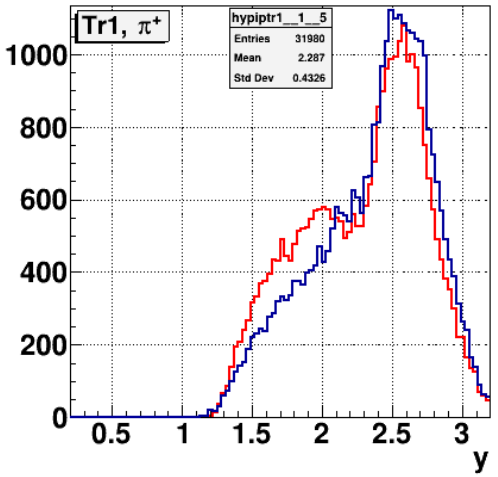
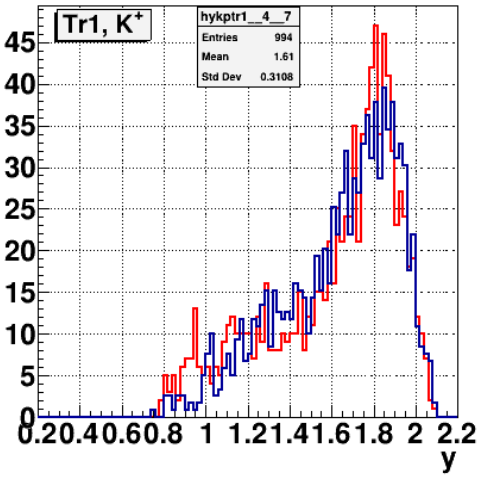
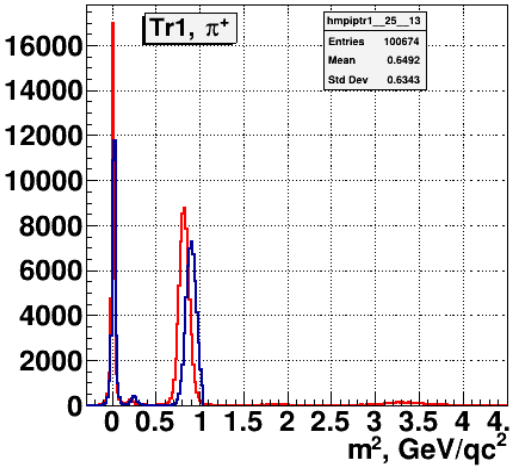
1.5σ matching window. Beam slope

