Subject: Dalitz Decays of higher resonances.
Posted by Adrian Dybczak on Wed, 12 Oct 2011 16:54:15 GMT
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Dear Ingo

I tried to simulate Dalitz decay of higher resonances. I used macros prepared (mixed) by my self.
One can find it in attachment.
In this topic i propose to focus on one resonance N1520+ which is example.

After several tests i redeclared N1535 resonance in macro without using names from pluto.
This was only way to get "proper" result.
Names in macro
AddAlias("N1520+","N_star(1520)+");
Names in PLUTO
AddAlias("ND13+","N*(1520)+");
So there is no conflict.

What i wanted to check was:
1/. BR value for Dalitz Decay
2/. is dGamma/dM (Zetenyi/Wolf model) working.

Ad 1/. I drawed M_inv_pee from pp->pN1520->ppe+e- reaction

Then i drawed invariant mass of npi+ from pp->pN1520->pnpi+ reaction.

BR_NPi = 0.55 ; Clebsch_Gordan coeff. = 2/3.

so 4.048e-2/(0.55*0.66) = 0.11

now getting 5.36e-6/0.11 = 4.8e-5

What was assumed in macro as 5.0e-5

Ad 2/. dGamma/dM was only check via looking on display hile processing and various value of weight.

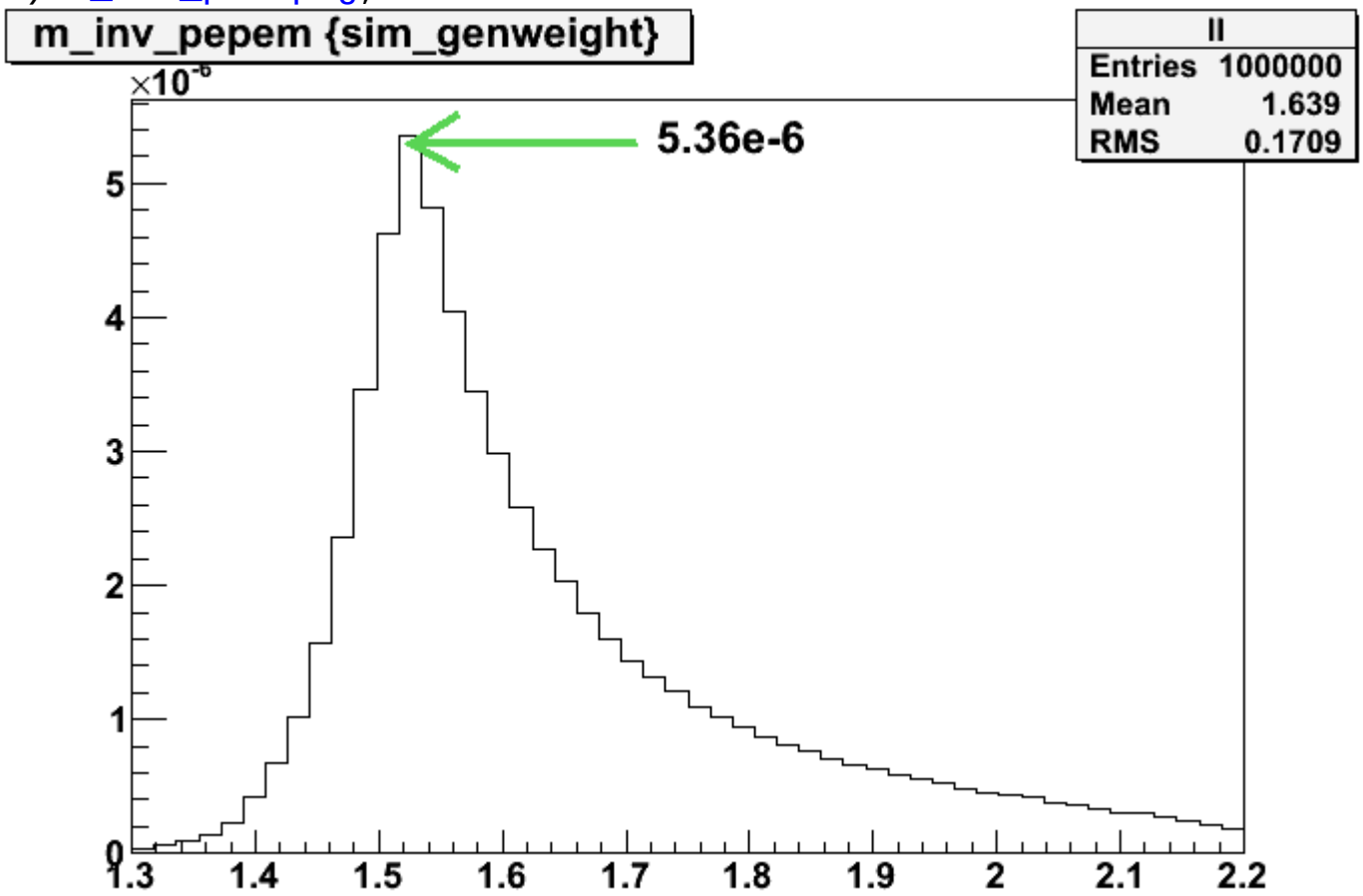
By the way below one can find distribution of weight.

