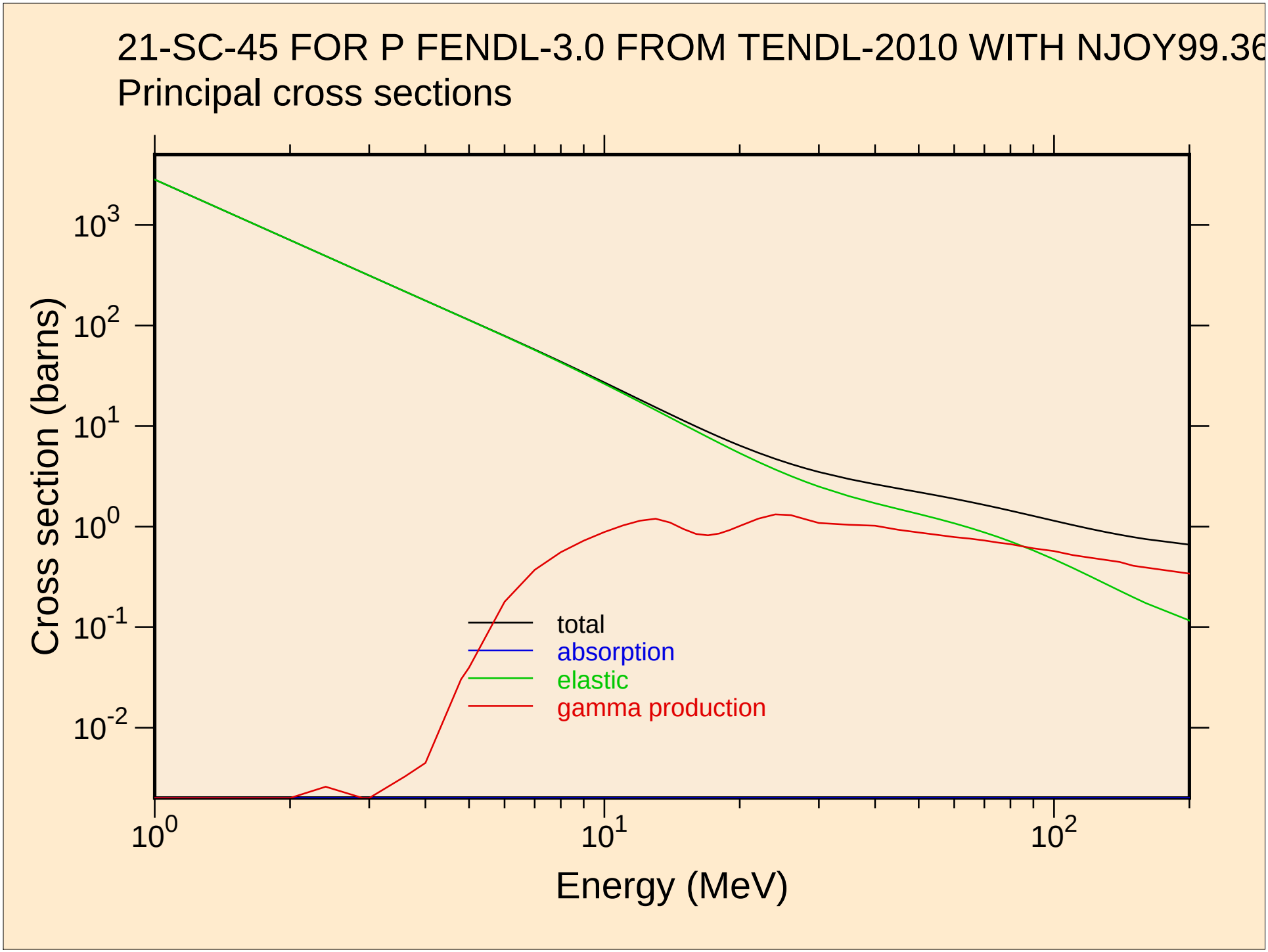
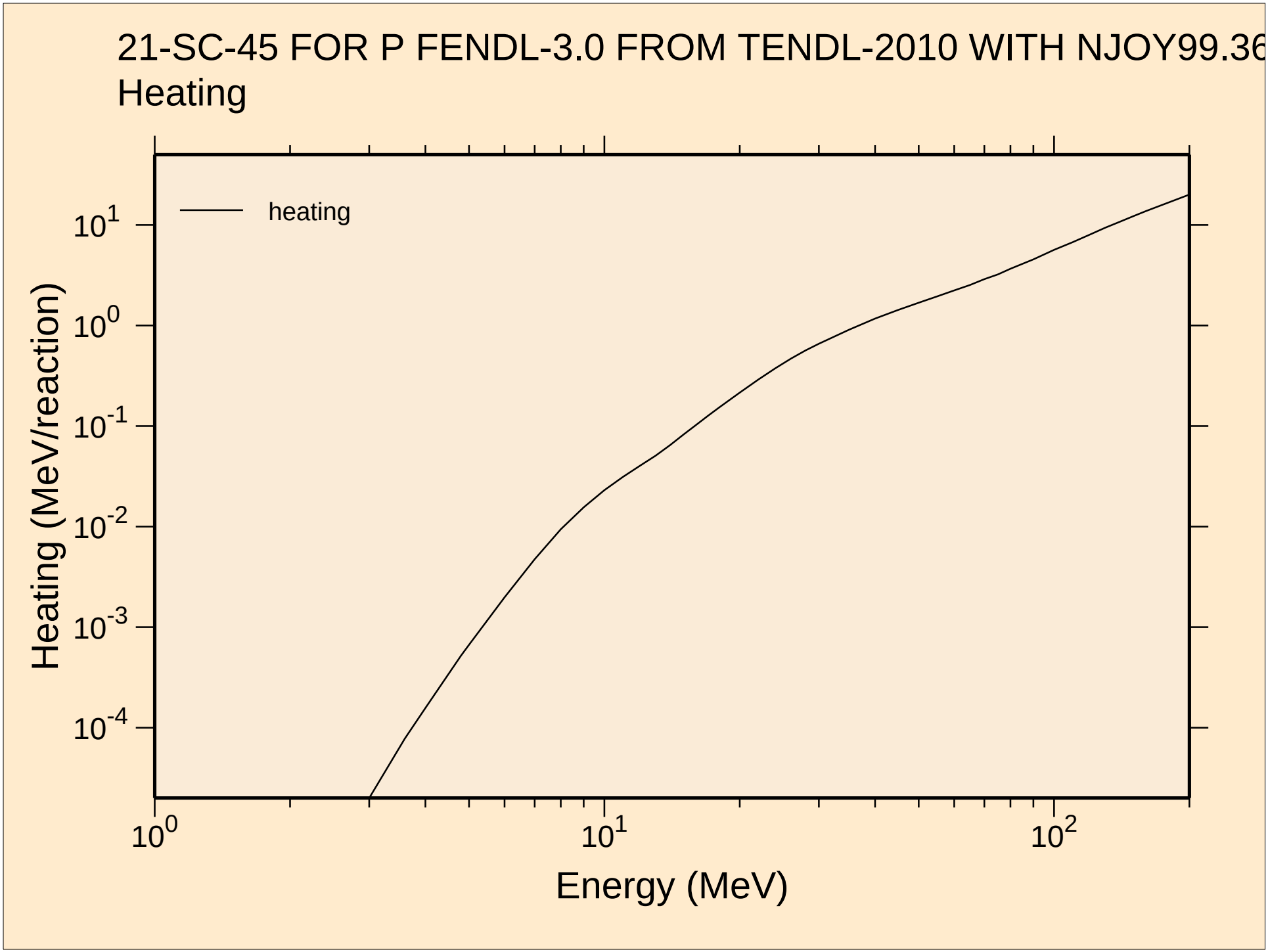
