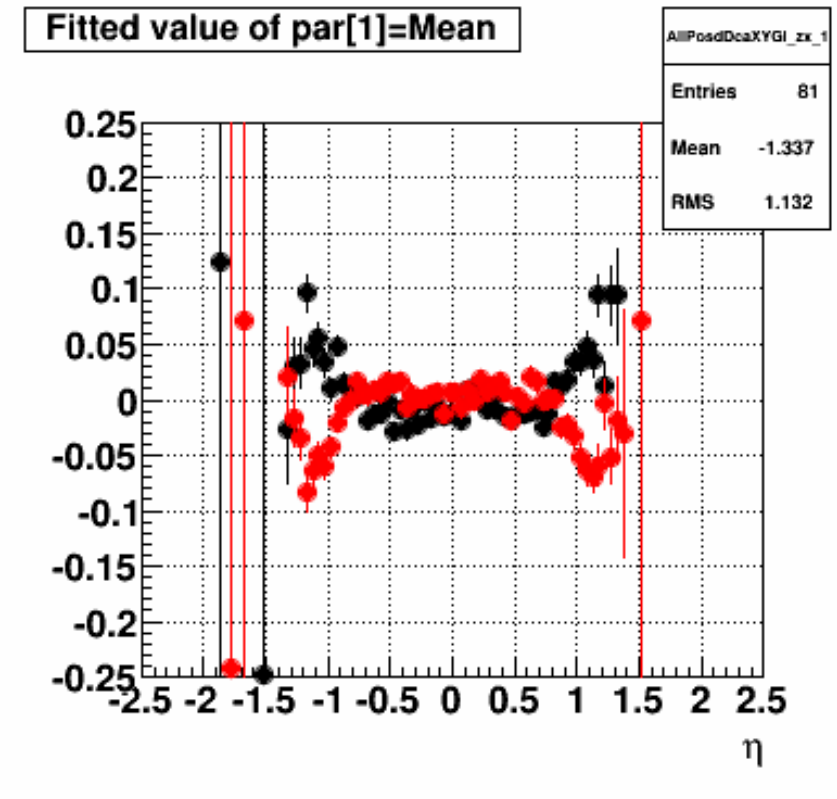
simulation

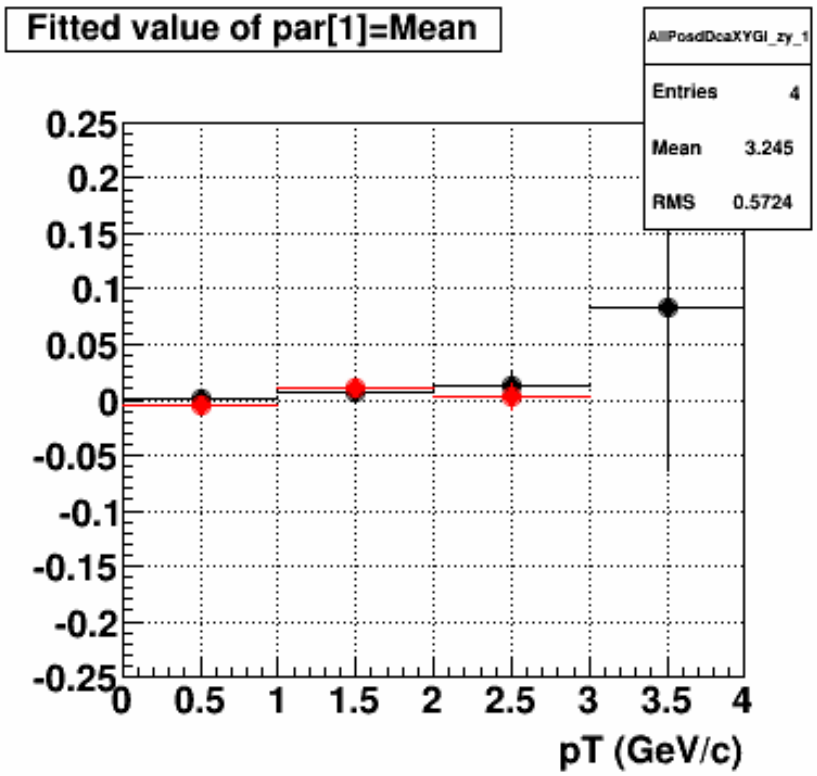
- Rerun simulation with DEV fixes (Sti and StiMaker as of 2014-09-20)
- Hijing events
- Different tests for Y2014a
  - IDS (support material) only
  - IDS + PXL
  - IDS + PXL + IST
  - IDS + SSD (geometry updated* + old StiSst)
  - IDS + SSD (geometry updated + new StiSst**)
- All simulations involve the same geometry configuration in both STARSIM and reconstruction
- When included, hits from PXL/IST or SSD **are not used** in tracking
  - Test of the material budget only
- The plots are difference in DcaXY vs. η (left panel) and vs. Pt (right panel) (Fig.31,32 of BaseQA)

