
Subject: Re: vertex reconstruction without fitting?
Posted by [Ralf Kliemt](#) on Fri, 07 Nov 2014 19:29:14 GMT
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Hello Anna,

This is quite straightforward and nothing special. You need to create a composite candidate with your part of the charged (!) final state particles. Then feed it to the fitter or POCA calculator, just as you "always do".

```
theAnalysis->FillList(muplus, "MuonAllPlus");
theAnalysis->FillList(muminus, "MuonAllMinus");

// *** combinatorics for J/psi -> mu+ mu-
jpsi.Combine(muplus, muminus);

// ***
// *** do VERTEX FIT (J/psi)
// ***
for (j=0;j<jpsi.GetLength();++j)
{
    PndKinVtxFitter vtxfitter(jpsi[j]); // instantiate a vertex fitter
    if( ! vtxfitter.Fit(); ) continue;

    double chi2_vtx = vtxfitter.GetChi2(); // access chi2 of fit
    double prob_vtx = vtxfitter.GetProb(); // access probability of fit
    RhoCandidate *jfit = jpsi[j]->GetFit(); // access the fitted cand
    TVector3 jVtx=jfit->Pos(); // and the decay vertex position
}
```

Cheers
Ralf
