

Search for Boosted Higgs decaying into bottom quark pairs in CMS

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I will present the search for boosted Higgs boson with transverse momentum greater than 450 GeV decaying into bottom quark pairs using LHC full run 2 dataset collected by the CMS experiment.

In this search, we employed the latest jet substructure variables and b-tagging techniques based on a deep neural network to reduce the overwhelming QCD backgrounds.

An excess of events above background is observed with a local significance of 2.5 standard deviation, while the expectation is 0.7.

The measured Higgs production cross sections is also presented as a function of transverse momentum of the Higgs boson and compared with the latest gluon-gluon fusion prediction with finite top-mass corrections.

Primary author: KWOK, Ka Hei Martin (Brown University (US))

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