* : last meeting

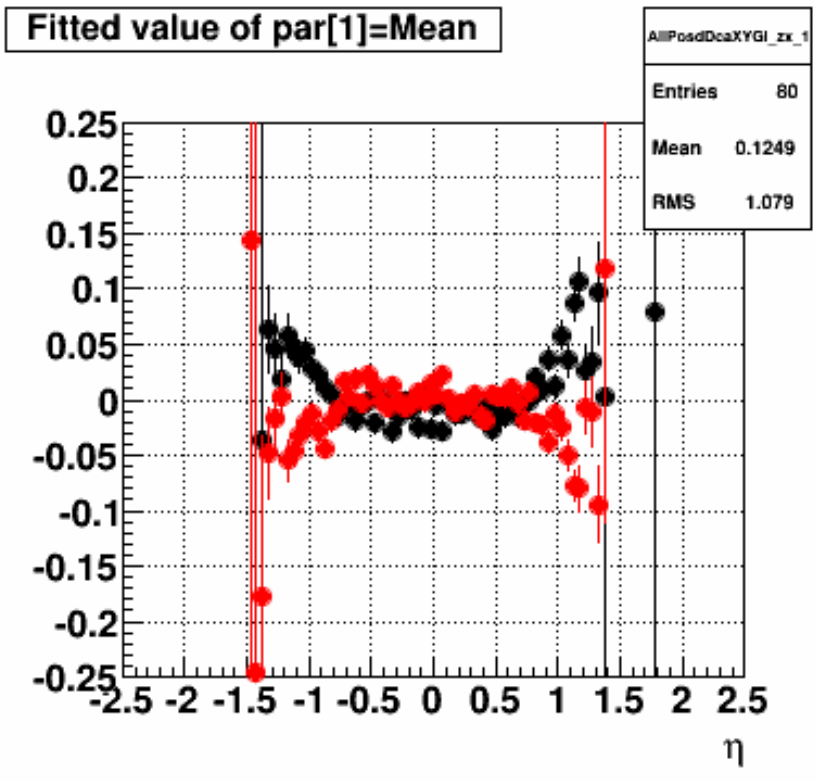
** : slide 9

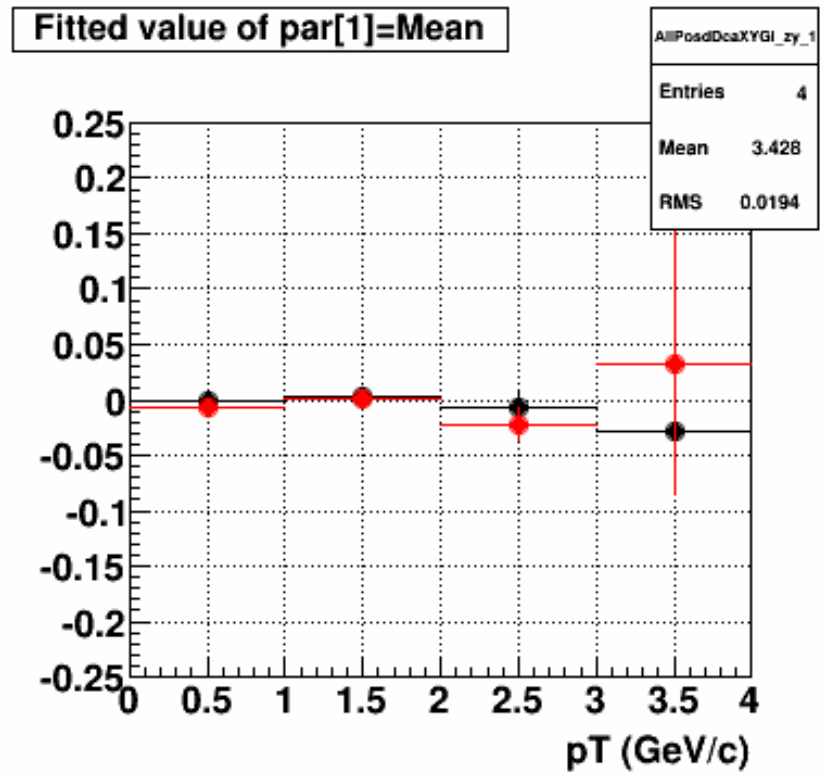
IDS support material only





IDS + PXL


Fitted value of par[1]=Mean
AllPosdDcaXYGl_zx_1
Entries 80
Mean 0.1249
RMS 1.079
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5
