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## Performance of missing transverse momentum reconstruction in proton-proton collisions at $\sqrt{s} = 13$ TeV using the CMS detector (Article) [\(Open Access\)](#)

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### Abstract

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The performance of missing transverse momentum ( $\not{p}_{\text{miss}} T$ ) 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<sup>-1</sup>. The results include measurements of the scale and resolution of  $\not{p}_{\text{miss}} T$ , and detailed studies of events identified with anomalous  $\not{p}_{\text{miss}} T$ . The performance is presented of a  $\not{p}_{\text{miss}} T$  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  $\not{p}_{\text{miss}} T$  with the hypothesis that it originates from resolution effects. © 2019 CERN for the benefit of the CMS collaboration.

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