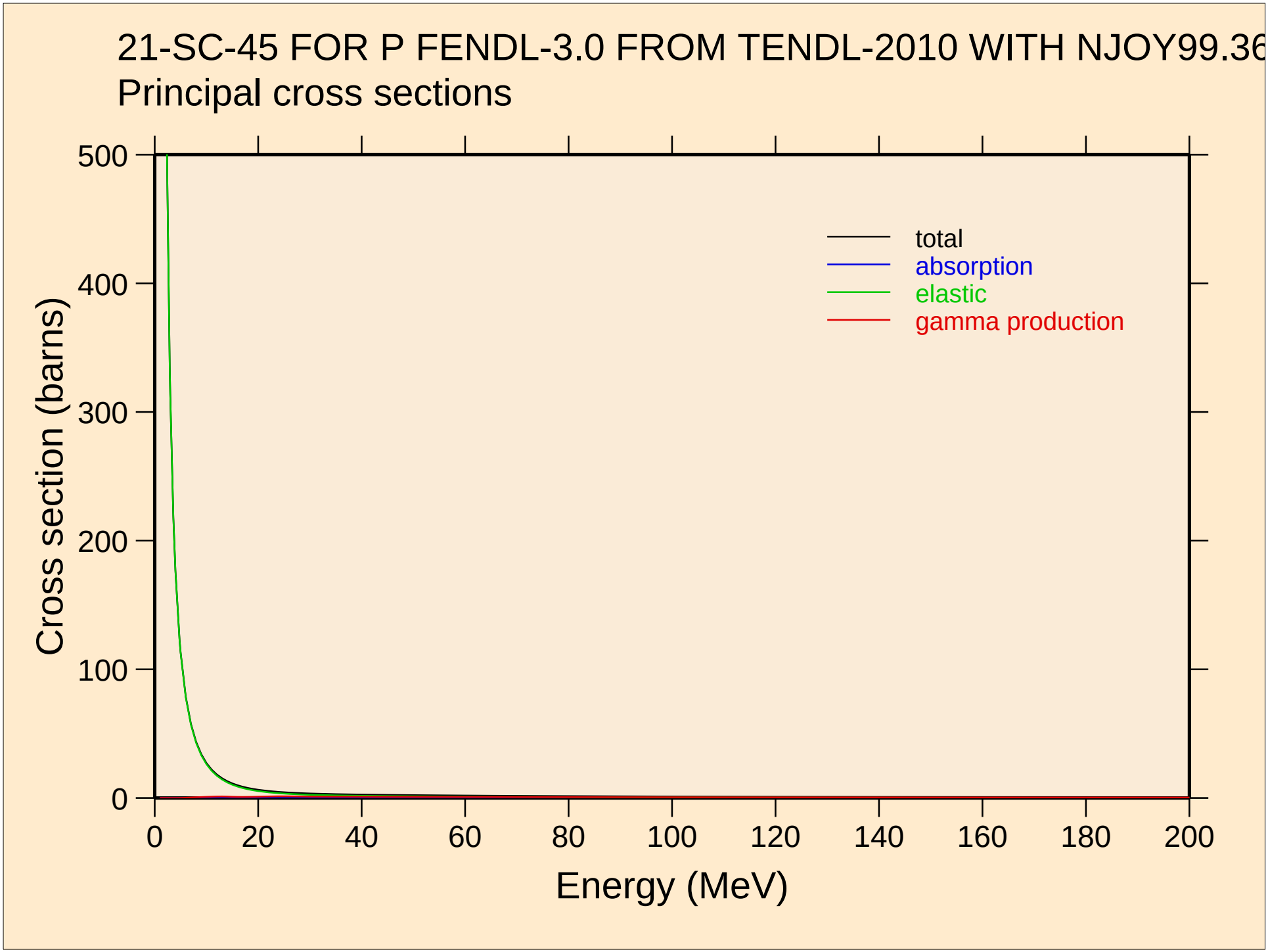
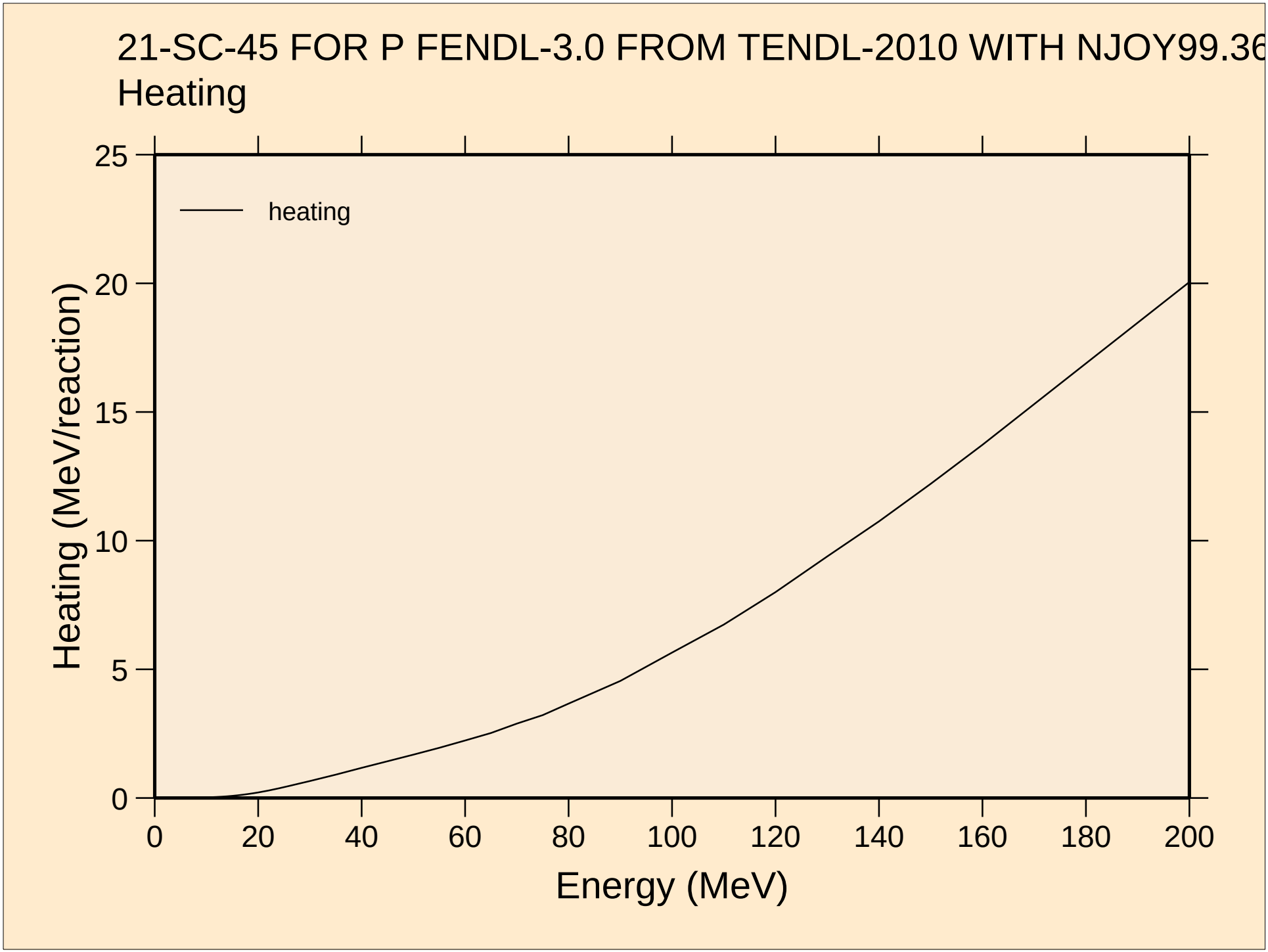
