V6 Reco stuff (since 2007-04-16 at CERN)

See here

older things

- 2006 H2 analysis page
- CMSSW Plotall
- HCAL run database
- H2 analysis meeting 2006-08-03

- Jordan Damgov's recipe on reconstruction ECAL and HCAL The run number of the example is 30389.
- Andrew Askew's H2 ECAL page

- Full ELOG

- Wire chamber survey performed on 2006-08-24

- Alex Zabi's mail concerning the weights for Supermodule 9 (H2) (CMS hypernews login required)
- ECAL conditions database (also for H2 runs)

- Recipe to convert table counter readings to eta/phi values: here

Output of Jordan Damgov's recipe

- module `ecalTBunpack`

```
EBDataFramesSorted_ecalTBunpack__RECO
EBDetIdedmEDCollection_ecalTBunpack_EcalIntegrityChIdErrors_RECO
EBDetIdedmEDCollection_ecalTBunpack_EcalIntegrityDCCSizeErrors_RECO
EBDetIdedmEDCollection_ecalTBunpack_EcalIntegrityGainErrors_RECO
EBDetIdedmEDCollection_ecalTBunpack_EcalIntegrityGainSwitchErrors_RECO
EBDetIdedmEDCollection_ecalTBunpack_EcalIntegrityGainSwitchStayErrors_RECO
EcalDCCHeaderBlocksSorted_ecalTBunpack__RECO
EcalElectronicsIdedmEDCollection_ecalTBunpack_EcalIntegrityMemBlockSize_RECO
EcalElectronicsIdedmEDCollection_ecalTBunpack_EcalIntegrityMemChIdErrors_RECO
EcalElectronicsIdedmEDCollection_ecalTBunpack_EcalIntegrityMemGainErrors_RECO
EcalElectronicsIdedmEDCollection_ecalTBunpack_EcalIntegrityMemTtIdErrors_RECO
EcalPnDiodeDigisSorted_ecalTBunpack__RECO
EcalTrigTowerDetIdedmEDCollection_ecalTBunpack_EcalIntegrityBlockSizeErrors_RECO
EcalTrigTowerDetIdedmEDCollection_ecalTBunpack_EcalIntegrityTTIdErrors_RECO
```

- module `ecalRecHitMaker`

```
EcalRecHitsSorted_ecalRecHitMaker__RECO
EcalRecHitsSorted_ecalRecHitMaker_EcalRecHitsEB_RECO
```

- module `ecal2006TBH2TDCReconstructor`

```
EcalTBTDCRecInfo_ecal2006TBH2TDCReconstructor_EcalTBTDCRecInfo_RECO
```

- module `ecal2006TBH2WeightUncalibRecHit`

```
EcalUncalibratedRecHitsSorted_ecal2006TBH2WeightUncalibRecHit_EcalUncalibRecHitsEB_REC
```

- module `hcaldigi`

```
HBHEDataFramesSorted_hcaldigi__RECO
HFDataFramesSorted_hcaldigi__RECO
HODataFramesSorted_hcaldigi__RECO
HcalTriggerPrimitiveDigisSorted_hcaldigi__RECO
```

- module `hbhereco`

```
HBHERecHitsSorted_hbhereco__RECO
```

- module `horeco`

```
HORecHitsSorted_horeco__RECO
```

- module `tbunpacker`

```
HcalTBBeamCounters_tbunpacker__RECO
HcalTBEventPosition_tbunpacker__RECO
HcalTBTiming_tbunpacker__RECO
HcalTBTriggerData_tbunpacker__RECO
```

Contents of files in /castor/cern.ch/cms/store/h2tb2006/reco/v5/

(determined from the file
/castor/cern.ch/cms/store/h2tb2006/reco/v5/h2.00030760.combined.OutServ_0.0-cmsswreco.root)

```
Module ecalEBunpacker:

  EBDataFramesSorted_ecalEBunpacker__RECO
  EBDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityChIdErrors_RECO
  EBDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityDCCSizeErrors_RECO
  EBDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityGainErrors_RECO
  EBDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityGainSwitchErrors_RECO
  EBDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityGainSwitchStayErrors_RECO
  EcalDCCHeaderBlocksSorted_ecalEBunpacker__RECO
  EcalElectronicsIdedmEDCollection_ecalEBunpacker_EcalIntegrityMemBlockSize_RECO
  EcalElectronicsIdedmEDCollection_ecalEBunpacker_EcalIntegrityMemChIdErrors_RECO
  EcalElectronicsIdedmEDCollection_ecalEBunpacker_EcalIntegrityMemGainErrors_RECO
  EcalElectronicsIdedmEDCollection_ecalEBunpacker_EcalIntegrityMemTtIdErrors_RECO
  EcalPnDiodeDigisSorted_ecalEBunpacker__RECO
  EcalTrigTowerDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityBlockSizeErrors_RECO
  EcalTrigTowerDetIdedmEDCollection_ecalEBunpacker_EcalIntegrityTTIdErrors_RECO

Module ecalRecHitMaker:
  EcalRecHitsSorted_ecalRecHitMaker__RECO
  EcalRecHitsSorted_ecalRecHitMaker_EcalRecHitsEB_RECO

Module ecal2006TBH2TDCReconstructor:

  EcalTBTDCRecInfo_ecal2006TBH2TDCReconstructor_EcalTBTDCRecInfo_RECO

Module ecal2006TBH2WeightUncalibRecHit:
  EcalUncalibratedRecHitsSorted_ecal2006TBH2WeightUncalibRecHit_EcalUncalibRecHitsEB_RECO

Module hcaldigi:
  HBHEDataFramesSorted_hcaldigi__RECO
  HFDataFramesSorted_hcaldigi__RECO
  HODataFramesSorted_hcaldigi__RECO
  HcalTriggerPrimitiveDigisSorted_hcaldigi__RECO
```

```
Module hbhereco:
  HBHERecHitsSorted_hbhereco__RECO

Module hfreco:
  HFRecHitsSorted_hfreco__RECO

Module horeco:
  HORecHitsSorted_horeco__RECO

Module tbunpacker:
  HcalTBBeamCounters_tbunpacker__RECO
  HcalTBEventPosition_tbunpacker__RECO
  HcalTBTiming_tbunpacker__RECO
  HcalTBTriggerData_tbunpacker__RECO
```

