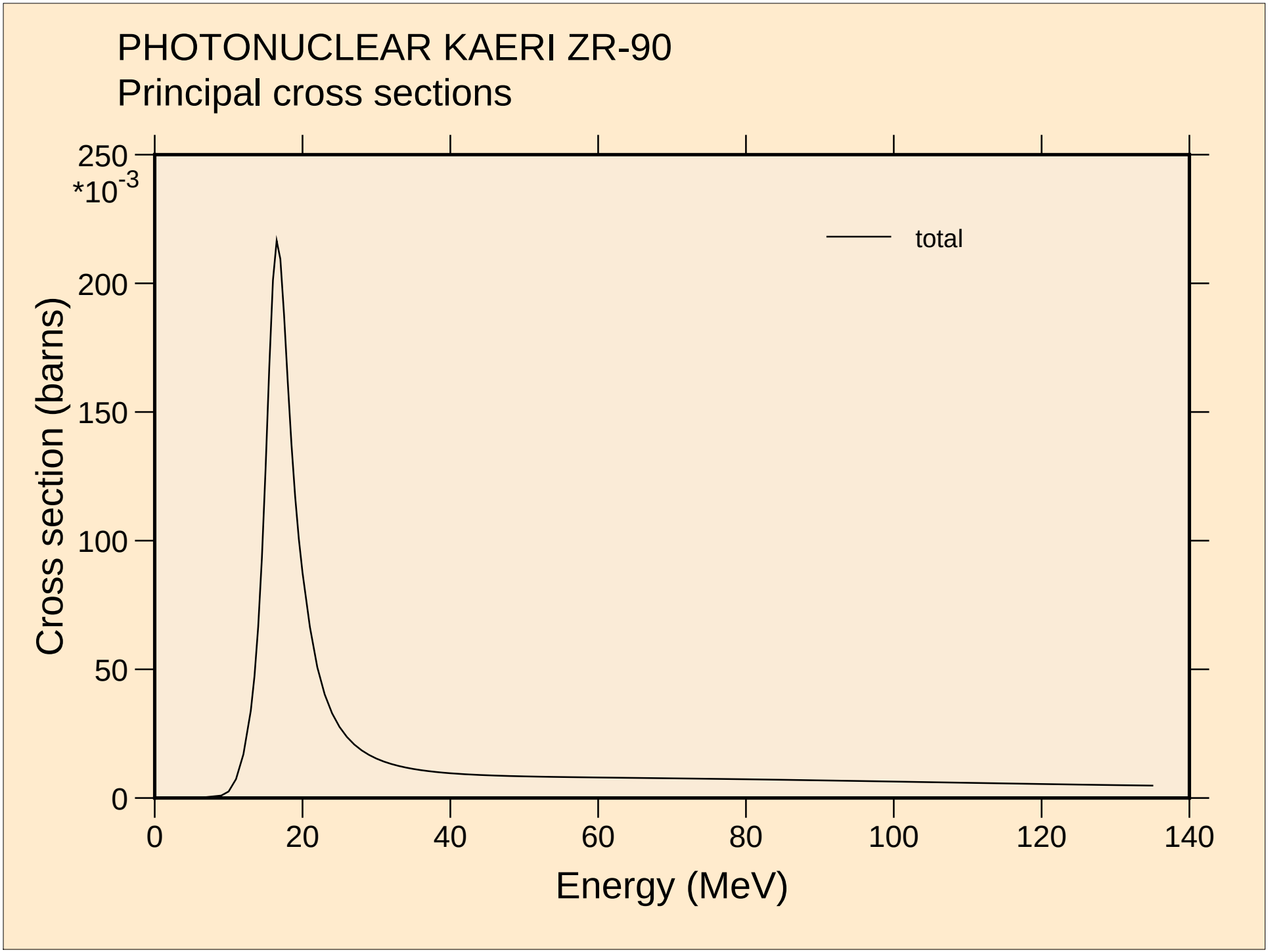
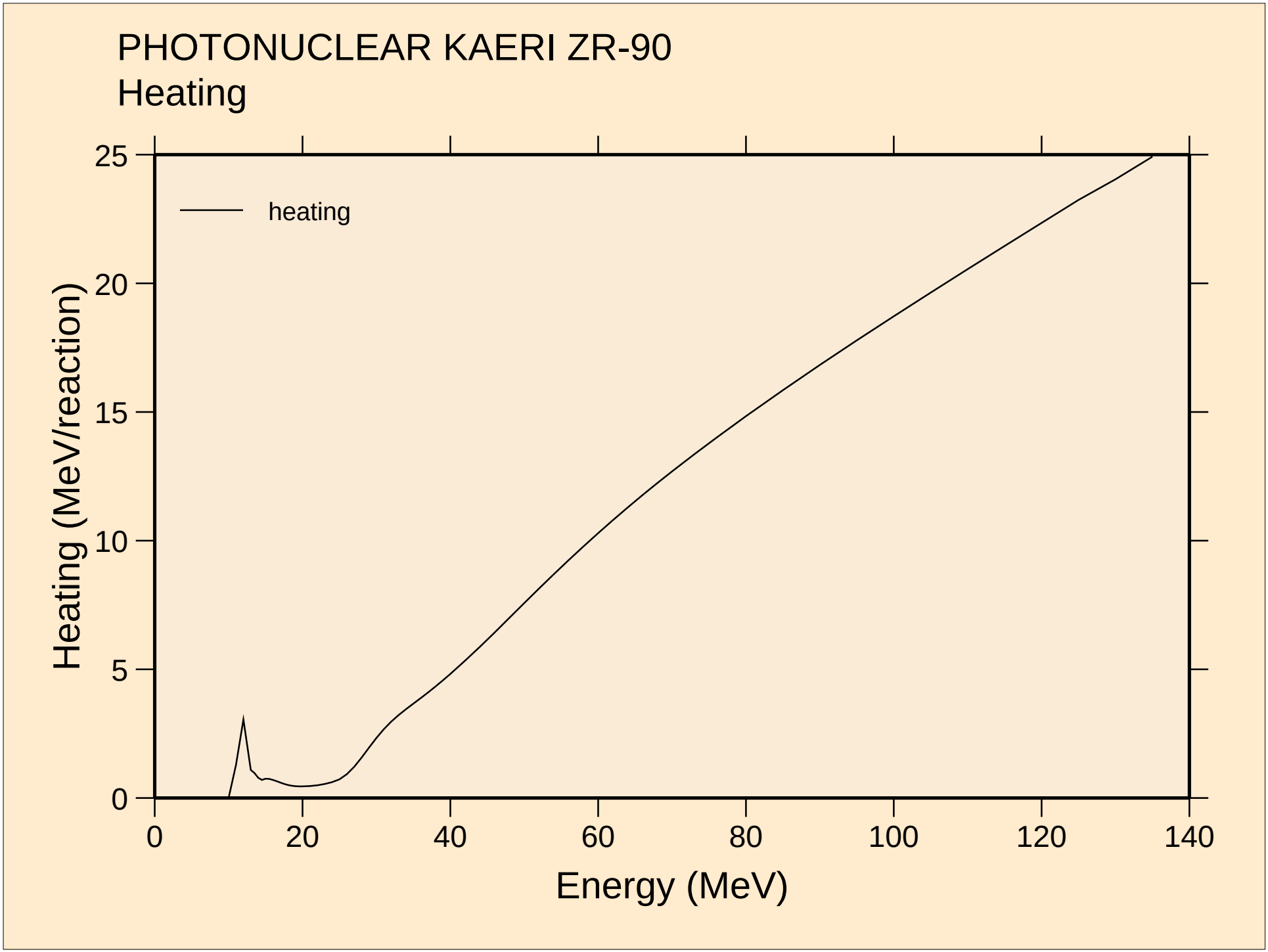
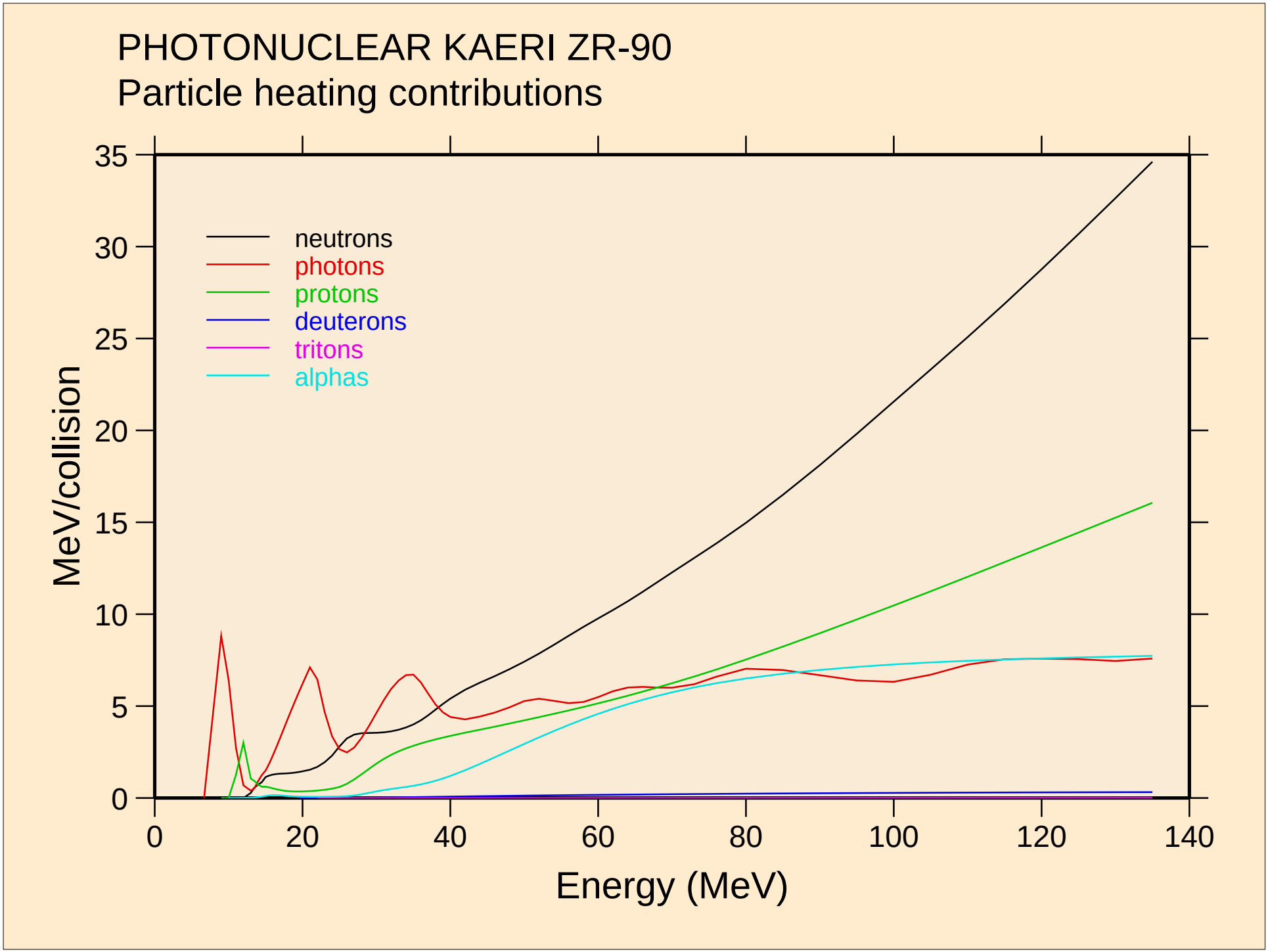
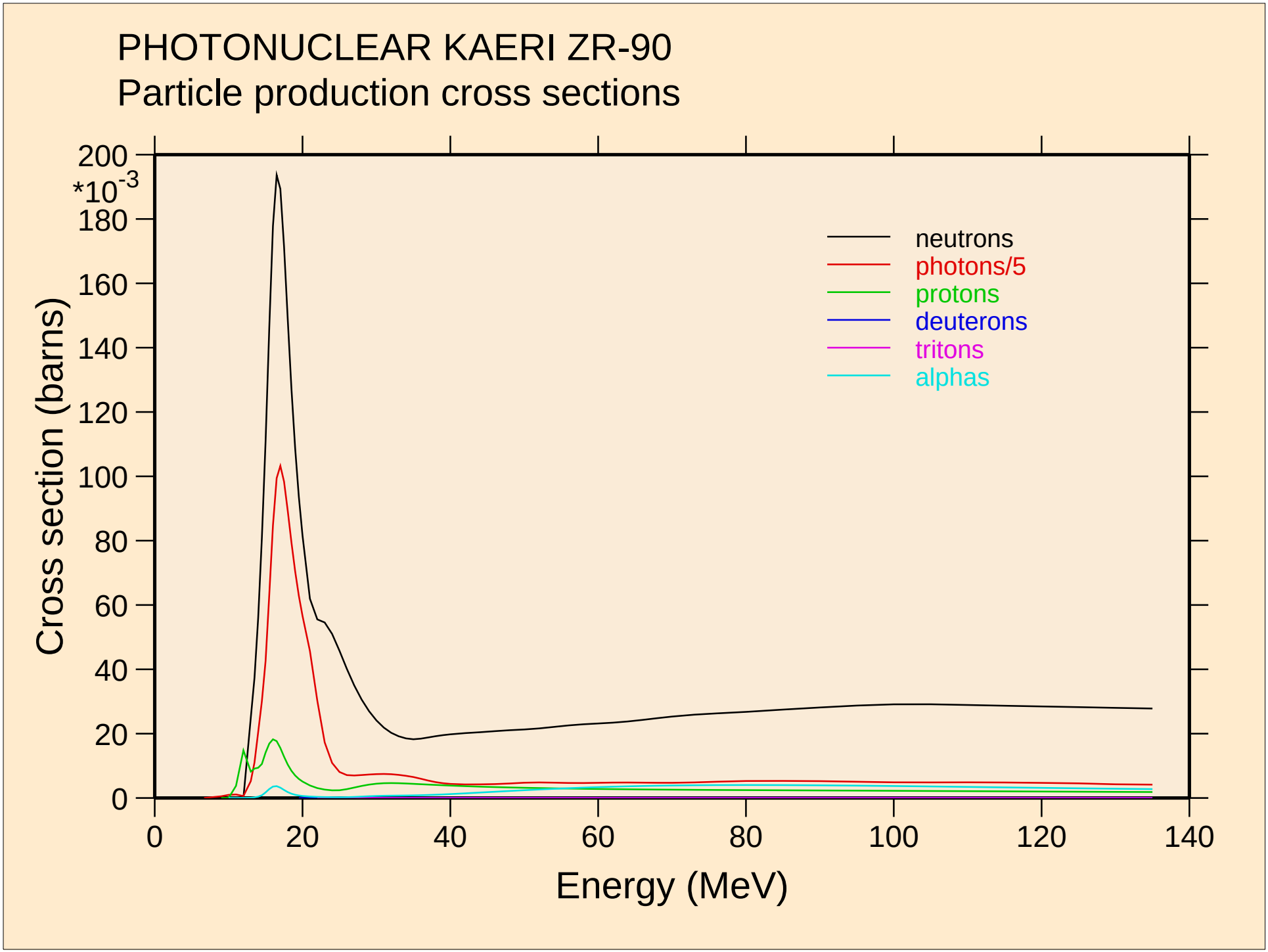
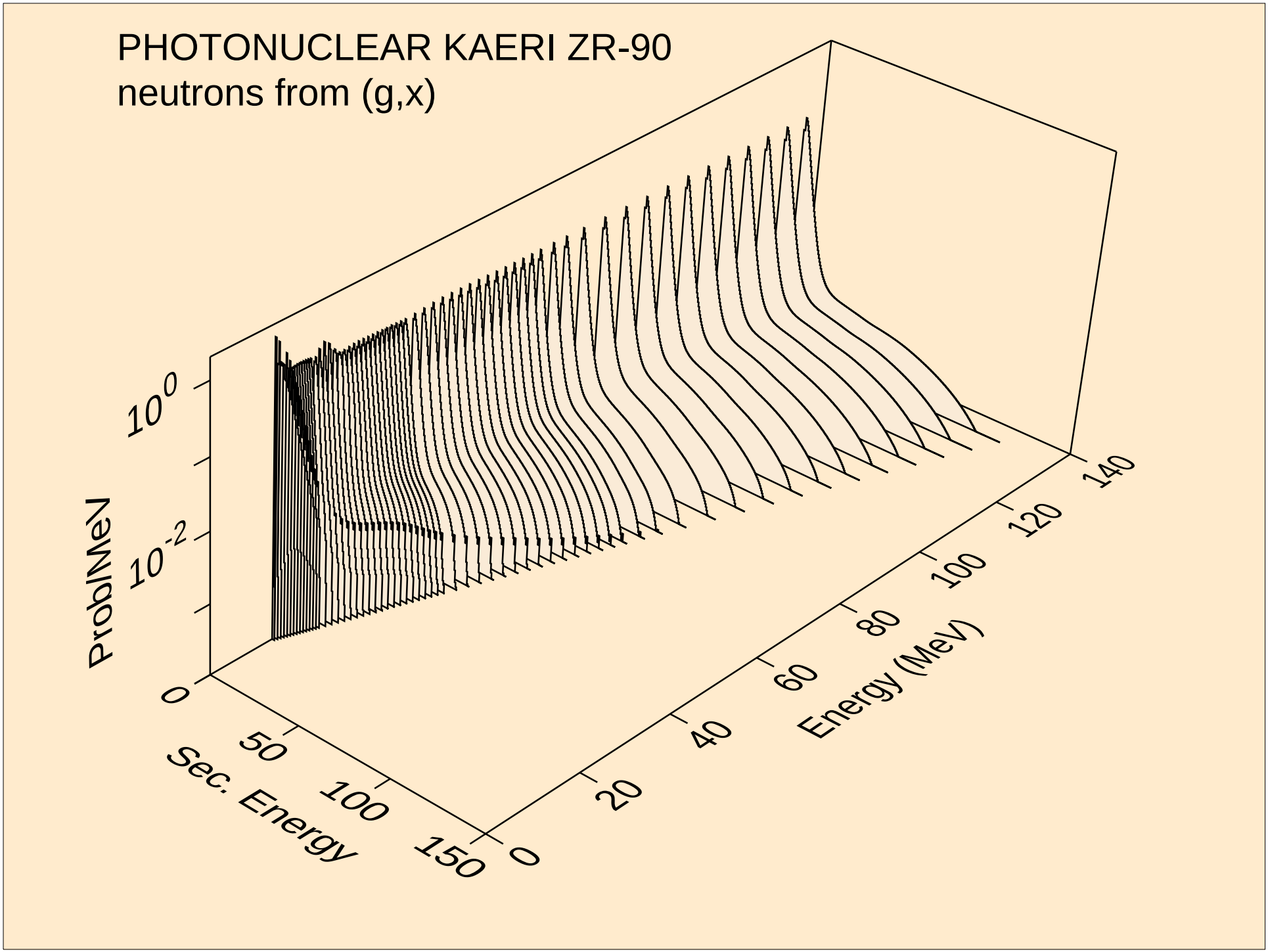
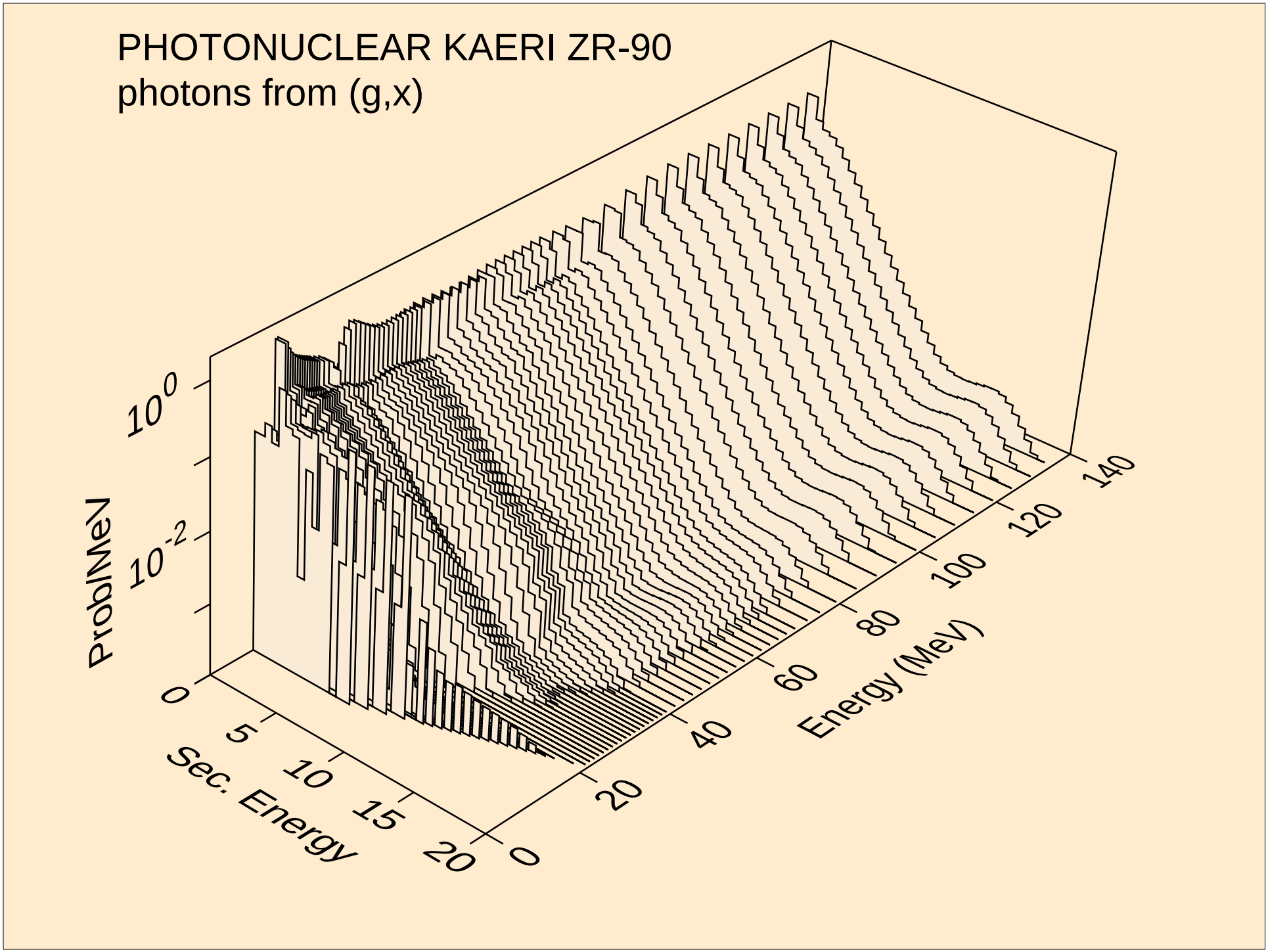