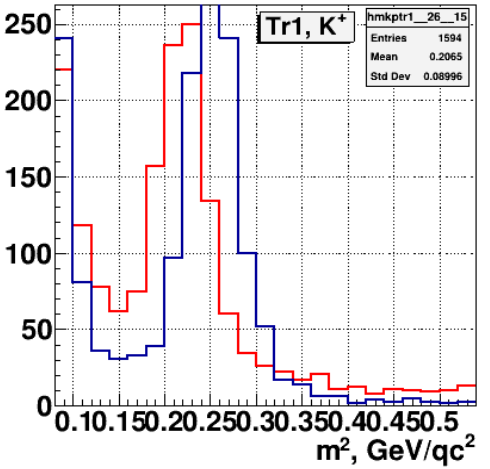
- 1.5σ matching window
- Beam slope

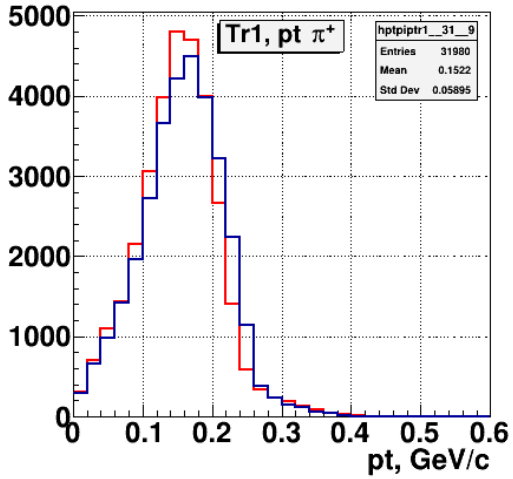
1.5σ matching window

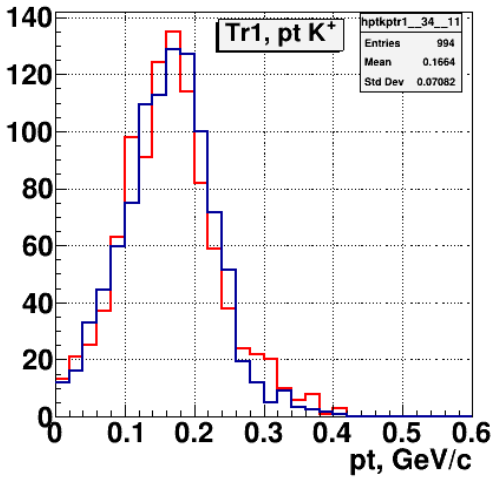






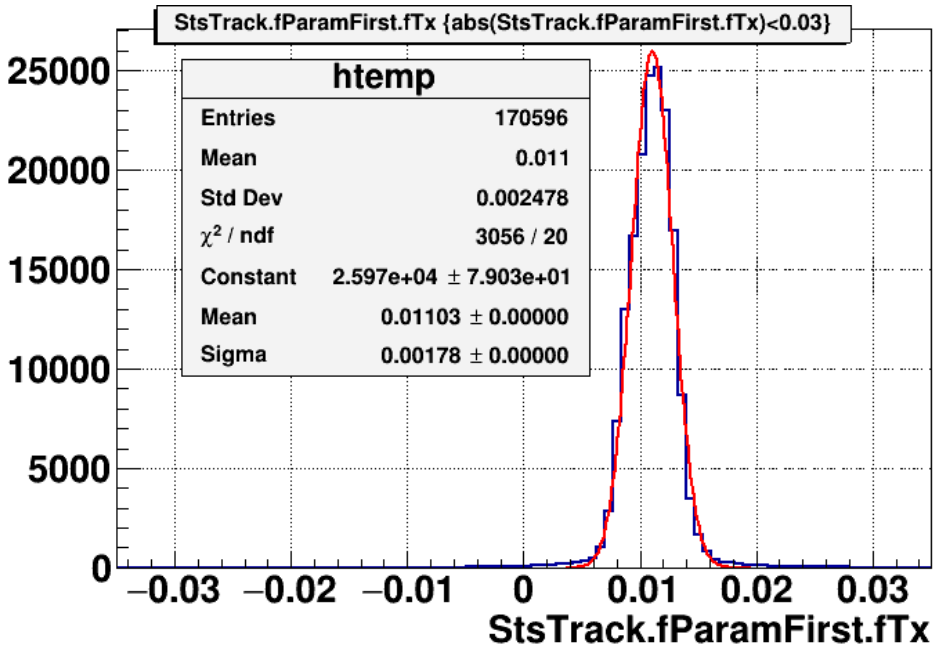


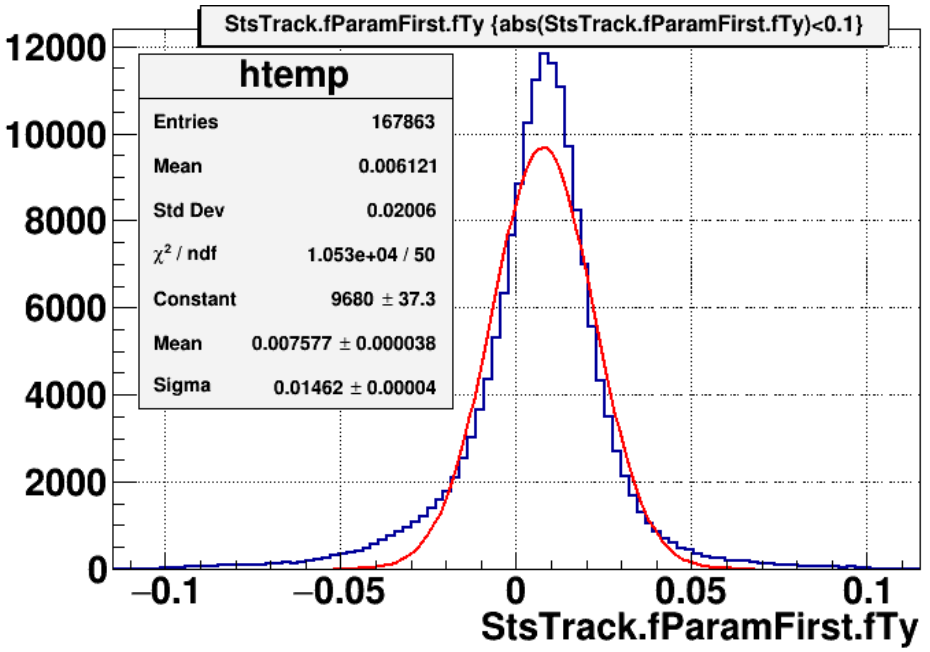




- **Y spectrum of π+** for Data is closer to MC for 1.5σ than for 2.5σ
- The number of identified π+ for 1.5σ is ~30% less than for 2.5σ

