L1 Calorimeter Calibration

Kehoe, Hauser

- initial implementation
  - sampling weights
    - EM optimized for no PS readout (Vishnu, Marek)
    - FH + ICR from Run 1 offline (?)
  - resistor values
    - CC FH + EM chosen (Hauser) + ordered (Schaam.)
    - ICR + EC → either now or after re-optim. later
  - instrumentation
    - March 1 → 2 - few TT
    - early Apr → all of CC

Early Calibration

- first data: end March?
  - little for Cal trigger
  - min-bias
  - compare L1 to precision readout
- Goals
  - determine TT dial-up values
  - ϕ uniformity
  - η-dependence
  - absolute scale

TRIGSIM

- testbed for software
- need to incorporate:
  - sampling weights corresponding to binned resistor values (Hauser, Serban)
- understand quality of calibration
  - min-bias vs. dijets
  - comparison to particle level
- tuning?
  - offline/L1 comparisons
  - smearing, offsets...

Hardware Debugging

- pulser work
  - missing/incorrect resistors, discontinuities, ...
  - some calibration work
    - in each η: ϕ uniformity
    - rough absolute scale?
    - thru TT dial-up
- need tools for L1 Cal. analysis
  - run off/in Examine
  - start by trigsimming pulser data
    - need new L1CalTTchunk maker for data
  - on-line calibration + debugging
  - long-term monitoring

Final Optimization

- Goals (in order):
  1. best L1 electron $\not{E}_T$
     ∴ optimize EM resol.
     + scale w/out JS
  2. best L1 + L2 jet $\not{E}_T$ and uniformity
     i.e.: optimize EH + ICR resol. + scale
     - w/out CH + with ICR @ L1 (ie. L1 jet low) in ICR
     - some ICD + MG will be missing
  3. optimize L2 $\not{E}_T$ resolution
- use knowledge from earliest data + MC work
- instrument EC + ICR: May

Final Adjustments

- hard-scatter data
  - compare to precision readout
  - η-ϕ uniformity of jets.
  - absolute scale
- finished by Summer