Subject: Re: eta_c reconstruction efficiency
Posted by Dima Melnychuk on Mon, 17 Oct 2011 15:24:34 GMT
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Hi,

Studying the problem with eta_c reconstruction efficiency I tried to look at (theta,p) distribution for the kaons that are not reconstructed with both july11, august11 release.
I generated 3000 events for both options.

Distribution for all kaons looks like:

I consider kaon as not reconstructed if there is no reconstructed track MC matched to it.

For july11 release:

For the trunk release:

Number of entries are smaller for the second case, which should partially explain the drop in efficiency.

And since the generated events are the same the difference between two histogram:

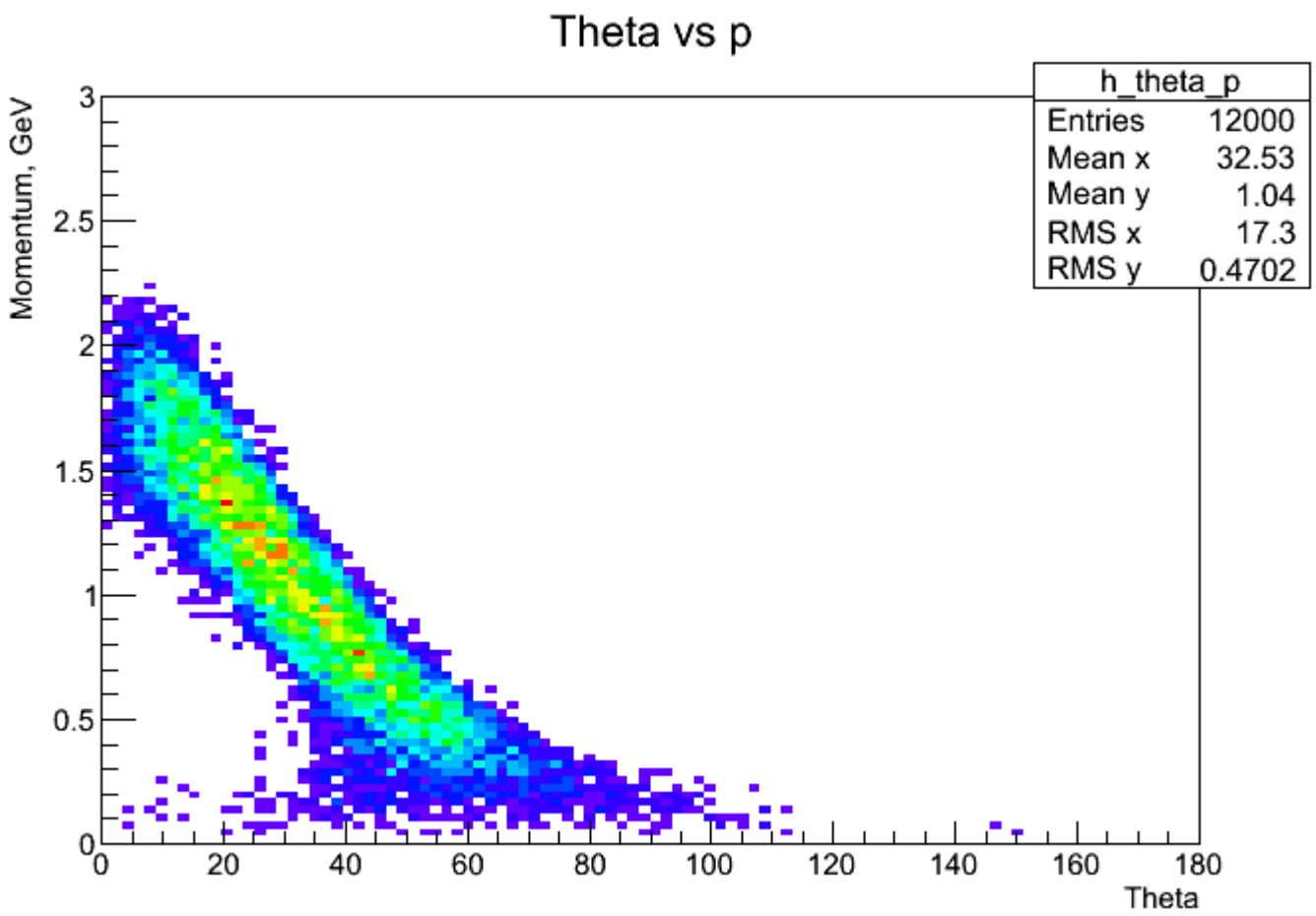
Here the kaons which were reconstructed in july11 release and are not reconstructed in trunk are green and blue. In principle they are distributed over all kinematic range with some concentration below 20 degree. And there is a number of tracks (red) which are recontructed in trunk and were not reconstructed in july11 and they a are in the lower momentum range.

