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Interplay Between Dark Matter Freeze Out/In and Primordial Black Hole Evaporation

Monday 23 August 2021 16:00 (20 minutes)

In this talk, I will present the phenomenology of dark-matter production in the case where it is both produced by a freeze-out or freeze-in mechanism and by the evaporation of primordial black holes. I will show that the presence of a vector mediator between the hidden and the visible sector affects the production of dark-matter particles as well as its phase space distribution. I will also show that the population of DM particles produced by evaporation may be warm enough to re-thermalize with the pre-existing DM relic abundance, leading to non-trivial imprints on the value of the relic abundance at later time.

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