HCAL Analysis

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Introduction

- CMS has mid week global run (MWGR)
- Real Global runs will come out October or November.
  - Cosmic data, noise data…
- For the moment we are analysing global runs to produce rechit for HB, HE and HF.

Some news from HCAL operation meeting

https://indico.cern.ch/event/337866/contribution/1/material/slides/0.pdf

Schedule

- MWGR6 cancelled because Thursday and Friday September 11th, 12th are holiday – Bank Holiday .
- For MWGR7, there will be testing about µTCA (Micro Telecommunication and Computing Architecture)
  - Now HCAL back-end (VME based system) does not support high bandwidth for global DAQ
  - µTCA based system will provide more accessible environment and high bandwidth for global DAQ in the CMS experiment.(http://indico.cern.ch/event/246374/session/16/contribution/26/material/slides/1.pdf)

Longer term plans

This is **my understanding** of the milestones:

- ~Mid November - Finish CRAFT and start reopening
- ... pixel installation
- ~10 Feb 2015 – CMS is closed again. Start pump down the beampipe
- 1 March 2015 – ready for beam
- ~15 March 2015 – beam circulation

Data information

- We analyzed cosmic data
  - /store/data/Commissioning2014/Cosmics/RECO/PromptReco-v2/000/224/506/00000/647BDDE3-D71E-E411-8982-02163E008CFF.root

  Run number= 224506 (MWGR3 (2014.08.01))

