Contribution ID: **119** Type: **Oral Presentation**

Search for ttH production in the H → bb decay channel at CMS

Tuesday 30 July 2019 17:20 (20 minutes)

A search for associated production of a standard model Higgs boson with a top quark-antiquark pair (ttH), in which the Higgs boson decays into a bb pair, will be presented. Latest results are shown obtained using pp collision data recorded by the CMS experiment. Candidate ttH events are selected based on the number of leptons in the final state from the tt decay, and are further categorized according to the number of jets. Multivariate techniques are employed for the final event classification with an aim to discriminate between signal and background processes. Particularly challenging backgrounds arise from the tt + heavy-flavour jet production. A combined fit of multivariate discriminant distributions in all categories and tt decay channels is finally used to extract the ttH signal.

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Session Classification: Higgs & Electroweak Physics

Track Classification: Higgs & Electroweak Physics