

HEP SEMINAR



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Thermal-Dynamic Dark Matter

In the early universe, the Standard Model particles formed a hot thermal bath. We highlight the importance of finite temperature corrections in these conditions on various production mechanisms of dark matter, primarily through temperature dependent masses and scalar vevs. We first consider a variation on standard freeze-out, where kinematic thresholds determine the relic abundance. We then consider a freeze-in model where the production rate is dramatically increased when a kinematic threshold opens. Finally, we present a qualitatively new production mechanism for dark matter, where dark matter decay is allowed for a limited amount of time just before the electroweak phase transition.

Date: Monday 18 November

Time: 11am

Venue: L1, Seminar Room 107, 10 College Walk, Clayton

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