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Search for non-resonant HH production in the 4b final state with the ATLAS detector

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A direct probe of the Higgs boson trilinear self-coupling is possible via Higgs boson pair production, making di-Higgs analyses particularly interesting. In addition, HH production via vector boson fusion, the second-leading HH production process, has a unique sensitivity to the interaction between two Higgs bosons and two vector bosons. Furthermore, enhancements to the di-Higgs production rate would point to new physics beyond the Standard Model, making such analyses interesting at the LHC. This talk presents a search for non-resonant production of Higgs boson pair in the 4 bottom quarks final state using the full Run 2 dataset.

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