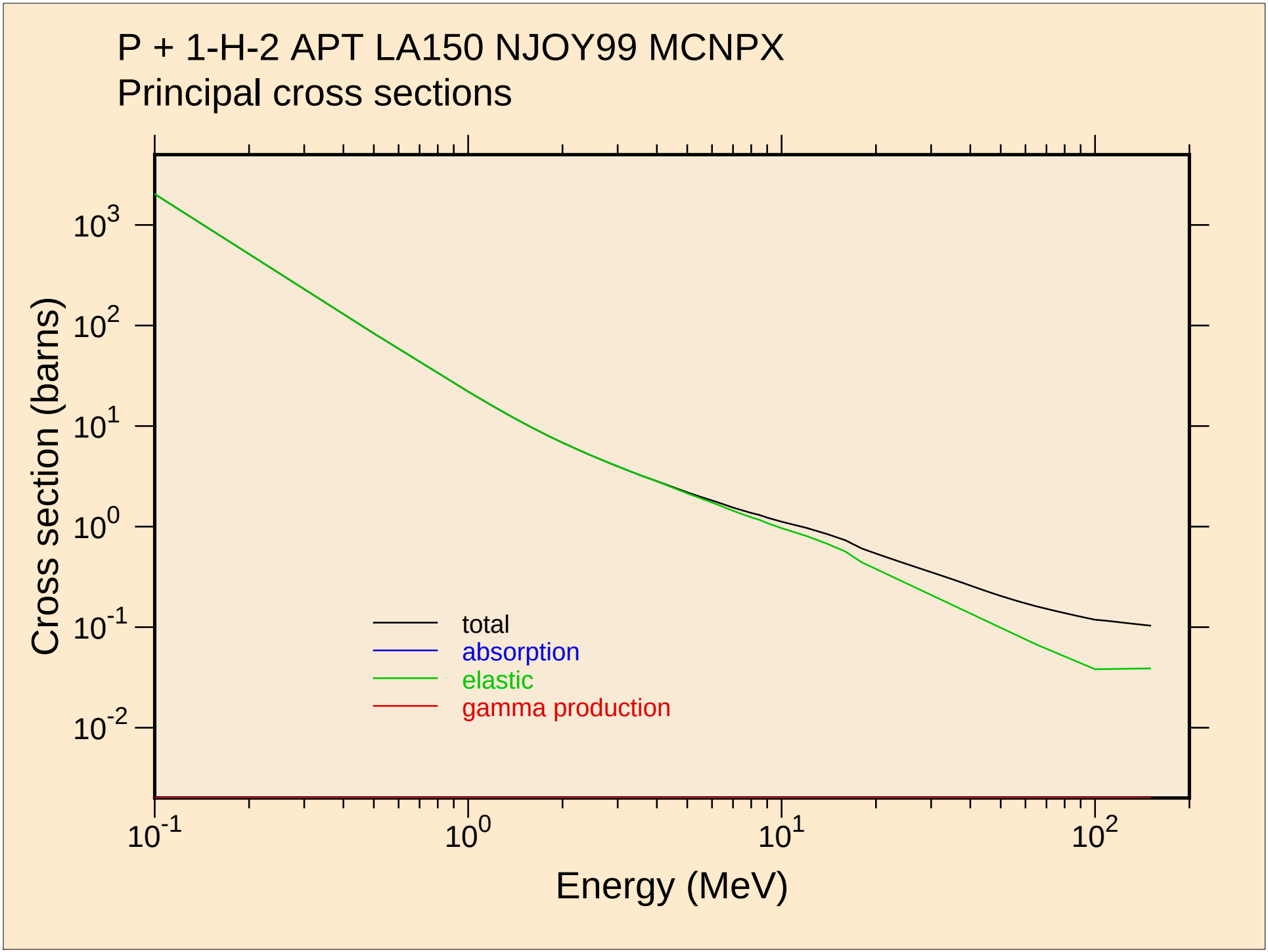
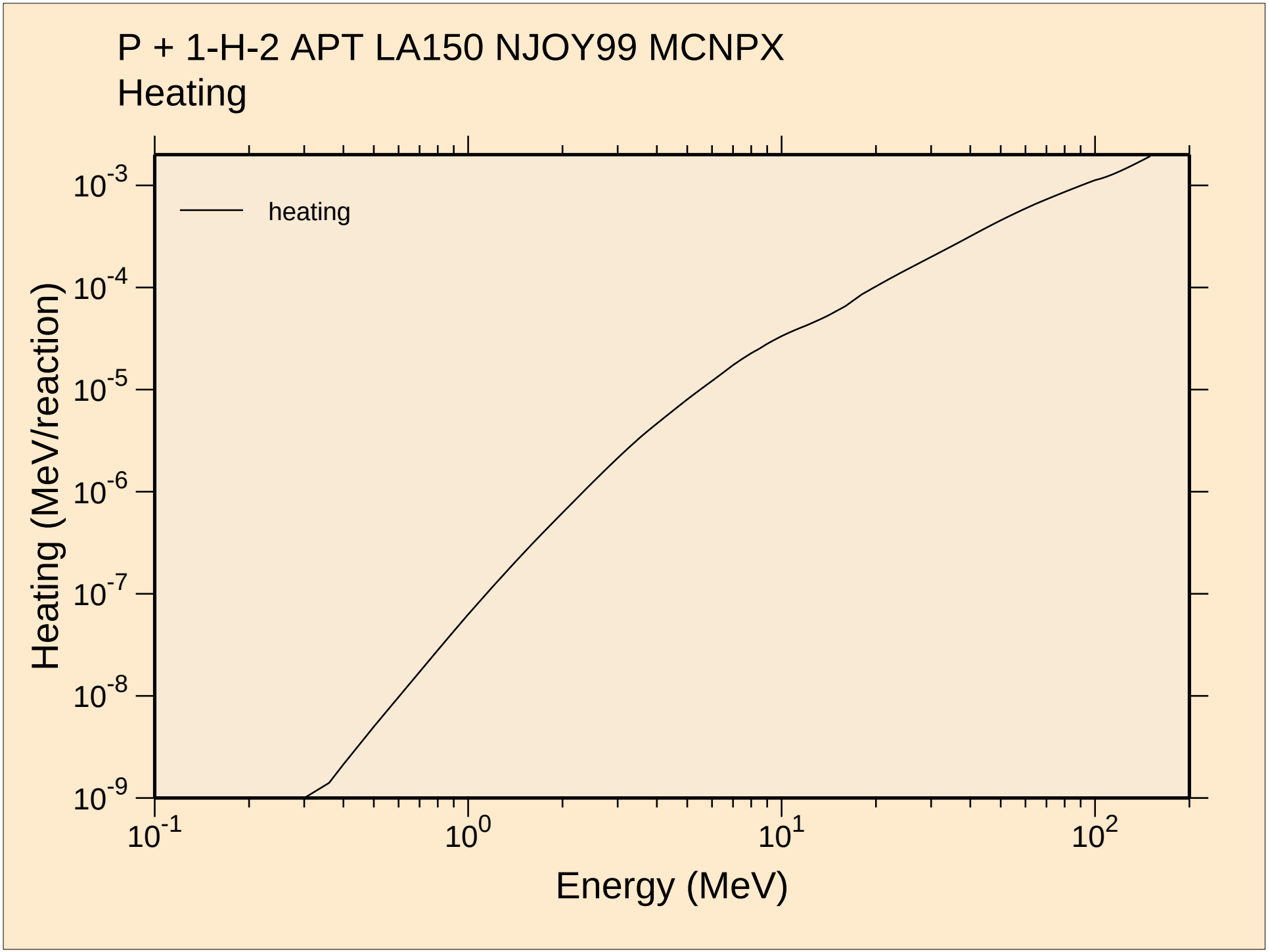
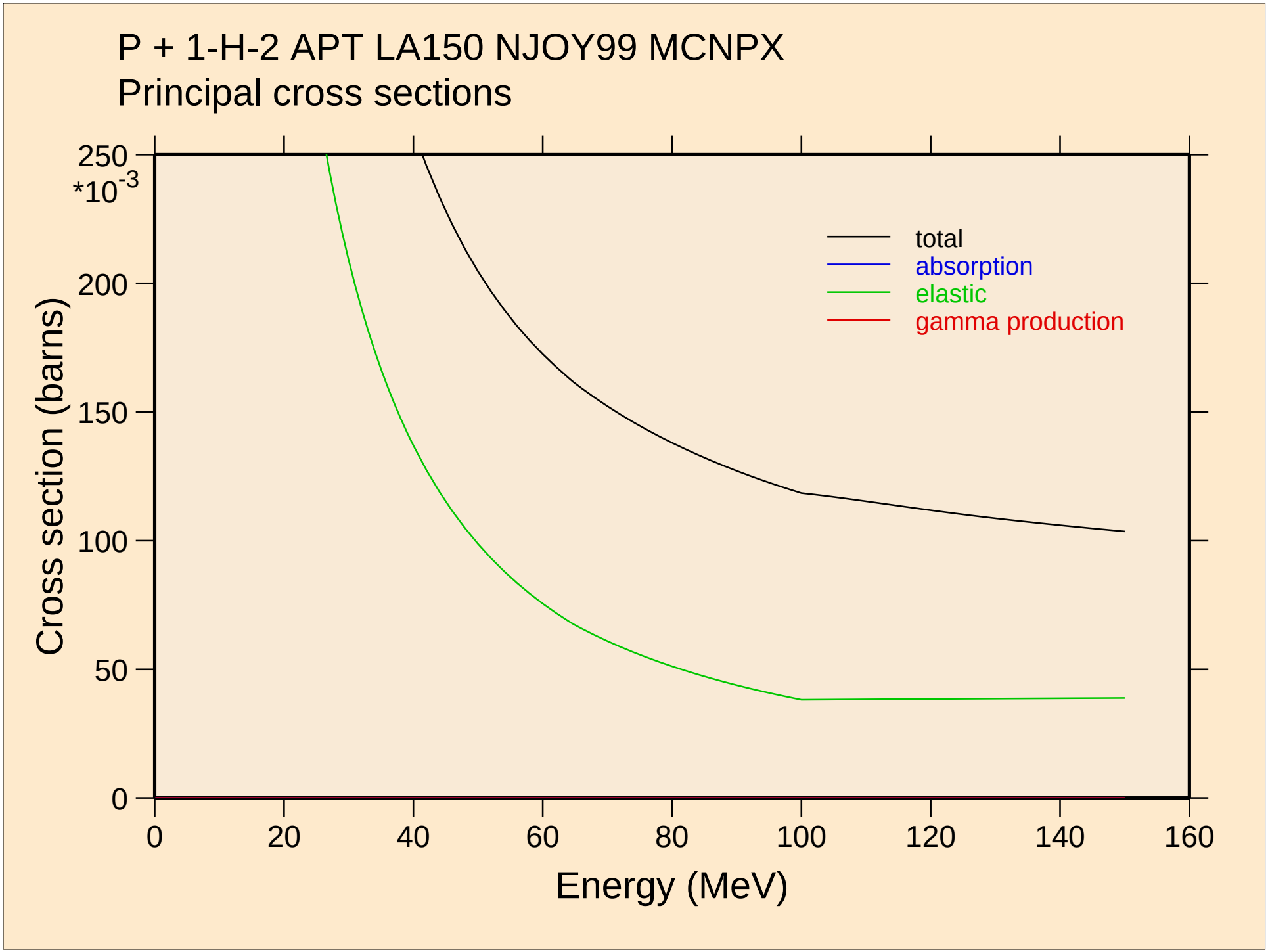
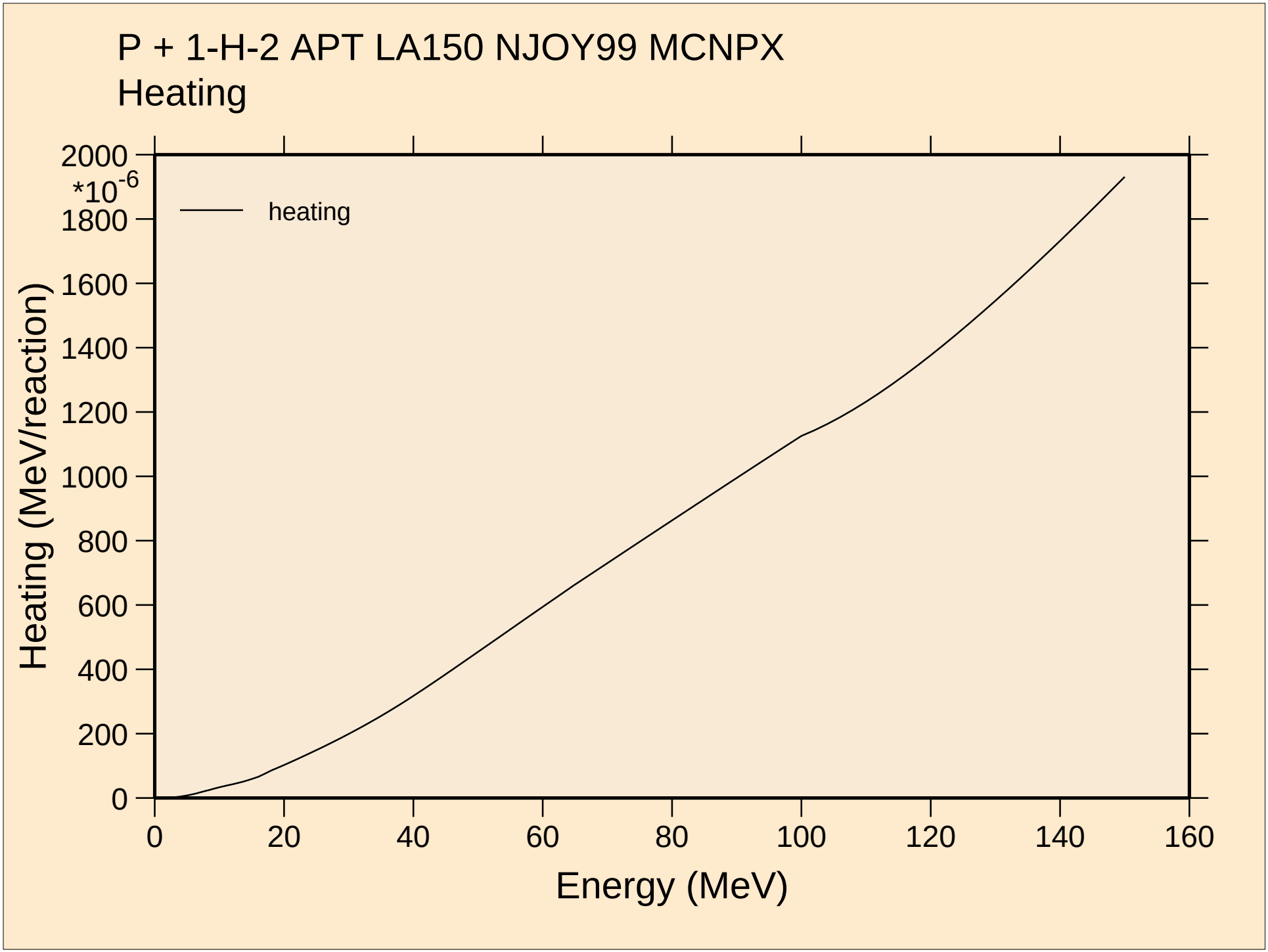
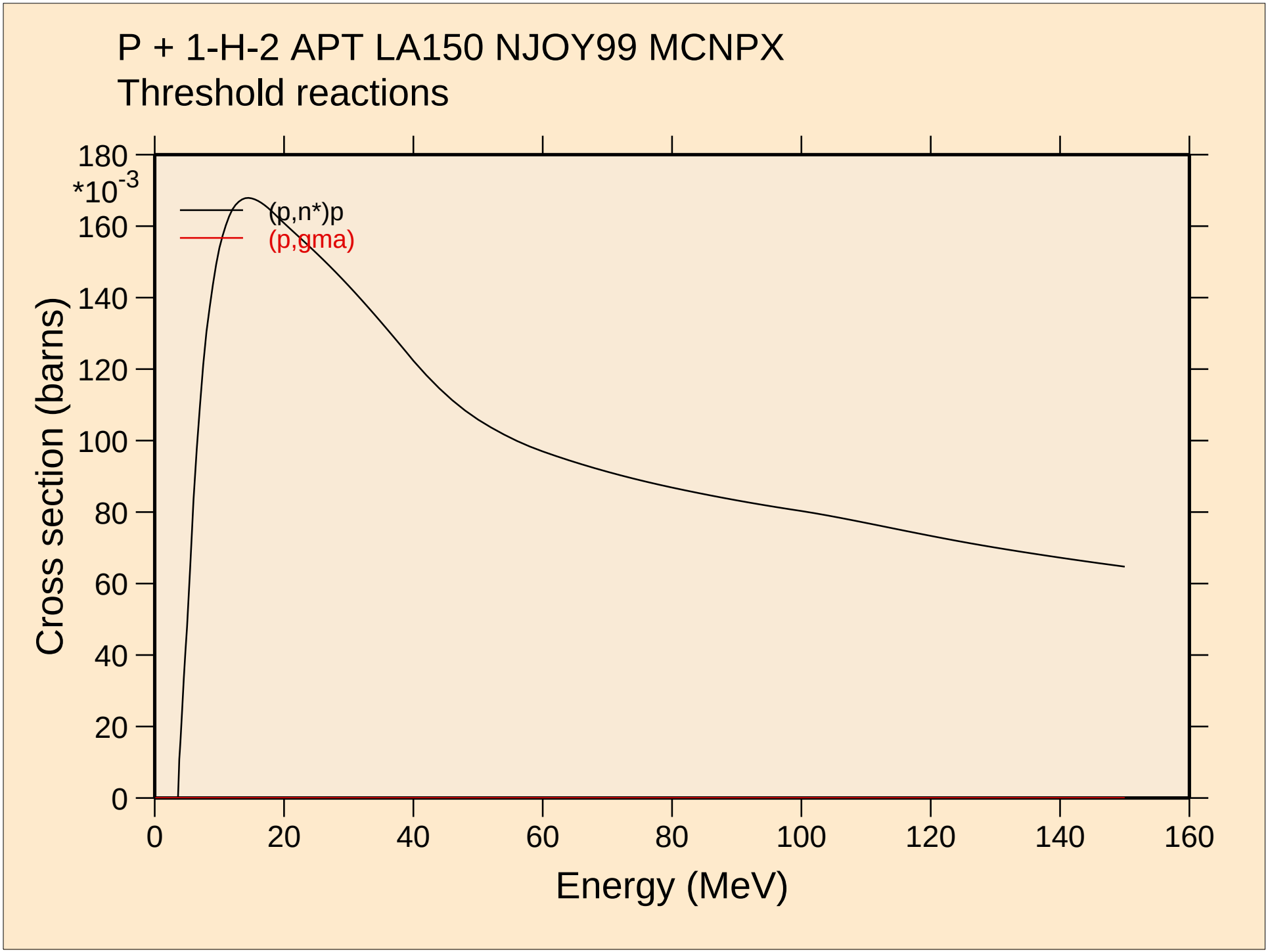
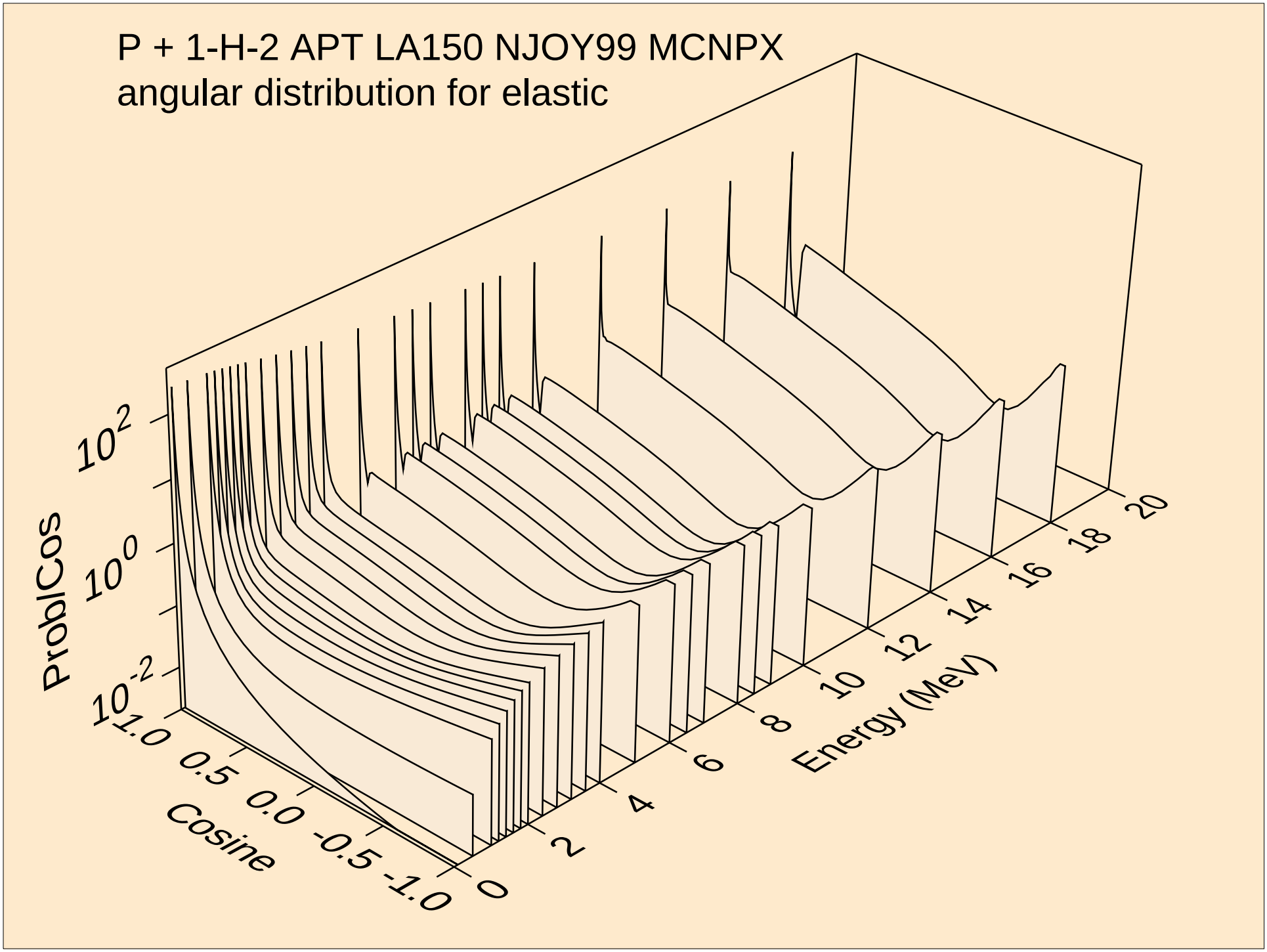

P + 1-H-2 APT LA150 NJOY99 MCNPX
