GLAST LAT Project Weekly Report for the week ending Thursday, December 13, 2001

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*** WBS 4.1.5 CALORIMETER (N. Johnson/Carosso)

4.1.5.1 CAL Management

NRL Project Office reps visited French and Swedish Collaborator sites last week.
Technical and programmatic progress were statused.
Possible changes in the CAL responsibilities are currently being discussed.
Programmatic implications (technical, schedule, cost) being assessed.
CAL documentation update continues
PDR presentation work continues - Prepared CAL day 1 and day 2 presentations for PDR. Participated in PDR practice sessions.
At NRL, moved GLAST electronics and assembly areas to new laboratory spaces.

4.1.5.3 Mission Assurance

-Revising contamination control plan to include TKR and DAQ requirements along with cleanroom training plan. This plan will be circulated for review by subsystem manager.
-Revised and performed a dry run of PDR presentation.
-Attended PDR dry run for day 2 presentations and provided comments.
-Provided comments on SSD handling, inspection, etc. at Italy.
-Met with ACD electronics engineers to discuss parts availability and schedule issues.
-Met with GLAST spacecraft EEE part engineer to discuss testing of ASIC and PEM parts.
-Support SLAC Electronic Engineers regarding part issues.
-Provided manufacturing and quality control flow diagram for PDR to CAL management.
-Reviewing day 2 presentation of TKR assembly.
-Incorporating changes suggested by CAL team in the WOA database.

4.1.5.5 Crystal Detector Elements

PIN bonding tests (thermal cycling) on hold while lab space is being reorganized and thermal chamber is serviced. (NRL)

Tests with sample xtals and BTEM/BFEM calorimeter confirm that degradation of optical bond also decreases light asymmetry, presumably because of a change in reflectivity at the ends. This has implications for strategy for PIN bonding. (NRL)

4.1.5.7 Analog Front End Electronics

Design and layout of the calorimeter EM board is continuing. All of the GCFE chips and supporting components have been placed, in addition to all the mounting holes. Items to finish placing are the TEM connector, GCRC and supporting components, DACs and references. We received the Cadence Spectra routing software that we will be using on the boards.

Integration of TEM Comm Card to Cal VM1 Single Row Board is continuing. Coarse commanding of the VM board from the Comm Card has been verified. Waiting for Comm Card software driver for Comm Card to readback VM1 Board data. Working on debugging some type of problem with one of the VM1 Board LVDS data lines going to TEM Comm

Card. This LVDS data line is possibly picking up interference from a 3.3V logic ADC data line. Need Comm Card readback functioning to debug.

TEM to AFEE version1 electrical interface document has been written and distributed. This was a long awaited item.

Plastic samples from Amp FPC connectors sent out to OCM laboratories for outgassing testing. The FPC connectors are a possible backup solution for PIN Diode connection to AFEE boards.

Testing of GCFE Ver 3 has begun. Most of the functionality has been tested and linearity plots have been made.

Developing a test board for the GCRC ASIC.

4.1.E.3 CAL Balloon Flight

Continued search for CNO in balloon flight data. There aren't many. Trying to understand GCR fluxes and event rates. (NRL)

4.1.D.2.5 LAT SW Support

Reviewed CalRecon energy reconstruction through shower profiling. No obvious problems. (NRL)

Continuing analysis of BT and BF data to confirm or reject new electronic calibration techniques. It is clear (and has been) that electronic calib of BTEM/BFEM doesn't account for all nonlinearities observed in BT/BF data. Trying to learn lessons for LAT calibrations. (NRL)

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