Subject: Re: Bug in PndEmcHitProducer
Posted by Johan Messchendorp on Wed, 14 Apr 2010 20:05:43 GMT

Hi,

I tend to agree with Elwin. I did some tests with a simple program using a map simulating the code and indeed a first time call of the []-operator gives on all tested platforms nicely gives a zero. So, I also think that this cannot be a problem. The time issue is more nasty, but then again, if you don't use the time information in the analysis, it should not be a problem. So, honestly speaking, I cannot understand why the energy deposited using the PndEmcHitProducer should differ from looping over the points manually. The problem must be hidden somewhere else.

Mohammad A. pointed out to me another potential problem in the PndEmcHitProducer code related to the filling of the container of the hits:

```
Quote:// --------------------------------------------------------------------------- -
// -----   Private method AddDigi   ---------------------------------------------
PndEmcHit* PndEmcHitProducer::AddHit(Int_t trackID,Int_t detID, Float_t energy,
                     Float_t time, std::vector <Int_t> &mctruth)
{
  // It fills the PndEmcHit category

  //cout << "PndEmcHitProducer: track " << trackID << " evt " << eventID
  //<< " sec " << sec << " plane " << pla << " strip " << strip << "box
  //" << box << " tube " << tub << endl;
  TClonesArray& clref = *fDigiArray;
  Int_t size = clref.GetEntriesFast();
  return new(clref[size]) PndEmcHit(trackID, detID, energy, time, emcX[detID],
                      emcY[detID], emcZ[detID], mctruth);
}
// ----
```

Note that the TClonesArray is filled with an object which can have a variable vector size: mctruth! I don't know the details of TClonesArrays, but can one fill it with a dynamic array containing a std::vector <Int_t> ???? I guess that this mctruth propagation is also obsolete with the new code of Tobias. So, maybe we should remove it anyway...

Best wishes,

Johan.