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(I) The cosmology of sub-MeV dark matter freeze-in

Tuesday 8 June 2021 13:55 (25 minutes)

Dark matter could be a “thermal-ish” relic of freeze-in, where the dark matter is produced by extremely feeble interactions with Standard Model particles dominantly at low temperatures. In this talk, I will discuss how sub-MeV dark matter can be made through freeze-in, accounting for a dominant channel where the dark matter gets produced by the decay of plasmons (photons that have an in-medium mass in the primordial plasma of our Universe). I will also explain how the resulting non-thermal dark matter velocity distribution can impact cosmological observables.

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Session Classification: TS1-3 Dark Matter (DTP Symposium on Cosmology: James Peebles Nobel Celebration) / Matière sombre (Symposium DPT sur la cosmologie: le prix Nobel de James Peebles)

Track Classification: Symposia Day (DTP) - Cosmology/Jim Peebles celebration