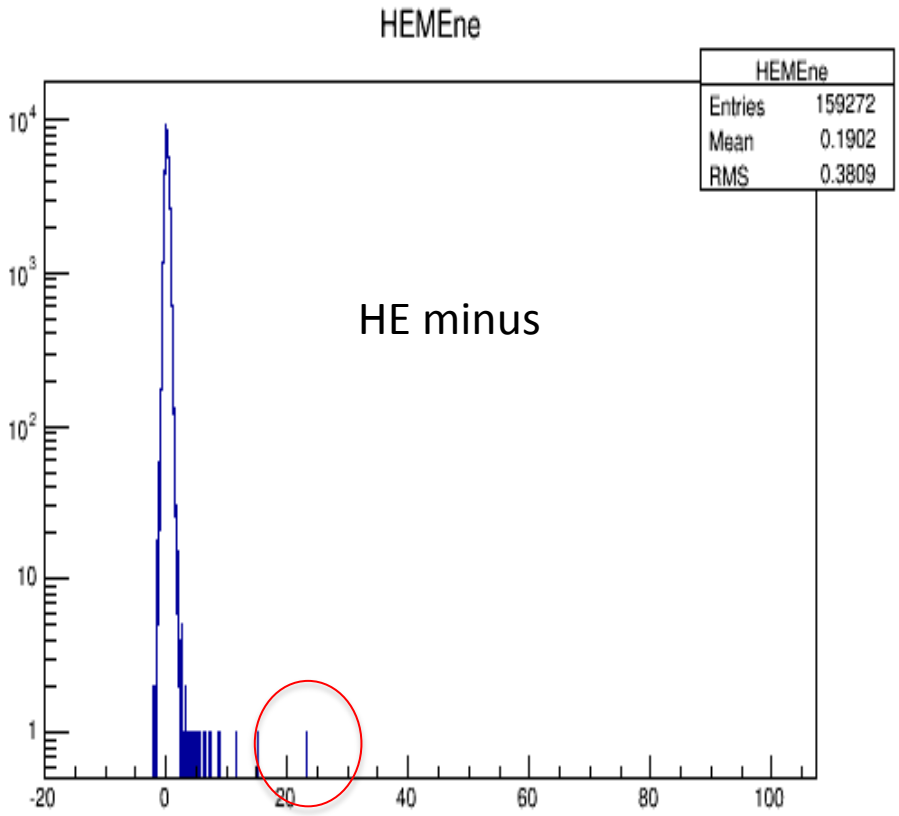
- You can find data at eos area

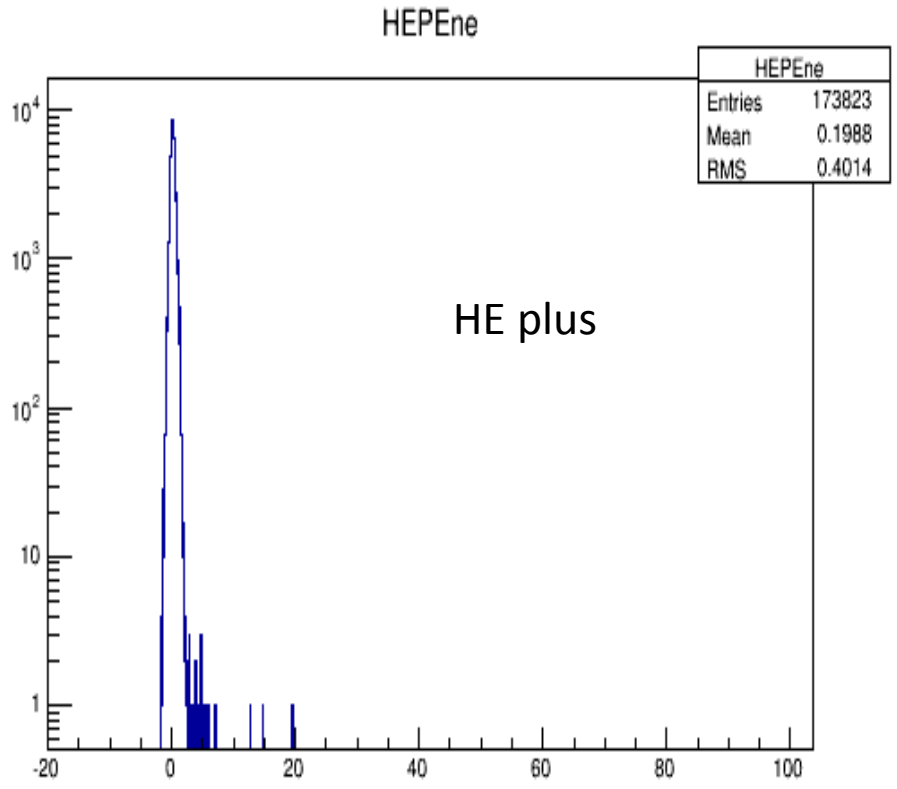
https://cern.service-now.com/service-portal/article.do?n=KB0001998

