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The derivation of constrains on the mSUGRA parameter space form the entropy of dark matter halos

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Abstract content

We construct an expression for the entropy of a dark matter halo modelled by a Navarro-Frenk-White profile with a core. By comparing this entropy with the entropy at dark-matter freeze-out, we obtain constraints on the allowed parameter space for mSUGRA models. Additionally, by imposing consistency with the current dark matter bounds, we severely reduce the allowed region for low tan-beta and derive a lower bound for the neutralino mass.

Summary

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