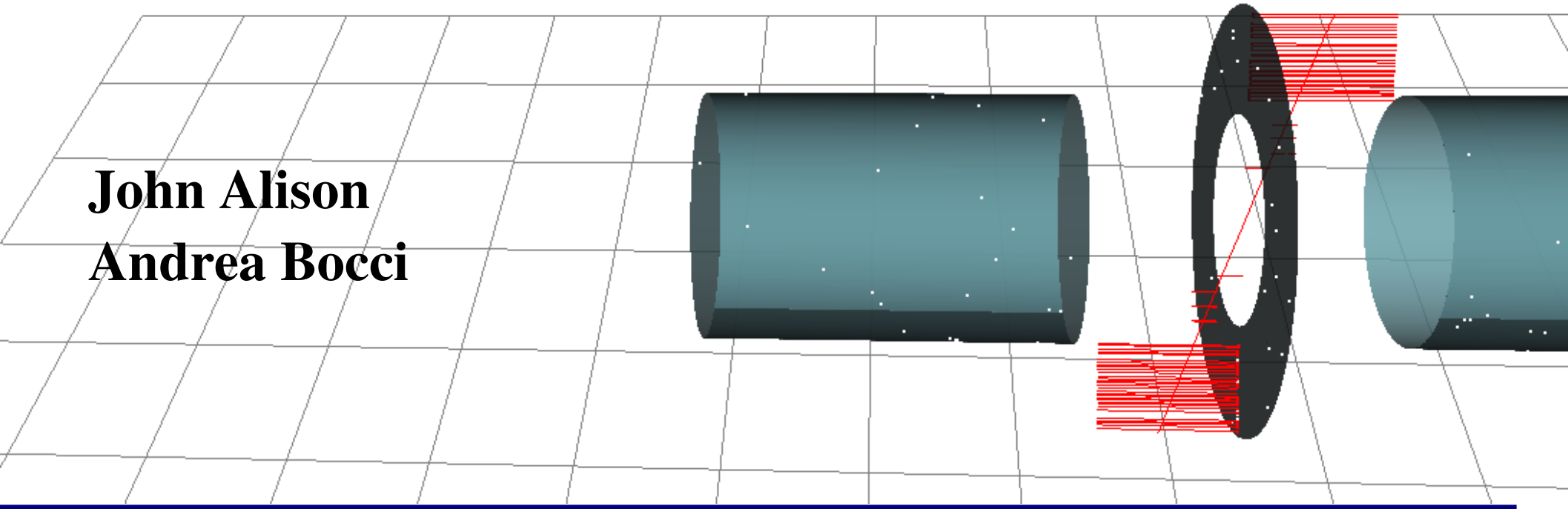
TRT L2 Alignment w/ combined tracks

(InDet_Cosmic_2008_03)

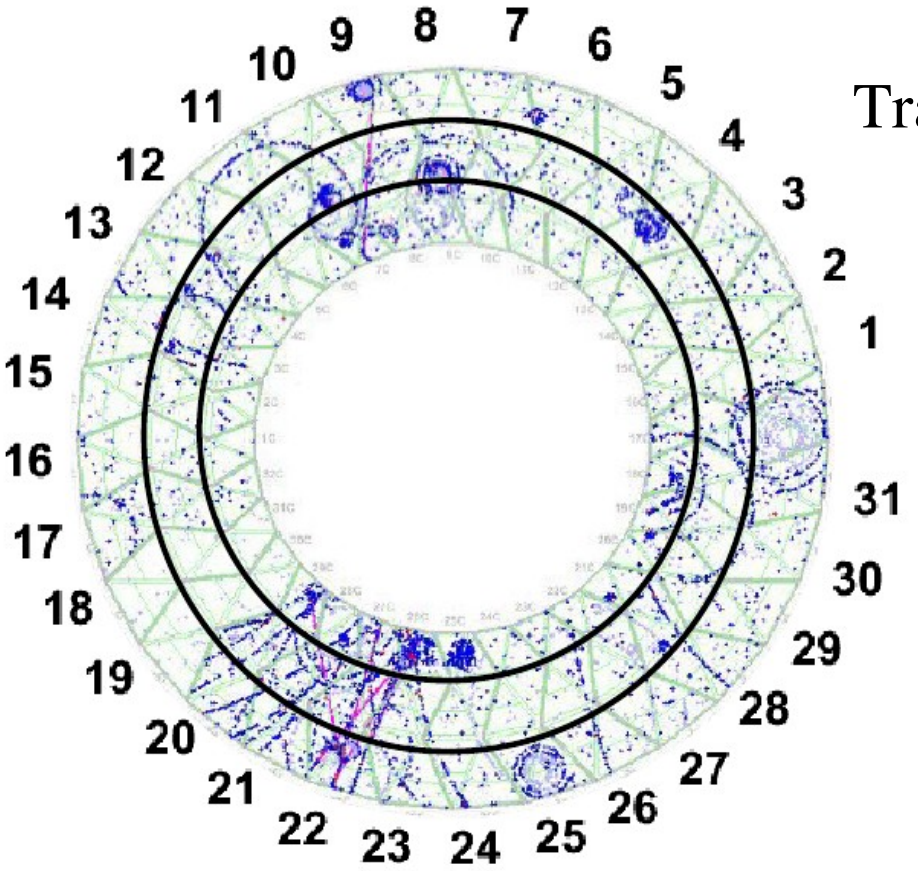
John Alison

Andrea Bocci



TRT L2 Alignment

Modules in the TRT Barrel (both A and C side together) are aligned in 3 DoF
2 translations + rotations around global- Z



Tracks Selection:

