

# Another Update on TrackToCalo + Trk::Tracks

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IDSW 15/04/2005

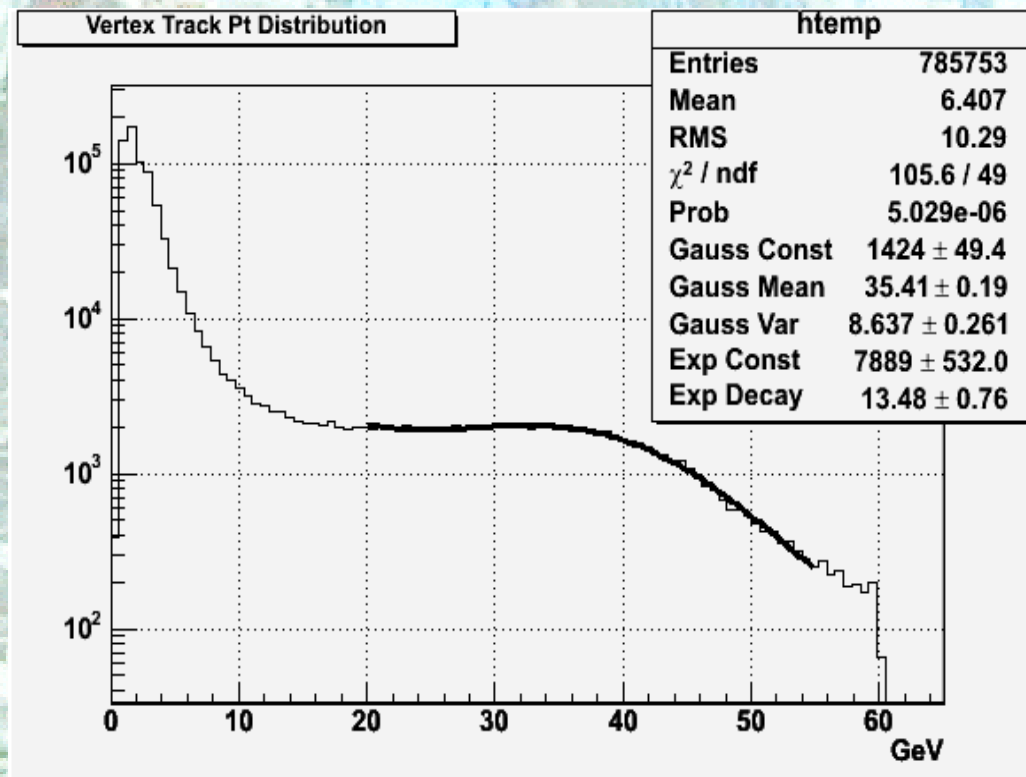
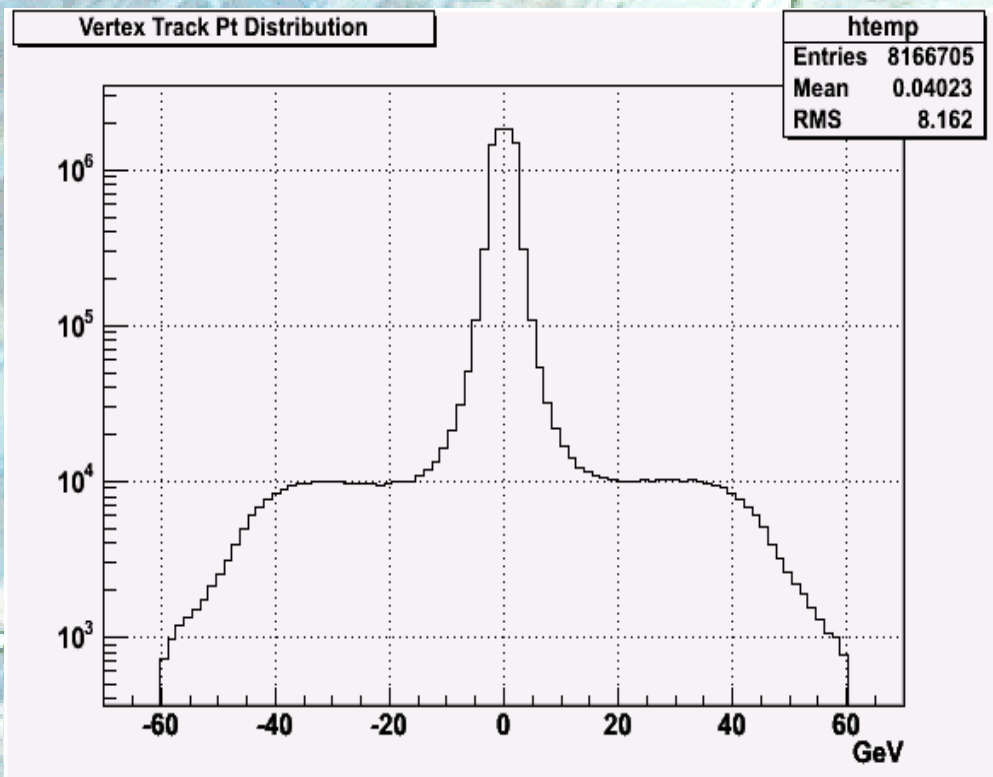
# Work organization

- DC2 run (A1\_z\_ee 003007).
- Results reconstructed with 9.0.3 were digitized with 8.0.6.
- Results reconstructed with 10.0.1 and 10.0.2 were digitized with 10.0.0.
- SimpleTracks used for the 9.0.3 analysis.
- Trk::Tracks used for the 10.0.1 (with TrackToCalo-00-01-17) and 10.0.2 analysis (with TrackToCalo-00-01-04).

