

ID de Contribution: 77 Type: **Ordinary**

CMS High mass WW and ZZ Higgs search with the complete LHC Run1 statistics

mardi 17 mars 2015 17:40 (15 minutes)

A search for an additional Higgs boson in the $H \to WW$ and $H \to ZZ$ decay channels is reported. For Higgs boson masses in the range 145 < m_H < 1000 GeV, limits from the search for a heavy resonance in the context of an electroweak singlet extension of the standard model are presented. Additionally, the combined upper limit at the 95% confidence level on the product of the cross section and branching fraction exclude a Higgs boson with standard model-like couplings in the range 145 < m_H < 1000 GeV. The search is based upon proton-proton collision data samples corresponding to an

integrated luminosity of up to 5.1 fb^{-1} at \sqrt{s} = 7 TeV and up to 19.7 fb^{-1} at \sqrt{s} = 8 TeV, recorded by the CMS experiment at the CERN LHC. Several final states of the $H\to WW$ and $H\to ZZ$ decays are analyzed.

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Classification de Session: The Scalar Sector

Classification de thématique: Experiment