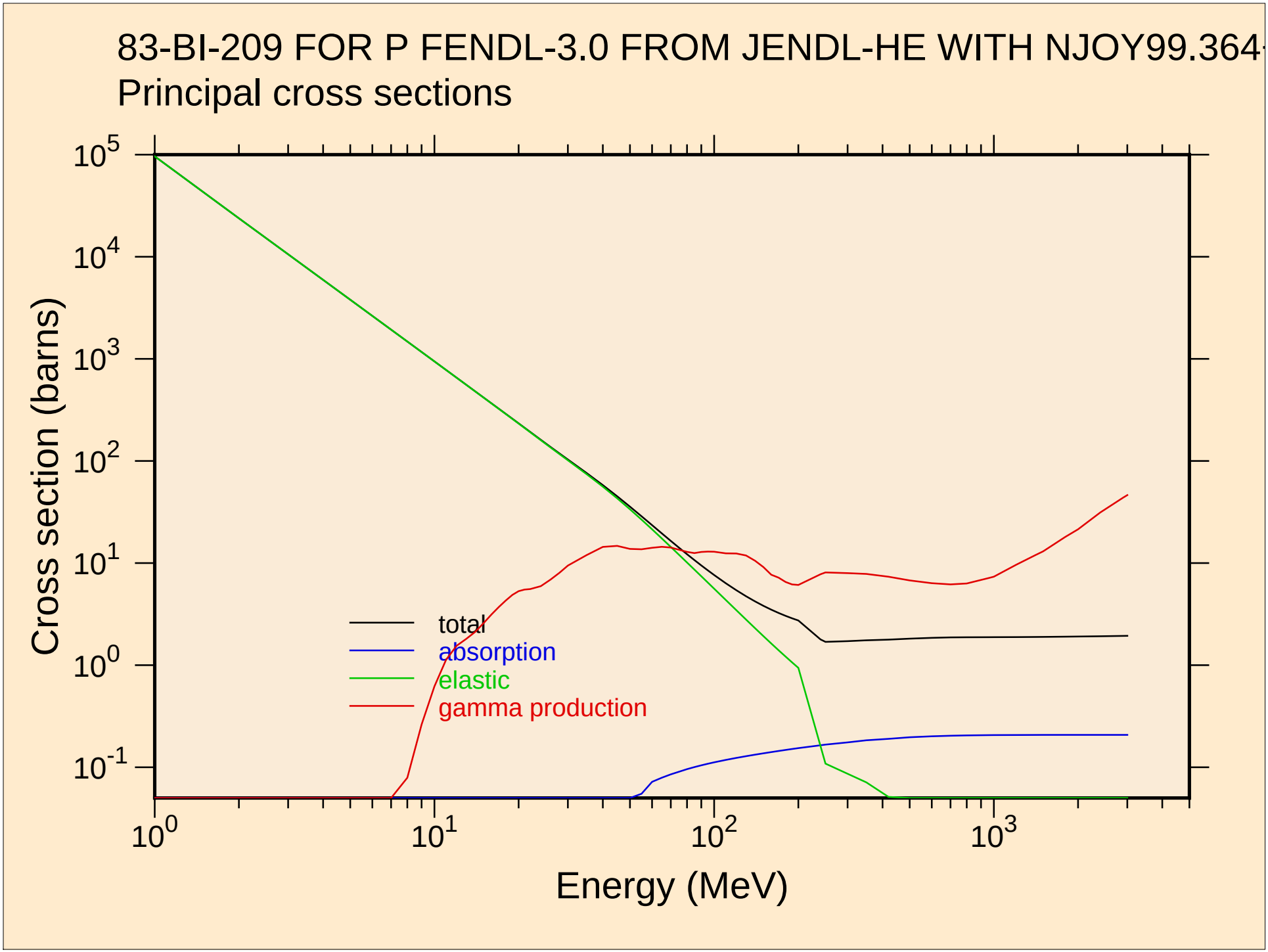
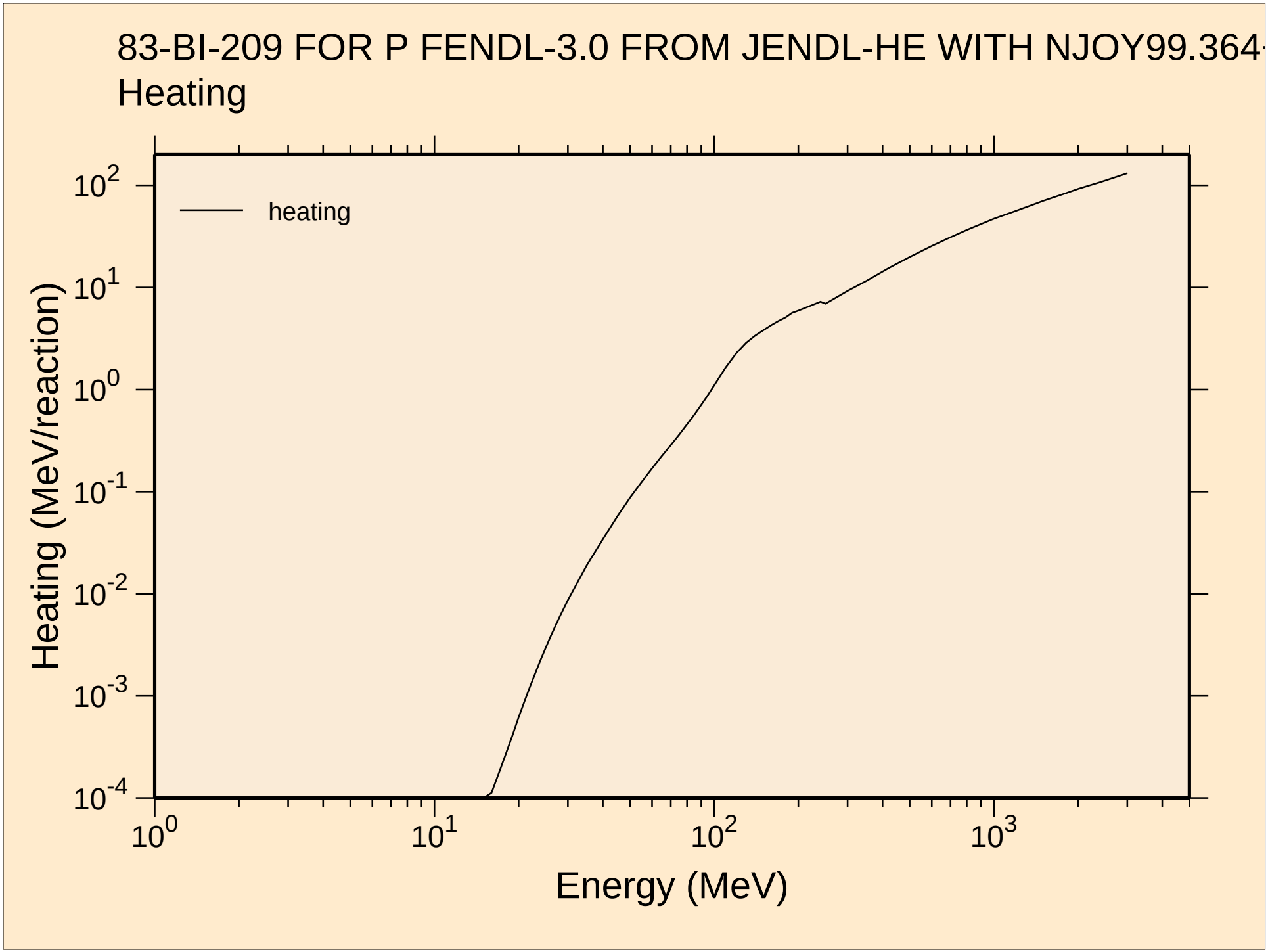