- > 45 TRT hits
- > 2 GeV

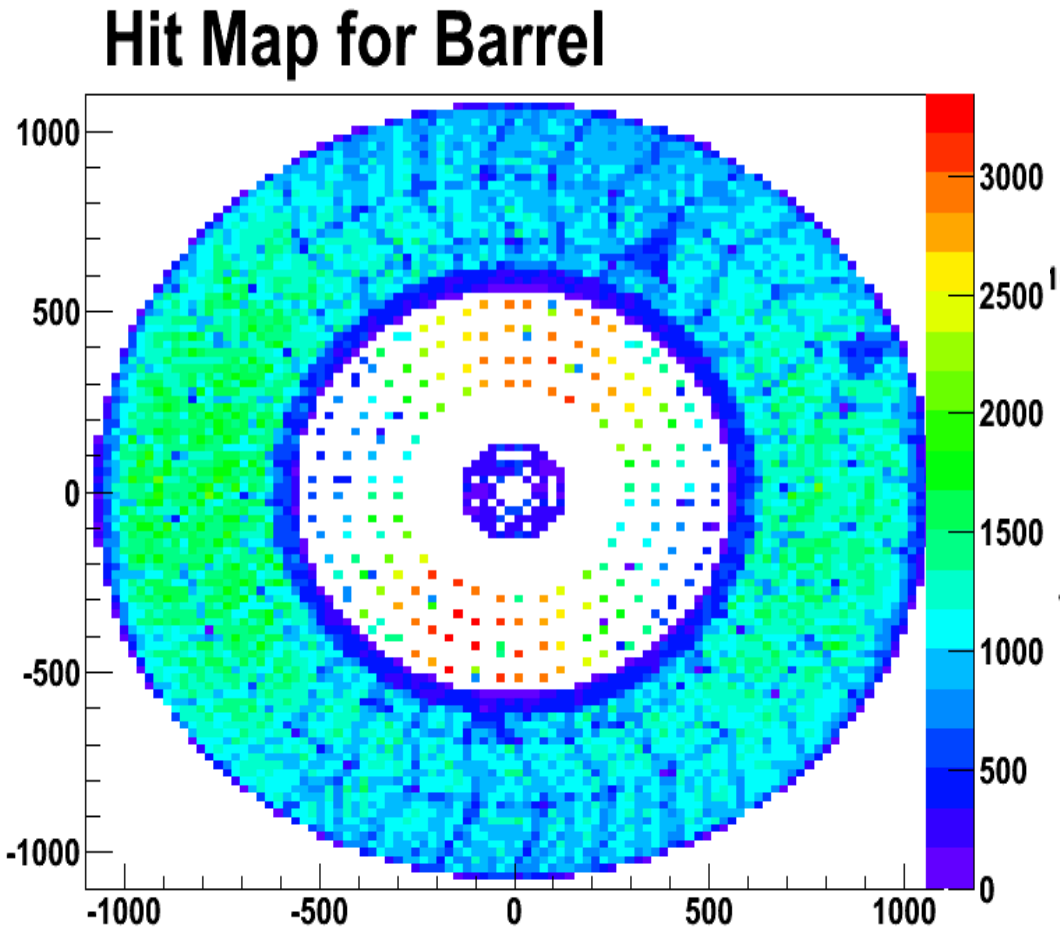
Reconstruction in rel 15 (tag=15.0.0)

Using Si alignment InDetAlign-REPC-01

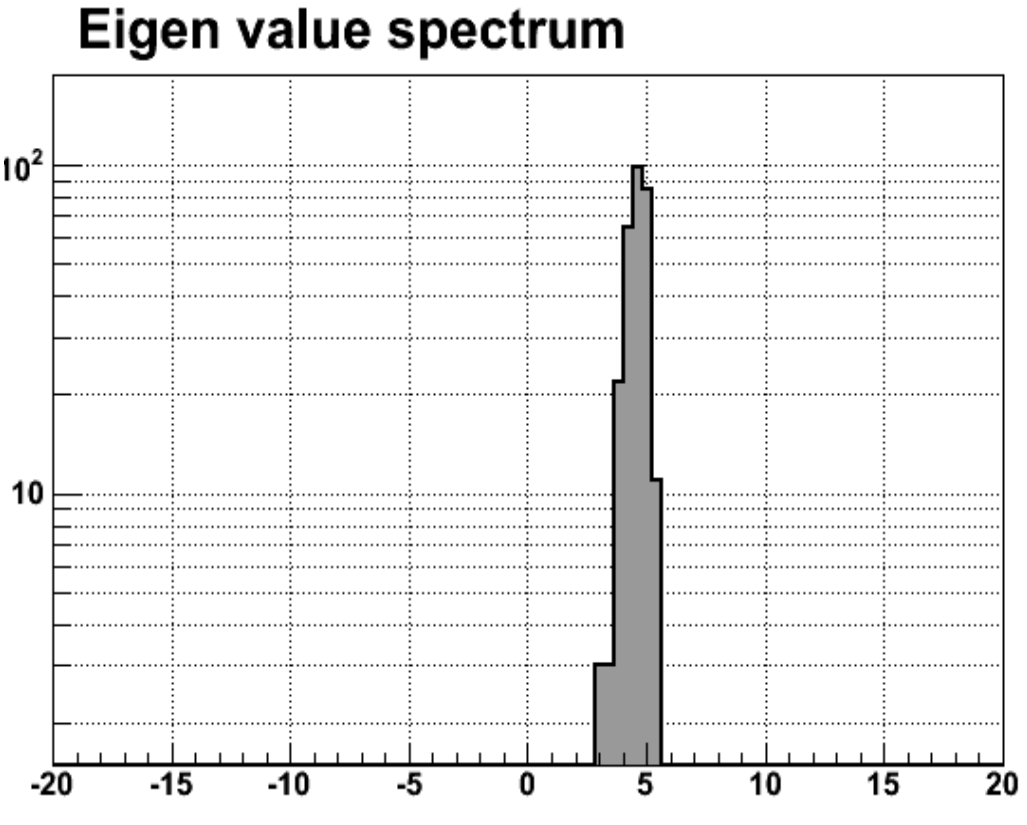
L2 Alignment with combined tracks

- **Convergence after 5 iterations.**
- **Number of hits/tracks increased with alignment**

