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Di-Higgs searches at CMS

The measurement of the production of Higgs boson pairs (HH) at the LHC allows the exploration of the Higgs boson interaction with itself and is thus a fundamental test of the Standard Model theory and has a key role in the determination of the Higgs boson nature. The most recent results from the CMS collaboration on measurements of non-resonant HH production using different final states and their combination using the data set collected by the CMS experiment at a centre of mass energy of 13 TeV or 13.6 TeV will be presented. The combination of all available research channels give the possibility to constrain the self-coupling parameters that determine the shape of the Higgs boson potential. These results will be also presented, in the context of the SM and in extension of it.

Secondary track

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