# Pt of the tracks

offline version 9.0.3

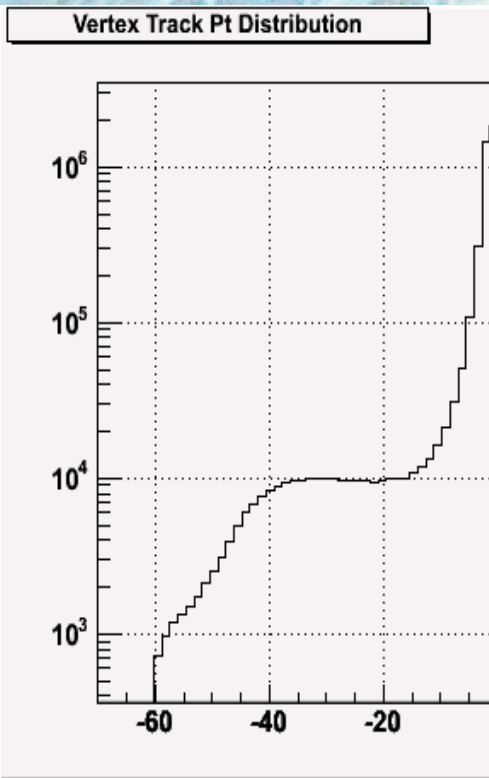
offline version 10.0.1



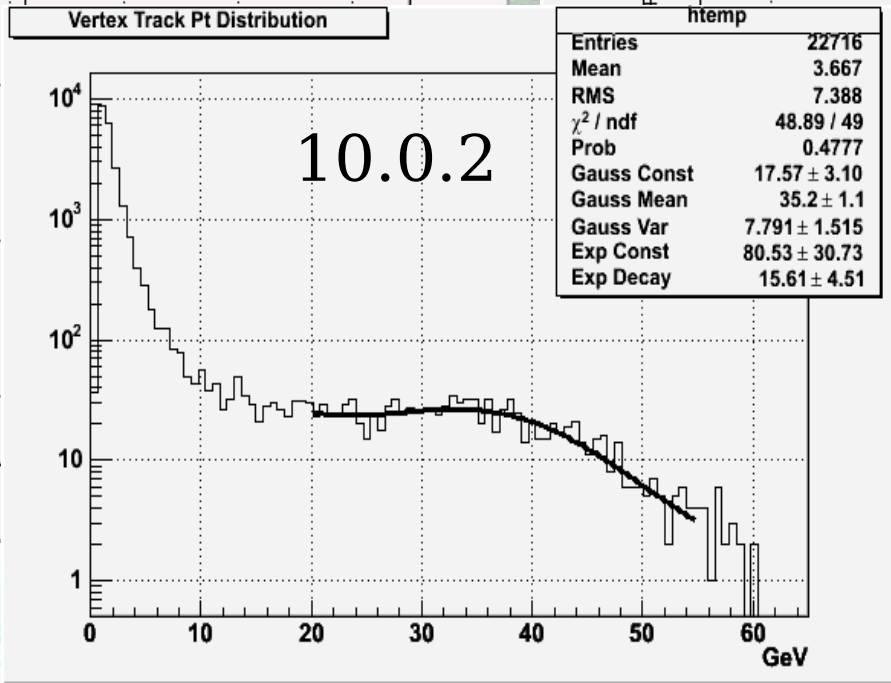
# Pt of the Tracks

offline version 9.0.3

offline version 10.0.1

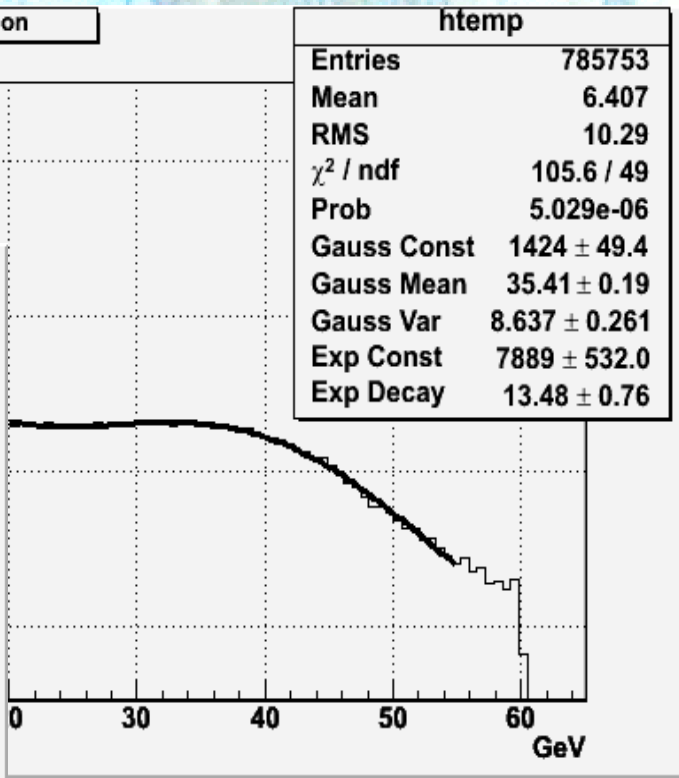


| htemp   |         |
|---------|---------|
| Entries | 8166705 |
| Mean    | 0.04023 |
| RMS     | 8.162   |



10.0.2

| htemp                 |                   |
|-----------------------|-------------------|
| Entries               | 22716             |
| Mean                  | 3.667             |
| RMS                   | 7.388             |
| $\chi^2 / \text{ndf}$ | 48.89 / 49        |
| Prob                  | 0.4777            |
| Gauss Const           | 17.57 $\pm$ 3.10  |
| Gauss Mean            | 35.2 $\pm$ 1.1    |
| Gauss Var             | 7.791 $\pm$ 1.515 |
| Exp Const             | 80.53 $\pm$ 30.73 |
| Exp Decay             | 15.61 $\pm$ 4.51  |

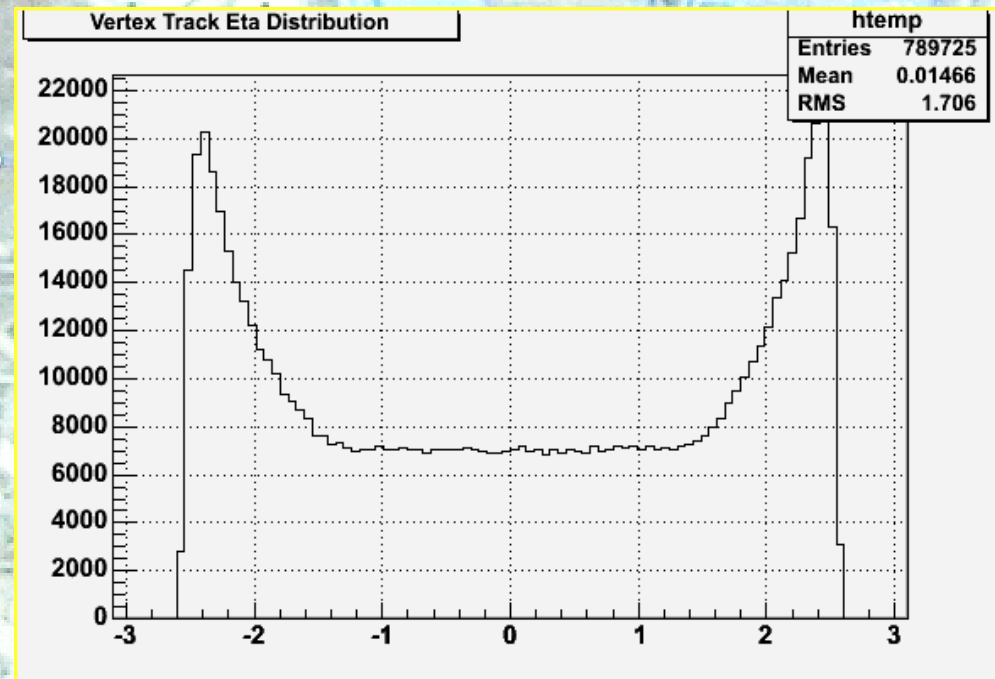


| htemp                 |                   |
|-----------------------|-------------------|
| Entries               | 785753            |
| Mean                  | 6.407             |
| RMS                   | 10.29             |
| $\chi^2 / \text{ndf}$ | 105.6 / 49        |
| Prob                  | 5.029e-06         |
| Gauss Const           | 1424 $\pm$ 49.4   |
| Gauss Mean            | 35.41 $\pm$ 0.19  |
| Gauss Var             | 8.637 $\pm$ 0.261 |
| Exp Const             | 7889 $\pm$ 532.0  |
| Exp Decay             | 13.48 $\pm$ 0.76  |

