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Subject: [SOLVED] PScatterCrossSection with pi0 decay  
Posted by [Michael Kunkel](#) on Sun, 19 May 2013 14:22:24 GMT  
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Greetings,

PLEASE DISREGARD THIS AND CONTINUE TO SECOND POST. Thanks.  
Original message:

I had noticed that the PScatterCrossSection method described by this first example fails to create a distribution if eta is replaced with pi0.

Can this be examined please?

Thanks  
Michael

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Subject: Re: PScatterCrossSection with pi0 decay  
Posted by [Michael Kunkel](#) on Tue, 21 May 2013 21:54:53 GMT  
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Here is a more in-depth explanation.

I have a script, pi0\_XSection.C, in which I ask PLUTO to sample the inputted histograms. For the sample provided, I ask only one c.m. energy and one histogram. I get a flat distribution in Cos(theta) instead of the inputted histogram. See figure 1.

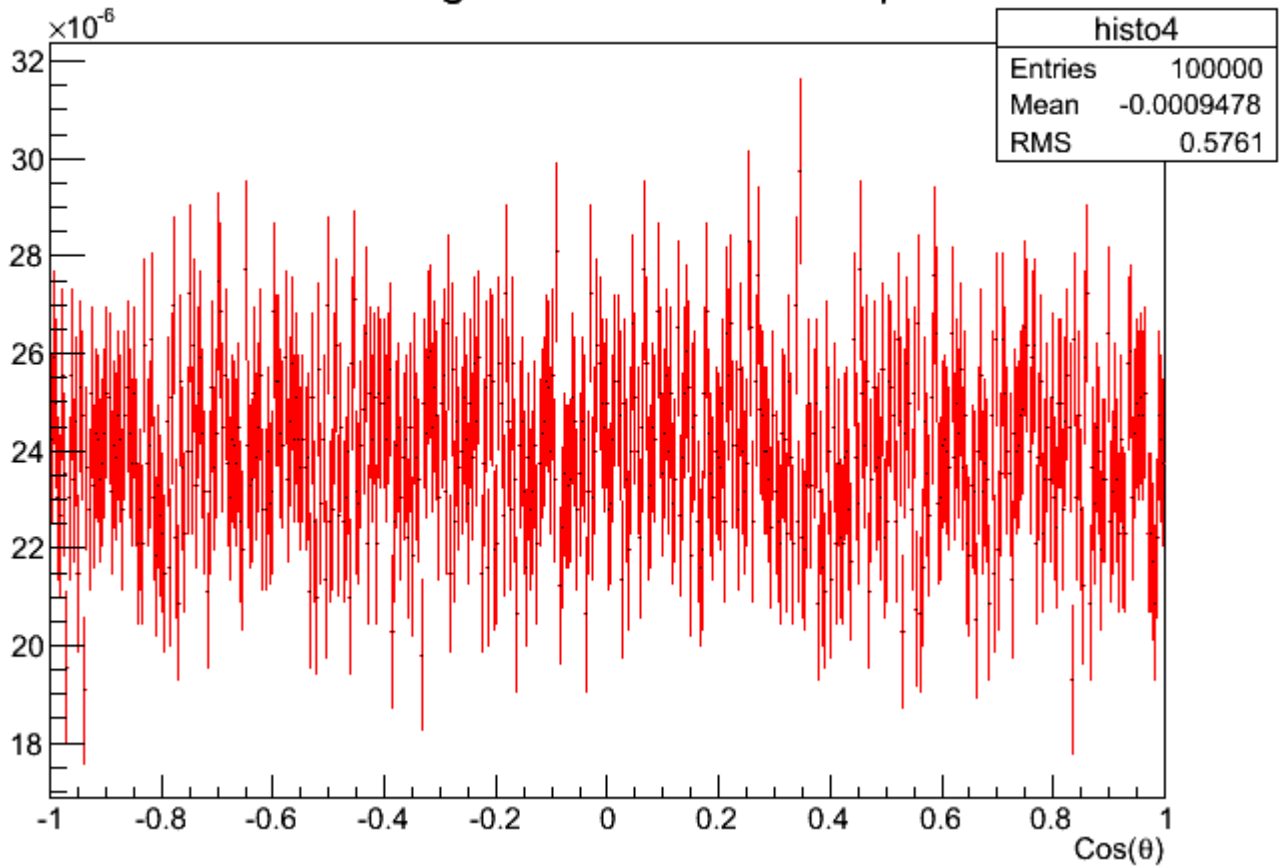
Then I change that macro for the case when I have known this procedure to work, eta (macro pi0\_maskEta\_XSection.C), and I run it. I get a topology similar to the inputted histogram. See figure 2.