Beam slope

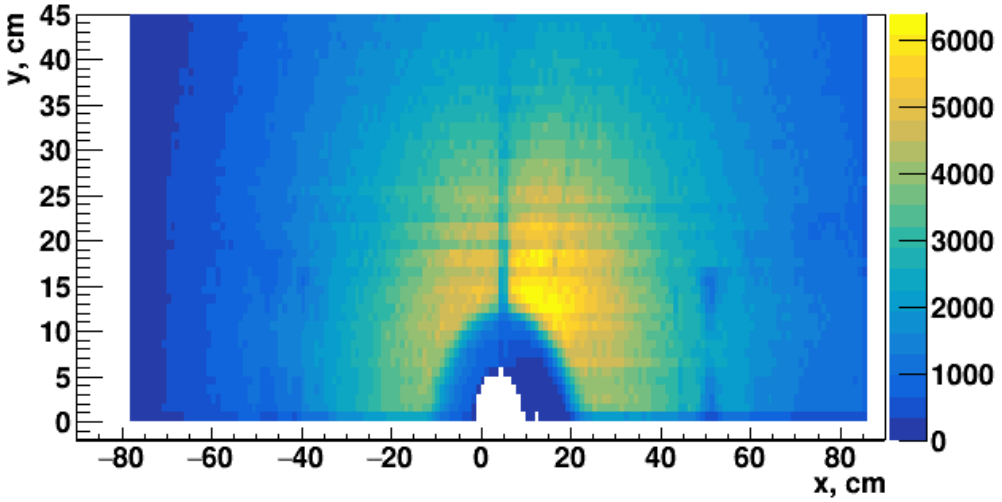




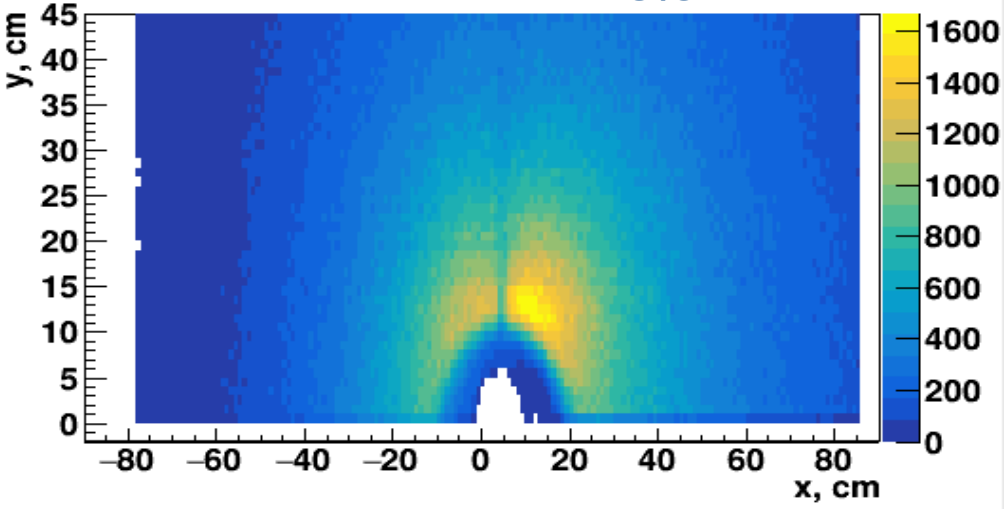
- Beam tracks reconstructed from Si hits with overflowing digits
- Positive Tx and Ty
- Ty is wider and not Gaussian

