



Contribution ID: 299

Type: **Parallel Session talk**

Observation of $H \rightarrow b\bar{b}$ decays in the VH production mode and first differential measurement with the ATLAS detector

Tuesday, August 6, 2019 4:15 PM (12 minutes)

Summary

$H \rightarrow b\bar{b}$ decays allow to probe the Yukawa coupling of the Higgs boson to down type quarks. Observing these processes at the LHC is extremely challenging due to the large multi-jet background; however, this can be greatly suppressed by triggering on Missing Transverse Energy and charged leptons coming from the decay of a weak vector boson produced together with the Higgs. In this talk, the latest search for $H \rightarrow b\bar{b}$ decays associated with a W or Z boson with the ATLAS detector will be presented. Furthermore, the first VH $\rightarrow b\bar{b}$ differential measurement in bins of transverse momentum of the vector bosons will be discussed; this type of differential measurement is particularly sensitive to Beyond Standard Model physics, as probed through an Effective Field Theory approach.

Primary authors: ATLAS COLLABORATION; AMBROZ, Luca (University of Oxford (GB)); AMBROZ, luca

Presenters: AMBROZ, Luca (University of Oxford (GB)); AMBROZ, luca

Session Classification: Collider SM & BSM (Parallel)