

Hallo,

I just make the comparison for dedx in the TPC, and what I see also a problem but a little bit different than yours! first I compared G3 with and without step limitation and the results were exactly the same. (see attached histograms) To do this I modified the PndTpcDetector.cc so that

1. Sum the energy loss over all steps inside the TPC for each track
2. take the track length at the first step (Entering) and the track length at exiting, and put the difference in the TPCPoint.
3. select on one type of particles

without step limit (remove AUTONULL and extra parameters from media file)

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and this one with the limits!

So it is the same as expected. Now if I compare with the wonderful state of the art most advanced Monte Carlo engine I have the following plots for:

with step limitation. And the next one without step limitation (remove the StepLimiter from g4Config.C):

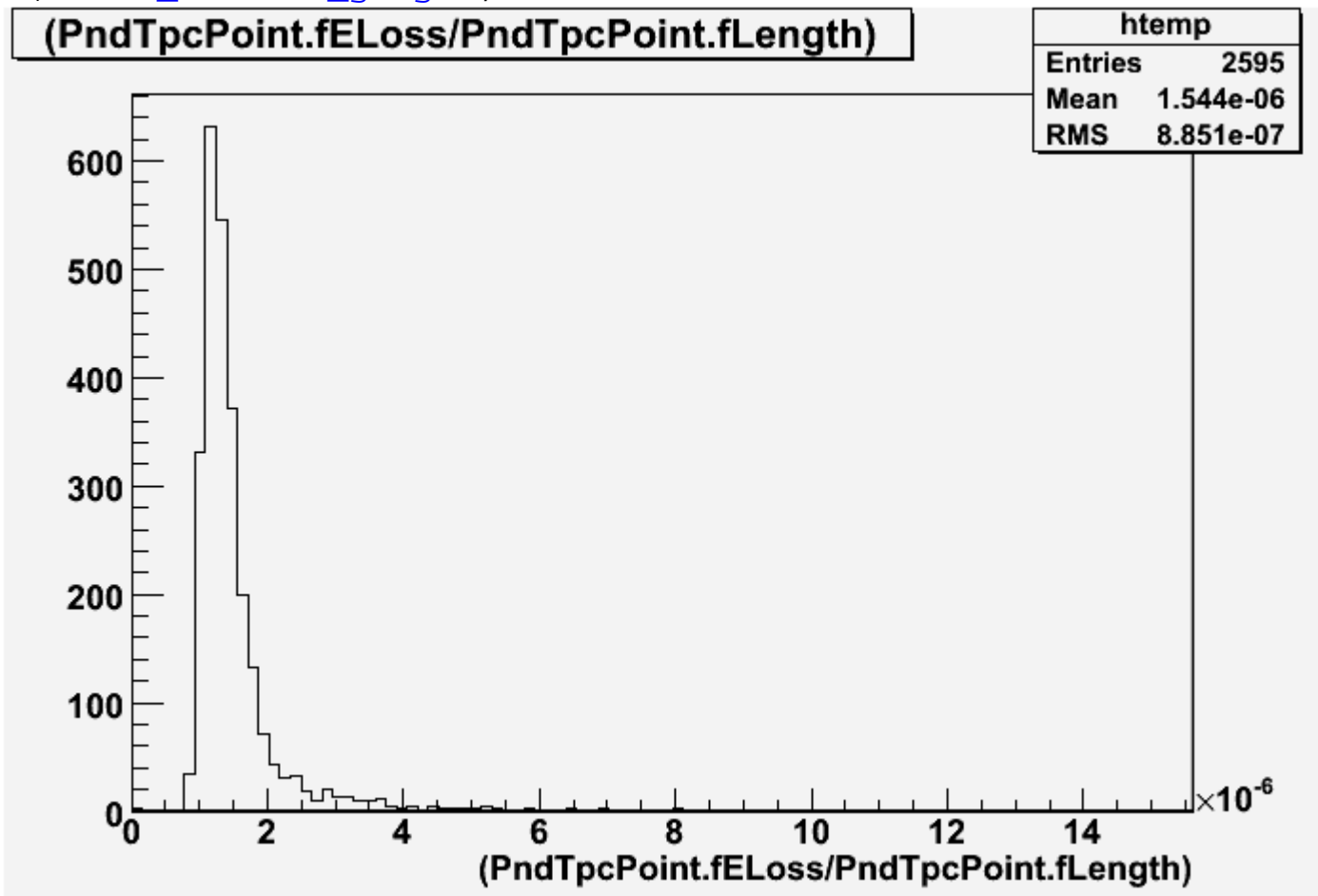
now comparing G4 results with and without step limitation:

and this is not the whole story, if you compare with mu (5000 mu, 0.5 GeV) only G4 with and without step limitation you will see:

