Tracking of Single Proton in Vacuum under SC Magnetic Field

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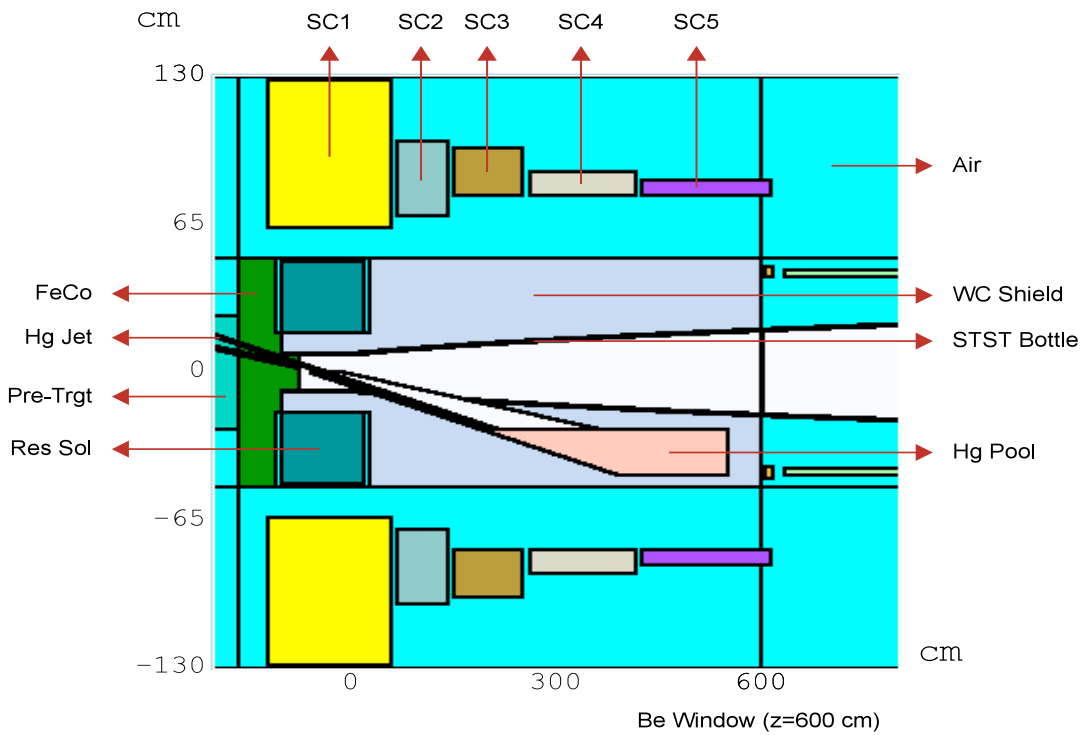
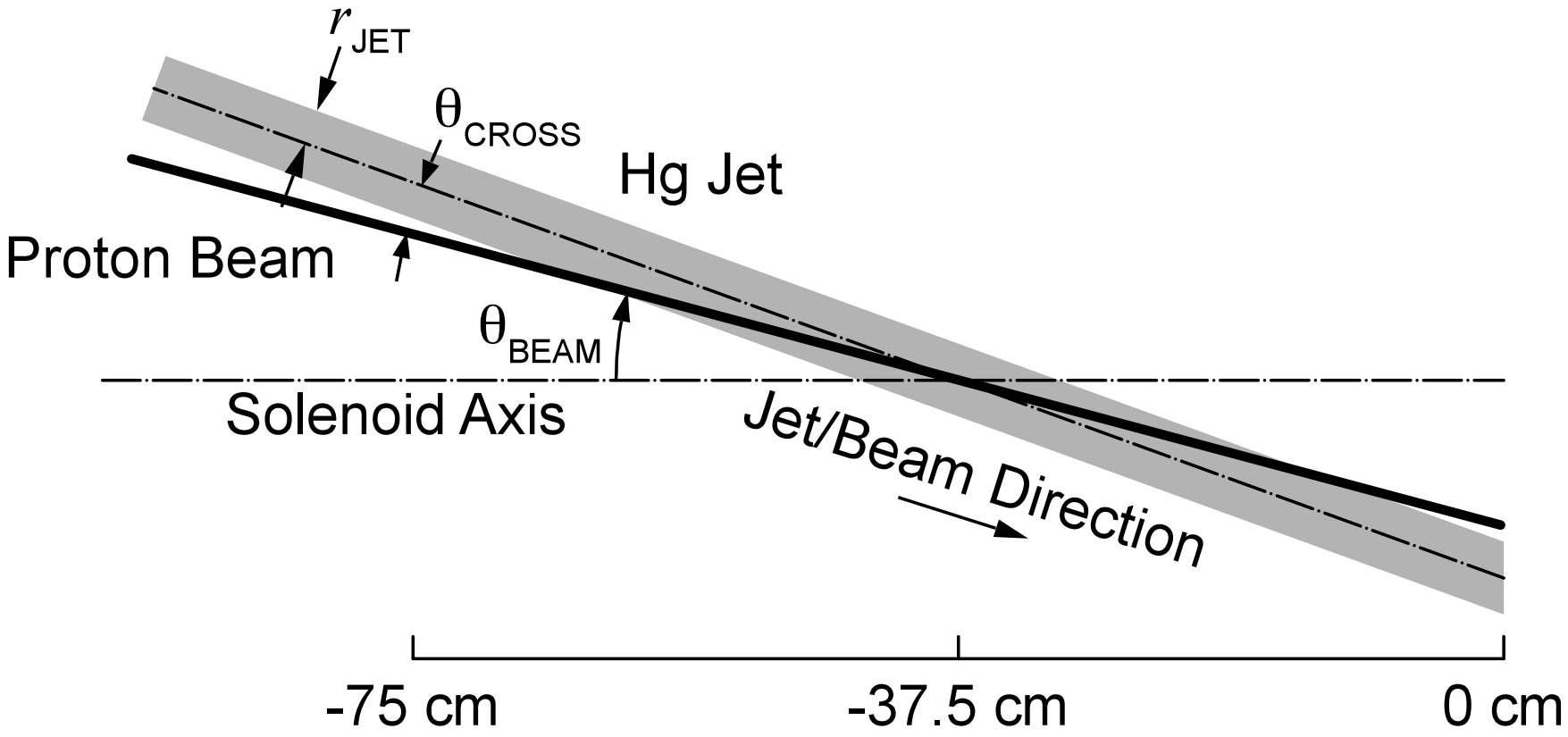
Target Studies, July 26 2011

