Subject: cov[0][0] = 0 in Kalman.cxx
Posted by Susanna Costanza on Thu, 19 Jun 2008 09:24:38 GMT
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Hi Christian!
I see that in one of the latest revision you have added an exception if cov[0][0] is 0 in Kalman.cxx.
Can you tell me how these cases are handled? ...because I'm not so keen on exceptions!
Do you throw away the whole track or just that hit, skipping to the next hit and returning the previous rep?

Ciao,
Susanna

Subject: Re: cov[0][0] = 0 in Kalman.cxx
Posted by Anonymous Poster on Thu, 19 Jun 2008 09:29:24 GMT
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Hi Susanna,

I throw away the whole track in this case. You can see that the processHit is done inside a try-catch block. If the exception happens the statusFlag goes to 1 and the track is aborted.

The cov[0][0]==0. should never happen. However it does sometimes. If it doesnt anymore that would be even better

Christian

Subject: Re: cov[0][0] = 0 in Kalman.cxx
Posted by Susanna Costanza on Thu, 19 Jun 2008 13:03:41 GMT
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Thank you for your explanation about the use of exceptions!

I did some tests... What I see is that throwing away all the events in which cov[0][0] is null results in a considerable loss of efficiency.
Instead, if you skip just that particular hit in which the covariance matrix has that problem, GEANE propagates to the next hit and sometimes the track returns to the right path. The resulting Kalman rep is quite good and the efficiency is higher.

Ok, I agree that cov[0][0] should never be 0 and we will take a look in order to understand why there is this strange behaviour for some events...
In the meantime, do you think it's a so bad idea to "convert" the exception into a return, in order to save a bigger number of tracks?

Ciao,
Susanna

Subject: Re: cov[0][0] = 0 in Kalman.cxx
Posted by Anonymous Poster on Thu, 19 Jun 2008 13:15:58 GMT
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Hi,

no I dont think that it is such a bad idea and I can change this. I will do it in the next days. Right now I am a little backed up...

However, it would be really nice to understand what is going on with the cov[0][0]=0.

Bye, Christian