
Subject: Tutorial feb2012

Posted by [Dmitry Khanef](#) on Thu, 10 May 2012 09:01:45 GMT

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Dear all,

I try to follow tutorial available at feb12.

I slightly modified it for my needs and try to plot some simple distributions but I can't see an effect of applying different PID criteria.

For example: All, VeryLoose, Loose, Tight, VeryTight give same results.

Here is a part of my code.

```
// *** TCandLists for the analysis
TCandList eplus, eminus;

...

while (theAnalysis->GetEvent() && i++<nevt){
  if ((i%1000)==0) cout << "Number of events analysed: " << i << endl;

  // *** Select with no PID info ('All'); type and mass are set
  theAnalysis->FillList(eplus, "ElectronTightPlus");
  //theAnalysis->FillList(eplus, "ElectronTightPlus","PidAlgoEmcBayes");
  theAnalysis->FillList(eminus, "ElectronTightPlus");
  //theAnalysis->FillList(eminus, "ElectronTightMinus","PidAlgoEmcBayes");

  // ELECTRONS ***
  for (Int_t j=0;j<eminus.GetLength();++j){
    // Fill momentum of reconstructed particles
    hP->Fill(eminus[j].GetMomentum().Mag());
    // Fill energy of reconstructed particles
    hE->Fill(eminus[j].Energy());
    // Fill momentum vs E/p
    hEP->Fill(eminus[j].GetMomentum().Mag(),
eminus[j].Energy()/eminus[j].GetMomentum().Mag());
    // *** CM frame *** //
    // boost from LAB to CM
    lv_charged_cm.SetVect(eminus[j].GetMomentum());
    lv_charged_cm.SetE(TMATH::Sqrt(cElectronMass*cElectronMass +
eminus[j].GetMomentum().Mag()*eminus[j].GetMomentum().Mag()));
    lv_charged_cm.Boost(-(lv_bar_beam + lv_p_target).BoostVector());

    hCosTheta_N_CM->Fill(lv_charged_cm.CosTheta());
  }
  for (Int_t j=0;j<eplus.GetLength();++j){
    // Fill momentum of reconstructed particles
    hP->Fill(eplus[j].GetMomentum().Mag());
    // Fill energy of reconstructed particles
```

```

hE->Fill(eplus[jj].Energy());
// Fill momentum vs E/p
hEP->Fill(eplus[jj].GetMomentum().Mag(), eplus[jj].Energy()/eplus[jj].GetMomentum().Mag());
// *** CM frame *** //
// boost from LAB to CM
lv_charged_cm.SetVect(eplus[jj].GetMomentum());
lv_charged_cm.SetE(TMATH::Sqrt(cElectronMass*cElectronMass +
eplus[jj].GetMomentum().Mag()*eplus[jj].GetMomentum().Mag()));
lv_charged_cm.Boost(-(lv_bar_beam + lv_p_target).BoostVector());

hCosTheta_P_CM->Fill(lv_charged_cm.CosTheta());
}
}

```

In addition histograms filled with energy and momentum are the same. Using "PidAlgoEmcBayes" also gives no effect.

Is it suppose to be like this or I do something wrong?

P.S. I used trunk 15407 instead of 14709 because later couldn't be compiled.

Cheers,
Dmitry
