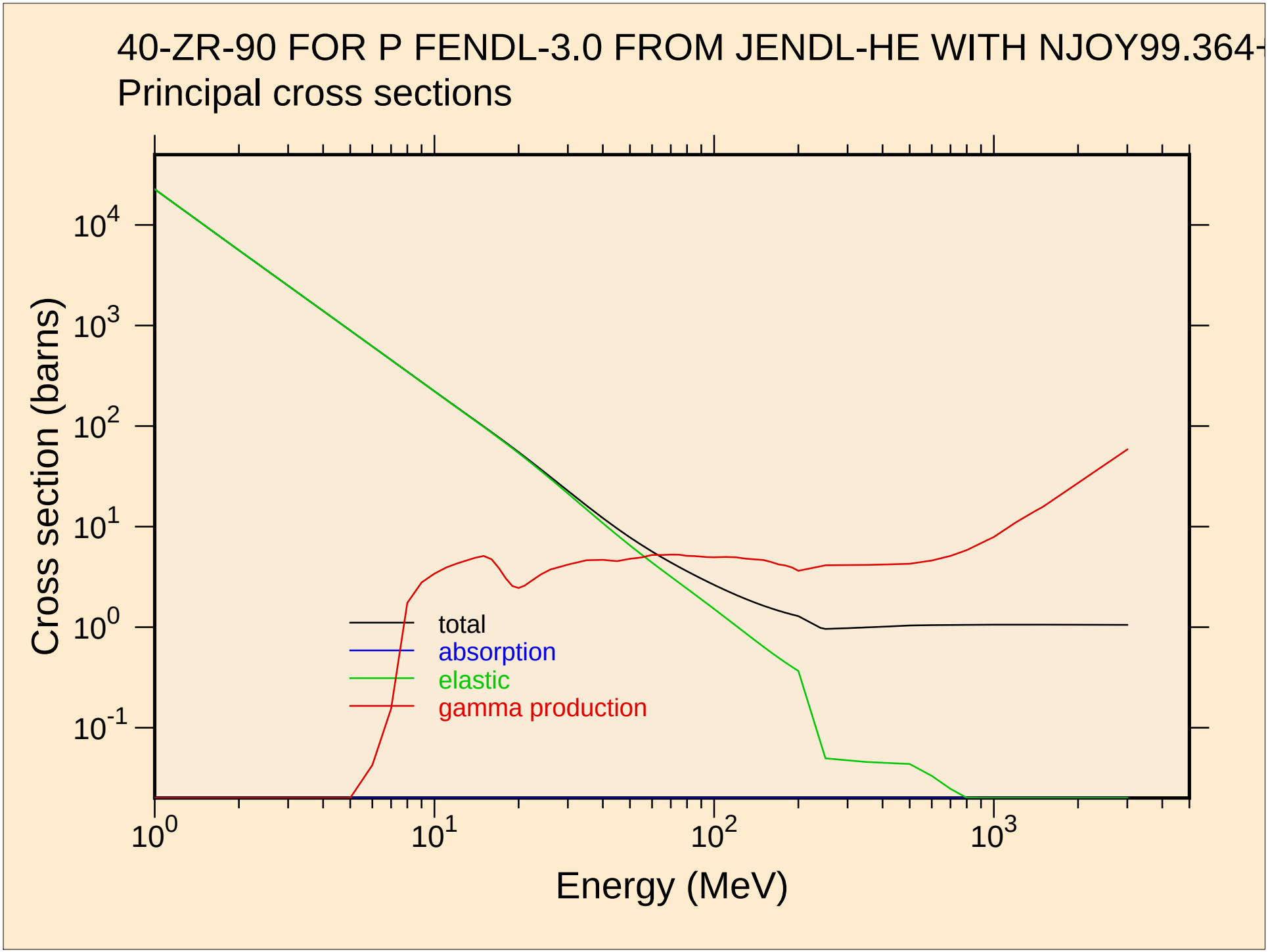
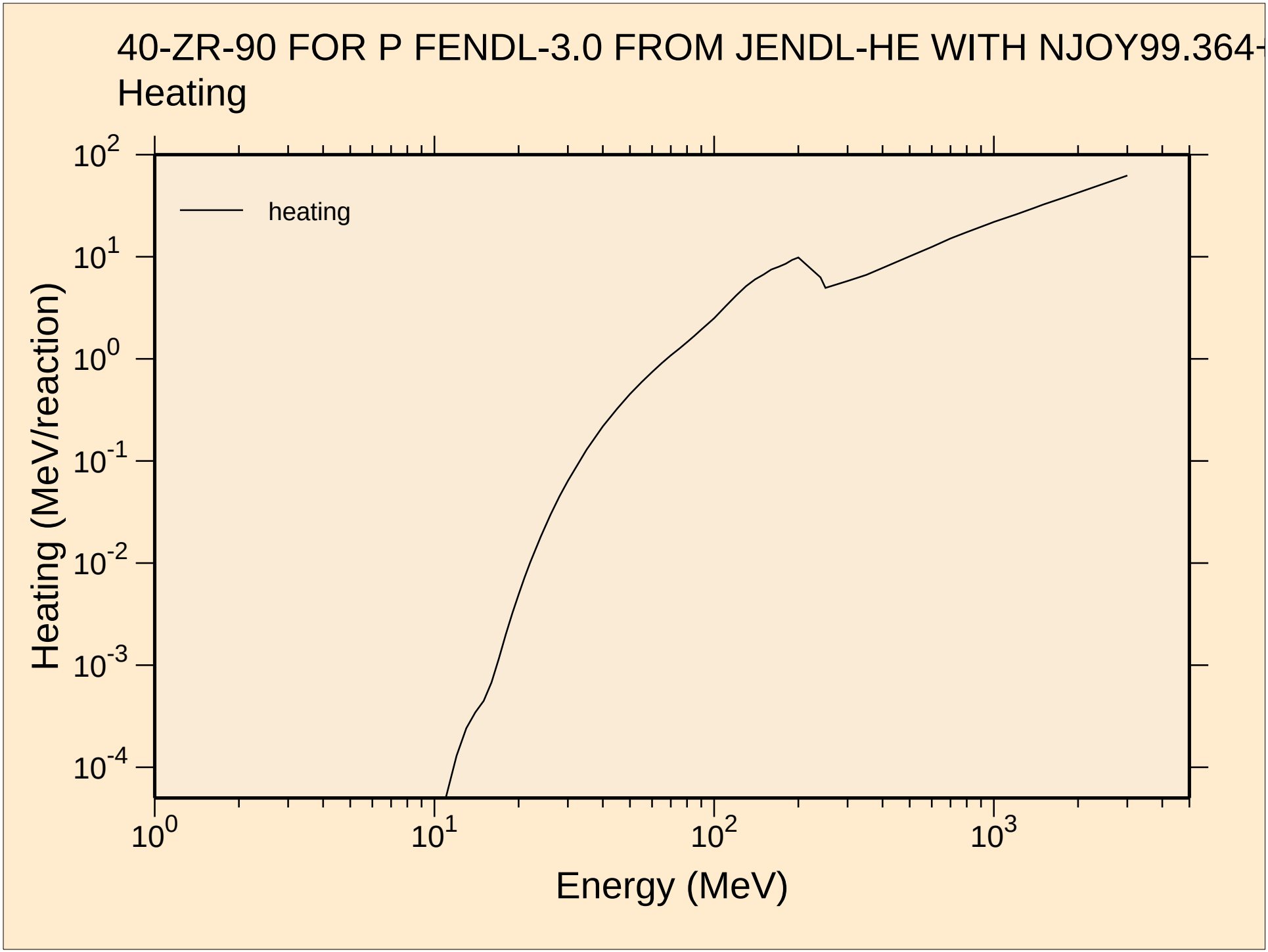
