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Search for Resonances Decaying into Top Quark Pairs Using Fully Hadronic Decays in pp Collisions with ATLAS at $\sqrt{s} = 7$ TeV STEPHEN SWEDISH, University of British Columbia, ATLAS COLLABORATION — A search for a new top quark pair resonance at the CERN Large Hadron Collider with the ATLAS detector is performed on 4.66 fb^{-1} of data collected at $\sqrt{s} = 7$ TeV. The search uses a new method for tagging jets that correspond to highly energetic top quark decays that tests the agreement of calorimetric energy depositions with the three-prong top quark decay hypothesis. The top quark plays an important role in many theories of physics beyond the Standard Model which often predict the existence of a new massive boson that couples dominantly to top quarks. The search reveals no evidence of a new top quark pair resonance, and the result is used to exclude Kaluza-Klein gluons as predicted by the Randall-Sundrum model with masses between 1.02 and 1.62 TeV, and to set cross-section limits on the leptophobic Z' boson.

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