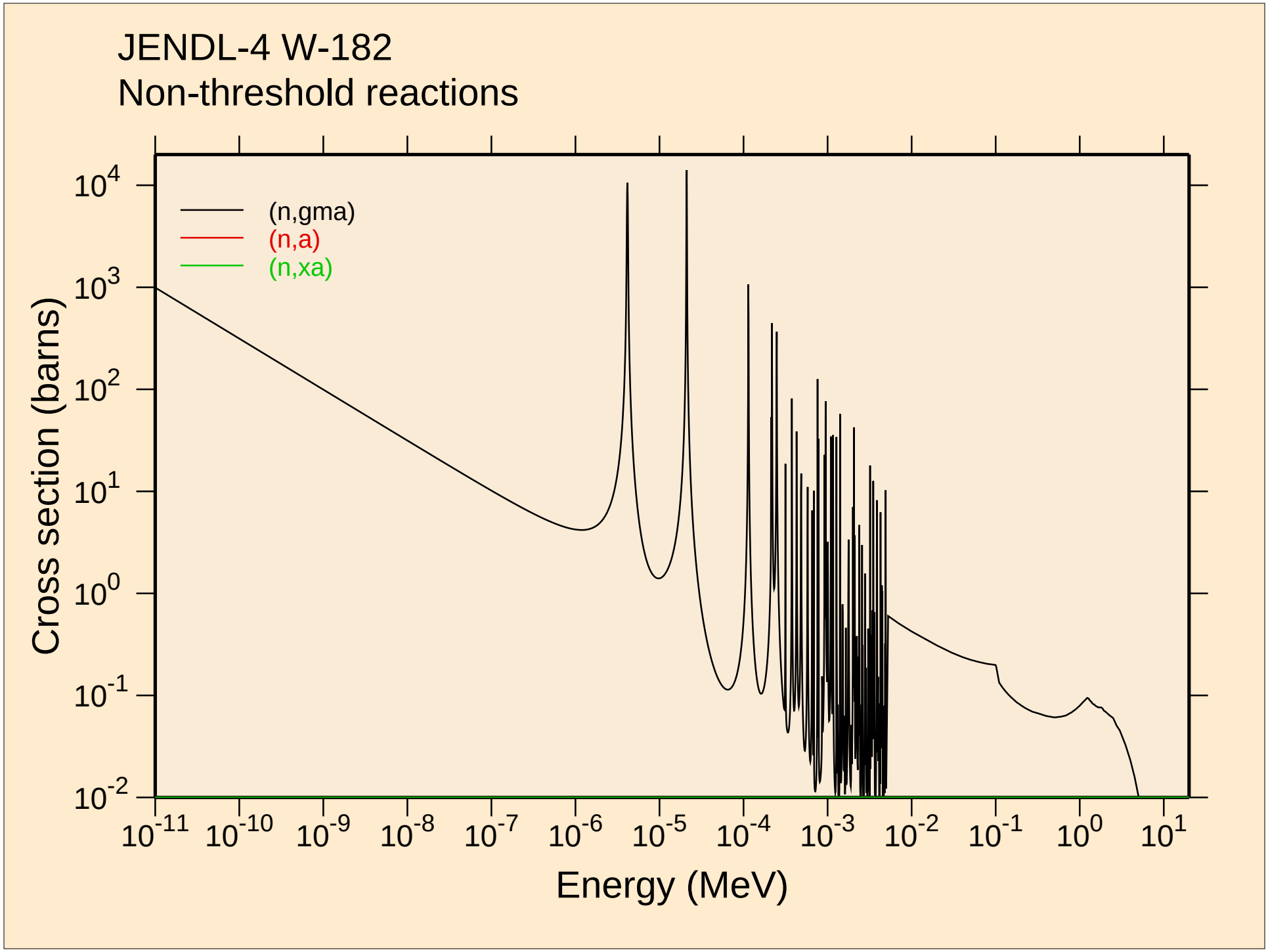

JENDL-4 W-182
UR total cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-2
10^-1
Energy (MeV)

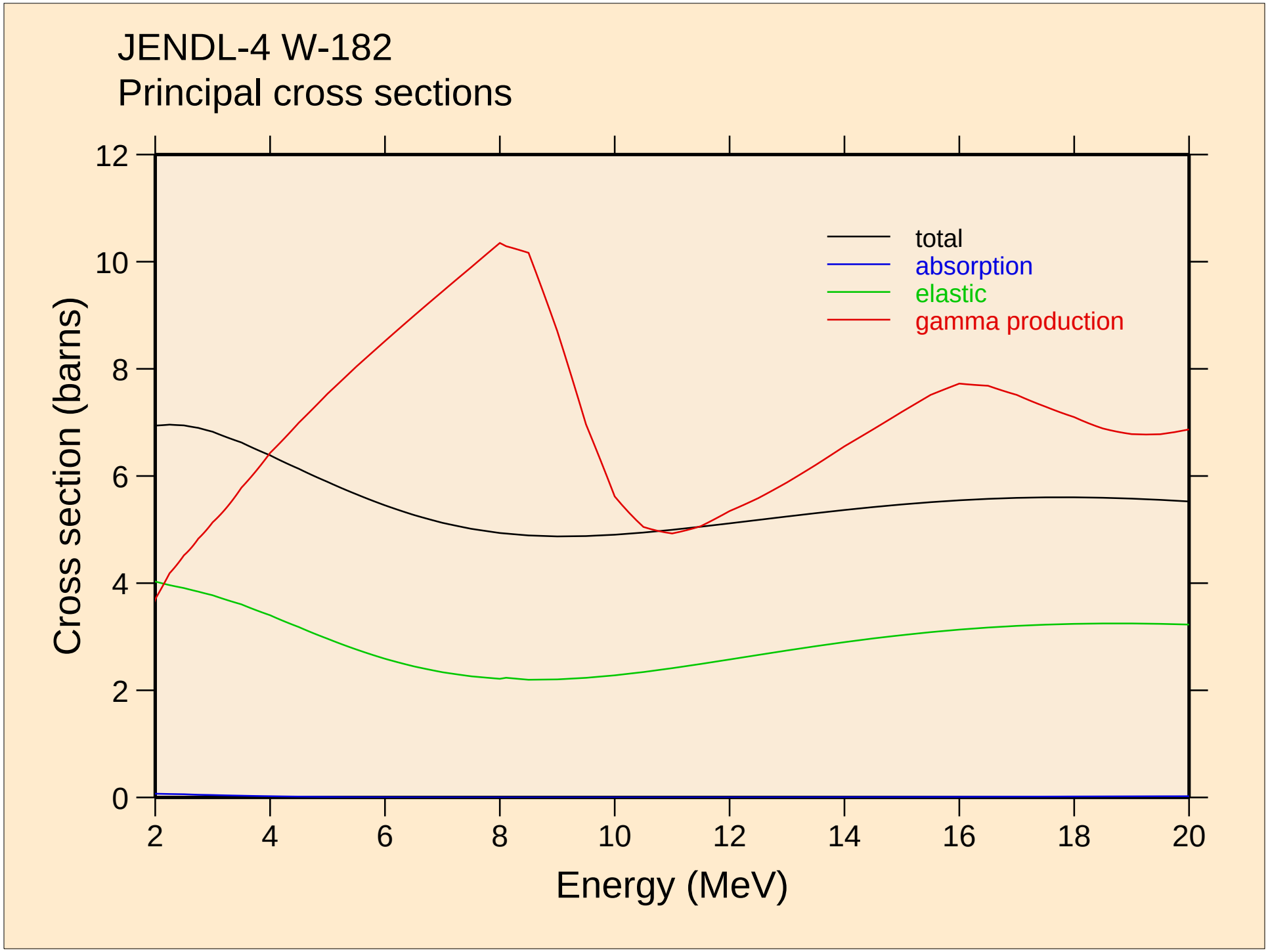

JENDL-4 W-182
UR elastic cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
10^1
10^-2
10^-1
Energy (MeV)

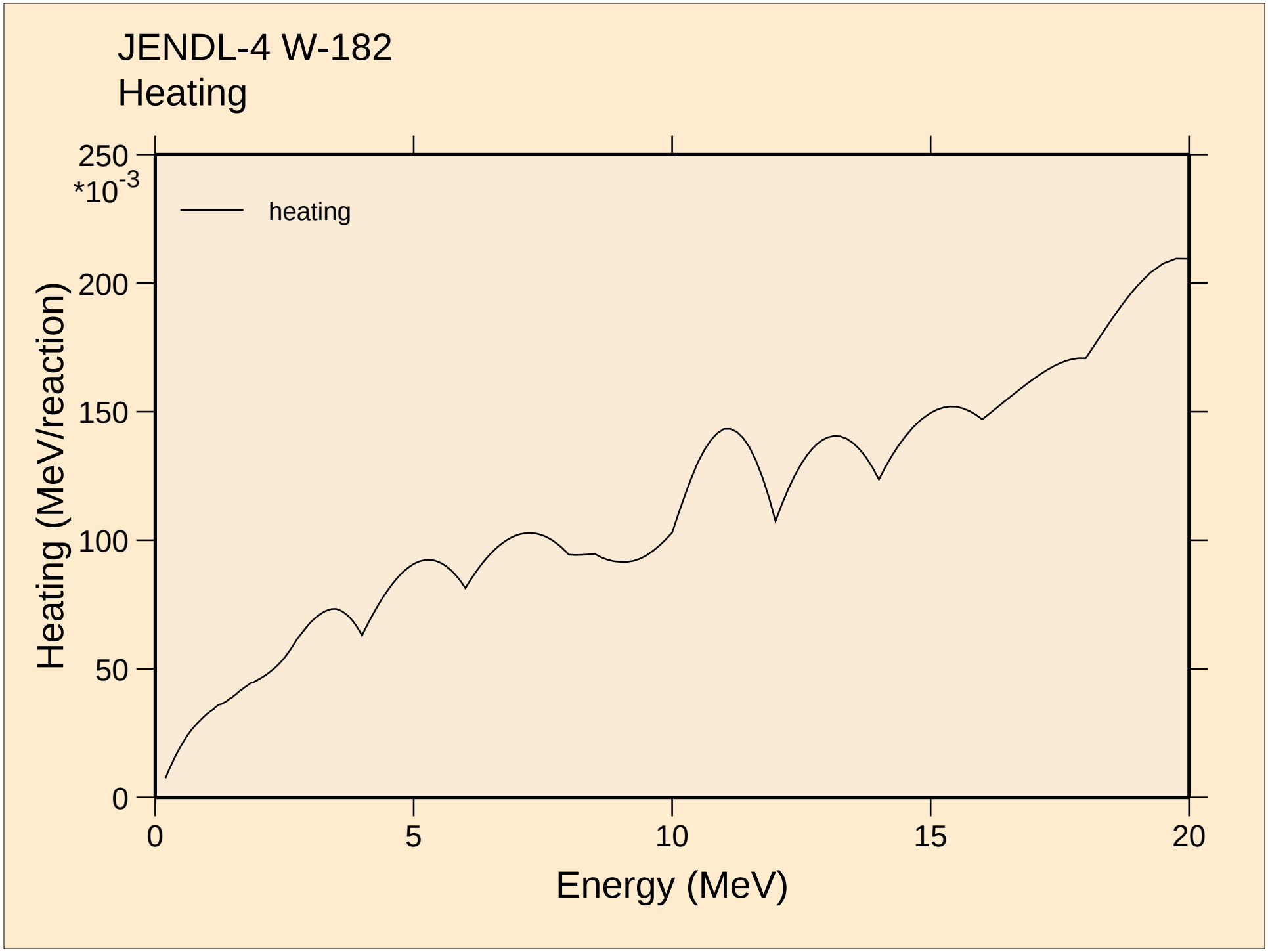

JENDL-4 W-182
UR capture cross section
Inf. Dil.
100 b
1 b
Cross section (barns)
Energy (MeV)
10^0
10^-1
10^-2
10^-1

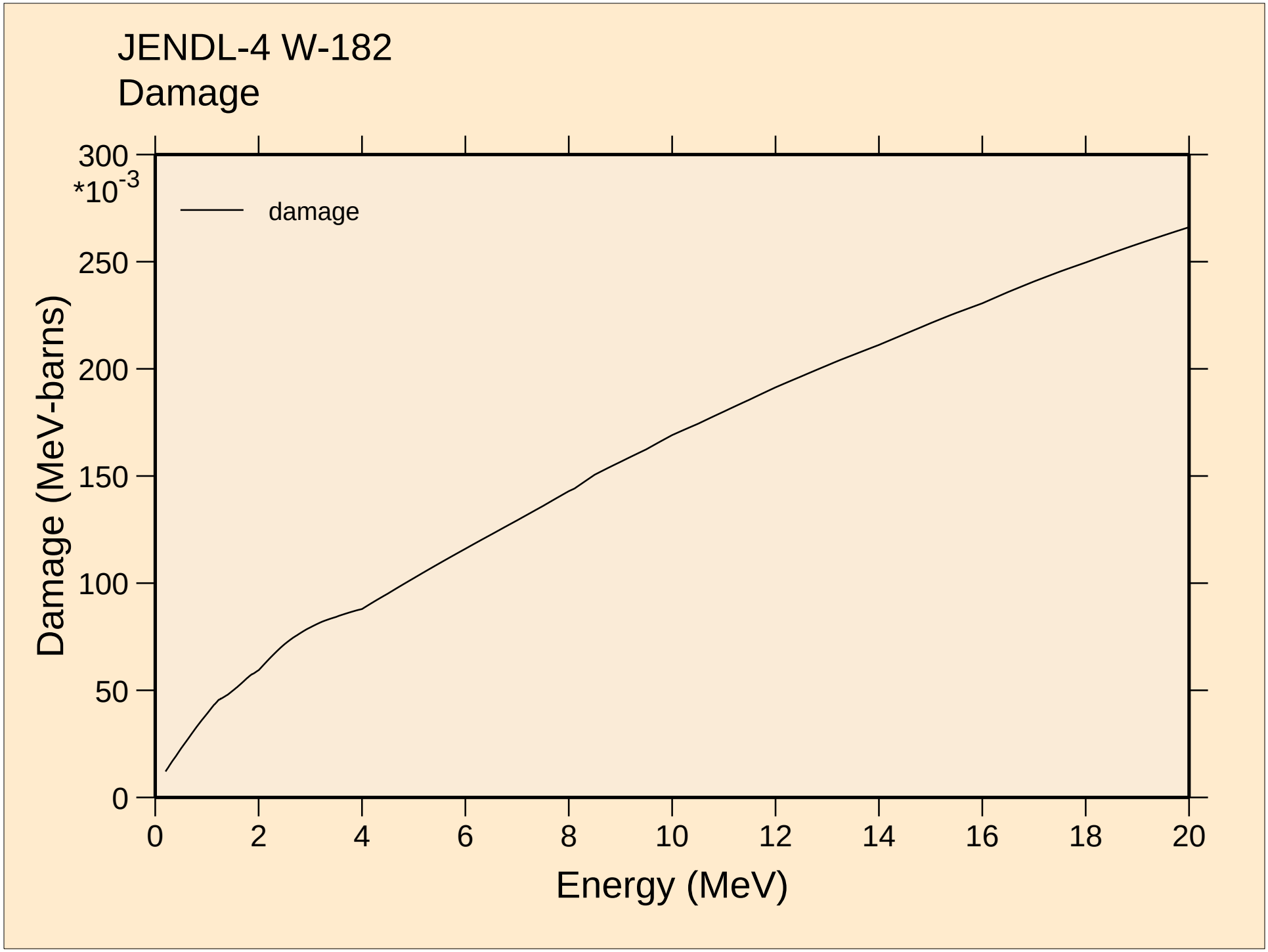

JENDL-4 W-182
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10-1
10-2
10-3
10-4
10-5
10-11
10-10
10-9
10-8
10-7
10-6
10-5
10-4
10-3
10-2
10-1
100
101

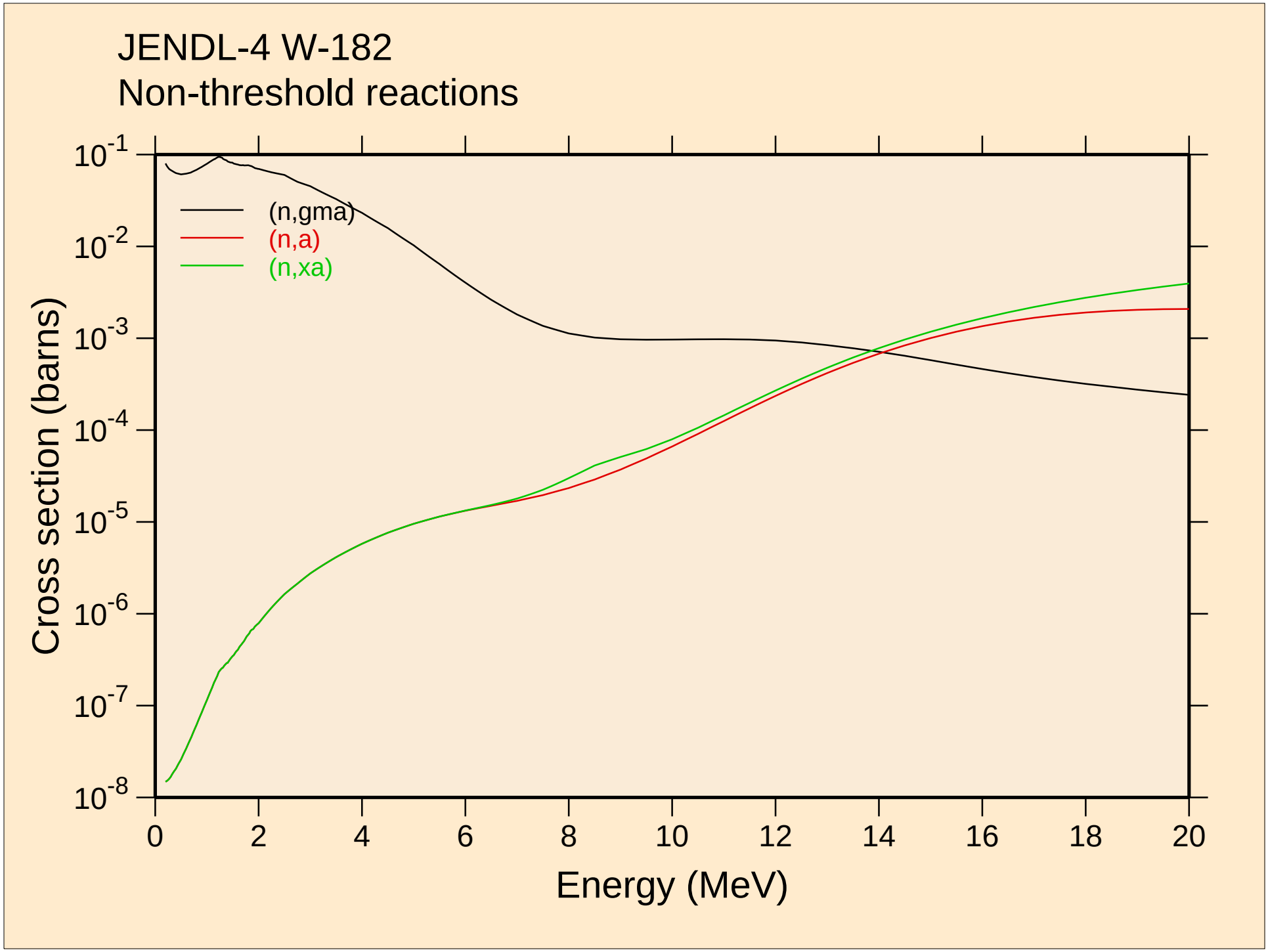

JENDL-4 W-182
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-11
10^-10
10^-9
10^-8
10^-7
10^-6
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1

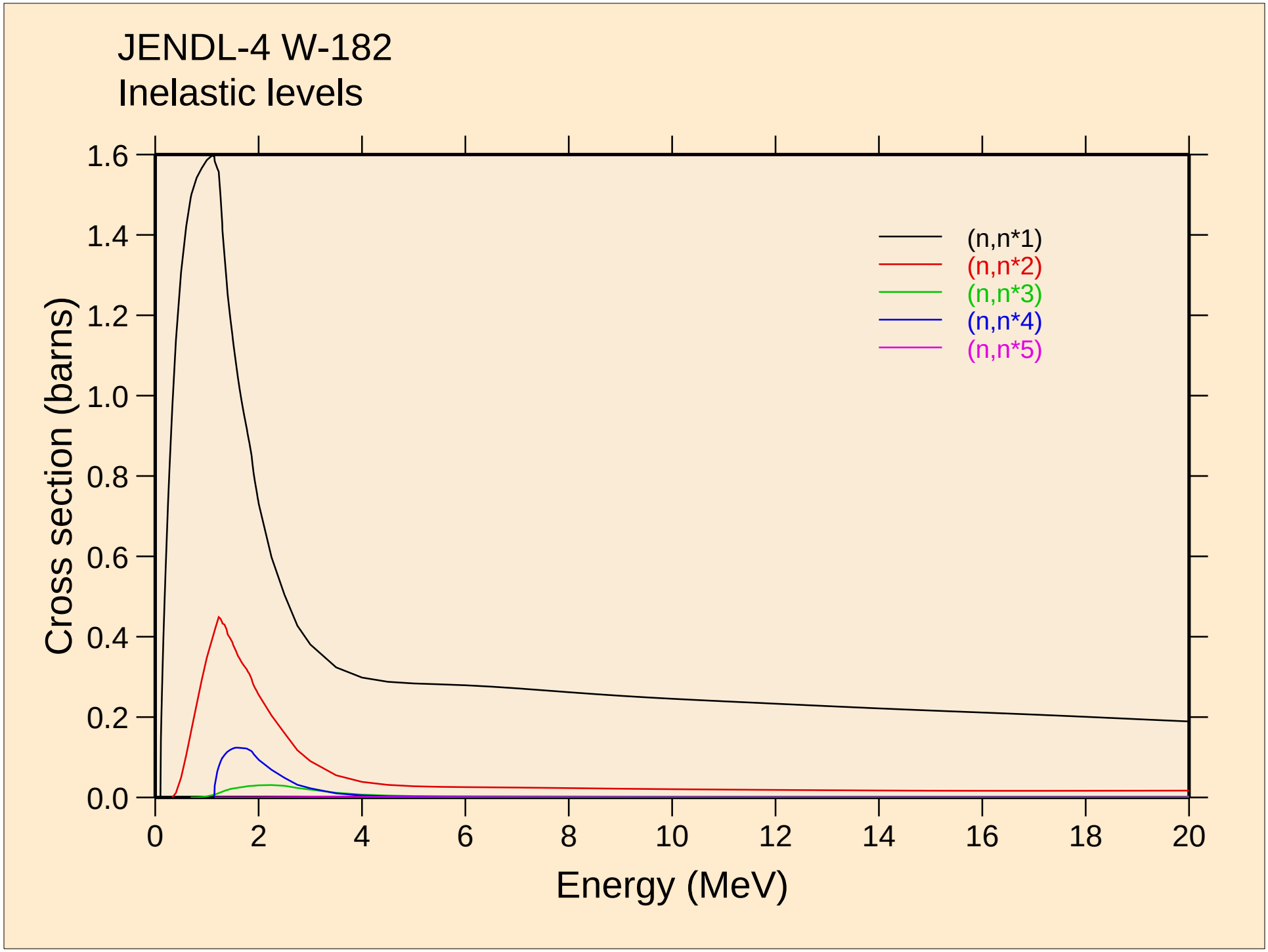

JENDL-4 W-182
Non-threshold reactions
(n,gma)
(n,a)
(n,xa)
Cross section (barns)
Energy (MeV)
$10^{4}$
$10^{3}$
$10^{2}$
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-2}$
$10^{-11}$ $10^{-10}$ $10^{-9}$ $10^{-8}$ $10^{-7}$ $10^{-6}$ $10^{-5}$ $10^{-4}$ $10^{-3}$ $10^{-2}$ $10^{-1}$ $10^{0}$ $10^{1}$

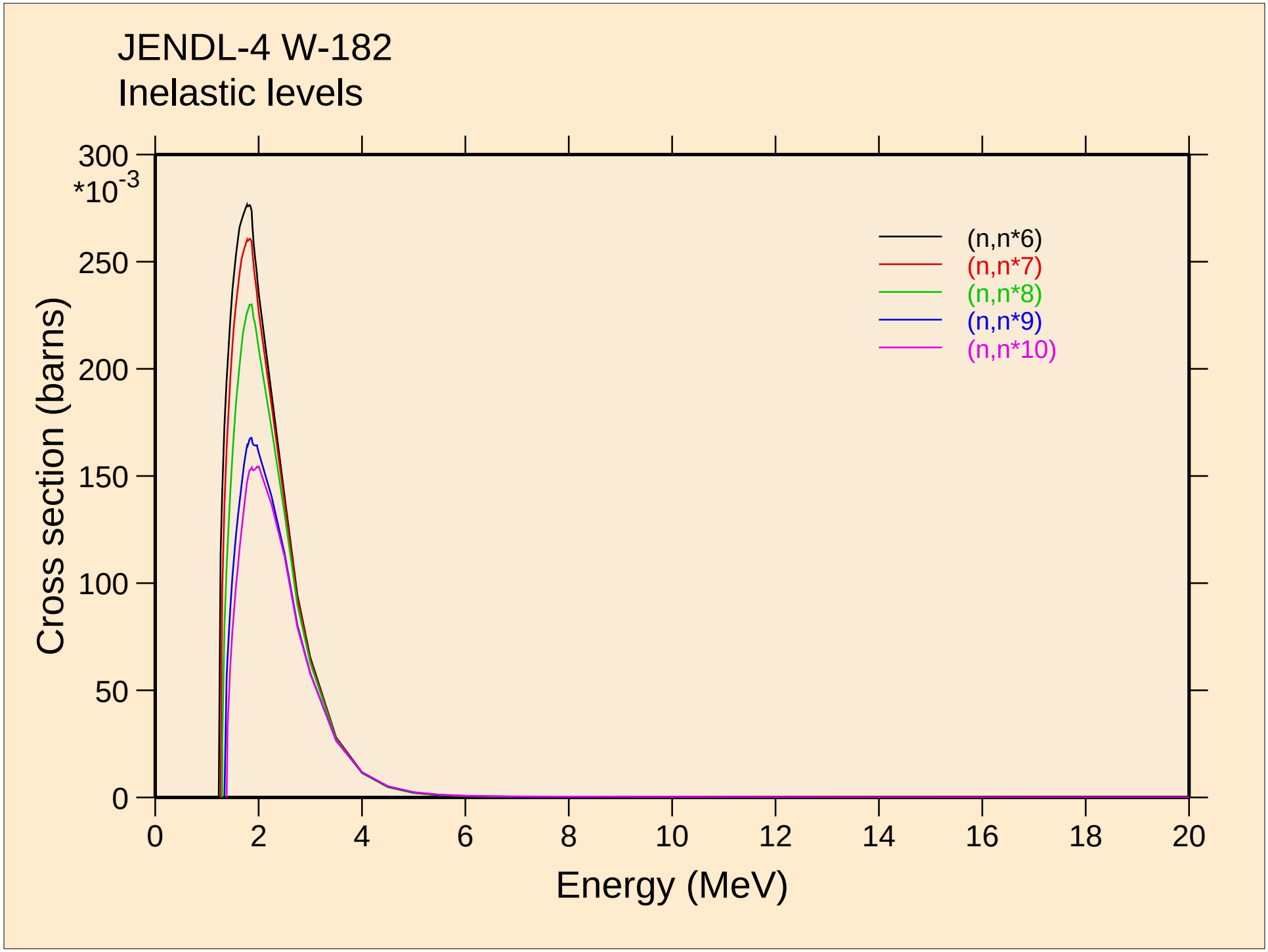

JENDL-4 W-182
Principal cross sections
total
absorption
elastic
gamma production
Cross section (barns)
Energy (MeV)
0
2
4
6
8
10
12
2
4
6
8
10
12
14
16
18
20

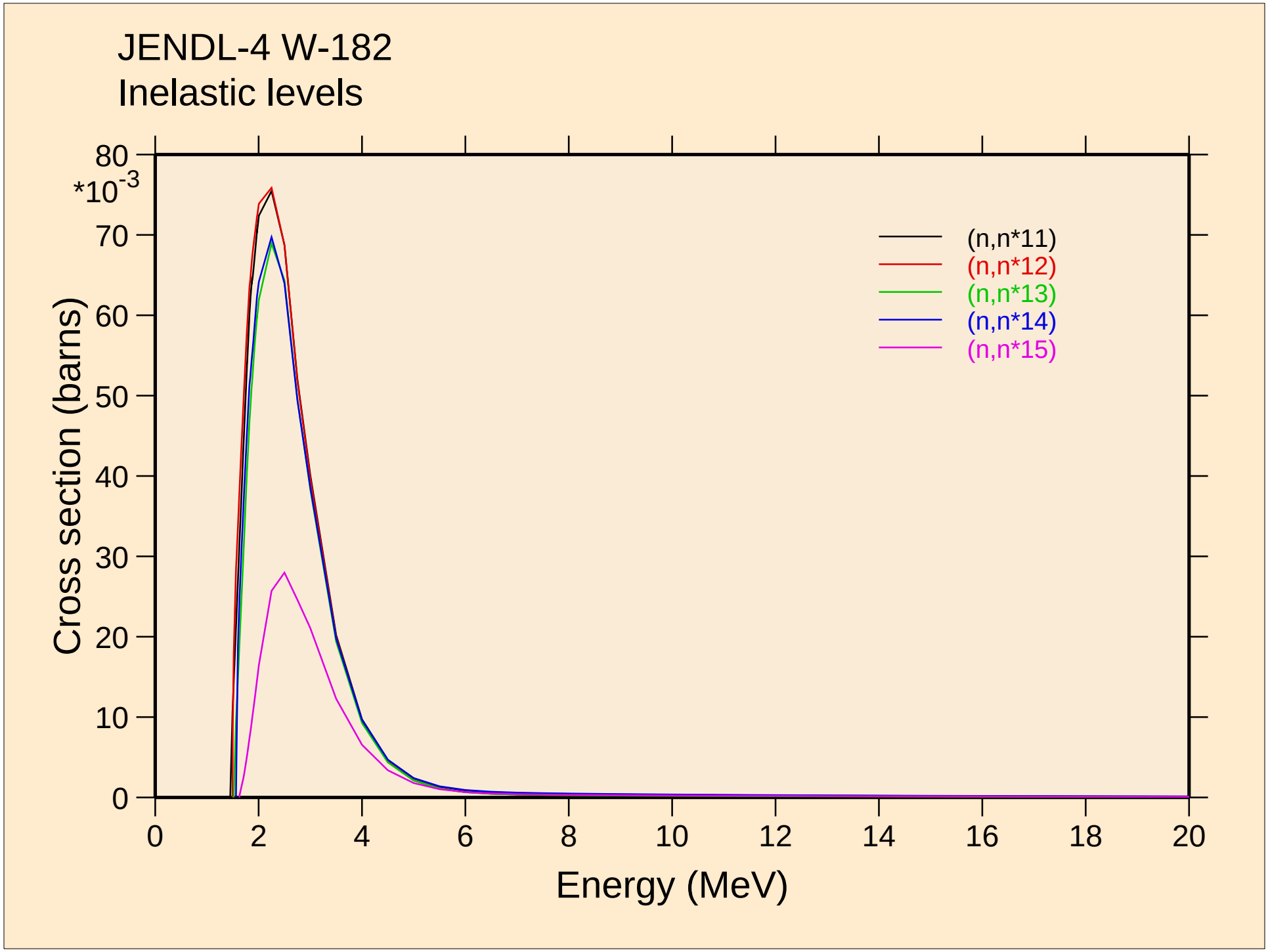

JENDL-4 W-182
Heating
heating
Heating (MeV/reaction)
*10^-3
250
200
150
100
50
0
0
5
10
15
20
Energy (MeV)

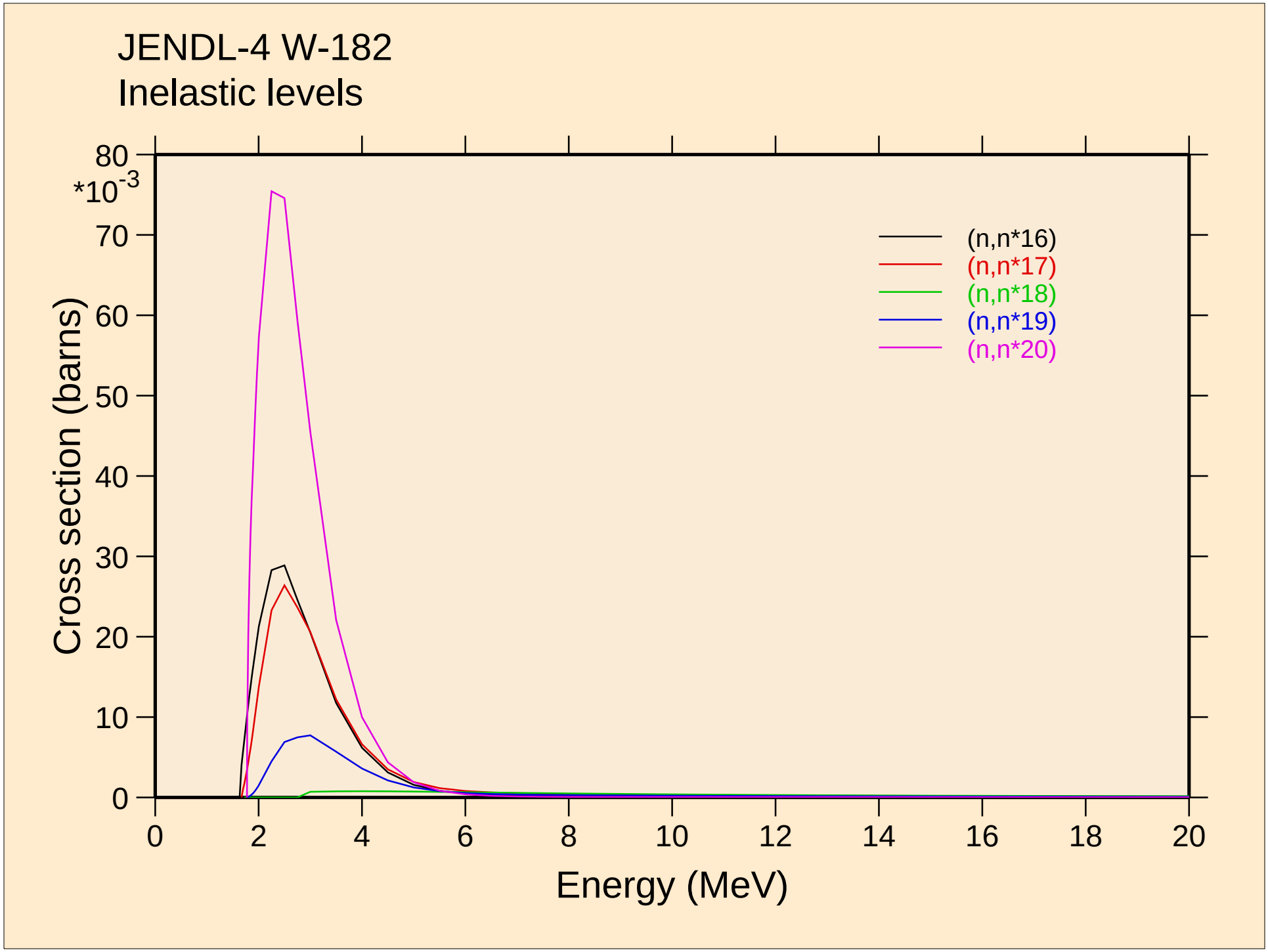

JENDL-4 W-182
Damage
damage
Damage (MeV-barns)
*10-3
300
250
200
150
100
50
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

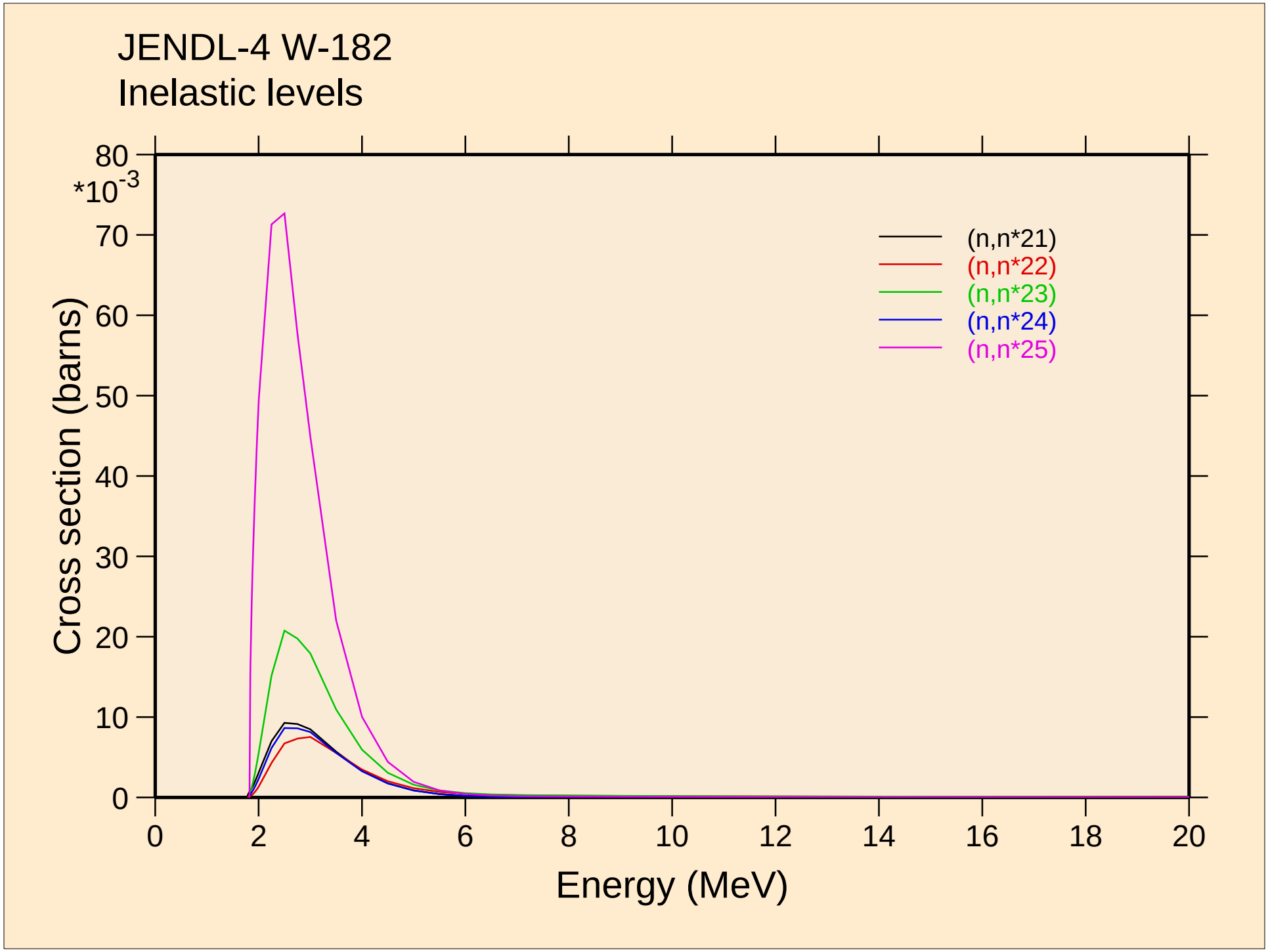

JENDL-4 W-182
Non-threshold reactions
(n,gma)
(n,a)
(n,xa)
Cross section (barns)
Energy (MeV)
10-1
10-2
10-3
10-4
10-5
10-6
10-7
10-8
0
2
4
6
8
10
12
14
16
18
20

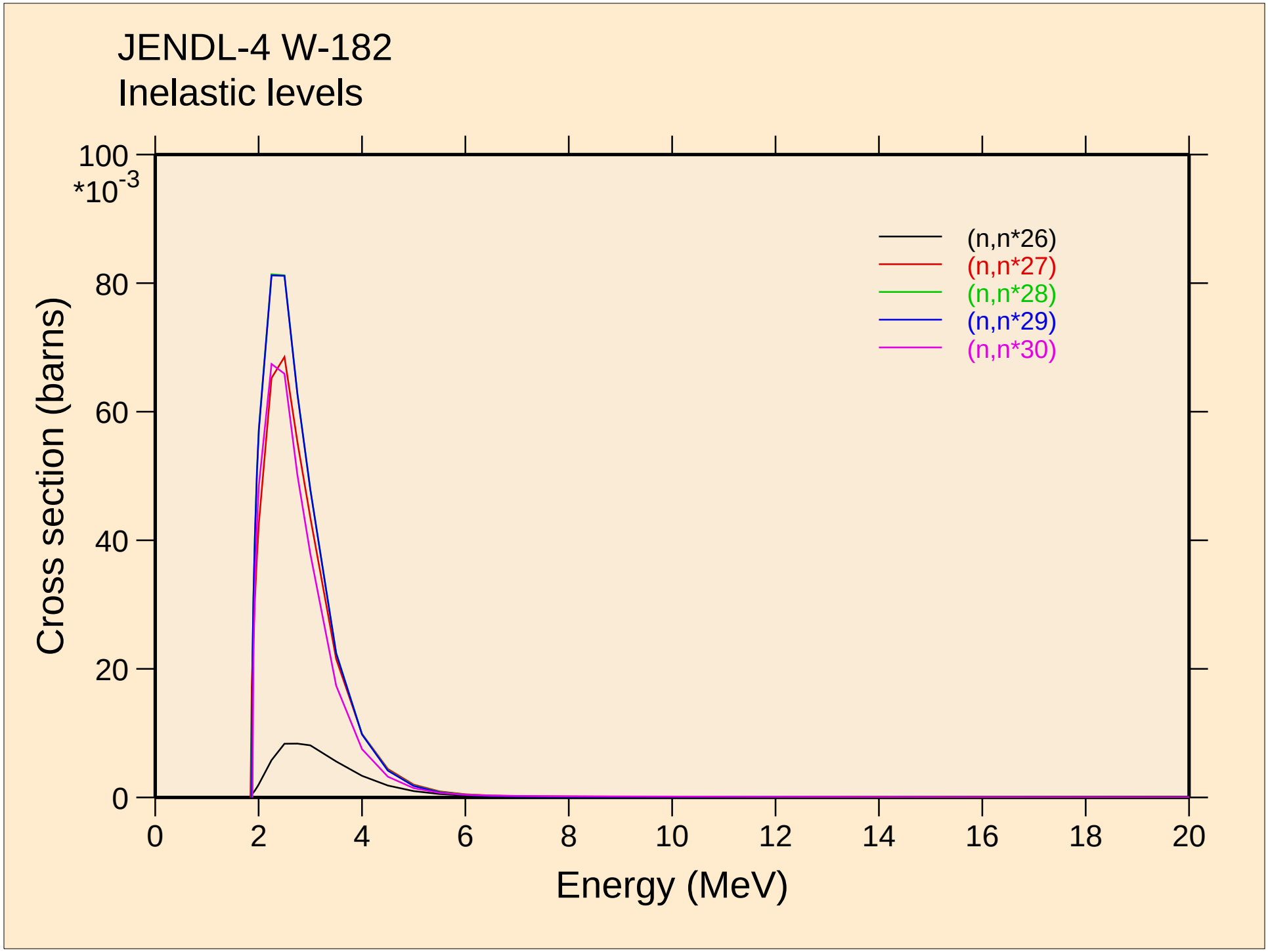

JENDL-4 W-182
Inelastic levels
Cross section (barns)
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
2
4
6
8
10
12
14
16
18
20

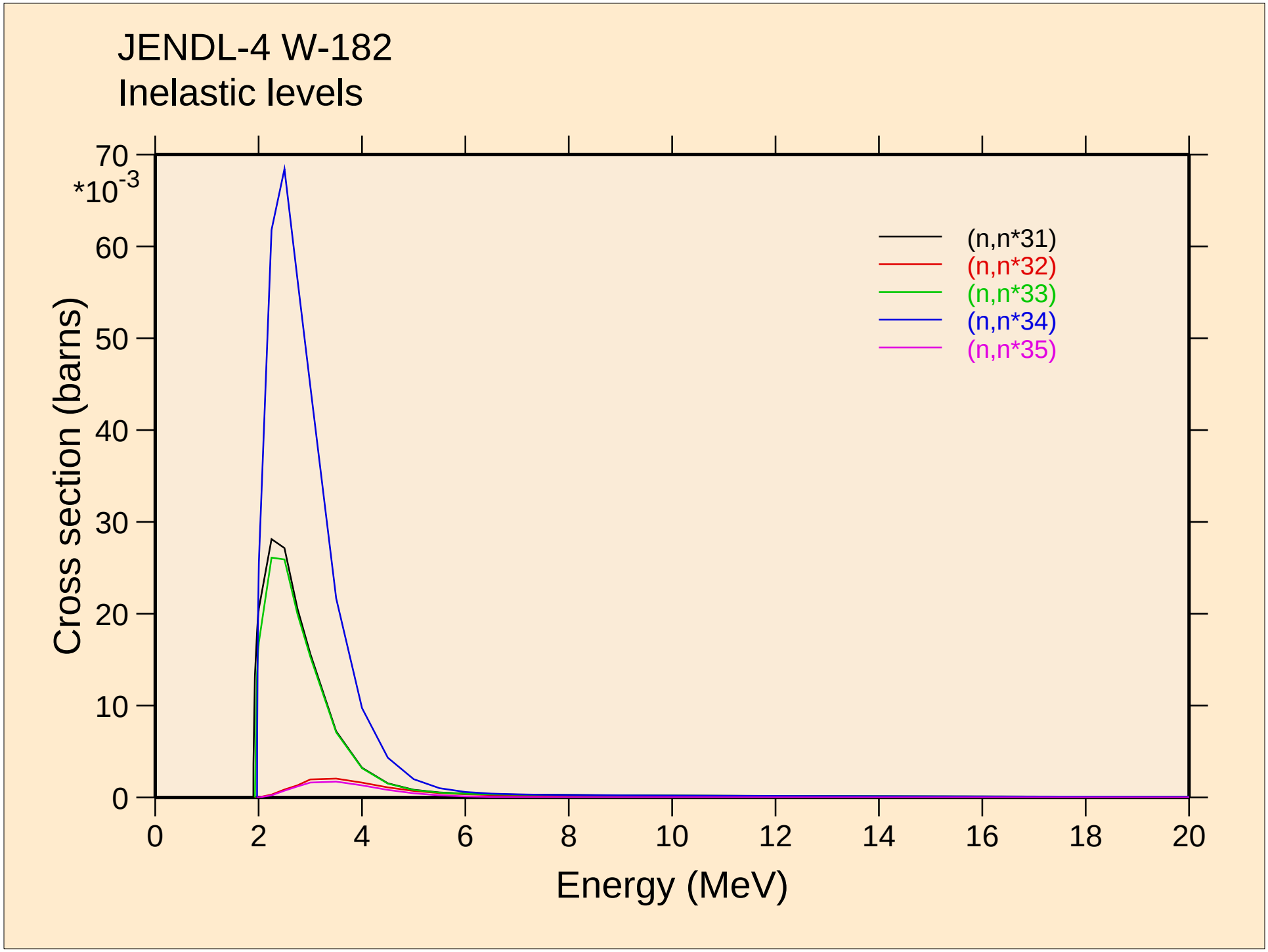

JENDL-4 W-182
Inelastic levels
300
*10-3
250
200
150
100
50
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

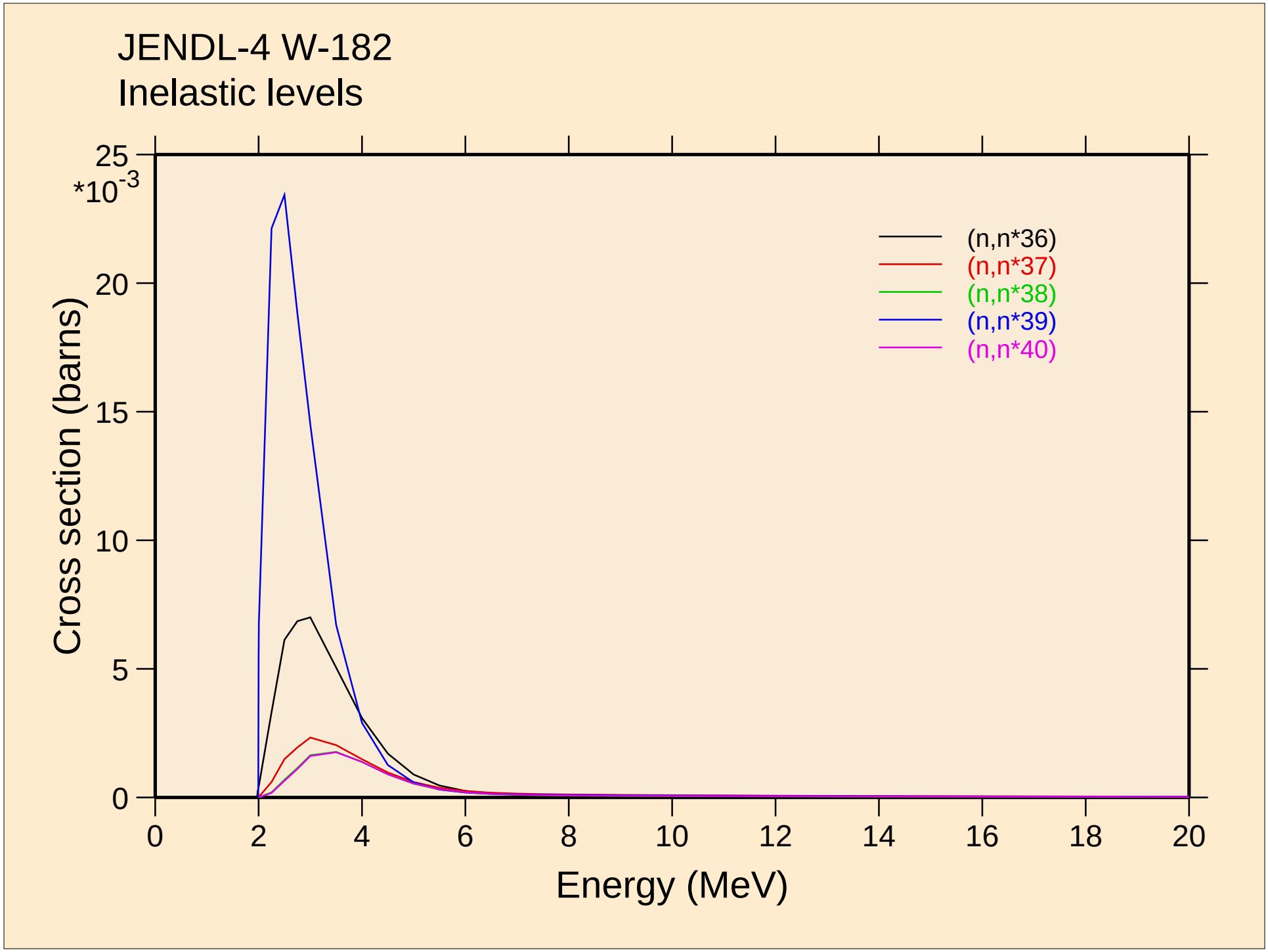

JENDL-4 W-182
Inelastic levels
*10-3
Cross section (barns)
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)
0
10
20
30
40
50
60
70
80
0
2
4
6
8
10
12
14
16
18
20

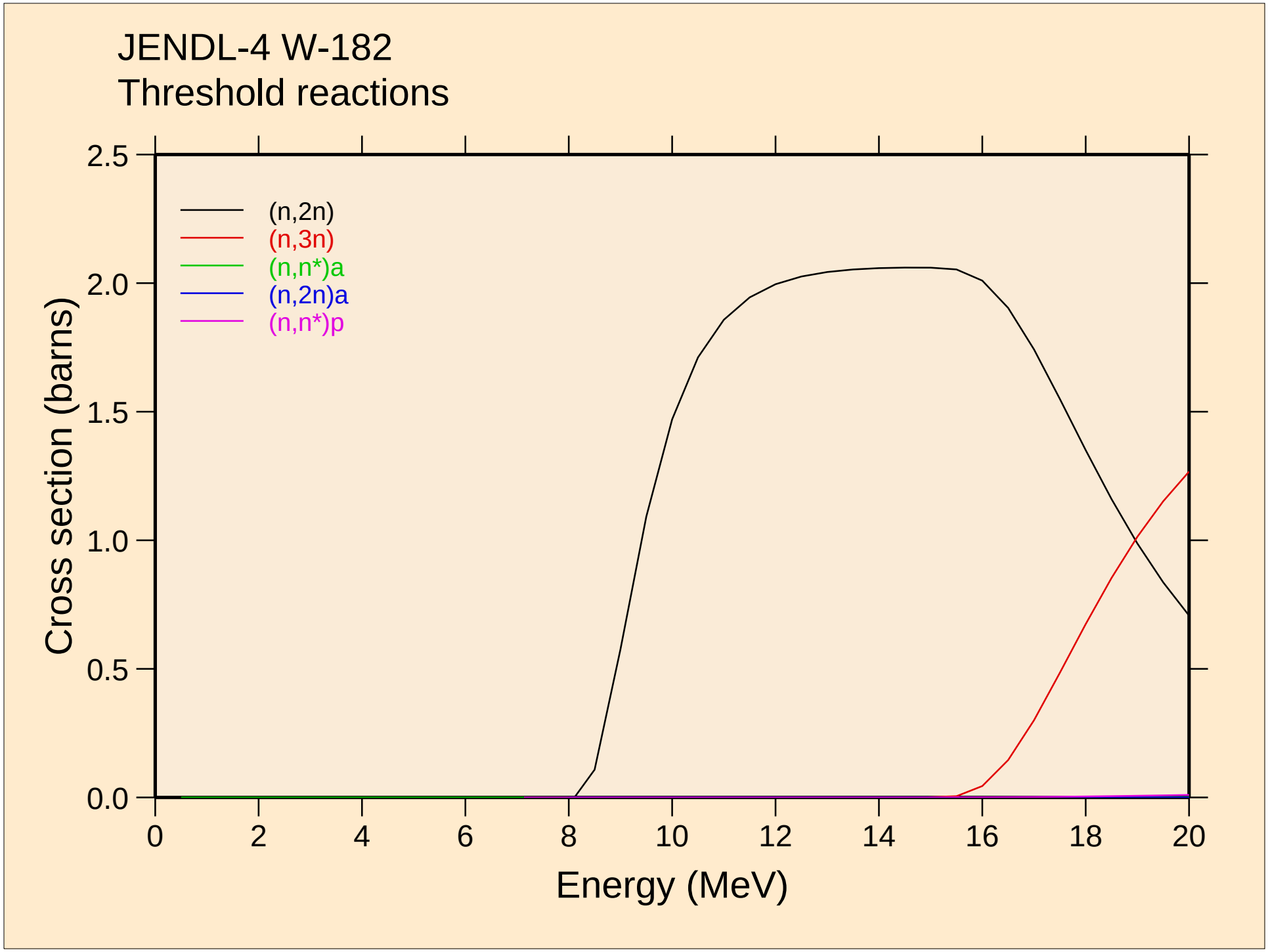

JENDL-4 W-182
Inelastic levels
*10-3
80
70
60
50
40
30
20
10
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

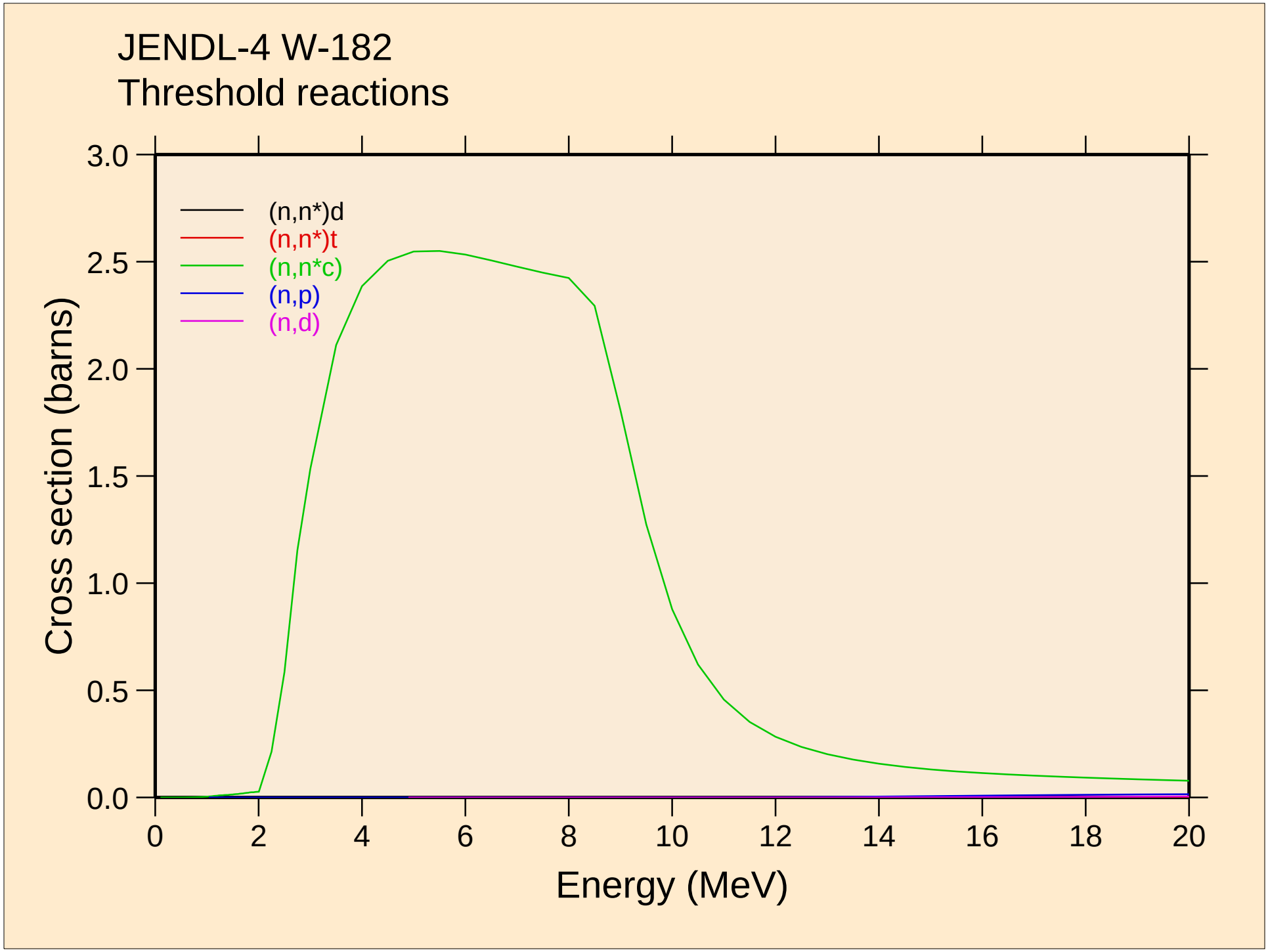

JENDL-4 W-182
Inelastic levels
*10-3
Cross section (barns)
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)
0
10
20
30
40
50
60
70
80
0
2
4
6
8
10
12
14
16
18
20

