

TOF-700 alignment



Sergei Merts

27/03/24

Coordinate correction

The next conditions and cuts were used

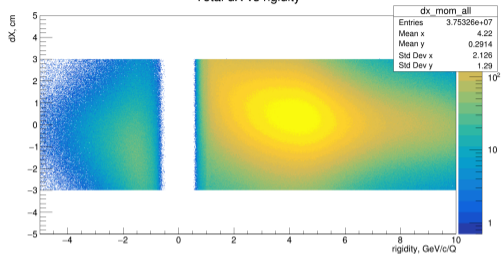
- $\approx 22e6$ events
- At least **2 tracks** in primary vertex
- $-1.0 < PV_X < 1.5$
 $-1.0 < PV_Y < 1.2$
 $-0.5 < PV_Z < 0.5$
- At least **5 hits** on track
- Time corrections implemented

Matching

- Propagate track to PV_Z , if distance between PV and track on PV_Z more than 1.0 cm, skip track
- Propagate track to TOF-700 planes
- Find nearest hit in ± 3 cm for X and Y directions
- Calculate length of track
- Correct time by proton peak correction coefficients
- Calculate mass and momentum of track
- Fill independent distributions for protons, π^- , π^+ and deuterons

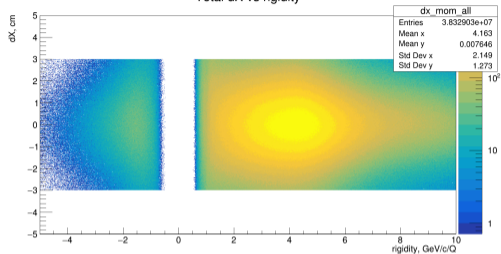
before mom corrections

Total dX vs rigidity

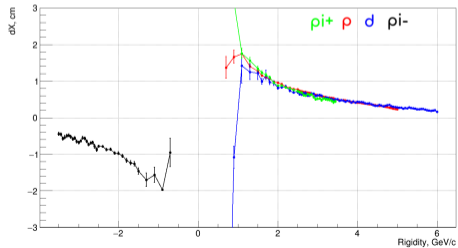


after mom corrections

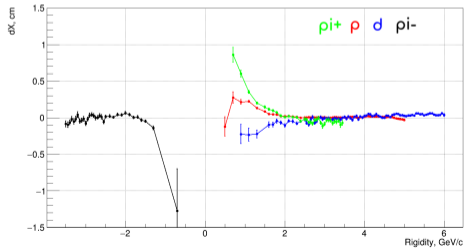
Total dX vs rigidity



dX vs Rigidity

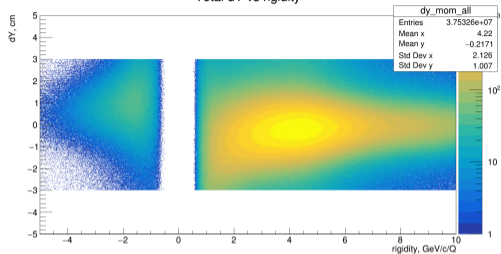


dX vs Rigidity



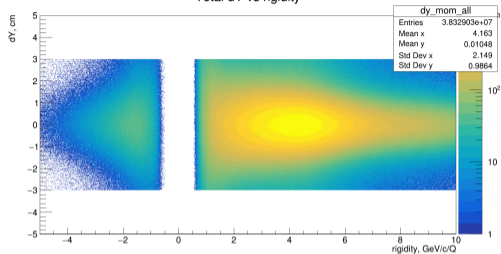
before mom corrections

Total dY vs rigidity

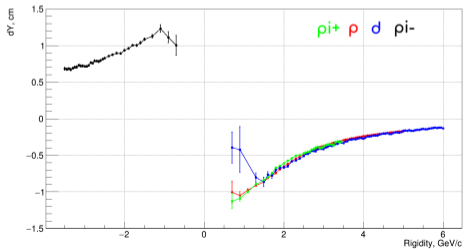


after mom corrections

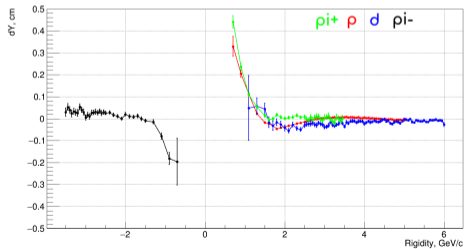
Total dY vs rigidity



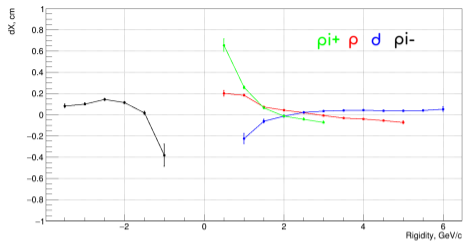
dY vs Rigidity



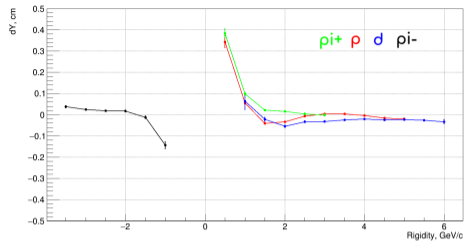
dY vs Rigidity



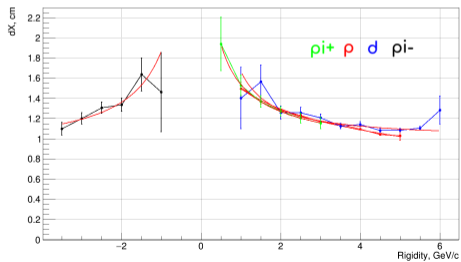
Mean dX vs Rigidity



Mean dY vs Rigidity



Sigma dX vs Rigidity



Sigma dY vs Rigidity