Thanks  
Michael

### File Attachments

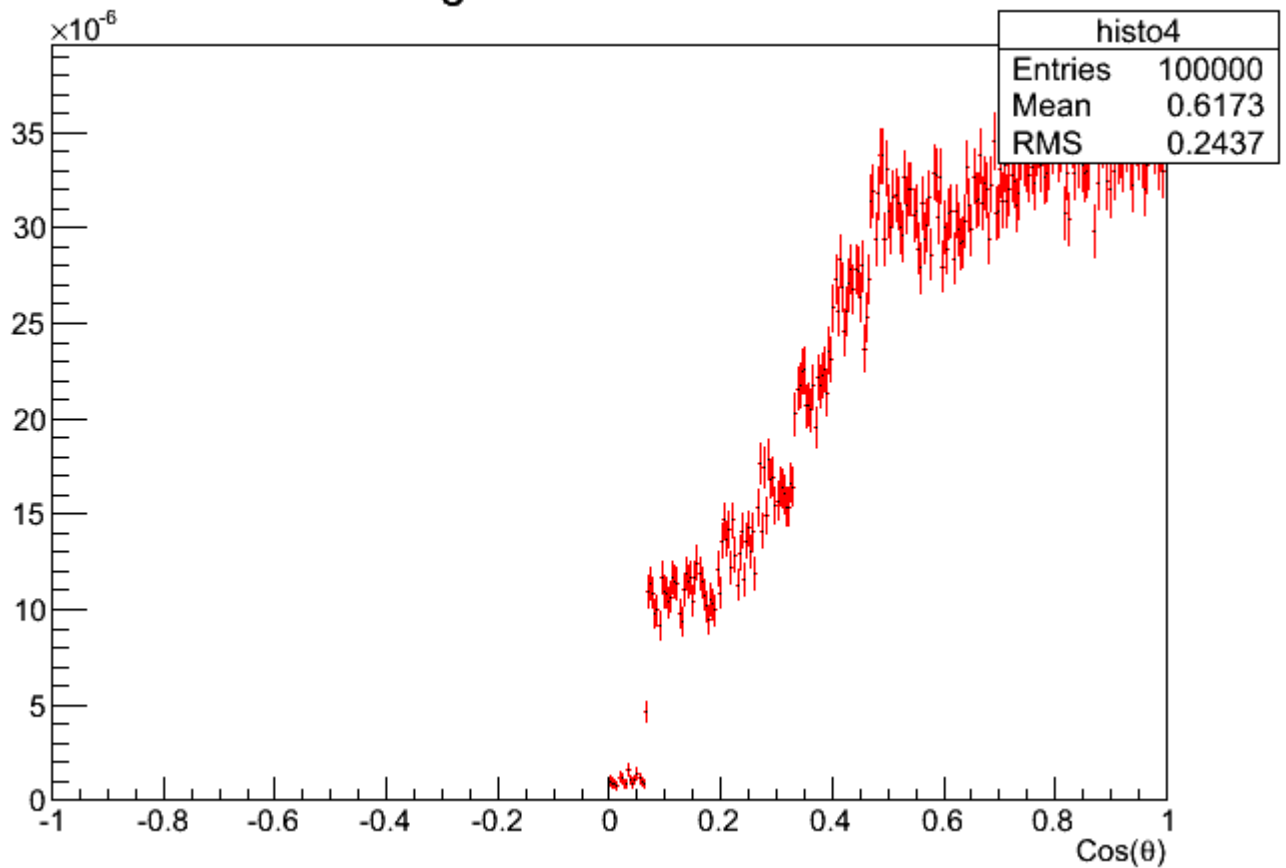
- 1) [PI0\\_Hists.root](#), downloaded 478 times
- 2) [pi0\\_XSection.C](#), downloaded 480 times
- 3) [pi0\\_maskEta\\_XSection.C](#), downloaded 508 times
- 4) [XSECTIO\\_GEN\\_PLOTSPLUTO\\_PI0\\_generated\\_cos\\_theta.png](#), downloaded 1285 times

# PLUTO generated c.m. Cos $\theta$ pi0



5) [XSECTION\\_GEN\\_PLOTSPLUTO\\_ETA\\_generated\\_cos\\_theta.png](#),  
downloaded 1210 times

## PLUTO generated c.m. Cos $\theta$ eta



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Subject: Re: PScatterCrossSection with pi0 decay  
Posted by [Ingo Fröhlich](#) on Wed, 22 May 2013 06:57:54 GMT  
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Remember the template:

```
PScatterCrossSection *model = new PScatterCrossSection("mymodel","My cross section");  
model->Add("g,grandparent,beam");  
model->Add("p,grandparent,target");  
model->Add("q,parent");  
model->Add("p,daughter");  
model->Add("eta,daughter,primary");
```

must match to the reaction:

```
PReaction my_reaction("_P1 = 2.2","g","p","p pi0 [dilepton [e+ e-]  
g]","pi0_dalitz_QEDFF",1,0,0,0);
```

one can see this very nicely when using Print(), the model "mymodel" must appear.

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Subject: Re: PScatterCrossSection with pi0 decay

Posted by [Michael Kunkel](#) on Wed, 22 May 2013 11:28:38 GMT  
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Sorry and thanks.

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