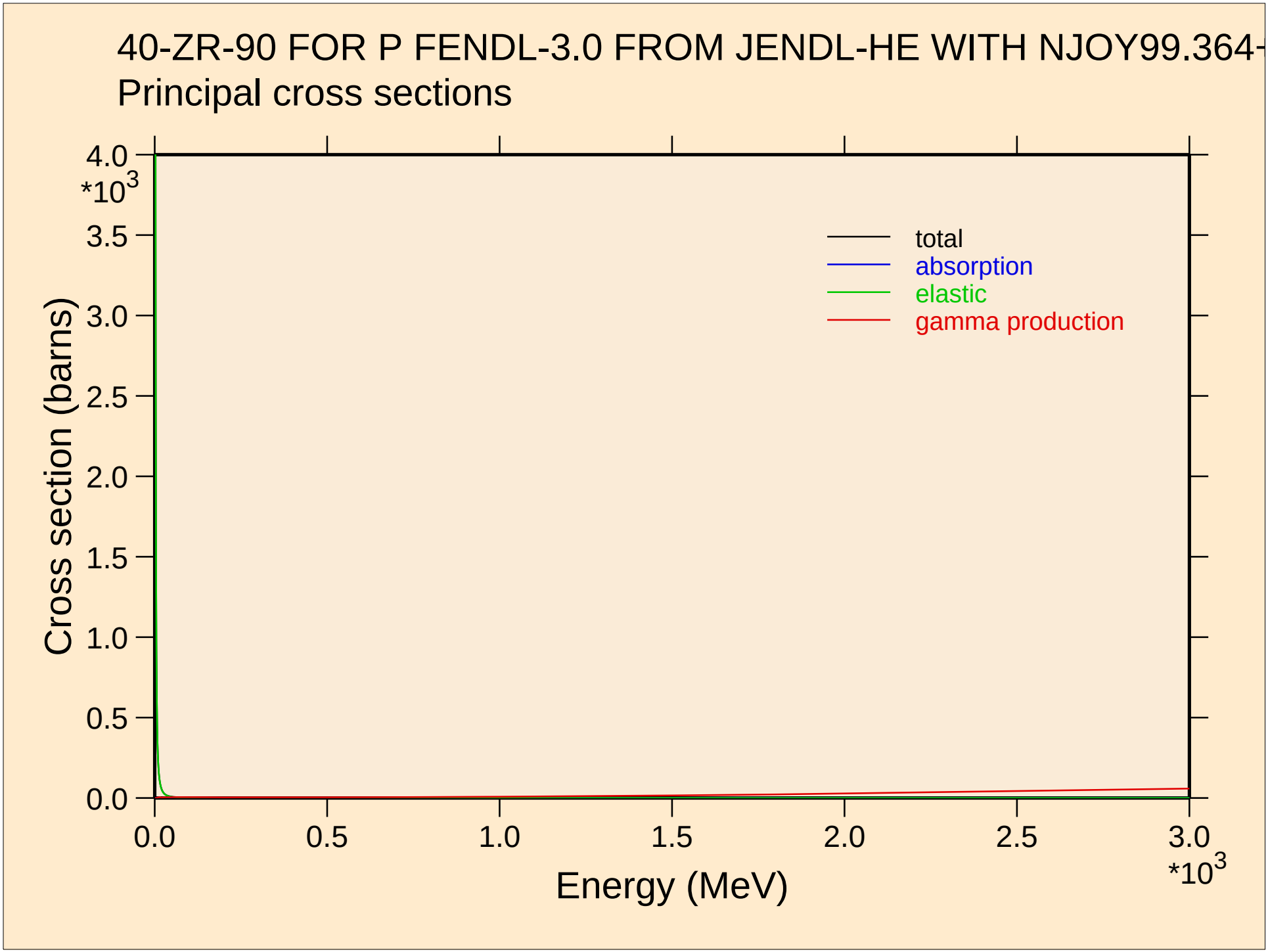
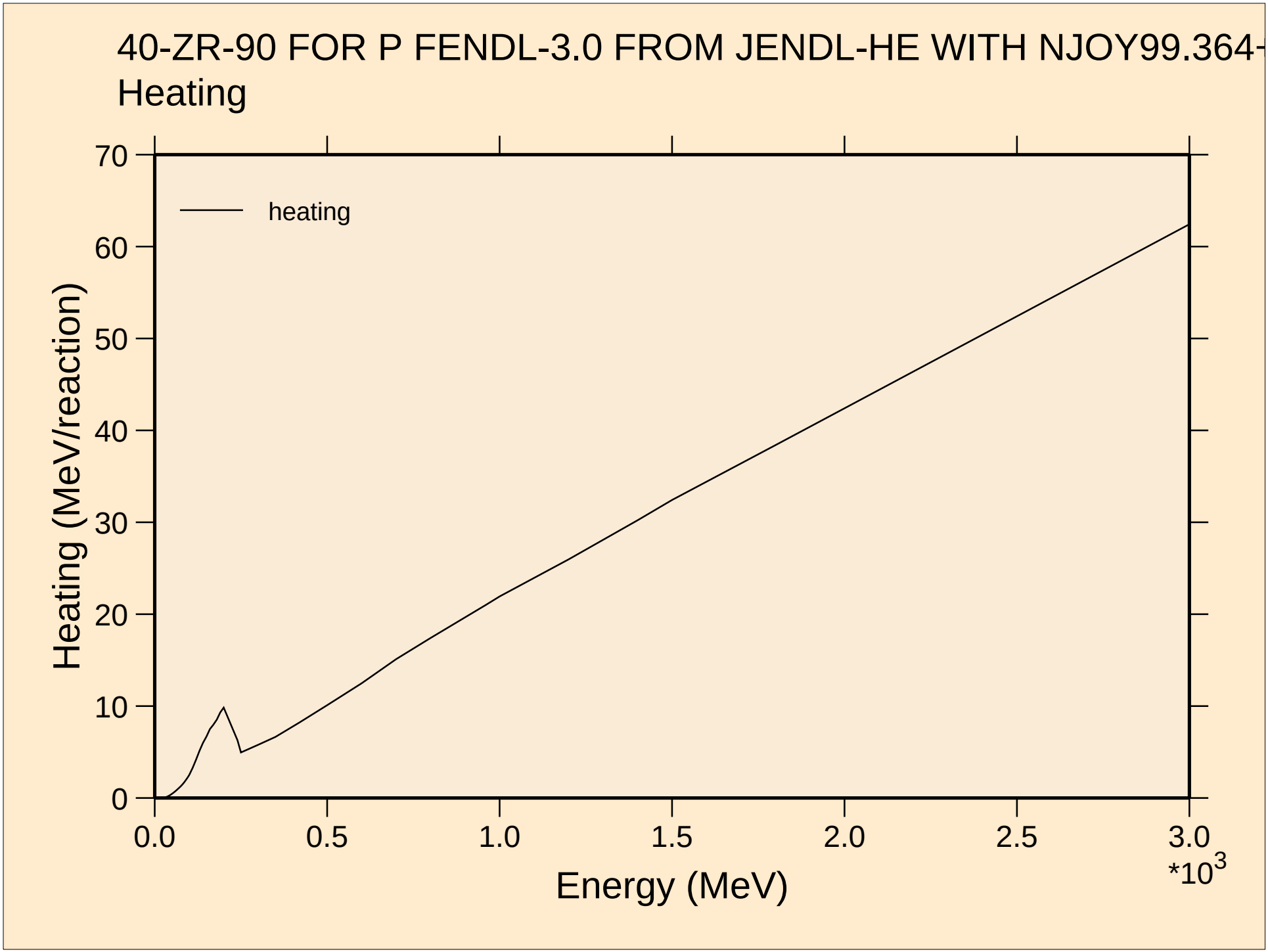
