

Abstract Submitted  
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**America's Next Top Model: Probing the  $tWb$  Vertex with Polarized Top Quarks** KEVIN SAPP, University of Pittsburgh, ATLAS COLLABORATION — Single top quark production is a subject of much detailed study in the higher-statistics sample collected by the ATLAS experiment. It is also the ideal candidate for a standard-model process to provide insight into beyond-standard-model physics; the large top mass and the resulting polarized weak production make deviations from the expected angular distribution of the decay a clear sign of new contributions to the effective  $tWb$  vertex. We present a procedure to constrain the amplitudes and phases in this transition using a two-dimensional likelihood function incorporating efficiency, resolution, and backgrounds analytically, and extract detailed coupling information which will indicate where new physics coupling to the top quark can exist.

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