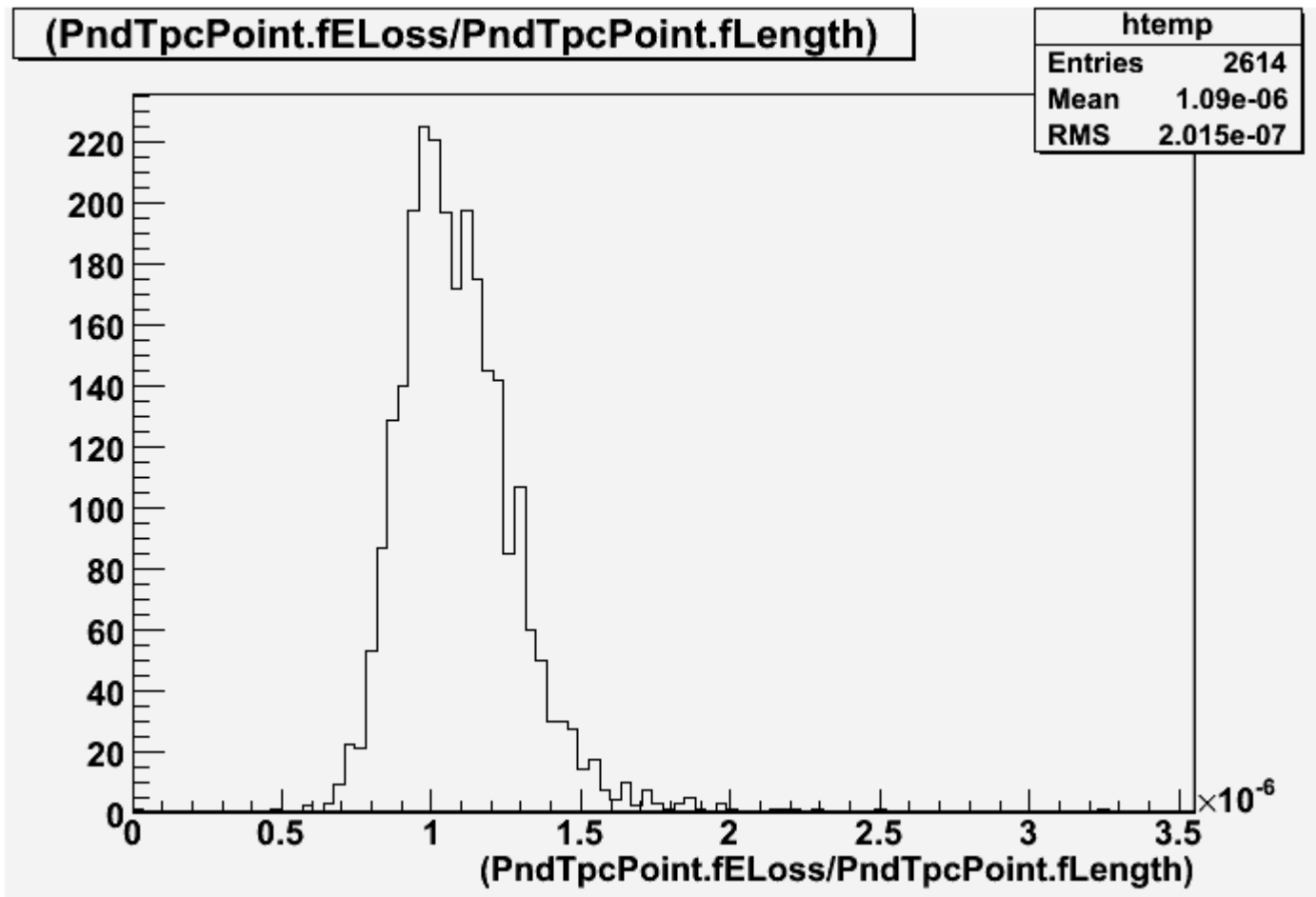
So from all this I would say the shape of dedx is ok, but we have to understand the difference between G3 and G4 and the inconsistency behavior of G4!!

