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Study of Higgs boson properties in $H \rightarrow ZZ^{(*)} \rightarrow 4l$ decay channel with ATLAS

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After the discovery of the Higgs boson, the precision measurements of its properties and comparison of results to those predicted by the Standard Model (SM) became the crucial part of the LHC physics programme. Potential observation of deviations may lead to the discovery of a new physics beyond the Standard Model (BSM). In this contribution, the results of analyses of the Higgs boson properties in $H \rightarrow ZZ^{(*)} \rightarrow 4l$ decay channel are presented. The measurements of Higgs SM couplings, fiducial and differential cross sections with 36.1 fb^{-1} of data collected by ATLAS at $\sqrt{s} = 13 \text{ TeV}$ are shown. The observed limits on BSM tensor structure of Higgs couplings to SM bosons and fermions are also discussed.

Summary

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