

Weekly Report for the week ending Dec. 7, 2000

\*\*\* CALORIMETER (N. Johnson)

Contributions from NRL, Ecole Polytechnique

CAL Management (Johnson)

NRL (Johnson, Carosso) visited SLAC IPO to develop calorimeter management strategies and near term program milestones. NRL discussed the completion of the Calorimeter performance specification with Thurston and Davis of the IPO.

A new draft of the Memorandum of Agreement for the calorimeter work in France was developed and discussed in one video conference and two telephone conferences.

Discussions at NRL with Johnson, Bogaert, Debraine, Grove, and Philips on the near term program milestones re-enforce a concern identified at the working meetings in Paris in October. This concern is the ability to procure and deliver flight-like PIN photodiodes for near term demonstration of light yield and fabrication concepts for PDR. Bogaert reports 6 months to establish a contract even for prototype quantities of PINs and Philips, Johnson report 4 month timescales for Hamamatsu fabrication plus a couple of months to clarify spec. Acceleration of PIN specification and procurement time are critical.

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CAL CsI Crystal Elements (Philips, NRL; Bogaert, Polytechnique)

Work on the Detector elements was focused on the testing of Carbon-Cell prototypes and various crystals at NRL. Bogaert and Debraine (Polytechnique) prepared crystals for test at NRL and arrived at NRL on Wednesday.

Grove, Philips and Sandora prepared Amcrys-H crystal for testing with In2p3 C-cell.

Measurements and discussions for light yields and light asymmetry began Wednesday and will continue thru the week. (Bogaert, Debraine, Philips, Grove).

Contribution to optical measurements and data analysis at CEA for shake test crystals Backup measurements were also made for safety at Polytechnique. This was the first use of the optical test bench at CEA. (Bogaert).

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CAL Pre Electronics Module (Bogaert, Polytechnique)

Preparation for vibration test of VMI completed. Test began December 7.

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CAL Analog Front End Electronics

Final preparations for next week's radiation testing of potential cal ADCs at Brookhaven are in progress. Interface compatibility and GSE display tests are being completed. The plan is to radiation test for SEUs in 5 different types of ADCs. We will test 3 types of ADCs on our radiation test board as planned, and operate two new ADCs in consideration on the spare radiation test board. (Ampe, NRL)

Fruitful design discussions were held at SLAC on requirements and specifications of the calorimeter analog ASIC (Johnson, Haller, Nelson). Three design concepts for the calorimeter readout were discussed as well. Complexity, redundancy and interconnections are key to the optimal design configuration.

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#### CAL Balloon Flight

BFEM performance -- We collected muons in the BFEM CAL following the latest temperature cycling of the CAL (see last week's report). Dan Wood had been using the CAL TEM to develop balloon flight software after his TEM had failed. With the arrival of his replacement TEM, he has returned the CAL TEM (Grove, NRL)

The FPGA programs in the calorimeter control electronics have been updated to support new features for BF operations. Currently testing the new programs for correct operation. (Ampe, NRL)

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#### CAL Software/Design Verification (Grove, NRL)

Ground software -- Grove and Terrier have had fruitful email discussions regarding shower positioning and imaging in the CAL. Terrier's G3 simulations reproduce the on-axis shower positioning we found at SLAC beam test 1997, and they show systematic biases off-axis consistent with the crystal dimensions. Analysis continues.

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