HCAL Analysis

Yalcin Guler

Emine Gurpinar

Shuichi Kunori, Isa Dumanoglu,
Bayram Tali, Serdal Damarseckin, Samet Lezki,
Merve Ince, Hasan Huseyin Isik

- ✓ We have Edmund`s code now (EDM analyzer for making ntuples from HCAL DIGIs and RecHits).

- ✓ The following package

- ✓ https://github.com/HCALPFG/HcalTupleMaker/blob/master/analysis_cfg.py

- ✓ The config file has several things:

  - ✓ Unpacks raw data from local runs and global runs

  - ✓ Creates hcal digis and rechits

  - ✓ Makes a root ntuple from those digis and rechits

✓ We have also configuration file for RECO for MWGR5.

Reco'ing the raw data:

https://twiki.cern.ch/twiki/bin/viewauth/CMS/RPCPromptAnalysis2014#Reconstruct_the_RAW_Data

https://twiki.cern.ch/twiki/pub/CMS/RPCPromptAnalysis2014/FullReco_step3_RAW2DIGI_RECO_222483.py.txt

Here's a link for the full reco sequence:
most useful is the cmsDriver command that is at the following. When run, it will produce a config file based on the current cmssw version.

cmsrel CMSSW_7_1_1
cd CMSSW_7_1_1/src cmsenv
git cms-addpkg Configuration/StandardSequences

cmsDriver.py Configuration/StandardSequences/python/RawToDigi_cff.py -s RAW2DIGI,RECO --conditions auto:mc --datatier RECO --geometry Extended2015,Extended2015Reco --eventcontent FEVTDEBUG -n -1 --no_exec --filein file:run.root --fileout test.root

/store/data/Commissioning2014/MinimumBias/RAW v3/000/225/080/38911762-362D-E411-89E1-02163E008EBA.root

Back-up

Available runs on EOS

Runnumber	Subdetectors	available on EOS?	Runnumber	Subdetectors	available on EOS?
225729	ECAL(EB+), DT, CSC, HCAL, RPC	no	225843	CSC, DT, ECAL, HCAL, RPC, TRACKER	yes
225736	ECAL(EB+), DT, CSC, HCAL, RPC	no	225849	CSC, DT, ECAL, HCAL, RPC, TRACKER	yes
225741	ECAL(EB+), DT, CSC, HCAL, RPC	no	225860	CSC, DT, ECAL, HCAL, RPC, TRACKER	yes
225759	ECAL(EB+), DT, CSC, HCAL, STRIPS, RPC	no	225861	CSC, DT, ECAL, HCAL, RPC, TRACKER	yes
225763	ECAL(EB+), DT, CSC, HCAL, STRIPS, RPC	no	225893	DT, ECAL, HCAL, RPC, STRIP	yes
225768	ECAL(EB+), DT, CSC, HCAL, STRIPS, RPC	no	225896	DT, ECAL, HCAL, RPC, STRIP	yes
225814	ECAL(EB+), DT, HCAL, STRIPS, RPC	no	225904	CSC, DT, ECAL, HCAL, RPC, STRIP	yes
225821	ECAL(EB+), DT, HCAL, STRIPS, RPC	no	225906	CSC, DT, ECAL, HCAL, RPC, STRIP	yes
225826	ECAL(EB+), DT, HCAL, RPC	yes	225909	CSC, DT, ECAL, HCAL, RPC, STRIP	yes
225829	DT,ECAL,HCAL, RPC, TRACKER	yes	225910	CSC, DT, ECAL, HCAL, RPC, STRIP	yes
225832	DT, ECAL, HCAL, RPC, TRACKER	yes	225916	CSC, DT, ECAL, HCAL, RPC, STRIP	yes
225834	DT, ECAL, HCAL, RPC, TRACKER	yes	225918	CSC, DT, ECAL, HCAL, RPC, STRIP	yes
225838	CSC, DT, ECAL, HCAL, RPC, TRACKER	yes	225919	CSC, DT, ECAL, HCAL, RPC, STRIP	no

We asked following question to Daniel Duggan (Expert of Global runs) and his answer:

What is the difference between streamA data or MinimumBias data?

Triggers are divided up into various stream at the HLT. StreamA is the physics stream, and like as, it is further divided into primary datasets (such as Multijet, JetHT, MinimumBias), each with a set of unique triggers associated to it. The MinimumBias dataset is just a subdivision of streamA. In this particular case of mwgr5 data, it is just so happens that the only trigger that fired lives in the MinimumBias primary dataset.

What was the Magnet status ?

All MWGR runs have been taken with Magnet is OFF.

We didn't see any muon event in some event display. Why?

All of the recorded data from that week (mwgr#4) was noise because of the issues with the TCDS system and the fact that all L1 triggers were not being assigned to events. Not only this, but "event types" were not being assigned either. For interested in looking at events likely with cosmic muon hits, he would restrict your search to runs taken in mwgr#5

For instance, run 225956 would be a good one, although it doesn't have the strip tracker included.