Subject: UPDATE: TPC MVD and GEM correlators
Posted by Felix Boehmer on Fri, 17 Jun 2011 17:31:21 GMT
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Dear analysts,

I am happy to announce that we think we fixed the remaining problems with the extrapolations. Actually, it was a numerical protection that we built in quite some time ago and that has been removed without my knowledge. There also have been some other improvements in the code.

Please update

tpc/tpcreco
GenfitTools
recotasks
macro/run

I used macro/run/tdrct/run_reco_tpc.C to simulate 1000 muons at 2.0 GeV/c going forward at 18 deg "scattering" angle with real PR. I attached plots of the reconstructed momentum spectra after TPC fit, TPC+MVD fit and TPC+MVD+GEM fit.
I am sorry that this all comes at such a late point in time.

There are quite some issues that need to be resolved now:

Which digitization revision are we going for the data challenge and the short-term analysis until Tuesday?
The macro/run/tdrct section needs to be cleaned up - how is the conversion to PndTracks and PndTrackCands going to happen?
I noticed that the GEMs were removed from the dpm digi macro! Was this done on purpose? I put them back in now.
If an update of the TPC digi is performed (be it on the GRID or now in the personal studies of the analysts) the cluster shift in the reco macro has to be adapted (see the comments in macro/run/tdrct/run_reco_tpc.C)! The correlator tasks actually write out histograms of the X,Y and Z residuals that occured during extrapolation of the TPC tracks into MVD and GEM (see reco macro). I ask the analysts to please check the Z residuals. If they are centered around 0, the proper shift has been applied.

I want to thank Dima and Stefano for their help! I apologize again for the chaos. I urge all the analysts to check out the newest versions of the code (in the correct folders, that is) and keep me updated about their results. I also want to make everyone involved in the analysis that in its current setup the reconstruction track fits work on BOTH GEANE and RKTRackRep at the same time. GEANE is set to be the cardinal track representation and is used in the correlators, but one can get both fit results by calling getRep(i), where i=1 refers to GEANE and i=0 returns the RKTrackRep.

Cheers

Felix

File Attachments

1) momResTPC.eps, downloaded 468 times
2) momResTPC_MVD.eps, downloaded 535 times
3) momResTPC_MVD_GEM.eps, downloaded 486 times