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Subject: eta\_c reconstruction efficiency

Posted by [Dima Melnychuk](#) on Thu, 06 Oct 2011 10:01:38 GMT

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Hi,

I tried to localize the source of the problem with eta\_c reconstruction efficiency and compared simulation with trunk version of pandaroot and then replaced only PndSttMvdTracking.cxx, PndSttMvdTracking.h to the version corresponding to july11 release, i.e PndSttMvdTracking.cxx (rev.12530) PndSttMvdTracking.h (rev. 12558).

Running simulation with 3000 events with trunk version I have efficiency 14.1%.

Mass distributions without any cuts:

and final plot after vertex fit

For the version with replaced PndSttMvdTracking efficiency is 26.2%  
and mass distributions without any cuts:

and final mass plots after vertex fit:

Here the reconstruction efficiency is a factor 2 better.

Reconstructed events are the same for both cases. Final eta\_c mass distribution has double peak structure but it appears for both cases and I suppose it's a question of statistics.

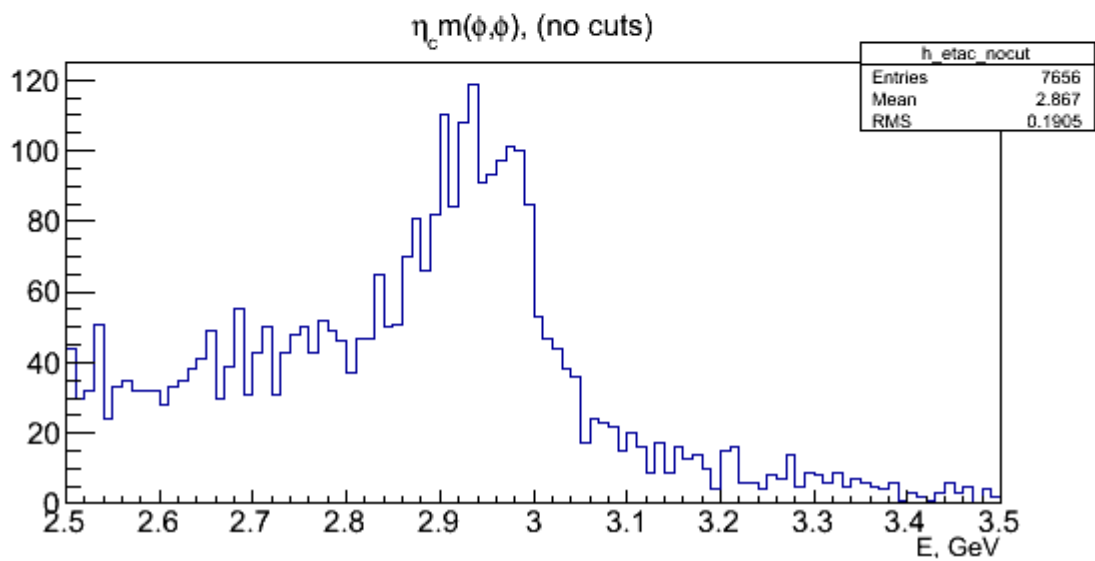
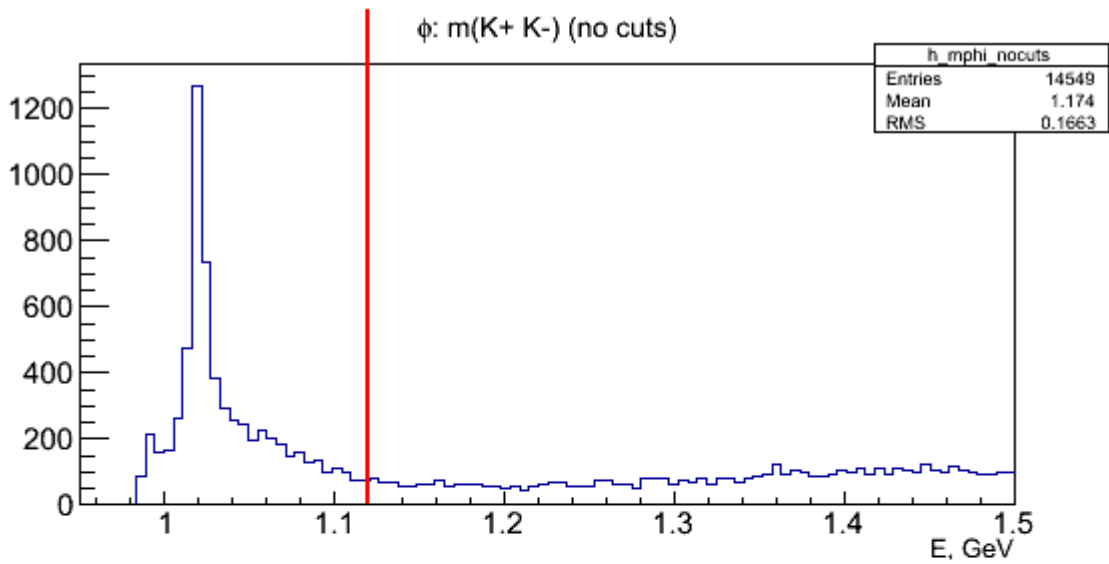
So as a conclusion the hole problem is related to PndSttMvdTracking class only. I will try to localize the problem further but the code is too big and I suppose that Gianluigi will be better at it than me.