# Tracks Eta

offline version 9.0.3

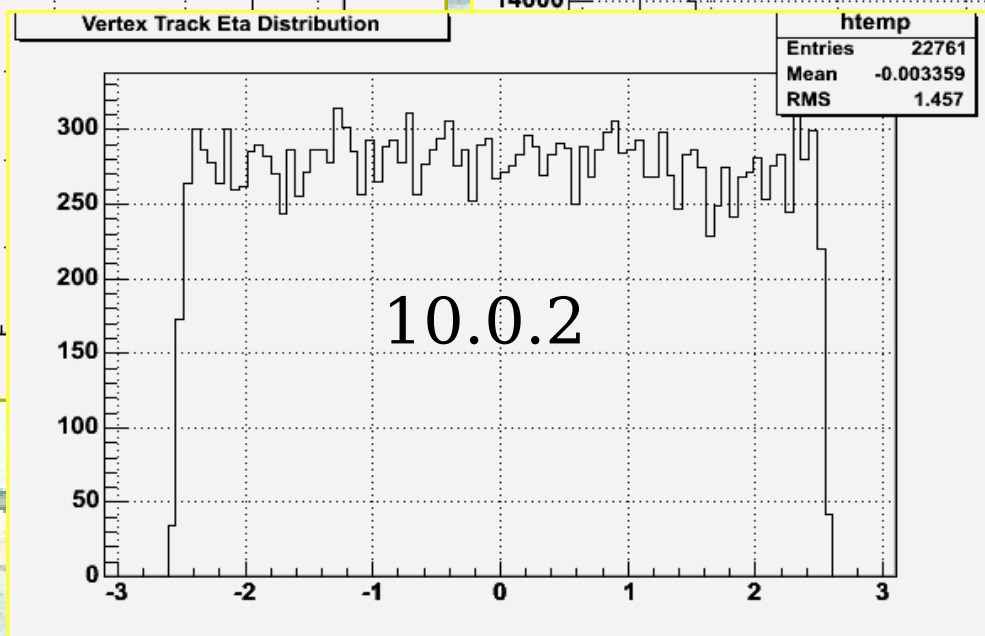
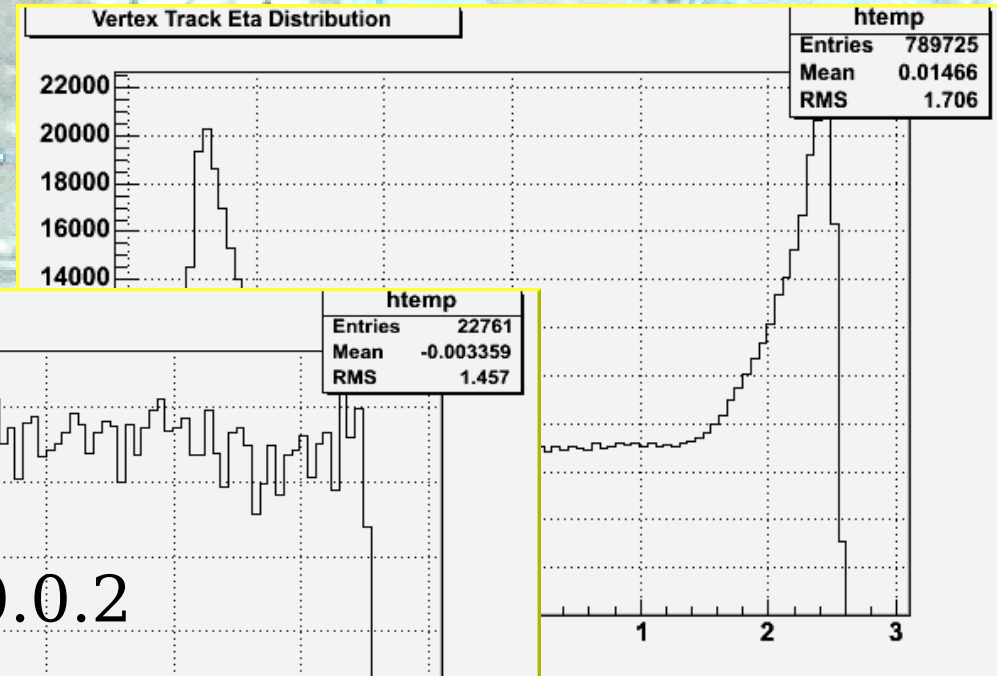
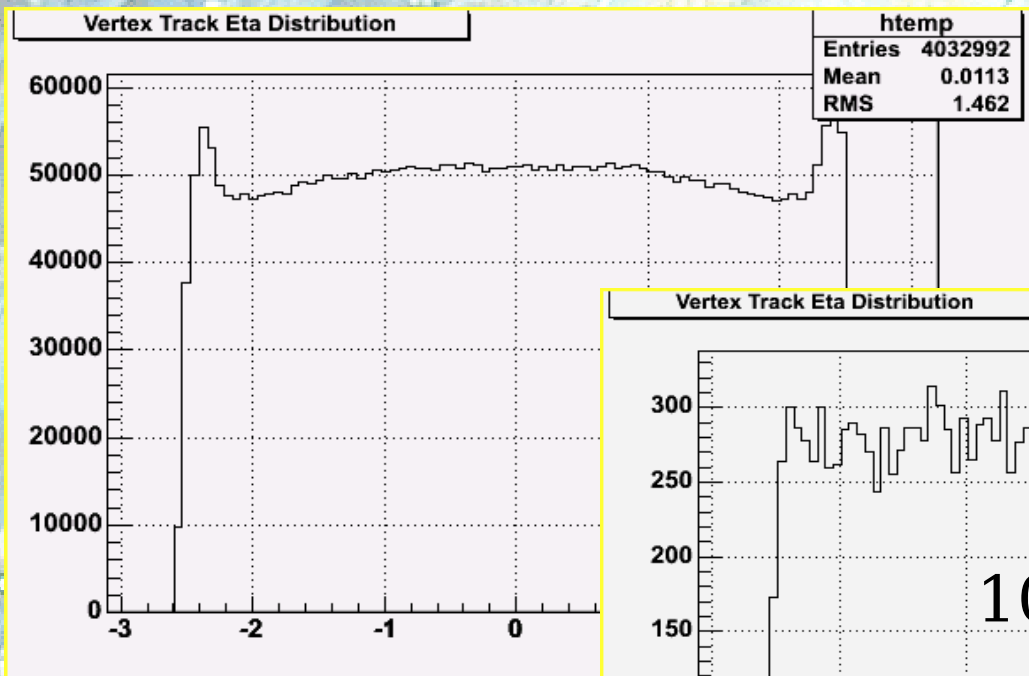
offline version 10.0.1



# Tracks Eta

offline version 9.0.3

offline version 10.0.1



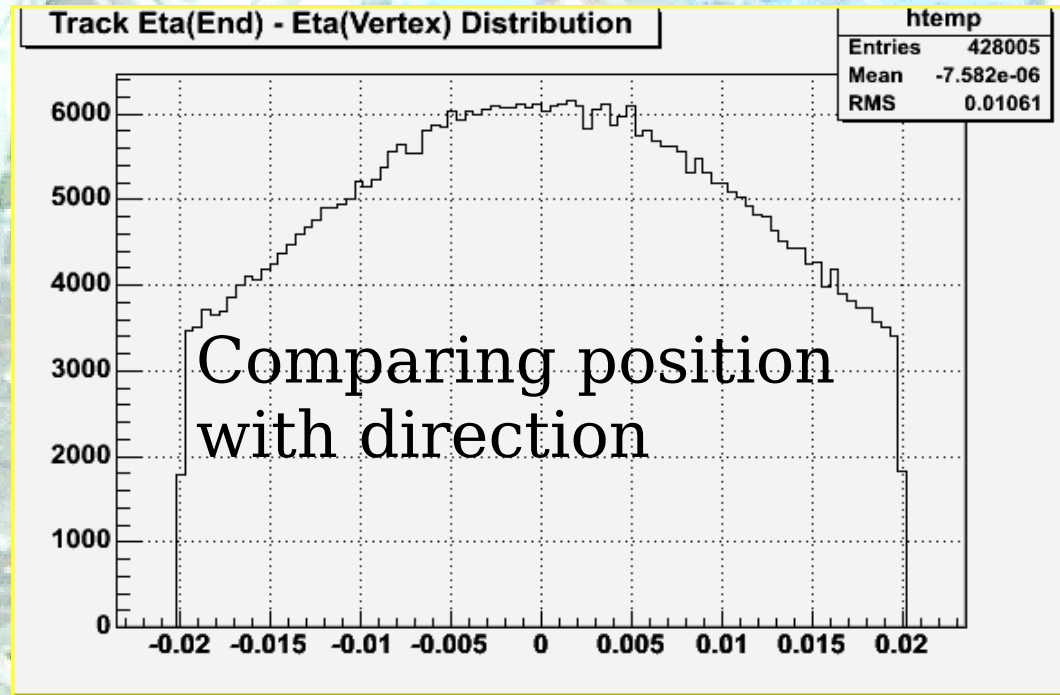
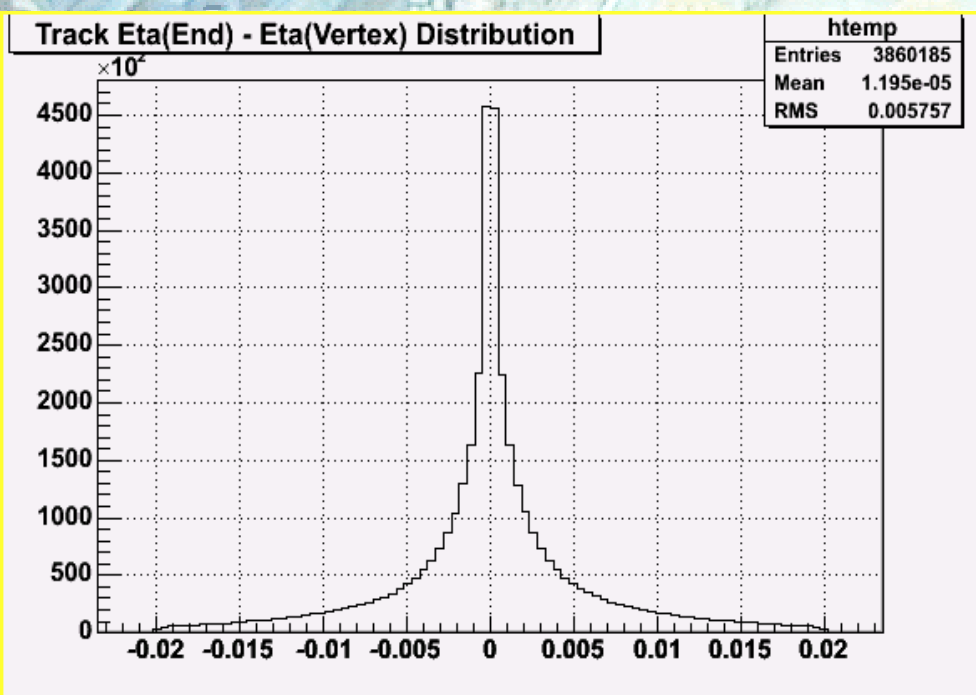
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# Tracks Delta Eta

