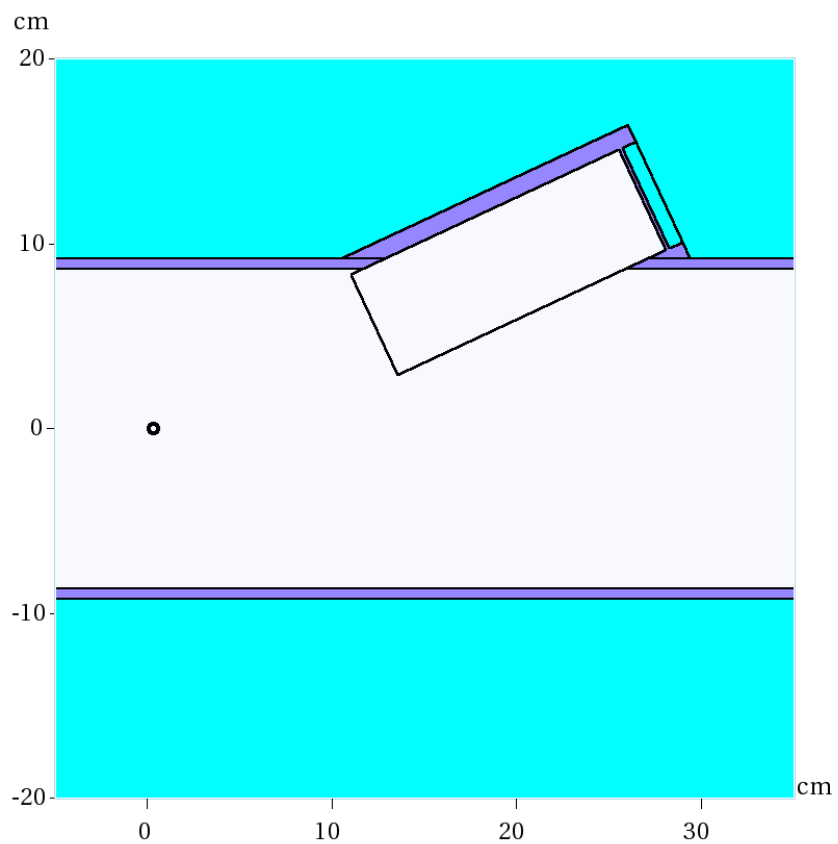




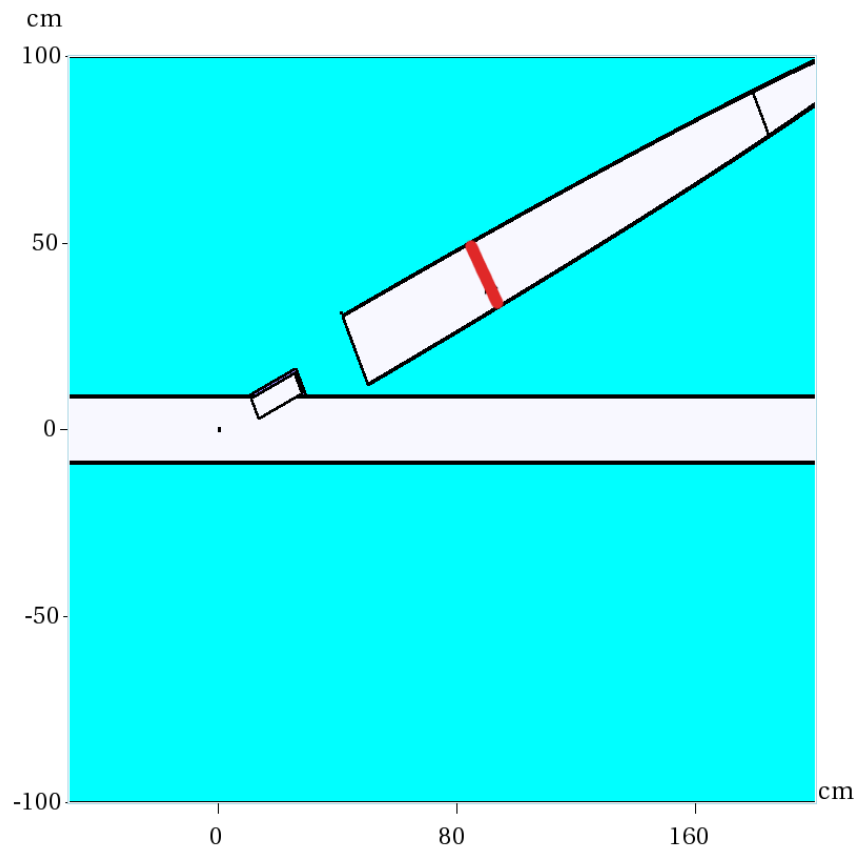
Pion Production at Target

T. Lord, P. Franchini





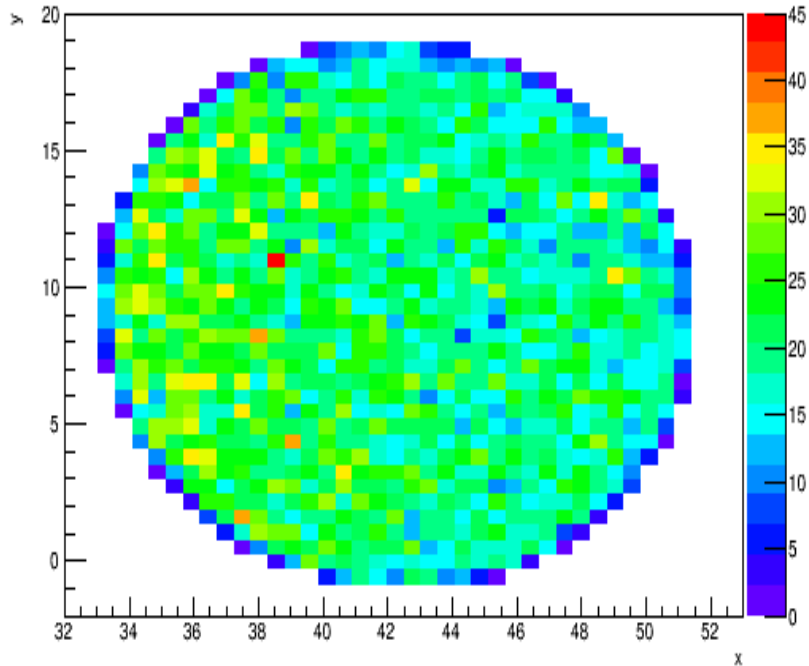
x
z
xz = 1:1.000e+00



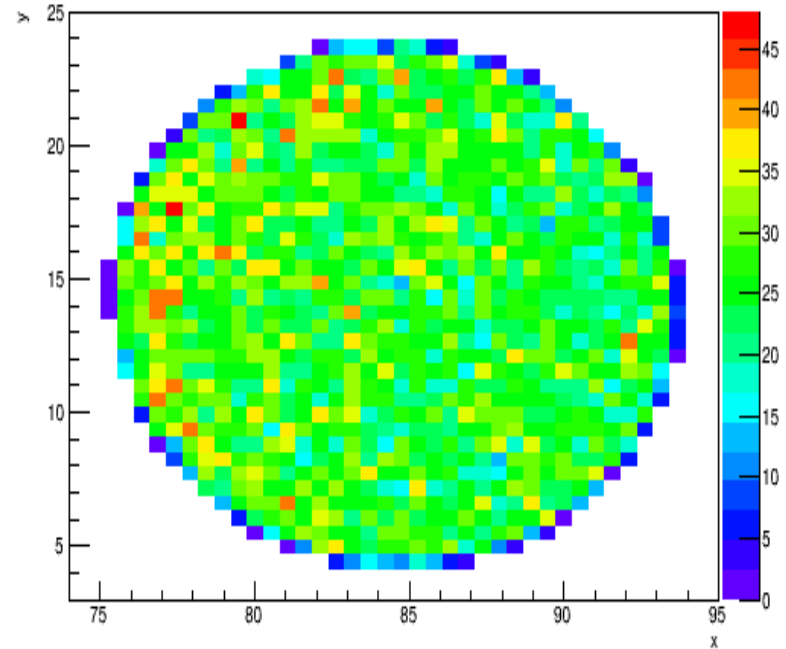
x
z