PHOTONUCLEAR KAERI ZR-90
Principal cross sections
250
*10-3
200
150
100
50
0
Cross section (barns)
total
0
20
40
60
80
100
120
140
Energy (MeV)

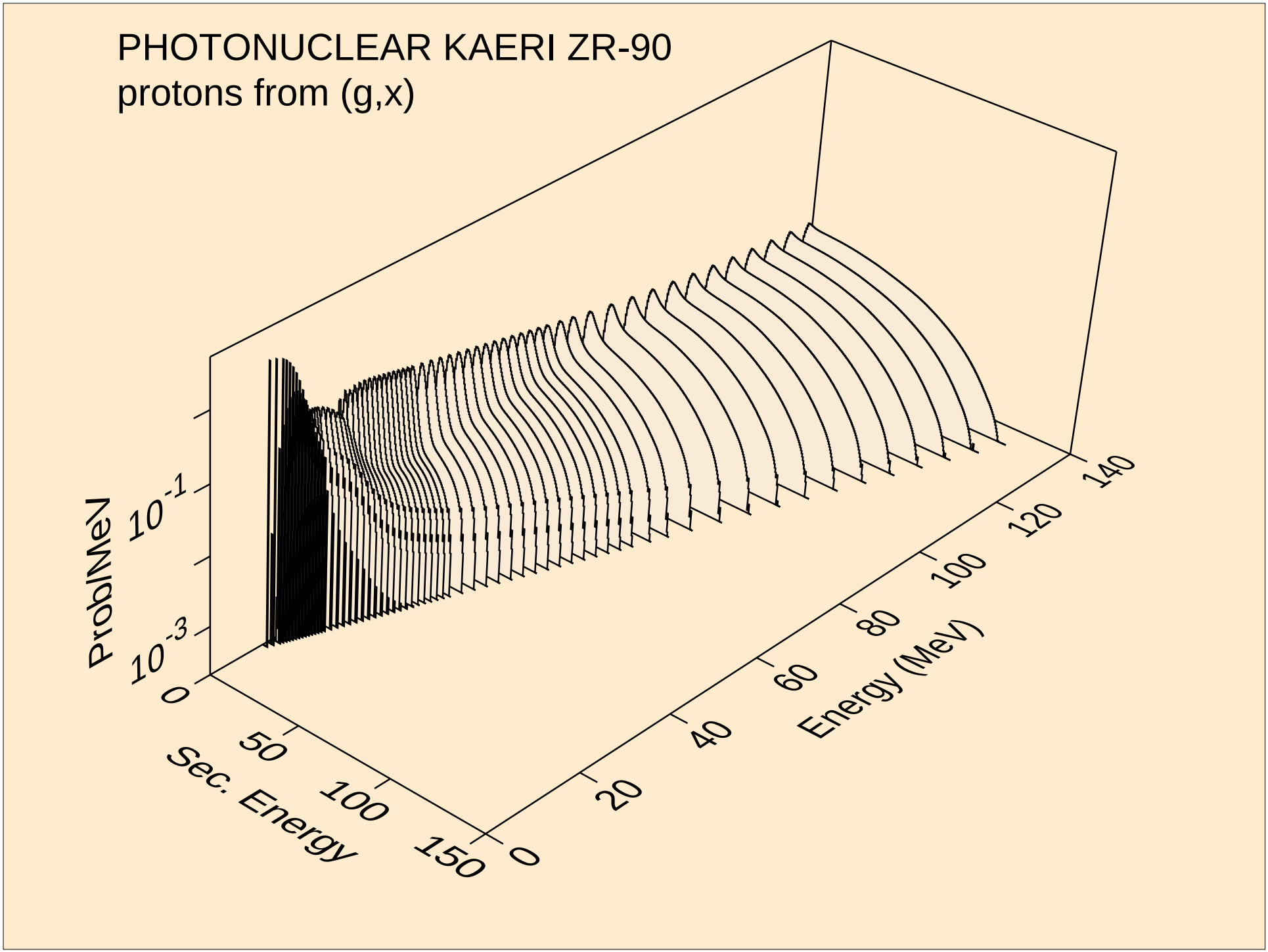

PHOTONUCLEAR KAERI ZR-90
