Subject: Re: Problem with PndVertexFitter for particles with neutral charge
Posted by Ralf Kliemt on Fri, 29 May 2015 12:27:02 GMT
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Hi,

The vertex fitters (PndKinVtxFitter/PndKalmanVtxFitter) operate on a minimum of two charged tracks. For anything else you may use PndVtxPoca, which analytically calculates the vertex. From the top of my head:

```
PndVtxPoca pocafinder;
for (int j=0; j<lambda0.GetLength(); ++j)
{
  PndKinVtxFitter vertexfitterLambda0 (lambda0[j]);
  vertexfitterLambda0.Fit();
  RhoCandidate * lambda0Fit = lambda0[j]->GetFit();
  for (int j=0; j<antiLambda0.GetLength(); ++j)
  {
    PndKinVtxFitter vertexfitterAntiLambda0 (antiLambda0[j]);
    vertexfitterAntiLambda0.Fit();
    RhoCandidate * antiLambda0Fit = antiLambda0[j]->GetFit();

    TVector3 pbarpvertex;
    crossCheck.Combine(lambda0Fit, antiLambda0Fit);
    crossCheck.SetType(88888);

    double doca = pocafinderGetPocaVtx(pbarpvertex,crossCheck);
    // now you have a vertex written to pbarpvertex and a measure of the distances between the
trajectories (i.e. a quality criterium)
  }
}
```

If you have charged(!) particles combining to crossCheck, you may want to update the four-momentum along the helix to the vertex via the analysis:

```
bool check = theAnalysis->PropagateToPoint(crossCheck, pbarpvertex);
```

Cheers
Ralf