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Subject: Re: MC Truth with EMC

Posted by [StefanoSpataro](#) on Thu, 26 Mar 2015 17:40:03 GMT

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Dear all,

I found last week that the EMC MC truth propagation had a logical problem, and I have (hopefully) fixed it.

Today i run as test pbarp -> pi+ pi- pi0 @ 4 GeV/c, checking the MC matching for the photons.

The following plots show, in linear and in log scale, the gamma-gamma invariant mass distribution for all the candidates (black), for the mc matched photons (blue), and for the matched photons coming from pi0.

From the plot I can argue that the MC matching works almost nicely, that the candidates are dominated by particles which are not photons, and that in the pi0 invariant mass there is still a low momentum tail. I could argue that the tail is coming from broken clusters (like between endcaps and barrel, or maybe problems of the clusterization, or maybe splitoffs).

I would be happy if somebody could take a look and try to understand what is going wrong.

#### File Attachments

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- 1) [pi0\\_lin.gif](#), downloaded 295 times
  - 2) [pi0\\_log.gif](#), downloaded 269 times
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