

First look at Offline track reconstruction.

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Data analysed so far

Run 42325 (Tuesday night)

SCT, TRT, Tile, MDT, CTP, TDAQ, LVL1

Run 43719 (Friday night)

SCT, TRT, Tile, LArg, TGC, MDT, CTP, RPC, TDAQ, HLT, LVL1

Run 44316 (Sunday night)

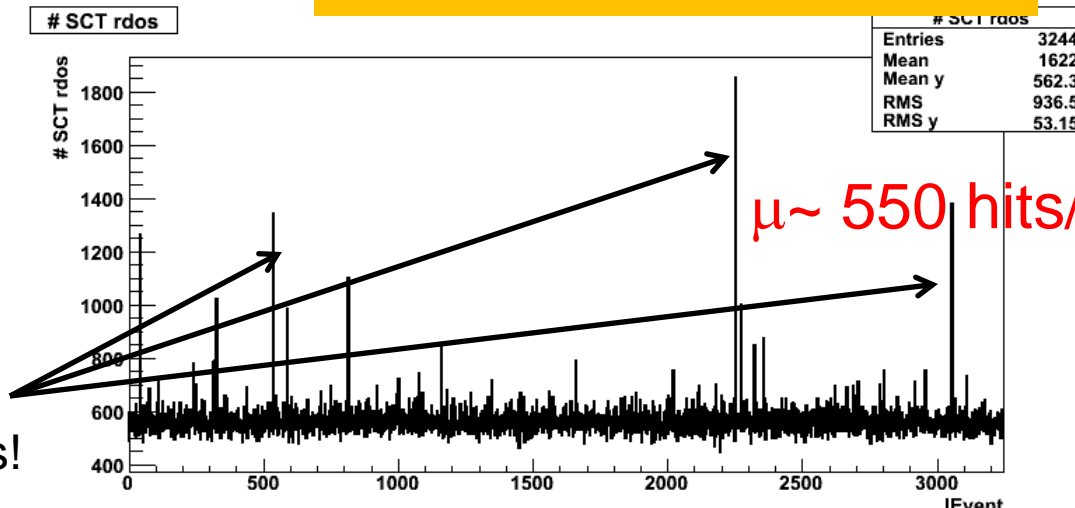
SCT, TRT, Tile, LArg, TGC, MDT, CTP, RPC, TDAQ, LVL1

SCT DATA QUALITY

SCT occupancies

Number of RDOs Vs. event

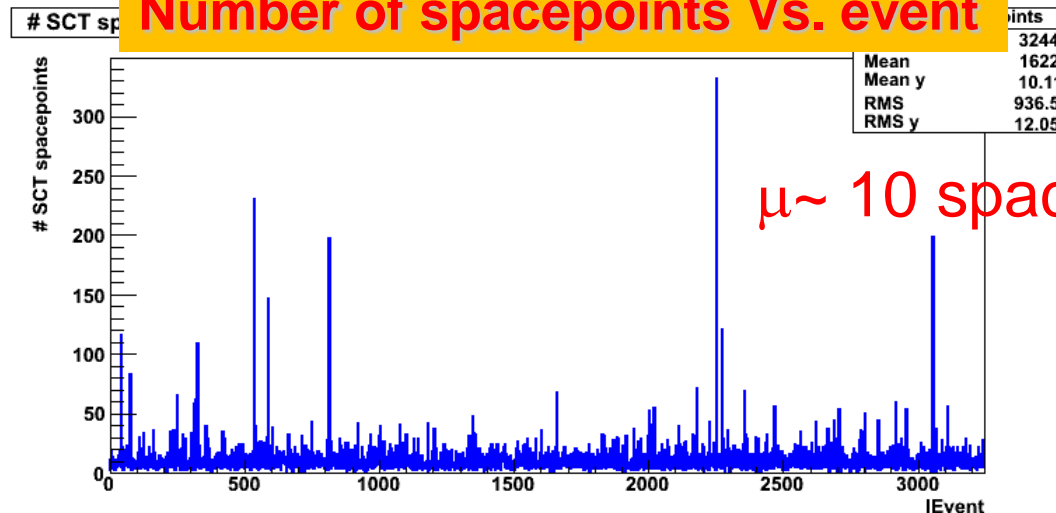
Run 43719



$\mu \sim 550$ hits/event

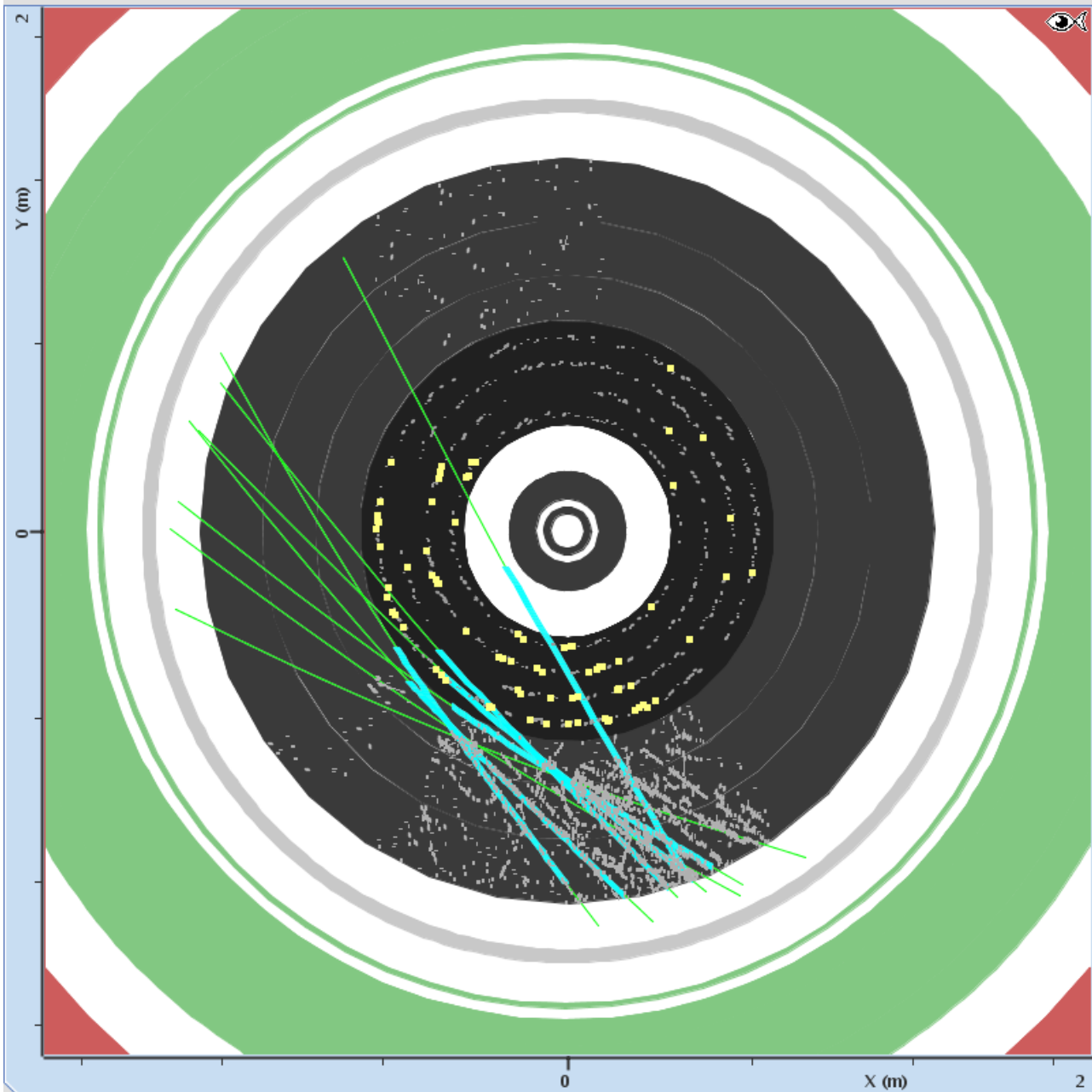
It could be showers!

Number of spacepoints Vs. event



$\mu \sim 10$ spacepoints/event

Yes, it seems a shower!!

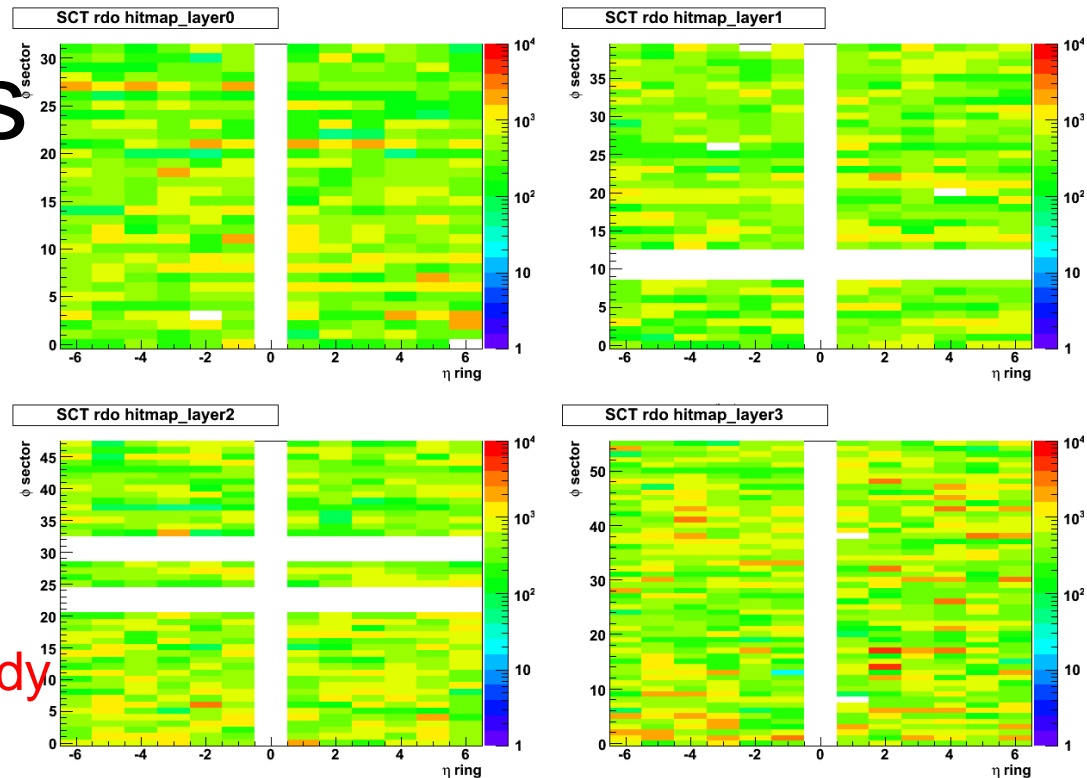


SCT occupancies for noisy events

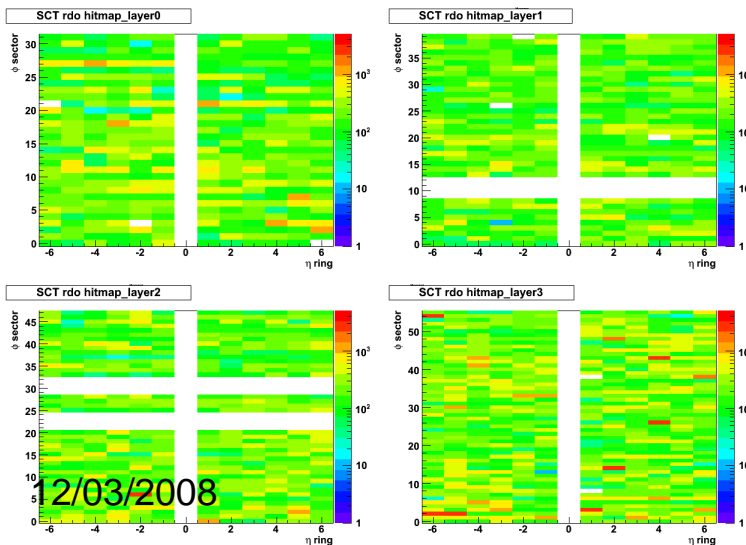
Hit map for events with no tracks in SCT

Run 43719

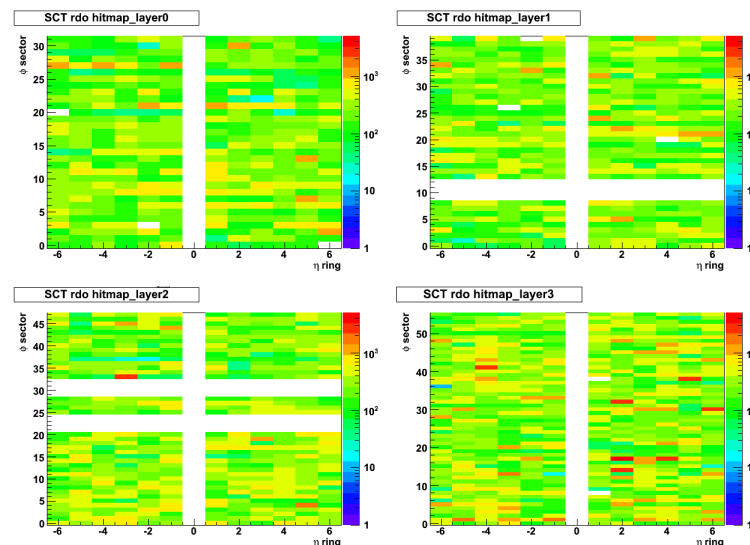
The noisy (red) modules are already identified (also offline checked).



