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Subject: Re: Bug in PndFts/SttMvdGemTrackingIdeal ?  
Posted by [MartinJGaluska](#) on Mon, 24 Feb 2014 15:18:16 GMT  
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Dear all,

after having changed the standard behavior of the FTS ideal tracking to make it behave more realistically from the FTS tracking point of view, Donghee noticed a problem in the tracking

I required a track to be found by the FTS tracking to have at least 5 FTS hits. Previously, the FTS ideal tracker "found" all tracks that had at least 1 hit in the FTS.

As I said, from the FTS tracking point of view that behavior is more realistic. However, currently there is only a tracking starting from STT + MVD and from FTS in the code. Both tracking algorithms find mostly distinct sets of tracks so that a merge is easily done. Hits from GEM are only added to tracks found by FTS and by STT + MVD, but there is no tracking starting from GEM being used in the current version of the code.

As a workaround I implemented `PndFtsTrackerIdeal::SetMinFtsHitsPerTrack(int)`; to set the number back to 1 to have an overall detector performance that is similar to before the changes in the FTS ideal tracking. I have just changed the default value to 1 to avoid possible problems and confusion, especially when the simulation campaigns will be executed and new results will be compared with old ones.

At this point I suggest to use the value of 5 for standalone performance studies of the FTS only.

Here is how:

```
PndFtsTrackerIdeal* trackFts = new PndFtsTrackerIdeal();
trackFts->SetMinFtsHitsPerTrack(1);
trackFts->SetRelativeMomentumSmearing(0.05);
trackFts->SetVertexSmearing(0.05, 0.05, 0.05);
trackFts->SetTrackingEfficiency(1.);
trackFts->SetTrackOutput("FtsIdealTrack");
trackFts->SetPersistence(kFALSE);
fRun->AddTask(trackFts);
```

Kind regards,  
Martin

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