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## Search for Higgs boson pair production in the $HH \rightarrow b\bar{b}\gamma\gamma$ final state with the full Run 2 + partial Run 3 pp collision data collected by the ATLAS Experiment

A search for non-resonant Higgs boson pair production in the  $b\bar{b}\gamma\gamma$  final state is performed using the full Run 2 and partial Run 3 proton-proton collision data collected by the ATLAS experiment at the Large Hadron Collider at CERN. The data amounts to an integrated luminosity of 140 fb<sup>-1</sup> at a center of mass energy of 13 TeV, plus 59 fb<sup>-1</sup> at a center of mass energy of 13.6 TeV. The analysis is optimized to probe deviations from the Standard Model of both the Higgs-boson trilinear self-coupling modifier  $\kappa_\lambda$  as well as the quartic  $\kappa_{\lambda\lambda\lambda\lambda}$  (where  $\kappa = \kappa_\lambda, \kappa_{\lambda\lambda\lambda\lambda}$ ) coupling modifier  $\kappa_{2V}$ .

### Secondary track

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