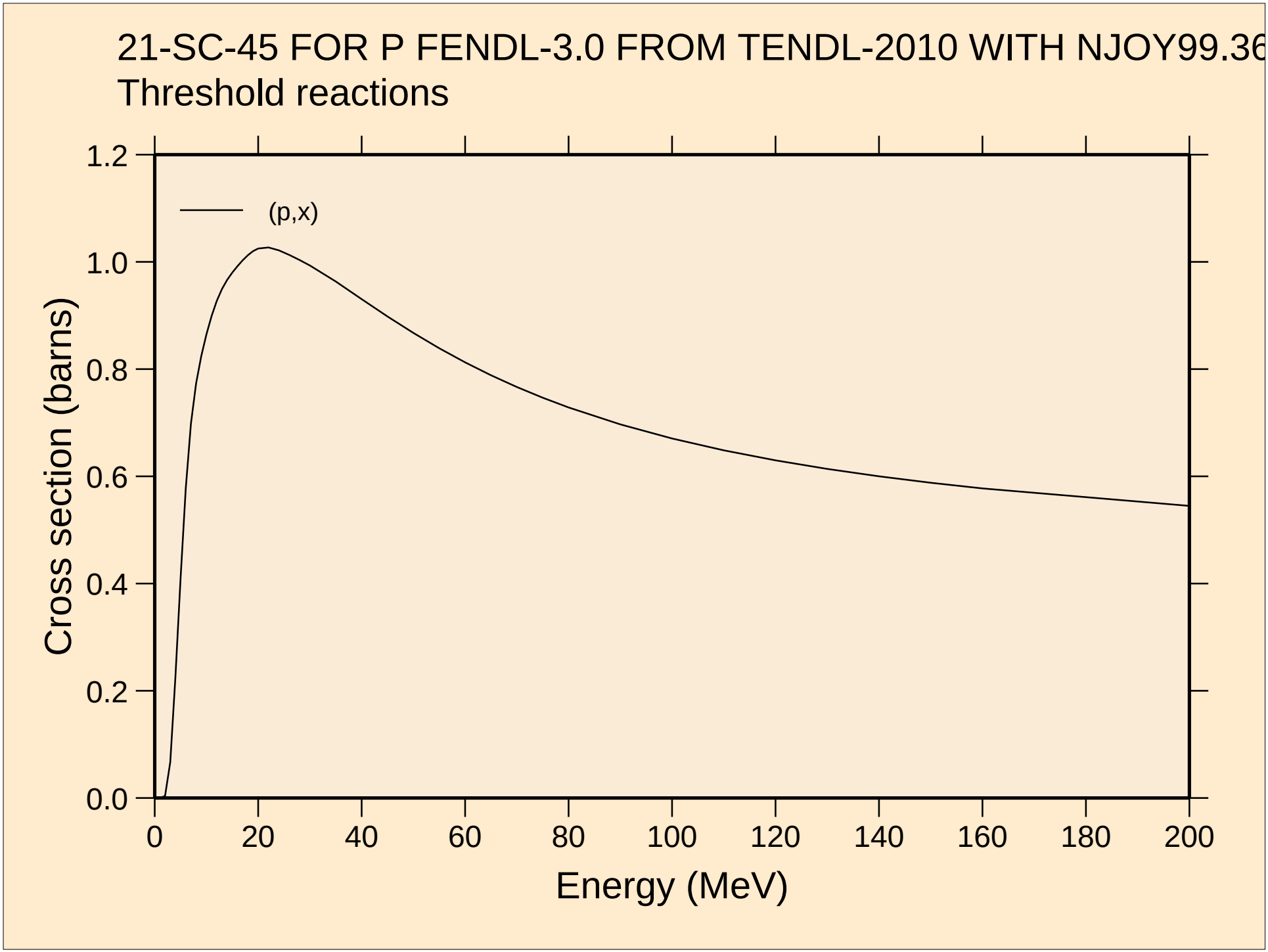
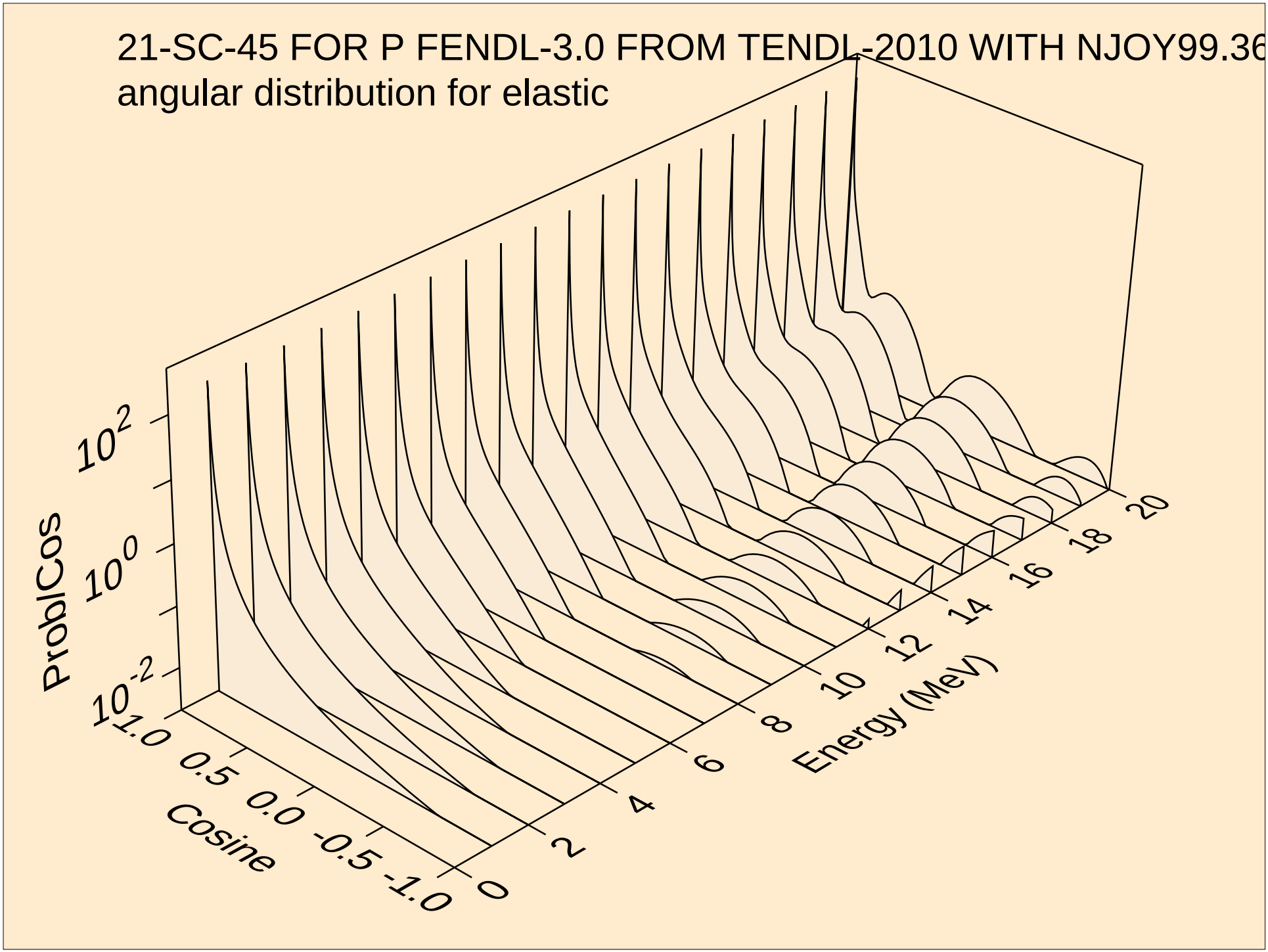

