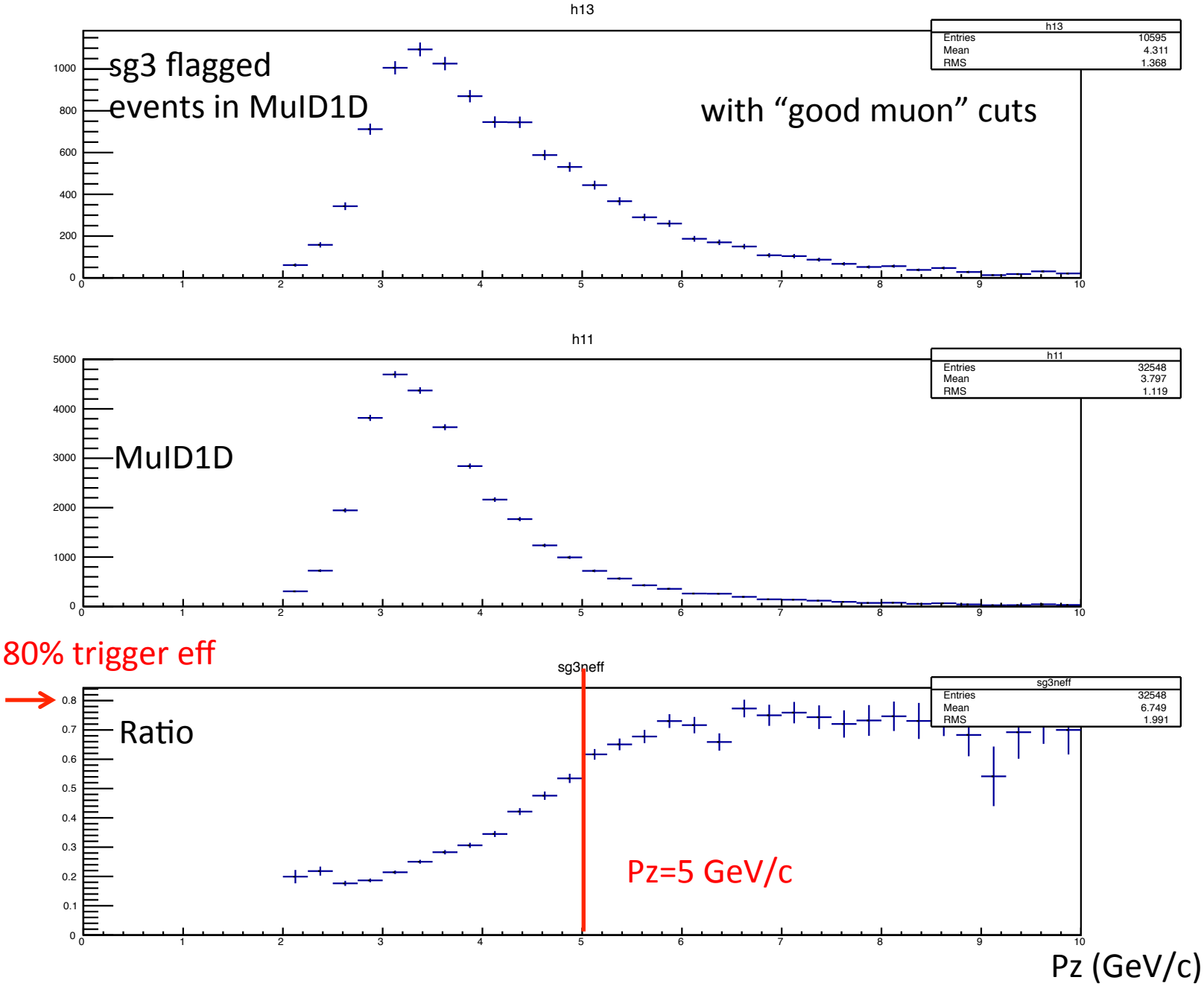
Update on Muon-Arm sg3-trigger Performance in Run2015 pp-200GeV

