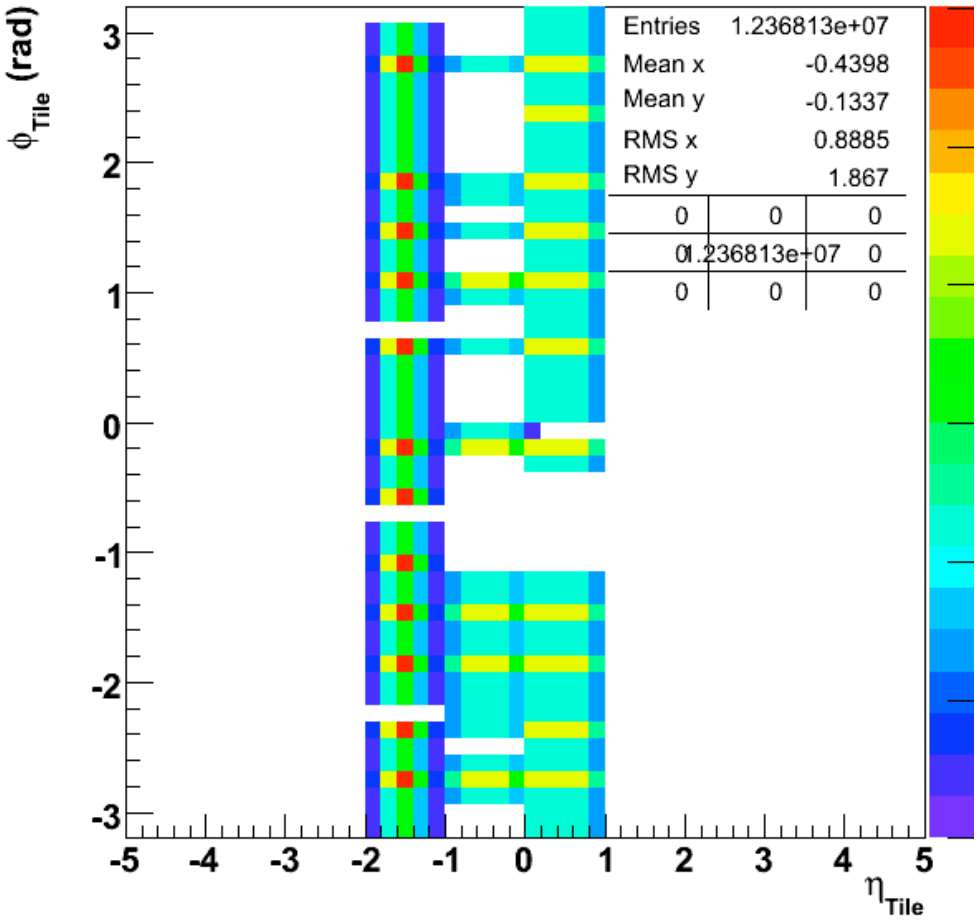
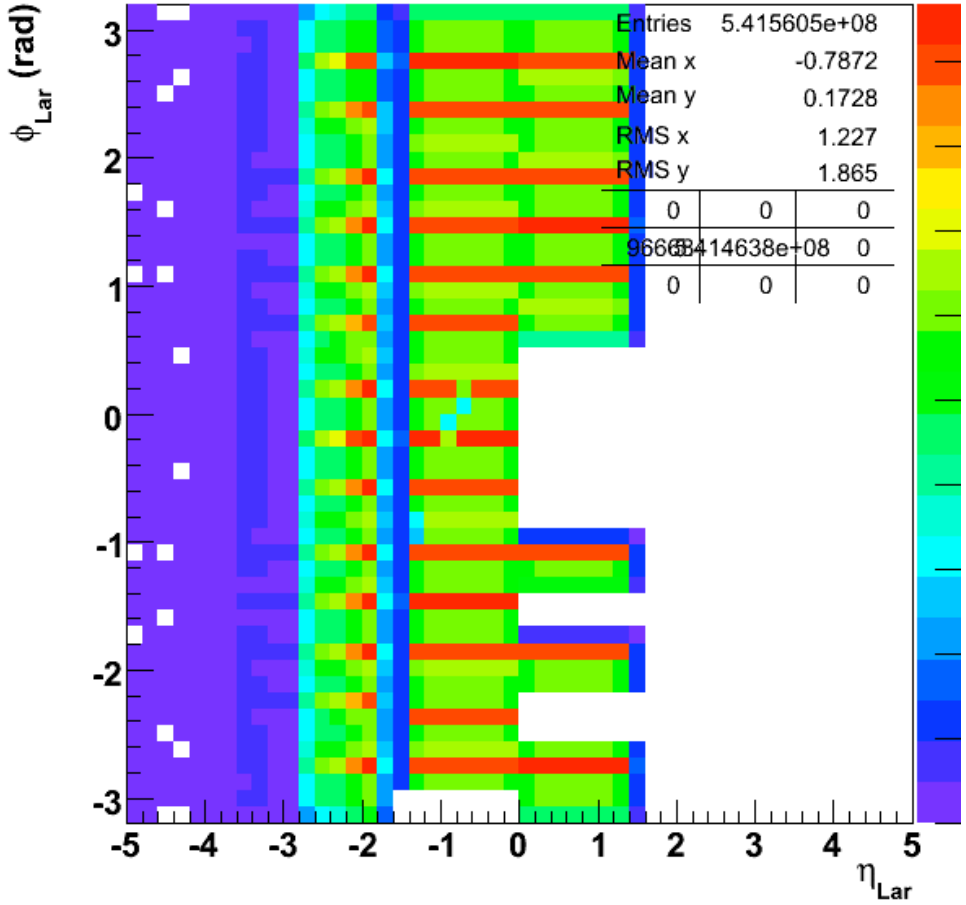
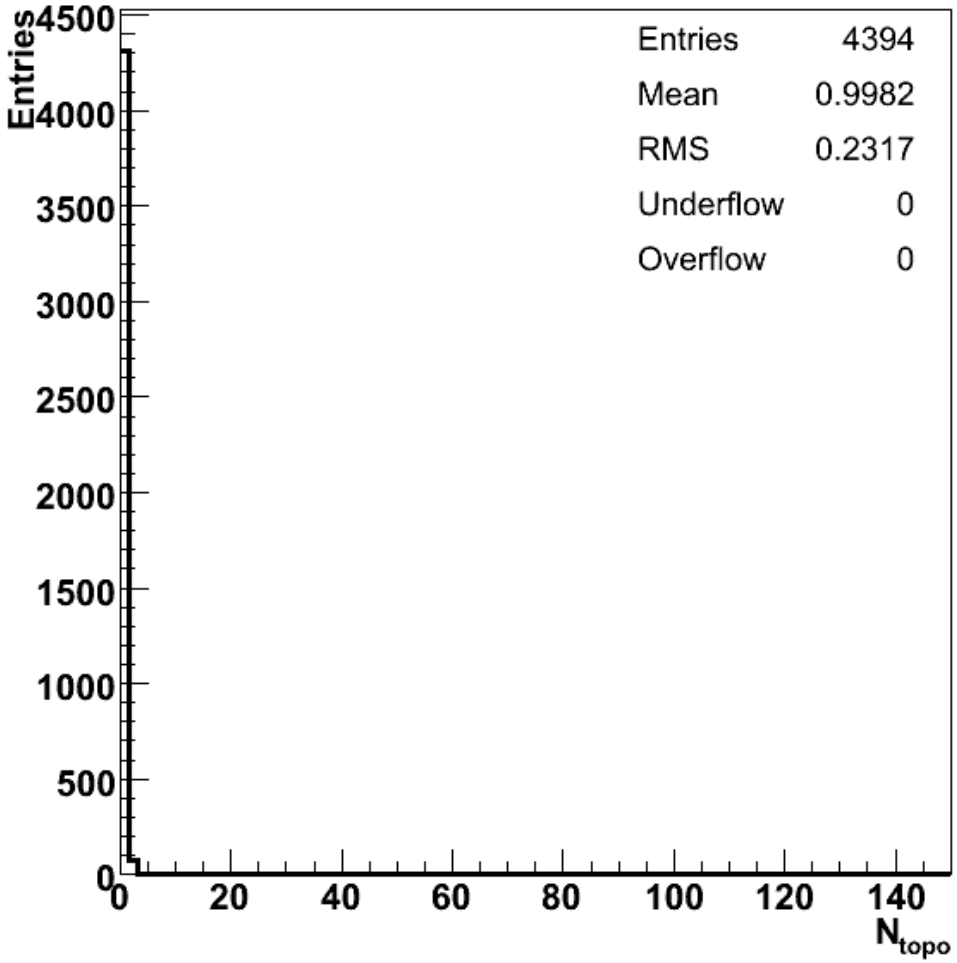
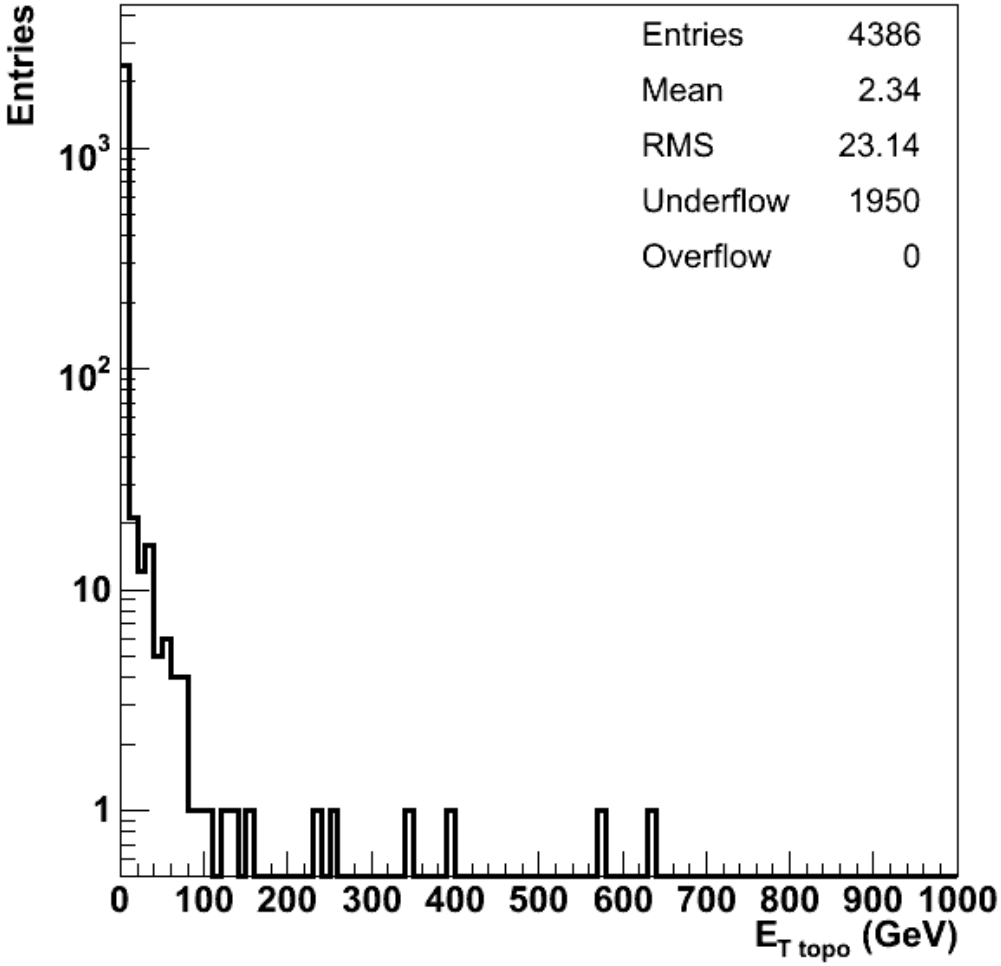
- Used CBNTAA available at CERN
  - /castor/cern.ch/grid/atlas/t0/perm/M5cosmics/
    - Use Run 28940. Picked up from list of good calo runs
      - M5.0028940.Default.L1TT-b00000101.CBNT.v13003008.*
    - Have looked into a bunch of other runs with Tile trigger and data behavior seems similar
    - Here we show a selection of plots. More at
      - http://www-wisconsin.cern.ch/~bmellado/M5_plots
- Have developed tools to do the analysis on GLOW based on data moved from BNL
  - Have breakdown of hardware in one of crucial servers. At this point data replication is stalled
    - Have understood a candidate reason for low data transfer throughput


