Subject: Genfit with Forward Tracks
Posted by StefanoSpataro on Tue, 24 Apr 2012 16:08:59 GMT
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Dear all,
let me announce that, after spending some time on the subject and thanks to several fixes in the fts geometry by Isabella, now genfit with forward tracks seem to work.

This means that, if you attach the kalman task after the FTS ideal tracking:

```
PndFtsTrackerIdeal* trackFts = new PndFtsTrackerIdeal();
trackFts->SetRelativeMomentumSmearing(0.02);
trackFts->SetVertexSmearing(0.02, 0.02, 0.02);
trackFts->SetTrackingEfficiency(1.);
trackFts->SetTrackOutput("FTSTrkIdeal");
fRun->AddTask(trackFts);

PndRecoKalmanTask* recoKalman2 = new PndRecoKalmanTask();
recoKalman2->SetTrackInBranchName("FTSTrkIdeal");
recoKalman2->SetTrackOutBranchName("FTSTrkIdealGen");
recoKalman2->SetBusyCut(50); // CHECK to be tuned
fRun->AddTask(recoKalman2);
```

you can have refitted tracks.
I have tried with 1000 muons at 2GeV/C (maximum dipole field):

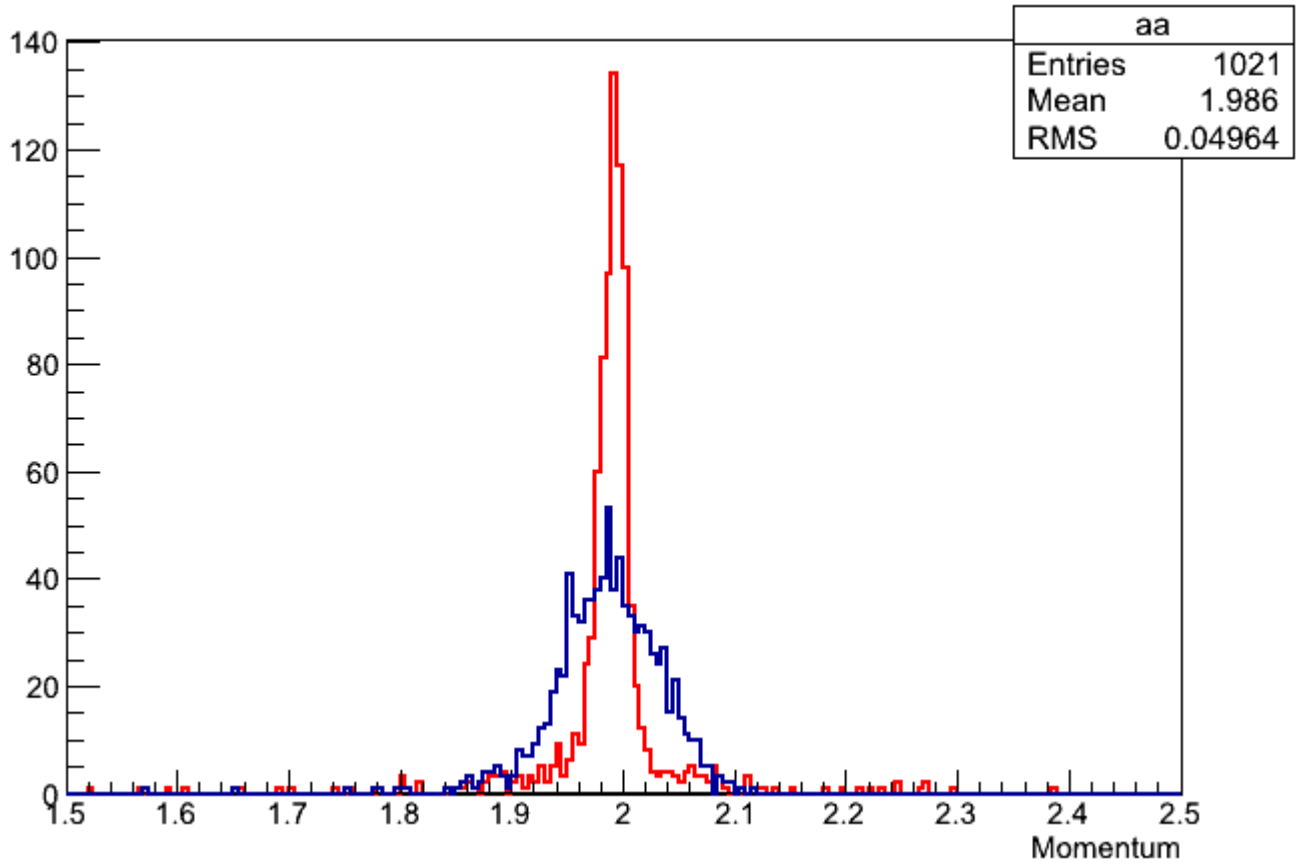
You can see the momentum distribution, in blue after the ideal tracking setting a p smearing of 2% (of course the distribution has a width of 2%), and in red after the kalman task, obtaining a new momentum resolution of 0.6%.

Of course many things have to be checked, but I think this is a good starting point for this who would like to spend some time in forward tracking. Once everything will be fine I will update also the default macros in macros/pid, for the moment you have to use the code I wrote before.

Some feedback is welcome!

File Attachments

1) fts_comp.gif, downloaded 1449 times


aa
Entries 1021
Mean 1.986
RMS 0.04964
140
120
100
80
60
40
20
0
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
Momentum