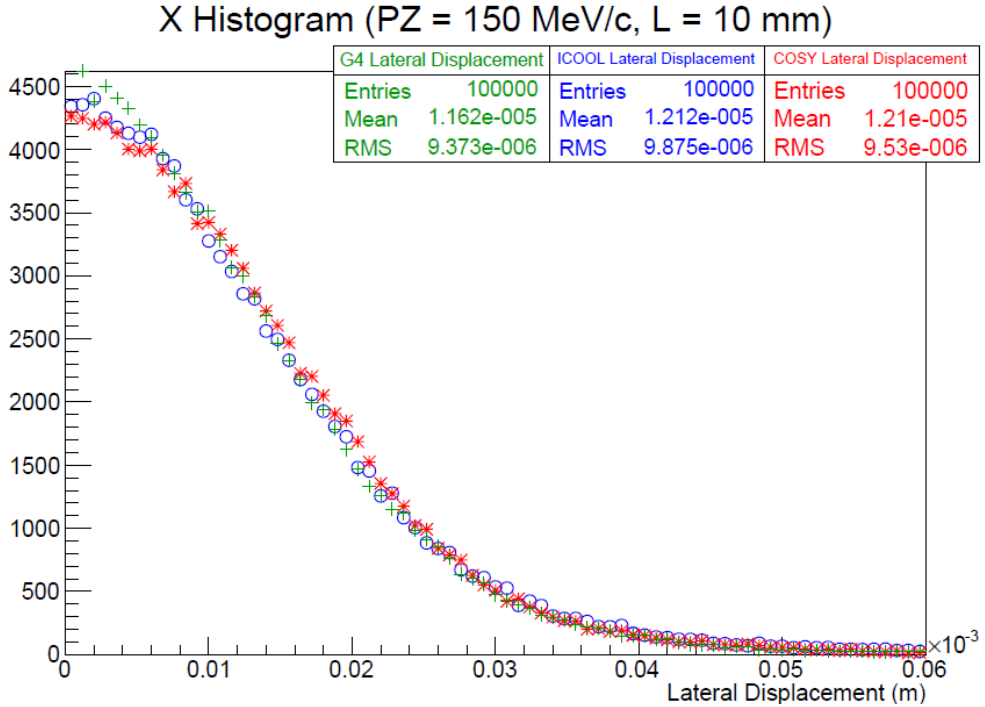
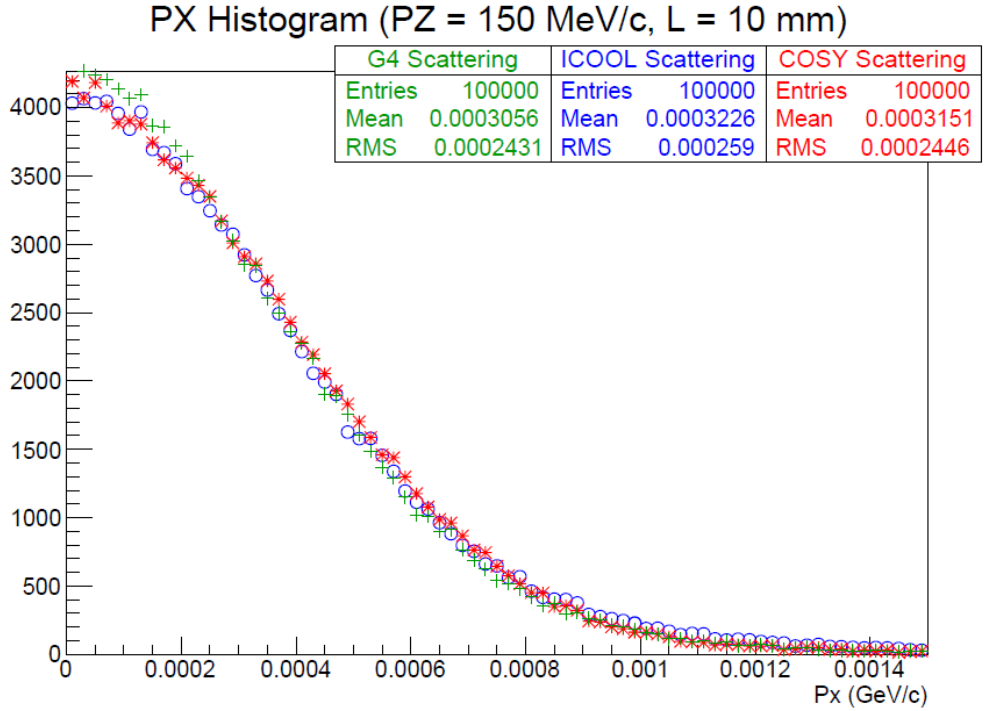
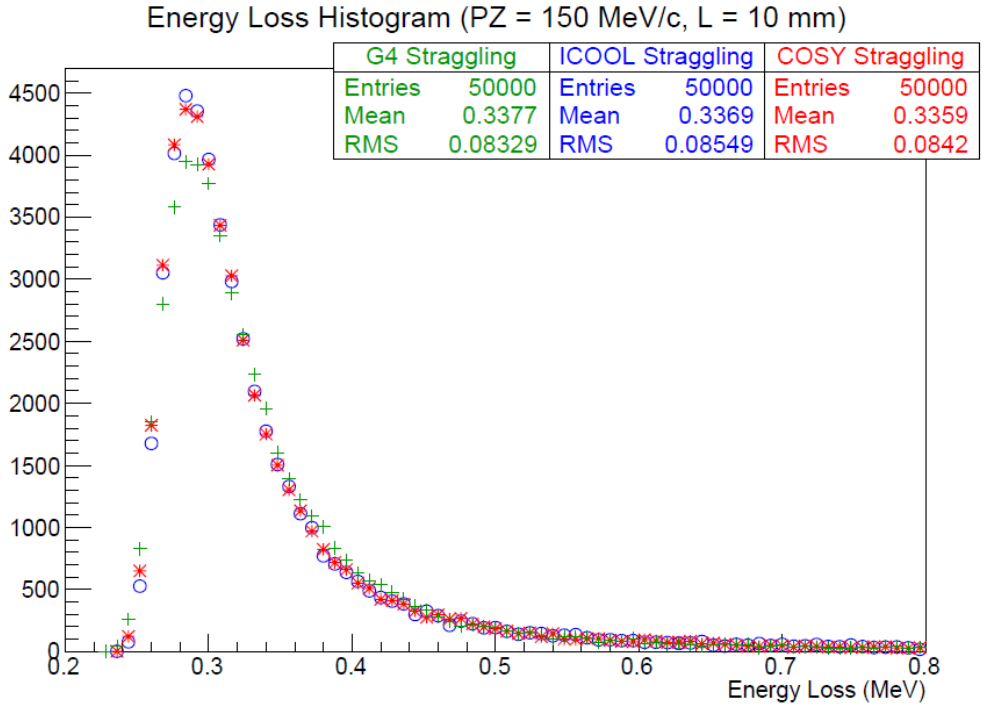
Liquid Hydrogen
Pz = 150, 250 MeV/c
L = 10, 100 mm

