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Subject: Getting Hits by detectors registered in the output root file  
Posted by [Raghav Kunnawalkam](#) on Thu, 26 Apr 2012 20:47:00 GMT  
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Hi All

As a lot of you know by now, i am working towards getting a working model of the EIC detector. I have the geometry all constructed properly and i am also seeing (in the event display) showers and collisions and every thing else.

But the one thing i am not seeing is anything inside my root files, specifically my branch FairFgtDetPoint has no data inside the leaves. Let me explain clearly.

For simplicity i will just take one detector from my EIC and work on it, FGT (Forward Gem Tracker).

If i build it fully here is the number of nodes and the volume.

Info in <TGeoManager::Voxelize>: Voxelizing...

Info in <TGeoManager::CloseGeometry>: Building cache...

Info in <TGeoManager::CloseGeometry>: 28 nodes/ 9 volume UID's in FAIR geometry

Info in <TGeoManager::CloseGeometry>: -----modeler ready-----

and this is what it looks like

Now i will show you how the root file looks like

You can see that there is nothing inside my leaves in the root file.

For this particular FGT here is part of the geometry file:

```
//*****  
fgt01FGGD#1  
cave  
TUBE  
air  
0.000000 0.000000 -7.500000  
301.000000 810.000000  
0.000000 0.000000 7.500000  
0.000000 0.000000 1415.000000  
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000  
//*****  
fgt01FGGD#2  
cave  
0.000000 0.000000 1515.000000  
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000  
//*****  
fgt01FGGD#3  
cave  
0.000000 0.000000 1615.000000  
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000  
//changed FGT_FR4 to FGT_kapton  
fgt01FGGF#1
```

```

fgt01FGGD#1
TUBE
FGT_kapton
0.000000 0.000000 -0.125000
301.000000 810.000000
0.000000 0.000000 0.125000
0.000000 0.000000 -7.375000
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000
....

```

In order to get something in my root file, i tried to make it even simpler and built just one disc. I find that if first volume (fgt01FGGD#1) is made of air, then no matter how many nodes of other volumes i add to my fgt detector, i am not getting anything in my root file. But if i make it with silicon for example, then i am seeing data in the output file.

This is very puzzling to me.

Another place in my EMLF detector, i have more than 9900 nodes and they all look the same except different positions in space. So i have them defined as

```

emlf01box#1
cave
BOX
PWO
15.000000 -15.000000 -400.000000
15.000000 15.000000 -400.000000
-15.000000 15.000000 -400.000000
-15.000000 -15.000000 -400.000000
15.000000 -15.000000 400.000000
15.000000 15.000000 400.000000
-15.000000 15.000000 400.000000
-15.000000 -15.000000 400.000000

-1485.000000 -1485.000000 3601.000000
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000
//*****
emlf01box#2
cave
-1485.000000 -1455.000000 3601.000000
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000
//*****
emlf01box#3
cave
-1485.000000 -1425.000000 3601.000000
1.000000 0.000000 0.000000 0.000000 1.000000 0.000000 0.000000 0.000000 1.000000
....