Xiaodong Jiang, FVTX meeting
3/18/2015

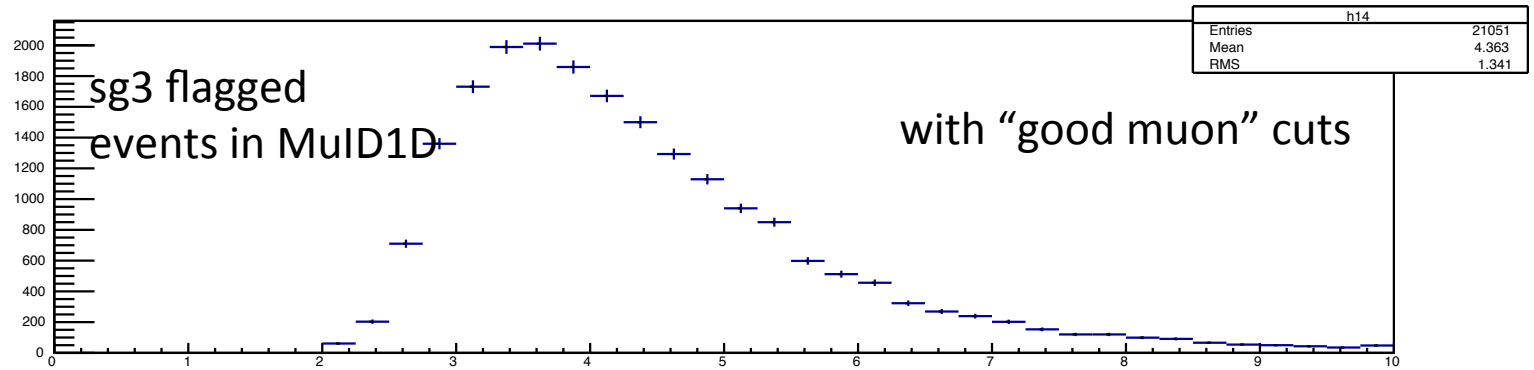
Goal: to pick up high momentum (pz>5 GeV/c) muon events more effectively.

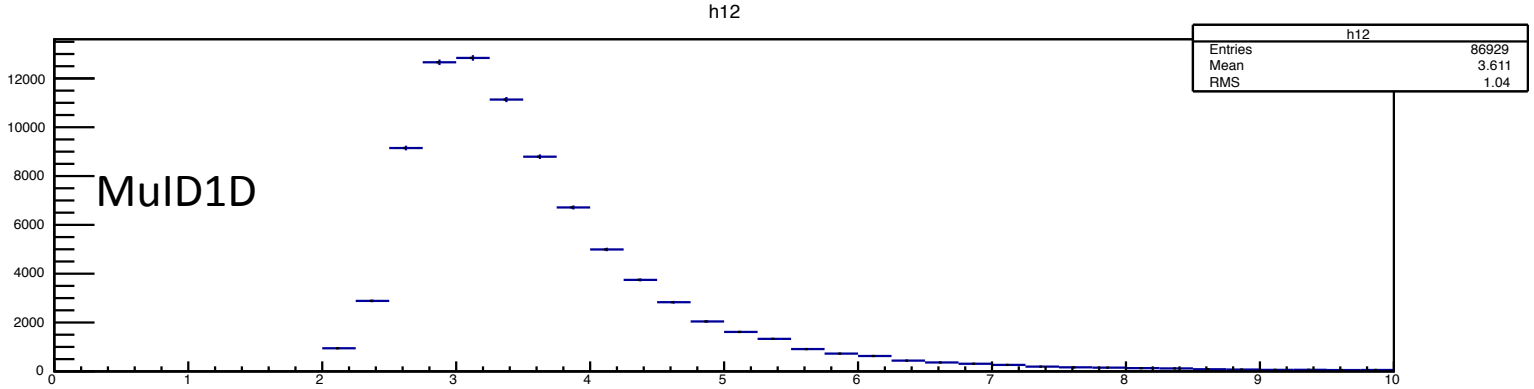
Run-426445, taken on March 14th, 2015 North Arm

