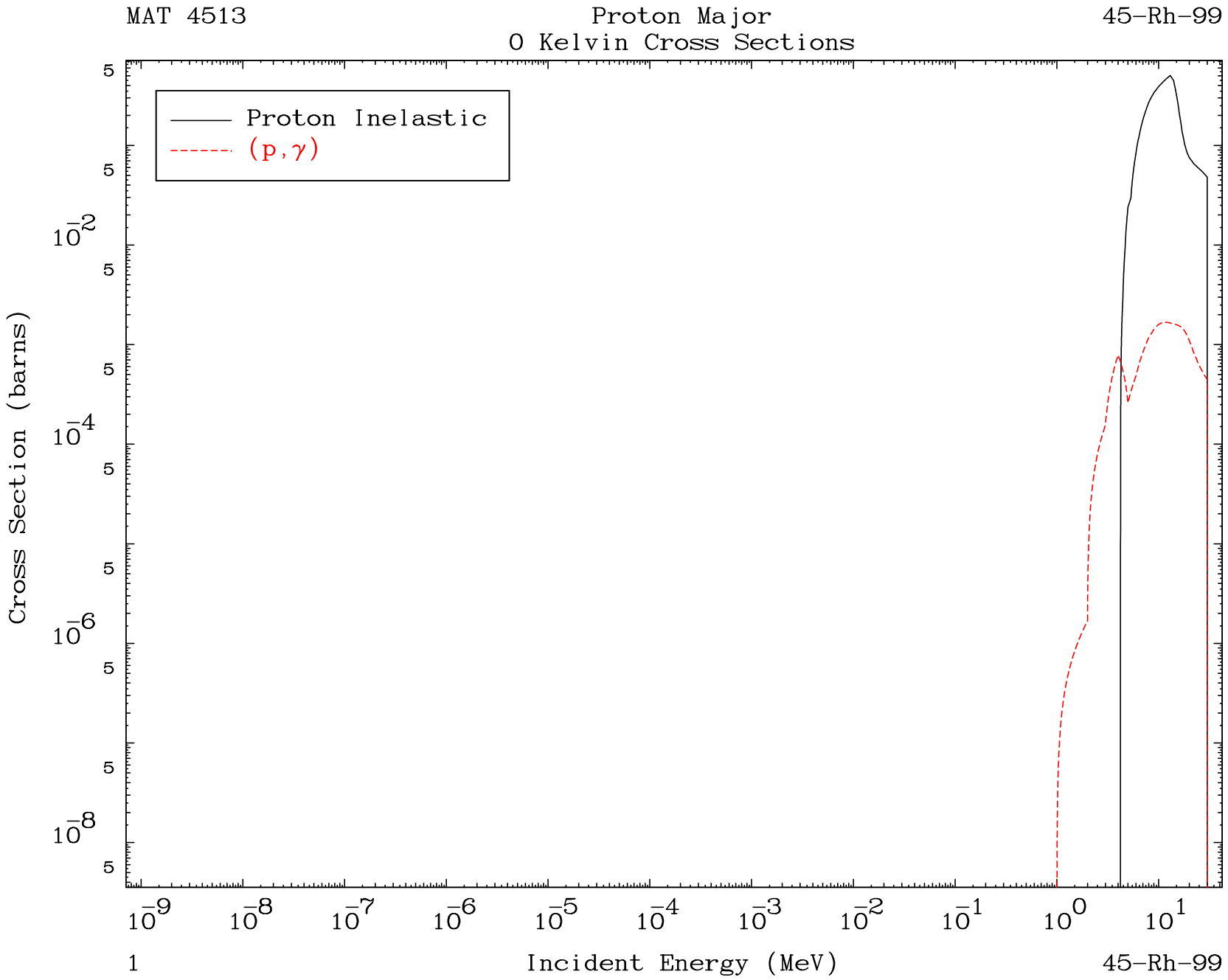
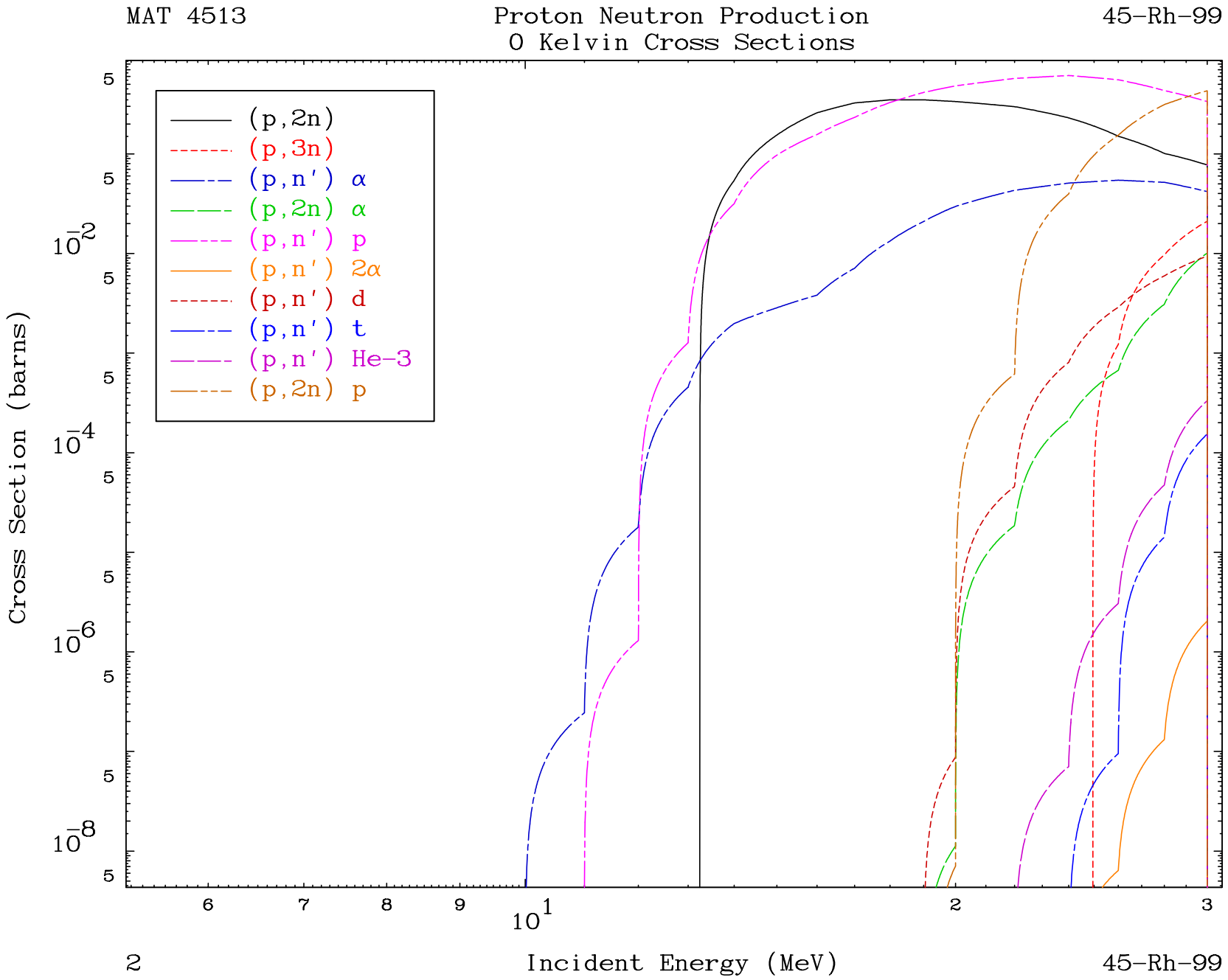
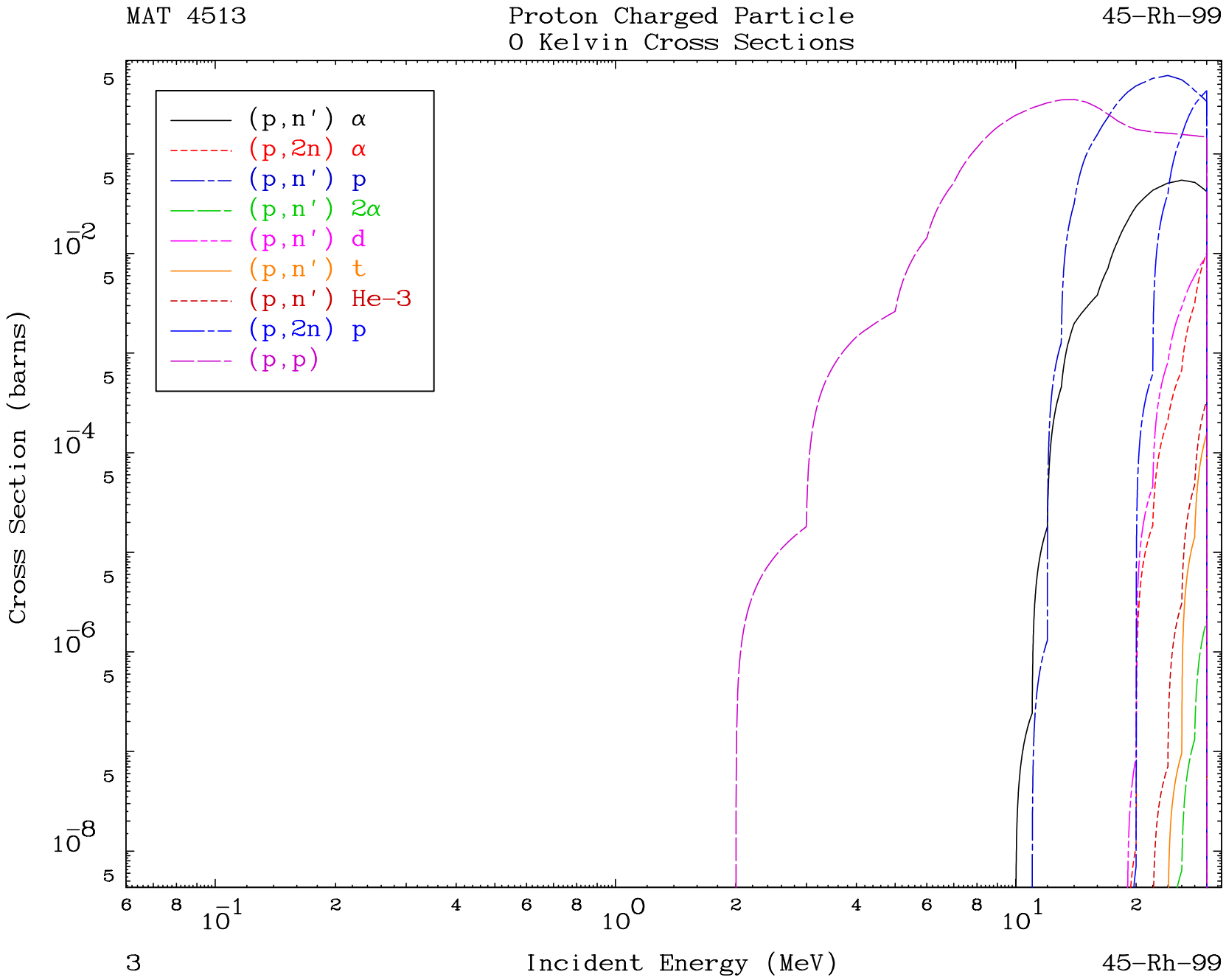
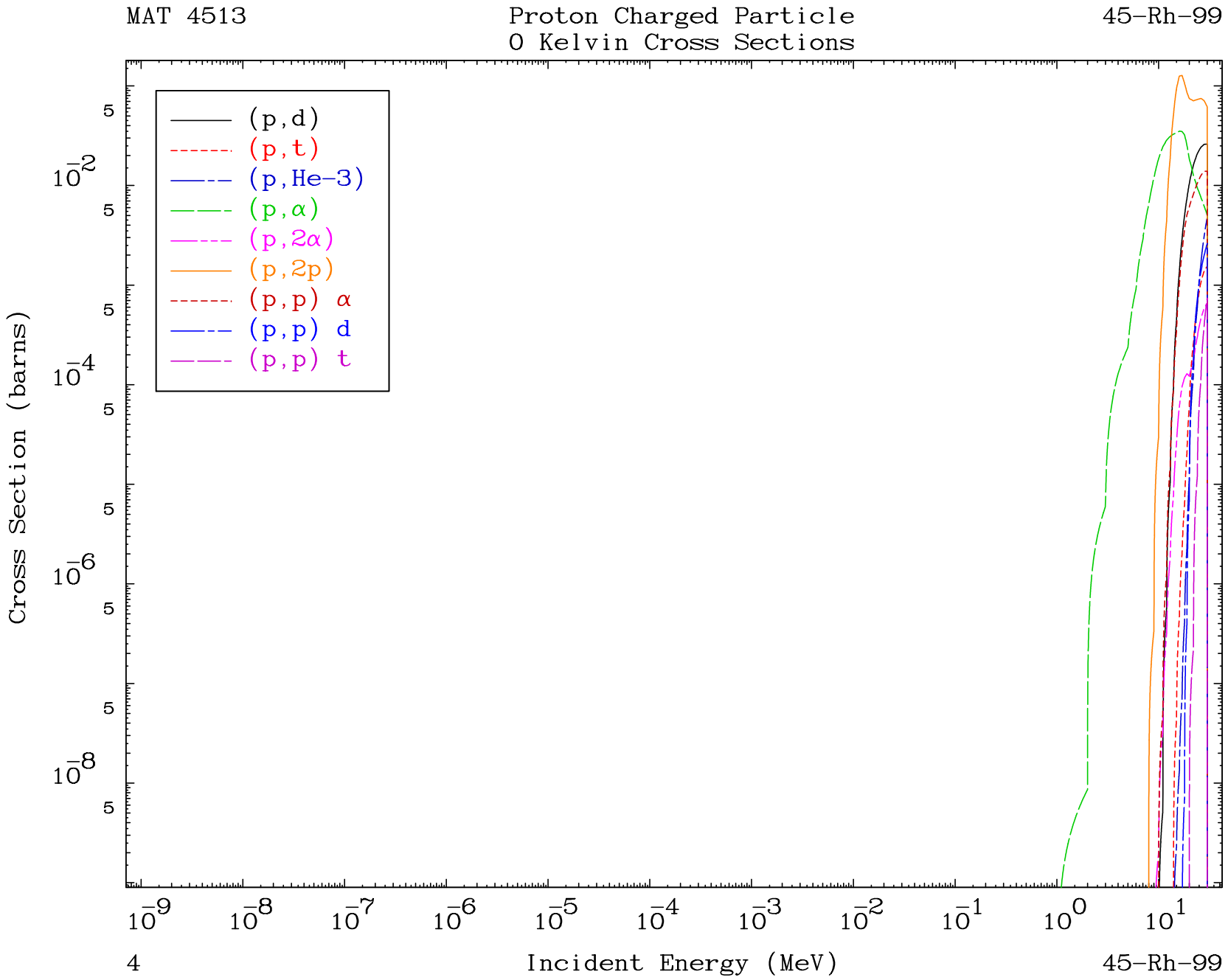
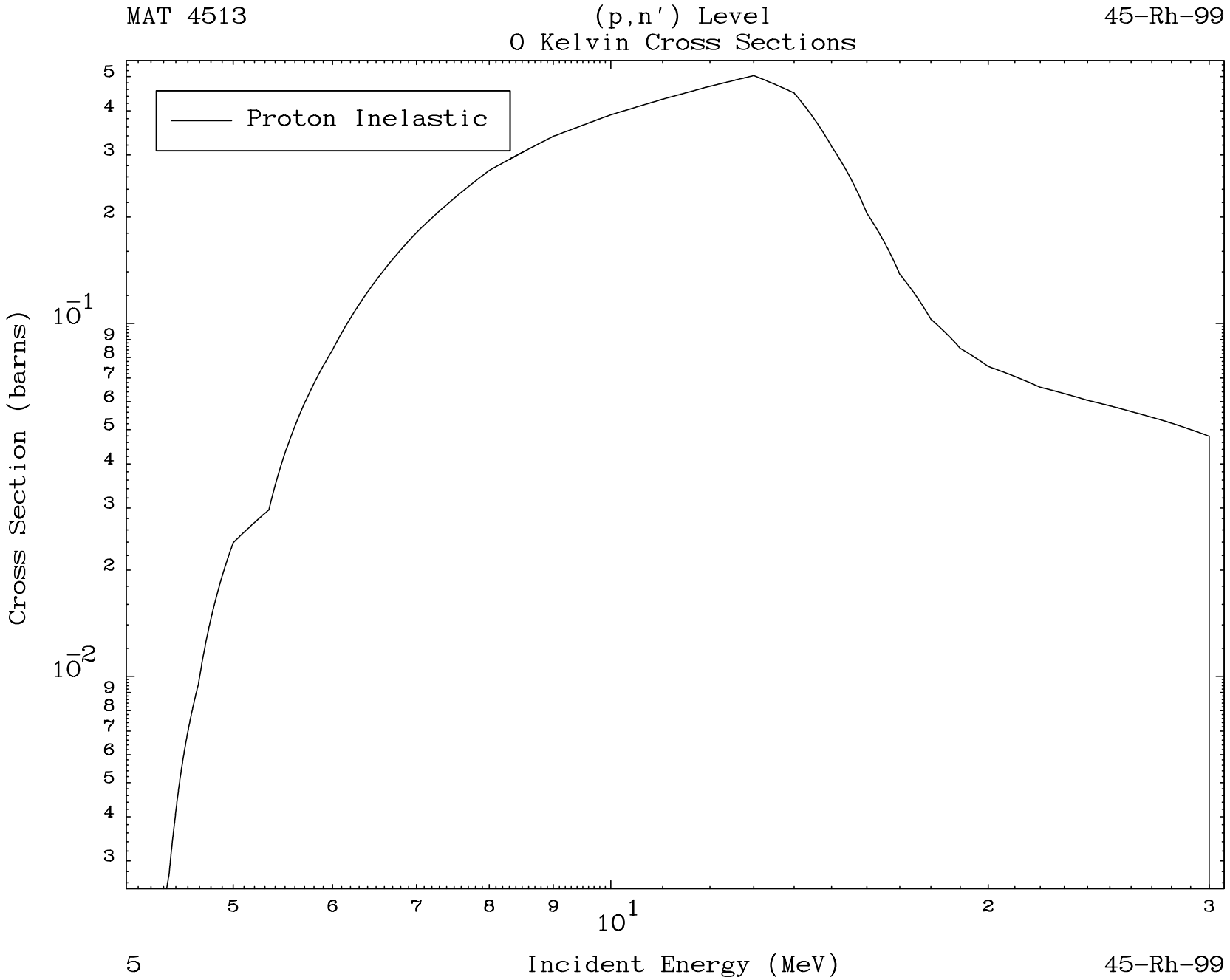
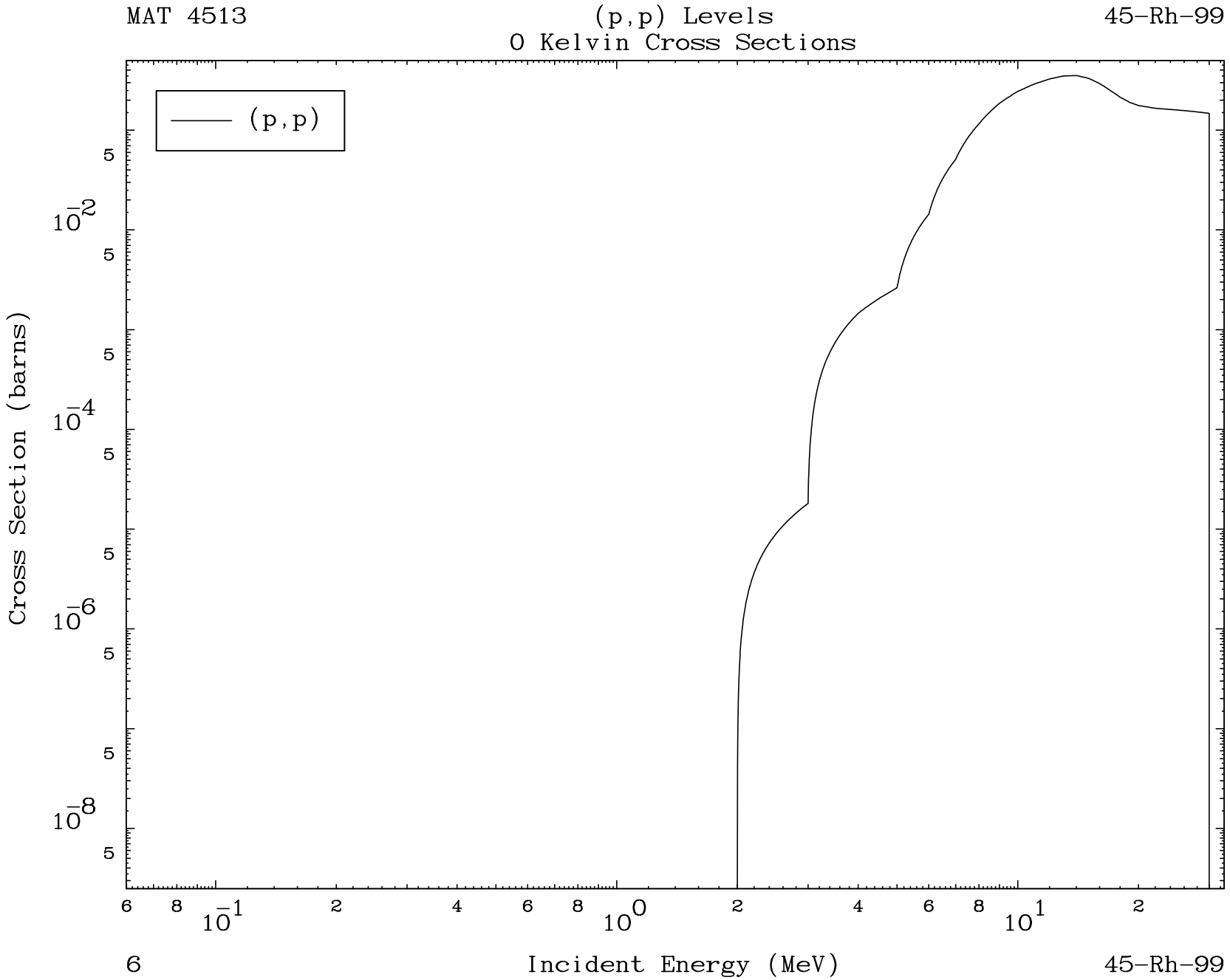

