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Recent results in the $H \rightarrow WW$ channel with full LHC Run-II data collected by the CMS experiment

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In 2012, the observation of the Higgs Boson was announced by the CMS and ATLAS experiments at CERN. Since the discovery, work has continued to measure the Higgs boson couplings and quantum numbers with greater precision. There are several production channels of the Higgs boson and we are searching for the production of the Higgs boson in association with a vector boson in the $H \rightarrow WW$ decay channel with the CMS experiment at the LHC. This measurement provides a direct probe of the Higgs boson coupling to vector bosons. The latest CMS results on the Higgs boson decay to a W boson pair are presented. The focus of the poster will be on the inclusive and STXS measurements performed for the VH leptonic channel with full Run 2 data which corresponds to an integrated luminosity of 137.1 fb⁻¹, collected by the CMS detector at LHC, as well as the constraints on the Higgs boson couplings to fermions and vector bosons arising from the simultaneous measurement of different production mechanisms.

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