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Subject: Update GEANE to use q/p instead 1/p  
Posted by [Lia Lavezzi](#) on Mon, 16 Jun 2008 12:14:23 GMT  
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Hi geane users,

this is an important update of the directories geane and trackbase. They have been corrected by Alberto Rotondi in order to use everywhere the parameter q/p (both in the state description and in the covariance matrix), since a problem arised because in genfit q/p is used while standard GEANE uses 1/p: the covariance matrix were not compatible!

Now all the CbmGeaneUtil routines work in q/p and the two representations (CbmTrackParP and CbmTrackParH) have the covariance matrix in q/p.

In CbmTrackParP/H the function GetCovQ(Double\_t \*CovQ) fills CovQ with the covariance matrix in 1/p, while the usual GetCov(Double\_t \*Cov) gives now the covariance matrix in q/p.

Since GEANE makes its propagation in 1/p it has been necessary to make some changes to the Propagate functions of CbmGeanePro, to give in input the correct covariance matrix (in 1/p instead of q/p) and to re-transform from 1/p to q/p the covariance matrix after the propagation. This has been done internally in such a way that the user deals only with the q/p case.

I tested this on the runDemo.C and I get good results for both the positive and negative particles.

Please check that if you use GEANE stuff alone everything is correct in your code (basically check if you call GetCov if you need covariance matrix in q/p and GetCovQ if you need the one in 1/p) and let me know if something strange happens. If you are using genfit everything should already be correct in q/p.

Ciao,  
Lia.

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