MAT 4513
Proton Major
45-Rh-99
0 Kelvin Cross Sections
Proton Inelastic
(p,γ)
Cross Section (barns)
Incident Energy (MeV)
45-Rh-99

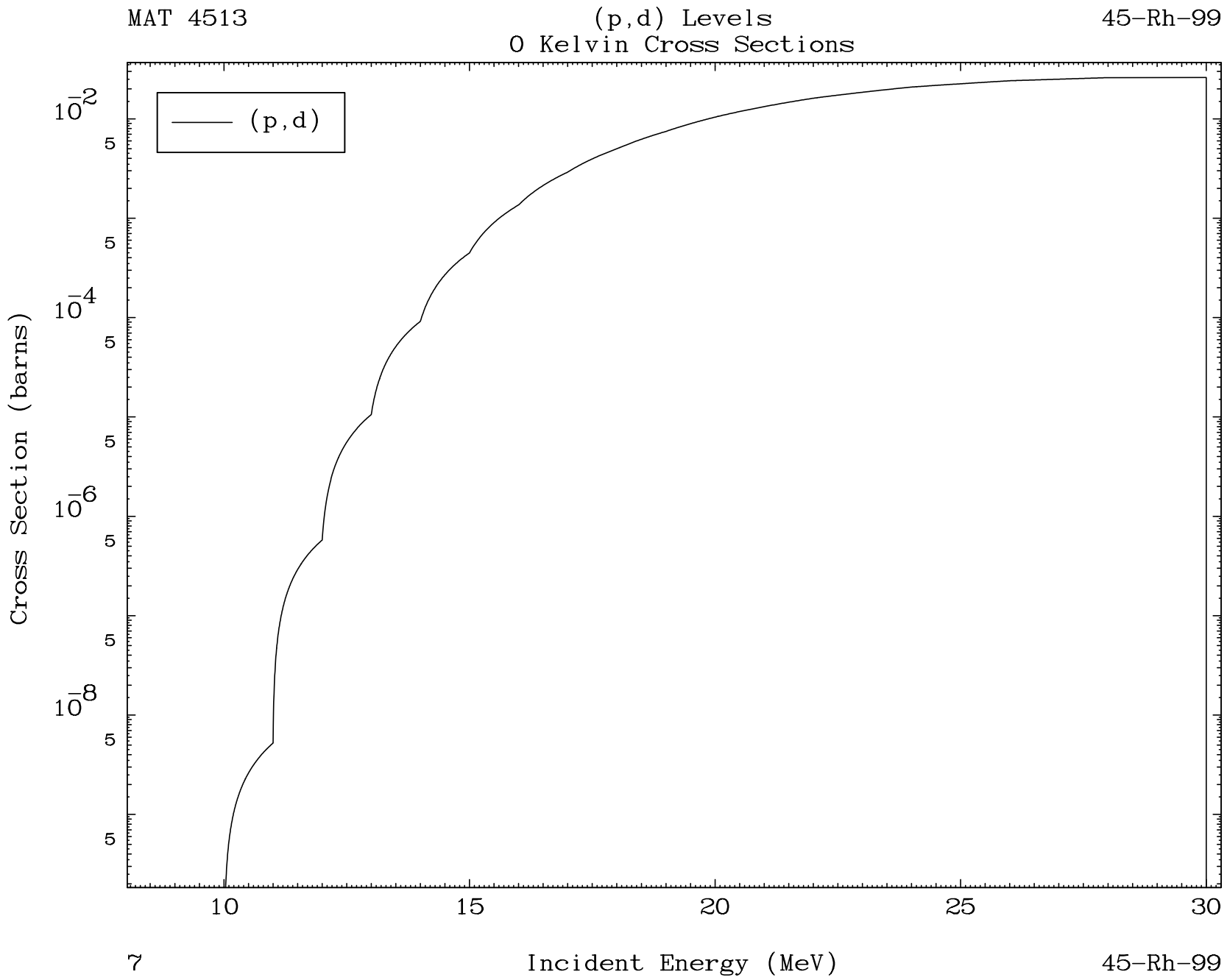

MAT 4513
Proton Neutron Production
0 Kelvin Cross Sections
45-Rh-99
(p,2n)
(p,3n)
(p,n') α
(p,2n) α
(p,n') p
(p,n') 2α
(p,n') d
(p,n') t
(p,n') He-3
(p,2n) p
Cross Section (barns)
Incident Energy (MeV)
45-Rh-99
2

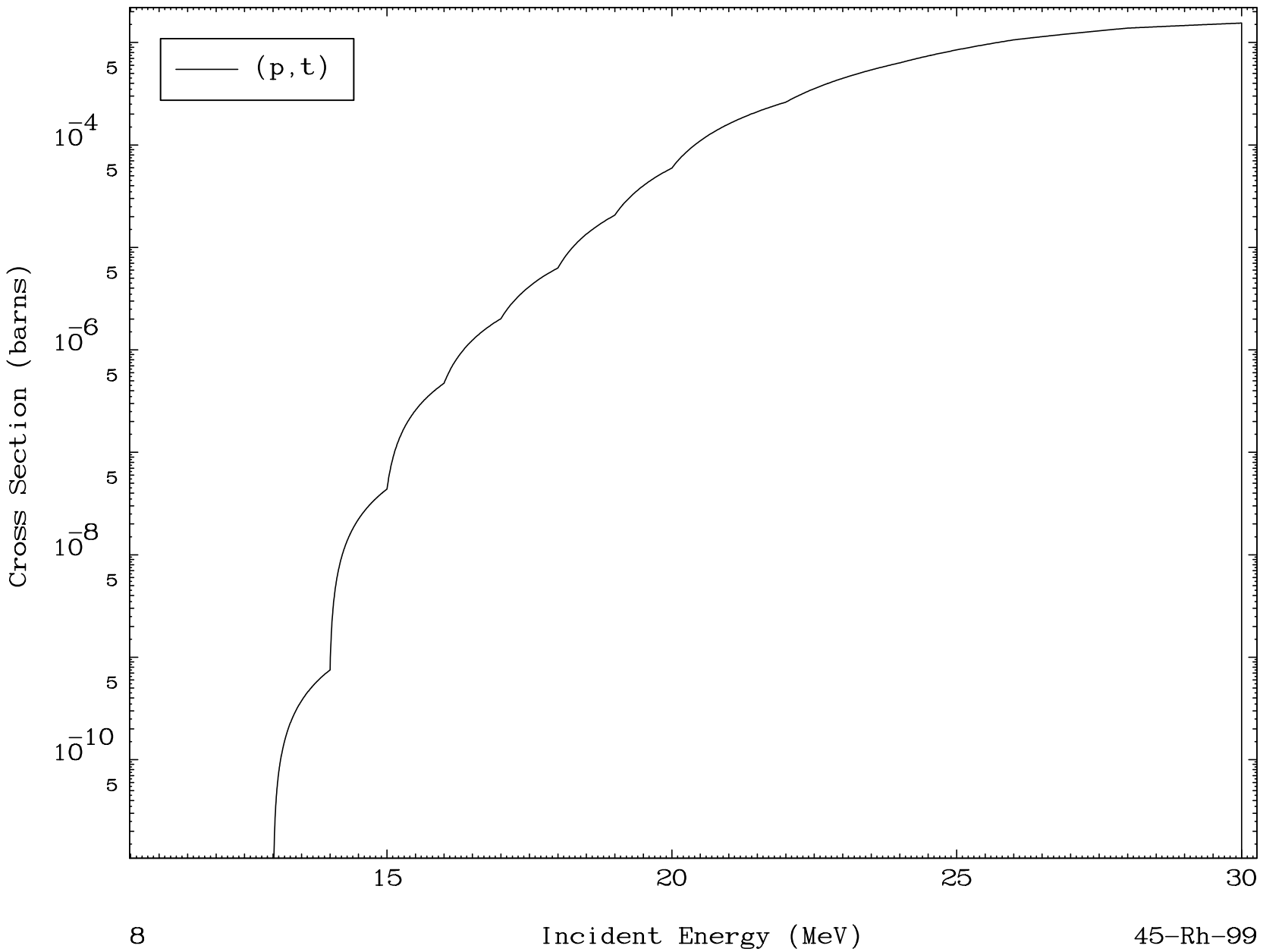

MAT 4513
Proton Charged Particle
0 Kelvin Cross Sections
45-Rh-99
(p,n') α
(p,2n) α
(p,n') p
(p,n') 2α
(p,n') d
(p,n') t
(p,n') He-3
(p,2n) p
(p,p)
Cross Section (barns)
Incident Energy (MeV)
3
45-Rh-99

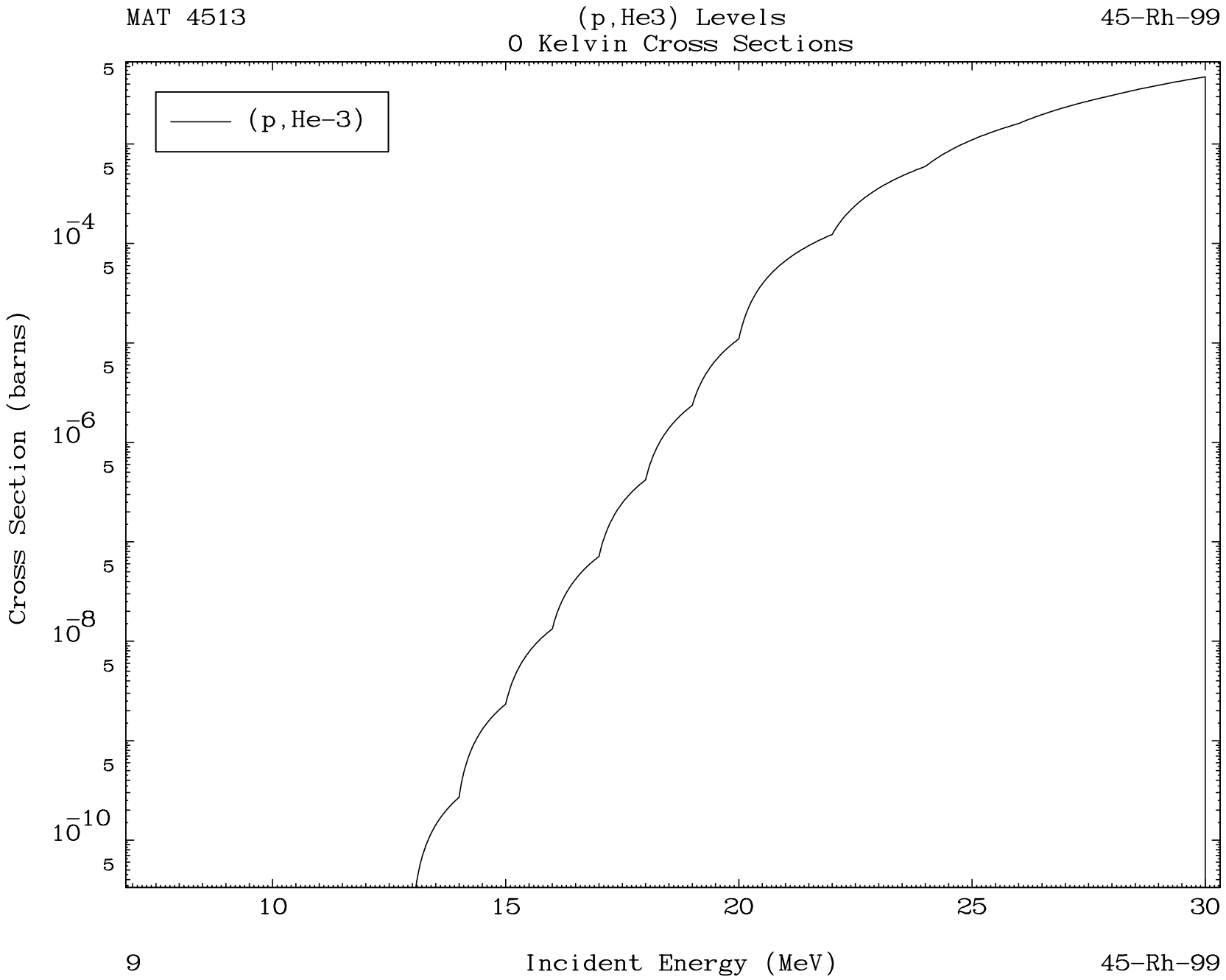

MAT 4513
Proton Charged Particle
0 Kelvin Cross Sections
45-Rh-99
(p,d)
(p,t)
(p,He-3)
(p,α)
(p,2α)
(p,2p)
(p,p) α
(p,p) d
(p,p) t
Cross Section (barns)
Incident Energy (MeV)
4
45-Rh-99