Entries 1.236813e+07
Mean x -0.4398
Mean y -0.1337
RMS x 0.8885
RMS y 1.867
0 0 0
0 1.236813e+07 0
0 0 0
ϕ_{Tile} (rad)
η_{Tile}

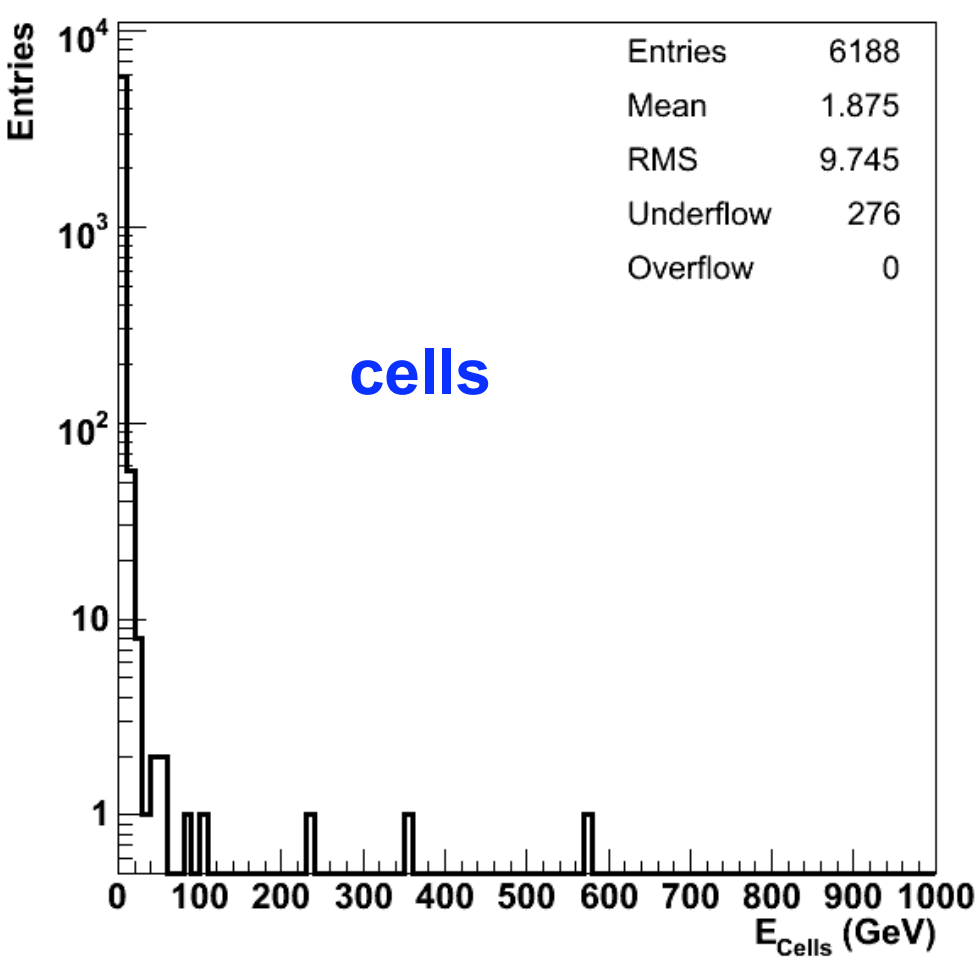

Entries 5.415605e+08
Mean x -0.7872
Mean y 0.1728
RMS x 1.227
RMS y 1.865
0 0 0
0 5.414638e+08 0
0 0 0
ϕ_{Lar} (rad)
η_{Lar}

