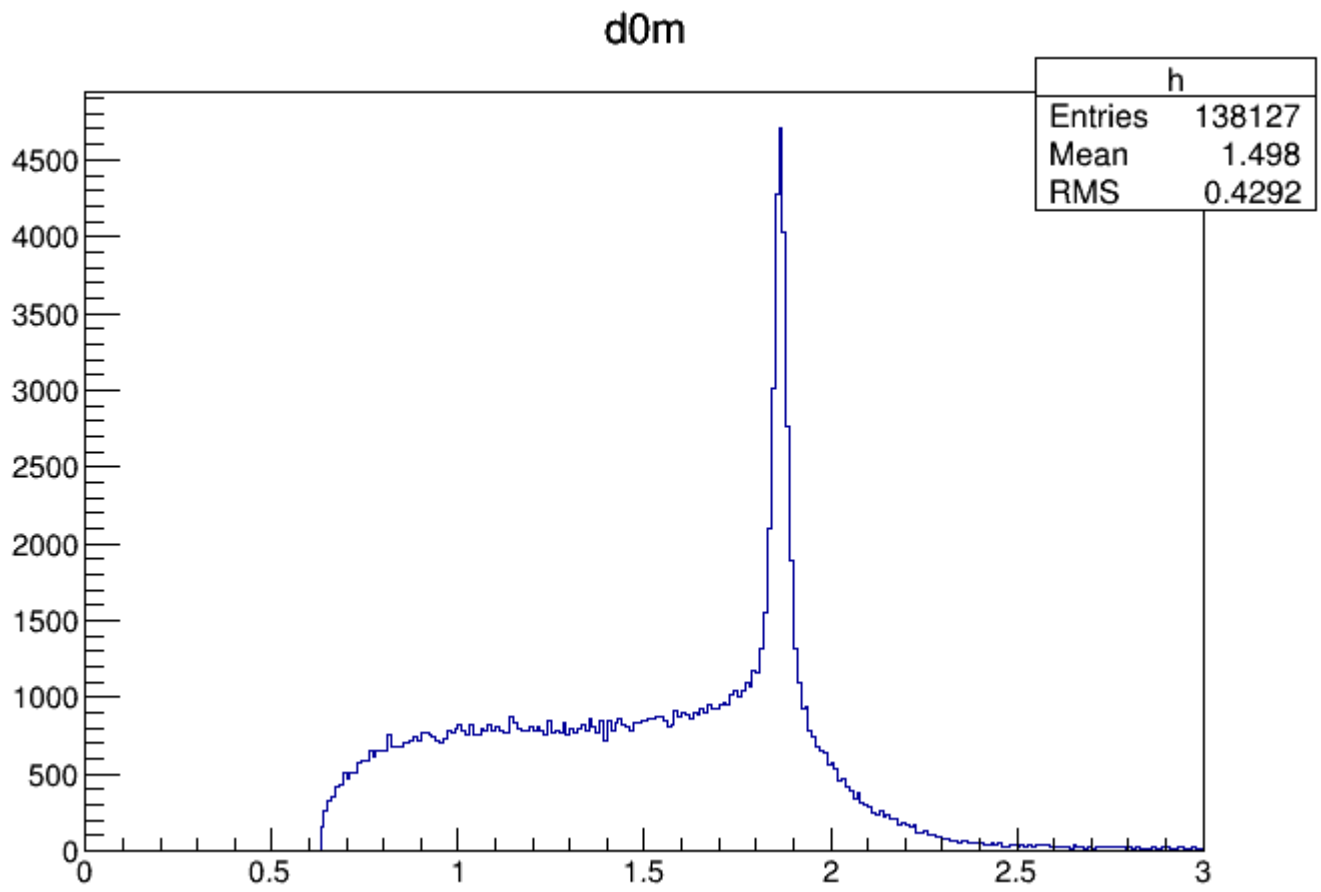
Subject: Try with no PID
Posted by Alexandros on Wed, 27 Sep 2017 07:48:17 GMT
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Hi,

This will be a long message.
I am trying to run simulation and analysis for the channel ppbar->D0D0bar->K-pi+K+pi-
I want to run this with no PID at all.
I am running this, and without using PID, i fill my list with 4 candidates(minus1, plus1, minus2, plus2) since I have 4 charged tracks.
I use the "KaonAllMinus", "PionAllPlus", "KaonAllPlus", "PionAllMinus" for my 4 candidates.
Now the problem I have is the following: I am running 35000 events with EvtGen. The possible combinations for the D0 without PID should be: K-pi+(the correct one) and K+pi-(the wrong one). There must not be other combinations since in the plot attached (Firstplot) you will see that there is a cut on the reconstructed mass at the limit of one pion and one kaon, thus no pi-pi+ and subsequently K-K+ are tried. In this way, I should get around 70000 (2 times the Kpi combinations) D0 mesons. What I get is 140000 events. So there is a double counting somewhere.
Now, I have also tried the same with "AllMinus", "AllPlus", "AllPlus", "AllMinus" for the minus1, plus1, plus2, minus2 candidates. There I would expect to have 4 times the combinations since besides the K-pi+ and the K+pi- now I also have pi-pi+ and k-k+..I can see that since the lower limit now is at the two pion masses and the number or reconstructed D0 is 4x35000 events.(Secondplot)
I have attached both plots and my analysis macro too.
Do you have any idea whether there is something wrong or whether I am doing something wrong?
Thank you in advance.
Alex

File Attachments

1) d0d0bar_analysis_last.C, downloaded 606 times
2) Firstplot.png, downloaded 1265 times



3) Secondplot.png, downloaded 1204 times

