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Search for Vector-like Leptons in Multi-lepton Final States with the ATLAS Detector

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According to the standard model, all flavours of leptons have equal couplings to gauge bosons - this is called lepton flavour universality. However, recently, experiments such as LHCb and Muon $g-2$ have reported findings, which suggest that this may not be the case, i.e. lepton flavour universality violation may occur. One way to explain these anomalies is through new particles called vector-like leptons (VLLs). The ATLAS detector at the LHC operating at the energy frontier has the potential to produce these new particles directly. In this talk, we will discuss how VLL signals could be detected using ATLAS.

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Please select: Experiment or Theory

Experiment

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