- All dataset are located at DAS

https://twiki.cern.ch/twiki/bin/view/CMSPublic/WorkBookLocatingDataSamples

HE Rechit Energy





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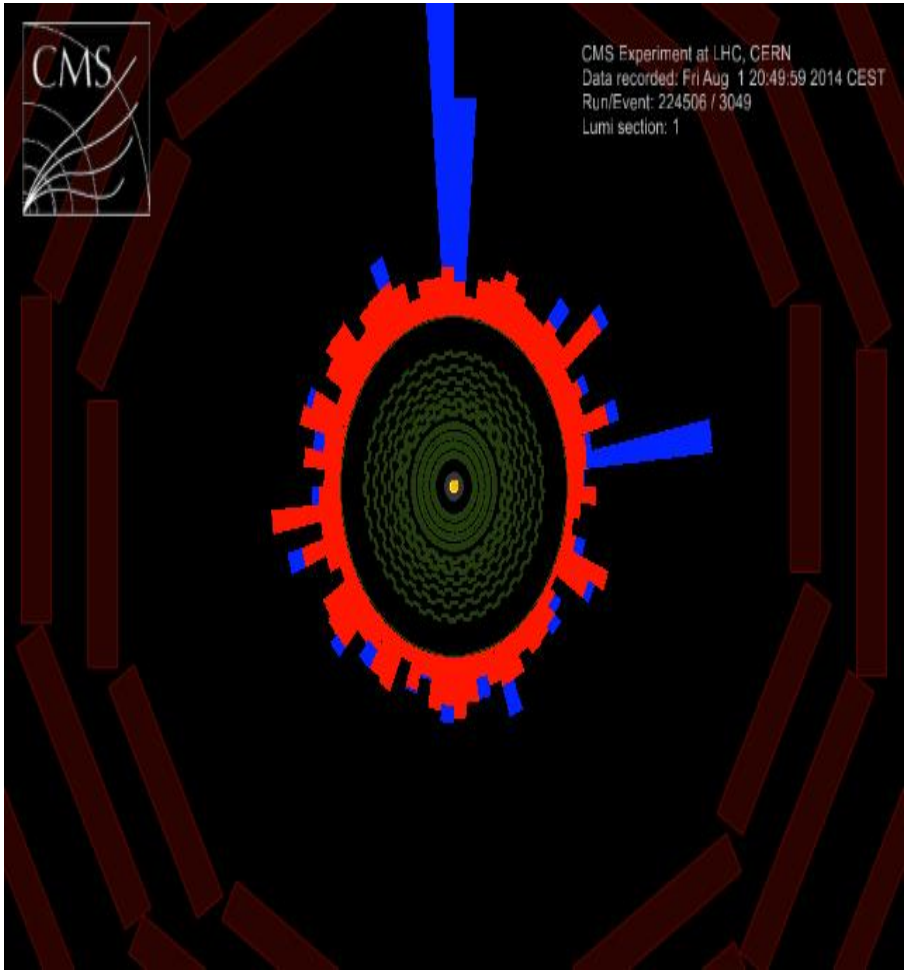
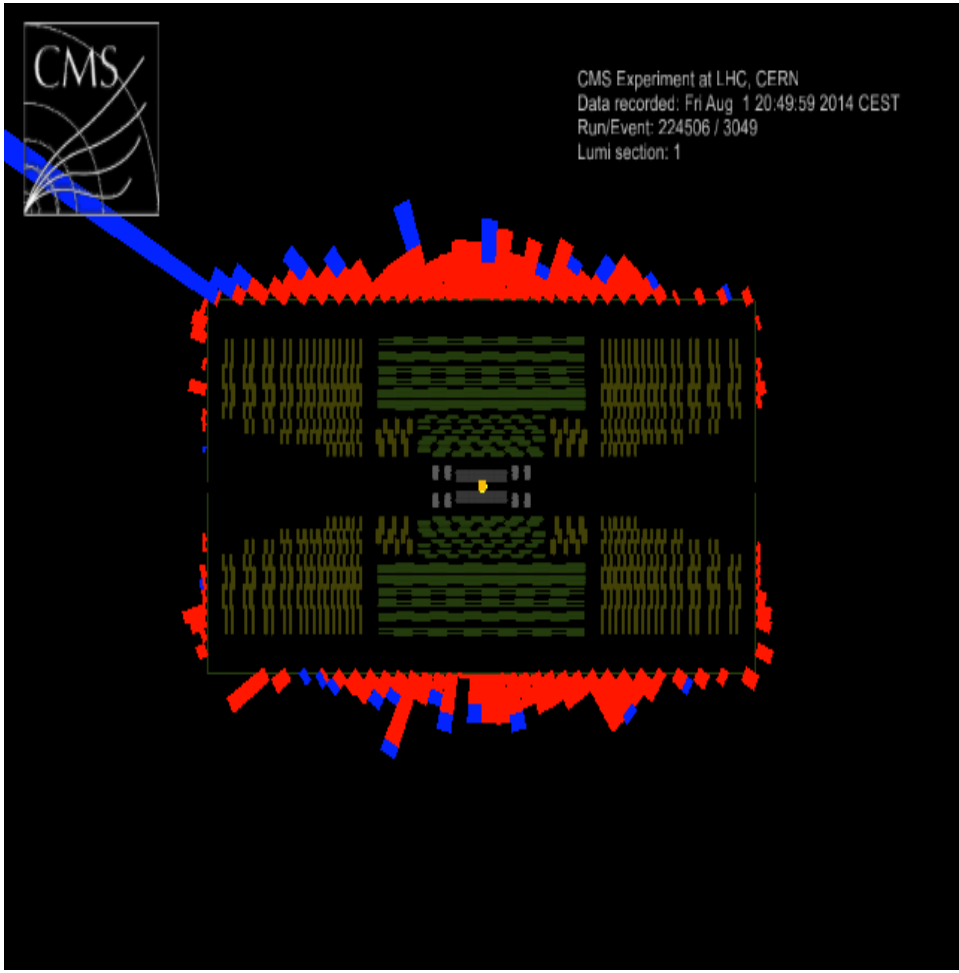
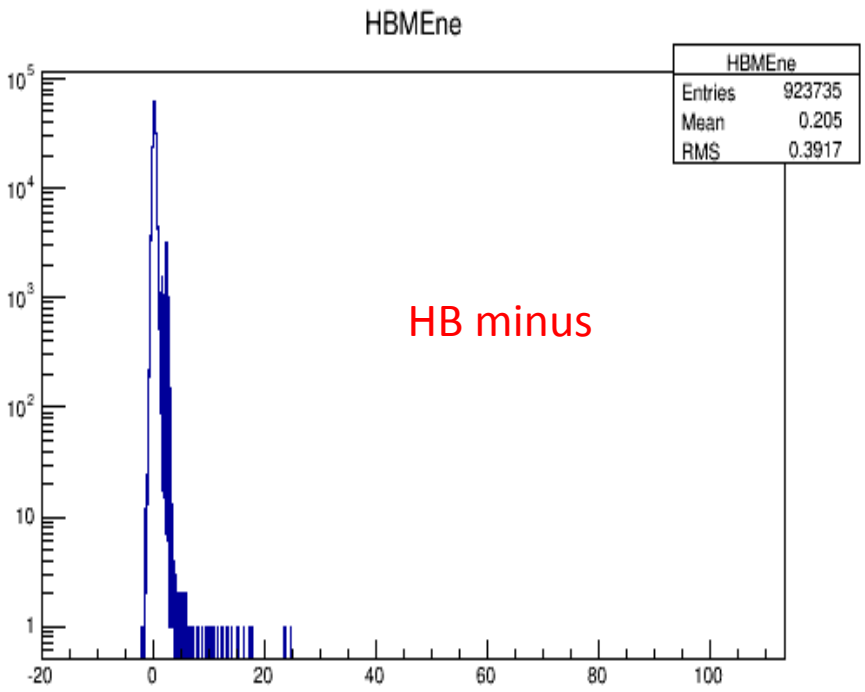
CMS event display for HE minus (energy>20 GeV)

