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【345】Observation of Hbb in 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.

A measurement of the Higgs-beauty quark coupling through the Higgs boson production associated with a Z or W boson in the lepton + beauty final state is presented. The analysis is based on 41.3/fb data from p-p collisions at 13 TeV collected by CMS in 2017. When combining with the analyses on the 7, 8 and 13 TeV energies, a 125.09 GeV Higgs boson is measured (4.8 sigma significance).

The combination of this measurement with other CMS analyses of a Higgs boson decaying to beauty quarks observed a significance of 5.6 sigma.

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