

Abstract Submitted  
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**Same Sign  $W^\pm W^\pm$  Production and Limits on Anomalous Quartic Gauge Couplings** LULU LIU, University of Michigan, ATLAS COLLABORATION — The production of a pair of  $W$  bosons with the same electric charge is a process which has not been observed at the LHC. One of its dominant production mechanisms is through the vector boson scattering (VBS), whose unitarization relies on the electroweak symmetry breaking mechanism and makes VBS of great interest to study. This talk, together with the talk by Alex Sood, will present a measurement of the inclusive same sign  $W^\pm W^\pm$  cross section, as well as a further study of the production through VBS with the requirement that the two leading  $p_T$  jets are separated by at least 2.4 in rapidity ( $\Delta y$ ). Limits are set on the anomalous quartic gauge couplings (aQGC). The analysis is performed using  $20 \text{ fb}^{-1}$  of data collected by the ATLAS detector at  $\sqrt{s} = 8 \text{ GeV}$ . This talk will focus on the extraction of the cross section and the limits on aQGC.

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