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
5
10
15
20
25
0
20
40
60
80
100
120
140

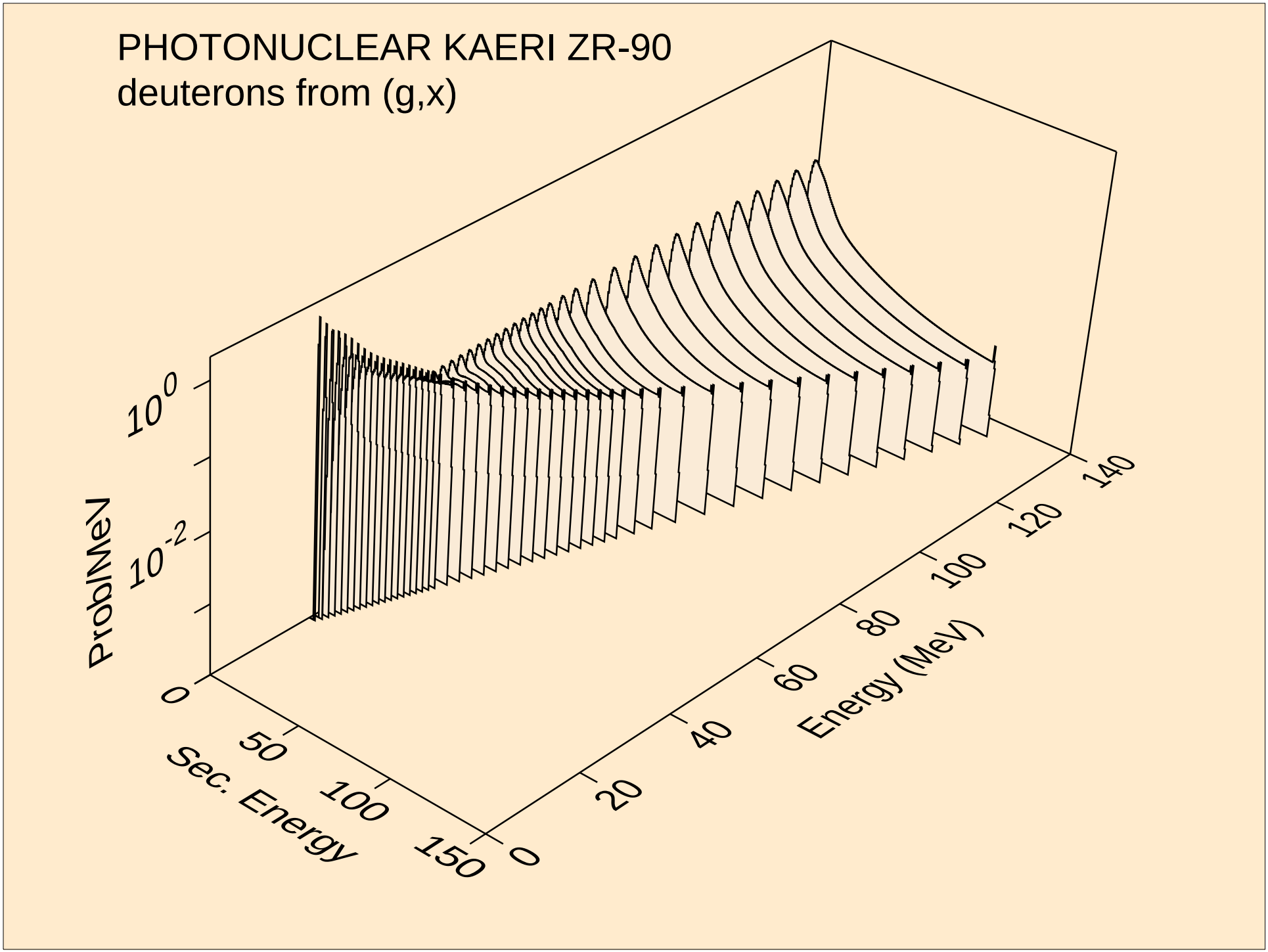

PHOTONUCLEAR KAERI ZR-90
Particle heating contributions
neutrons
photons
protons
deuterons
tritons
alphas