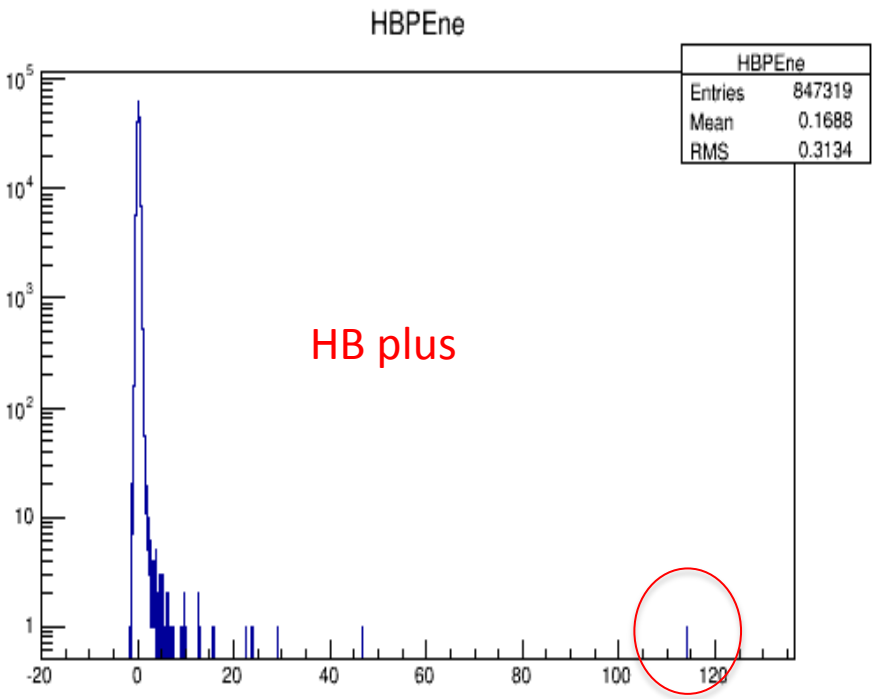




For run number 224506, event =3049

HB Rechit Energy





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