File Attachments

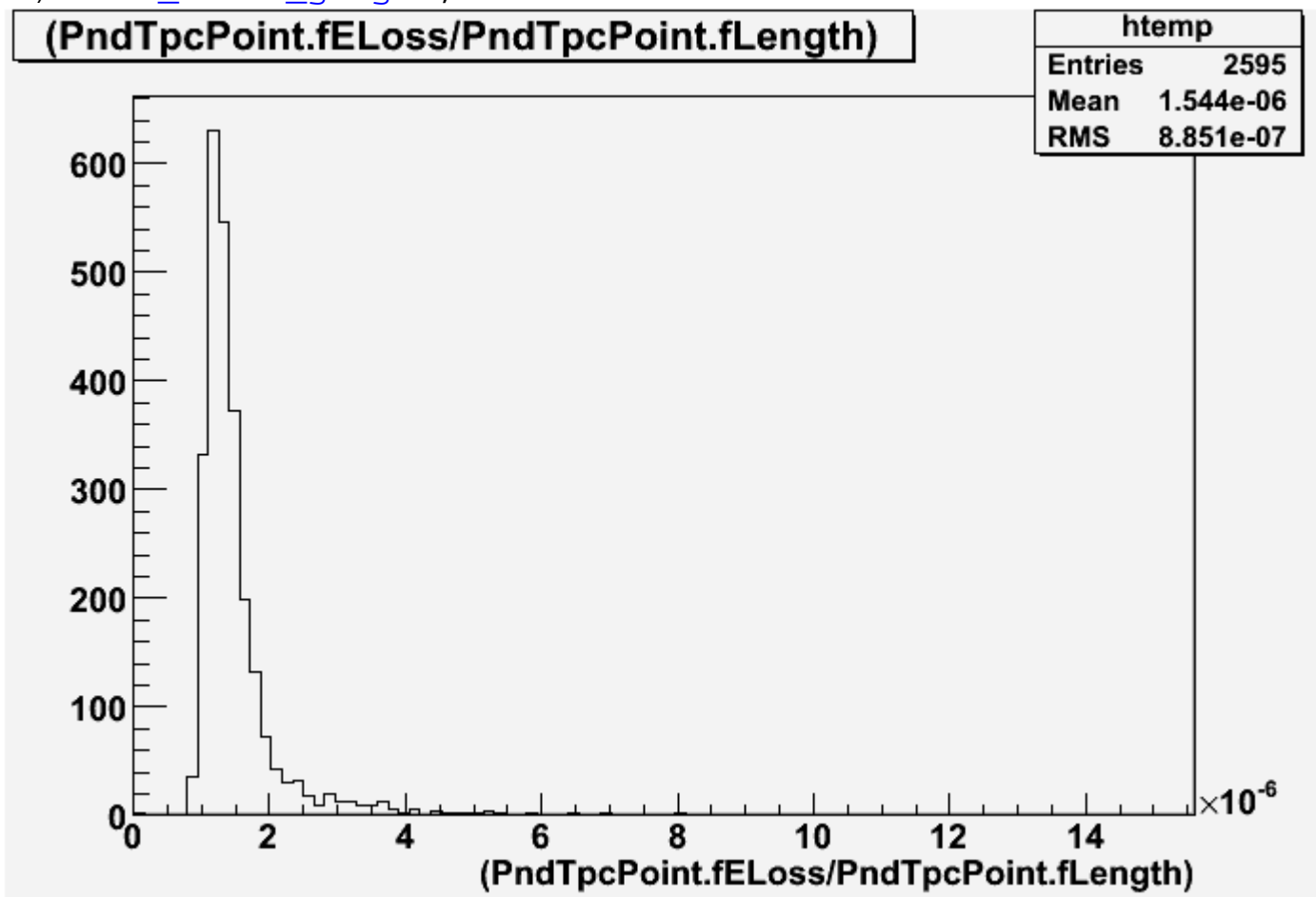
1) [dedx_nolimit_g3.gif](#), downloaded 1360 times



