Subject: Reconstruction efficiency of LHE tracking
Posted by donghee on Wed, 29 Jul 2009 10:55:41 GMT
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Hi all,

I have one question about LHE tracking.
Does anybody make some study for dependence of LHE tracking on the different interaction point.

I have tested LHE tracking only with electron.
You can find generated electorn theta angle distribution in the attached figure.
It turned out that the tracking efficiency depends strongly on the interaction point(or primary vertex).
If I simulate the LHE tracking with electron in the z-range with z=(-10,10), I have ~ 50% reconstruction efficiency at the starting from 60 upto 160 degree electron.

But if I'm going to z=(10,30) by z smearing, which is moved to 20cm downstream from the target region, the reconstructed electron is only ~12.0%.
Is the LHE tracking optimised only at the (x=0,y=0,z=0)?

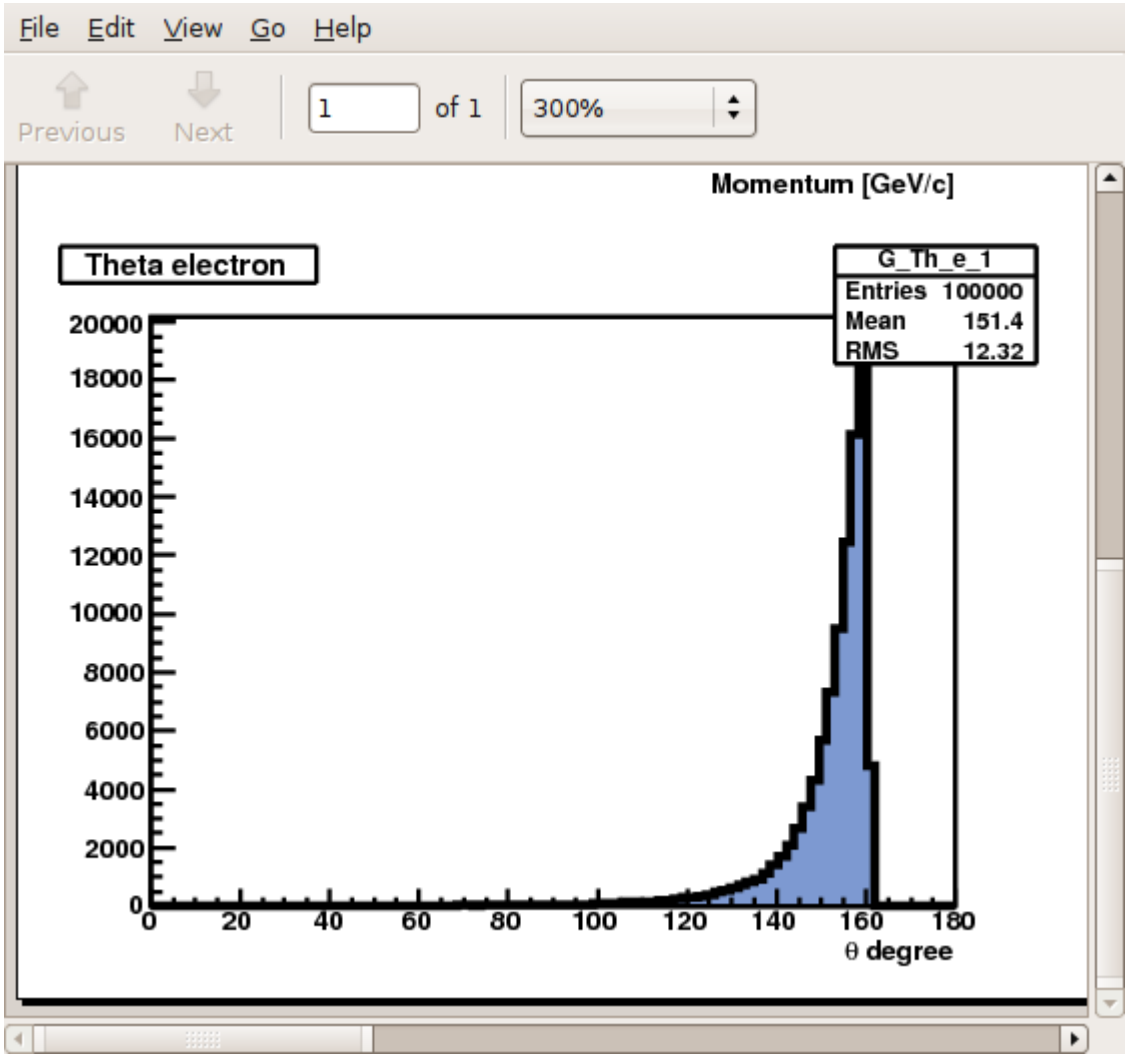
If I do simulation same data without delta z, i.e., only at (x=0,y=0,z=0), the efficiency increase slightly as 56%.

Can you already expect this trend?

Best wishes,
Donghee Kang

File Attachments

1) electron.png, downloaded 1032 times


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Previous
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1
of 1
300%
Momentum [GeV/c]
Theta electron
G_Th_e_1
Entries 100000
Mean 151.4
RMS 12.32
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0 20 40 60 80 100 120 140 160 180
θ degree