η


Fitted value of par[1]=Mean
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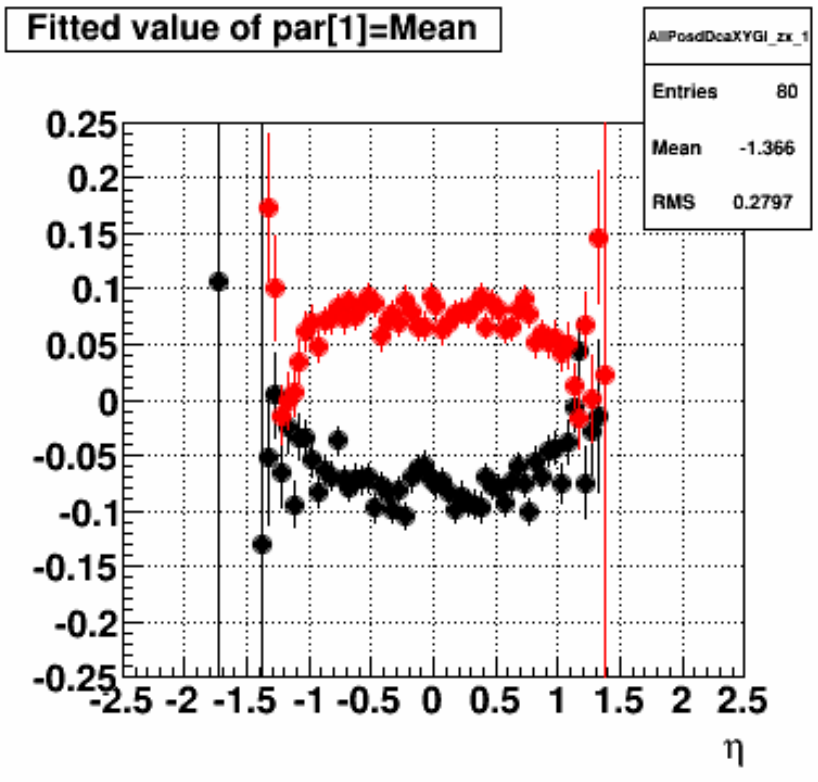
Entries 4
Mean 3.428
RMS 0.0194
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0 0.5 1 1.5 2 2.5 3 3.5 4
pT (GeV/c)

