

Abstract Submitted
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Search for the standard model Higgs boson produced in association with W or Z bosons, and decaying to bottom quarks JIA FU LOW, University of Florida, CMS COLLABORATION — An essential search to answer the question of whether the newly discovered boson is the standard model Higgs boson (H) is the decay of the boson into a pair of bottom quarks ($b\bar{b}$), as this is theoretically the dominant decay channel of the low mass Higgs. For the best signal-to-background significance, the associated production of the Higgs with a weak vector boson (V) is used and the search is carried out in five different channels: $W(\mu\nu)H, W(e\nu)H, Z(\mu\mu)H, Z(ee)H$ and $Z(\nu\nu)H$. A data sample, recorded by the CMS detector at the LHC, that corresponds to integrated luminosities of 5.1 fb^{-1} at $\sqrt{s} = 7 \text{ TeV}$ and 12.1 fb^{-1} at $\sqrt{s} = 8 \text{ TeV}$ is analyzed. Exclusion limits at the 95% confidence level and significance of signal excess with respect to the expectations for $H \rightarrow b\bar{b}$ in the mass range $110 - 135 \text{ GeV}$ are reported.

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