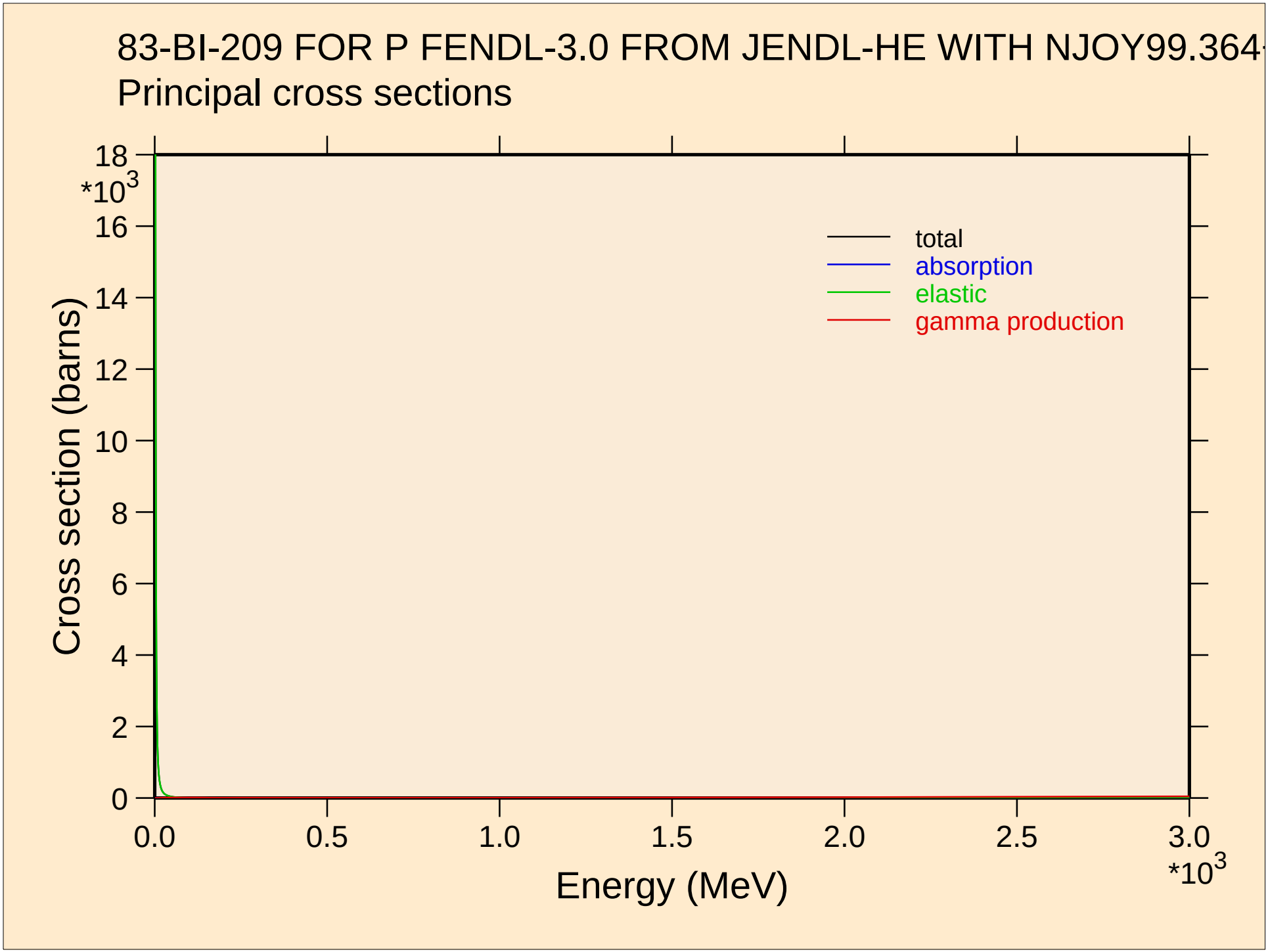
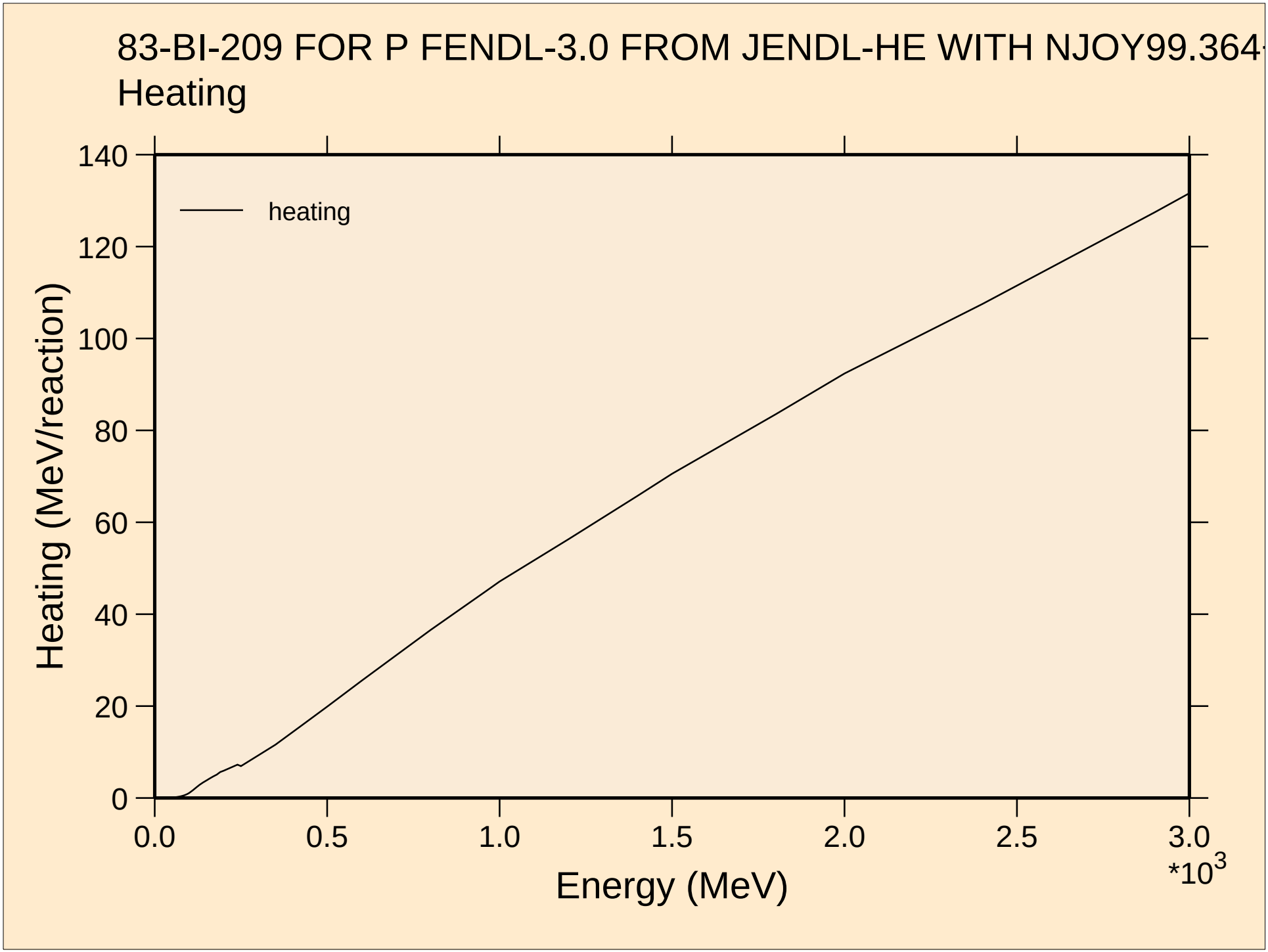
