Subject: Re: GENFIT for transverse momenta < 200 GeV/c strange?!
Posted by Jens Sören Lange on Thu, 18 Nov 2010 14:11:18 GMT
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Yeah, so, "helix fit is better" means, that "no energy loss correction at all is better than energy loss correction in genfit", but only for pT=100 MeV. I really don't know. Maybe at theta=60^o particles the path length in the MVD material is so extended that they are loosing almost all their energy (helix phase is short so maybe passing a few times through material).

In addition, pT=100 MeV is already in the highly rising Bethe-Bloch part, so maybe the dE/dx correction (which the Kalman is trying to do) is not correct. The error is large.

Anyway, you can see that tracking efficiency from pT=200 GeV/c to pT=100 GeV/c drops by factor ~2 (~9000 -> ~3000) so I think it is also another effect, maybe short tracks.