

CALGO: Software Tasks

cal software:

- **integrate calT42** (cf other object-id tasks)
- **cal_corr_dst package**
 - provide corrections for yet unknown hardware problems
 - interfacing with online DQ-tools/incorporate run-dependent bad-channel list
- **implement DB access**
 - update of server/client code
 - adapt calunpdata, offline 0-suppression, T42 (pedestals), cal_nlc (gains)
 - verify effect of time dependent pedestals
 - study of pedestal stability, understand pedestal-drifts (online/hardware)
- **unpacking**
 - data from T&C
 - straighten unpacking
- **tmb content**
 - calDataChunck / calT42Chunk on tmb

CALGO: Software Tasks

cps:

- **determine gain mode for CPS operation**
 - calibration coefficients
- **integration of CPS energies in reconstruction**
 - study of low energy electrons
 - effect on jet-energy scale
- **CPS simulation**

fps:

- **mapping verification**
- **similar roadmap than CPS**

icd:

- **calibration coefficients**
- **online calibration**

L3: supervision and coordination of calorimeter related L3-code

CALGO: ID Tasks

electron-id:

- **H-matrix/shower shapes?**
 - shower shape vs z
- **low energy electrons**
 - shower shapes
 - calibration
 - T42
- **calibration/linearity/resolution**
 - reconstruction of low energy resonances
 - integrated calibration from low energy resonances to Z
 - resolution determination from data
- **CellNN/clustering**
 - determination of geometry dependent calibration
 - certification of CellNN electrons
 - comparison of efficiency/mis-id/shower shapes with Scone algorithm
- **track/PS/CAL-match, alignment**
- **likelihood**

CALGO: ID Tasks

photon-id:

- improve selection algorithms using PS
- photon-certification

jet-id:

- estimators tuning/f90
- fake jets/merging splitting issues → T42
- ICR jets / track jets
- lowering jet energy threshold

met:

- treatment of non reconstructed jets
- overall correction strategy of MET
- MET resolution after T42
- treatment of unclustered energy in QCD and EW events

CALGO: ID Tasks

energy flow:

- E/p matching
- Jet response/resolution with E-flow
- e/pi determination

tau-id:

- tau trigger studies
- use of NN for tau id
- e/tau separation
- T42 effect

jet energy scale:

- scale p14 with and w/o T42
- improve JES strategie

CALGO: Tasks for Simulation

calo_simulation:

- **em-shower/jet shapes**
 - em shower shape in z-direction, floor dependence
 - em/had fractions
 - longitudinal profiles
 - jet shapes
- **cracks**
 - phi-cracks
 - intercryostat region
- **dead material**
- **cross-talk?**
- **resolutions**

CALGO/CALOP: Common Tasks

data quality:

- **unify dq_calo + cal_examines + l1cal_examines**
 - ease use and maintenance
 - reduce number of packages
 - speed up examines
 - compare l1cal/cal-ro
 - move away from examines framework?
- **update cal_elec**
 - streamline code
 - add functionalities from private versions (pulser, patterns)
 - bad channel list
- **bad channel management**
 - combine channels identified from different sources in unique list
 - mechanism to keep track for and of hardware fixes
 - create infrastructure to provide run-dependent bad channel list to offline-correction package
 - cross-check channels from different sources to optimize algorithms/thresholds

CALGO/CALOP: Common Tasks

online calibration:

- **speed up calibration procedure**
 - use of multiple L3-nodes for data-processing
 - accelerate database access
- **pulser-validation**
 - define criteria for bad-channel tagging from pulser runs
 - studies of pedestal stability
- **nlc/gain coefficients**
 - “online” determination of nlc/gain coefficients
 - verification of possible corrections
 - cross-check especially with low-energy resonances
- **cross-talk studies**
 - determine electronics cross-talk from pulser-measurement
 - study means of evaluation for cross-talk for physics events
 - implementation in calorimeter simulation?