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Higgs Boson measurements in the H->WW->lvlv decay channel

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Having the second highest branching ratio, the decay of the Higgs boson into two W bosons is one of the most promising channels to study the CP properties of the Higgs boson, couplings of Higgs to the other particles as well as inclusive and differential cross-section measurements. It is the only analysis sensitive to the forward Higgs production with pseudorapidities of the Higgs boson above 2.5. The leptonic final state lvlv provides a clean signature and allows for the use of efficient lepton triggers. Yet, several different backgrounds processes (top, misidentified leptons, etc.) remain relevant for this analysis and different measures are taken to reduce them. The combination of high rate and clean signature provides a unique opportunity to measure all the major production modes (ggF, VBF, WH, ZH) in a single decay channel. The studies presented here are based on the proton-proton collision data recorded by the ATLAS detector at the LHC at a centre-of-mass energy of 8 and 13 TeV. The rates are measured separately for the two leading production modes of gluon fusion and Vector Boson Fusion, both inclusive and differential.

I read the instructions

Secondary track (number)

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