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Study of the Sensitivity for Searches for Excited Boson (W^*) in Dijet Final States in proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS Detector at the LHC JARYD ULBRICHT, HARINDER BAWA, YONGSHENG GAO, California State University Fresno — The recent Large Hadron Collider (LHC) beam upgrade in center-of-mass energy from $\sqrt{s} = 8$ TeV to $\sqrt{s} = 13$ TeV has required upgrades to the Monte Carlo simulations used to search for new physics in the dijet final state. Monte Carlo simulation studies are performed, using as a baseline for a new physics signal excited bosons (W^*) with resonant masses ranging from 200-4000 GeV. The samples are validated by comparing kinematics at various center-of-mass energies and by using different parton distribution functions. The sensitivity for observing or setting limits on a W^* signal is also studied.

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