Contribution ID: **47** Type: **not specified**

Search for high-mass dilepton resonances using 139 fb−1 of pp collision data collected at √s = 13TeV with the ATLAS detector

Sunday 5 January 2020 20:50 (20 minutes)

A search for high-mass dielectron and dimuon resonances in the mass range of 250 GeV to 6 TeV is presented. The data were recorded by the ATLAS experiment in proton–proton collisions at a centre-of-mass energy of √s=13 TeV during Run 2 of the Large Hadron Collider and correspond to an integrated luminosity of 139 fb-1. A functional form is fitted to the dilepton invariant-mass distribution to model the contribution from background processes,and a generic signal shape is used to determine the significance of observed deviations from this background estimate. No significant deviation is observed and upper limits are placed at the 95% confidence level on the fiducial cross-section times branching ratio for various resonance width hypotheses.

In addition to presenting these results I will also give a short overview of my current projects and plans for my thesis.

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Session Classification: submitted talks