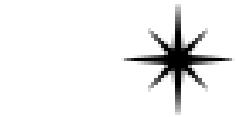

Contribution ID: **93** Type: **Talk (in-person)**

Exploring a Magnetic Warm Inflationary Scenario

Thursday 8 September 2022 09:20 (20 minutes)

In this work we study the consequences a possible primordial magnetic field could have on the inflaton effective potential, taking as the underlying model a warm inflation scenario, based on global supersymmetry with a new-inflation-type potential. In the warn inflation scenario, the decay scheme for the inflaton field is a two-step process of radiation production, where the inflaton couples to heavy intermediate superfields, which in turn interact with light particles. In this context, by considering that the heavy and light sectors are charged, we work in the strong magnetic field approximation for the light fields. Our findings show that the trend of the magnetic contribution is to make the potential flatter, preserving the conditions for a successful inflationary process. This result is backed up by the behavior of slow-roll parameter ε. The viability of this magnetic warm inflation scenario is also supported by the estimation of the effect of the magnetic field on the heavy particles decay width.

Author: SÁNCHEZ, Angel (Facultad de Ciencias, Universidad Nacional Autónoma de México)

Presenter: SÁNCHEZ, Angel (Facultad de Ciencias, Universidad Nacional Autónoma de México)