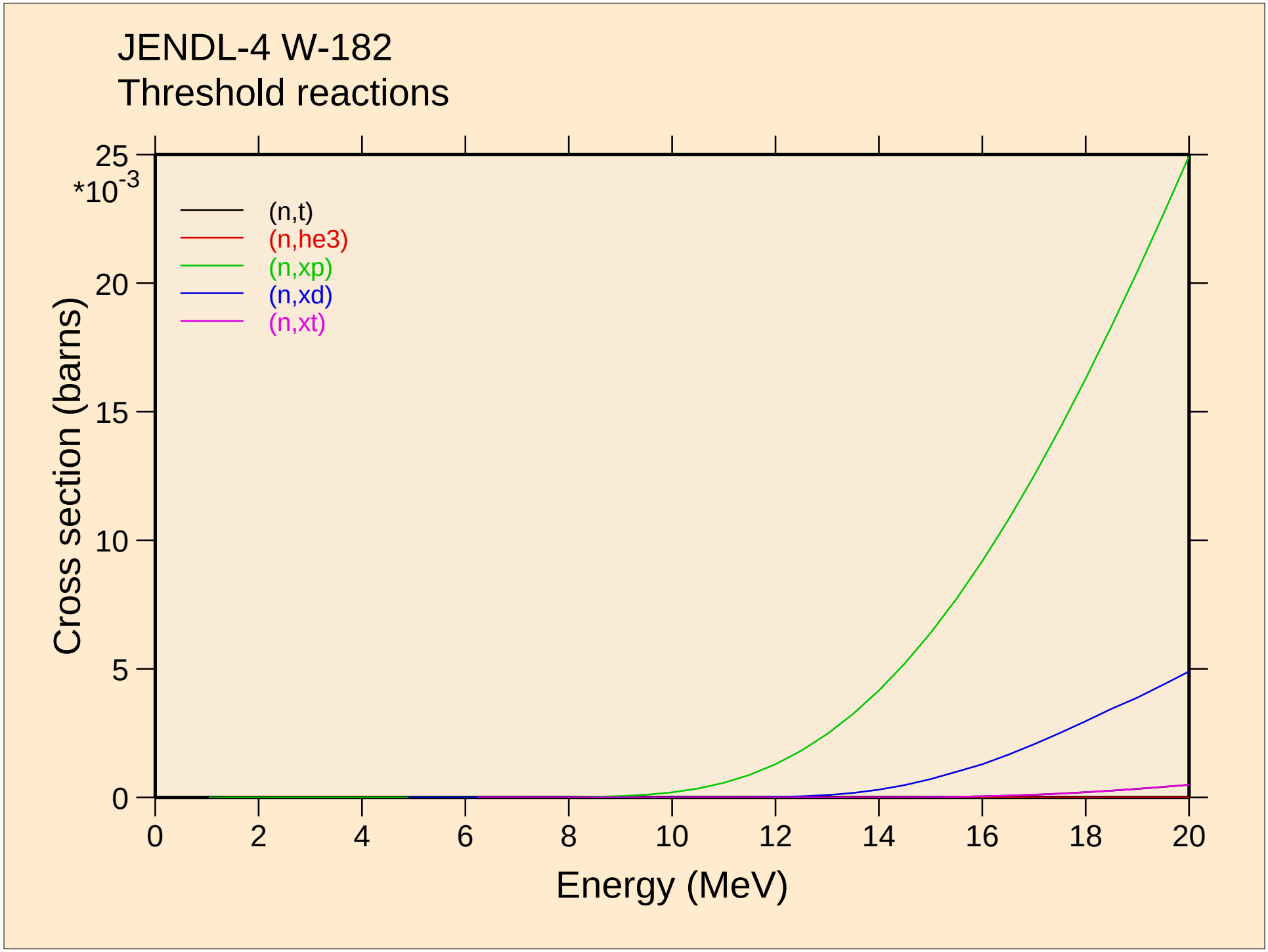

JENDL-4 W-182
Inelastic levels
100
*10-3
80
60
40
20
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*26)
(n,n*27)
(n,n*28)
(n,n*29)
(n,n*30)

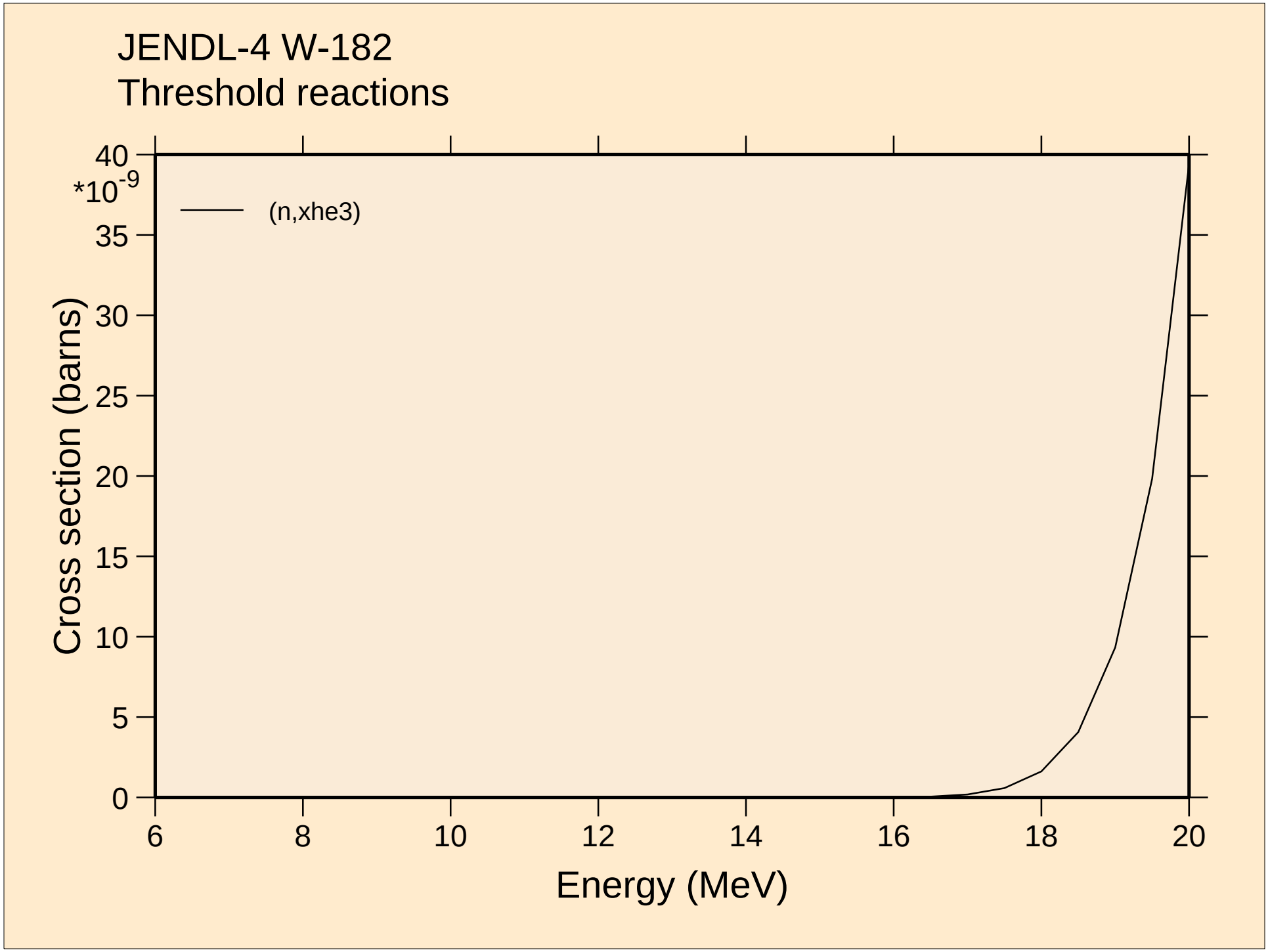

JENDL-4 W-182
Inelastic levels
Cross section (barns)
*10^-3
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*31)
(n,n*32)
(n,n*33)
(n,n*34)
(n,n*35)

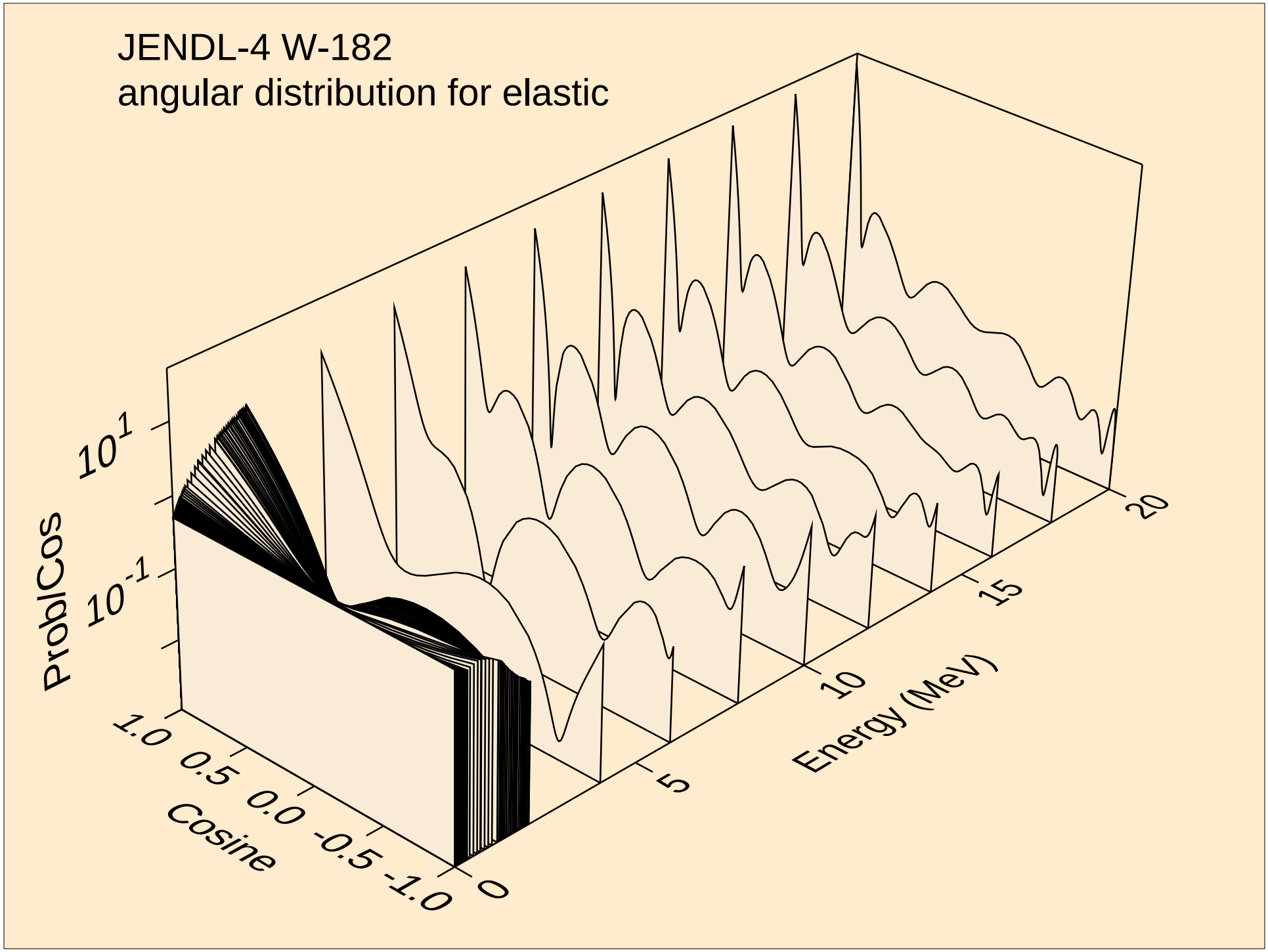

JENDL-4 W-182
Inelastic levels
*10^-3
25
20
15
10
5
0
Cross section (barns)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)
(n,n*36)
(n,n*37)
(n,n*38)
(n,n*39)
(n,n*40)

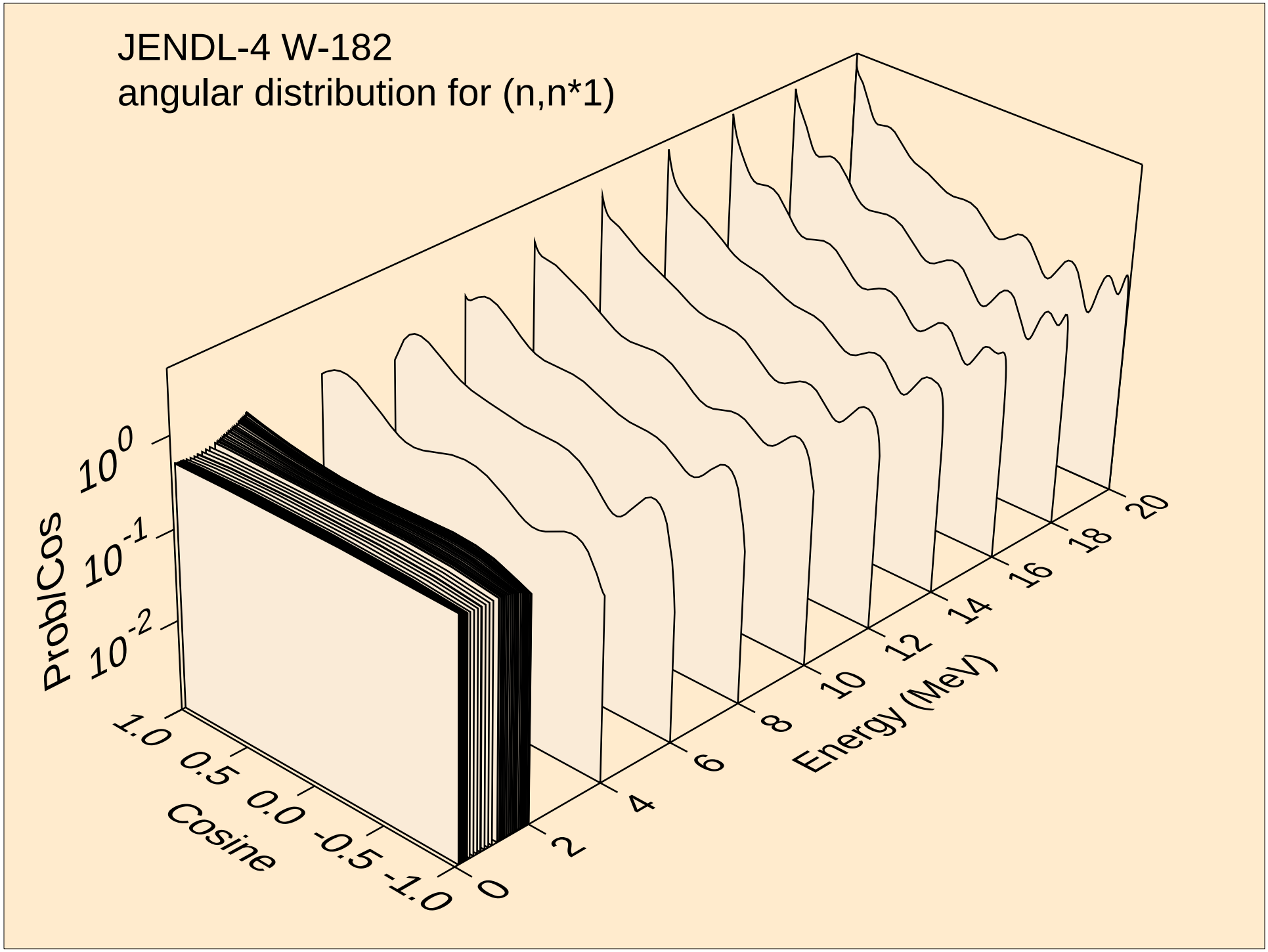

JENDL-4 W-182
Threshold reactions
(n,2n)
(n,3n)
(n,n*)a
(n,2n)a
(n,n*)p
Cross section (barns)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
0
2
4
6
8
10
12
14
16
18
20

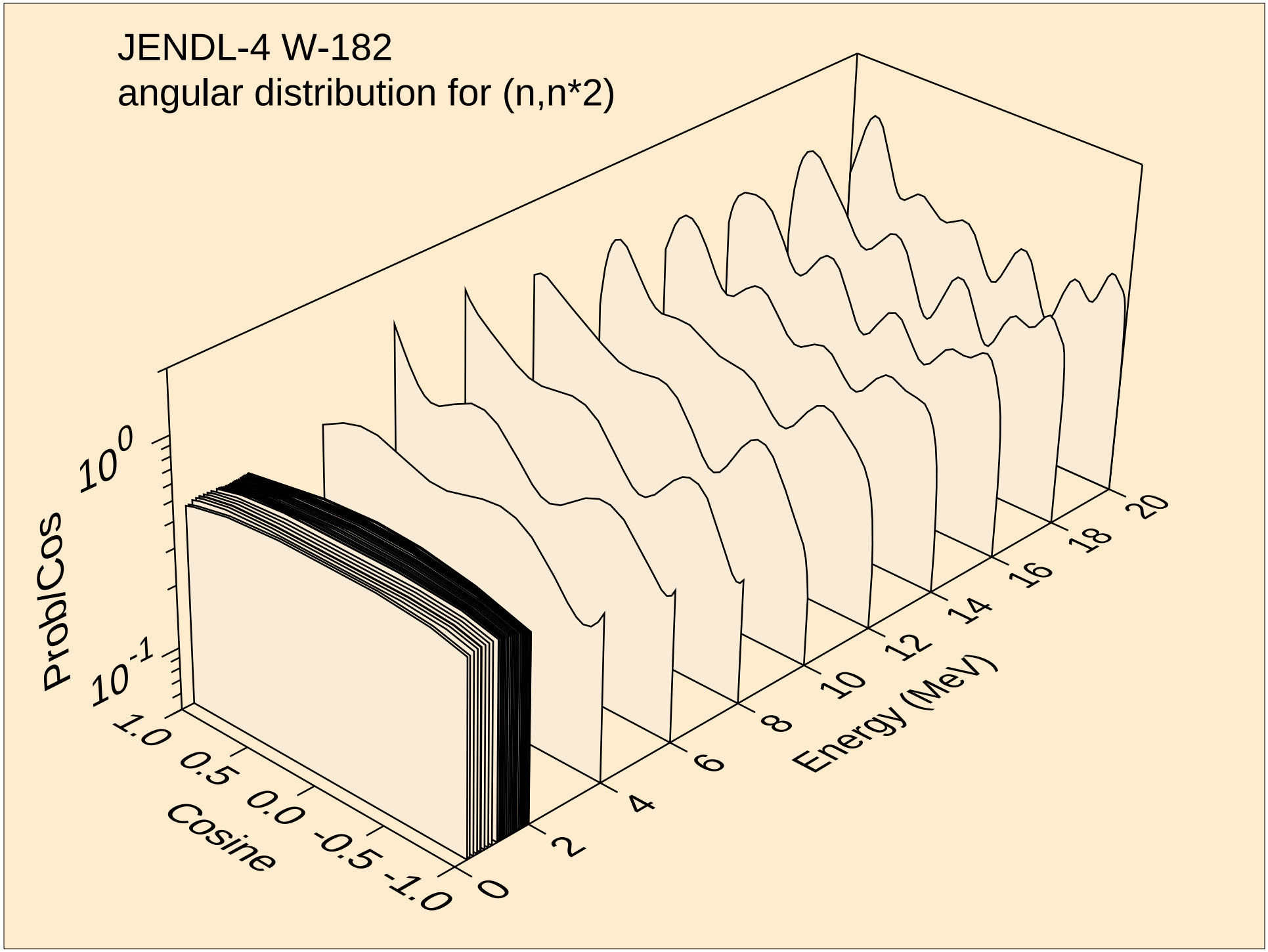

JENDL-4 W-182
Threshold reactions
(n,n*)d
(n,n*)t
(n,n*c)
(n,p)
(n,d)
Cross section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 W-182
Threshold reactions
*10^-3
25
20
15
10
5
0
Cross section (barns)
(n,t)
(n,he3)
(n,xp)
(n,xd)
(n,xt)
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 W-182
Threshold reactions
(n,xhe3)
*10-9
Cross section (barns)
Energy (MeV)
0
5
10
15
20
25
30
35
40
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for elastic
ProblCos
$10^{1}$
$10^{-1}$
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)


JENDL-4 W-182
angular distribution for (n,n*1)
ProbCos
$10^{0}$
$10^{-1}$
$10^{-2}$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*2)
ProbCos
$10^0$
$10^{-1}$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
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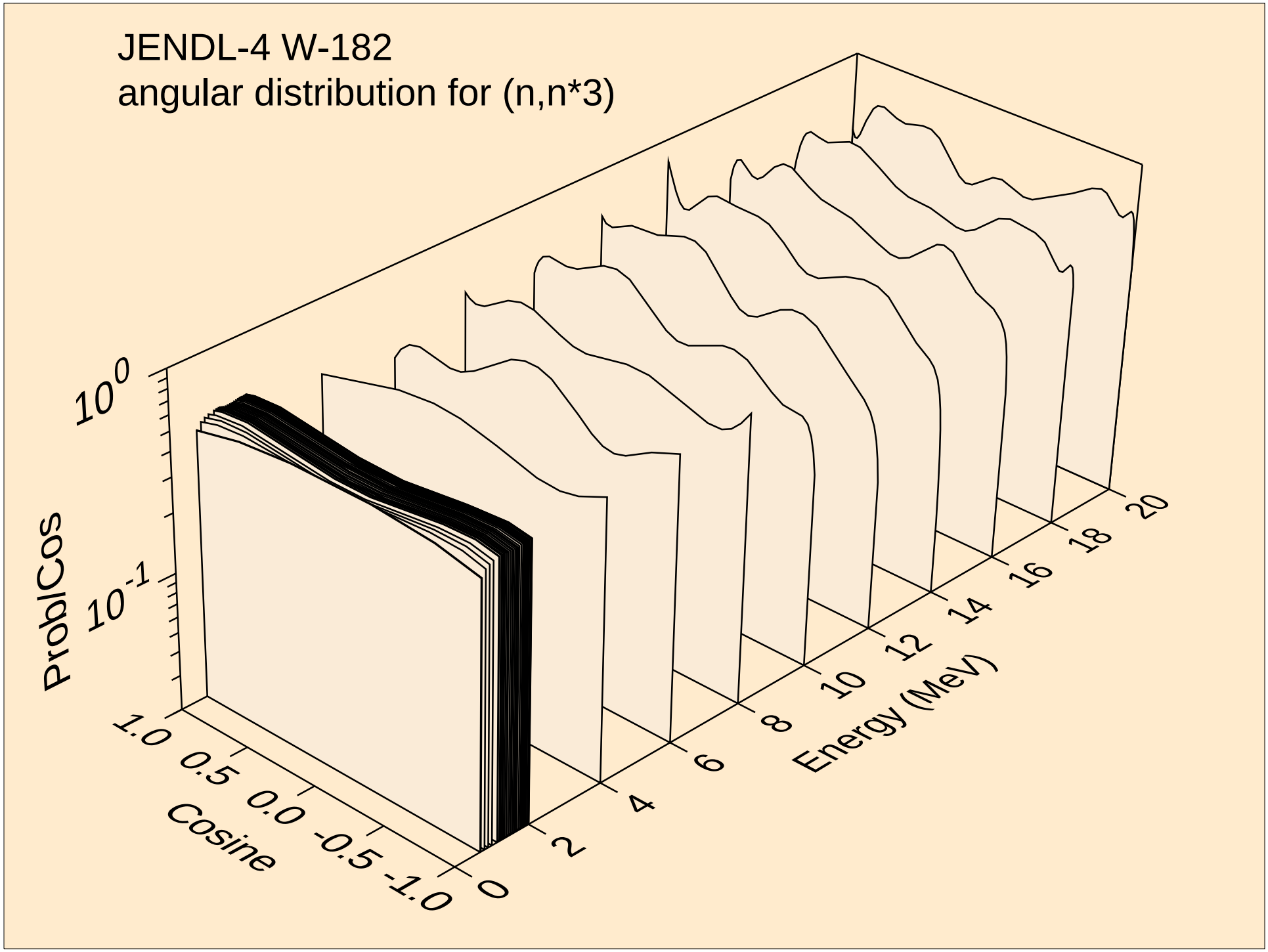
JENDL-4 W-182
angular distribution for (n,n*3)
ProbCos
$10^0$
$10^{-1}$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
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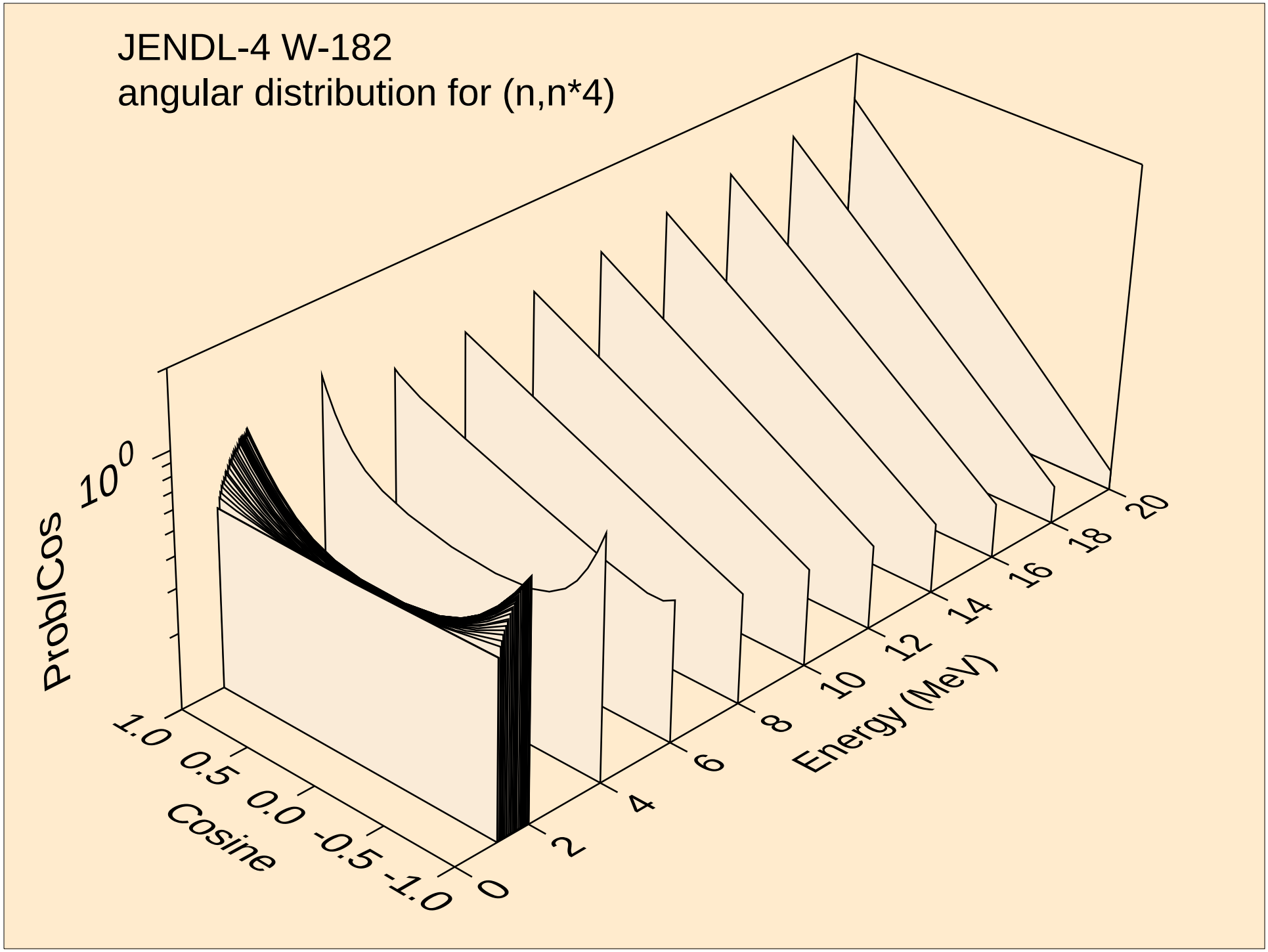
JENDL-4 W-182
angular distribution for (n,n*4)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
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14
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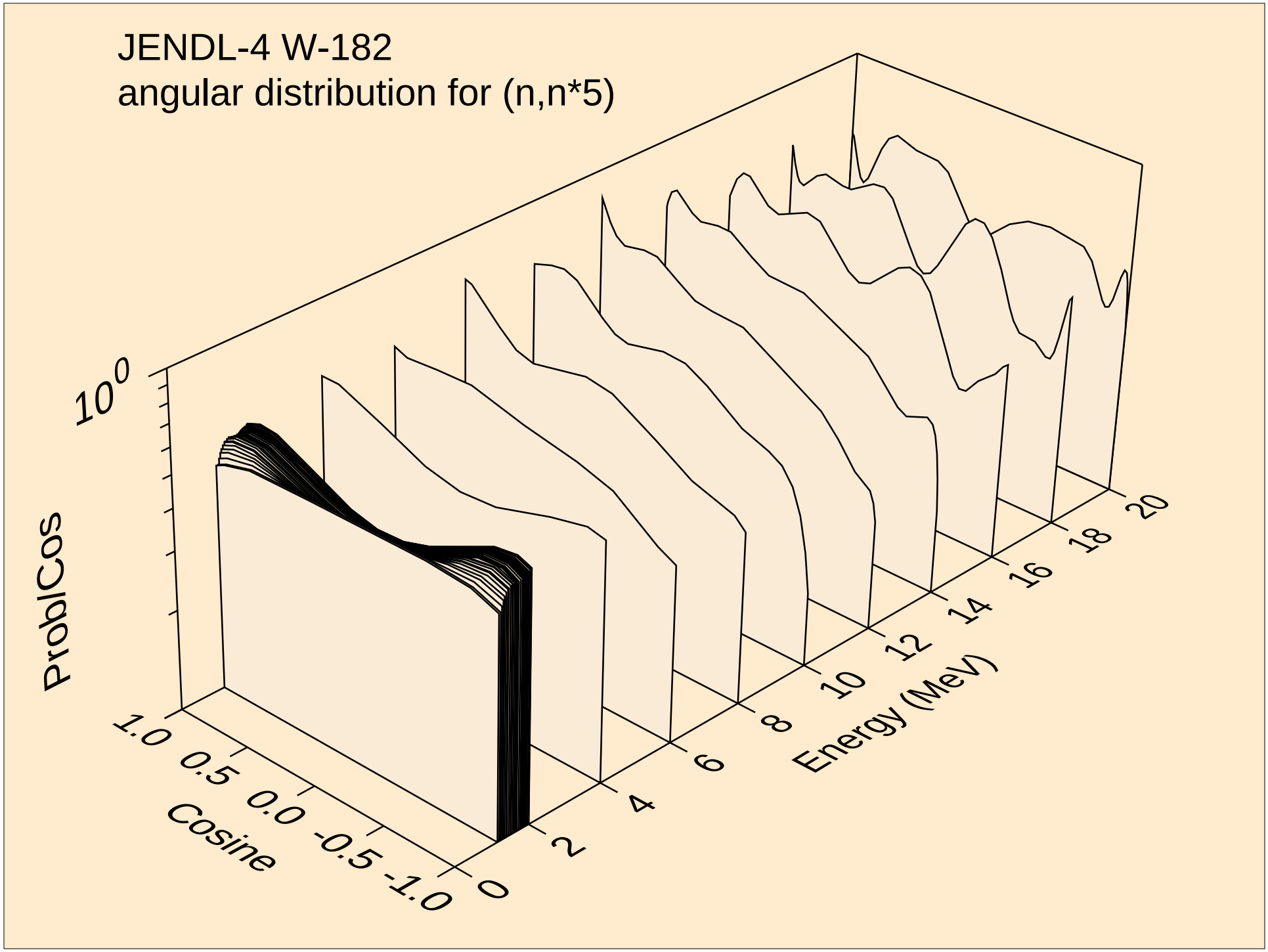
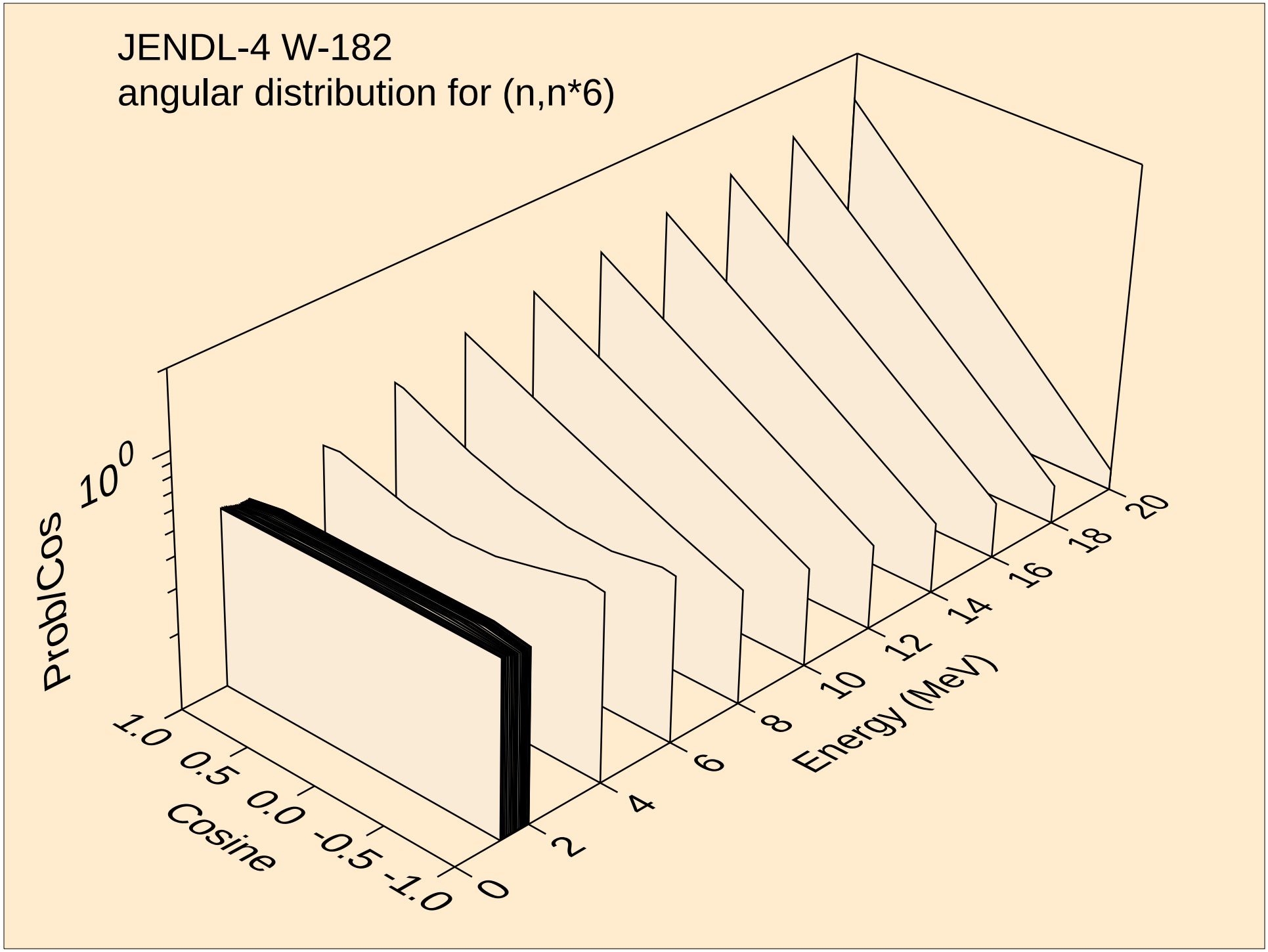

JENDL-4 W-182
angular distribution for (n,n*5)
$10^0$
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 W-182
angular distribution for (n,n*6)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
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14
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18
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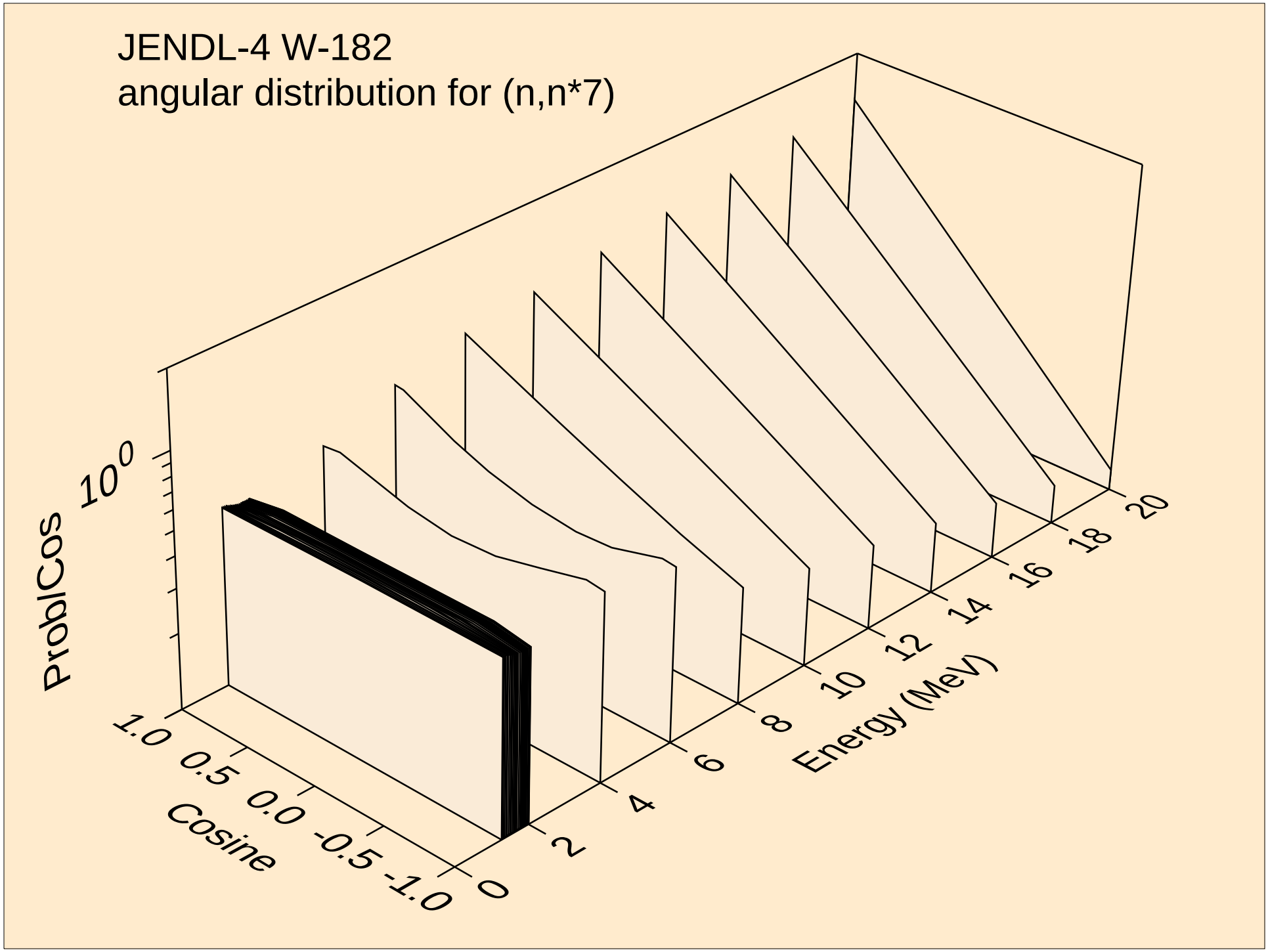
JENDL-4 W-182
angular distribution for (n,n*7)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
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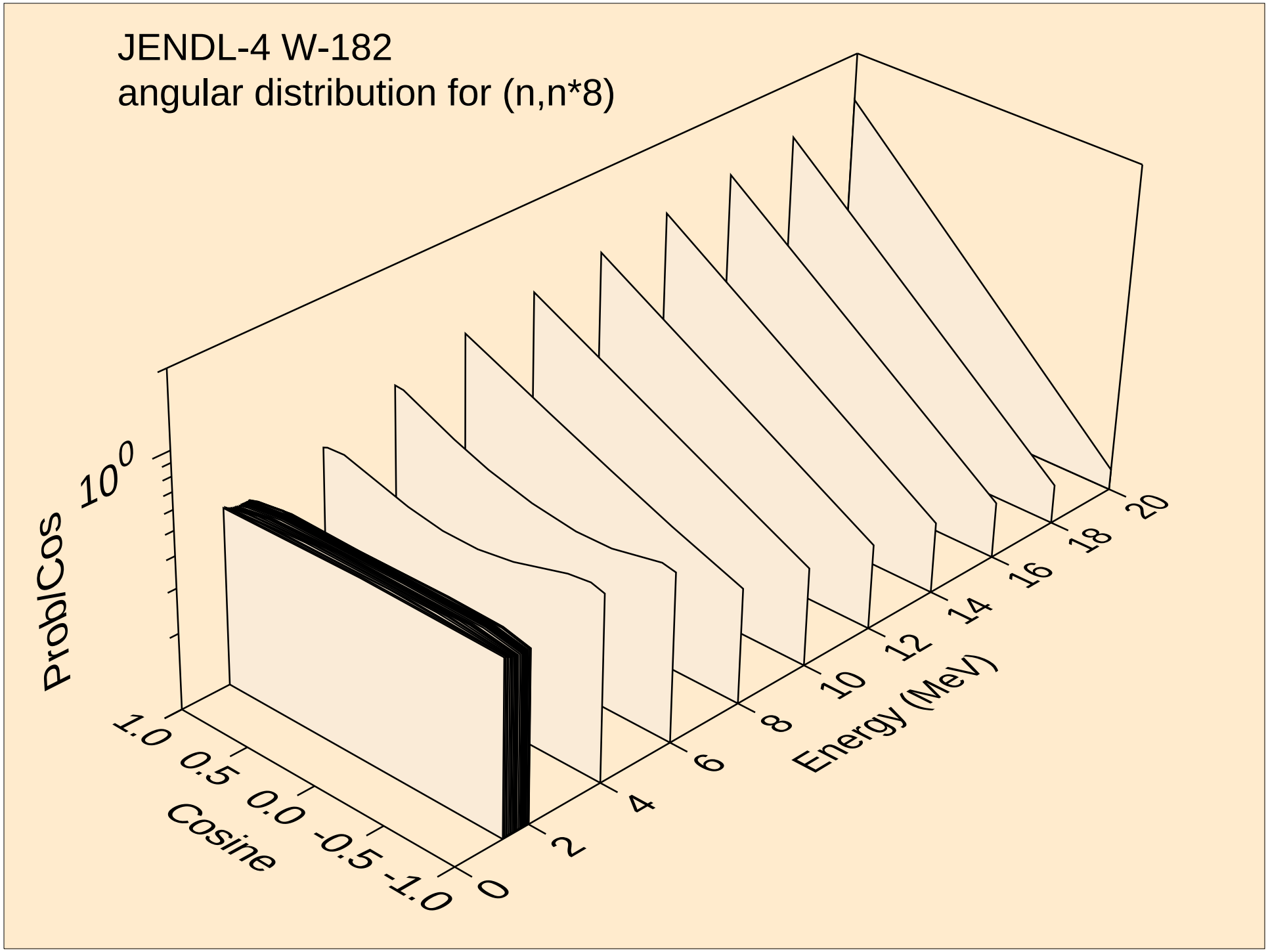
JENDL-4 W-182
angular distribution for (n,n*8)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
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14
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18
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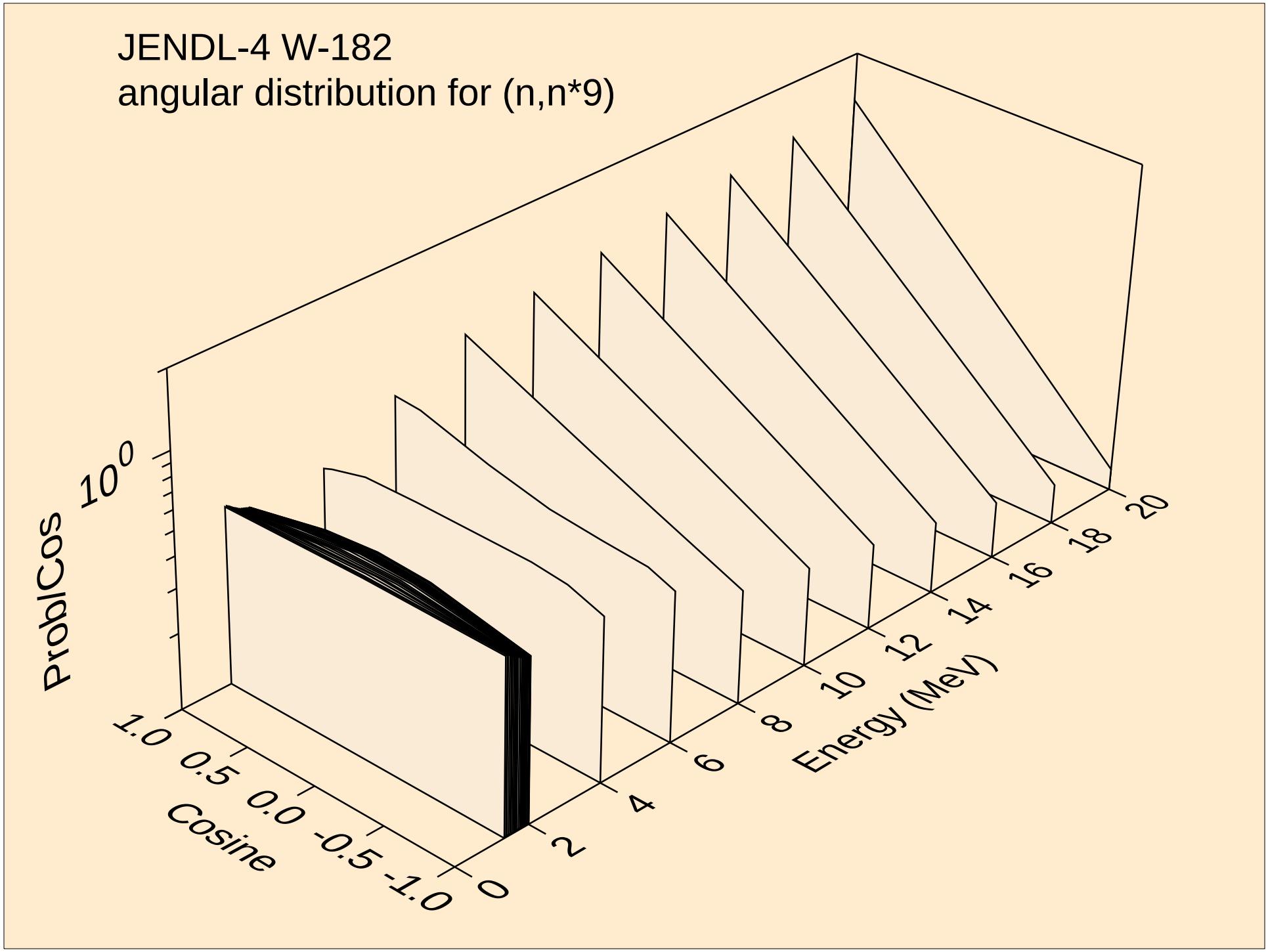
JENDL-4 W-182
angular distribution for (n,n*9)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
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14
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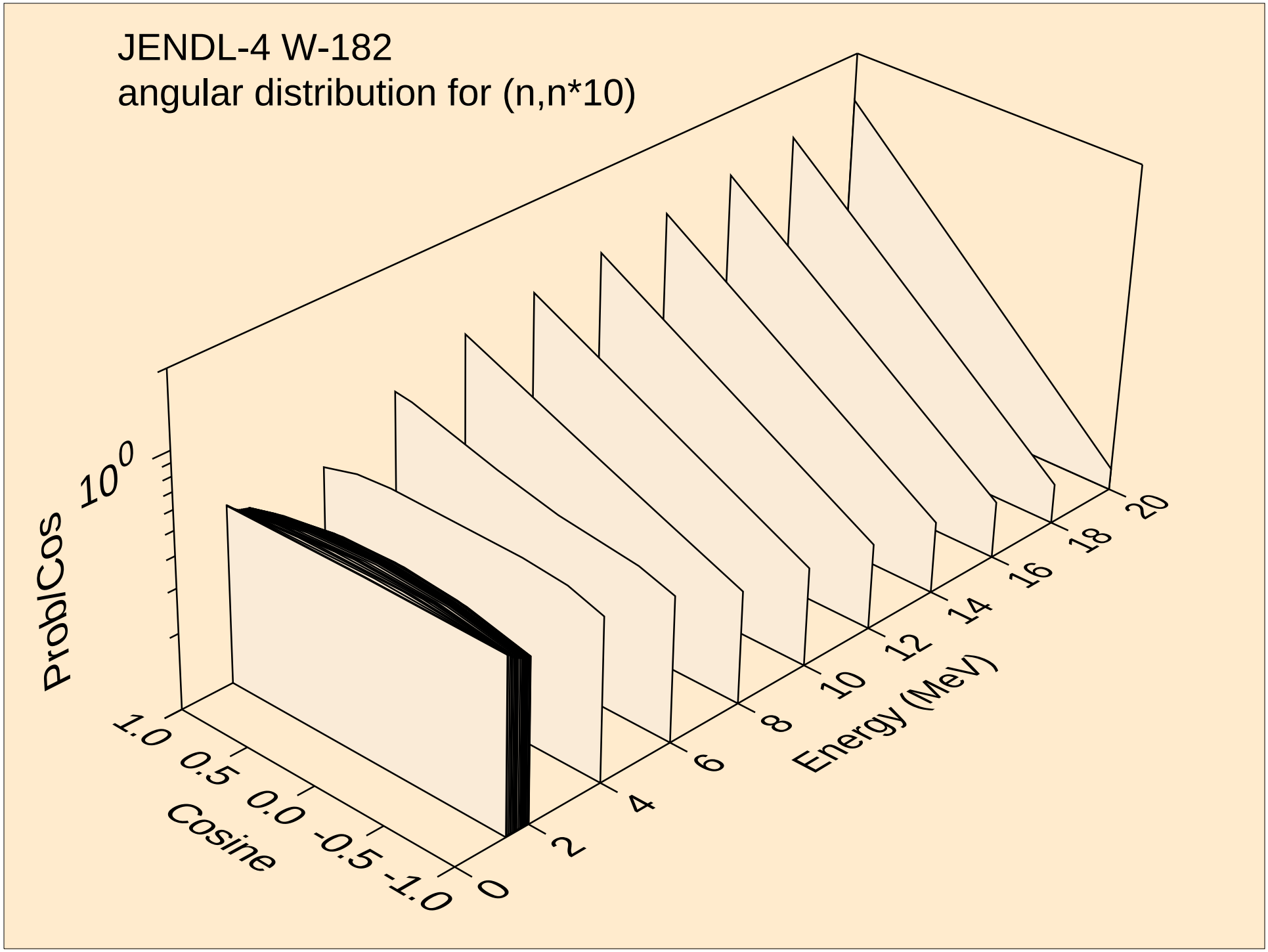
JENDL-4 W-182
angular distribution for (n,n*10)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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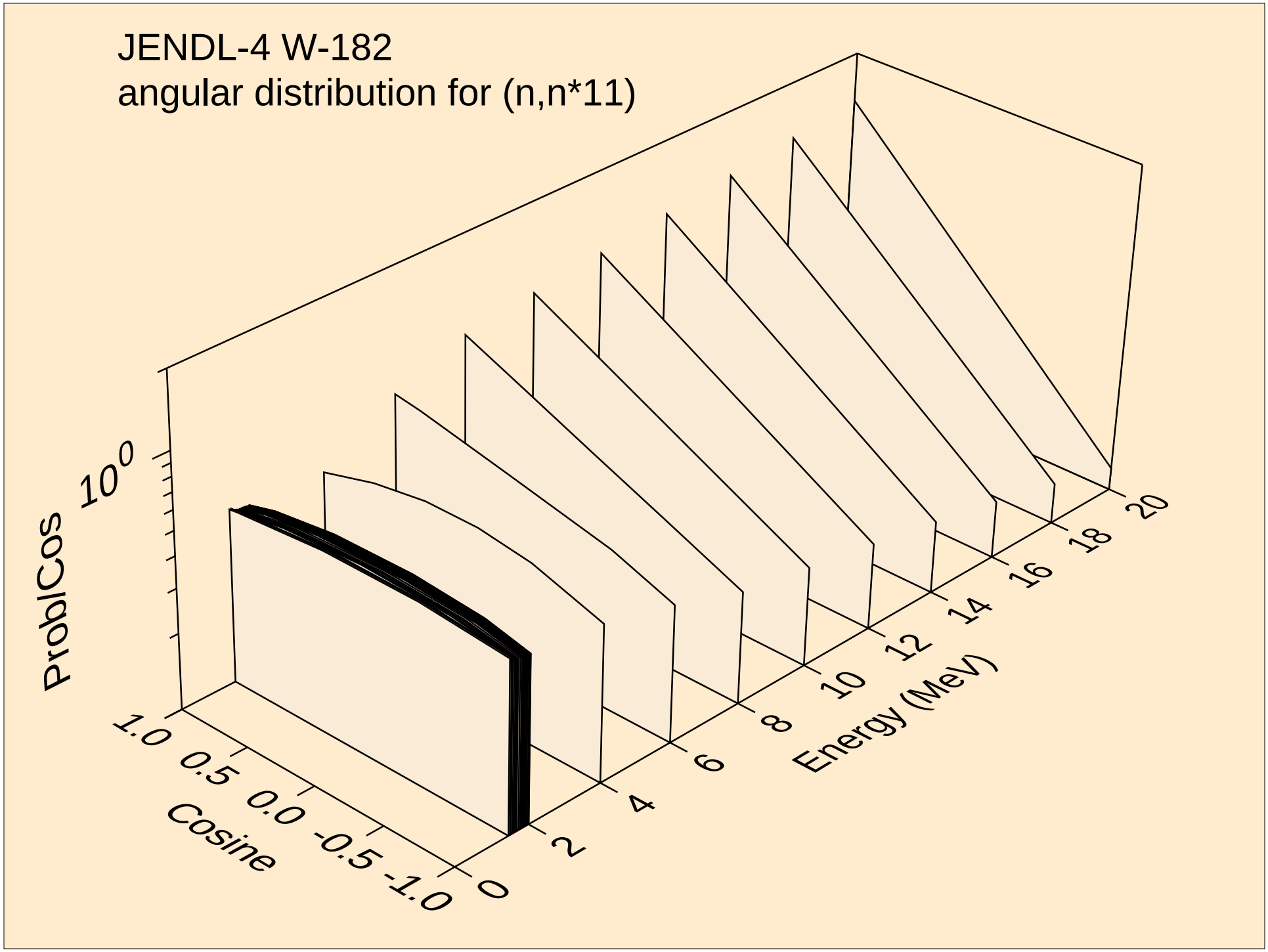
JENDL-4 W-182
angular distribution for (n,n*11)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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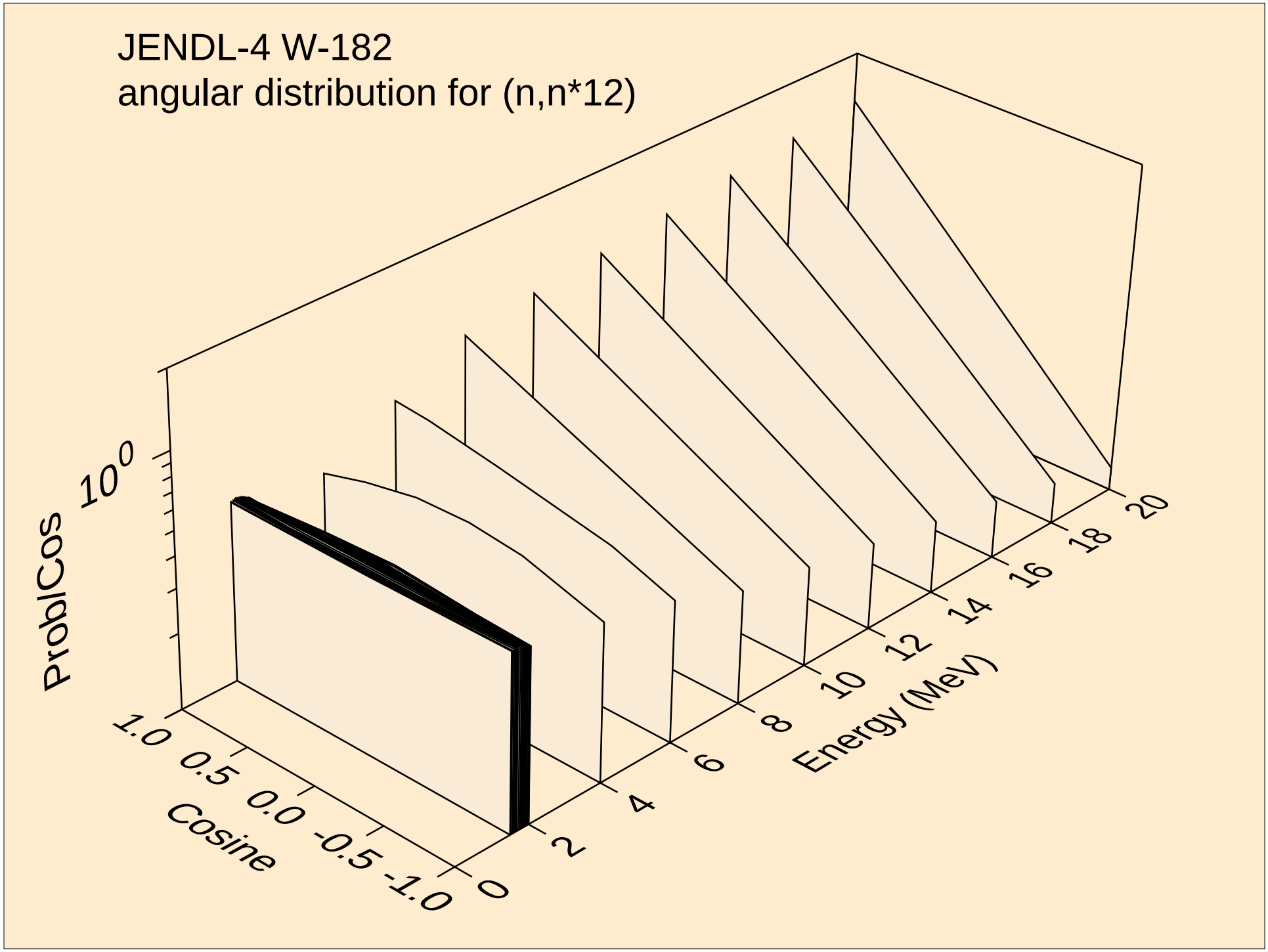
JENDL-4 W-182
angular distribution for (n,n*12)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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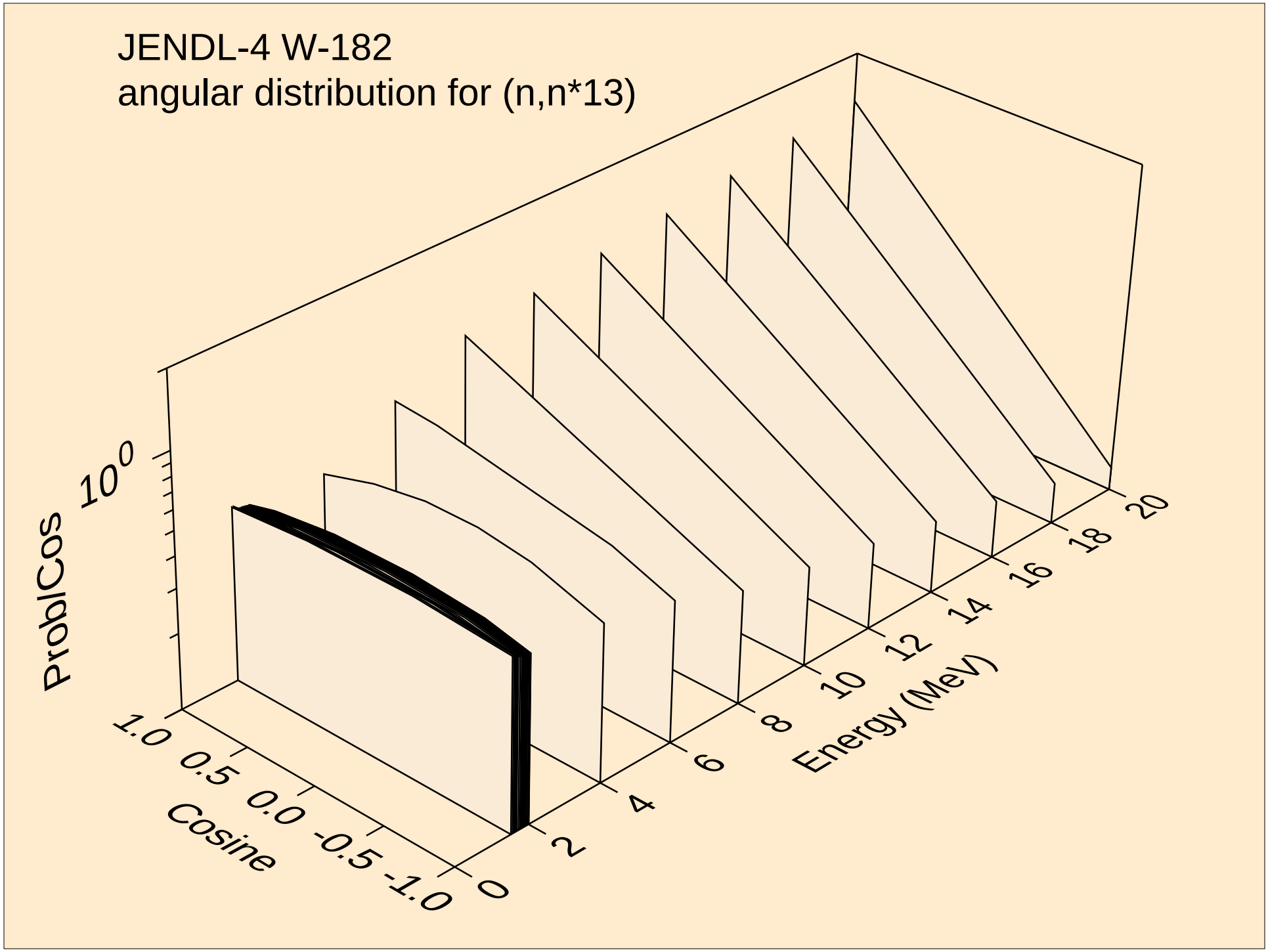
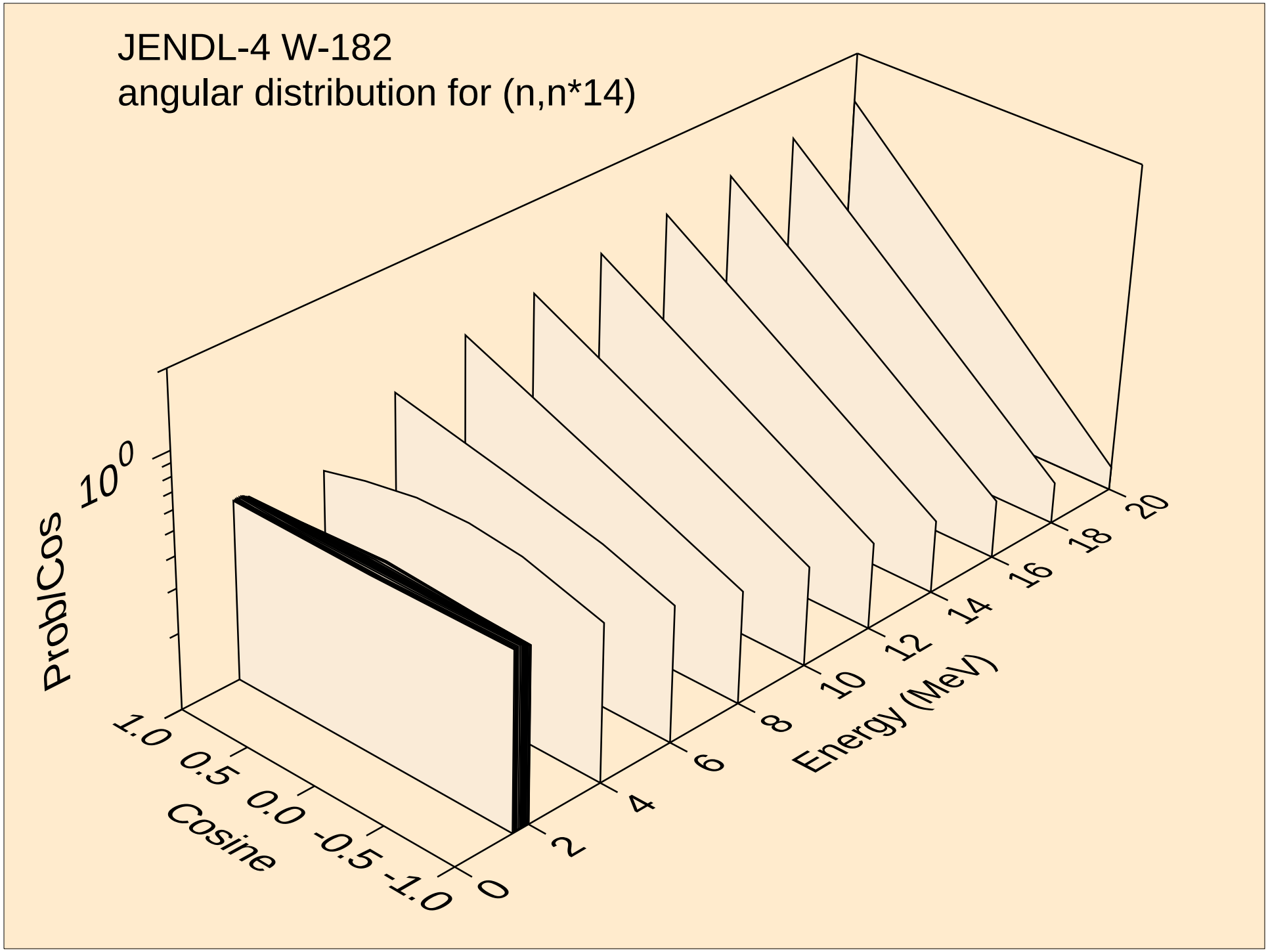
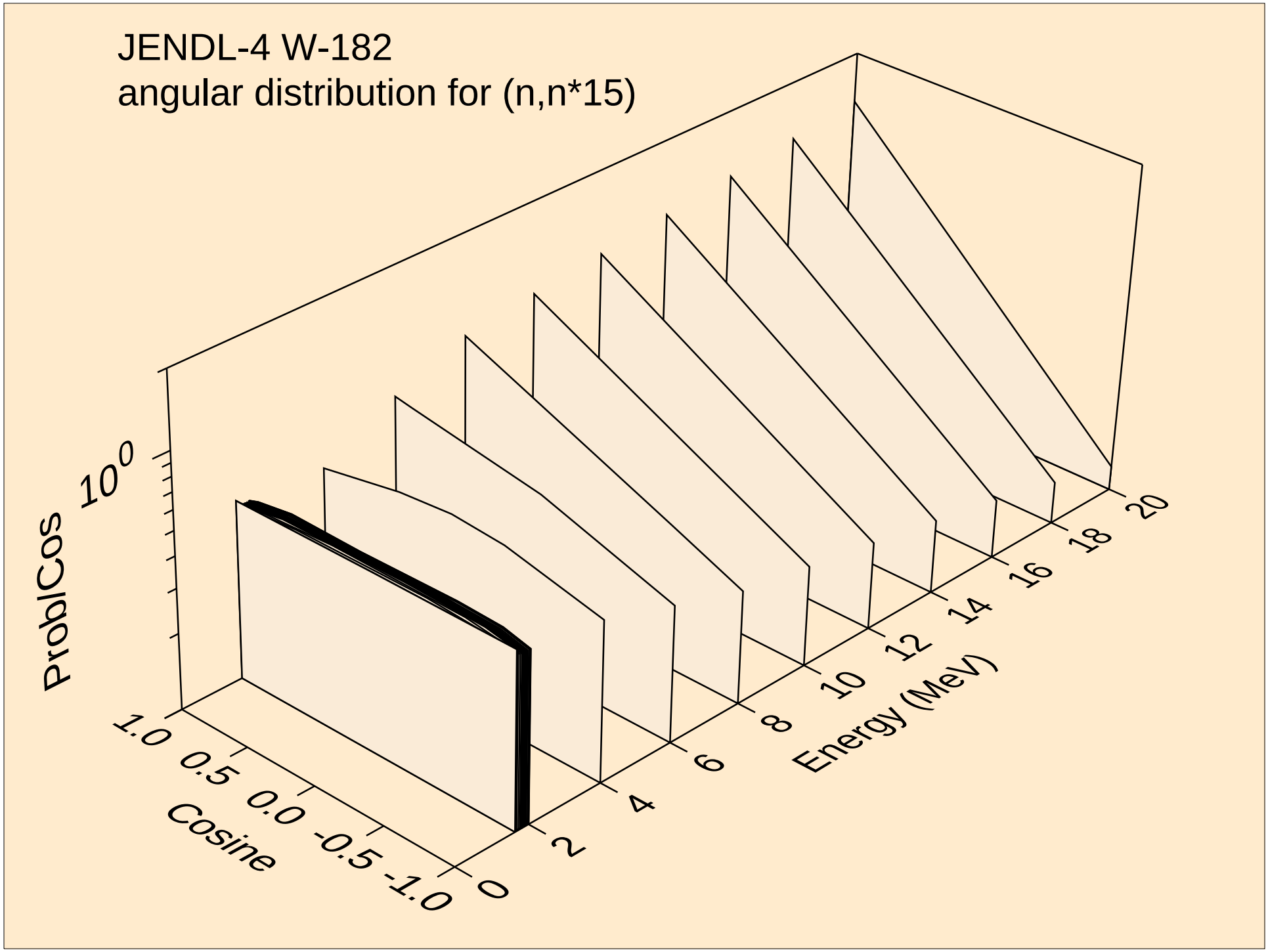
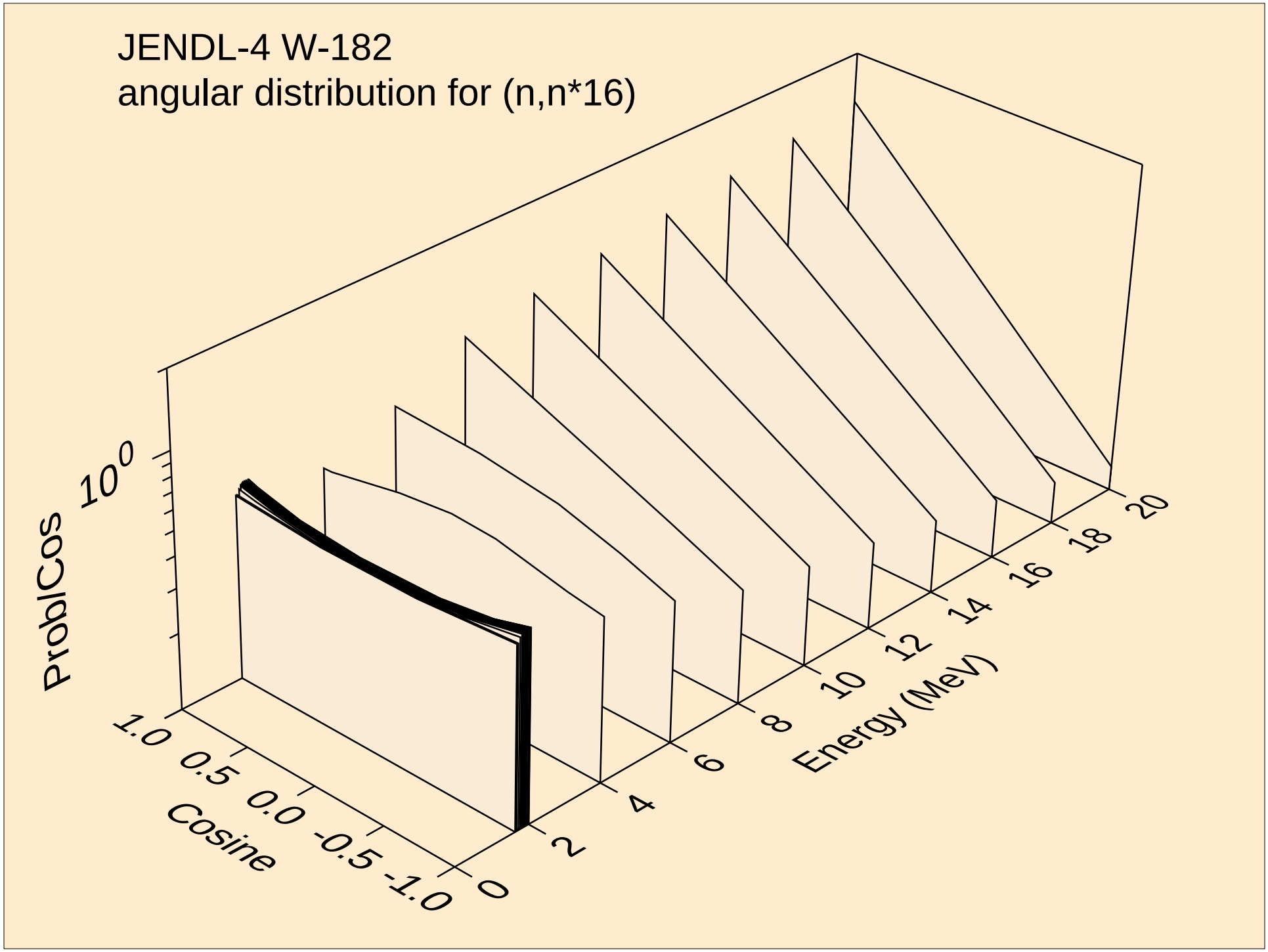
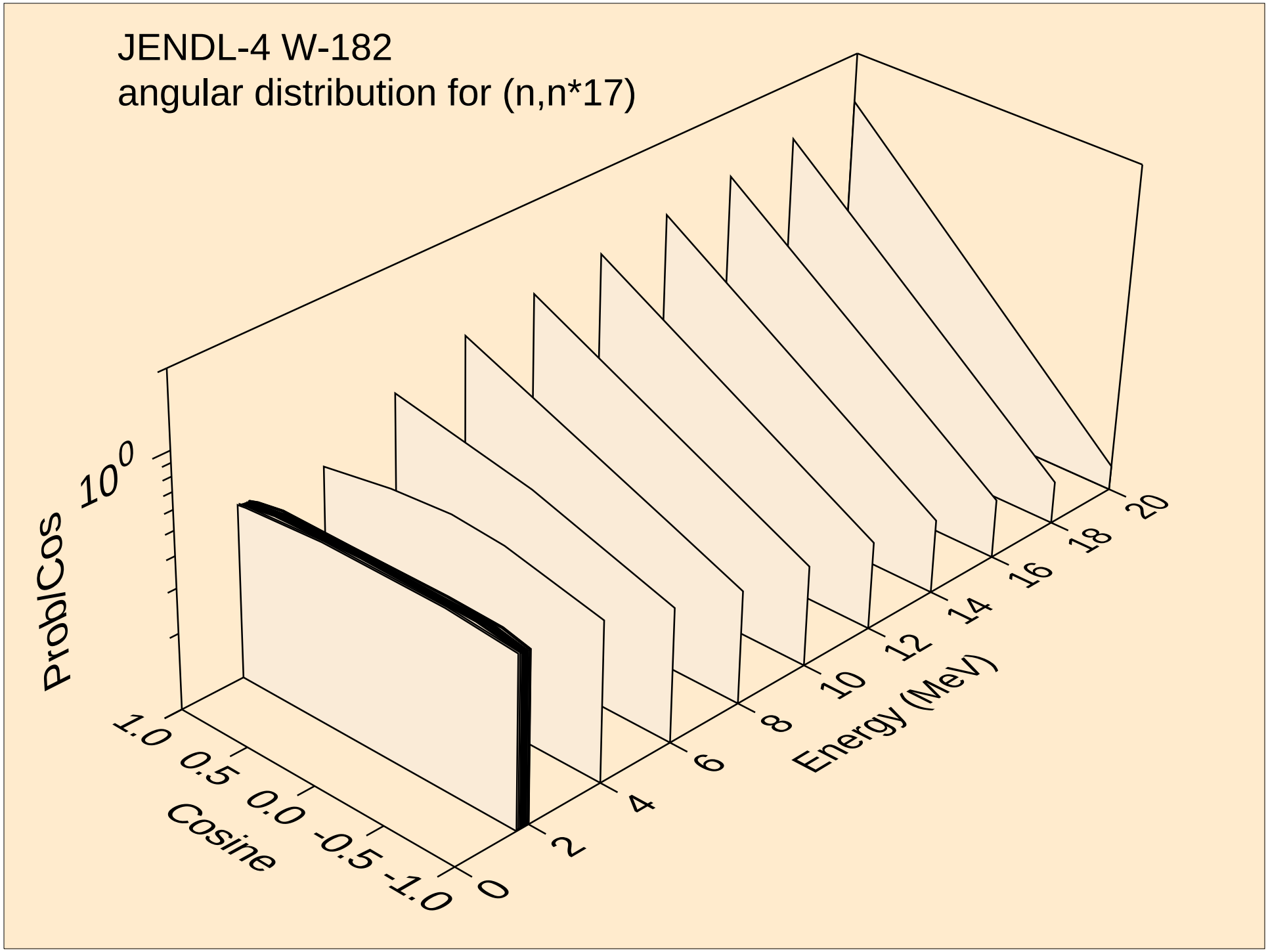