xz = 1:1.250e+00

1m vs 2m cut placement

Pi+ XY distribution 1m downstream of target (in MICE BL frame)
(5E11 beam protons simulated – 20k Pi+ selected)

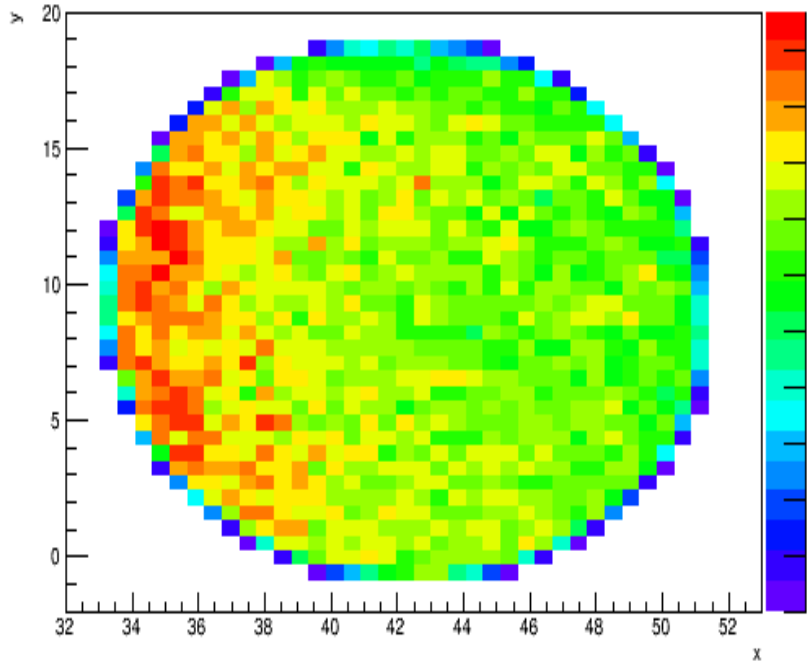


Pi+ XY distribution 2m downstream of target (in MICE BL frame)
