Subject: New flags for PidCorrelator
Posted by StefanoSpataro on Fri, 20 Sep 2013 16:33:58 GMT
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Dear all,
I have done minor changes in the PndPidCorrelator.

I have added a flag to remove all the non fitted tracks. If in your pid macro you write:

corr->SetFlagCut(kTRUE/kFALSE);

You can turn on (kTRUE) or off (kFALSE) the selection of tracks with negative flag (wrongly fitted). By default the selection is ON now.

Another important thing, you can switch off the back propagation of track parameters from the first point to the beam axis (by default ON). To switch it off you put in your pid macro:

corr->SetBackPropagate(kFALSE);

I compared the momentum reconstruction for tracks with (blue) and w/o (red) back propagation, in both the kalman (reco macro) and in the correlator (pid macro), and this is the result:

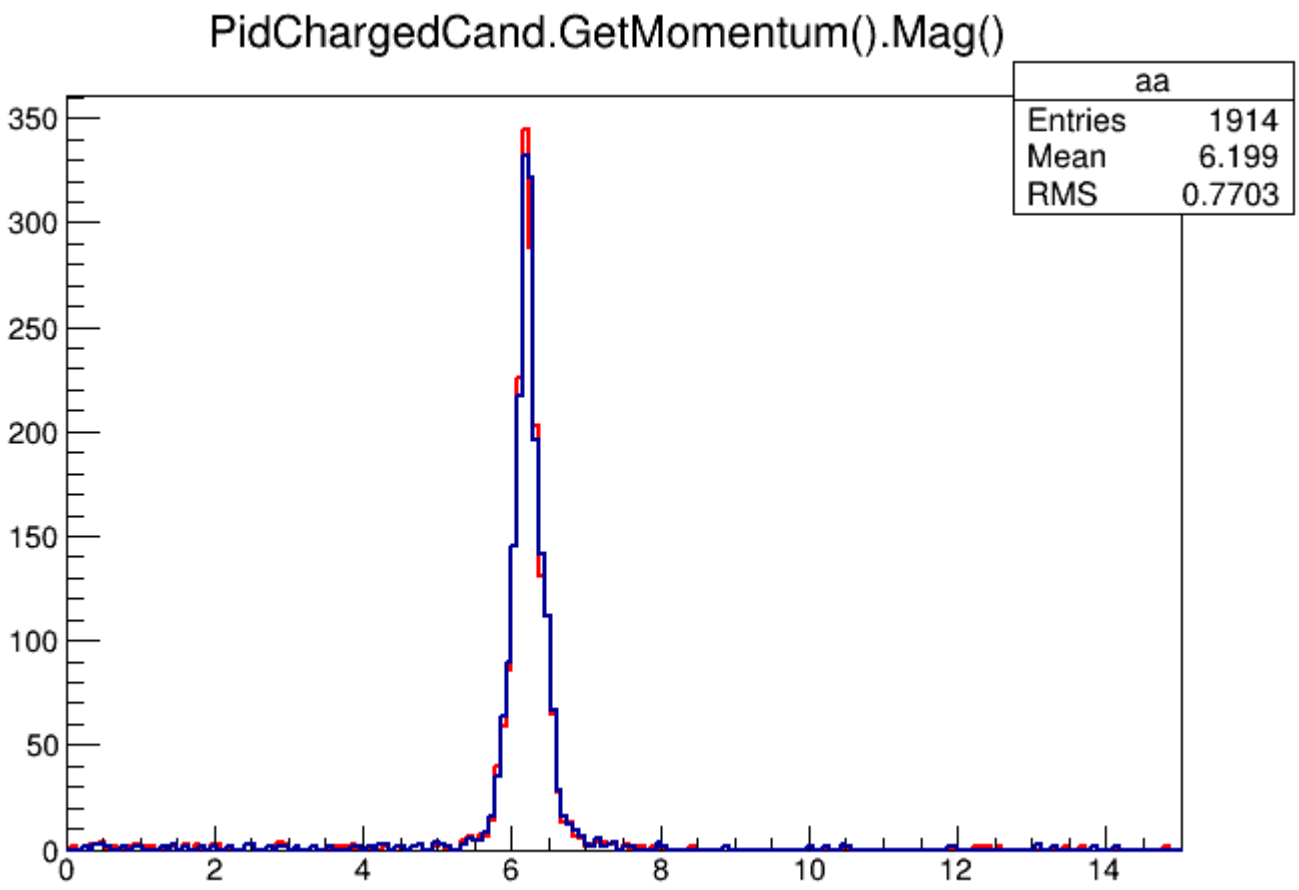
W/o back propagation the counts are a bit less, but they are a bit more precise. I would assume that with back propagation the noise is a bit higher.

I would suggest to all the analyst of channels with long-living secondaries, i.e. lambdas, to switch off such propagation in reco (in both the 2 kalman) and in pid
macros. I have added few commented lines there, so that you have only to uncomment them.

The performances of fitters w/o back extrapolation has to be evaluated, then please do not expect to have the same results and please report if you see something bad. Be aware that, without backpropagation, the "simple" invariant mass won't be precise and that you need to do a vertex fit in order to have the parameters at the proper place.

File Attachments

1) comp.gif, downloaded 1331 times


PidChargedCand.GetMomentum().Mag()
aa
Entries 1914
Mean 6.199
RMS 0.7703
350
300
250
200
150
100
50
0
0
2
4
6
8
10
12
14