

Abstract Submitted  
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**A Novel Method to Eliminate Muon Events on PMT Windows of CMS Hadronic Forward Calorimeter** UGUR AKGUN, University of Iowa, CMS COLLABORATION — The Hadronic Forward calorimeters in CMS use R7525-HA Hamamatsu PMTs for signal readout. Our previous studies revealed abnormally high amplitude signals due to punch through charged particles, mostly muons, producing Cherenkov photons at the PMT window. In this presentation we show that the Cherenkov signal coming from quartz fibers of the HF calorimeter has a pulse width of 4-5 ns while that of the Cherenkov signal created by muons at the PMT window is less than 2 ns. We also show that the signal from muon events arrive earlier than the usual HF signal. We propose the design of an additional circuit which can tag these events using these timing characteristics.

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