

Fake-Rate Determination for the $t\bar{t}H$ Coupling Measurement with a Signature of Two Same Electric Charge Light Leptons Associated with a Tau Using the ATLAS Detector at the LHC

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After the discovery of a Higgs boson, the measurements of its properties are at the forefront of research. The determination of the associated production of a Higgs boson and a pair of top quarks is of particular importance as the $t\bar{t}H$ Yukawa coupling is large and can probe for physics beyond the Standard Model. The analysis is based on data taken by the ATLAS experiment recorded from 13 TeV proton-proton collisions. The $t\bar{t}H$ production was analyzed in various final states. The focus of this presentation is on the fake rate determination in the final state with two light leptons of same electric charge and one hadronically decaying tau lepton.

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