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Searches for double Higgs production at the LHC using the CMS detector

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The production of pairs of Higgs bosons provides a direct handle on the structure of the Higgs field potential. While the HH production within the SM is very small and essentially out of the experimental reach within the Run I or II, several beyond SM theories foresee an enhancement that can be already probed with the available data. The talk will present the searches for resonant and non-resonant productions of pairs of HH bosons made by the CMS collaboration in several final states. The interpretation of these results in the framework or BSM theories will be discussed, along with the future prospects for double Higgs boson production measurement.

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