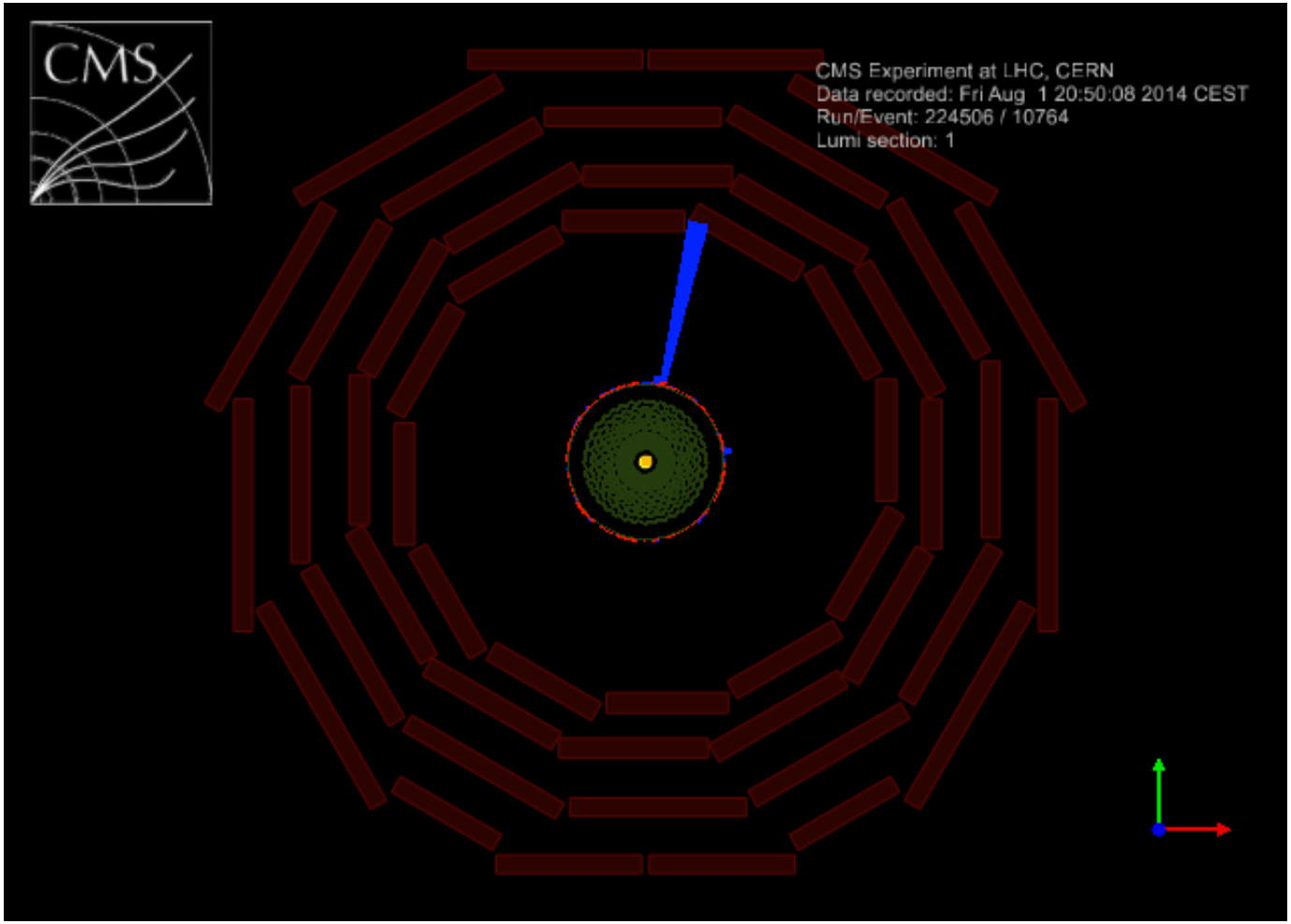
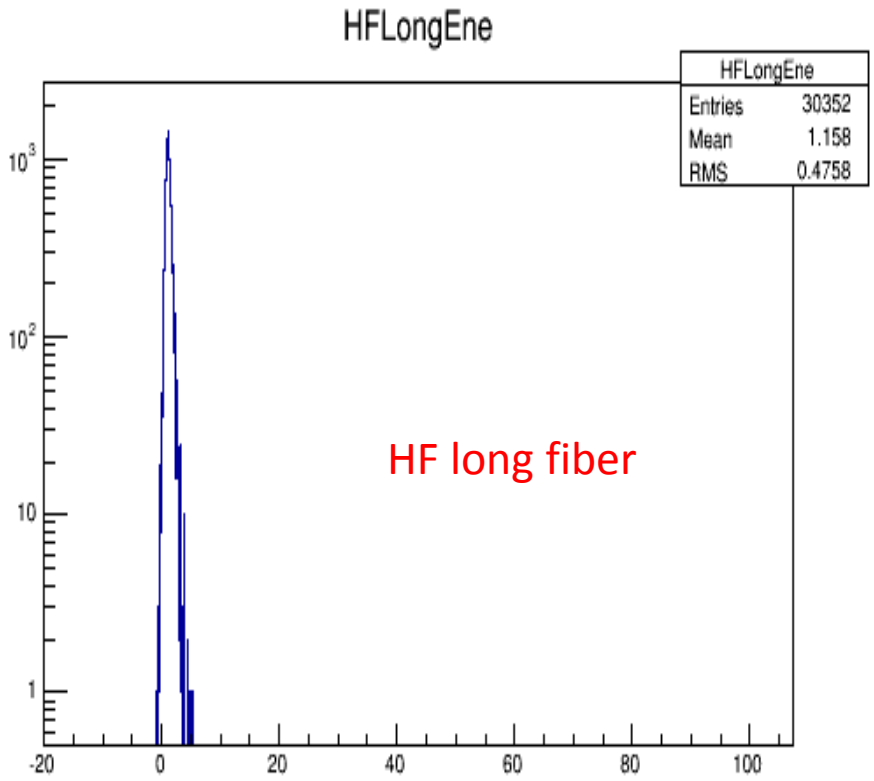
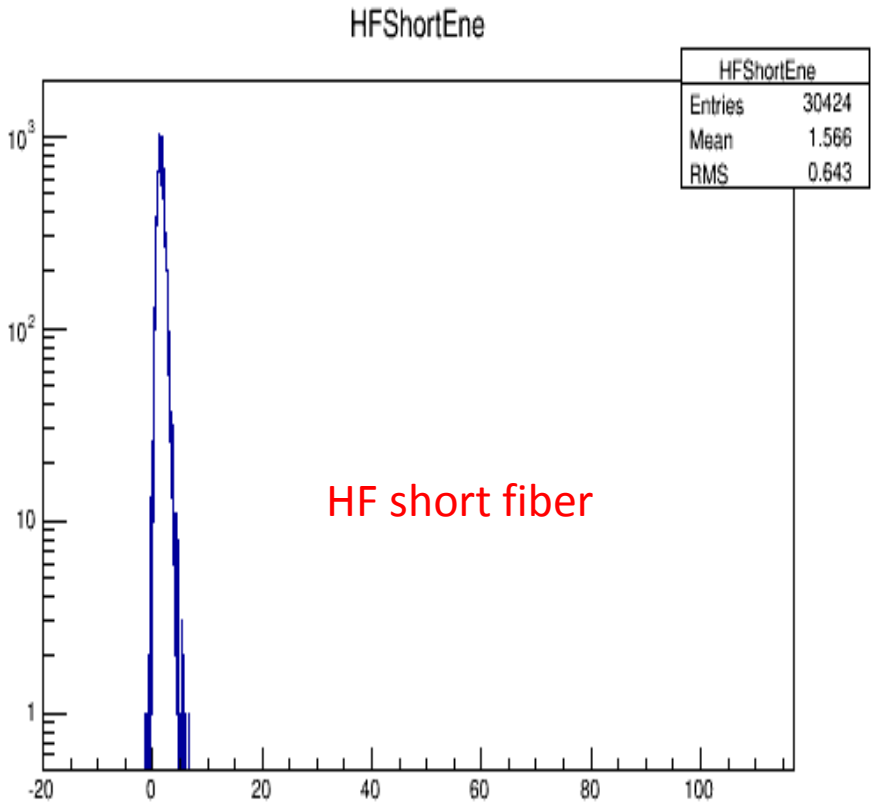
CMS event display for HB plus(energy>100 GeV)



