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Subject: Small positive chi2 values in PndKinFitter  
Posted by [Lu Cao](#) on Tue, 30 Apr 2013 09:13:35 GMT  
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Dear all,

In the simulation (#18621) of  $\bar{p} p \rightarrow D_s^+ D_s^-$ ;  $D_s^- \rightarrow K^+ K^- \pi^-$ ;  $D_s^+ \rightarrow \eta e^+ \nu_e$ ;  $\eta \rightarrow \pi^+ \pi^- \pi^0$ , I did the mass constraint fitting to the  $\pi^0$  candidates with PndKinFitter. All the chi2s are pretty small with the mean value of  $\sim 0.001$ . This also happens in the case of  $\eta$ .

I noticed the previous topic discussed by Albrecht about the negative and extremely small chi2 in PndKinVtxFitter.

<https://forum.gsi.de/index.php?t=tree&th=3385&start=0&rid=1979&S=7cee6febef5676d17dc9e3154e1269e2>

Considering the formula for chi2, the small values may be due to a large sigma in the denominator.

Does anybody have some solutions or hints to improve it?  
or is there any way else to understand this problem?

Thanks in advance.

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