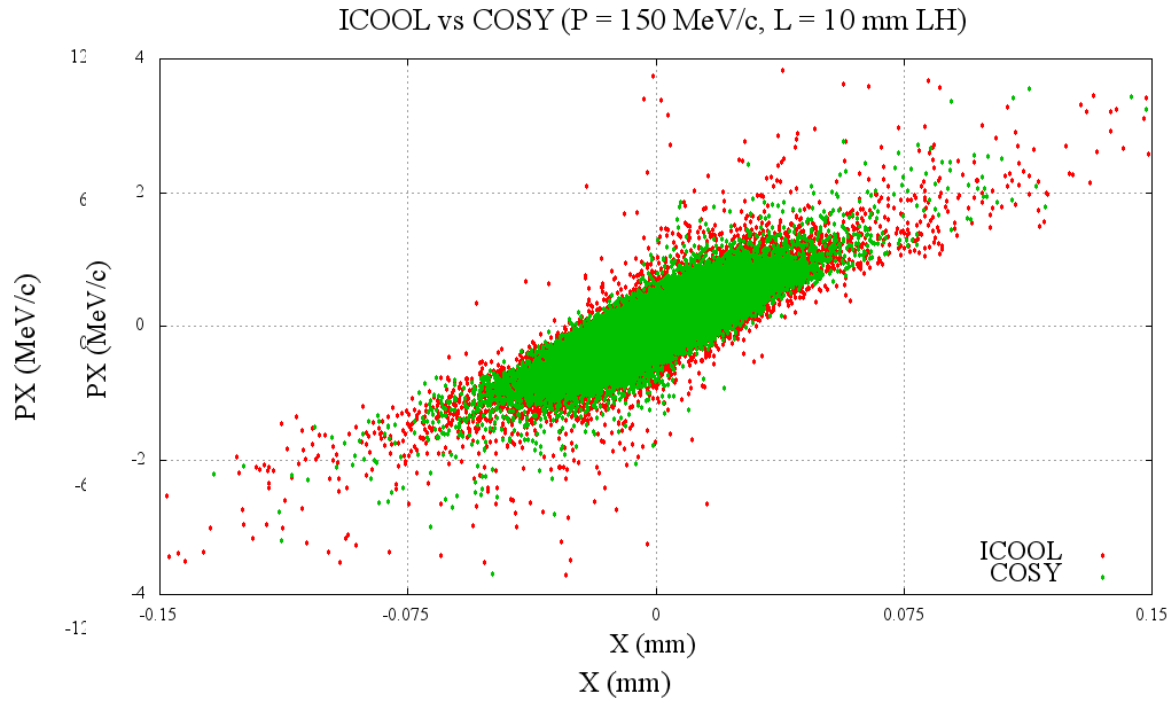
Josiah D. Kunz

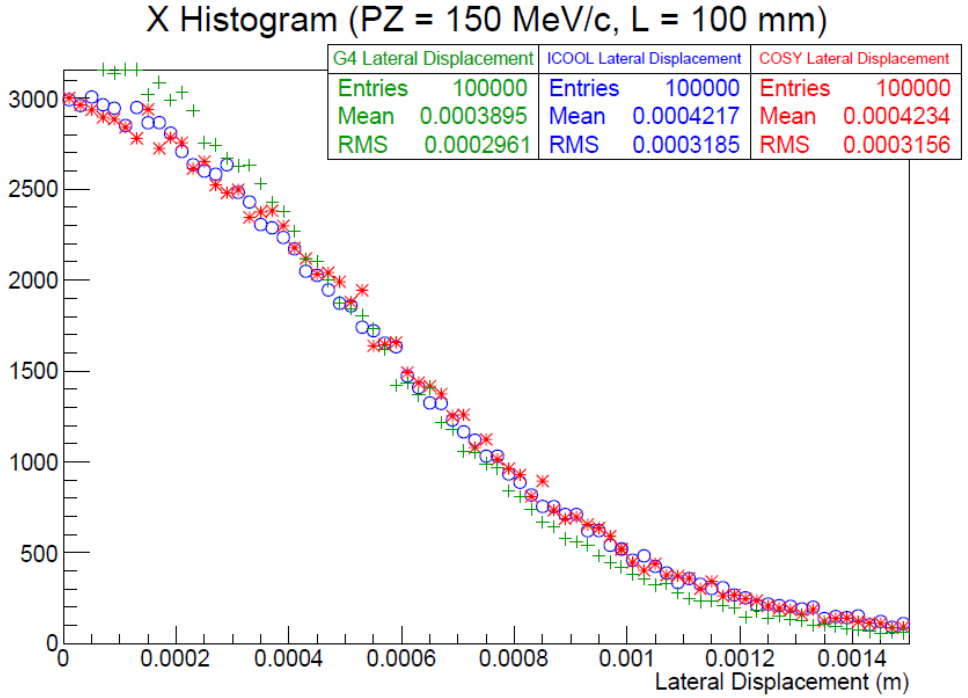
11.21.14

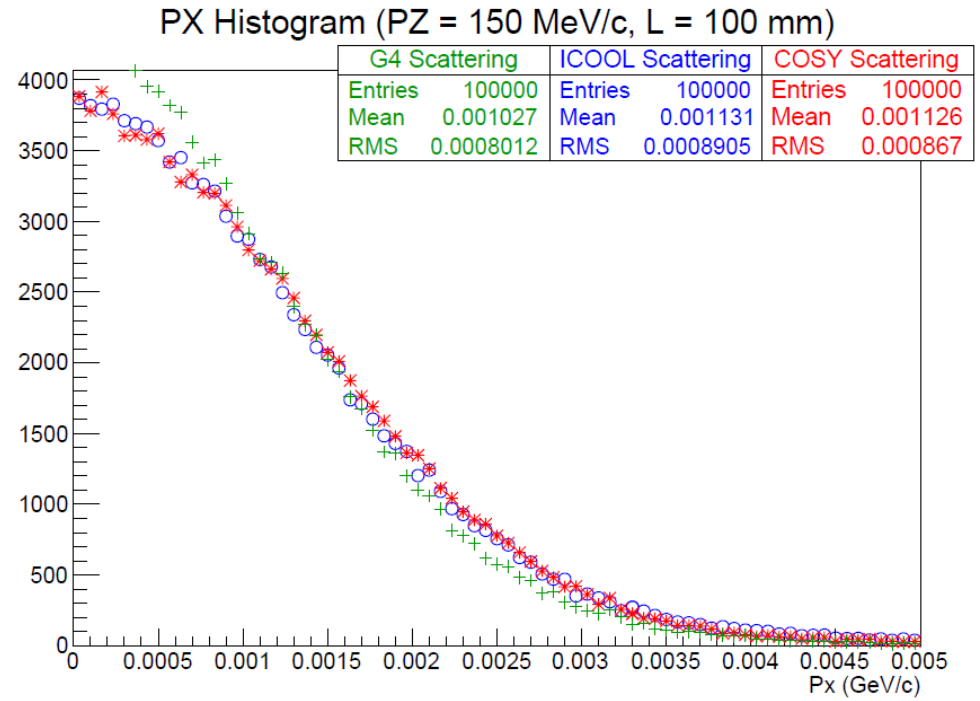

X Histogram (PZ = 150 MeV/c, L = 10 mm)
G4 Lateral Displacement
Entries 100000
Mean 1.162e-005
RMS 9.373e-006
ICOOL Lateral Displacement
Entries 100000
Mean 1.212e-005
RMS 9.875e-006
COSY Lateral Displacement