IDS + PXL + IST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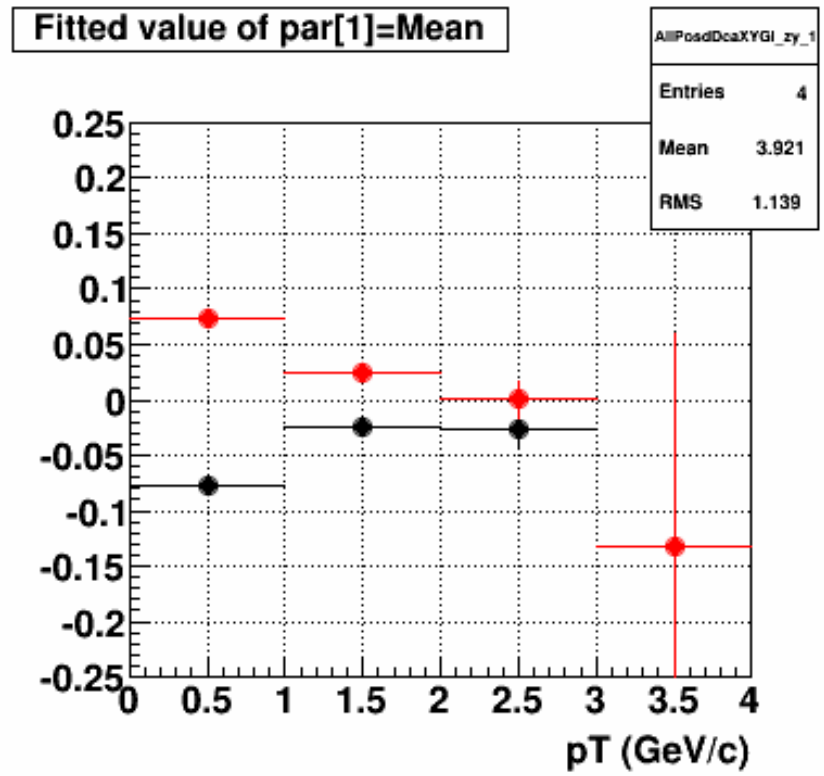
AllPosdDcaXYGl_zx_1
Entries 80
Mean -1.366
RMS 0.2797
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5
η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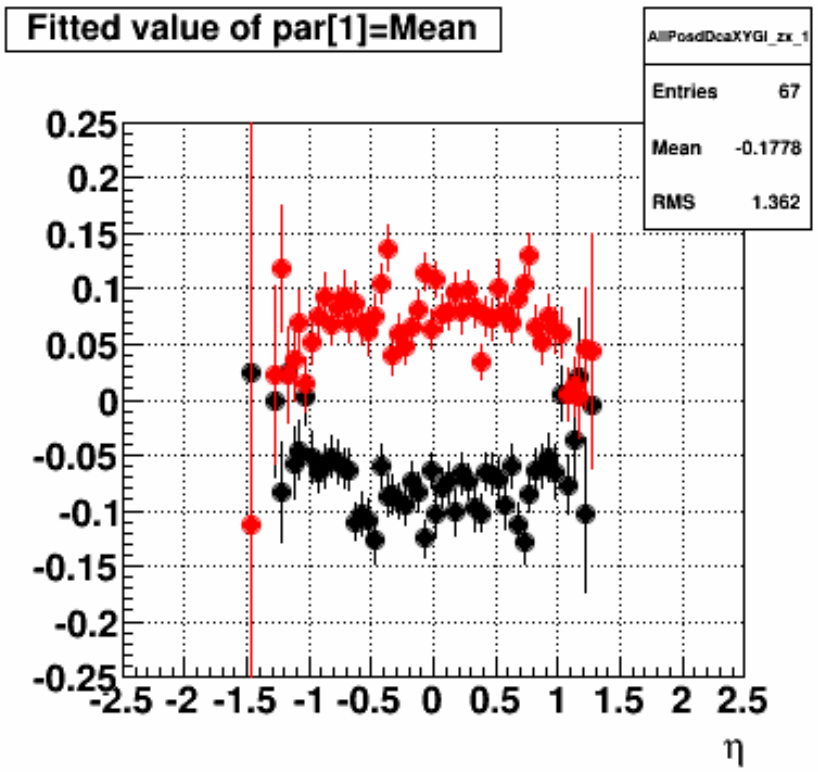
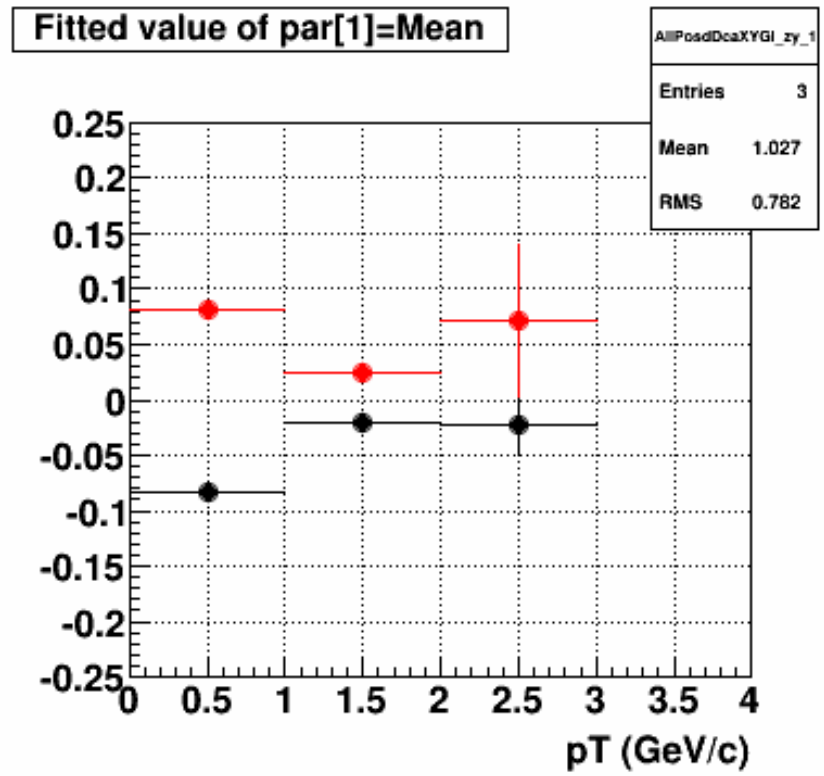
Entries 4
Mean 3.921
RMS 1.139
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0 0.5 1 1.5 2 2.5 3 3.5 4
pT (GeV/c)

