

Measurement of the $t\bar{t}H \rightarrow b\bar{b}$ process with the ATLAS experiment

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The associated production of the Higgs boson with the top quark allows to directly probe the Top Yukawa coupling, which is a key parameter for the Standard Model. The presented $t\bar{t}H(bb)$ analysis exploits the distinctive signature of the large $H \rightarrow b\bar{b}$ branching ratio and the leptonic decays of the top quarks and, uses the full Run 2 dataset collected with the ATLAS detector at the centre-of-mass energy of 13 TeV. Improved reconstruction and machine learning techniques are deployed to optimise the signal-background separation. Differential measurements are explored within the STXS formalism, as a function of the Higgs boson transverse momentum. The results are compared with the predictions of the Standard Model.

Alternate track

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