

CAL Software Meeting; SLAC; 9 March 2005

Summary: [See CAL meeting page \(from software web\) for links to detailed talks](#)

- ◆ **FLE measurement status (Sasha)**
 - Difference in FLE thresholds between muons and CI is a constant bias rather than multiplicative factor
 - Implies pulse shape differences is not the cause as previously thought
 - May be due to direct cross-talk from CI “start” signal to fast shaper
 - Effect can be calibrated by muon calibrations

- ◆ **calibGenCAL, calXtalResponse status: Coming Soon to a
GlastRelease Near You! (Zach)**
 - Multi-tower support
 - Threshold calibration files
 - Integration with I&T pipeline
 - More documentation
 - Improved test apps
 - Dead log end handling
 - Flight-like high energy calibrations

- ◆ CalRecon rewrite (David C.)
 - Initial refactoring done by David C.; not yet committed due to debugging of lower levels of CalRecon still underway
 - Comprehensive review of TDS/Root classes required
 - Semiweekly VRVS meetings starting next week, Wed., 11AM Eastern.
 - Expected attendees: Bill, Tracy, Berrie, David C., Mark, Zach, Sasha, Richard

◆ CalRecon Algorithms (Berrie, Pol, Philippe)

- Pol: Using a Likelihood estimator that combines the deposited energy, the height of the conversion in the TKR and the number of hits below it. Provides a class of recon events with $\Delta E/E \approx 8\%$ at 100 MeV on-axis up to a few GeV. Resolutions, tails and linearity in his presentation. Beta version ready soon for implementation in CalRecon.
- Berrie: Rework the variance/LL into a Likelihood estimator combining the deposited energy and the energy in the last layer. Remove the iterator in favor of MC dependent pdf. Validity range extended by generating corresponding pdf. Will be connected by Pol later (same variance reduction idea). Almost ready for integration in CalRecon.
- Philippe: HE calorimetry (> 5 GeV), capable of CAL-only recon (energy and direction), using profile fits that uses an active material integration along the shower axis. Still improving the algs but Beta version could be available on DC-2 needs basis.
- Will produce status graphic showing current capabilities in energy/angle/efficiency phase space

- ◆ **GCR Calibration (Benoit, Fred)**
 - Simulation of heavy ion interactions now ready for use
 - GCRCalib application in progress
 - Trajectory selection: Done
 - Nuclear reaction rejection
 - Z determination
 - Calibration constant determination

◆ **MIP Finder (Fred)**

- Fred and Eric have cluster-based solution ready
- Bill suggests looking into track-following scheme similar to TKR