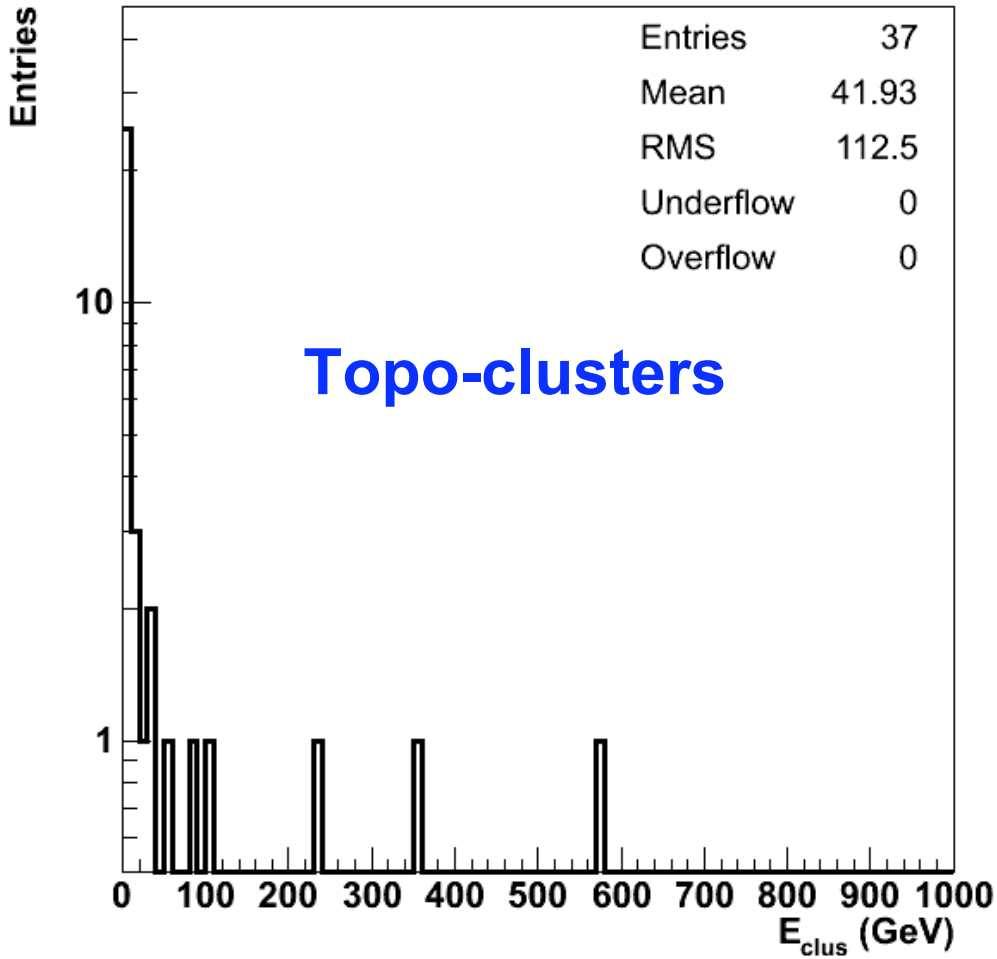
- It looks like a very high threshold has been set on the topo-clusters running on the TileCal





