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Cosmic-ray dark matter from simplified models

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It has been previously noted that cosmic rays propagating in the galaxy can scatter on the dark matter halo. This scattering can impart energy to the dark matter, creating a small population of 'cosmic-ray dark matter' particles. This population of cosmic rays could be observed in ordinary dark matter and neutrino detectors. In this talk I will review the formalism of cosmic-ray dark matter and then describe improvements and extensions that we are making to the formalism. Notably, this includes applying the formalism to simplified models of dark matter, which are more suitable in the regime under consideration (where we have relativistic, strongly interacting dark matter).

Preferred Session

Dark Matter

Comments

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