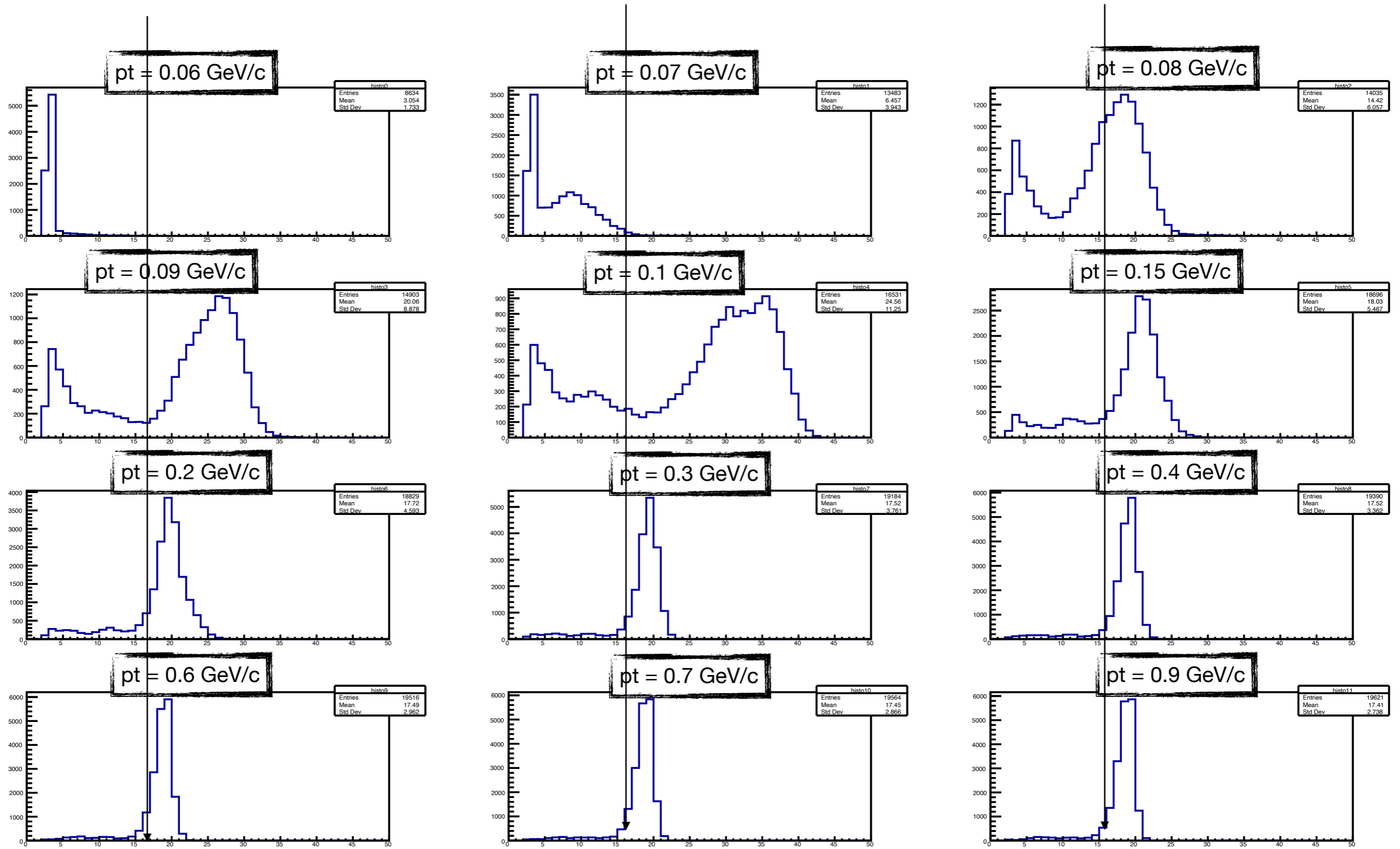


# Test of global hough V15 - multi-pions

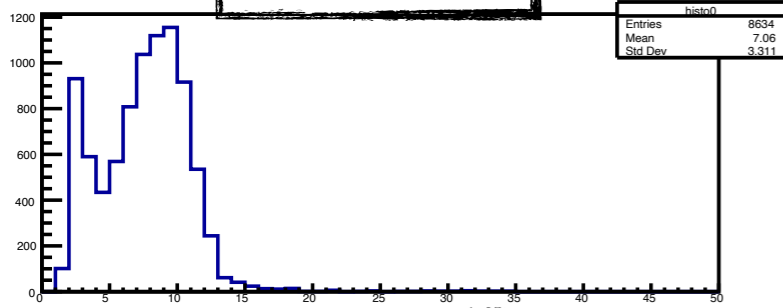
**Sept 2020**

mdcTrk->nster()); //number of stereo hits contained (16 stereo wire layers)

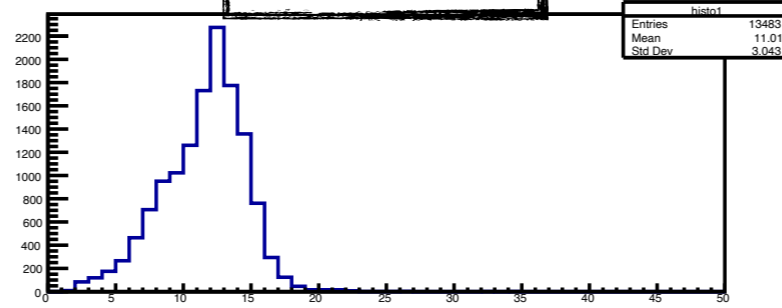


mdcTrk->nlayer()