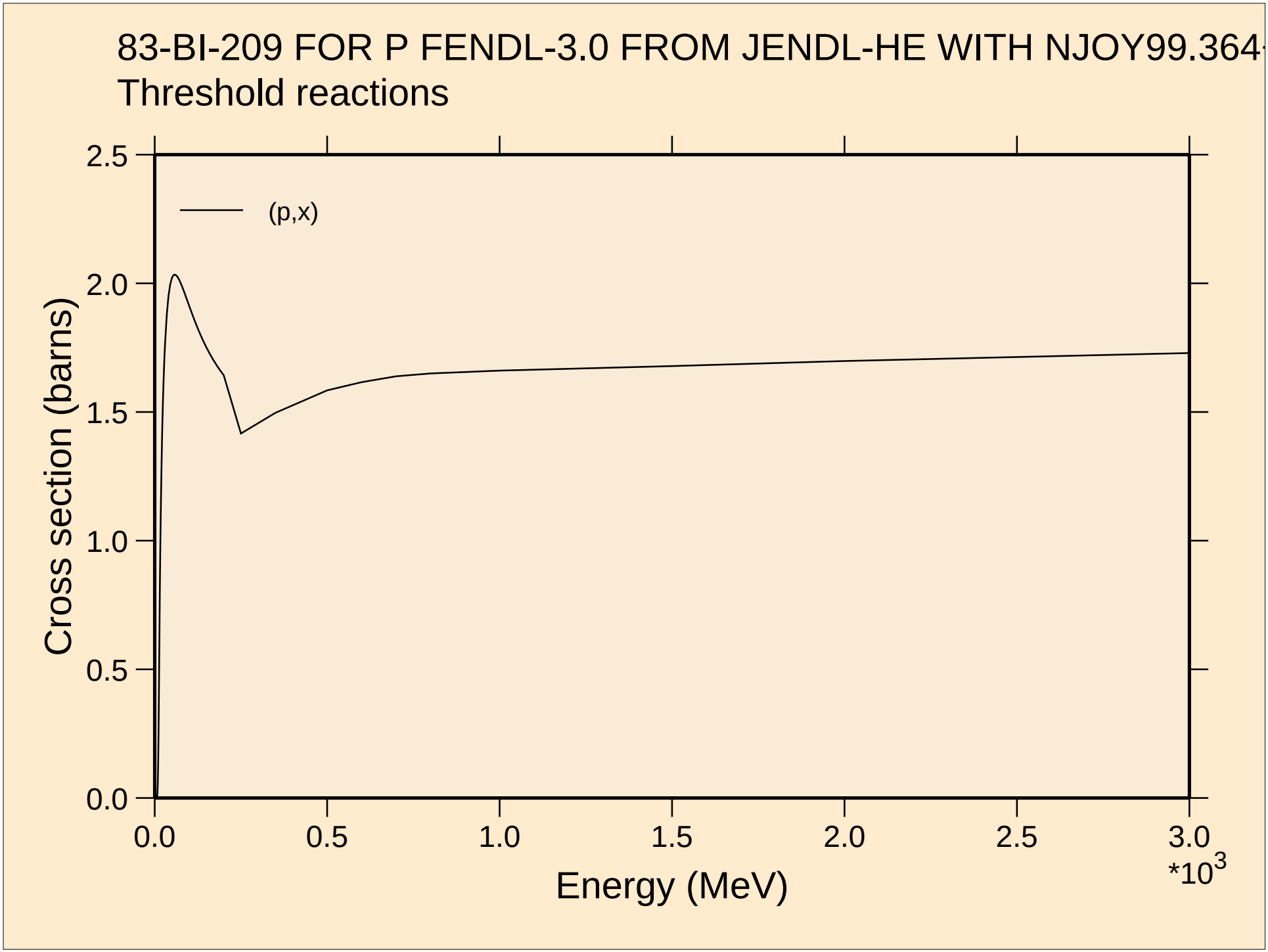
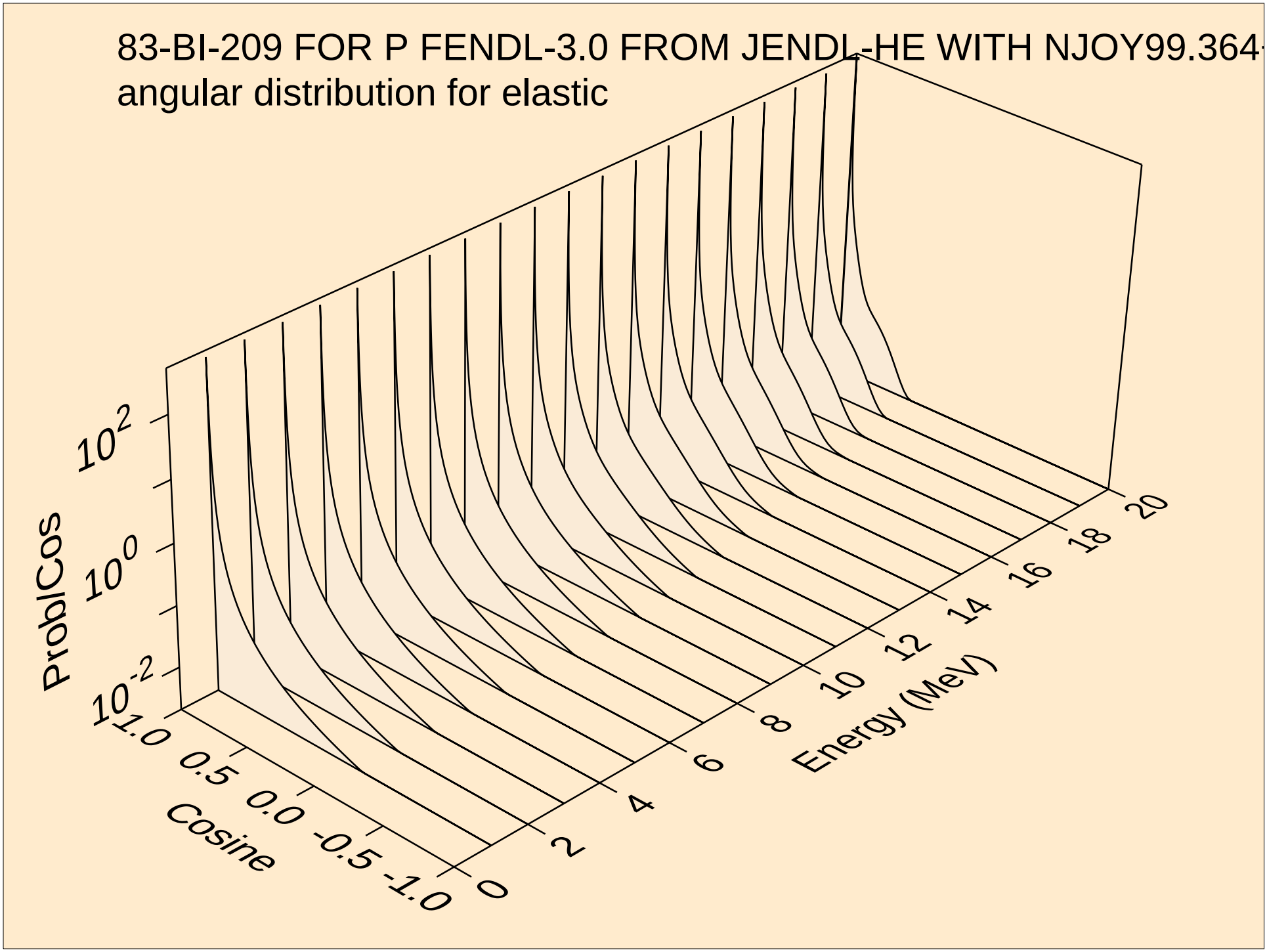

