

Search for Higgs boson production in association with a top quark pair at CMS

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With the recent exciting discovery of the new “Higgs Like” Boson at LHC, one big question is whether it is our long-sought standard model Higgs boson. Our search for Higgs boson production in association with a top quark pair where the Higgs Boson decays mainly to bottom quark pair and the top quark pair decays to either lepton plus jets or dileptons help address this question in two aspects: 1. So far we've only see the new boson in two channels, can we see it in other channels as well? 2. Do its properties match the SM expectation, especially its coupling to the two heaviest fermions (top and bottom quarks)?