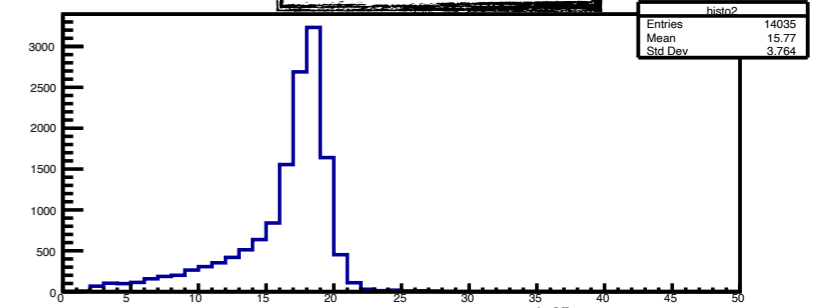
pt = 0.06 GeV/c



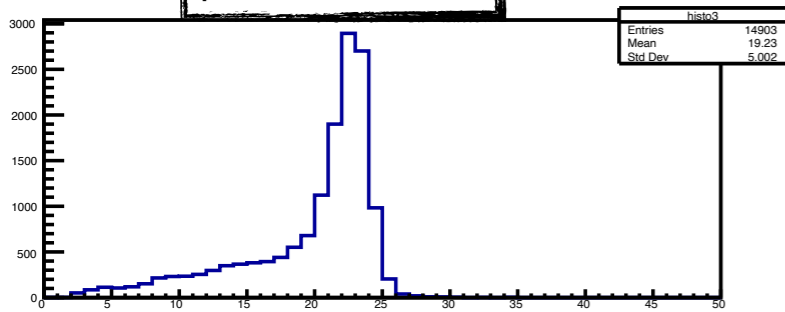
pt = 0.07 GeV/c



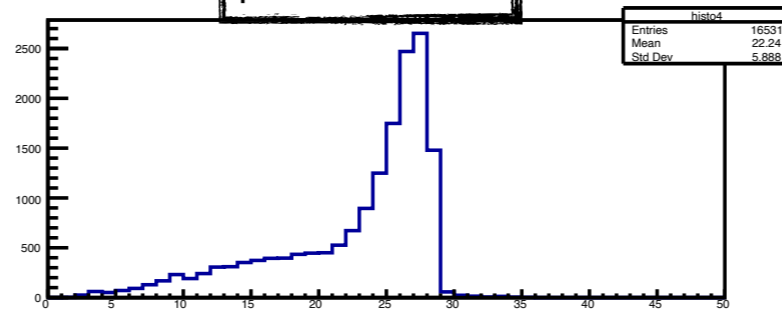
pt = 0.08 GeV/c



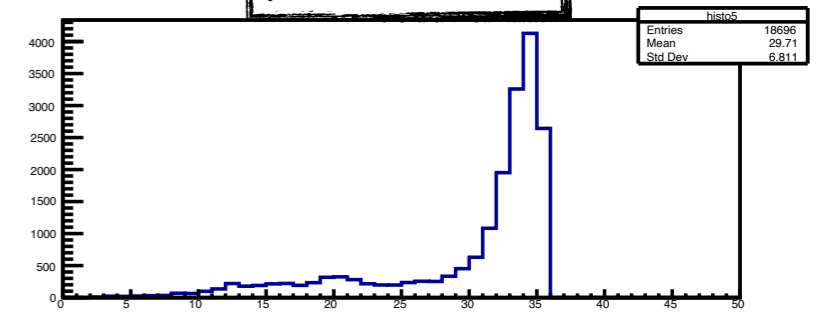
pt = 0.09 GeV/c



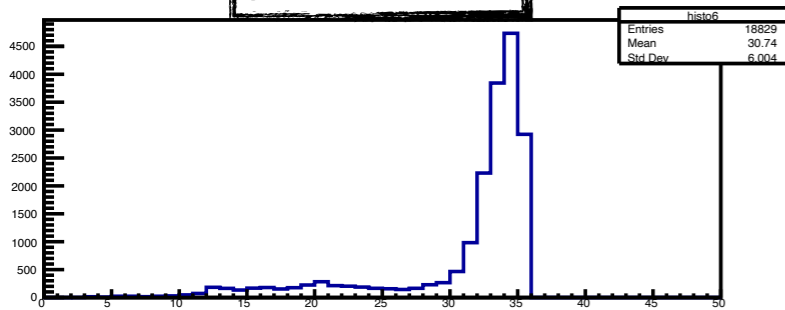
pt = 0.1 GeV/c



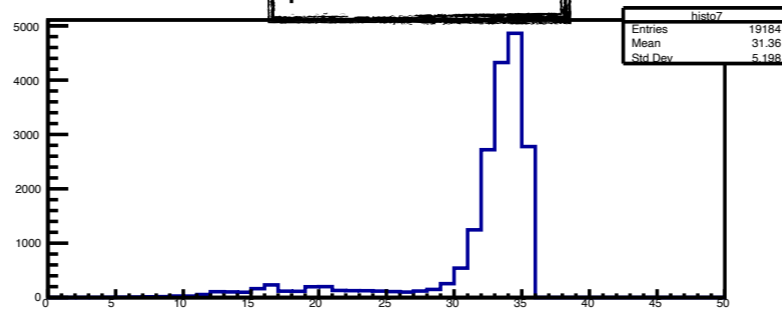
pt = 0.15 GeV/c



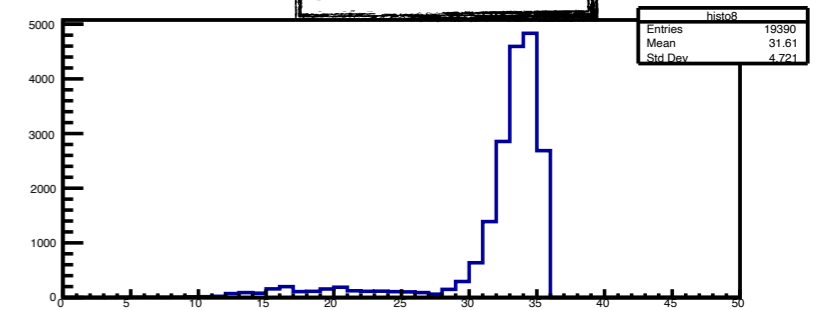
pt = 0.2 GeV/c



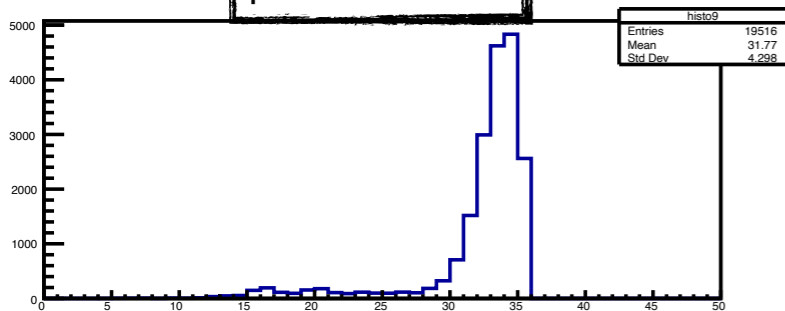
