Subject: Eta_c efficiency
Posted by Gianluigi Boca on Fri, 25 Nov 2011 18:20:37 GMT
View Forum Message <> Reply to Message

Hi,
I modified again PndSttMvdTracking.cxx in order to get the 'old'
efficiency level, as in July11 release, for the Eta_c channel.
The difference, as anticipated, was a stricter cut on the association of the Parallel STT hits.
Please analyzers update and try again at your convenience

Tschuess Gianluigi

Subject: Re: Eta_c efficiency
Posted by Dima Melnychuk on Sun, 27 Nov 2011 22:27:15 GMT
View Forum Message <> Reply to Message

Hi,
I just want to quote two numbers concerning eta_c reconstruction efficiency I obtained with 1000 events statistics.
Before the last modification I obtained 28.4% after it 30.9%, so indeed it improves additionally reconstruction efficiency.
Both numbers are for the same data set.

It's still a question how those numbers changes with higher statistics.

Dima

Subject: Re: Eta_c efficiency
Posted by Dima Melnychuk on Mon, 28 Nov 2011 11:43:20 GMT
View Forum Message <> Reply to Message

Hi,

Just an additional number for eta_c efficiency.

For the data produced on grid without latest update I have eta_c reconstruction efficiency 23.5% with analysed 70.000 events.

Somehow with the grid data I have efficiency lower than with data produced by myself (28.4%).
And it's not the first time I observe this behaviour.

Dima

Subject: Re: Eta_c efficiency
Posted by StefanoSpataro on Mon, 28 Nov 2011 15:05:21 GMT
View Forum Message <> Reply to Message

Could you please check if some subjob has 0 entries in the tree? Maybe there are some empty files, maybe...

Subject: Re: Eta_c efficiency
Posted by Dima Melnychuk on Mon, 28 Nov 2011 16:14:50 GMT
View Forum Message <> Reply to Message

Event if there are files which has 0 entries in the tree it would not change the efficiency which I quote since I normalise for the actual number of entries, at least if it is obtained correctly from:

PndEventReader evr(inPidFile);
nevts=evr.GetEntries();

Subject: Re: Eta_c efficiency
Posted by StefanoSpataro on Mon, 28 Nov 2011 16:43:12 GMT
View Forum Message <> Reply to Message

Considering that the efficiency is something like 20%, there should be no empty files. In such a case, maybe the reconstruction macros had some problems and have created a tree with no entry, without giving an error. The subjob is simply failing and it should not be counted in the 70000 statistics.
But I don't know if this can happen.

Subject: Re: Eta_c efficiency
Posted by Dima Melnychuk on Tue, 29 Nov 2011 13:43:57 GMT
View Forum Message <> Reply to Message

Hi,

With the latest STT reconstruction update the following results are obtained for eta_c channel with data produced on grid.

run926 (99500 events, copy of one file (500 events) fails)
Invariant mass distribution:

Reconstruction efficiency - 25.8%, result is good but again somehow lower than I obtained with 1000 events (30.9%)
sigma(eta_c)=31.6 MeV, sigma(phi)=3.87 MeV

With cleanup - run926cu

Efficiency drops to 18.1%, but still is reasonable.
sigma(eta_c)=28.7 MeV, sigma(phi)=3.70 MeV