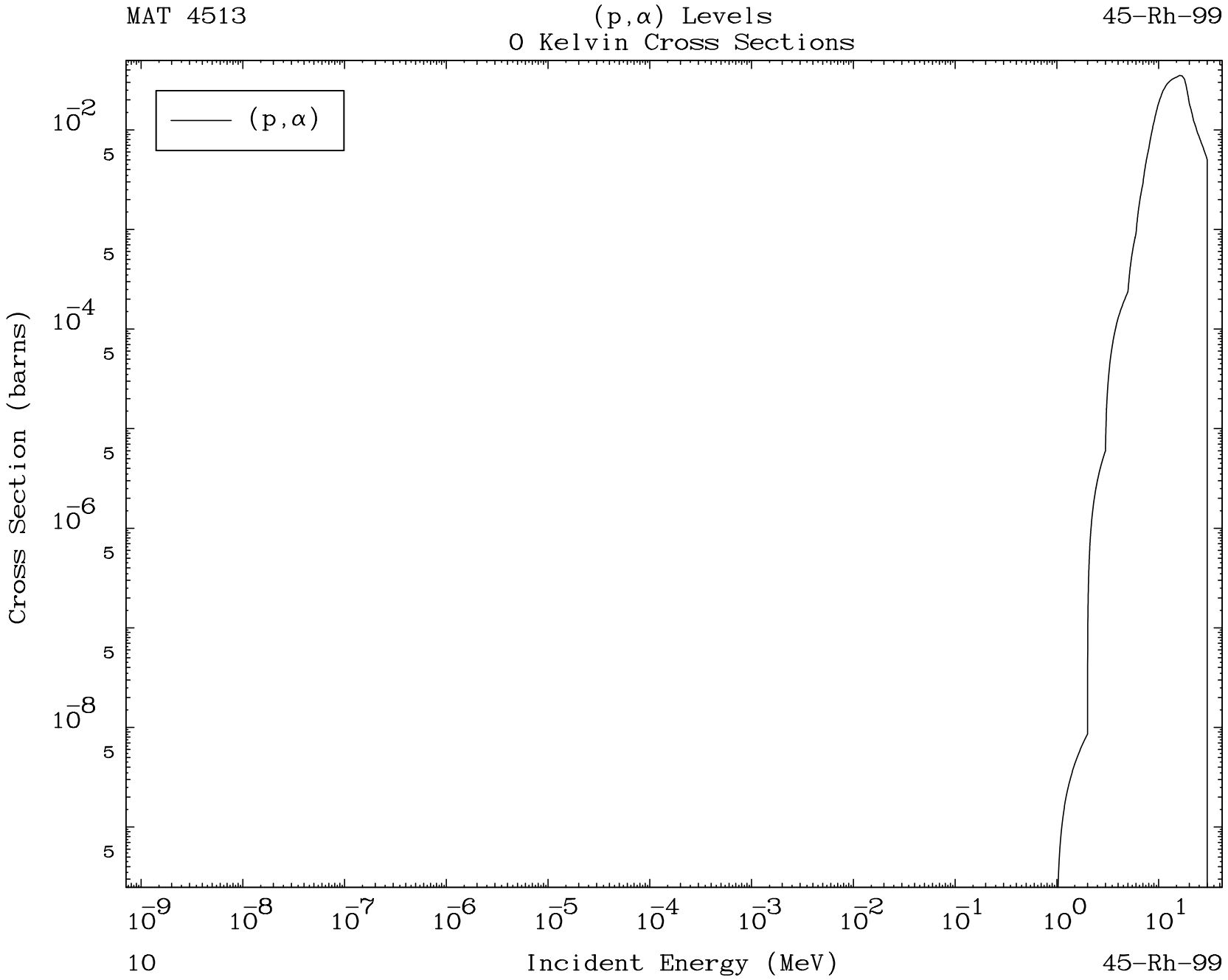

MAT 4513
(p,n') Level
45-Rh-99
0 Kelvin Cross Sections
Proton Inelastic
Cross Section (barns)
Incident Energy (MeV)
45-Rh-99

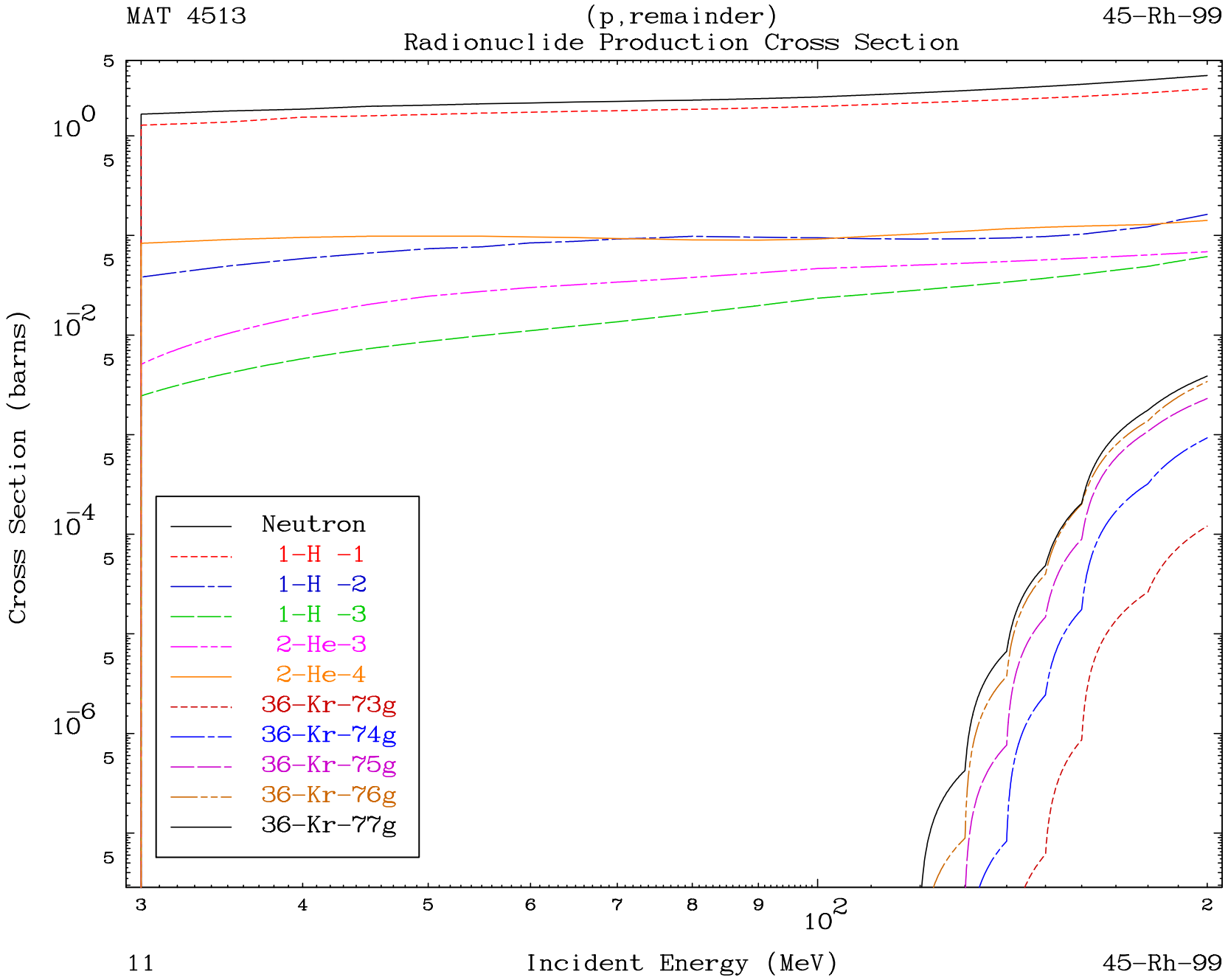

MAT 4513
(p,p) Levels
45-Rh-99
0 Kelvin Cross Sections
(p,p)
Cross Section (barns)
Incident Energy (MeV)
45-Rh-99
6

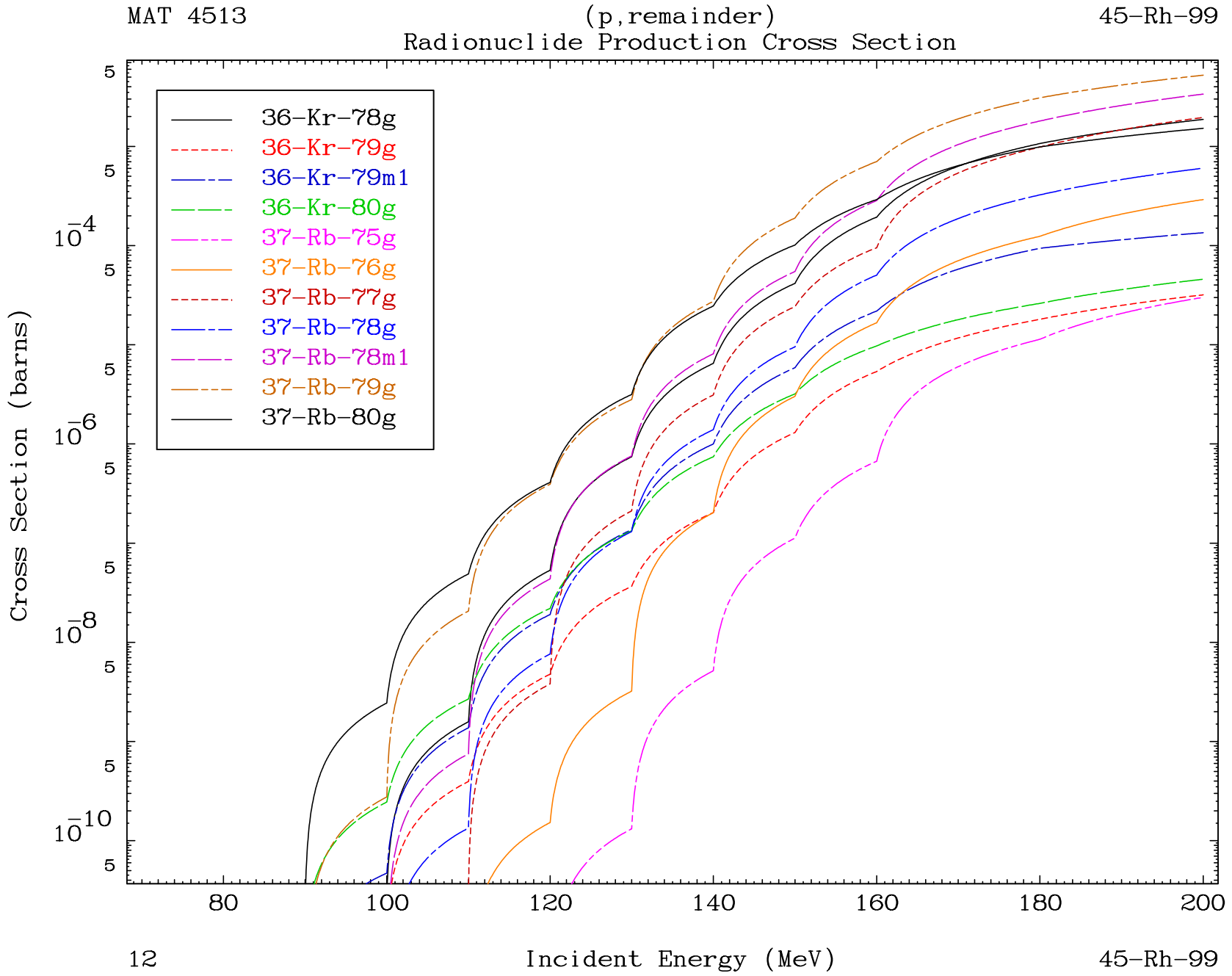

MAT 4513
(p,d) Levels
45-Rh-99
0 Kelvin Cross Sections
(p,d)
Cross Section (barns)
10^-2
5
10^-4
5
10^-6
5
10^-8
5
10
15
20
25
30
7
Incident Energy (MeV)
45-Rh-99

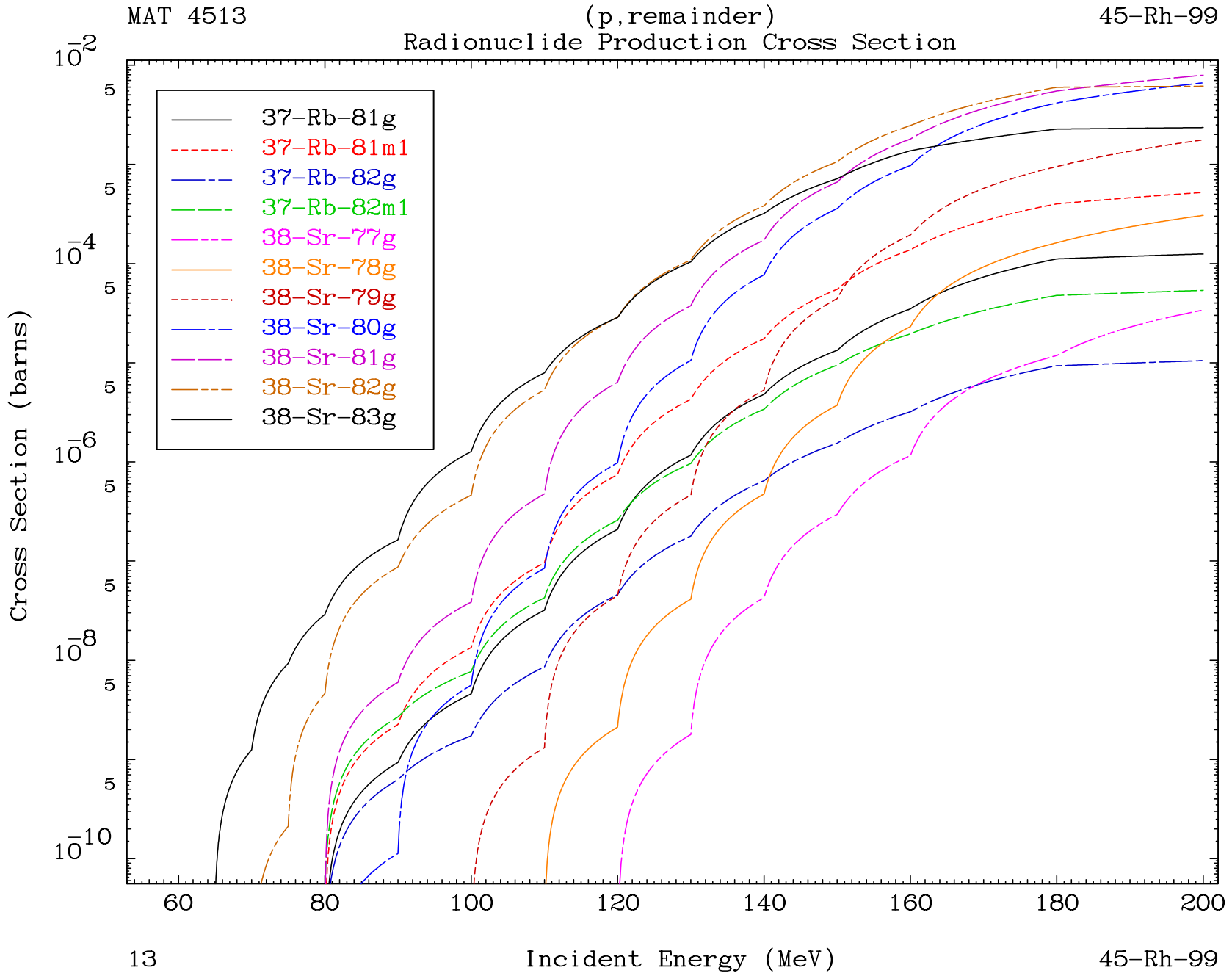

0 Kelvin Cross Sections
(p,t)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
15
20
25
30
Incident Energy (MeV)

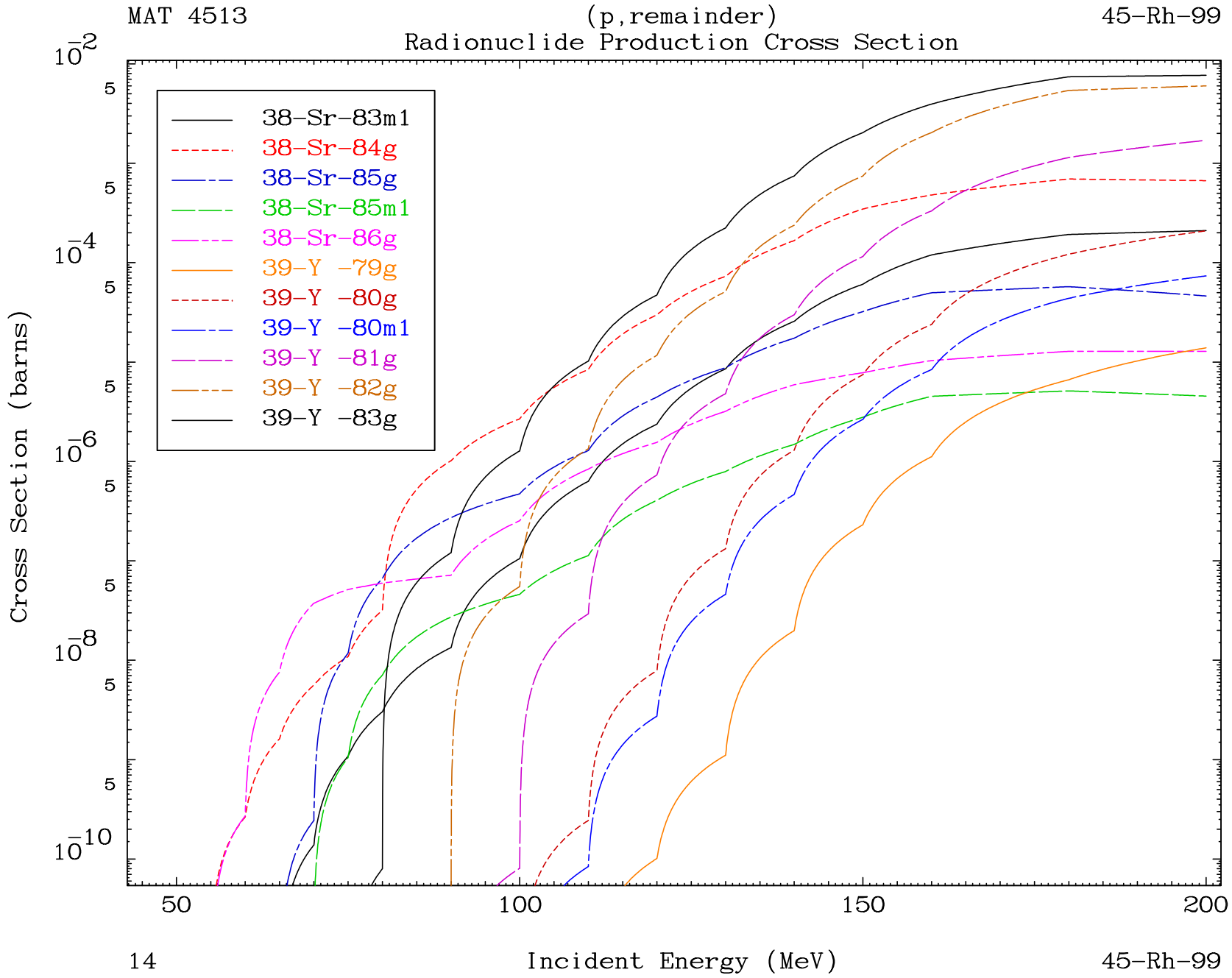

MAT 4513
(p,He3) Levels
45-Rh-99
0 Kelvin Cross Sections
(p,He-3)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
10
15
20
25
30
9
Incident Energy (MeV)
45-Rh-99

