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Search for a Higgs boson produced in association with a Z or W boson, where H decays to $b\text{-}\bar{b}$ and the Z/W to leptons at CMS.

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In 2012, the ATLAS and CMS Collaborations announced the discovery of a new state with a mass around 125 GeV, compatible with the Standard Model Higgs boson. The measurements of this new particle's properties are important to test the predictions of the Standard Model.

A measurement of the Higgs-beauty quark coupling through the Higgs boson production associated with a Z or W boson in the dilepton + beauty final state is presented. The analysis is based on 41.3/fb data from p-p collisions at 13 TeV center-of-mass energy, collected by CMS in 2017. When combining with previous versions of the analysis on the 7, 8 and 13 TeV center-of-mass energy, a 125.09 GeV Standard Model Higgs is measured with a significance of 4.8 sigma. The combination of this measurement with other CMS analyses of a Higgs boson decaying in the beauty quarks yields a significance of 5.6 sigma. This is the first observation of a Higgs boson decaying into bottom quarks at CMS.

The poster gives an overview of the analysis strategy and results on the 2017 dataset. Results of the combination with other Higgs search will be presented as well.

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