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Searching for long-lived particles from light dark sectors

Tuesday, 25 June 2019 11:00 (1 hour)

Dark matter-motivated light dark sectors often feature long-lived hidden sector states. Their presence offers bright detection prospects at fixed target experiments and colliders and may lead to strong astrophysical bounds. We will illustrate this point by exploring explicitly a typical simple fermion light dark matter setup, then expanding to limits on an effective theory of light dark sectors. In particular, we will investigate in detail the semi-visible three-body decays of dark sector states and show that it is a key element of the accelerator phenomenology of such models.

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