IDS + IST


Fitted value of par[1]=Mean
AllPosdDcaXYGl_zx_1
Entries 67
Mean -0.1778
RMS 1.362
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5
η


Fitted value of par[1]=Mean
AllPosdDcaXYGl_zy_1
Entries 3
Mean 1.027
RMS 0.782
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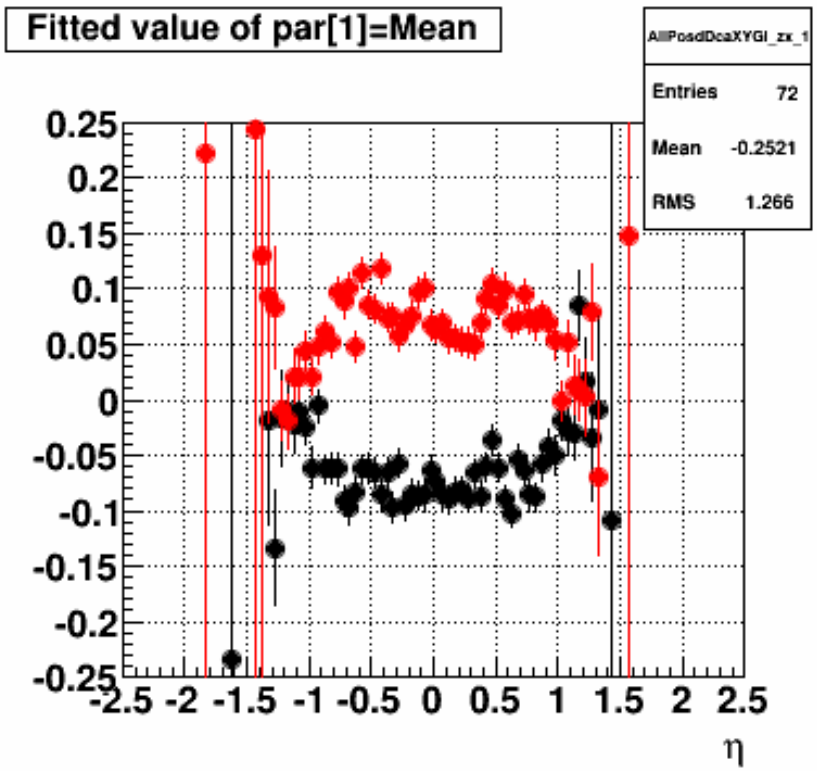
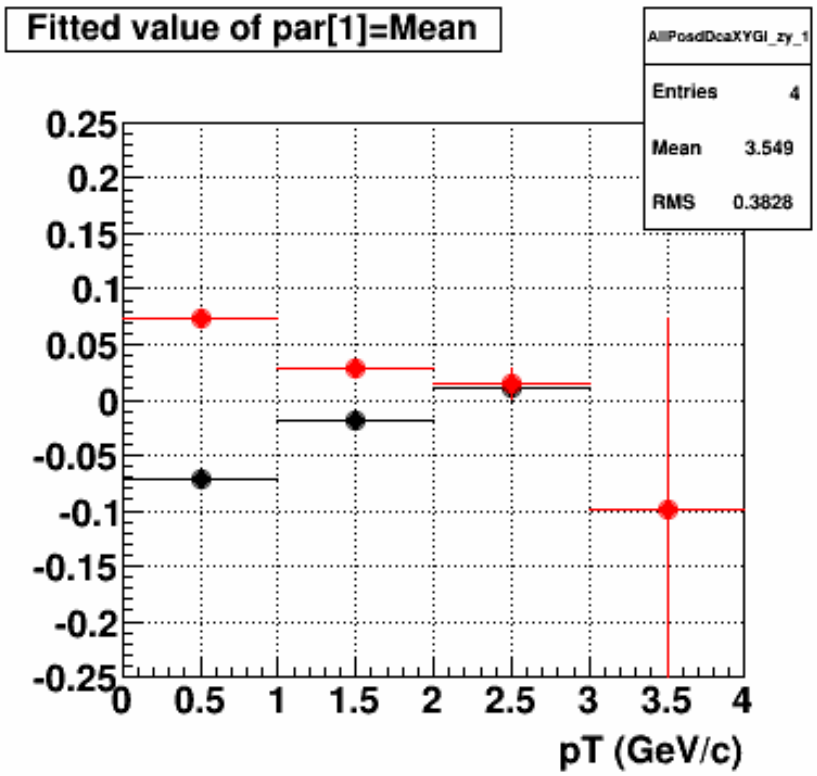
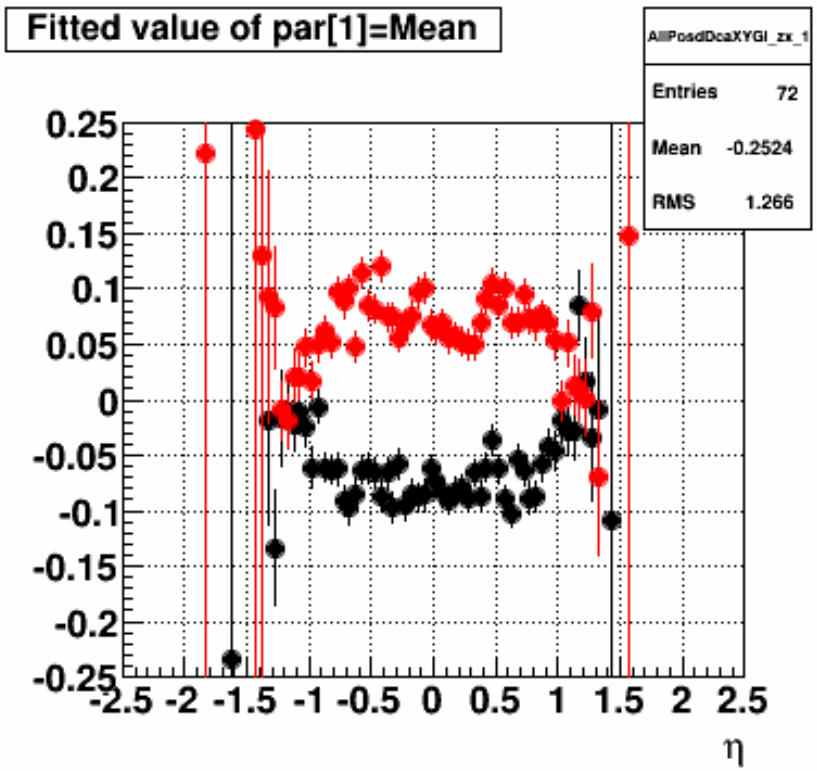
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
0 0.5 1 1.5 2 2.5 3 3.5 4
pT (GeV/c)

