
Subject: Re: first try with fast simulation problem
Posted by [Alexandros](#) on Wed, 09 Apr 2014 15:26:41 GMT
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Ok the simulation works now..

The file I get from my analysis("psi4160.root") with the ntuples is empty...

I checked with the TBrowser and the tuples are there but empty..

This is what I do:

```
// some variables
int i=0,j=0, k=0, l=0;

// the output file examined
TString InFile="psi4160_fast.root";
TString OutFile="psi4160_out.root";

// initialization
FairLogger::GetLogger()->SetLogToFile(kFALSE);
FairRunAna* fRun = new FairRunAna();
fRun->SetWriteRunInfoFile(kFALSE);

fRun->SetInputFile(InFile);
fRun->SetOutputFile(OutFile);
fRun->Init();

RhoCalculationTools::ForceConstantBz(20.0);

// create an output file for all histograms
TFile *out = TFile::Open("psi4160.root","RECREATE");

// create ntuples for psi(4160), D0 and anti-D0
RhoTuple *npsi4160 = new RhoTuple("npsi4160","npsi4160 Analysis");
RhoTuple *nd0 = new RhoTuple("nd0","nD0 Analysis");
RhoTuple *nantid0 = new RhoTuple("nantid0","nanti-D0 Analysis");

// *** Now the analysis stuff *** //

// the data reader object
PndAnalysis* theAnalysis = new PndAnalysis();
if(nevts==0) nevts= theAnalysis->GetEntries();

// RhoCandLists for the analysis
RhoCandList psi4160, d0, antid0, kplus, kminus, piplus, piminus, all;

// Mass selector for the psi4160, do/anti-d0, K+/K-, pi+/pi- cands

double m0_d0 = TDatabasePDG::Instance()->GetParticle("D0")->Mass(); // Get nominal
PDG mass of the D0/anti-D0
RhoMassParticleSelector *d0MassSel=new RhoMassParticleSelector("d0",m0_d0,1.0);

// Pid Selection Algorithms
```

```

TString pidSelection = "PidChargedProbability";

// the lorentz vector of the initial psi(4160)
TLorentzVector ini(0, 0, 6.833, 8.000);

// *** the event loop *** //

while (theAnalysis->GetEvent() && i++<nevt)
{

    cout<< " evt " << i << endl;

    // Select with no Loose PID info; type and mass are set
    theAnalysis->FillList(all, "All", pidSelection);
    PndEventShape evsh(all, ini, 0.05, 0.1);
    theAnalysis->FillList(kplus, "KaonLoosePlus", pidSelection);
    theAnalysis->FillList(kminus, "KaonLooseMinus", pidSelection);
    theAnalysis->FillList(piplus, "PionLoosePlus", pidSelection);
    theAnalysis->FillList(piminus, "PionLooseMinus", pidSelection);
    /// first I have the same stuff as following for D0 and antiD0 and then comes the next part

    // *** combinatorics for psi4160 -> d0 anti-d0 *** //
    psi4160.Combine(d0, antid0);
    psi4160.SetType(60443);

    for (j=0;j<psi4160.GetLength();++j)
    {
        // get daughters
        RhoCandidate *dd0 = psi4160[j]->Daughter(0);
        RhoCandidate *dantid0 = psi4160[j]->Daughter(1);

        PndPidCandidate *dd0_rec = (PndPidCandidate*)dd0->GetRecoCandidate();
        PndPidCandidate *dantid0_rec = (PndPidCandidate*)dantid0->GetRecoCandidate();

        // get truth information
        bool mct = theAnalysis->McTruthMatch(psi4160[j]);
        RhoCandidate *true_psi4160 = psi4160[j]->GetMcTruth();

        // do 4C fit
        PndKinFitter fitter(psi4160[j]); // instantiate the kin fitter in psi(2S)
        fitter.Add4MomConstraint(ini); // set 4 constraint
        fitter.Fit(); // do fit
        RhoCandidate *fit4c_psi4160 = psi4160[j]->GetFit(); // get fitted psi4160

        double chi2_4c = fitter.GetChi2(); // get chi2 of fit
        double prob_4c = fitter.GetProb(); // access probability of fit

        // general event info
        npsi4160->Column("ev", (Float_t) i, -999.9f);
        npsi4160->Column("cand", (Float_t) j, -999.9f);

        // basic psi4160 info
    }
}

```

```
npsi4160->Column("psi4160m", (Float_t) psi4160[jj]->M(), -999.9f);  
npsi4160->Column("psi4160p", (Float_t) psi4160[jj]->P(), -999.9f);  
npsi4160->Column("psi4160pt", (Float_t) psi4160[jj]->P3().Pt(), -999.9f);  
npsi4160->Column("psi4160tht", (Float_t) psi4160[jj]->P3().Theta()*57.30, -999.9f);  
npsi4160->Column("psi41604c", (Float_t) fit4c_psi4160->M(), -999.9f);
```

So if I try to draw psi4160m for example it gives nothing..
There is a problem with the tuple filling and writing I guess...

When you have time again I would appreciate your help...
