

Magnetic field effect on the effective potential of a heavy charged scalar field

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In the context of a warm inflation scenario in this work we study the effects of a primordial magnetic field on the effective potential of a heavy charged scalar field in a magnetized thermal bath. It is known that models, based on global supersymmetry with a new-inflation-type potential and a coupling between the inflaton and a heavy intermediate superfield, preserve the flatness required for slow-roll conditions even after including thermal contributions. Preliminary results indicate that the magnetic field makes the potential even flatter, retarding the transition and rendering it smoother.

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

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