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Measurement of the electroweak production of one photon and two jets in proton-proton collisions at sqrt(s)=13 TeV in CMS detector

We present the first observation of electroweak production of a photon in association with two forward jets in proton-proton collisions using 13 TeV data recorded by the CMS experiment corresponding to an integrated luminosity of 138 fb-1 The analysis is performed in a region enriched with vector boson fusion (VBF) production, with a requirement on the transverse momentum of the leading photon to exceed 200 GeV. The cross section is measured in the VBF fiducial region, at a significance concerning the null hypothesis that exceeds five standard deviations, and in agreement with the standard model prediction. Differential cross sections are measured as a function of various observables. Limits are set on effective field theory operators that contribute to the WWy vertex at dimension-six. The 95% confidence intervals for cW and cHWB are [0.11, 0.16] and [-1.6, 1.5], respectively.

Secondary track

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