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Results on $t\bar{t}H$ by CMS and ATLAS

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The measurement of the production of the Higgs boson in association with a pair of top-anti-top quarks directly probes the coupling of the top quark, the heaviest known particle, to the Higgs boson. Measurements are performed in different Higgs boson decay channels, including Higgs boson decays to a pair of photons, to multilepton final states, including $ZZ^* \rightarrow 4l$, and to a pair of b-quarks. The challenges range from analyzing final states with very small branching ratios to understanding the backgrounds for very complex final states. This talk presents the different analyses based on pp collision data collected at 13 TeV, as well as their combined results, leading to the observation of the $t\bar{t}H$ production process.

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