offline version 9.0.3

offline version 10.0.1

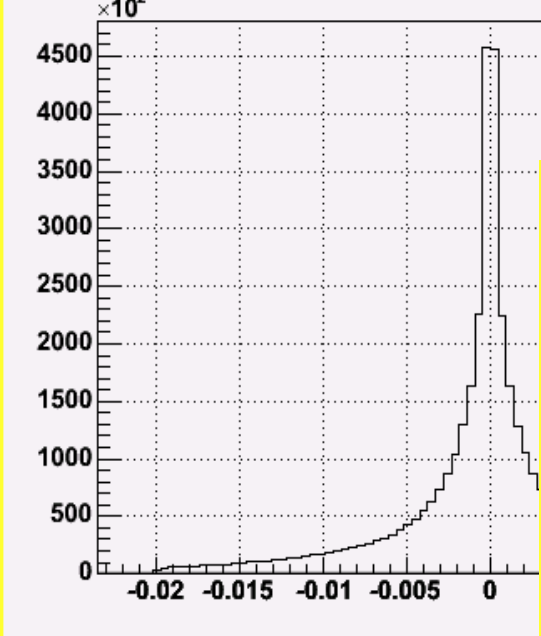


# Tracks Delta Eta

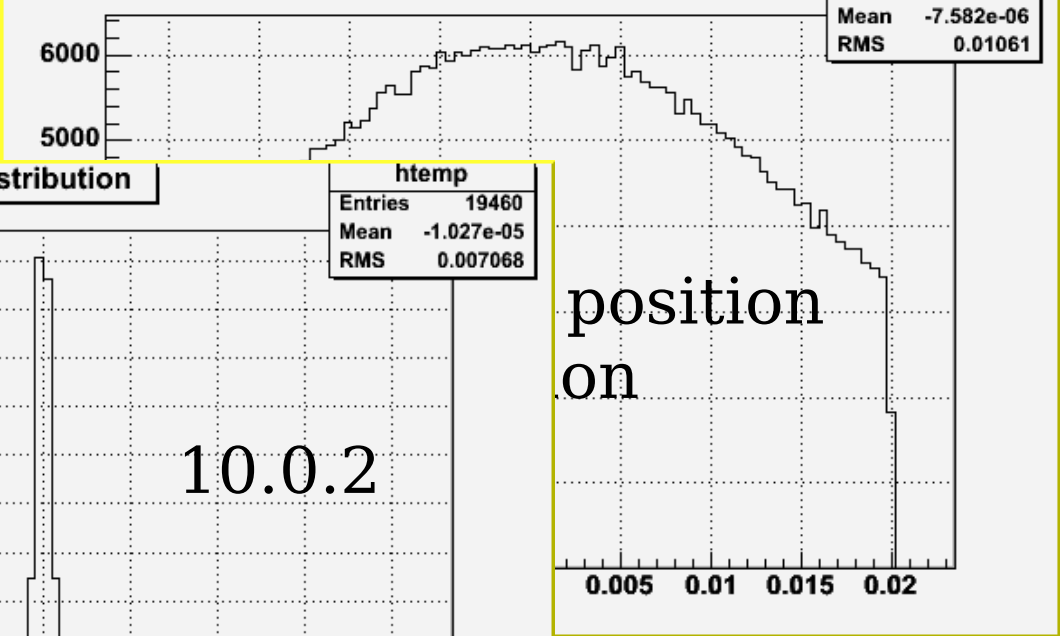
offline version 9.0.3

offline version 10.0.1

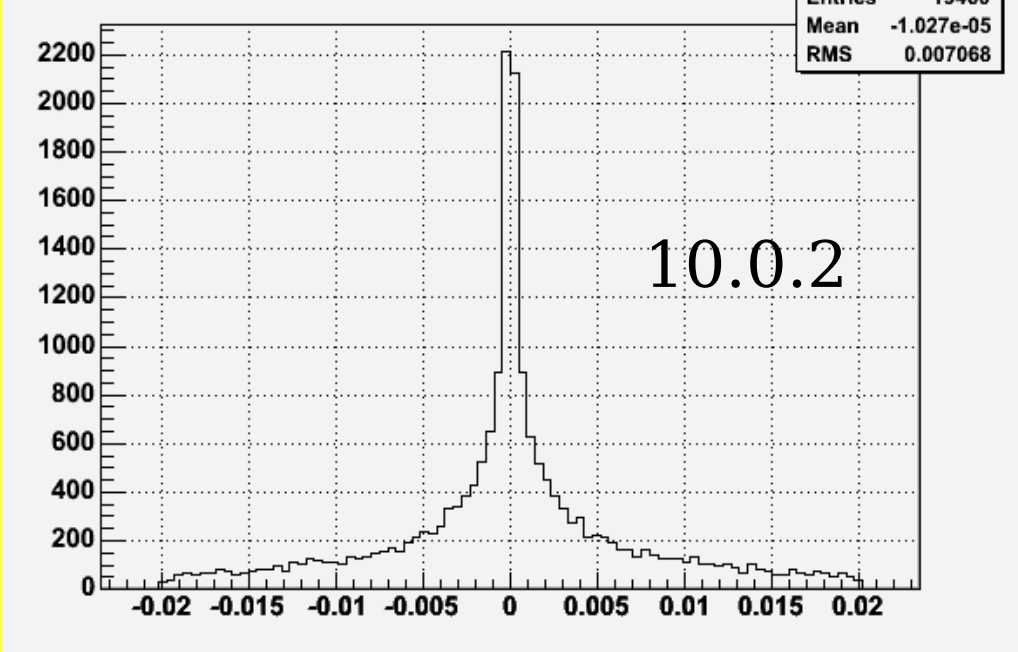
Track Eta(End) - Eta(Vertex) Distribution