JENDL-4 W-182
angular distribution for (n,n*13)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*14)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*15)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*16)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*17)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
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18
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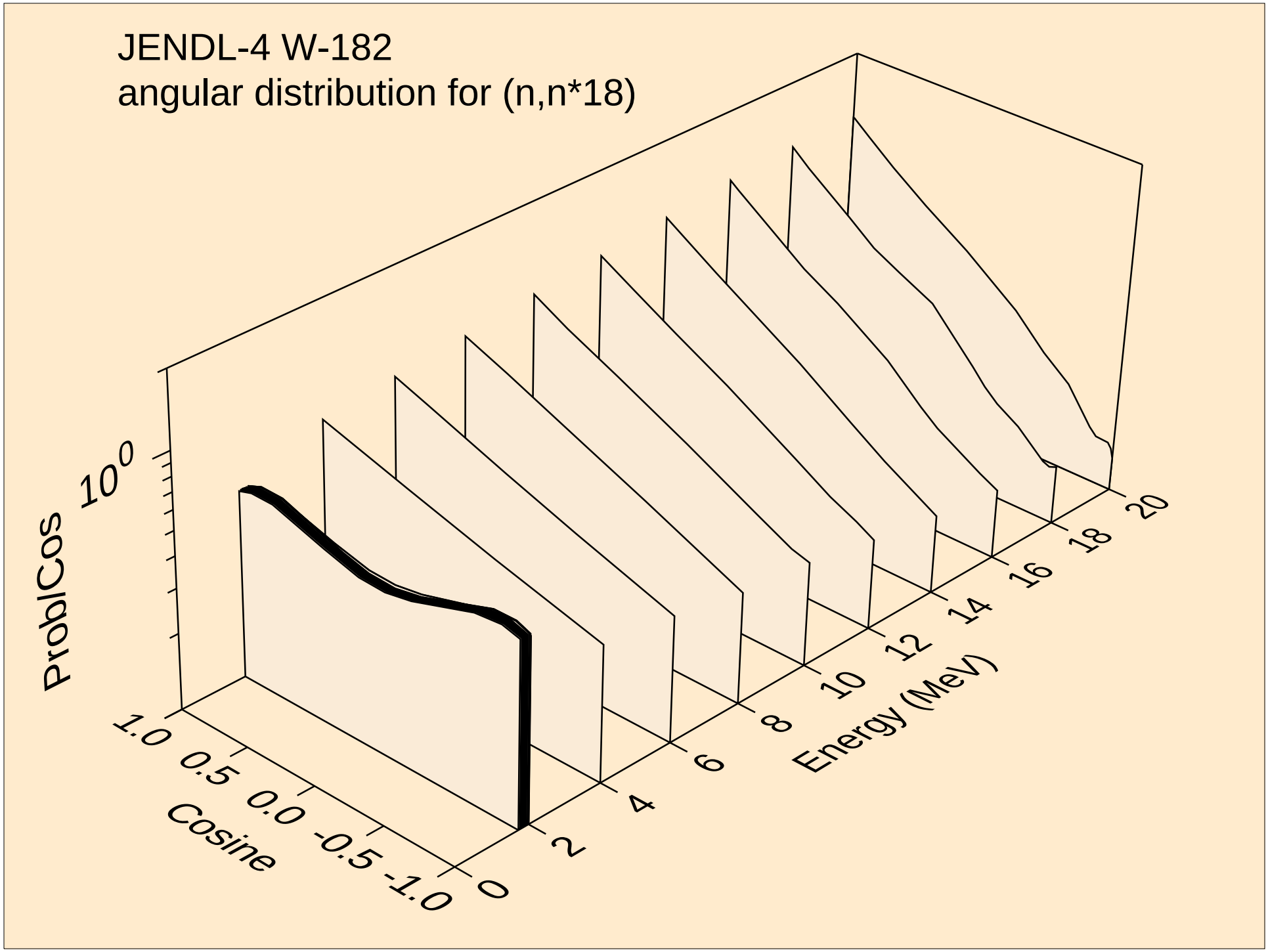
JENDL-4 W-182
angular distribution for (n,n*18)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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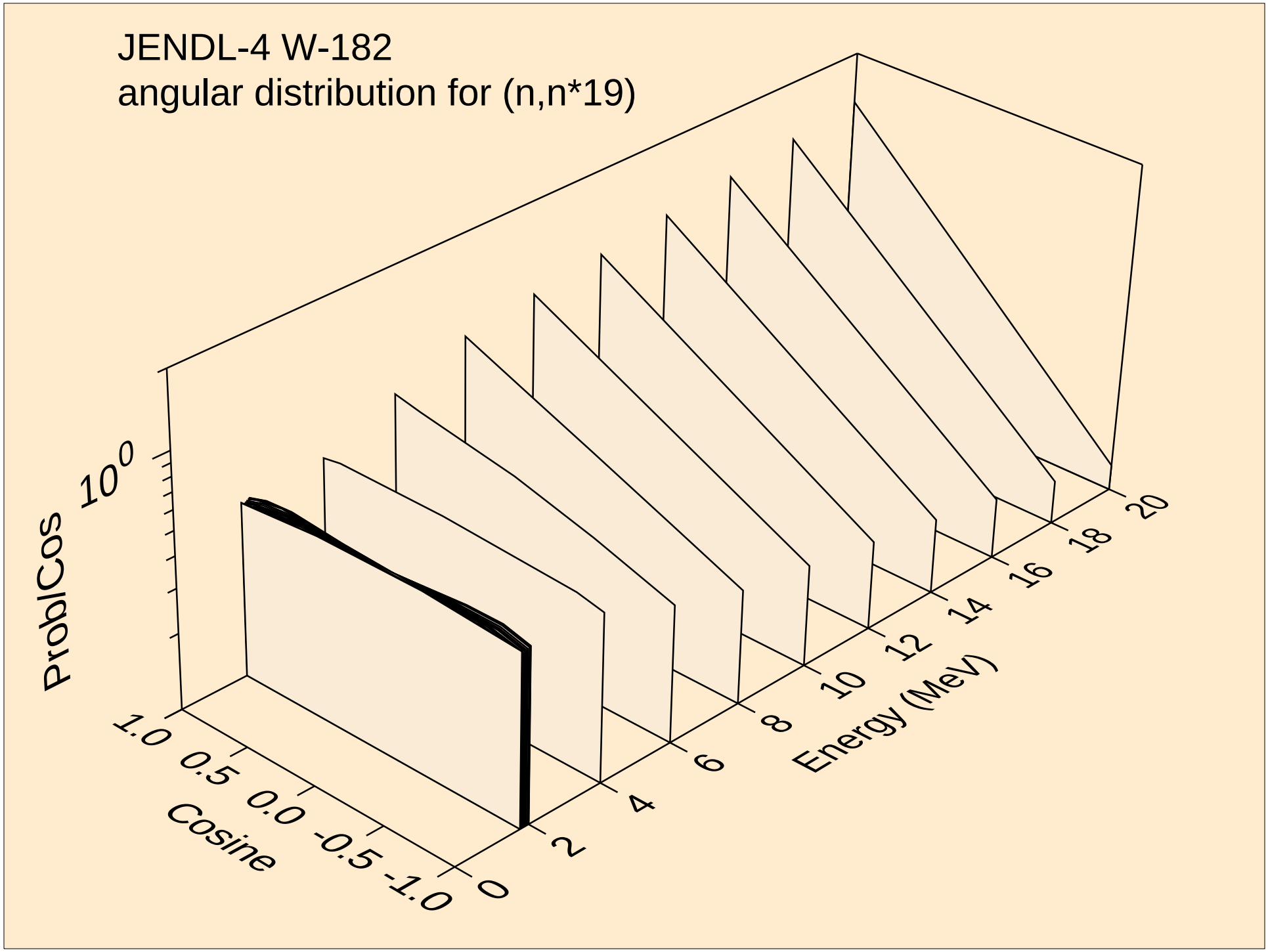
JENDL-4 W-182
angular distribution for (n,n*19)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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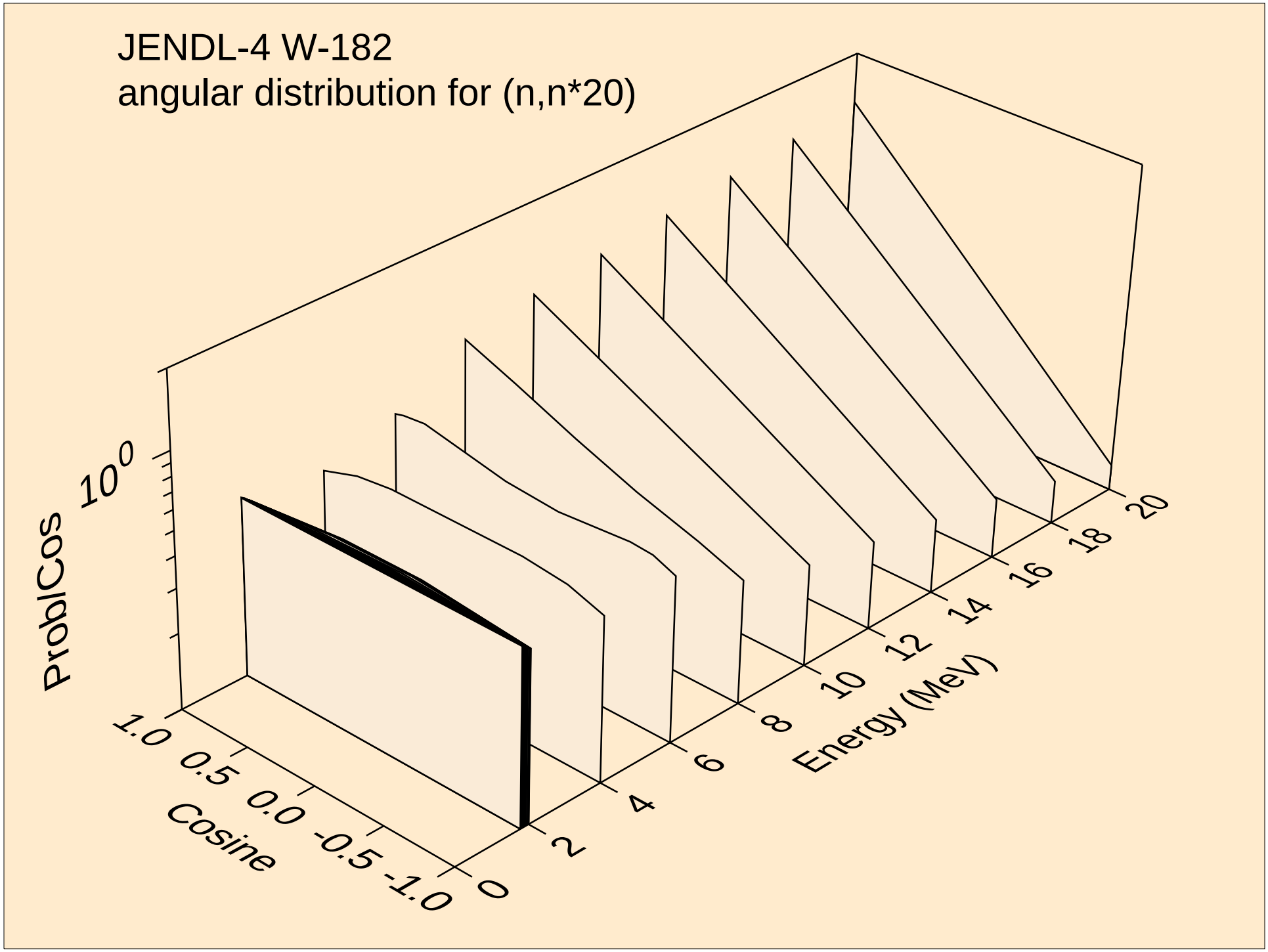
JENDL-4 W-182
angular distribution for (n,n*20)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
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14
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18
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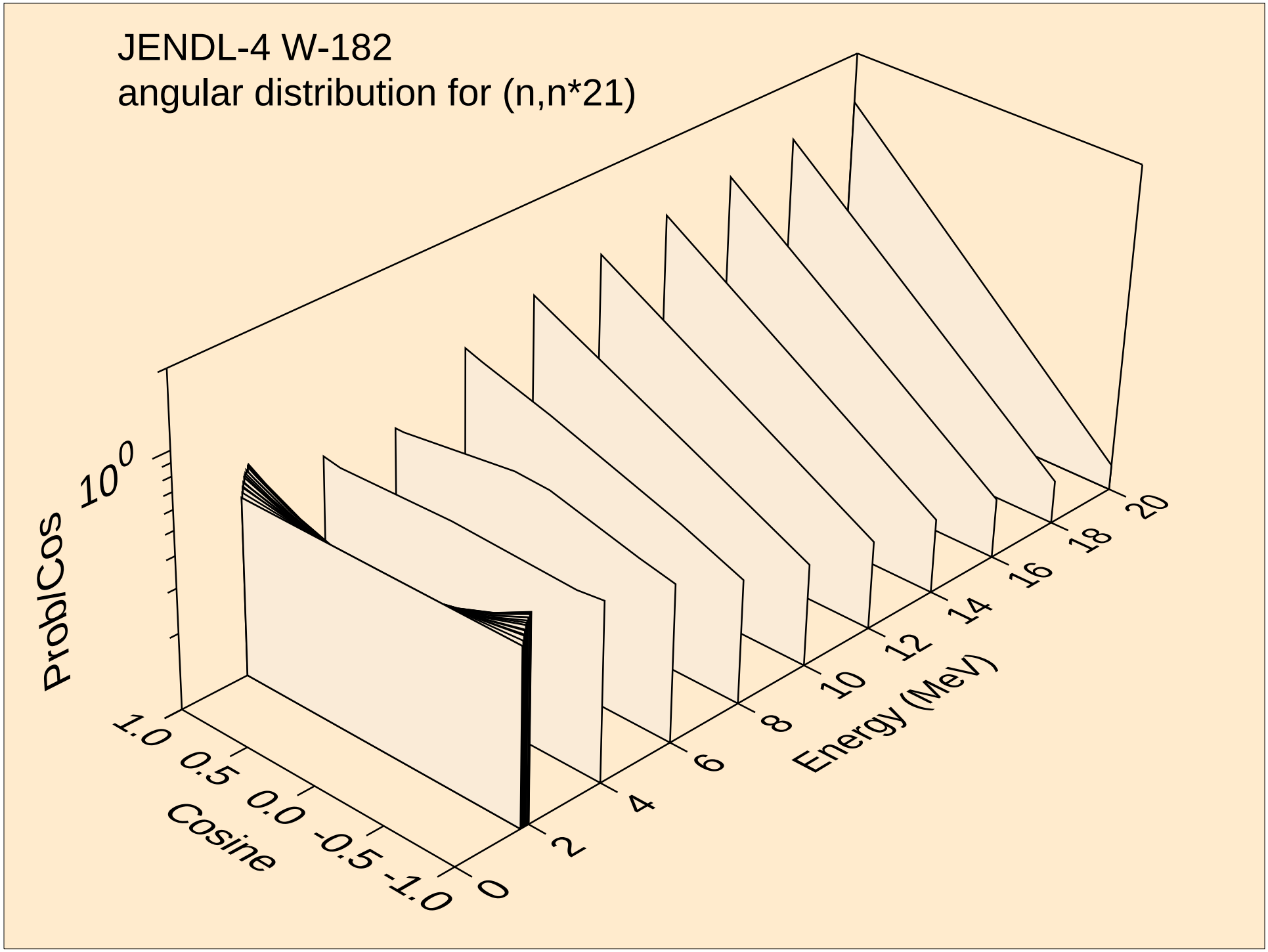
JENDL-4 W-182
angular distribution for (n,n*21)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
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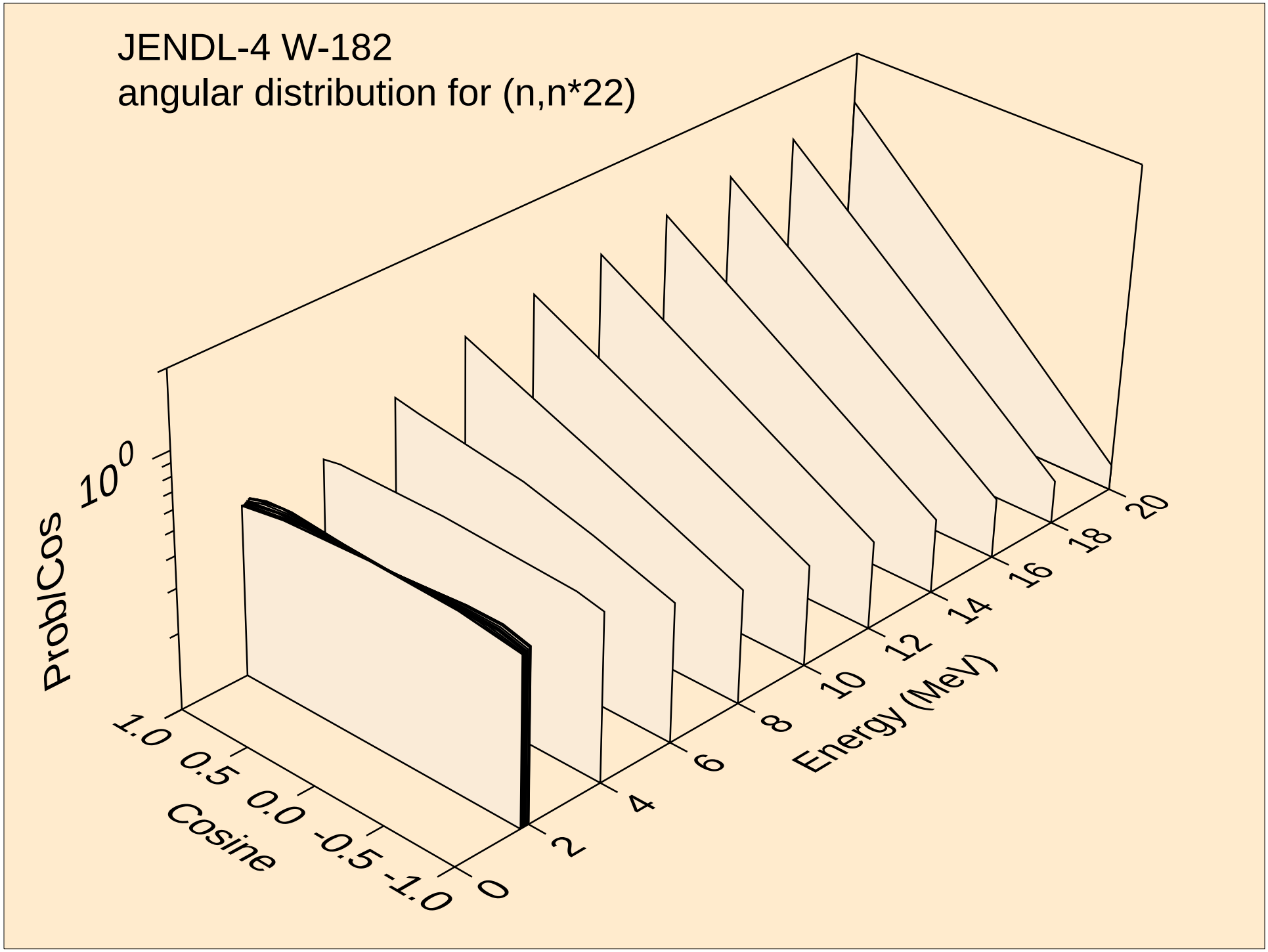
JENDL-4 W-182
angular distribution for (n,n*22)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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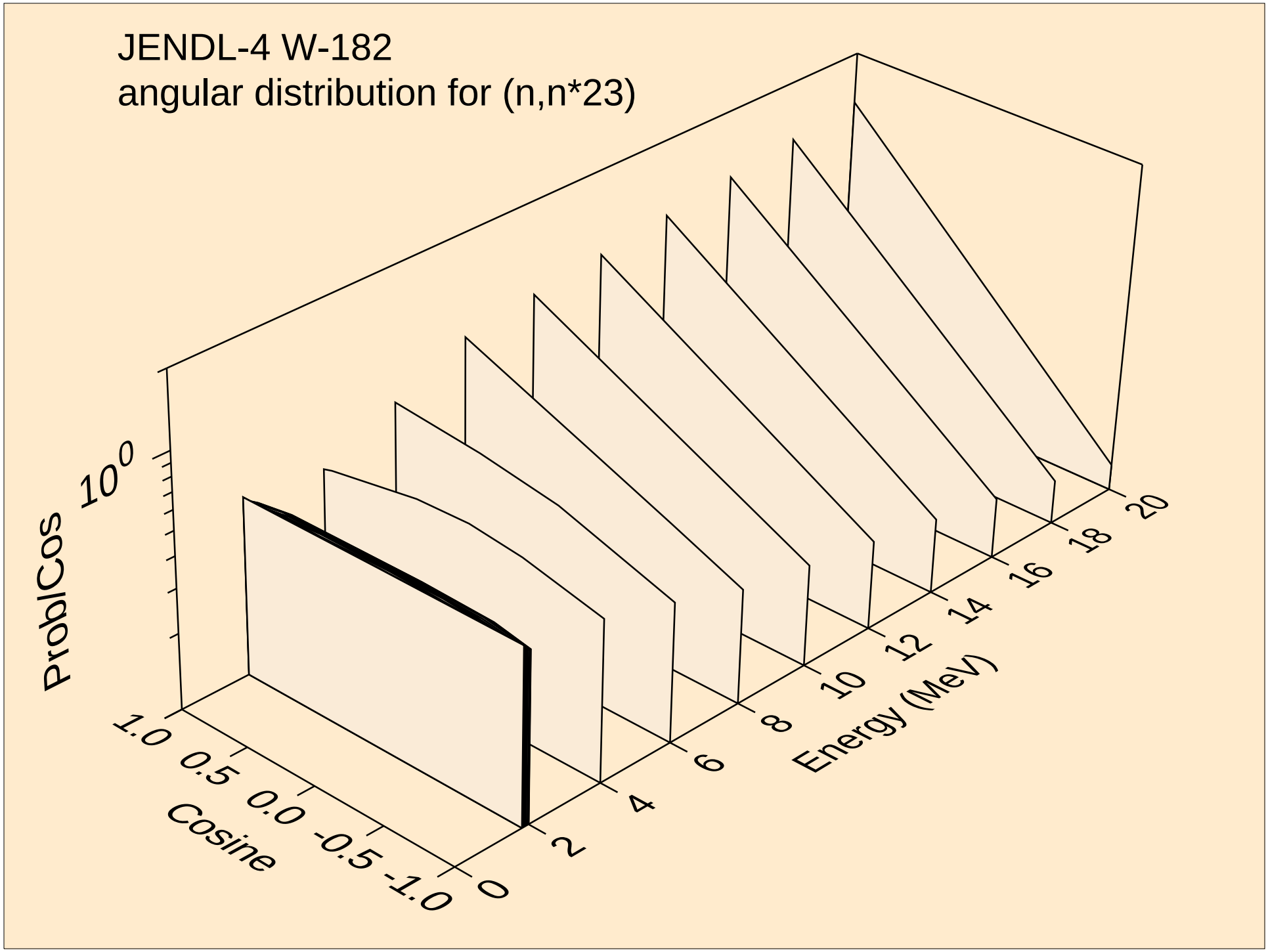
JENDL-4 W-182
angular distribution for (n,n*23)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
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6
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10
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14
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18
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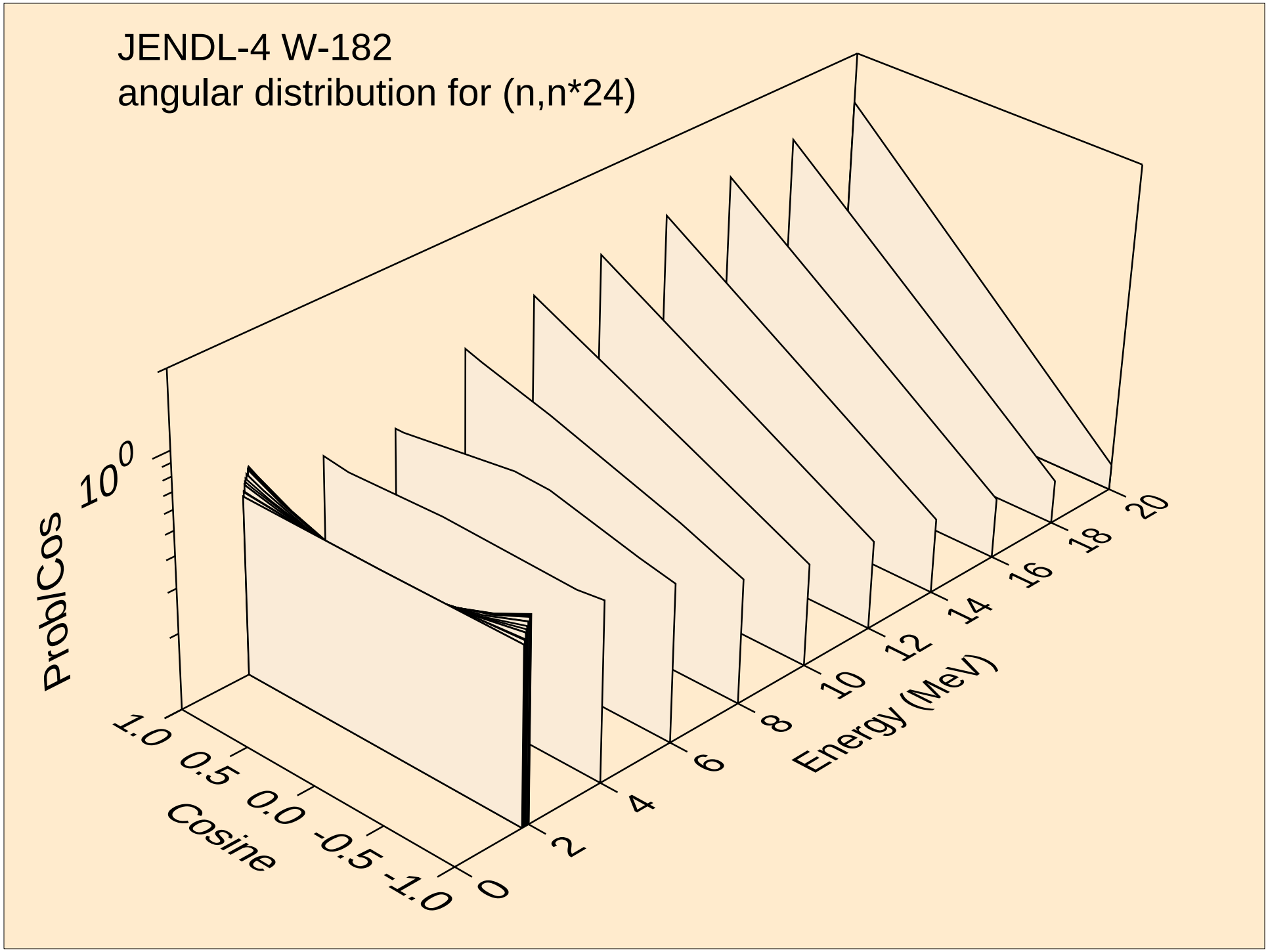
JENDL-4 W-182
angular distribution for (n,n*24)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
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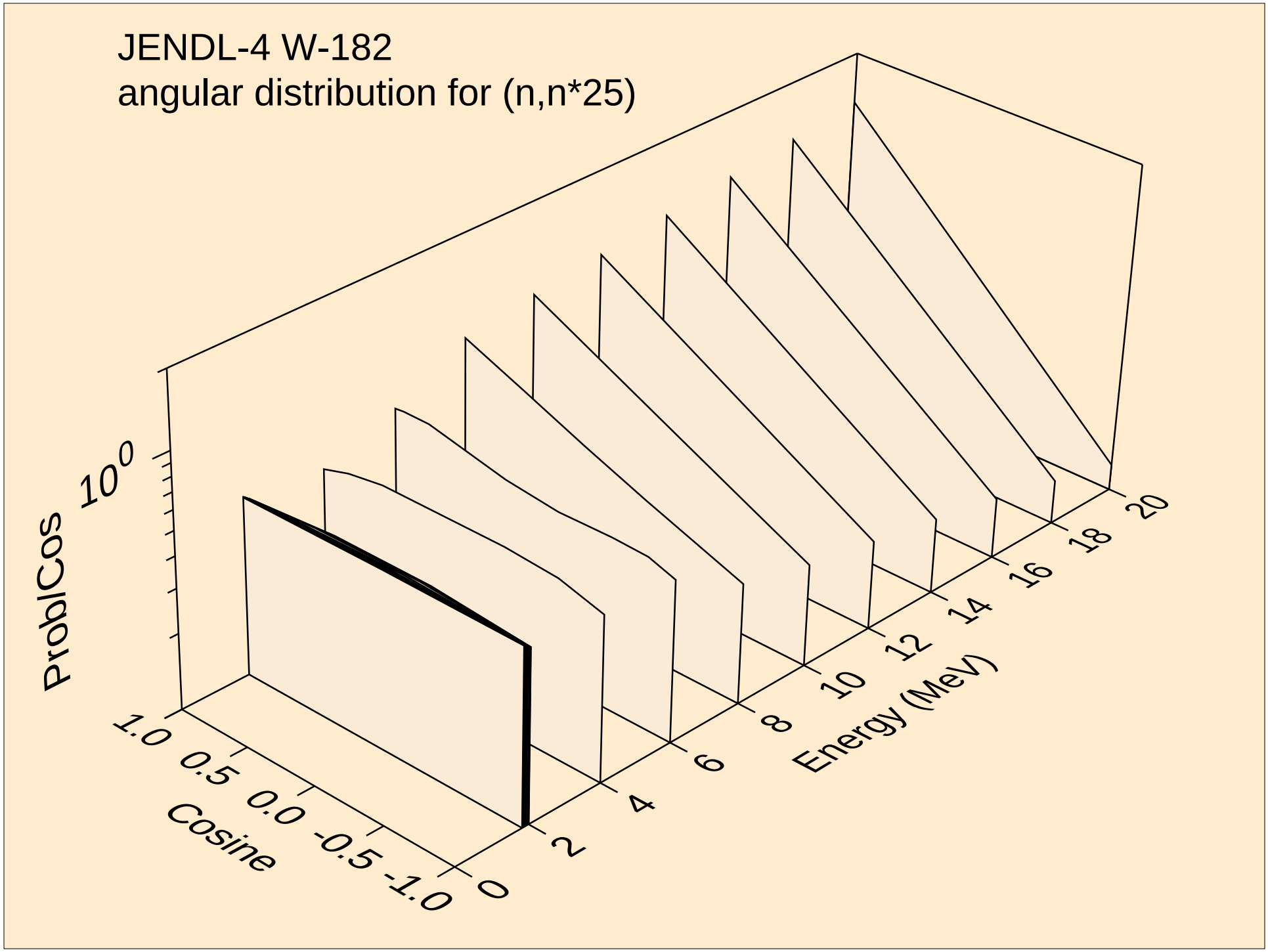
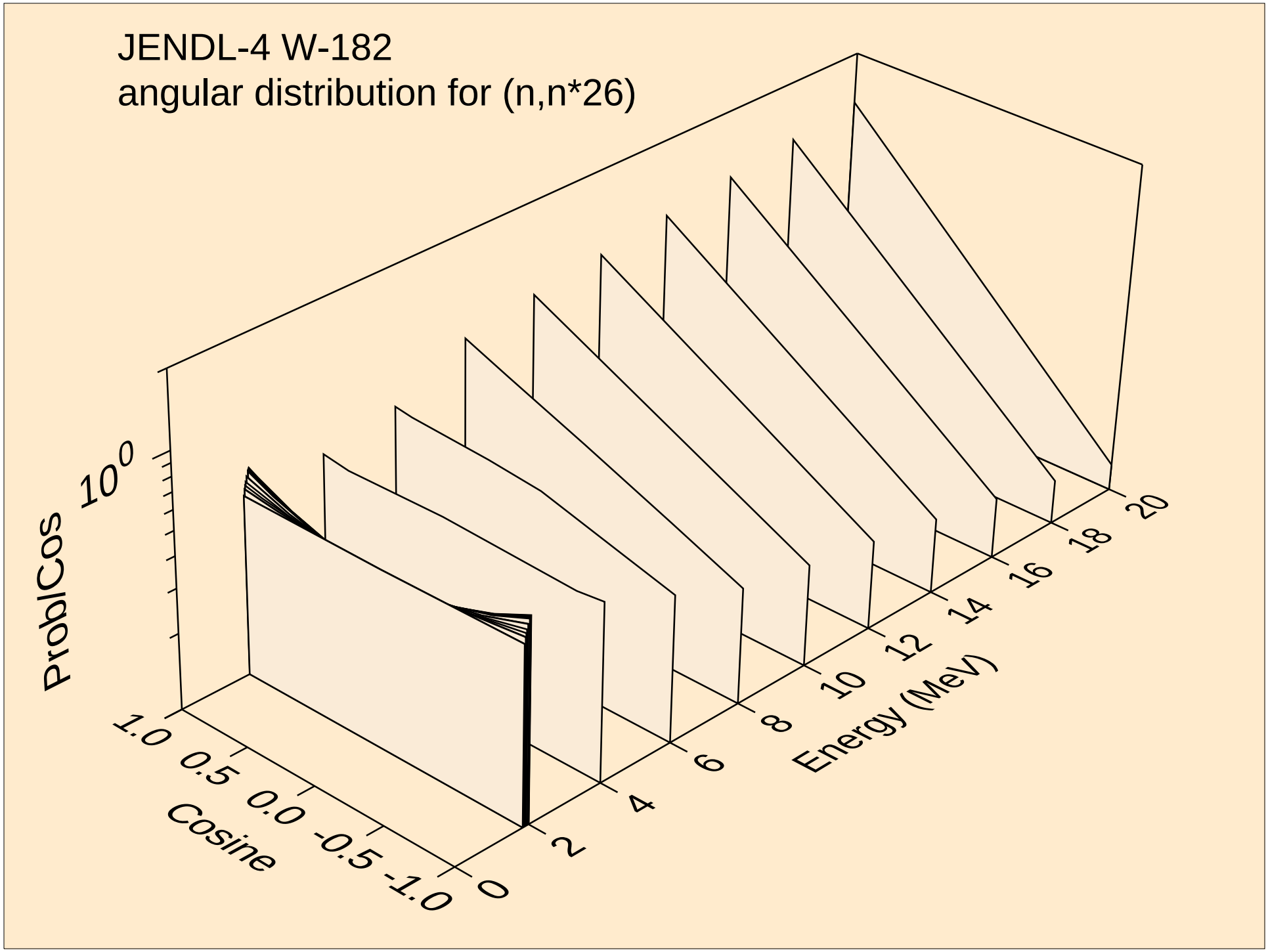
18
20


JENDL-4 W-182
angular distribution for (n,n*25)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*26)
ProblCos
$10^0$
Cosine
1.0
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0.0
-0.5
-1.0
Energy (MeV)
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6
8
10
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18
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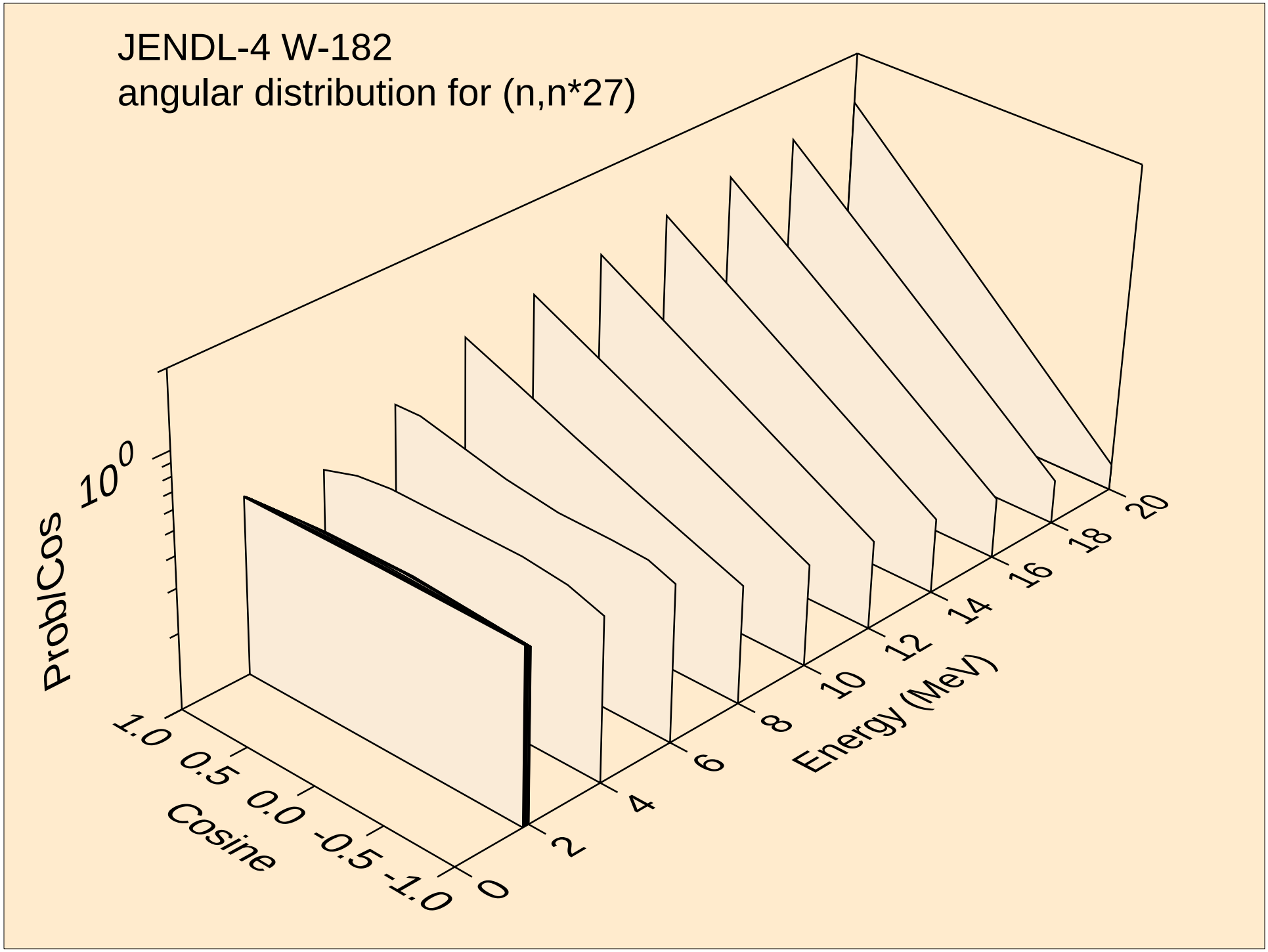
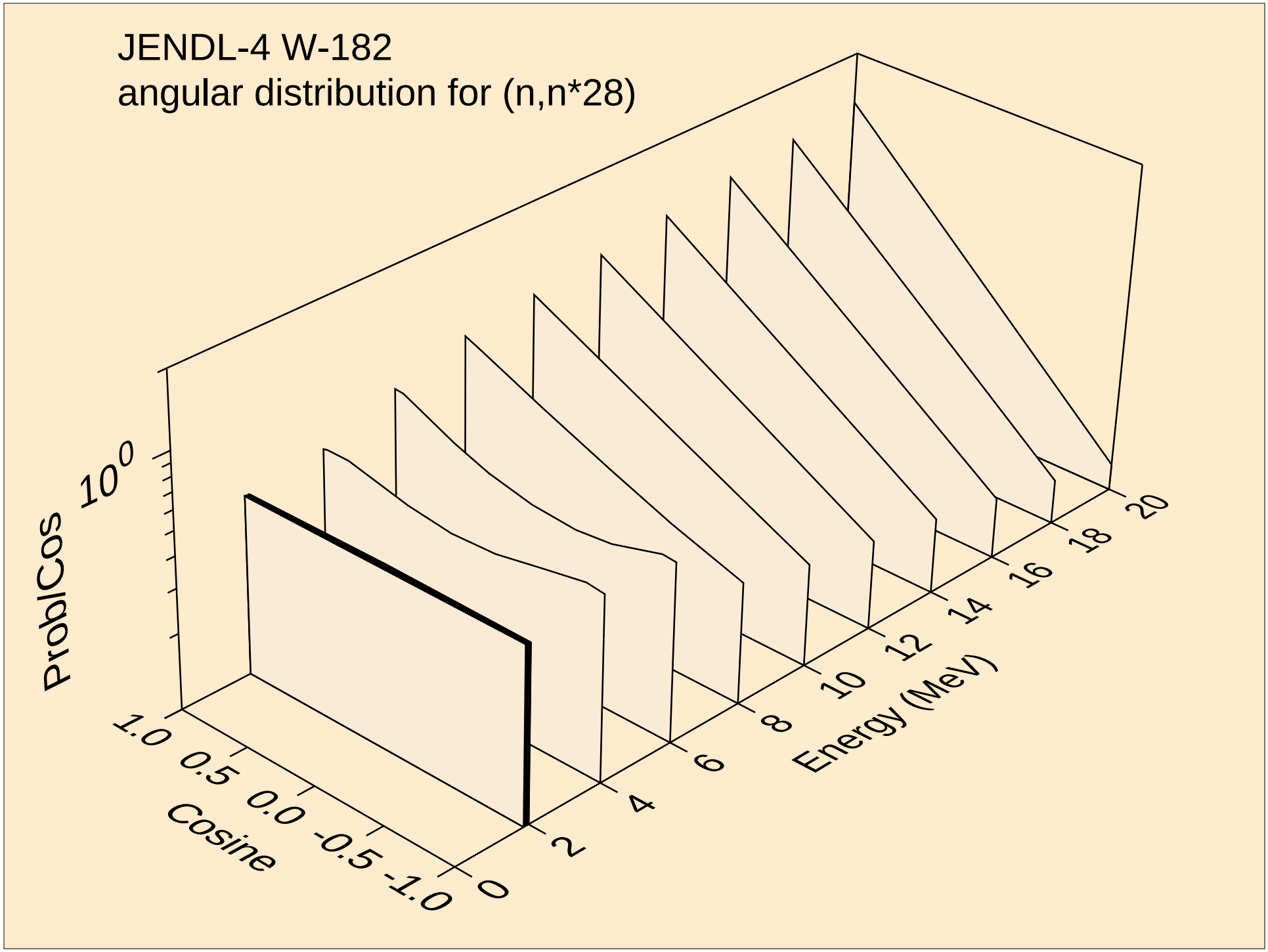
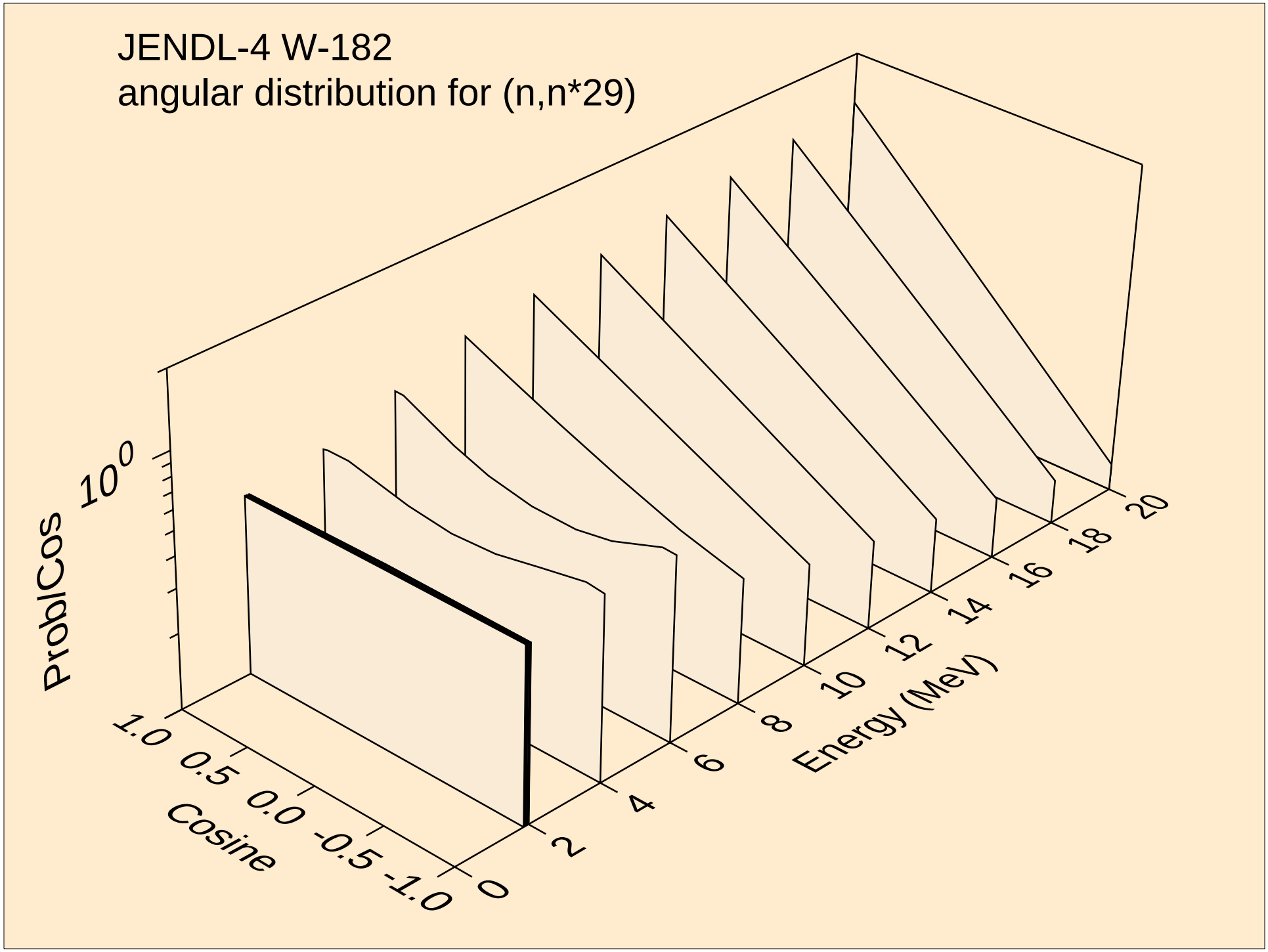
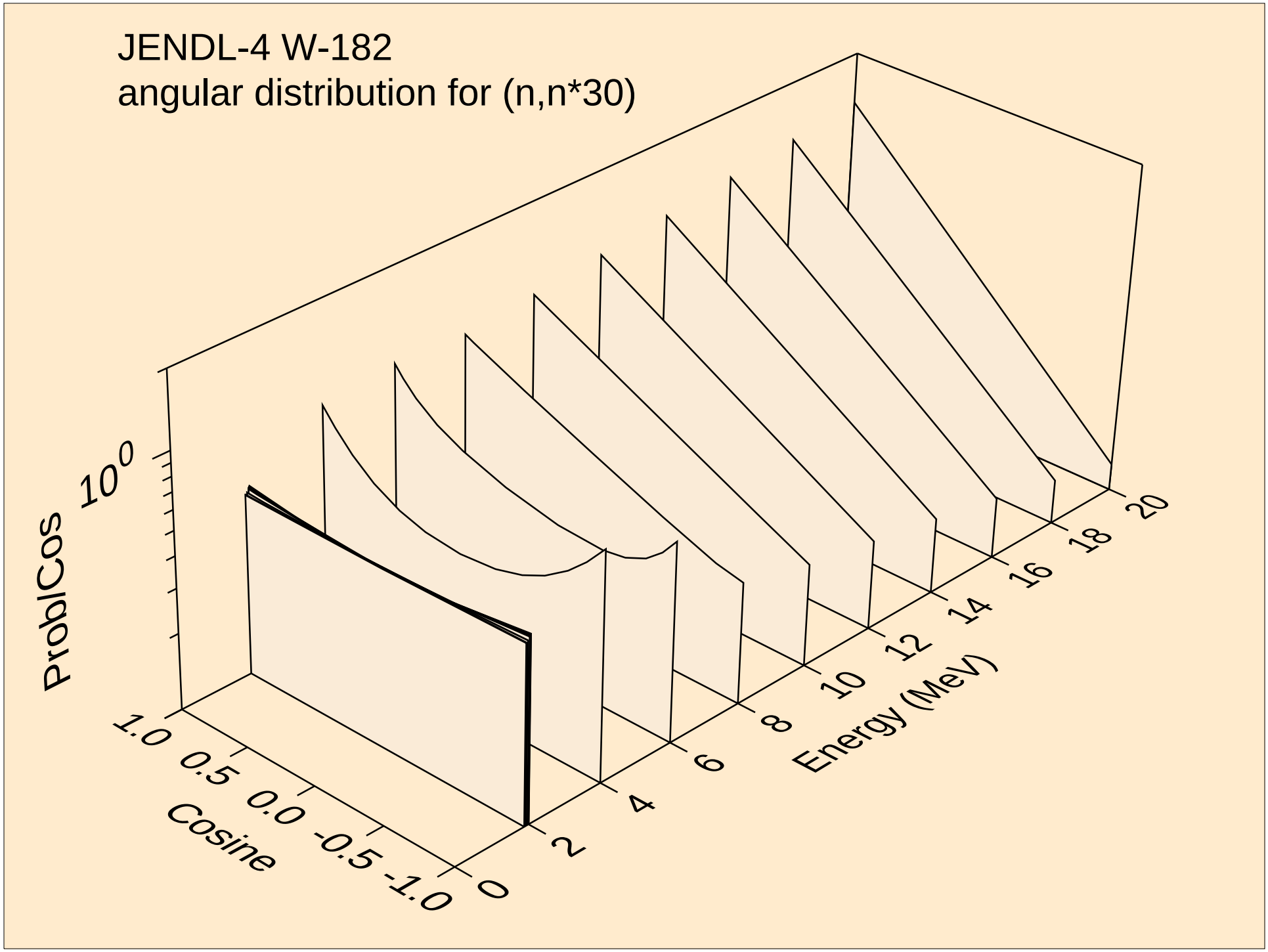