GEM6 hit density difference for Data and MC

Data



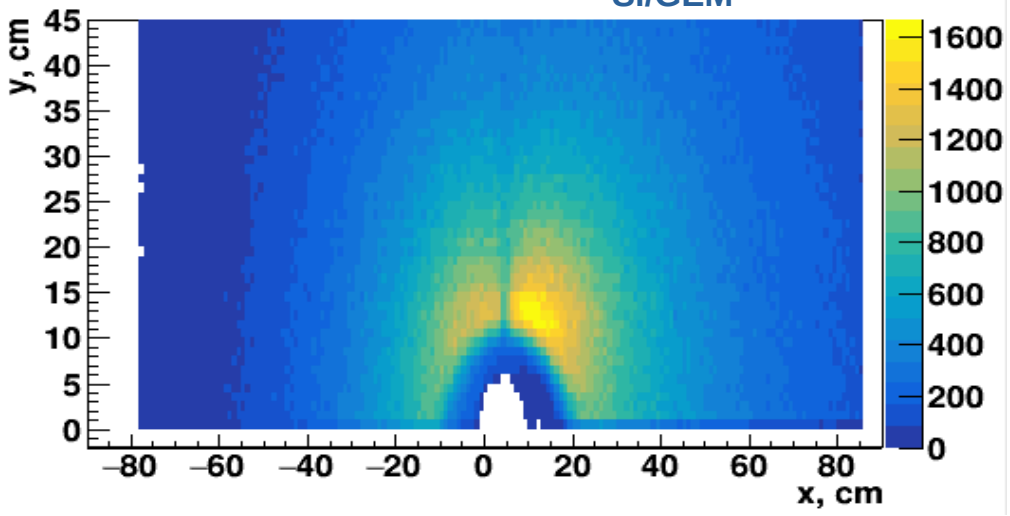
MC wo Eff$_{Si/GEM}$



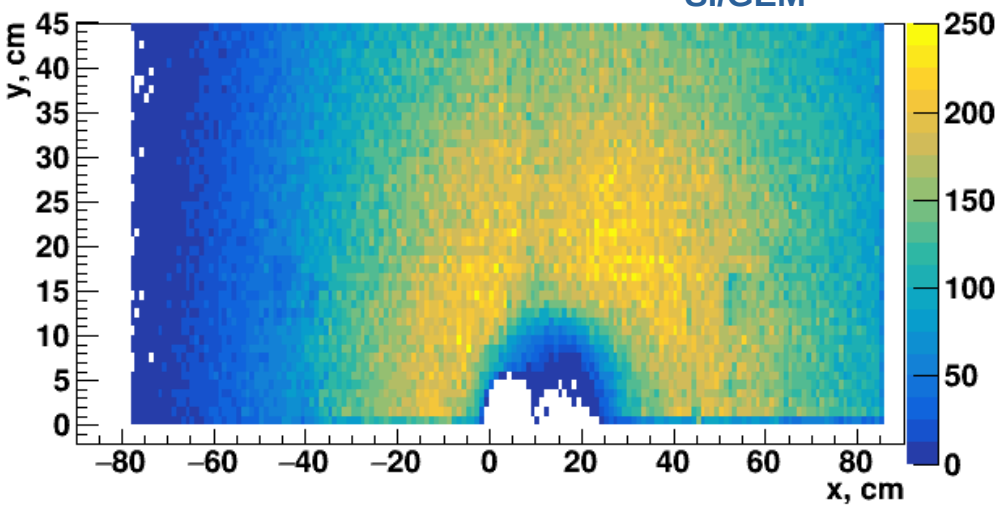
- The hit densities are similar for Data and MC, taking into account the positive Tx and Ty slopes of the beam and the spread of the beam slopes