Hits used in the alignment



Unconstrained global DoF removed by fixed Si



Track Selection for following plots

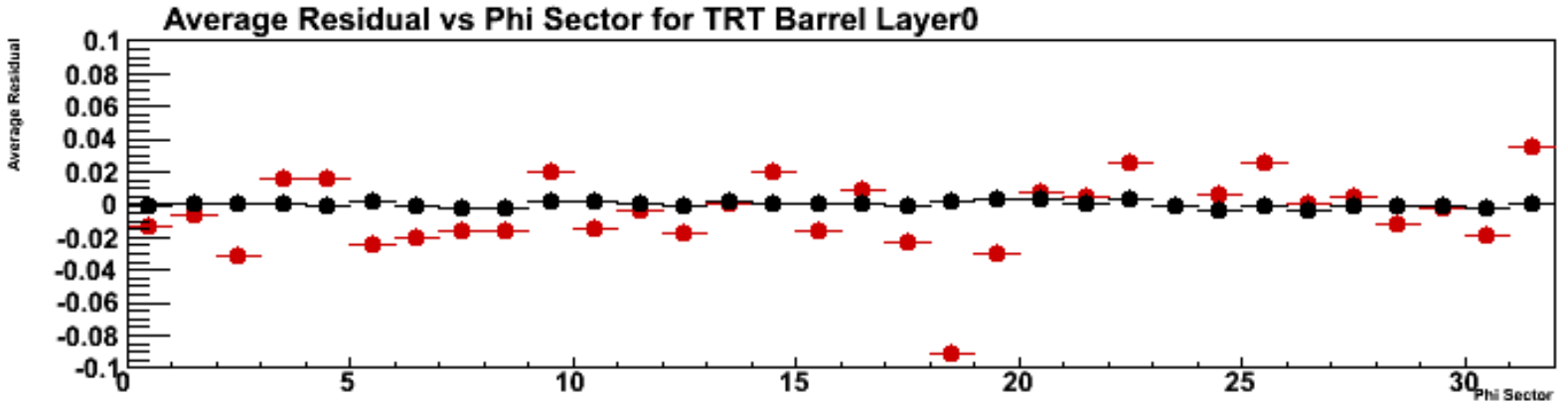
> 45 TRT hits

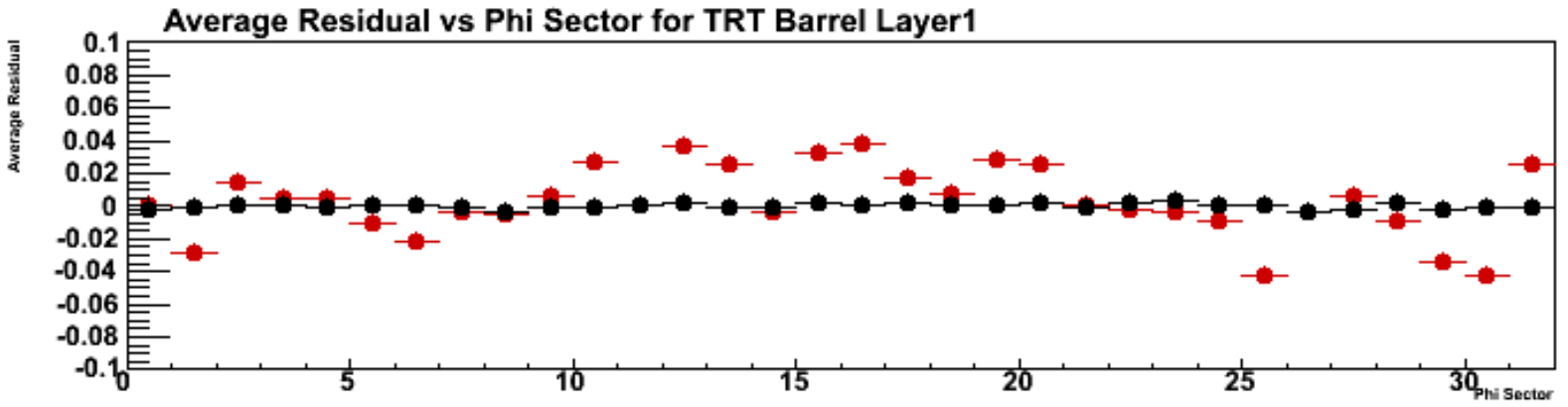
