Subject: Re: entries at unphysical mass after vertex fit
Posted by Jennifer Pütz on Mon, 17 Aug 2015 13:16:16 GMT
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Hi everyone,

I found the same probelm as Albrecht. I ploted the difference of the masses of the daughters before and after the fit and saw that they are not exact needles. So I had a closer look into the PndKinVtxFitter and found that the four-momentum of the dauhgters after the vertex fit is set to (p_vtx, E_vtx). p_tx and E_vtx are the 3-momentum-vector and the energy of the daughter particle comming out of the vertex fit.
But E_vtx is not taking the mass hypothesis of the dauhgter particle into account. So I replaced E_vtx with sqrt(p_vtx^2 + m^2). (This was already implemented in the code but commented out.)
After doing that, the unphysical masses for Lambda0 have disappeared and the mass differences show now exact needles (see attached files).

Best,

Jenny

File Attachments

1) Lambda0Mass_vtxfit_uncorrected.pdf, downloaded 740 times
2) Lambda0Mass_vtxfit_daughters_uncorrected.pdf, downloaded 635 times
3) Lambda0Mass_vtxfit_corrected.pdf, downloaded 668 times
4) Lambda0Mass_vtxfit_daughters_corrected.pdf, downloaded 627 times