JENDL-4 W-182
angular distribution for (n,n*27)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*28)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*29)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*30)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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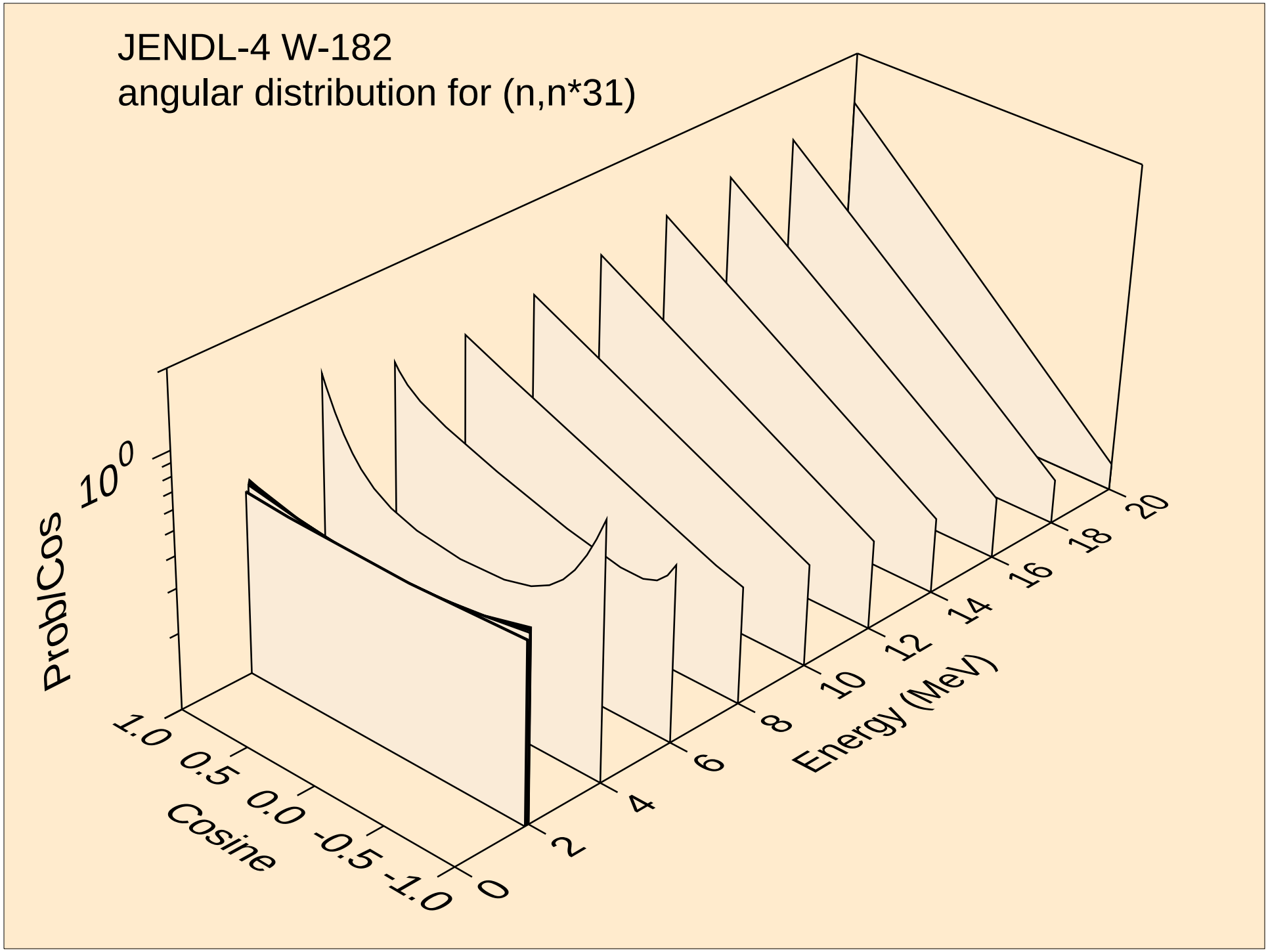
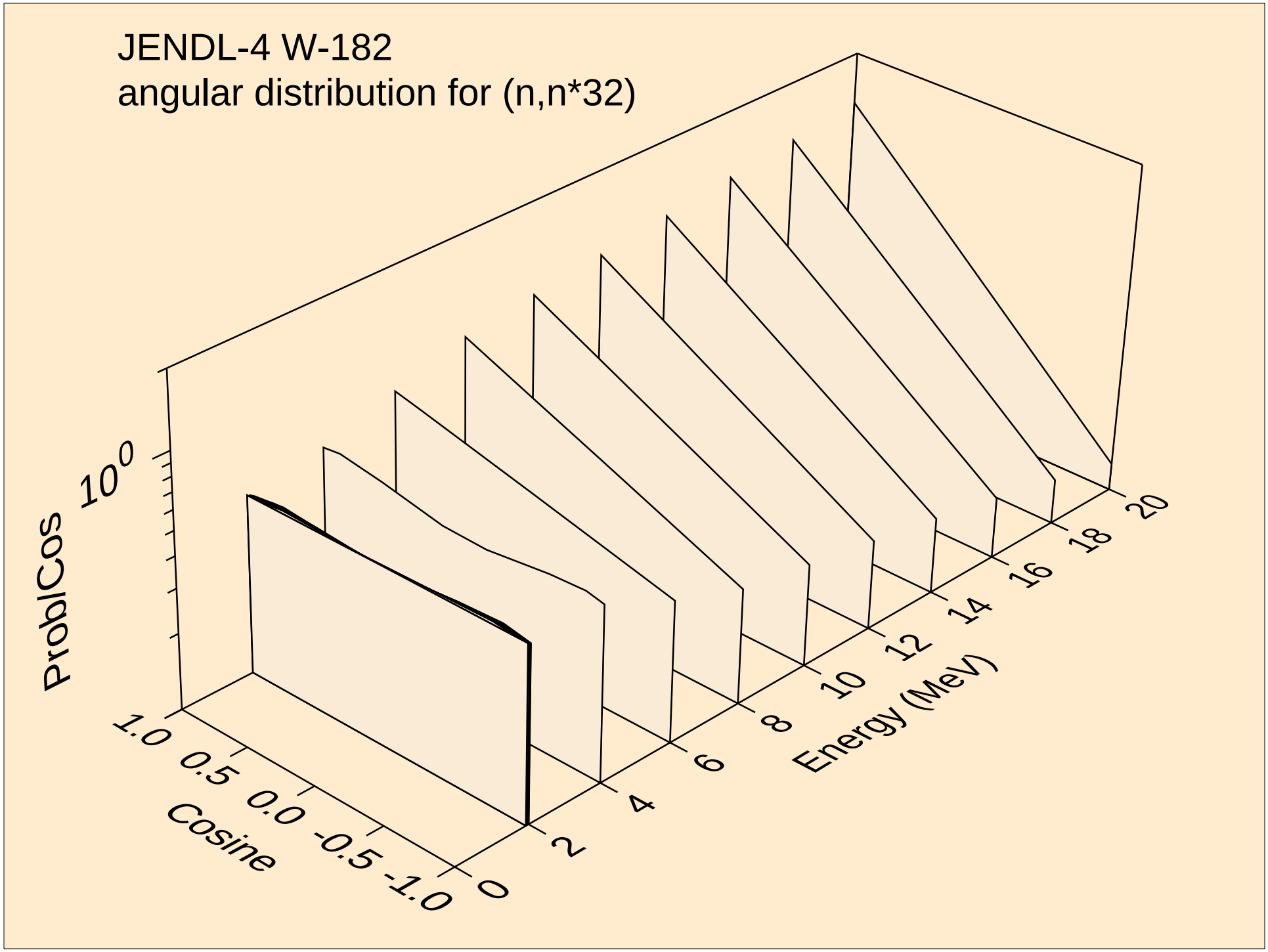

JENDL-4 W-182
angular distribution for (n,n*31)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*32)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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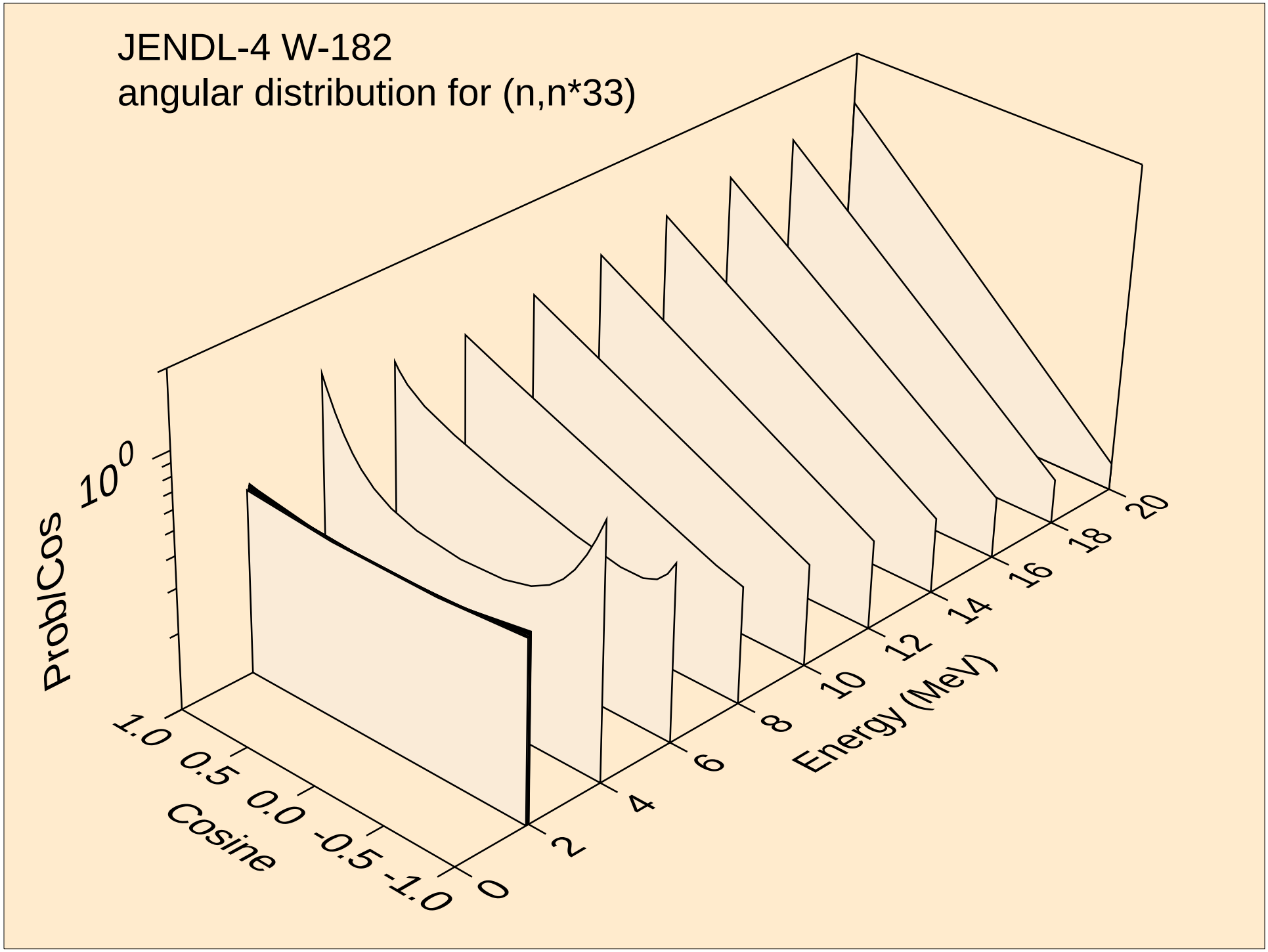
JENDL-4 W-182
angular distribution for (n,n*33)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
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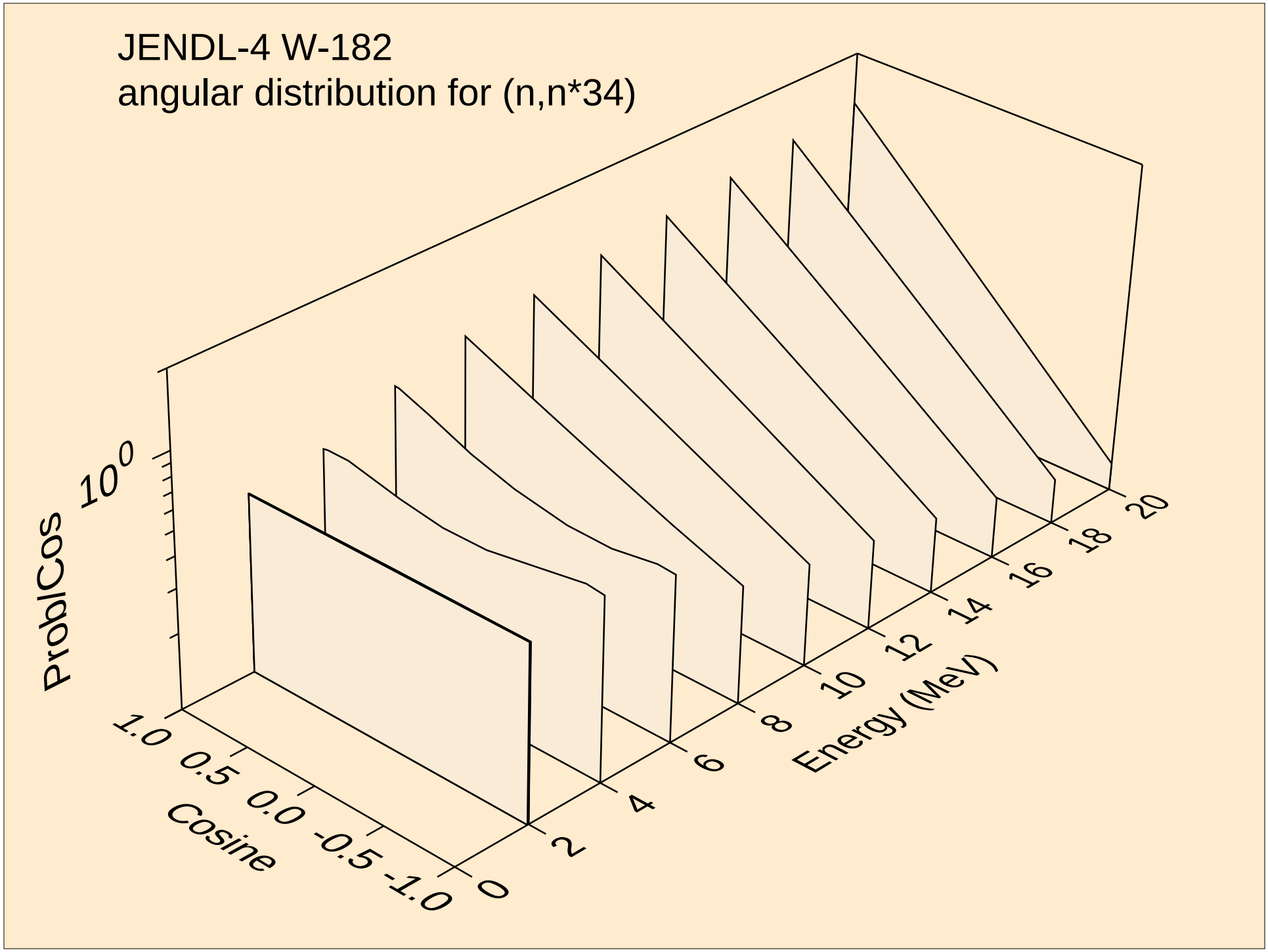
JENDL-4 W-182
angular distribution for (n,n*34)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
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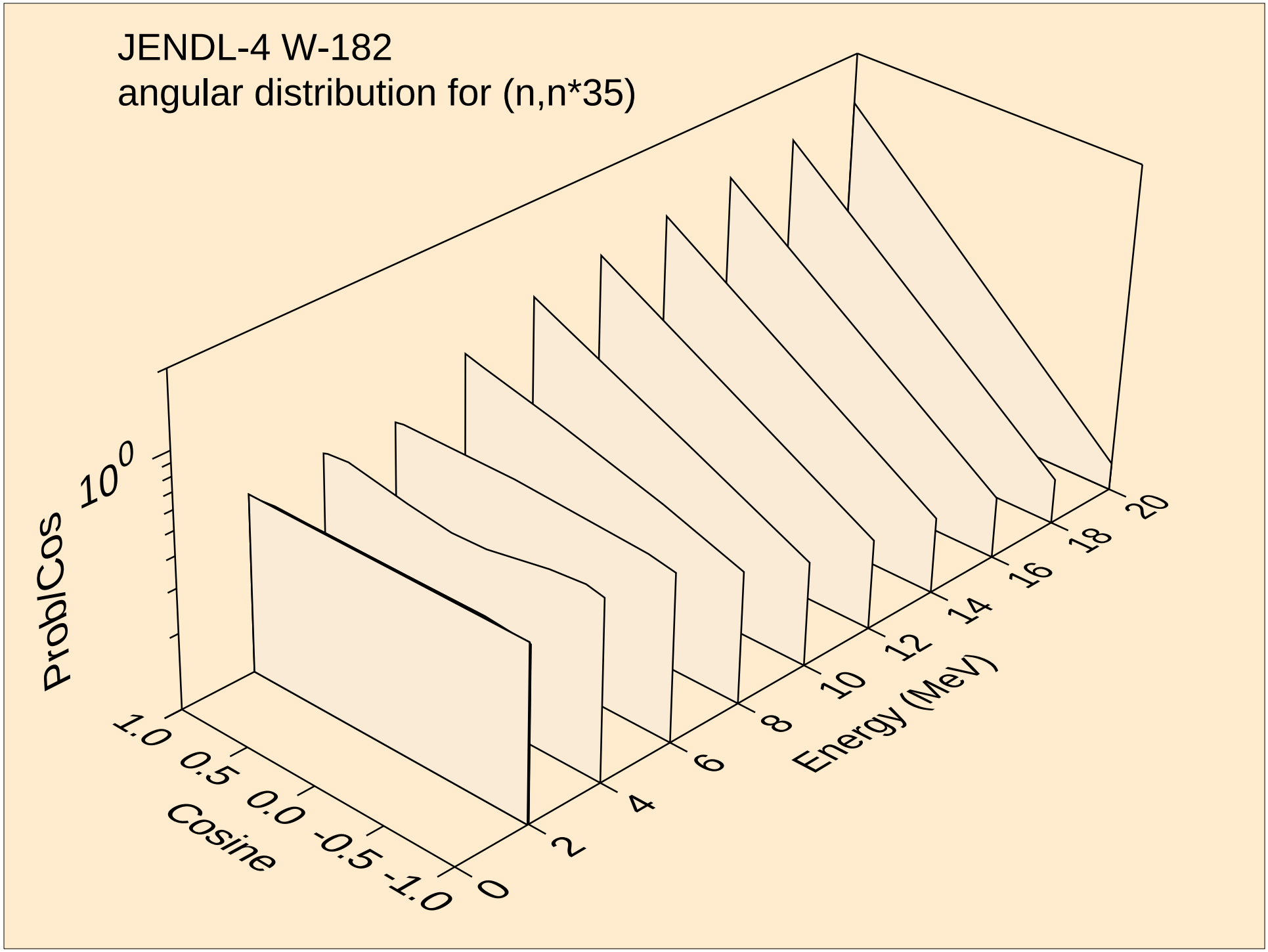
JENDL-4 W-182
angular distribution for (n,n*35)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
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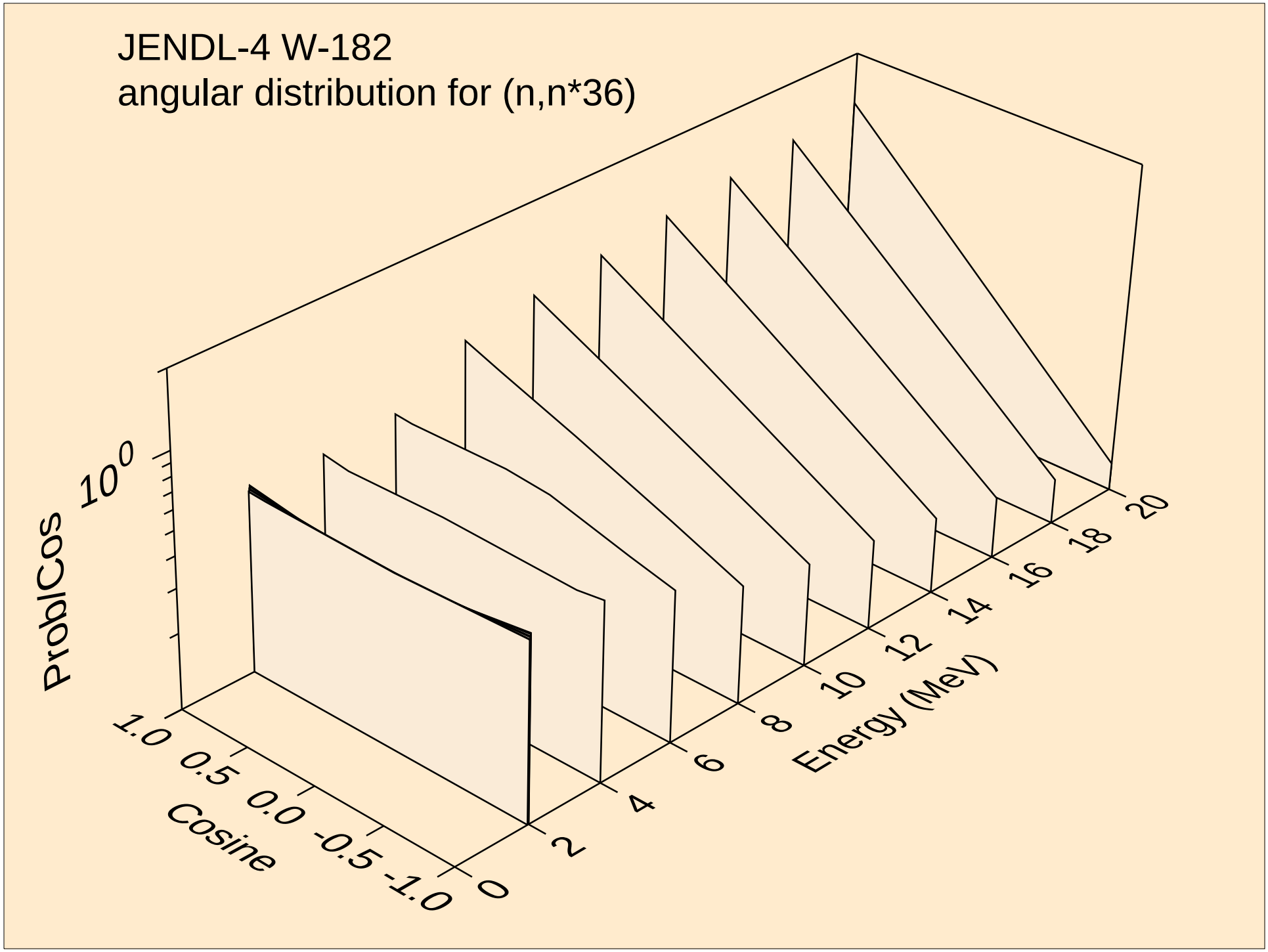
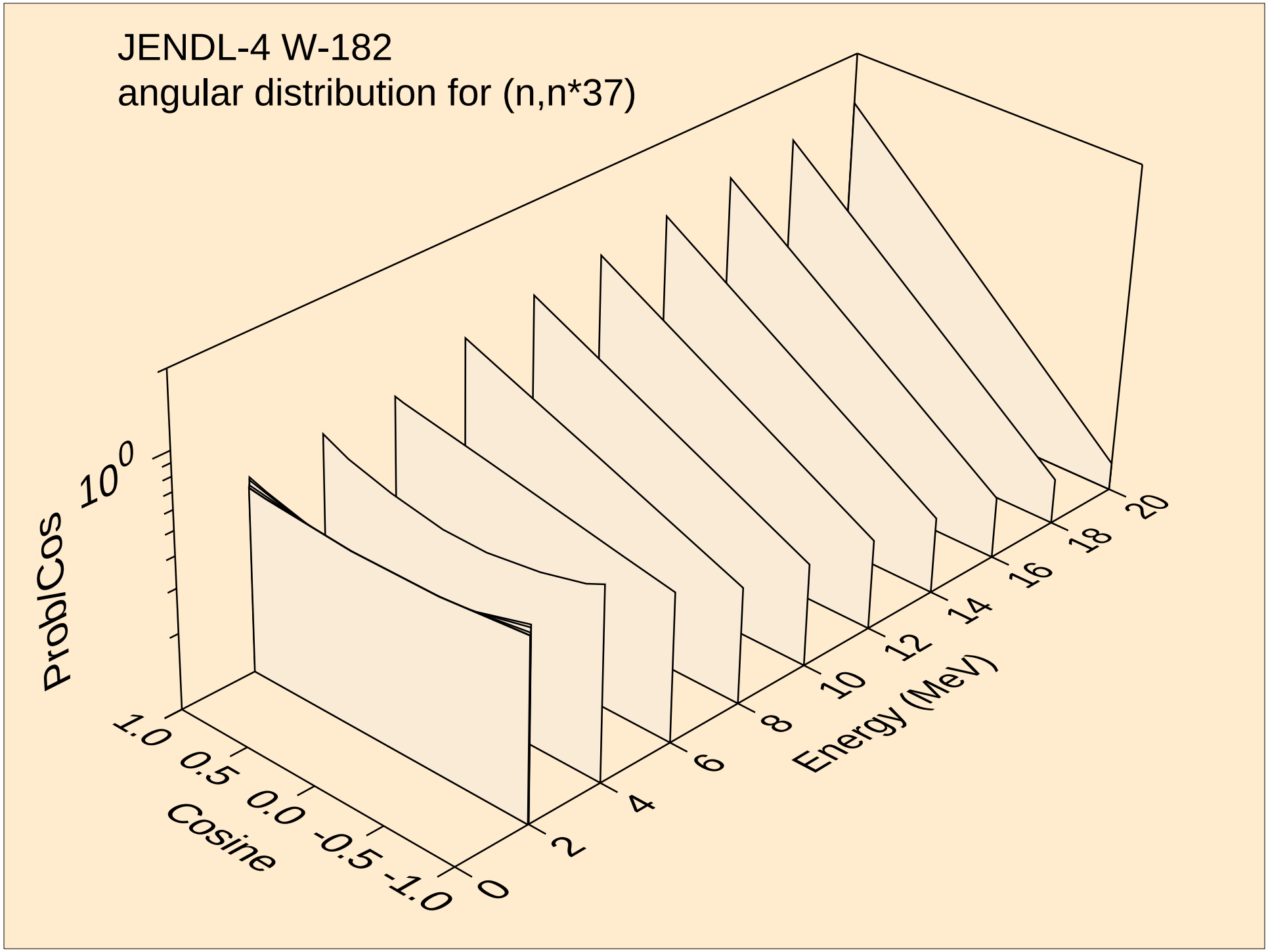
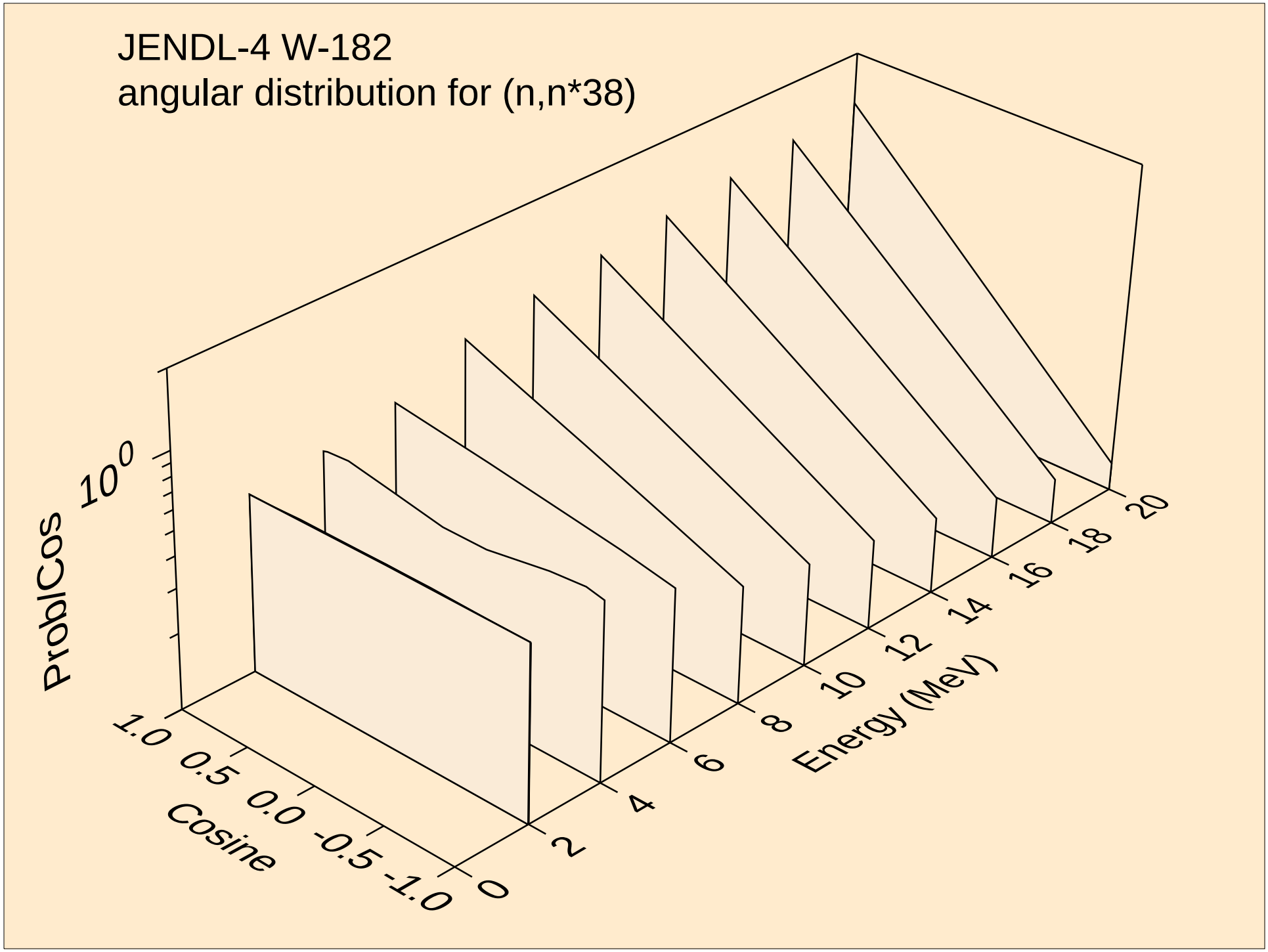
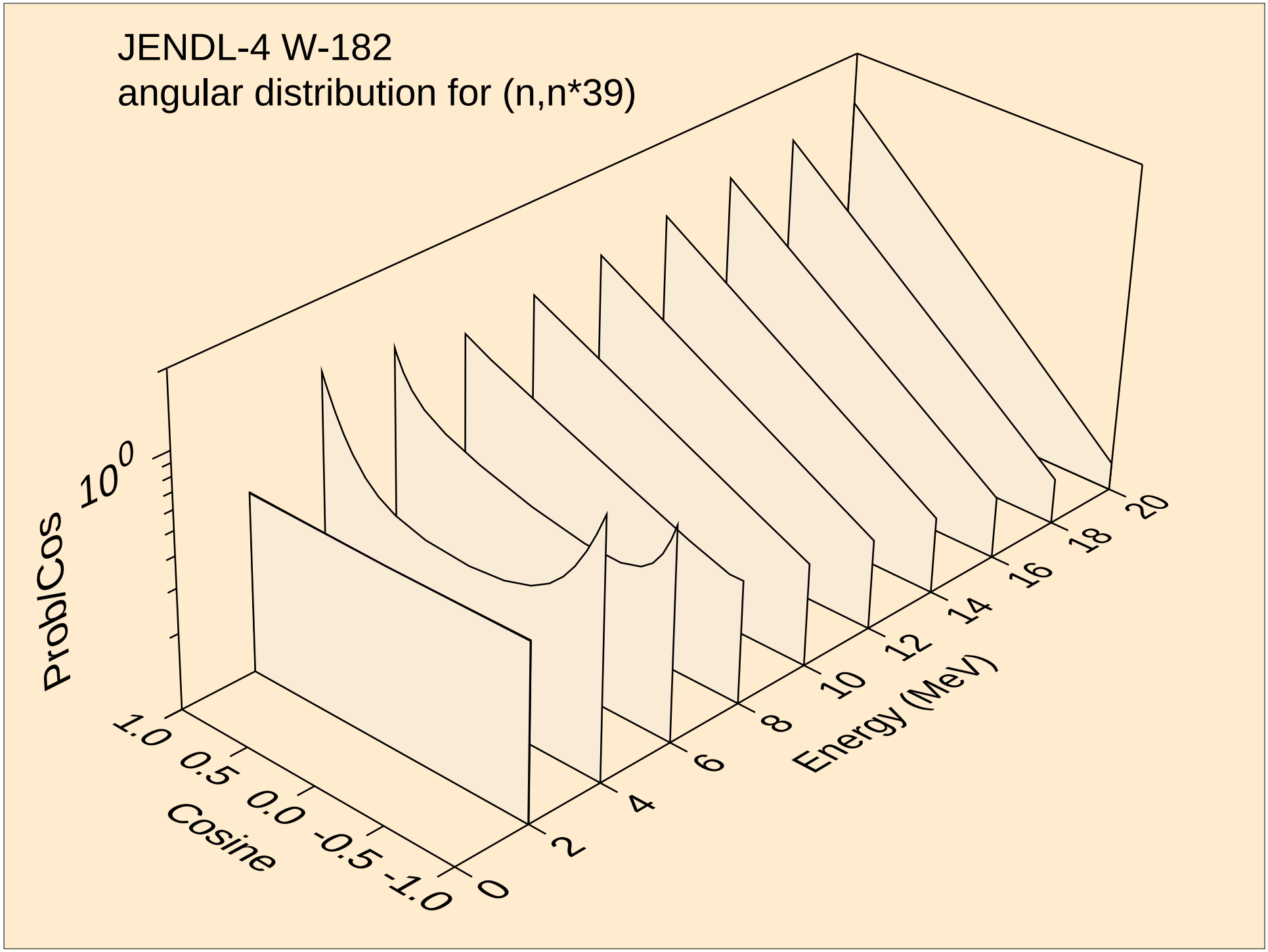
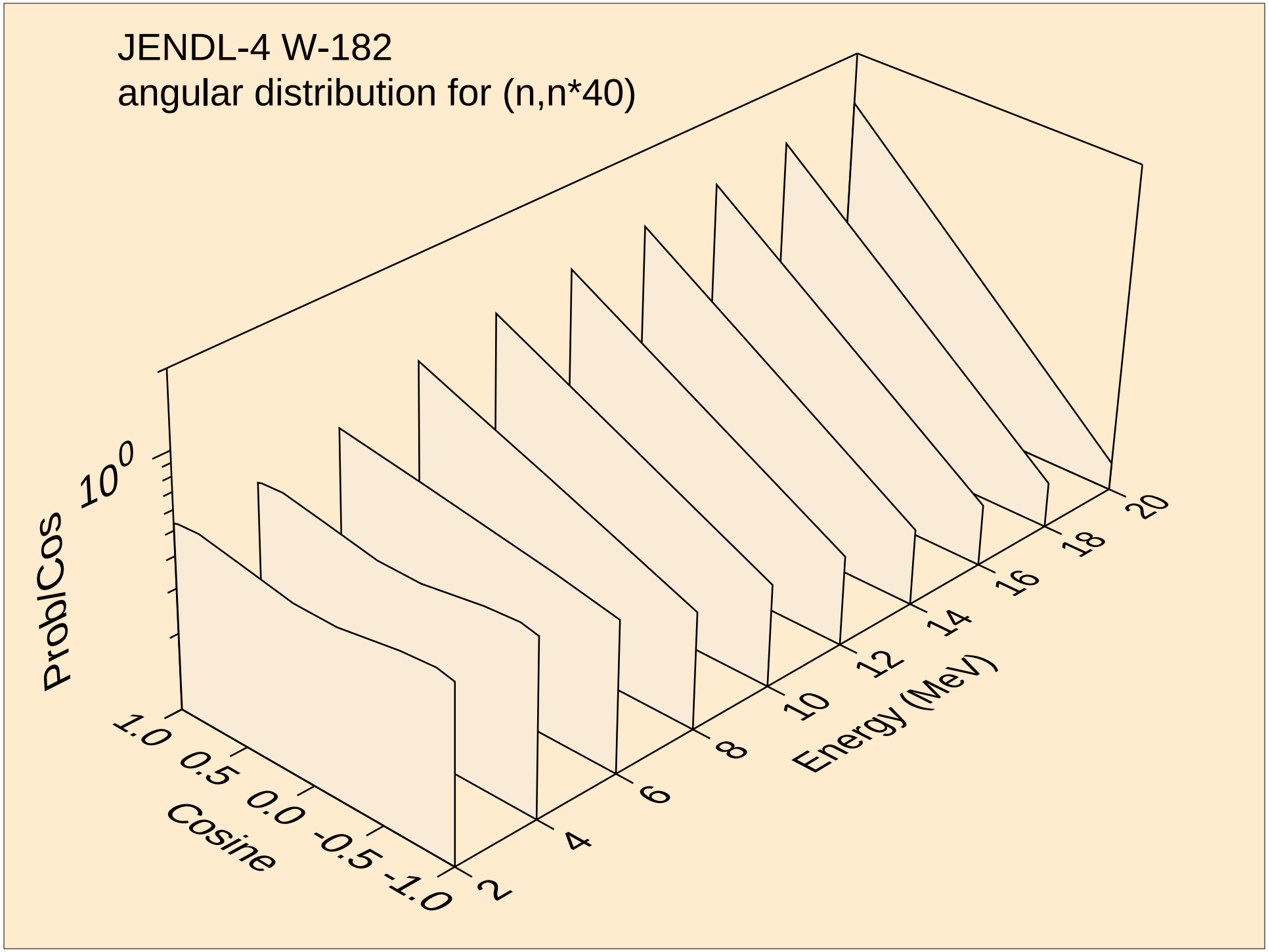
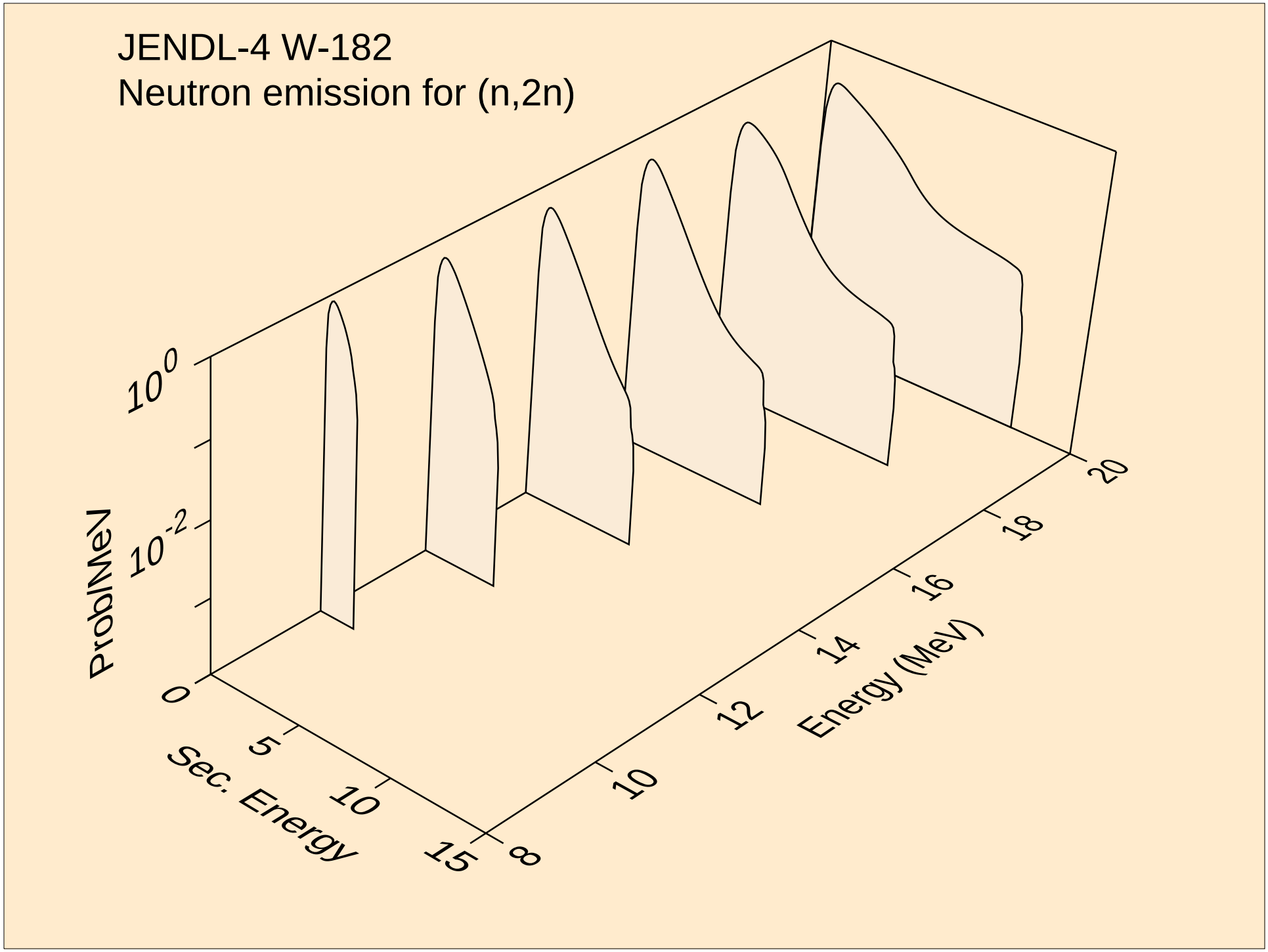

JENDL-4 W-182
angular distribution for (n,n*36)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

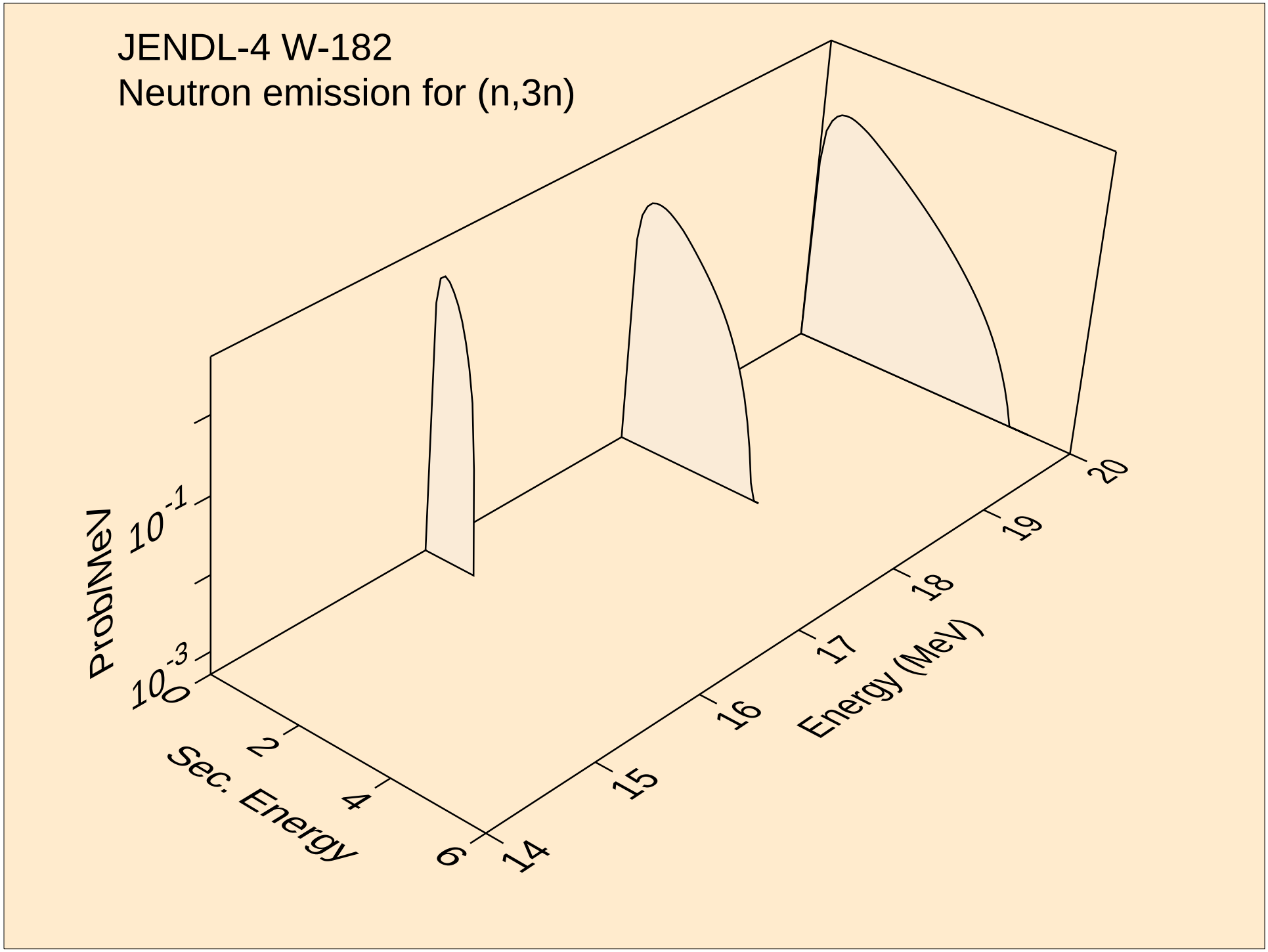

JENDL-4 W-182
angular distribution for (n,n*37)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

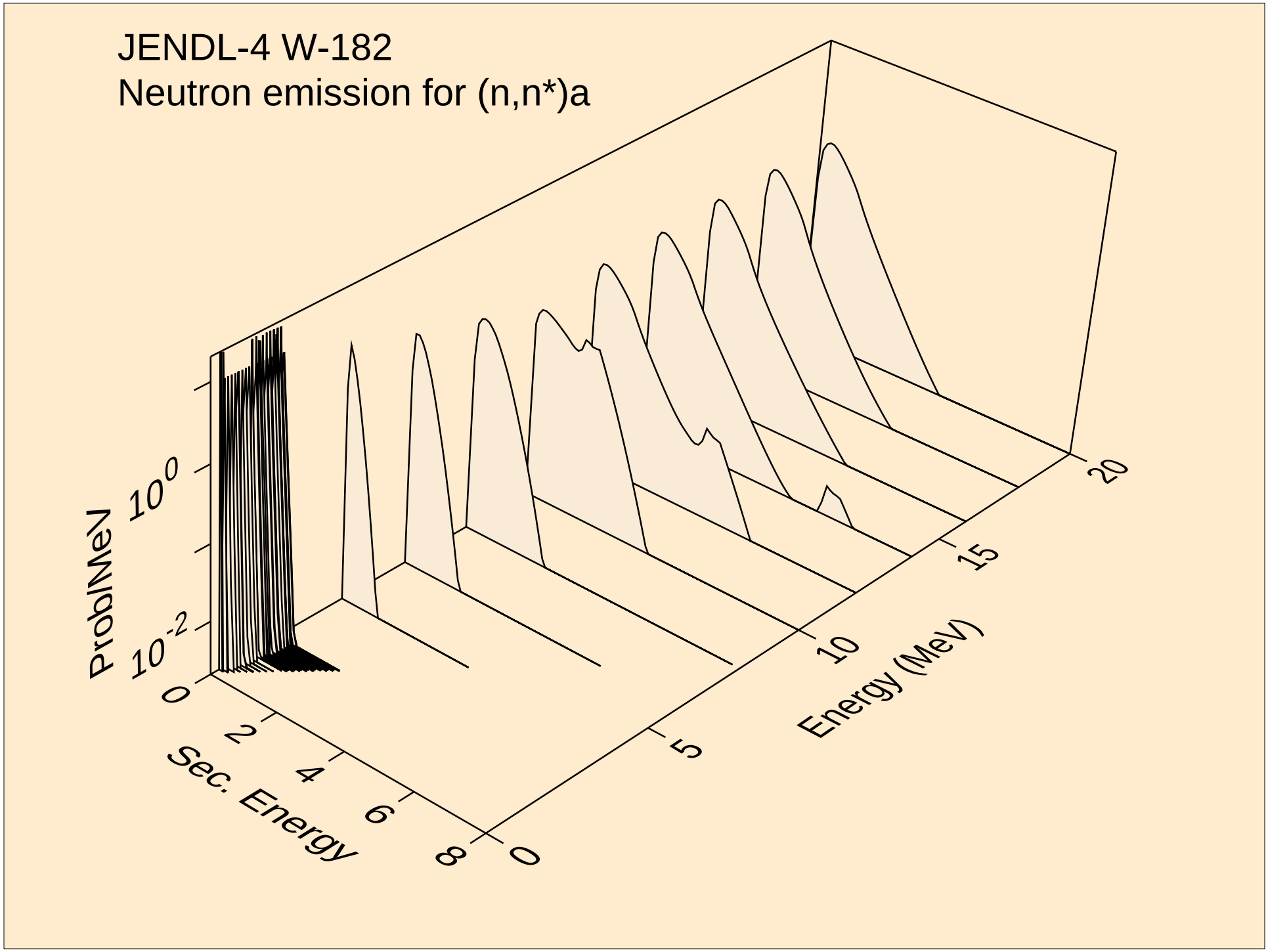

JENDL-4 W-182
angular distribution for (n,n*38)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20


JENDL-4 W-182
angular distribution for (n,n*39)
ProblCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

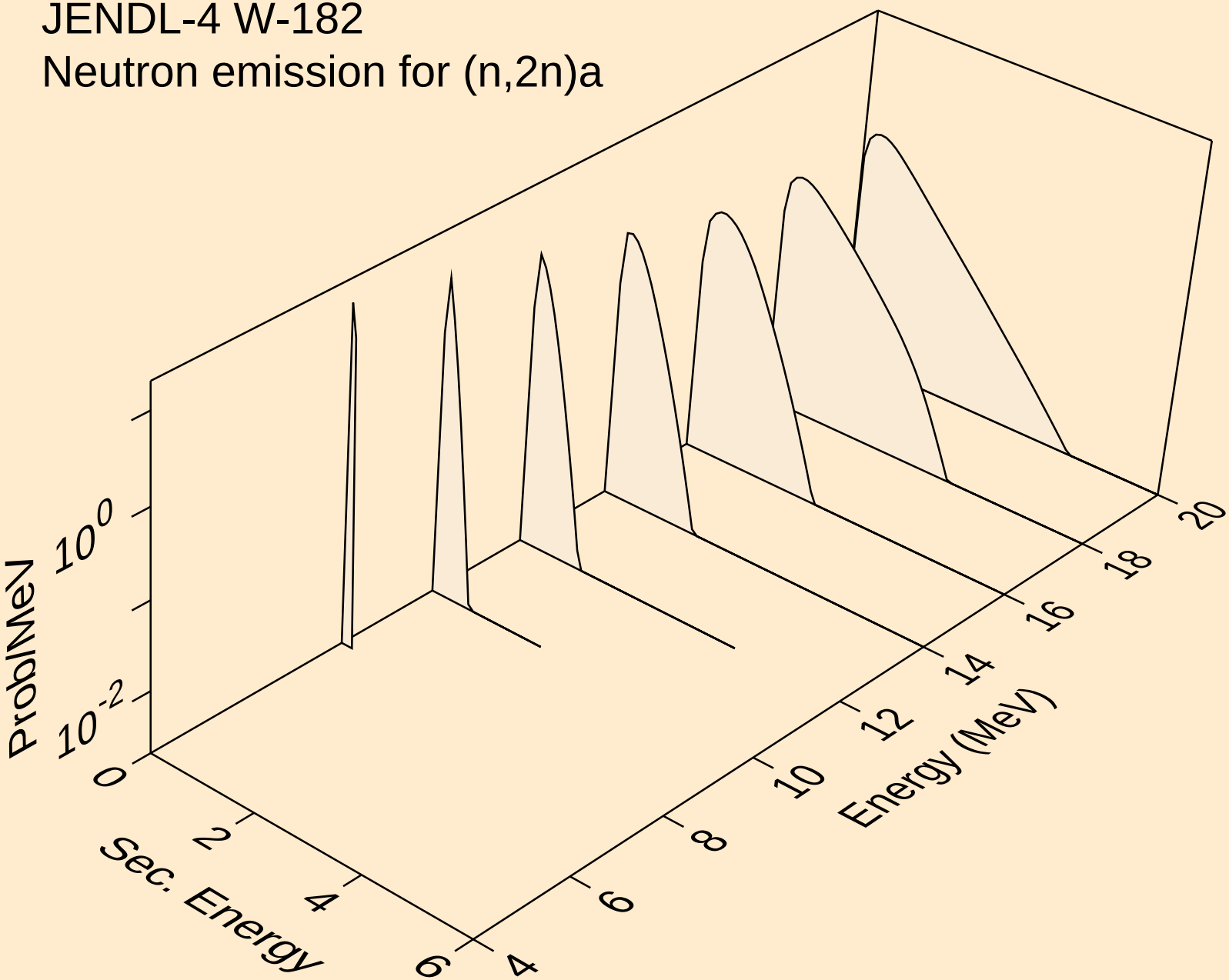

JENDL-4 W-182
angular distribution for (n,n*40)
ProbCos
$10^0$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
2
4
6
8
10
12
14
16
18
20

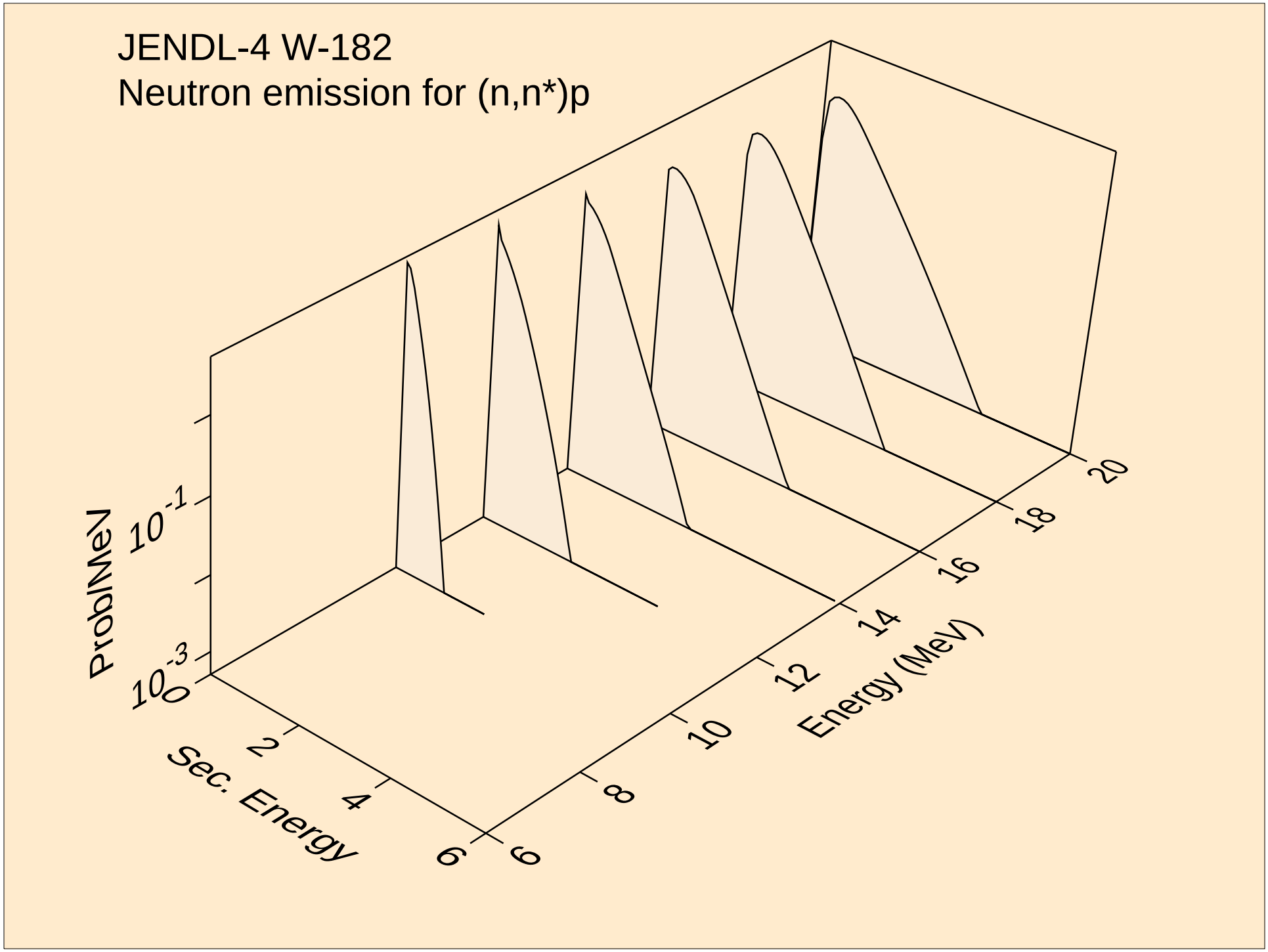

JENDL-4 W-182
Neutron emission for (n,2n)
Prob/MeV
$10^0$
$10^{-2}$
0
Sec. Energy
5
10
15
8
10
12
14
16
18
20
Energy (MeV)

