

Abstract Submitted  
for the APR21 Meeting of  
The American Physical Society

**VBF + Photon: A New Mode for Hadronic Final States for the HL-LHC** STEPHEN ROCHE, BENJAMIN CARLSON, University of Pittsburgh, CHRISTOPHER HAYES, University of Michigan, TAE MIN HONG, University of Pittsburgh — Some two Higgs doublet models predict the decay of the Higgs boson to two spin-zero bosons, where the dominant decay mode is to two bottom quarks. The channel remains a significant challenge for the LHC, due to the enormous hadronic background and challenge defining trigger strategies. We present a preliminary analysis of Monte Carlo simulations of this process, focusing on the VBF production mechanism with an additional associated photon.

Stephen Roche  
University of Pittsburgh

Date submitted: 11 Jan 2021

Electronic form version 1.4