Subject: Note on energyloss in GEANT
Posted by Ralf Kliemt on Thu, 14 Feb 2008 14:07:27 GMT
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Hi all,

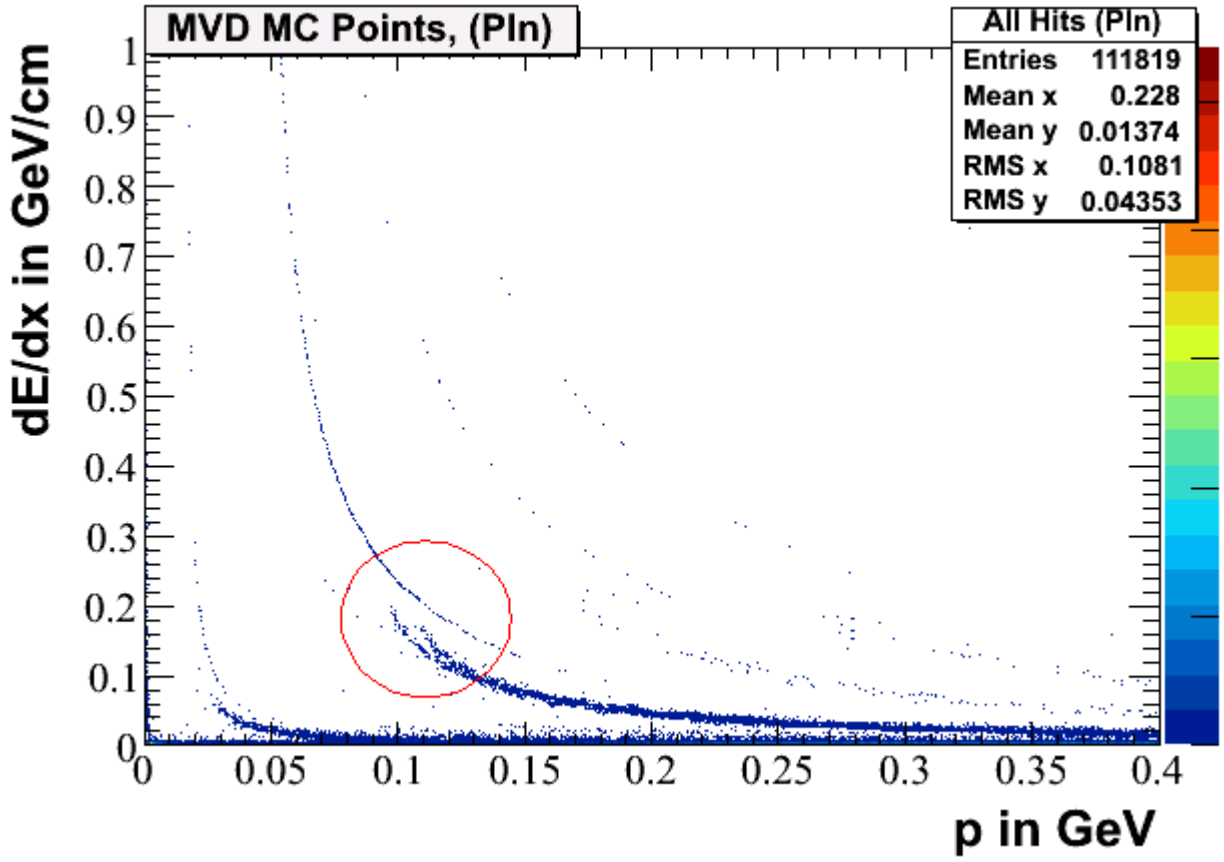
Klaus, a student in Desden, found the following behavior:Quote:
By analysing simulated data of Monte-Carlo points we noticed strange diruptions of the Bethe-Bloch graphs. This happend by using Geant3 and also by using Geant4. To get to know if the hits above and beneath the disruption are part of the same Bethe-Bloch graph we seperated the hits above and checked the Pdg-Code (wtih the help of the CbmMcTrack). The result is that all hits are part of the Bethe-Bloch graph for protons. To verify this we also printed only the hits of protons.
We used the momentum the particles have by entering the detectormaterial. If you use the momentum on the other side of the detectormaterial the hits above the disruption are missing, because the momentum was set to zero (because the particle was stuck in the material).

