
Subject: Access to clusters properties

Posted by [Ronald Kunne](#) on Tue, 10 May 2011 06:56:49 GMT

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Good morning!

I have two questions on access to clusters properties.

The PandaRoot version I use currently is 11787, dated 5/5/11.

Thanks in advance,
Ronald Kunne

1) What is the simplest way to access the contents of the individual crystals, that make up a cluster?

My goal is to distinguish between clusters consisting of one or two gammas, i.e. pizeros.

I would like to do something like this:

```
TString inPidTPCFile = "pid_tpccombi.root";
```

```
TFile *inFile = TFile::Open(inPidTPCFile,"READ");
```

```
TTree *lhe=(TTree *) inFile->Get("cbmsim") ;
```

...

```
TClonesArray* cluster_array=new TClonesArray("PndEmcCluster");
```

```
lhe->SetBranchAddress("EmcCluster",&cluster_array);
```

...

```
// loop over events
```

```
  NEvents=lhe->GetEntriesFast();
```

```
  for (Int_t j=0; j< NEvents ; j++){
```

```
    lhe->GetEntry(j); // kinematics
```

```
// loop over clusters
```

```
  Int_t nclusters= cluster_array->GetEntriesFast();
```

```
  for (Int_t nc = 0; nc < nclusters; nc++) {
```

```
    PndEmcCluster *cl = (PndEmcCluster *)cluster_array->At(nc);
```

```
// access to energy and moments of cluster
```

```
  Double_t Energy = cl->energy();
```

```
  Double_t Z20 = cl->Z20();
```

```
  Double_t Z53 = cl->Z53();
```

```
  Double_t LatMom = cl->LatMom();
```

```
// (hypothetical) loop over crystals in this cluster
```

```
  Int_t ncrystals= crystal_array->GetEntriesFast();
```

```
  for (Int_t nx = 0; nx < ncrystals; nx++) {
```

```
    ...etc...
```

```
  }
```

```
}
```

}

2) The above method gives me access to the moments Z20, Z53 and LatMom.
How do I get access to *all* the moments available in

/emc/EmcData/PndEmcXCIMoments.h ?
