

Search for exotic particles in multi-leptonic final states with the ATLAS detector

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We will present the searches for BSM physics in multi-leptonic final states using the pp collision data sample collected in the Run2 of the ATLAS experiment corresponding to 80.0 fb^{-1} of integrated luminosity at a centre-of-mass energy of 13 TeV. Searches in this final state allow the rejection of a substantial part of the SM backgrounds, thus providing a good signal sensitivity. These searches are interesting to test the existence of various BSM models, including the production of doubly charged Higgs bosons (H), or the production of heavy neutral or charged leptons which are predicted, for example, by mechanisms like Type-III SeeSaw or LRSM models. The presentation will include BSM searches in events with two same sign leptons, which are affected by a low rate of events from Standard Model background processes.

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