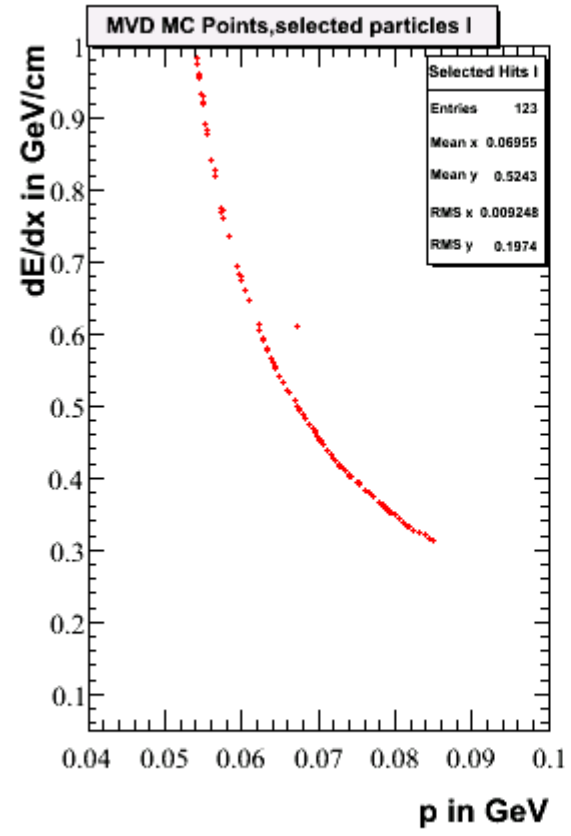
So after all this is nothing to worry about, since this represents the stopped particles. I just wanted to inform you.

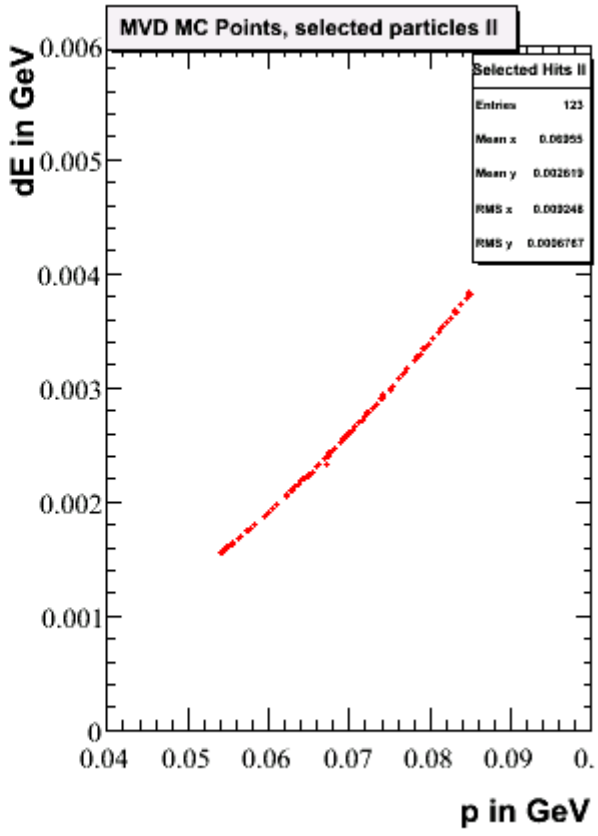
Ralf

File Attachments

1) Kante.gif, downloaded 2708 times


MVD MC Points, (PIn)
All Hits (PIn)
Entries 111819
Mean x 0.228
Mean y 0.01374
RMS x 0.1081
RMS y 0.04353
dE/dx in GeV/cm
p in GeV


MVD MC Points,selected particles I
Selected Hits I
Entries 123
Mean x 0.06955
Mean y 0.5243
RMS x 0.009248
RMS y 0.1974
dE/dx in GeV/cm
p in GeV


MVD MC Points, selected particles II
Selected Hits II
Entries 123
dE in GeV
p in GeV