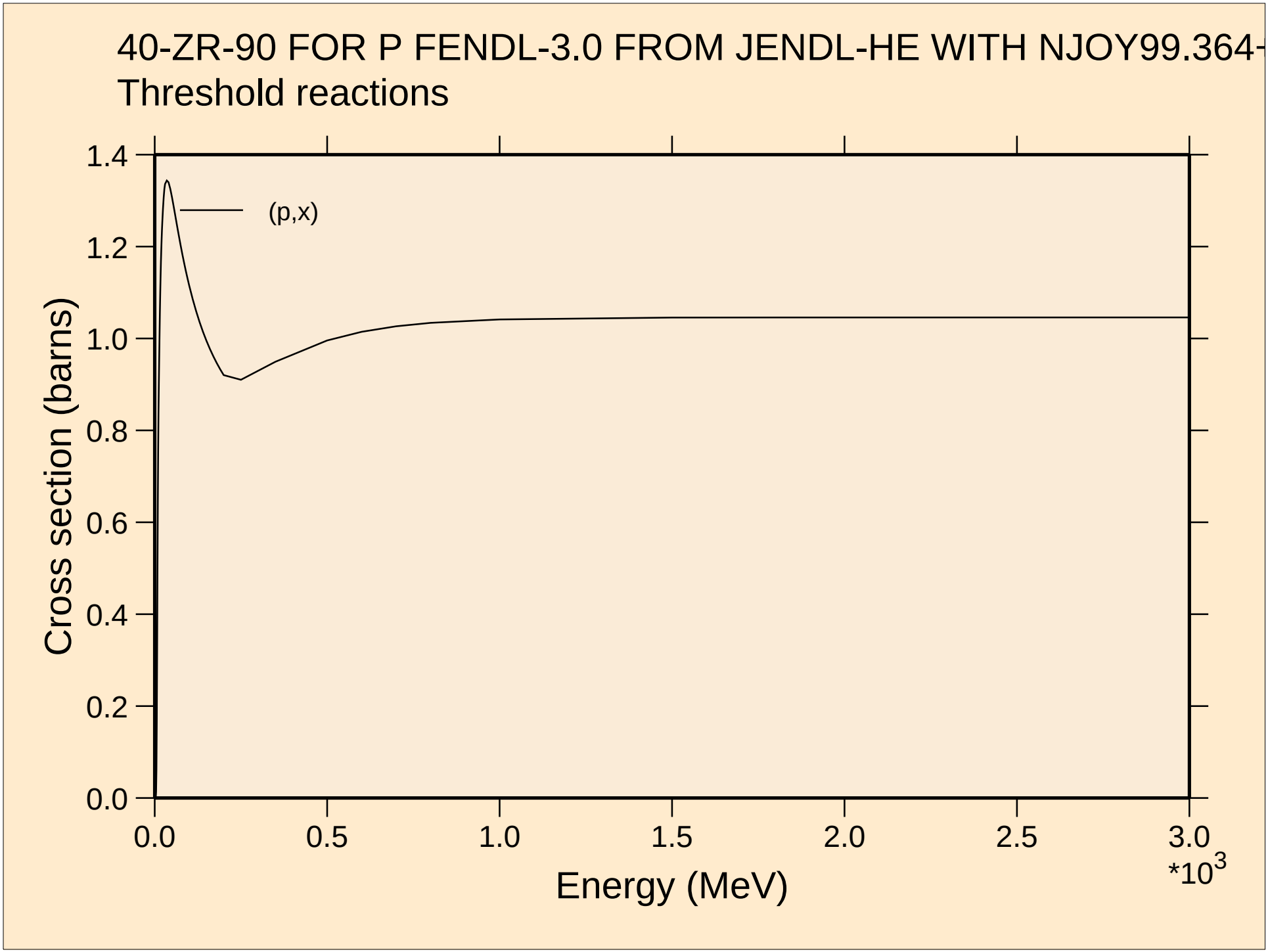
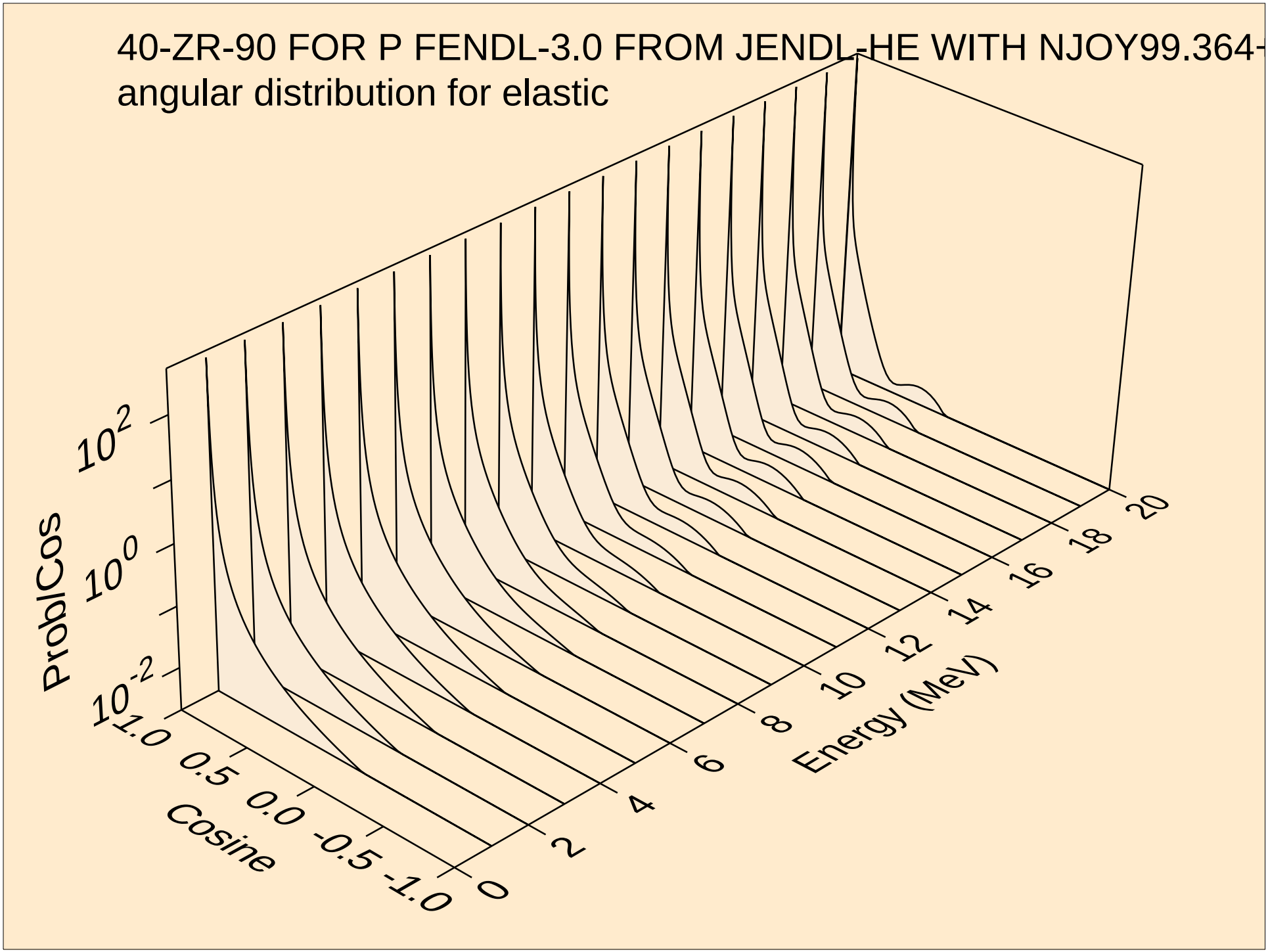

