Subject: EMC resolution
Posted by binsong on Fri, 11 Oct 2013 12:05:28 GMT
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hi,
i find some problems with the EMC energy resolution. Maybe there are some bugs.

I do the simulations for electron and photon with box generator with the latest trunk at both barrel region (80deg--100deg) and forward region (12deg--20deg).

i get the reconstructed energy(E_rec) by using GetEmcRawEnergy(),

then i plot (E_mc-E_rec)/E_mc for each simulation.

but i find the resolution sigma/E much smaller then the result in TDR:

electron_barrel: 1.18%
electron_forward: 1.58%
photon_barrel: 1.07%
photon_forward: 1.39%

and in TDR, the resolution for photon at 1GeV is more than 2%.

you can find all the four plots in attachment.

does someone know this problem?

Binsong

File Attachments

1) electron_barrel_1GeV.eps, downloaded 666 times
2) electron_forward_1GeV.eps, downloaded 672 times
3) photon_barrel_1GeV.eps, downloaded 658 times
4) photon_forward_1GeV.eps, downloaded 640 times