

# Search for $t\bar{t}H$ production in multileptons final states at 13 TeV with CMS

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A search for top quark pair production in association with a Higgs boson in  $\sqrt{s} = 13$  TeV pp collisions is presented. The search, performed in a dataset of  $35.9 \text{ fb}^{-1}$  collected by the CMS detector along the year 2016, is performed in channels with at least two same-sign leptons and b-jets, targeting the  $WW^*$ ,  $ZZ^*$  and tautau decay modes of the Higgs boson. A best fit of  $1.5 \pm 0.5$  times the standard model prediction is obtained, with an observed (expected) significance of 3.3 (2.5)  $\sigma$ , by the combination of these results with the ones obtained in the 2015 dataset.

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