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Subject: Problem with Invariant mass distribution of D0 and D\* candidates while using different tracking code

Posted by [Ajay Kumar](#) on Thu, 26 Mar 2015 15:40:16 GMT

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Dear All,

I have simulated  $10^4$  events for the signal channel  $p\bar{p} \rightarrow D^{*+} D^{*-} \rightarrow D0 \pi^+ D0\bar{\pi}^-$  while adding Lambda Disks to the rest detector system in the `sim_complete.C` macro. I have observed that with the ideal tracking code (i.e. `recoideal_complete.C`) D0 ( $K^- \pi^+$ ) and  $D^{*+}$  ( $D0 \pi^+$ ) are not reconstructed but with the global tracking code (`reco_complete.C`) are reconstructed well. I have attached the invariant mass plots here with both the tracking codes.

Without adding Lambda Disks both tracking code performed as expected. I did not understand what is issue with the ideal tracking code.

Why D0's are not well reconstructed with ideal tracking code while adding Lambda Disks to rest detector system?

Can anybody teach me in this regard ??

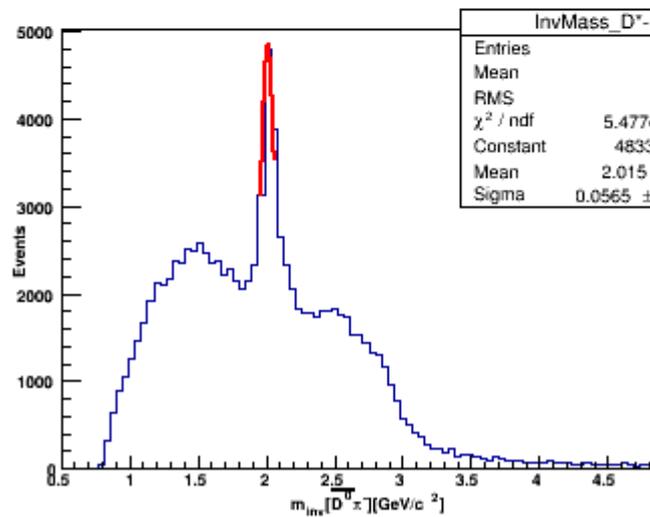
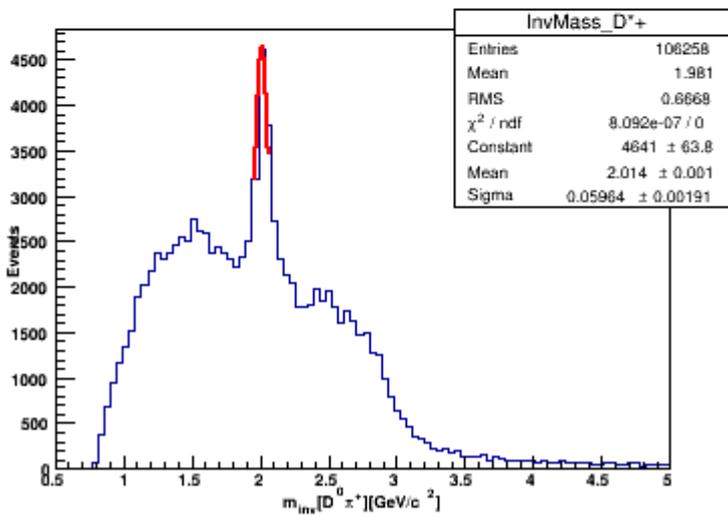
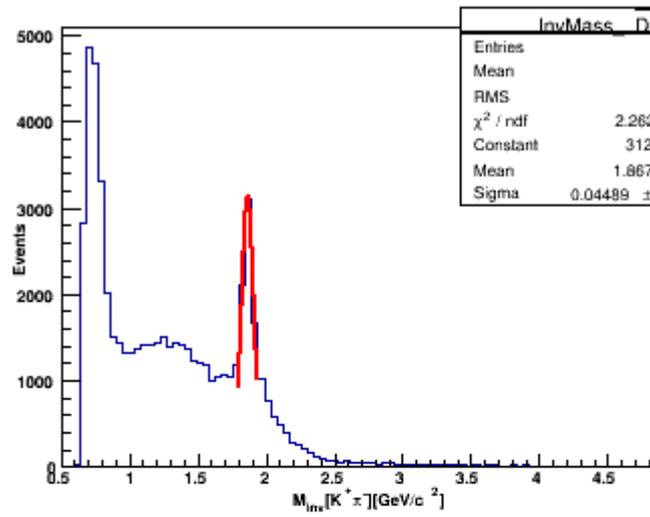
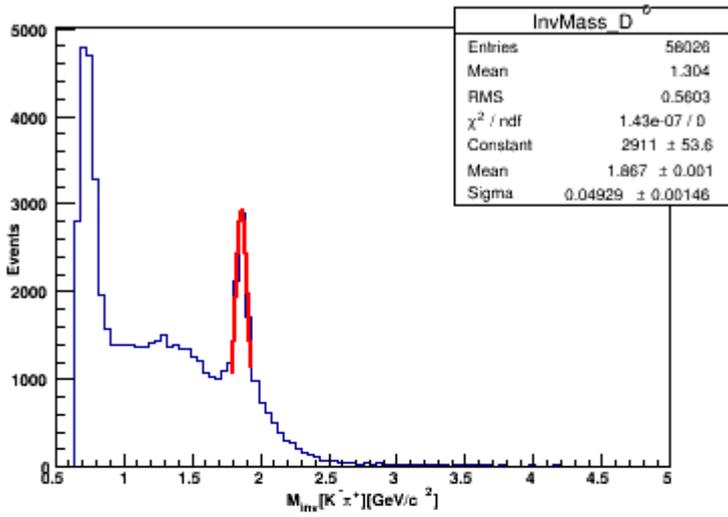
Thanks in advance

Ajay

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### File Attachments

1) [DstarPlus\\_DstarMinus\\_InvMass\\_GlobalTraking.png](#),  
downloaded 959 times



2) [DstarPlus\\_DstarMinus\\_InvMass\\_IdealTraking.png](#), downloaded 980 times