Principal cross sections
Cross section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-2
total
absorption
elastic
gamma production
10^-1
10^0
10^1
10^2
Energy (MeV)

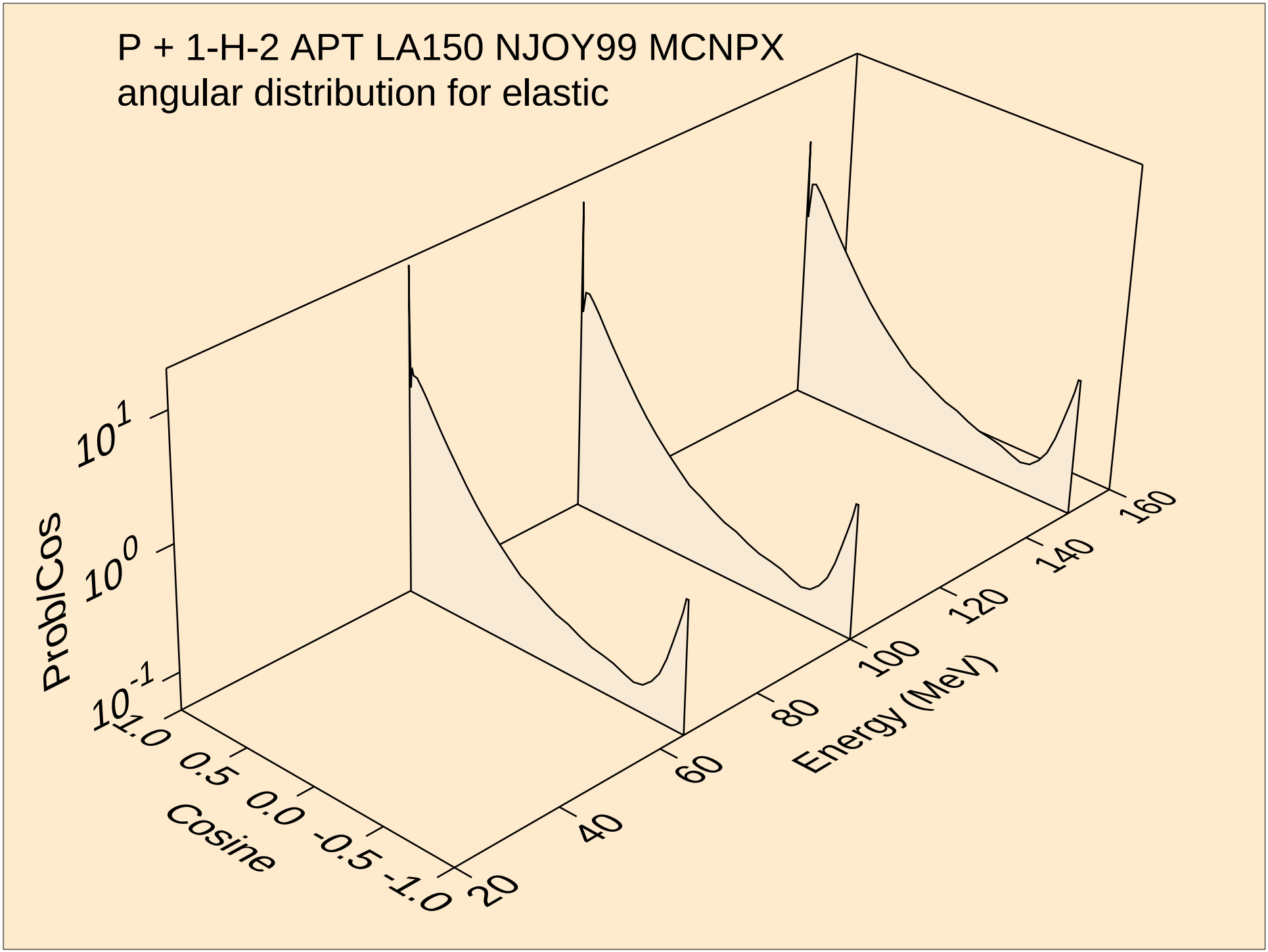

P + 1-H-2 APT LA150 NJOY99 MCNPX
