

Abstract Submitted  
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**Measurement of the WW Production Cross Section in pp Collisions at 7 TeV with the ATLAS Experiment** YUSHENG WU<sup>1</sup>, UM/USTC

— We present the measurement of the  $W+W^-$  production cross section in proton-proton collisions at 7 TeV in the three di-lepton decay channels ( $ee$ ,  $\mu\mu$  and  $e\mu$ ) with the ATLAS experiment at the LHC. The data used in this analysis corresponds to an integrated luminosity of 35 pb<sup>-1</sup>, collected by the ATLAS detector during 2010. This analysis has been focused on the experimental event signature of two isolated leptons with high transverse momenta and large missing transverse energy. The major background for such final states comes from  $W$ +jets,  $Z$ +jets and top events, which are estimated using both MC samples and data driven methods. Events with jets above 20 GeV are rejected to reduce these backgrounds, resulting in a total background contribution estimated to be less than 20% of the expected WW candidate events. Our observations in the three di-lepton final states are consistent with the SM next-to-leading order predictions of  $W+W^-$  production.

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