

*** CALORIMETER (N. Johnson)

CAL Management (Johnson)

Preparations for Lehman Review dominated the management activities. CAL subsystem presentation was iterated, adding input from French and directives from the IPO.

Worked parts control and quality assurance for calorimeter and LAT in general. Participated in telecon with Darren Marsh and Martin Nordby.

CAL CsI Crystal Elements

Offers from potential vendors of the CsI crystals were discussed in telecon with Per Carlson, LAT IPO, France CEA and IN2P3, and NRL. Procurement strategies and options were discussed. Requests for clarification from offerors are being developed.

A telecon between NRL, France CEA and France IN2P3 reviewed the PIN photodiode spec and approved it for the EM (non-flight parts). The spec was transmitted to Hamamatsu with request for quote. Design discussions on the kapton cable continue from reliability and quality assurance standpoint. A meeting in Japan between Hamamatsu and France CEA and IN2P3 has been proposed.

Progress on optical bonding between diodes and CsI crystals at CEA and Polytechnique

CAL Pre Electronics Module (Bogaert, Polytechnique)

Optical test on the CEA test bench, associated to the vibration test, analysis completed (CEA, Polytechnique)

3M visible mirror film optical properties under investigation (CEA, Polytechnique)

Investigation for integration in clean room at Polytechnique (requirements, schedule, cost)

work on development plan

work on documentation asked by Paolo for the Lehman review.

CAL Analog Front End Electronics (Ampe)

Continued development of CAL AFEE side board design concepts, packaging issues and routing problems. ASIC package pin assignments have been iterated several times with SLAC designers.

CAL Balloon Flight (Phlips, Grove)

Released Rev C CAL TEM to J. Wallace for upgrade to Rev D. Test results from Rev D TEM from muon and electronic calibration datasets show no obvious problems. High trigger rates have not yet been tested.

In testing with the CAL DC-DC converter for the balloon flight, we discovered a voltage sensitivity in the ADCs on two of the 4 AFEE boards. Testing at NRL tracked it down to a buss voltage sensitivity in the Burr Brown ADCs that was not anticipated in the design or identified in testing. This becomes an issue on the

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temperature stability of the DC-DC converter which was not readily known. Scott Williams reported that, with some modifications to the added filtering, the voltage stability would be 10 - 20 mV over the expected temperature range of the BF.

CAL Software/Design Verification (Grove)

Discussion on Digi classes has converged, and a new design will be released this week. The new design is compatible with flight readout data modes.

We agreed to review the MC geometry (i.e. the CAL instrument description) next week at NRL as part of the verification of the simulation prior to the Lehman review.

Sandora (NRL) continues to analyze GSI data, studying energy resolution for C beam. She finds systematic pulse height effects (~5%) apparently associated with the Maxim ADCs. We will continue to study the effect and release a brief report when the study is complete.

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