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production

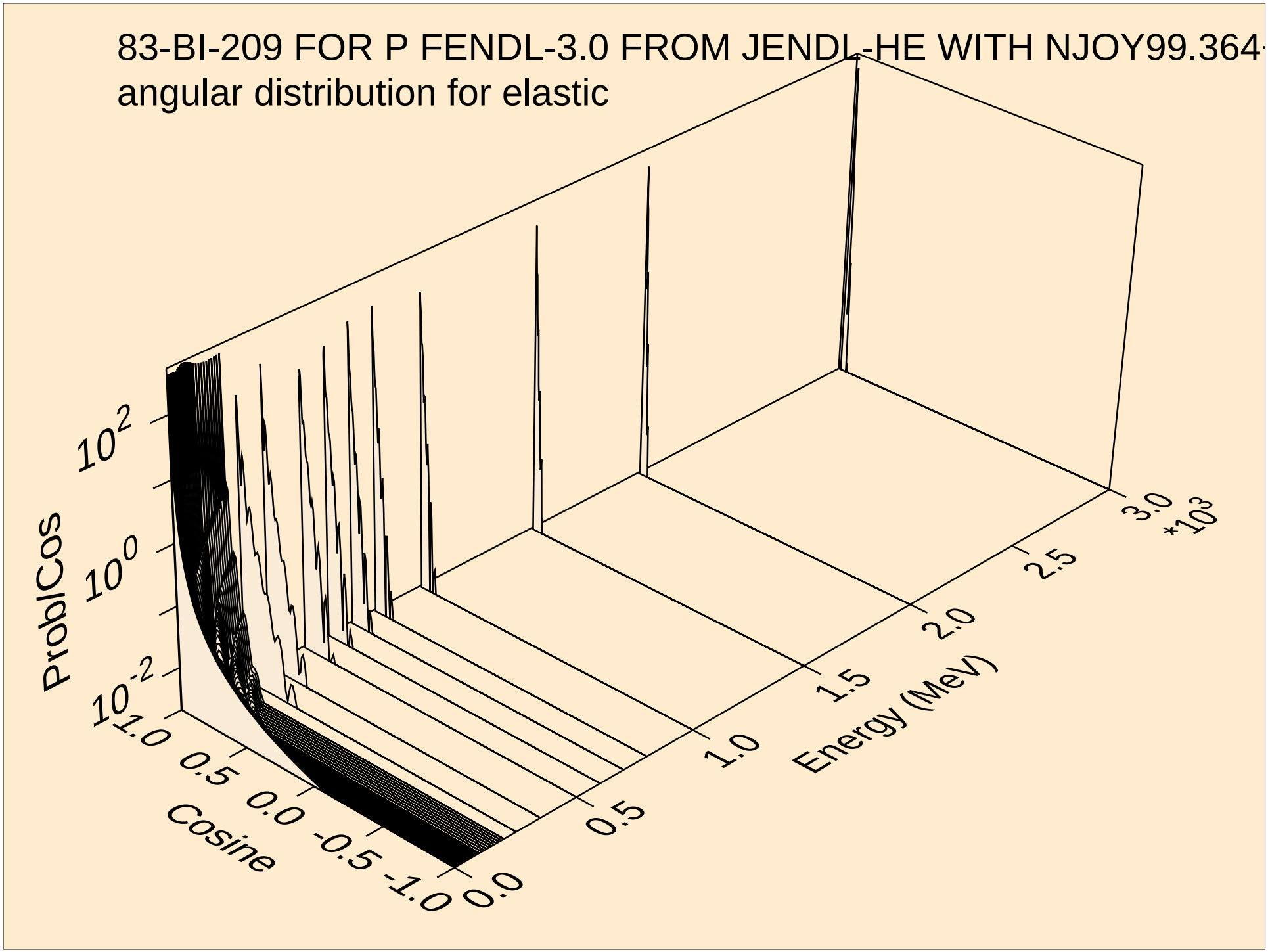

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^0
10^1
10^2
10^3

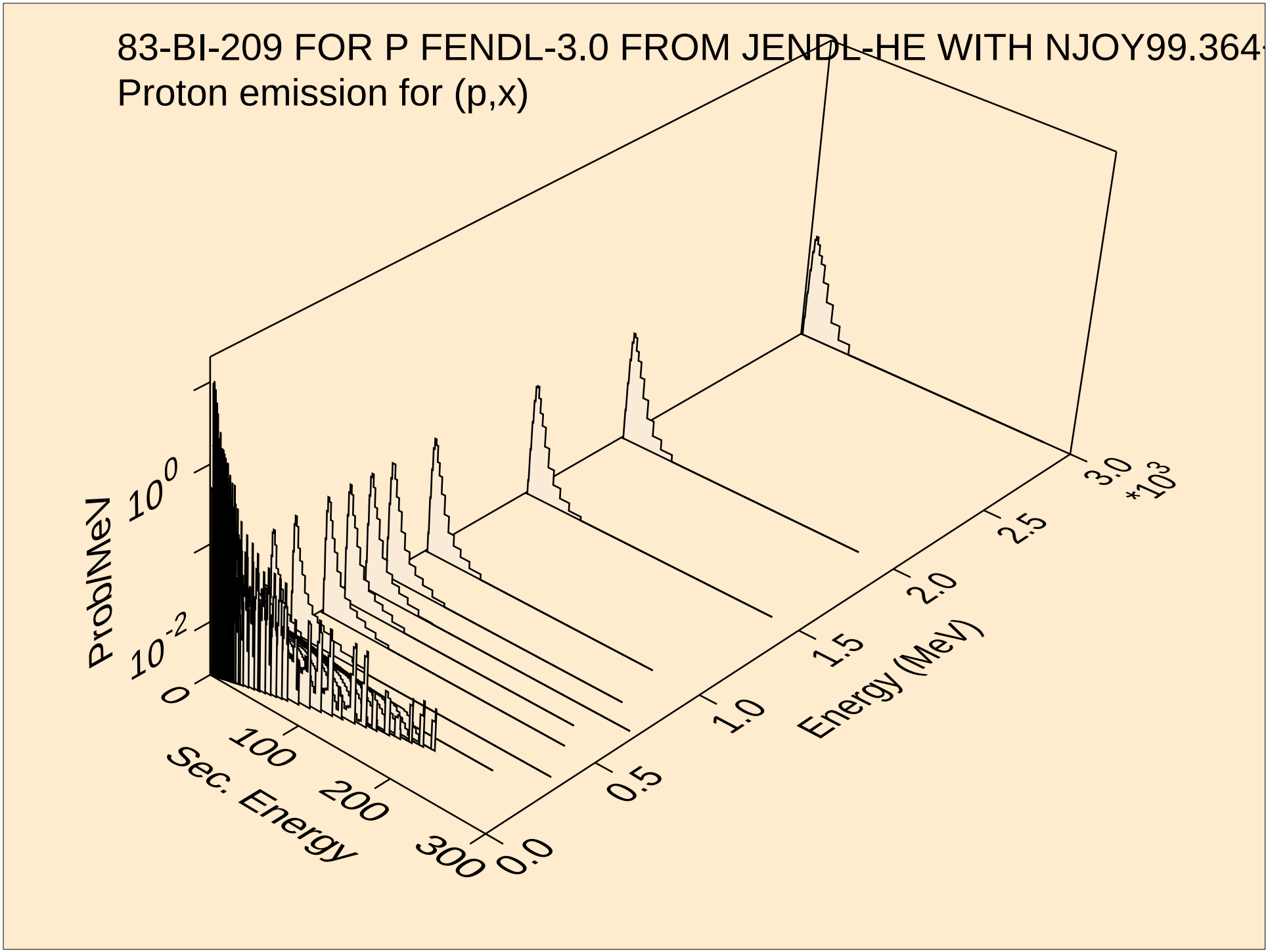

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Principal cross sections
Cross section (barns)
*10^3
18
16
14
12
10
8
6
4
2
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)
total
absorption
elastic
gamma production

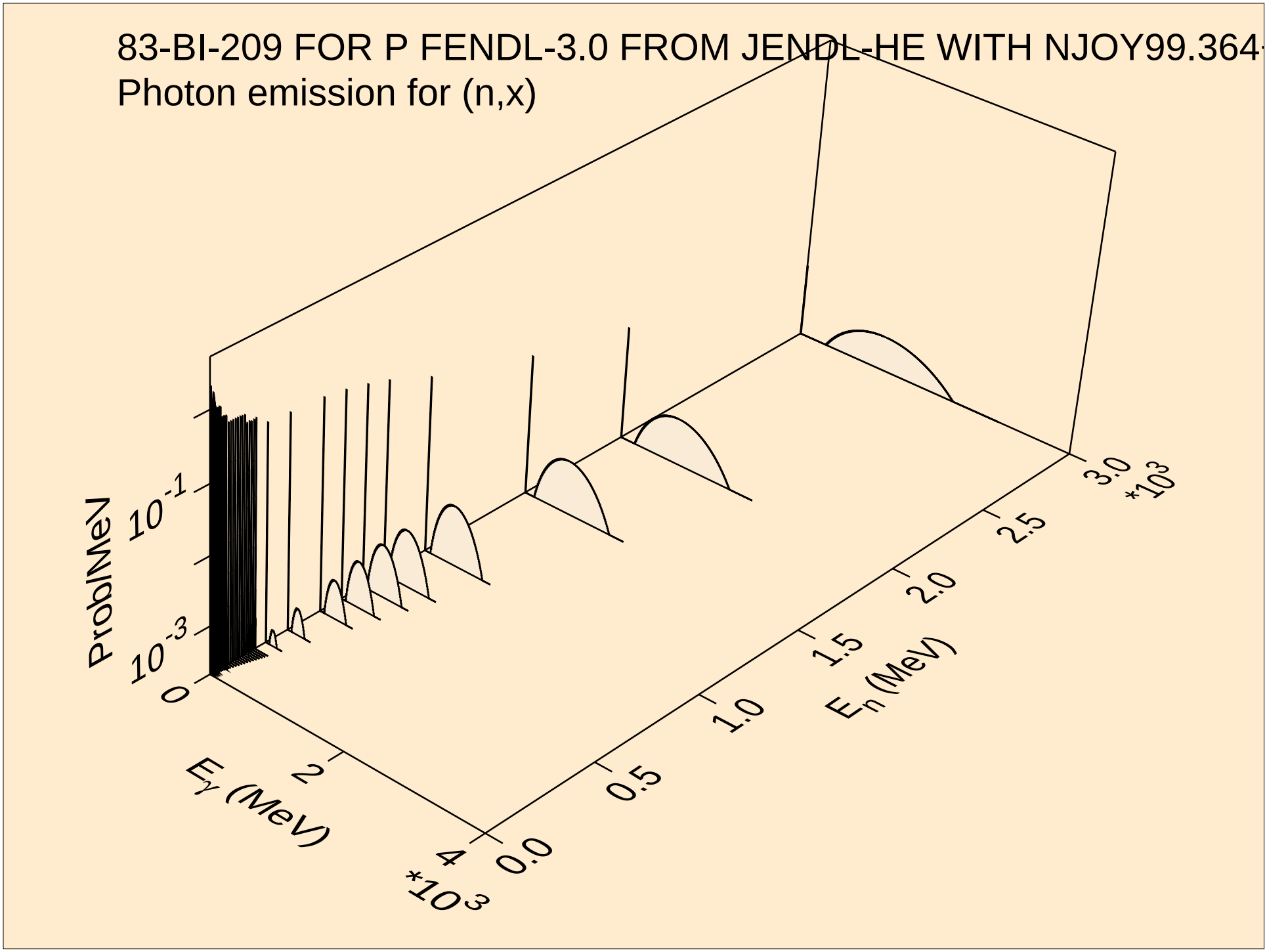

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
*10^3
0
20
40
60
80
100
120
140
0.0
0.5
1.0
1.5
2.0
2.5
3.0