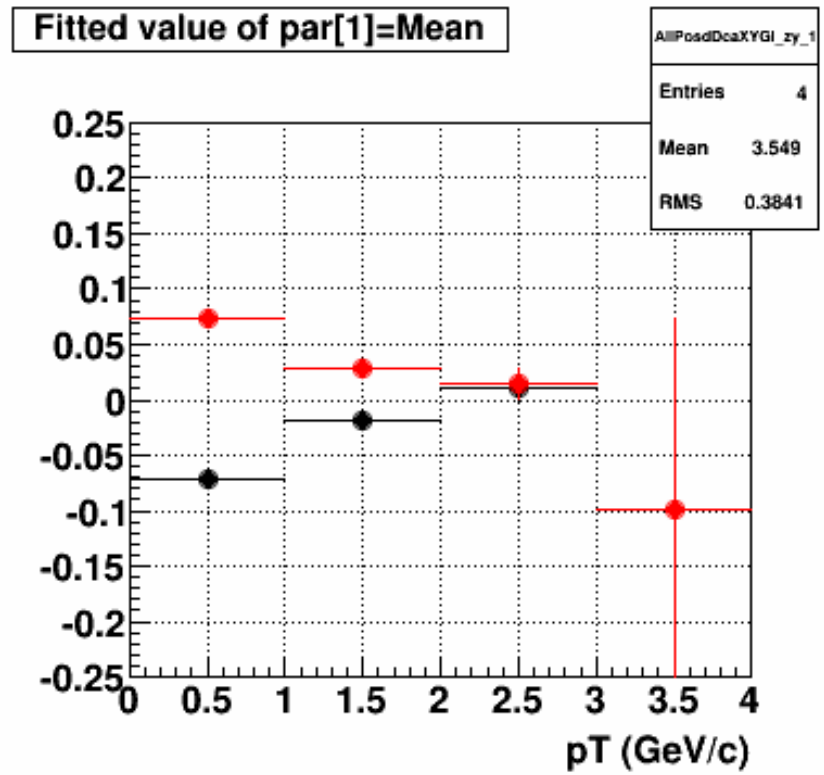
IDS + SSD (new geom, old StiSst)





IDS + SSD (new geom, new StiSst)





comments

- As Xin/Nasim showed Monday in the extensive QA :
  - TPC, TPC+ PXL is okay
  - Including IST (DEV version) → DcaXY shift appears (either with PXL or alone)
  - Including SSD → DcaXY shift appears
    - Geometry update (extrusions fixed) and StiSst update (thickness of sensitive layer) do not improve the DcaXY shift

Weight issue

- Jason also reported about the comparison of weight between TGeo and Sti :
  - http://www.star.bnl.gov/HyperNews-star/protected/get/ittf/1517.html
- For the SSD there is a discrepancy of ~ half the total weight, ie STI finds a weight twice bigger as TGeo
- He also founds that the weight of a single ladder (active volume, only sensor) is .44kgs, which *"seems excessive for the active layers"*
  - There may be a mistake here, .44 [kg] is for the support ladder
- I looked at the StiSst code and founds that the shape encapsulating the active volume defines a thickness 10 times the sensor thickness (.34cm instead of ~320microns)
  - http://www.star.bnl.gov/HyperNews-star/protected/get/ittf/1517/1/1.html