Geometry (Y-Z plot)



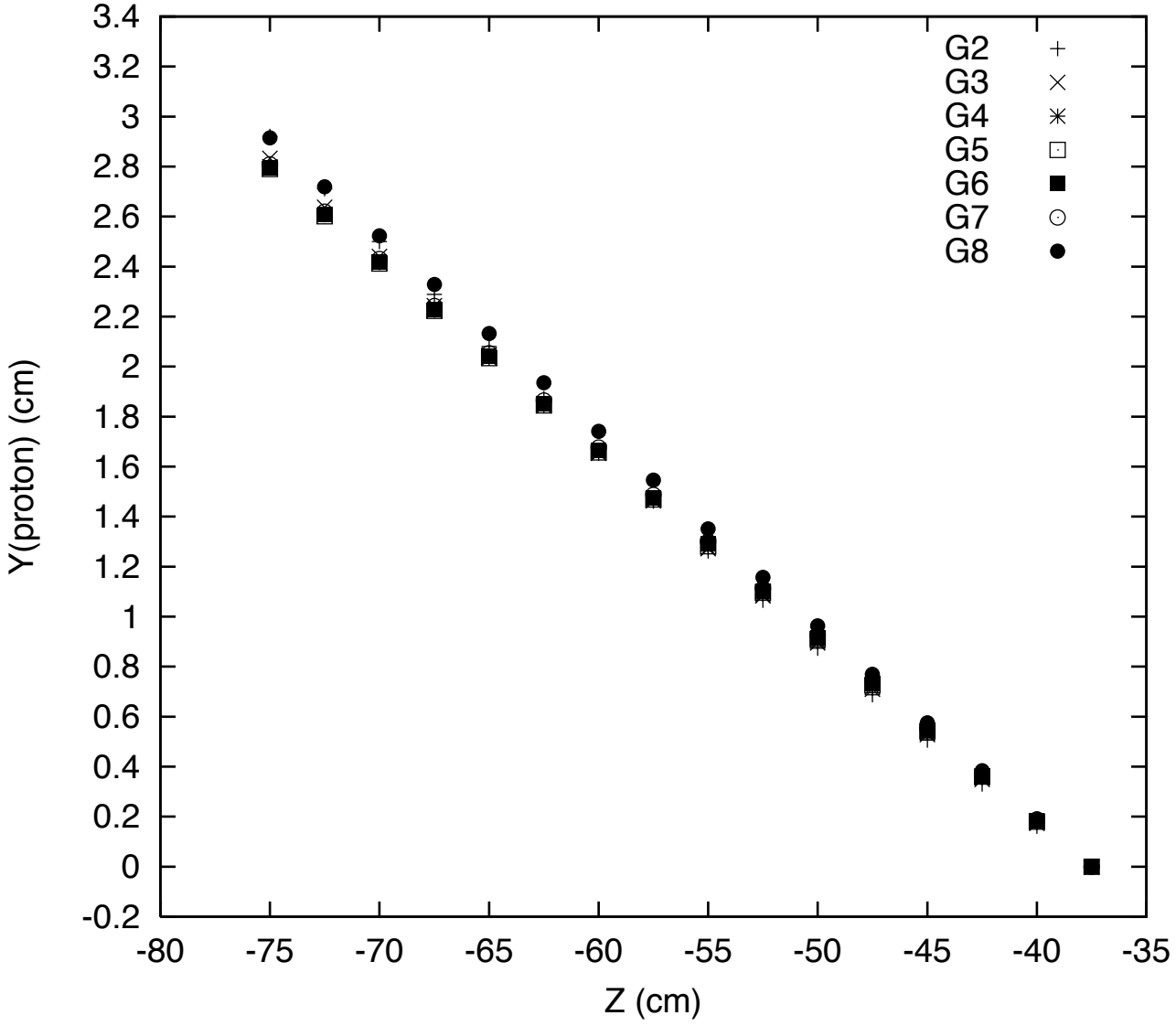
Concept of a continuous mercury jet target for an intense proton beam. The mercury jet is tilted by 100mrad with respect to a 20-T solenoid magnet which captures and conducts low-momentum pions into a decay channel.

Target Geometry (Y-Z plot)



Hg Jet is replaced by vacuum for tracking of single proton from z=-75 cm to z=-37.5cm. The Initial position of x0 and y0 at z=-75 cm is adjusted for the launched single proton with specified Ekin and beam angle to make sure the (x, y) of single proton at z=-37.5 cm to be (0,0).

Position of Single Particle (y vs. z)



Position of Single Particle (x vs. z)