Dima

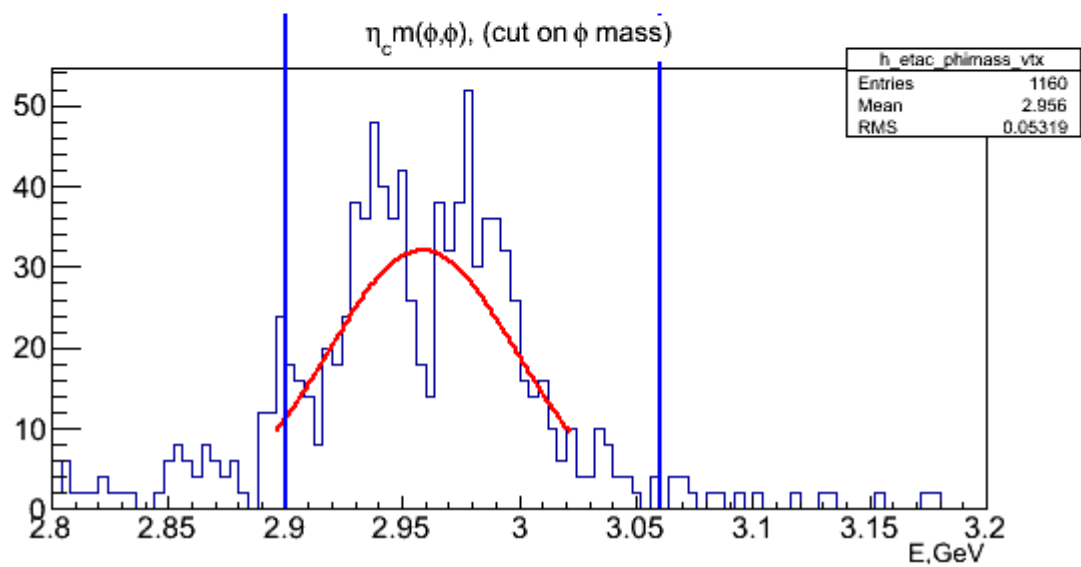
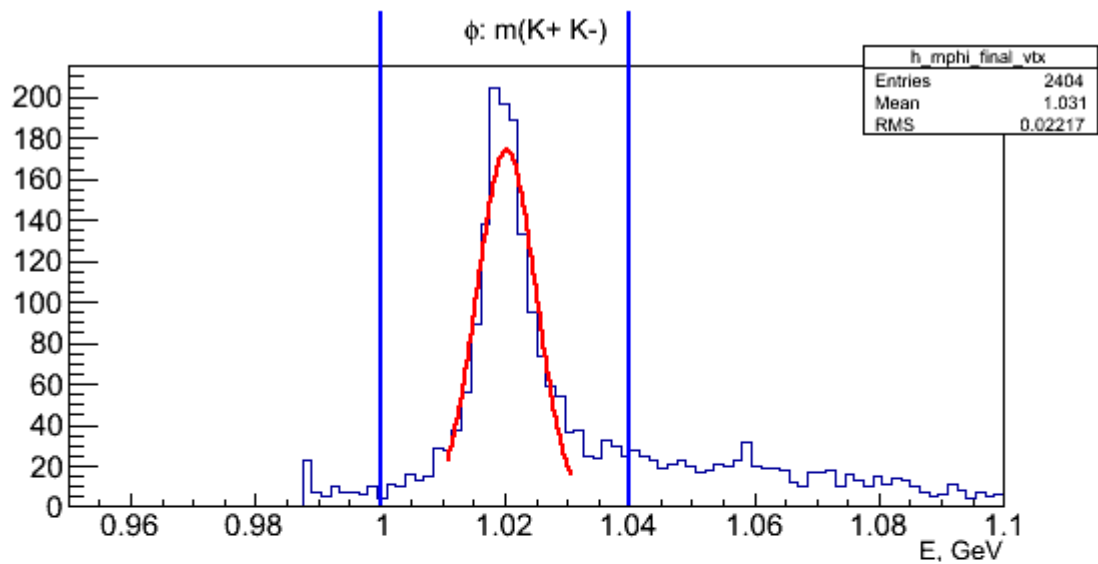
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## File Attachments