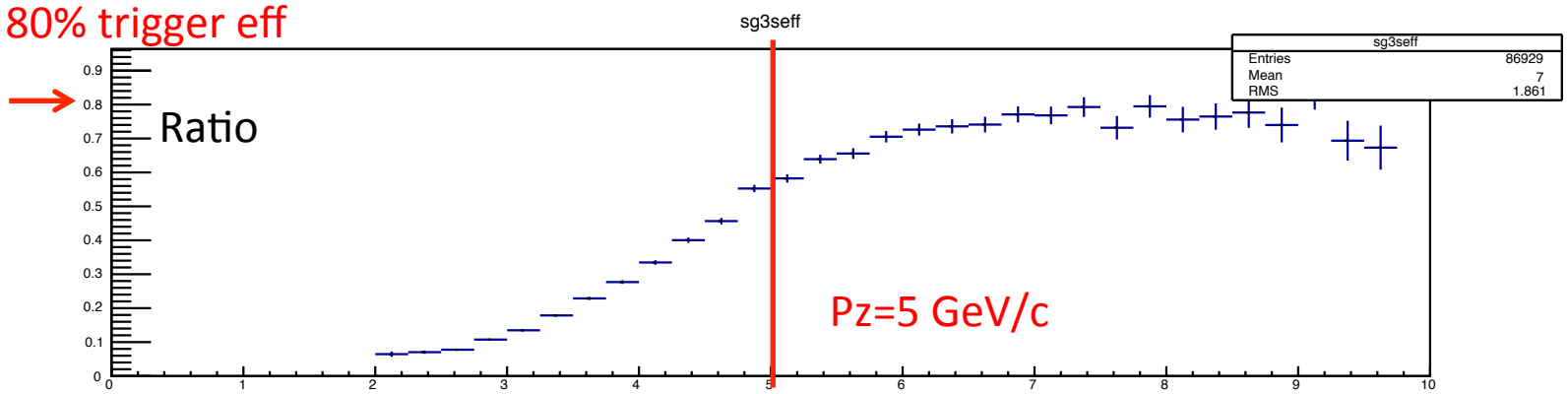


Run-426445, taken on March 14th 2015

South Arm



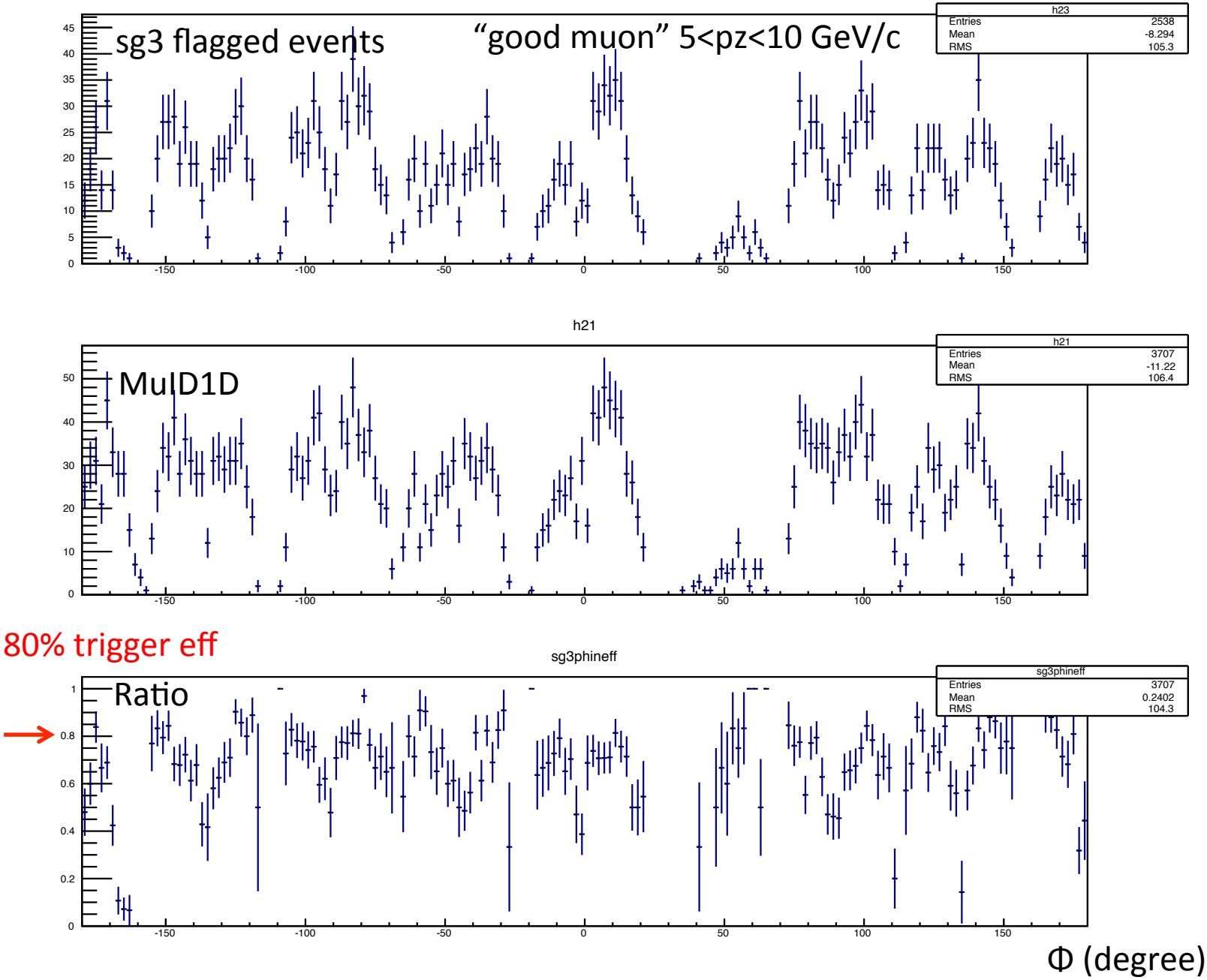




Pz (GeV/c)