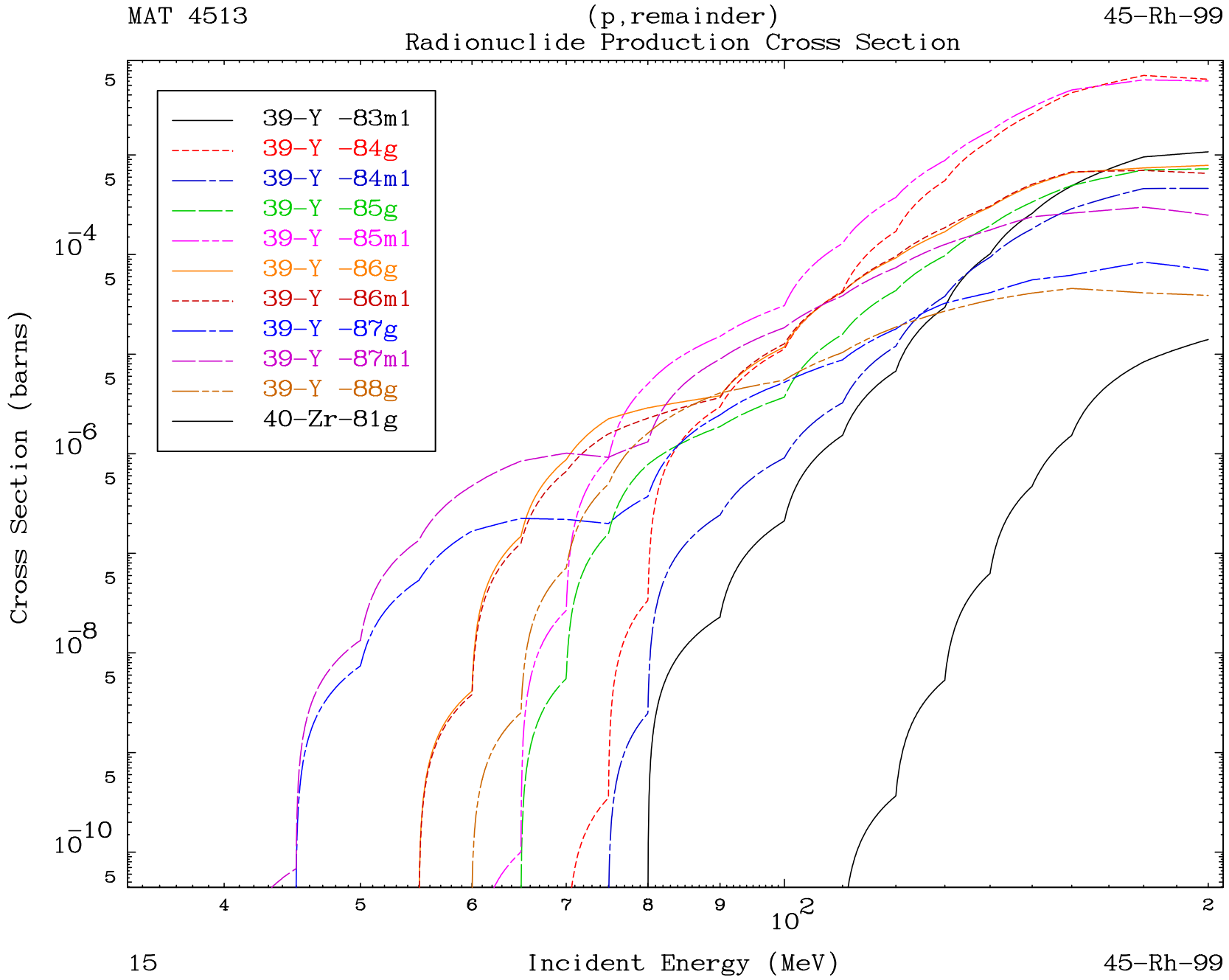

MAT 4513
(p,α) Levels
45-Rh-99
0 Kelvin Cross Sections
(p,α)
Cross Section (barns)
Incident Energy (MeV)
45-Rh-99

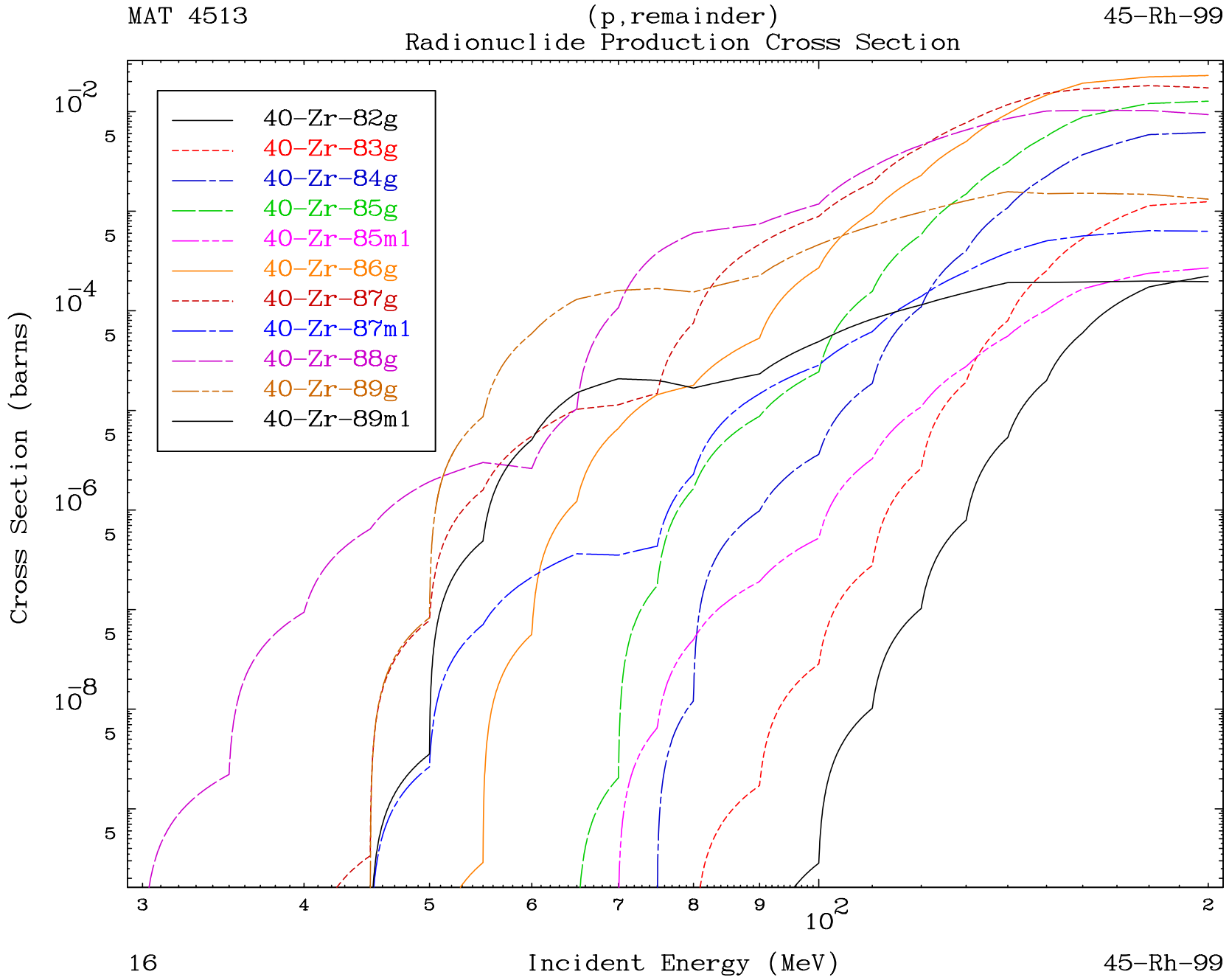

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
Neutron
1-H -1
1-H -2
1-H -3
2-He-3
2-He-4
36-Kr-73g
36-Kr-74g
36-Kr-75g
36-Kr-76g
36-Kr-77g
11
45-Rh-99

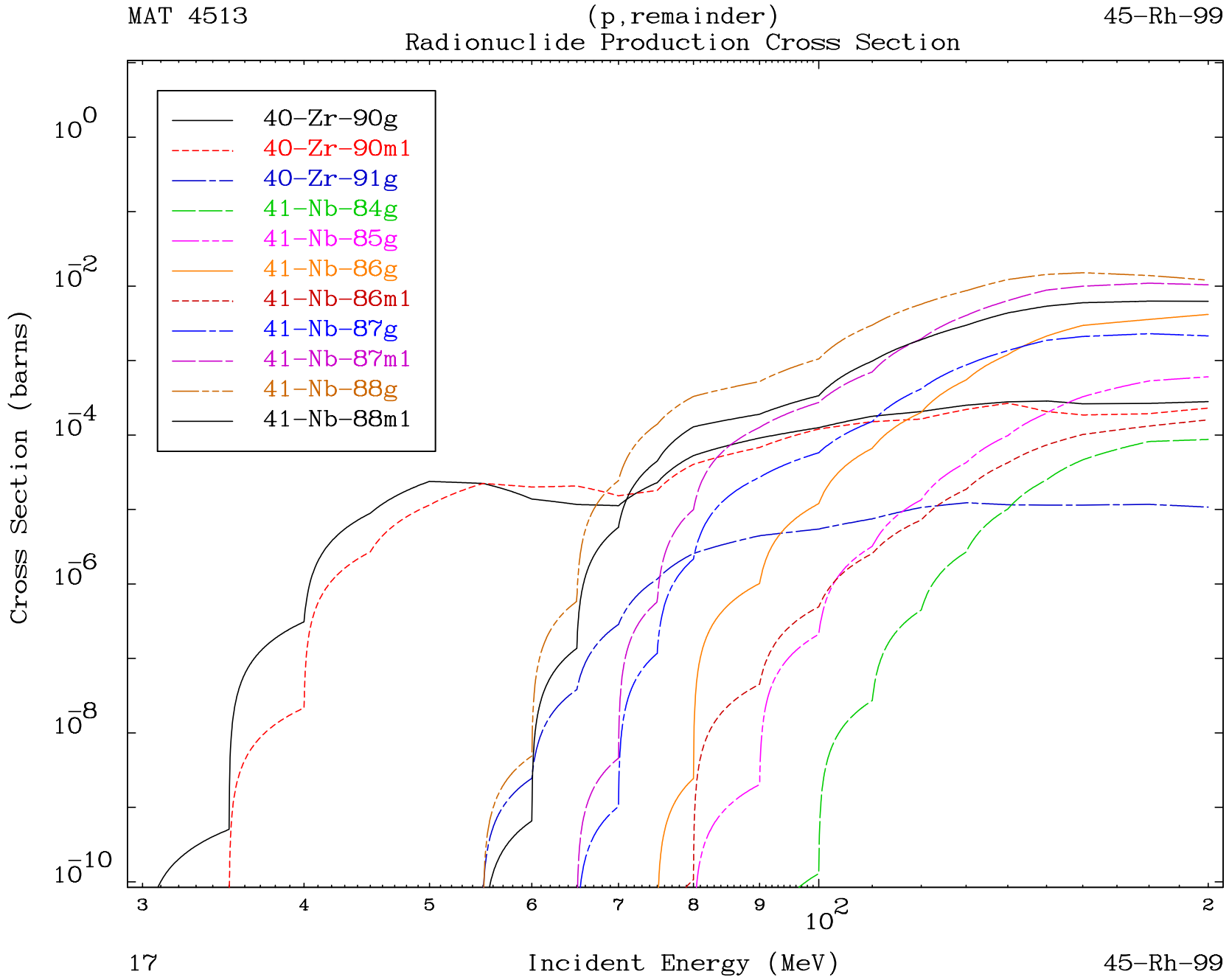

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
36-Kr-78g
36-Kr-79g
36-Kr-79m1
36-Kr-80g
37-Rb-75g
37-Rb-76g
37-Rb-77g
37-Rb-78g
37-Rb-78m1
37-Rb-79g
37-Rb-80g
Cross Section (barns)
10-4
10-6
10-8
10-10
80
100
120
140
160
180
200
Incident Energy (MeV)
12
45-Rh-99

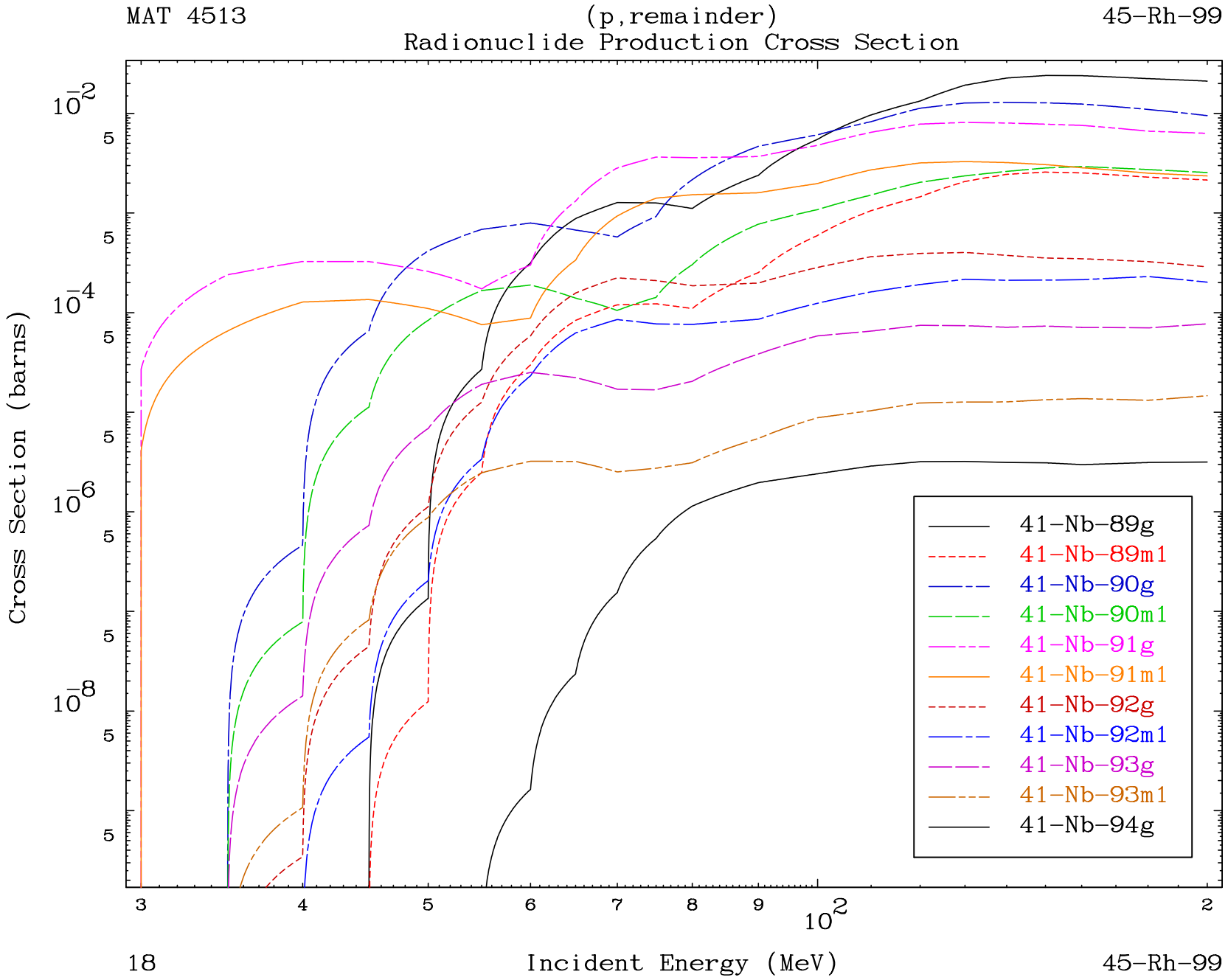

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
37-Rb-81g
37-Rb-81m1
37-Rb-82g
37-Rb-82m1
38-Sr-77g
38-Sr-78g
38-Sr-79g
38-Sr-80g
38-Sr-81g
38-Sr-82g
38-Sr-83g
Cross Section (barns)
10-2
10-4
10-6
10-8
10-10
60
80
100
120
140
160
180
200
13
Incident Energy (MeV)
45-Rh-99


MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
38-Sr-83m1
38-Sr-84g
38-Sr-85g
38-Sr-85m1
38-Sr-86g
39-Y -79g
39-Y -80g
39-Y -80m1
39-Y -81g
39-Y -82g
39-Y -83g
Cross Section (barns)
10-2
10-4
10-6
10-8
10-10
50
100
150
200
14
Incident Energy (MeV)
45-Rh-99

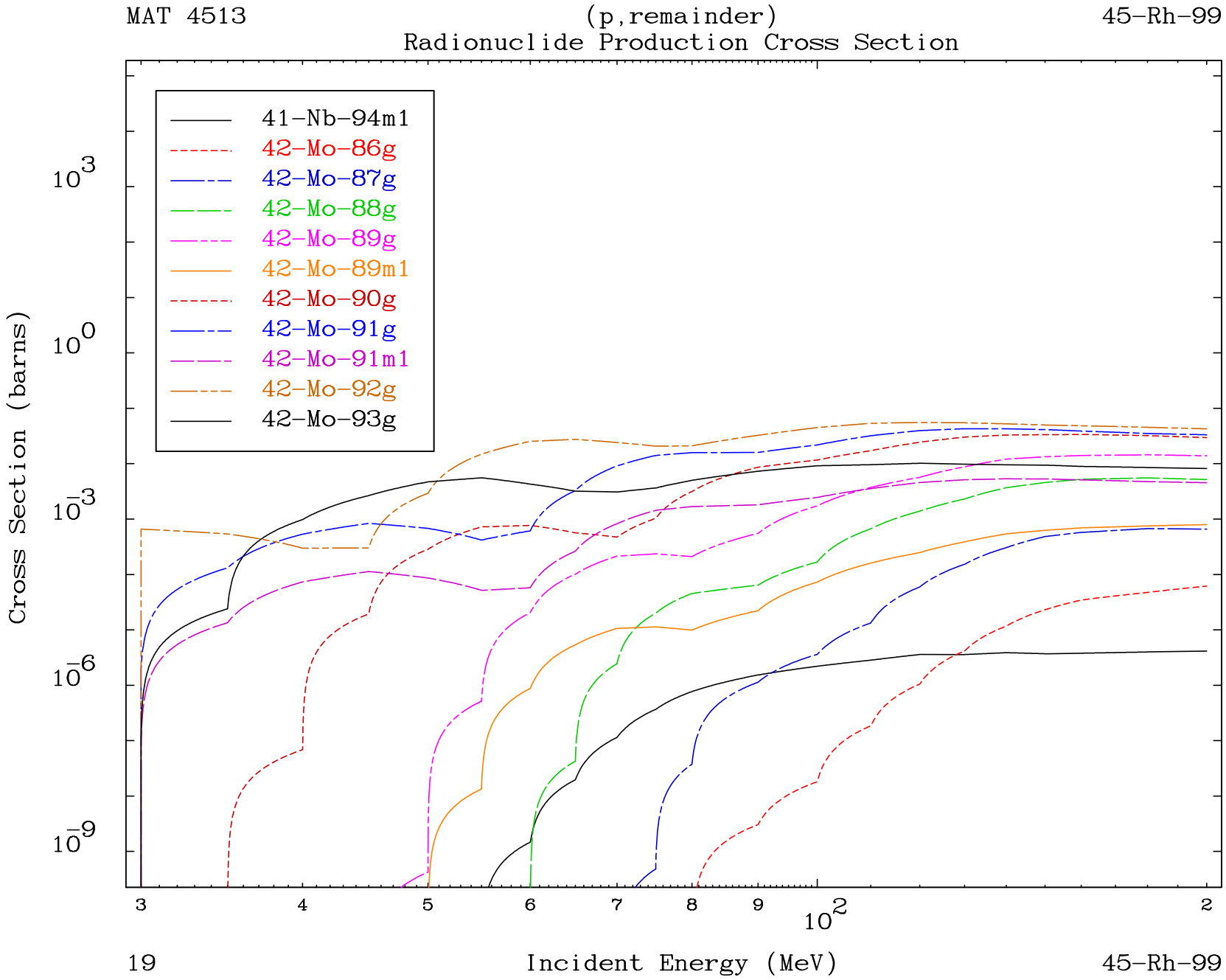

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
39-Y -83m1
39-Y -84g
39-Y -84m1
39-Y -85g
39-Y -85m1
39-Y -86g
39-Y -86m1
39-Y -87g
39-Y -87m1
39-Y -88g
40-Zr-81g
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
4
6
7
8
9
10^2
2
15
Incident Energy (MeV)
45-Rh-99

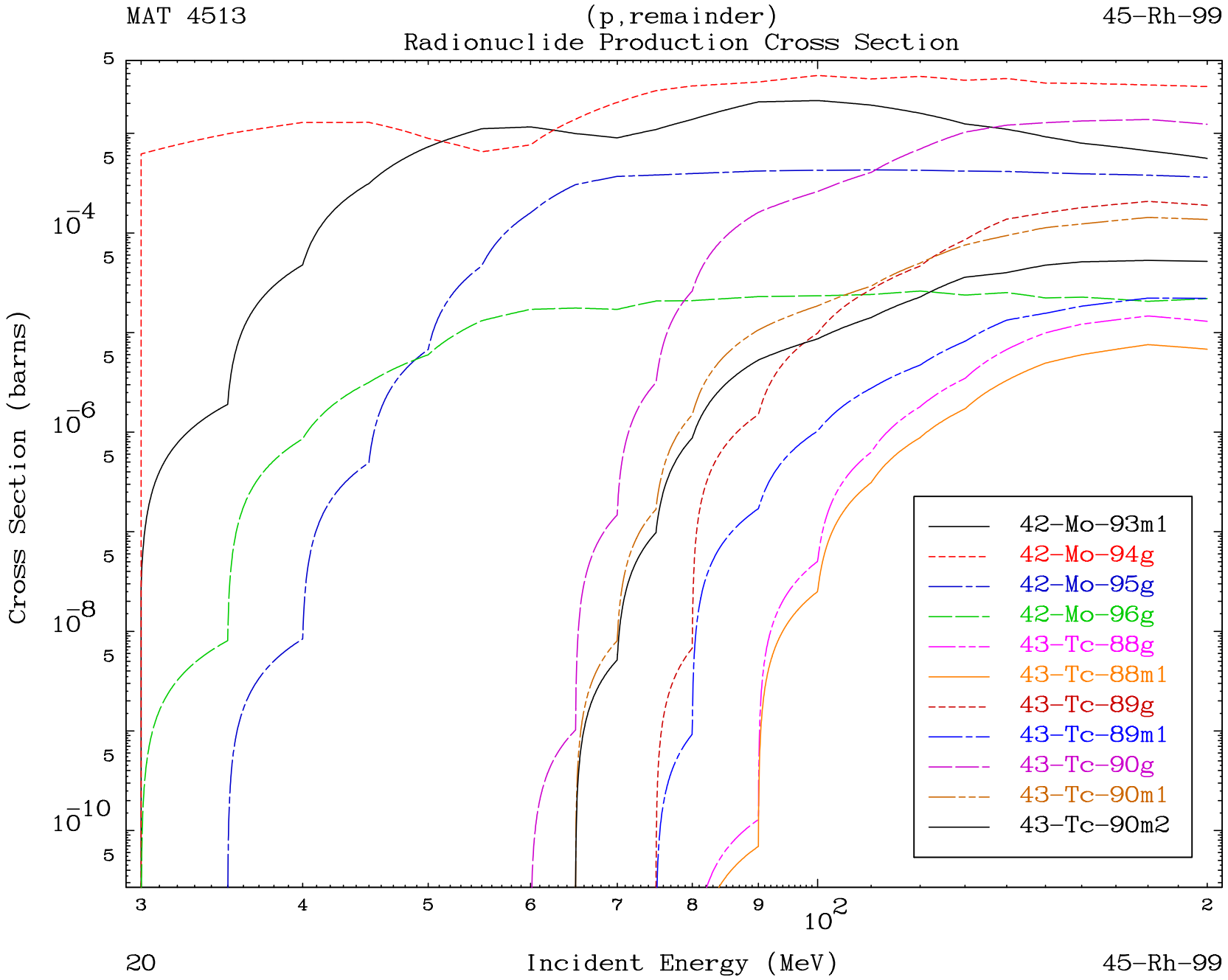

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
40-Zr-82g
40-Zr-83g
40-Zr-84g
40-Zr-85g
40-Zr-85m1
40-Zr-86g
40-Zr-87g
40-Zr-87m1
40-Zr-88g
40-Zr-89g
40-Zr-89m1
Cross Section (barns)
Incident Energy (MeV)
16
45-Rh-99

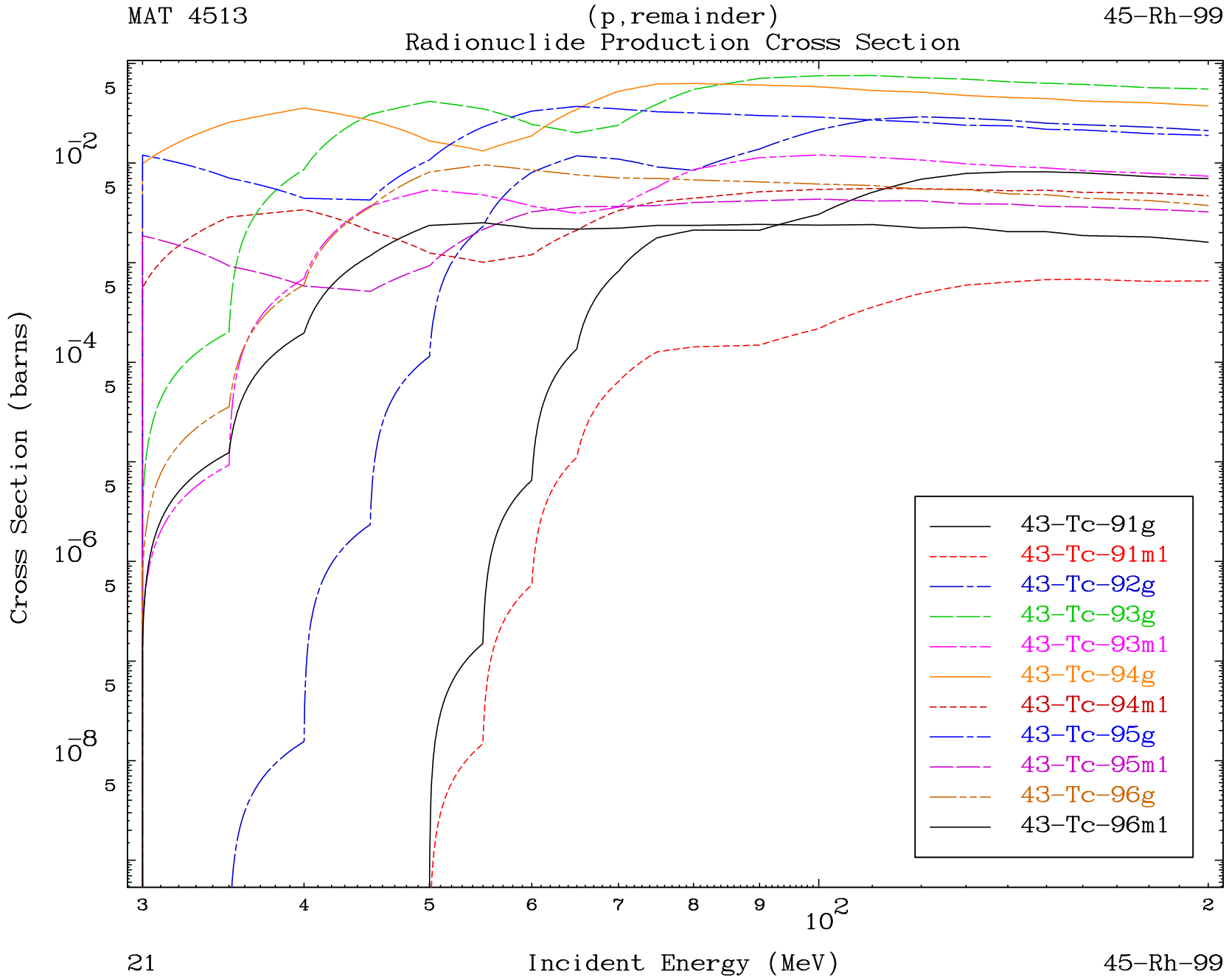

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
40-Zr-90g
40-Zr-90m1
40-Zr-91g
41-Nb-84g
41-Nb-85g
41-Nb-86g
41-Nb-86m1
41-Nb-87g
41-Nb-87m1
41-Nb-88g
41-Nb-88m1
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
10^-8
10^-10
3
4
5
6
7
8
9
10^2
2
17
Incident Energy (MeV)
45-Rh-99

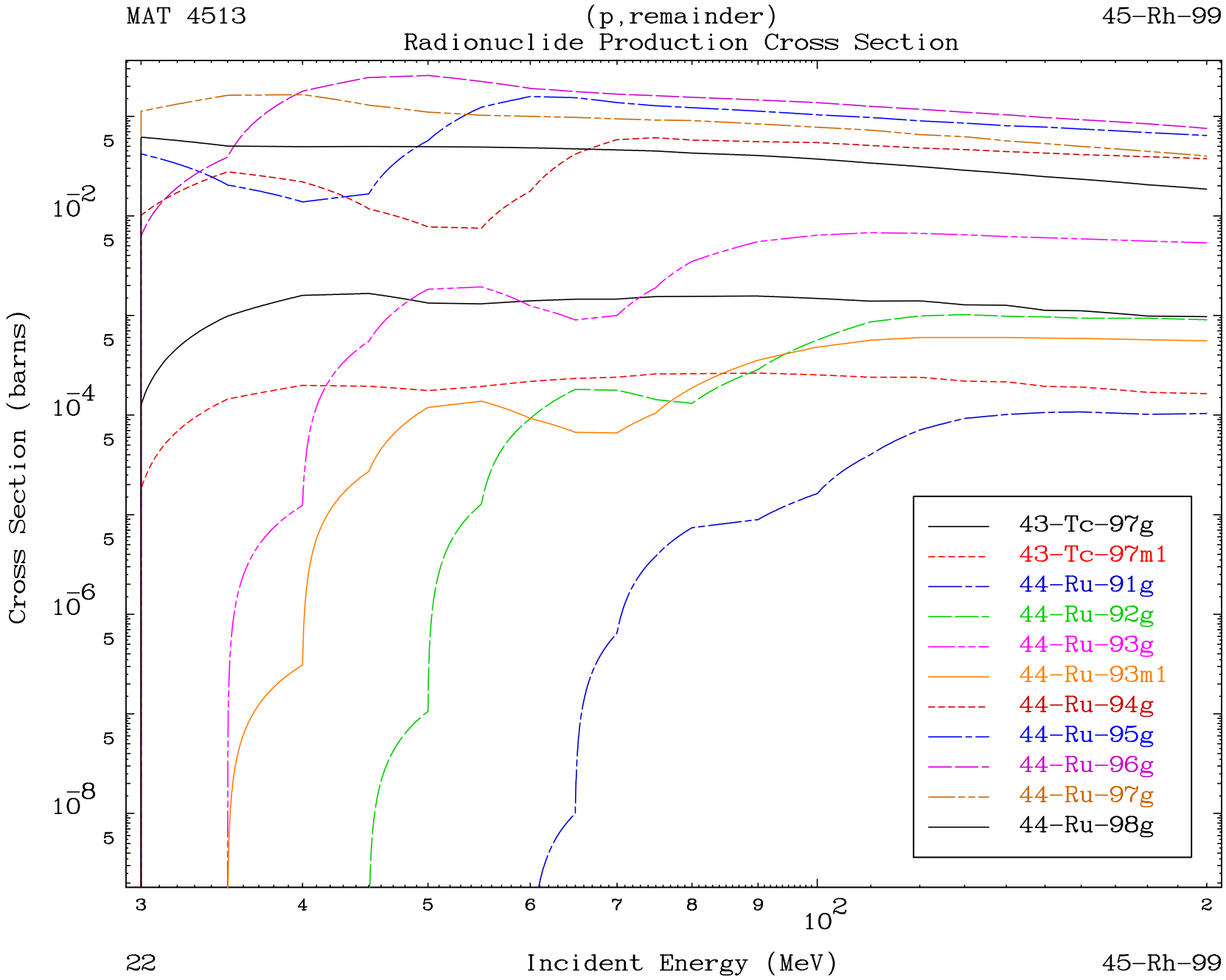

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
41-Nb-89g
41-Nb-89m1
41-Nb-90g
41-Nb-90m1
41-Nb-91g
41-Nb-91m1
41-Nb-92g
41-Nb-92m1
41-Nb-93g
41-Nb-93m1
41-Nb-94g

