Subject: PndKinVtxFitter Resoultion
Posted by Simone Esch on Mon, 29 Jul 2013 12:57:47 GMT

Hello!

I tried to do a resolution plot for my PndKinVtxFitter Vertex Resolution.
If I understand correctly the distance is in cm. If this is true I have a vertex resolution in the order of mm which is in my opinion really bad.
Maybe I compare the wrong values with eatch other. Can someone have a look at my code?

Best regards

Simone

What I did:

```
 lambda2.Cleanup();
 lambda2.Combine(protonplus, pionminus); // Daugther 0 proton, Daughter 1 pion
 lambda2.SetType(3122);

 // *********************
 // PndKinVtxFitter
 // *********************
 double smallestchi2 =100000000000;
 int indexofsmallestchi2 =-1;
 RhoCandidate* lambdaPndKinVtxFitterfit;

 for(int k=0;k < lambda2.GetLength();k++)
 {
  PndKinVtxFitter kinvtxfitter(lambda2[k]);
  kinvtxfitter.AddMassConstraint(1.115);
  kinvtxfitter.Fit();
  if(kinvtxfitter.GetChi2()< smallestchi2 && kinvtxfitter.GetChi2() > 0)
  {
   smallestchi2= kinvtxfitter.GetChi2();
   indexofsmallestchi2=k;
   lambdaPndKinVtxFitterfit=lambda2[k]->GetFit();
   std::cout << "smallest chi2 " << smallestchi2<< std::endl;
  }
 }

 if(indexofsmallestchi2!=-1)
 {
fLambdaMassPndKinVtxFitter->Fill((lambdaPndKinVtxFitterfit->Daughter(0)->P4()+lambdaPnd
KinVtxFitterfit->Daughter(1)->P4()).M());
  fLambdaMassPndKinVtxFitterChi2->Fill(smallestchi2);

fPndKinVtxFitter_VertexRes_X->Fill(lambdaPndKinVtxFitterfit->Daughter(0)->GetPosition().X()
-lambda2[indexofsmallestchi2]->Daughter(0)->GetMcTruth()->GetPosition().X());
```
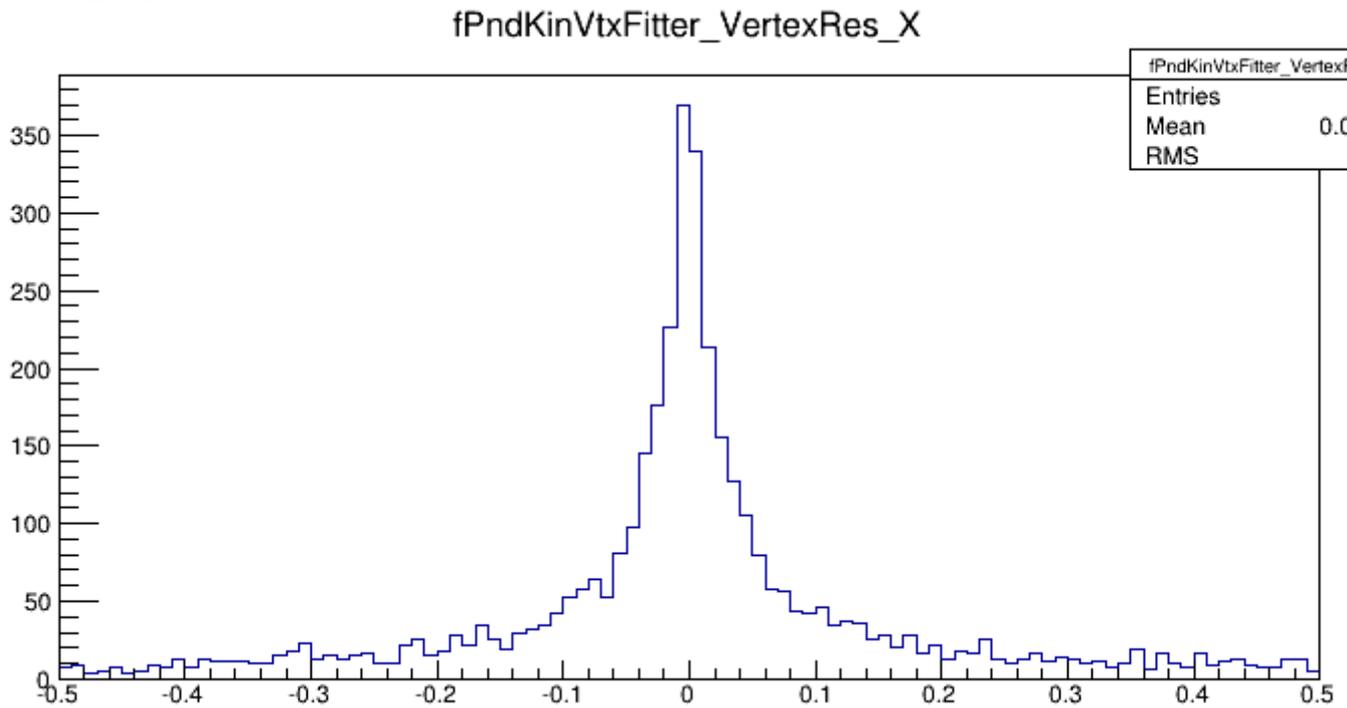
fPndKinVtxFitter_VertexRes_Y->Fill(lambdaPndKinVtxFitterfit->Daughter(0)->GetPosition().Y()
-lambda2[indexofsmallestchi2]->Daughter(0)->GetMcTruth()->GetPosition().Y());