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Principal cross sections
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^0
10^1
10^2
Energy (MeV)
total
absorption
elastic
gamma production

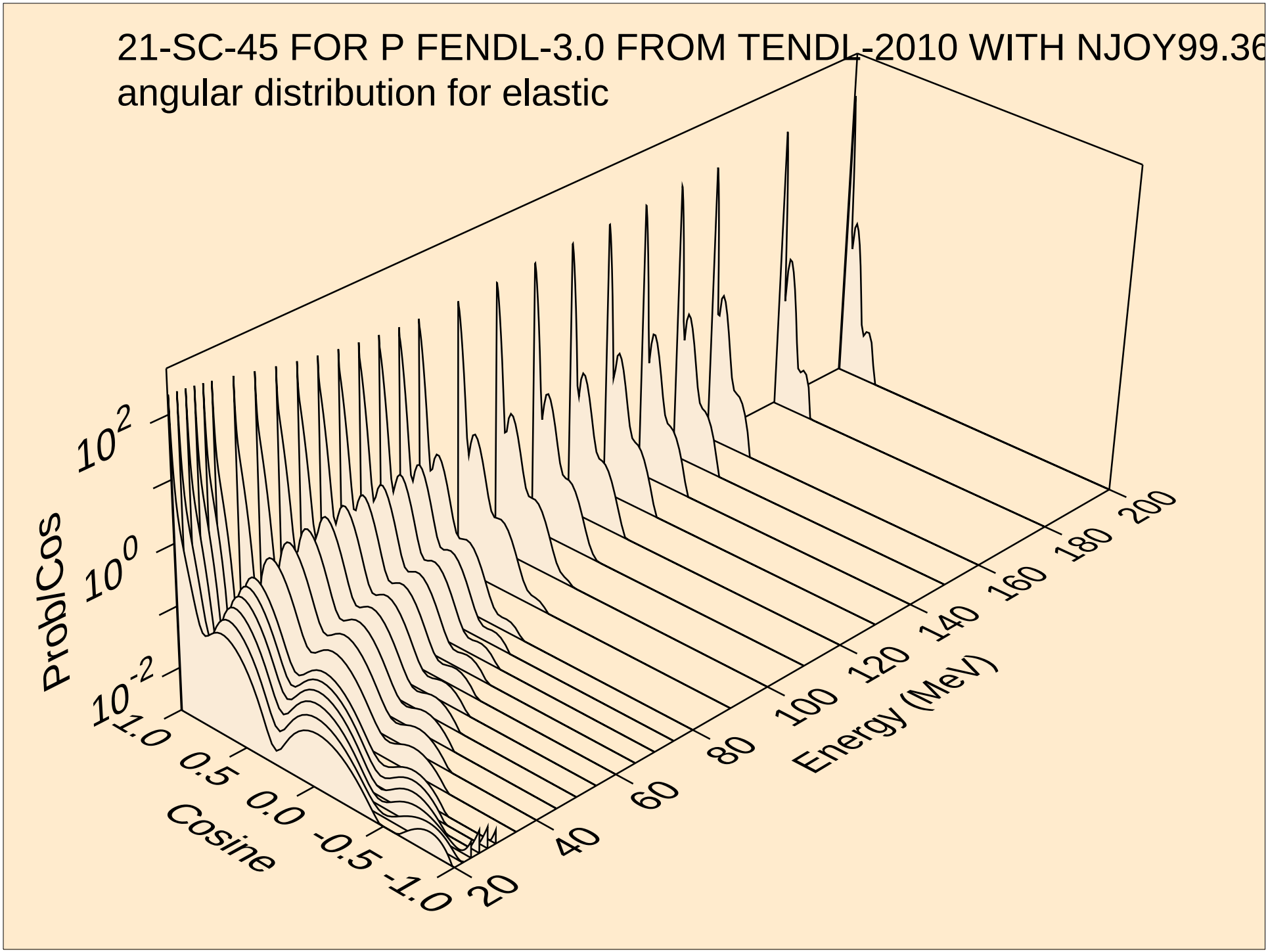

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Heating
heating
Heating (MeV/reaction)
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-2}$
$10^{-3}$
$10^{-4}$
$10^{0}$
$10^{1}$
$10^{2}$
Energy (MeV)

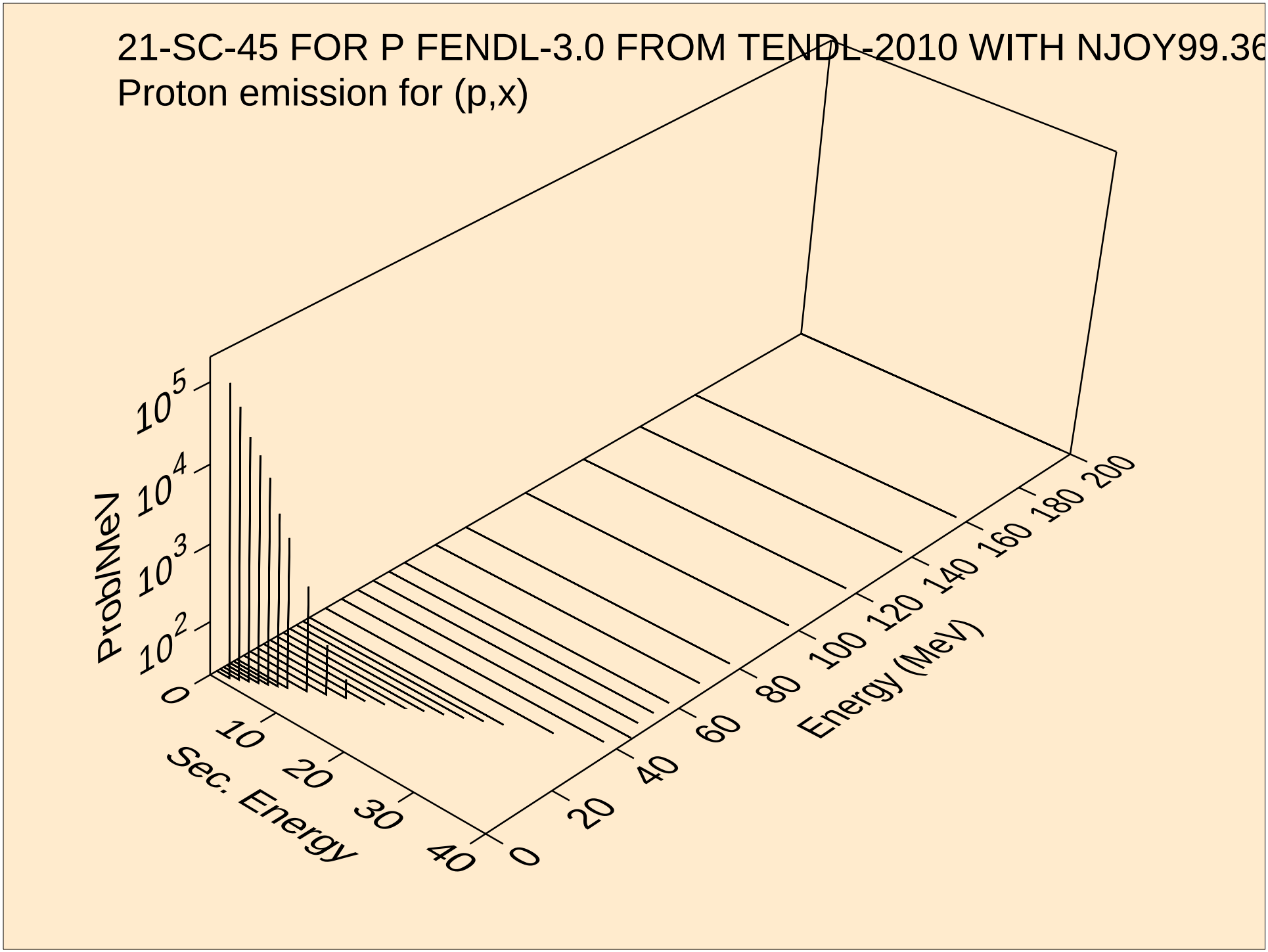

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Principal cross sections
Cross section (barns)
Energy (MeV)
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
180
200
total
absorption
elastic
gamma production

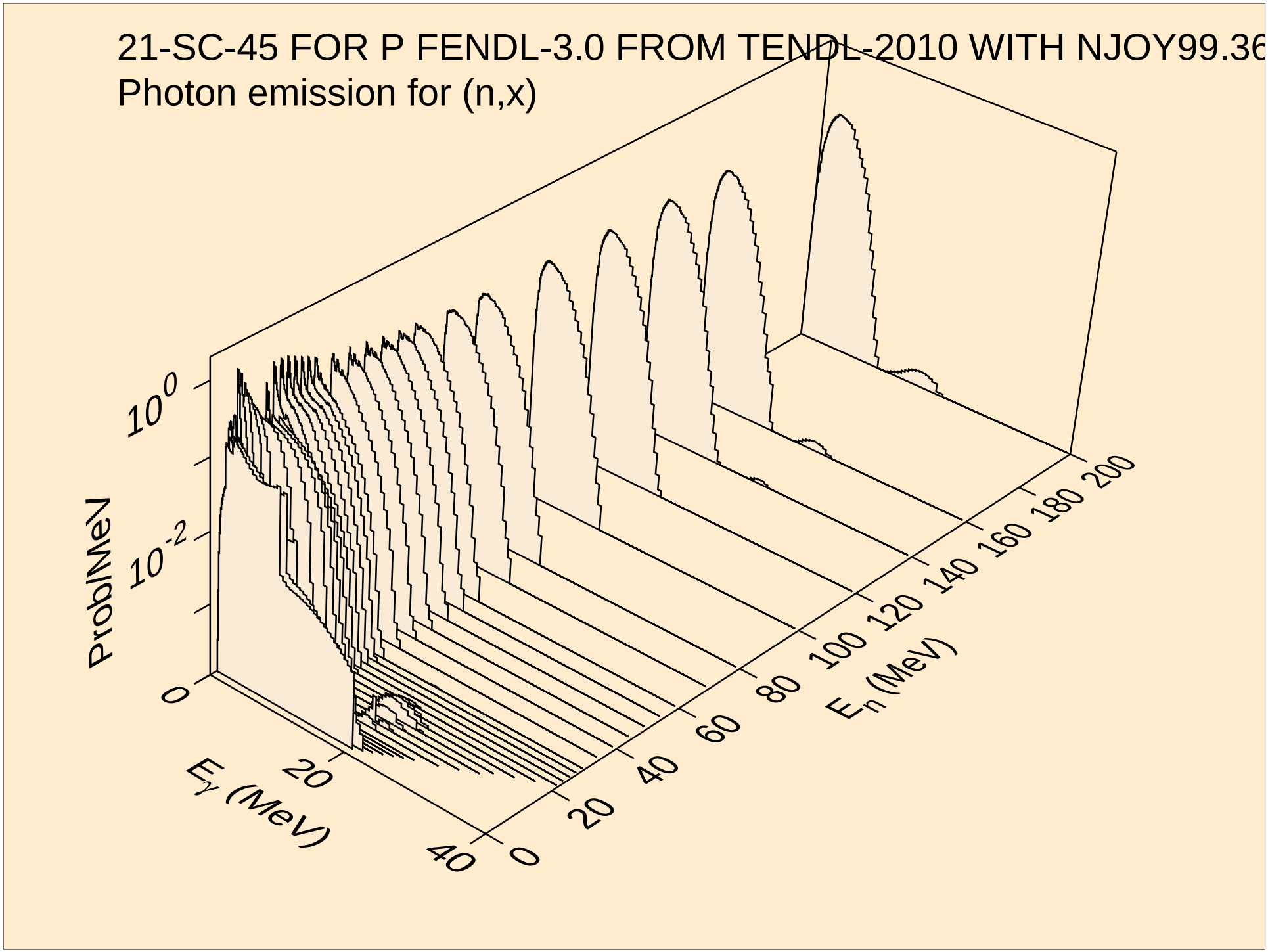

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
5
10
15
20
25
0
20
40
60
80
100
120
140
160
180
200

