
Subject: Re: Mc Truth Match

Posted by [MartinJGaluska](#) on Wed, 21 Aug 2013 11:16:39 GMT

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I would like to add that I have just cross-checked the method

```
theAnalysis->FillList(piall,"PionAll");
pimatchplus.Cleanup();
pimatchminus.Cleanup();
// for pimatch
for ( int ii=0 ; ii<piall.GetLength() ; ++ii ){
  if ( theAnalysis->McTruthMatch(piall[ii]) ){
    if ( 0 < piall[ii]->PdgCode() ){
      pimatchplus.Add( piall[ii] );
    }
    if ( 0 > piall[ii]->PdgCode() ){
      pimatchminus.Add( piall[ii] );
    }
  }
}
```

with the following method

```
SelectWithMcTruthPdgSimulateMcMatch(piall, pdgpiplus, 211);
```

```
int SelectWithMcTruthPdgSimulateMcMatch(RhoCandList &IOld, RhoCandList &INew, Int_t
SelectCandidatesWithPdgCode) {
  INew.Cleanup();
  int notSelected = 0;
  for ( int ii=IOld.GetLength()-1; ii>=0; --ii ) {
    if ( ( IOld[ii]->GetMcTruth()->PdgCode() == SelectCandidatesWithPdgCode ) && (
IOld[ii]->PdgCode() == SelectCandidatesWithPdgCode ) ) {
      INew.Add( IOld[ii] );
    } else {
      notSelected++;
    }
  }
  return notSelected;
}
```

for pions from 10k events simulated with the rho tutorial and 1k events of psi(4040) to D0 anti-D0 / D+ D- and all D decays allowed.

In other words, the McTruthMatch gives results consistent with checking the McTruth Pdg info directly (at least for charged particles, I have not checked resonances).
