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Subject: Re: Mass calculation from vector<PndEmcDigi\*> in EMC

Posted by [Bertram Kopf](#) on Tue, 19 May 2009 15:18:03 GMT

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Dear Donghee,

the method "Double\_t PndEmcCluster::Mass() const" is helpful for the distinction between real photons and faked photons (e.g. merged pions). It calculates the so-called "invariant shower mass" of the cluster which is in principle a specific property for the description of the shower shape. For this, each fired crystal will be associated with a four vector (mass=0) and afterwards this function calculates the invariant mass of all theses four vectors. This is the reason for the iteration of the digis.

In case of a real photon one expects a shower mass around 0. For merged pi0's instead the shower mass is in general higher and expected to be close to the pi-mass.

Cheers,  
Bertram.

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