Energy of cells and topo-clusters within a cone 0.3 of a NTileMuonTag candidate





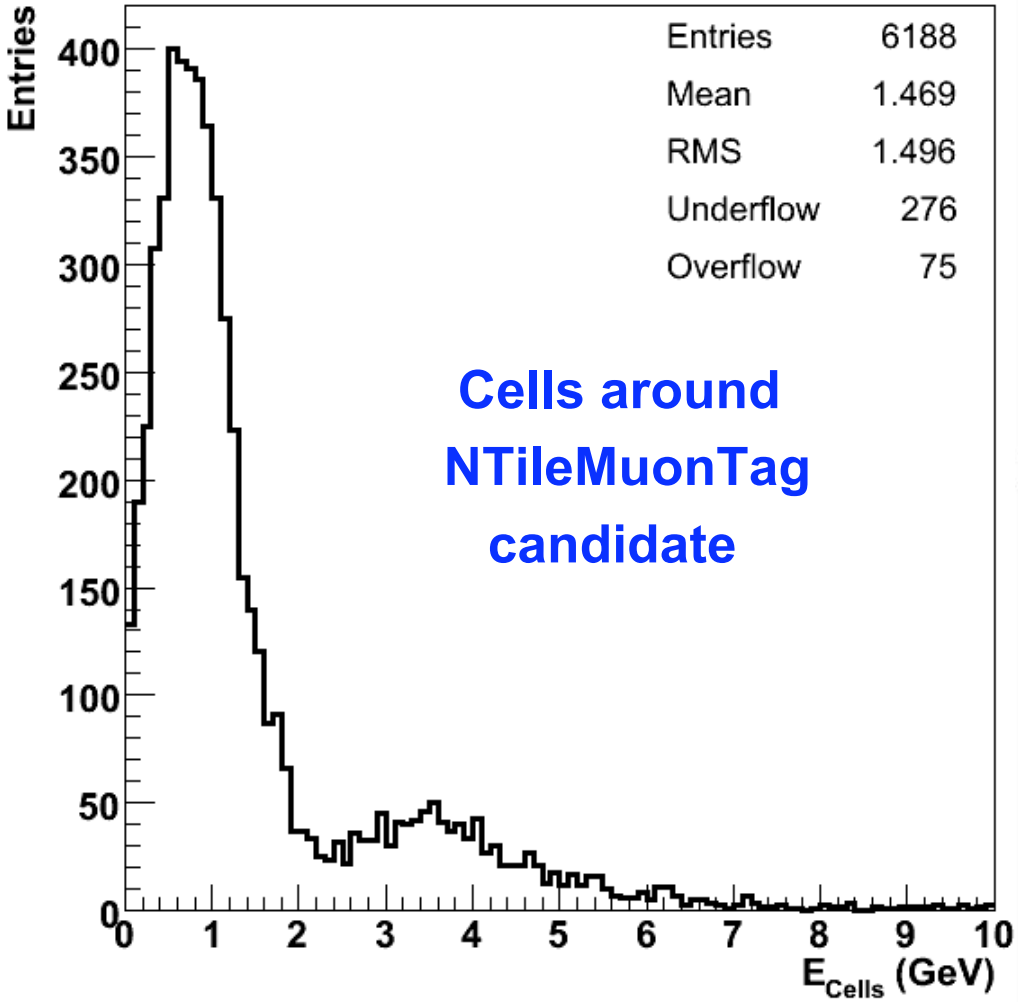
- **Sasha explained how the two Tilemuon algorithm work. This has helped understanding the low tilecal muon finding efficiency**
  - **Eric Fang has also been very helpful**

