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Searches for $t\bar{t}$ Resonances at $\sqrt{s} = 13$ TeV Using Run 2 Data from the ATLAS Experiment AARON KILGALLON, University of Arizona, UA TOP ANALYSIS TEAM — Run 2 of the Large Hadron Collider at $\sqrt{s} = 13$ TeV will extend the discovery reach for new particles predicted by Beyond the Standard Model theories. Several of these theories predict resonances that decay primarily into $t\bar{t}$ pairs. In the ATLAS detector, $t\bar{t}$ resonances are searched for using the lepton plus jets decay channel of the $t\bar{t}$ pair. For large $t\bar{t}$ resonance masses, boosted decays of the hadronically decaying top quark must be considered. This talk describes the prospects for discovering $t\bar{t}$ resonances in Run 2 and discusses possible improvements over previous searches. Preliminary results on data collected for $t\bar{t}$ resonance searches in Run 2 are shown.

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