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Subject: Multipion with Event Mixing

Posted by [Elisa Fioravanti](#) on Sat, 10 Dec 2011 10:04:35 GMT

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Hello everybody,

I have analyzed the data produced on grid with event mixing on 2pions channel.

Please find here the results.

The reconstruction efficiency is about 30% against the 68% obtained on the data produced with the last version of code without event mixing,

best

Elisa

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### File Attachments

1) [2PiEventMixing.pdf](#), downloaded 461 times

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Subject: Re: Multipion with Event Mixing

Posted by [Elisa Fioravanti](#) on Sat, 10 Dec 2011 13:23:25 GMT

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Hello everybody,

sorry but in slide number 6 I wrong the efficiency:

the efficiency is 59.95%  
against 67.7% without event mixing,

sorry again for the error,

Elisa

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Subject: Re: Multipion with Event Mixing

Posted by [Elisa Fioravanti](#) on Mon, 12 Dec 2011 09:45:18 GMT

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Hello everybody,

here you can find the results also of  $\pi^+\pi^-\pi^+\pi^-$  with event mixing.  
I reported both  $\pi^+\pi^-$  and  $2(\pi^+\pi^-)$  channel.

As you can see in slide number 11, for the invariant mass of the four pions, the background level is huge, and so I think that one solution could be to fit the distribution with a gaussian function plus a polynomial function in order to take into account the background level.  
In this way I calculated the efficiency as number of signal events/ number of generated events, and the result is 13% against 30% without event mixing.

For the two pions channel we have a drop in efficiency from 69% to 60%.

Elisa

### File Attachments

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1) [Multipion12december.pdf](#), downloaded 466 times

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