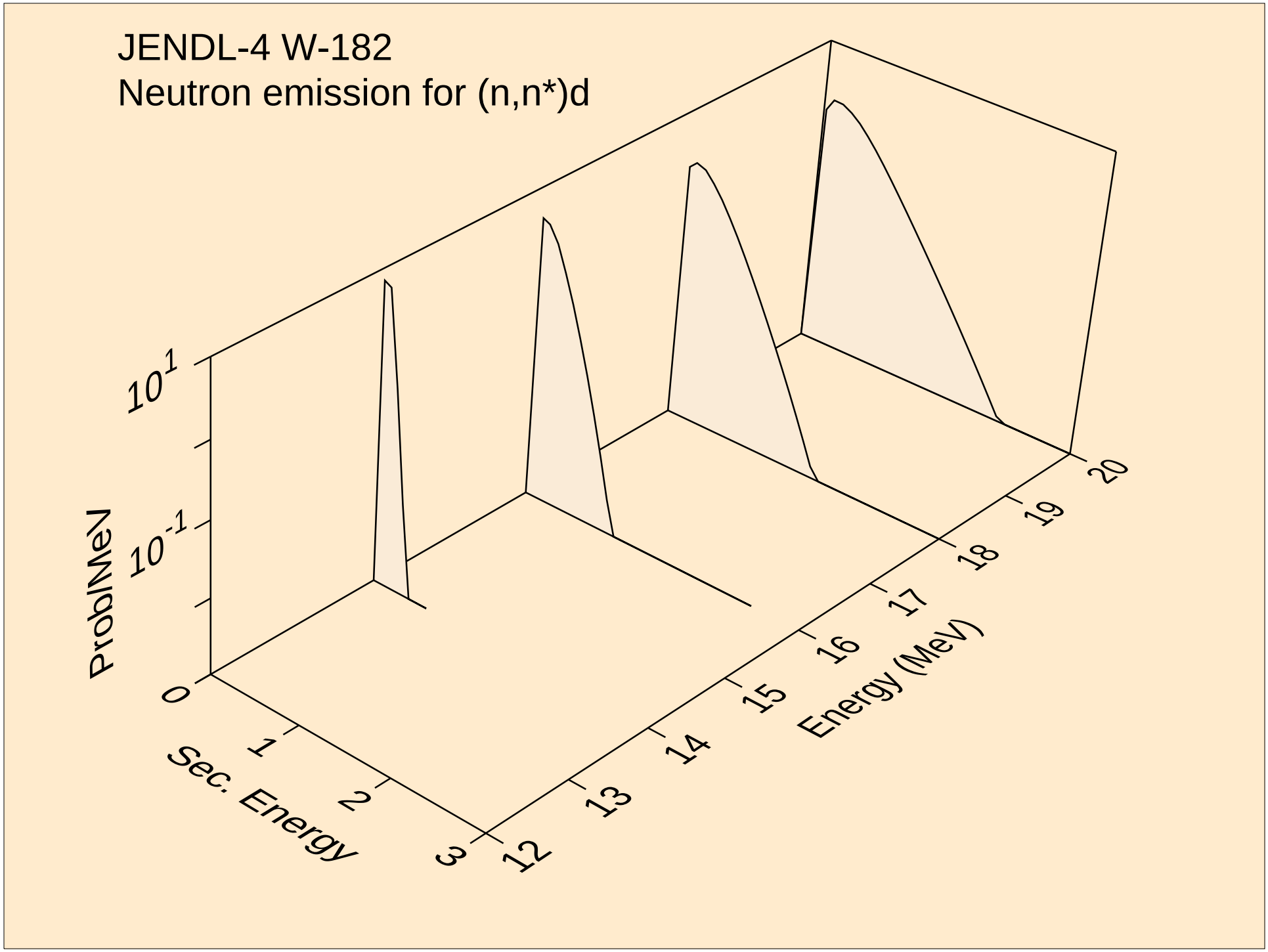

JENDL-4 W-182
Neutron emission for (n,3n)
Prob/MeV
$10^{-1}$
$10^{-3}$
0
2
4
6
Sec. Energy
14
15
16
17
18
19
20
Energy (MeV)

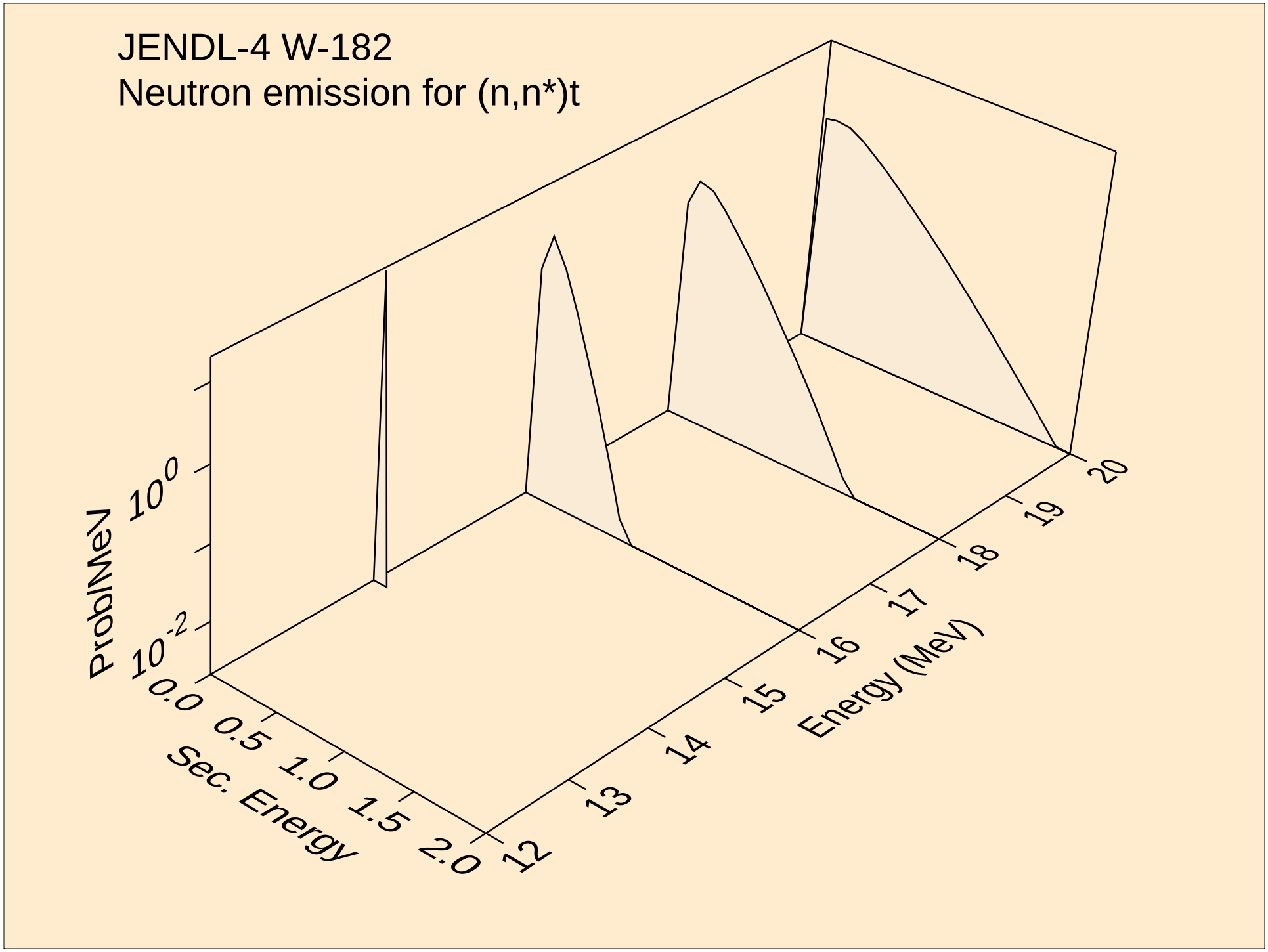

JENDL-4 W-182
Neutron emission for (n,n*)a
Prob/MeV
$10^0$
$10^{-2}$
0
2
4
6
8
Sec. Energy
0
5
10
15
20
Energy (MeV)

JENDL-4 W-182
Neutron emission for (n,2n)a

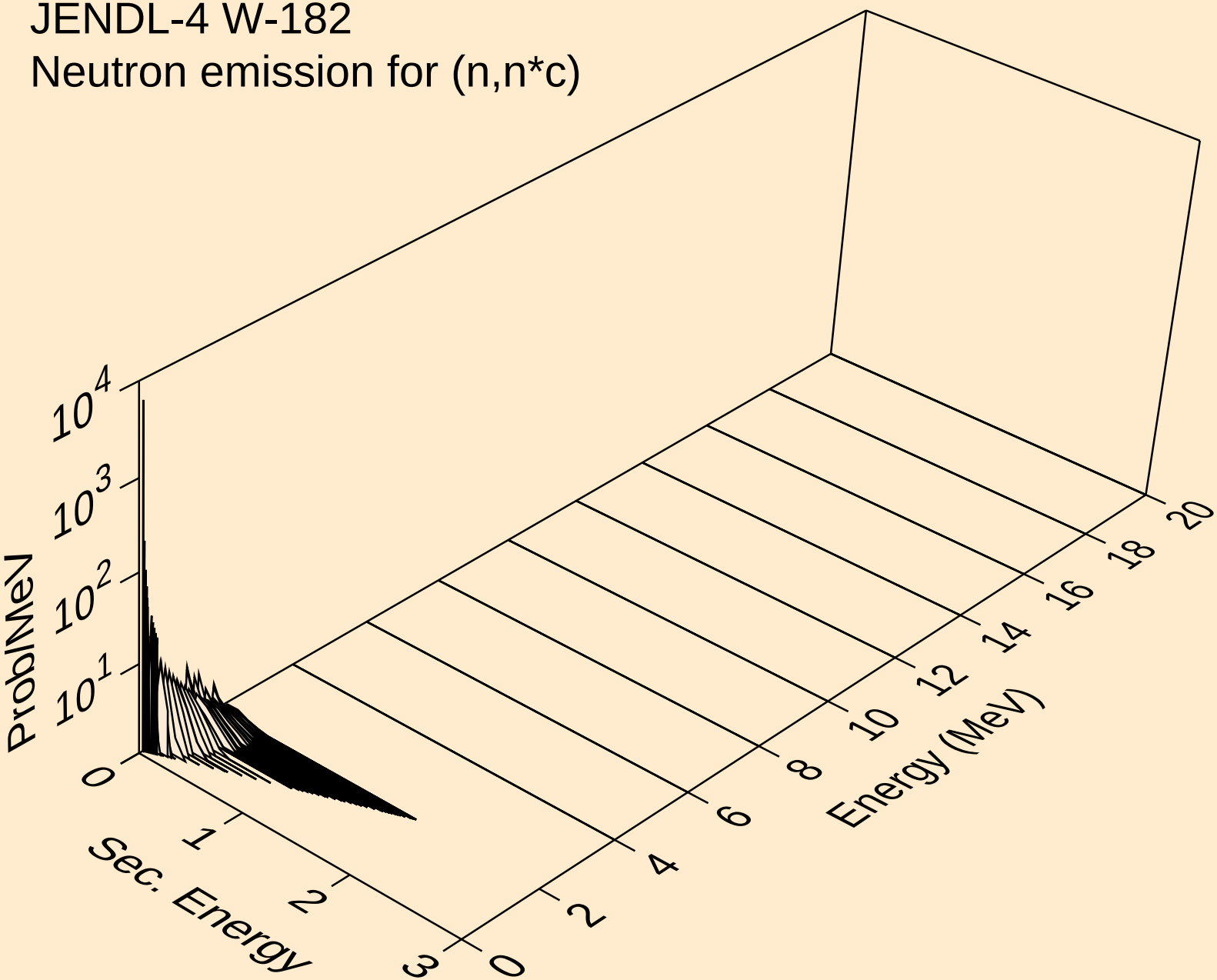


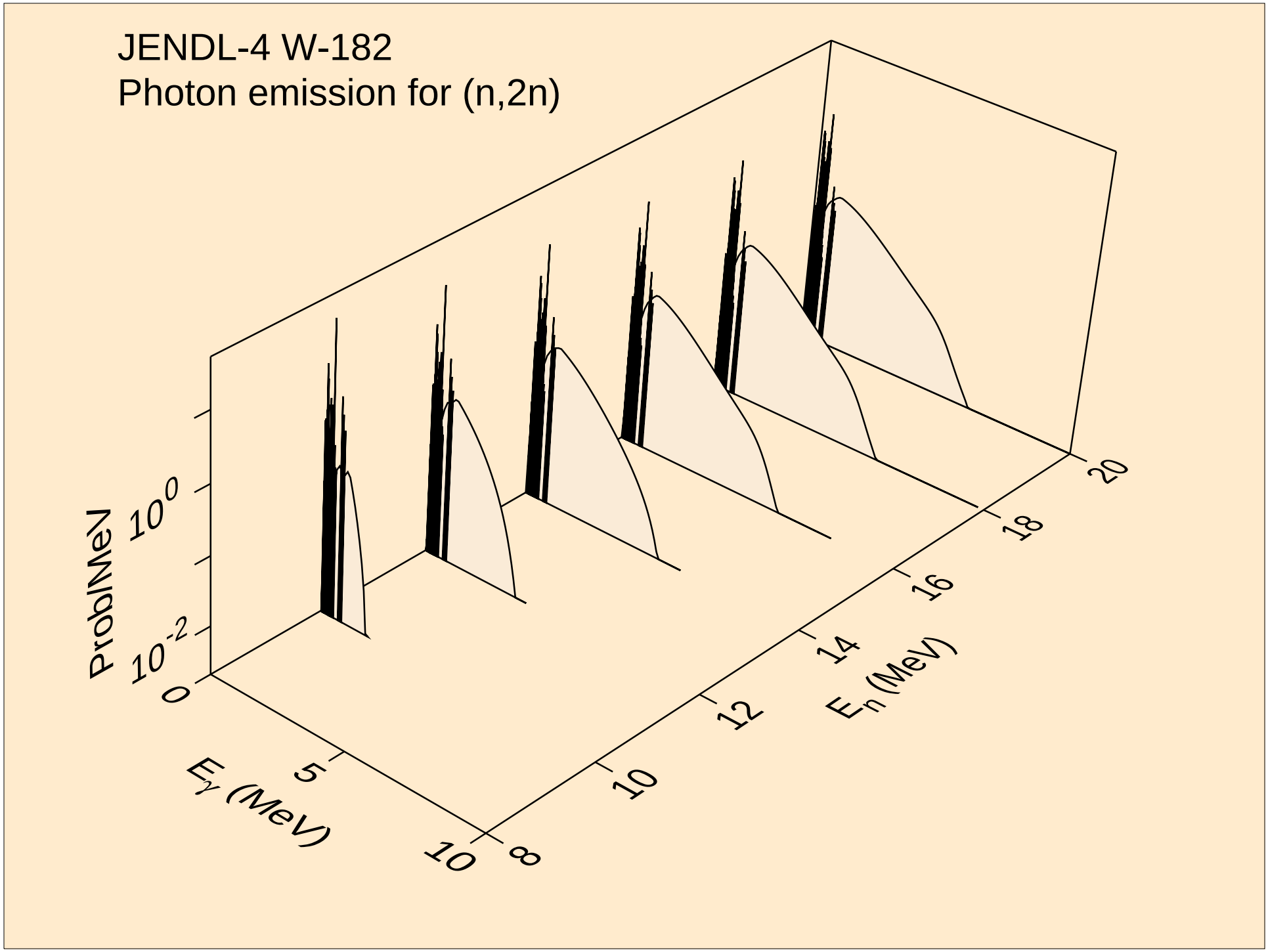

JENDL-4 W-182
Neutron emission for (n,n*)p
Prob/MeV
10^-1
10^-3
0
2
4
6
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

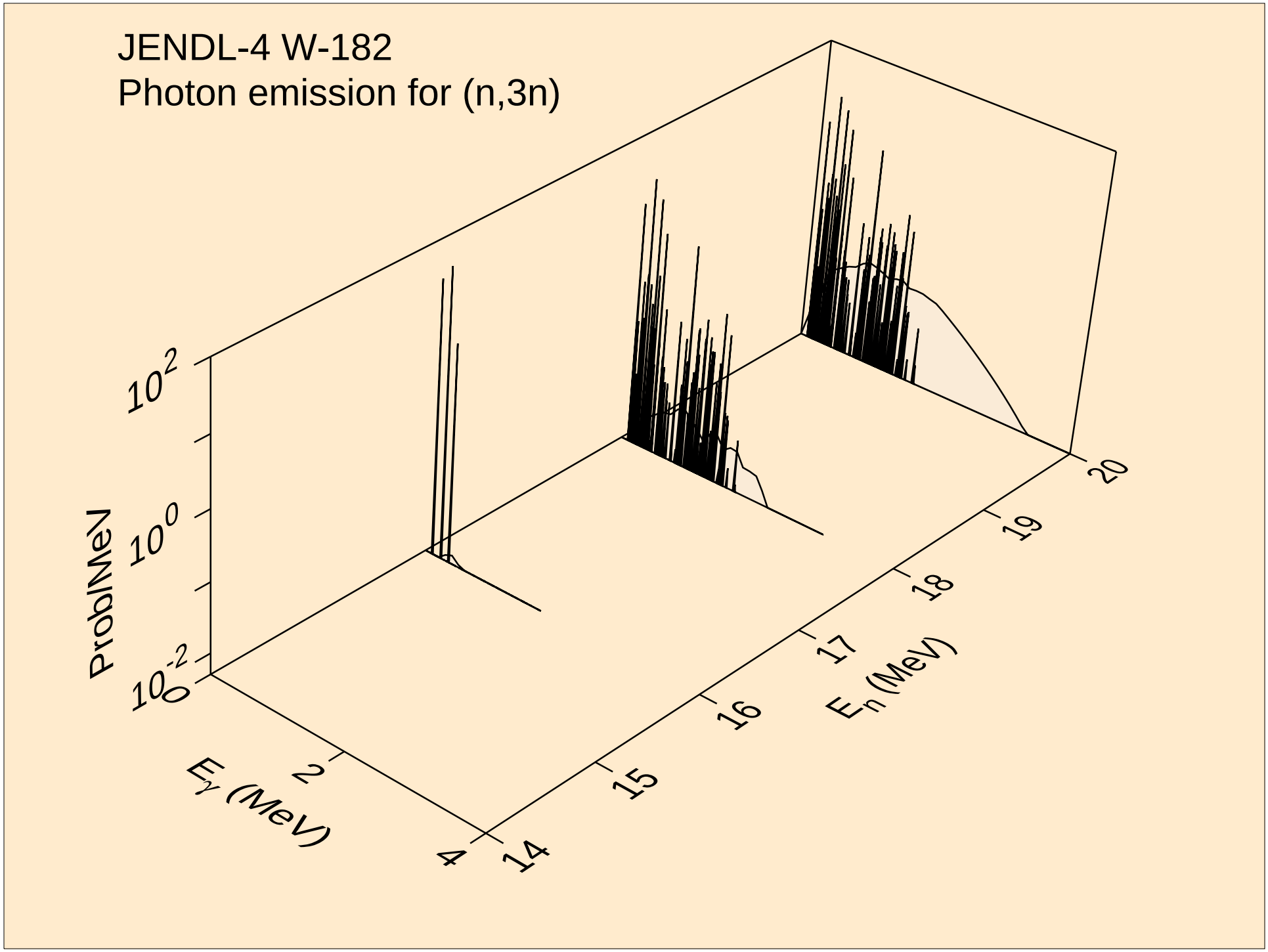

JENDL-4 W-182
Neutron emission for (n,n*)d
Prob/MeV
10^1
10^-1
0
Sec. Energy
1
2
3
Energy (MeV)
12
13
14
15
16
17
18
19
20

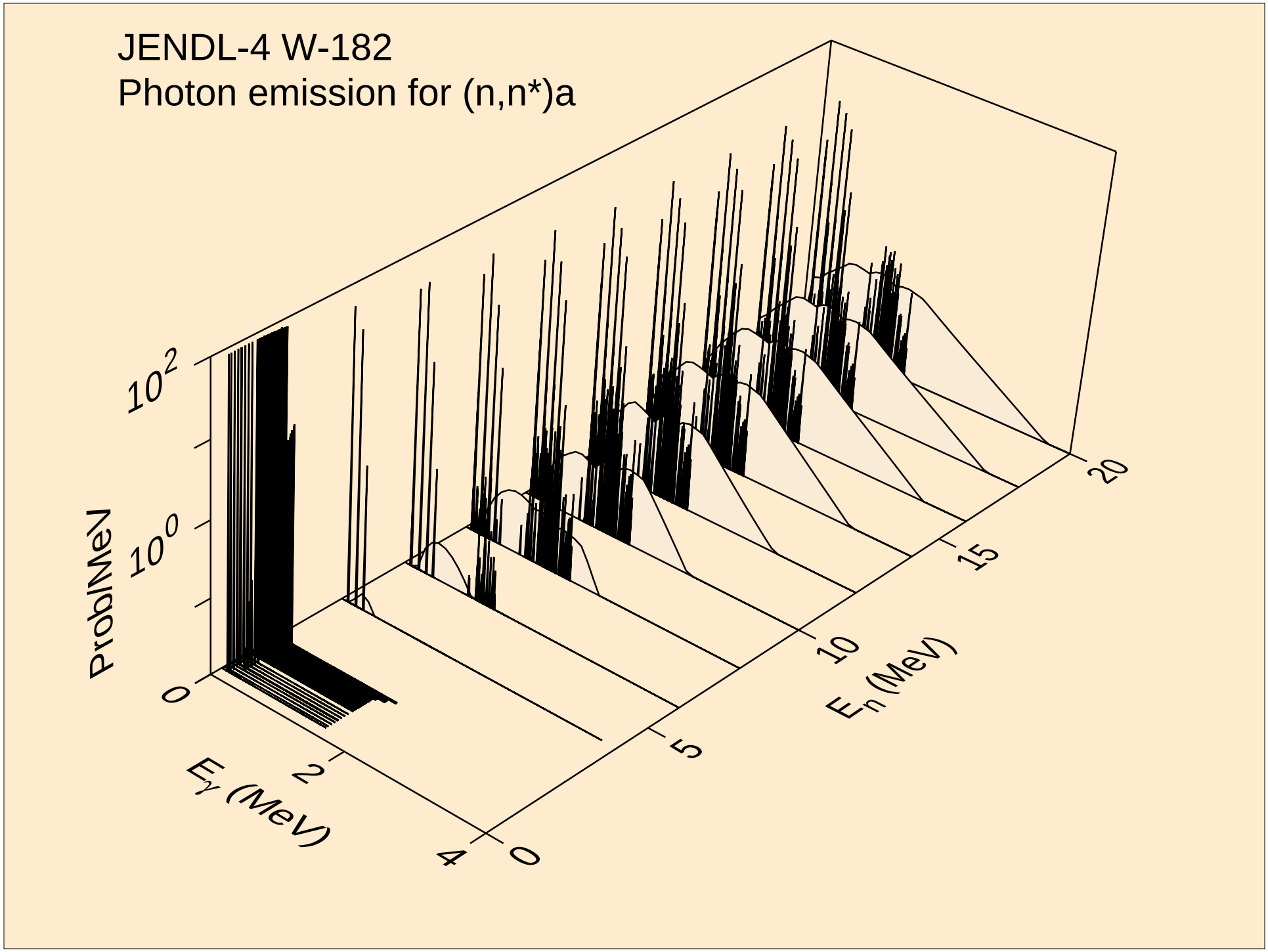

JENDL-4 W-182
Neutron emission for (n,n*)t
Prob/MeV
$10^{0}$
$10^{-2}$
0.0
0.5
1.0
1.5
2.0
Sec. Energy
12
13
14
15
16
17
18
19
20
Energy (MeV)

JENDL-4 W-182
Neutron emission for (n,n*c)

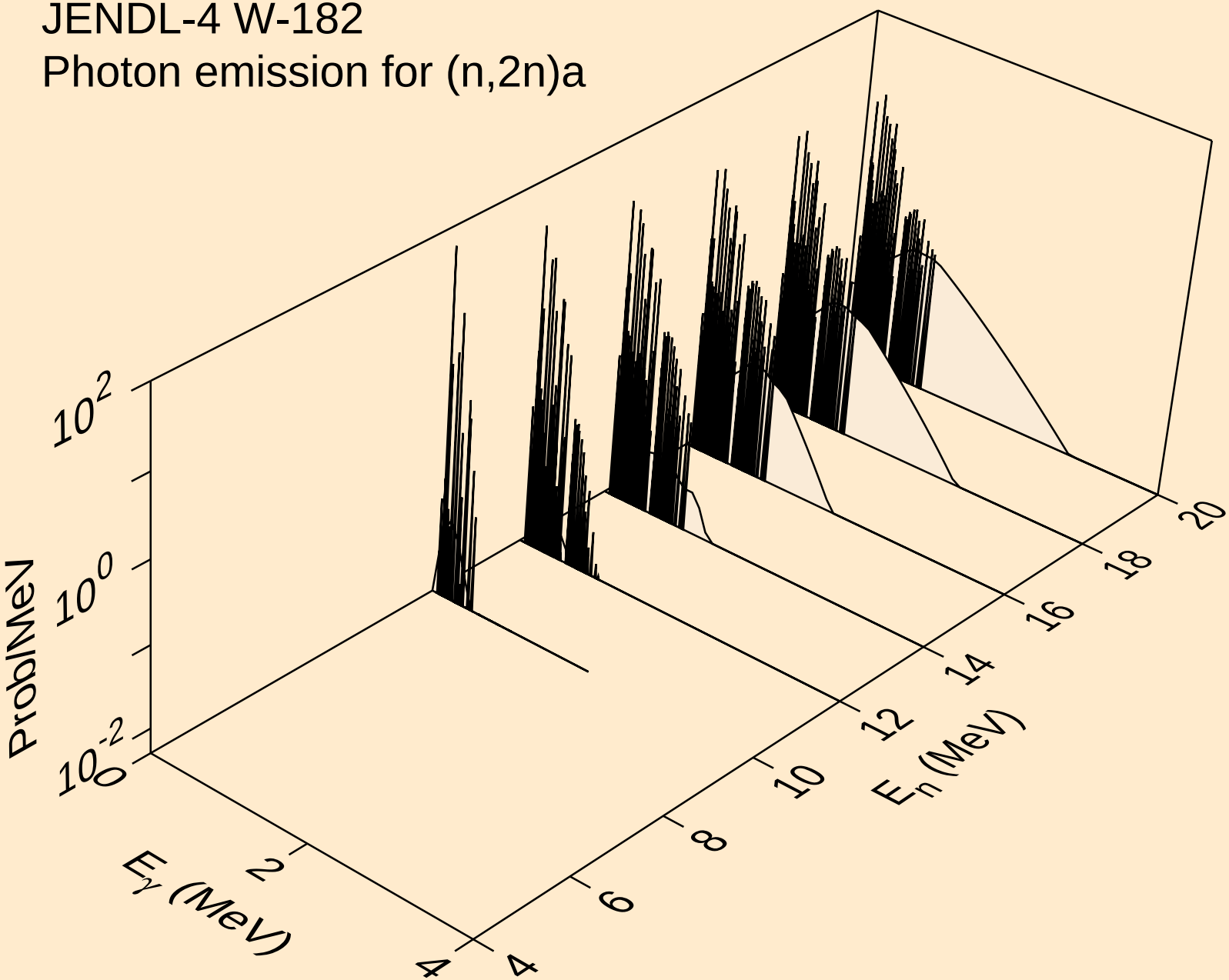



JENDL-4 W-182
Photon emission for (n,2n)
Prob/MeV
$10^0$
$10^{-2}$
0
5
10
$E_\gamma$ (MeV)
8
10
12
14
16
18
20
$E_n$ (MeV)

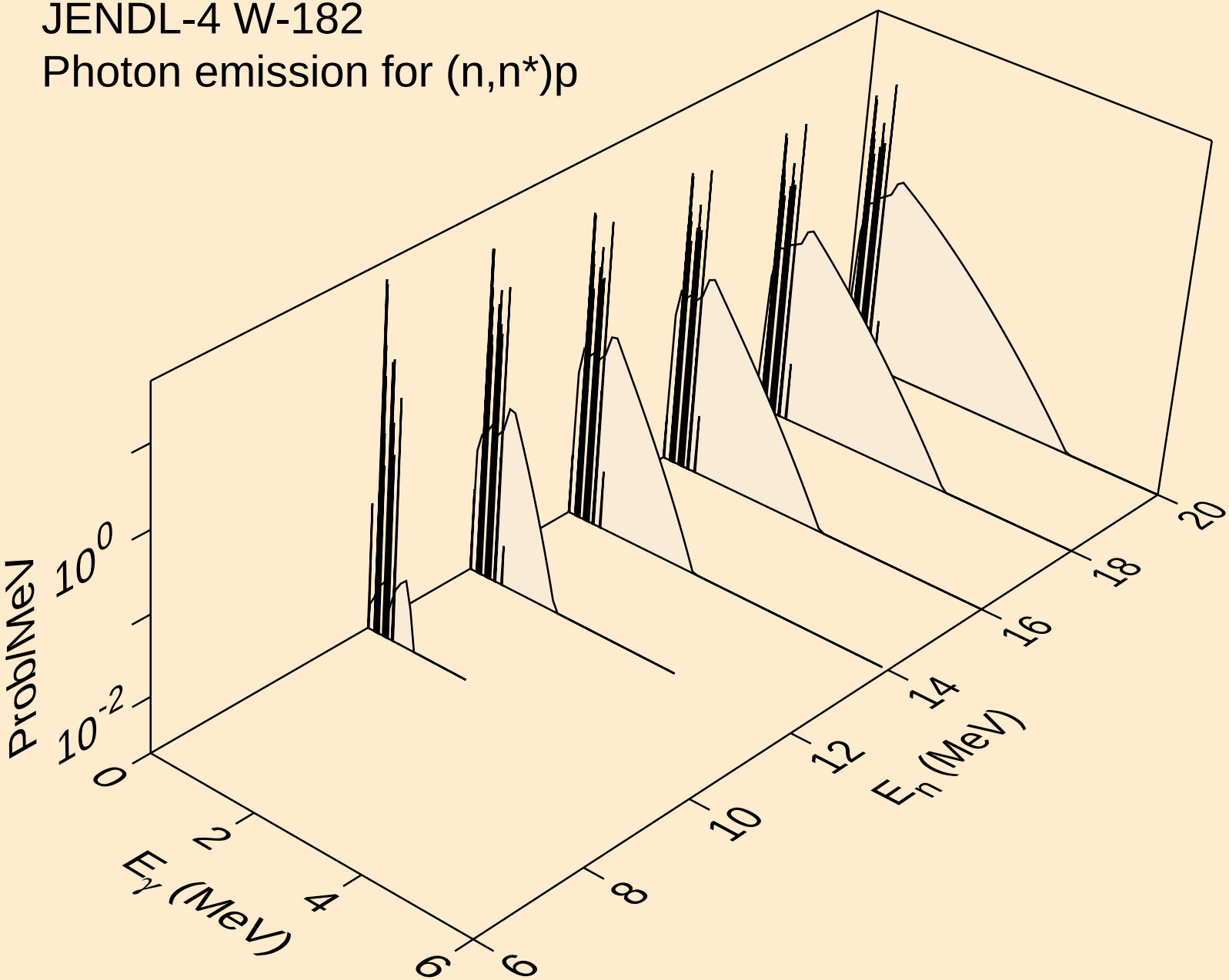

JENDL-4 W-182
Photon emission for (n,3n)
Prob/MeV
$10^{2}$
$10^{0}$
$10^{-2}$
0
2
4
$E_\gamma$ (MeV)
14
15
16
17
18
19
20
$E_n$ (MeV)


JENDL-4 W-182
Photon emission for (n,n*)a
Prob/MeV
$10^2$
$10^0$
0
2
4
$E_\gamma$ (MeV)
0
5
10
15
20
$E_n$ (MeV)

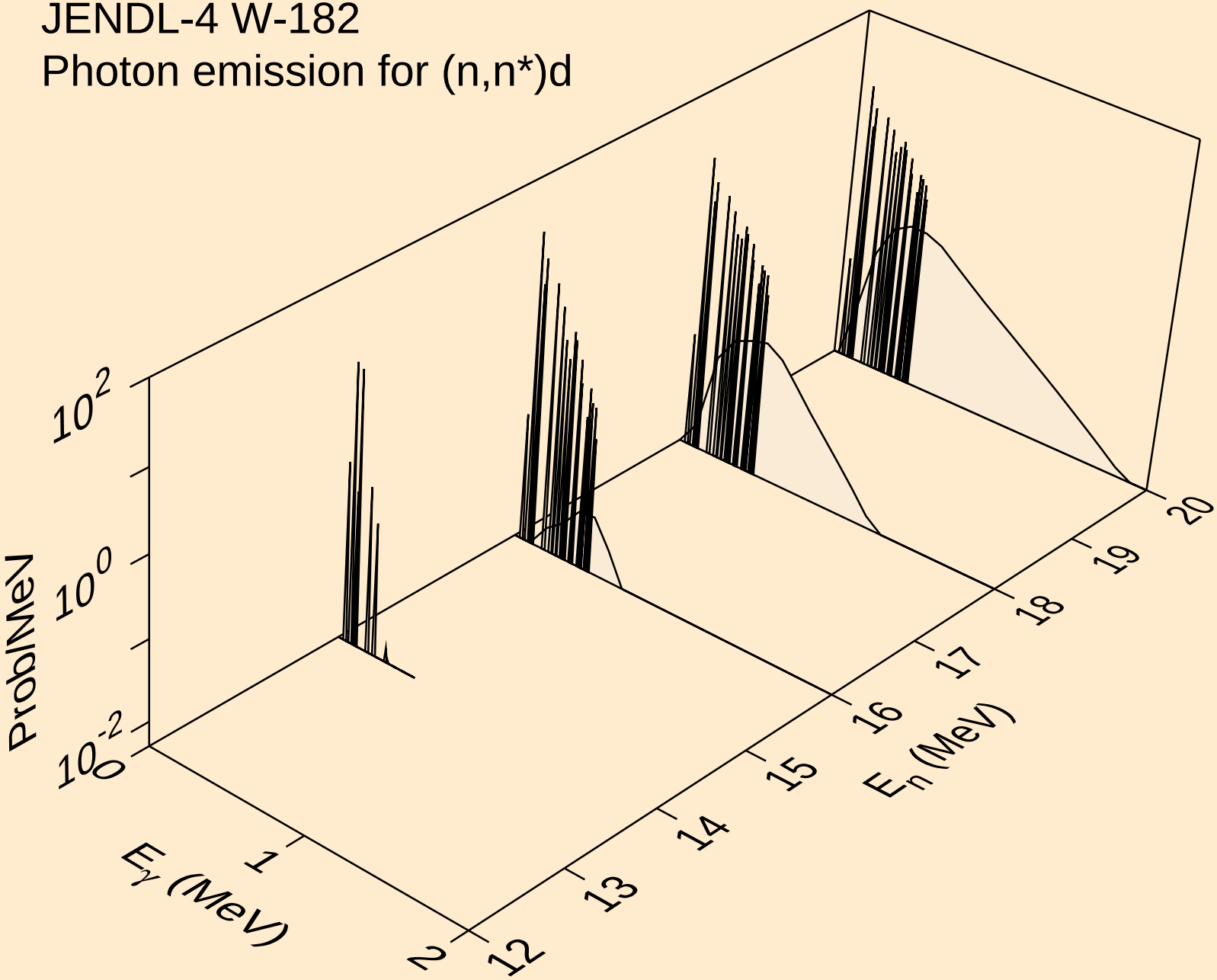
JENDL-4 W-182
Photon emission for (n,2n)a



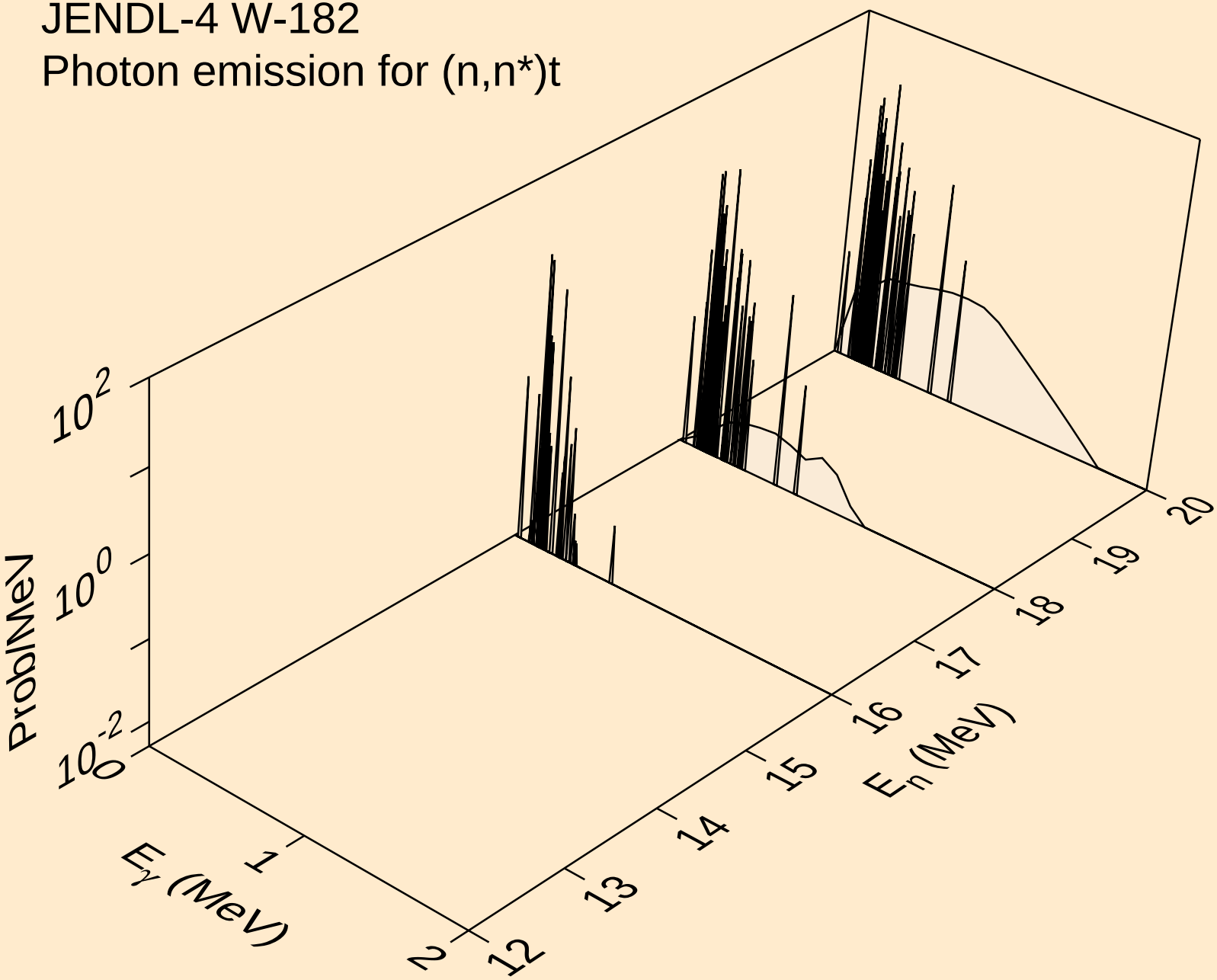
JENDL-4 W-182
Photon emission for (n,n*)p



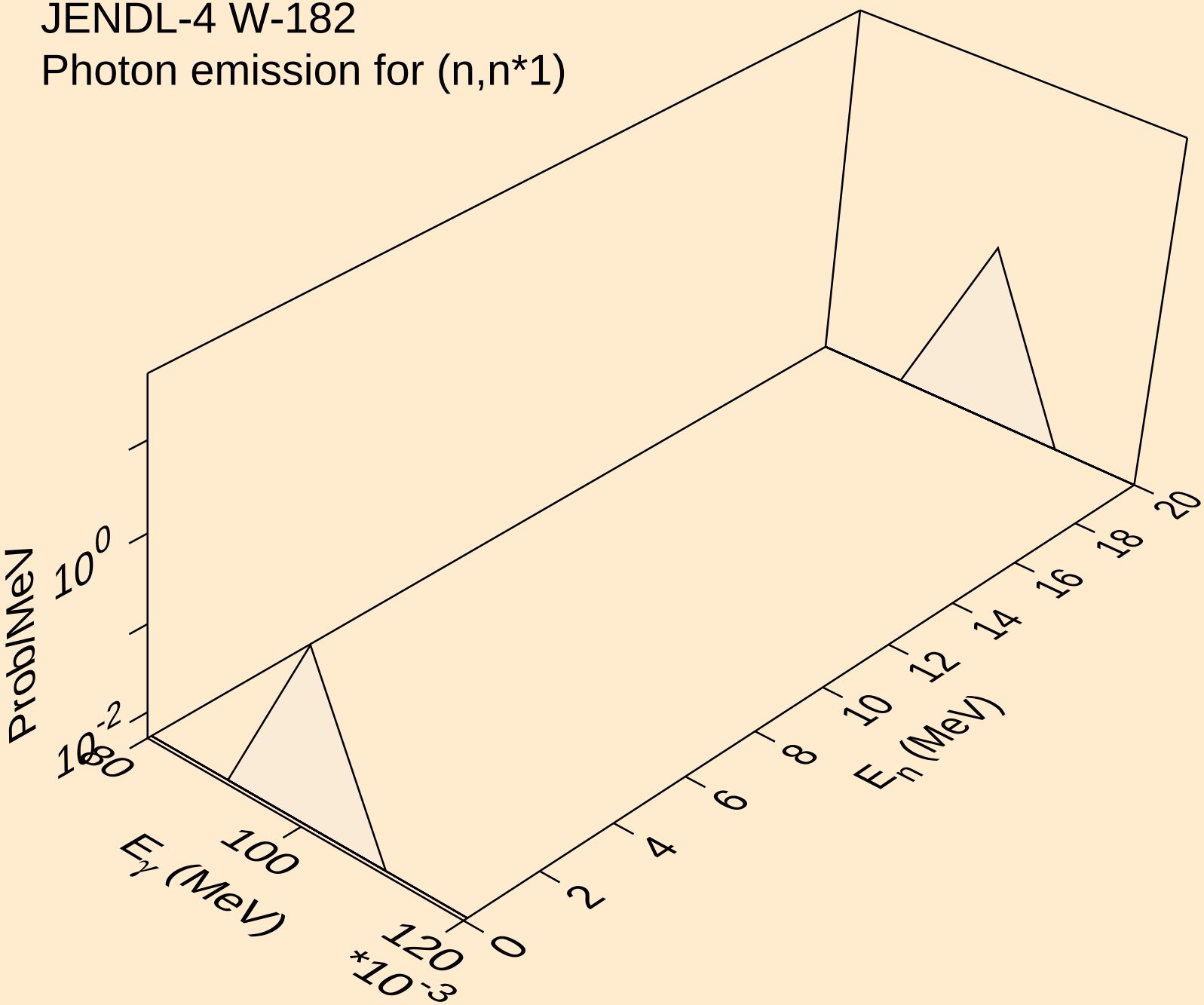
JENDL-4 W-182
Photon emission for (n,n*)d



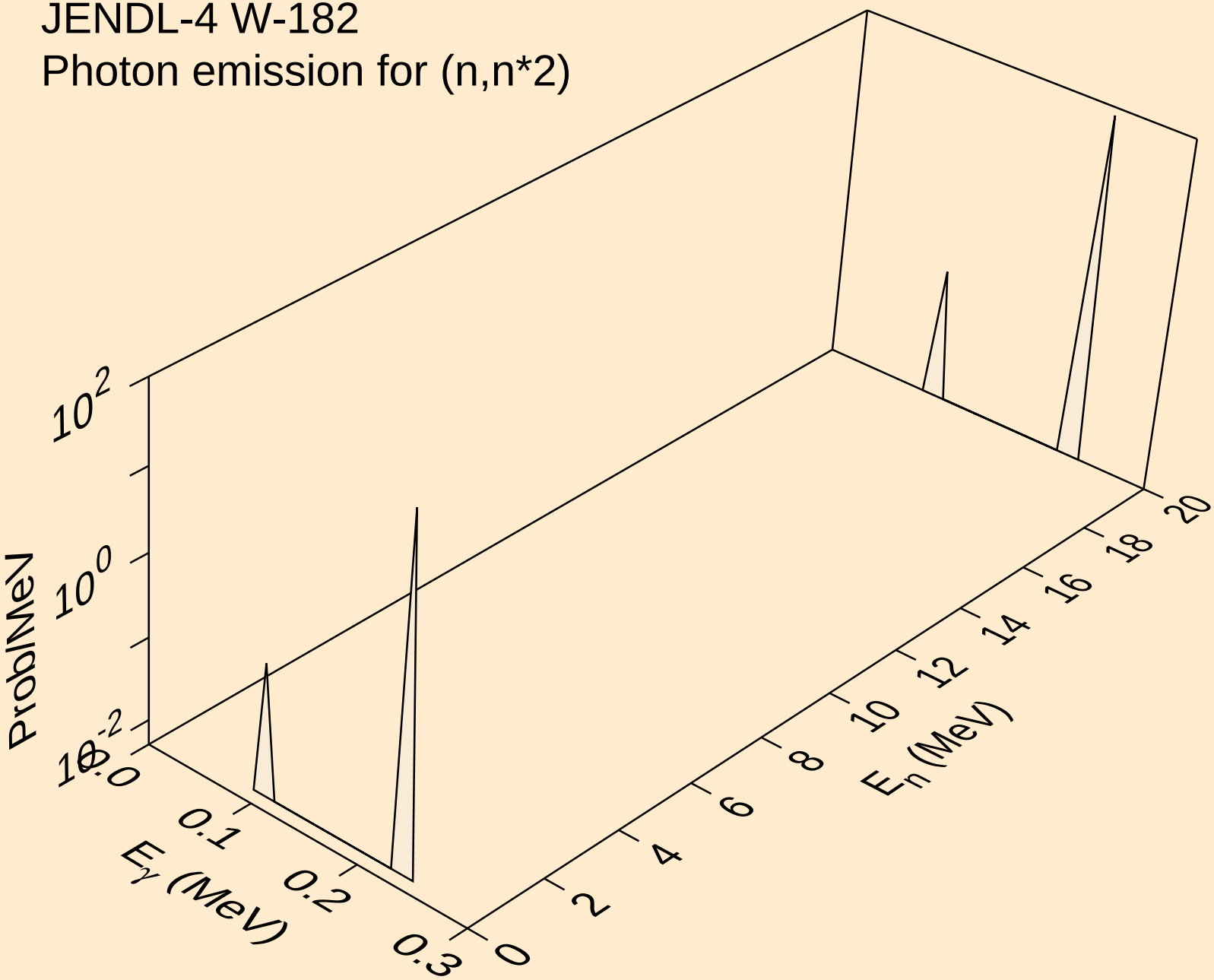
JENDL-4 W-182
Photon emission for (n,n*)t



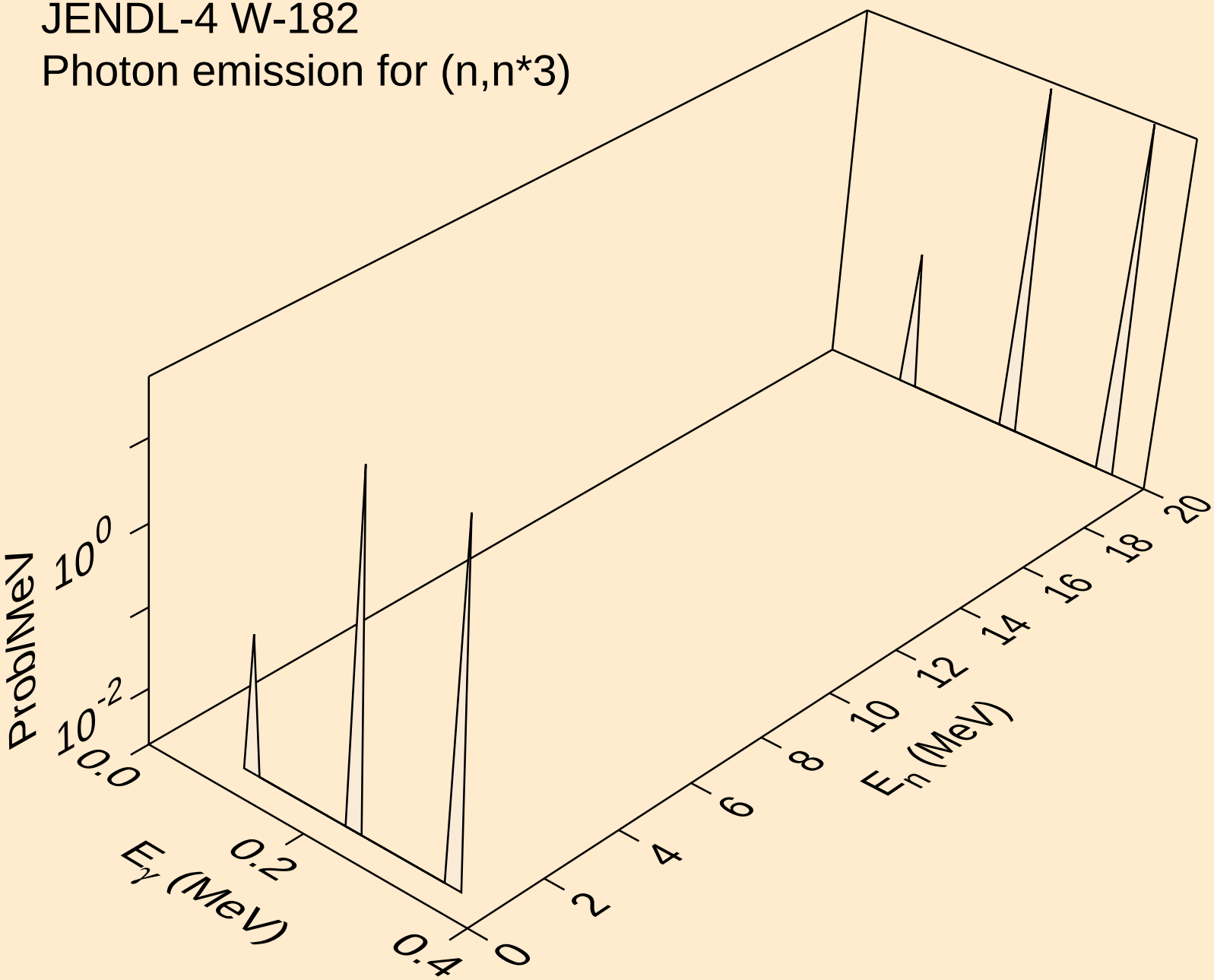
JENDL-4 W-182
Photon emission for (n,n*1)



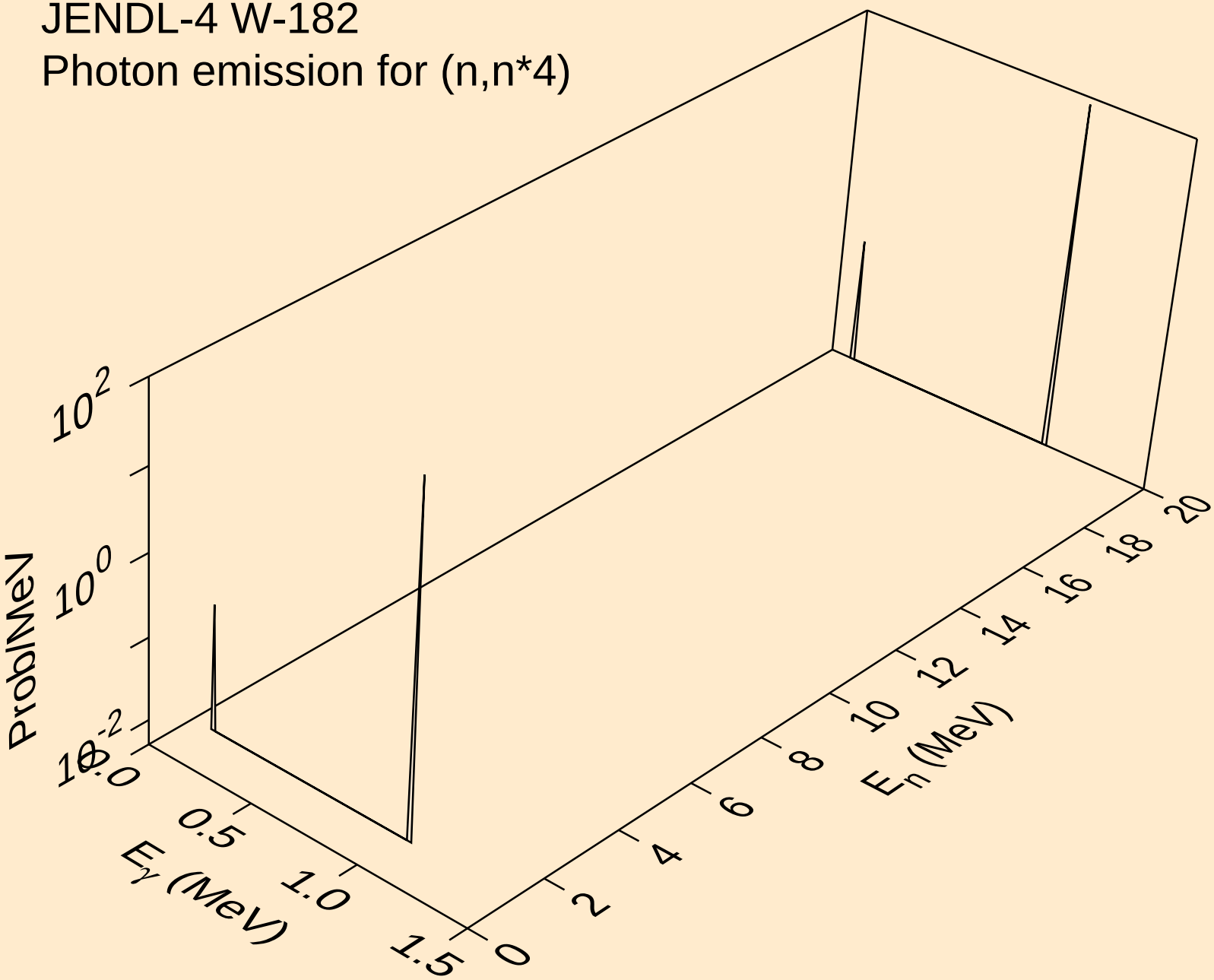
JENDL-4 W-182
Photon emission for (n,n*2)

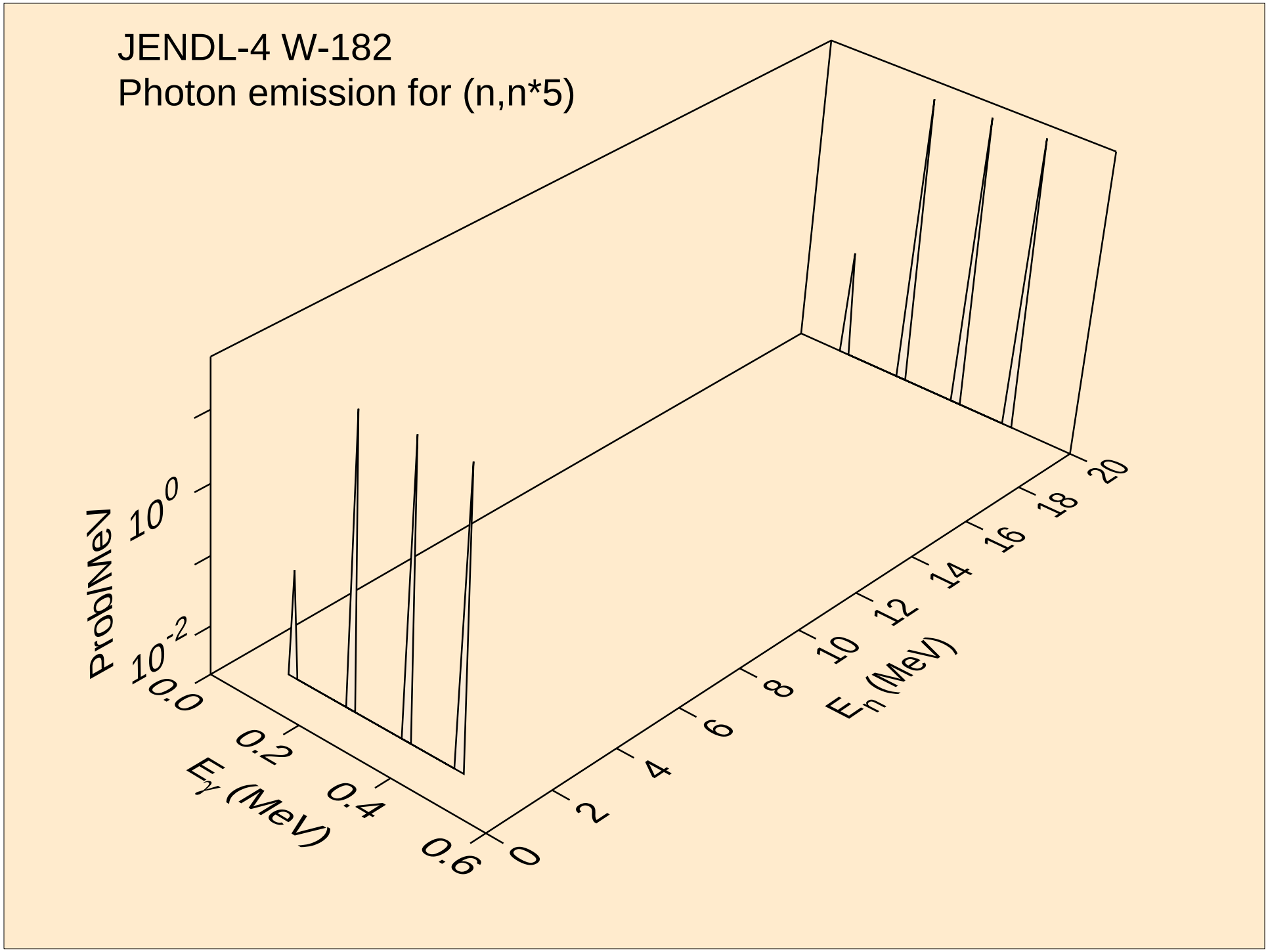


JENDL-4 W-182
Photon emission for (n,n*3)

