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Subject: Re: track finder

Posted by [Lia Lavezzi](#) on Fri, 08 Feb 2008 10:37:38 GMT

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Hi Alicia,

after the Kalman fit you have the track in the SD frame representation, so the 5 parameters are:  $q/p$ ,  $v'$ ,  $w'$ ,  $v$  and  $w$ . You can access them with the functions in `CbmTrackParP` and `CbmTrackPar` (from which it inherits): `GetQp()`, `GetV()`, and so on. You can also access the  $x$ ,  $y$ ,  $z$  coordinates and the  $p_x$ ,  $p_y$ ,  $p_z$  momentum components in the master reference system (you find the functions in the same classes).

Since you talk about the dip angle, and maybe you need it, I explain you how to get it: you need to change your representation, from the SD system (`CbmTrackParP`) to the SC one (`CbmTrackParH`), where the accessible parameters are  $q/p$ ,  $\lambda$ ,  $\phi$ ,  $y_{\text{perp}}$ ,  $z_{\text{perp}}$ . To do this you should use the transformation functions in `CbmGeaneUtil`. Consider as an example in the `kalstt` tutorial, in `kalstt/GeaneEx/CbmGeaneTrKalStt.cxx`, the lines from 298 to 327: they actually perform the reverse transformation, from SD to SC.

One more remark: the Kalman filter procedure does not divide the fit problem into two planes ( $x$ - $y$  and  $z$ -track length), it is performed on a virtual detector plane; the separation of the problem in the two planes is used only during the prefit (that we perform with an helix in `PndSttHelixTrackFitter`).

Hope this helps, but if you need more info please ask

Ciao,  
Lia.