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
10-3
10-4
10-5
10-6
10-7
10-8
10-9
10-1
100
101
102

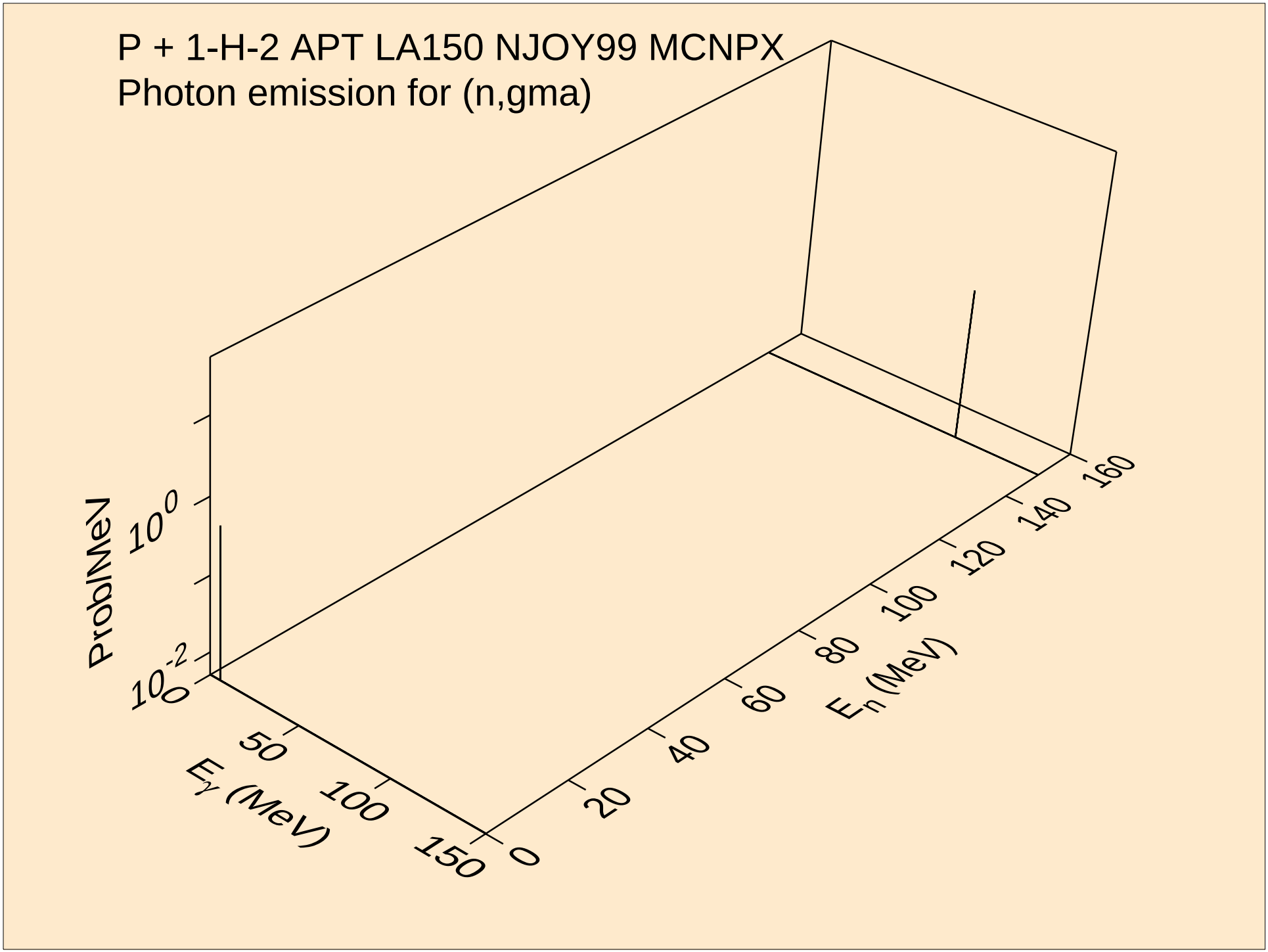

P + 1-H-2 APT LA150 NJOY99 MCNPX
Principal cross sections
Cross section (barns)
*10-3
250
200
150
100
50
0
0
20
40
60
80
