Subject: Re: Photon energy distribution using DPM
Posted by Bertram Kopf on Mon, 02 Apr 2012 14:51:34 GMT
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Dear Ganesh and all others,
meanwhile, we could reproduce the plots shown in EMC TDR on page 33. We considered the pure MC-truth information of the DPM generator without any secondaries (i.e. w/o the material budget in front of the EMC). In order to get reasonable results we required that all short and long living resonances (pi0, eta, Delta, Sigma, etc.) are decaying within the generator. The new plots for 15GeV/c beam momentum are in good agreement with the figures of the EMC TDR and can be seen here:

a) Egam vs. theta
gam_e_theta.png

b) Egam for 5deg > theta > 21deg
gam_e_in_fwd.png

In addition you can find here the particle list for the first events where at least 1 photon is in the region between 5deg > theta > 21deg:
FirstEvents5To21deg.txt

Of course, our results are in disagreement with the results obtained by Ganesh. At the moment I don't know why. But is it possible that in Ganesh studies all long living particles like Lambda, Sigma, etc. are required to be stable?

Best regards,
Bertram.