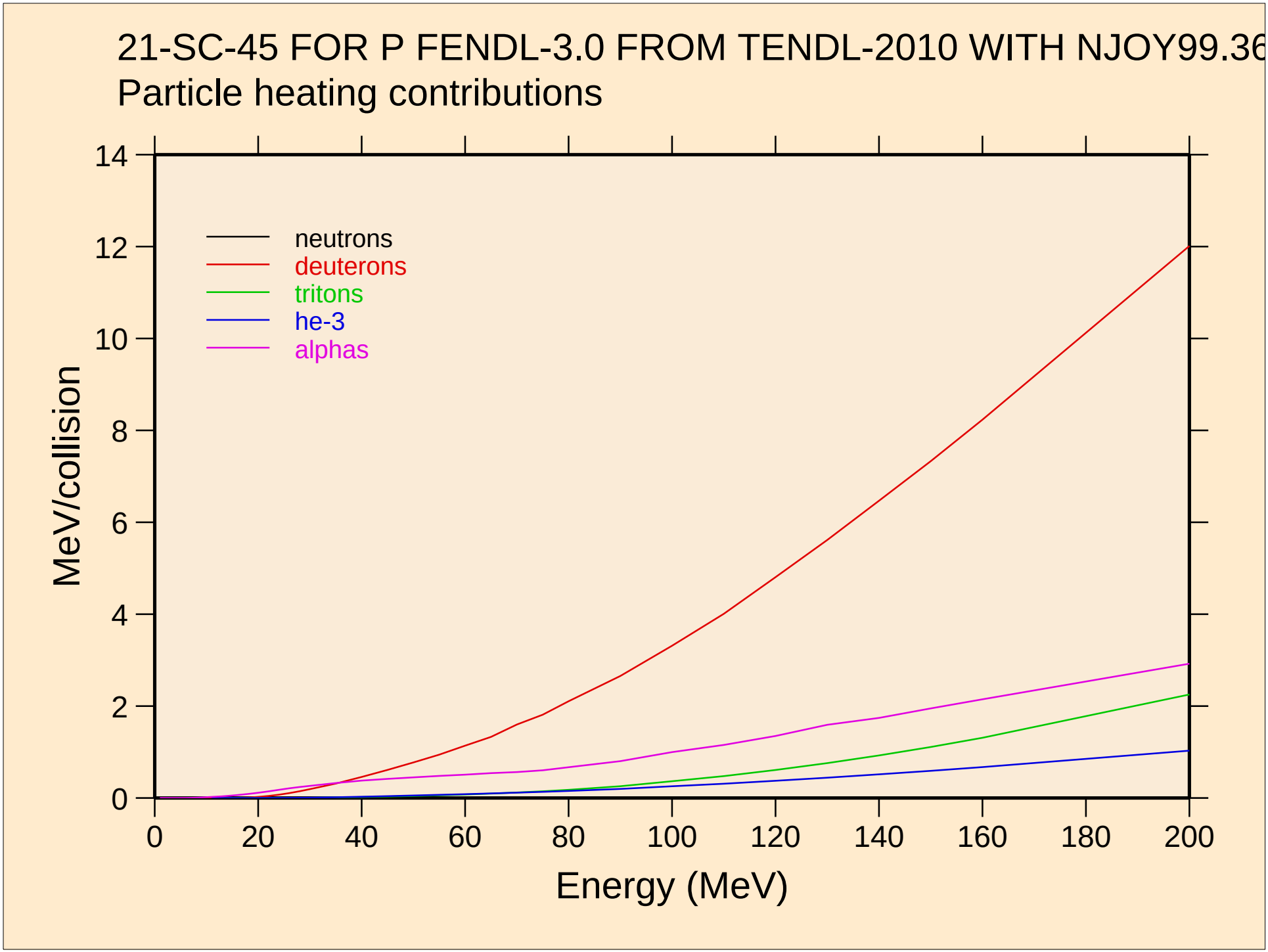

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Threshold reactions
(p,x)
Cross section (barns)
Energy (MeV)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0
20
40
60
80
100
120
140
160
180
200

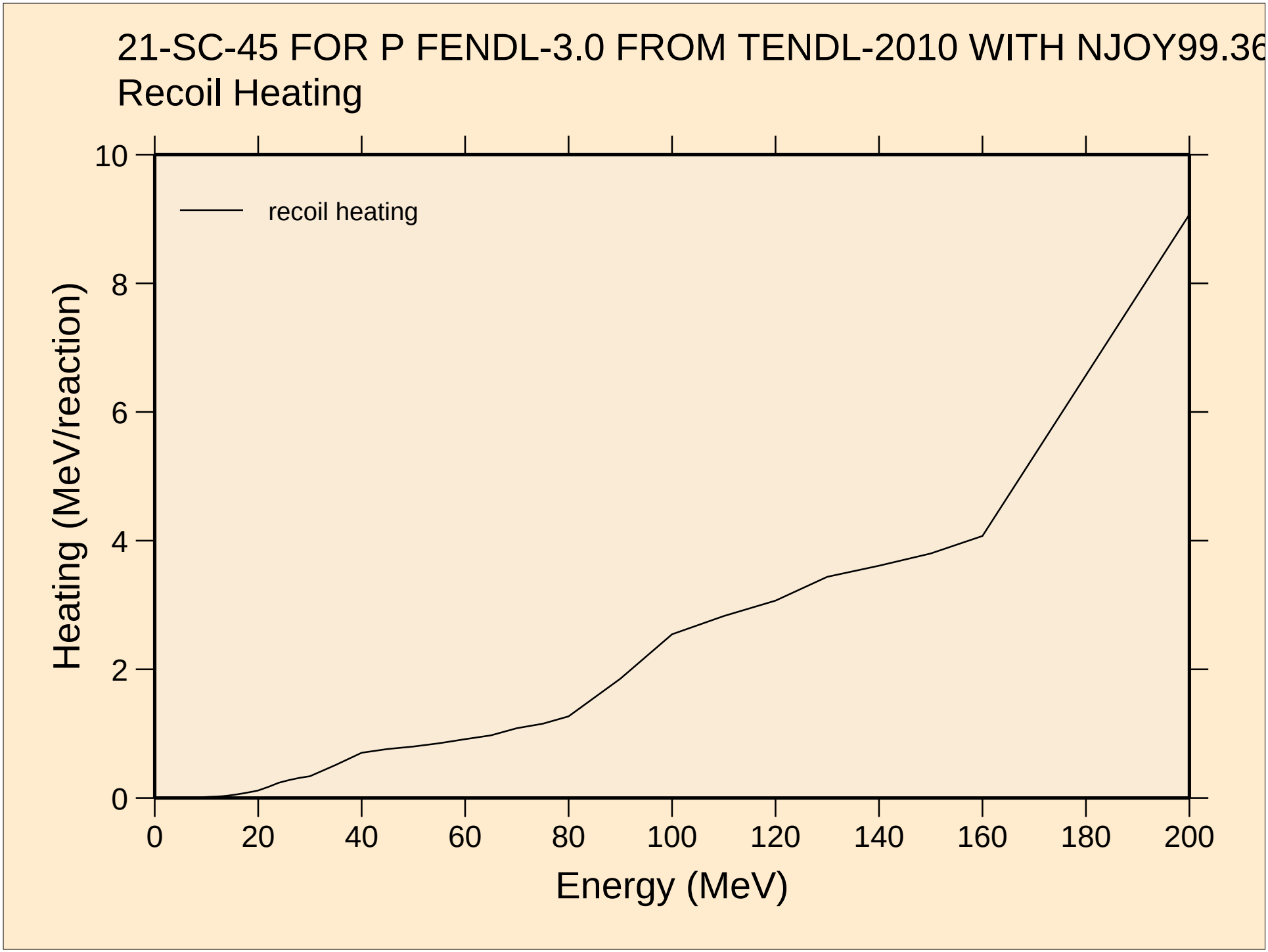

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
angular distribution for elastic
ProblCos
$10^{2}$
$10^{0}$
$10^{-2}$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
0
2
4
6
8
10
12
14
16
18
20