Track Eta(End) - Eta(Vertex) Distribution



Track Eta(End) - Eta(Vertex) Distribution



position on

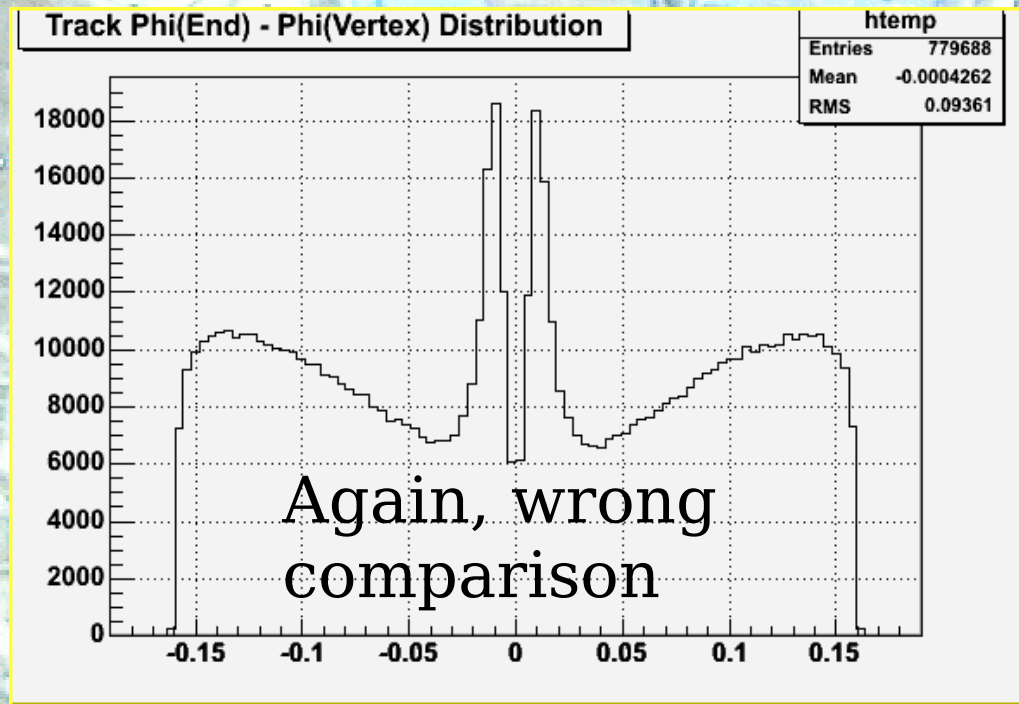
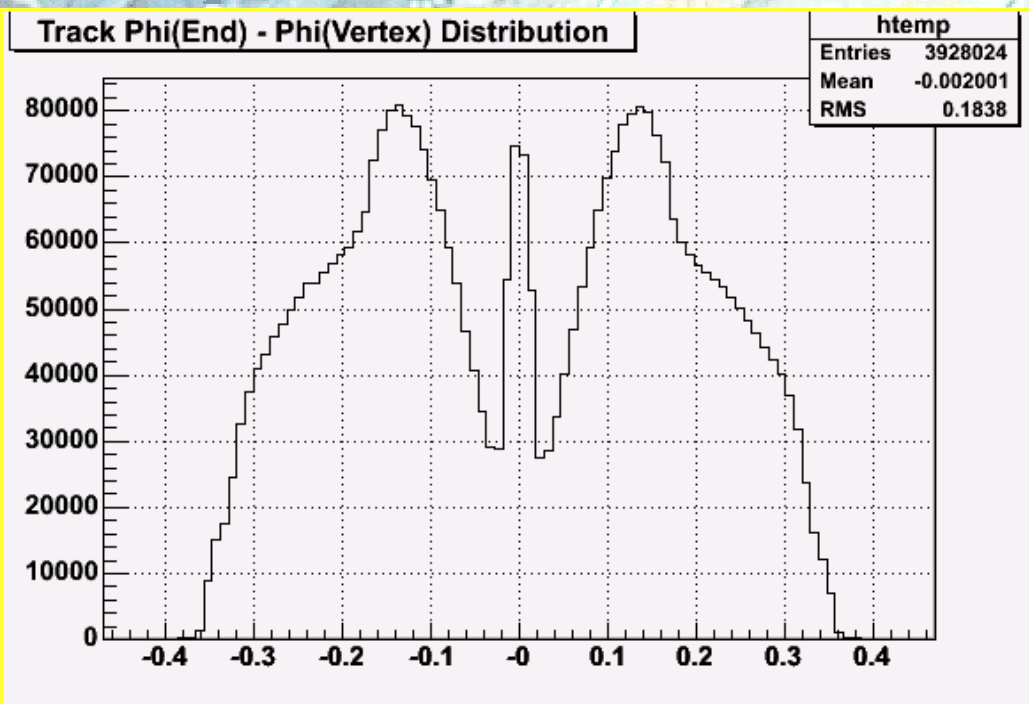
10.0.2



# Tracks Delta Phi

offline version 9.0.3

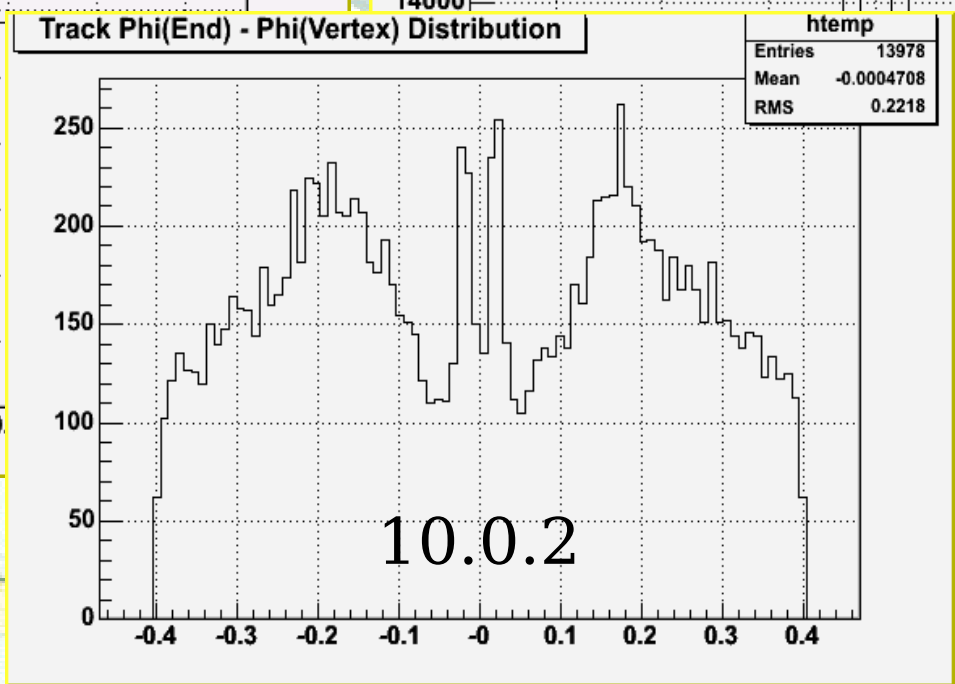
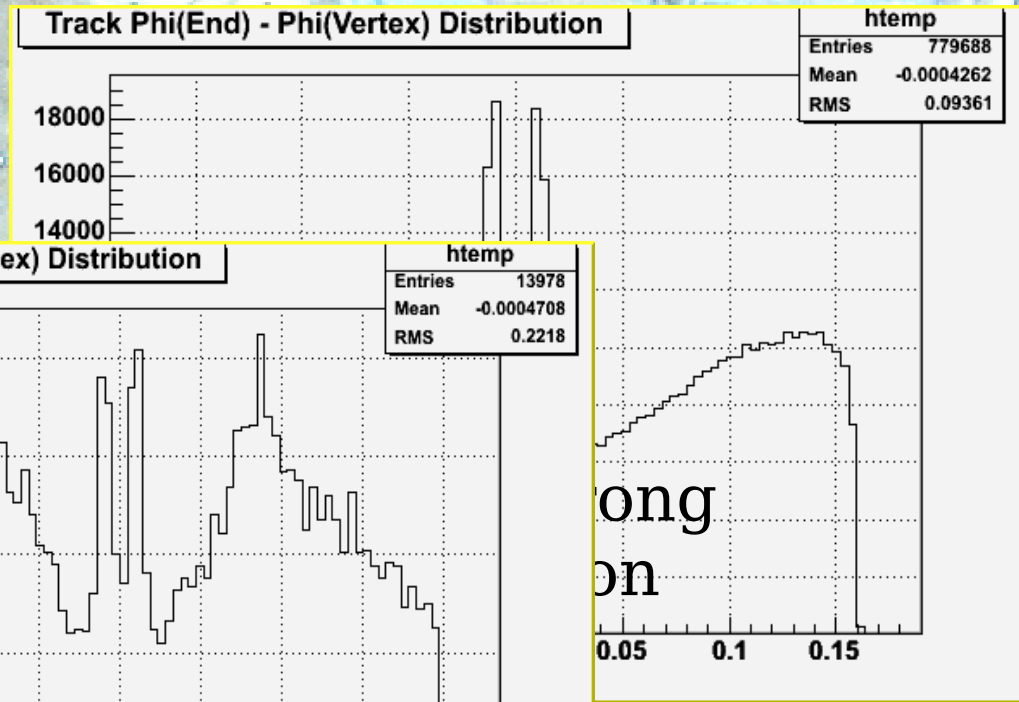
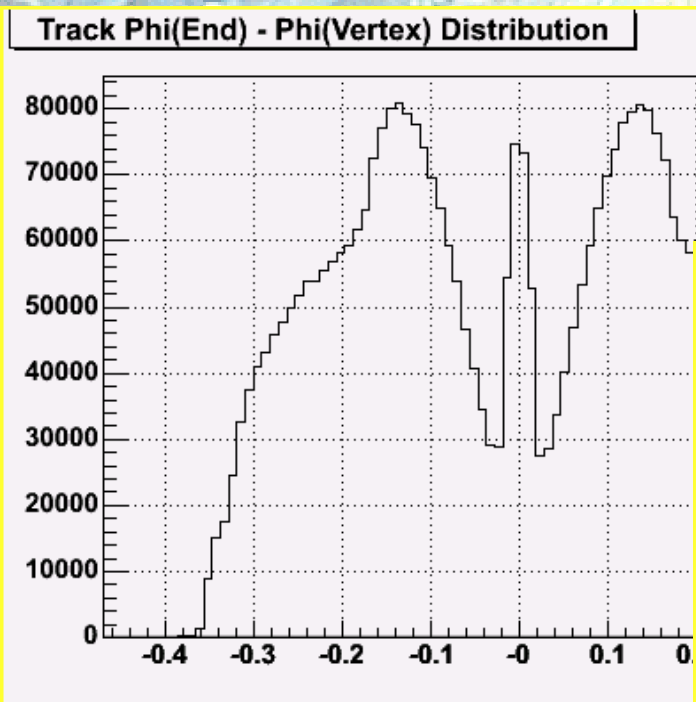
offline version 10.0.1