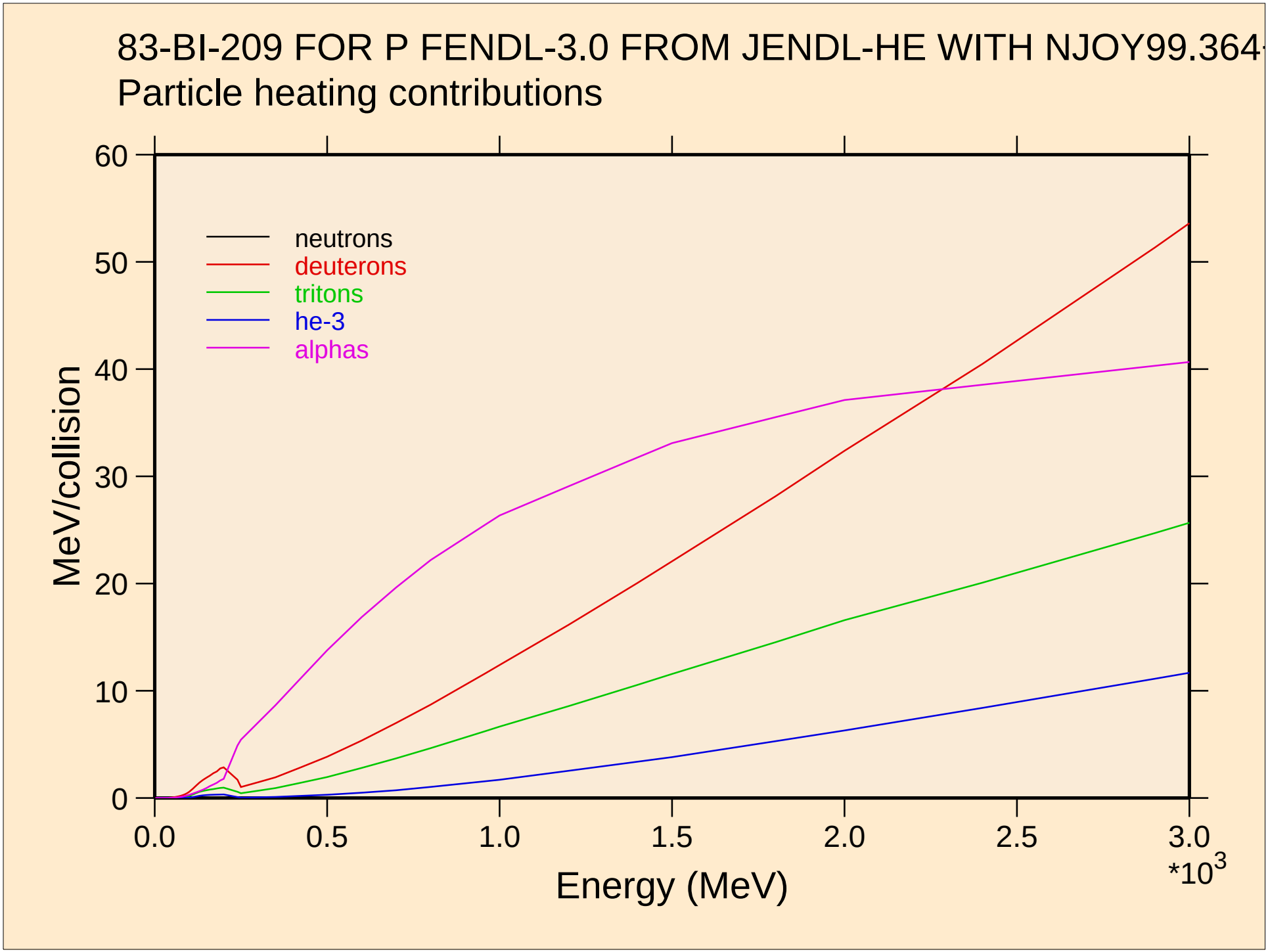

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Threshold reactions
(p,x)
Cross section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

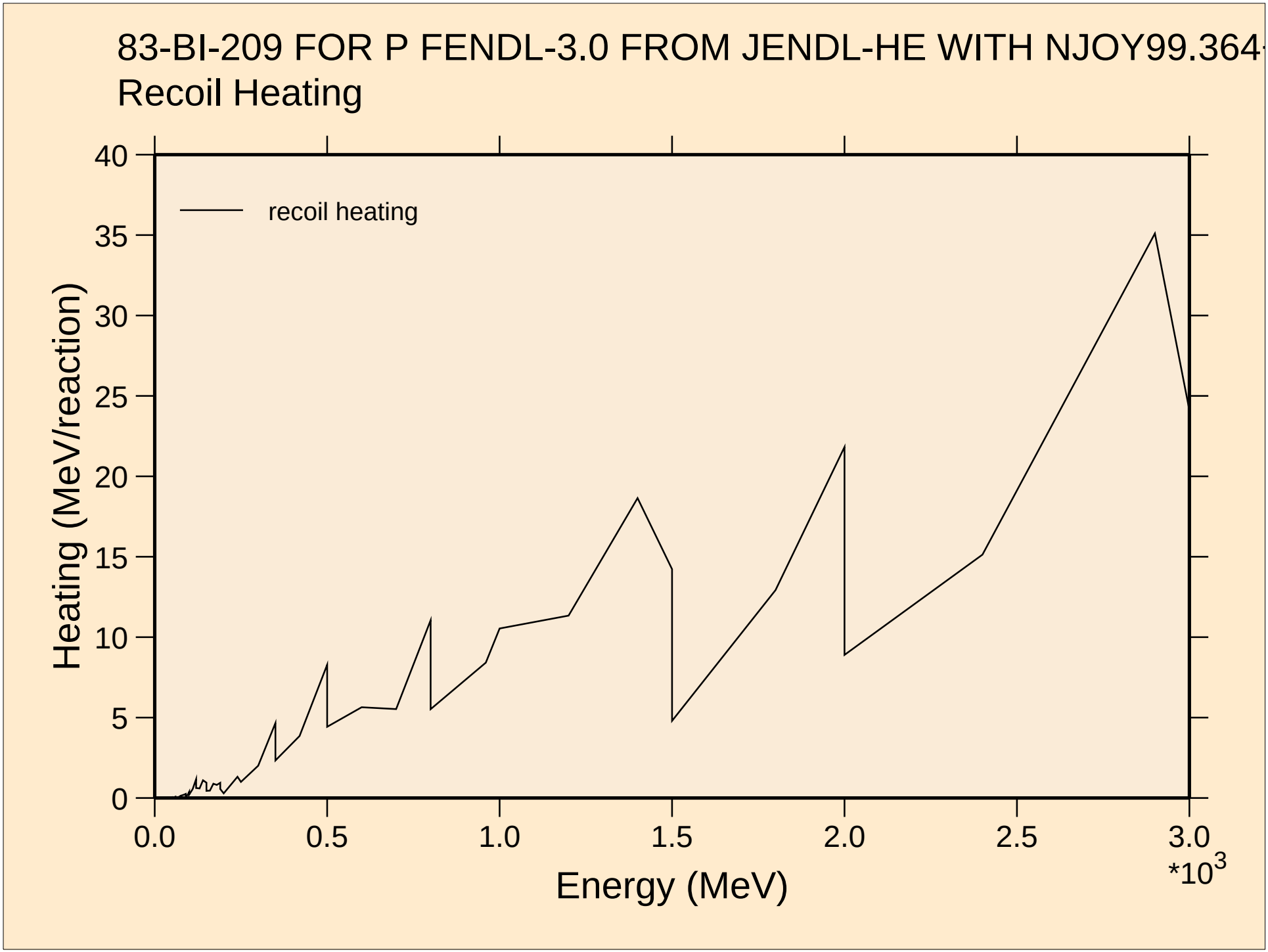

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
angular distribution for elastic
ProbICos
10^{2}
10^{0}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