May be it could be helpful somehow for Gianluigi to identify the source of the problem?

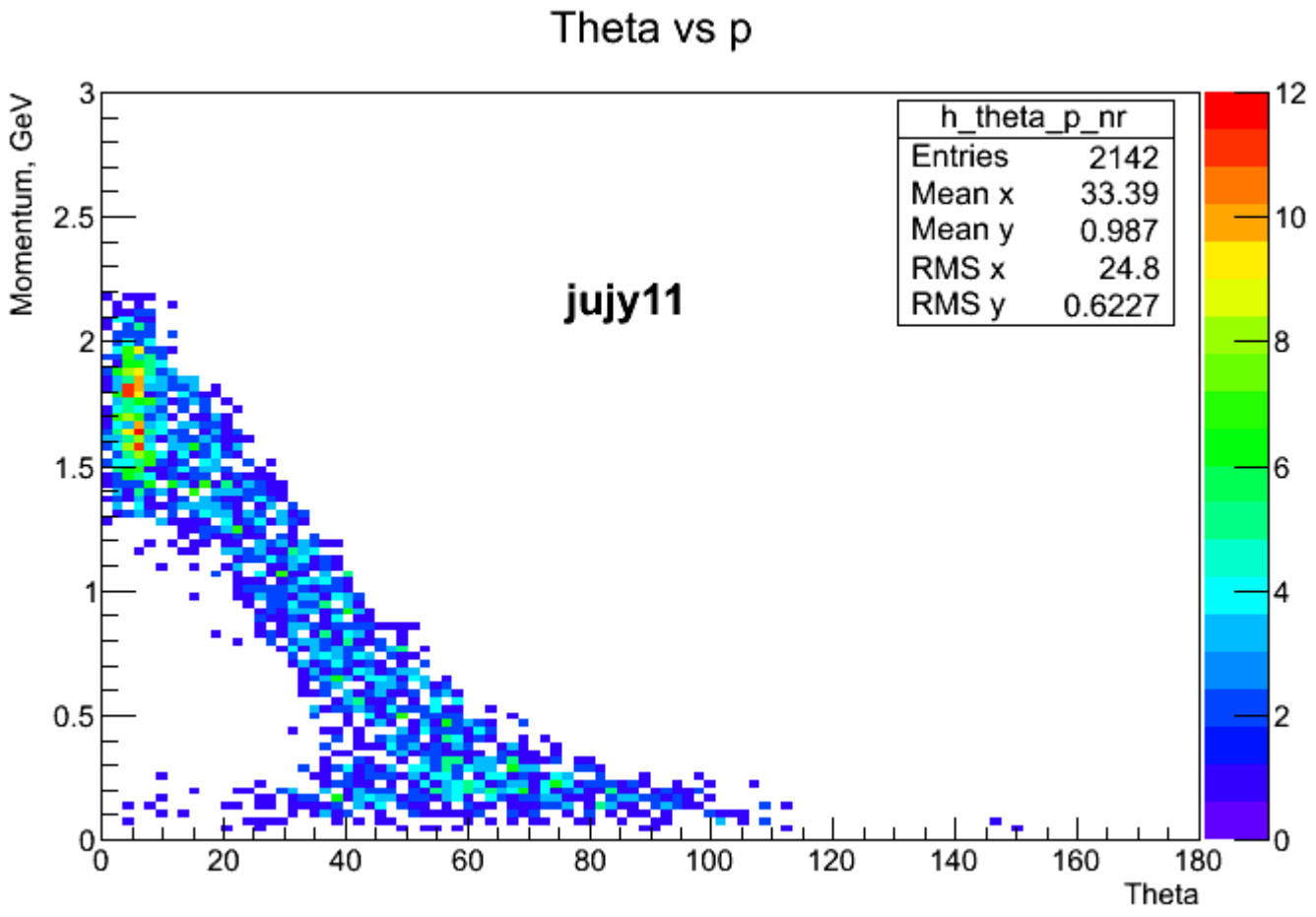
Dima

File Attachments

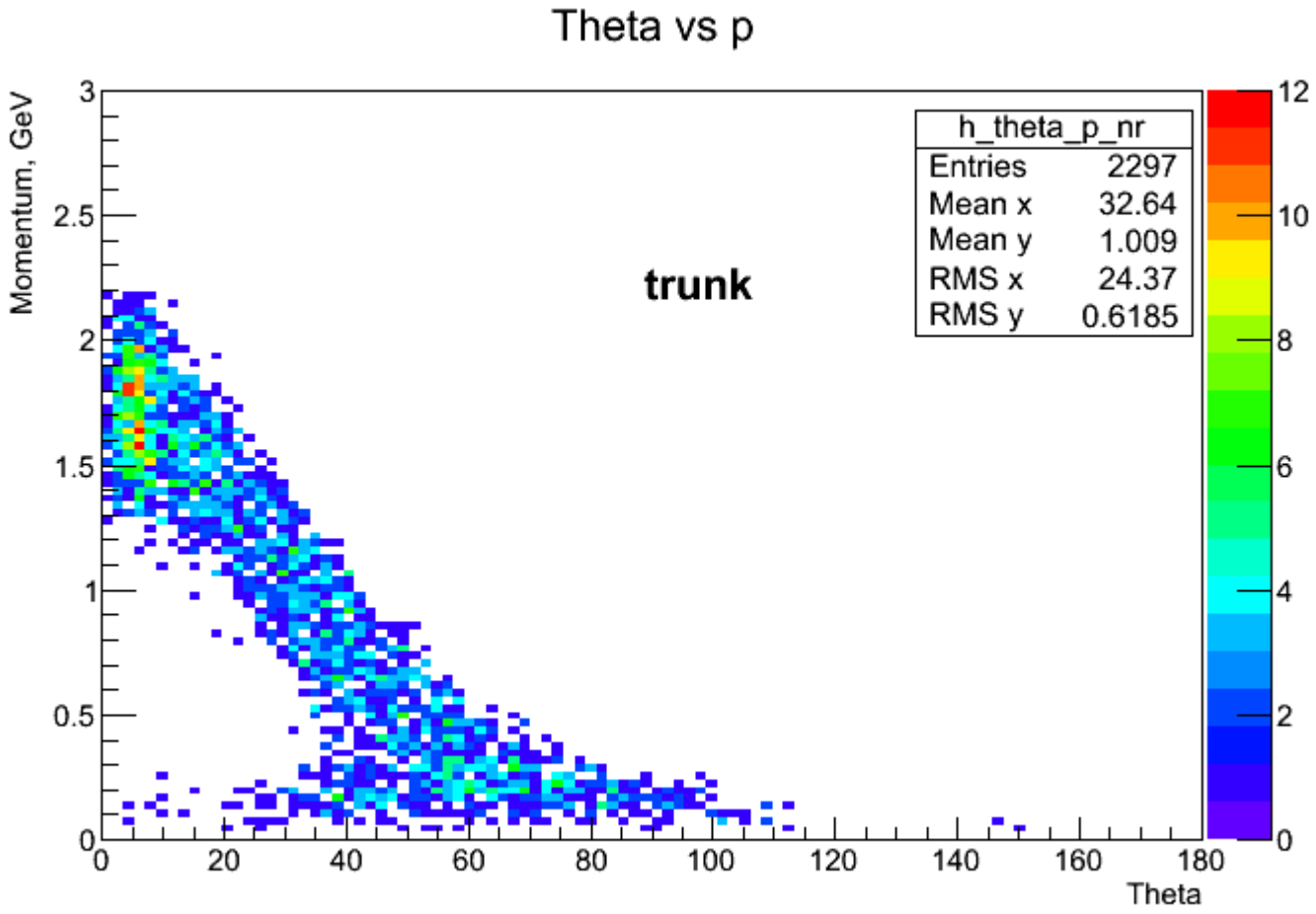
1) theta_p.png, downloaded 910 times