Run-426445, taken on March 14th 2015

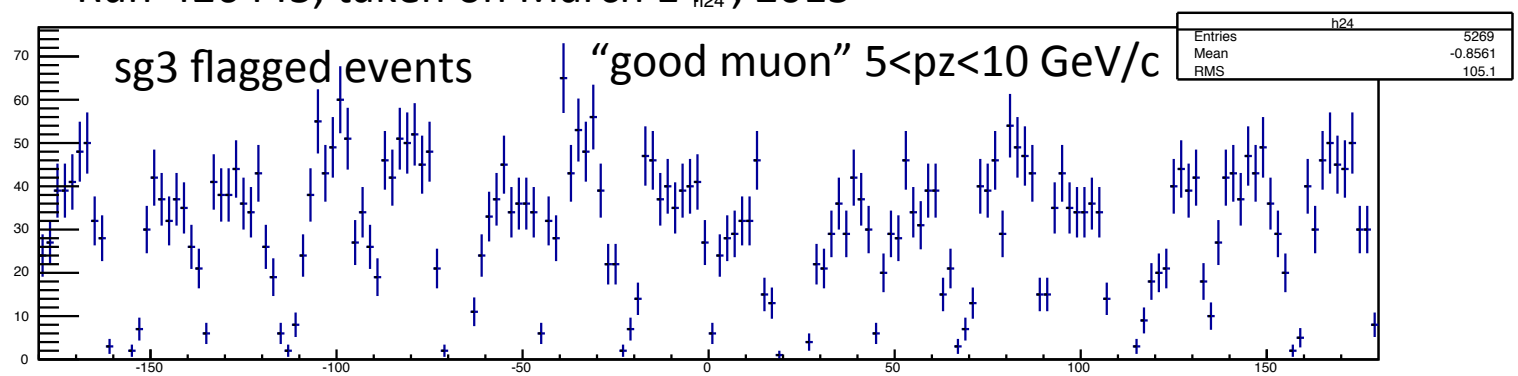
North Arm

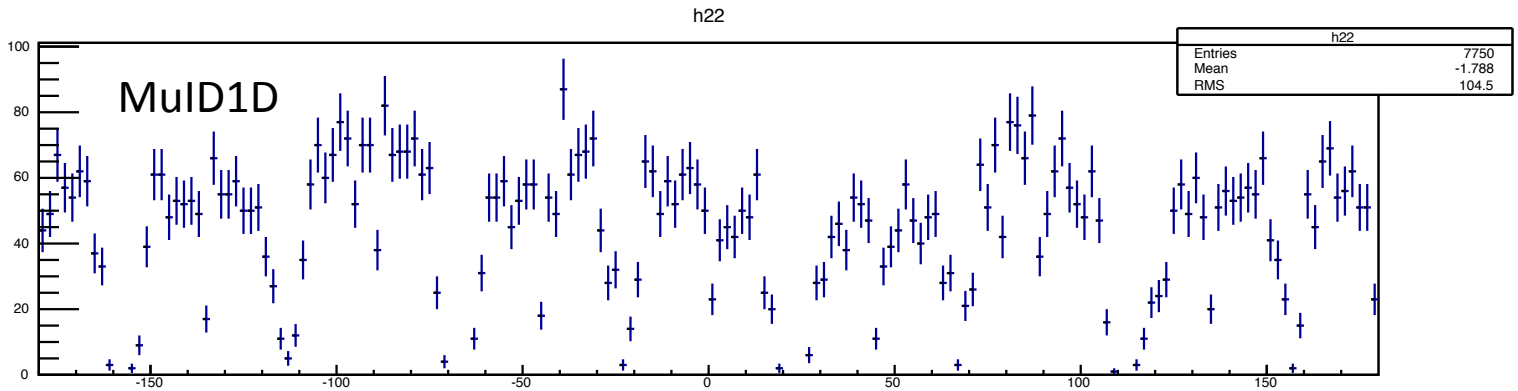


80% trigger eff

