

# Relic density of wino-like dark matter in the MSSM

*Friday 29 July 2016 11:45 (15 minutes)*

## Based on (arXiv number)

1601.04718

## Summary

The relic density of TeV-scale wino-like neutralino dark matter in the MSSM is subject to potentially large corrections as a result of the Sommerfeld effect. A recently developed framework enables us to calculate the Sommerfeld-enhanced relic density in general MSSM scenarios, properly treating mixed states and multiple co-annihilating channels as well as including off-diagonal contributions. In this talk I will explain the main features of this framework and its recent application to the study of the regions of parameter space surrounding the well known pure-wino scenario: namely the effect of sfermion masses being non-decoupled and of allowing non-negligible Higgsino or bino components in the lightest neutralino. The results reveal a number of phenomenologically interesting but so far unexplored regions where the Sommerfeld effect is sizeable. Results for the indirect signals from charged cosmic rays and diffuse gamma rays also computed within our framework, and their impact on the corresponding experimental limits in the new wino-like regions will be also discussed.

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**Session Classification:** Cosmological Probes of Dark Matter

**Track Classification:** Cosmological Probes of Dark Matter