

Status of CALICE Test Beam Software

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Introduction

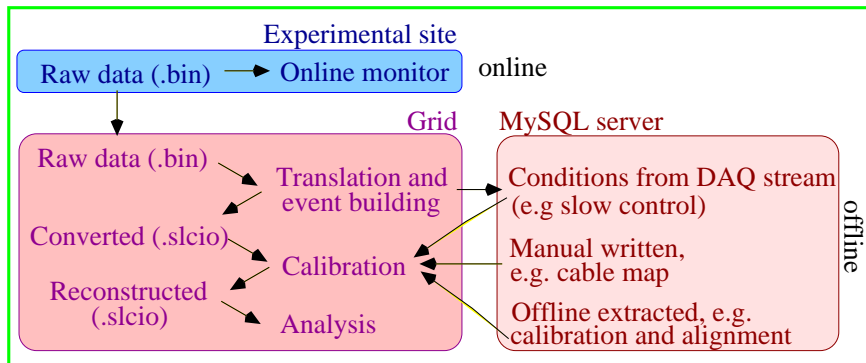
- Physics prototypes:

Si-W ECAL
Scintillator ECAL

AHCAL
RPC-DHCAL

TCMT

- Combined test beam campaigns since 2006 at DESY, CERN, FNAL
- Data flow:



LCIO Converter

- Does conversion of raw data (.bin) to lcio type files
- For CRC-based DAQ only
- Complete and stable since 2007

Data Base

- Two data base servers at DESY: flcl01 (for reading) and flcl02 (for writing)
- Restricted access by IP range (recently granted access to colleagues from Marocco)
- Sensible data base entries delivered by individual detectors

Tools

- Script package **calice_run** to generate Marlin steering files for:
 - data reconstruction (ECAL + HCAL + TCMT)
 - noise extraction from data (HCAL + TCMT) (new)
 - digitisation (ECAL + HCAL + TCMT) (new)
- Same package: scripts for job submission on the grid (done by experts)

Si-W ECAL

- Stable reco and digi code
- Quality checks done mostly on 2006 data
- Recent studies of uniformity/stability of pedestal and noise done for 2007 data
- New responsible: **Kaloyan Krastev** (LPSC, Grenoble)

Scintillator ECAL

- Combined data taken in Sept 2008 and May 2009; e^- , π^- runs, 1 GeV up to 32 GeV energy; performed energy and position scans
- First analysis based on ROOT only (ntuples)
- Started developing code within CALICE software framework, related to:
 - MIP calibration constant
 - LED run analysis
 - energy resolution and linearity
 - temperature data analysis
- No contribution to central code yet
- Responsible: **Katsu Kotera** (Japan, Shinshu Univ.)

Analog HCAL

- Recent developments in treatment of the SiPMs saturation
- Ongoing work on improved calibration system
- Agreement: use only conditions data with DB tag
- Benefit from extensive, but fruitful discussions with the core developers of the ILC software regarding LCCD extensions (most of them already included in the the latest LCCD version)
- Ongoing work on:
 - improving speed of the reconstruction algorithm
 - getting correct position of calorimeter hits (currently not working for shifted and rotated runs)
 - new properties of the hits (flag: dead or not, list of neighbours, etc)

Digital HCAL

- No contribution to the central software yet

Conclusions

- Missing: **common geometry for data and Monte Carlo**
- Missing: **common event viewer**
- To do: integrate missing detectors (e.g. DHCAL) into existing scheme