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## Post-inflationary Production of Light Dark Sectors

*Thursday, 28 November 2019 11:30 (30 minutes)*

Light dark sector particles, especially bosons if coupled to the inflaton can be copiously produced during (p)reheating epoch courtesy to Bose enhancement. In many particle physics scenarios such particles are often invoked to resolve tensions with cosmological bounds from Big Bang Nucleosynthesis (BBN), Cosmic Microwave Background (CMB) and Large Scale Structure (LSS). We will discuss two specific cases - one involving bosonic mediators with light sterile neutrinos invoked in context to several neutrino experimental anomalies and one in context to non-thermal production of dark matter. We will discuss the post-inflationary particle production in a large field inflationary model and highlight the region of the parameter space viable with early universe cosmology.

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**Session Classification:** Young scientists series