Entries 100000
Mean 1.21e-005
RMS 9.53e-006
Lateral Displacement (m)
×10^-3

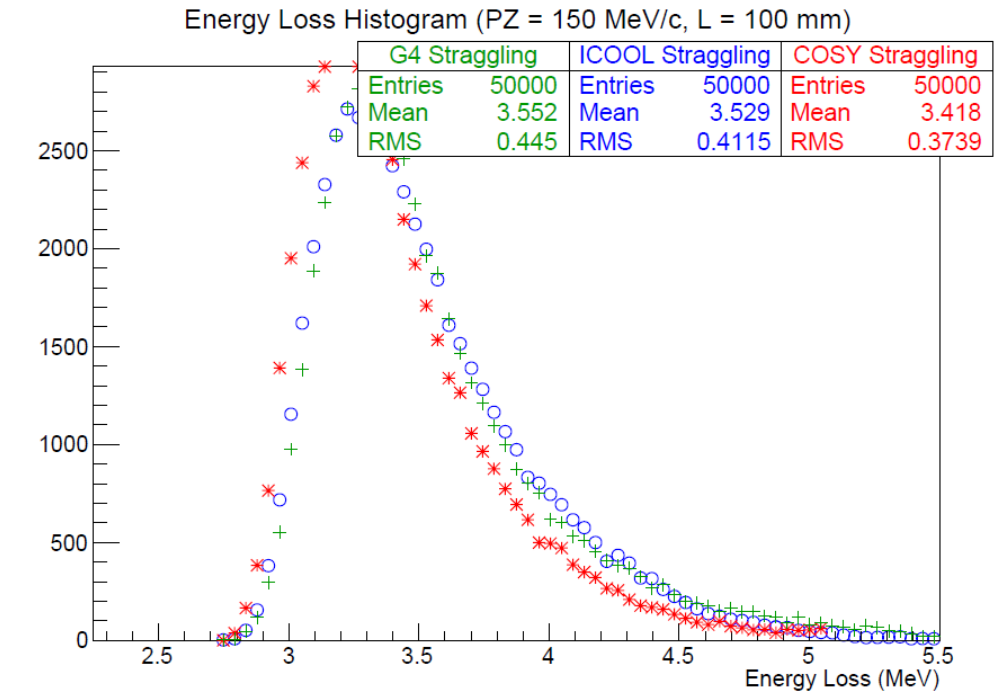

PX Histogram (PZ = 150 MeV/c, L = 10 mm)
G4 Scattering
Entries 100000
Mean 0.0003056
RMS 0.0002431
ICOOL Scattering
Entries 100000
Mean 0.0003226
RMS 0.000259
COSY Scattering
Entries 100000
Mean 0.0003151
RMS 0.0002446
Px (GeV/c)

