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Search for resonant and enhanced non-resonant di-Higgs production in the $\gamma\gamma b\bar{b}$ channel with data at 13 TeV with the ATLAS detector

This poster presents the run 2 search for di-Higgs production in the $\gamma\gamma b\bar{b}$ channel. In the Standard Model, this process provides a lens on the Higgs self-coupling and it is enhanced, resonantly or non-resonantly, in many extensions to the SM. It is appealing thanks to a clean diphoton trigger, relatively small backgrounds, and excellent diphoton mass resolution. It is also particularly important in the range from 260 to 400 GeV, where QCD backgrounds and combinatorics make other channels ($4b$, $b\bar{b}\tau\tau$) challenging.

Experimental Collaboration

ATLAS

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