It looks slightly different from D1232 weight distribution.

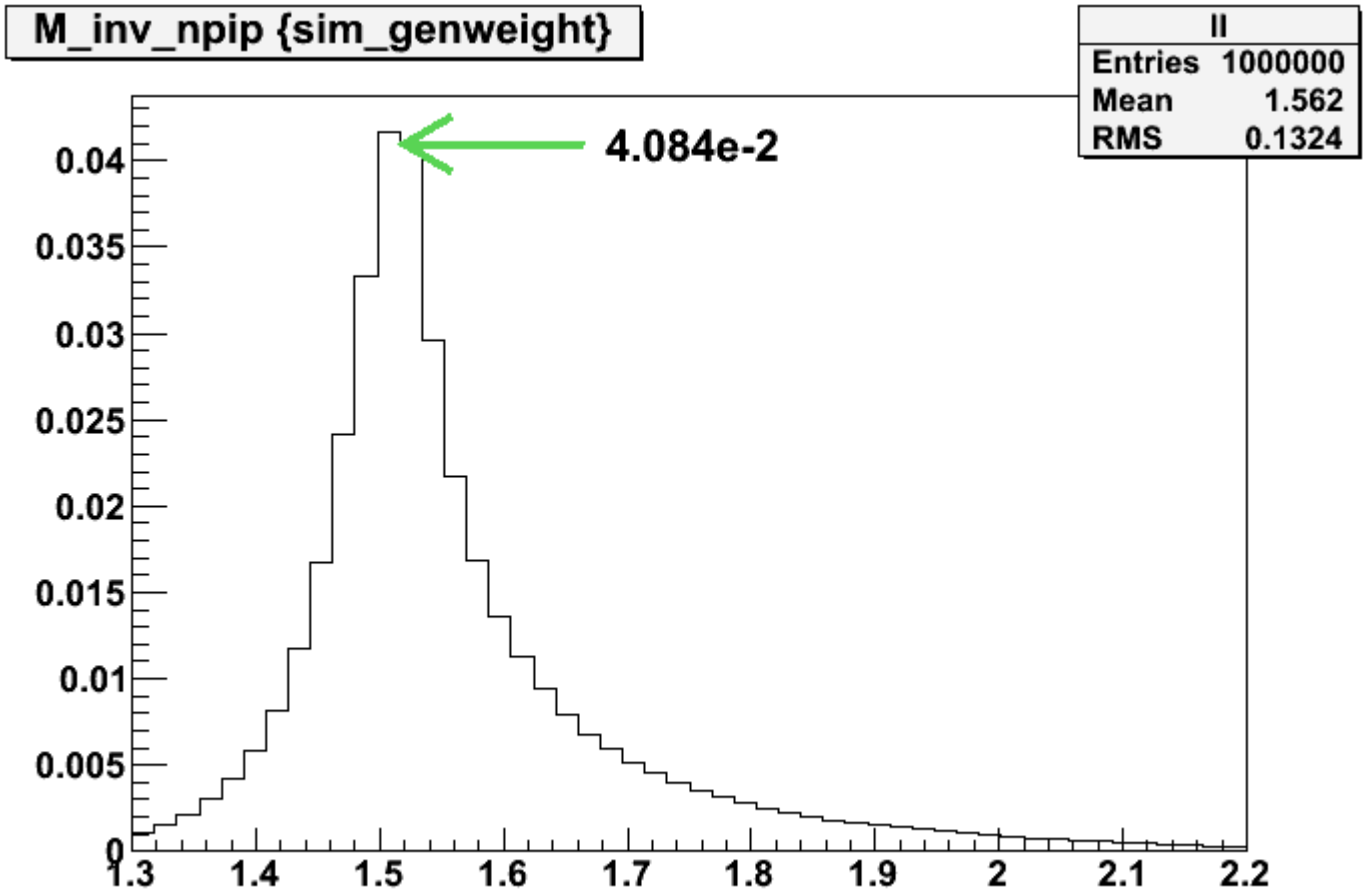
Ingo could you check this macro or provide new one which can be uses to simulate Dalitz

File Attachments

1) reaction.C, downloaded 711 times
2) m_inv_pee.png, downloaded 1740 times



3) m_inv_npip.png, downloaded 1889 times



4) weight.png, downloaded 1918 times

