

Minutes from the Calorimeter Technical Oversight Committee Meeting  
November 18, 2016

Present: S. Miscetti, R. Y. Zhu, D.Hitlin, M.Martini, F.Happacher, B. Wisniewski, C. Bini, S. Los, R. Rucinski, G. Ginther, J. Whitmore, R. Ray  
Remote connection: (I.Sarra, F.Raffaelli, S.DiFalco).

Notes (from C. Bini and S. Miscetti - 7/12/17)

- 1) The committee was pleased to hear about the status of the preparations for the procurements of the EMC crystals and sensors. Pre-production for both components was well advanced at the time of the meeting and significant progress had been made on the Technical Specifications and on the associated Quality Assurance methods. It was shown that tuning of the specifications can be done if needed by studying the pre-production characteristics.
- 2) The pre-production crystals appear to meet our specifications and SiPM sensors perform well and satisfy our requirements. Irradiation tests for the SiPMs had yet to be completed at the time of the meeting, but preliminary measurements indicated that it will be necessary to operate them at low temperature ( $< 0$  C) to mitigate radiation damage effects.
- 3) The committee asked the Mu2e Calorimeter team to better specify the techniques that will be used to characterize the radiation hardness of crystals during production. This seems to be a minor issue, but specifying the method, if any, is important.
- 4) The committee also appreciated the presentation on the cooling system, the description of the interface between the SiPM and their holders, and the cooling lines in the back disk. A detailed thermal simulation was shown at the meeting. The committee requested that the Calorimeter Team conduct a test of the thermal path with prototypes before the final Construction Readiness Review. The design of the cooling for the digitizer electronics seems to be well advanced but also very demanding/complex. Because of the design complexity, a specific test of the thermal path with prototypes would be very useful.