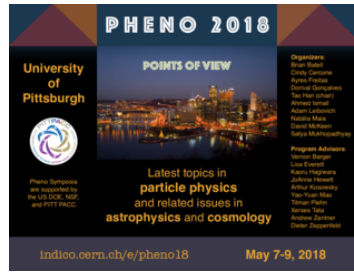


## Phenomenology 2018 Symposium



Contribution ID: 609

Type: parallel talk

# Search for rare and exotic Higgs Boson decay modes and Higgs boson pair production with the ATLAS detector

*Tuesday 8 May 2018 18:00 (15 minutes)*

An enhanced production of double Higgs bosons or exotic decays of the Higgs boson would be two clear signs of beyond Standard Model physics. A search is performed for resonant and non-resonant Higgs boson pair production, where the two Higgs bosons decay to four bottom quarks. Another search is conducted for a Higgs boson decay to  $XX$  to four leptons. Both analyses use up to  $36 \text{ fb}^{-1}$  of p-p collision data collected by the ATLAS detector at 13 TeV. No significant excess is found. The observed 95% confidence level upper limit on the non-resonant Higgs boson pair production is 13 times the Standard Model prediction.

## Summary

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**Session Classification:** Higgs III