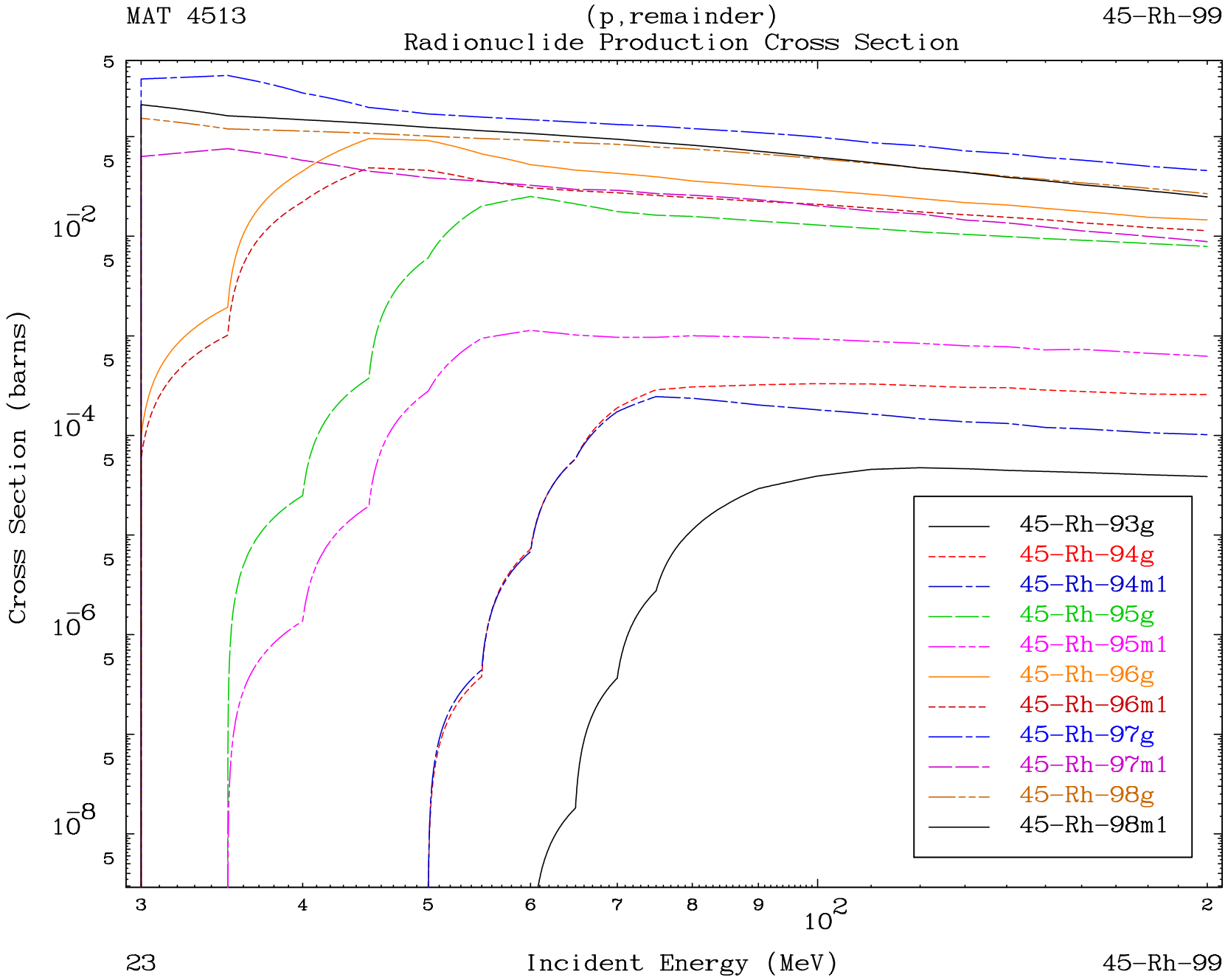
45-Rh-99

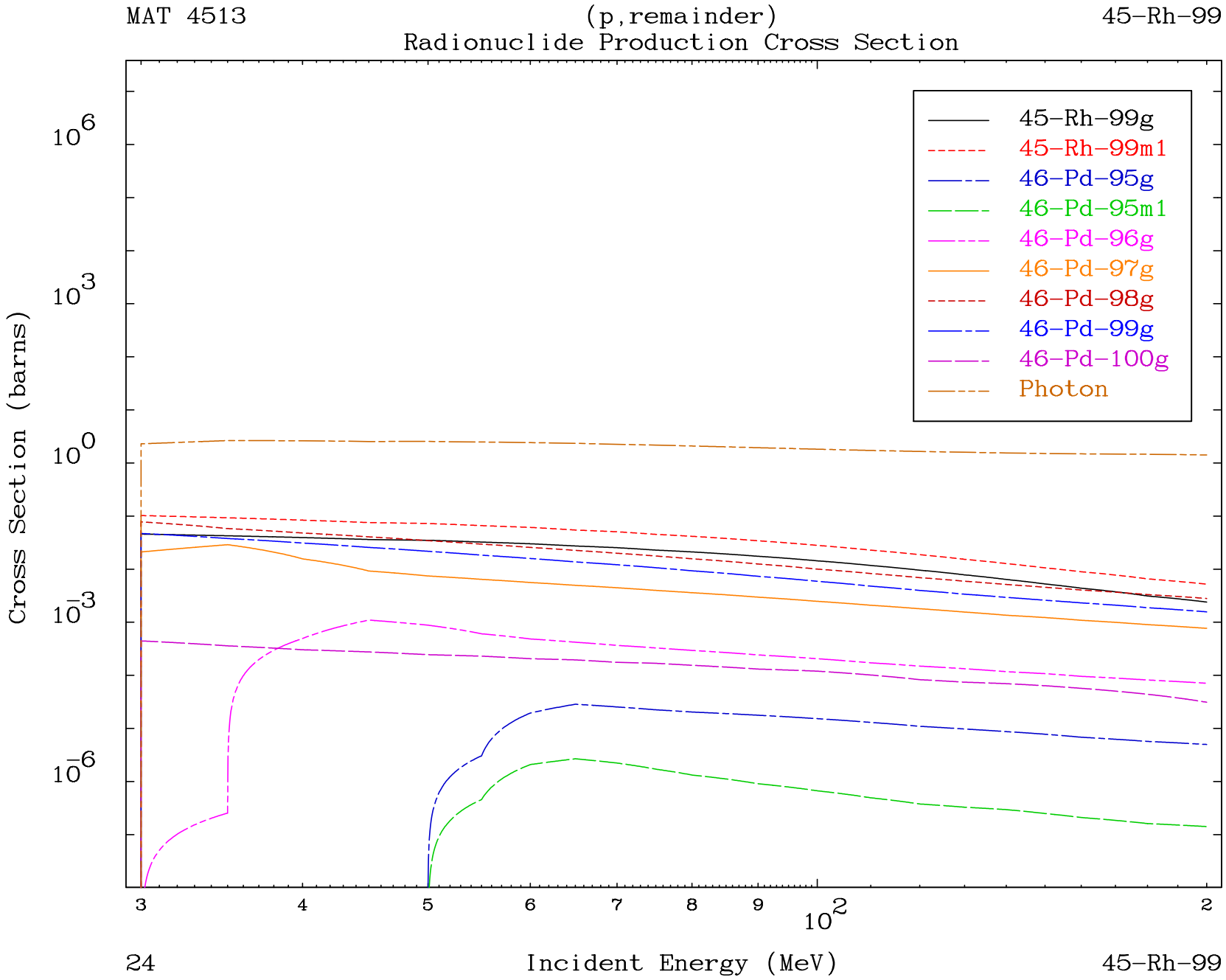

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
41-Nb-94m1
42-Mo-86g
42-Mo-87g
42-Mo-88g
42-Mo-89g
42-Mo-89m1
42-Mo-90g
42-Mo-91g
42-Mo-91m1
42-Mo-92g
42-Mo-93g
Cross Section (barns)
10^3
10^0
10^-3
10^-6
10^-9
3
4
5
6
7
8
9
10^2
2
19
Incident Energy (MeV)
45-Rh-99

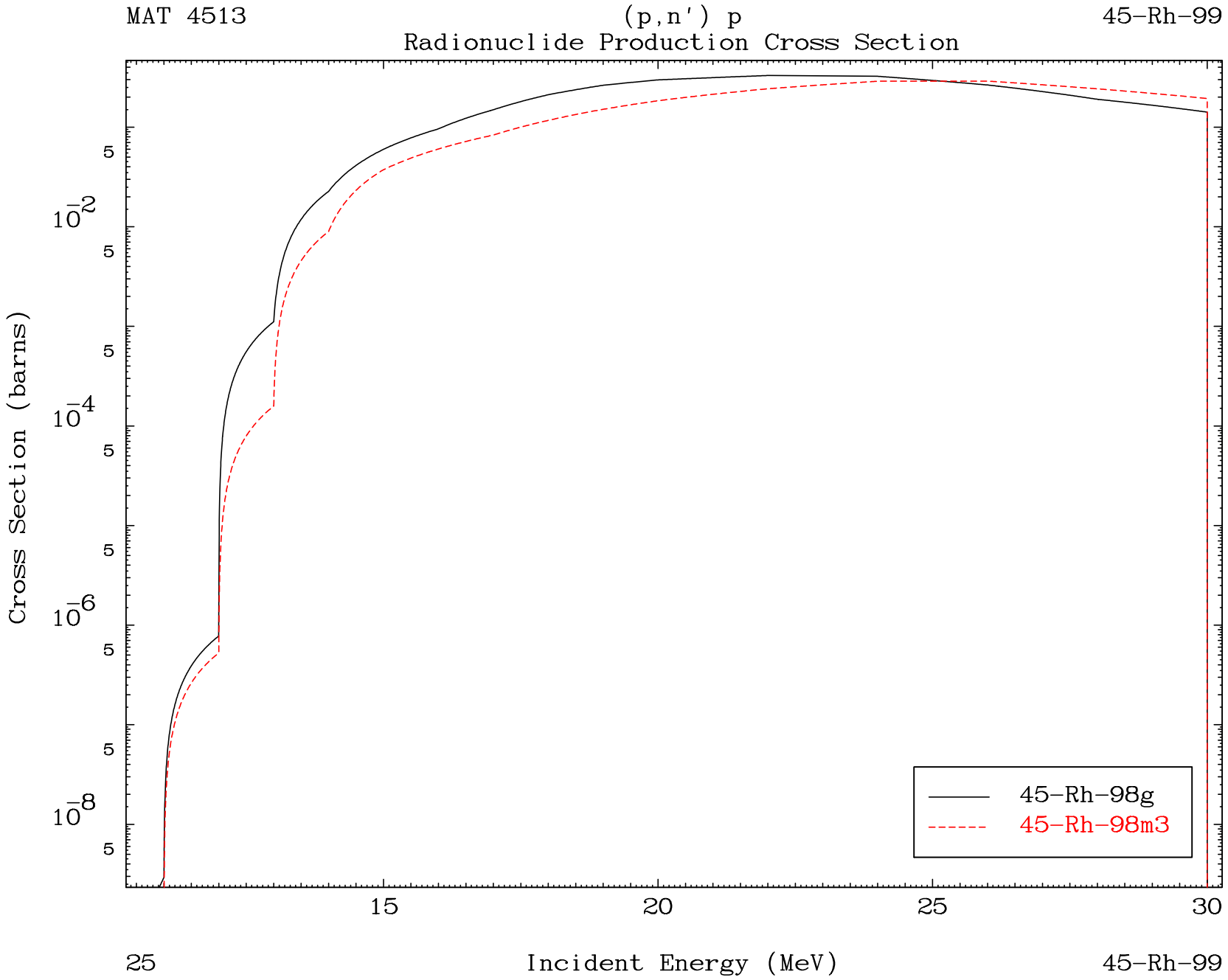

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
10-4
10-6
10-8
10-10
3
4
5
6
7
8
9
10 2
2
20
Incident Energy (MeV)
45-Rh-99
42-Mo-93m1
42-Mo-94g
42-Mo-95g
42-Mo-96g
43-Tc-88g
43-Tc-88m1
43-Tc-89g
43-Tc-89m1
43-Tc-90g
43-Tc-90m1
43-Tc-90m2

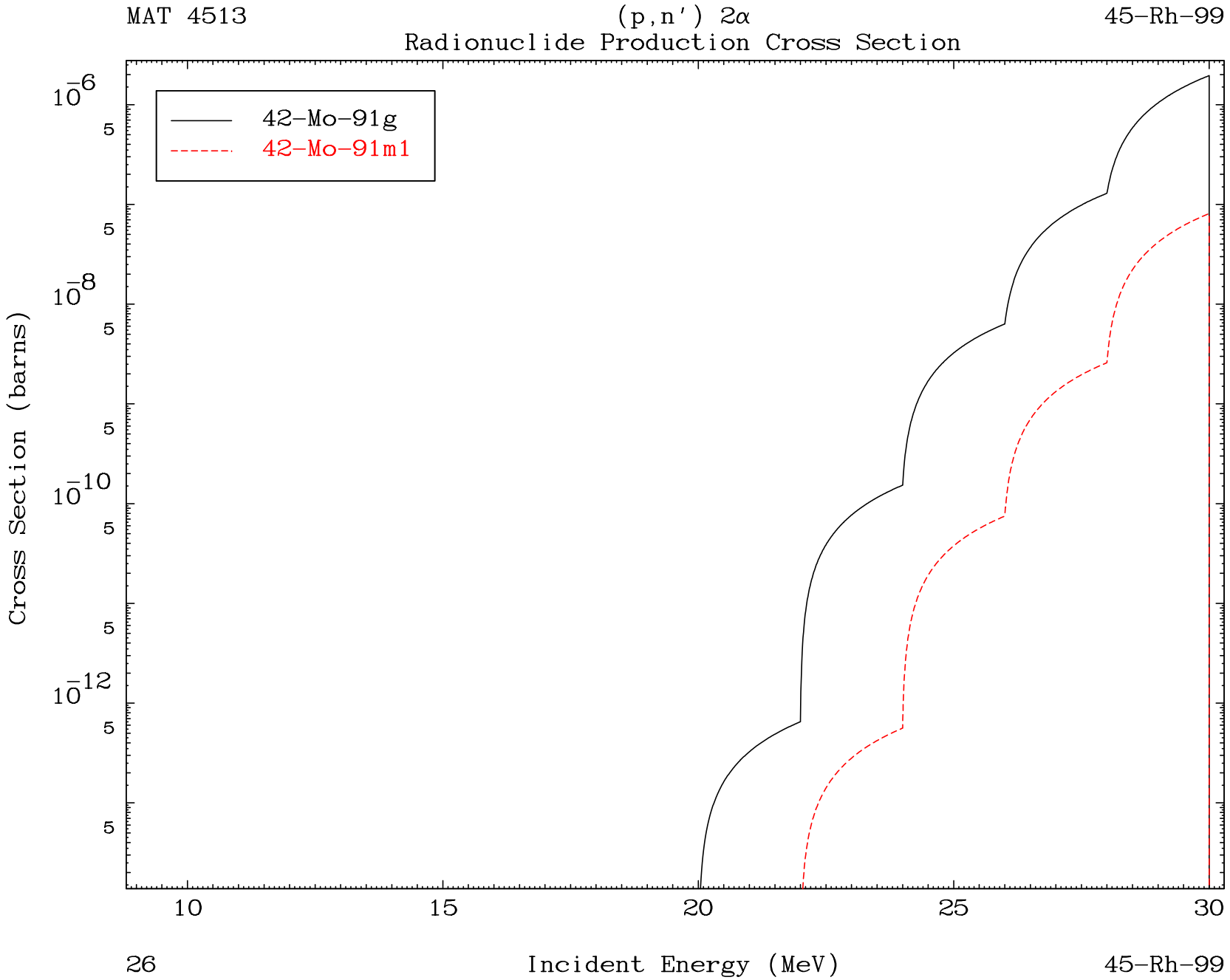

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
43-Tc-91g
43-Tc-91m1
43-Tc-92g
43-Tc-93g
43-Tc-93m1
43-Tc-94g
43-Tc-94m1
43-Tc-95g
43-Tc-95m1
43-Tc-96g
43-Tc-96m1
21
45-Rh-99

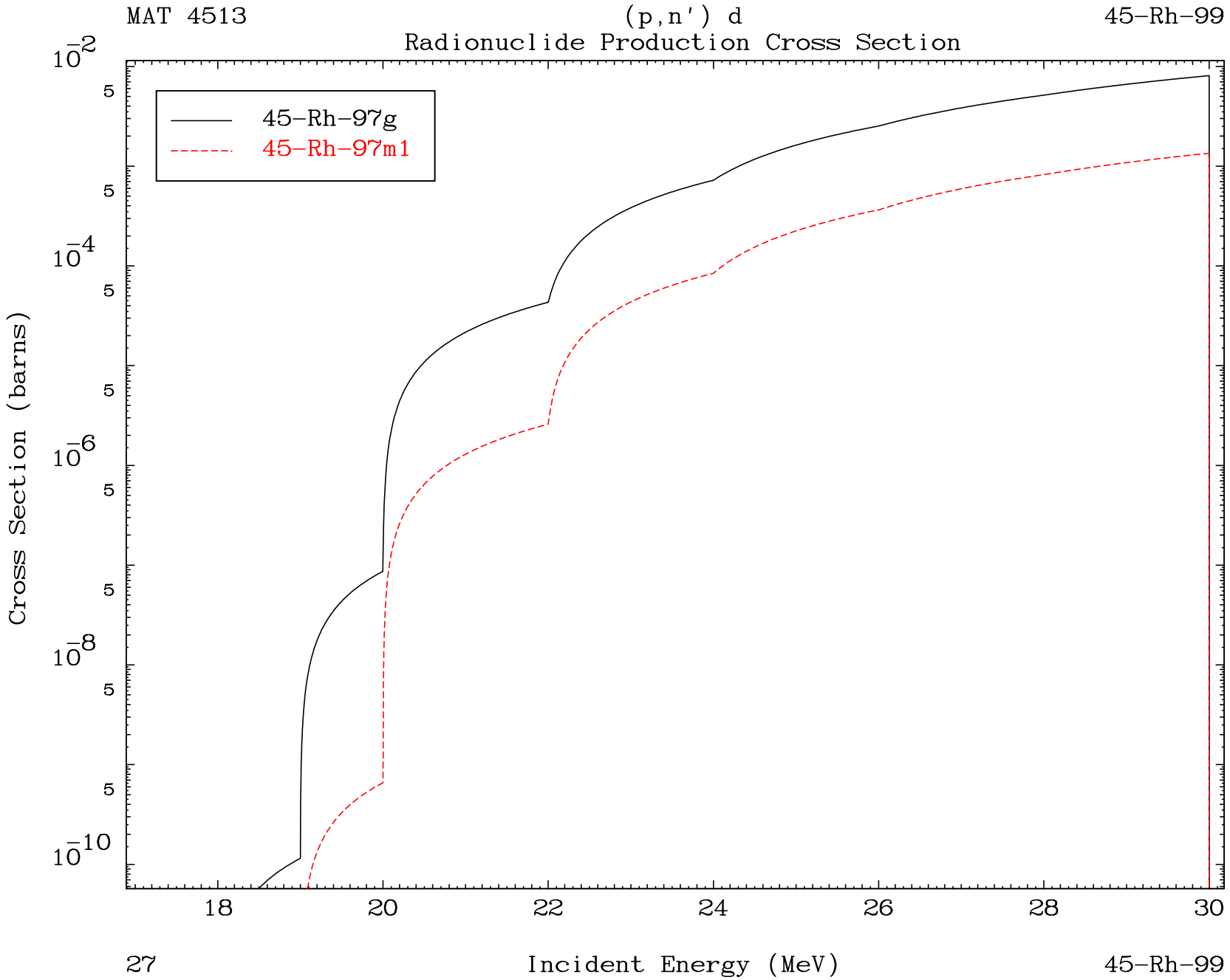

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
22
45-Rh-99
43-Tc-97g
43-Tc-97m1
44-Ru-91g
44-Ru-92g
44-Ru-93g
44-Ru-93m1
44-Ru-94g
44-Ru-95g
44-Ru-96g
44-Ru-97g
44-Ru-98g