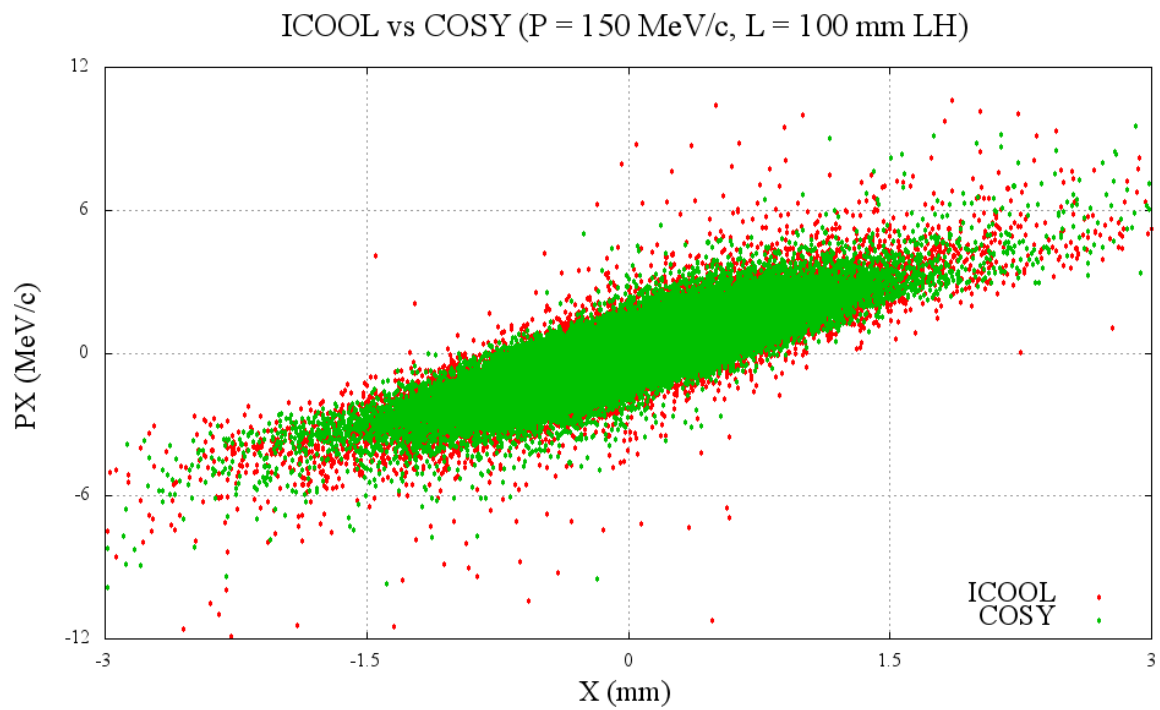

Energy Loss Histogram (PZ = 150 MeV/c, L = 10 mm)
G4 Straggling
Entries 50000
Mean 0.3377
RMS 0.08329
ICOOL Straggling
Entries 50000
Mean 0.3369
RMS 0.08549
COSY Straggling
Entries 50000
Mean 0.3359
RMS 0.0842
Energy Loss (MeV)


ICOOL vs COSY (P = 150 MeV/c, L = 10 mm LH)
PX (MeV/c)
X (mm)
ICOOL
COSY

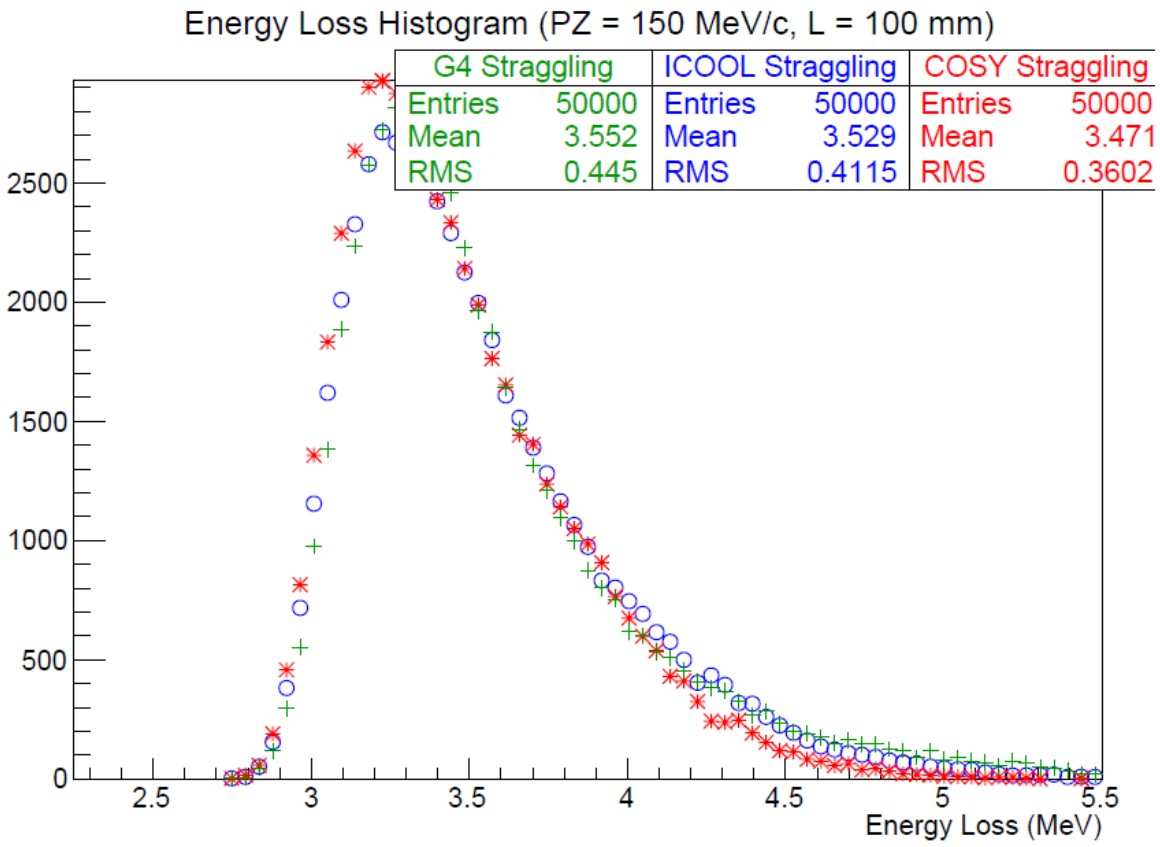

X Histogram (PZ = 150 MeV/c, L = 100 mm)
G4 Lateral Displacement
Entries 100000
Mean 0.0003895
RMS 0.0002961
ICOOL Lateral Displacement
Entries 100000
Mean 0.0004217
RMS 0.0003185
COSY Lateral Displacement
Entries 100000
Mean 0.0004234
RMS 0.0003156
Lateral Displacement (m)


PX Histogram (PZ = 150 MeV/c, L = 100 mm)
G4 Scattering
Entries 100000
Mean 0.001027
RMS 0.0008012
ICOOL Scattering
Entries 100000
Mean 0.001131
RMS 0.0008905
COSY Scattering
Entries 100000
Mean 0.001126
RMS 0.000867
Px (GeV/c)