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Principal cross sections
Cross section (barns)
10^{4}
10^{3}
10^{2}
10^{1}
10^{0}
10^{-1}
total
absorption
elastic
gamma production
10^{0}
10^{1}
10^{2}
10^{3}
Energy (MeV)

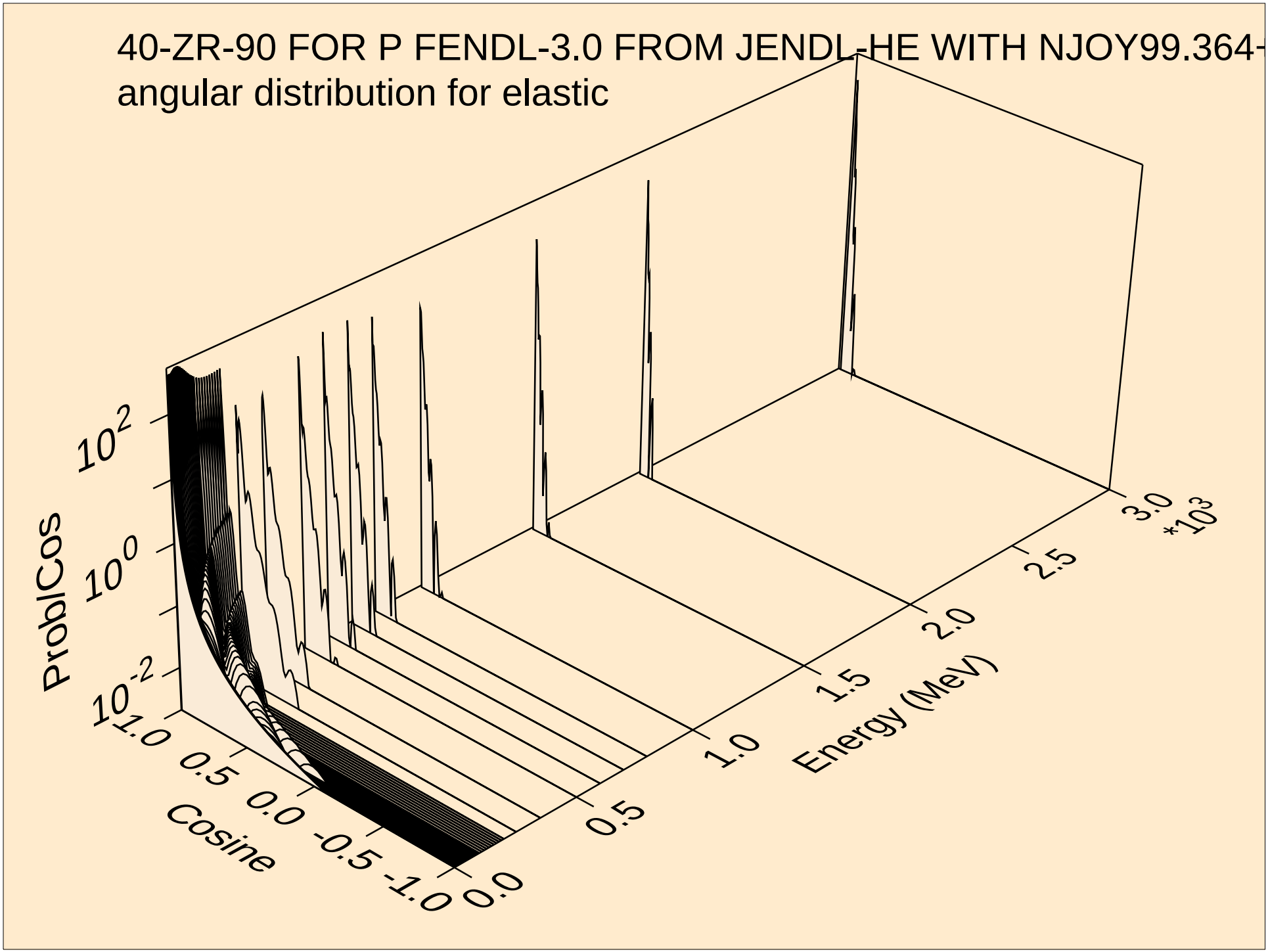

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
10^0
10^1
10^2
10^3

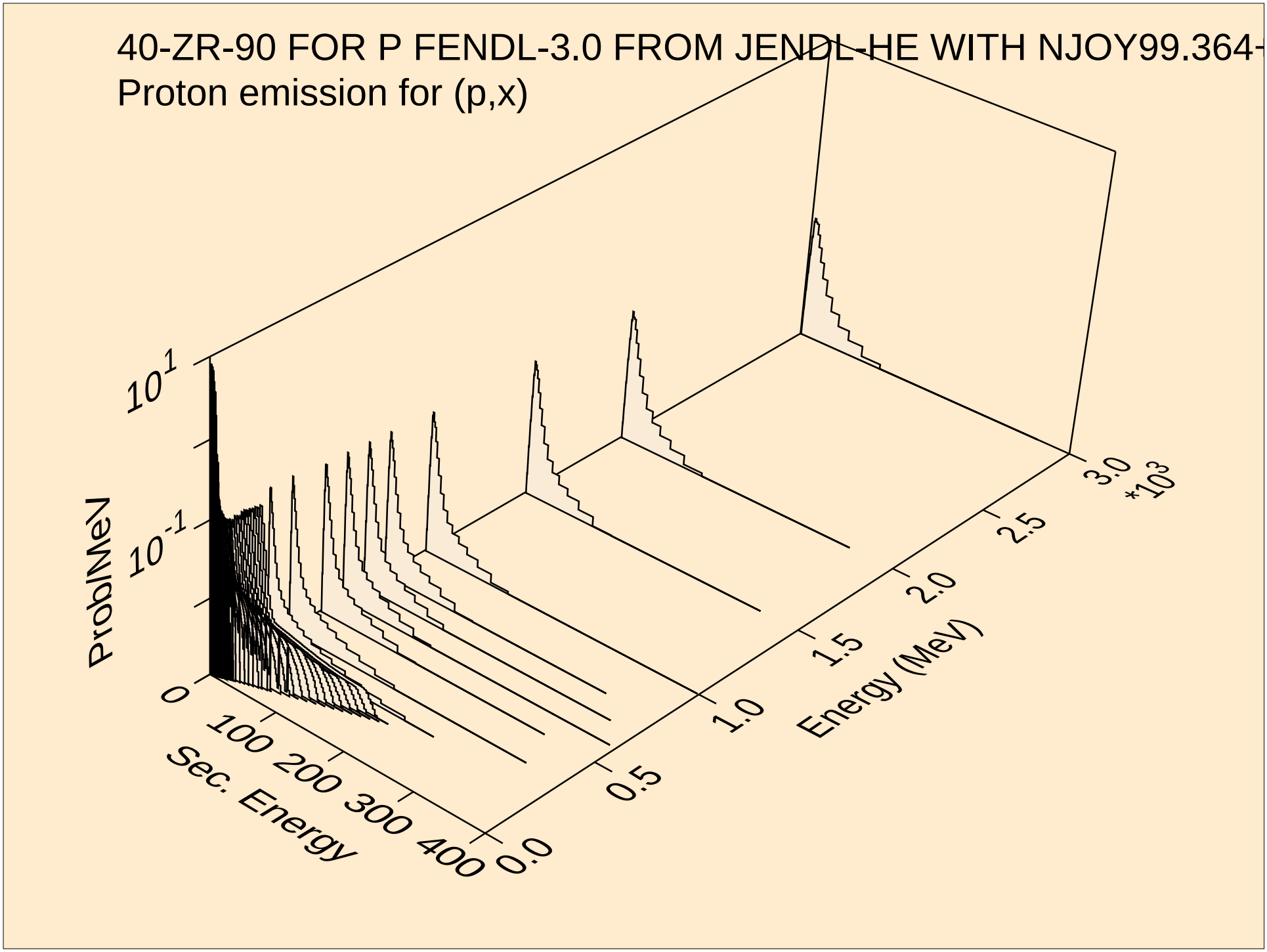

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Principal cross sections
Cross section (barns)
*10^3
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)
total
absorption
elastic
gamma production