Side 0



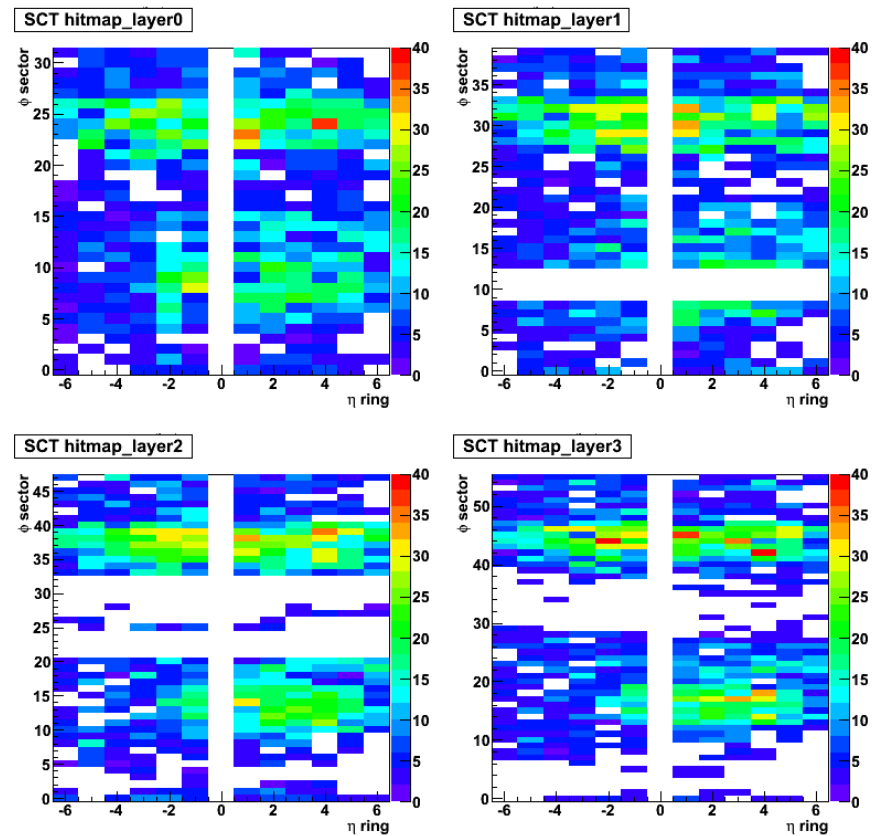
Side 1



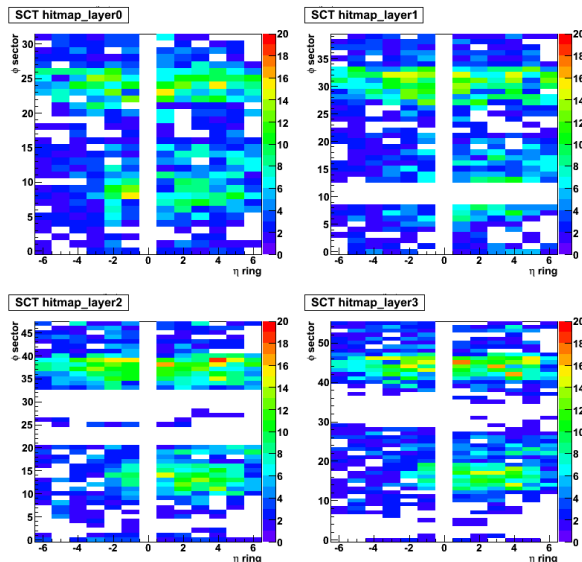
SCT cosmics occupancies

Hit map for events with tracks in SCT

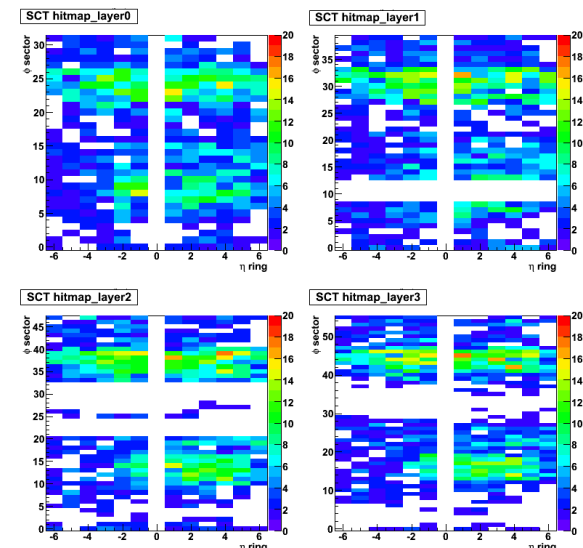
Run 43719



Side 0



Side 1

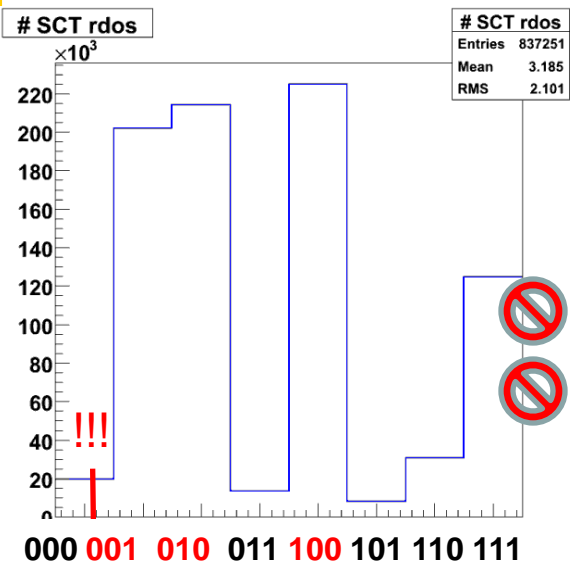


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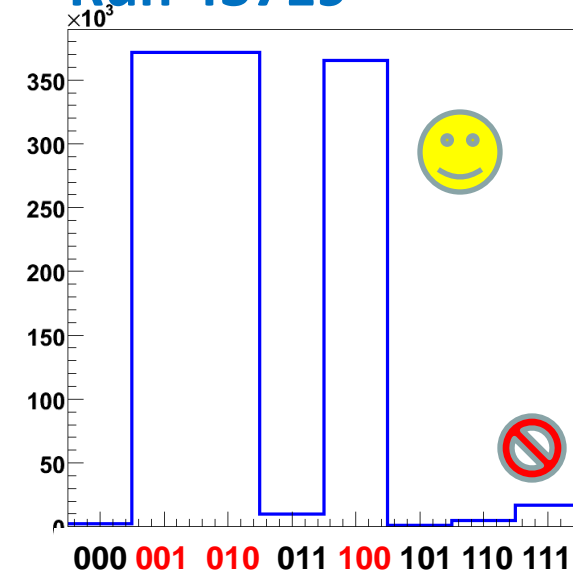
Timing in SCT

Events without tracks in SCT

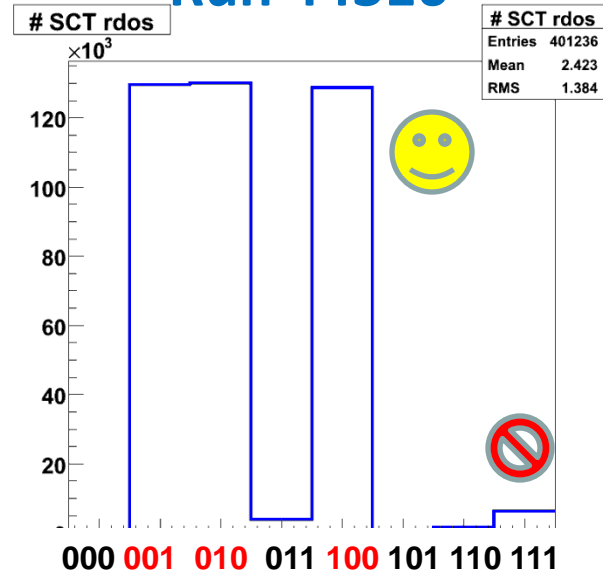
Run 42325



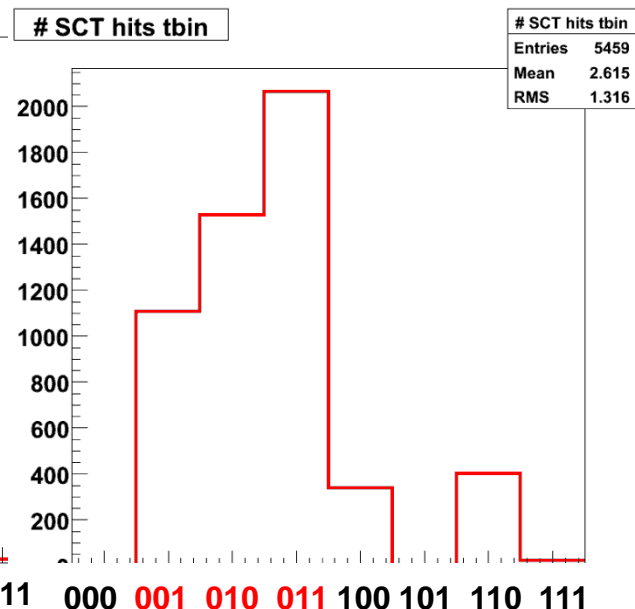
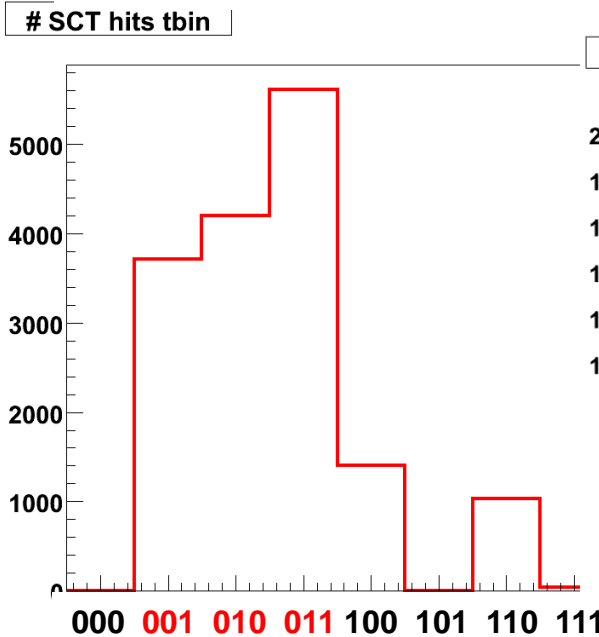
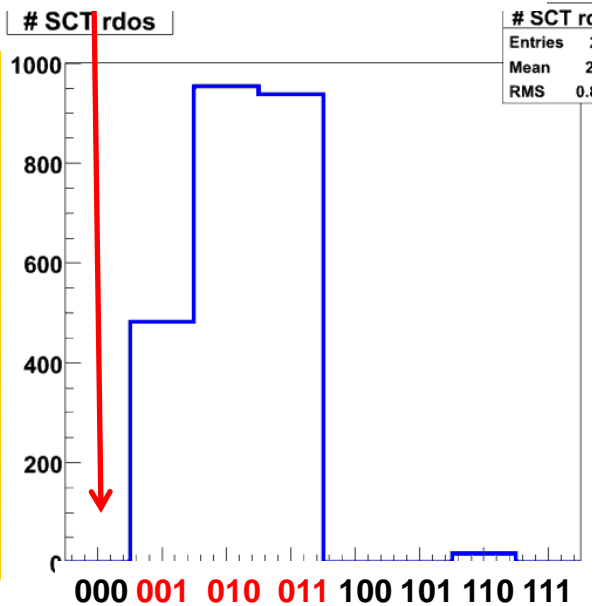
Run 43719



