

Phenomenology 2019 Symposium



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Non-Thermal Production of Bosonic Dark Matter

Tuesday 7 May 2019 16:30 (15 minutes)

The conventional misalignment mechanism can explain axion dark matter only in a limited mass range and face various difficulties for vector dark matter that we refer to as dark photons. We propose new dark matter production mechanisms for axions and dark photons via parametric resonance and tachyonic instability, respectively. These ideas expand the parameter space to the regions of interest for the extensive experimental searches for dark matter. Other potential signatures include dark matter ultracompact minihalos, warm dark matter, and gravitational waves.

Summary

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