

Abstract Submitted  
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**Study of CMS HF Candidate PMTs With Muons And Čerenkov Light in Electron Showers** BURAK BILKI, University of Iowa, CMS HCAL COLLABORATION — The response of four different types of PMTs to muons traversing the PMT window at different orientations is measured at CERN H2 test beam. These candidate PMTs for CMS HF upgrade show significantly lower response to PMT window incident muons compared to the currently installed HFPMT due to their thinner windows. For the four anode PMT, a simple and powerful algorithm to identify such events and recover the signal using the remaining quadrants is also presented. For the measurement of PMT responses to Čerenkov light, the HF calorimeter signal was mimicked by two different setups in electron beams and the candidate PMT performances were compared with each other and with HFPMT. Superior performance of particular candidate PMTs was observed against HFPMT.

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