

# Search for new phenomena in the dilepton final state using proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector

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A search is conducted for new resonant and nonresonant high-mass phenomena in di-electron and dimuon final states. The search uses 36.1 fb<sup>-1</sup> of proton-proton collision data, collected at  $\sqrt{s} = 13$  TeV by the ATLAS experiment at the LHC in 2015 and 2016. No significant deviation from the Standard Model prediction is observed. Upper limits at 95% credibility level are set on the cross-section times branching ratio for resonances decaying into dileptons, which are converted to lower limits on the resonance mass, up to 4.1 for the E6-motivated  $Z'\chi$ . Lower limits on the  $qq\ell\ell$  contact interaction scale are set between 24 TeV and 40 TeV, depending on the model. The analysis strategy is being reworked in the next iteration of the analysis, including going from a Monte Carlo based analysis to a data driven approach. The next publication is planned for early 2018, as soon as the current LHC run 2 ends.

## Summary

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