

Search for heavy neutral Higgs bosons decaying into a pair of b quarks

With the discovery of the Higgs boson in 2012, a milestone in particle physics was reached. The precision measurements that followed indicate that the found particle agrees with the Standard Model predictions. Nevertheless, there is still room for theories beyond the Standard Model including an extended Higgs sector. Examples for such theories are Supersymmetry or general Two Higgs Doublet models. Not only feature these models additional Higgs bosons but they also allow for a significantly enhanced coupling of the Higgs boson to b quarks.

This analysis targets heavy neutral Higgs bosons decaying into two b quarks and produced in association with one or two additional b quarks. The final state is thus fully hadronic. A mass range from 300 GeV to 1.6 TeV is investigated based on data collected in 2017 with the CMS detector at the LHC at a center-of-mass energy of 13 TeV. First results are shown.