(2.55E12 beam protons simulated – 20k Pi+ selected)

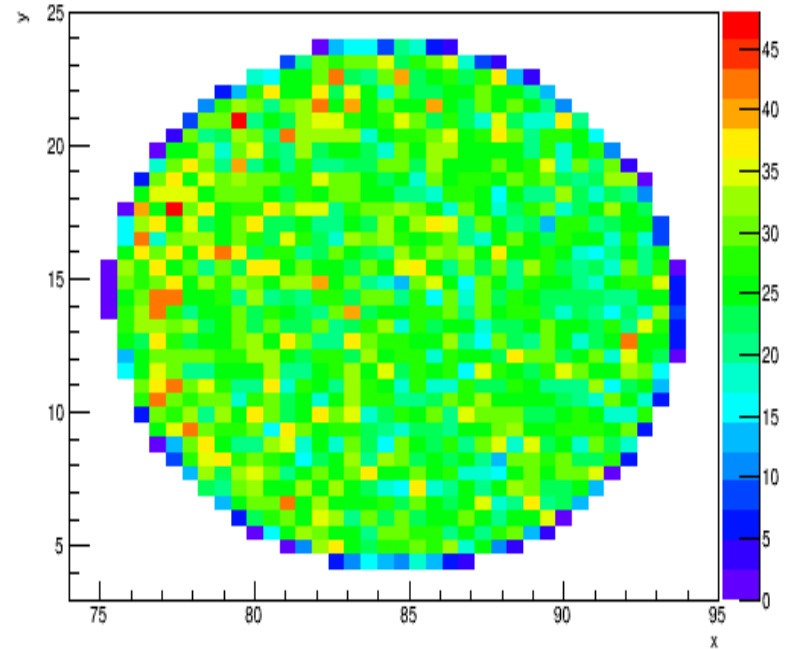


1m vs 2m cut placement

Pi+ XY distribution 1m downstream of target (in MICE BL frame)
(3.54E12 beam protons simulated – 140k Pi+ selected)

