

Abstract Submitted  
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**Measurement of the Top-Pair Differential Cross Section with pp Collisions at  $\sqrt{s} = 7$  TeV at ATLAS** R. MATT LEONE, University of Arizona, ATLAS COLLABORATION — The top quark mass, being near the electroweak symmetry breaking scale, plays a vital role in many beyond the standard model (BSM) theories. These theories predict exotic particles decaying into top quark pairs. A precise measurement of the differential cross section with respect to the top-pair invariant mass could constrain such models and simultaneously test the perturbative QCD for heavy quark production. We present the status of such a measurement with 1/fb of data at  $\sqrt{s} = 7$  TeV collected by the ATLAS experiment. The measured cross section as a function of the invariant mass is unfolded and corrected for detector resolution, efficiency and acceptance in order to facilitate direct comparison with theoretical predictions. We discuss the unfolding strategy and show the comparisons of SM expectation and those observed in data.

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