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Subject: Finding true vertex position of mother particles.  
Posted by [donghee](#) on Mon, 20 Jun 2011 20:49:56 GMT  
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Hi pandausers,

I'm trying to see true vertex position for  $\psi(3770) \rightarrow D^+D^- \rightarrow K\pi\pi K\pi\pi$ .

I have PndMCtracks and I don't have mother vertex ID.

At gridka, the signal data didn't contain mother particle info. as I correctly understand.

Simply I have only 6 charged outgoing tracks with true 4-momentum.

From each three outgoing tracks, I can build intermediate state  $D^+$  or  $D^-$  and can find first  $D^+$  or  $D^-$  vertex position via.

Quote:

```
PndMCTrack *mctrack=(PndMCTrack*)mc_array->At(mc);  
TVector3 vertex = (TVector3)mctrack->GetStartVertex();
```

Then now, I want to provide the vertex position for  $\psi(3770)$  from 4-momentum and vertex position of  $D^+$  and  $D^-$ .

How can I get true vertex position only from PndMCtrack?

I assume that I need to build a TCandidate for true  $D^+$  and  $D^-$ , then I can get further mother decay.

Is there easy way to do with Rho package?

Thank you for your teaching....

Best wishes,  
Donghee