Run 44316



Events with hits associated to tracks



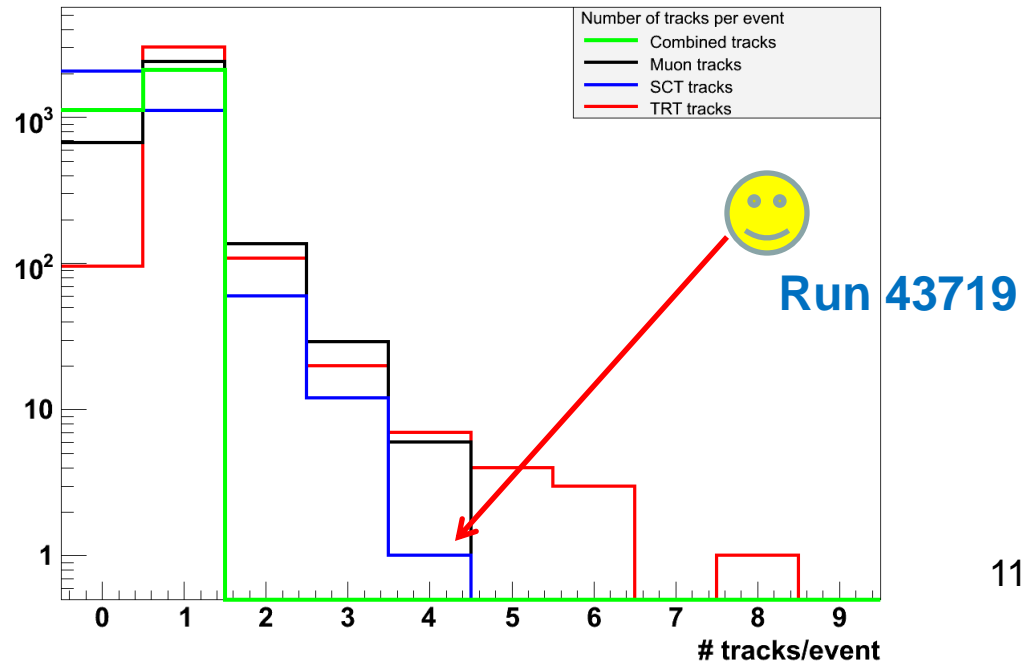
TRACK RECONSTRUCTION (SCT+TRT)

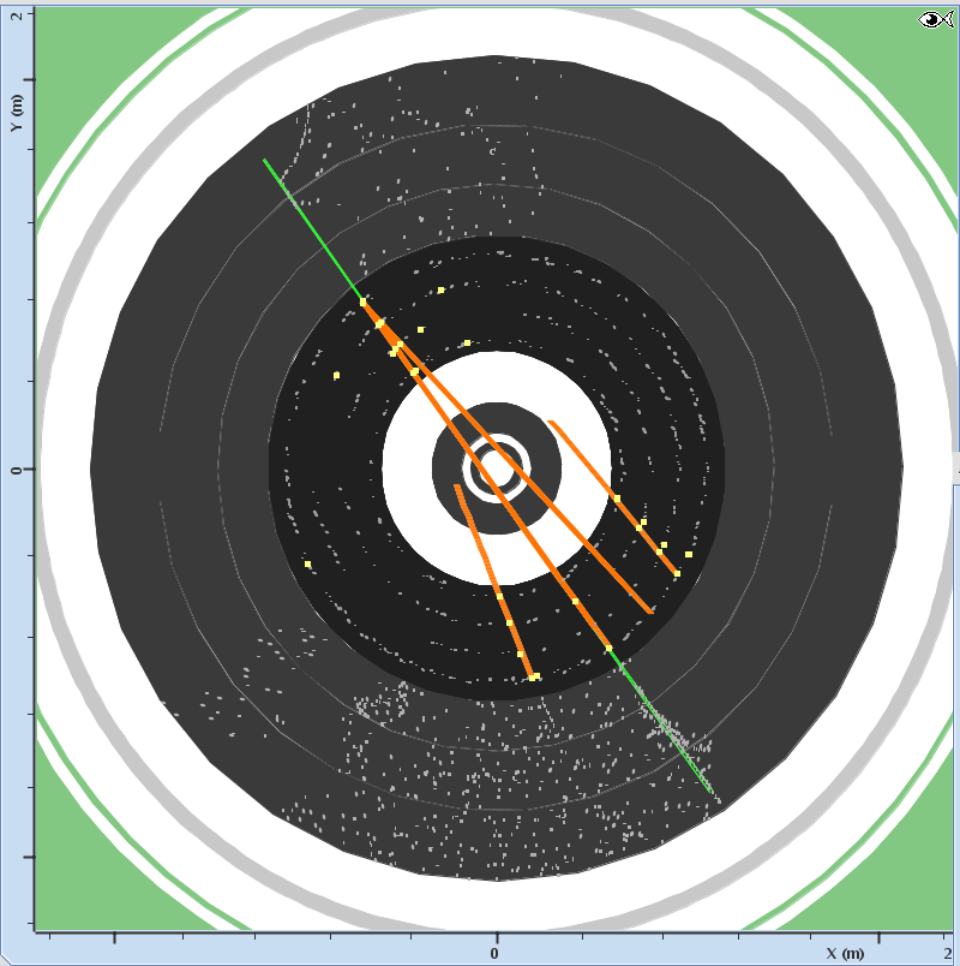
Reconstructed tracks

Run 44316

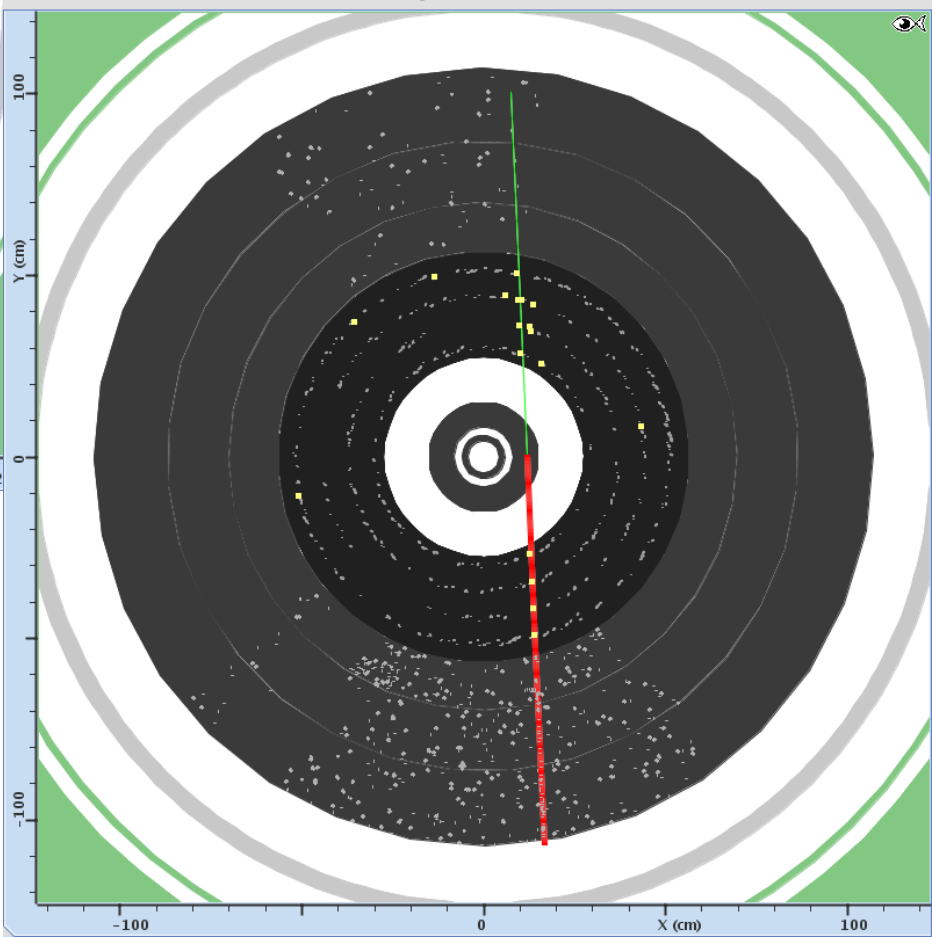
Rate of tracks reconstructed

Trigger Stream	AllTeIDSelected (ID scintillator + HLT events with TRT tracks pointing to SCT volume)	NIM4 (ID scintillator trigger)	MU3 (Muon trigger)
# events	1168	2899	24896
Rate SCT tracks	41%	2.8%	1.7%
Rate TRT tracks	96%	3.6%	1.5%
Rate Muon tracks	79%	32%	79%
Rate Combined tracks	66% <input type="checkbox"/>	1%	2.6%





Event with 4 tracks in the SCT!!



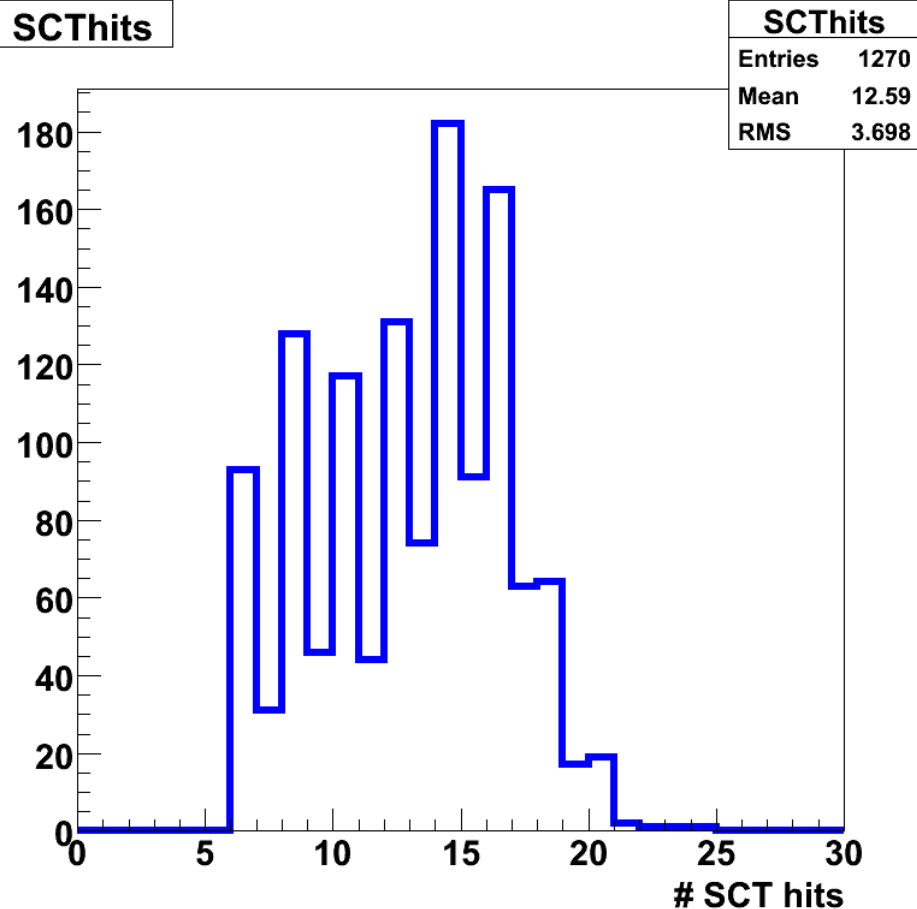
An nice event in upper and lower parts of SCT and TRT detectors!