100
120
140
160
Energy (MeV)
total
absorption
elastic
gamma production

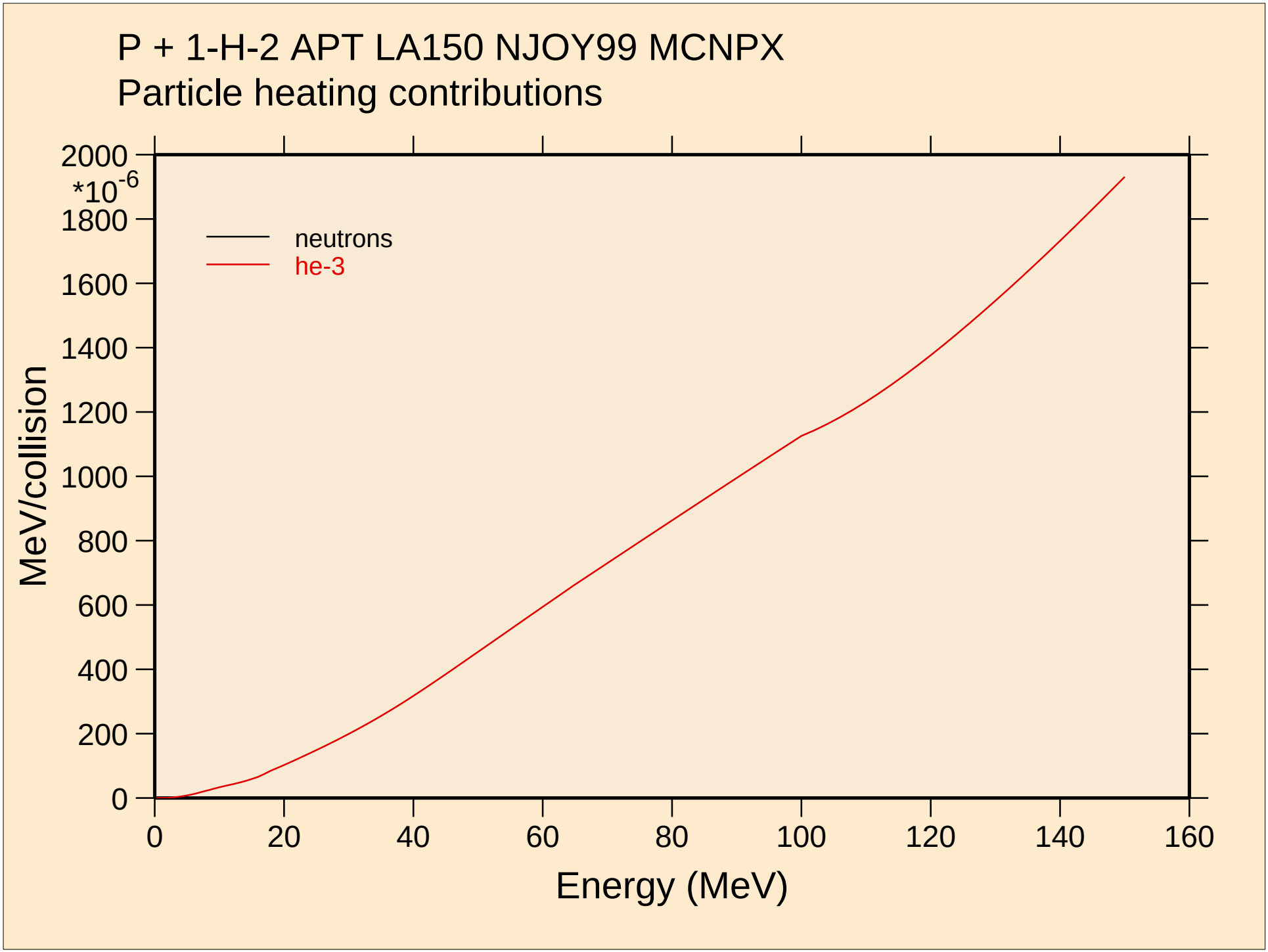

P + 1-H-2 APT LA150 NJOY99 MCNPX
Heating
heating
*10-6
Heating (MeV/reaction)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
20
40
60
80
100
120
