Subject: Re: Forward spectrometer tracking
Posted by Radoslaw Karabowicz on Wed, 03 Jun 2009 14:03:36 GMT
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Dear Donghee!

I cannot but agree that the tracking in the forward detector of GEM is not yet working as I would like it to work. I have few problems however with your study.

You have presented a theta and momentum distributions of the protons that you use in your analysis. I assume that the momentum distribution is in GeV/c and then it looks a bit strange, why do you have so energetic particles? The curvature for those in the barrel magnet is extremally small and thus momentum identification rather difficult.
The bigger concern I have to the theta distribution. I assume the theta is in degrees, which means that you have generated very forward going particles (which makes momentum determination even more difficult) but what is more important, the lower GEM detector acceptance is about 3.5 degrees!!! which means all your protons went through the inner hole of the GEM detector. Then your inefficiency is very simple to explain. You can't have tracks if you don't have points.

Could you therefore please show me the GEM point distribution and the number of GEM points on different stations?
For example open your MC file in root and execute:
cbmsim->Draw("GEMPoint.fY:GEMPoint.fX","GEMPoint.fZ<89.6")
This should give you the number of points on the first GEM station. You could also check the next stations, but if this number of point per station is significantly smaller than 10000 (which is the number of your protons), then forget about reconstruction in GEM.

Sincerely yours,
radek

ps. sorry for late answer