TRT-Only CTB Tracks

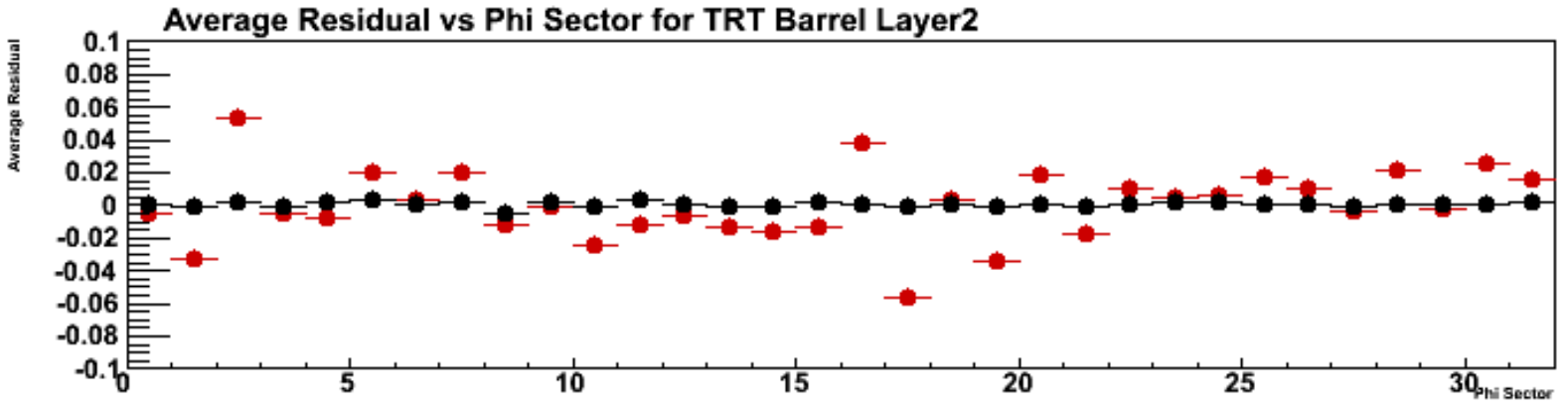
Before L2

After L2

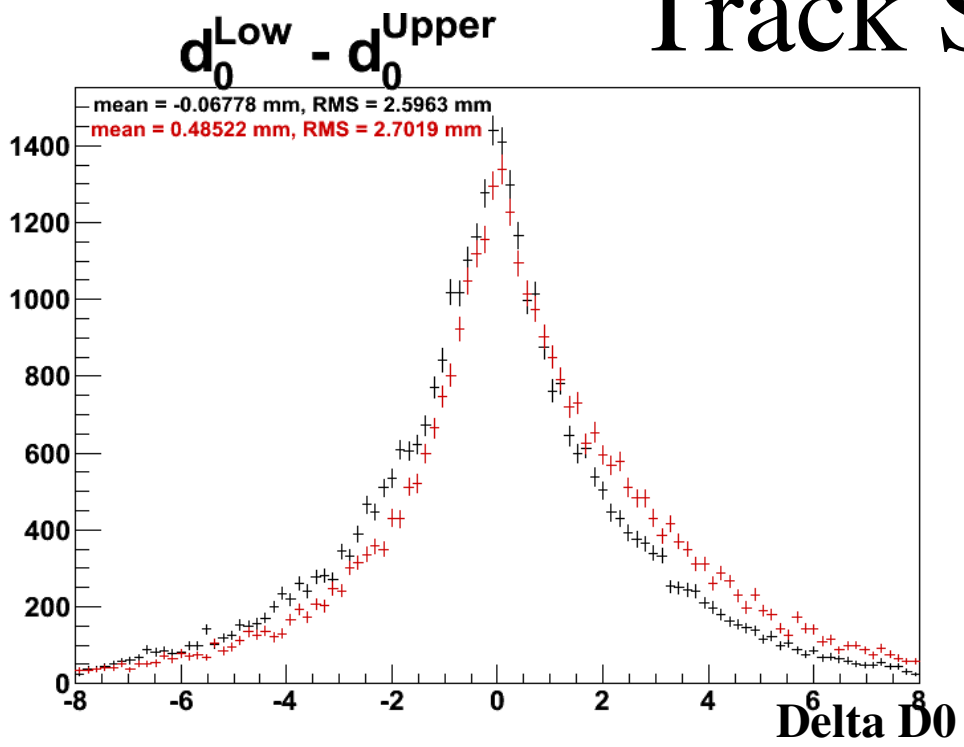
TRT Residuals

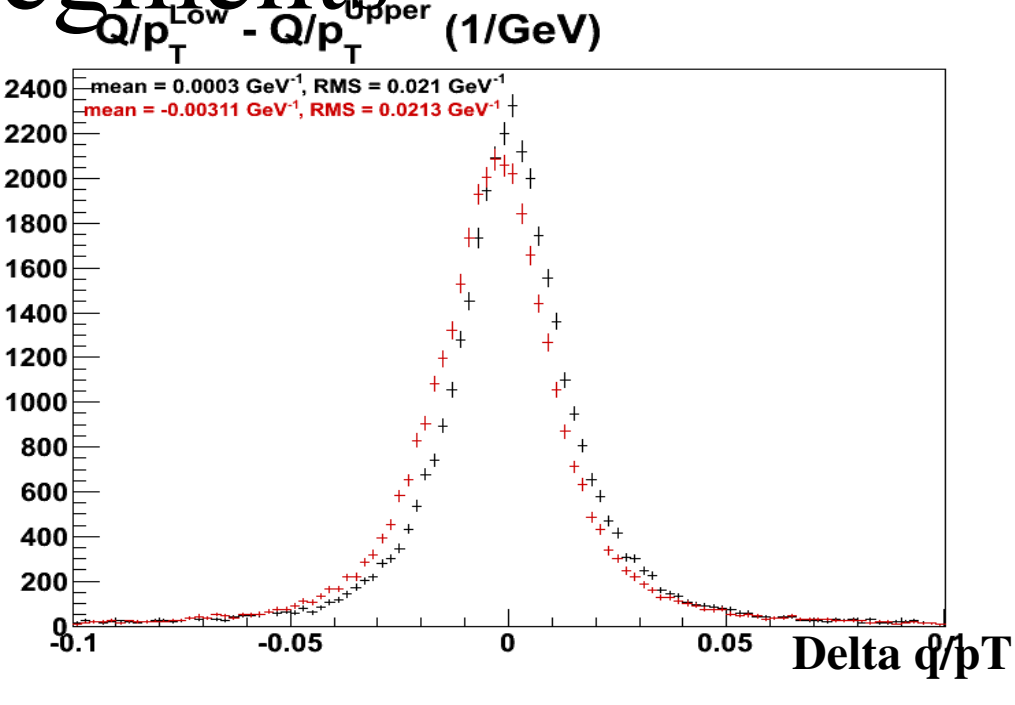