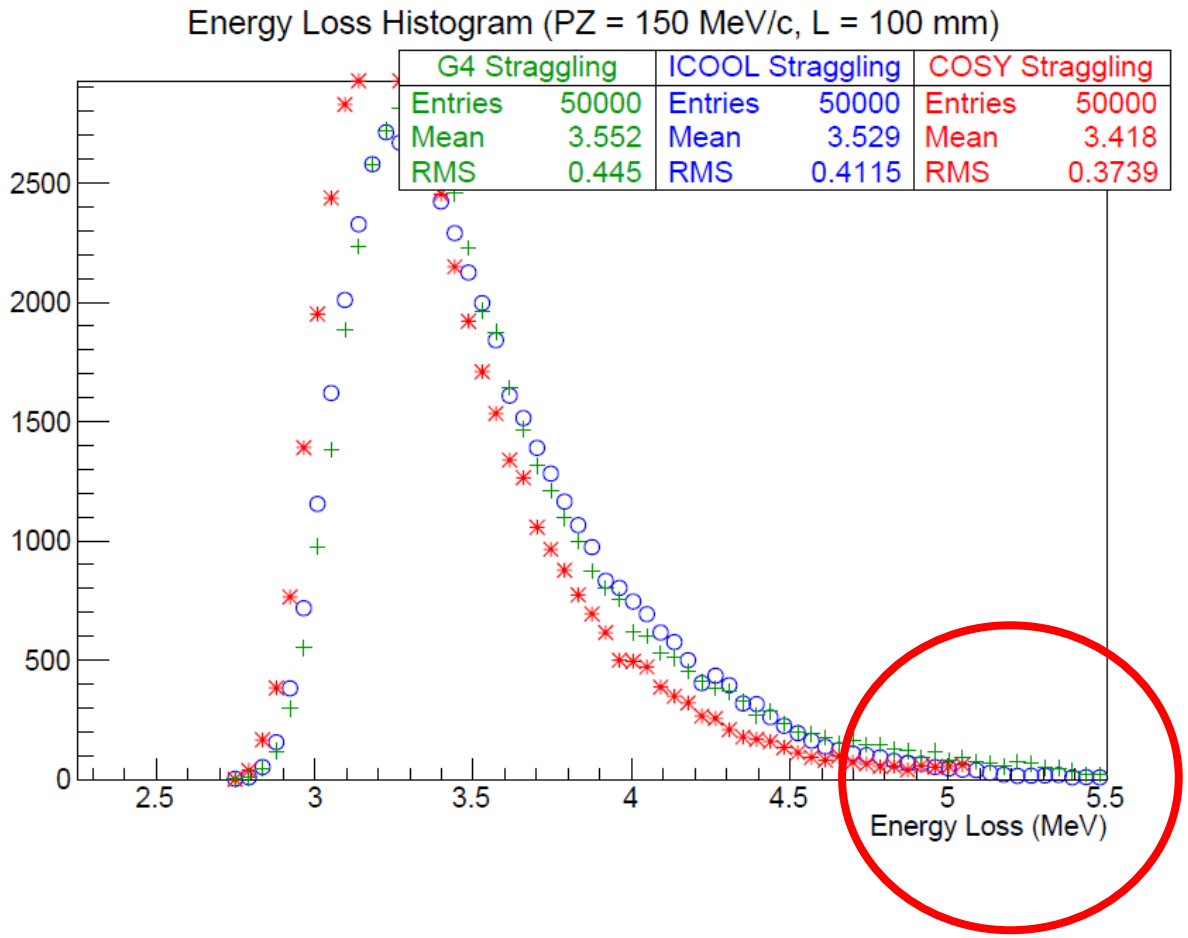

Energy Loss Histogram (PZ = 150 MeV/c, L = 100 mm)
G4 Straggling
Entries 50000
Mean 3.552
RMS 0.445
ICOOL Straggling
Entries 50000
Mean 3.529
RMS 0.4115
COSY Straggling
Entries 50000
Mean 3.418
RMS 0.3739
Energy Loss (MeV)