For run number = 224506, event = 10764

HF Rechit Energy



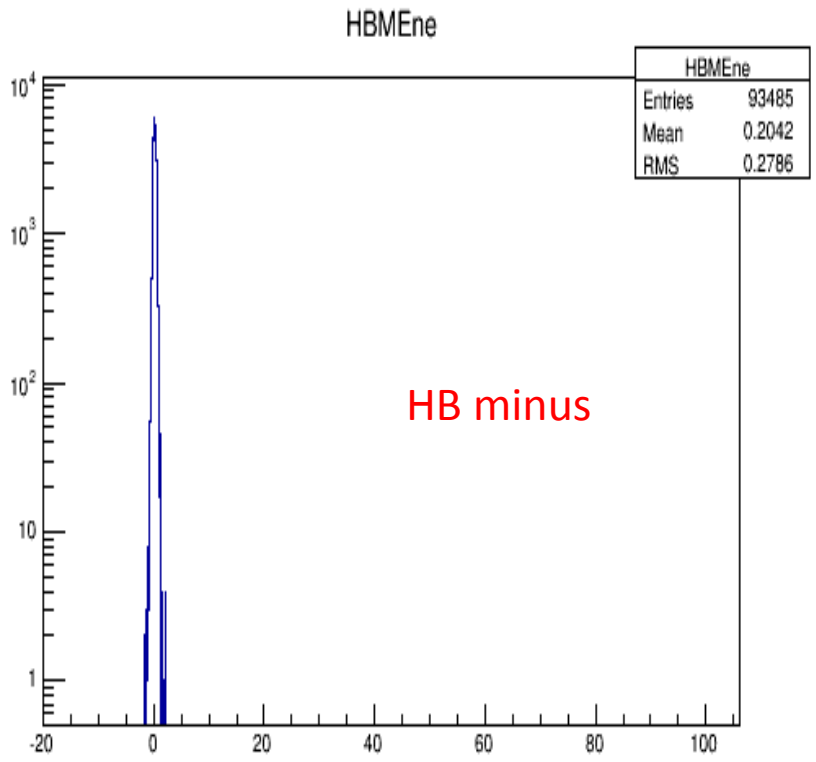


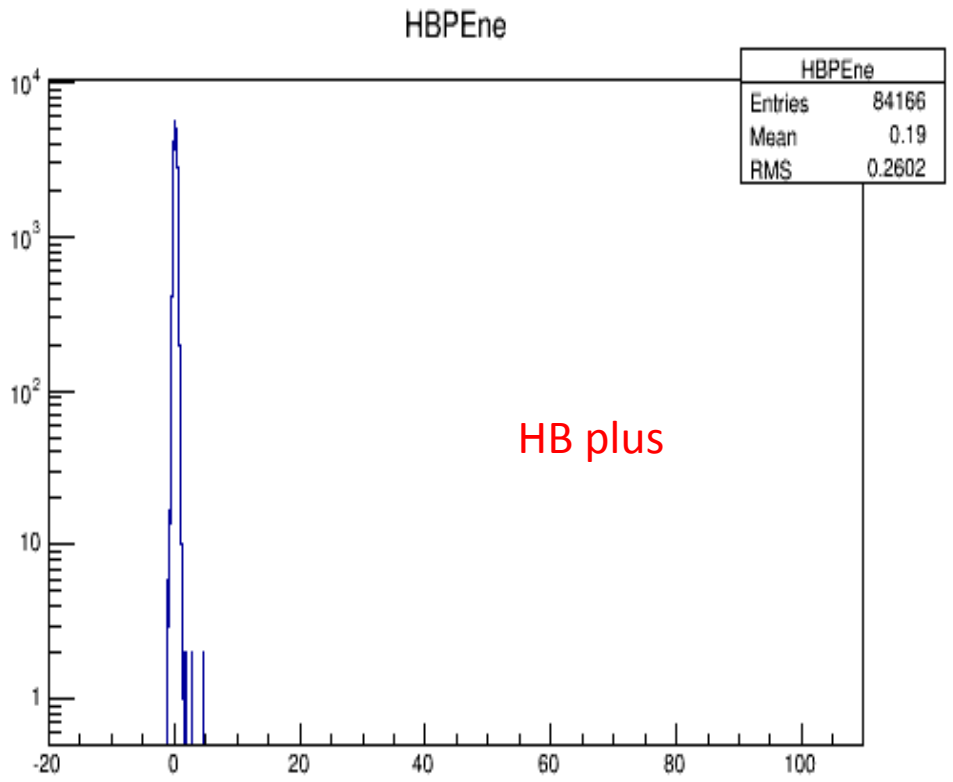
Coverge: 3 < |eta| < 5

- For these global runs, We are best off using either something labelled as streamA data or minimumBias data So that we use and analyzed also