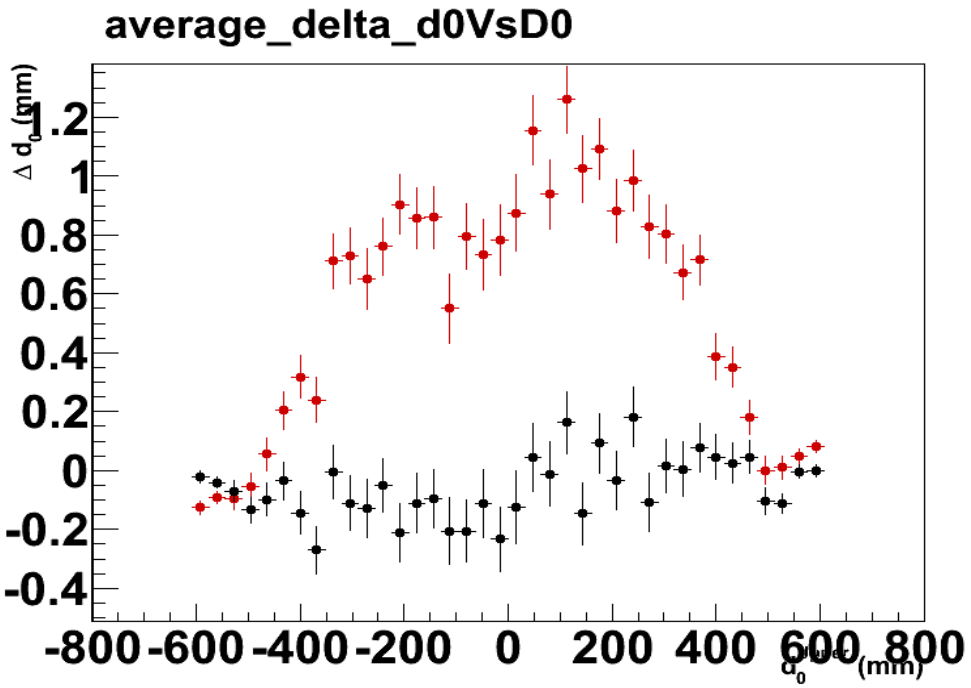


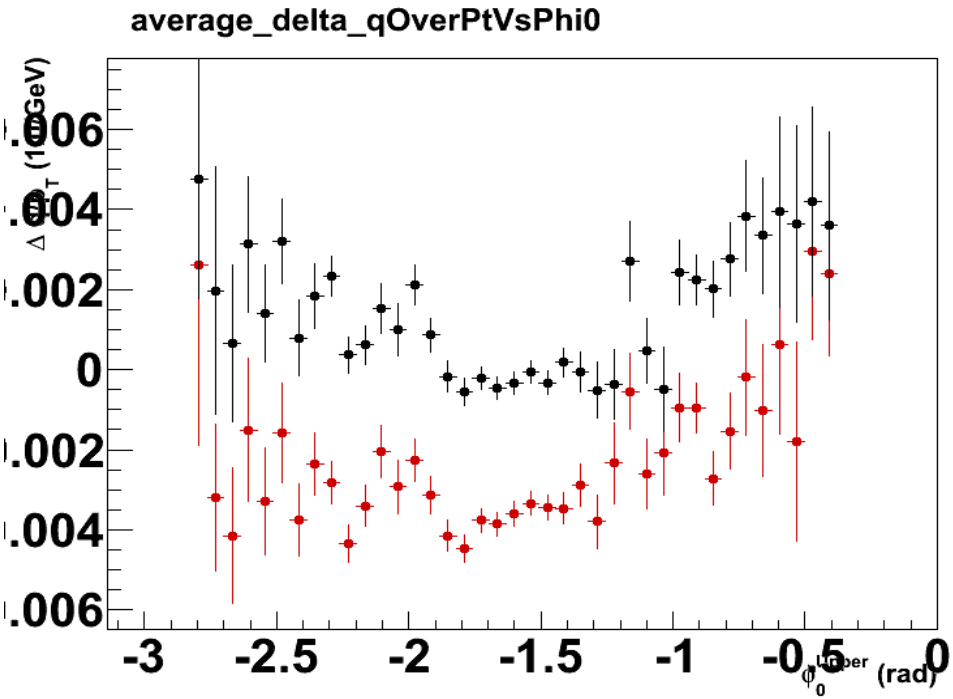


Track Segments

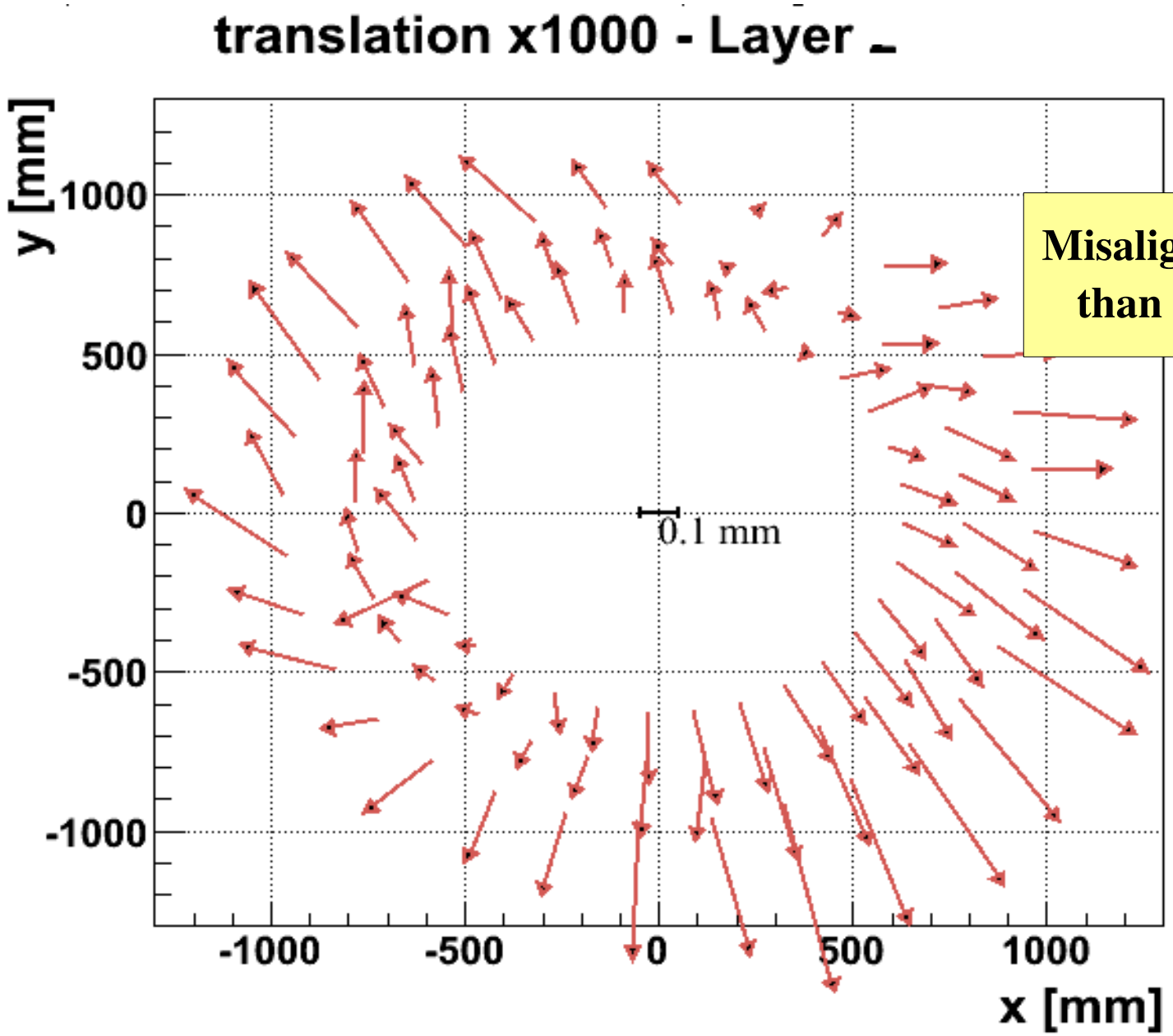




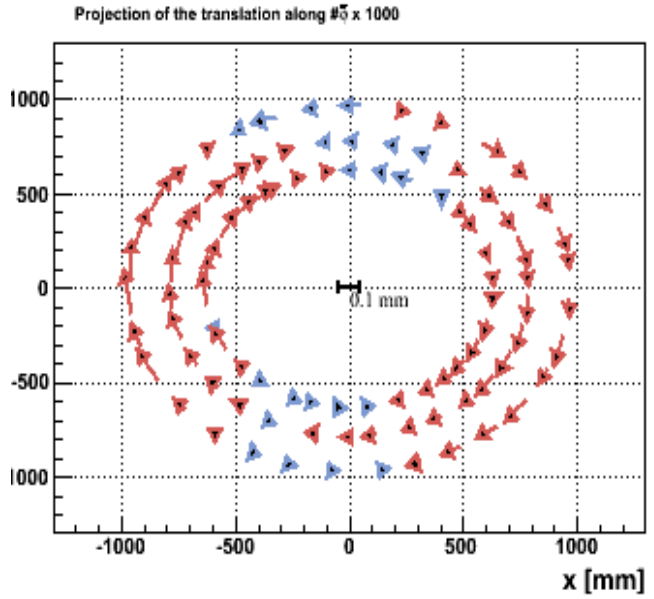




Measured Misalignment