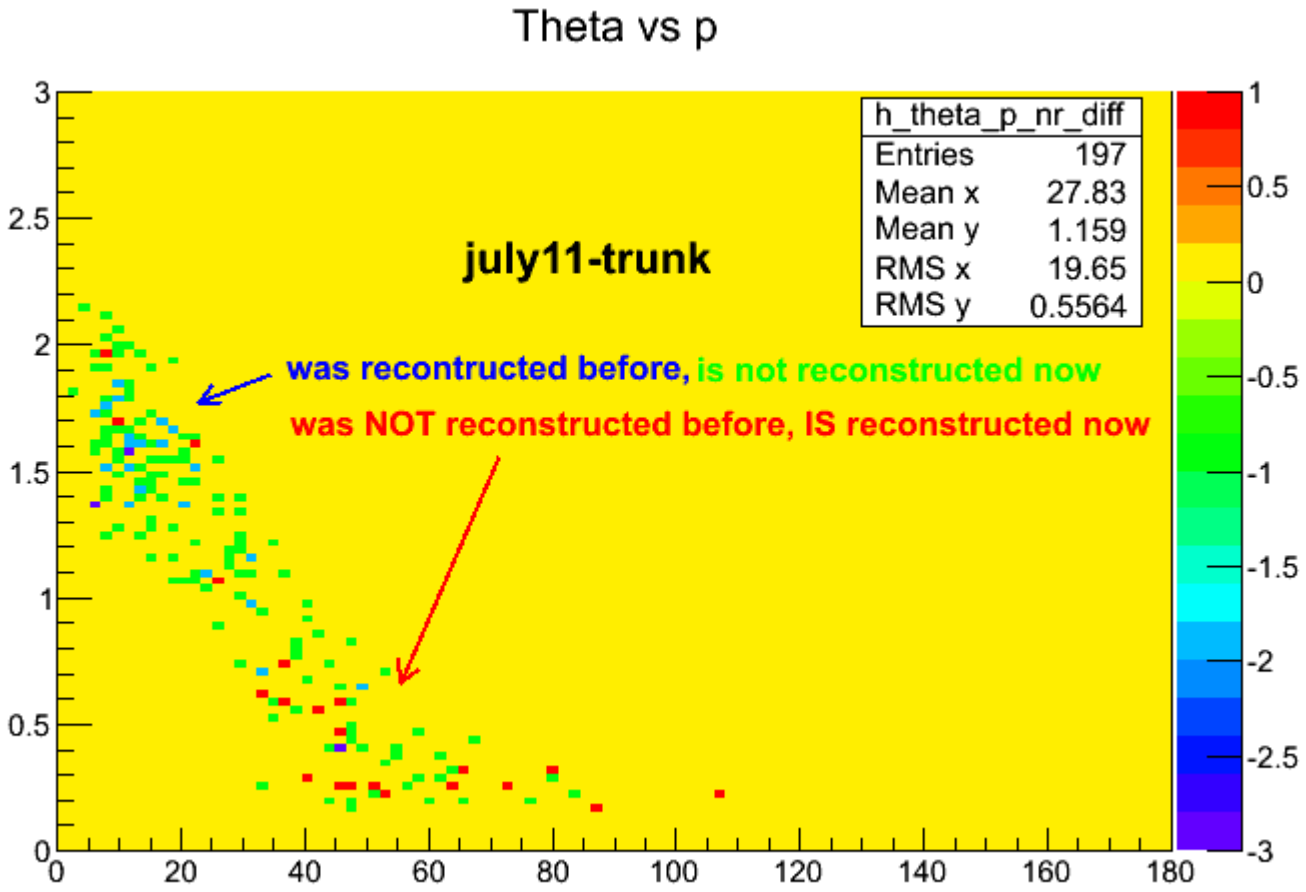
2) theta_p_july11.png, downloaded 894 times



3) theta_p_trunk.png, downloaded 978 times



4) theta_p_july_trunk.png, downloaded 917 times


Theta vs p
h_theta_p_nr_diff
Entries 197
Mean x 27.83
Mean y 1.159
RMS x 19.65
RMS y 0.5564
july11-trunk
was recontructed before, is not reconstructed now
was NOT reconstructed before, IS reconstructed now
0
20
40
60
80
100
120
140
160
180
0
0.5
1
1.5
2
2.5
3
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3