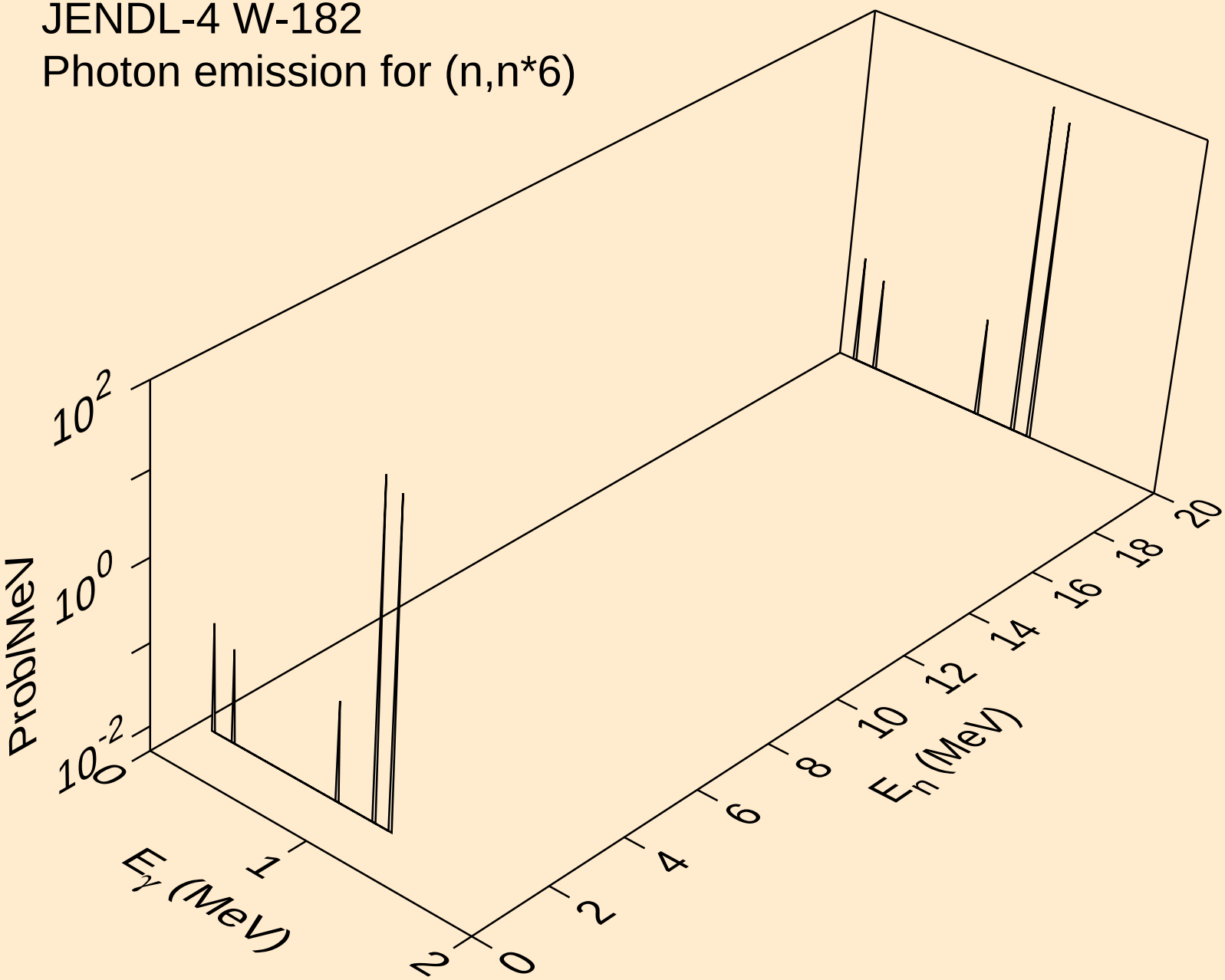


JENDL-4 W-182
Photon emission for (n,n*4)

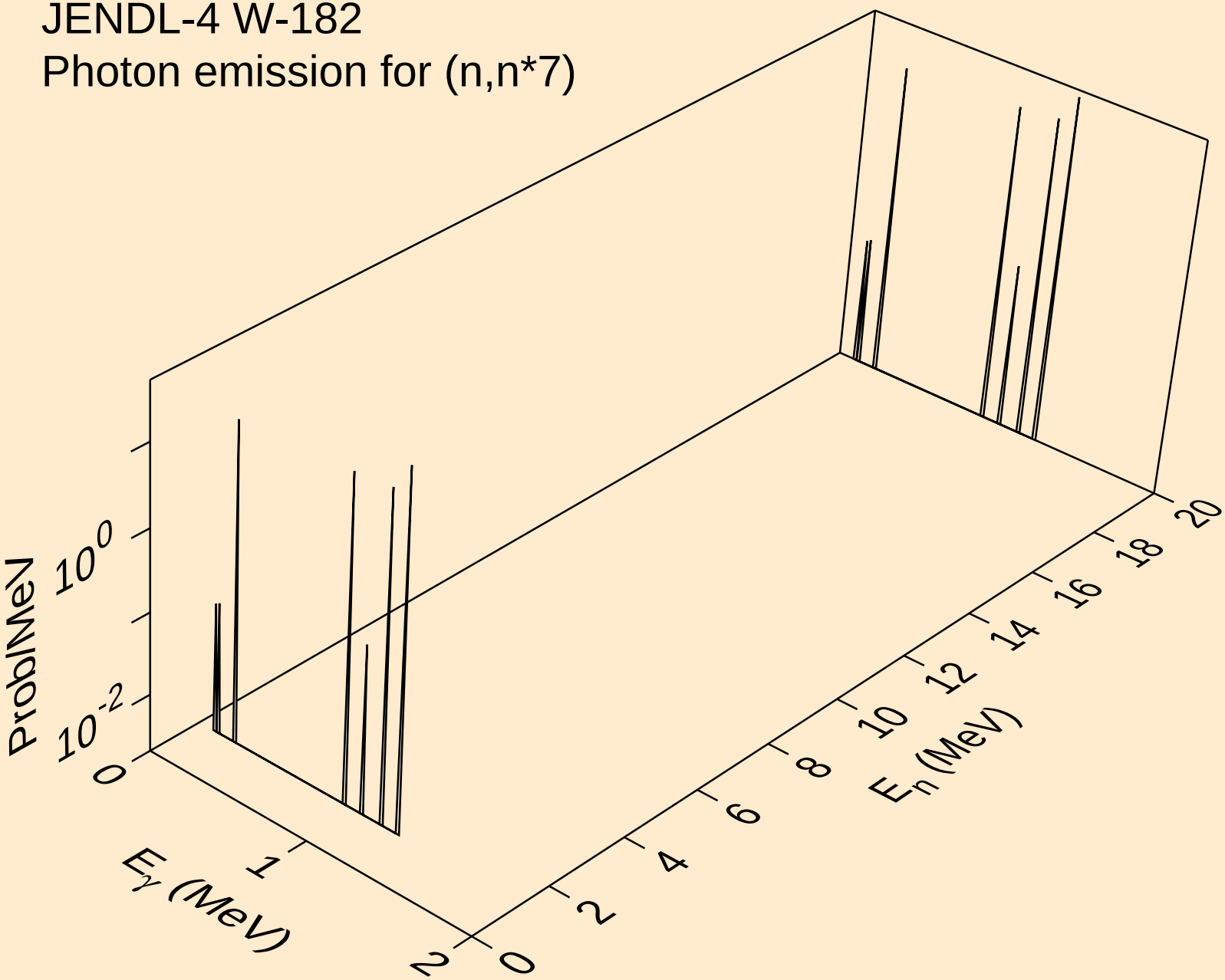


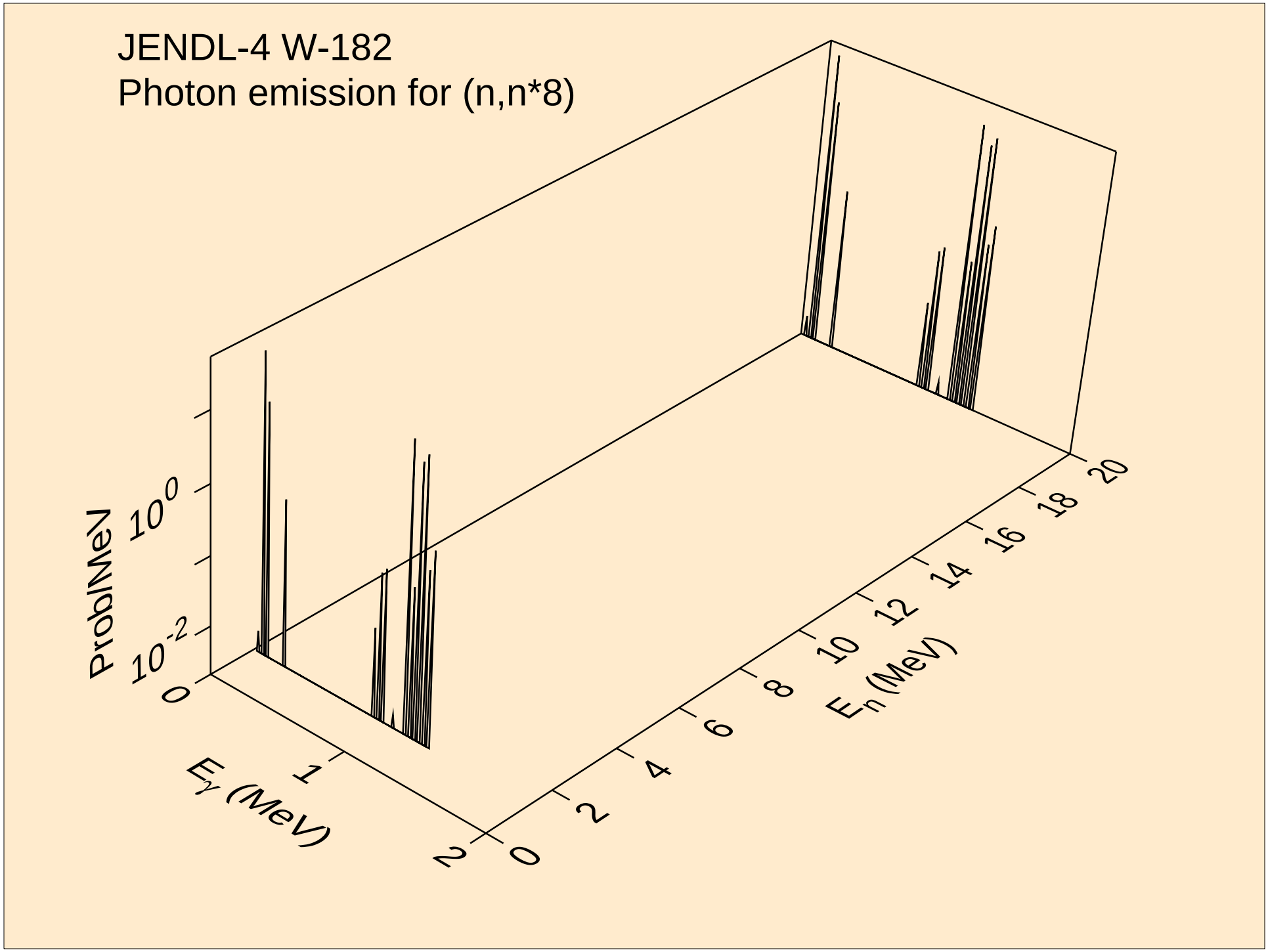

JENDL-4 W-182
Photon emission for (n,n*5)
Prob/MeV
$10^{0}$
$10^{-2}$
0.0
0.2
0.4
0.6
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

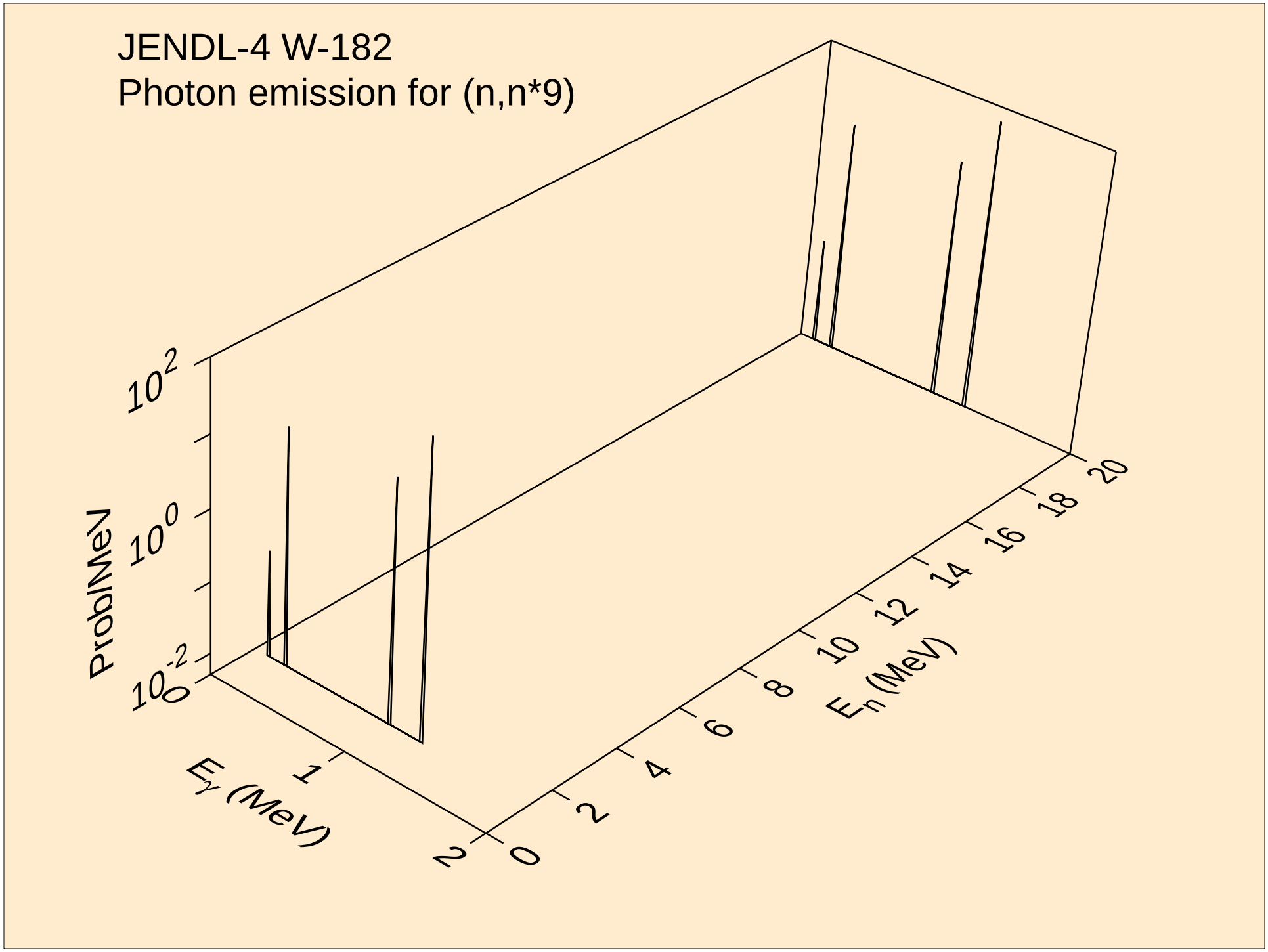
JENDL-4 W-182
Photon emission for (n,n*6)

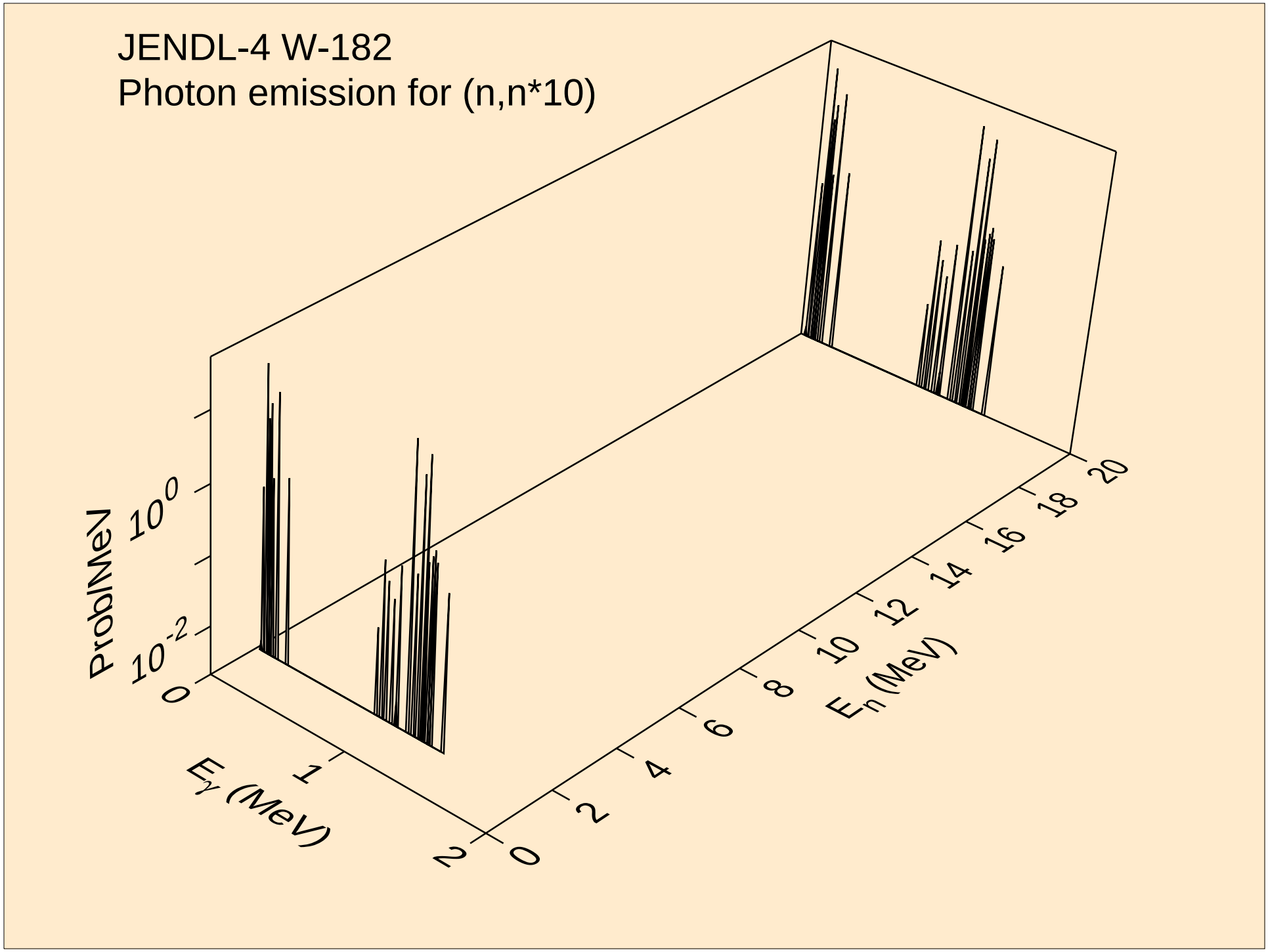


JENDL-4 W-182
Photon emission for (n,n*7)

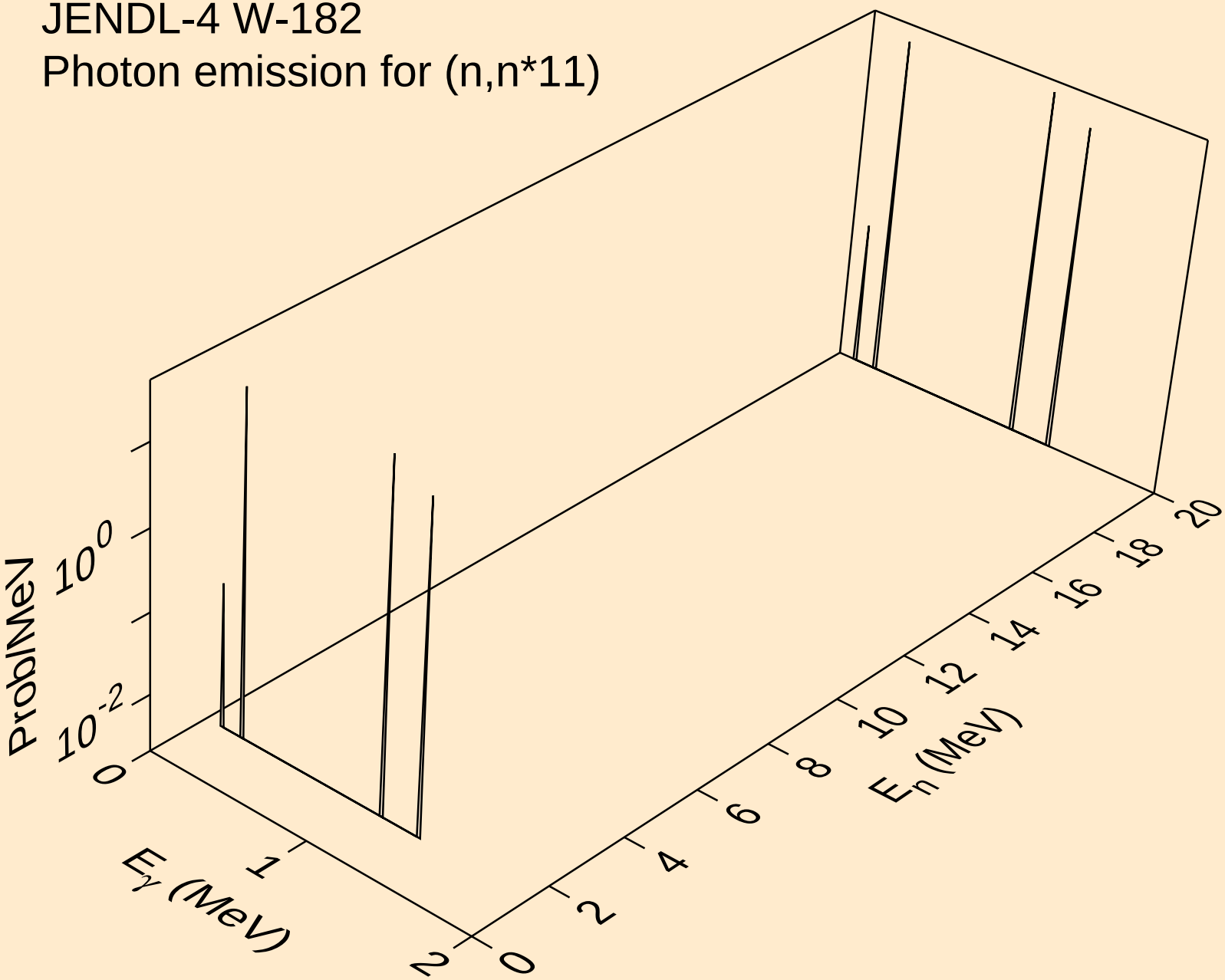


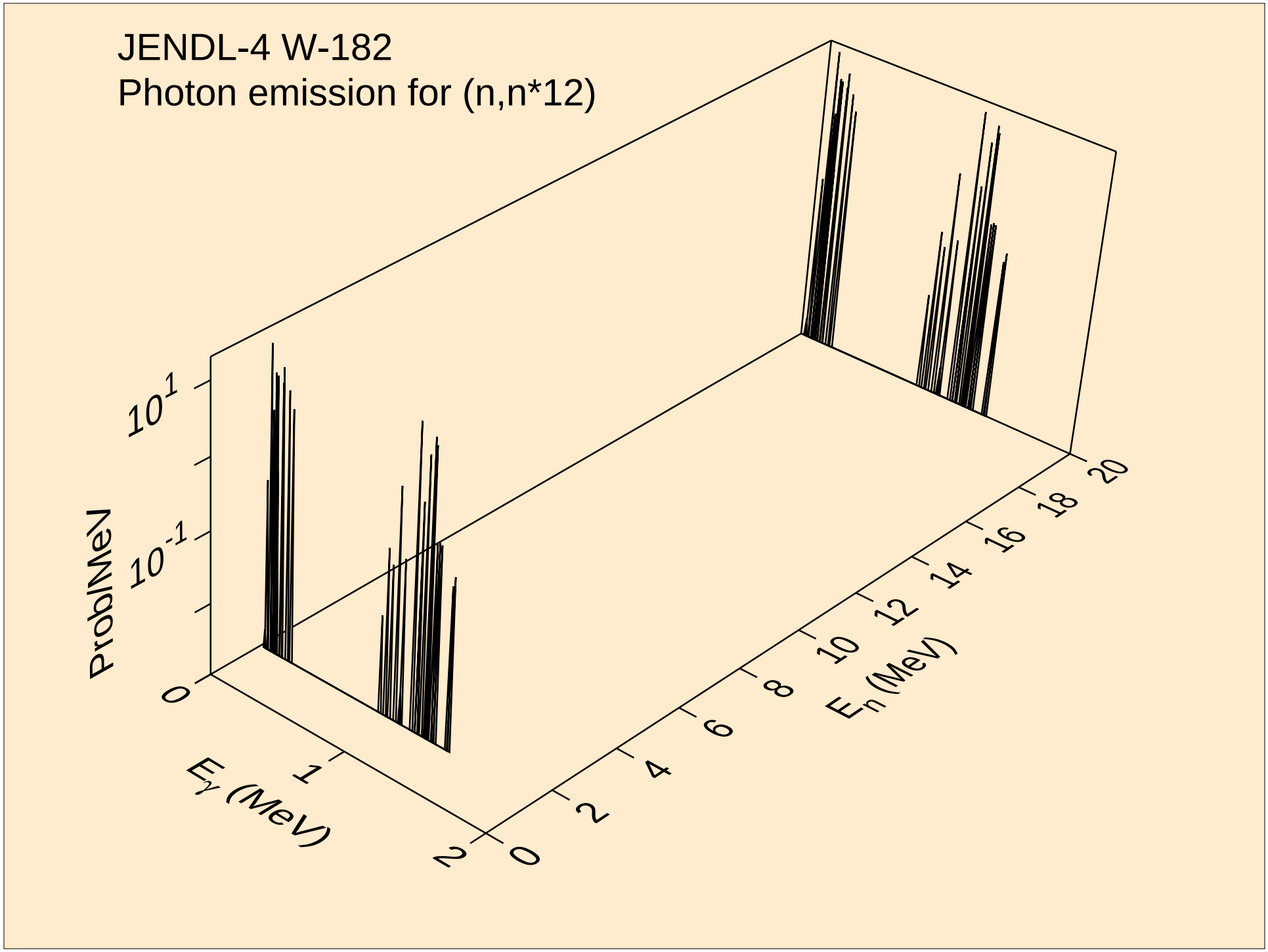

JENDL-4 W-182
Photon emission for (n,n*8)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

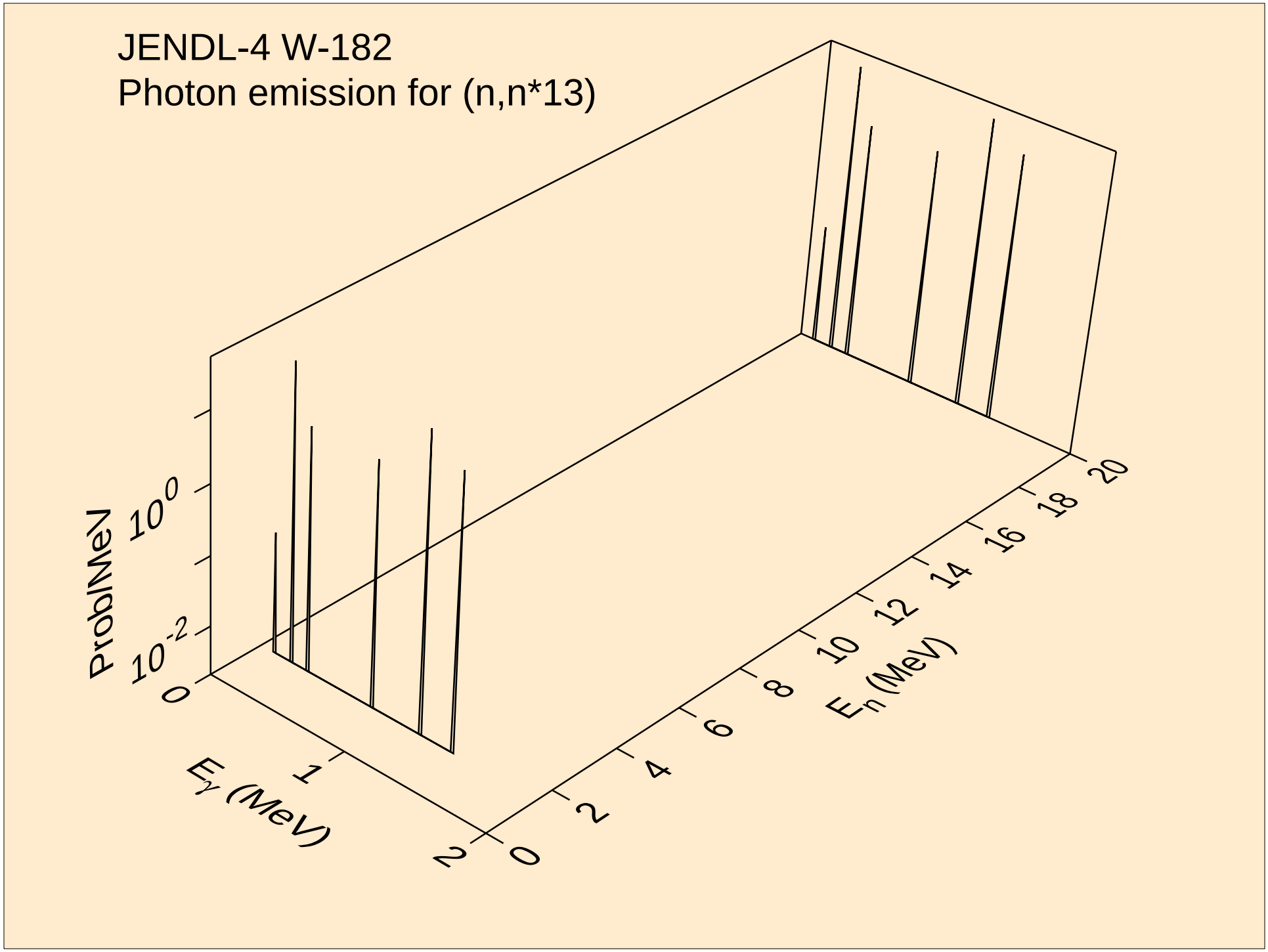

JENDL-4 W-182
Photon emission for (n,n*9)
Prob/MeV
$10^{2}$
$10^{0}$
$10^{-2}$
$E_\gamma$ (MeV)
0
1
2
$E_n$ (MeV)
0
2
4
6
8
10
12
14
16
18
20

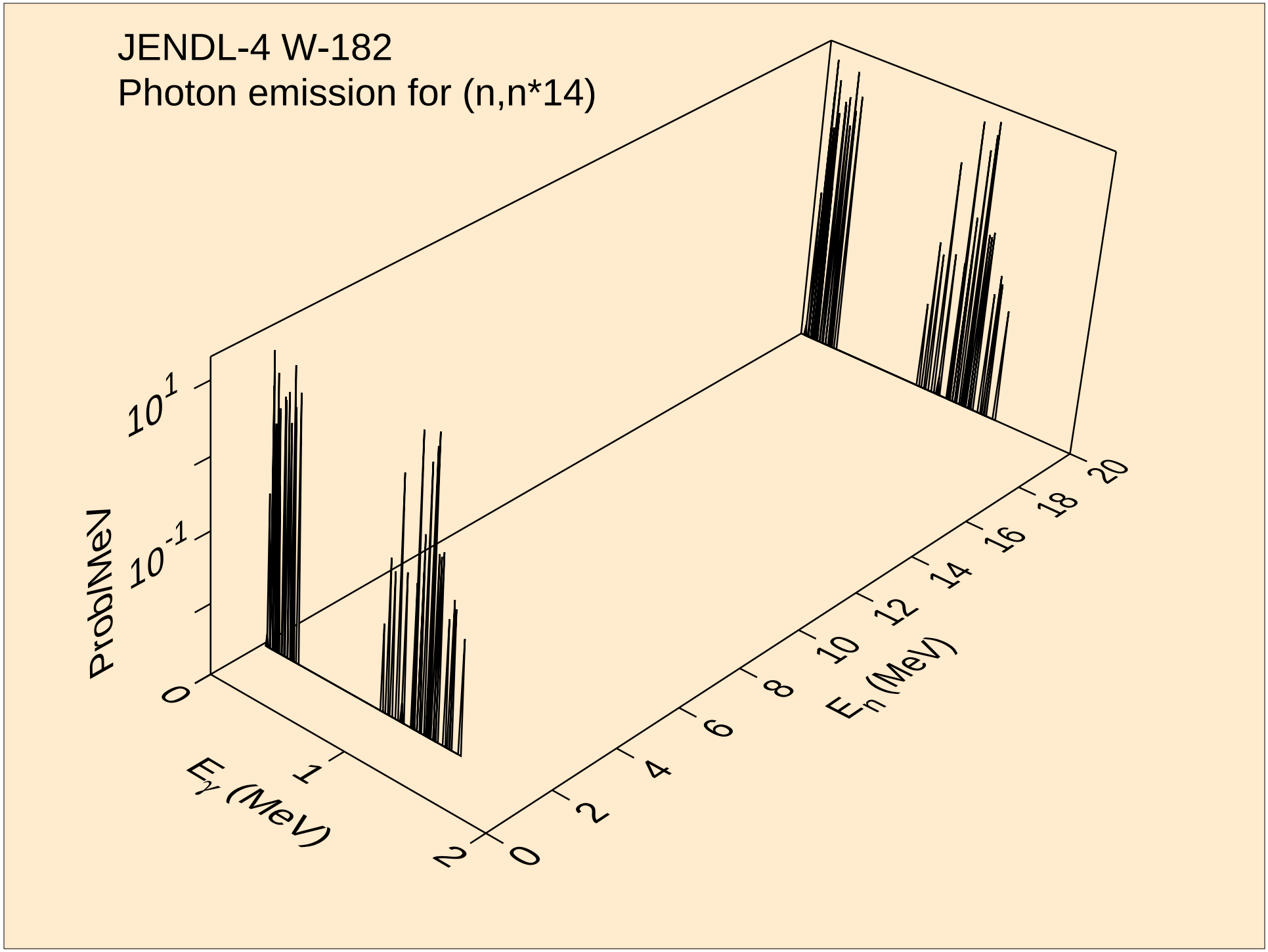

JENDL-4 W-182
Photon emission for (n,n*10)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

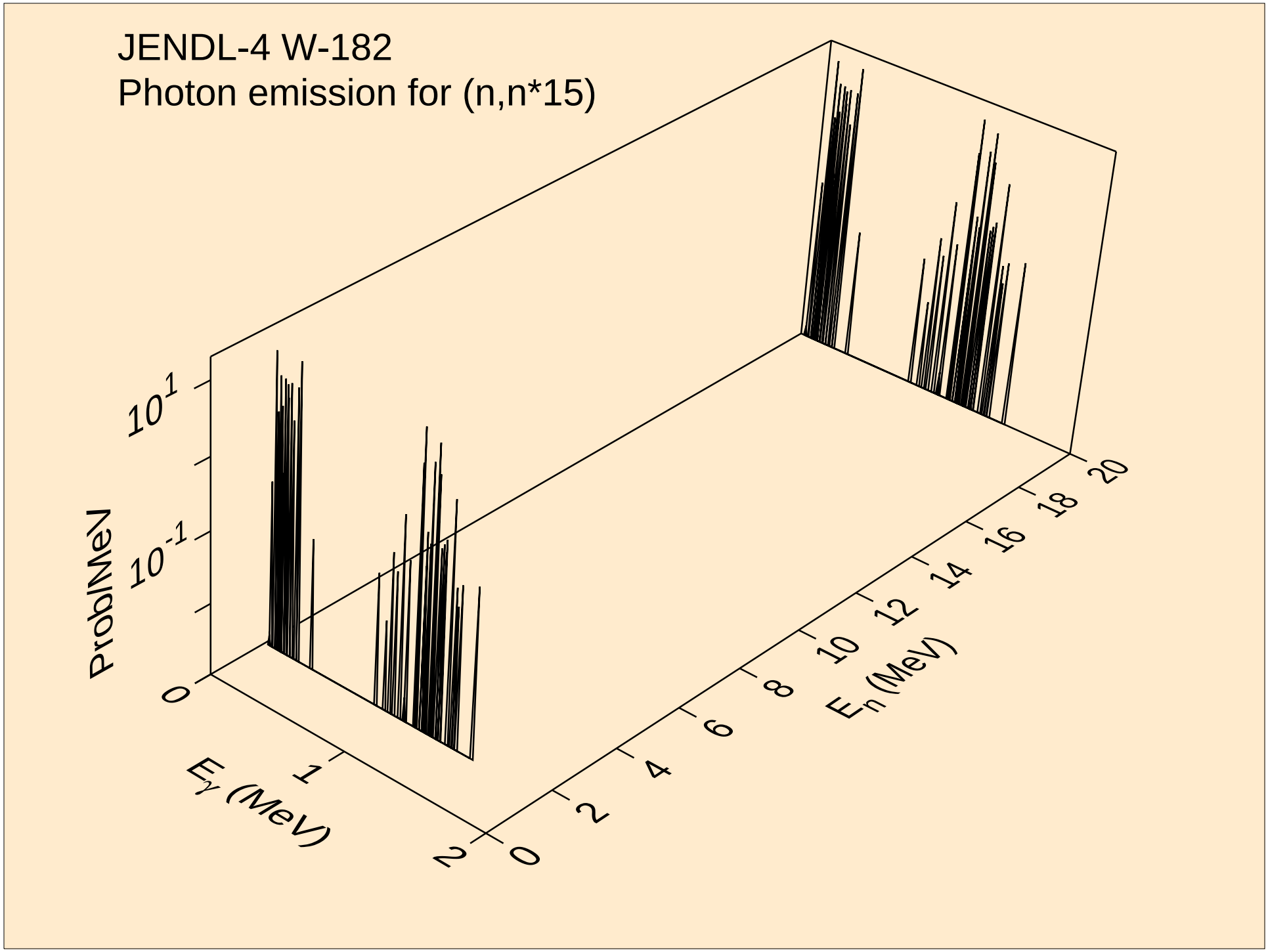
JENDL-4 W-182
Photon emission for (n,n*11)

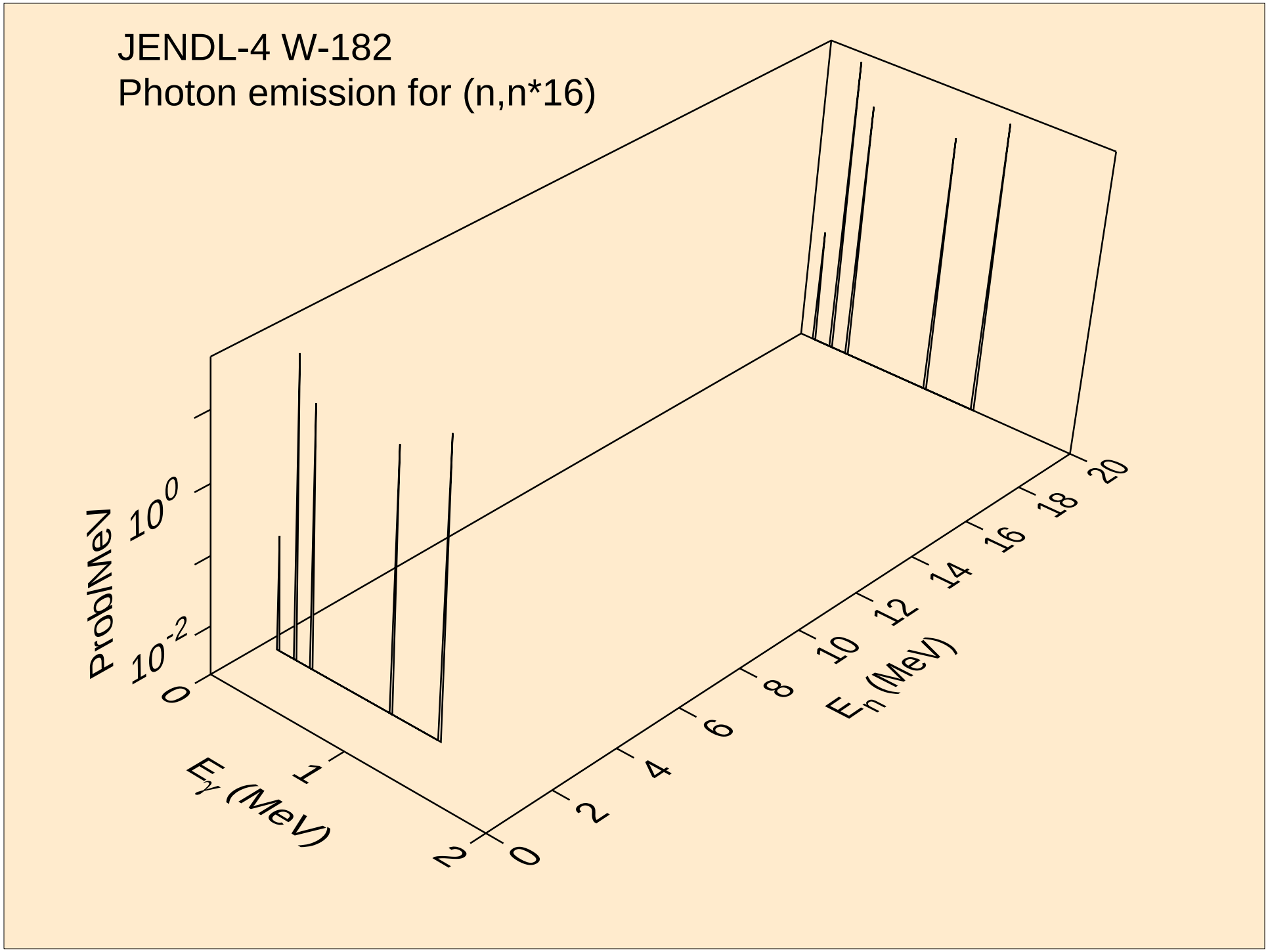


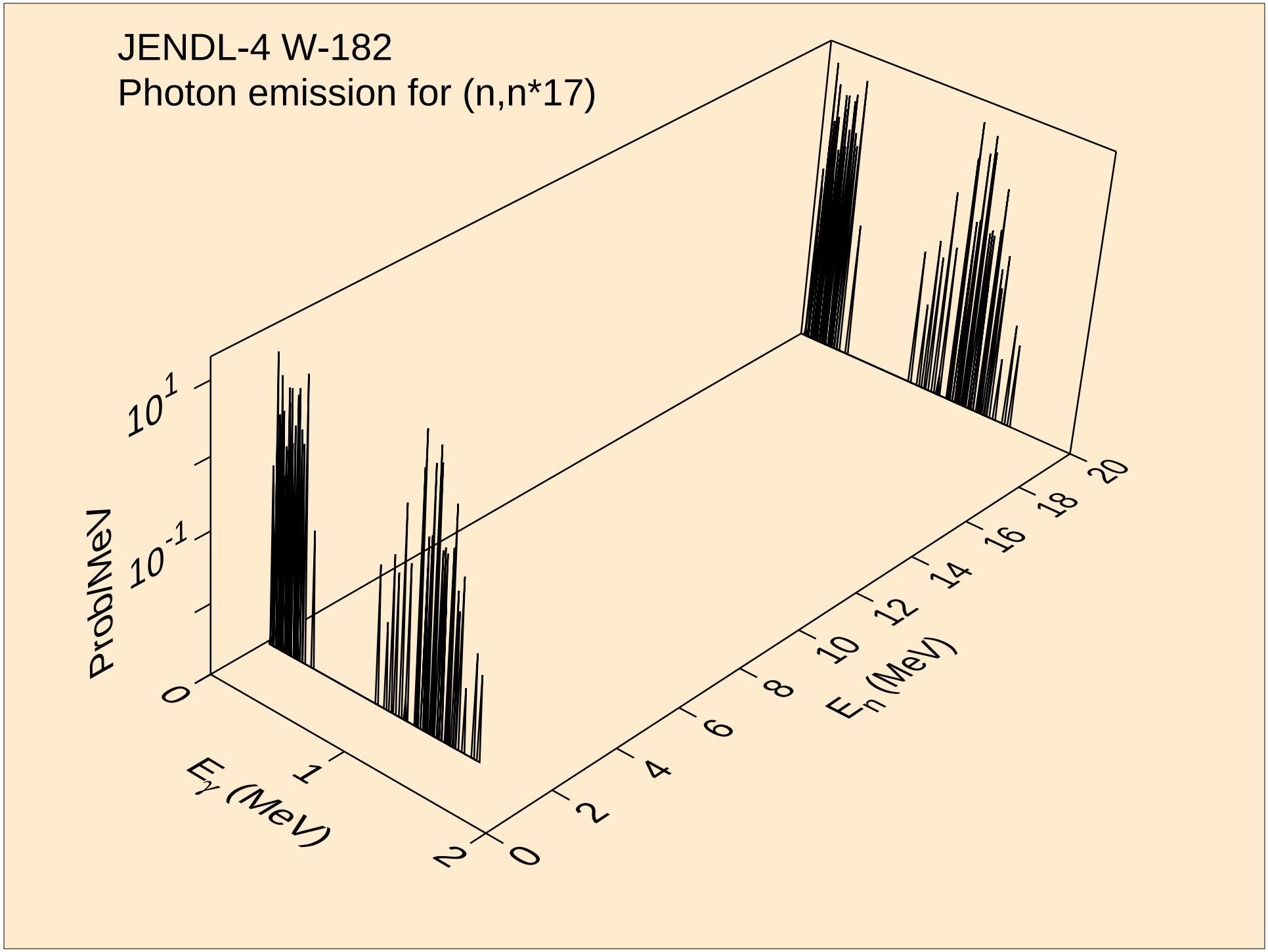

JENDL-4 W-182
Photon emission for (n,n*12)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)


JENDL-4 W-182
Photon emission for (n,n*13)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

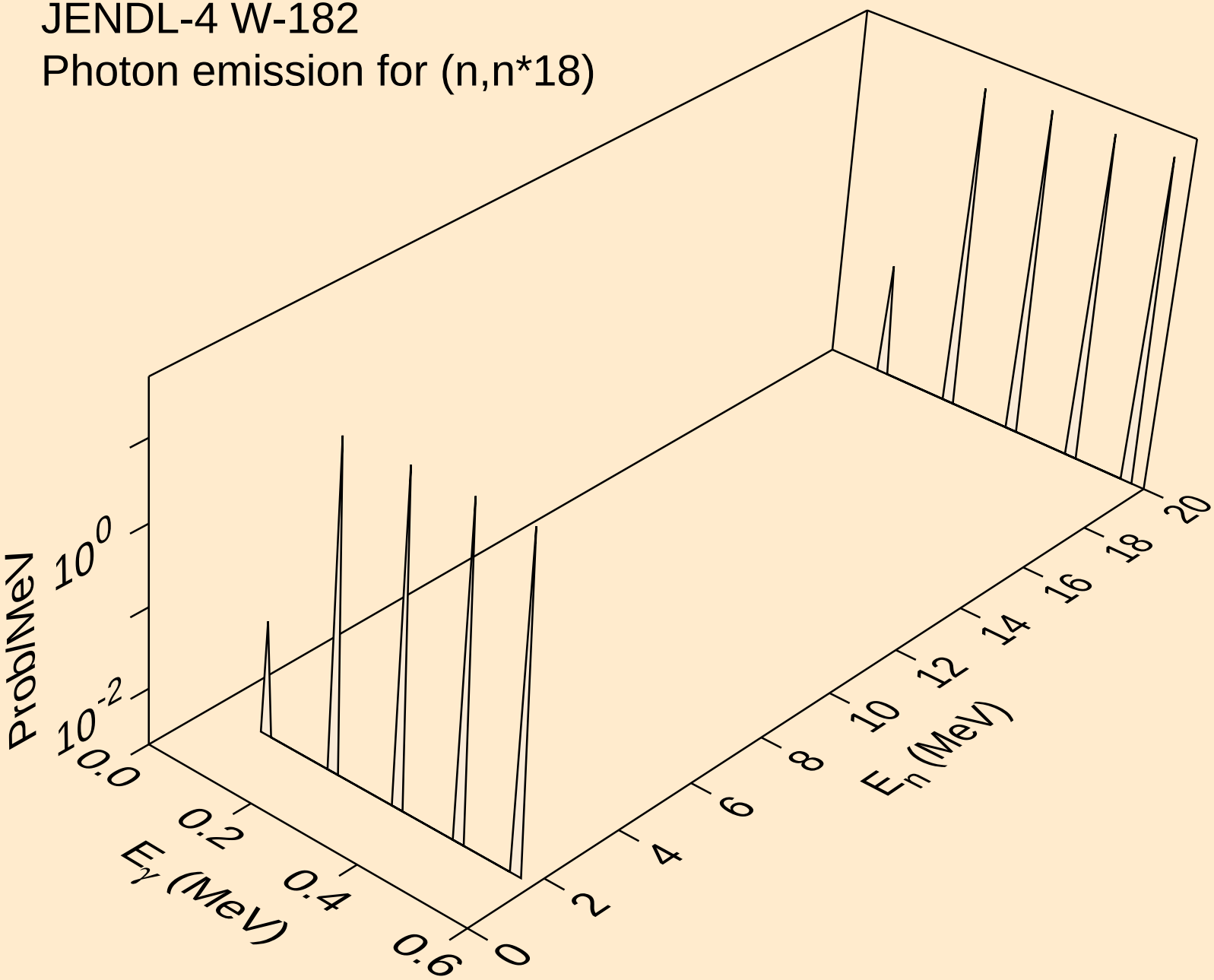

JENDL-4 W-182
Photon emission for (n,n*14)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

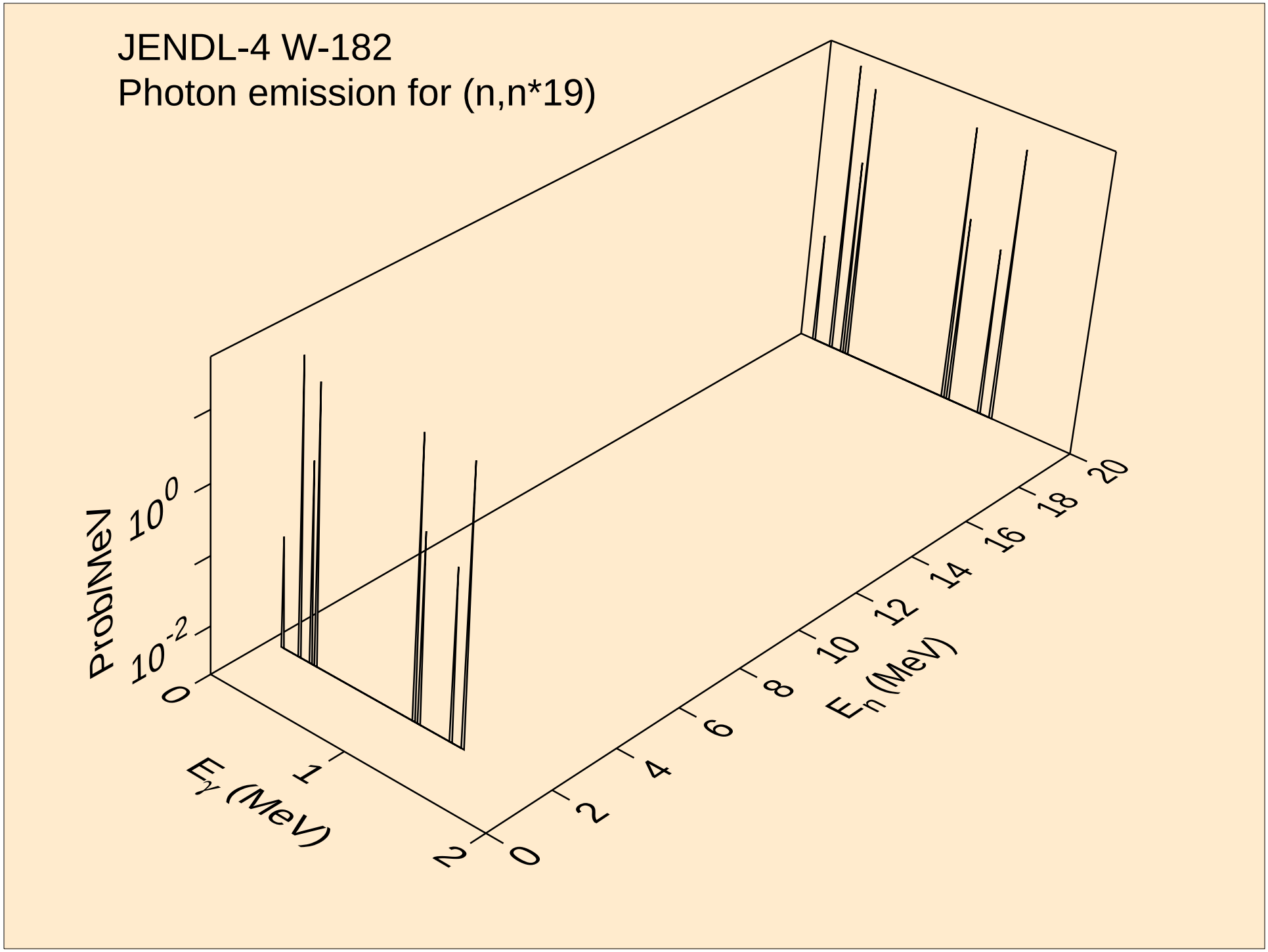

JENDL-4 W-182
Photon emission for (n,n*15)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)


JENDL-4 W-182
Photon emission for (n,n*16)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

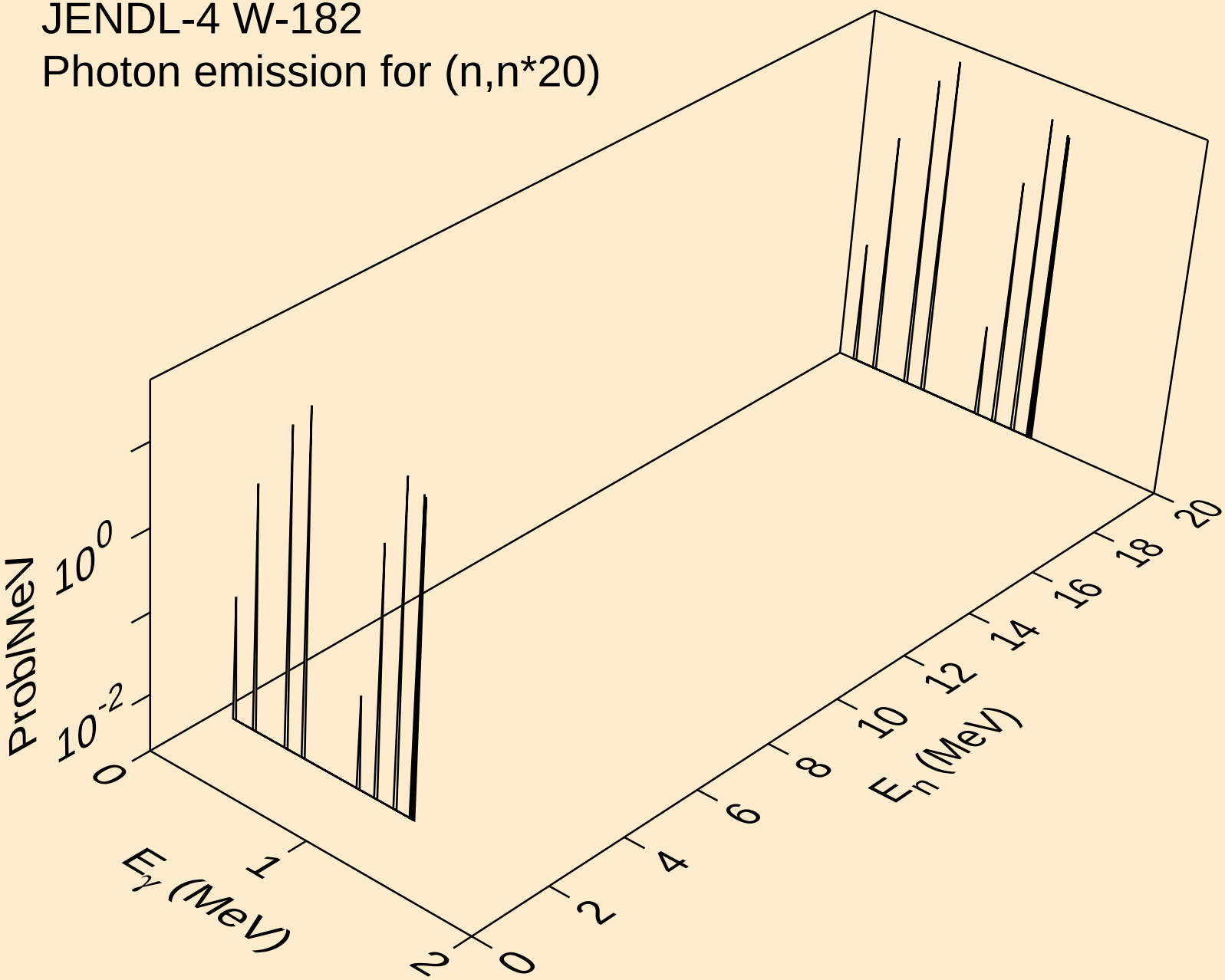

JENDL-4 W-182
Photon emission for (n,n*17)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

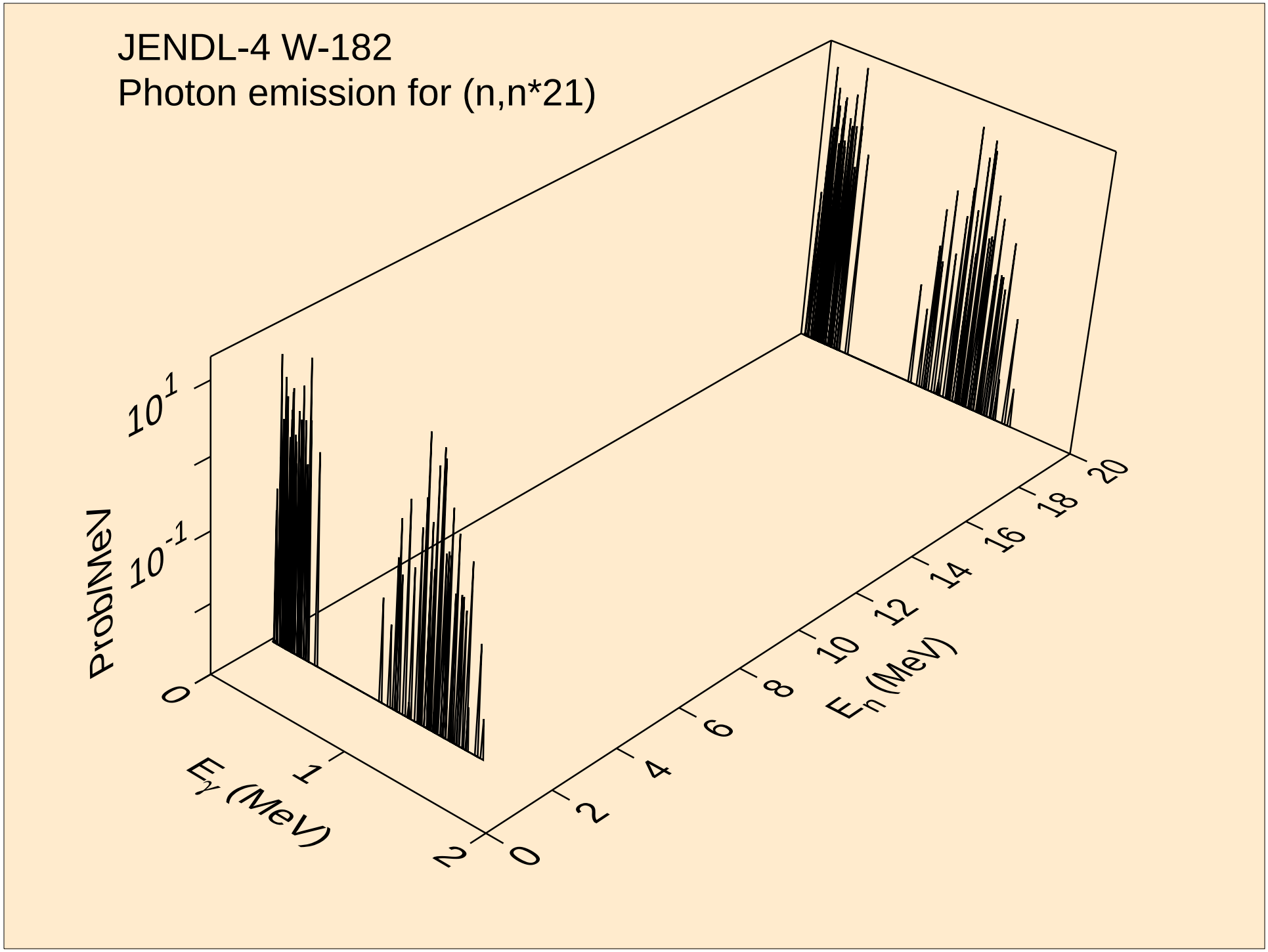
JENDL-4 W-182
Photon emission for (n,n*18)



