Subject: Re: Ideal Tracking Bugs(?) when using FairLinks
Posted by André Zambanini on Tue, 12 May 2015 16:57:08 GMT
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What the GEM hit assignment is concerned, I tried to run with the newest PandaRoot version again. As it turns out, the old ideal track finder (PndSttMvdGemTrackingIdeal) seems to assign all GEM hits correctly now. I have tried ~20 events and the assignment problem didn't occur, previously the effect appeared every 2nd or 3rd event. A crosscheck with the new track finder (PndMCIdealTrackFinderNewLinks) shows, that this still requires the mentioned modification by skipping GEM hits with more than one point.

Something I found earlier as well for the PndSttMvdGemTrackingIdeal algorithm but was not at my focus: the STT hits are not always assigned, even though they match quite nicely between MVD and GEM hits of a track. I attached a screenshot showing this on an example event (seems to happen every 2-3 events for my channel).

The same event with PndMCIdealTrackFinderNewLinks looks fine.

About the Kalman filter: I still find some events where the genfit 1 propagation results in last track parameters with different charge sign (as the example in my first post), but the genfit 2 propagation is much better. All the events I looked at have a quite good match between ideal track and ideal track after Kalman.
Still, the question remains: why do we need a Kalman filter for ideal tracks?

File Attachments

1) STT_assignment_missing.png, downloaded 717 times