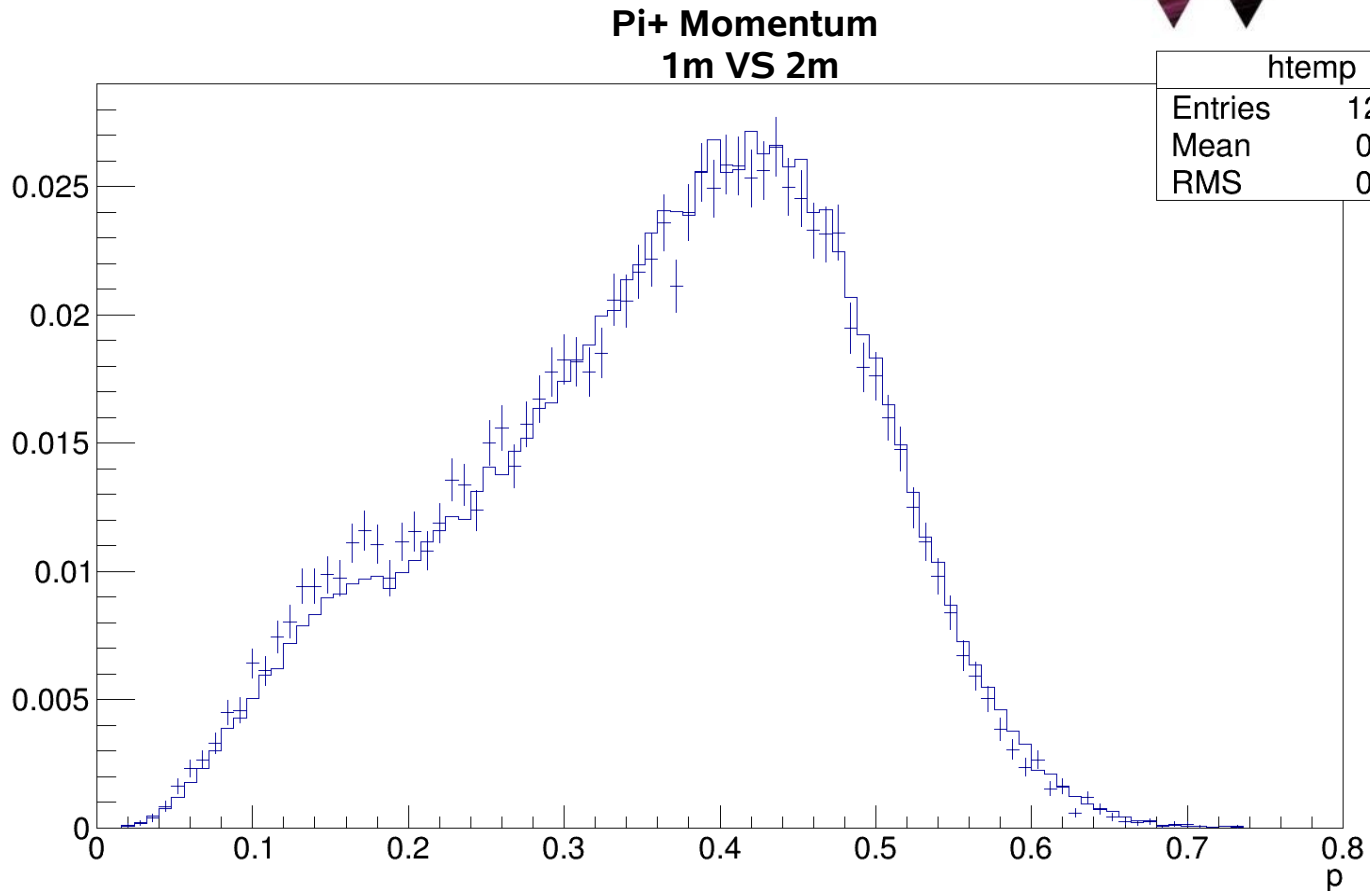


Pi+ XY distribution 2m downstream of target (in MICE BL frame)
(2.55E12 beam protons simulated – 20k Pi+ selected)



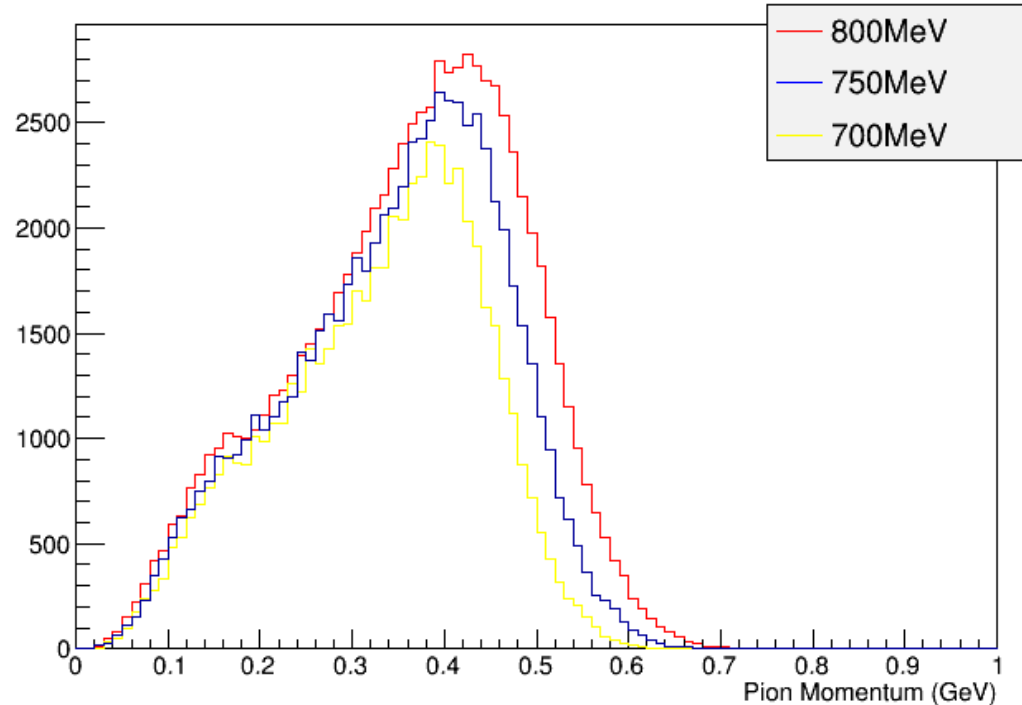
MARS Output – 1m vs 2m cuts

- 1m vs 2m downstream cuts
- 1m = histogram
2m = error bars
- Shoulder on LHS slightly larger for 2m dist.
- More scattering from beampipe materials?



- Currently simulating output distributions for 650, 700MeV ISIS Protons
- Particles selected 1m downstream of target IP, inside MICE Beampipe

Pion Momentum from 2.0888E12 Protons in ISIS Beam



- Simulating different ISIS beam energies -
- Currently have
 - 700MeV - 28k pi+
 - 750MeV – 71k pi+
 - 800MeV – 100k+ pi+
- Ideally want 60k+ for reasonable statistics for fit
- Estimate ~2 weeks to produce distributions and run through MAUS, depending on cluster availability
- MICE note on target simulation in progress