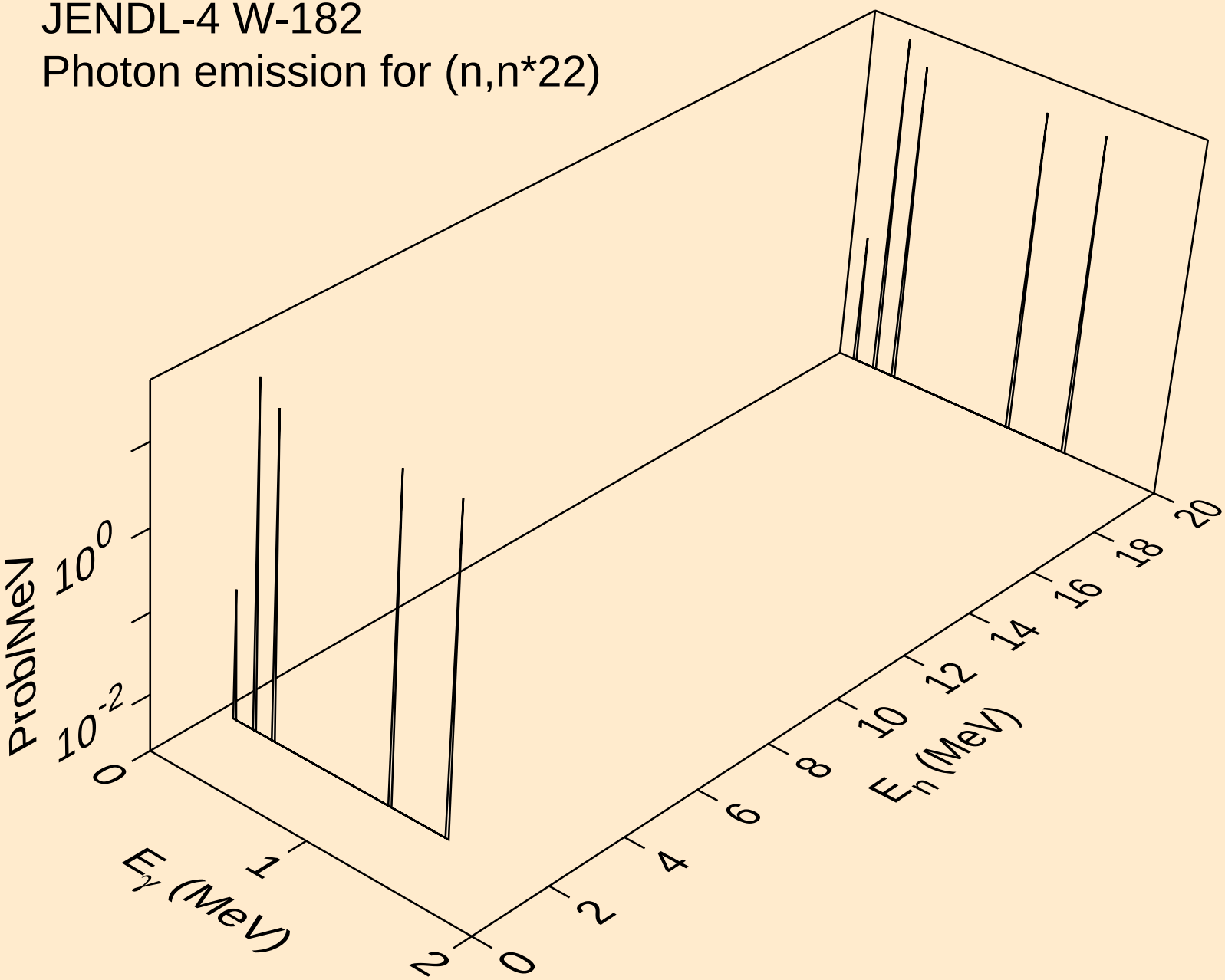

JENDL-4 W-182
Photon emission for (n,n*19)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

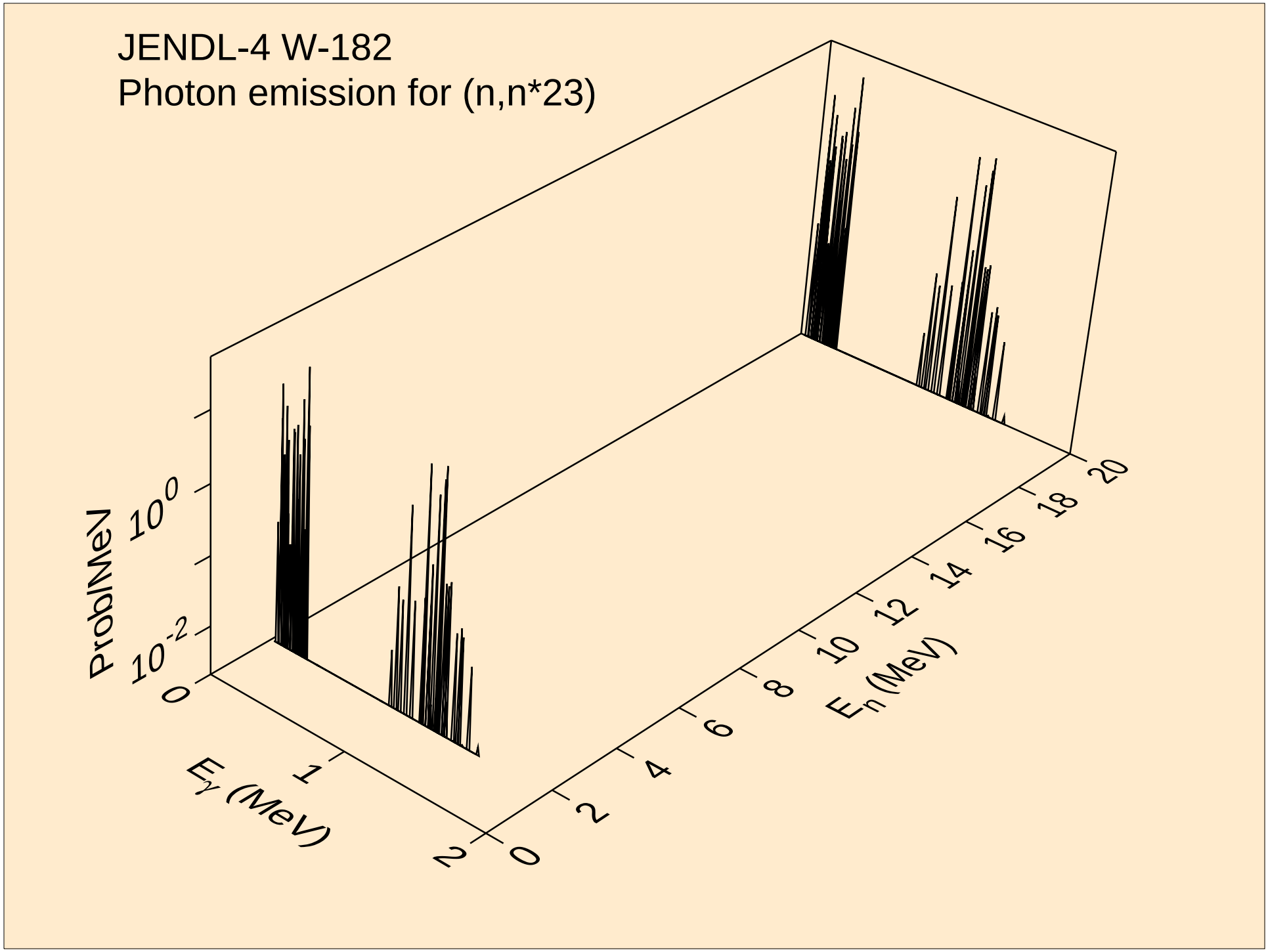
JENDL-4 W-182
Photon emission for (n,n*20)

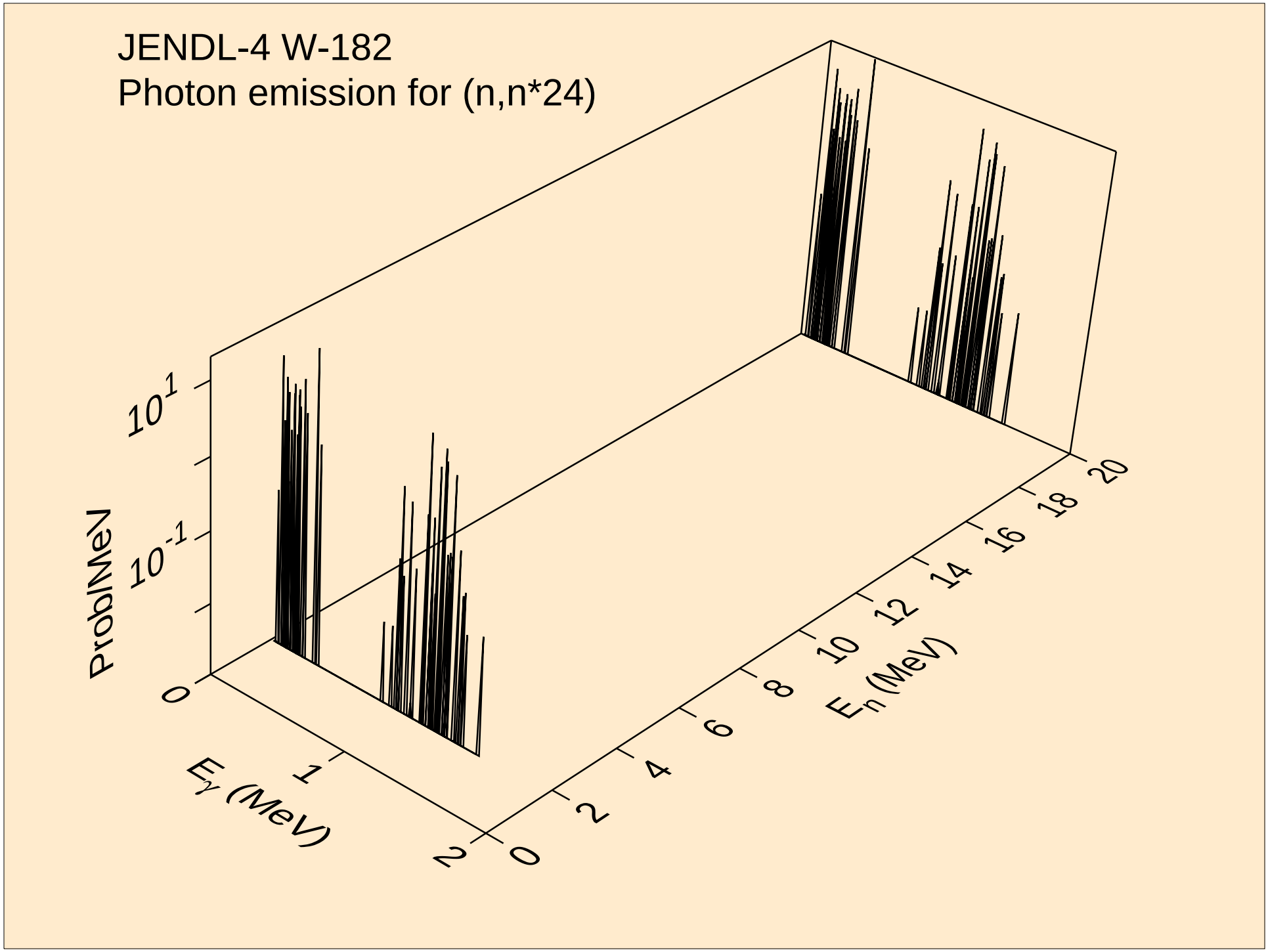


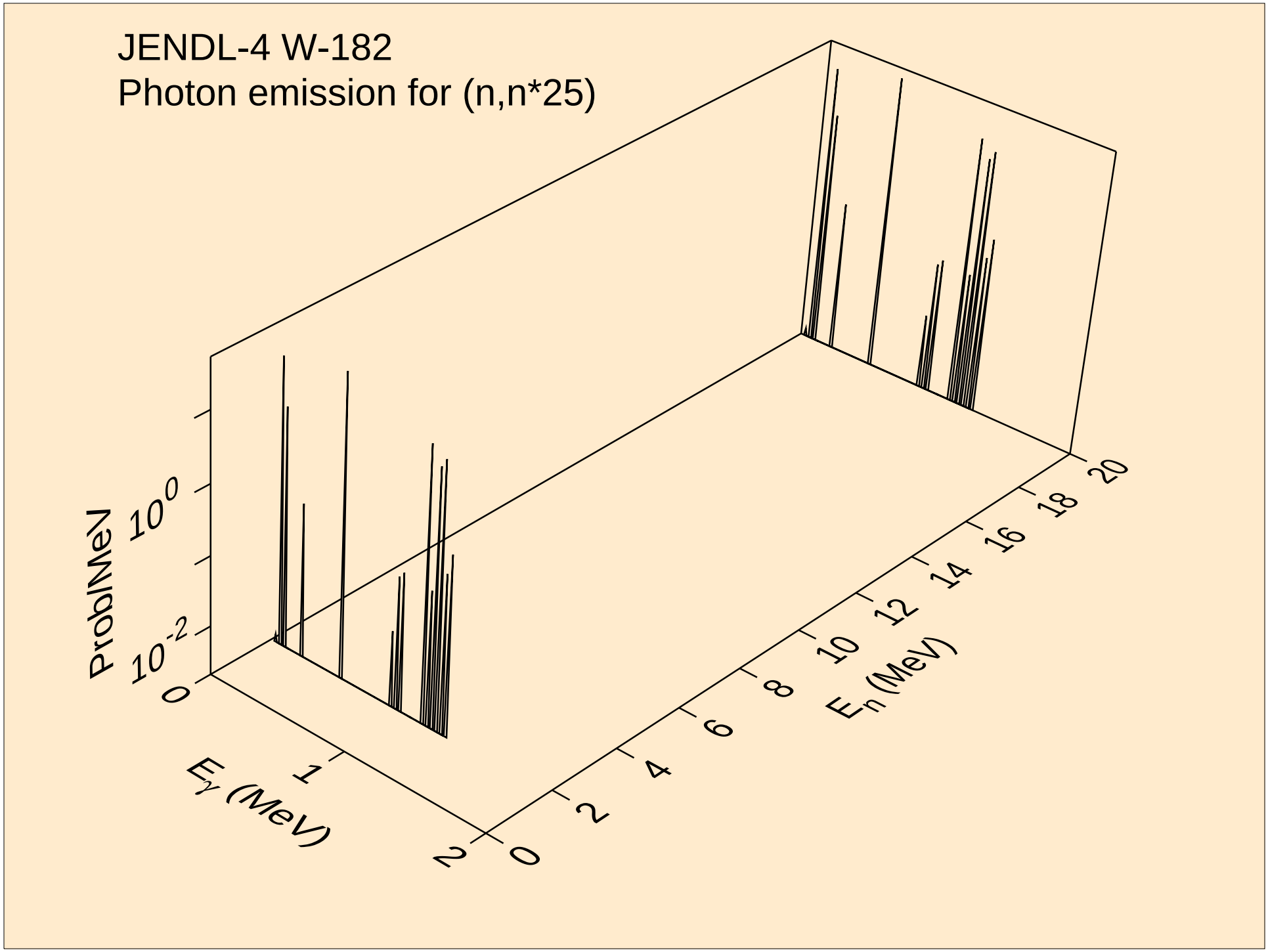

JENDL-4 W-182
Photon emission for (n,n*21)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

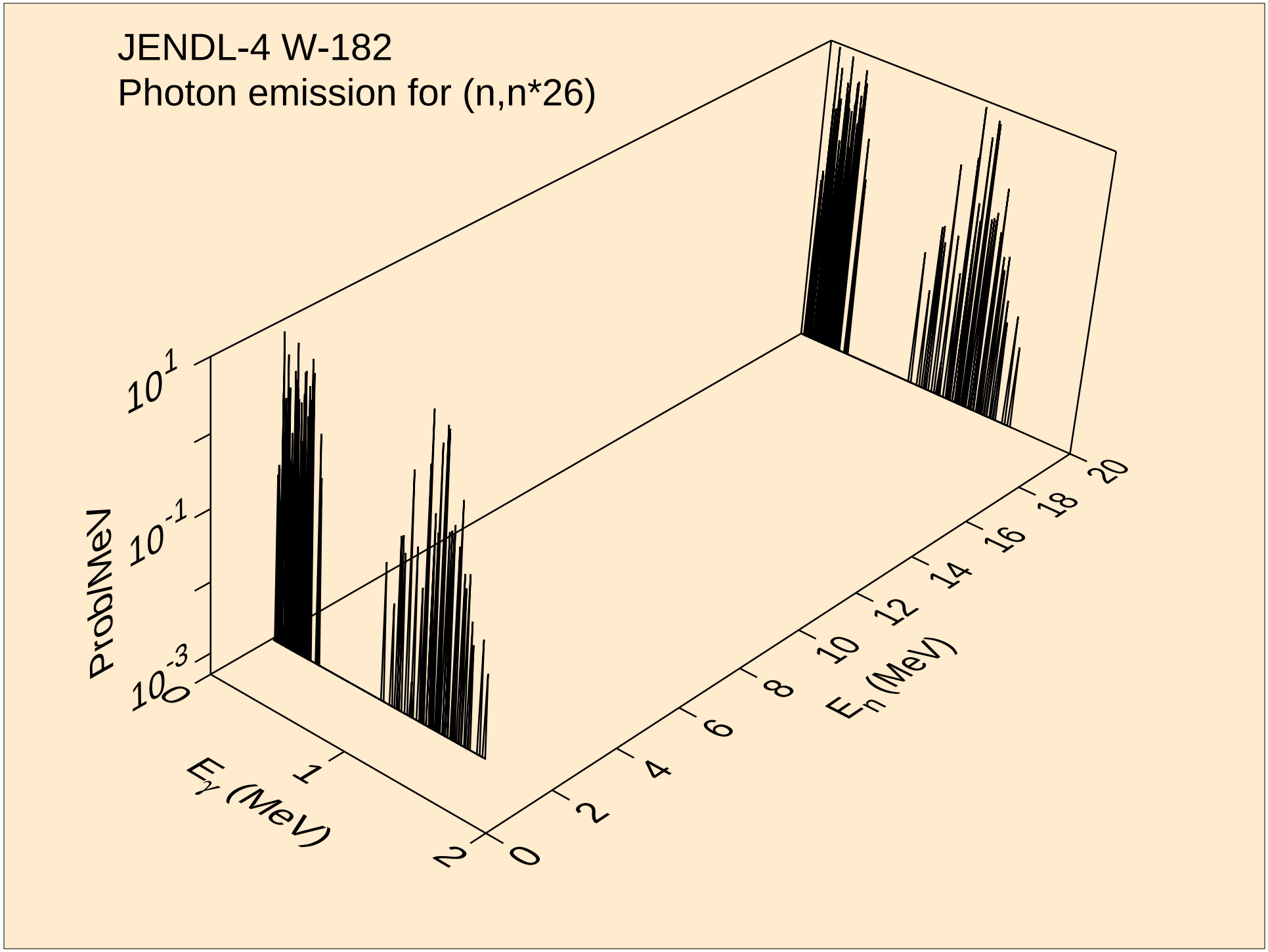
JENDL-4 W-182
Photon emission for (n,n*22)



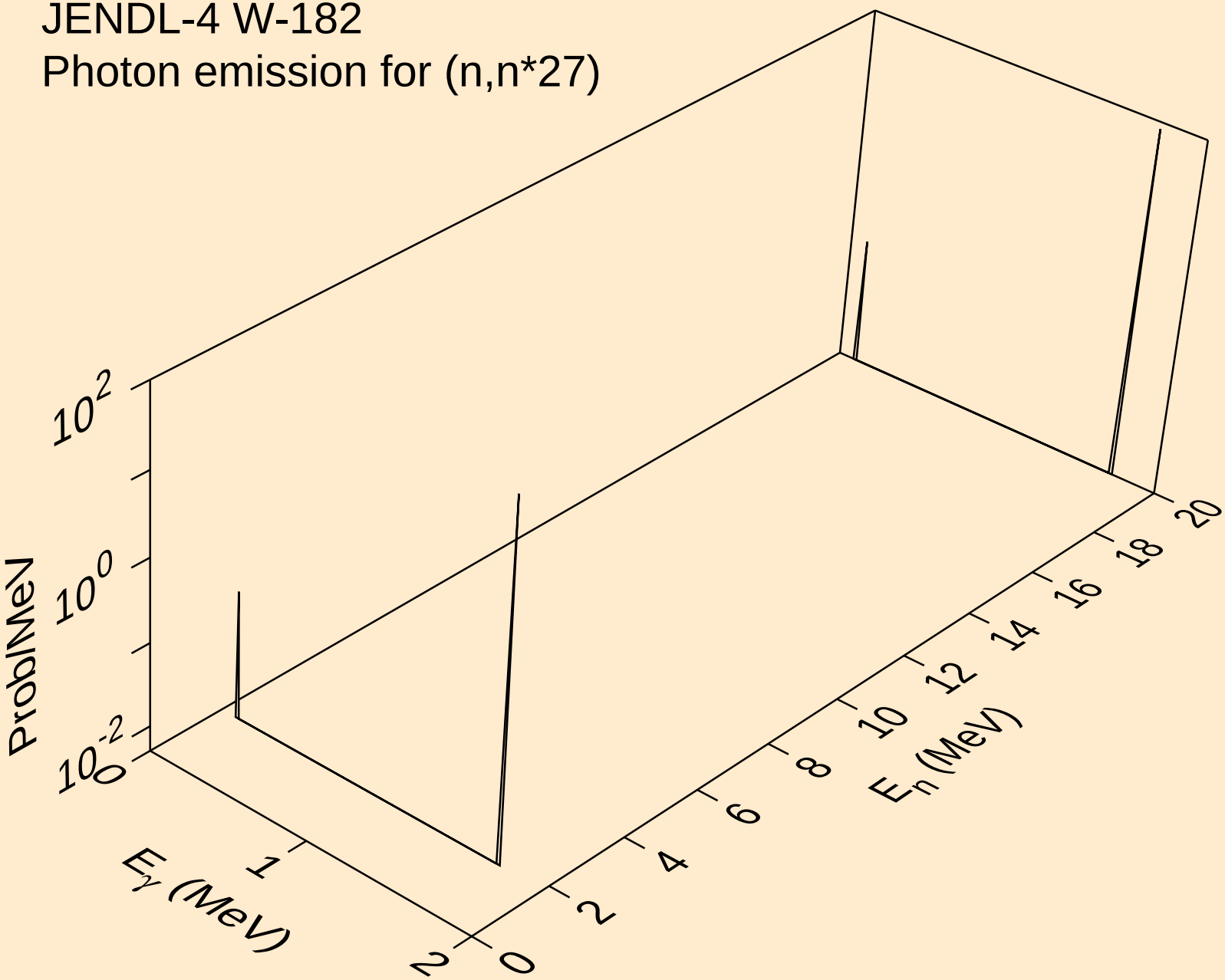

JENDL-4 W-182
Photon emission for (n,n*23)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

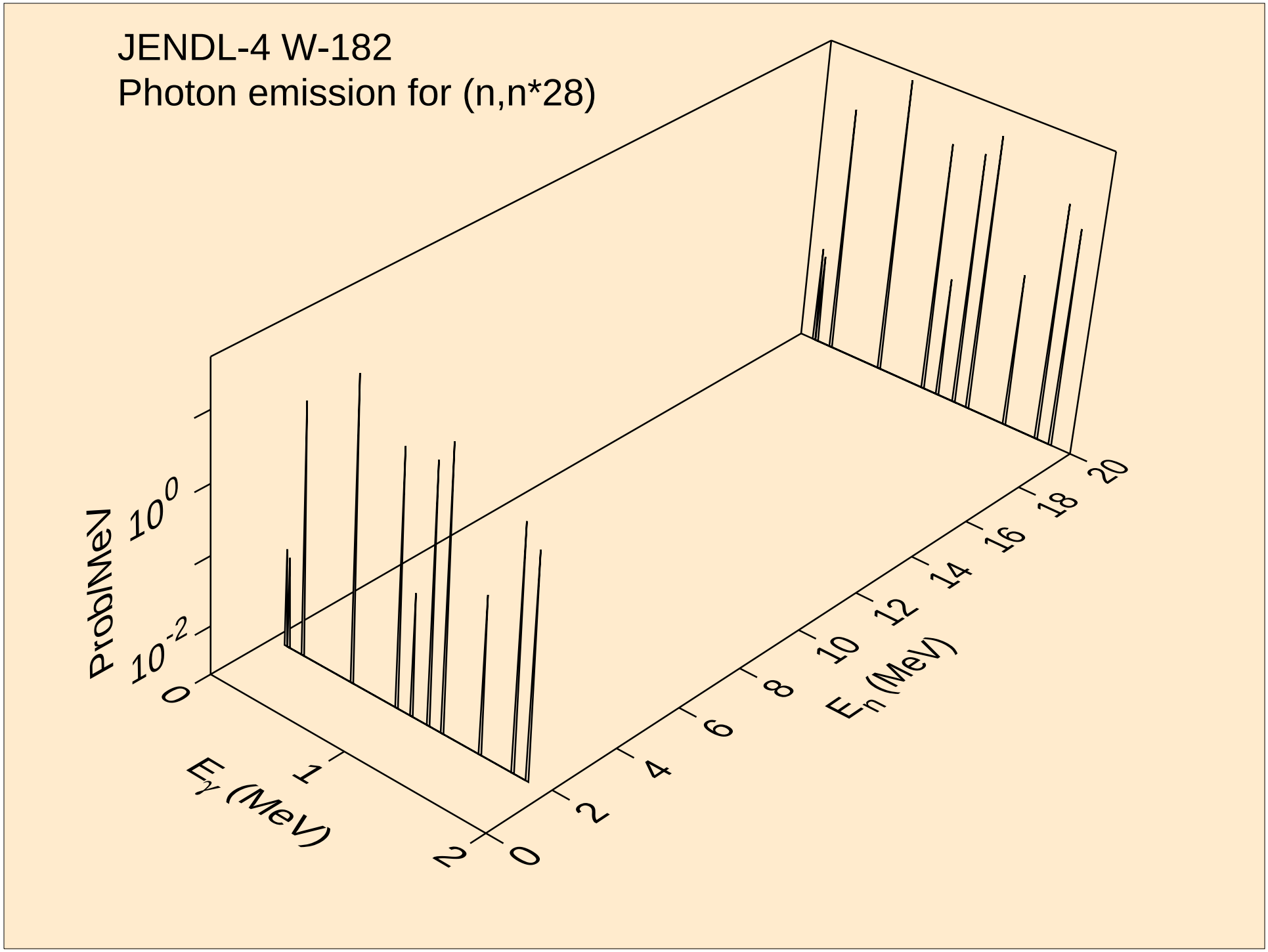

JENDL-4 W-182
Photon emission for (n,n*24)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

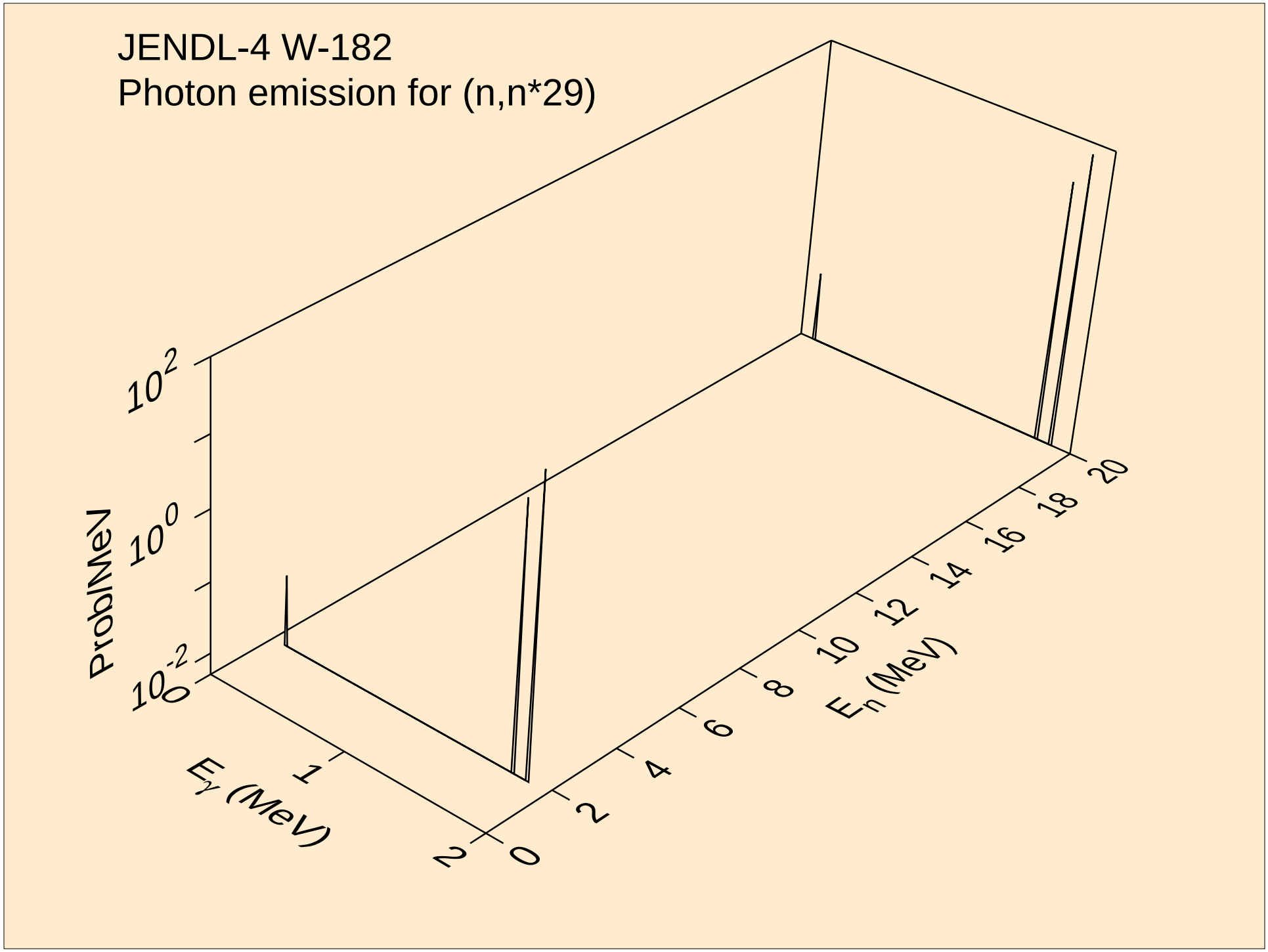

JENDL-4 W-182
Photon emission for (n,n*25)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)


JENDL-4 W-182
Photon emission for (n,n*26)
Prob/MeV
$10^{1}$
$10^{-1}$
$10^{-3}$
$E_\gamma$ (MeV)
0
1
2
$E_n$ (MeV)
0
2
4
6
8
10
12
14
16
18
20

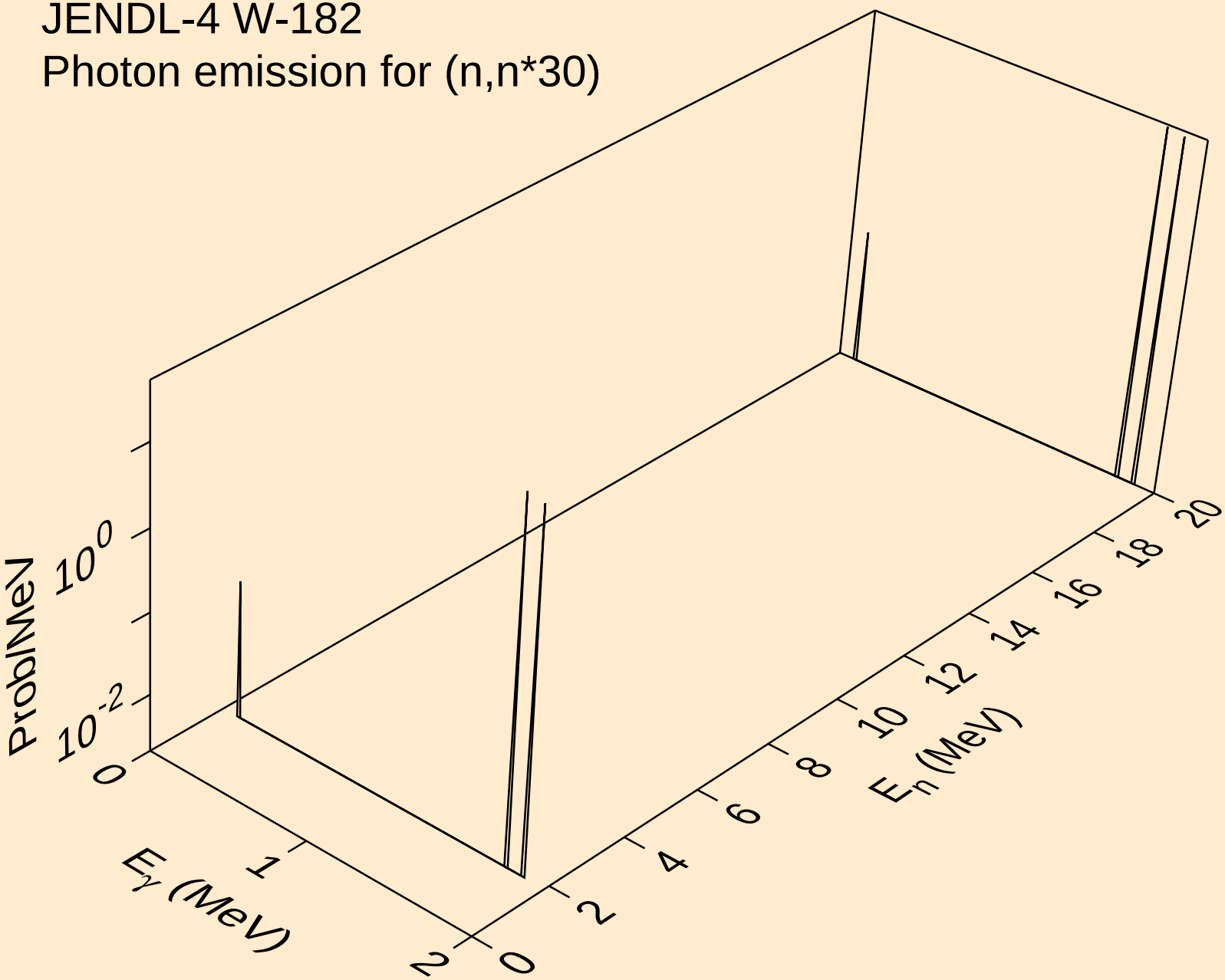
JENDL-4 W-182
Photon emission for (n,n*27)

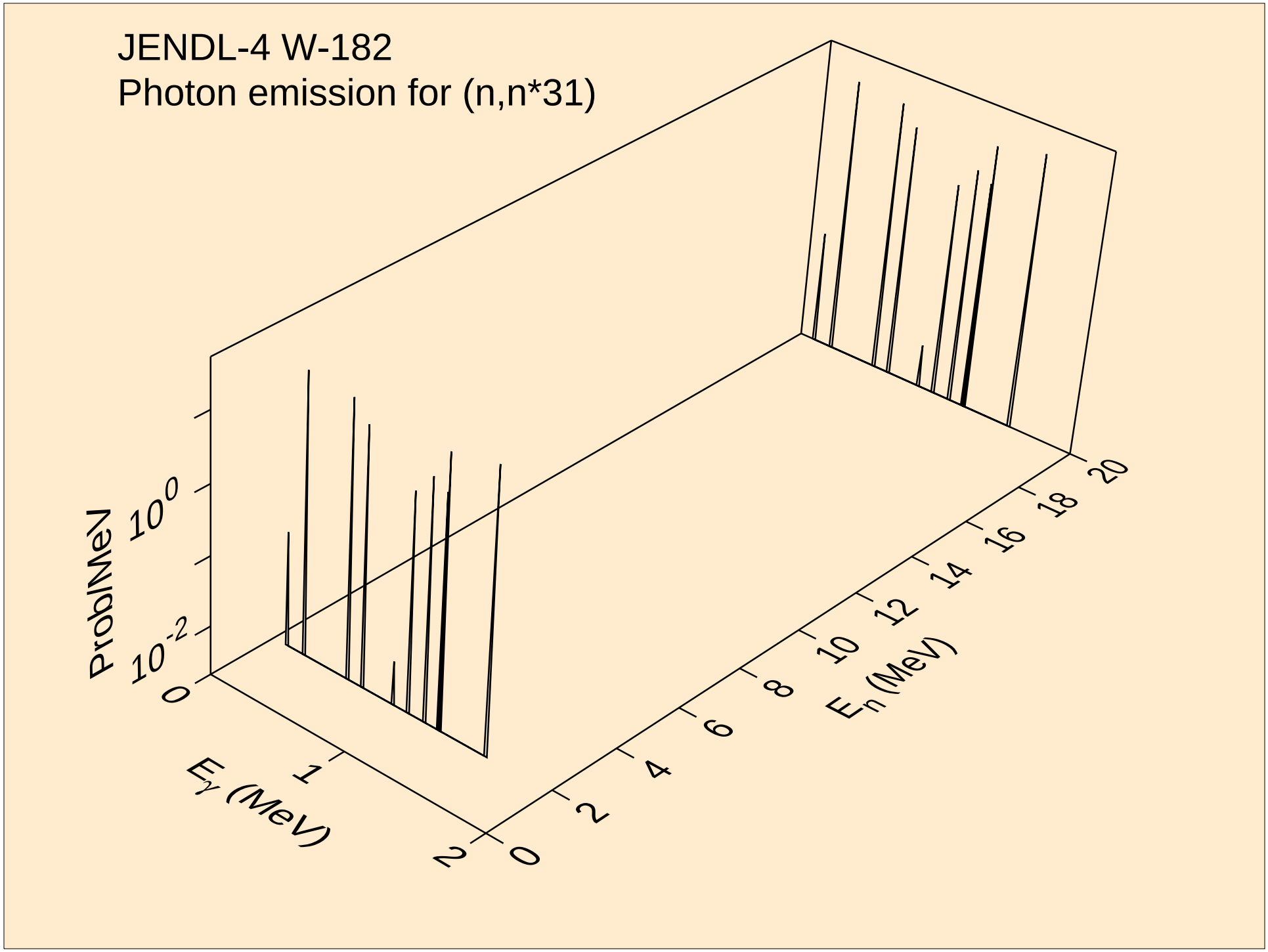


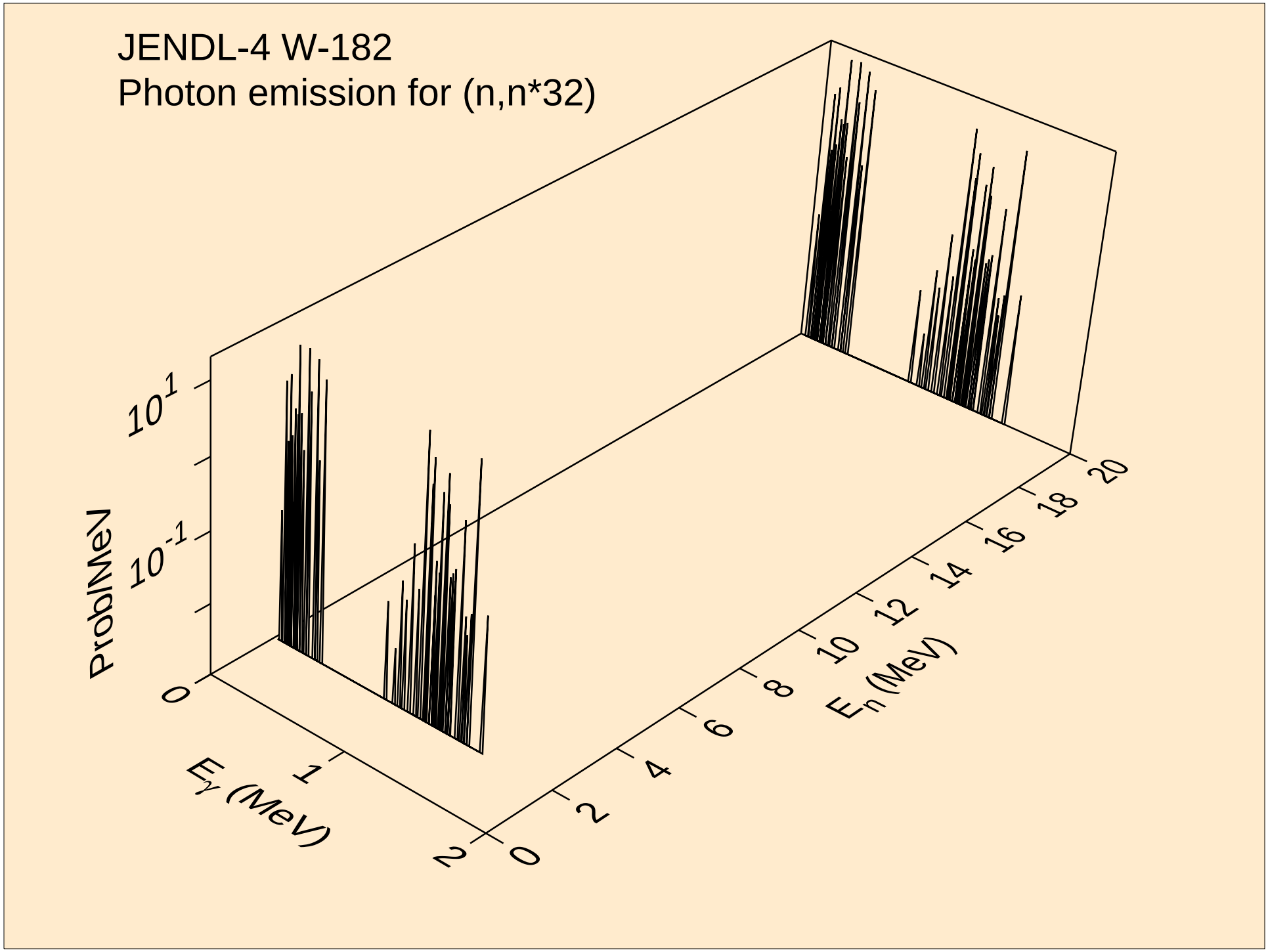

JENDL-4 W-182
Photon emission for (n,n*28)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

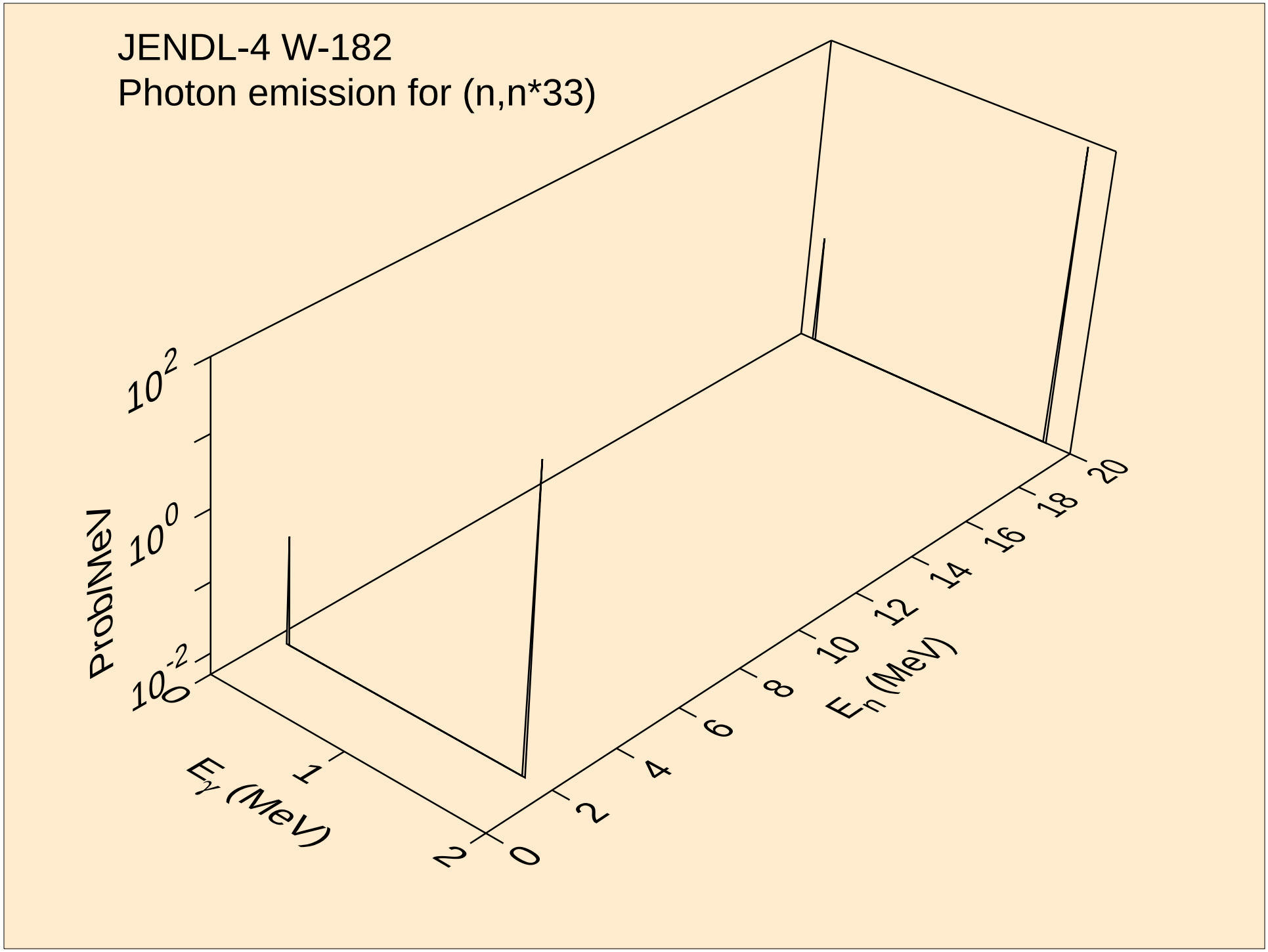

JENDL-4 W-182
Photon emission for (n,n*29)
Prob/MeV
$10^{2}$
$10^{0}$
$10^{-2}$
$E_\gamma$ (MeV)
0
1
2
$E_n$ (MeV)
0
2
4
6
8
10
12
14
16
18
20

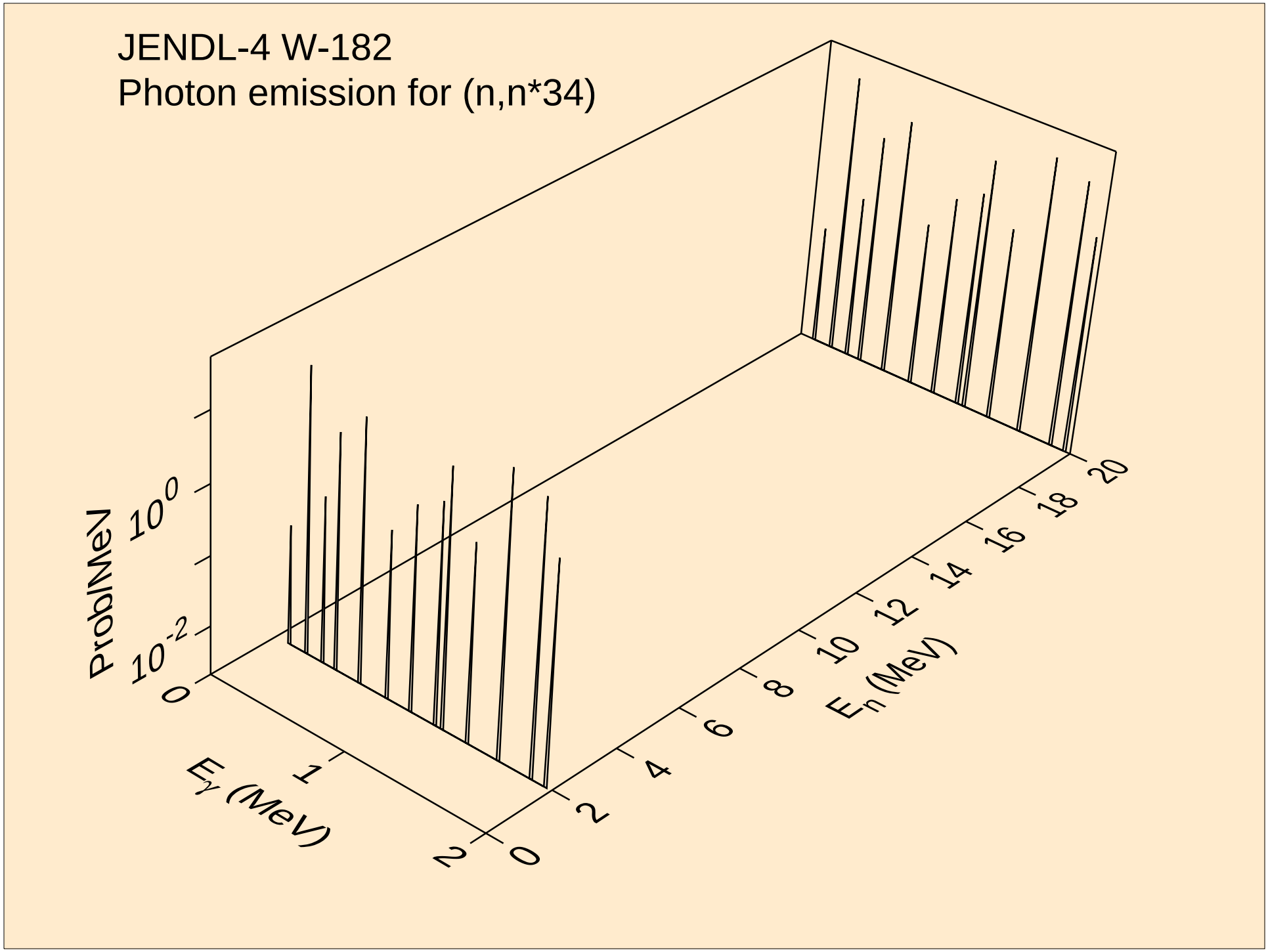
JENDL-4 W-182
Photon emission for (n,n*30)

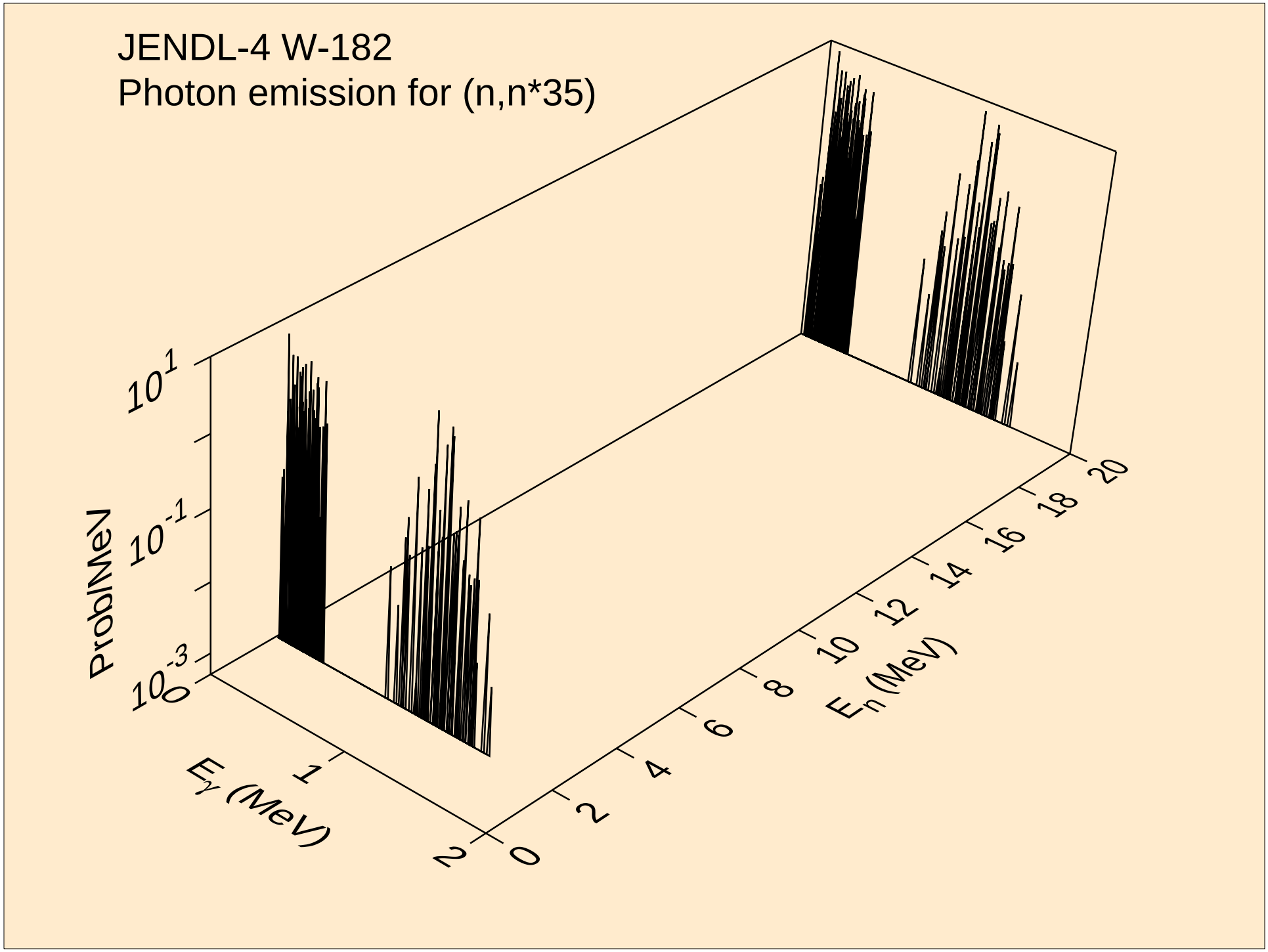


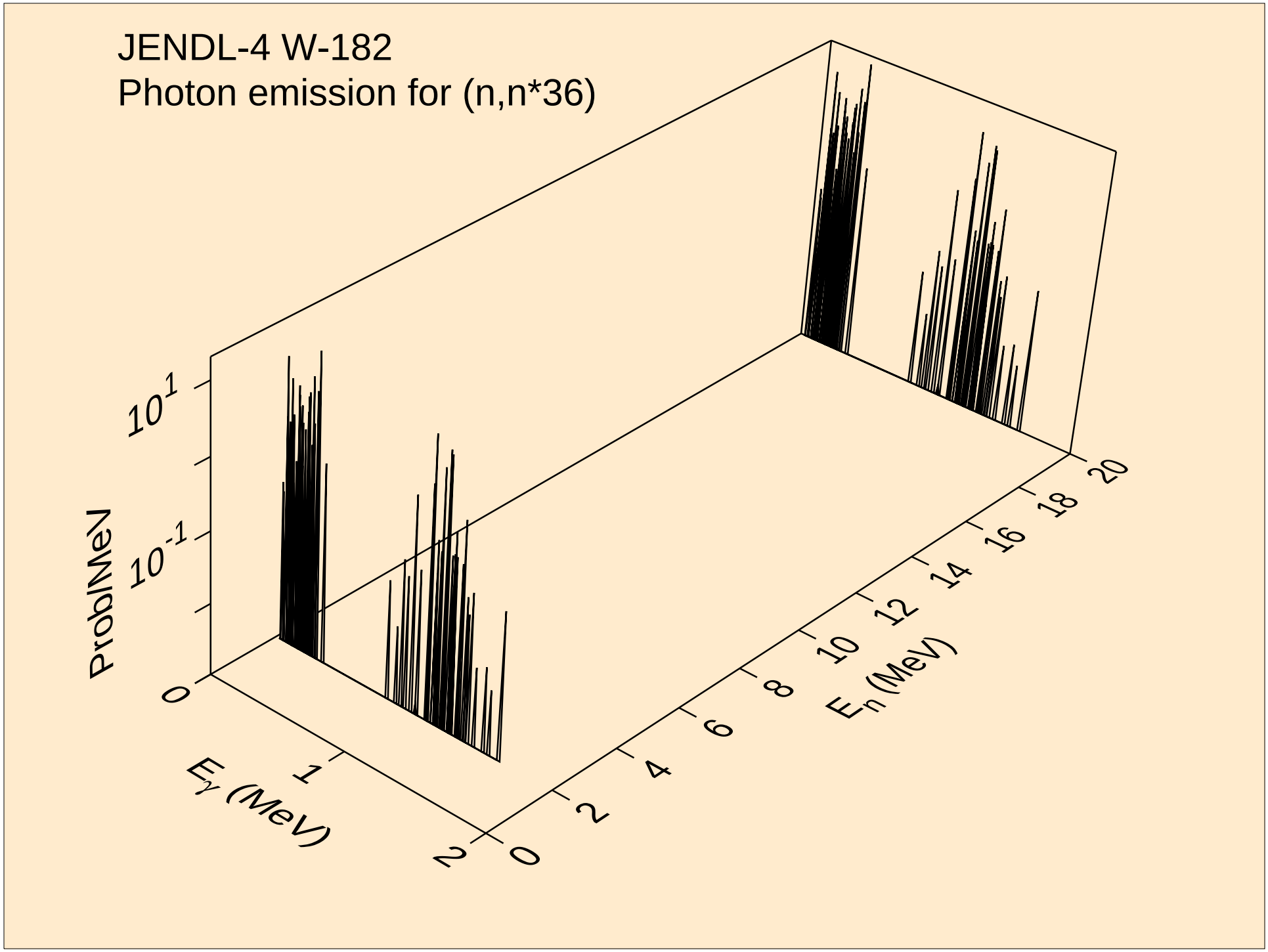

JENDL-4 W-182
Photon emission for (n,n*31)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

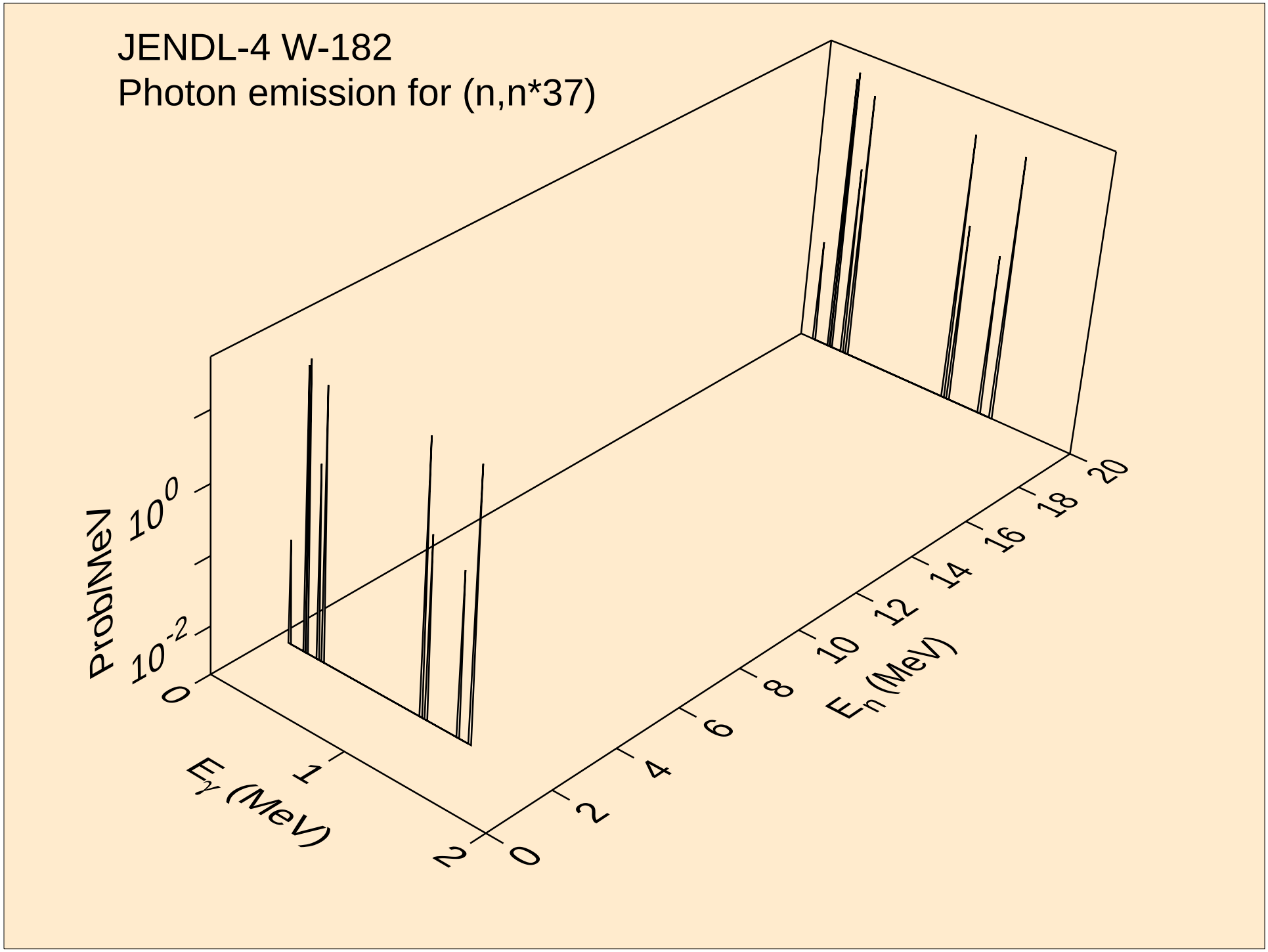

JENDL-4 W-182
Photon emission for (n,n*32)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