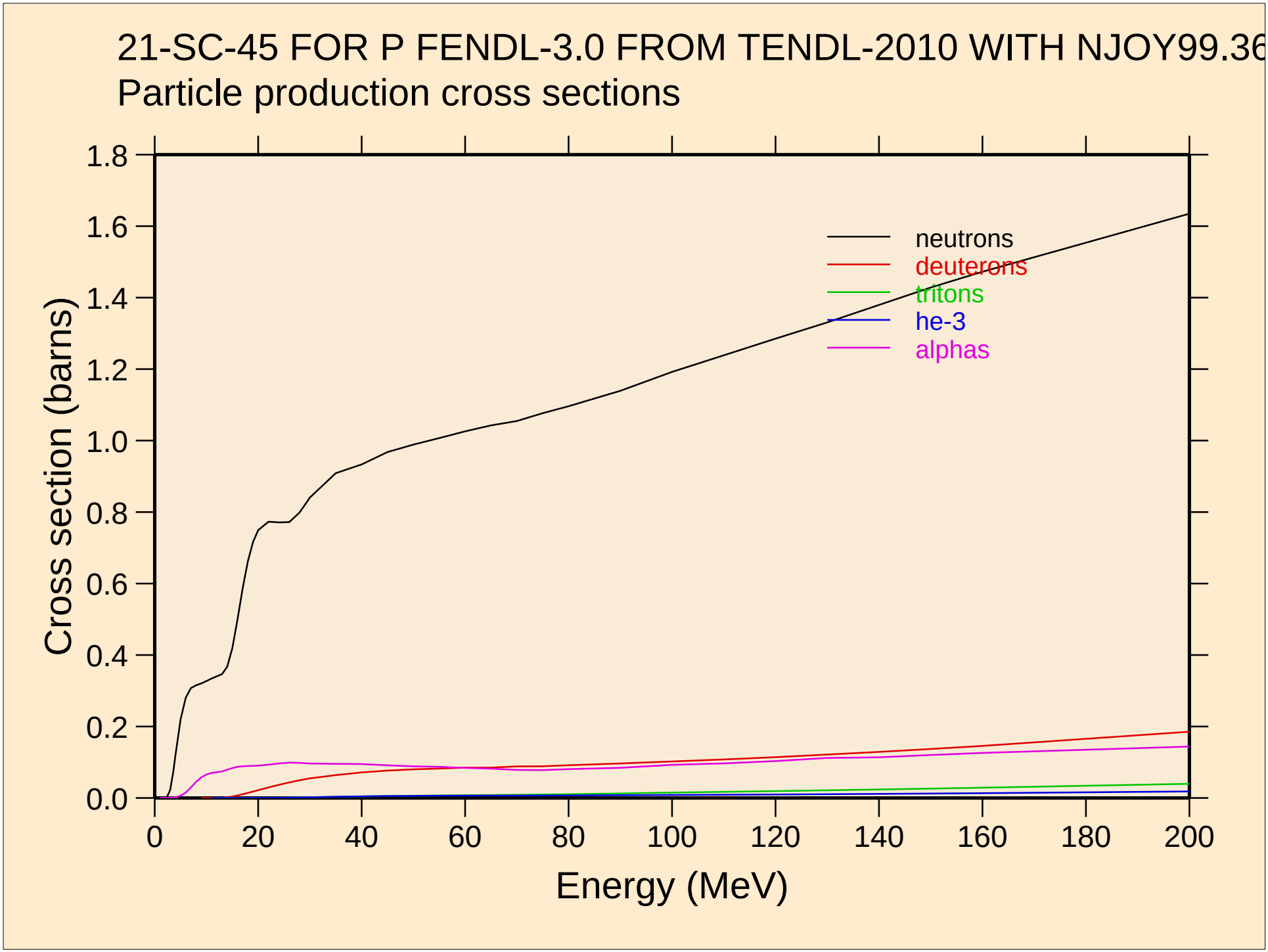

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
angular distribution for elastic
ProblCos
$10^{2}$
$10^{0}$
$10^{-2}$
Cosine
1.0
0.5
0.0
-0.5
-1.0
Energy (MeV)
20
40
60
80
100
120
140
160
180
200

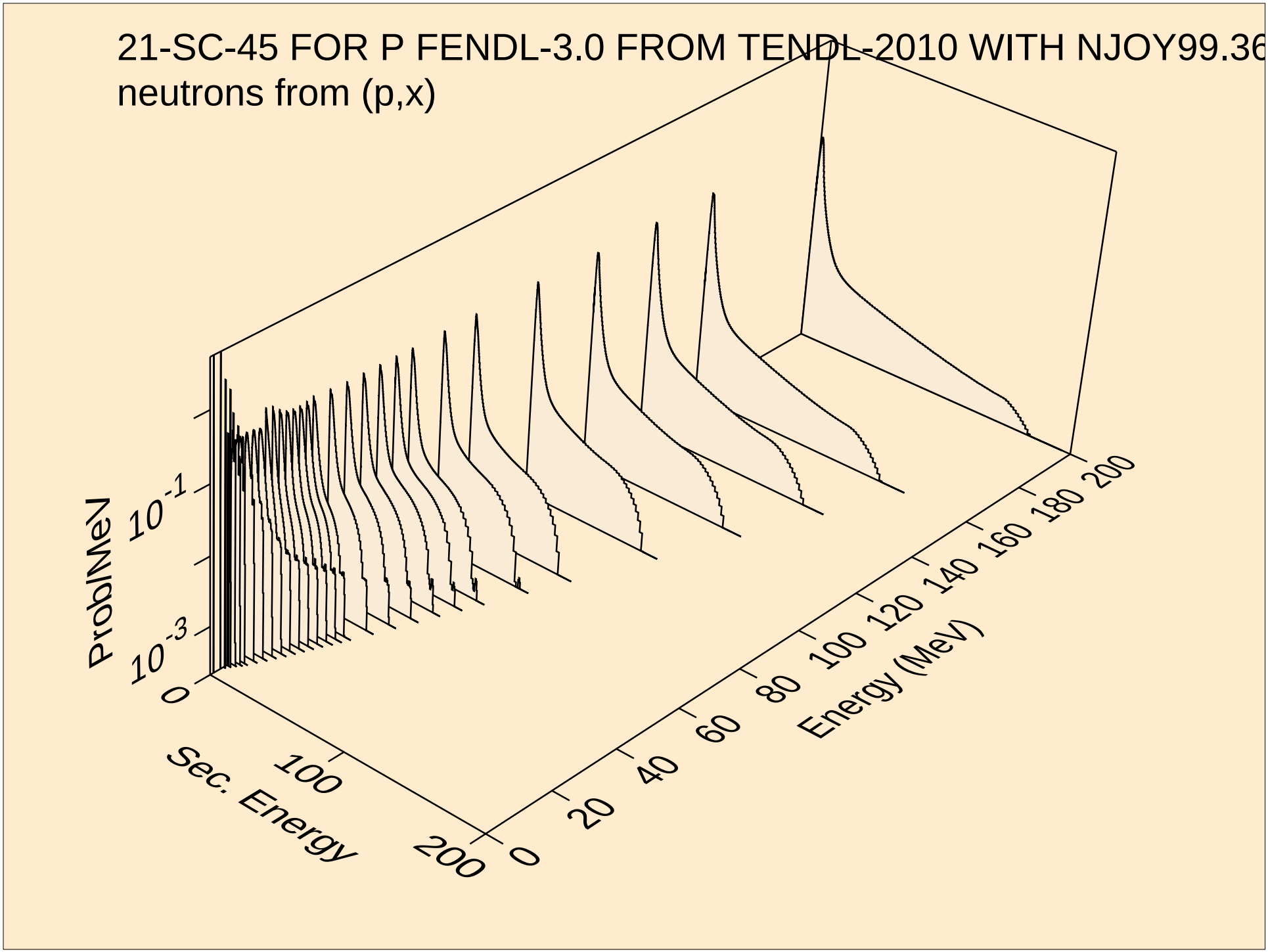

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Proton emission for (p,x)
Prob/MeV
$10^5$
$10^4$
$10^3$
$10^2$
0
10
20
30
40
Sec. Energy
0
20
40
60
80
100
120
140
160
180
200
Energy (MeV)

