Subject: Re: PndSttHitProducerRealFast() depends on event type?
Posted by donghee on Sat, 23 May 2009 14:41:17 GMT
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Dear all,

I would like to conclude my problem for STT class in pandaroot.
If you have some idea and suggestion, it would be very helpful.
I want to change TPC to STT mode, since the STT is planned to install as default detector system for central tracking.

Now, I explain again what my problem is for STT study.
In order to use STT detector I have introduced below line with correct geo metry in my Simulation "run" code, which you can also find in attached file, the name is test_run.C, To simply no interesting part took out, only STT part is used.

Quote:
```
FairDetector *Stt= new PndStt("STT", kTRUE);
Stt->SetGeometryFileName("straws_skewed_blocks_35cm_pipe.geo");
fRun->AddModule(Stt);
```

Then, I'm going to digi tasks with following line
Quote:
```
// -----   STT analysis tasks   -------------------------------------------
PndSttHitProducerRealFast* sttHitProducer = new PndSttHitProducerRealFast();
fRun->AddTask(sttHitProducer);

// trackfinding ....
PndSttTrackFinderIdeal* sttTrackFinder = new PndSttTrackFinderIdeal(1);
PndSttFindTracks* sttFindTracks = new PndSttFindTracks("Track Finder", "FairTask",
sttTrackFinder, 1);
sttFindTracks->AddHitCollectionName("STTHit", "STTPoint");
fRun->AddTask(sttFindTracks);
```

In this stage, the stt track finder cannot perform the tracking from porduced hit.
If you try to run test_digi.C, you can clearly see why the digitization is stopped.
This is not correlated geometry, because I exclude all other detector component to make a debug.
The problem is purely trackfinding of STT for my special event.
If I use this code with box generator, all process including run and digi can pass through at the end.
If I use TPC, the event can be reconstructed with TPC detectors.
Few event give some reasonable return values, for example,
Quote:
```
------------------------------------------------------
-I-         Ideal STT track finding            -I-
Hits: 53
MCTracks: total 5, accepted 2, reconstructable: 2
SttHits not found   : 0
```

SttPoints not found : 0
MCTracks not found : 0
SttTracks not found : 0

-I- PndSttHitProducerIdeal: 5 SttPoints, 5 Hits created.

You can also check this number from test_digi.C file at first and second event.
I want to know that if PndSttTrackFinderIdeal.cxx code check hit threshold or true MC
information, or if they don't find some expected number, do they return stop signal?
Also, I assume that STT class return the floating exception, when there are not enough hits,
thus they give up some kind of difficult tracking.
STT expert can give more infomation, when they can fail to calucalte in the
PndSttTrackFinderIdeal.cxx code.

I'm so sorry for inconvenient discussion.
This is my working environment.
Pandaroot v5476
Event : exclusive compton scattering with three outgoing particle (electron, photon, proton)

File Attachments
1) test_digi.C, downloaded 431 times
2) test_run.C, downloaded 446 times
3) test_3.txt, downloaded 440 times