Subject: Some results on the Lambda-Lambdabar channel
Posted by donghee on Tue, 23 Aug 2011 19:38:47 GMT
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Dear panda family,

I would like to show you very small study for lambda-lambdabar decay channel.
I have a look the data run994 with tpc mode on pandagrid.
I found that the global efficiency (for very ideal case) can be achieved around 12%, probably decay topology looks quite promising.
But the momentum, vertex and theta resolution looks not so perfect.

Please have a look this lambdabar-lambda study, and need some comments from you...

Best wishes,
Dognhee

File Attachments
1) Lambda-tdr-draft-01.pdf, downloaded 579 times

Subject: Re: Some results on the Lambda-Lambdabar channel
Posted by donghee on Tue, 23 Aug 2011 19:49:28 GMT
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Hi stefano,

Sorry I forget some comment for this study.

I do not finalize this study, and this is purely and absolutely study.
Main purpose of this study is not related TDR project in some sense at least in my side.
I wanted to know how good vertex fitter for long distance track.
I was wondering that vertex fitter can use for secondary decay with very large decay angle. I wanted to clarify that.

That is working, wonderful!

Have a nice evening!
Donghee

Subject: Re: Some results on the Lambda-Lambdabar channel
Posted by Sverre Dørheim on Wed, 24 Aug 2011 15:38:58 GMT
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Could somebody tell which macros where used in the reconstruction of this GRID-data? And of the tpc-folder?

This would be of great help!

cheers
Sverre

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Subject: Re: Some results on the Lambda-Lambdabar channel
Posted by Johan Messchendorp on Wed, 24 Aug 2011 15:44:07 GMT
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Hi,

take the latest august release, look up folder /macro/run/tdrct/llbar/ for macros.

Greets,

Johan.

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Subject: Re: Some results on the Lambda-Lambdabar channel
Posted by Sverre Dørheim on Wed, 24 Aug 2011 15:48:19 GMT
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Thanks a lot for the quick answer Johan.

sverre

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Subject: Re: Some results on the Lambda-Lambdabar channel
Posted by donghee on Thu, 25 Aug 2011 14:21:06 GMT
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Dear sverre,

You work is really impressive and good reference to me. Thank you first of all.

OK let's skip physics point like lambda polarization, which was mentioned by Jim or some other experts.

When you made association with MC ideal PID, did you apply MC PID(proton==2212) or from MC index?

You mentioned today that we might be needed to control rec and pid part in the lambda case. or you want to test it as far as I understand.
Could you specify a little bit more detail for this point?

And some hit in MVD or GEM would be needed to get low theta angle decay? Can you also explain what is the strategy for requiring the hit in track let?

I will try also LLbar with POCA approach. So, do you have a standalone package or using now PndVtxPoca in pandaroot?
One need to modify this function to optimize lambda decay?

I'm sorry I have too many question for lambda channel?

Best wishes,
Dognhee

ciao,
donghee

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Subject: Re: Some results on the Lambda-Lambdabar channel
Posted by Sverre Dørheim on Fri, 26 Aug 2011 01:40:23 GMT
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Hello Donghee

I did all my studies manually based on the GFTracks, which are the object which come out after the track-fits.

I loop over all tracks and based on the PDG-ID from the associated MC-track I make the lists of protons(2212), pi- ...

The reco-part run on the grid where run with some wrong setting. There was a cut on track to have at least 1 hit in the MVD which for particles to a large part decaying in the TPC is just plain wrong. Another thing was a setting for the PR to do an extra step to merge curling tracks. This is important because a lot of the pions will curl in and out of the central tracker several times.

For the POCA approach I used a standalone package which is a part of genfit, it is called GFTrackProximity, and is only a very simple newtonian search stepping along the track. This was just an alternative since I had some problems with the vertex fitter.

I hope this answers your questions
best regards from Tokyo
Sverre

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