

Abstract Submitted  
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**Search for anomalous HVV couplings in associated Higgs production with H to bb** SINAN SAGIR, Brown University, CMS COLLABORATION — A search for anomalous Higgs couplings to vector bosons is presented in VH associated production channel with Higgs decaying to a pair of bottom quarks and vector boson decaying leptonically. The data corresponds to an integrated luminosity of  $18.9 \text{ fb}^{-1}$  at center-of-mass energy of  $\sqrt{s}=8 \text{ TeV}$ , collected with the Compact Muon Solenoid (CMS) detector at the Large Hadron Collider (LHC) from pp collisions. For a spin-zero Higgs boson, we perform parameter scans of  $f_{a3}^{ZZ}$ , effective fraction of pseudo-scalar cross section and combine our measurements in this channel with previous measurements in gluon fusion channel with Higgs decaying to a vector boson pair. We demonstrate that the VH channel is very powerful to put limits on very small anomalous Higgs couplings to vector bosons. This analysis is the first study of anomalous Higgs couplings at the LHC in VH associated Higgs production channel and the first study in Higgs fermionic decay channel.

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