Misalignment seen here is different than that with TRT Only tracks



Track Selection for following plots

Combined tracks:

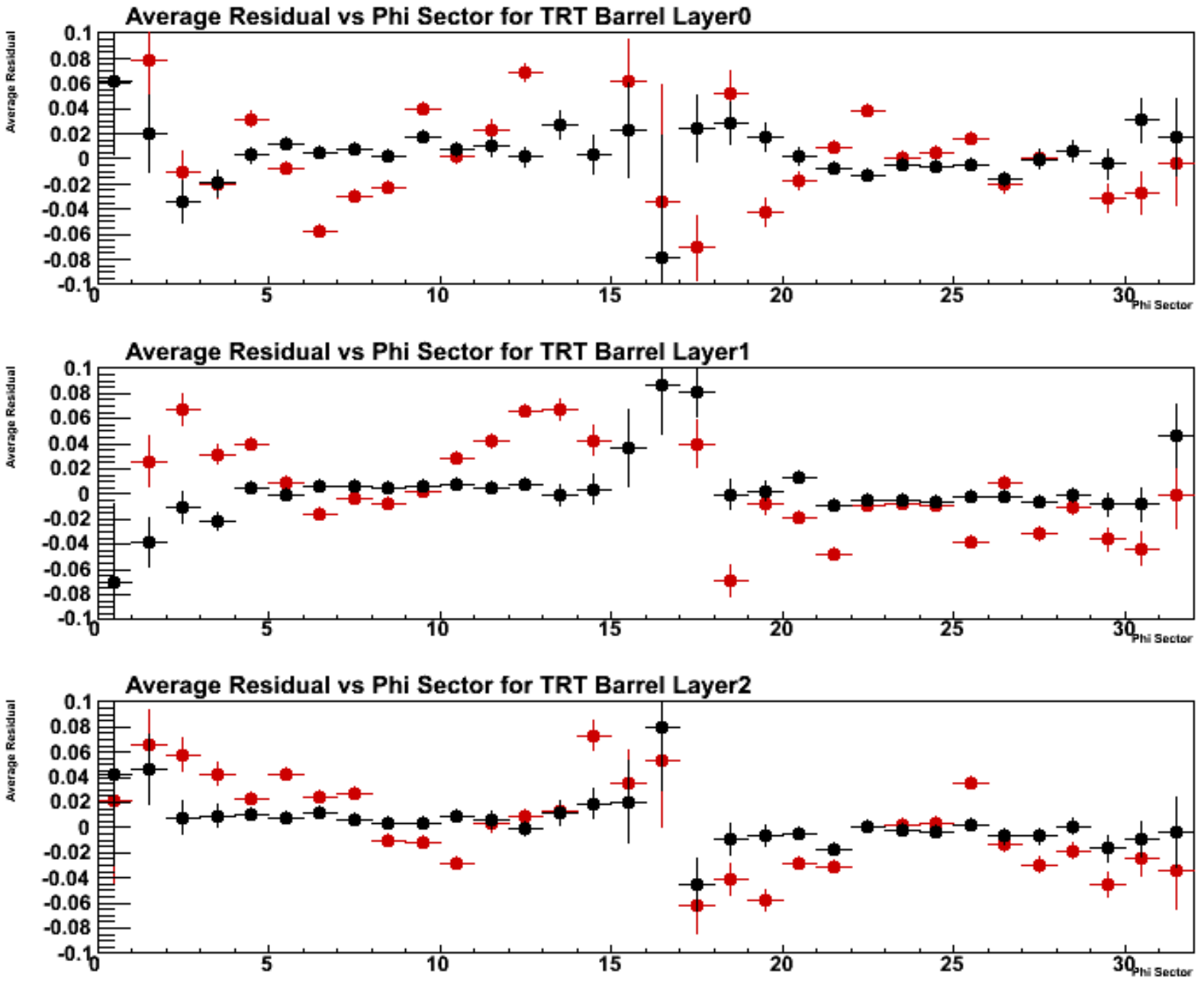
> 45 TRT hits, > 9 SCT hits, > 2 Pix hits