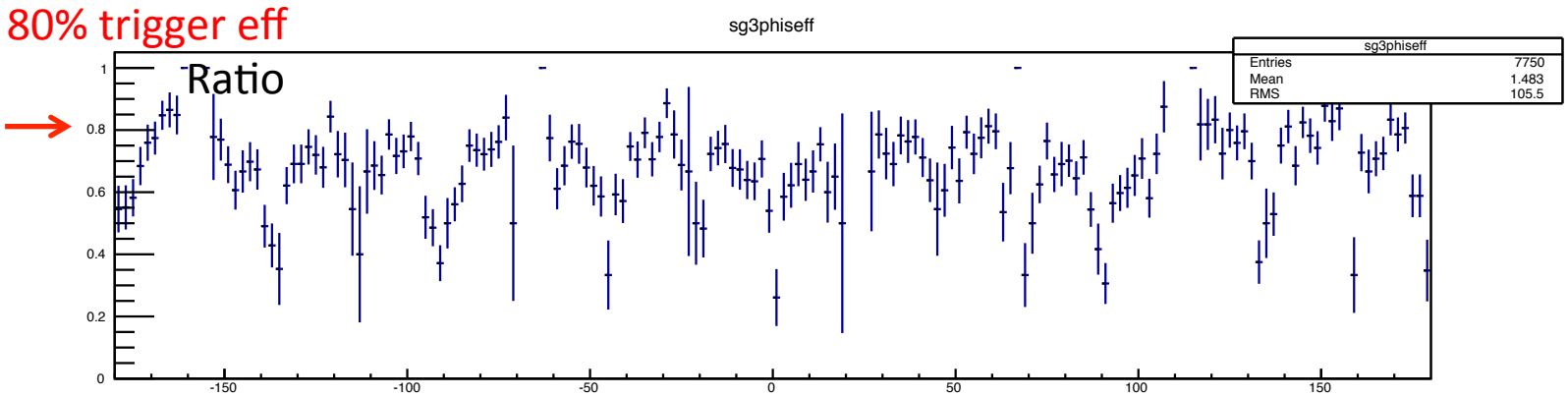
Run-426445, taken on March 14th, 2015

South Arm





80% trigger eff



Φ (degree)

Backup Slides

Trigger on MuTr stripe hit-patterns (SG3)