pt = 0.3 GeV/c



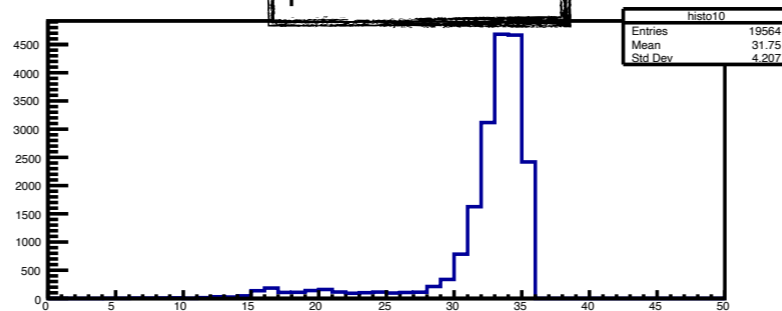
pt = 0.4 GeV/c



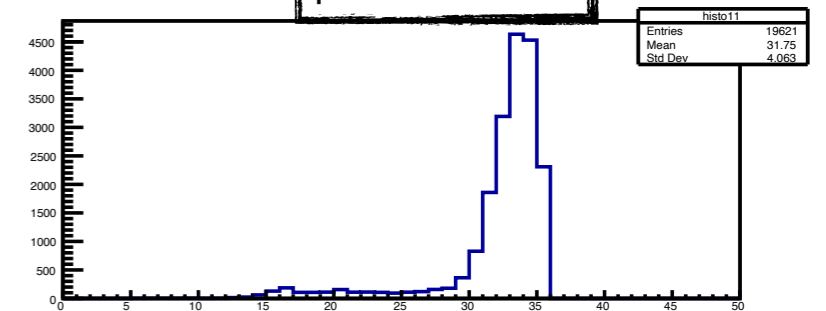
pt = 0.6 GeV/c



pt = 0.7 GeV/c



pt = 0.9 GeV/c



# TWO/FOUR pions simulation

- 20000 pions
- fixpt generator
- $pt=[0.06, 0.07, 0.08, 0.09, 0.1, 0.15, 0.2, 0.3, 0.4, 0.6, 0.7]$  GeV/c
- $|\cos(\theta)| < 0.93$
- HoughTransAlg-00-00-15
  
- comparison w.r.t. Boss665p01: **ONGOING**
- Cuts applied:

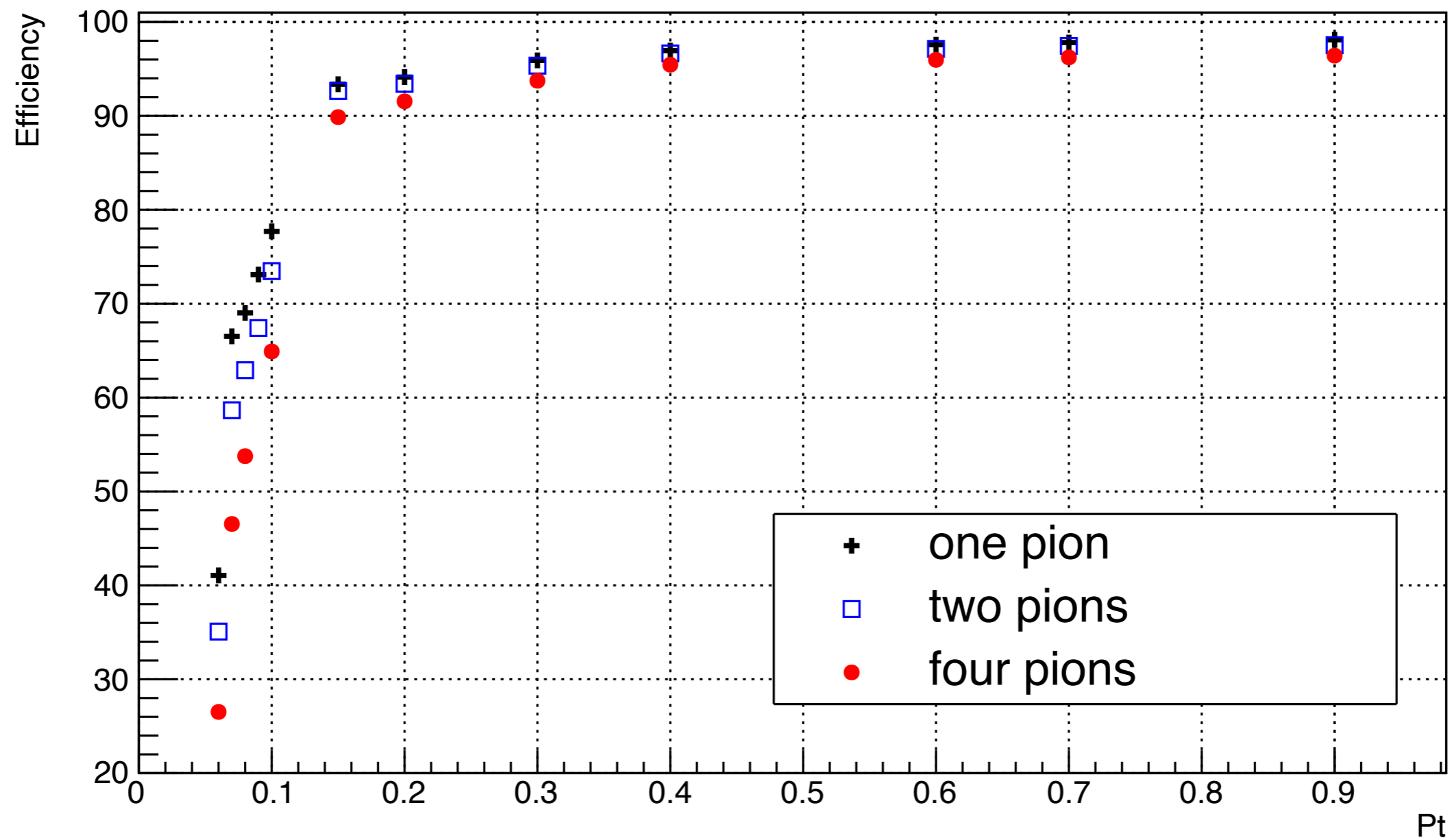
```
if(!(*itTrk)->isMdcTrackValid()) continue;  
if(fabs(Rvz0) >= 10.0) continue;  
if(fabs(Rvxy0) >= 1.0) continue;  
if(fabs(cos(thetaTrk)) >= 0.93) continue;
```