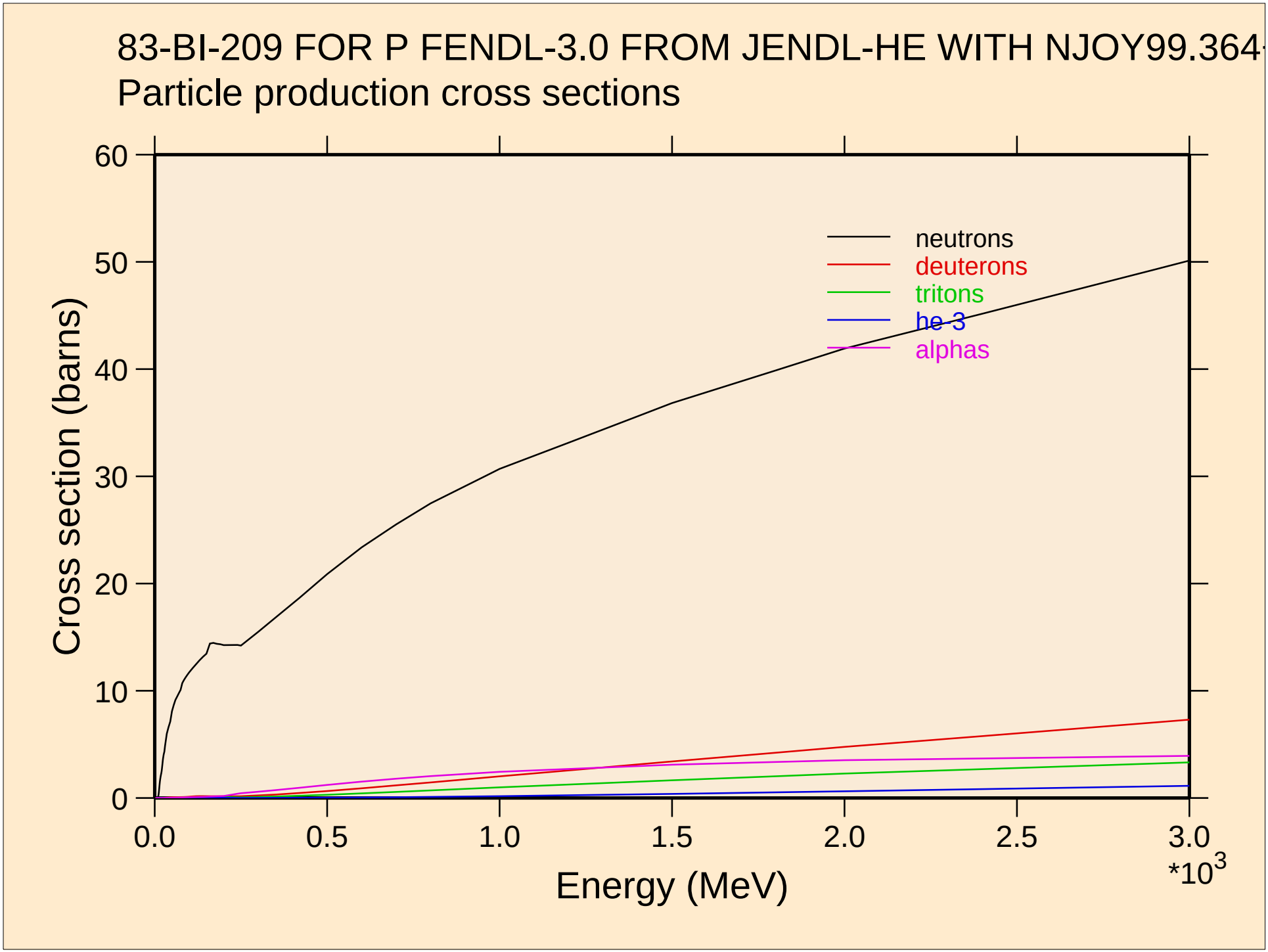

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
angular distribution for elastic
ProblCos
10^{2}
10^{0}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^{3}

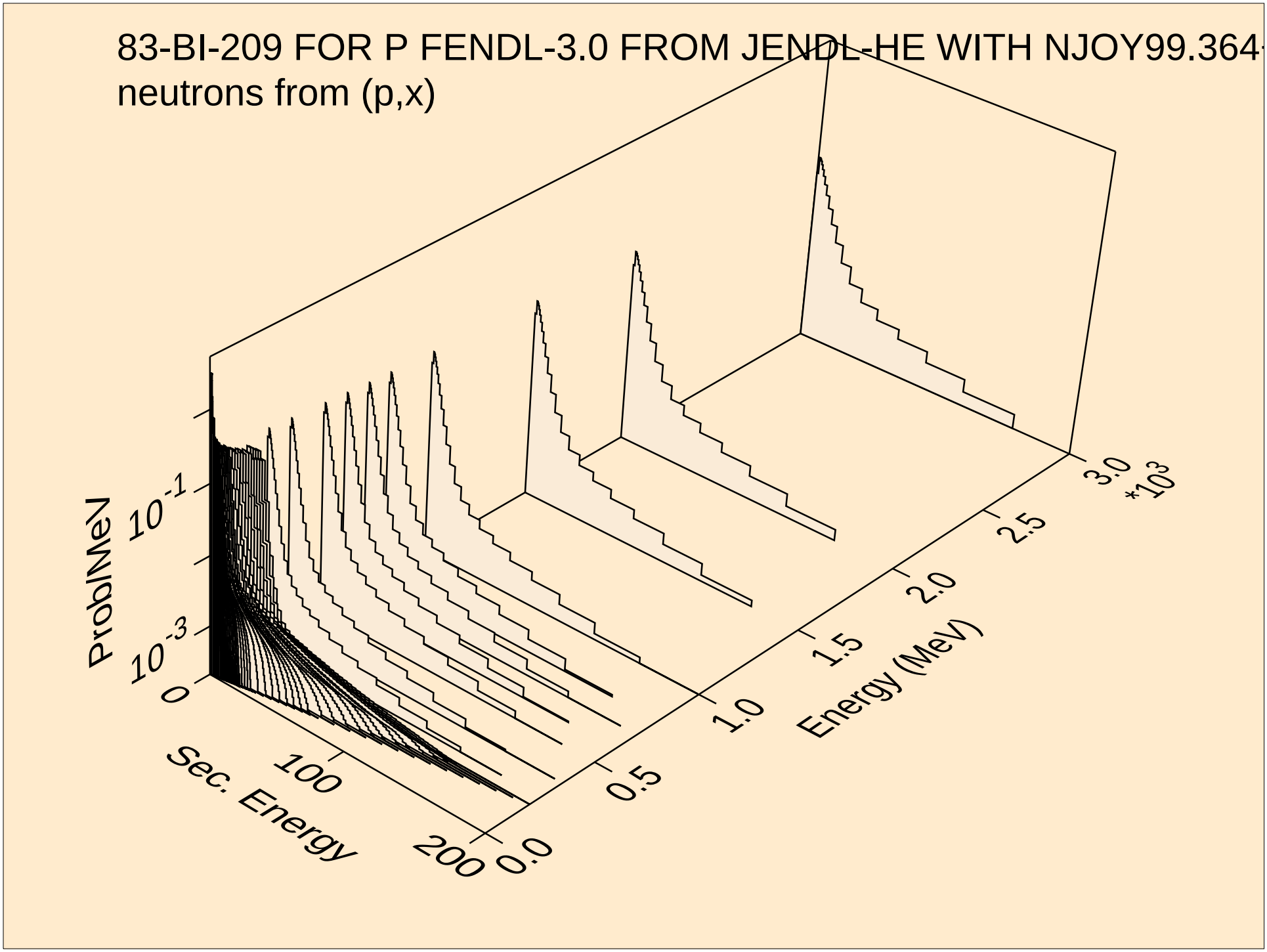

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Proton emission for (p,x)
Prob/MeV
10^0
10^-2
0
100
200
300
Sec. Energy
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