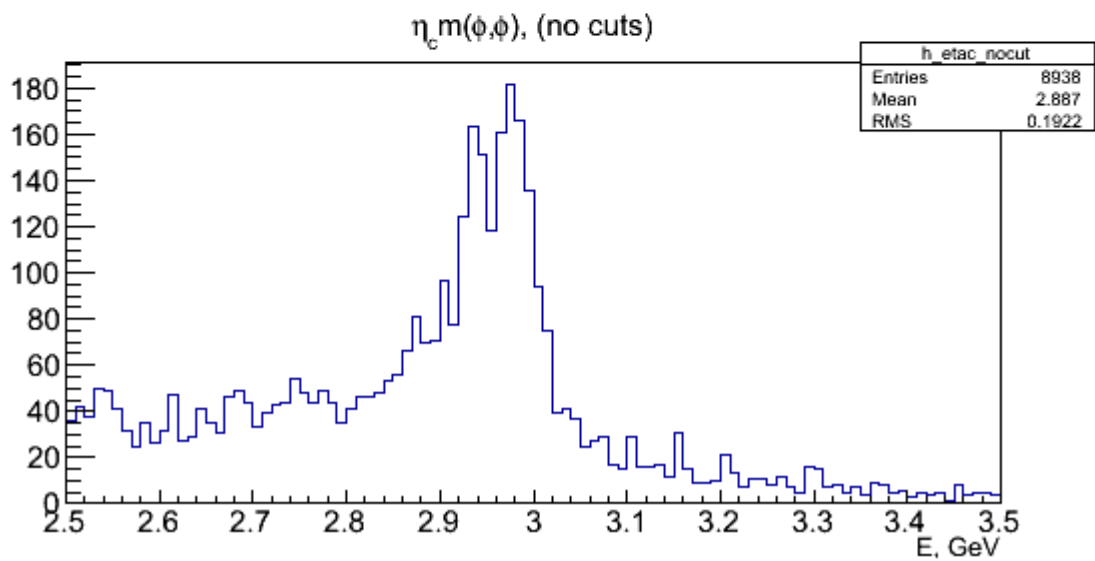
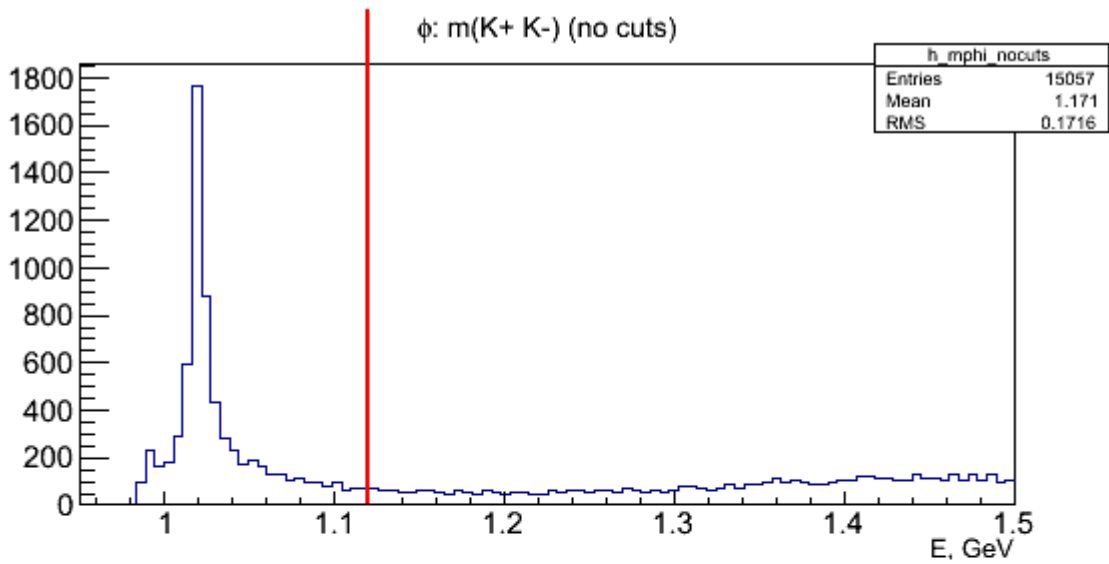
1) [mass\\_nocuts\\_trunk.png](#), downloaded 617 times



2) [mass\\_final\\_trunk.png](#), downloaded 642 times



3) [mass\\_nocuts\\_july11.png](#), downloaded 664 times



4) [mass\\_final\\_july11.png](#), downloaded 659 times

