Subject: Re: Reconstruction efficiency of LHE tracking
Posted by donghee on Wed, 29 Jul 2009 12:04:24 GMT
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Dear stepano,

find 3 eps files, that contain reconstructed lhe tracking for electron.
Red histogram is generated event in each plot.
Blue corresponds to reconstructed one from LHE tracking without Dirc detector.
Below two panel indicate the resolution as a function of momentum and theta, respectively.

lhe_e_momentum_theta_z_origin.eps is without z-smearing, every
event are produced at the interation point (0,0,0).

lhe_e_momentum_theta_z_-10cm_10cm.eps shows the events are distributed from the -10cm to 10cm, total length is 20cm and also x and y smearing is given by 0.2cm sigma of gaussian.

lhe_e_momentum_theta_z_10cm_dz_30cm.eps is produced z range between 10cm and 30cm, it is more downstream from target.

First bad thing is that EMC gap (142 - 149 degree) result in bad
efficiency.

Secondly, I think that the problem is due to the design of LHE tracking package.
If you move your interaction point to the downstream, for instance at z=20cm, then you have many MVD hit near the 8 or 16cm, where is located MVD station, these hits didn't used at LHE tracking, or make some confusing in the starting point of hit in TPC.

This is the time and good chance to think about LHE tracking for backward direction.

Best regards,
donghee

File Attachments

1) lhe_e_momentum_theta_z_origin.eps, downloaded 465 times
2) lhe_e_momentum_theta_z_-10cm_10cm.eps, downloaded 438 times
3) lhe_e_momentum_theta_z_10cm_30cm.eps, downloaded 416 times