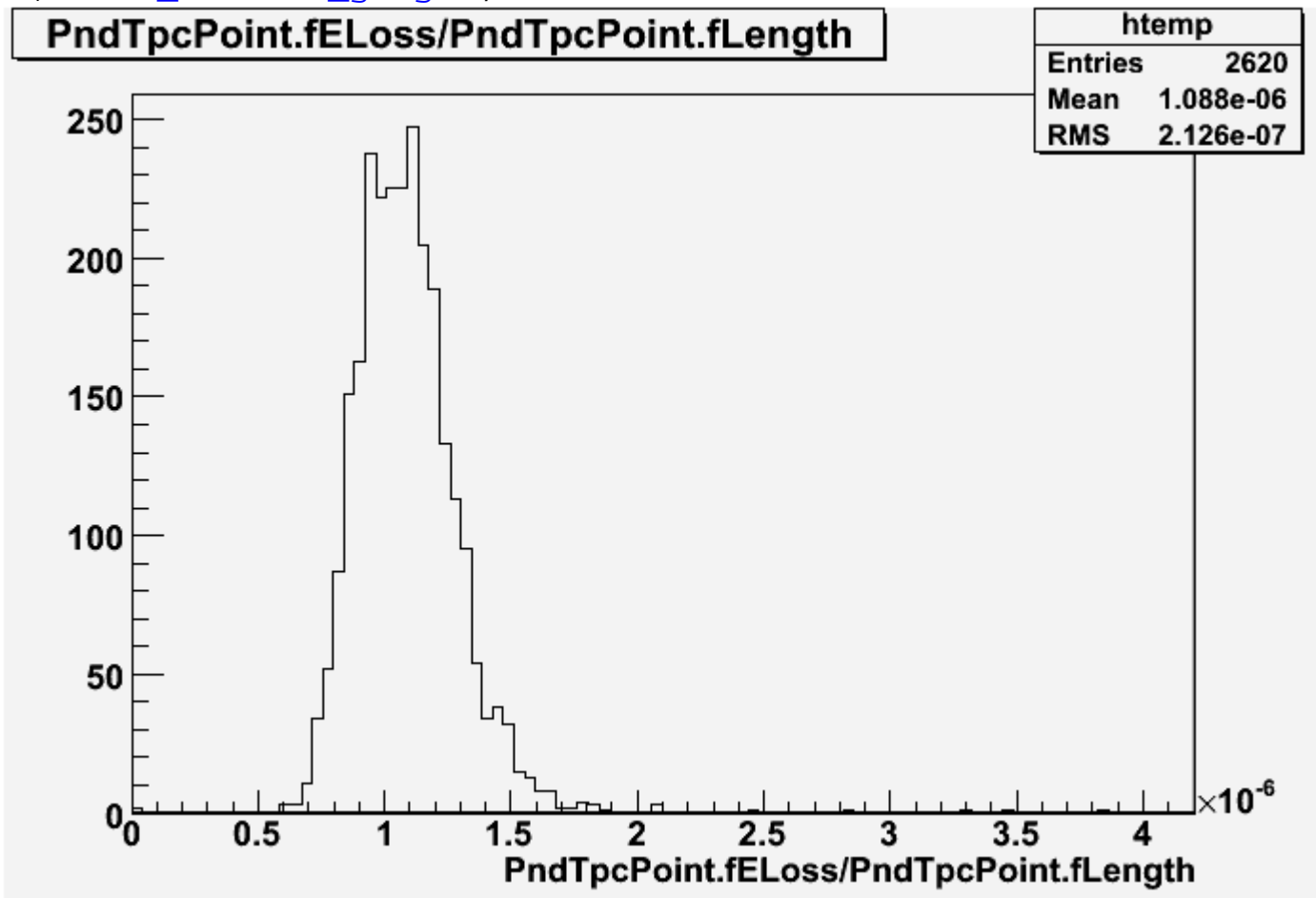
2) [dedx_limit_g4.gif](#), downloaded 1370 times