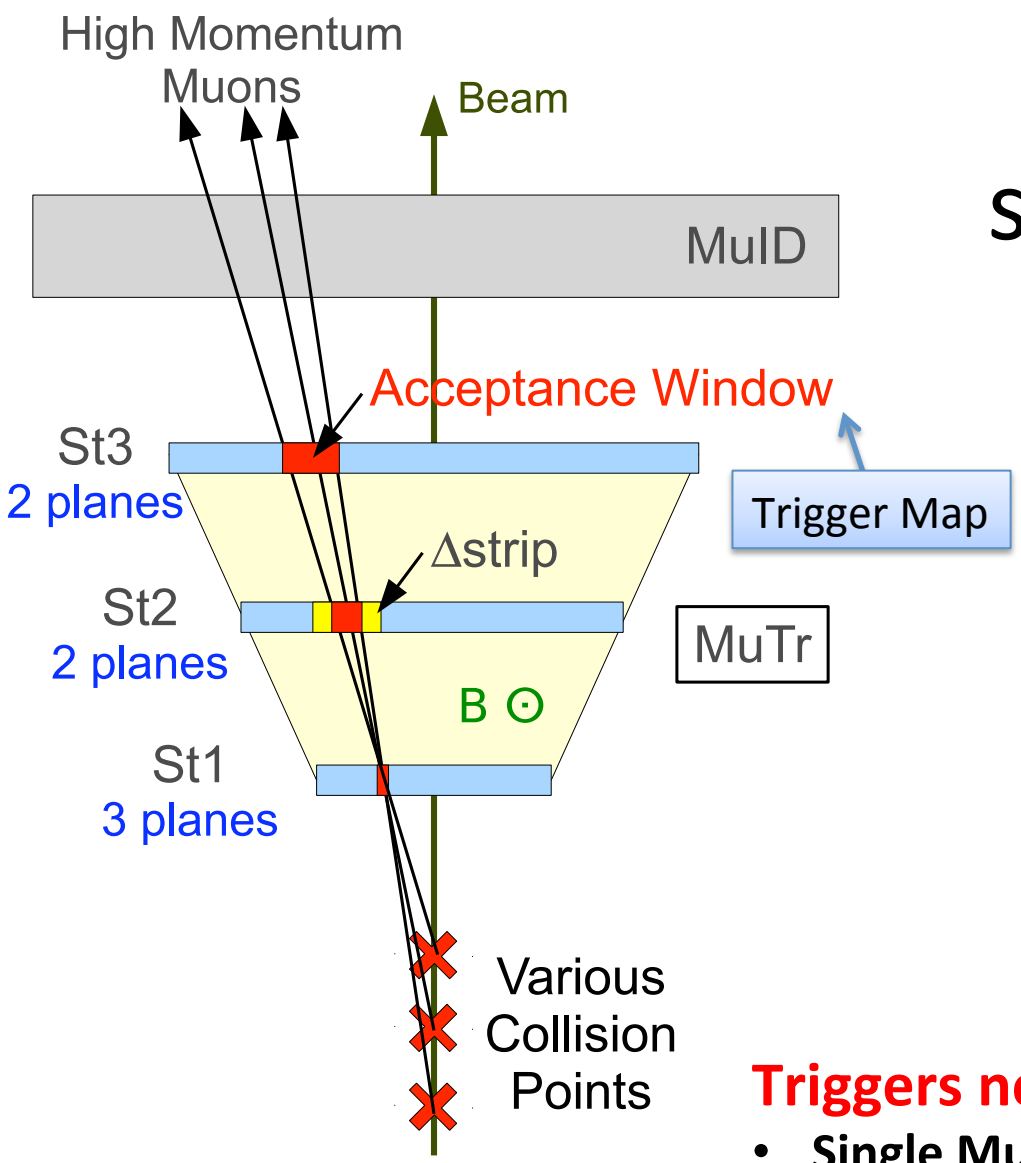