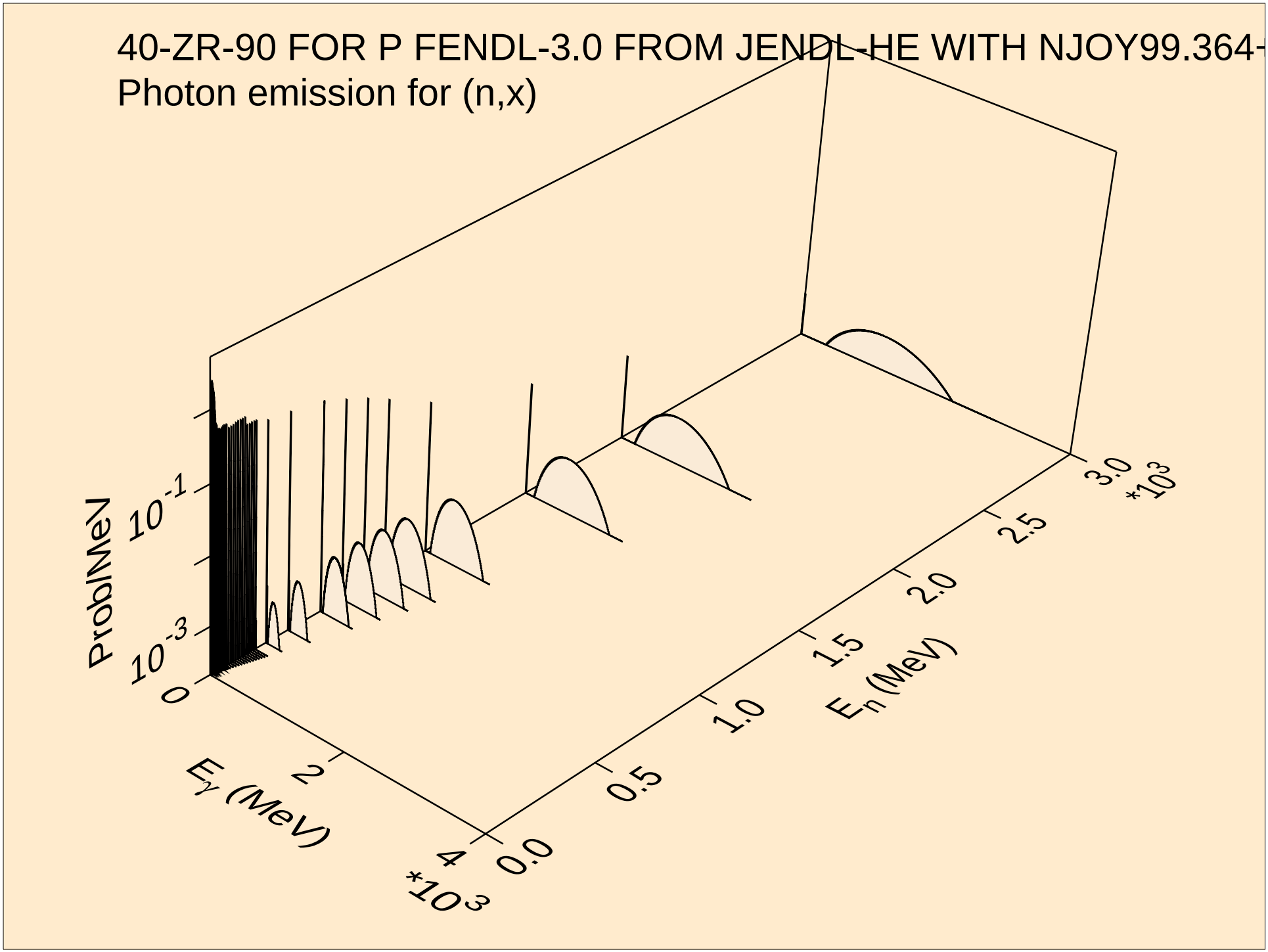

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
*10^3
0
10
20
30
40
50
60
70
0.0
0.5
1.0
1.5
2.0
2.5
3.0

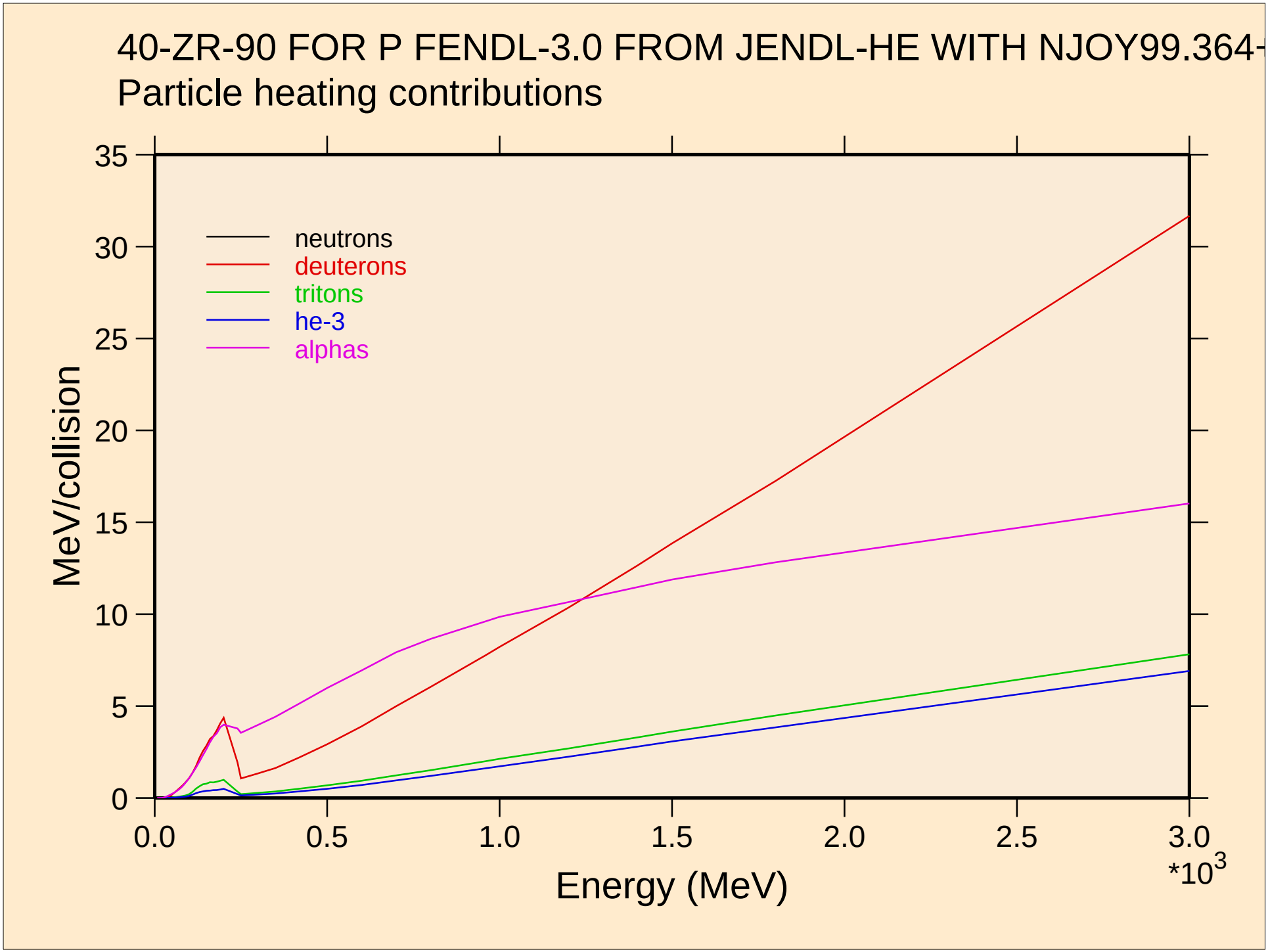

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Threshold reactions
(p,x)
Cross section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

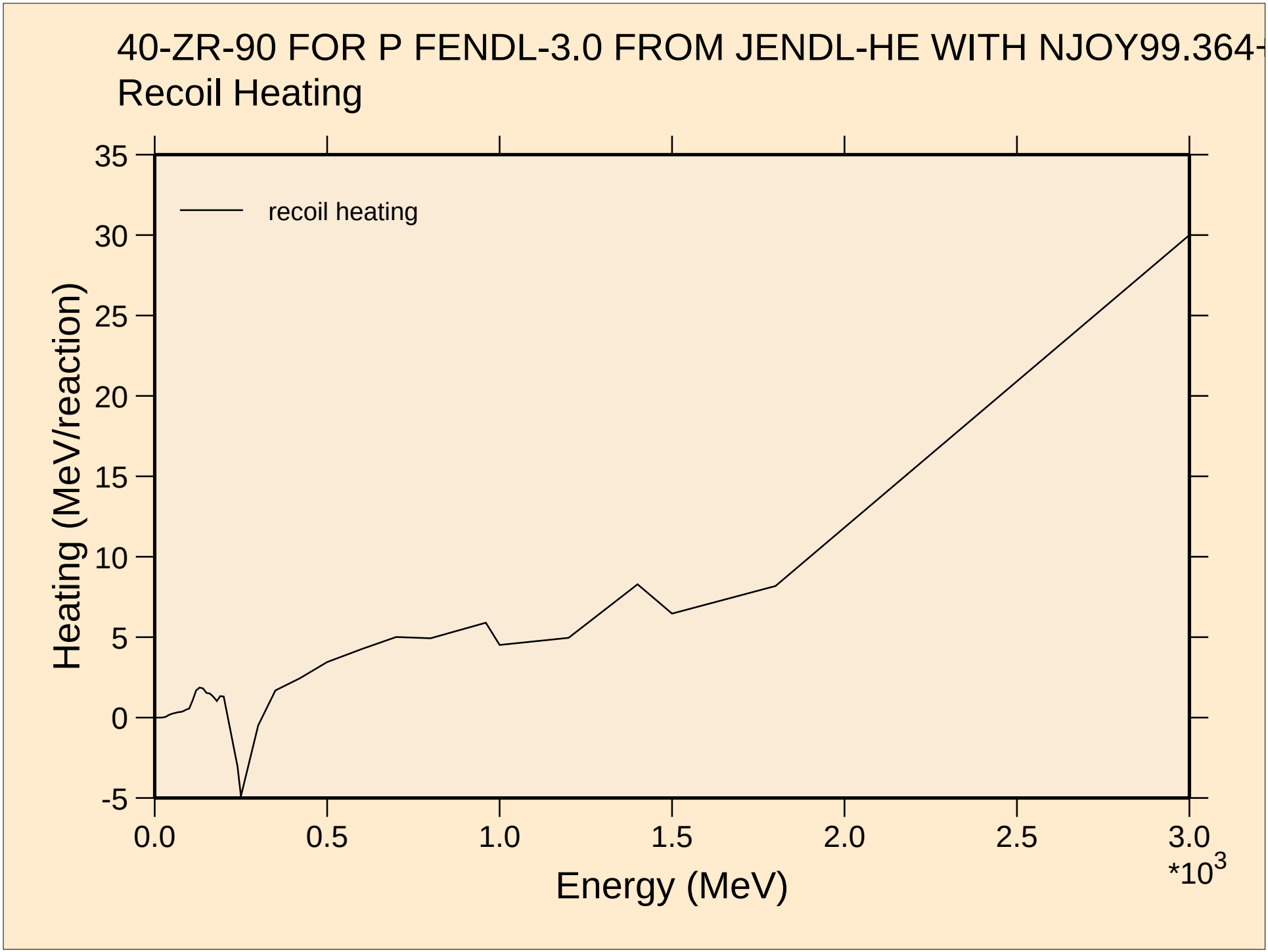

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
angular distribution for elastic
ProbICos
10^{2}
10^{0}
10^{-2}
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

