Abstract Submitted
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Study on the Effects of Layered Threshold Cuts on Noise in the CMS Calorimeter DYLAN PREDERGAST, R. DEMINA, J. DOLEN, University of Rochester, R. HARRIS, FNAL, P. TIPTON, M. ZIELINSKI, University of Rochester, CMS COLLABORATION — Low P_T jets are important for understanding new physics at the LHC. In this low P_T region, noise can play a substantial role. In order to optimize the energy cuts that best reduce this noise, a quantization of how much noise is in each section of the calorimeter was required. We were then able to compare different energy cuts on different sections of the calorimeter to see where harder or softer cuts needed to be placed. This study used single muon samples to simulate "noise-only" events. We found ∼8.5 GeV of noise in the calorimeter. We decided on a layered jet energy cut scheme that reduced this noise to ∼1.4 GeV.

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