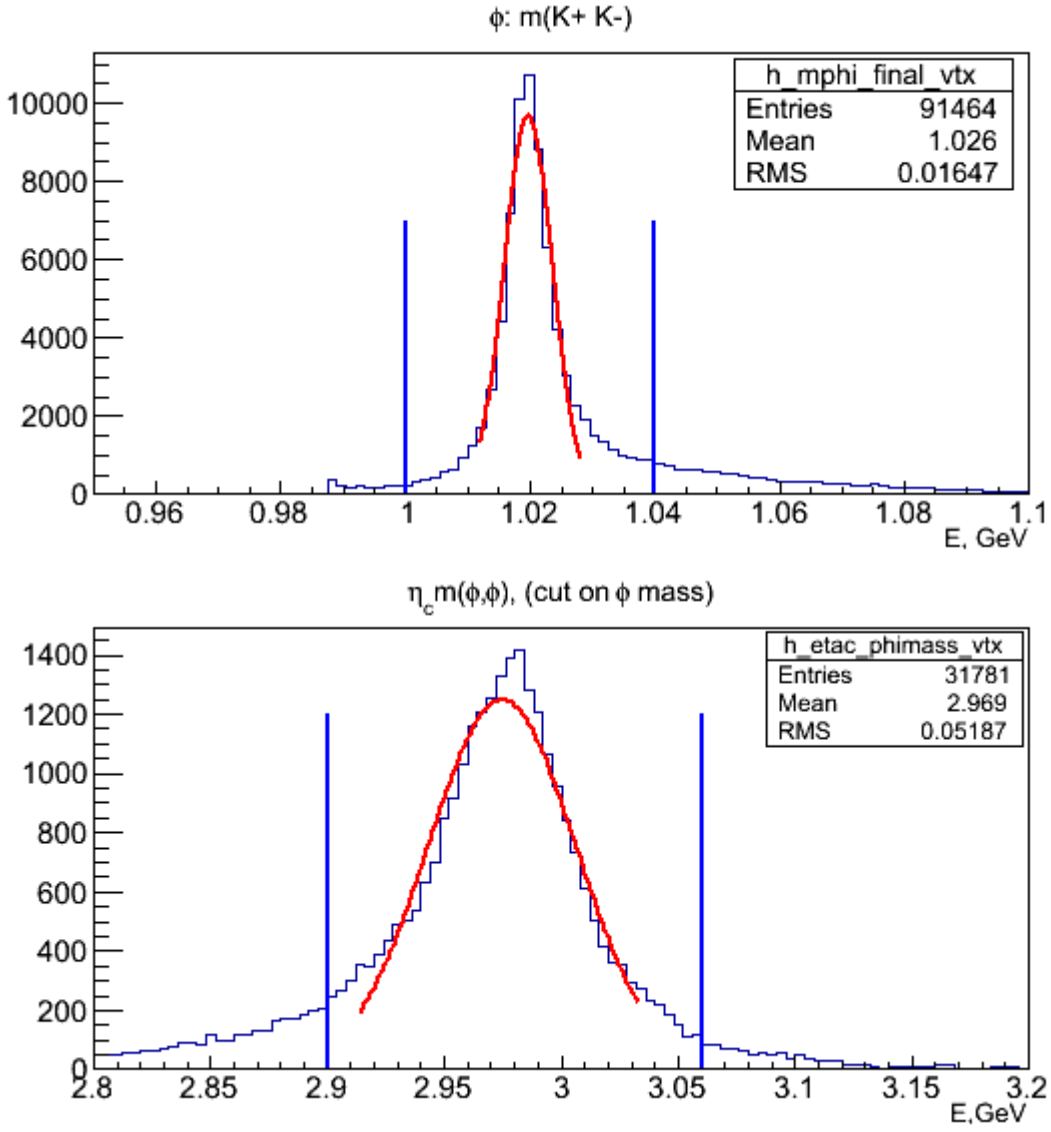
And here are the multiplicities of charged tracks, without and with cleanup:

So I still try to understand why on grid efficiency is lower than I have locally, but otherwise data look reasonable.