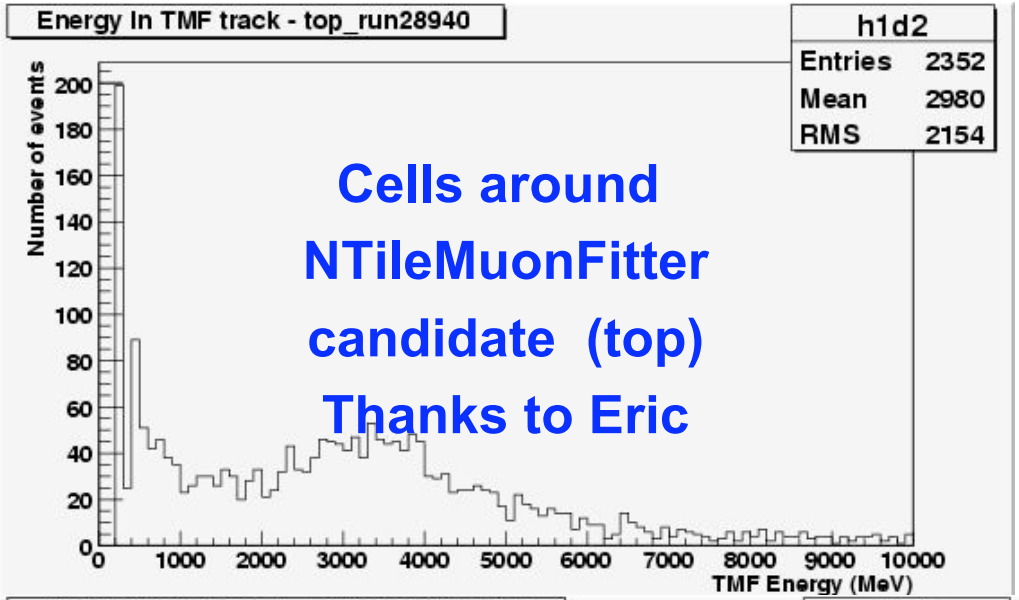
Hello, Bruce

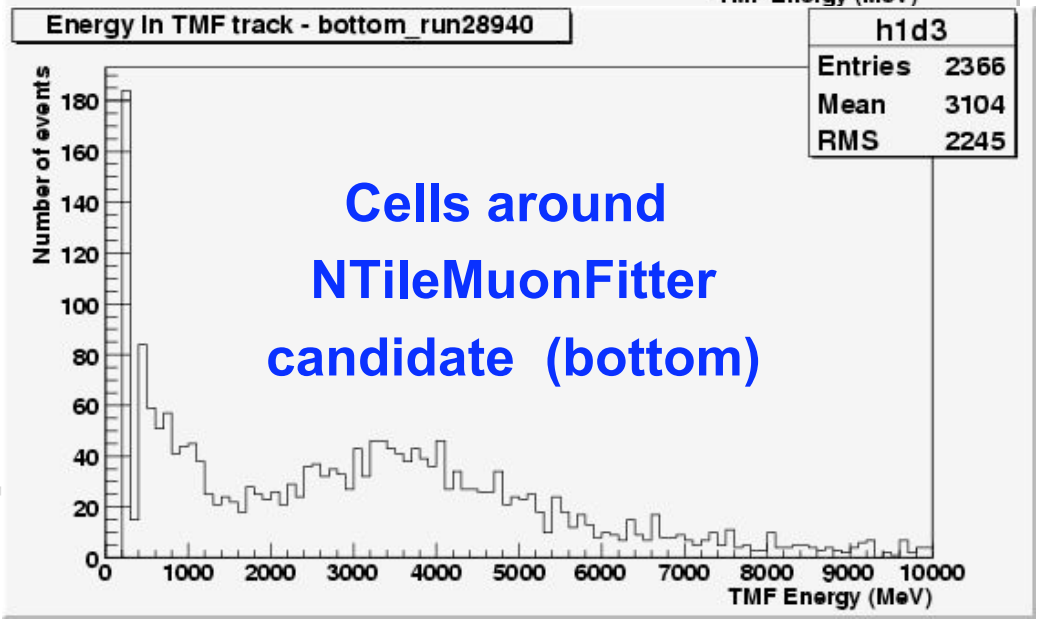
TileMuId works only for projective muons, so efficiency can be quite low
And for cosmic muons we have another algorithm - TileMuonFitter
developed by Jose Maneira.
It provides real direction of possible muon candidate.
This info is available in CBNT as well, Jose or Joao can provide more details

Both algorithms - TileMuId and TileMuonFitter can fail if we have bad/noisy channels. We are trying to mask those bad channels when we see them and the latest bad channel list was collected to AtlasPoint1 last night.
We masked two additional bad channels.

