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CMS HF PMT Abnormal Event Simulation ANTHONY MOELLER, University of Iowa, CMS COLLABORATION — Test beam results from 2004 showed that both muons and pions could penetrate through the entire Hadronic Forward (HF) calorimeter of the Compact Muon Solenoid (CMS), striking the PMT windows directly. The particles traveling through the window create Cherenkov radiation, depositing an abnormally large amount of energy compared to the energy collected from the HF. A detector simulation of HF created with Geant4 and CMS Software (CMSSW) was used to investigate this effect. Results for the particles used in test beam (electrons, muons and pions) are included. Also included are results from simple Pythia generated jets. Rates of abnormal events, timing information, as well as results from a few simple abnormal event rejection algorithms are presented.

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