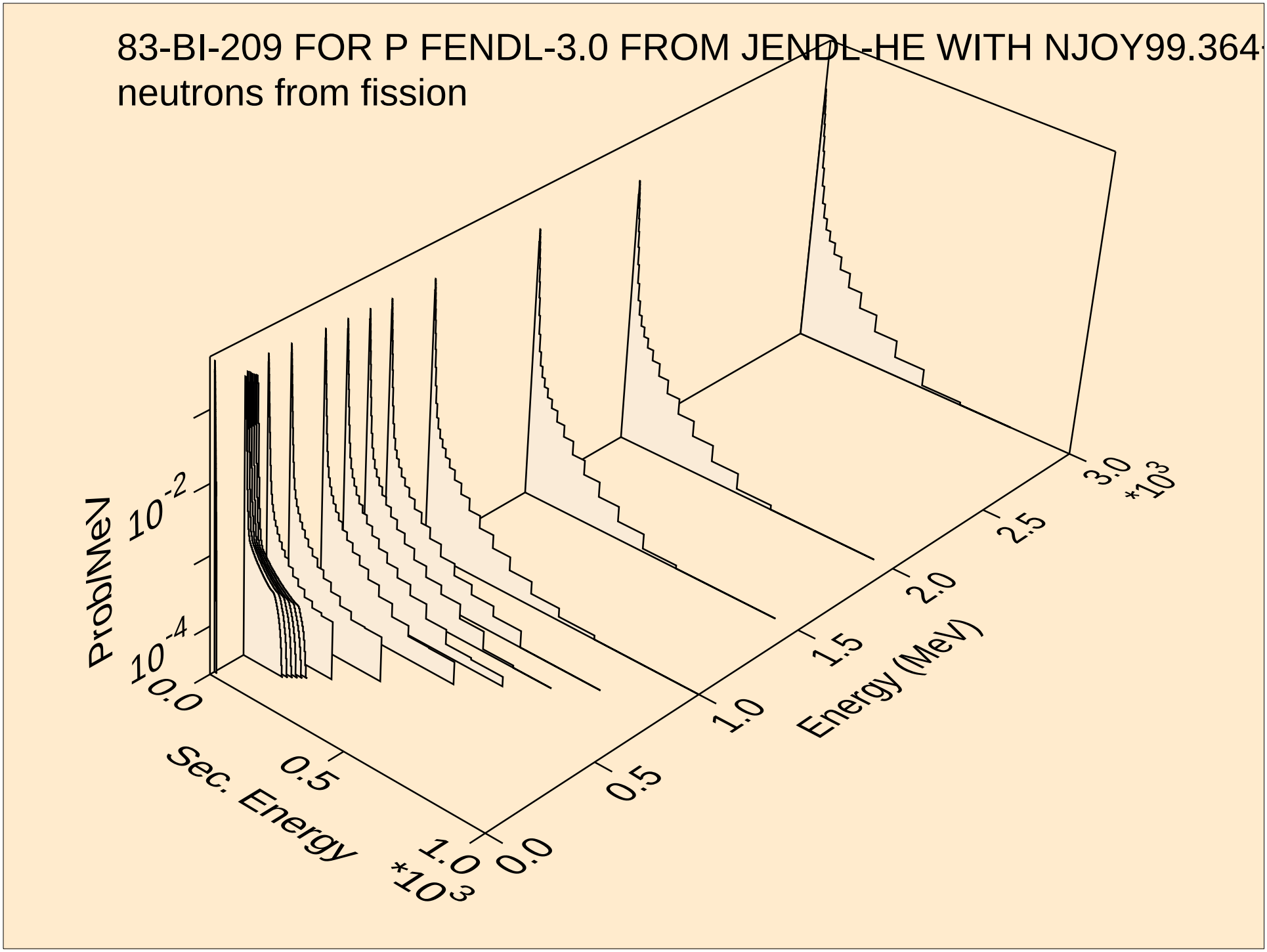

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Photon emission for (n,x)
Prob/MeV
10-1
10-3
0
Eγ (MeV)
2
4
*10³
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
En (MeV)

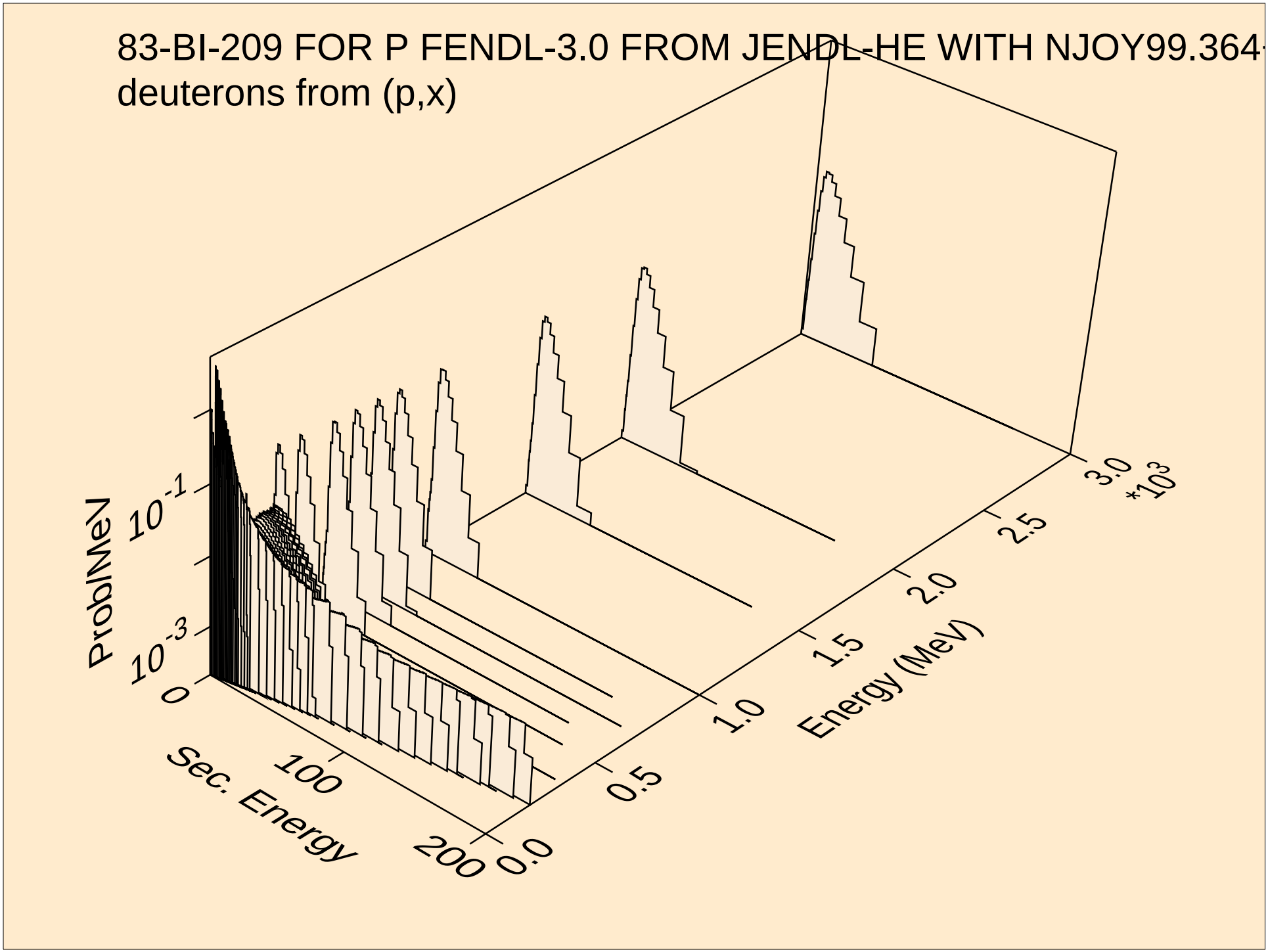

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Particle heating contributions
neutrons
deuterons
tritons
he-3
alphas
MeV/collision
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

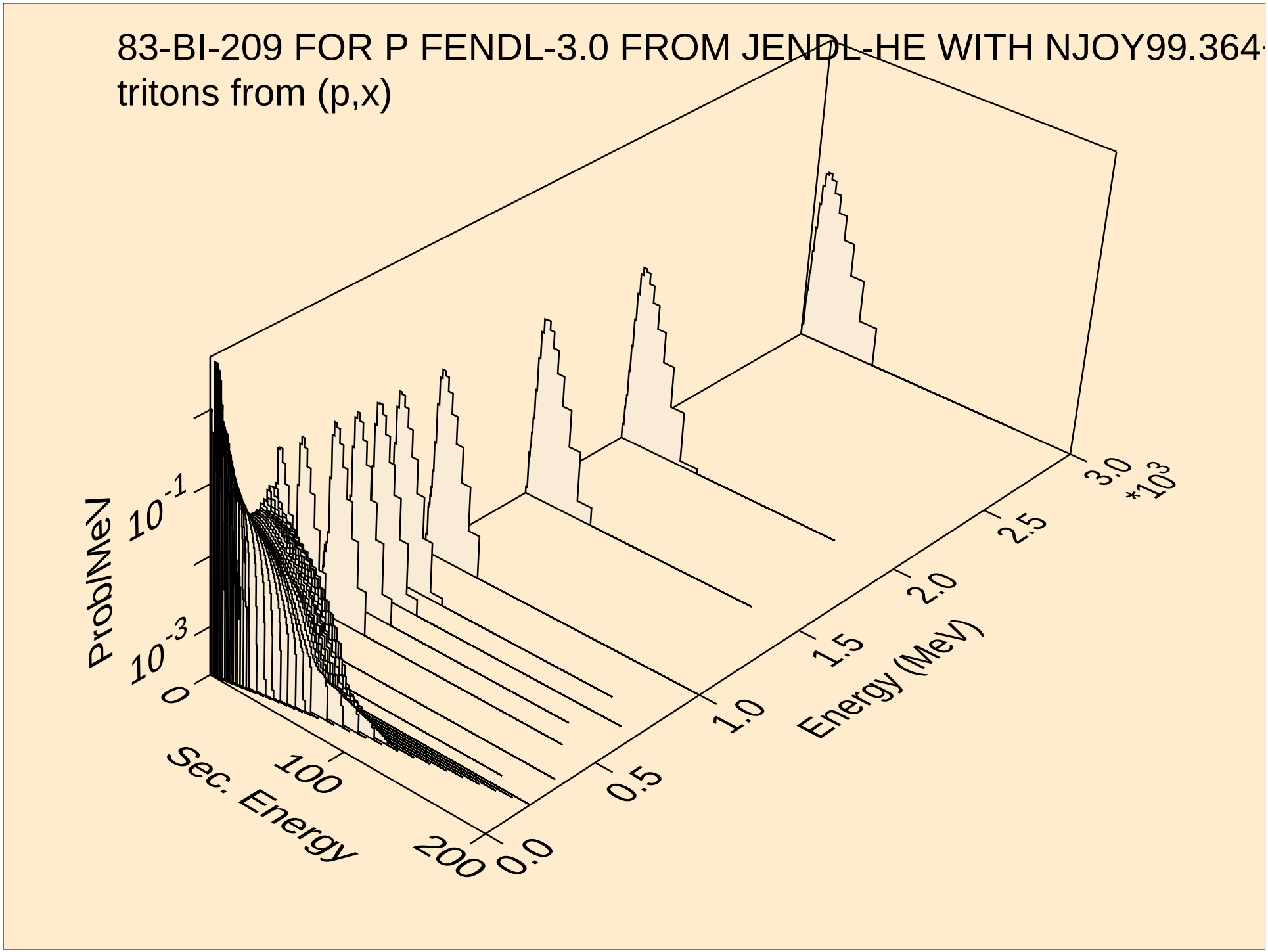

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Recoil Heating
recoil heating
Heating (MeV/reaction)
0
5
10
15
20
25
30
35
40
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