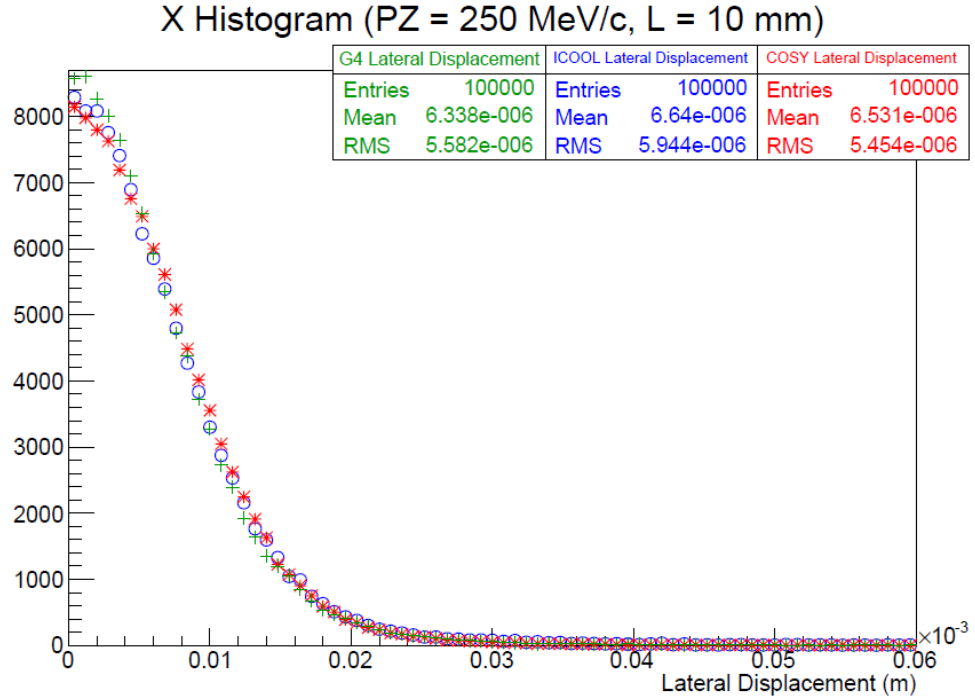

ICOOL vs COSY (P = 150 MeV/c, L = 100 mm LH)
PX (MeV/c)
X (mm)
ICOOL
COSY

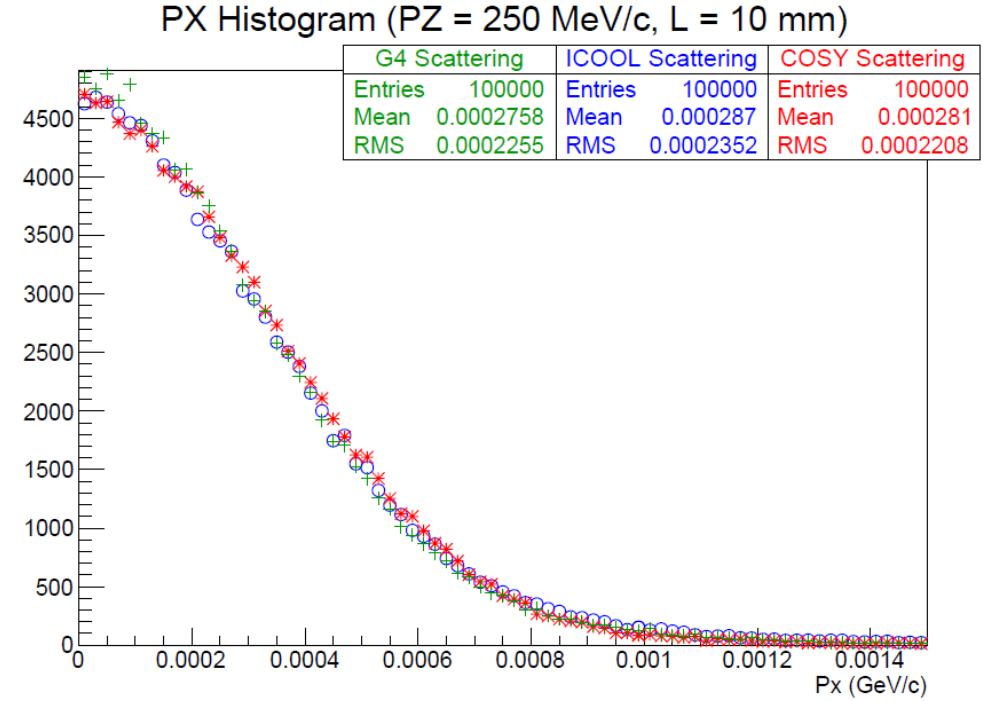
Left: Split

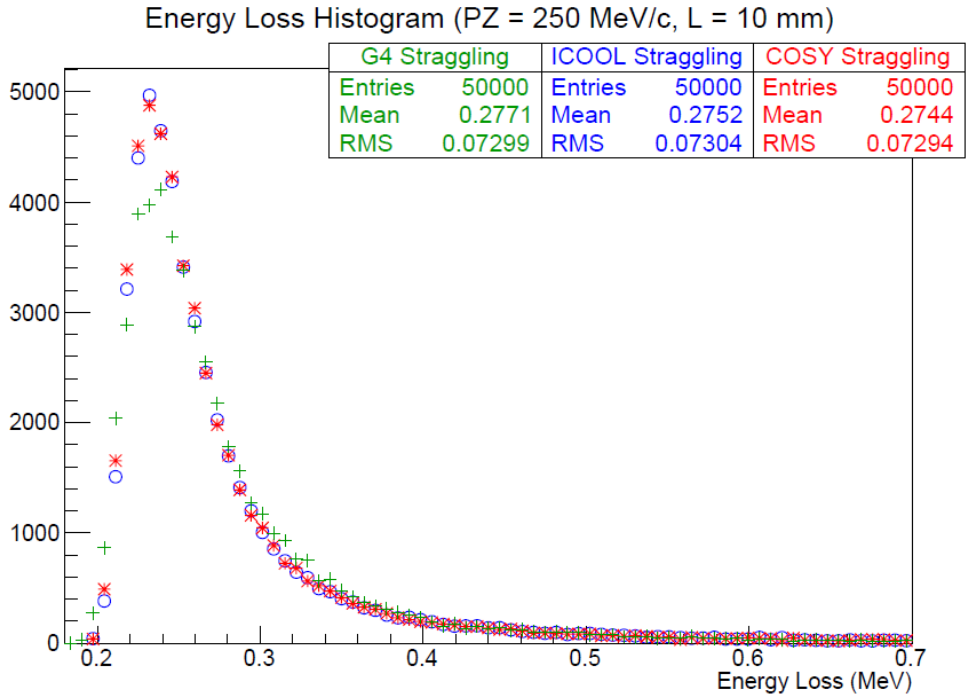


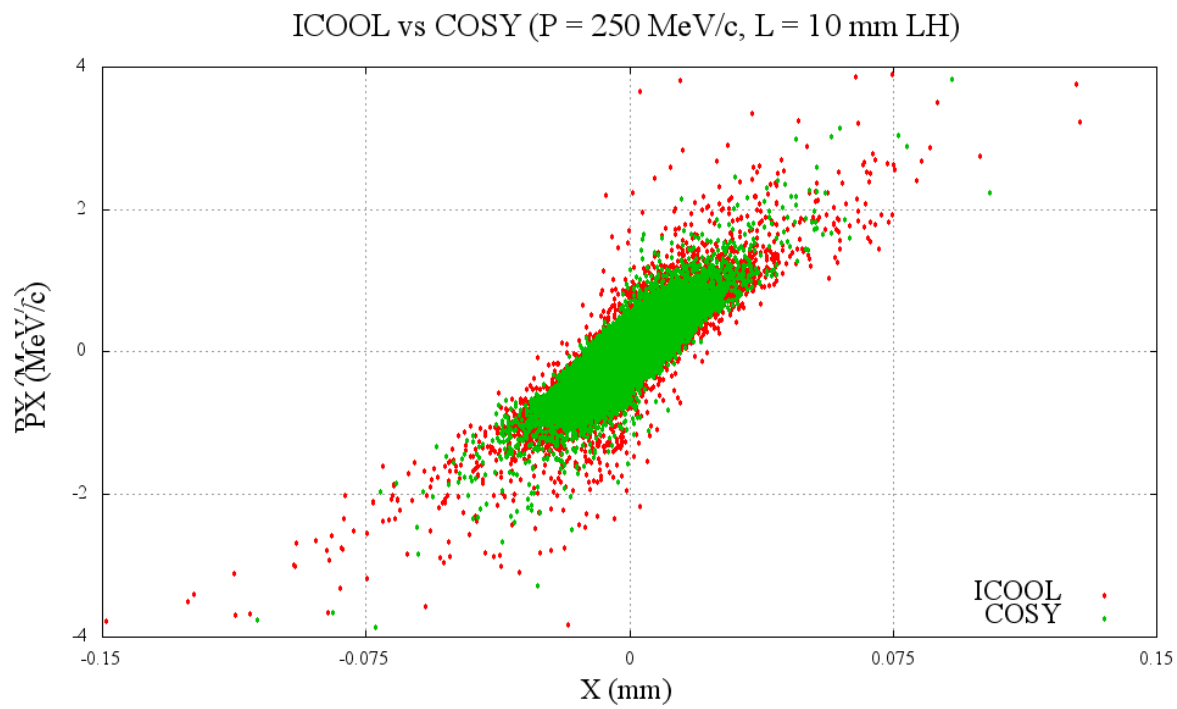
Right: Single

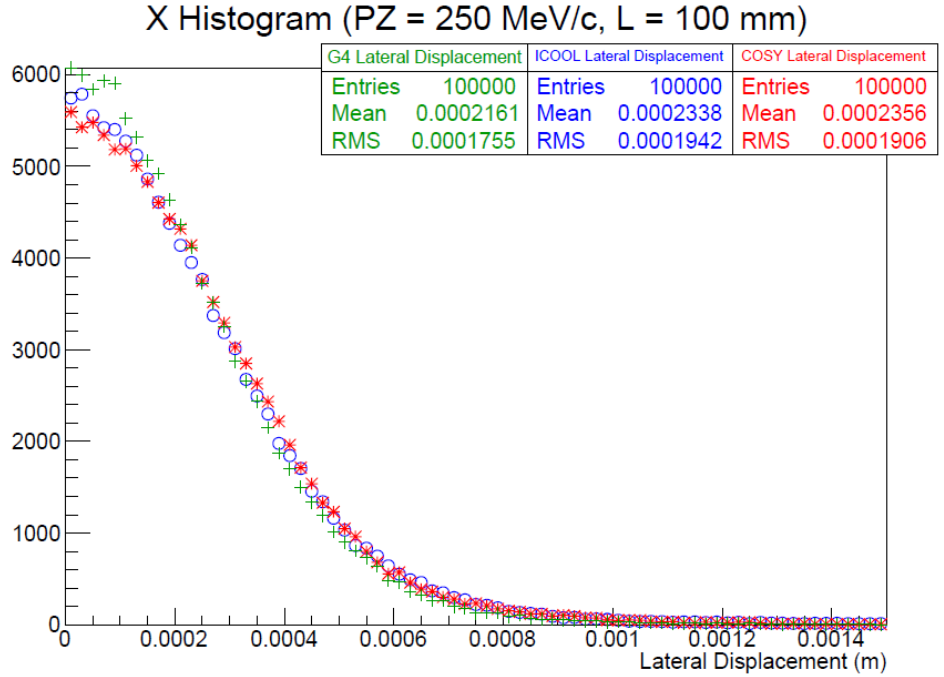