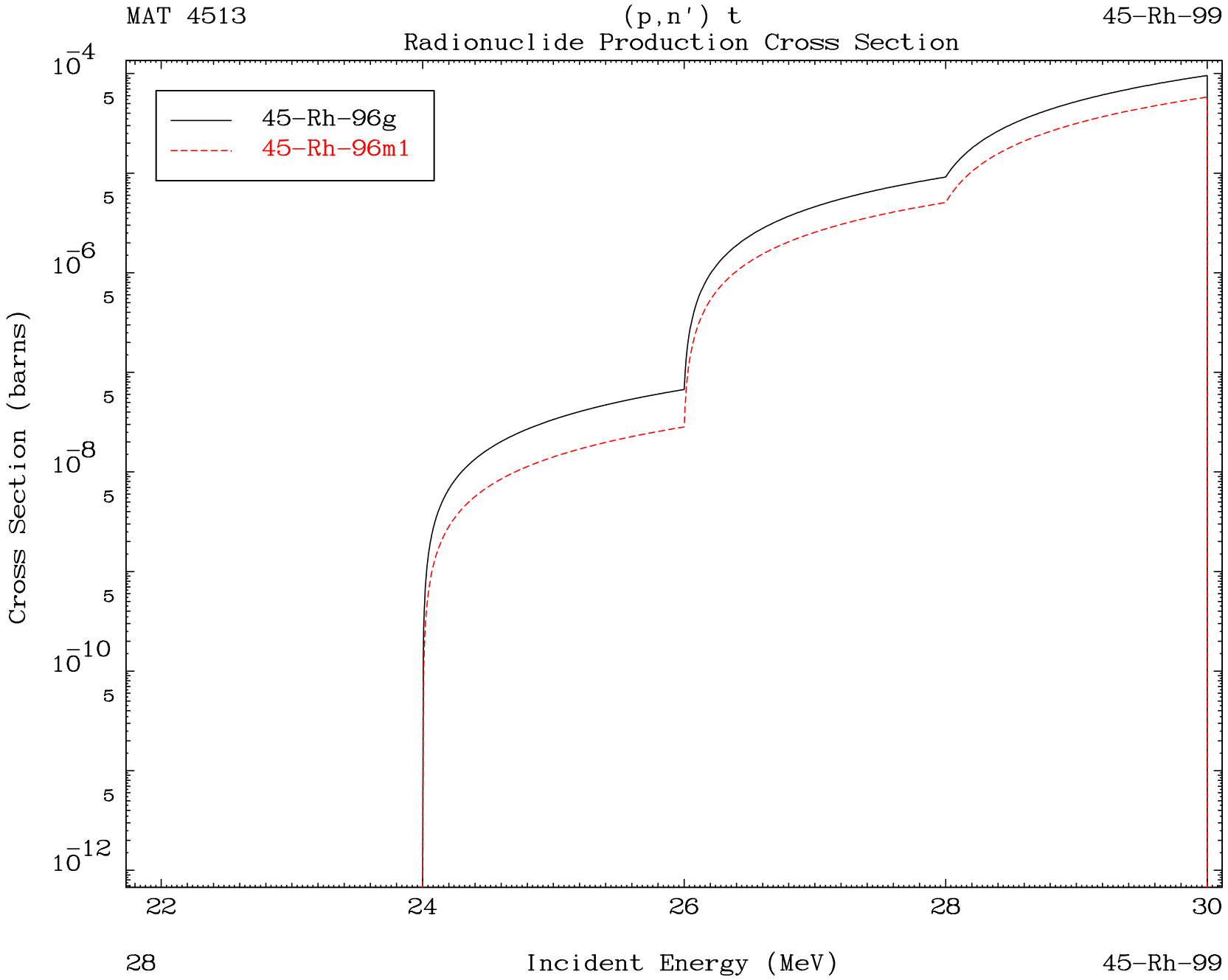

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
45-Rh-93g
45-Rh-94g
45-Rh-94m1
45-Rh-95g
45-Rh-95m1
45-Rh-96g
45-Rh-96m1
45-Rh-97g
45-Rh-97m1
45-Rh-98g
45-Rh-98m1

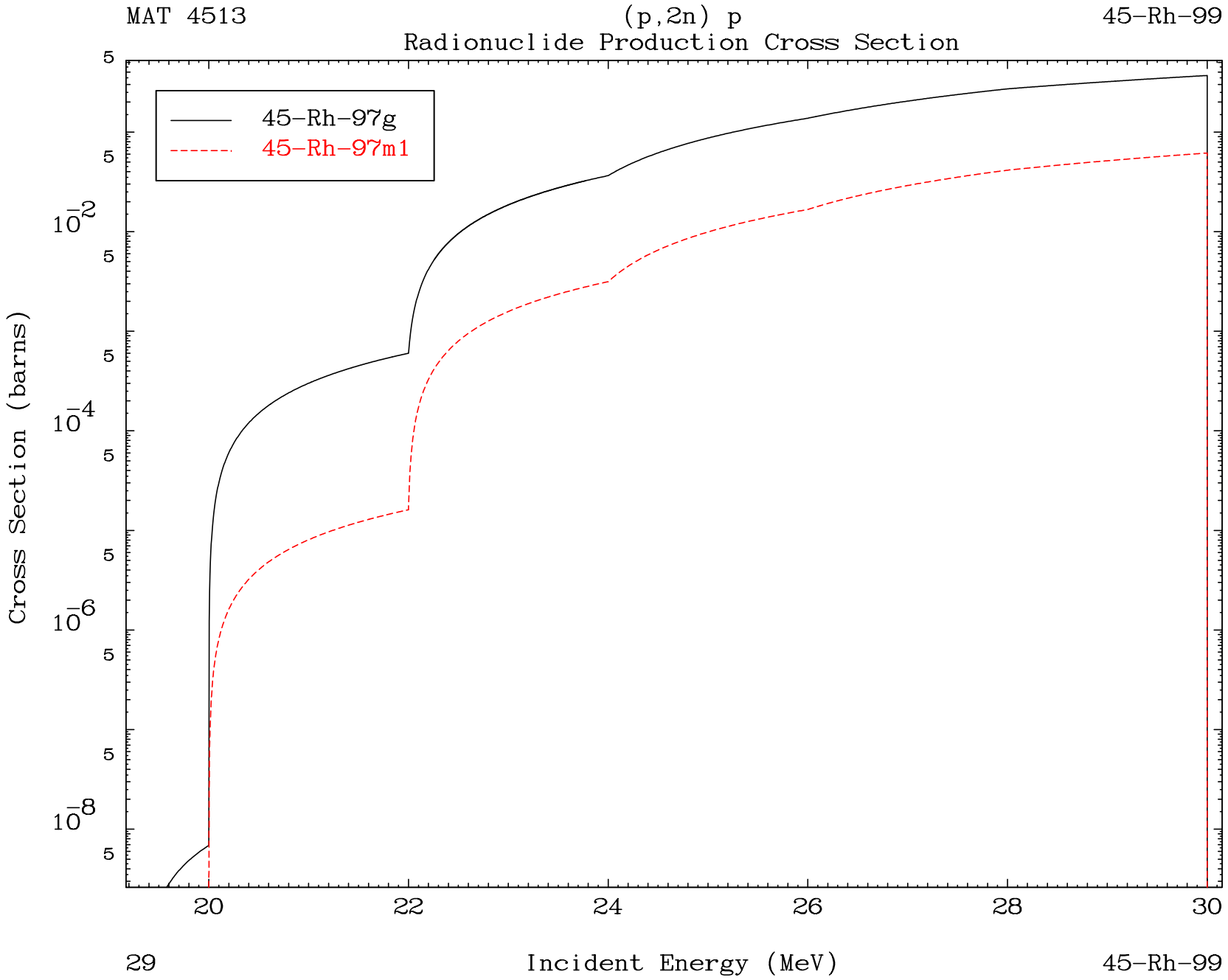

MAT 4513
(p,remainder)
45-Rh-99
Radionuclide Production Cross Section
45-Rh-99g
45-Rh-99m1
46-Pd-95g
46-Pd-95m1
46-Pd-96g
46-Pd-97g
46-Pd-98g
46-Pd-99g
46-Pd-100g
Photon
Cross Section (barns)
10^6
10^3
10^0
10^-3
10^-6
3
4
5
6
7
8
9
10^2
2
24
Incident Energy (MeV)
45-Rh-99

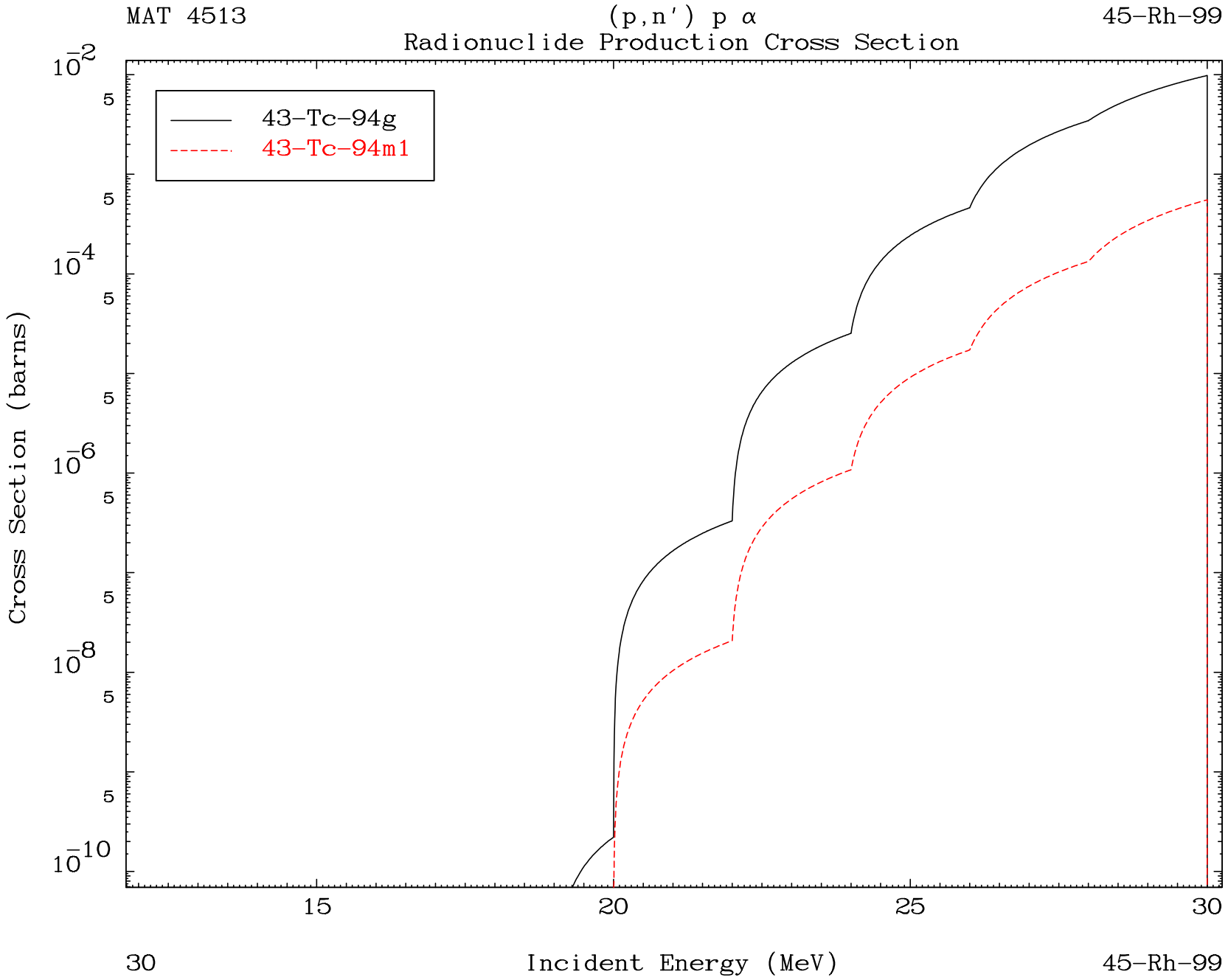

MAT 4513
(p,n') p
45-Rh-99
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
15
20
25
30
25
Incident Energy (MeV)
45-Rh-99
45-Rh-98g
45-Rh-98m3

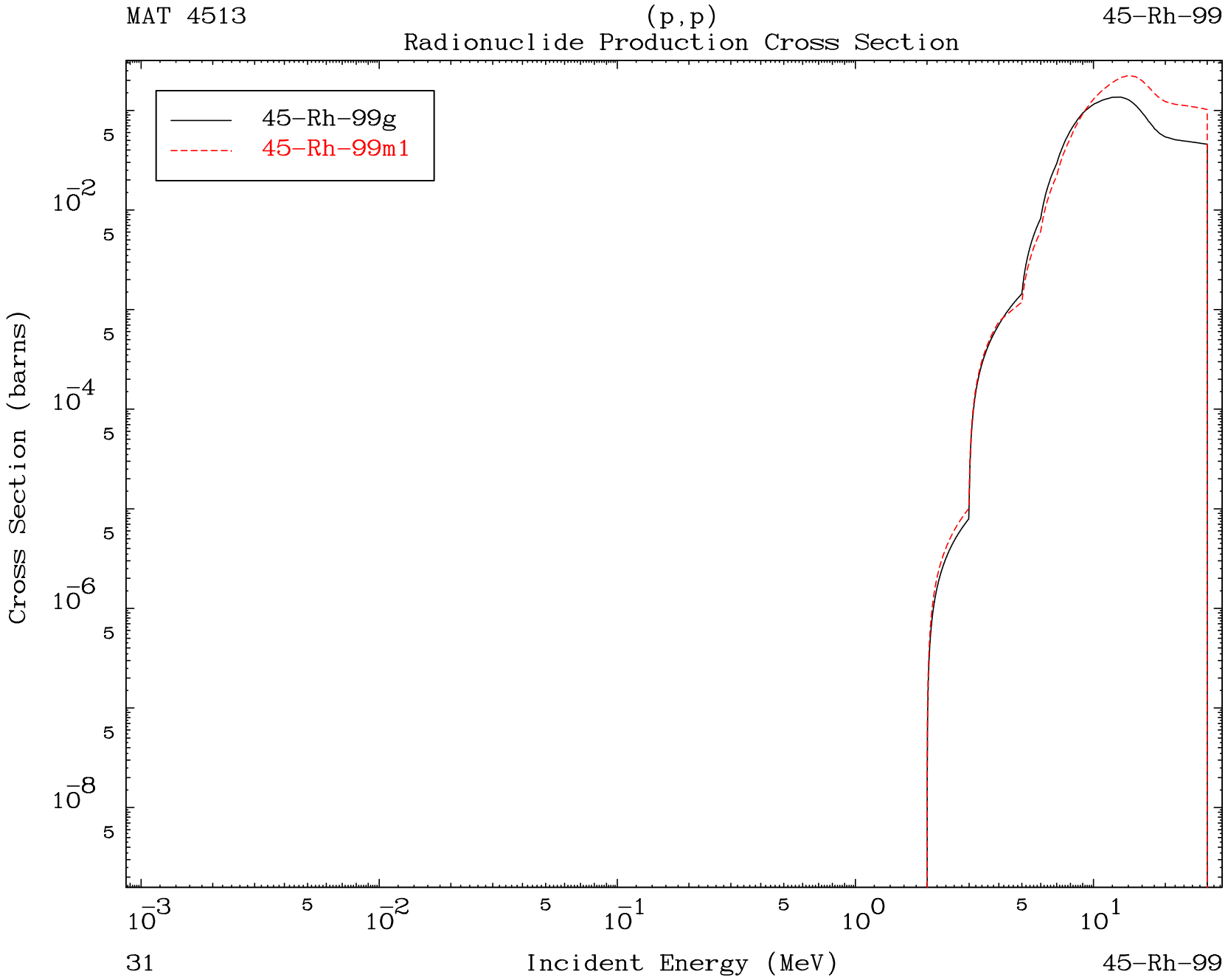

MAT 4513
(p,n') 2α
45-Rh-99
Radionuclide Production Cross Section
42-Mo-91g
42-Mo-91m1
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
10
15
20
25
30
26
Incident Energy (MeV)
45-Rh-99

