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Search for $t\bar{t}H$ production in high- p_T regimes with the ATLAS detector

The associated production of the Higgs boson with a pair of top/anti-top quarks ($t\bar{t}H$) is the only process providing the direct access to the measurement of the Yukawa coupling between the Higgs boson and the top quark. The presented results exploit the data collected during 2015 and 2016 by the ATLAS experiment during LHC collisions at a center-of-mass energy of 13 TeV. Multivariate techniques are used in order to discriminate between signal and background events, dominated by the $t\bar{t}$ production. The analysis uses algorithms specifically designed to cope with the difficult reconstruction of very high- p_T jets. These algorithms, called boosted techniques, take advantage of the peculiar substructure of the high- p_T jets.

Experimental Collaboration

ATLAS

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