GEM6 hit density difference for MC with and wo $Eff_{Si/GEM}$

MC wo $Eff_{Si/GEM}$



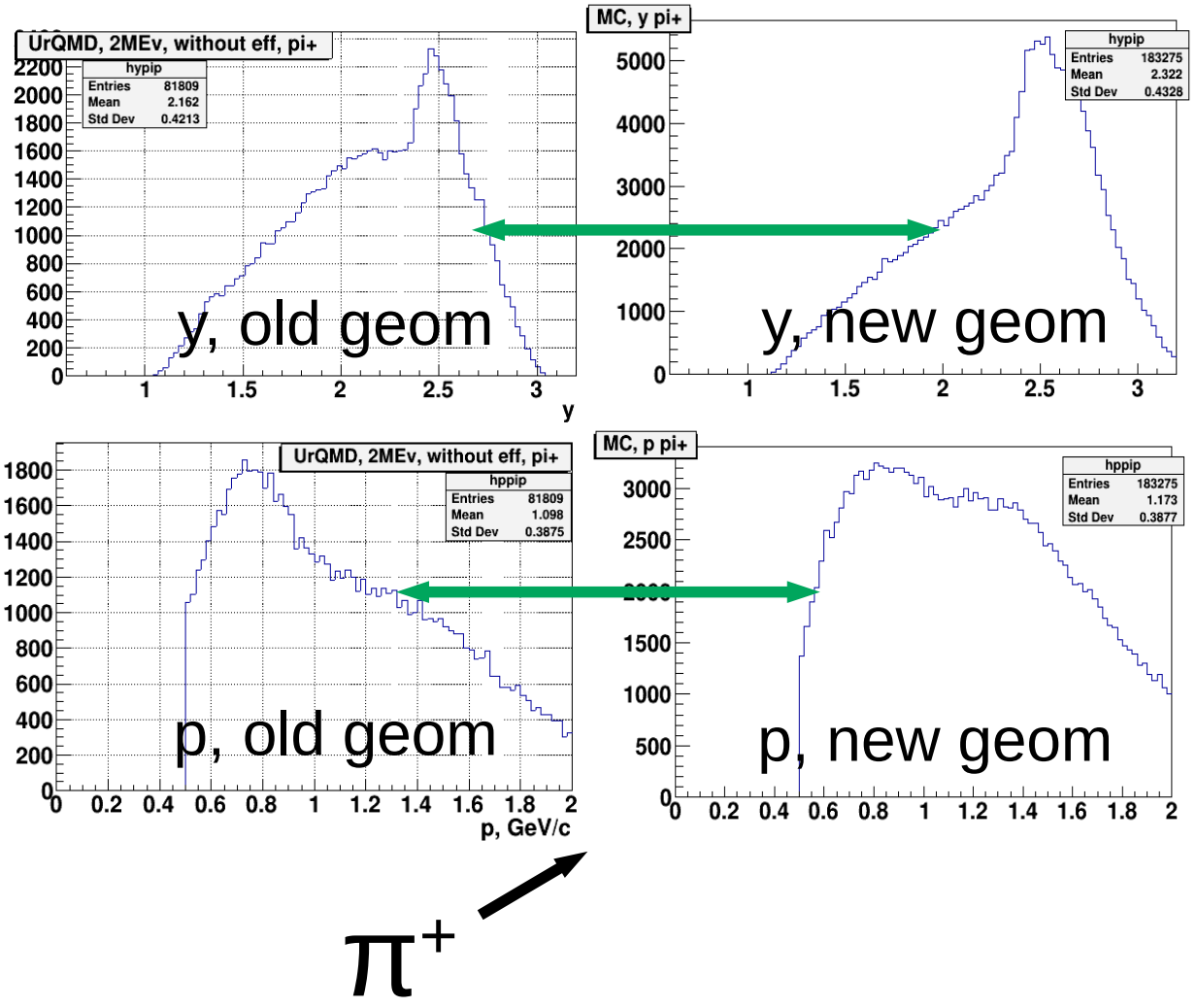
MC with $Eff_{Si/GEM}$



- Applying of $Eff_{Si/GEM}$ distorts hit density significantly
- Less than 30% of entries survive after applying $Eff_{Si/GEM}$

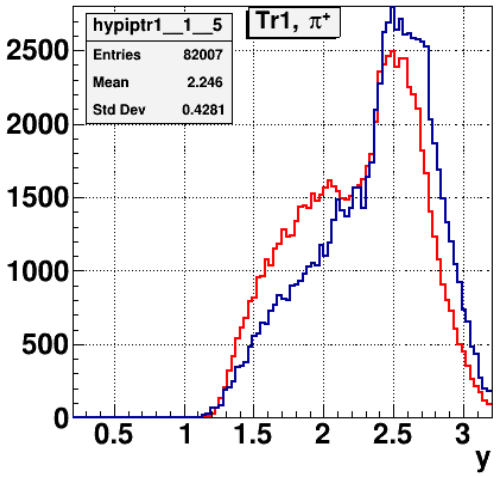
Backup

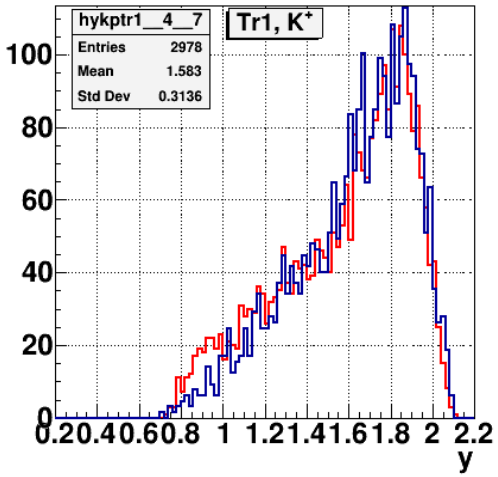
MC target geometry is improved, from 6th CM

