Subject: Fitters and hyperons
Posted by Karin Schönning on Fri, 10 Mar 2017 12:36:23 GMT
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Dear Ralph et al.,

regarding vertex fitters, tree fitters and 4C fitters: which fitters assume outgoing tracks being helices? If I understood correctly:

1) The vertex fit assumes two outgoing helix trajectories
2) The tree fitter should treat both neutral and charged tracks but one needs to fix the masses of the intermediate states
3) The 4C fit assumes helices coming from the interaction point and should therefore not be used in any hyperon channel

Is this correct?

Kindest regards,
/Karin

Subject: Re: Fitters and hyperons
Posted by Ralf Kliemt on Mon, 13 Mar 2017 09:02:57 GMT
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Hi Karin,

I'll go by the numbers. However, I attached an overview (from back in 2014) on the fitters which you may find interesting.

1) Our Vertex fit is properly tested with min. two helices. Neutrals were just attached to the vertex, but not included in the fit. The addition of the neutrals in the PndKinVtxFit has to be re-checked.

2) The treefitter is prepared to fit neutrals as lines and charged particles as approximated lines (to be revisited) close to a pre-calculated vertex. Setting mass constraints of narrow states is favorable.

3) The 4C fit does not care about vertices. Every particle should have been propagated on its trajectory to its creation point. The 4C fit does only use the four-momenta of the final state particles. You can make a combined particle being treated as final state particle by using Lock().

Cheers!
Ralf

File Attachments

1) RhoFitterBase1.png, downloaded 865 times

RhoFitt