Article No 6

Measurement of the Wγ Production Cross Section in Proton-Proton Collisions at $\sqrt{s}$ = 13 TeV. and Constraints on Effective Field Theory Coefficients

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Abstract

A fiducial cross section for Wγ production in proton-proton collisions is measured at a center-of-mass energy of 13 TeV in 137 fb−1 of data collected using the CMS detector at the LHC. The W → eν and μν. decay modes are used in a maximum-likelihood fit to the lepton-photon invariant mass distribution to extract the combined cross section. The measured cross section is compared with theoretical expectations at next-to-leading order in quantum chromodynamics. In addition, 95% confidence level intervals are reported for anomalous triple-gauge couplings within the framework of effective field theory.