Subject: Re: New DPMgen results disagree with earlier simulations
Posted by Aida Galoyan on Fri, 05 Feb 2010 17:37:21 GMT
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Hi all,

When I installed version of DPM with Coulomb, I wrote
(message# 9312 in General)
>>>>
I have commited new version of DPM generator.
Full elastic scattering, Coulomb, interference, hadronic parts are included in the new DPM.

You need to put the minimal angle of scattering -"tetmin"(>0) at DPM running, if you give value of parameter
"Elastic" = 1 (Inelastic with Elastic scatterings)
or = 2 (only Elastic scatterings).

The implementation of full elastic scattering in DPM is
important for Luminosity monitoring and, may be, for estimation of radiation doses in MVD.
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How I remember, Mohammad also wrote for new PndDpmDirect,
if you choose Elastic = 1 or =2, you need to put tetmin > 0.

The calculations at Elastic 1 or 2 (with Elastic scattering) at tetmin = 0 are wrong, because Coulomb scattering go to infinity
at tetmin=0.

If you want to choose tetmin for your detector (TPC) make some calculations with simulation of only elastic scattering
(Elastic =2) with various values of tetmin. There will be a lot of recoil protons from Coulomb scattering (at small tetmin), but most of them will have low energies and, I think, they will be absorbed by beam pipe or MVD. Only protons at large tetmin will fall in your Detector, because they can penetrate beam pipe and MVD.

Tetmin determines relation between elastic and inelastic events. At increasing tetmin, the Coulomb part of elastic scattering decreases sharply, and number of inelastic events increases.

Best regards,
Aida