# Tracks Delta Phi

offline version 9.0.3

offline version 10.0.1



10.0.2

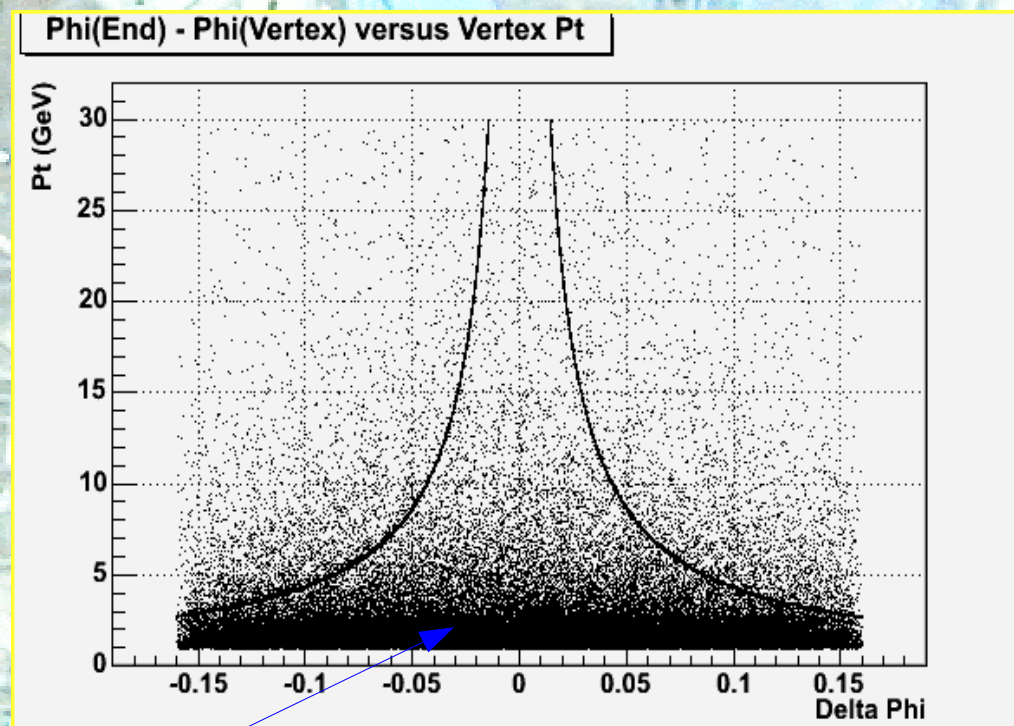
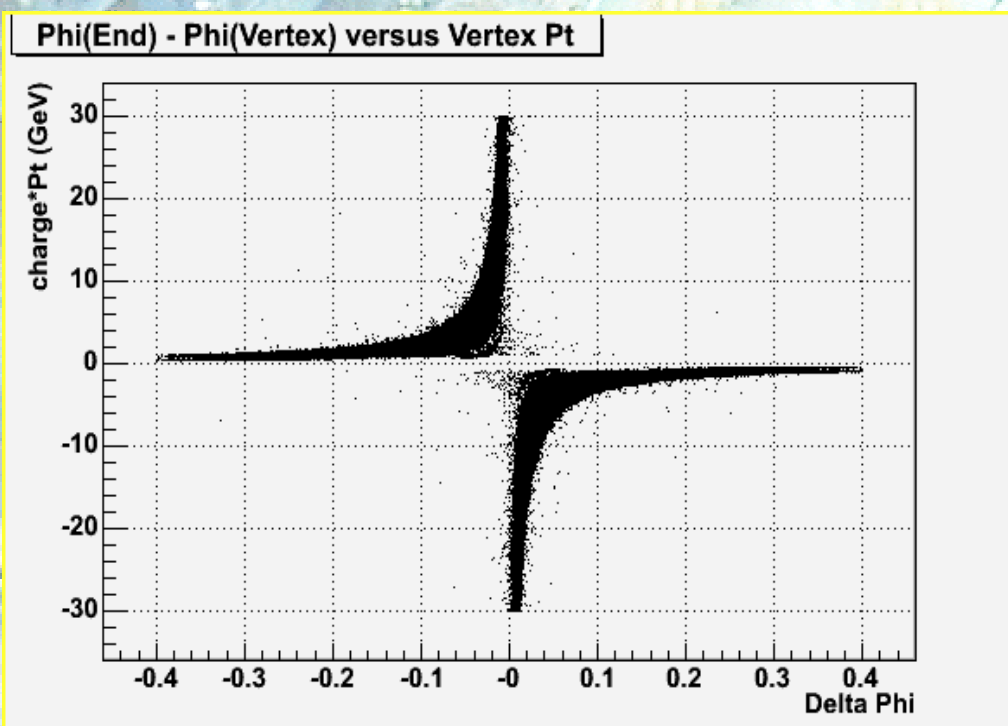
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# Delta Phi versus Pt

