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Weekly Report for the week ending Dec. 14, 2000

Contributions from NRL, Ecole Polytechnique

CAL Management (Johnson)

Work on the Memorandum of Agreement for the calorimeter work in France continues. Teleconferences, meetings and draft iterations abound.

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CAL CsI Crystal Elements

Measurements and discussions for light yields and light asymmetry began last week and continued thru the weekend. (Grove, Philips, Bogaert, Debraine).

Grove completed a draft memo summarizing the joint crystal testing. We reached the following conclusions:

- 1) The 3M bi-refrangent material gives excellent light yield, but that it suffers some degradation during its application to the composite cell. It certainly merits further study, either as a crystal wrap or a sleeve liner.
- 2) Even crystals that ostensibly have polished surfaces can show variations in light yield along their length and must be mapped. NRL had measured typically 5% gradients in response in the Amcrys 310 mm crystals for the BTEM calorimeter. All crystals must be mapped.
- 3) As we have shown previously, tapering the crystals does not change the mean light yield.
- 4) Tapering the crystals can smooth the position response and simplify the mapping and modeling of the position dependence of light yield.

Per Carlson reports the procurement process for the CsI crystals has started. The official announcement should have appeared in the EU journal on December 8. Deadline for offers is 22 January following the EU rules.

Draft specification document for the CAL PIN photodiode assembly was initiated. (Phlips, Johnson)

Participation to meeting on optical bond (Gilles + Oscar and many people at Saclay) to start testing of bonding and casting.

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CAL Pre Electronics Module (Bogaert, Polytechnique)

Vibration test of VM1 was completed December 7 with no noticeable problems or damage. A test report is in preparation. The test shake induced no deterioration of the structure nor of crystals surface, and the dynamic response of the structure was stable. Short report was sent to Neil Johnson by Oscar drawing immediate conclusions before a deeper analysis is made.

Discussions and work on PEM test bench set up and electronics (Alain + Gilles)

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CAL Analog Front End Electronics (Ampe)

Radiation testing of COTS ADCs at Brookhaven was rescheduled for December 21 for scheduling as well as readiness issues. Labview GSE data acquisition via the PC parallel port could not handle a high enough event rate. Mitigation was a C program which captures the data to file and then process the file thru Labview. We now have operational FPGA code that reads out all 5 ADC flavors.

Draft specification document for the CAL analog ASIC was initiated. (Johnson)

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CAL Balloon Flight (Ampe, Grove)

We are examining a problem seen in the lab of the calorimeter data becoming unsynchronized. It appears to be a message synchronization problem between the TEM and the CAL controllers. We will also replace one of the front-end ASICs which does not appear to be functioning with the charge injection self test.

BFEM calibration -- We continue muon calibrations.

Flying buttresses for the side support of the calorimeter are being machined.

Grove is reviewing procedures for CAL checkout before and after shipment of the BFEM CAL to SLAC in January. The most important issues are monitoring the stability of the PIN bonds and the FEE linearity.

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CAL Software/Design Verification

No report or no activity, I don't know which. I guess no report is better than no activity, so I say NO REPORT.

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