MeV/collision
Energy (MeV)
0
5
10
15
20
25
30
35
0
20
40
60
80
100
120
140

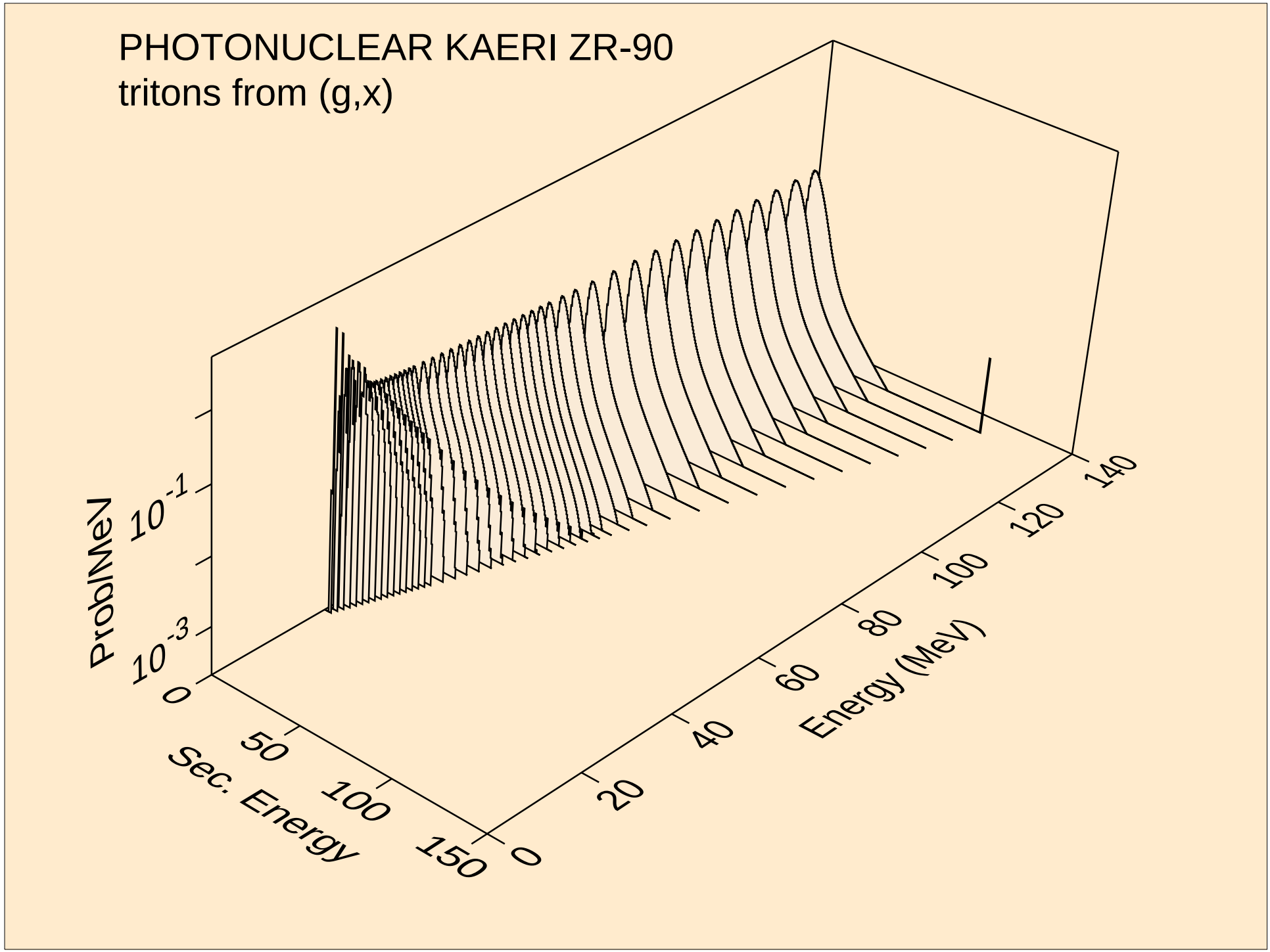

PHOTONUCLEAR KAERI ZR-90
Particle production cross sections
Cross section (barns)
*10-3
200
180
