Subject: FairTrackParP constructor
Posted by MartinJGaluska on Mon, 03 Mar 2014 13:28:09 GMT
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Dear all,

I am trying to construct PndTrack objects from PndTrackCand. I believe that I should use the FairTrackParP class for storing the parameters of the first and the last hit in the PndTrackCand.

I am trying to use the following constructor:

```
/** Constructor with position and momentum track in LAB **/
// DIAGONAL MARS covariance matrix
FairTrackParP(TVector3 pos, TVector3 Mom,
              TVector3 posErr, TVector3 MomErr, Int_t q,
              TVector3 o, TVector3 dj, TVector3 dk);
```

(If someone can explain to me how to use any of the other constructors, I would be ok with that, too.)

I understand that the position, the momentum and the charge should come from my track model used in the pattern recognition. The errors are probably not very important as the Kalman filter will set them lateron anyway. So far that part is pretty clear to me, but I don't quite understand what the last 3 parameters mean. (TVector3 o, TVector3 dj, TVector3 dk) I assume from looking at the code that some plane is defined by those vectors, but I don't understand the meaning of such a plane and how I should choose the vectors in the case of the FTS.

I have already looked at

comments in the code
the code itself
other tracking code that creates PndTrack objects
old forum posts
publications concerning GEANE and Virtual Monte Carlo

but I still have not found the answer to my question.

Kind regards,
Martin

Subject: Re: FairTrackParP constructor
Posted by StefanoSpataro on Wed, 05 Mar 2014 15:06:17 GMT
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The parabolic track representation gives the parameters defined in a detector plane. In this sense, o is the position of a point in the detector plane, i.e. the coordinates of the hits, while dj

and dk will be the two versos. I.e., if you want to have a plane perpendicular to ass z, you will have (1,0,0) and (0,1,0).

Subject: Re: FairTrackParP constructor
Posted by MartinJGaluska on Wed, 05 Mar 2014 17:14:17 GMT
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Ok, thank you Stefano.