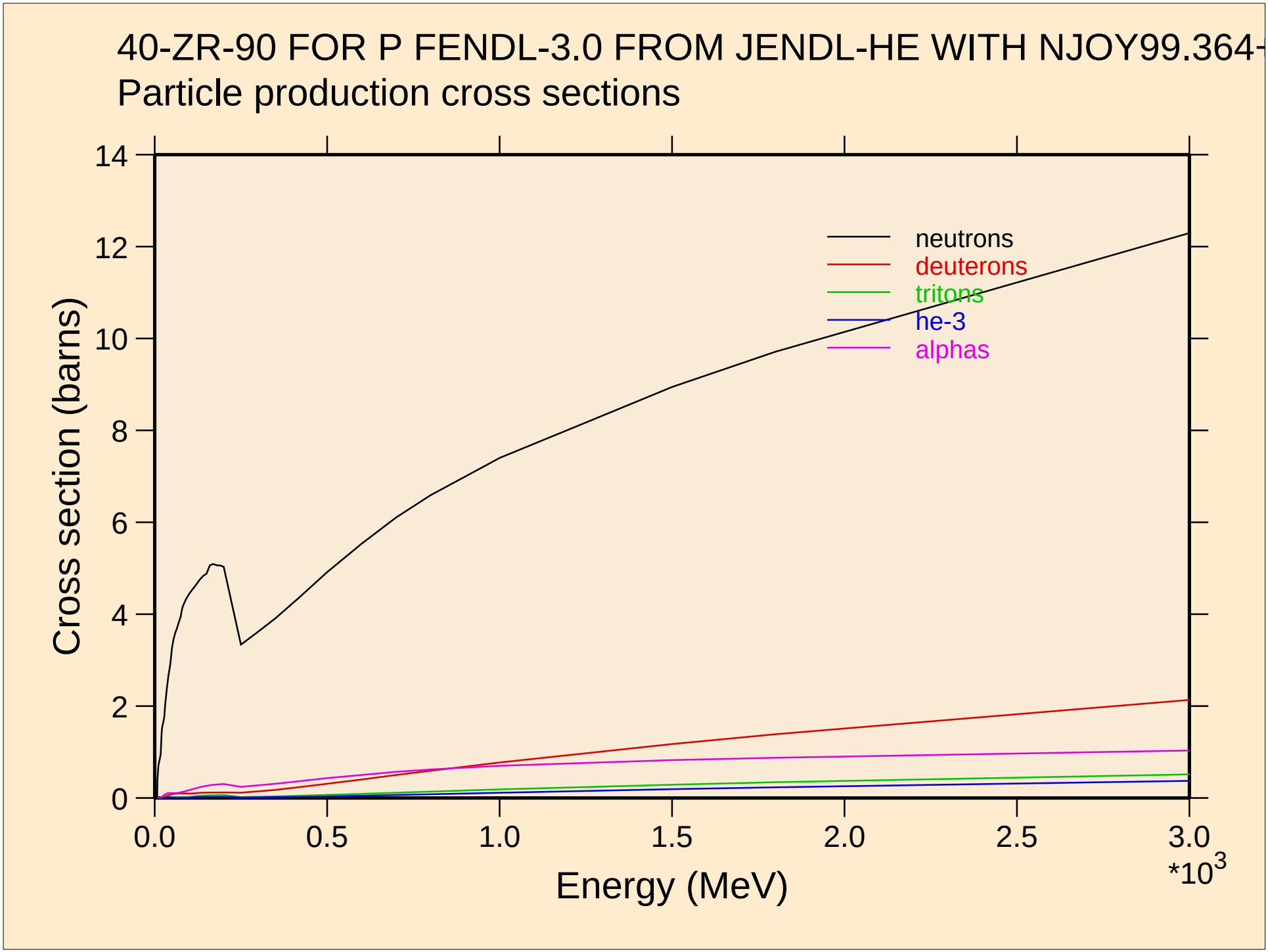

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
angular distribution for elastic
ProbICos
10^{2}
10^{0}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^{3}
Energy (MeV)

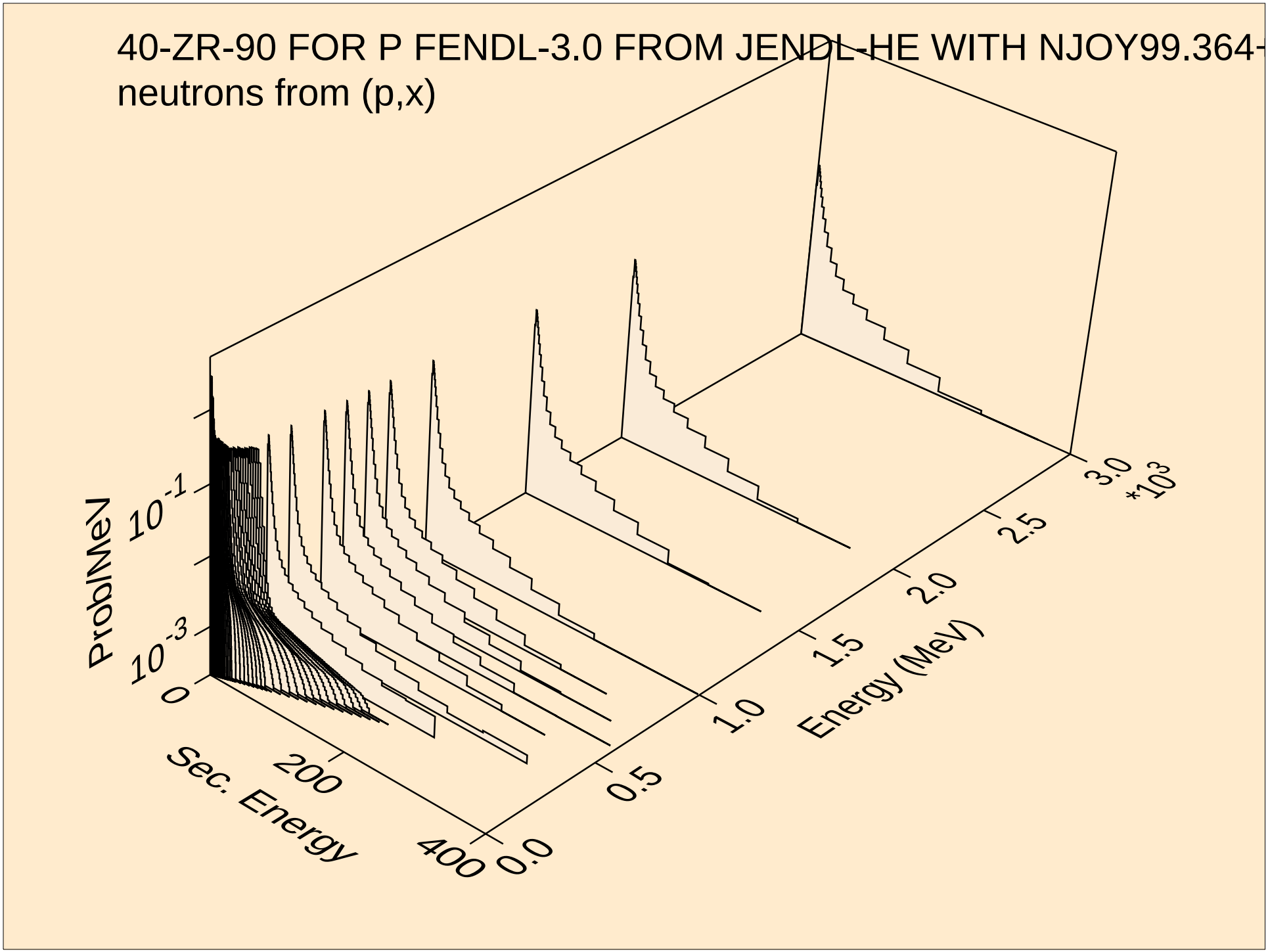

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Proton emission for (p,x)
Prob/MeV
10^1
10^-1
0
100
200
300
400
Sec. Energy
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

