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Type: Talk

Coannihilating Dark matter: from freeze-in to freeze-out

Monday, 2 September 2019 17:37 (19 minutes)

In my talk I will discuss the dependence of the dark matter production mechanism in the early universe on its coupling to the Standard Model and mediator. For illustration, I will focus on the case of compressed mass spectrum dark matter scenario and show that we can continuously go from freeze-in to freeze-out with an intermediate stage of conversion driven freeze-out. In the latter case, the feeble couplings involve give rise to the possibility to exploit the macroscopic decay length of charged mediators to study the resulting long-lived-particle signatures at collider. I will discuss the experimental reach of such searches on the viable portion of the parameter space.

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