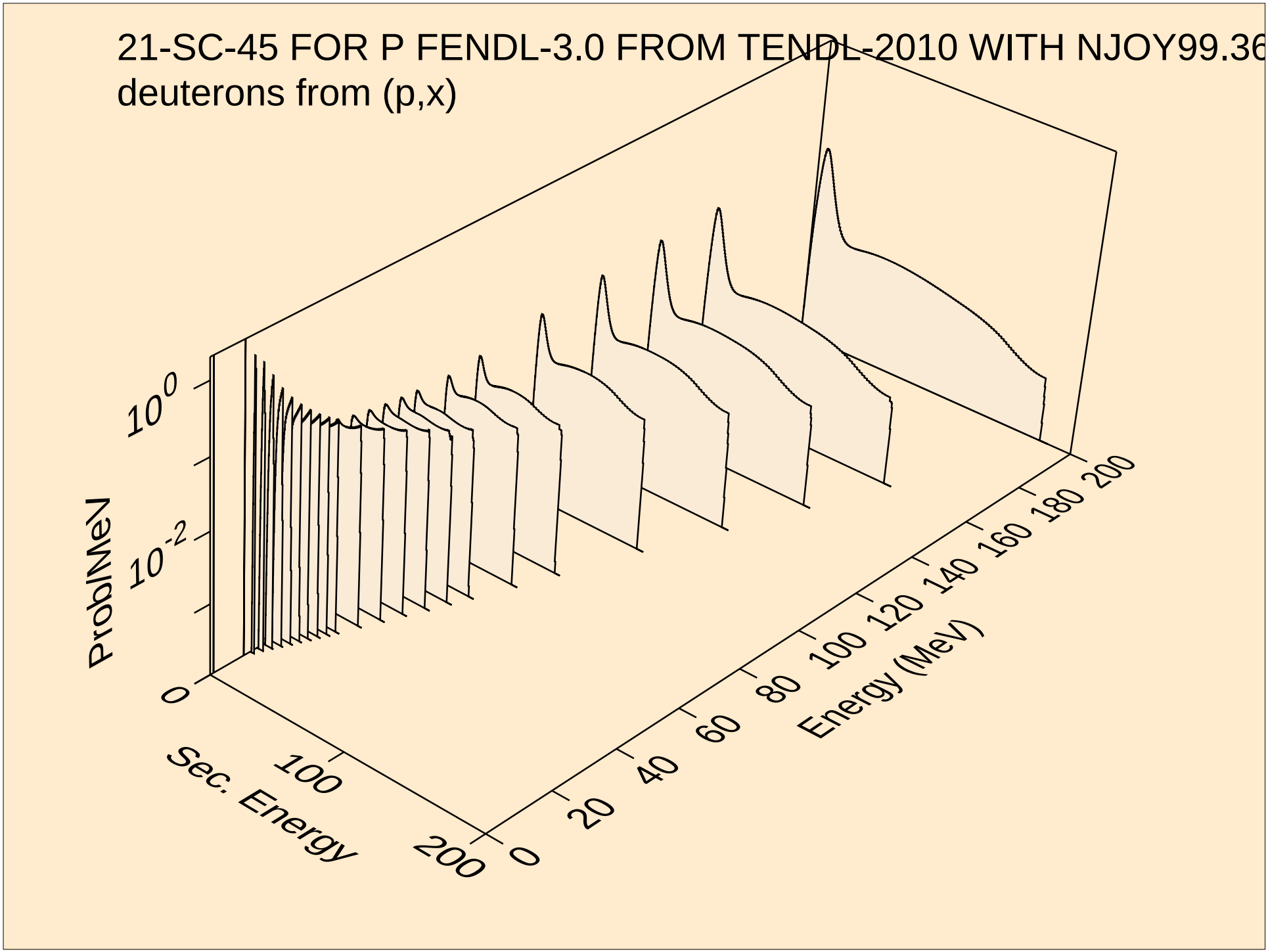

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Photon emission for (n,x)
Prob/MeV
$10^{0}$
$10^{-2}$
0
$E_\gamma$ (MeV)
20
40
0
20
40
60
80
100
120
140
160
180
200
$E_n$ (MeV)

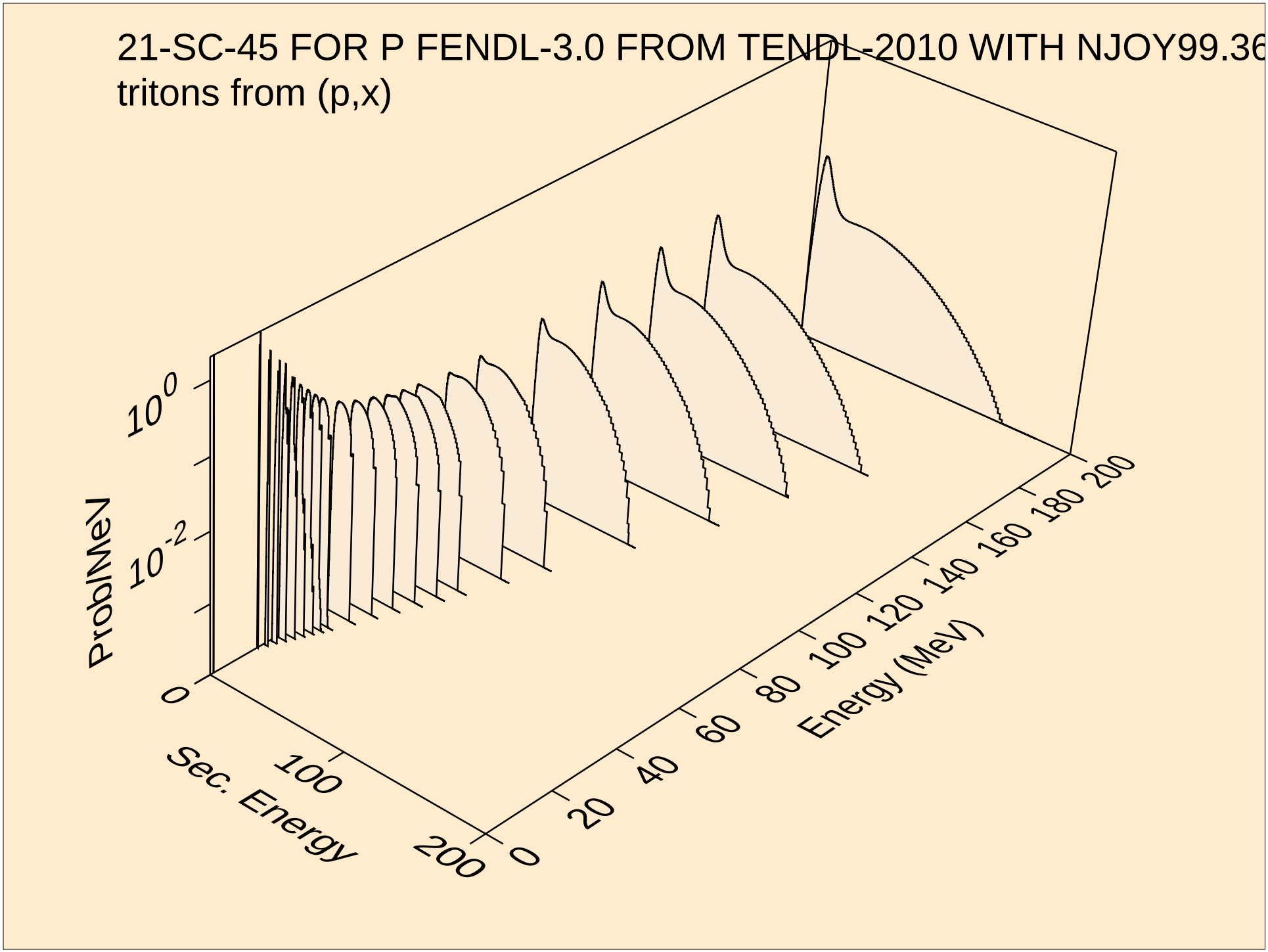

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Particle heating contributions
neutrons
deuterons
tritons
he-3
alphas
MeV/collision
Energy (MeV)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
180
200