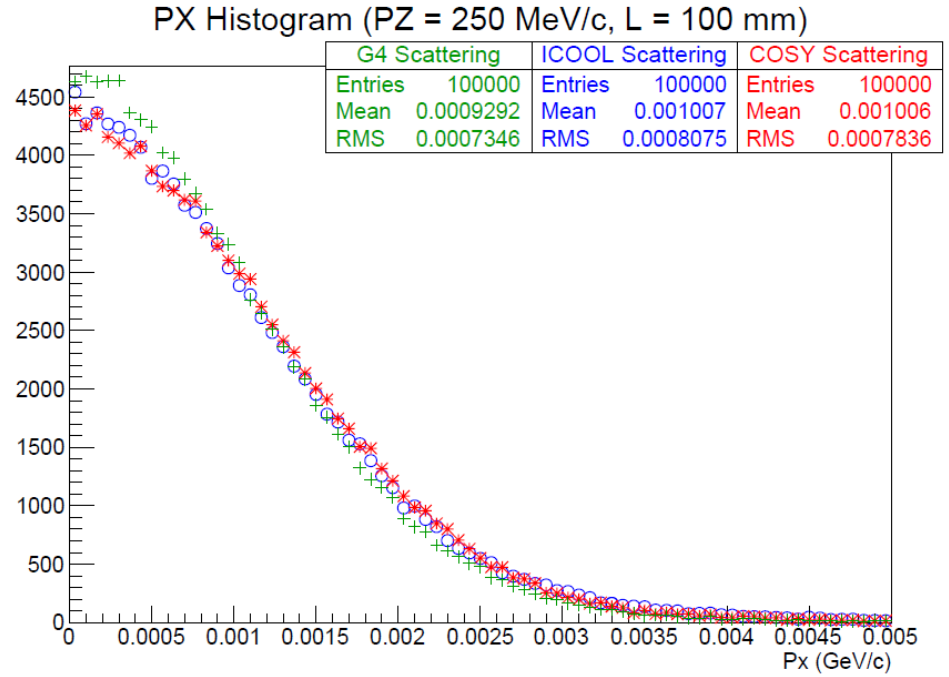

X Histogram (PZ = 250 MeV/c, L = 10 mm)
G4 Lateral Displacement
Entries 100000
Mean 6.338e-006
RMS 5.582e-006
ICOOL Lateral Displacement
Entries 100000
Mean 6.64e-006
RMS 5.944e-006
COSY Lateral Displacement
Entries 100000
Mean 6.531e-006
RMS 5.454e-006
Lateral Displacement (m)
×10⁻³

