
Subject: Re: Lumi position in x-y plane
Posted by [donghee](#) on Thu, 30 Jul 2009 07:42:33 GMT
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Dear Colleagues,

I have tested the possible detection rate of Lumi-monitor.
Some box generator produced anti-proton particle with following condition

Quote:

```
boxGen->SetPRange(14, 15);  
boxGen->SetPhiRange(0.,360.);  
boxGen->SetThetaRange(0.001, 1.0);
```

I required coincidence hits in each 4 station at Lumi as suggested in Lumi macro.
And I have scan the three different theta range with 0.001-0.2, 0.2-0.4, 0.4-0.6 degree. Finally
I have got the number of reconstructed event in Lumi.

Set 1. (0.001-0.2 degree) 652(reconstructed in Lumi) / 10000(generated)
Set 2. (0.2 - 0.4 degree) 1425(reconstructed in Lumi) / 10000(generated)
Set 3. (0.4 - 0.6 degree) 72(reconstructed in Lumi) / 10000(generated)

This number shows us that the Lumi-monitor detection rate is quite poor and not so efficient in
current setup!
And allowing theta acceptance is less then 0.4 degree! (need more fine bin to see precise limit)
Delta theta(MC-reco) plot is attached for data set2.

I found that Lumi is located $x=0$, $y=0$, $z=10.5-12.5$ m without considering bending magnet,
therefore it has $x=0$, $y=0$ position now, and beam pipe is also designed as straight line.
This is not realistic position, if you want to test lumi with forward bending magnet. Is the
geometry and location updated during last 2-3 weeks?

If you have some comment, would be helpful!
Thank you,
Donghee

File Attachments

1) [z_2.eps](#), downloaded 366 times
