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Search for gluino pairs in events with one lepton, jets and missing transverse momentum at $\sqrt{s}=13$ TeV with the atlas detector

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This poster presents the search for gluinos in final states with jets, missing transverse momentum and exactly one isolated electron or muon using 3.2 fb⁻¹ of proton-proton collision data at $\sqrt{s}=13$ TeV collected by the ATLAS detector during 2015. The targeted signal models, the expected background physics processes and the overall analysis strategy are outlined. The results obtained in the various analysis control, validation and signal regions are shown. A statistical interpretation of the observed data is provided in the context of a simplified model where pair produced gluinos decay via the lightest chargino to the lightest neutralino. Within this model, exclusion limits on the gluino, chargino and lightest neutralino masses are illustrated in two benchmark scenarios. Subject to the progress of data-taking in 2016, new results of this search might be shown in addition.

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