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Subject: genfit example macro

Posted by [Alexander Kiselev](#) on Thu, 10 Jan 2013 16:34:15 GMT

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Hallo colleagues,

could you please point me to a \*working\* set of macros which allow one to follow the whole chain "simulation -> digitization -> ideal track finder -> genfit", preferably on as simple setup as possible (like forward GEMs or MDCs)?

Am I right, that material effects are natively included in the Kalman filter fit in FairRoot framework these days?

Is TPC detector type tracking in genfit still supported within FairRoot?

I tried a number of things in tutorials section (all seem to be outdated) and in macro directory. sttmvdtracking was the closest shot, but it did not produce any tracks for me at the end. Perhaps 'm doing something wrong.

Just to mention, eventually my goal is to pull out the essential routine sequence and adapt it for (not yet existing) EIC tracker simulations.

Thank you,  
Alexander.

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Subject: Re: genfit example macro

Posted by [Stefano Spataro](#) on Sun, 27 Jan 2013 12:41:32 GMT

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Dear Alexander,

after your mail I realized that your FairRoot forum entry (which I read) was related to Panda...you were mentioning MDCs and TPC that we do not have then I supposed you were referring to some other experiment and I did not reply, sorry

If you have the pandaroot trunk, go to macro/run and there you will find the standard full chain macros. You can execute:

```
sim_complete.C  
digi_complete.C  
reco_complete.C
```

In the reco you can leave only the fts tasks and comment out the previous parts. This means you have to leave only:

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

```
fRun->AddTask(trackFts);
```

```
PndRecoKalmanTask* recoKalmanFwd = new PndRecoKalmanTask();  
recoKalmanFwd->SetTrackInBranchName("FtsIdealTrack");  
//recoKalmanFwd->SetTrackInIDBranchName("FtsIdealTrackID");  
recoKalmanFwd->SetTrackOutBranchName("FtsIdealGenTrack");  
recoKalmanFwd->SetBusyCut(50); // CHECK to be tuned  
//recoKalmanFwd->SetIdealHyp(kTRUE);  
//recoKalmanFwd->SetNumIterations(3);  
fRun->AddTask(recoKalmanFwd);
```

```
PndMCTrackAssociator* trackMC3 = new PndMCTrackAssociator();  
trackMC3->SetTrackInBranchName("FtsIdealGenTrack");  
trackMC3->SetTrackOutBranchName("FtsIdealGenTrackID");  
fRun->AddTask(trackMC3);
```

From the first you can set the momentum and position smearing, the second is the kalman, the third is a simply match toMC.

By default PndFtsTrackerIdeal run mvd+gem+fts, but if you check the PndFtsTrackerIdeal hedes (in fts folder):

```
void SetFtsActivity(Bool_t act=kTRUE){fBranchActive[0]=act;}  
void SetGemActivity(Bool_t act=kTRUE){fBranchActive[1]=act;}  
void SetMvdActivity(Bool_t act=kTRUE){fBranchActive[2]=act;}
```

you can switch on or off the different parts.

TPC is not supported anymore and there are no TPC classes anymore in the trunk.

If you find some problems or bugs, I would suggest to report on the PandaRoot forum and not in FairRoot, under bugs thread or also tracking if you prefer.

Good luck!!!