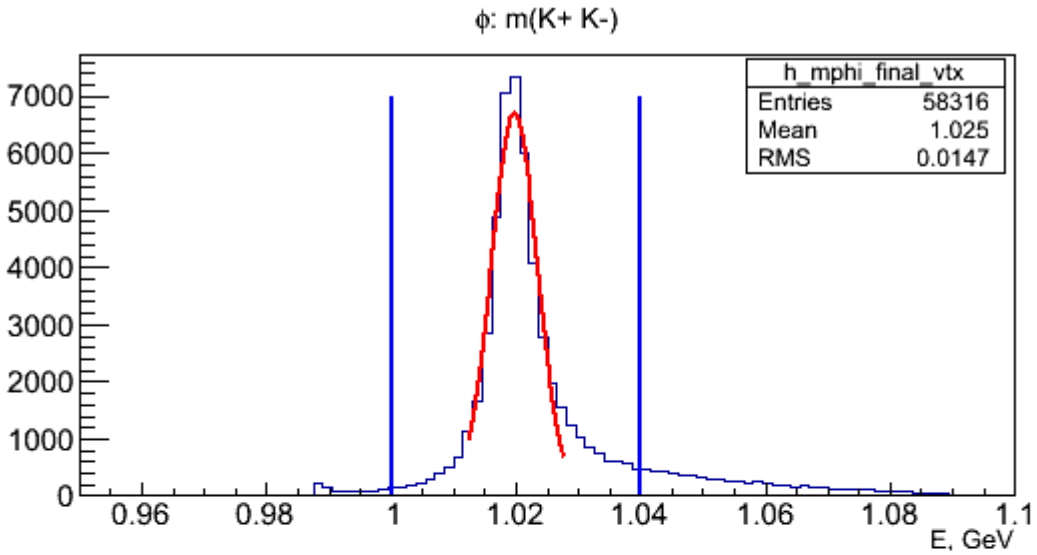
Dima

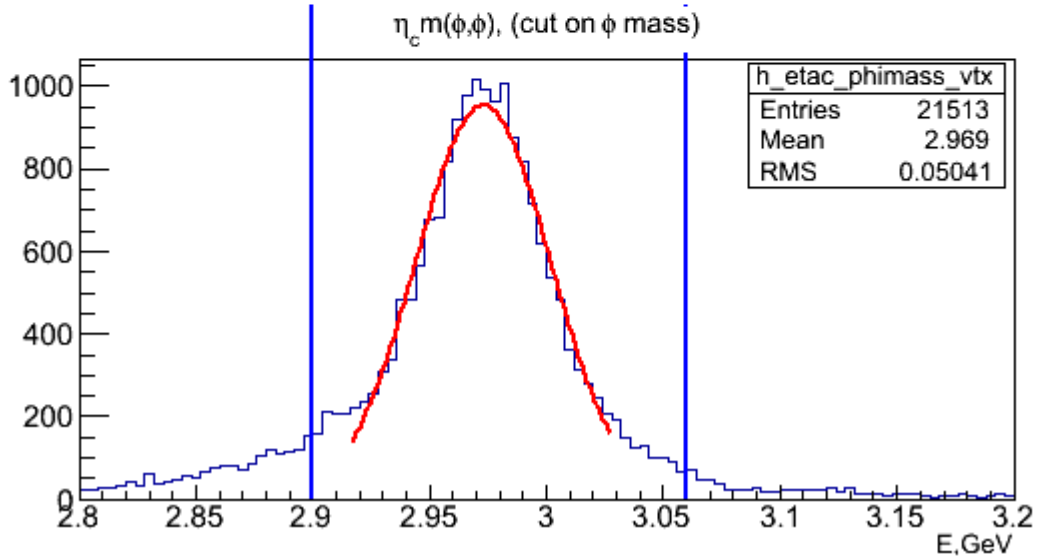
File Attachments

1) mfinal_926.png, downloaded 1377 times

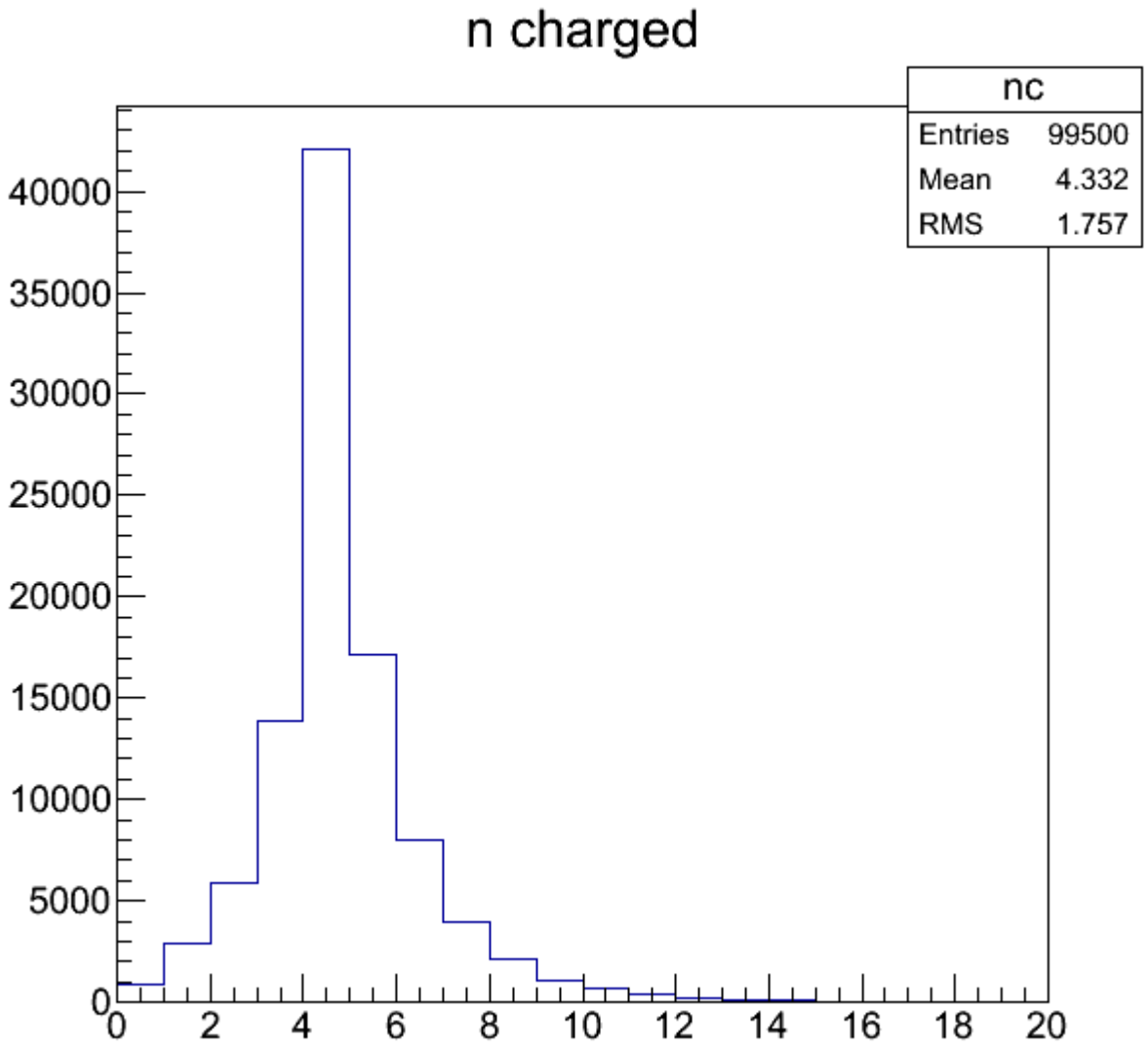


2) mfinal_926cu.png, downloaded 1353 times