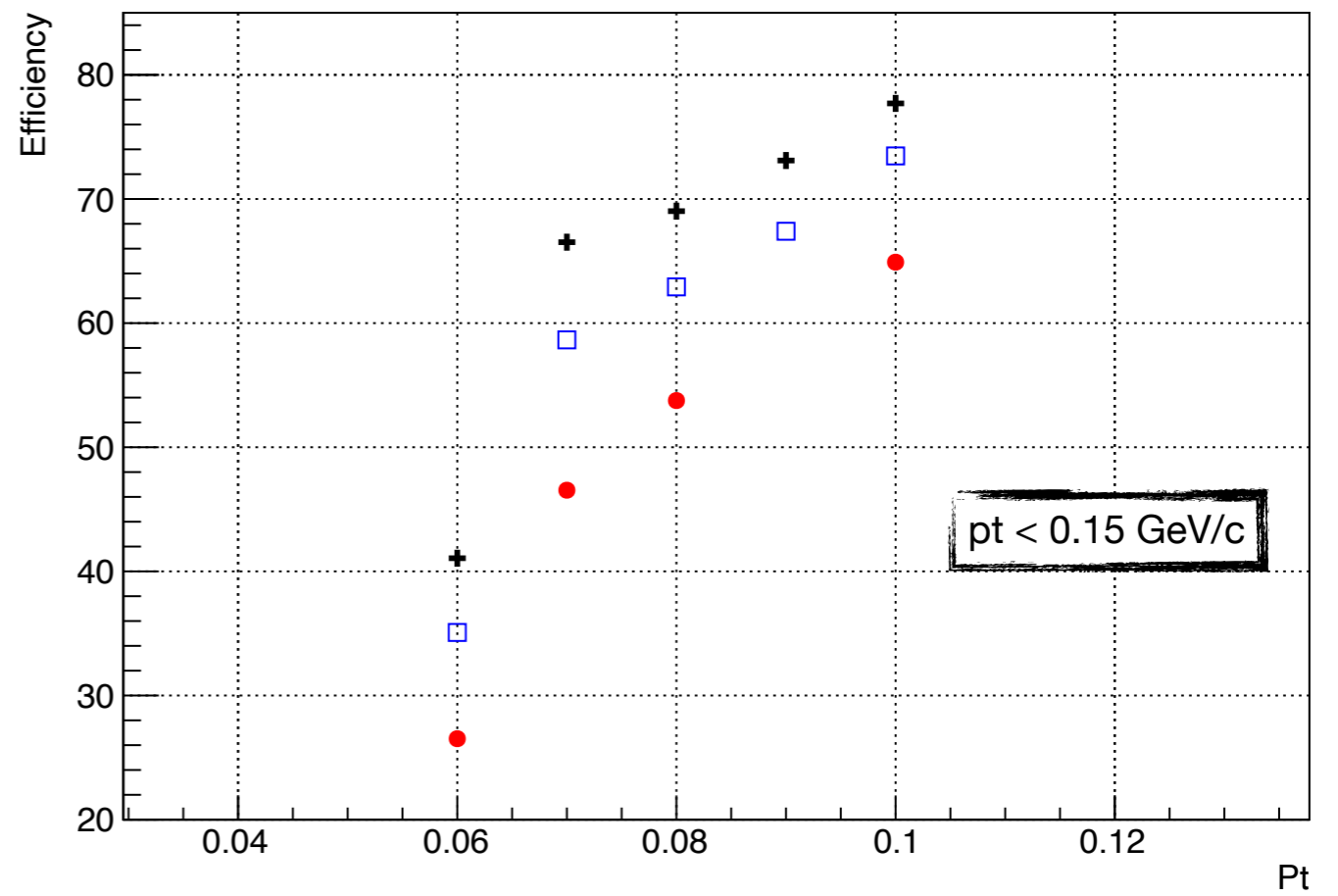
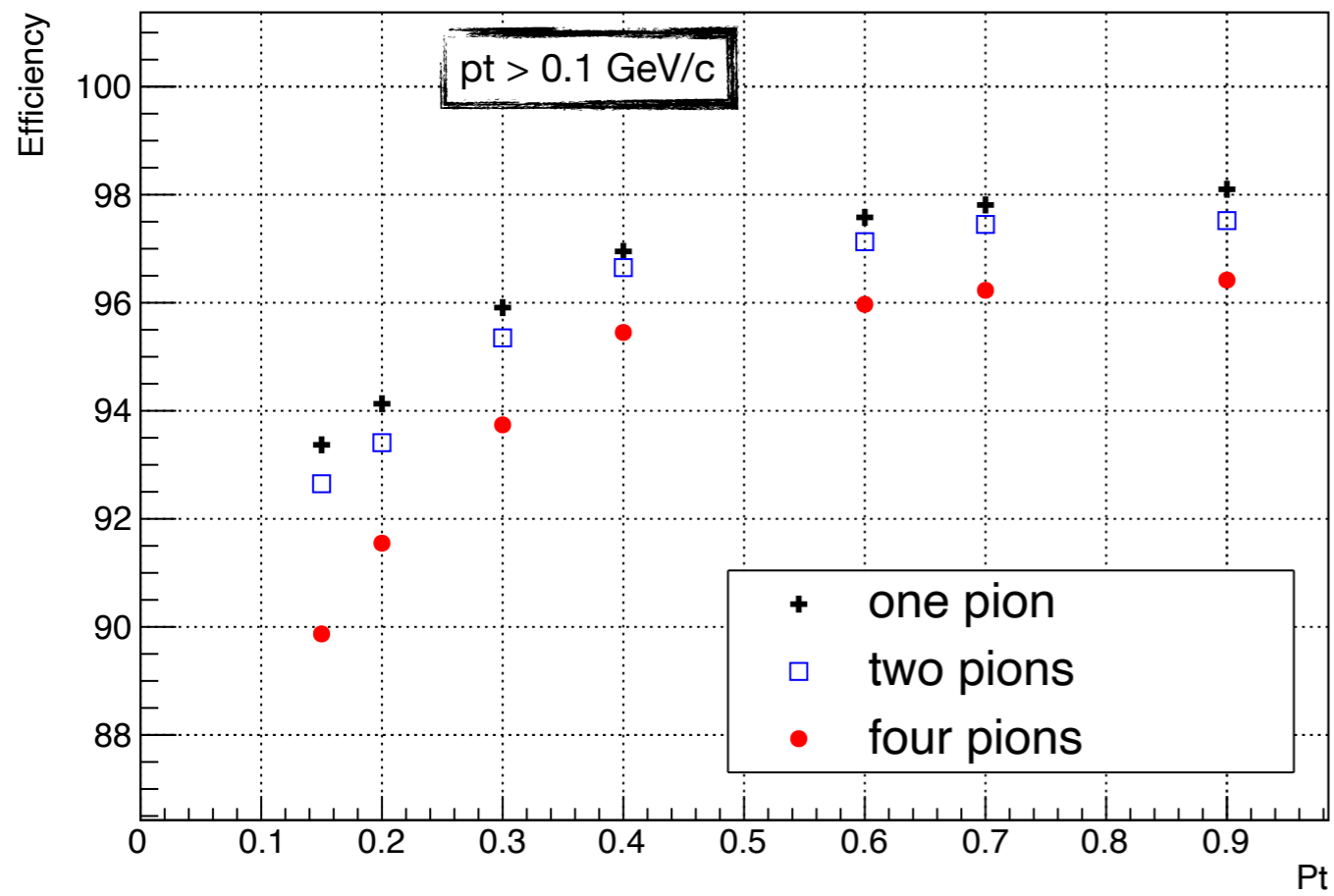
# TWO/FOUR pions simulation

```
/* global tracking with Hough transform for CGEM+ODC */  
#include "$HOUGHTRANSALROOT/share/houghFinder.txt"  
HoughFinder.nBinTanl = 1000;  
HoughFinder.nBinDz   = 1000;  
HoughFinder.driftTimeUpLimit = 600; /// 1500 is the default value  
  
#include "$KALFITALROOT/share/job_kalfit_numf_data.txt"  
KalFitAlg.dchi2cut_mid1 = 100;    //layerid 4-11  
KalFitAlg.dchi2cut_mid2 = 100;    //layerid 12-20  
KalFitAlg.dchi2cut_outer = 100;   //layerid 20-43
```

- driftTimeUpLimit = 400 —> fails for two pion simulation ?
-

# Efficiency





- Boss665p01: four pion simulation
- study the origin of this efficiency lost
- comparison w.r.t. mctruth