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Reconstructed tracks

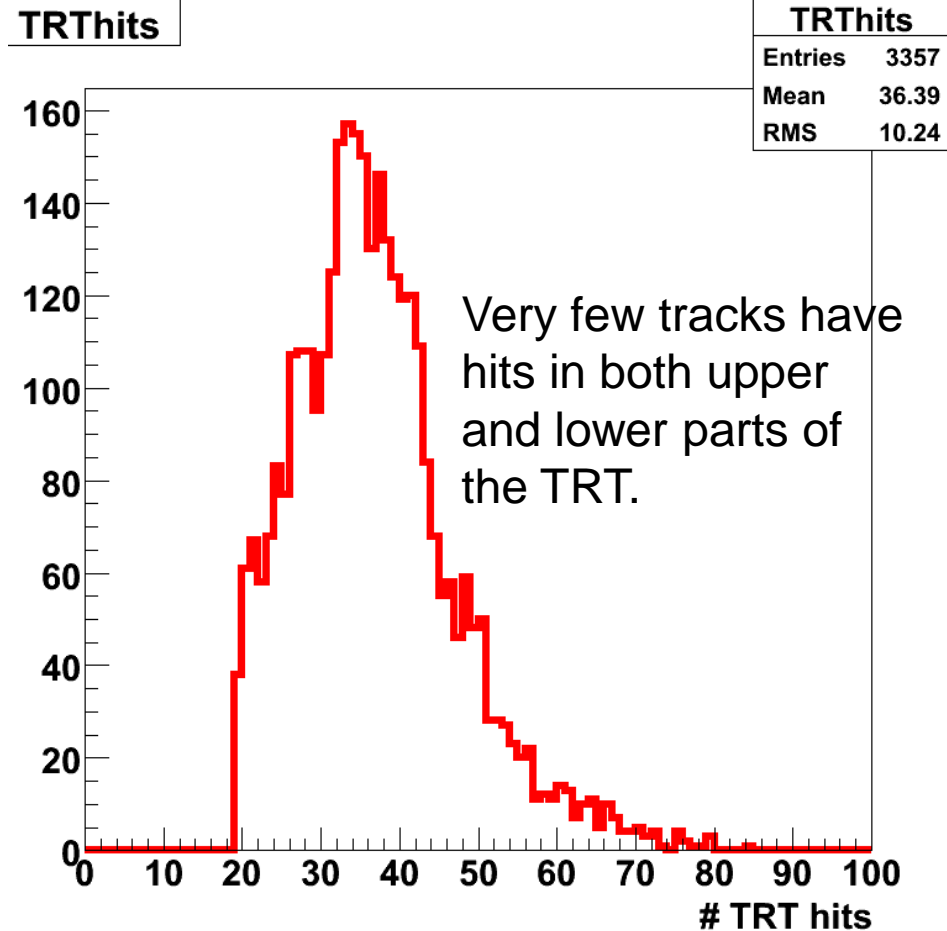
Run 43719

SCT associated hits



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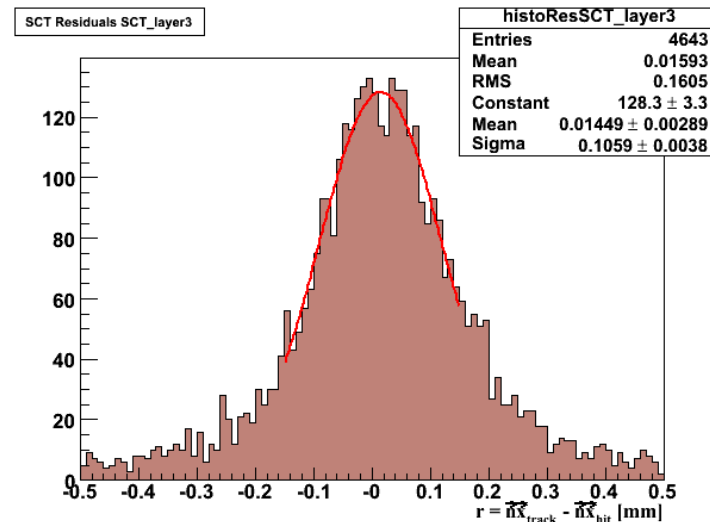
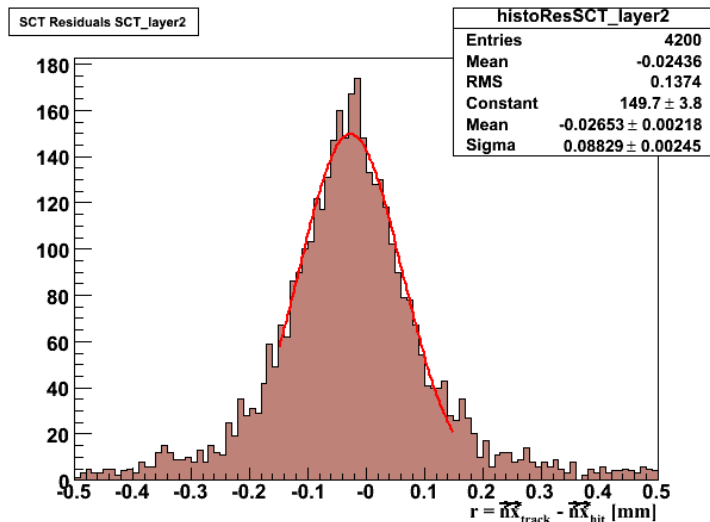
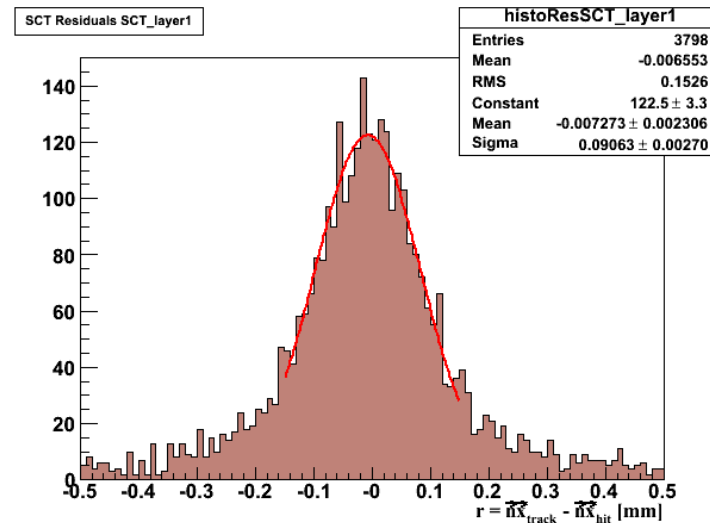
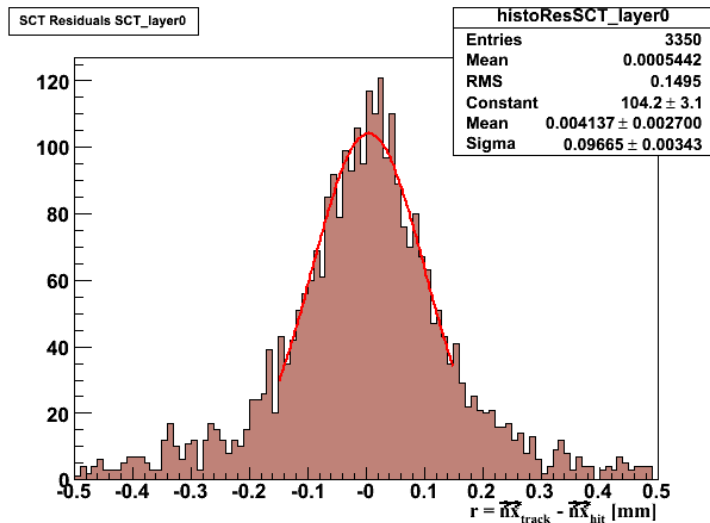
TRT associated hits