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Energy (MeV)
neutrons
photons/5
protons
deuterons
tritons
alphas

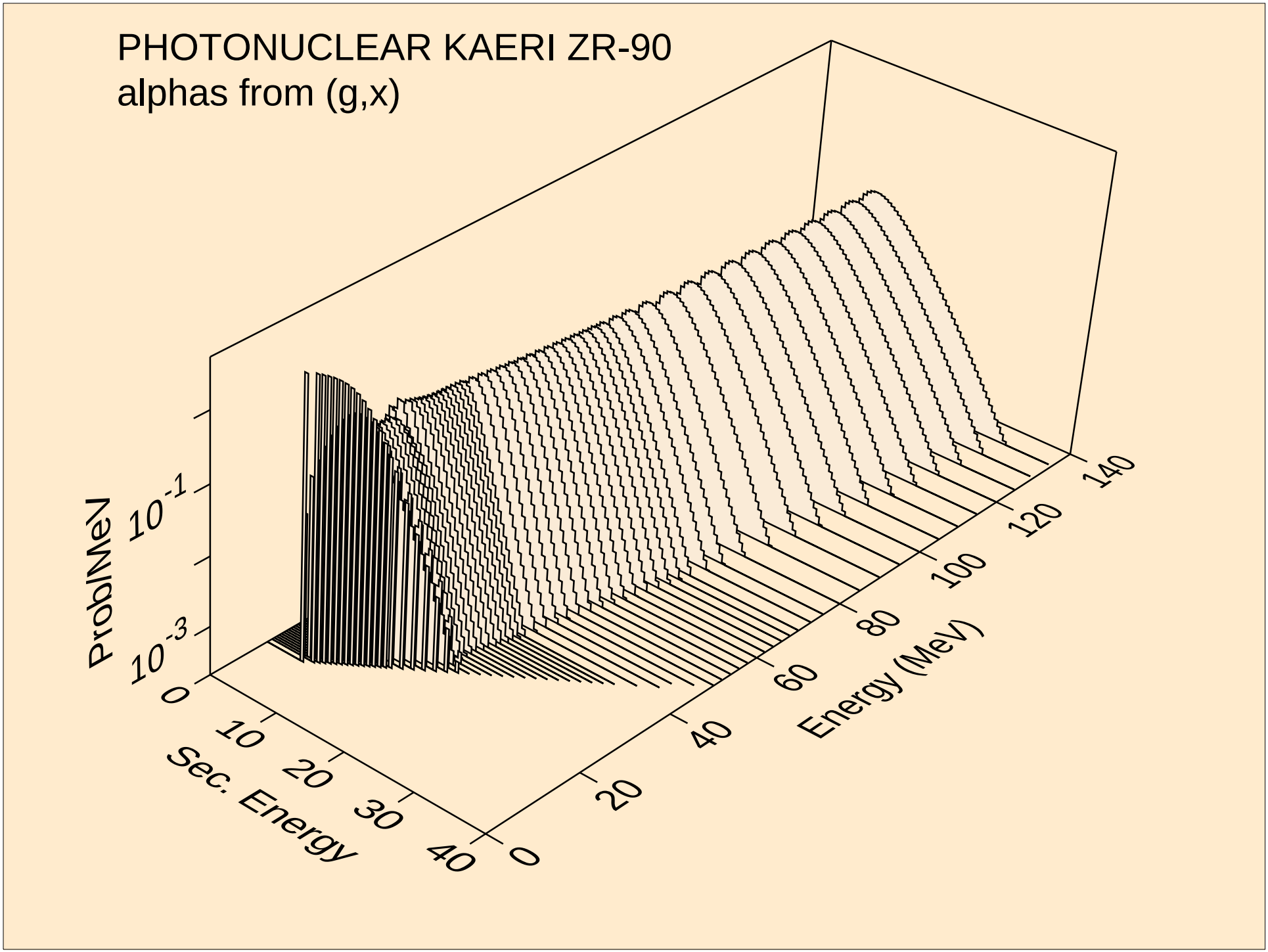

PHOTONUCLEAR KAERI ZR-90
neutrons from (g,x)
Prob/MeV
10^0
10^-2
0
Sec. Energy
50
100
150
0
20
40
60
80
100
120
140
Energy (MeV)


PHOTONUCLEAR KAERI ZR-90
photons from (g,x)
Prob/MeV
10^{0}
10^{-2}
0
5
10
15
20
Sec. Energy
0
20
40
60
80
100
120
140
Energy (MeV)


PHOTONUCLEAR KAERI ZR-90
protons from (g,x)
Prob/MeV
10-1
10-3
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
Energy (MeV)


PHOTONUCLEAR KAERI ZR-90
deuterons from (g,x)
Prob/MeV
10^0
10^-2
0
Sec. Energy
50
100
150
0
20
40
60
80
100
120
140
Energy (MeV)


PHOTONUCLEAR KAERI ZR-90
tritons from (g,x)
Prob/MeV
10-1
10-3
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
Energy (MeV)


PHOTONUCLEAR KAERI ZR-90
alphas from (g,x)
Prob/MeV
10-1
10-3
0
10
20
30
40
Sec. Energy
0
20
40
60
80
100
120
140
Energy (MeV)