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

Posted by [donghee](#) on Tue, 19 May 2009 11:51:17 GMT

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Dear all,

I have a question about Mass function in PndEmcCluster using the list of PndEmcDigi. In this Function, a list of digitization in ONE cluster is called, and all stored digi iterate to build a momentum.

If I correctly understand now, a cluster has few digitization according certain space points, where is only covered region in one cluster. I cannot clearly understand why two or even more digitizations are needed to calculate momentum, how do they involve in one cluster? Could you explain about that? I just want to know the functionality of this digi list.

Thank you for your help in advance
Donghee Kang.

Quote:Double_t PndEmcCluster::Mass() const

```
00216 {
00217     Double_t mass;
00218     TVector3 clusterMomentum(0,0,0);
00219     vector<PndEmcDigi*>::const_iterator digi_iter;
00220     TVector3 digiDirection;
00221     Double_t digiEnergy;
00222     for (digi_iter=fDigiList.begin();digi_iter!=fDigiList.end();++digi_iter)
00223     {
00224         digiDirection=(*digi_iter)->where().Unit();
00225         digiEnergy=(*digi_iter)->GetEnergy();
00226         clusterMomentum=clusterMomentum+digiDirection*digiEnergy;
00227     }
00228
00229     Double_t clEnergy=energy();
00230
00231     mass=sqrt(clEnergy*clEnergy-clusterMomentum.Mag2());
00232
00233     return mass;
00234 }
```