13

SCT residuals per layer

Run 43719

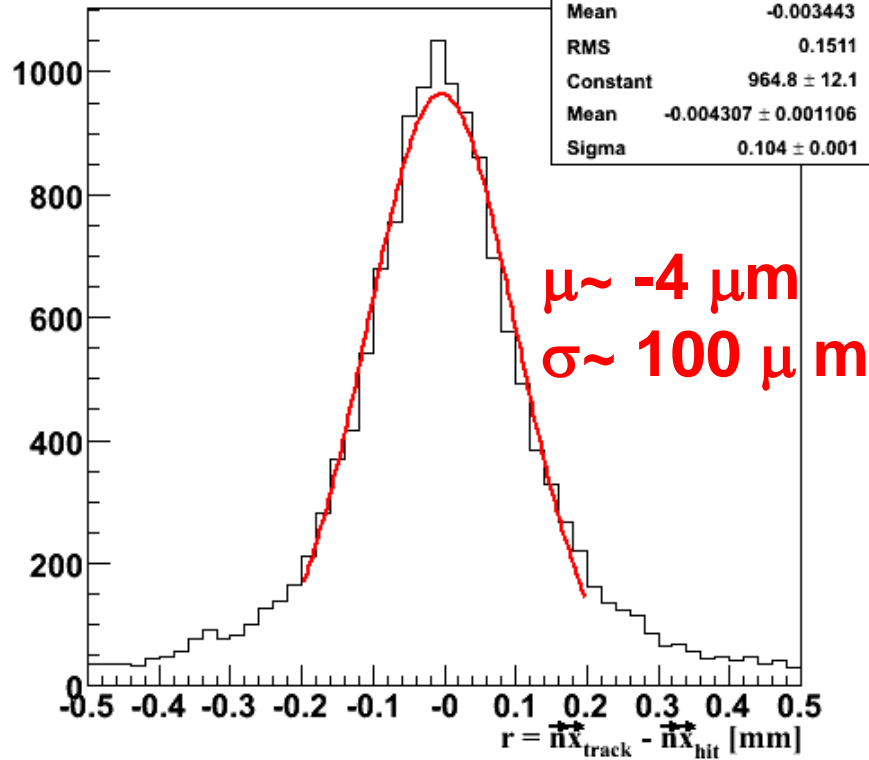


Reconstructed tracks

Run 43719

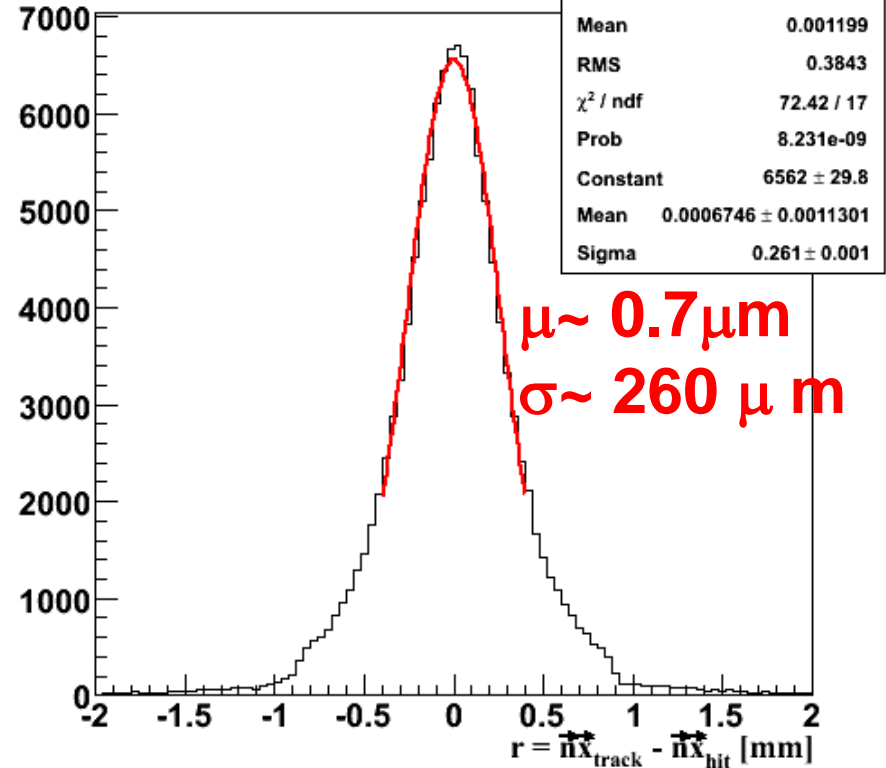
SCT residuals

SCT Residuals SCT



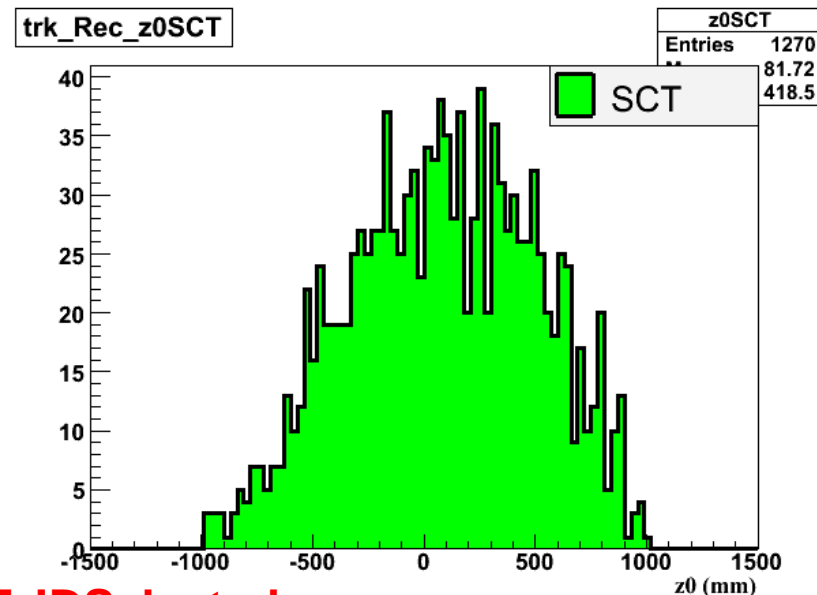
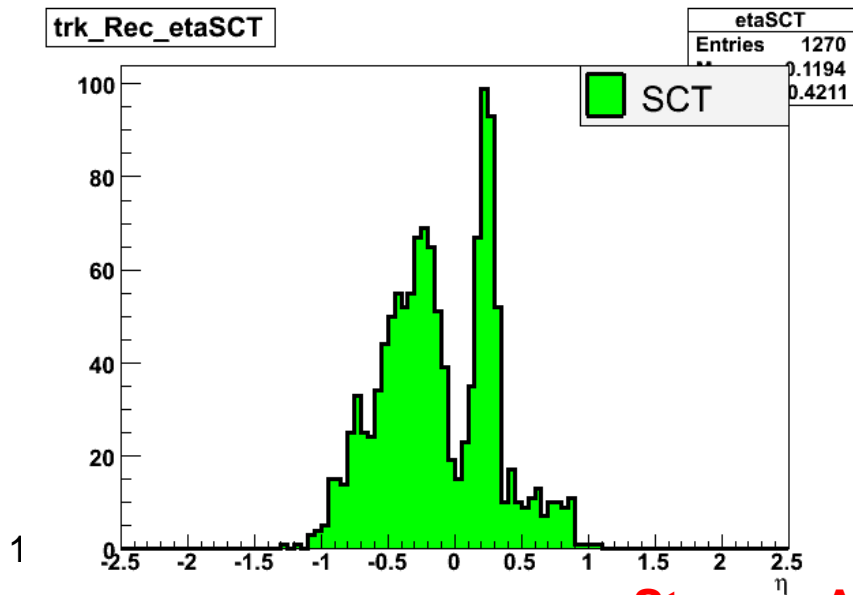
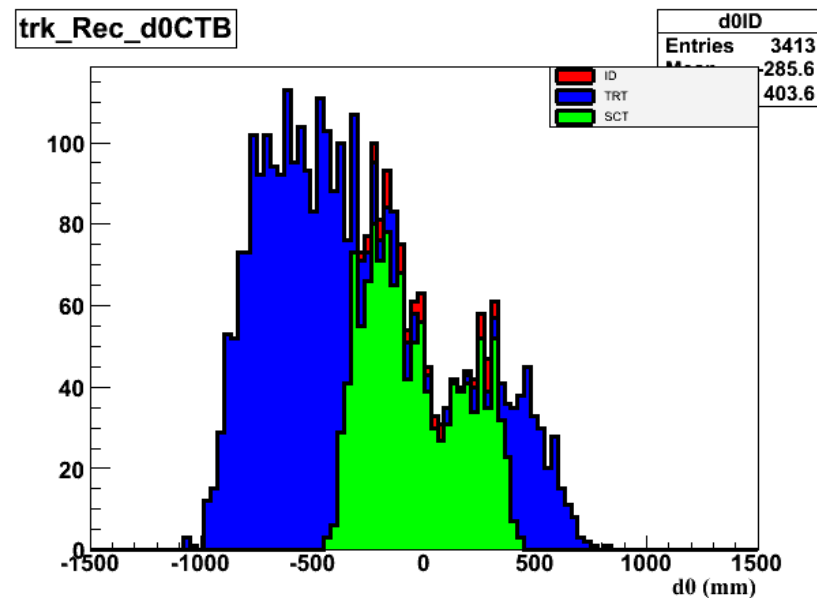
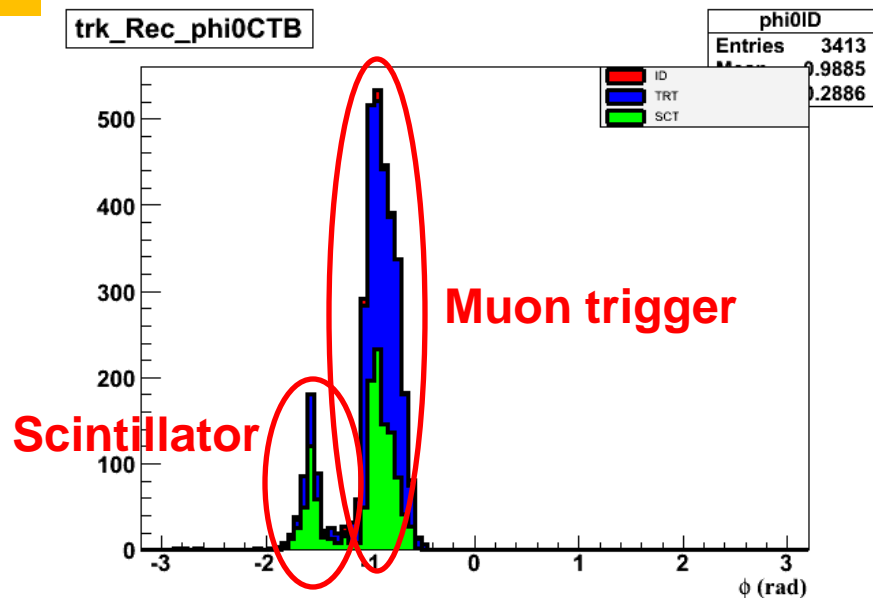
TRT residuals

TRT Residuals TRT



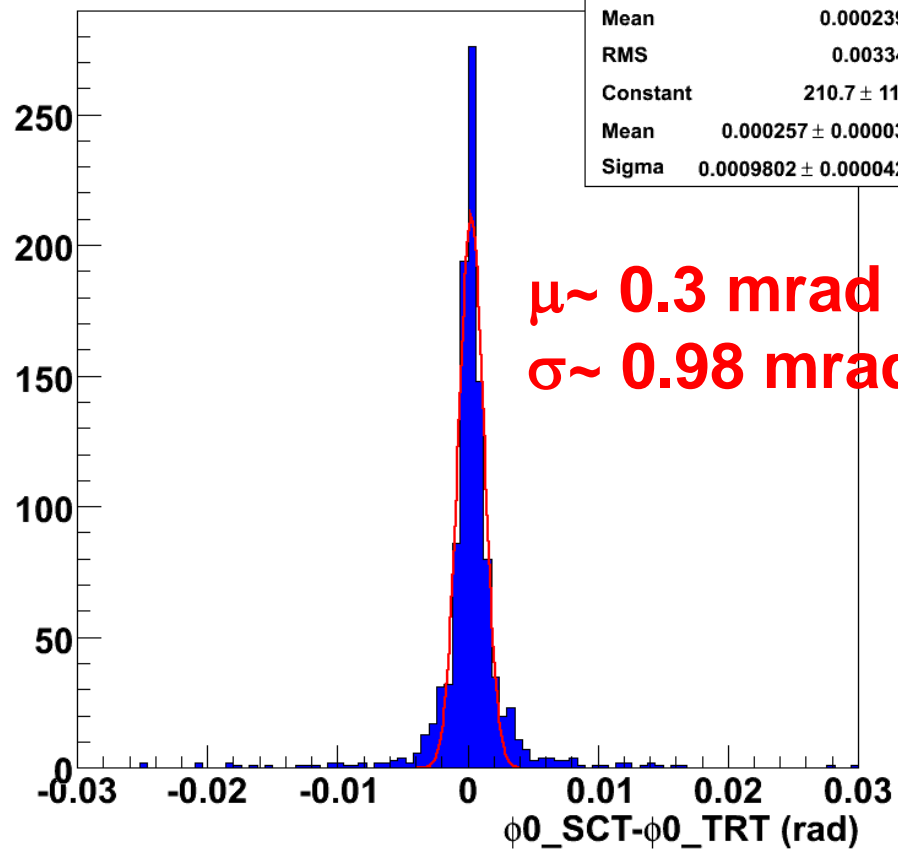
Comparison SCT and TRT track parameters: Acceptance of the detectors

Run 43719

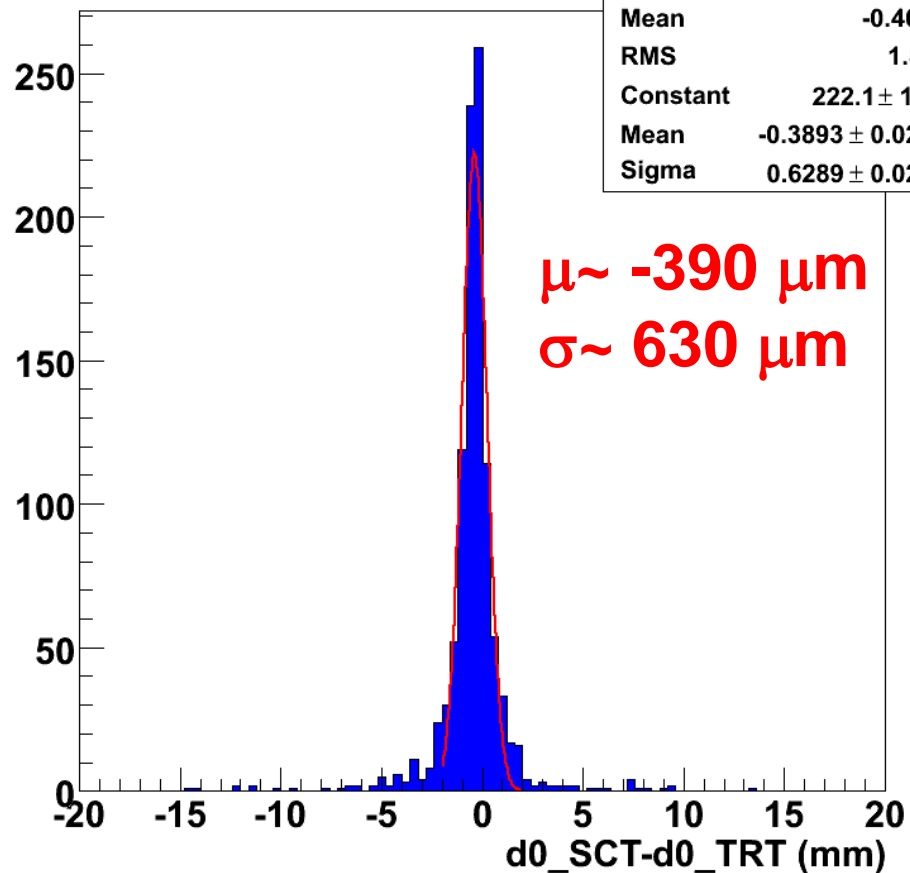


Stream: AllTeIDSelected

Difference of ϕ and d0 parameter for events with 1 SCT and 1 TRT tracks.

