

Abstract Submitted  
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**Search for the Standard Model Higgs produced in association with a vector boson and decaying to a  $b\bar{b}$  pair in  $pp$  collisions at  $\sqrt{s} = 13$  TeV with the ATLAS detector** ALYSSA MONTALBANO, Stony Brook University , ATLAS COLLABORATION — The Standard Model (SM) Higgs boson has yet to be measured in its predicted dominant decay mode,  $b\bar{b}$ , owing to the high quantum chromodynamics (QCD) background at the Large Hadron Collider. This decay mode provides the largest avenue for new physics if the  $H \rightarrow b\bar{b}$  measurement differs from the SM predictions. We significantly reduce the large QCD background by requiring the Higgs boson to be produced with an associated vector boson (Z,W) which then decays in a leptonic mode. I will discuss recent results from this search in  $pp$  collisions at  $\sqrt{s} = 13$  TeV with the ATLAS detector, a data-driven estimate of the QCD background, and optimizations for the measurement of  $VH$  production.

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