>2 GeV

Before L2

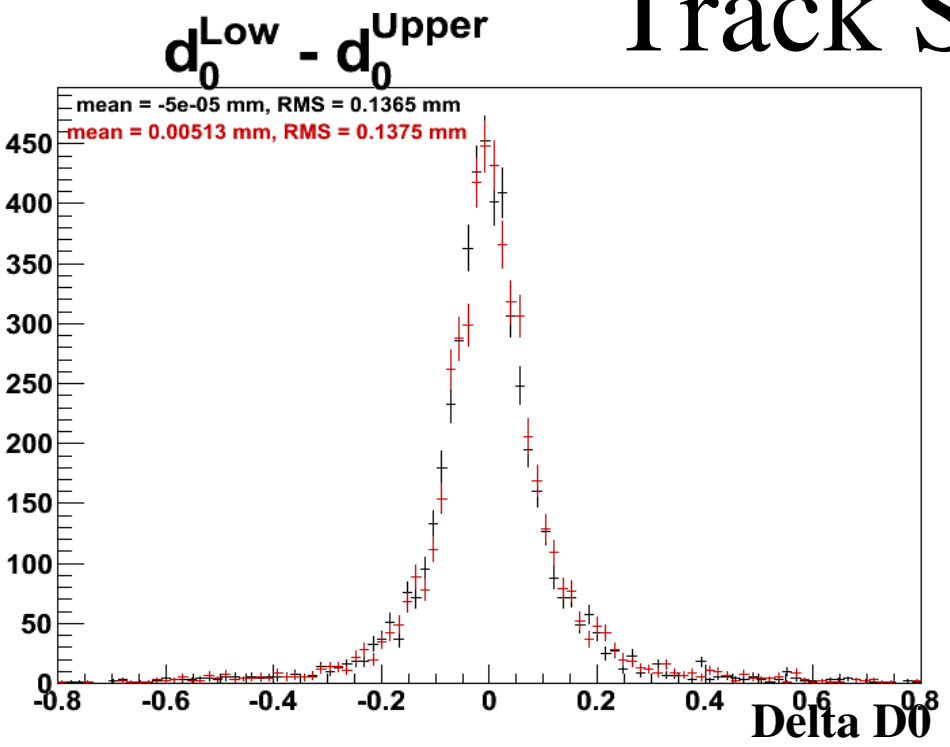
After L2

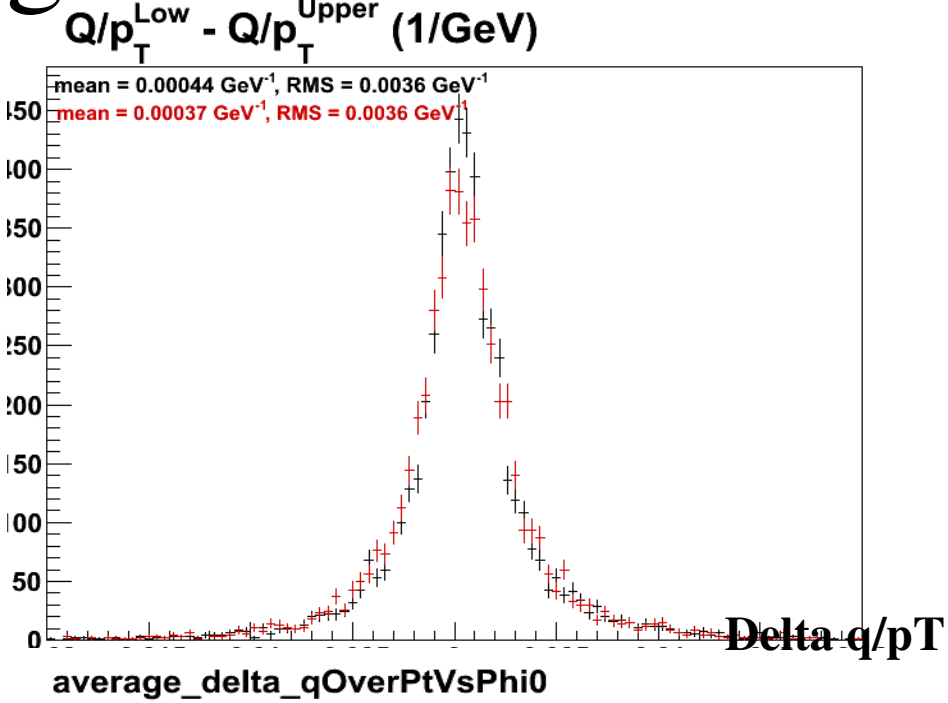
TRT Residuals

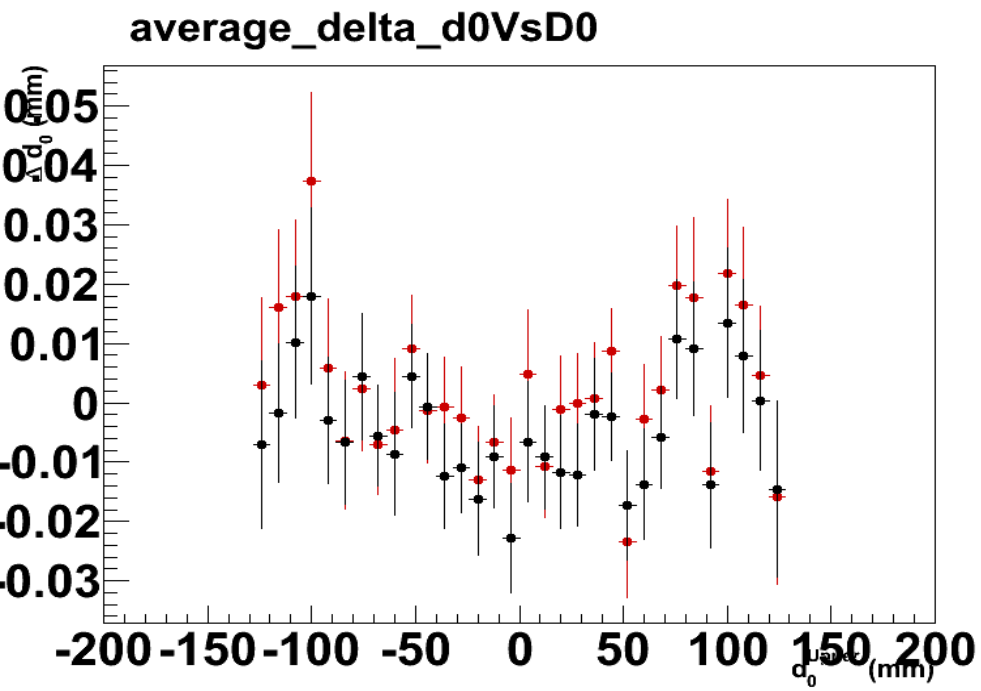


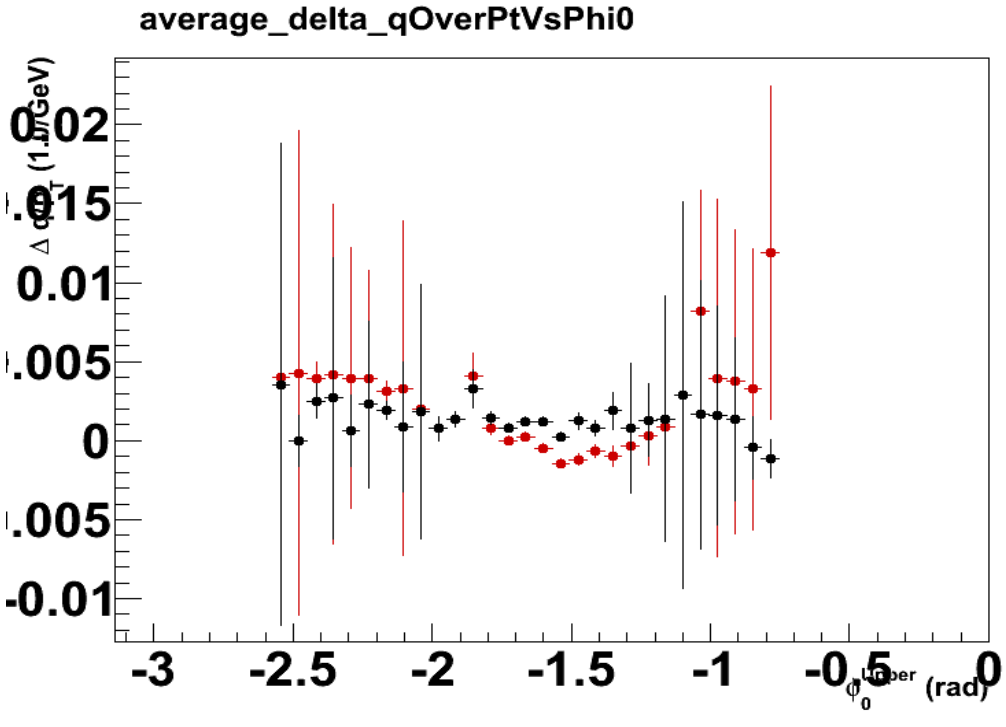
Folling are suspect

Track Segments









Conclusions

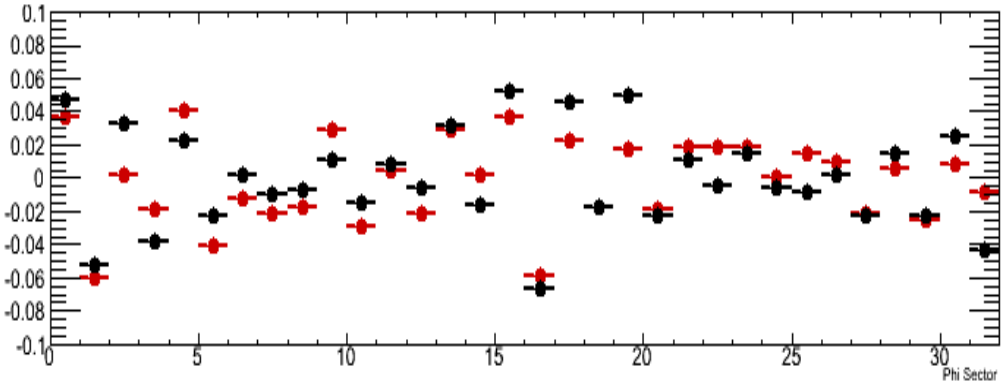