 ϕ_0 SCT-TRT

d0 SCT-TRT

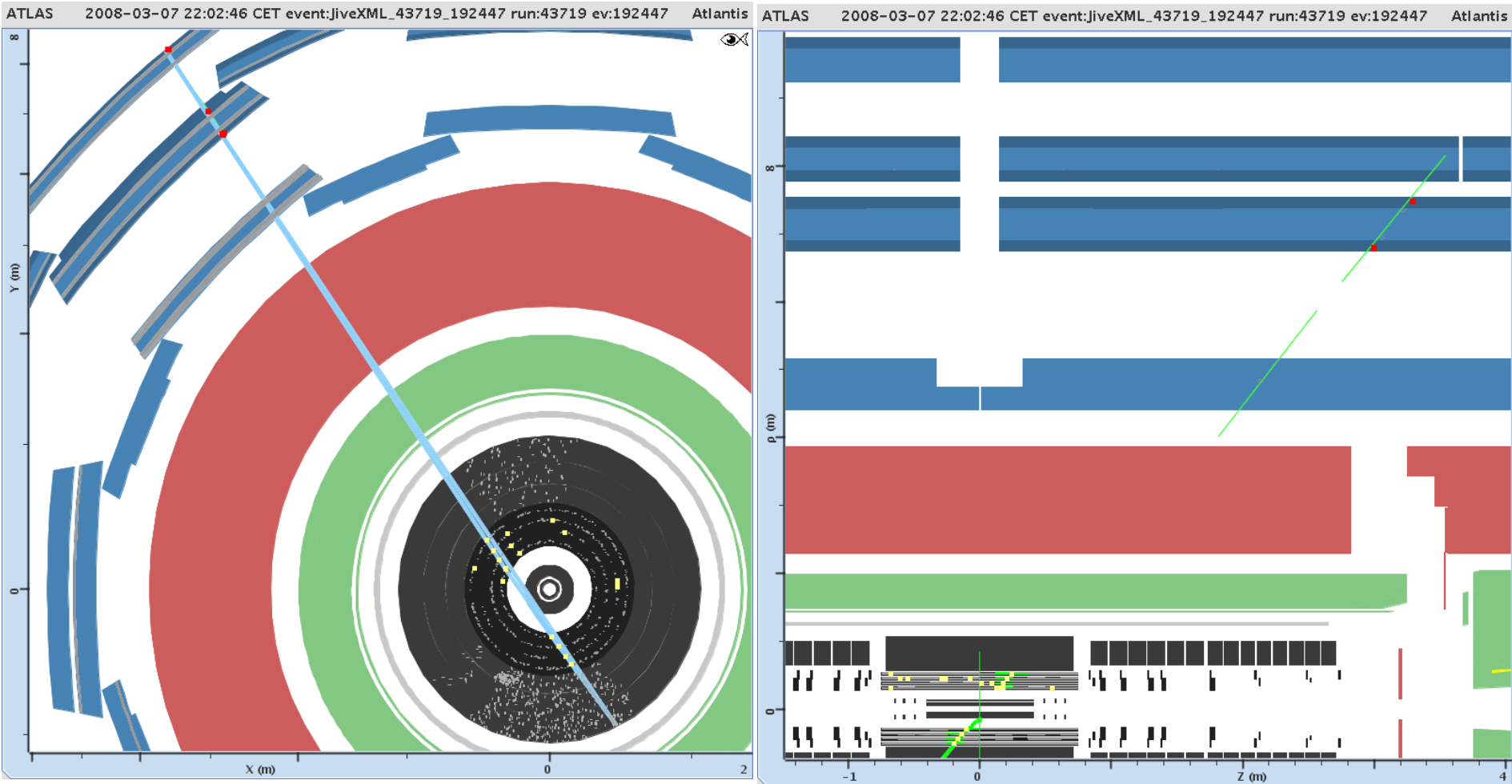


COMBINED TRACKING

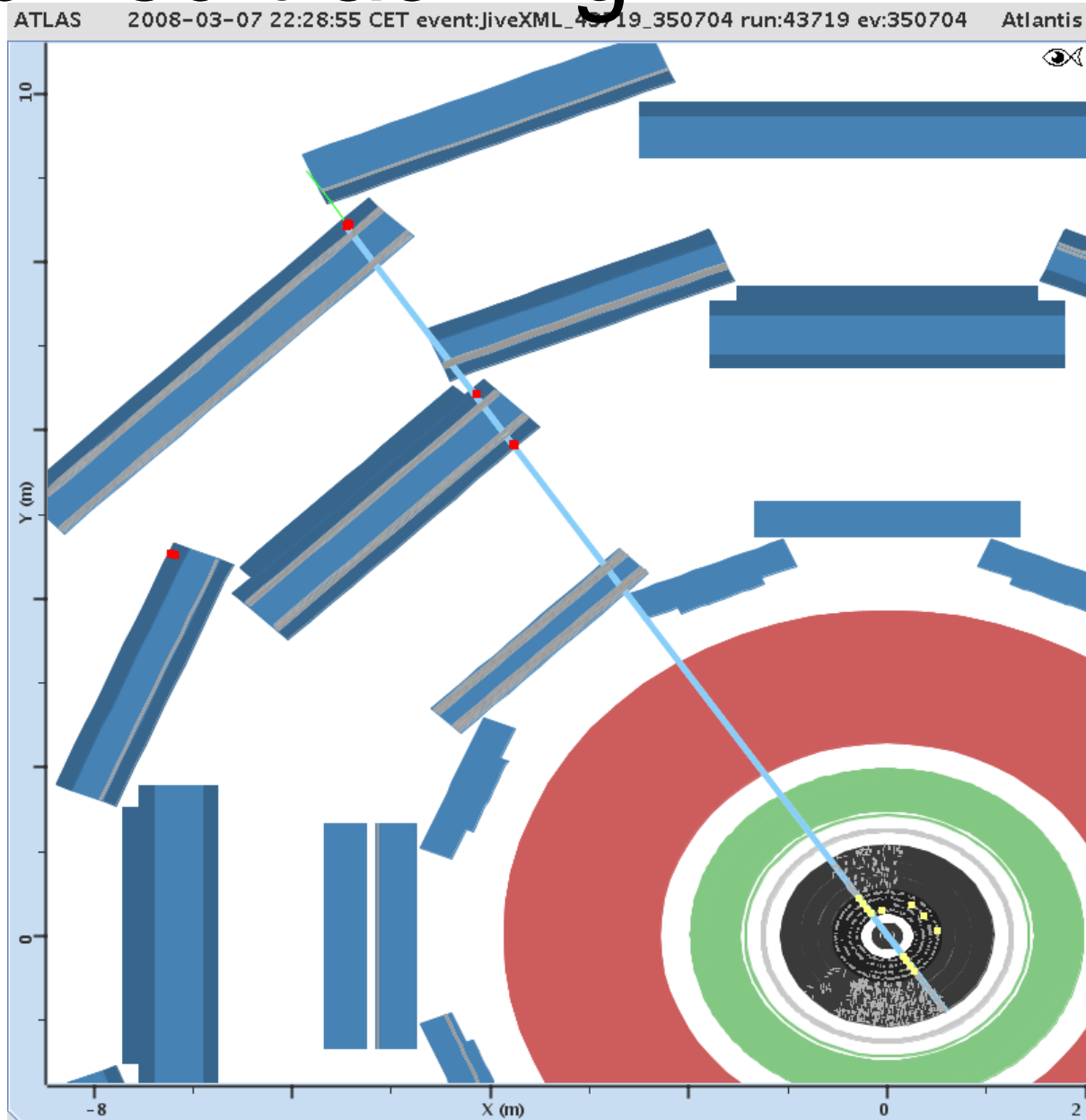
(ID+MUONS)

Combined tracking

Run 43719



Combined tracking



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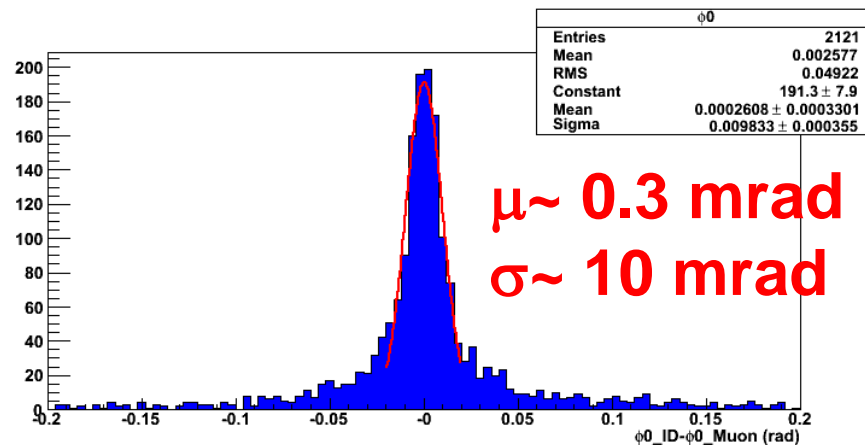
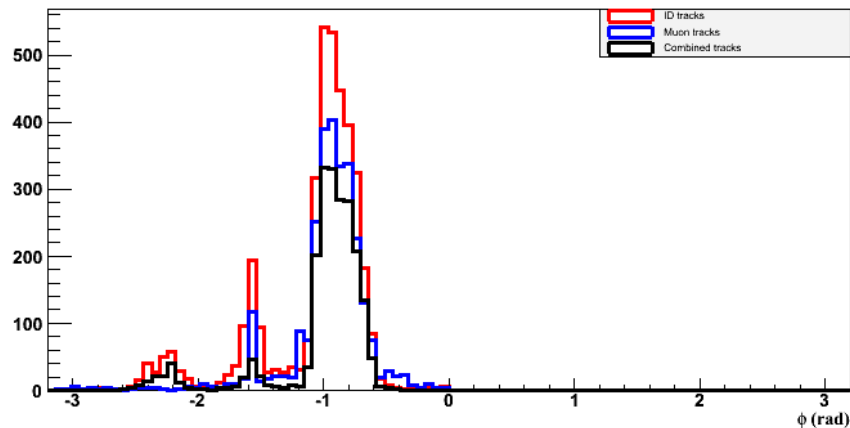
20

Combined tracking

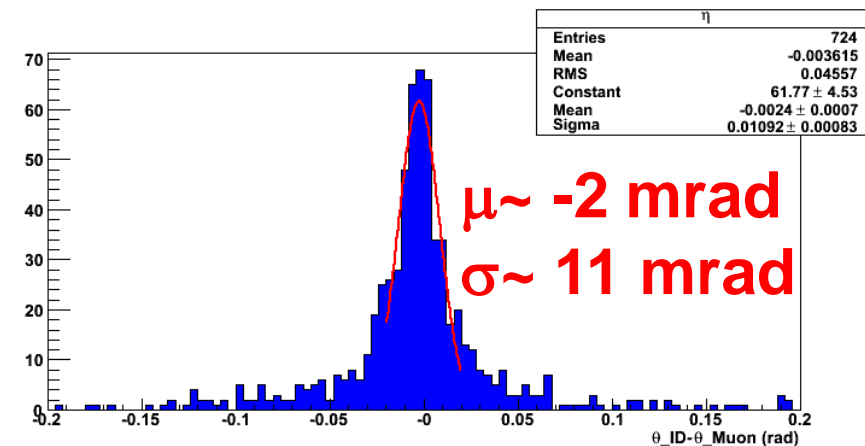
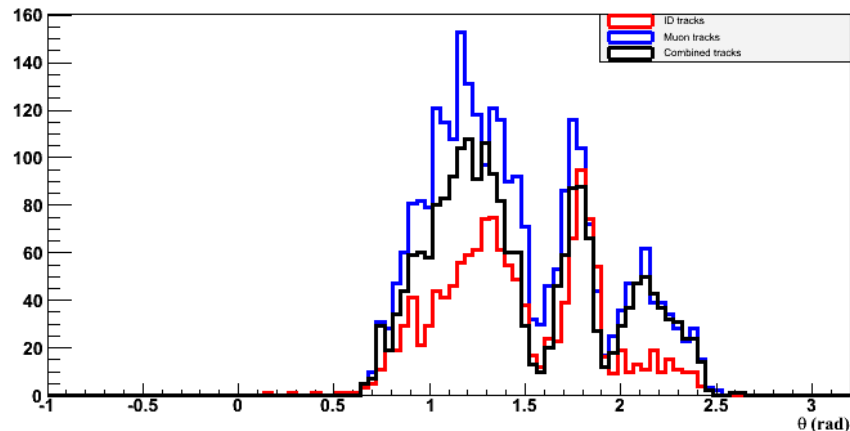
Run 43719