offline version 9.0.3

offline version 10.0.1



Matching problems between  
TrackToCalo and Trk::Track

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# Matching problems

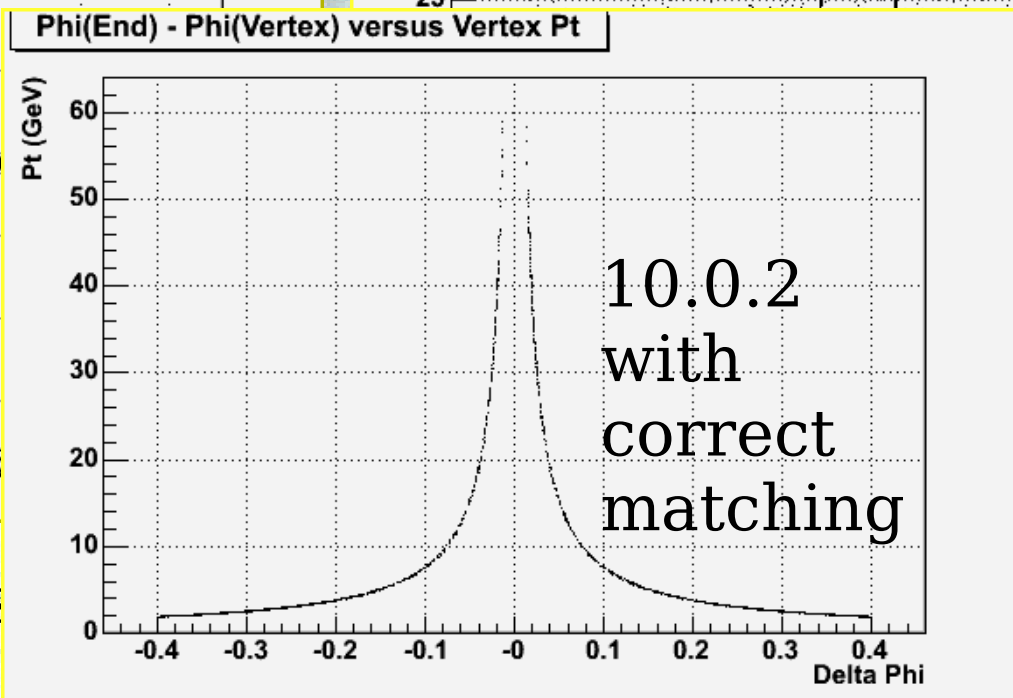
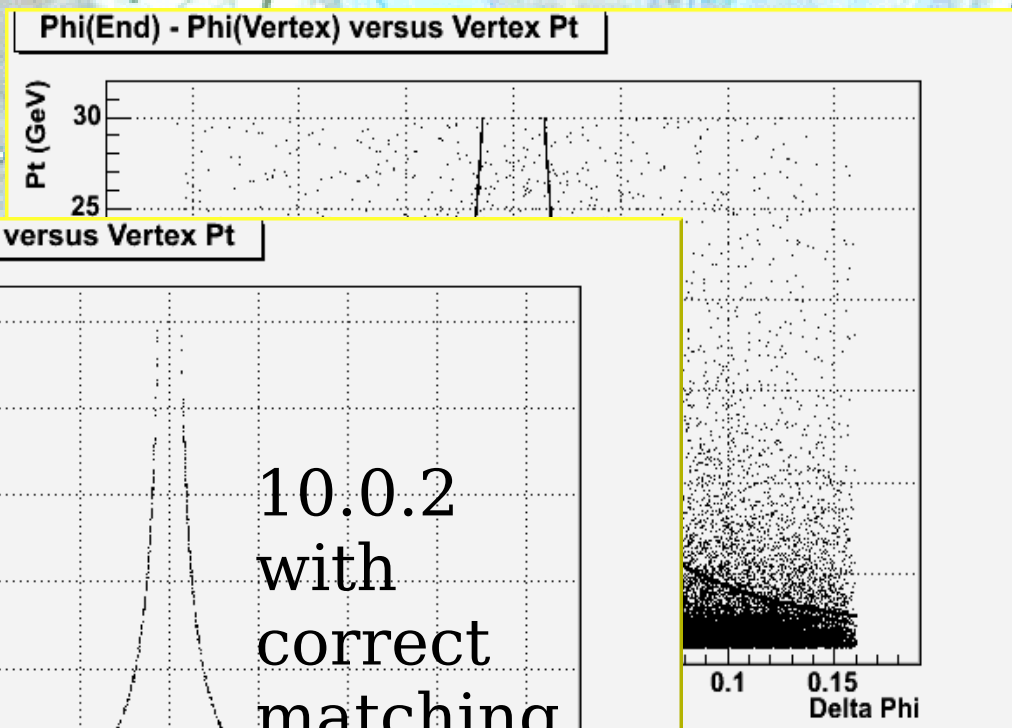
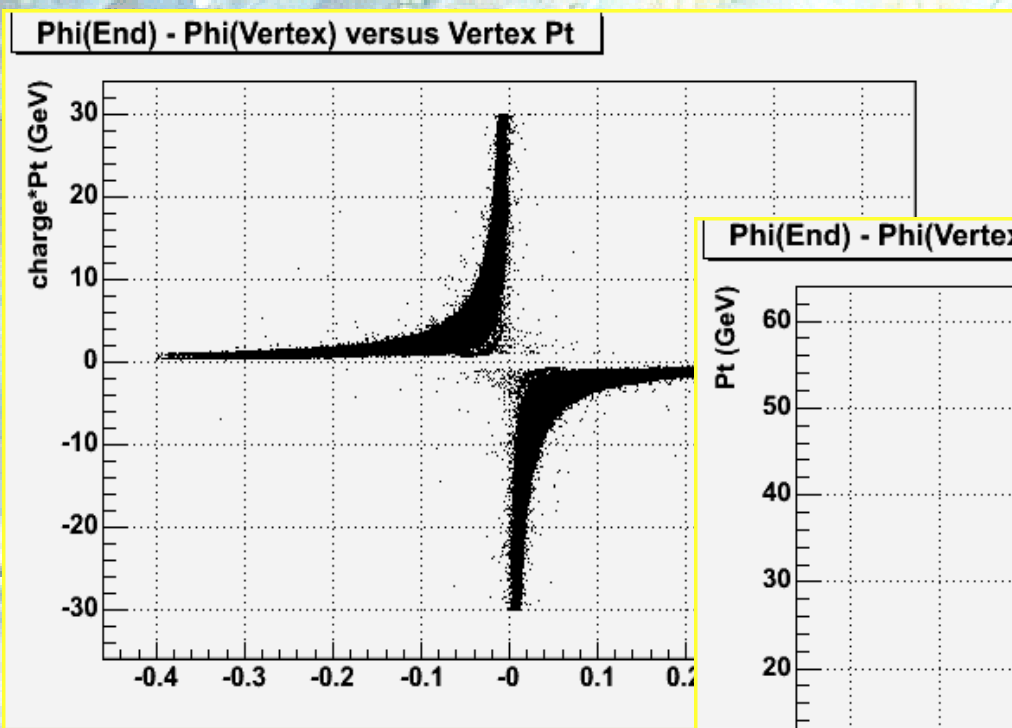
IIC\_eta0[0] : -2.1195 -log(tan(Trk\_theta[0]/2.0)) : -0.805226  
IIC\_eta0[1] : -2.36447 -log(tan(Trk\_theta[1]/2.0)) : -2.34949  
IIC\_eta0[2] : -0.834671 -log(tan(Trk\_theta[2]/2.0)) : -2.09247  
IIC\_eta0[3] : -0.836277 -log(tan(Trk\_theta[3]/2.0)) : -0.806212  
IIC\_eta0[4] : -0.836143 -log(tan(Trk\_theta[4]/2.0)) : -0.80425

IIC\_phi0\_local[0] : -0.379759 Trk\_phi[0] : -3.12245  
IIC\_phi0\_local[1] : -0.363619 Trk\_phi[1] : -0.314082  
IIC\_phi0\_local[2] : -3.13795 Trk\_phi[2] : -0.219695  
IIC\_phi0\_local[3] : -3.05363 Trk\_phi[3] : 3.10349  
IIC\_phi0\_local[4] : 3.05502 Trk\_phi[4] : -3.05352