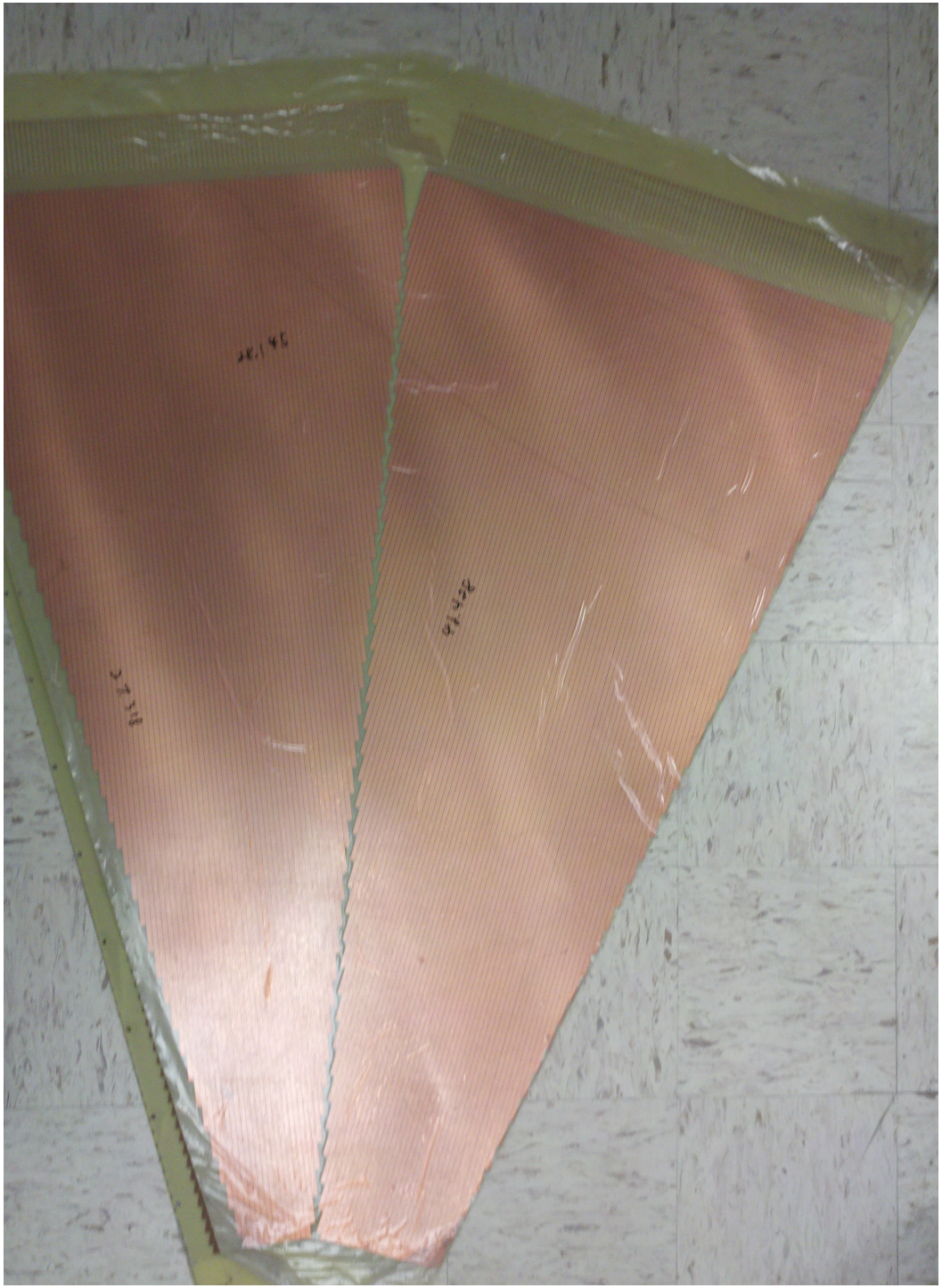


