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A Search for Z'$\to \tau\tau$ using $\sqrt{s} = 8$ TeV pp Collisions at ATLAS ANDREW LEISTER[1], Yale University, ATLAS COLLABORATION — Several Standard Model extensions motivated by Grand Unification predict the existence of one or more additional heavy gauge bosons (Z'). The $Z' \to \tau\tau$ analysis at ATLAS uses $\sqrt{s} = 8$ TeV pp collisions from the Large Hadron Collider to search for such Z' bosons, particularly from models that predict enhanced coupling to third generation particles. The Z' signal in the search is derived from the Sequential Standard Model. In each ditau decay channel a search for an excess over the Standard Model background in high-mass ditau events is performed. In cases where observed events are consistent with the Standard Model background, upper limits are set on the production of high mass resonances. In the most recent public result from the fully hadronic decay channel, heavy mass resonances below 1.9 TeV are excluded at a 95% confidence level. This result is expected to improve with the inclusion of the other channels.

[1]presenting on behalf of the ATLAS collaboration

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