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Constraints on non-universal gaugino mass scenario using the latest LHC data

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We investigate exclusion limits on the the non-universal gaugino mass scenario
in the Minimal Supersymmetric Standard Model (MSSM), according the the latest results of the super-particle
search at the LHC8 and the LHC13. In this scenario, suitable ratios of wino to gluino mass can realize the
observed value of the Higgs boson mass, while keeping a small μ parameter.
Such a small μ parameter corresponds to the mass of higgsino, so that
lightest neutralino and chargino are higgsino-like and their masses are almost degenerate.
Besides, we find that the right-handed top squark tends to be lighter than other sfermions
and then the top squark search, where the top squark decays to a quark and higgsino, is relevant to our model.
In our analysis, the exclusion limits are derived using the data of the top squark searches
in the $bb + E_T^{\mathrm{miss}}$ and $tb + E_T^{\mathrm{miss}}$ channels.
Furthermore, the exclusion limit on gluino mass, which is crucial to our scenario, is investigated as well.
The analysis of the gluino is based on the data of the analysis with large missing energy and at least three
b-tagged jets at the ATLAS experiment.
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