Comparison ID and MS track parameters

ϕ_0



η

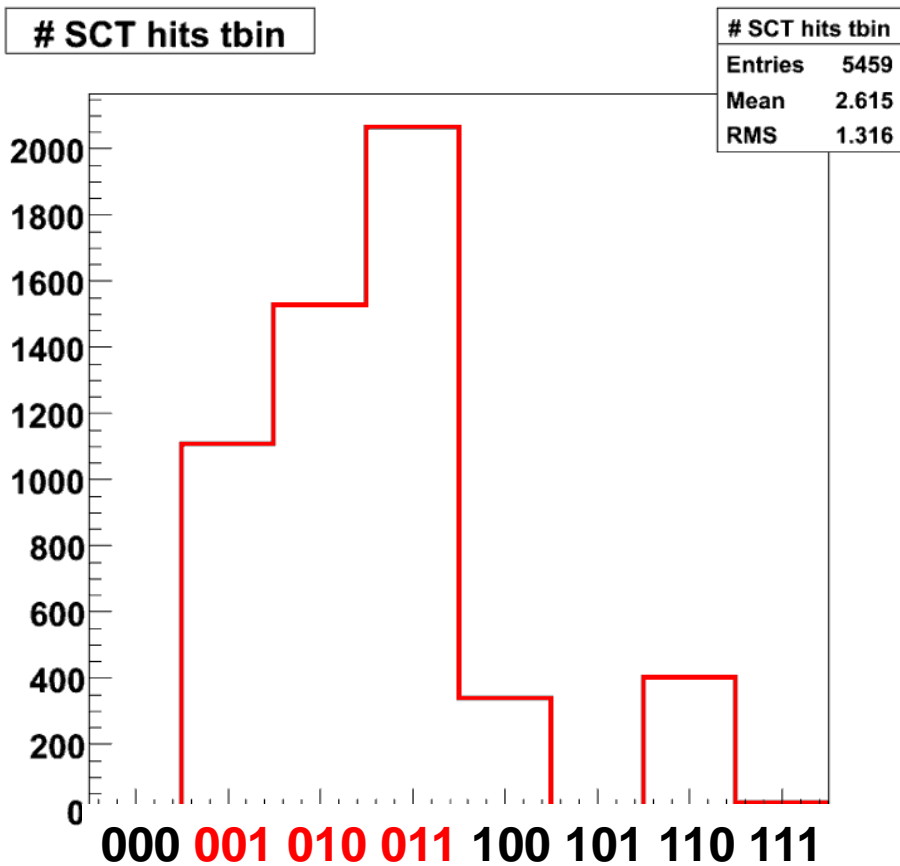


Conclusions

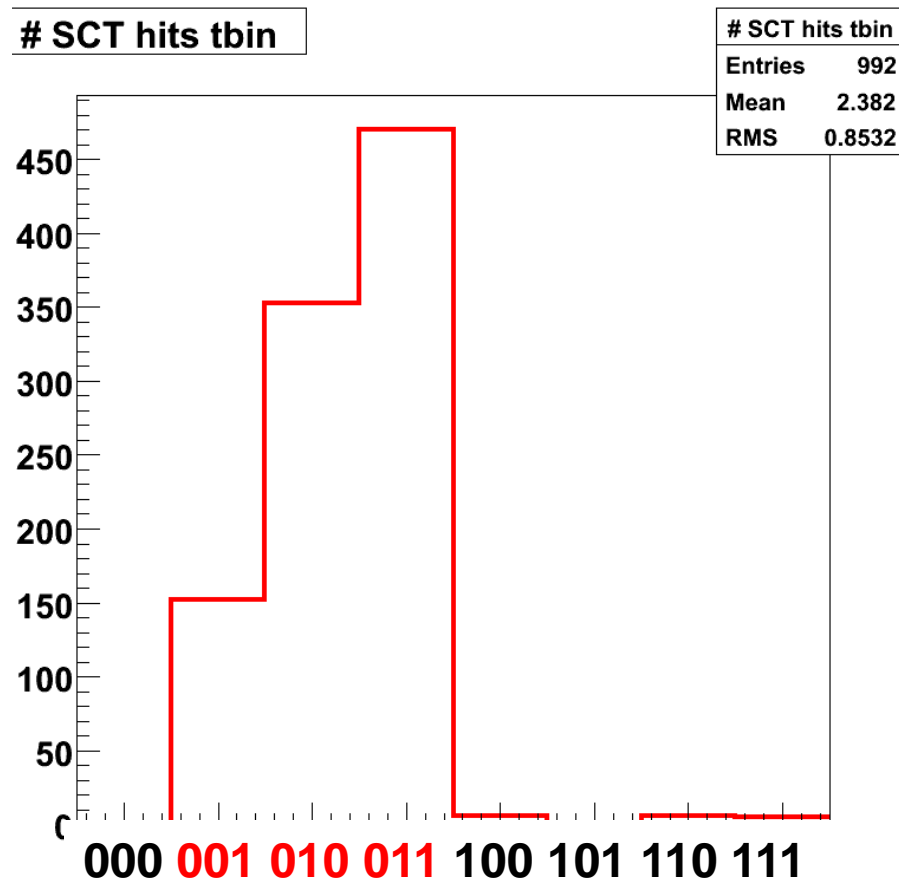
- Very preliminar results shown for SCT and TRT data and ID tracking performance.
- Also first look at the performance of the combined recontruction and ID-Muon track parameters comparisons.
- Will continue looking in detail.

Back up slides

Stream: AllTeIDSelected

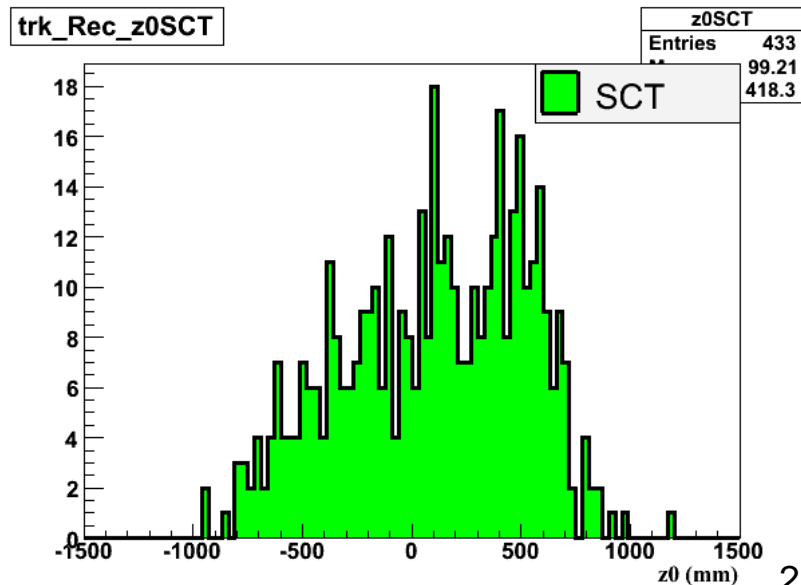
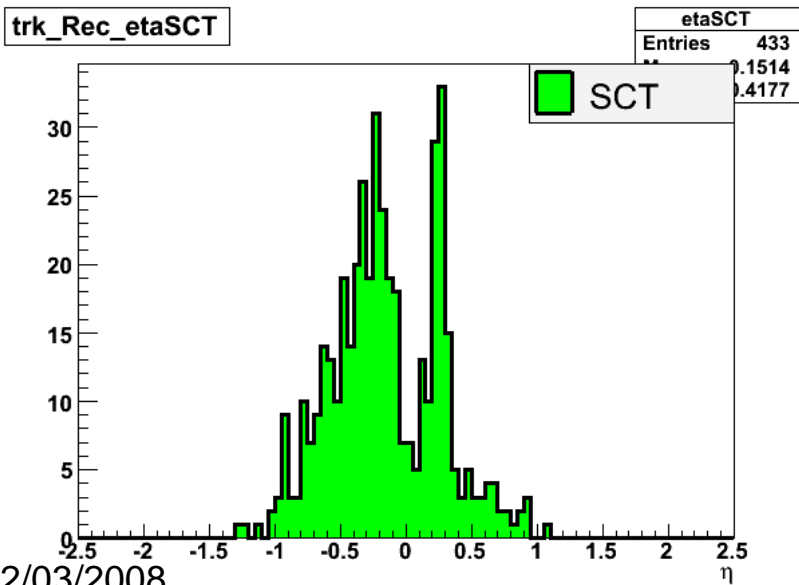
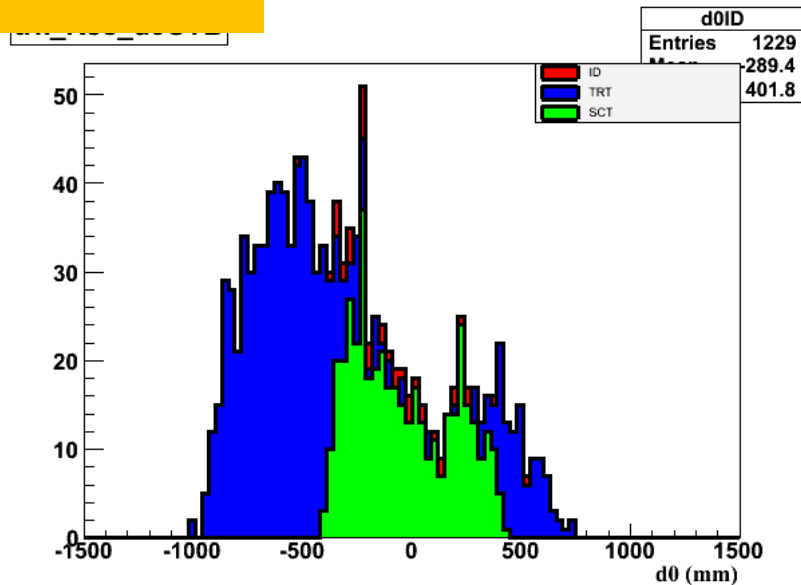
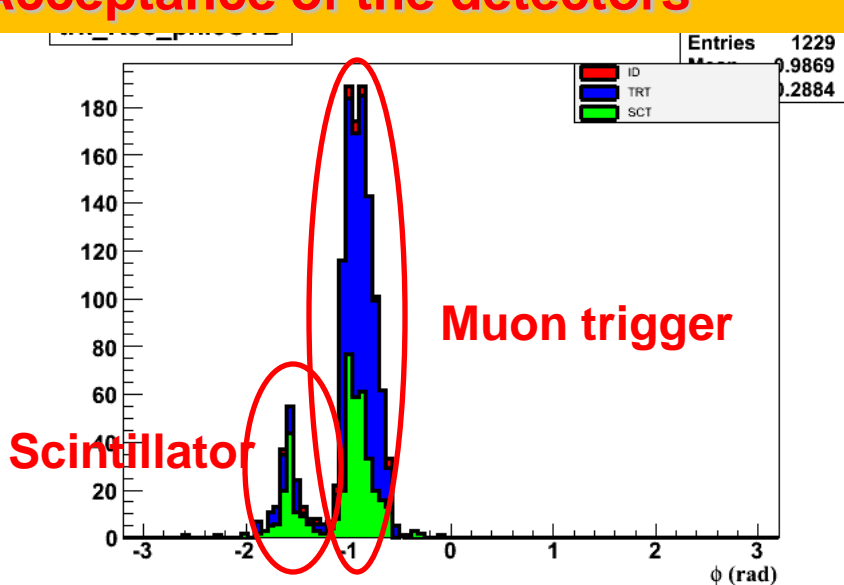


Stream: NIM4 (Scintillators)