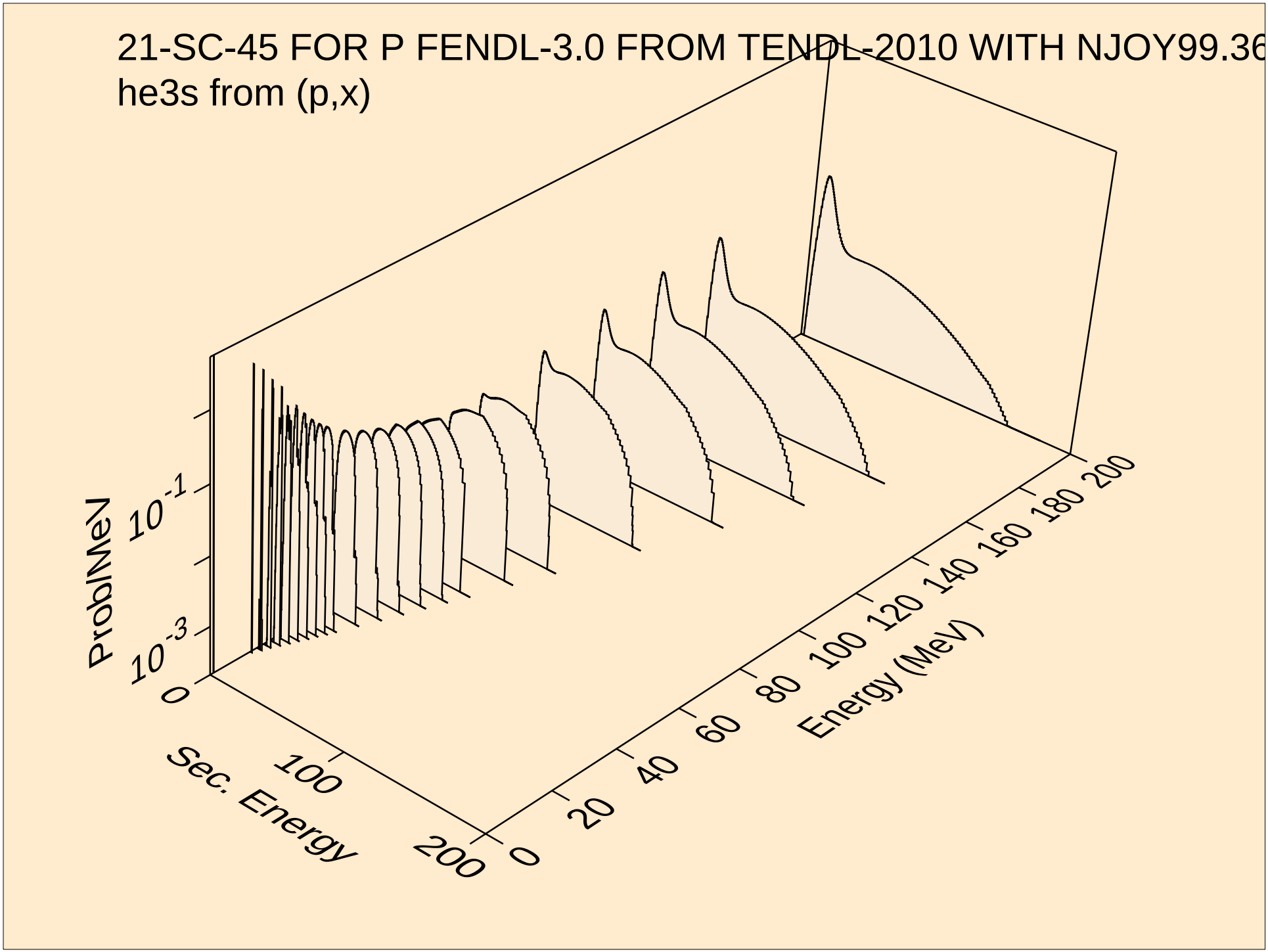

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Recoil Heating
recoil heating
Heating (MeV/reaction)
Energy (MeV)
0
2
4
6
8
10
0
20
40
60
80
100
120
140
160
180
200

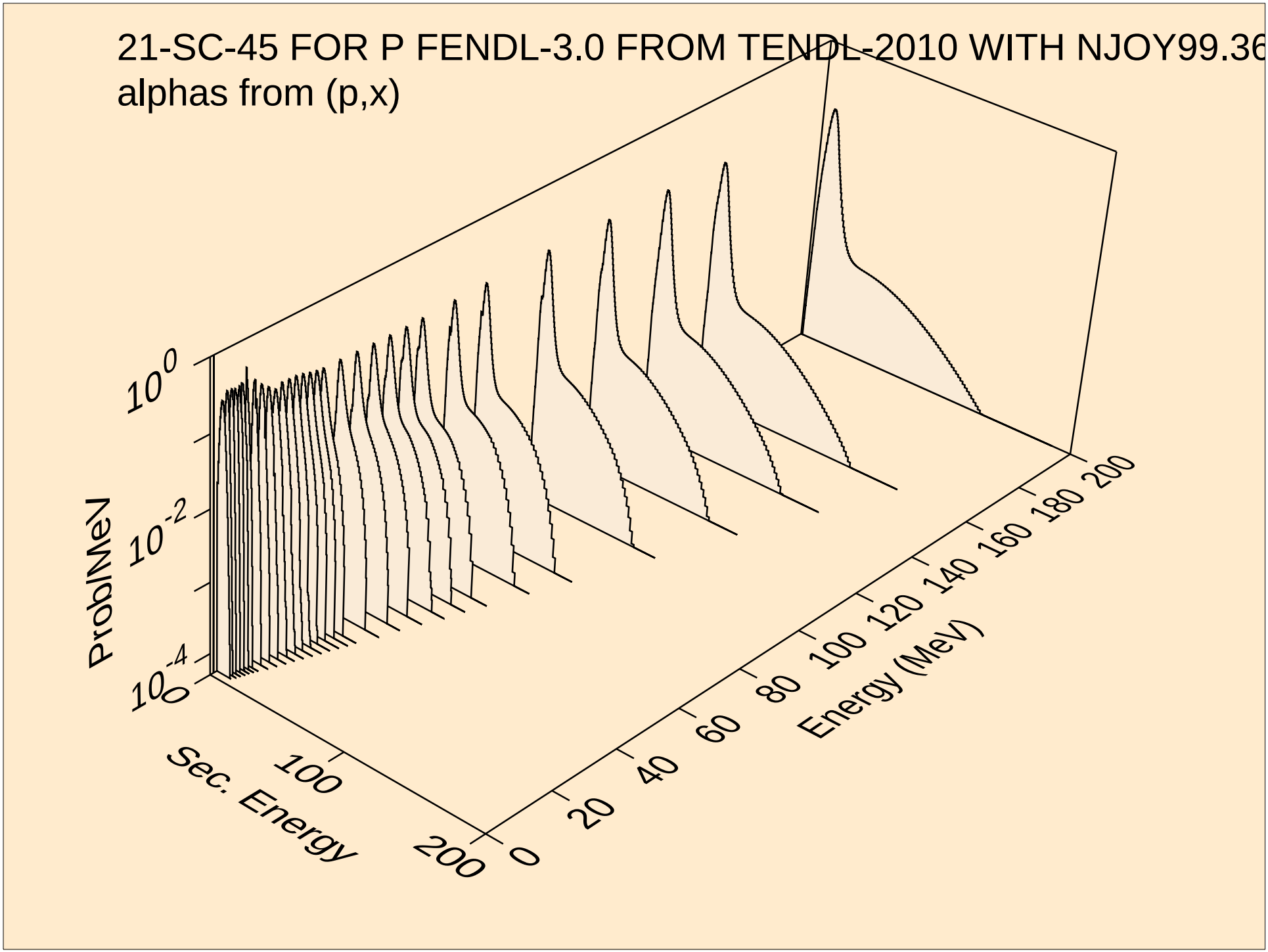

21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
Particle production cross sections
Cross section (barns)
Energy (MeV)
neutrons
deuterons
tritons
he-3
alphas
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
0
20
40
60
80
100
120
140
160
180
200


21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
neutrons from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
180
200
Energy (MeV)


21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
deuterons from (p,x)
Prob/MeV
10^0
10^-2
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
180
200
Energy (MeV)


21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
tritons from (p,x)
Prob/MeV
10^0
10^-2
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
180
200
Energy (MeV)


21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
he3s from (p,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
180
200
Energy (MeV)


21-SC-45 FOR P FENDL-3.0 FROM TENDL-2010 WITH NJOY99.36
alphas from (p,x)
Prob/MeV
$10^{0}$
$10^{-2}$
$10^{-4}$
0
100
200
Sec. Energy
0
20
40
60
80
100
120
140
160
180
200
Energy (MeV)