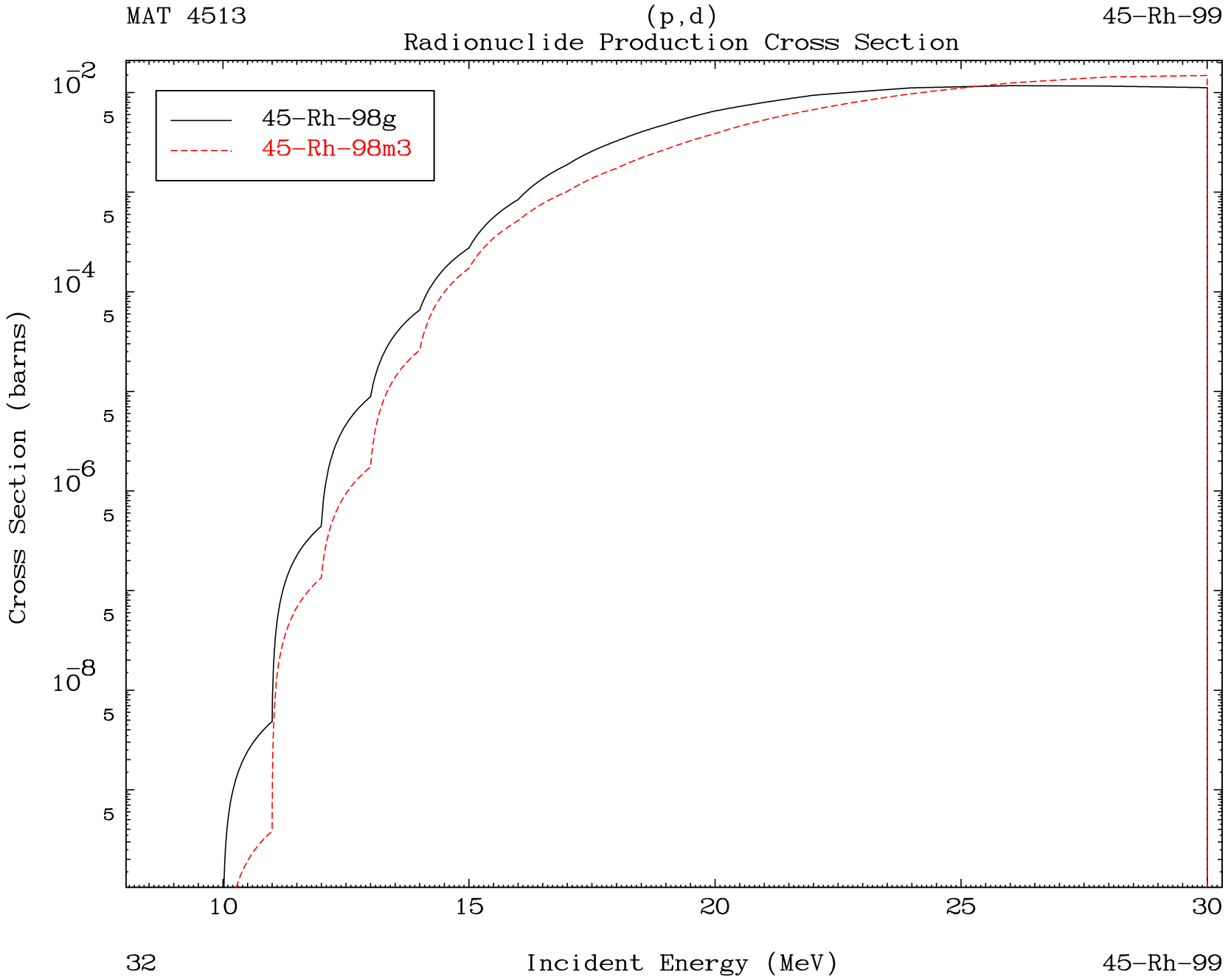

MAT 4513
(p,n') d
45-Rh-99
Radionuclide Production Cross Section
45-Rh-97g
45-Rh-97m1
Cross Section (barns)
10-2
5
10-4
5
10-6
5
10-8
5
10-10
5
18
20
22
24
26
28
30
27
Incident Energy (MeV)
45-Rh-99

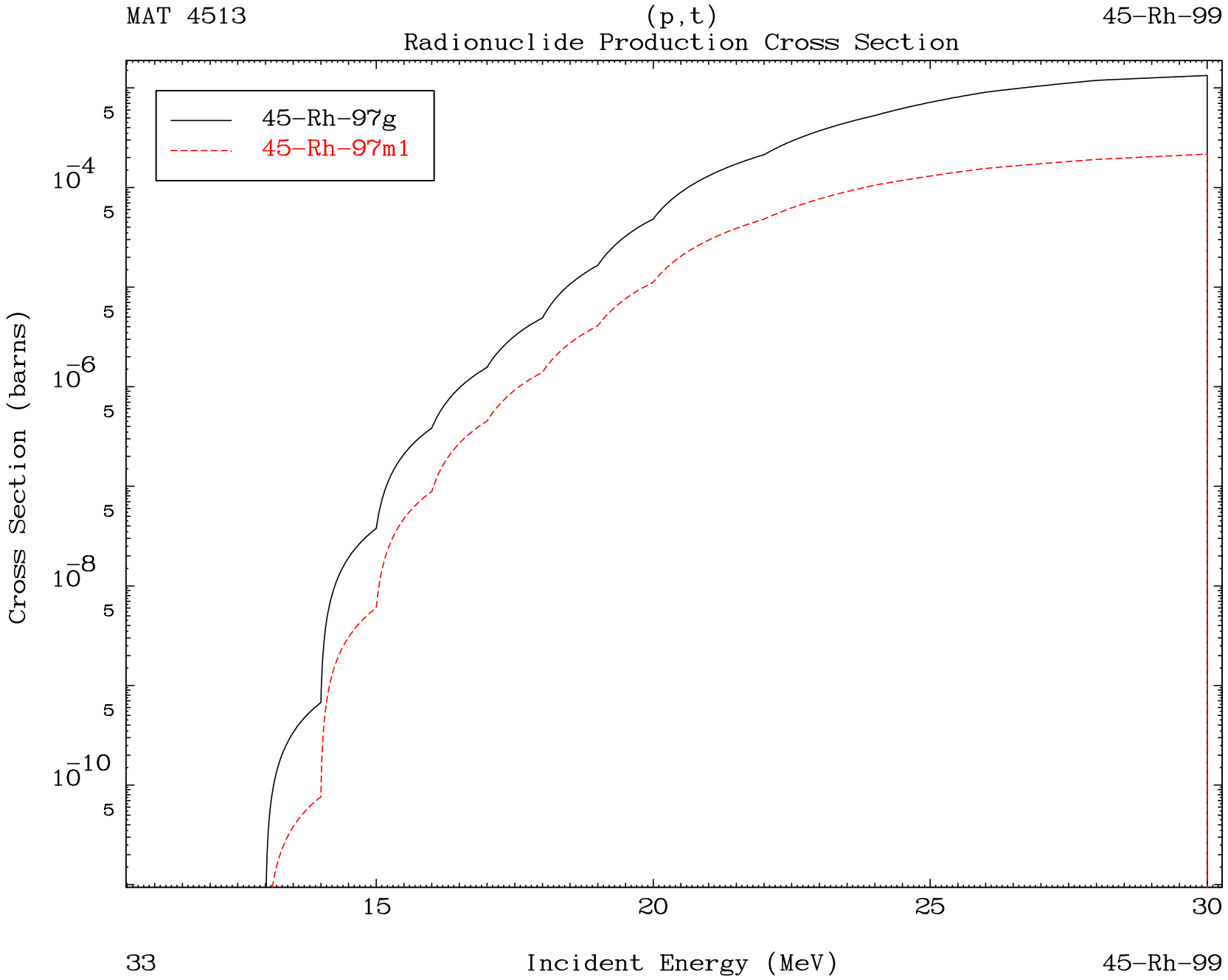

MAT 4513
(p,n') t
45-Rh-99
Radionuclide Production Cross Section
45-Rh-96g
45-Rh-96m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^-12
22
24
26
28
30
28
Incident Energy (MeV)
45-Rh-99

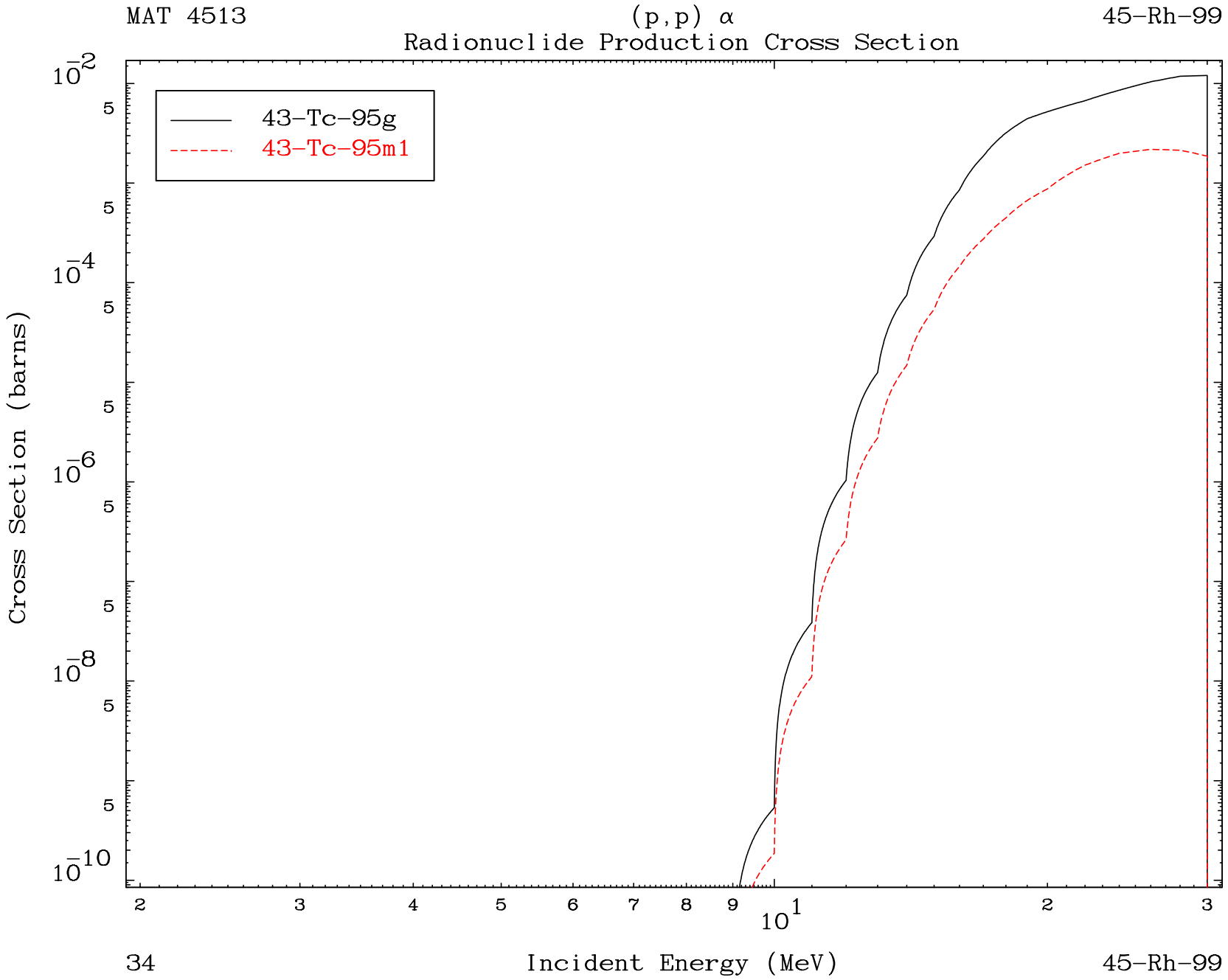

MAT 4513
(p,2n) p
45-Rh-99
Radionuclide Production Cross Section
45-Rh-97g
45-Rh-97m1
Cross Section (barns)
10-2
10-4
10-6
10-8
20
22
24
26
28
30
29
Incident Energy (MeV)
45-Rh-99

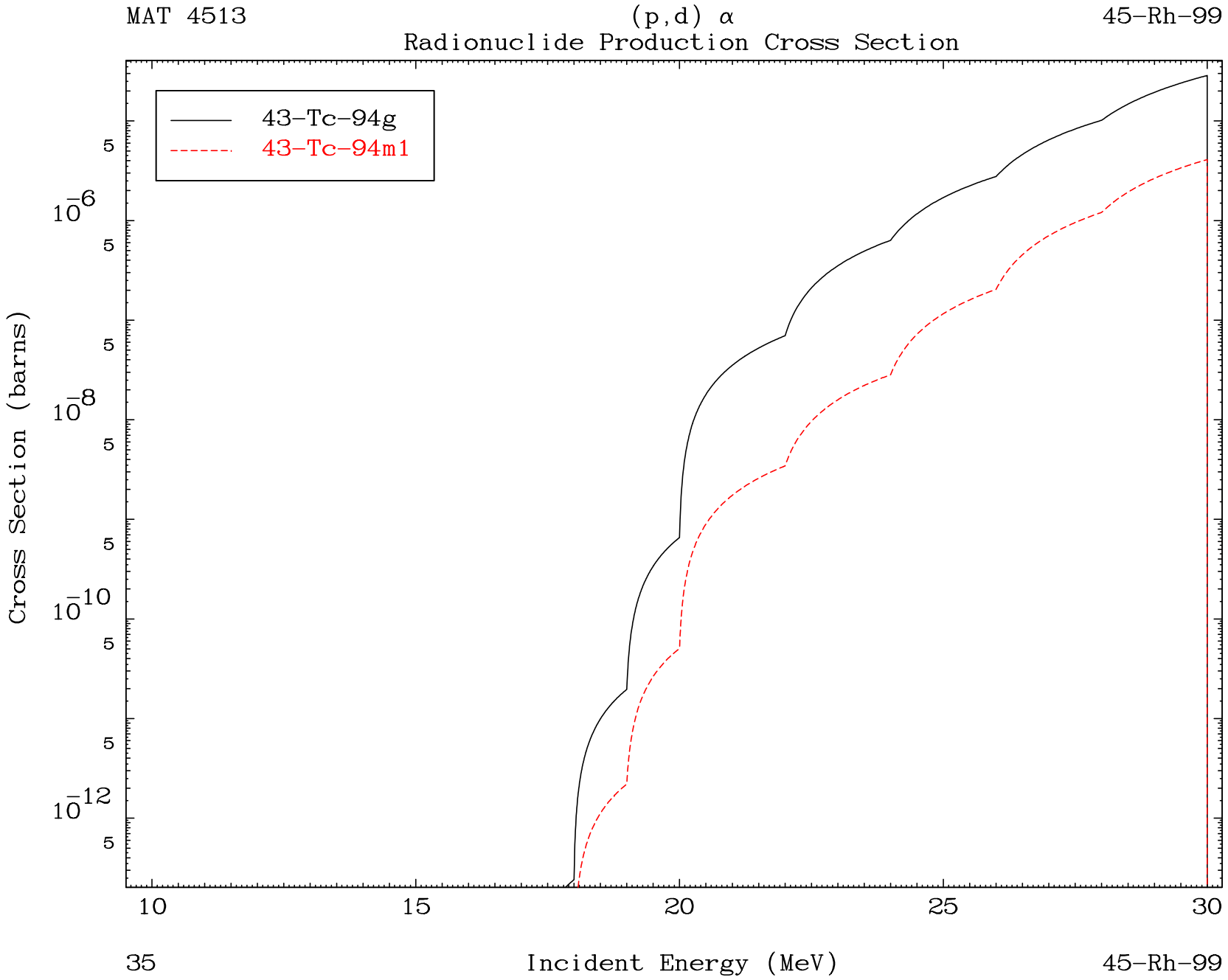

MAT 4513
(p,n') p α
45-Rh-99
Radionuclide Production Cross Section
43-Tc-94g
43-Tc-94m1
Cross Section (barns)
10-2
10-4
10-6
10-8
10-10
15
20
25
30
30
Incident Energy (MeV)
45-Rh-99


MAT 4513
(p,p)
45-Rh-99
Radionuclide Production Cross Section
45-Rh-99g
45-Rh-99m1
Cross Section (barns)
10-2
10-4
10-6
10-8
10-3
10-2
10-1
100
101
Incident Energy (MeV)
31
45-Rh-99


MAT 4513
(p,d)
45-Rh-99
Radionuclide Production Cross Section
45-Rh-98g
45-Rh-98m3
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
5
10
15
20
25
30
32
Incident Energy (MeV)
45-Rh-99


MAT 4513
(p,t)
45-Rh-99
Radionuclide Production Cross Section
45-Rh-97g
45-Rh-97m1
Cross Section (barns)
10-4
10-6
10-8
10-10
5
15
20
25
30
33
Incident Energy (MeV)
45-Rh-99


MAT 4513
(p,p) α
45-Rh-99
Radionuclide Production Cross Section
43-Tc-95g
43-Tc-95m1
Cross Section (barns)
Incident Energy (MeV)
34
45-Rh-99


MAT 4513
(p,d) α
45-Rh-99
Radionuclide Production Cross Section
43-Tc-94g
43-Tc-94m1
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
10
15
20
25
30
35
Incident Energy (MeV)
45-Rh-99