- A lot more to do!
- Validation looks very similar to TRT Only L2 alignment but constants significantly different

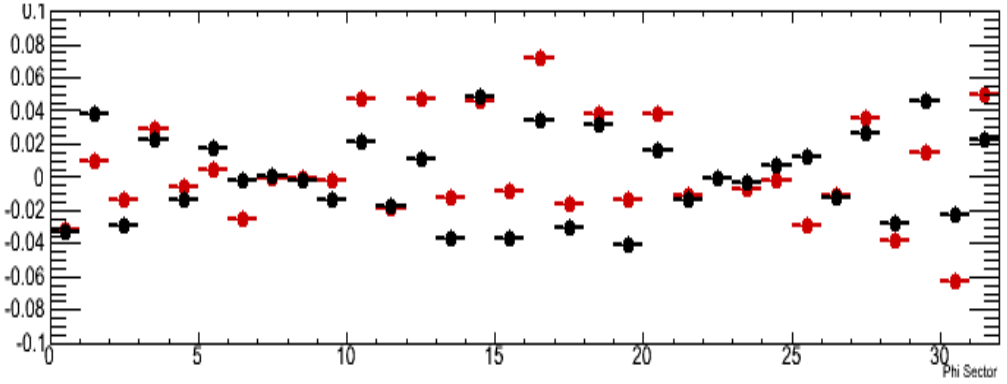
L2 alignment presented here is not yet in db.

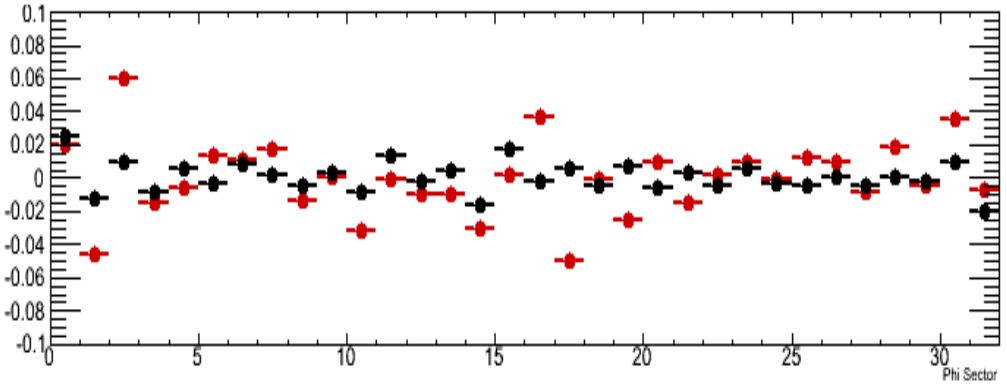
Bonus

Average Residual vs Phi Sector

A-Side







C-Side