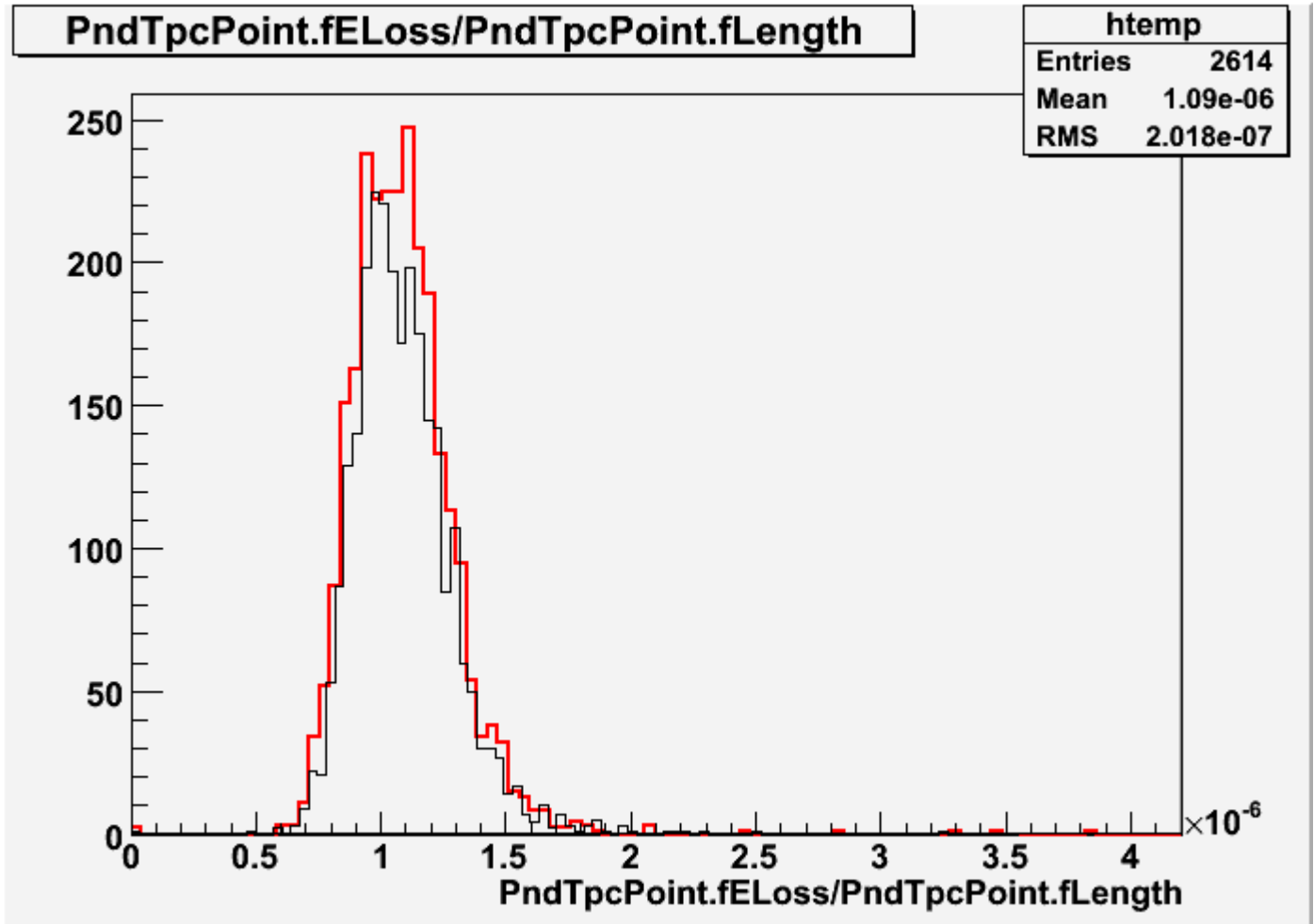
3) [dedx_limit_g3.gif](#), downloaded 1350 times



4) [dedx_nolimit_g4.gif](#), downloaded 1422 times



5) [g4pi.gif](#), downloaded 1403 times



6) [g4mu.gif](#), downloaded 1301 times