```

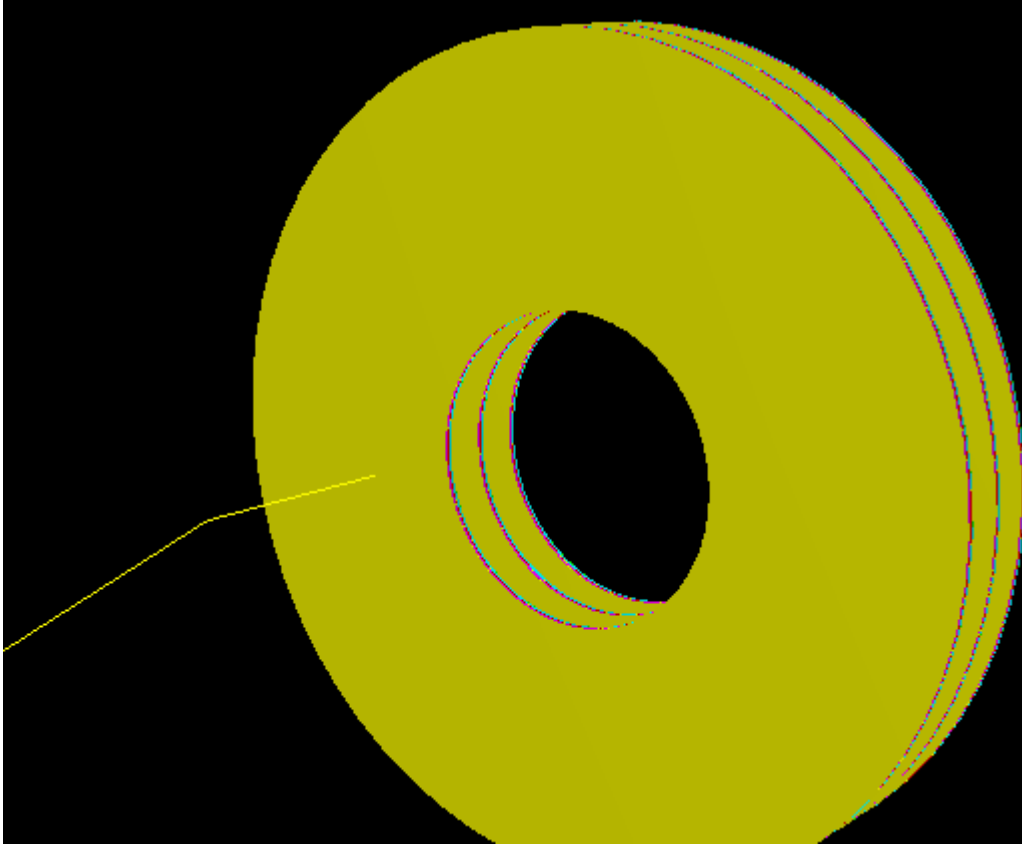
Here also i am facing the same problem. I am not able to register any hits in the root file, but i can see the shower that particles create on striking the detector.