140
160
Energy (MeV)

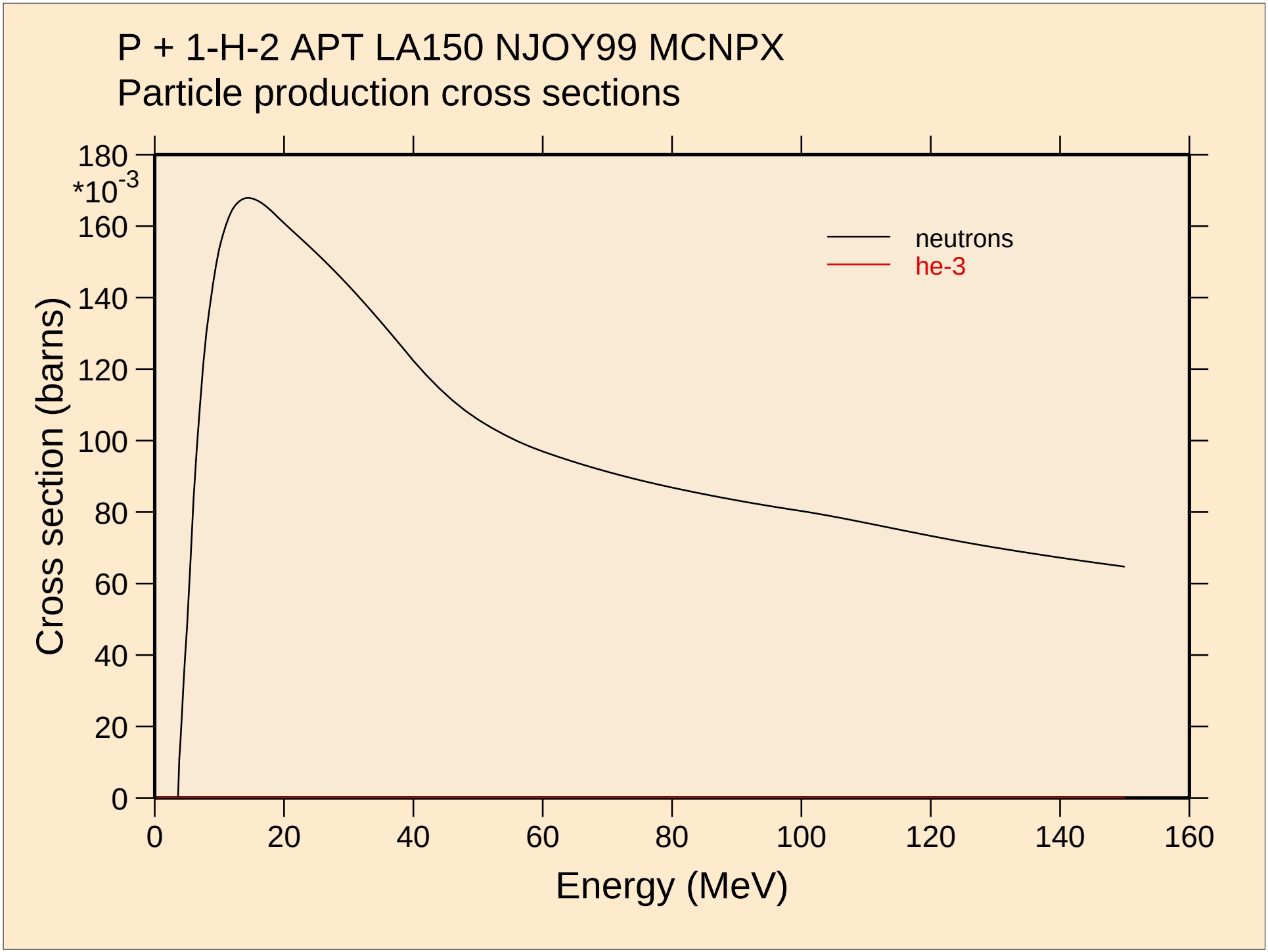

P + 1-H-2 APT LA150 NJOY99 MCNPX
Threshold reactions
*10-3
(p,n*)p
(p,gma)
Cross section (barns)
Energy (MeV)
0
20
40
60
80
100
120
140
160
180


P + 1-H-2 APT LA150 NJOY99 MCNPX
angular distribution for elastic
ProblCos
10^{2}
10^{0}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)


P + 1-H-2 APT LA150 NJOY99 MCNPX
angular distribution for elastic
ProbICos
10^{1}
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
20
40
60
80
100
120
140
160
Energy (MeV)


P + 1-H-2 APT LA150 NJOY99 MCNPX
Photon emission for (n,gma)
Prob/MeV
10^{0}
10^{-2}
0
50
100
150
E_γ (MeV)
0
20
40
60
80
100
120
140
160
E_n (MeV)


P + 1-H-2 APT LA150 NJOY99 MCNPX
Particle heating contributions
2000
*10-6
1800
1600
1400
1200
1000
800
600
400
200
0
MeV/collision
neutrons
he-3
0
20
40
60
80
100
120
140
160
Energy (MeV)


P + 1-H-2 APT LA150 NJOY99 MCNPX
Particle production cross sections
Cross section (barns)
*10-3
180
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
160
Energy (MeV)
neutrons
he-3