

H \rightarrow WW* \rightarrow $\nu\mu\nu$ searches in the ATLAS 13 TeV data

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Higgs boson production cross-sections via the gluon–gluon fusion and vector-boson fusion modes are measured in the $H \rightarrow WW^* \rightarrow \nu\mu\nu$ decay channel in the ATLAS experiment at the LHC. The $H \rightarrow WW^*$ decay channel has the second largest branching fraction and allows to measure Higgs boson production cross-section with good precision. The analysis is based on the proton–proton collision data produced at the LHC at a centre-of-mass energy of 13 TeV and recorded by the ATLAS detector in 2015 and 2016, corresponding to an integrated luminosity of 36.1 fb^{-1} . The ggF and VBF cross-sections multiplied by the $H \rightarrow WW^*$ branching ratio are found to be in agreement with the Standard Model predictions.

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