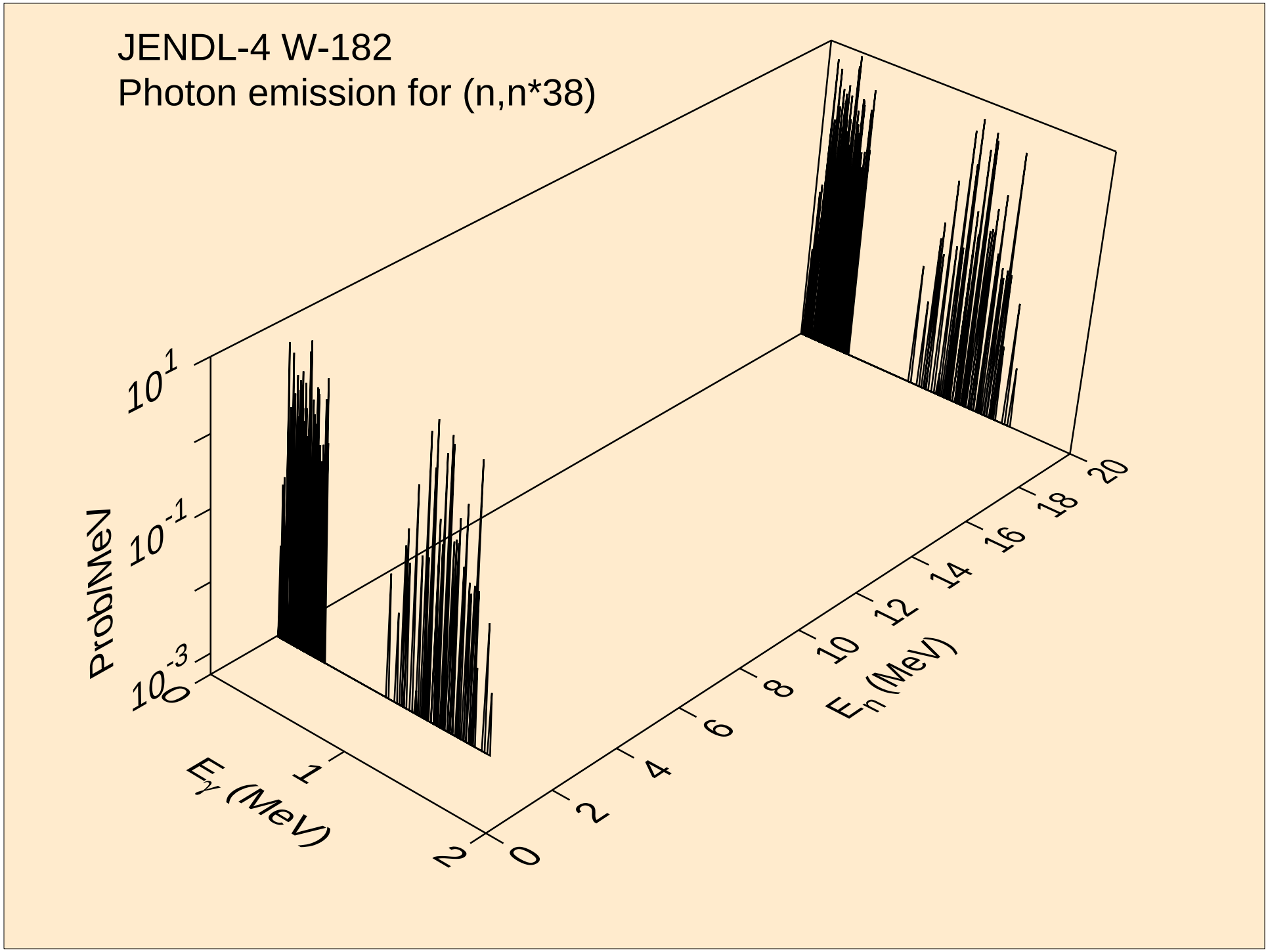

JENDL-4 W-182
Photon emission for (n,n*33)
Prob/MeV
$10^{2}$
$10^{0}$
$10^{-2}$
$E_\gamma$ (MeV)
0
1
2
$E_n$ (MeV)
0
2
4
6
8
10
12
14
16
18
20

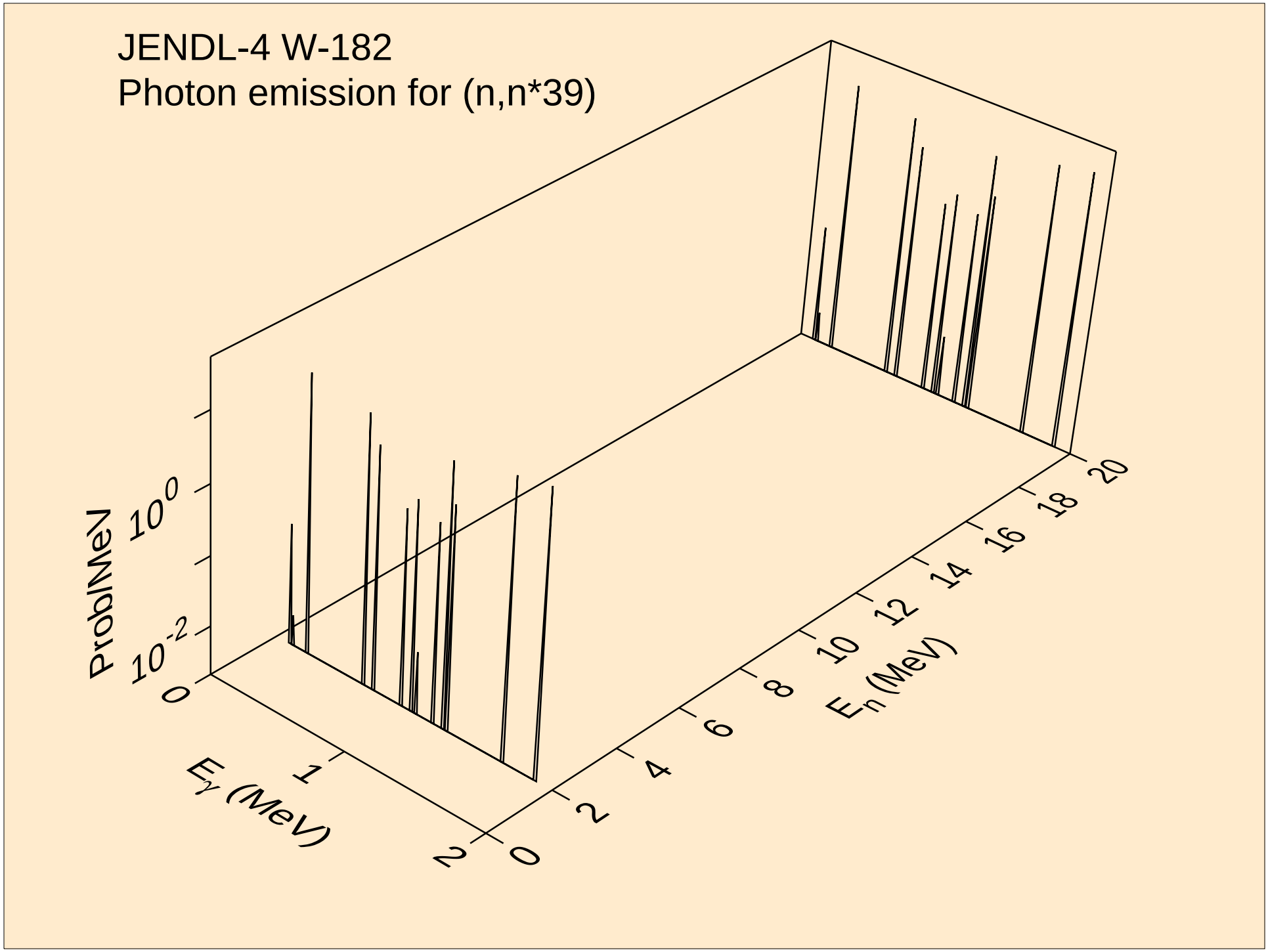

JENDL-4 W-182
Photon emission for (n,n*34)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

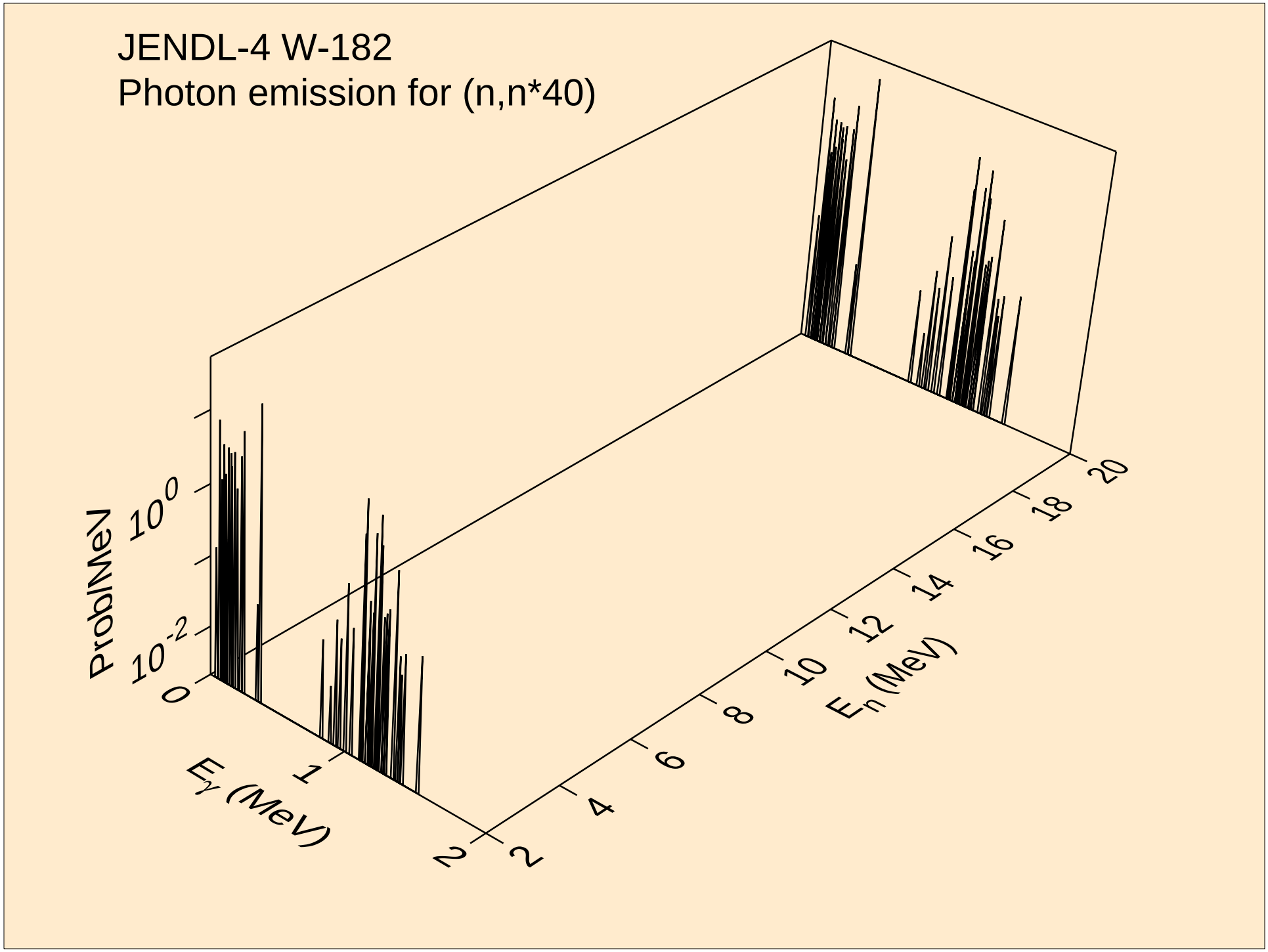

JENDL-4 W-182
Photon emission for (n,n*35)
Prob/MeV
$10^{1}$
$10^{-1}$
$10^{-3}$
$E_\gamma$ (MeV)
0
1
2
$E_n$ (MeV)
0
2
4
6
8
10
12
14
16
18
20

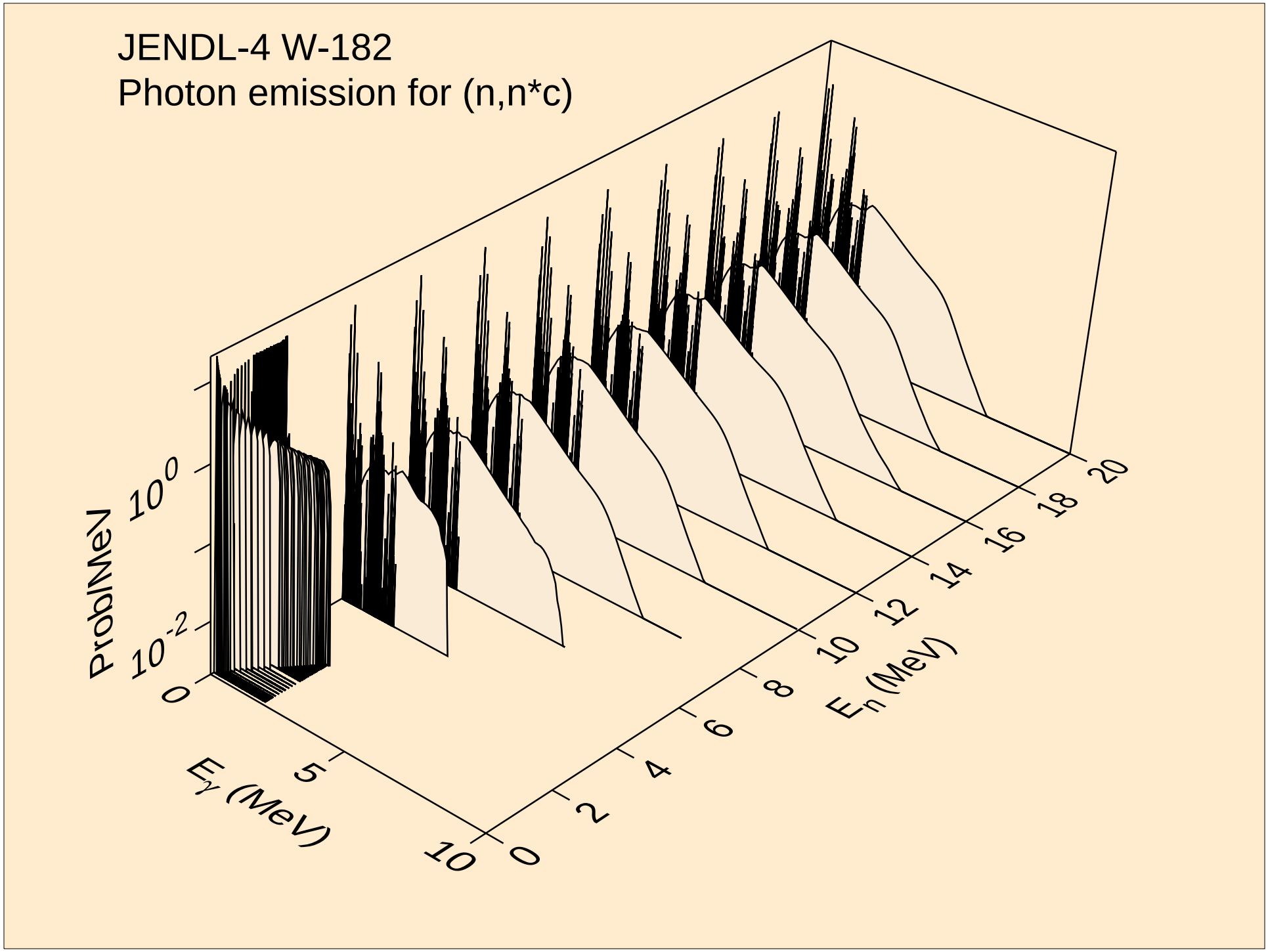

JENDL-4 W-182
Photon emission for (n,n*36)
Prob/MeV
$10^{1}$
$10^{-1}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

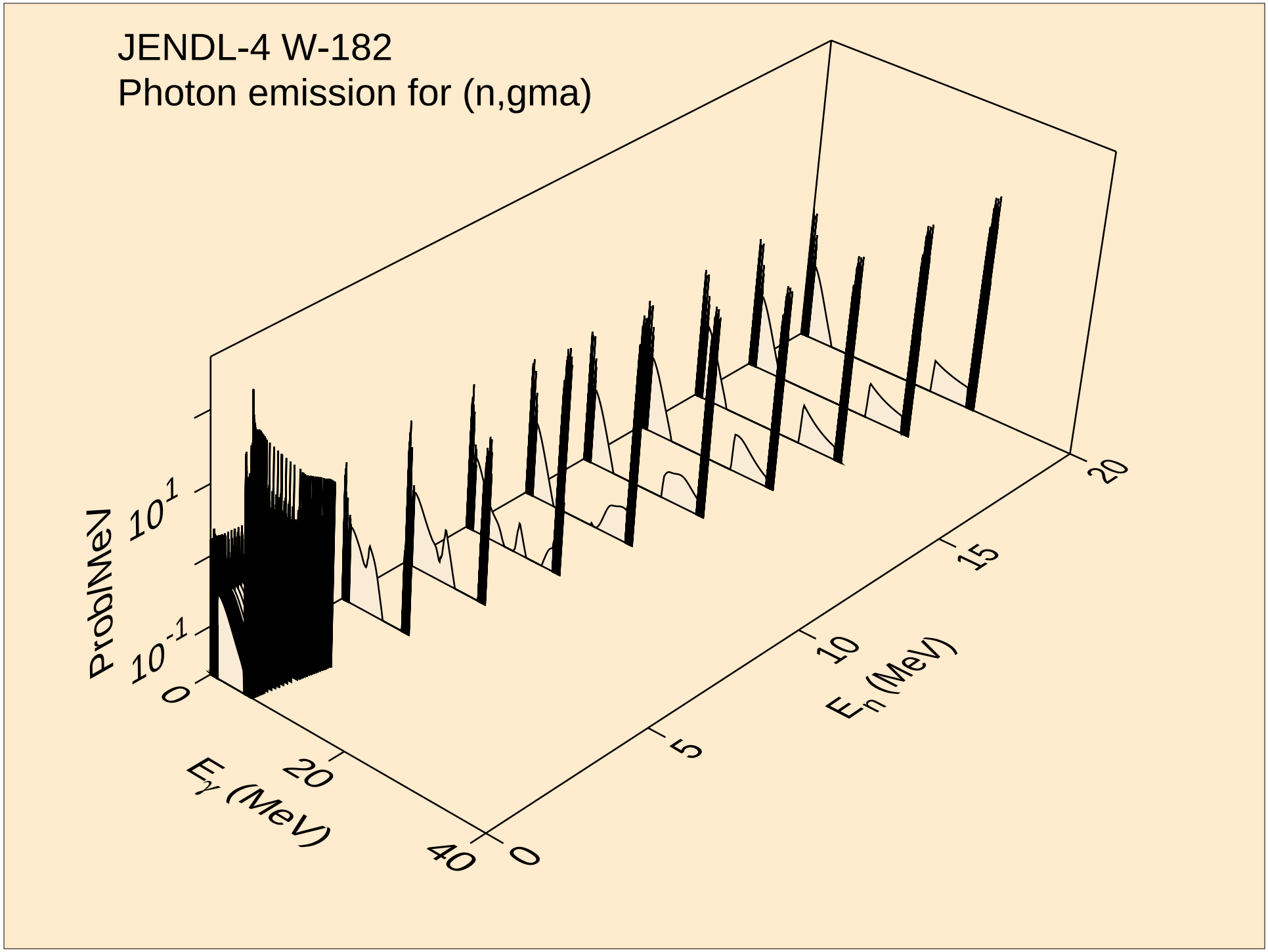

JENDL-4 W-182
Photon emission for (n,n*37)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

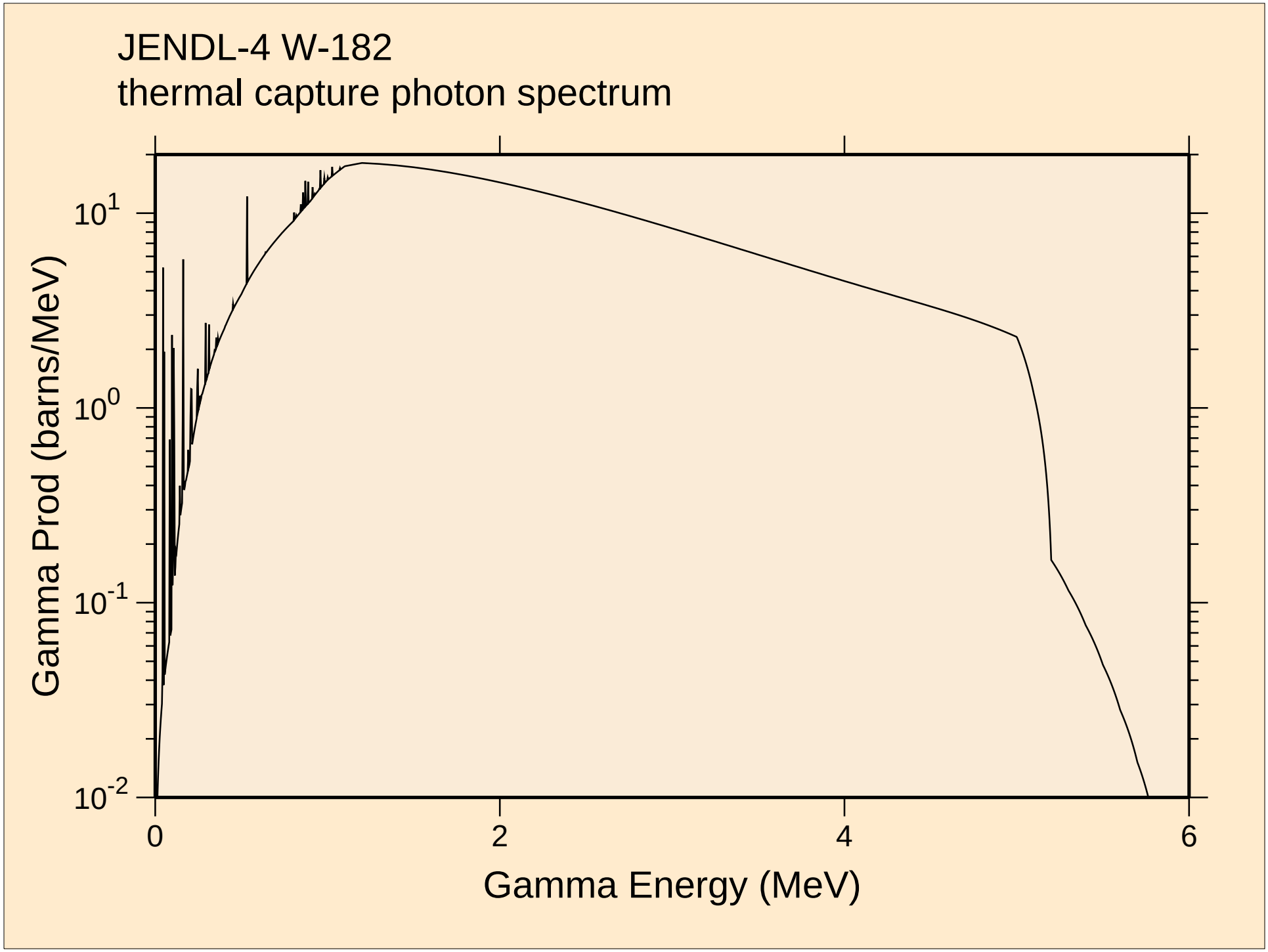

JENDL-4 W-182
Photon emission for (n,n*38)
Prob/MeV
$10^{1}$
$10^{-1}$
$10^{-3}$
$E_\gamma$ (MeV)
0
1
2
$E_n$ (MeV)
0
2
4
6
8
10
12
14
16
18
20

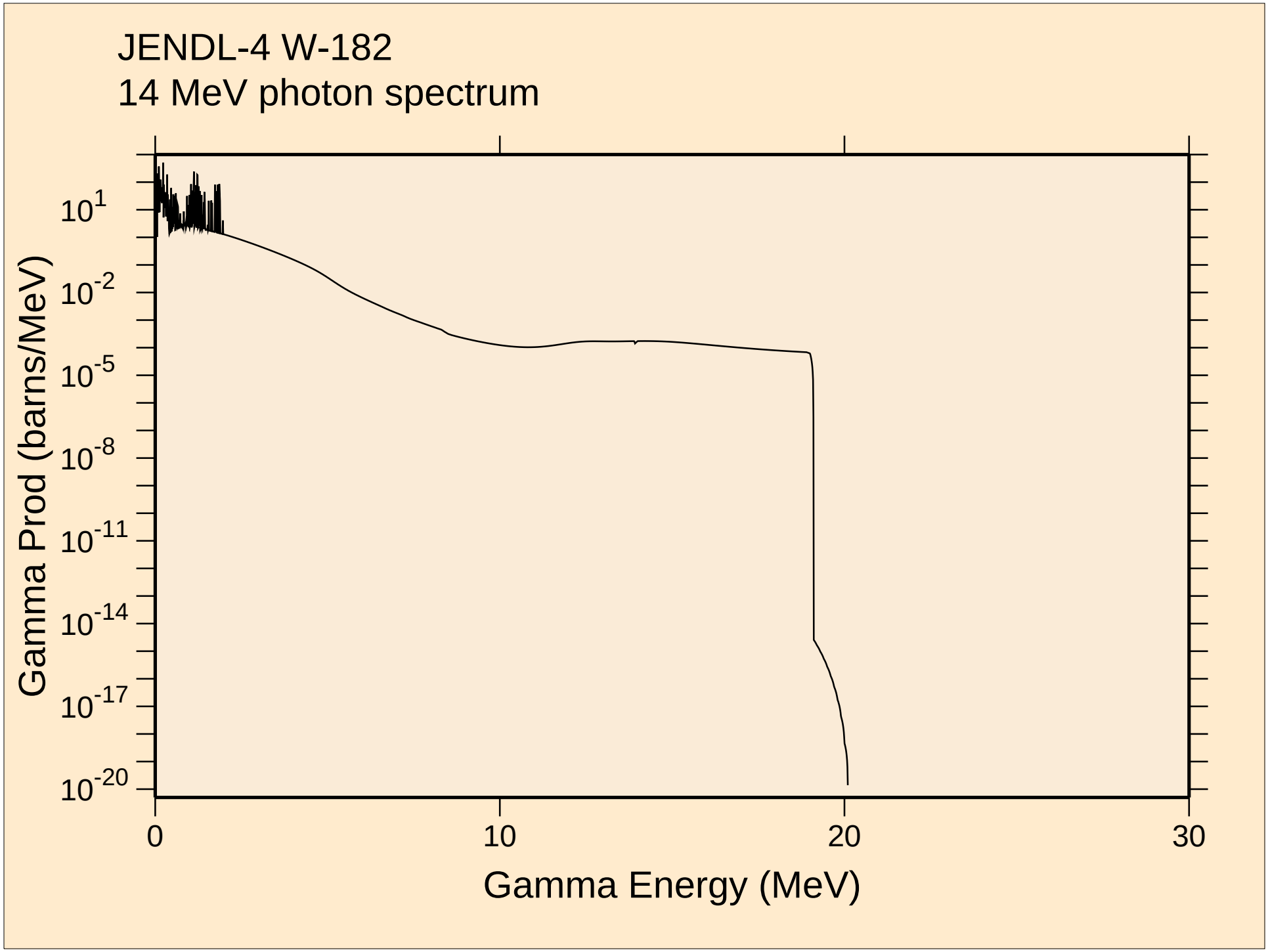

JENDL-4 W-182
Photon emission for (n,n*39)
Prob/MeV
$10^0$
$10^{-2}$
0
1
2
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

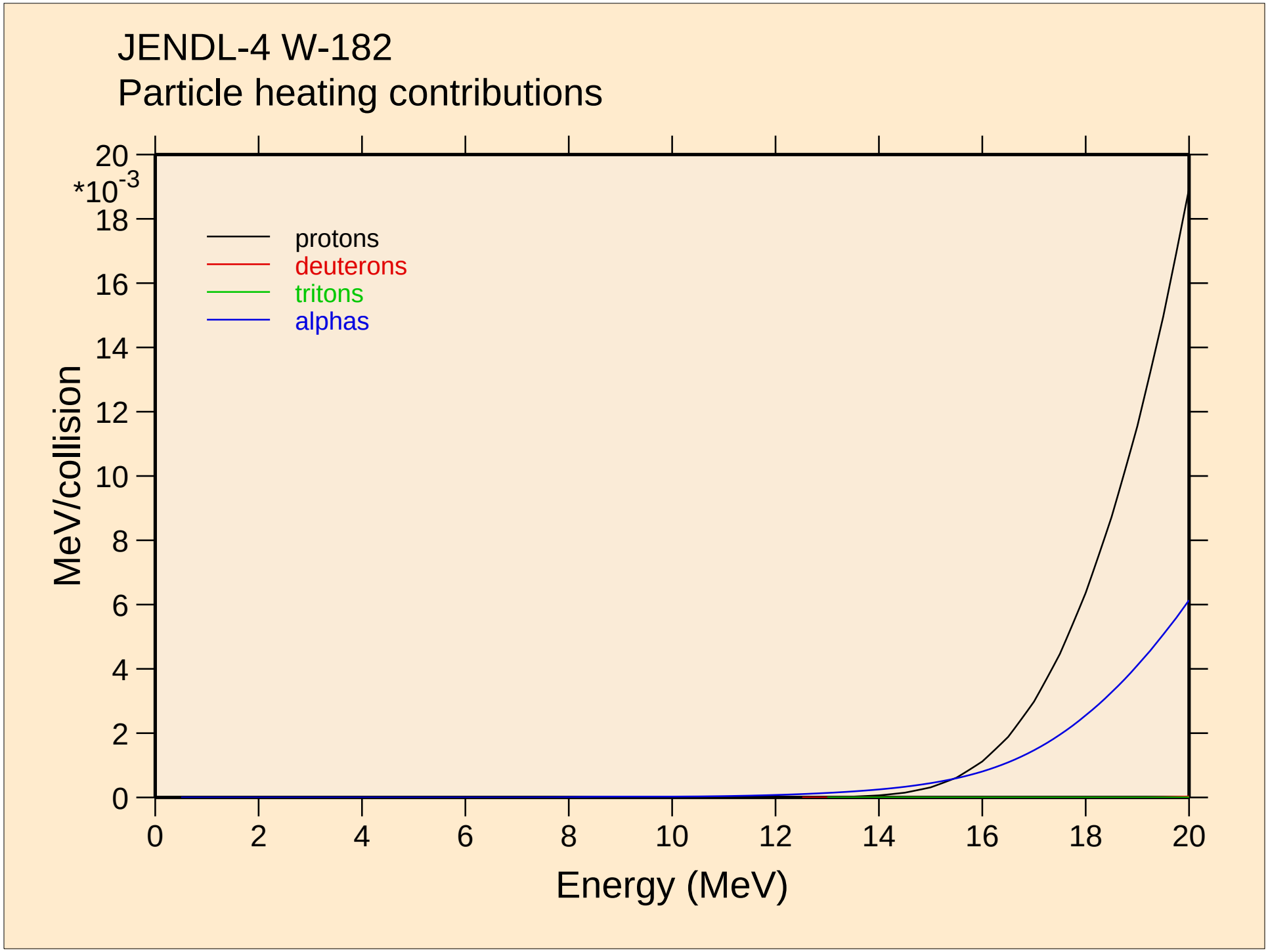

JENDL-4 W-182
Photon emission for (n,n*40)
Prob/MeV
$10^0$
$10^{-2}$
0
$E_\gamma$ (MeV)
1
2
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

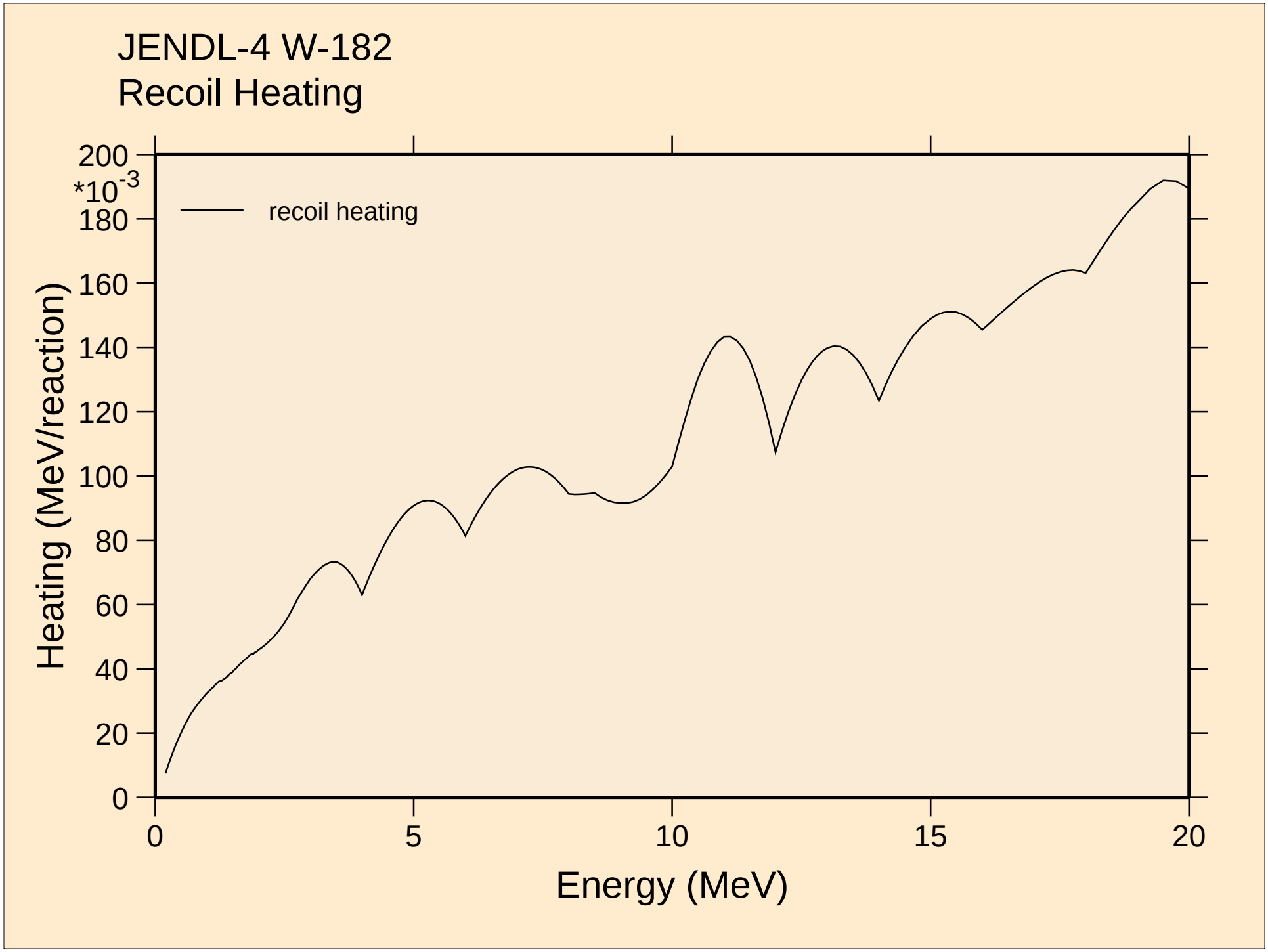

JENDL-4 W-182
Photon emission for (n,n*c)
Prob/MeV
$10^0$
$10^{-2}$
0
5
10
$E_\gamma$ (MeV)
0
2
4
6
8
10
12
14
16
18
20
$E_n$ (MeV)

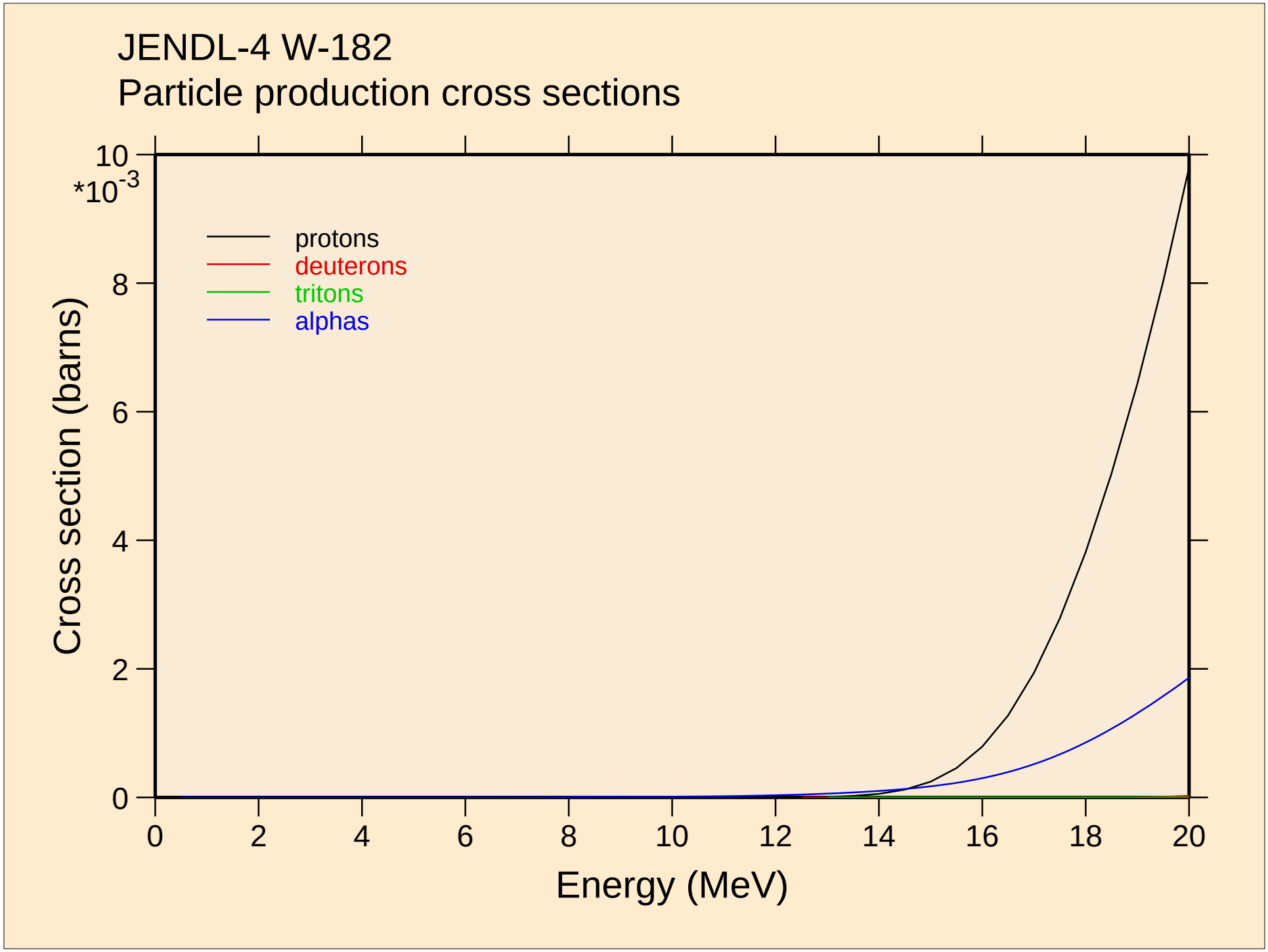

JENDL-4 W-182
Photon emission for (n,gma)
Prob/MeV
$10^{1}$
$10^{-1}$
0
20
40
$E_\gamma$ (MeV)
0
5
10
15
20
$E_n$ (MeV)

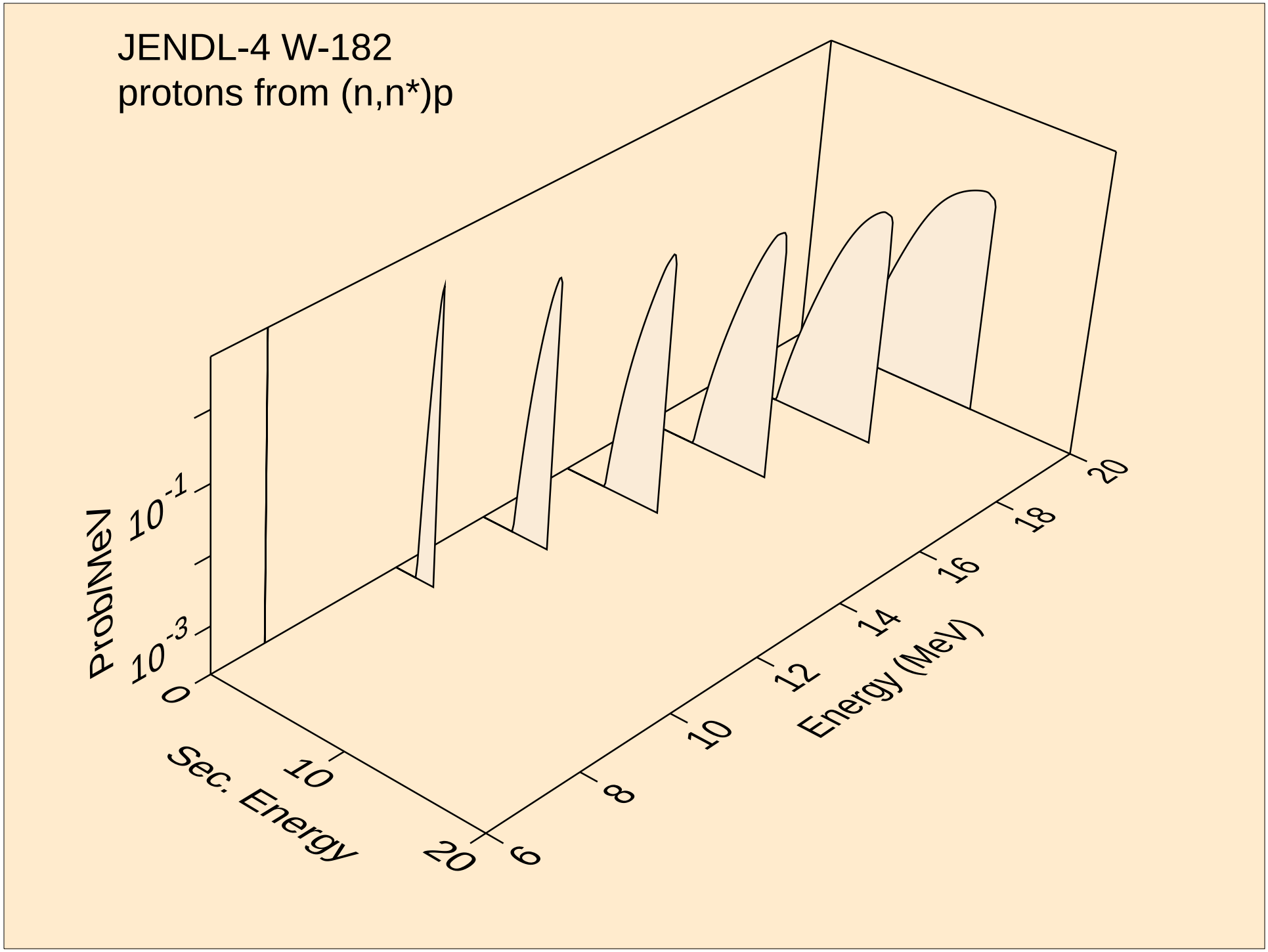

JENDL-4 W-182
thermal capture photon spectrum
Gamma Prod (barns/MeV)
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-2}$
0
2
4
6
Gamma Energy (MeV)

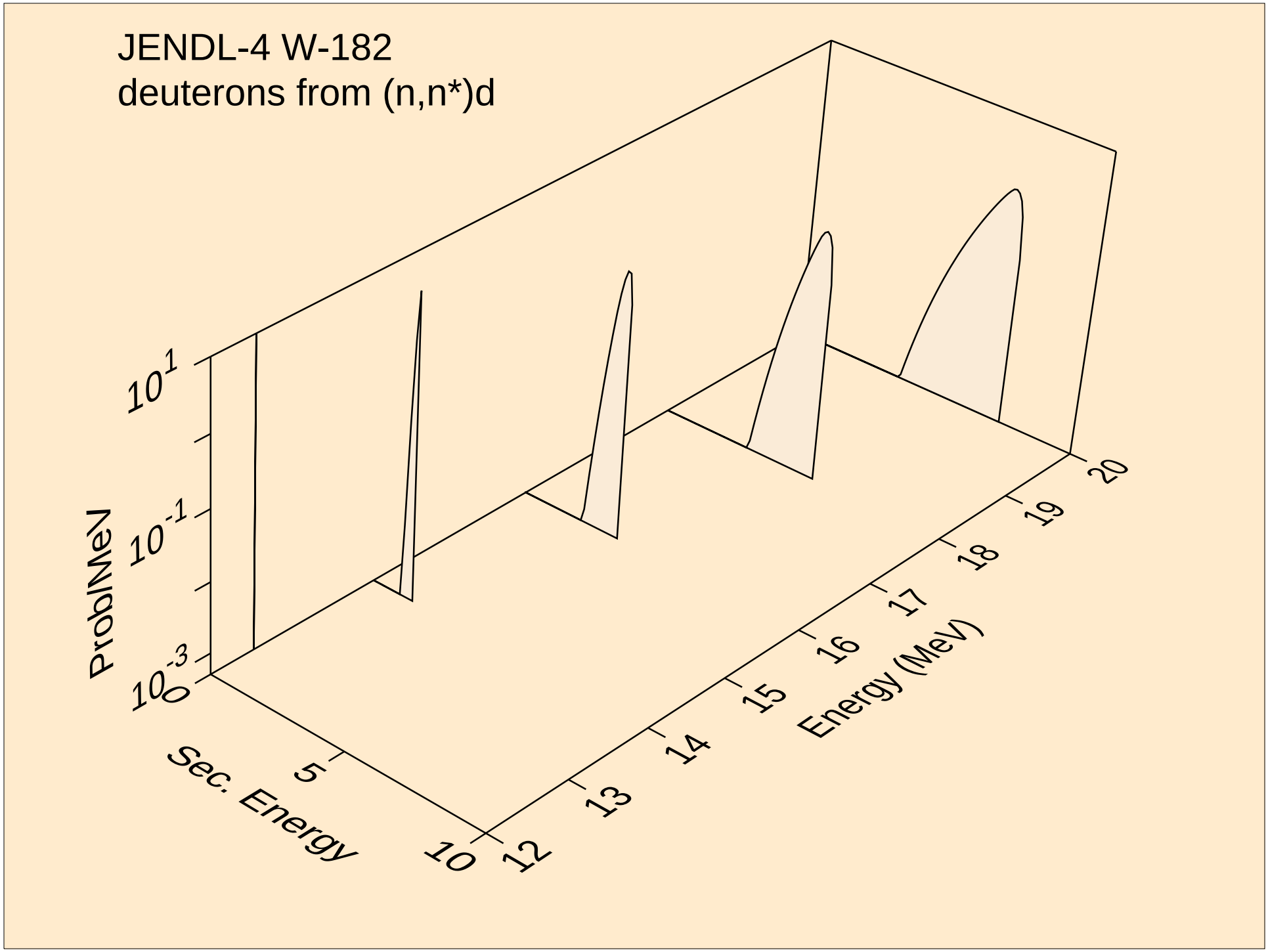

JENDL-4 W-182
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^1
10^-2
10^-5
10^-8
10^-11
10^-14
10^-17
10^-20
0
10
20
30
Gamma Energy (MeV)

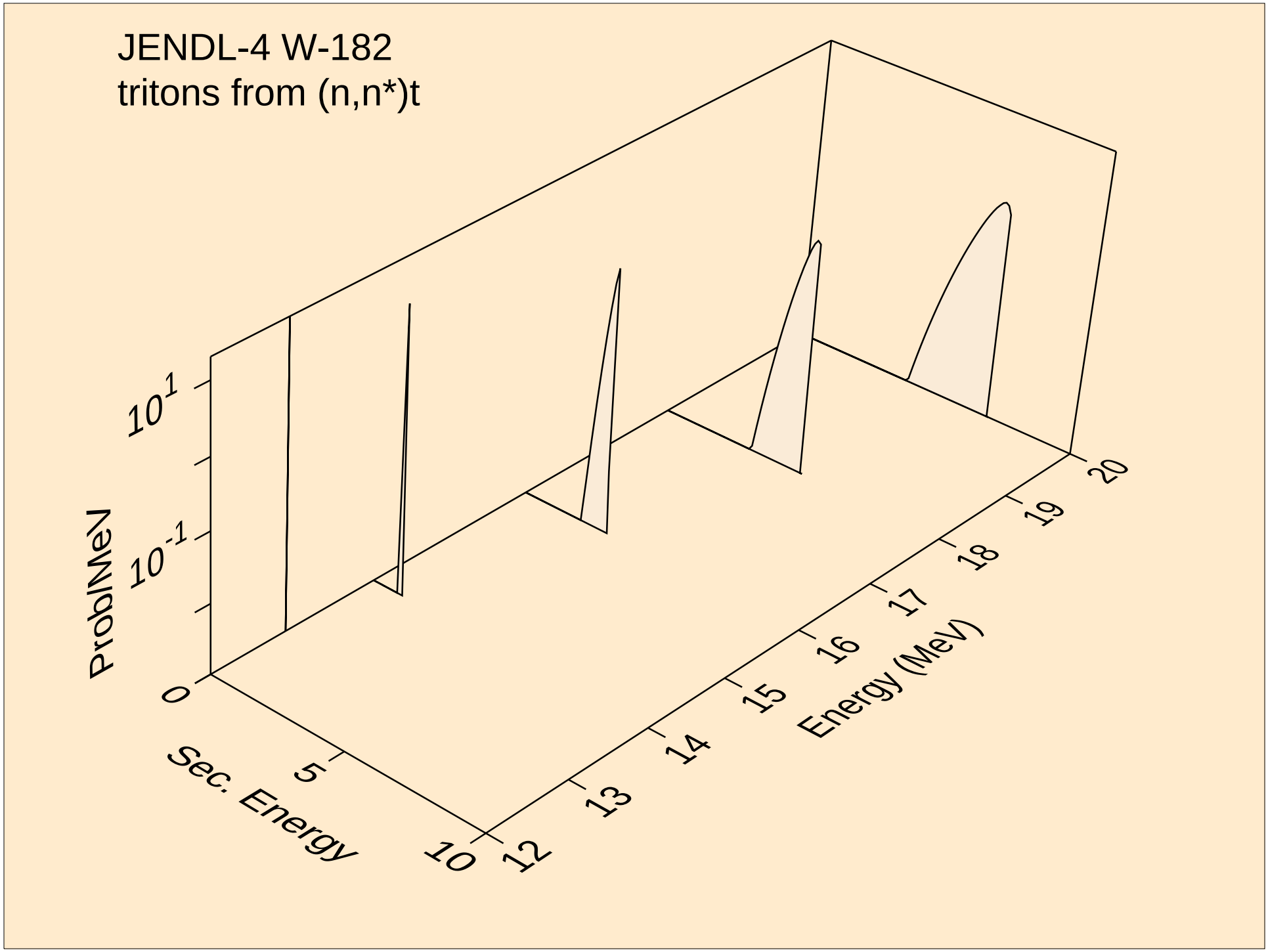

JENDL-4 W-182
Particle heating contributions
*10-3
MeV/collision
Energy (MeV)
protons
deuterons
tritons
alphas
0
2
4
6
8
10
12
14
16
18
20

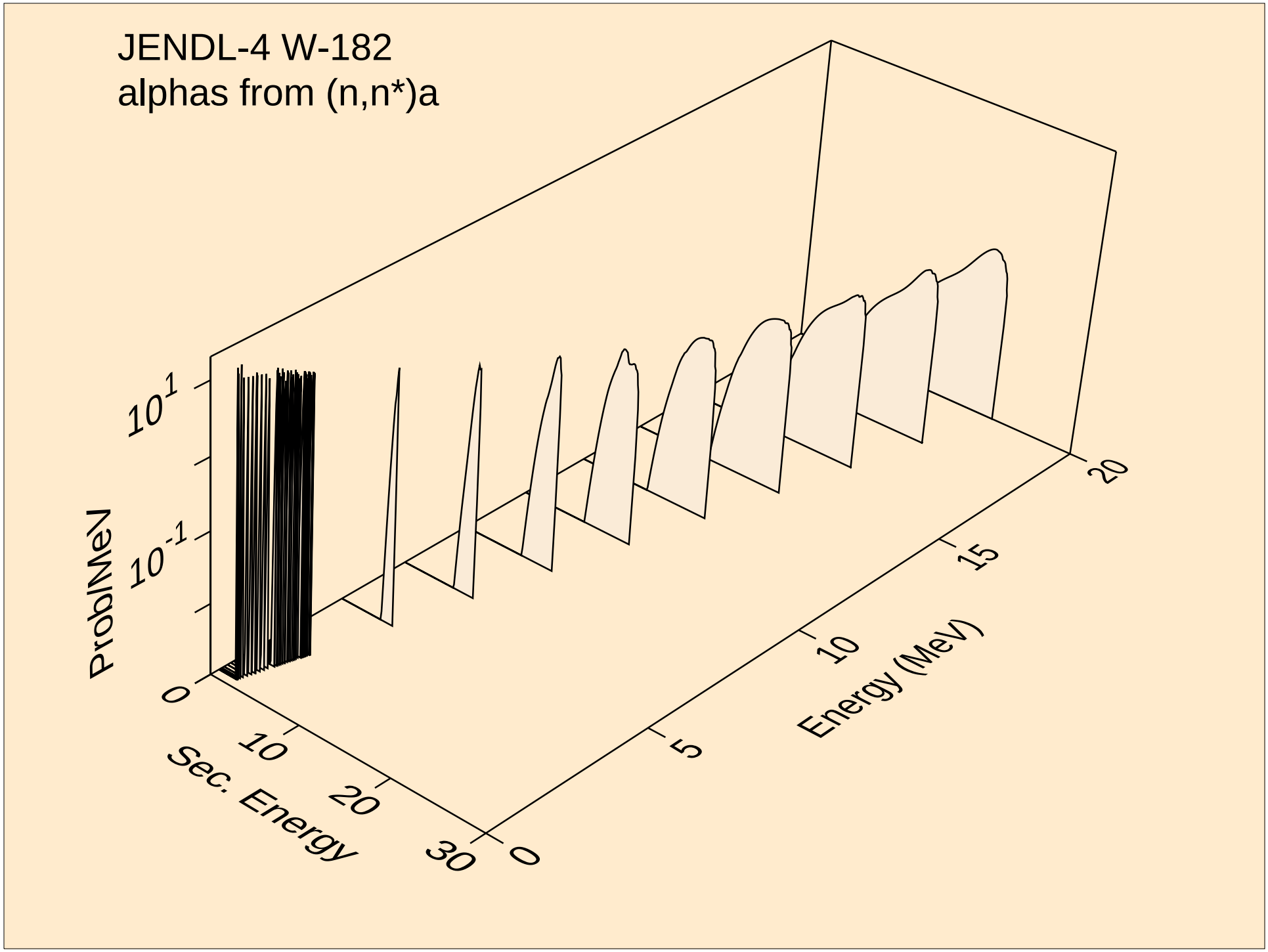

JENDL-4 W-182
Recoil Heating
recoil heating
Heating (MeV/reaction)
*10^-3
200
180
160
140
120
100
80
60
40
20
0
0
5
10
15
20
Energy (MeV)

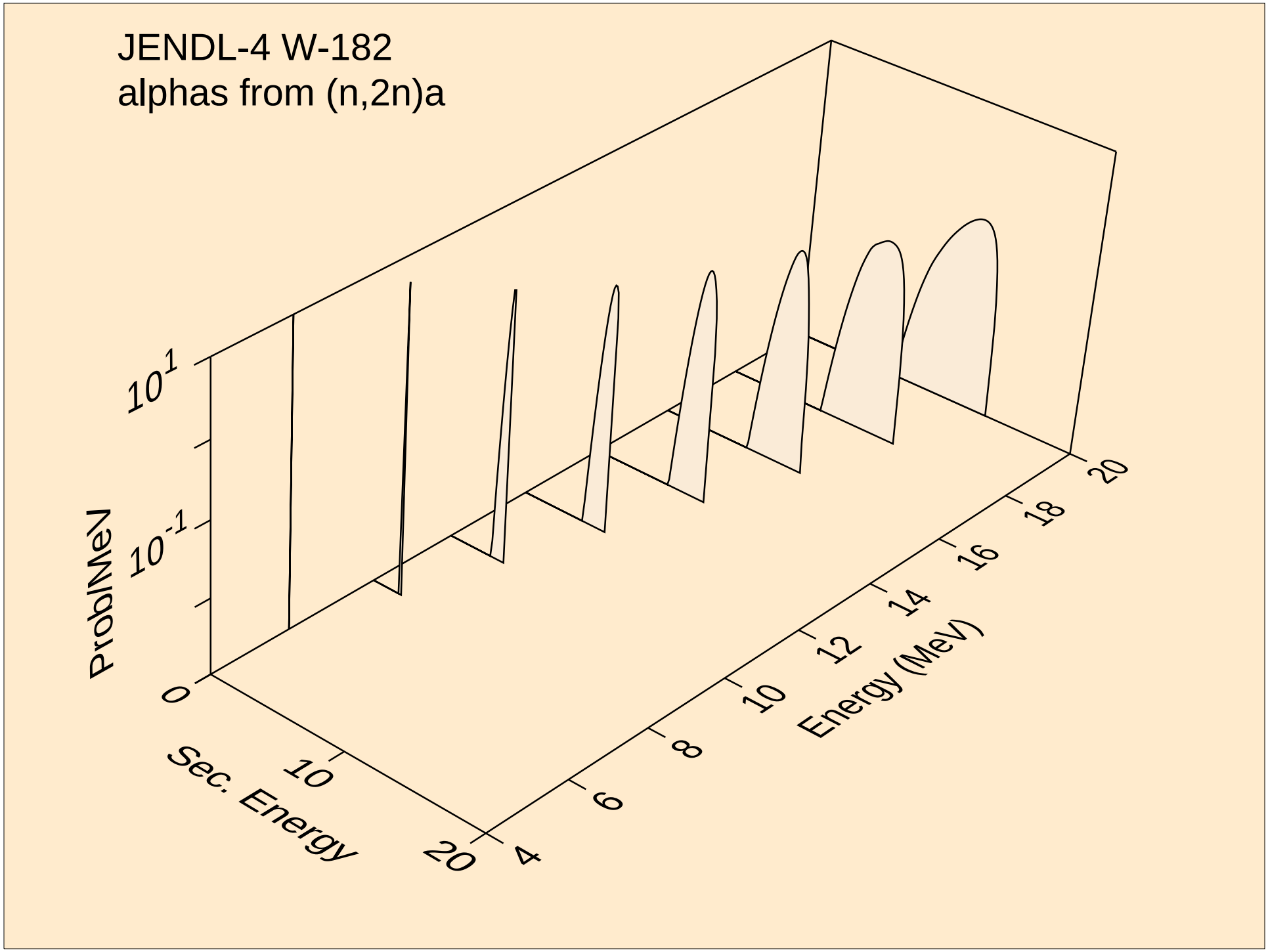

JENDL-4 W-182
Particle production cross sections
protons
deuterons
tritons
alphas
Cross section (barns)
*10^-3
10
8
6
4
2
0
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 W-182
protons from (n,n*)p
Prob/MeV
10^-1
10^-3
0
Sec. Energy
10
20
6
8
10
12
14
16
18
20
Energy (MeV)


JENDL-4 W-182
deuterons from (n,n*)d
Prob/MeV
10^1
10^-1
10^-3
Sec. Energy
0
5
10
Energy (MeV)
12
13
14
15
16
17
18
19
20


JENDL-4 W-182
tritons from (n,n*)t
Prob/MeV
$10^{1}$
$10^{-1}$
0
Sec. Energy
5
10
12
13
14
15
16
17
18
19
20
Energy (MeV)


JENDL-4 W-182
alphas from (n,n*)a
Prob/MeV
10^1
10^-1
0
10
20
30
Sec. Energy
0
5
10
15
20
Energy (MeV)


JENDL-4 W-182
alphas from (n,2n)a
Prob/MeV
$10^{1}$
$10^{-1}$
0
Sec. Energy
10
20
4
6
8
10
12
14
16
18
20
Energy (MeV)