Subject: Re: Changing t distribution slopes
Posted by Ingo Fröhlich on Tue, 23 Aug 2011 10:38:32 GMT
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Hi,

testing this I also get incredible large ceiling values (almost going to infinity). So I don't wonder that it takes endless.

The problem is, I think, the beam smearing. After disabling it the macro produces reasonable results (10000kE in ~1min).

To understand this, we must look a little bit deeper. As explained, the event loop produces phase space events, and rejects all events which are disturbed by the t-function, by comparing it to the cache. But the basic observable is the angular distribution which is changed dramatically:

And it could be (this is only a first guess) that the shape of the angular distribution is different for the various beam energies, whereas the macro tries to match always the same shape as a function of t. (Btw., is it really true that this function is the same for all energies?)

Nevertheless, I don't have a quick solution. The best would be to write the macro in such a way, that it loop over the different energies, or I could try to change the class PAnyDistribution such, the the ceiling value is not fixed but is binned into pieces. In any case, one has to be aware that one needs more events, because each of the bins must have sufficient statistics.

The most simple solution is of course to run the macro many times, with different energies, and merge the events at a later stage.

What do you think?

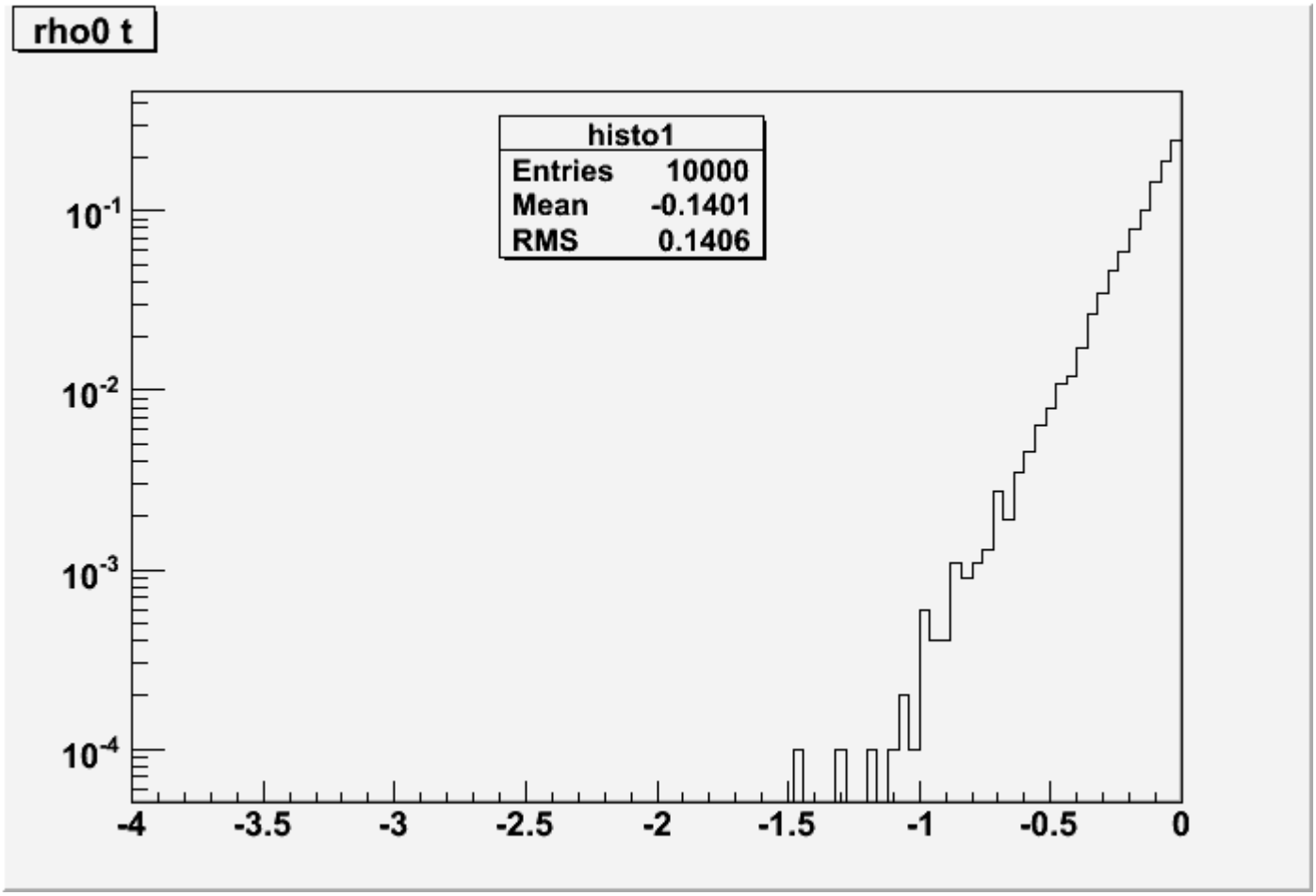
Greetings, Ingo

PS: I tested always 10kEvents with some values between 1.0 and 5.7GeV. At lower energies it took longer, and more events have been rejected.

PS2: Sorry for the trouble, but this application is something really new for Pluto

File Attachments

1) t_rho.png, downloaded 1488 times



2) cos_rho.png, downloaded 1666 times

