Contribution ID: **43** Type: **not specified**

Astrophysical Aspects of Secretly Asymmetric Dark Matter

Thursday 16 May 2019 16:50 (25 minutes)

I will present the phenomenology of the Secretly Asymmetric Dark Matter (SADM) scenario, where the DM relic abundance is set through an asymmetry generated in multiple DM flavors in the early universe, despite an unbroken and gauged DM number symmetry. There is a massless dark photon associated with the DM number symmetry, and DM flavors with asymmetries of opposite signs can form bound states. The existence of the dark photon as a relativistic degree of freedom, the formation and interaction of the bound states, and the dark acoustic oscillations in the early universe give rise to dynamical effects, which help address astrophysical and cosmological puzzles across a broad range of length scales.

Preferred Session

Dark Matter

Comments

Author: KILIC, Can (University of Texas at Austin)

Co-authors: TSAI, Yuhsin (University of Maryland); Ms TRENDAFILOVA, Cynthia (University of Texas at Austin); DESSERT, Christopher (University of Michigan)

Presenter: KILIC, Can (University of Texas at Austin)

Session Classification: Dark Matter