Subject: Run 951 GRID -TPC
Posted by Elisa Fioravanti on Tue, 02 Aug 2011 16:41:52 GMT
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Hello,

I have run today the new job on GRID for the tpc for pi+pi- analysis, with august11 release, and unfortunately the results are very strange:

- theta distribution peaks at 90°
- momentum distribution is around 0.5 GeV
- residual momentum peaks at 0.9
- for the invariant mass: only 40 events pass the selection on 100K events generated

I don't know what is the reason, but the results are very bad and strange,

Elisa

Subject: Re: Run 952 GRID -TPC
Posted by Elisa Fioravanti on Tue, 02 Aug 2011 20:46:40 GMT
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Sorry, but there is an error in the Title of this post:
The run number if 952

Elisa

Subject: Re: Run 951 GRID -TPC
Posted by Dima Melnychuk on Wed, 03 Aug 2011 10:29:29 GMT
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Hi Elisa,

I see the same problem with eta_c channel, i.e. very low efficiency.

And the reason I suppose that outdated tpc reconstruction macro was used, at least if it is macro on grid /panda/user/p/pbarprod/tdr11/macros/pipi/run_reco_tpc_evt.C.
And it should be updated to trunk/macro/run/tdrct/npipi/run_reco_tpc_evt.C

with additional modification

the line
  //tpcSPR->SetMCPid(); // use ideal particle identification

should be uncommented

and the line
  tpcSPR->SetPDG(211);
should be commented.

The same is for other channels, except that for eta_c

/panda/user/p/pbarprod/tdr11/macros/eta_c/run_reco_tpc_evt.C

the last modification was already made.

Dima

Subject: Re: Run 951 GRID -TPC
Posted by Felix Boehmer on Wed, 03 Aug 2011 11:36:45 GMT
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Hi Dima & Elisa,

this problem should not be related to the way of PID selection in the pattern recognition. We just tested both methods locally for the eta_c channel and still see the same efficiencies (approx. 28%).

Are the macros up-to date, so we can also test pi-pi+ locally? It seems like there is a bug somewhere in the code on the grid ...

Cheers

Felix

Subject: Re: Run 951 GRID -TPC
Posted by Dima Melnychuk on Wed, 03 Aug 2011 11:47:02 GMT
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Hi Felix,

It's just what I have written, the old version of macro was used for TPC reconstruction on grid.

Running locally I also have close results for both PID selection in the pattern recognition.

So it's a question if/when Stefano will be able to correct macro and rerun.

Dima

Subject: Re: Run 951 GRID -TPC
Posted by Elisa Fioravanti on Wed, 03 Aug 2011 11:54:54 GMT

Hello Felix,

you can find the analysis macro in

/macro/run/tdrct/npipi/

- ana_invariantmass_2pi_tpc.C that I use to look at the invariant mass of two pions
- plot_invariant.C that I used to produce plots.

Concerning the reconstruction macro, It's not up-to date,

Elisa

Subject: Re: Run 951 GRID -TPC
Posted by StefanoSpataro on Wed, 03 Aug 2011 13:02:55 GMT

I can try this evening, I was not aware that the reco macros had to be updated.
Would it be possible to modify all the tpc reco macros in svn, so that I have only to add them
on the grid and submit the jobs? I do not have a computer in front of me right now...

Subject: Re: Run 951 GRID -TPC
Posted by Felix Boehmer on Wed, 03 Aug 2011 13:16:02 GMT

Hi all,

we just tested eta_c with a completely clean trunk revision 12933, RKTrackRep revision 370
(grid version according to Johan). That is also true for the macros!

For both fixed PID and MCPID the efficiencies were around 30% (100 simulated events)...

So I don't understand what is going wrong there. Is the grid version really 12933 including all
subfolders?

Cheers

Felix

Subject: Re: Run 951 GRID -TPC
Posted by Dima Melnychuk on Wed, 03 Aug 2011 13:16:30 GMT

Hi Stefano,

I have activated
 tpcSPR->SetMCPid();
in all tpc reco macros (run_reco_tpc_evt.C) in /trunk/macro/run/tdrct

So, they can be run on the grid.

Dima

Subject: Re: Run 951 GRID -TPC
Posted by Dima Melnychuk on Wed, 03 Aug 2011 13:21:42 GMT
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Hi Felix,

On the grid the macros are running not directly from
/macro/run/tdrct

but are copied to separate folder

/panda/user/p/pbarprod/tdr11/macros/

and in this folder they were outdated.

Dima

Subject: Re: Run 951 GRID -TPC
Posted by Felix Boehmer on Wed, 03 Aug 2011 13:26:59 GMT
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Ahhhhhh,

thanks for the clarification, Dima
Still, if only the line about the MCPID was different ...

Anyway, with the consistent set of macros everything should be fine. Can you guys please
inform us as soon as you see new results? We will try to test pi-pi+ locally in the meantime.

Cheers

Felix

Subject: Re: Run 951 GRID -TPC
Posted by StefanoSpataro on Wed, 03 Aug 2011 13:42:17 GMT
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I was pretty sure that i had already applied such changes... maybe they were not correctly saved on the grid... I am getting old

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Subject: Re: Run 951 GRID -TPC
Posted by Dima Melnychuk on Wed, 03 Aug 2011 13:50:15 GMT
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Hi Stefano,

From the modification time of macros in
/panda/user/p/pbarprod/tdr11/macros/

it seems that you could apply changes concerning
tpcSPR->SetMCPid();

but the macros didn't include previous modifications done by Johanes.

Dima

Subject: Re: Run 951 GRID -TPC
Posted by Felix Boehmer on Wed, 03 Aug 2011 15:51:05 GMT
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Hi Elisa,

we just took a look at the 2pion example for the npipi macros. From 100 simulated events we see 76 reconstructed entries in the invariant mass spectrum peaking at roughly 3.1 GeV, which is reasonable. All has been done with the macros from the trunk revision 12933.

Cheers

Felix

Subject: Re: Run 951 GRID -TPC
Posted by StefanoSpataro on Wed, 03 Aug 2011 17:30:01 GMT
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I have just started again TPC runs on the grid, with the updated reco macros. Let's cross our fingers that this will be the last time...

Subject: Re: Run 951 GRID -TPC
Posted by Felix Boehmer on Wed, 03 Aug 2011 17:50:22 GMT
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Thank you very much!
keeping fingers crossed

Have a nice evening!

Felix

Subject: Re: Run 951 GRID -TPC
Posted by Elisa Fioravanti on Thu, 04 Aug 2011 08:23:34 GMT
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Dear collegues,

I have test the pi+pi-pi+pi- analysis with TPC data available on the GRID, and the results seem to be good and resonable, for example for the invariant mass I have an effiency of 73.61% for TPC
and for the STT data on the GRID 72.61%
calculated with the formula :

Efficiency = (Number of reconstructed events)/ (Number of generated events entering within geo. detector acceptance)

that we agreed in the last EVO meeting,

best
Elisa

Subject: Re: Run 951 GRID -TPC
Posted by Felix Boehmer on Thu, 04 Aug 2011 08:32:53 GMT
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Hi Elisa,

that is good to hear! Thanks to you and everyone involved!

Cheers

Felix