



Contribution ID: 41

Type: Plenary/Parallel talk

Dark Matter from Preheating

Friday 26 August 2022 14:40 (20 minutes)

The production of dark relics from the decay of the primordial inflaton condensate must always be considered when building models of the very early Universe. Even in the absence of direct couplings, dark matter and radiation can be produced from the gravitational interaction between the dark and inflaton sectors. In this talk I will discuss the non-equilibrated production of scalar dark matter during inflation and (p)reheating in the weakly and strongly coupled regimes, combining perturbative (Boltzmann) and non-perturbative (Hartree/Lattice) approaches. For weak (strong) coupling I will present the corresponding phase space distributions and show how the relic abundance is dominantly populated during inflation (reheating). Relic abundance, reheating, and structure formation constraints from the observation of the Lyman- α forest will be presented and discussed in detail.

Author: Prof. GARCIA GARCIA, Marcos A. (Instituto de Fisica, UNAM)

Presenter: Prof. GARCIA GARCIA, Marcos A. (Instituto de Fisica, UNAM)

Session Classification: Parallel Session Main Cupula: DM

Track Classification: Dark matter, neutrinos & astroparticle physics