Figure 29: Explanatory drawing for the trigger logic.

Only operates within each **half-octant** of MuTr.

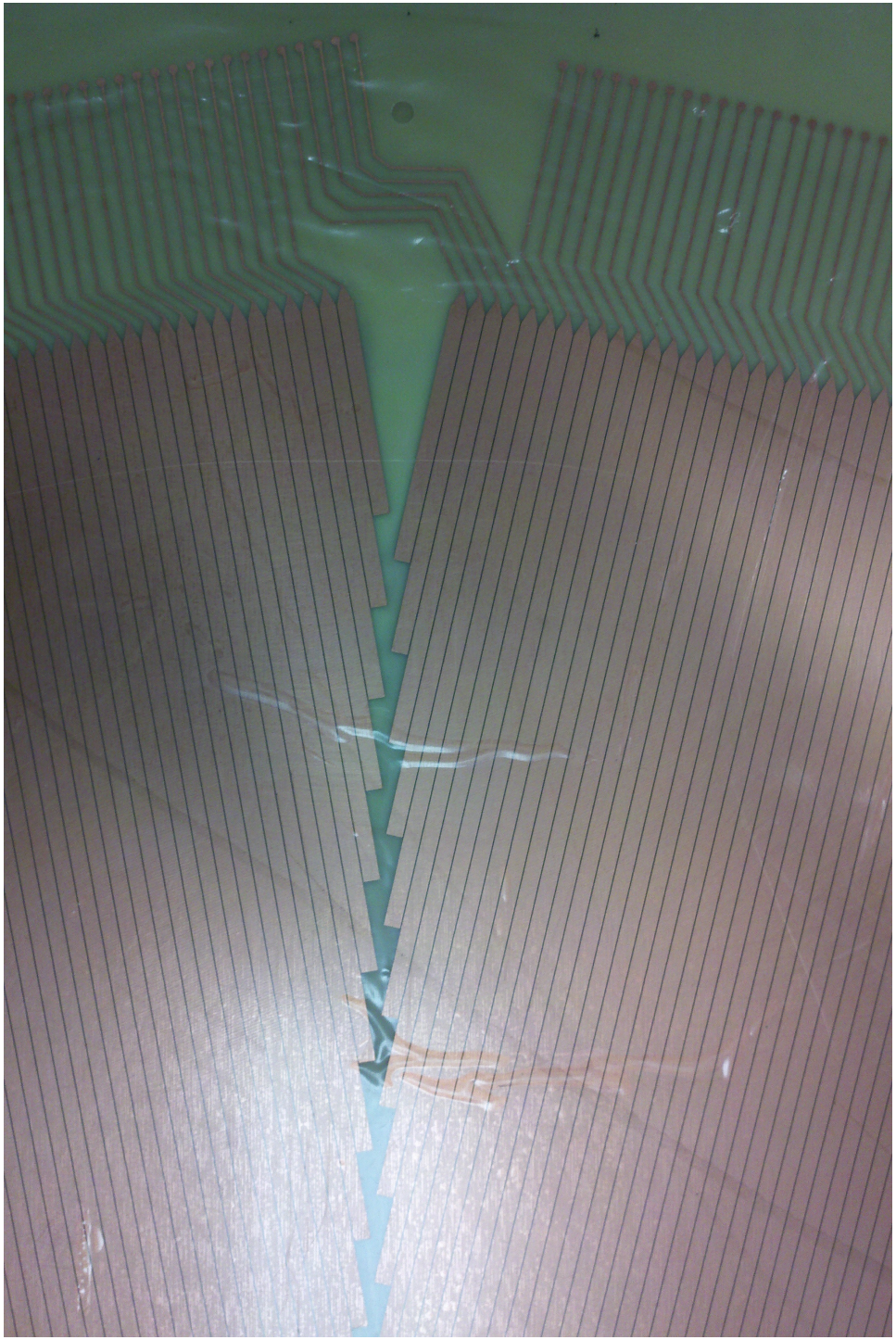
Triggers needed for run15 200 GeV p+p

- **Single Muon: SG3&MuID1D&&BBCLL1 (< 1.5 kHz combined both arms)**



Due to the cathode readout stripe's geometry layout…

sg1 and sg3 triggers only operate within each **half-octant** to match MuTr hit-patterns among the three tracking stations:
st0, st1, st2.



Zooming in on the readout stripe geometry…

Events will get lost when crossing the boundary of half-octants.

Leading to a reduced trigger efficiency.