
Subject: Re: RhoError class in pandaroot
Posted by [Ralf Kliemt](#) on Tue, 03 Jun 2014 09:57:16 GMT
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Hi Elisabetta,

The RhoCandidate stores the 4-momentum and its covariance matrix in the coordinates of (px, py, pz, e). The covariance is a "RhoError" type, which inherits from TMatrixD. The diagonal elements contain σ^2 of the corresponding coordinate. If you want to get some error and pull distributions, you can do something like that:

```
for (j=0;j<muplus.GetLength();++j)
{
  TLorentzVector lv=muplus[j]->P4();
  RhoError lvCov=muplus[j]->P4Cov();
  hpullpx->Fill( ( lv.Px() - lvmc.Px() ) / sqrt( lvCov[0][0] ) );
  hpullpy->Fill( ( lv.Py() - lvmc.Py() ) / sqrt( lvCov[1][1] ) );
  hpullpz->Fill( ( lv.Pz() - lvmc.Pz() ) / sqrt( lvCov[2][2] ) );
  hpulle->Fill( ( lv.E() - lvmc.E() ) / sqrt( lvCov[3][3] ) );
}
```

If you need the other coordinates, you would have to convert that error matrix to those coordinates.

Cheers
Ralf