fPndKinVtxFitter_VertexRes_Z->Fill(lambdaPndKinVtxFitterfit->Daughter(0)->GetPosition().Z()-
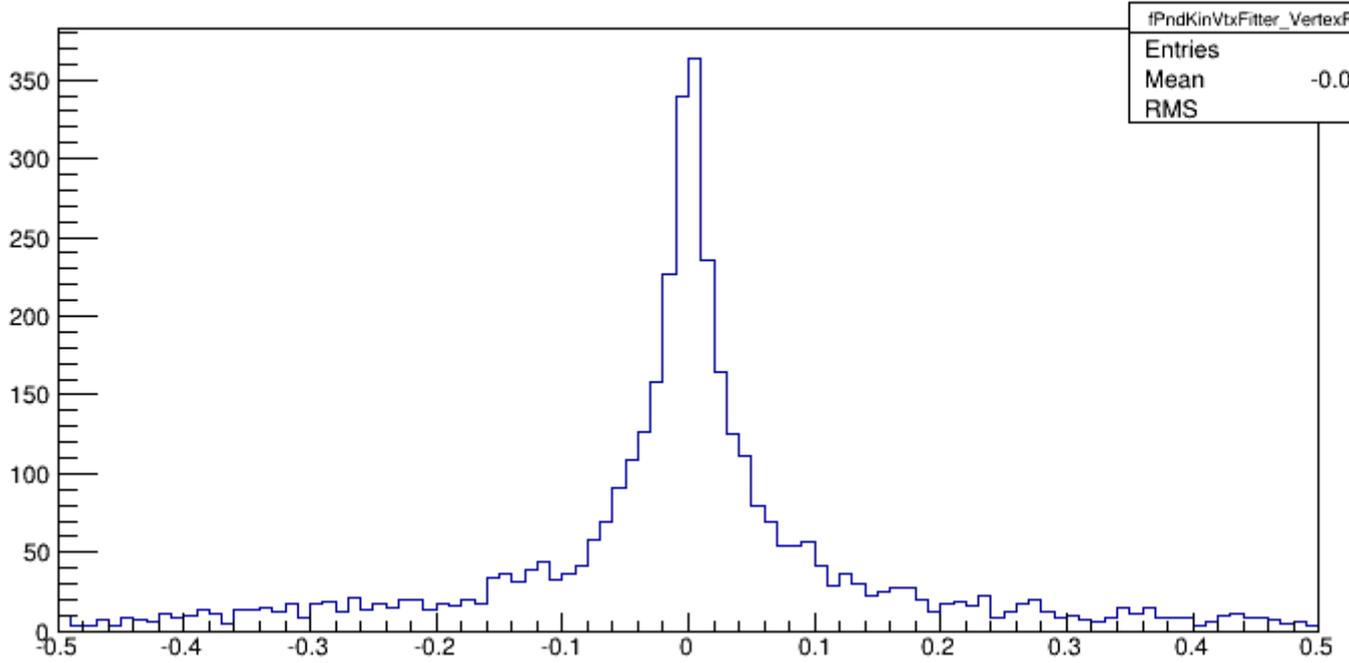lambda2[indexofsmallestchi2]->Daughter(0)->GetMcTruth()->GetPosition().Z());
}

File Attachments

1) resx.png, downloaded 1187 times

fPndKinVtxFitter_VertexRes_X

2) resy.png, downloaded 1247 times

fPndKinVtxFitter_VertexRes_Y

fPndKinVtxFitter_VertexRes_	
Entries	6
Mean	-0.0029
RMS	0.

3) resz.png, downloaded 1202 times

fPndKinVtxFitter_VertexRes_Z

fPndKinVtxFitter_VertexR	
Entries	6
Mean	0.003
RMS	0.2