Subject: Re: GEM tracking
Posted by Radoslaw Karabowicz on Thu, 30 Apr 2009 09:55:32 GMT
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Problem continues...

It seems that my yesterday enthusiastic mail was a bit preliminary.
I have been looking at several tracks at it looked rather ok, however when I look systematicly into the results I have realised that the fitting is still producing not optimal results.
As you may remember, I was giving to the Kalman fitter a Monte Carlo momentum increased by 100Mev/c as a starting value. What I have realized is that the fitter smears the momentum with some sigma, but the reconstructed mean momentum value of many tracks still differs from the MC momenta by a value of 100MeV/c.

I have therefore made two runs of my reconstruction, once with having the start momenta given to Kalman decreased by .5 GeV/c as compared to MC truth, and in the second run I set start momenta as MC truth plus .5 GeV/c. Plots below summarize the results:

Momenta decreased:

```
  StartMom.SetMagThetaPhi(beforeMom.Mag()-0.5,
          beforeMom.Theta(),
      beforeMom.Phi());
```

Momenta increased:

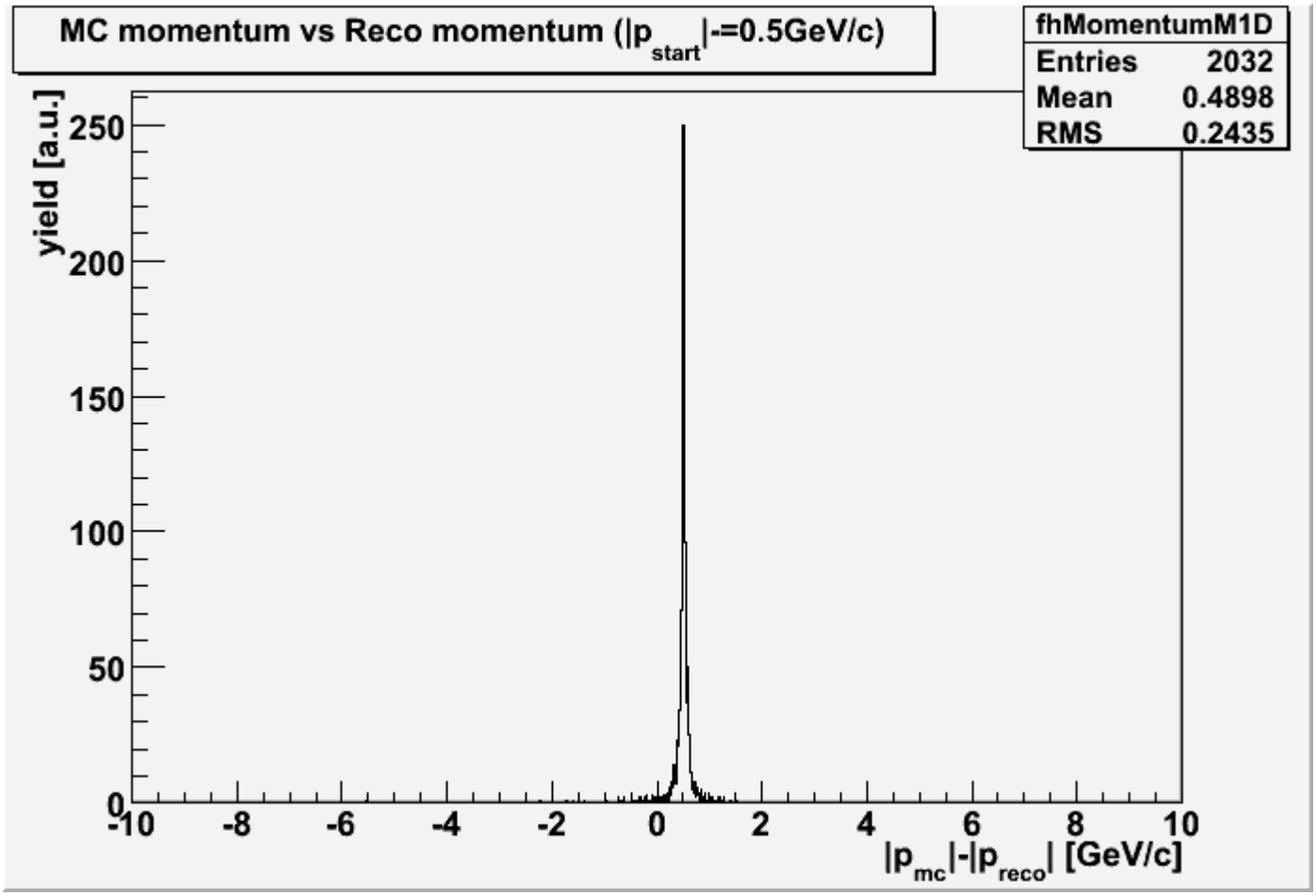
```
  StartMom.SetMagThetaPhi(beforeMom.Mag()+0.5,
          beforeMom.Theta(),
      beforeMom.Phi());
```

Please take a look at the mean value of the distribution, the reco momenta is just smeard, it doesn't come back to MC truth:((.
The next thing I am planing to do is to use the tracks with high p_t. But that will come probably the next week.

yours,
radek

File Attachments

1) momDiff_m5.gif, downloaded 1046 times



2) momDiff_p5.gif, downloaded 1081 times