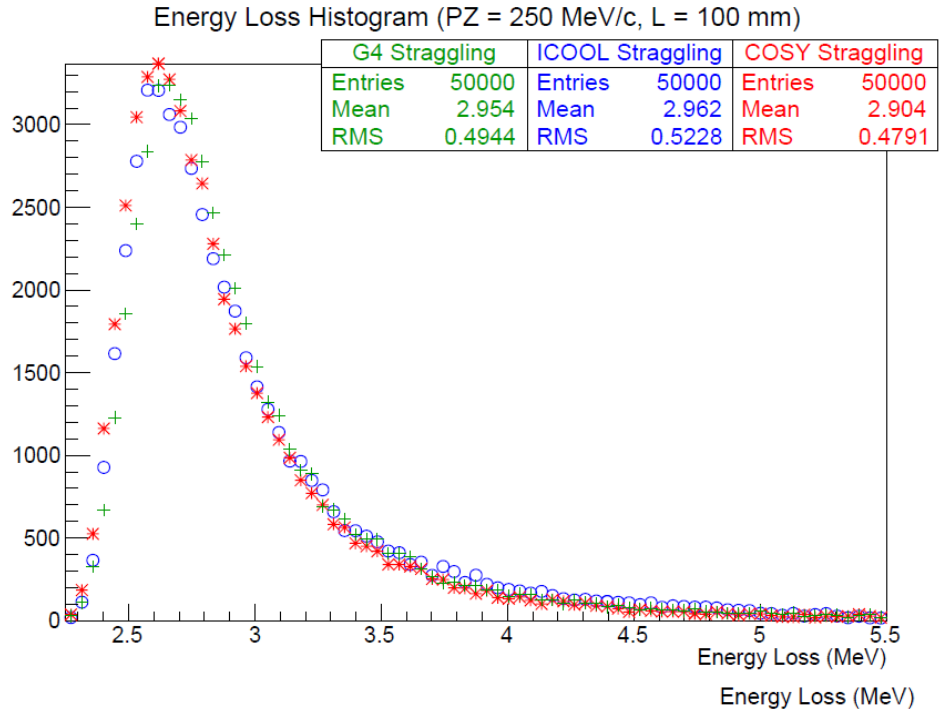

PX Histogram (PZ = 250 MeV/c, L = 10 mm)
G4 Scattering
Entries 100000
Mean 0.0002758
RMS 0.0002255
ICOOL Scattering
Entries 100000
Mean 0.000287
RMS 0.0002352
COSY Scattering
Entries 100000
Mean 0.000281
RMS 0.0002208
Px (GeV/c)

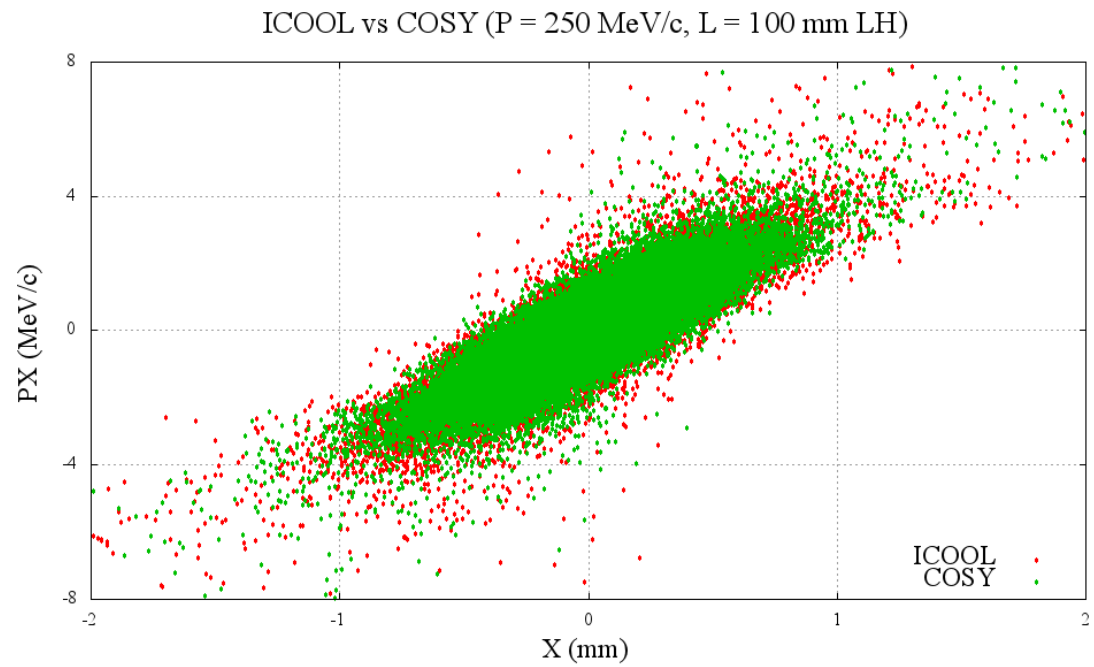

Energy Loss Histogram (PZ = 250 MeV/c, L = 10 mm)
G4 Straggling
Entries 50000
Mean 0.2771
RMS 0.07299
ICOOL Straggling
Entries 50000
Mean 0.2752
RMS 0.07304
COSY Straggling
Entries 50000
Mean 0.2744
RMS 0.07294
Energy Loss (MeV)


ICOOL vs COSY (P = 250 MeV/c, L = 10 mm LH)
PX (MeV/c)
X (mm)
ICOOL
COSY


X Histogram (PZ = 250 MeV/c, L = 100 mm)
G4 Lateral Displacement
Entries 100000
Mean 0.0002161
RMS 0.0001755
ICOOL Lateral Displacement
Entries 100000
Mean 0.0002338
RMS 0.0001942
COSY Lateral Displacement
Entries 100000
Mean 0.0002356
RMS 0.0001906
Lateral Displacement (m)


PX Histogram (PZ = 250 MeV/c, L = 100 mm)
G4 Scattering
Entries 100000
Mean 0.0009292
RMS 0.0007346
ICOOL Scattering
Entries 100000
Mean 0.001007
RMS 0.0008075
COSY Scattering
Entries 100000
Mean 0.001006
RMS 0.0007836
Px (GeV/c)


Energy Loss Histogram (PZ = 250 MeV/c, L = 100 mm)
G4 Straggling
Entries 50000
Mean 2.954
RMS 0.4944
ICOOL Straggling
Entries 50000
Mean 2.962
RMS 0.5228
COSY Straggling
Entries 50000
Mean 2.904
RMS 0.4791
Energy Loss (MeV)
Energy Loss (MeV)


ICOOL vs COSY (P = 250 MeV/c, L = 100 mm LH)
PX (MeV/c)
X (mm)
ICOOL
COSY