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# Search for non-resonant di-Higgs production in the bbbb final state at 13 TeV with the ATLAS experiment

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The result of search for non-resonant di-Higgs production in the *bbbb* final state using full Run-2 dataset of proton-proton collisions at $\sqrt{s}$=13 TeV with the ATLAS detector is presented. The *bbbb* final state is one of the most sensitive channels for measuring the Higgs self-coupling and di-Higgs production cross-section, thanks to the highest branching ratio. The analysis utilizes a novel neural network to estimate the large QCD backgrounds, and employs analysis categorizations to improve the sensitivity to di-Higgs production. This poster will present the analysis strategy and the latest result of the observed (expected) upper limits on the SM HH production cross-section and the constraint on the Higgs self-coupling at a 95% confidence in this analysis.

## In-person participation

Yes

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