

Superheavy Decaying Dark Matter

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String theory setups can accommodate superheavy dark matter with the correct relic abundance. In addition, they may induce tiny R-parity violating couplings which make dark matter unstable with a lifetime well above the age of the universe. In this talk, I will discuss the high-energy gamma ray and neutrino signals from various three-body decays of superheavy neutralinos. I will then show how current observations and future experiments constrain the parameter space, with the bounds having only mild dependence on the exact nature of neutralino dark matter.

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