

Abstract Submitted  
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**Search for Higgs Production in Association with Top Quarks at CMS** JOHN WOOD, University of Virginia — Recent observations of a new boson with mass of 125 GeV are generally consistent with the Higgs of the Standard Model. The properties of this new particle must now be understood in detail in order to say anything conclusive about its relationship to a SM Higgs. The observation of this new particle in association with top quarks would allow the couplings of this particle to top and bottom quarks to be measured.  $t\bar{t}H$  production, with  $H$  to  $b\bar{b}$ , is an excellent channel to explore, given the well-understood  $t\bar{t}$  kinematics and efficient  $b$ -tagging at CMS. However, this channel presents some difficult challenges due to a low signal to background ratio and uncertainties of SM background processes. This talk describes the search for the SM Higgs boson in association with top quarks at CMS, focusing on our background modeling and signal extraction techniques.

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