Example ROOT macros

Useful aliases

```
Events->SetAlias("urechit","EcalUncalibratedRecHitsSorted_ecal2006TBH2WeightUncalibRecHit_EcalUnc
Events->SetAlias("urechit_iphi","urechit.id_.rawId() & 0x1ff");
Events->SetAlias("urechit_ieta","(urechit.id_.rawId()  >> 9) & 0x7f");

Events->SetAlias("rechit","EcalRecHitsSorted_ecalRecHitMaker_EcalRecHitsEB_RECO.obj.obj")
Events->SetAlias("rechit_iphi","rechit.id_.rawId() & 0x1ff");
Events->SetAlias("rechit_ieta","(rechit.id_.rawId()  >> 9) & 0x7f");
Events->SetAlias("pos","HcalTBEventPosition_tbunpacker__RECO.obj");
```

Examples

```
Events->Draw("urechit.amplitude()","urechit.amplitude()
```

For run 30710:

```
gSystem->Load("libFWCoreFWLite.so");  AutoLibraryLoader::enable(); new TBrowser()
new TFile("h2.00030710.combined.OutServ_0.0-cmsswreco.root")
Events->SetAlias("rechit","EcalRecHitsSorted_ecalRecHitMaker_EcalRecHitsEB_RECO.obj.obj")
Events->SetAlias("rechit_iphi","rechit.id_.rawId() & 0x1ff");
Events->SetAlias("rechit_ieta","(rechit.id_.rawId()  >> 9) & 0x7f");
Events->SetAlias("pos","HcalTBEventPosition_tbunpacker__RECO.obj");
Events->Draw("rechit[1396].energy():pos.cx_","pos.cy_ > -40 && pos.cy_ <40 && abs(pos.cx_)  <20")
new TCanvas;
Events->Draw("rechit[1376].energy():pos.cx_","pos.cy_ > -40 && pos.cy_  <40 && abs(pos.cx_)  <20"
```

ECAL installation into beam

- It seems that the ECAL supermodule has been put into the beam on Thursday, 2006-08-24 (see the corresponding ELOG entry)
- It looks like run 28715 was the first run after the ECAL supermodule installation into the beam line (see the list of runs on August 23-25 2006, note the gap between 2006-08-23 16:46:24 and 2006-08-24 17:22:27 (one day later))

Interesting data / testing data for me

- `/castor/cern.ch/cms/store/h2tb2006/reco/v5/h2.00030710.combined.OutServ_0.0-cmsswreco.root`
  - ♦ electron run, see elog here
  - ♦ according to the ELOG entry, the table settings were

`eta = 14.3 / phi = 13.95`
    - crystal with highest average energy seems to be `eta/phi = 69/17` (array index 1376), however, the cx distribution seems to be shifted
    - neighbouring crystals in eta: `eta/phi=68/17` (array index 1356) and `eta/phi=70/17` (array index 1396)
    - for cx>=0, the beam seems to be going mostly into crystal `eta/phi=70/17`, for cx <=-15 mostly into `eta/phi = 69/17`
- `/castor/cern.ch/cms/store/h2tb2006/reco/v5/h2.00030711.combined.OutServ_0.0-cmsswreco.root`
    - electron run, see elog here
    - according to the ELOG entry, the table settings were

      `eta = 14.7 / phi = 13.95`
    - for cx>=-5, the beam seems to be going mostly into crystal `eta/phi=72/17` (array index 1436), for cx <=-20 mostly into `eta/phi = 71/17` (array index 1416)
- `/castor/cern.ch/cms/store/h2tb2006/reco/v5/h2.00030712.combined.OutServ_0.0-cmsswreco.root`
    - electron run, see elog here
    - according to the ELOG entry, the table settings were

      `eta = 14.7 / phi = 13.55`
    - the beam seems to be going mostly into crystal

      `eta/phi=72/16`

      (array index 1435), (cx between -2 and 8) Looks like something is tilted (compare to previous run with same eta table setting)
- `/castor/cern.ch/cms/store/h2tb2006/reco/v5/h2.00030760.combined.OutServ_0.0-cmsswreco.root`
    - pion run, see elog here

Other data locations

- previously, I was taking data from `/castor/cern.ch/cms/h2_testbeam/test/`

Useful presentations

- L1 Trigger Electron Study by Pedro Ribeiro (contains remarks on which electronics map file etc. he used) (H2 ECAL analysis meeting, 2006-10-26)
- Local reconstruction by Riccardo Paramatti, H2 TB06 Analysis Meeting, 2006-11-16.
- presentation on setup for (official ?) reconstruction (meeting on 2006-11-09). The official reconstruction seems still to be based on CMSSW 0.8.1 .

-- AndreHolzner - 22 Nov 2006

This topic: Main > AndreHolzner2006TBH2
Topic revision: r12 - 2010-01-17 - AndreHolzner