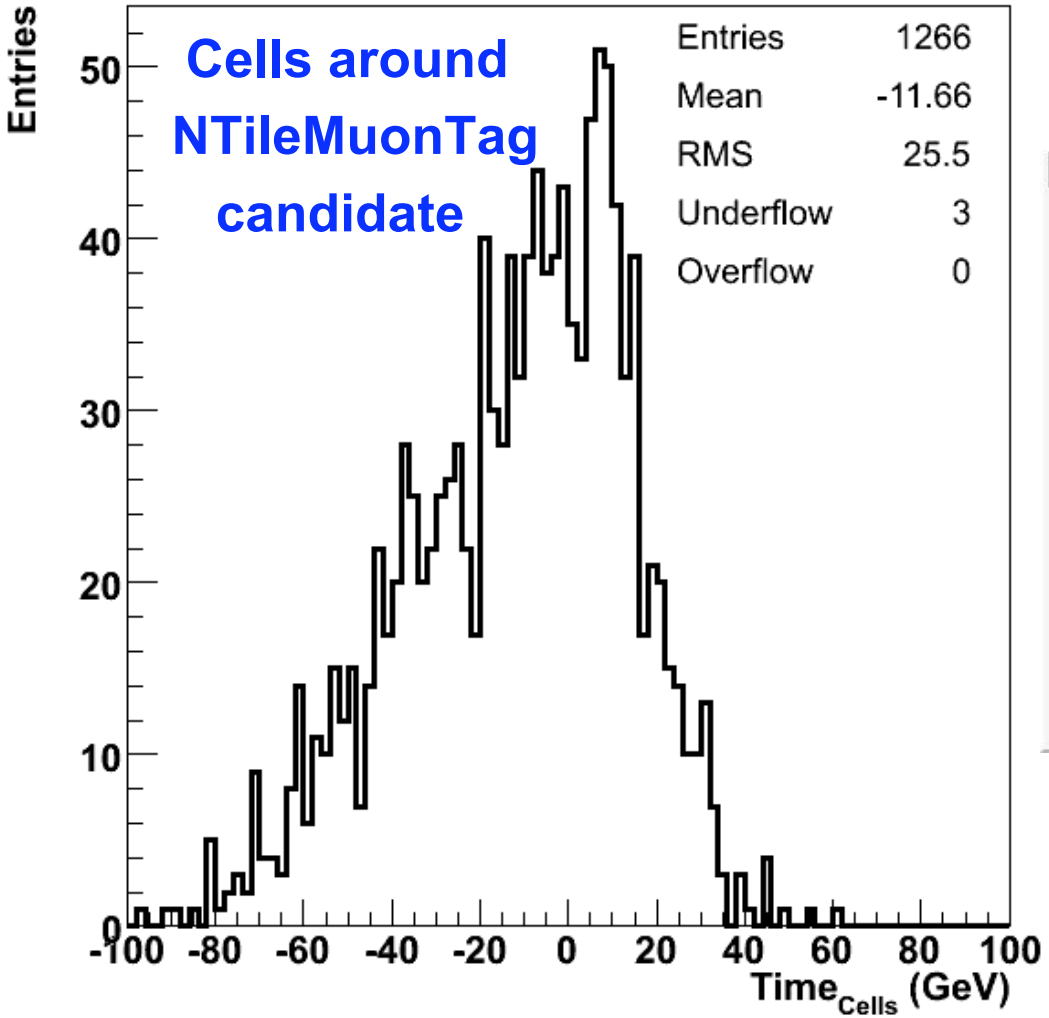
Cheers, Sasha


Entries
Entries 6188
Mean 1.469
RMS 1.496
Underflow 276
Overflow 75
Cells around NTileMuonTag candidate
E_{Cells} (GeV)


Energy In TMF track - top_run28940
h1d2
Entries 2352
Mean 2980
RMS 2154
Number of events
Cells around NTileMuonFitter candidate (top) Thanks to Eric
TMF Energy (MeV)


Energy In TMF track - bottom_run28940
h1d3
Entries 2366
Mean 3104
RMS 2245
Number of events
Cells around NTileMuonFitter candidate (bottom)
TMF Energy (MeV)

Started looking into timing



Cells around
NTileMuonFitter
candidate