Subject: Re: Psi3770 study with run981 tpc mode
Posted by donghee on Mon, 25 Jul 2011 09:43:58 GMT
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Hi Stefano,

Quote:
a) Are you identifying pions and kaons from mc? Have you checked that they are primaries?
And are yiou sure the the mccorrelation is done properly? (i.e., you could have misplaced
trees, in particular if you are summing upo files)

I made running my analysis code with one produced run file (contain 500 events), and then I
added up produced all histograms (typically 200 runs) with simple merging process.
Here is the way to get MC true information in the analysis code.
For both STT and TPC, I can have correct values of MC momentum and the theta and all other
info about true MC from below lines.
Quote:

```
     for(Int_t mc=0;mc<mc_array->GetEntriesFast();mc++)
  {
     PndMCTrack *mctrack=(PndMCTrack*)mc_array->At(mc);

     double mom=mctrack->GetMomentum().Mag();
     double the=mctrack->GetMomentum().Theta()*TMath::RadToDeg();
     TVector3 primary  = (TVector3)mctrack->GetStartVertex();
        if(!(mctrack->IsGeneratorCreated())) continue;
     if(mc==0 && mctrack->GetPdgCode()== -321){ ... //stuff for histogram}
     if(mc==1 && mctrack->GetPdgCode()==  211){ ... //stuff for histogram}
     if(mc==2 && mctrack->GetPdgCode()==  211){ ... //stuff for histogram}
     if(mc==3 && mctrack->GetPdgCode()==  321){ ... //stuff for histogram}
     if(mc==4 && mctrack->GetPdgCode()== -211){ ... //stuff for histogram}
     if(mc==5 && mctrack->GetPdgCode()== -211){ ... //stuff for histogram}
        }
```

Quote:
b) Have you applied a selection around D mass? To take away bad combinations with bad
momenta

I used selector with the range of mass 1.8693 +/- 0.05 GeV/c, in panda word,
TPidMassSelector *DMassSel=new TPidMassSelector("Dselector", 1.8693, 0.1);
When Psi reconstruction is made, I require mass window of D+ and D- according 1.8193 <
M_(D+ or D-) < 1.9193 GeV.

Quote:
c) Why you assume the ndf is 1? I think at this stage one should not use any chi2 cut,
considering that we have to understand the errors before.

The probability must be 0 < prob(chi2,ndf) < 1.
When I use ndf getting from the fitter for D+ and D-, ndf is always 4.

From that values, prob can only have 0 < prob(chi2,ndf) < 0.25. That should be wrong.
For Psi case, I used ndf directly from PndKinVtxfitter.
Quote:
double   chi2 = vtxfitter.GlobalChi2();
double   pull = vtxfitter.GetPull();
unsigned ndf = vtxfitter.Getdof();
TChisqConsistency cons(chi2,ndf);
double prob = cons.Likelihood();

I understand that the meaning of probability bigger than 0.001 is that D or Psi events simply would be taken only with successfully fitted events.
You suggested that I don't need to reject any events from probabilities or even chi2s cut.
In this analysis, I have actually 4 different data samples like

So, I can take the data without requirement of chi2 fit as you want to do.

Best wishes,
Donghee