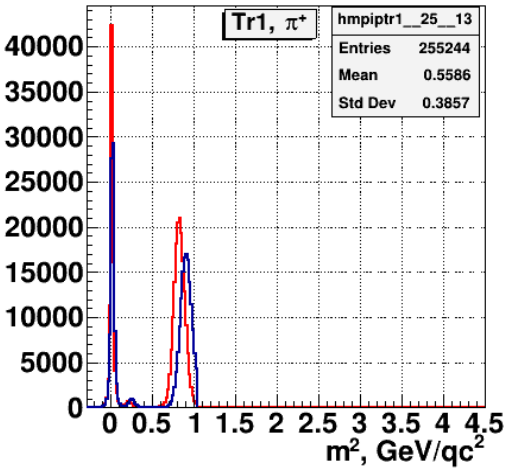


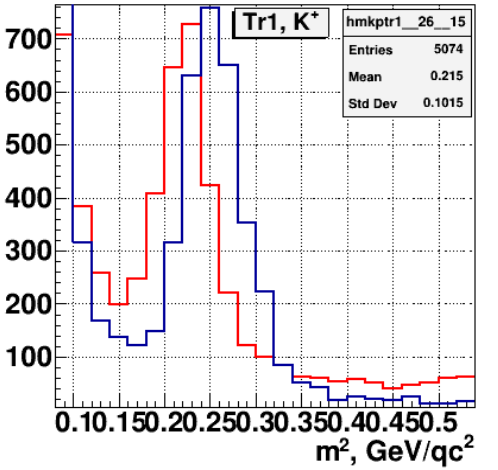
- **Result:** low part of MC p_{full} spectrum decrease by ~20%

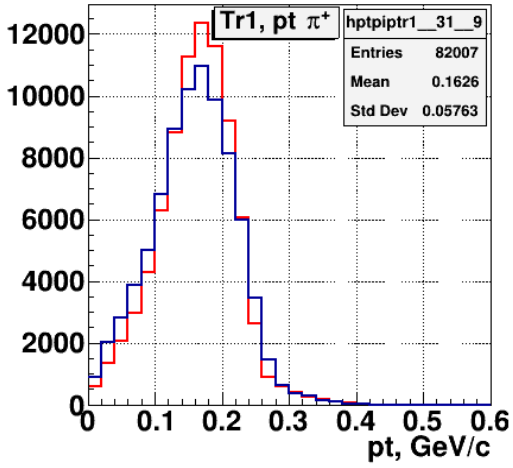
Data and MC spectra comparison (without CSC), from 8th CM

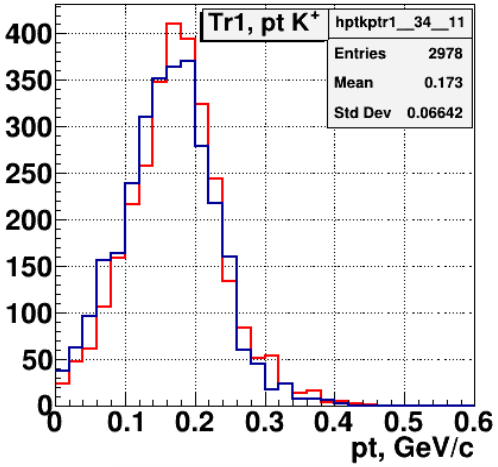












- Y spectra of π^+ softer for Data
- Pt spectra close

Beam slope in the TOF700 analysis

- Double_t **xangle_mean** = **0.005**, xangle_sigma = 0.004;
- Double_t yangle_mean = 0.005, yangle_sigma = 0.003;
- Double_t x_mean = 0.4193, x_sigma = 0.7987;
- Double_t y_mean = 2.591, y_sigma = 0.6441;
- Double_t z_start = 0.6485, dz = 0.5165;
-
- primGen->SetBeam(x_mean, y_mean, x_sigma, y_sigma);
- primGen->SetBeamAngle(**xangle_mean**, yangle_mean, xangle_sigma, yangle_sigma);
- primGen->SetTarget(z_start, dz);
- primGen->SmearVertexZ(kTRUE);
- primGen->SmearGausVertexXY(kTRUE);