Subject: Re: Momentum resolution and reconstruction efficiency of LHE tracking
Posted by Lia Lavezzi on Thu, 11 Feb 2010 14:19:29 GMT
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Hi Alicia,
the cut for low momentum particles was put there because of some instabilities of GEANE for low momenta, but in principle GEANE can propagate also low momentum particles.
I will make some tests removing the cut to see what happens and to fix the crashes if/when they happen. Unfortunately I am working on several other things at the moment and I have to postpone a little this investigation (sorry!).
Quote:Nevertheless even if the particle is losing energy
geane should be able to take care of that? or am i wrong?
So far i know instead of a helix, geane considers then a parabola(x,y,dx/dz,dy/dz).
Yes, GEANE follows the particle while it loses energy. The trajectory of the particle is made by pieces of helix (in each step GEANE tracks with an helix, but the different helices can have different radius of curvature, for example, to take care of the energy loss).
With GEANE you don' t have the track as a whole helix with fixed radius of curvature.

Concerning the "parabola", it is just a track representation (the parameters used to describe the track are the ones you wrote). You always can convert it to the helix parameters, but the important thing is that you have the description of the track in one point and the parameters don' t stay constant along the helix (while if you use the helix fit you have that the momentum, and so the radius, is constant along the track).

Ciao,
Lia.