# Subject: Using RKTrackRep in the Kalman Posted by StefanoSpataro on Tue, 23 Jul 2013 13:51:53 GMT

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Dear all,

I added the possibility to use different track representations in the Kalman Filter/Daf. By default GeaneTrackRep is used (tracrep = 0).

If you modify your reco macro adding the following line:

recoKalman->SetTrackRep(1);

you can use RKTrackRep (tracrep = 1).

I have done quick studies simulating 1000 muons in the central tracker ( 20° < theta < 120°), mvd+stt+gem.

At 1 GeV/c, reconstructed momentum distribution (red GeaneTrackRep, blue RKTrackRep):

At 0.5 GeV/c, reconstructed momentum distribution (red GeaneTrackRep, blue RKTrackRep):

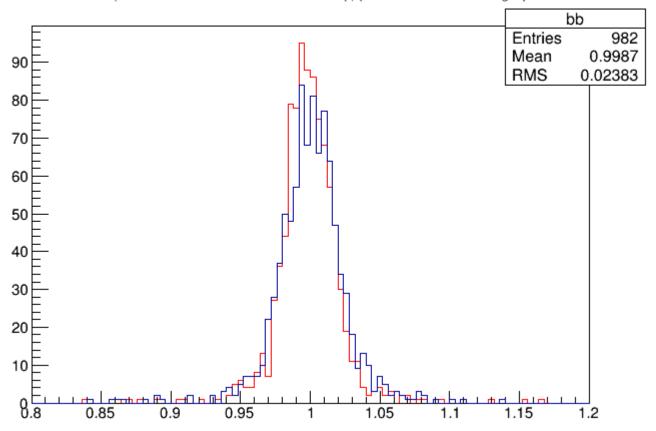
The results are similar, then the track representation seems to work. The results are better for GeaneTrackRep.

I did not check yet the forward tracking.

### File Attachments

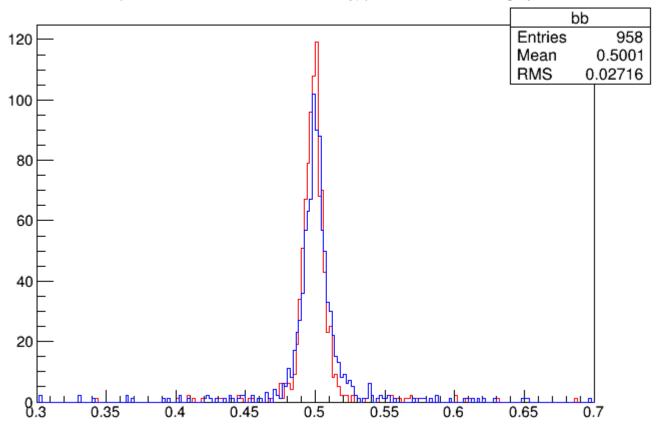
1) compl.gif, downloaded 1065 times

### -1./(SttMvdGemGenTrack.fTrackParamFirst.fQp) {SttMvdGemGenTrack.fFlag>0}



## 2) comp05.gif, downloaded 986 times

-1./(SttMvdGemGenTrack.fTrackParamFirst.fQp) {SttMvdGemGenTrack.fFlag>0}



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I have checked also fwd tracker, with muons at 1, 2, 4 GeV/c. red GeaneTrackRep, blue RKTrackRep:

1 GeV/c

2 GeV/c

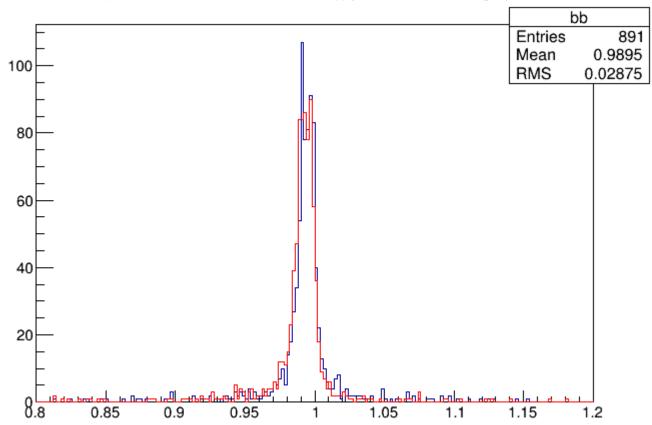
4 GeV/c

In this case RKTrackRep seems to provide a bit better results than Geane.

## File Attachments

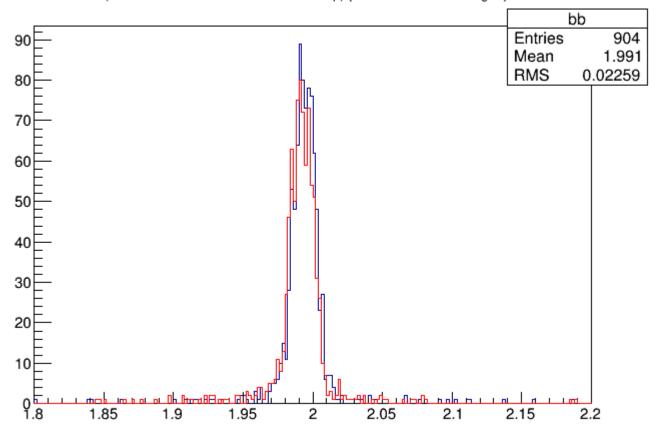
1) compfwd1.gif, downloaded 949 times

-1./(FtsIdealGenTrack.fTrackParamFirst.fQp) {FtsIdealGenTrack.fFlag>0}



2) compfwd2.gif, downloaded 963 times

### -1./(FtsIdealGenTrack.fTrackParamFirst.fQp) {FtsIdealGenTrack.fFlag>0}



## 3) compfwd4.gif, downloaded 950 times

-1./(FtsIdealGenTrack.fTrackParamFirst.fQp) {FtsIdealGenTrack.fFlag>0}