Any help will be much appreciated

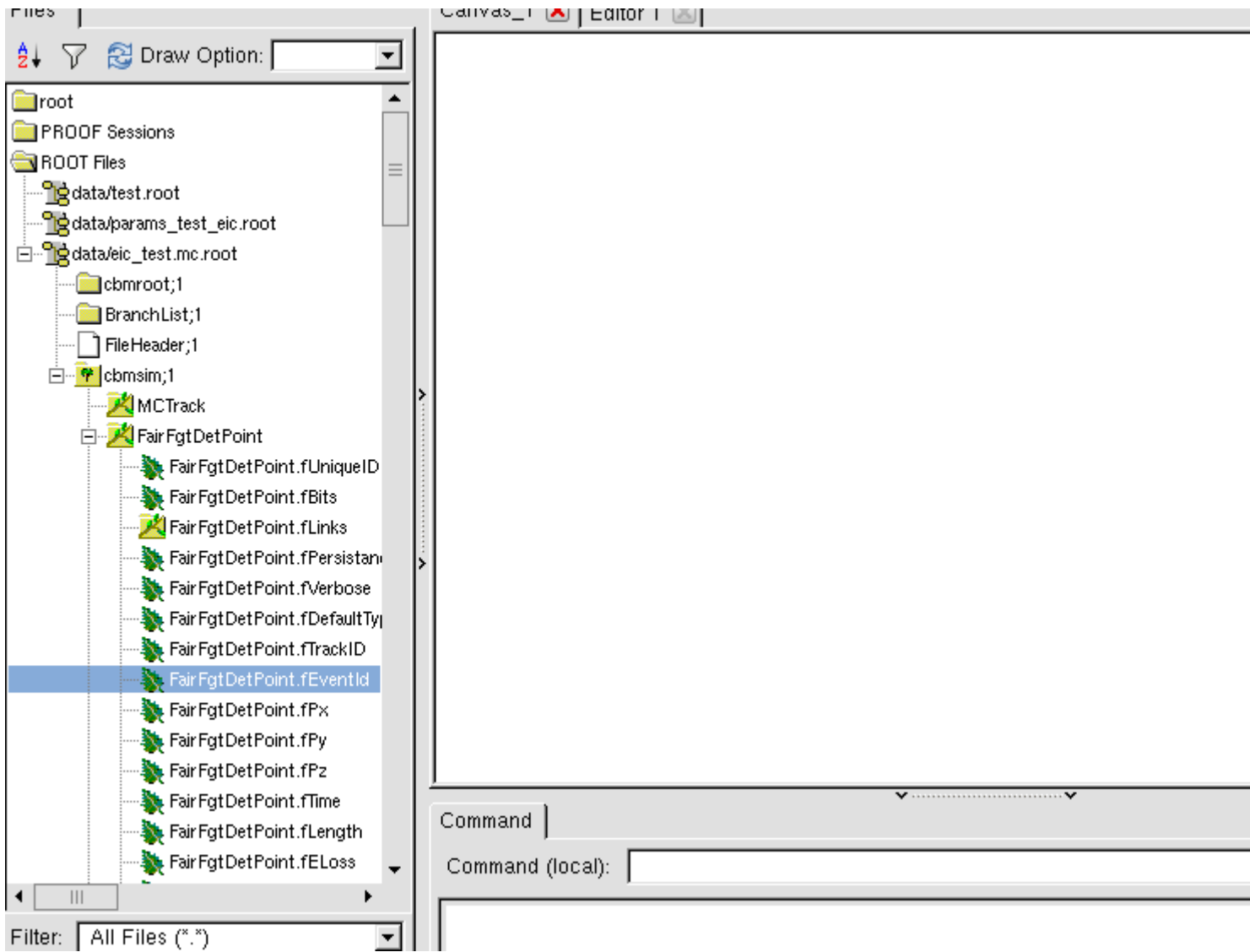
Cheers  
Raghav

### File Attachments

1) [Screen Shot 2012-04-26 at 4.06.14 PM.png](#), downloaded 1163 times



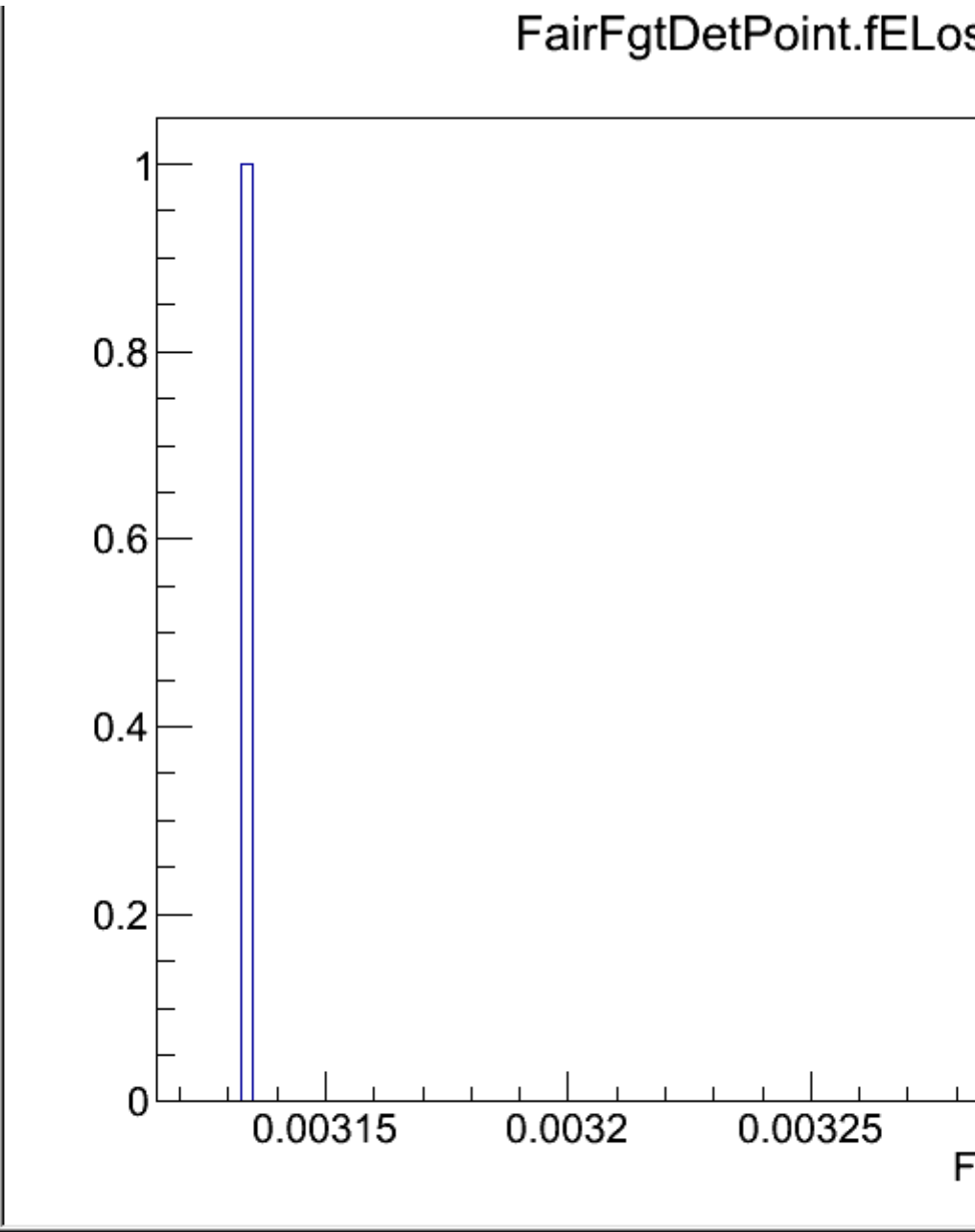
2) [Screen Shot 2012-04-26 at 4.07.34 PM.png](#), downloaded 1105 times



3) [Screen Shot 2012-04-26 at 4.45.26 PM.png](#), downloaded 1131 times

Draw Option: [v]

- oot
- ROOT Sessions
- ROOT Files
  - /Users/raghav/fairroot/example/eicroot/s
    - cbmroot;1
    - BranchList;1
    - FileHeader;1
    - cbmsim
      - MCTrack
      - Fair Fgt Det Point
        - Fair Fgt Det Point.fUniqueID
        - Fair Fgt Det Point.fBits
        - Fair Fgt Det Point.fLinks
        - Fair Fgt Det Point.fPersistan
        - Fair Fgt Det Point.fVerbose
        - Fair Fgt Det Point.fDefaultTy
        - Fair Fgt Det Point.fTrackID
        - Fair Fgt Det Point.fEventId
        - Fair Fgt Det Point.fPx
        - Fair Fgt Det Point.fPy
        - Fair Fgt Det Point.fPz
        - Fair Fgt Det Point.fTime
        - Fair Fgt Det Point.fLength
        - Fair Fgt Det Point.fELoss
        - Fair Fgt Det Point.fDetectorI
        - Fair Fgt Det Point.fX
        - Fair Fgt Det Point.fY
        - Fair Fgt Det Point.fZ
        - Fair Fgt Det Point.fRadius
        - Fair Fgt Det Point.fPhi
        - Fair Fgt Det Point.fTheta
        - GetEventID()
        - GetEnergyLoss()
        - GetNLinks()
        - @size
      - MCEventHeader.
      - GeoTracks



Command [v]

Command (local): [ ]