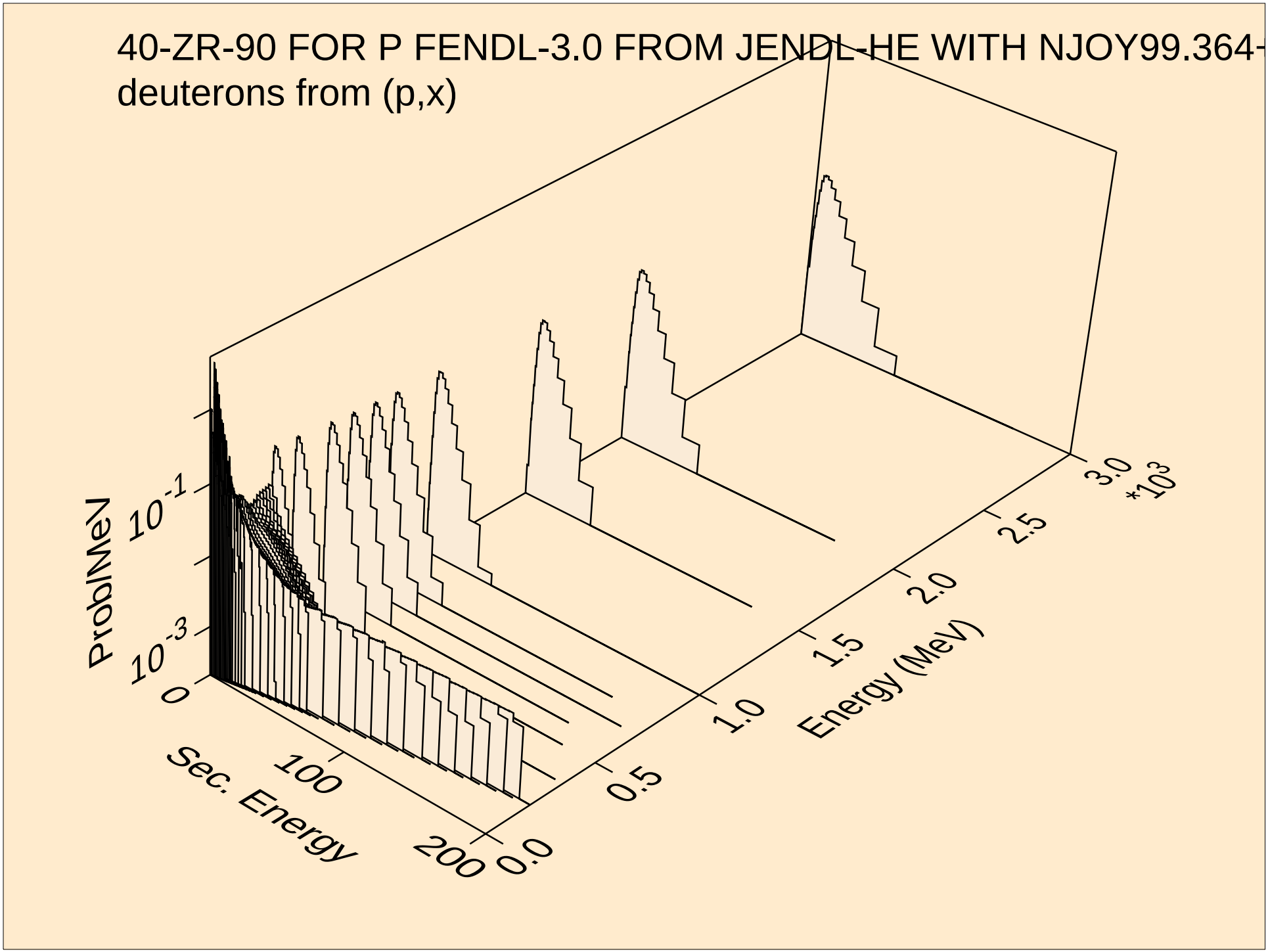

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Photon emission for (n,x)
Prob/MeV
10-1
10-3
0
Eγ (MeV)
2
4
*10³
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
En (MeV)

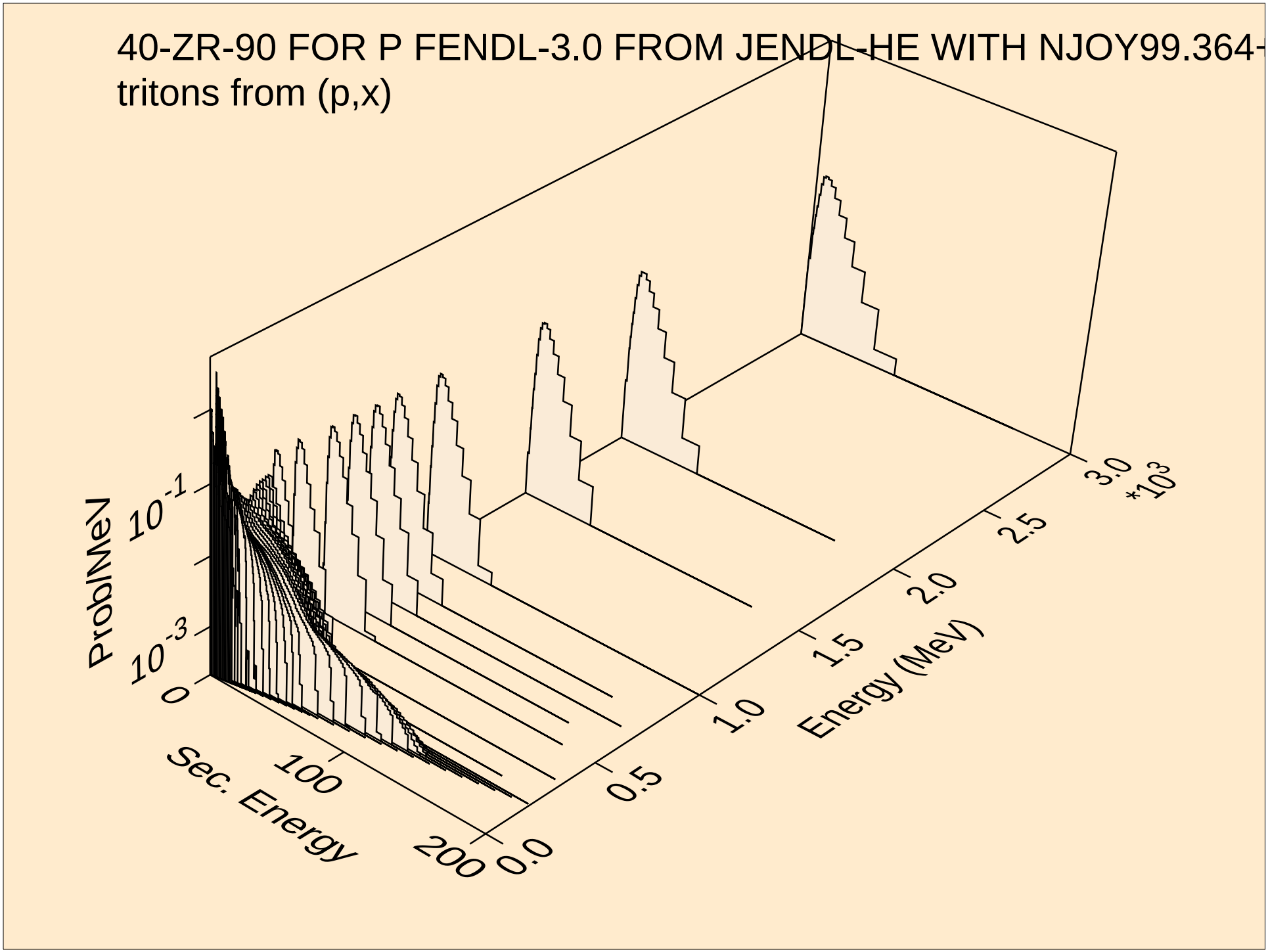

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Particle heating contributions
neutrons
deuterons
tritons
he-3
alphas
MeV/collision
0
5
10
15
20
25
30
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