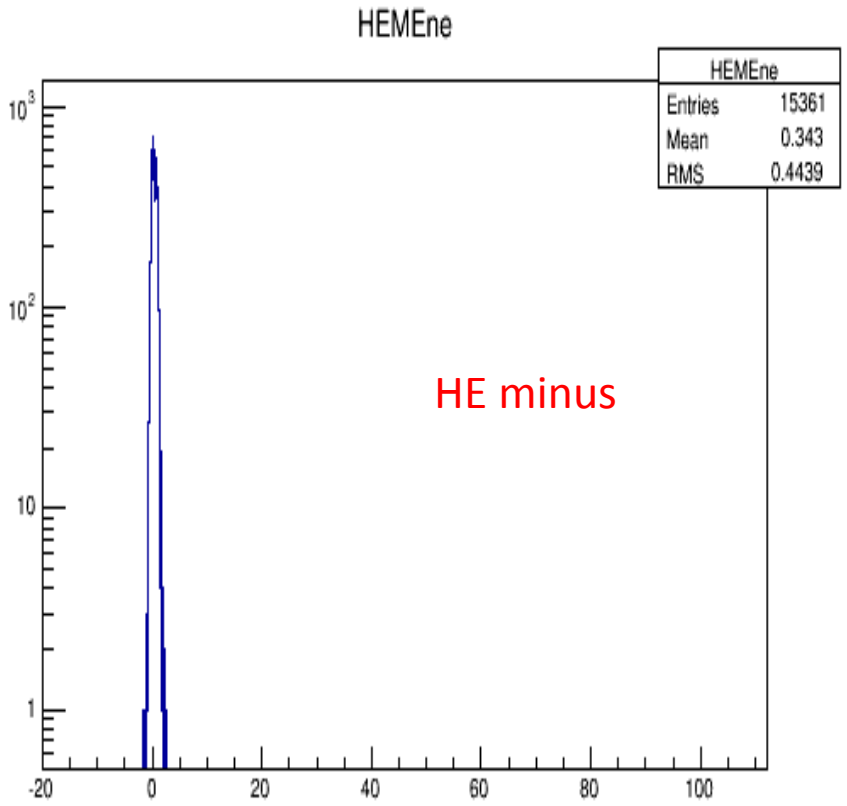
  - /eos/cms/store/data/Commissioning2014/MinimumBias/RECO/PromptReco-v3/000/224/506/00000/9C8F1268-5627-E411-8CAD-02163E00ECF3.root