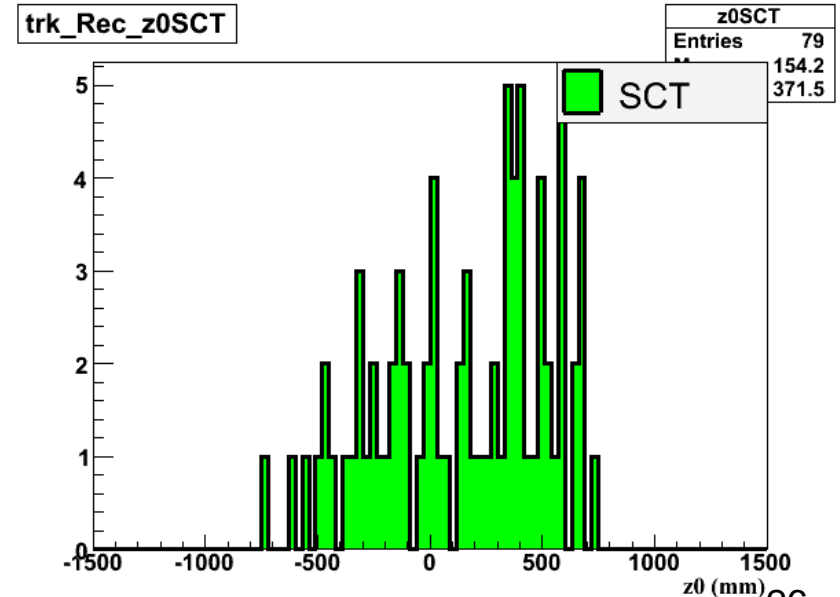
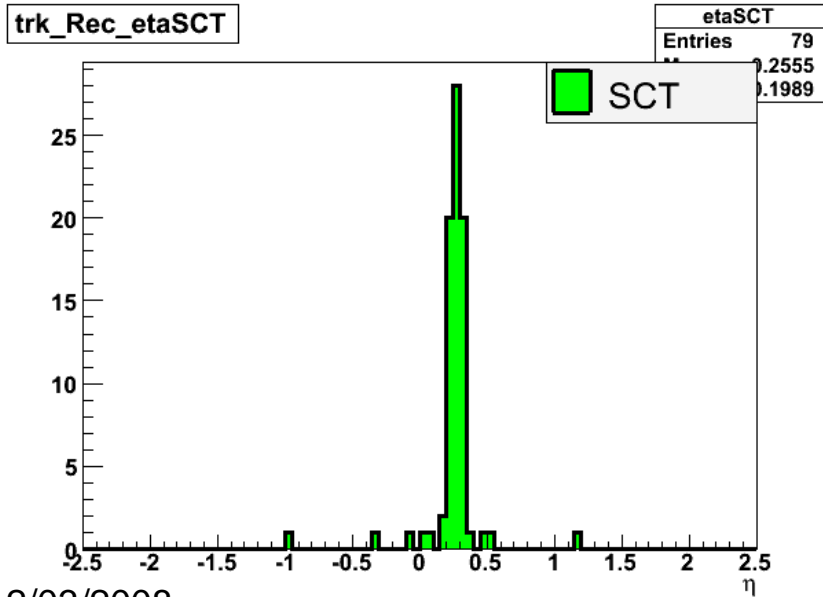
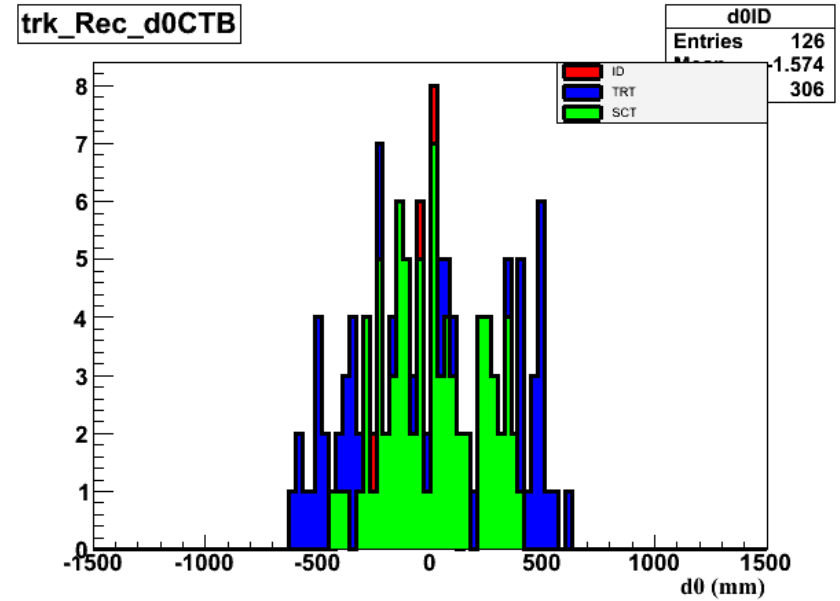
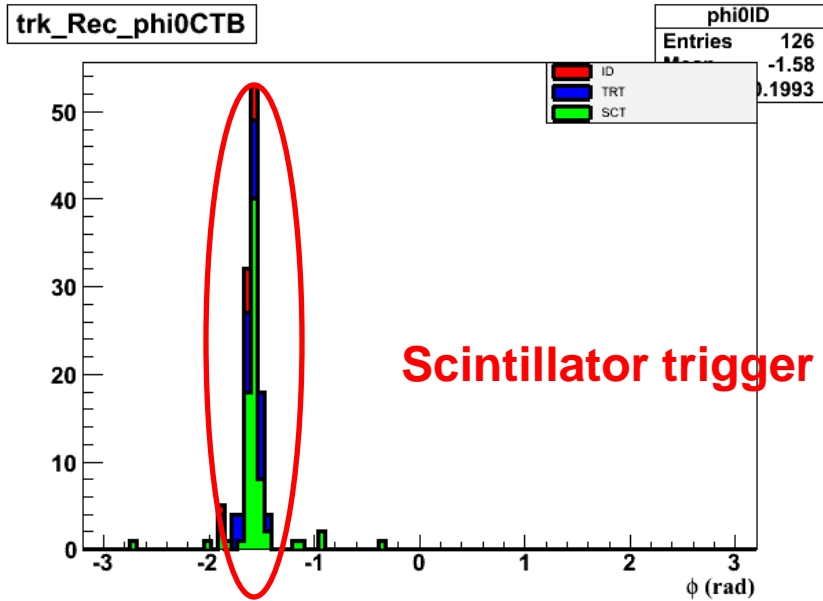
Comparison SCT and TRT track parameters: Acceptance of the detectors

Run 44316



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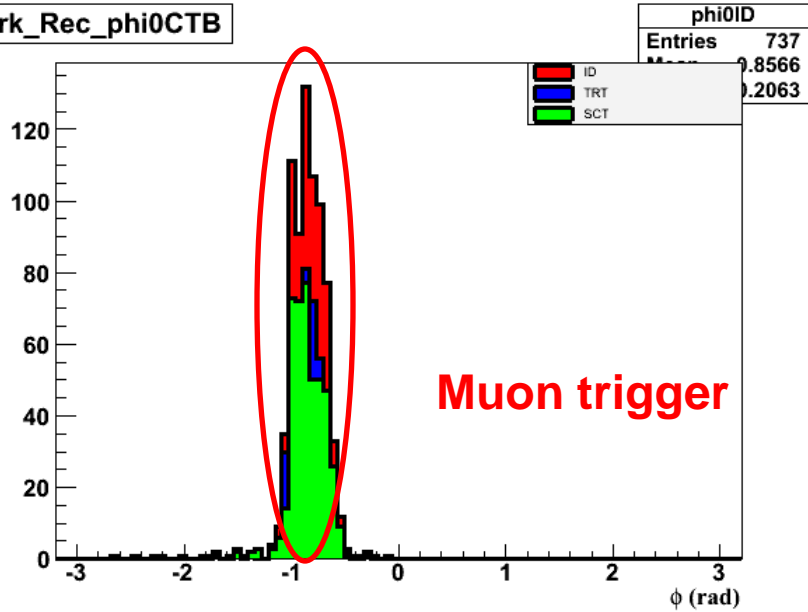
Stream: AllTeIDSelected



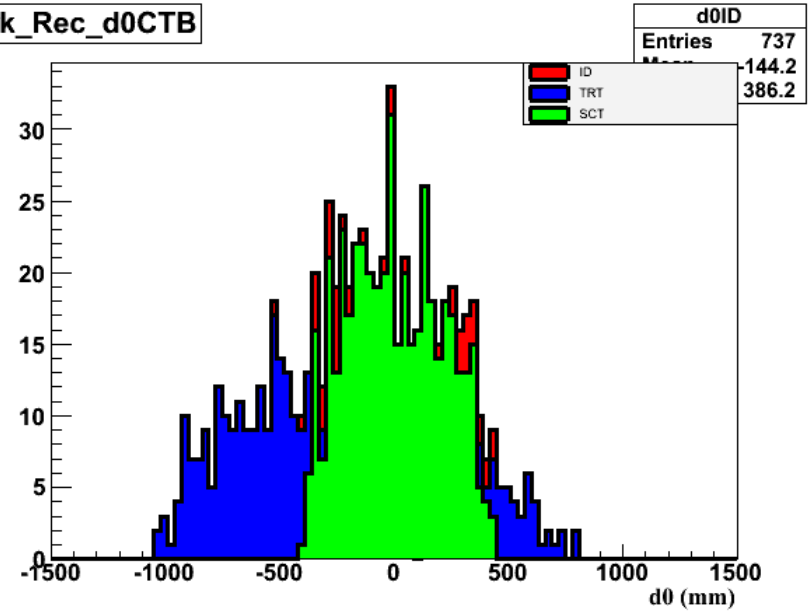
12/03/2008

Stream: NIM4

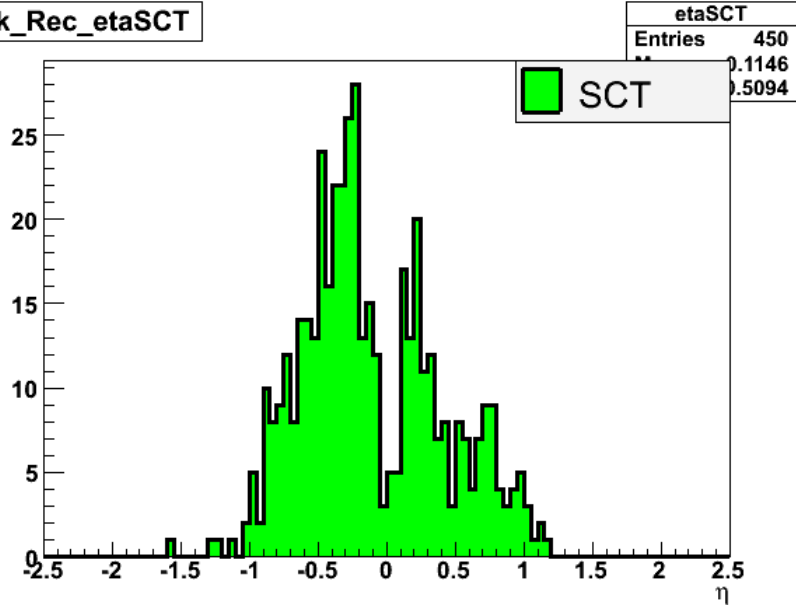
trk_Rec_phi0CTB



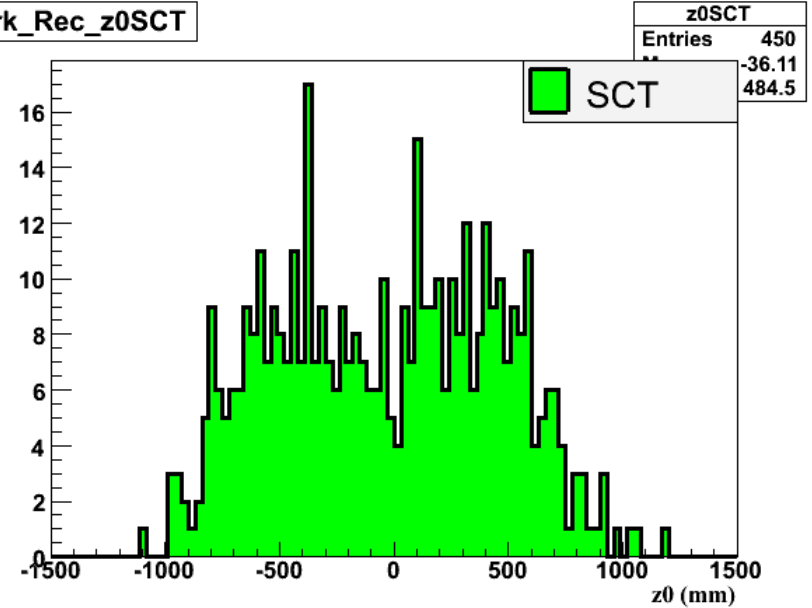
trk_Rec_d0CTB



trk_Rec_etaSCT



trk_Rec_z0SCT



Stream: MU3