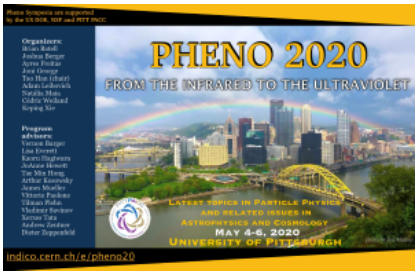

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Constraining the Higgs boson self-coupling in a combined measurement of single and double Higgs boson channels at the ATLAS experiment

Tuesday 5 May 2020 16:30 (15 minutes)

The most precise measurements of Higgs boson single and double Higgs production cross sections are obtained from a combination of measurements performed in different Higgs boson production and decay channels. While double Higgs production can be used to directly constrain the Higgs boson self-coupling, the latter can be also constrained by exploiting higher-order electroweak corrections to single Higgs boson production. A combined measurement of both results yields the overall highest precision, and reduces model dependence by allowing for the simultaneous determination of the single Higgs boson couplings. Results for this combined measurement are presented based on pp collision data collected at a center-of-mass energy of 13 TeV with the ATLAS detector.

Summary

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