# Delta Phi versus Pt

offline version 9.0.3

offline version 10.0.1



Matching problems  
TrackToCalo and T

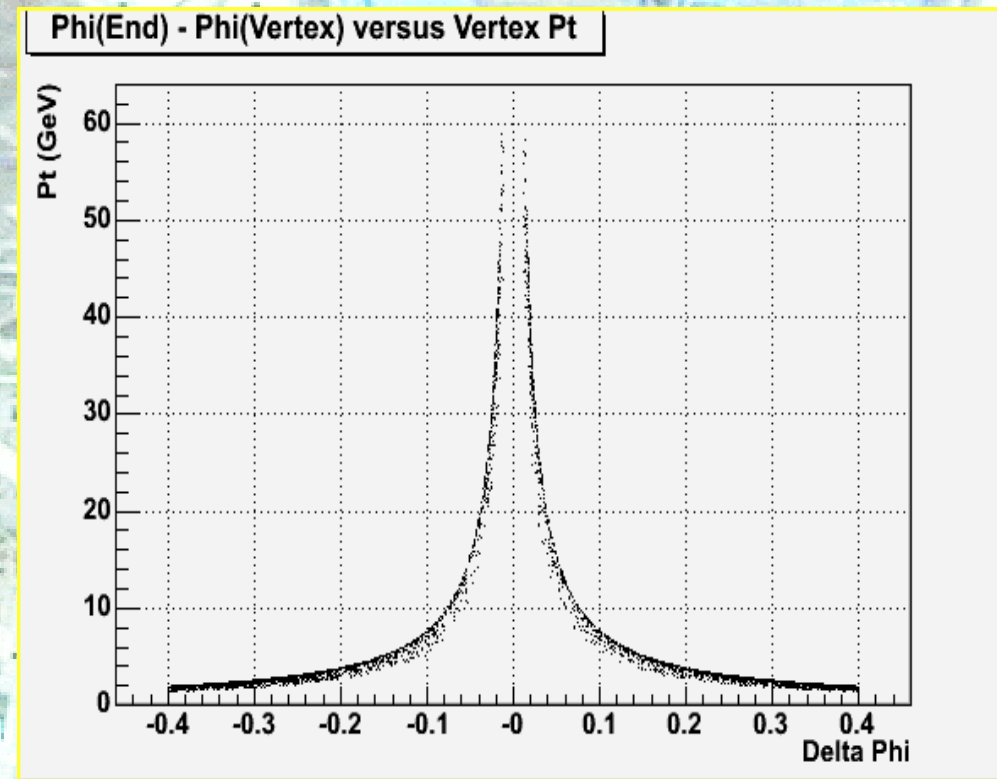
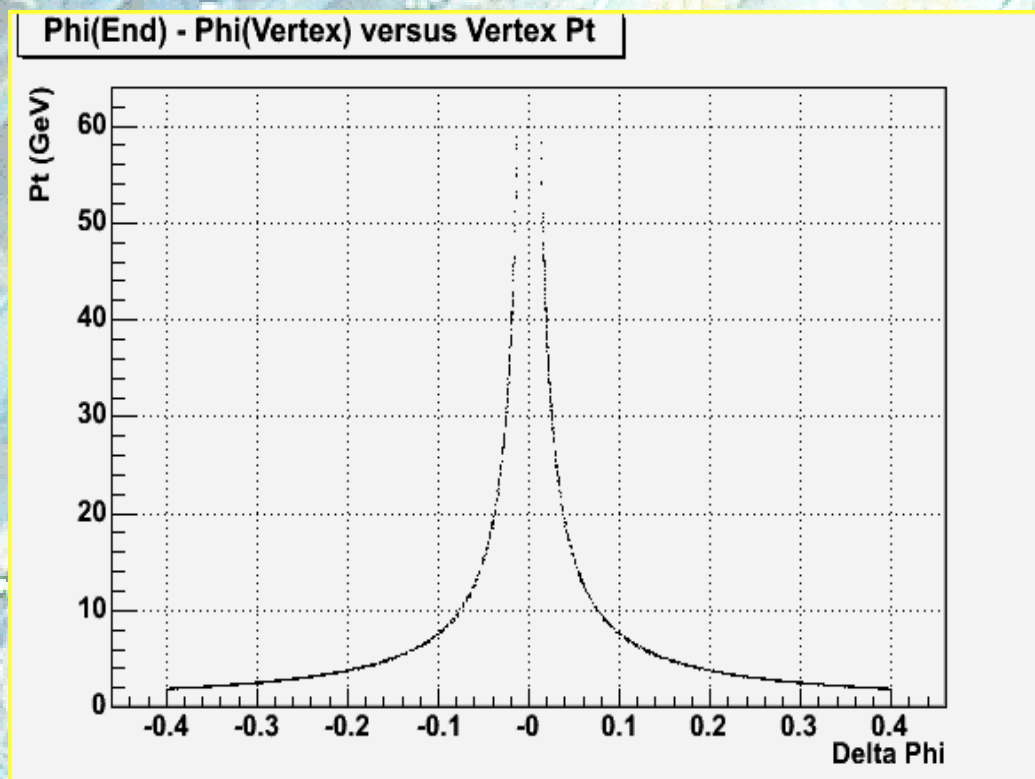
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# But this is not the end of this track...

$\eta < 0.8$

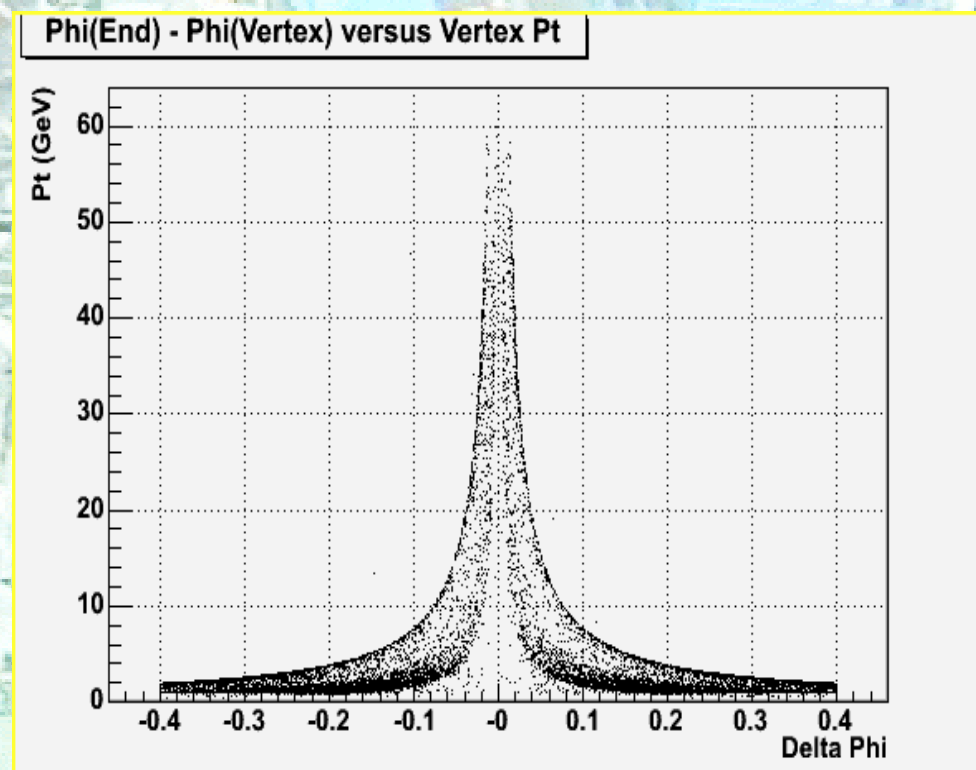
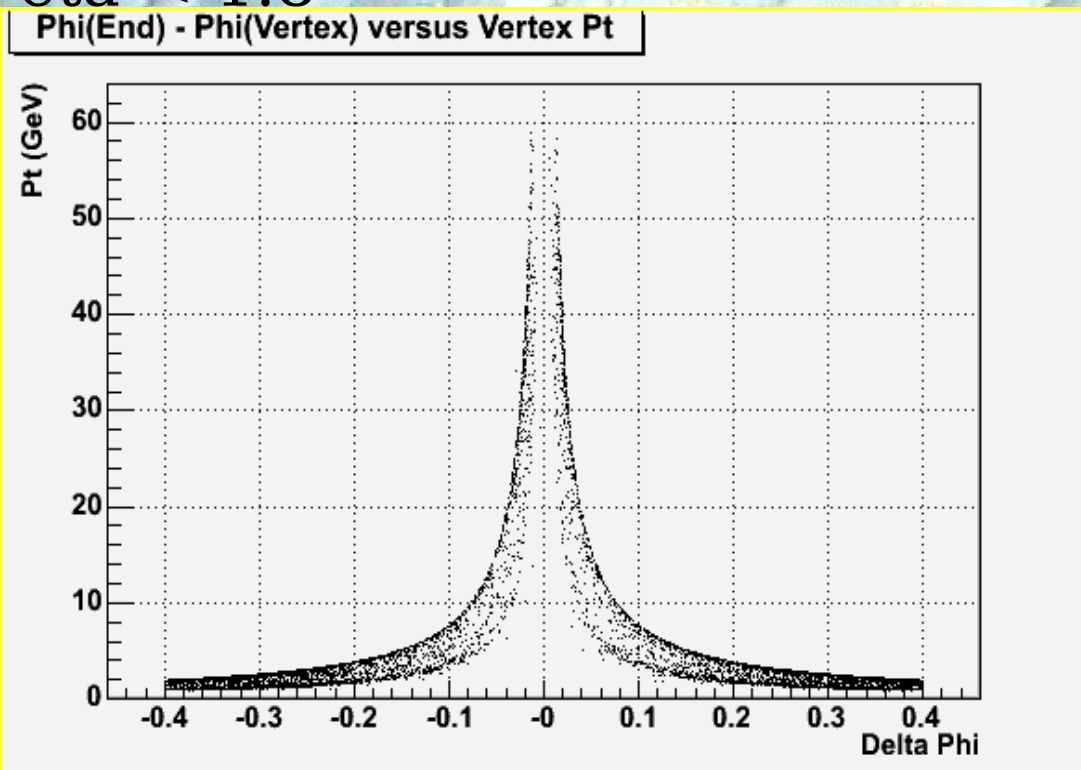
$\eta < 1.4$



# But this is not the end of this track...

$\eta < 1.8$

$\eta < 2.5$



# Conclusions

- TrackToCalo+Trk::Track (10.0.2) seem to reproduce pretty well what SimpleTrack did before (9.0.3) in a better shape than 10.0.1.
- However, minor problems seems to be there for the extrapolation at larger eta
- AOD/ESD discussion with other groups (Trigger/SM) shows that CBNT is not dead yet.



# Remarks and next steps

- What is next?!
- Check for updates at :  
<http://www.usatlas.bnl.gov/~damazio/log>