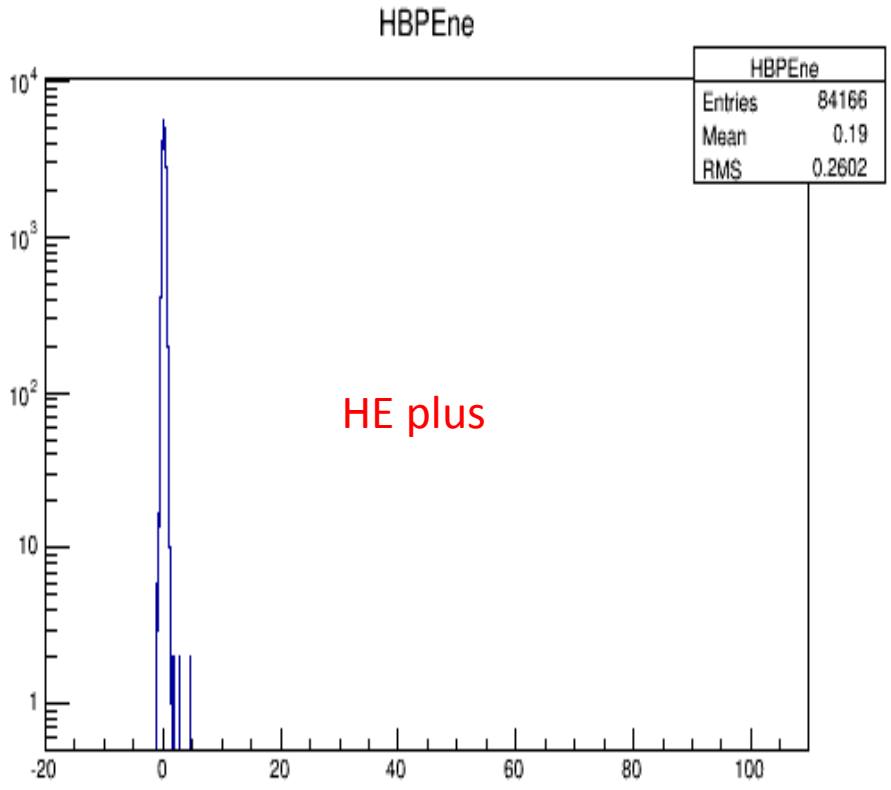
HB rechit energy



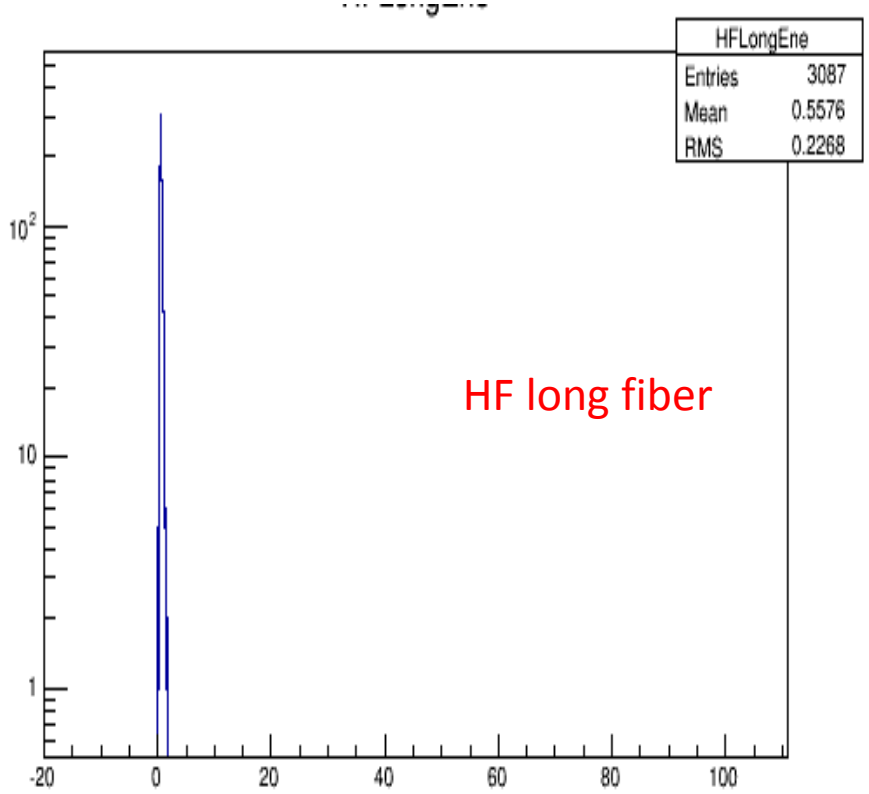


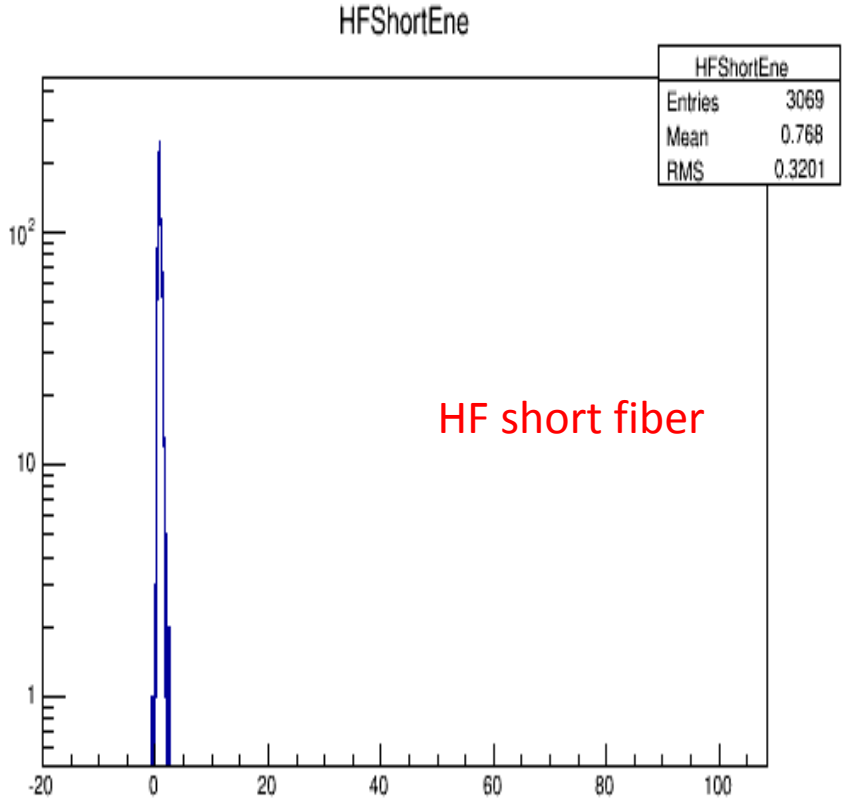
HE rechit energy





HF rechit Energy





Conclusions

- We met Edmund about
  - To have a configuration to creat Digi – Rechit from RAW data from MWGR5
  - To have a configuration file for full Reco for MWGRs
- So that we can correlate muon signal and HCAL Digi/Rechit.