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Search for electroweak production of charginos and neutralinos in final states with one lepton, jets and missing transverse momentum with the ATLAS experiment

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This poster presents a search for electroweak production of mass degenerate chargino-neutralino pairs in the context of R-parity conserving supersymmetric simplified models in which the chargino decays into W boson and the lightest neutralino, while the next-to-lightest neutralino decays into either Higgs or Z boson, in addition to the lightest neutralino. This search concentrates on final states characterized by the presence of one isolated charged lepton (either electron or muon) accompanied by jets and missing transverse momentum. The analysis exploits an integrated luminosity of 139 fb^{-1} which corresponds to the full Run-2 of proton-proton collisions data recorded by the ATLAS detector at Large Hadron Collider. No statistically significant evidence of a deviation from the Standard Model expectation is observed. Expected and observed 95% C.L limits are set based on the chargino and the lightest neutralino mass, assuming pure wino production cross-sections.

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