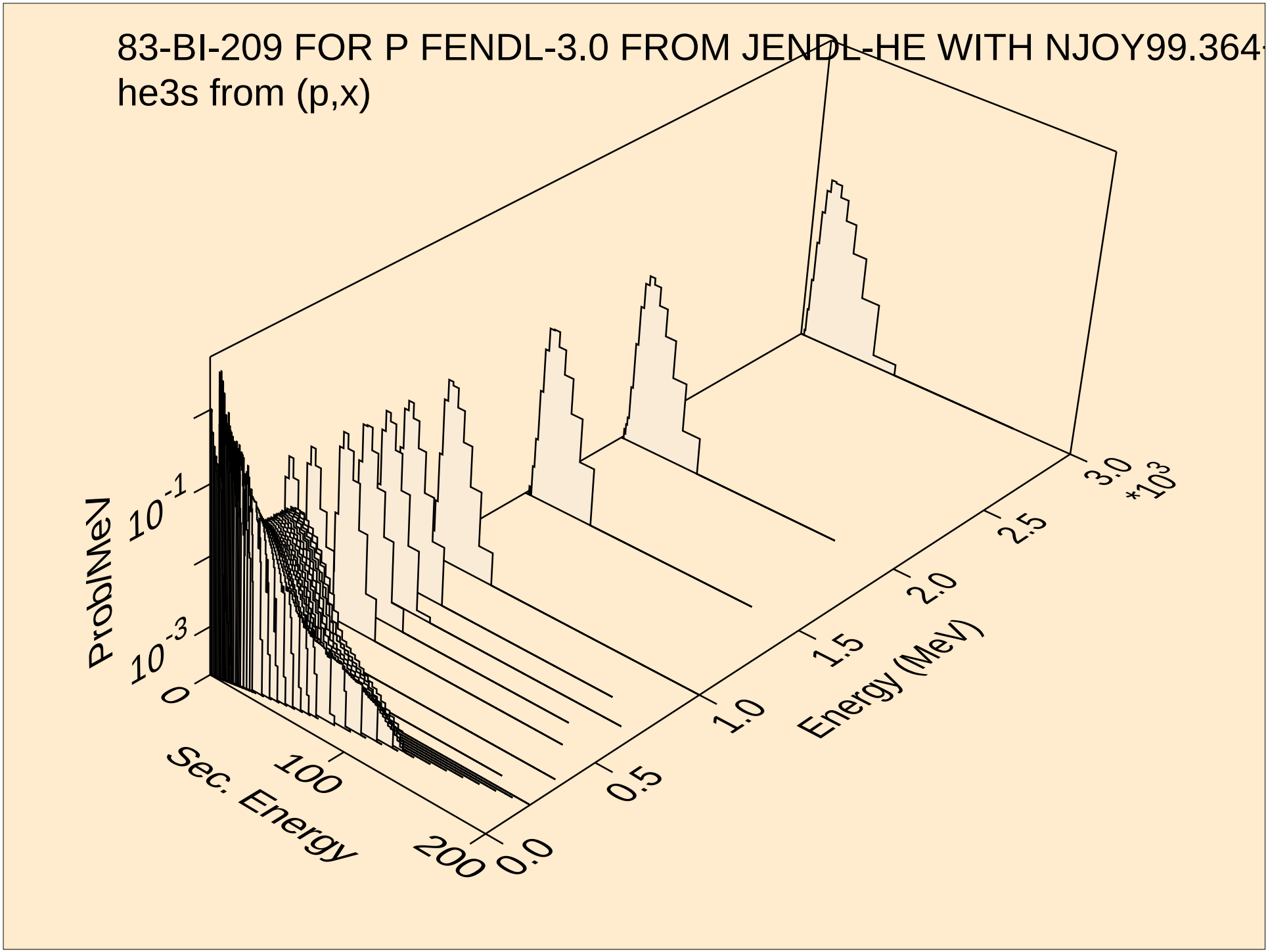

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
Particle production cross sections
Cross section (barns)
Energy (MeV)
*10^3
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
neutrons
deuterons
tritons
he-3
alphas

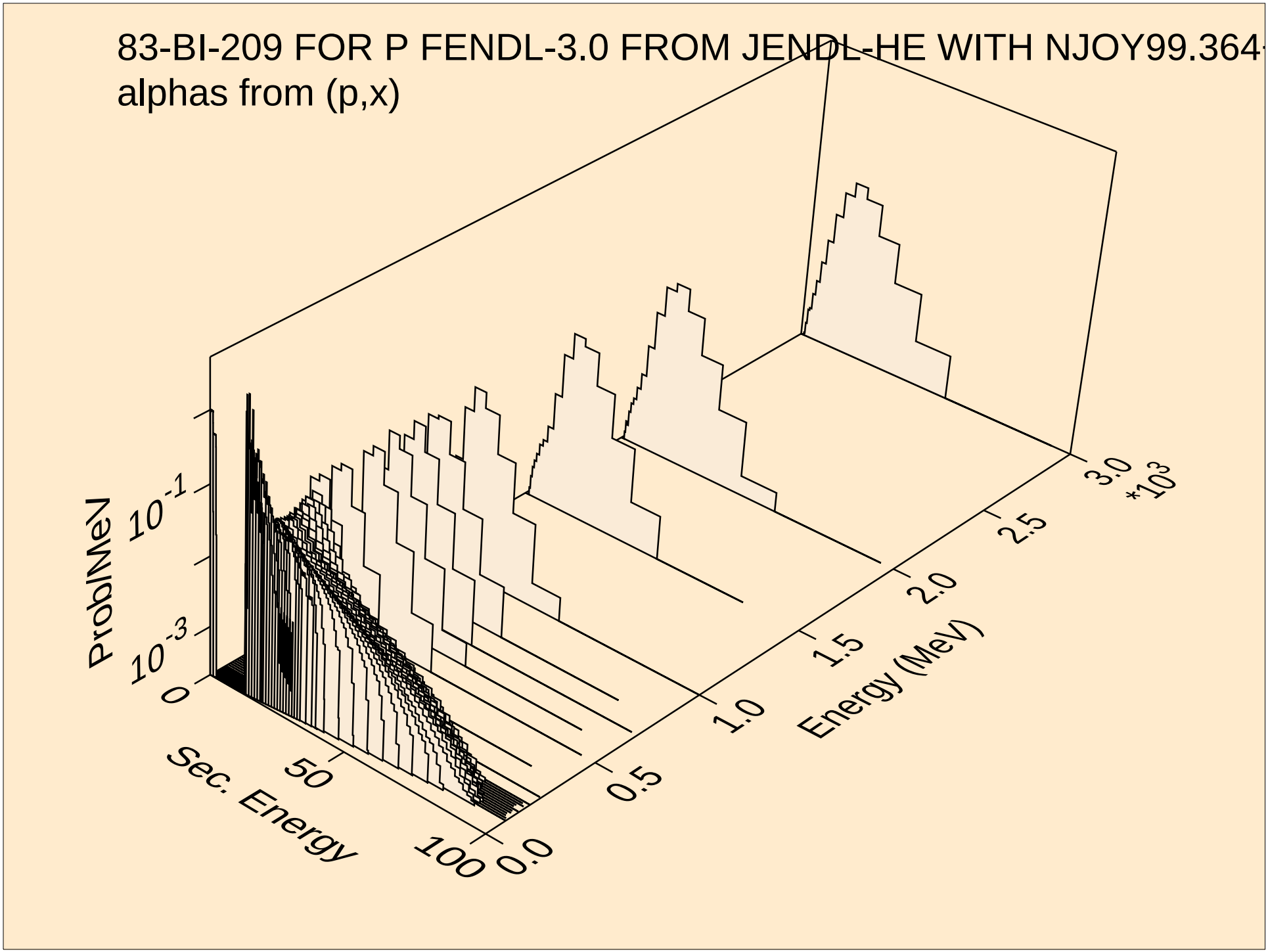

83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
neutrons from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
Energy (MeV)


83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
neutrons from fission
Prob/MeV
10-2
10-4
0.0
0.5
1.0
Sec. Energy
*10³
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Energy (MeV)
*10³


83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
deuterons from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
Energy (MeV)


83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
tritons from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
Energy (MeV)


83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
he3s from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
Energy (MeV)


83-BI-209 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364
alphas from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
50
100
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
Energy (MeV)