

Status of the CALICE software

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Software release

- Latest software release: **v04-02** (November 2010)
- For more details, see:
<https://twiki.cern.ch/twiki/bin/view/CALICE/SoftwareNews>
- Main developments: Introduced classes to deal with CAEN 1290 used at CERN 2010 (thanks to **Roman Poeschl** and **Paul Dauncey**)

CERN 2010 runs

- See run list at
<https://twiki.cern.ch/twiki/bin/view/CALICE/2010RunList:W-HCAL>
- All 827 runs (except 3) are **converted** and can be accessed from the grid:
/grid/calice/tb – cern/raw/conv_v0403
- Several runs **reconstructed with old calibration constants**:
/grid/calice/users/lucaci/reco

General issues: The ONLINE monitor

- Written a few years ago by G. Mavromanolakis, but no updates since then
- Several issues discovered in the course of CERN 2010:
 - **HCAL position** before and after a movement had wrong sign in x (for more details, see [my talk in WHCAL group](#)), probably due to wrong mapping
 - Note: the HCAL position is treated correctly in the **offline** software
 - **Treatment of triggers**: noticed when comparing Cherenkov efficiencies in online and offline analysis (see [Dominik's talk in WHCAL group](#))
Offline: main trigger word searched in a fixed window
Online: trigger word searched actively (more efficient)

The online monitor is the tool we base on when taking decisions during data taking \Rightarrow need to identify responsible person(s)

General issues: TBTrack

- The TBTrack package (in *calice_reco*) is maintained by **Paul Dauncey**, with help from **Daniel Jeans**
- Difficult situation since there is no UK funding anymore
- Many open issues:
 - no working tracking code for FNAL 2008 and 2009 yet
 - for CERN 2010, it was taken over by **Astrid Münnich** (CERN)
- Paul and Daniel are helping when they can, but

we need a 'full-time' responsible

General issues: Central mass reconstruction

- A few months ago, our French colleagues offered to process runs on request:
 - **Kaloyan Krasteev** (under the supervision of Roman Poeschl)
 - **Amjad Suhail** (under the supervision of Daniel Jeans)
- There were some requests in June 2010 by Paul Dauncey
- And lately by Katja Seidel
 - no reaction from Kaloyan
 - afterwards fast reply from **Daniel** (thank you)
- But realised that:
 - this is badly coordinated
 - people do not know whom they can address to
 - not clear where the previously reconstructed runs are and with which software version (in the moment, runs are in user grid space)
- The CALICE web page:
<https://twiki.cern.ch/twiki/bin/view/CALICE/DataReprocessingRequest>
was not updated since more than 1 year

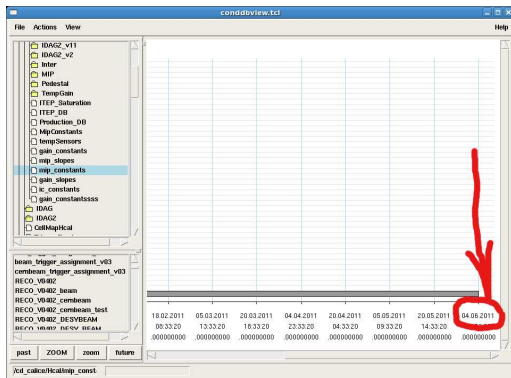
General issues: Central mass reconstruction (continued)

- Actions:
 - Could the French colleagues confirm (or not) the availability?
 - Decide who's doing the central mass reconstruction
 - Files to be stored in official places, e.g.: */grid/calice/tb – cern/rec*
 - Runs MUST be documented, e.g. on the CALICE wiki page

Need your help/input to clarify these issues!

False alarm: The CALICE data base

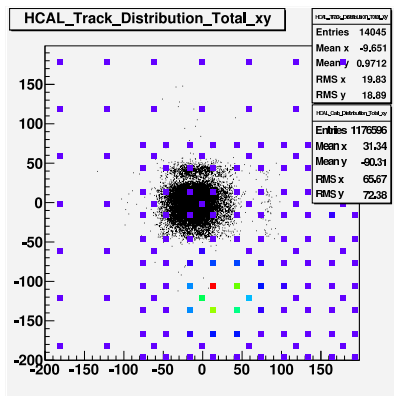
- *mysql* data base, with calibration constants, mapping, slow control information, needed for reconstruction
- Two instances (for reading and writing), on a DESY server
- Untill last week, it appeared to be **valid only untill June 2011** when using *dbview*



- Turned out to be just a limitation in the *dbview*; thanks to **Ralf Diener** (DESY) for spotting it, and to **Shaojun Lu** for fixing it

General issues: HCAL offsets in 2007

- HCAL offsets for CERN 2007 are mostly incorrect (due to imprecise alignment of the HCAL with respect to the drift chamber)



- Taken over by **Sebastian Weber**, Univ. Wuppertal, Germany
- New offsets to be written to the data base
- To be then used also for Monte Carlo production (needs writing a tool to extract the necessary information)

Personal comments on CALICE software development

- In the last weeks several breaks in our code due to:
 - memory leak: could have been prevented by running a test job before
 - faulty string initialisation with a NULL pointer: test job was run, but on older platform, and was not detected
 - committing of code which works only for some run periods
- Note to developers:
 - debugging is in some cases very time consuming
 - please run a test job before committing
 - please try to compile on SL5 and use newer compiler versions
 - please ensure that your code is backwards compatible (i.e. valid for all run periods)
- Note to users:
 - use of **trunk** of the CALICE SVN is **NOT** guaranteed to work
 - for analysis, use **ONLY tagged software versions**

Next steps

- Finish CERN 2010 calibration analysis (implies committing and documenting of used code)
- Integration of:
 - US DHCAL software
 - MicroMEGAS
 - scintillator ECAL