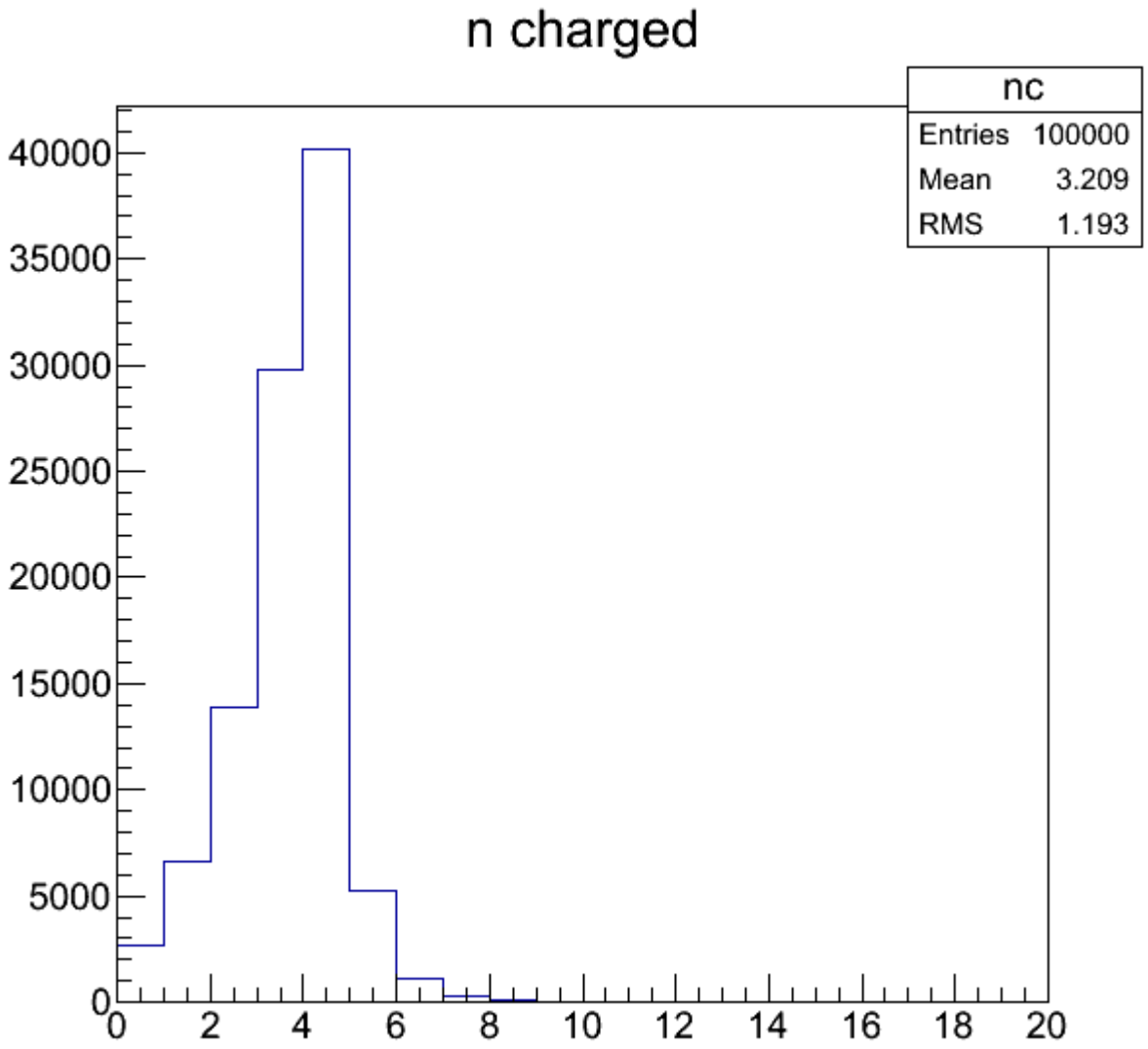




3) n_charged926.png, downloaded 1218 times



4) n_charged926cu.png, downloaded 1378 times



Subject: Re: Eta_c efficiency
Posted by Gianluigi Boca on Tue, 29 Nov 2011 14:42:50 GMT
View Forum Message <> Reply to Message

Hi Dima,
is the 'cleanup' result obtained with the DPM Background or not yet ?
Gianluigi

Subject: Re: Eta_c efficiency
Posted by StefanoSpataro on Tue, 29 Nov 2011 14:54:31 GMT
View Forum Message <> Reply to Message

Without
