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Performance of missing transverse momentum reconstruction in proton-proton collisions at root s=13 TeV using the CMS detector

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Abstract

The performance of missing transverse momentum ((p over right arrow (miss)(T)) reconstruction algorithms for the CMS experiment is presented, using proton-proton collisions at a center-of-mass energy of 13 TeV, collected at the CERN LHC in 2016. The data sample corresponds to an integrated luminosity of 35.9 fb⁻¹. The results include measurements of the scale and resolution of (p over right arrow (miss)(T), and detailed studies of events identified with anomalous (p over right arrow (miss)(T). The performance is presented of a (p over right arrow (miss)(T) reconstruction algorithm that mitigates the effects of multiple proton-proton interactions, using the "pileup per particle identification" method. The performance is shown of an algorithm used to estimate the compatibility of the reconstructed (p over right arrow (miss)(T) with the hypothesis that it originates from resolution effects.

Keywords

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