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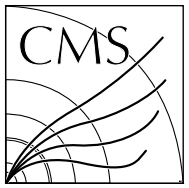

The Compact Muon Solenoid Experiment

Analysis Note

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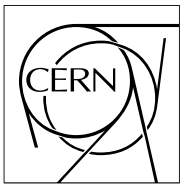

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Plans for Jet Energy Corrections at CMS

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Abstract

Jet corrections at CMS will come initially from MC tuned on TB data, directly from collision data when available, and ultimately from a MC tuned on collision data. The corrections will be factorized into a fixed sequence of sub-corrections associated with different detector and physics effects. The following three factors are minimum requirements for most analysis: offset corrections for pile-up, noise, and effects of thresholds; correction for the response of the calorimeter as a function of jet pseudorapidity relative to the barrel; correction for the absolute response as a function of transverse momentum in the barrel. The required correction gives a jet four vector equivalent to the sum of particles in the jet cone emanating from a QCD hard collision. The following four factors will be provided for use if desired by the analysis: dependence on the fraction of jet energy in the Ecal; dependence on the flavor of the final state jet; removal of underlying event; correction back to the parton level. We discuss the status of these corrections, the planned data-driven techniques for their derivation, and their anticipated evolution with the stages of the CMS experiment.