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## Search for type-III seesaw heavy leptons in leptonic final states in pp collision at $\sqrt{s}=13$ TeV with the ATLAS detector

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Heavy leptons with masses ranging from the GeV to the TeV appear in several Beyond the Standard Model (BSM) mechanisms, aimed to explain the neutrino mass generation. The seesaw mechanism provides an elegant extension of the Standard Model (SM) explaining the smallness of the neutrino masses. In particular, it introduces at least one extra fermionic triplet field with zero hypercharge in the adjoint representation of  $SU(2)_L$  which couples to electroweak gauge bosons. These new charged and neutral heavy leptons could be produced via EW processes at the Large Hadron Collider (LHC). This search is performed using data collected by the ATLAS detector at  $\sqrt{s}=13$  TeV with an integrated luminosity of  $139^{-1}$  corresponding to the full Run-2 dataset recorded in LHC Run 2 (2015-2018). The analysis is focused on final states with large lepton multiplicity, which allows to reject a significant part of background providing an higher signal significance. For the first time, a result considering a combination of the most important type-III seesaw heavy leptons decay modes is presented.

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