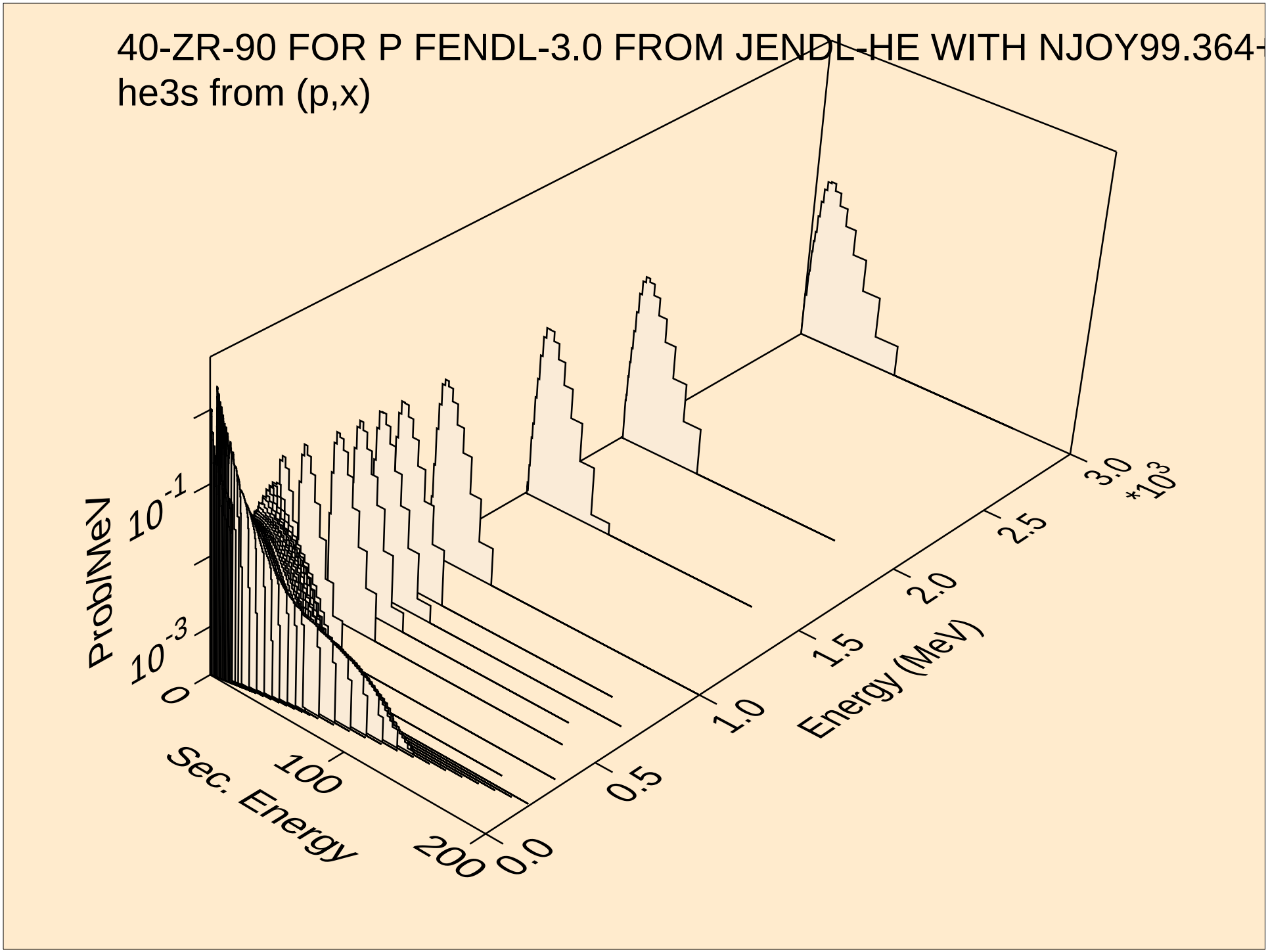

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Recoil Heating
recoil heating
Heating (MeV/reaction)
35
30
25
20
15
10
5
0
-5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10^3
Energy (MeV)

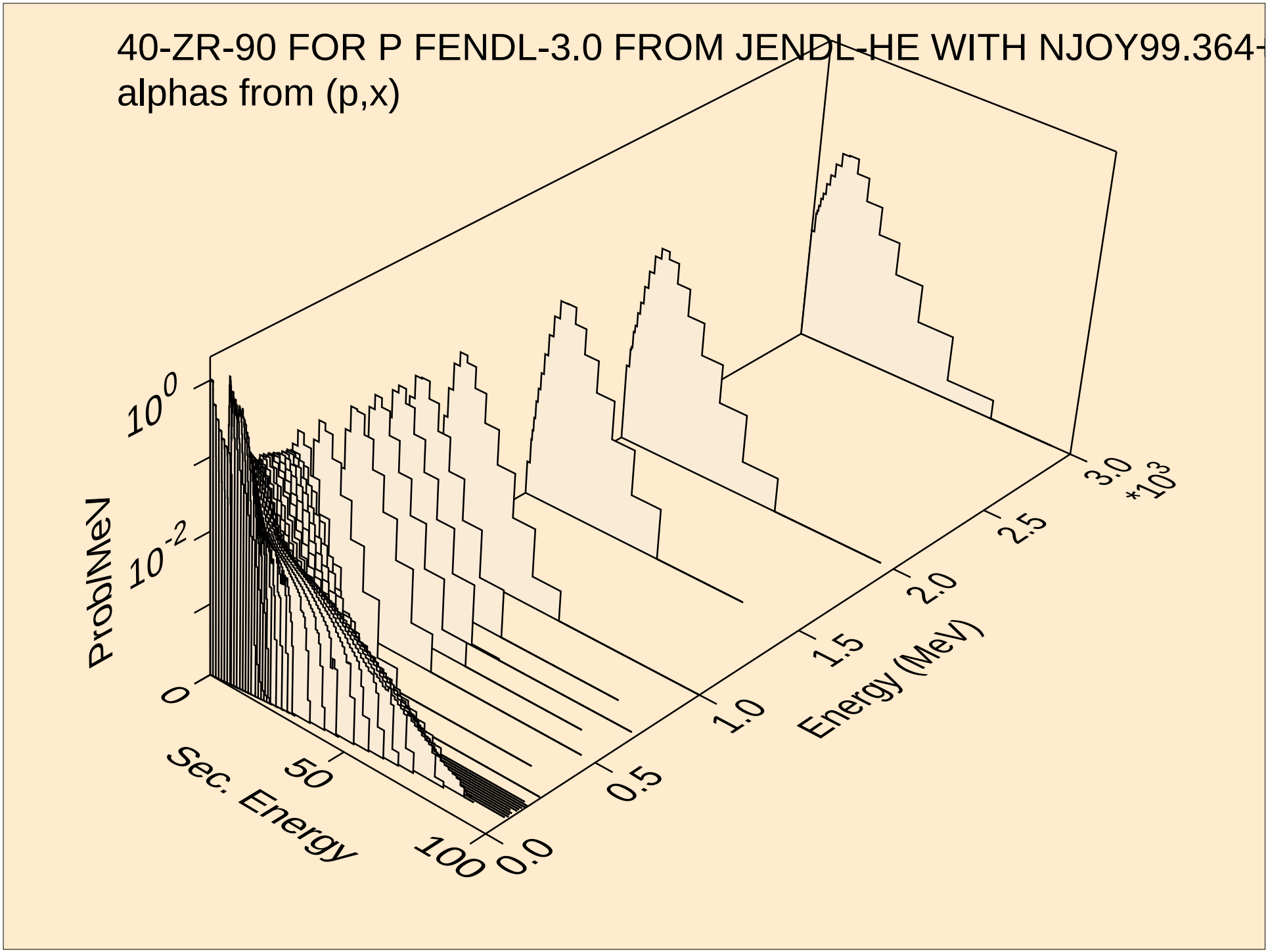

40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
Particle production cross sections
Cross section (barns)
Energy (MeV)
*10^3
neutrons
deuterons
tritons
he-3
alphas
0
2
4
6
8
10
12
14
0.0
0.5
1.0
1.5
2.0
2.5
3.0


40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
neutrons from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
200
400
0.0
0.5
1.0
1.5
2.0
2.5
3.0
*10³
Energy (MeV)


40-ZR-90 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)


40-ZR-90 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)


40-ZR-90 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)


40-ZR-90 FOR P FENDL-3.0 FROM JENDL-HE WITH NJOY99.364-
alphas from (p,x)
Prob/MeV
10^{0}
10^{-2}
0
Sec. Energy
50
100
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Energy (MeV)
*10^{3}