

# Warm Inflation using Irreversible Thermodynamical Approach

*Friday, 16 June 2023 17:00 (15 minutes)*

We aim to study warm inflation via irreversible thermodynamics of open systems with matter creation/decay within Rastall theory of gravity. Interacting scalar field and radiation are assumed to be the components of cosmological fluid in a spatially flat FRW universe model. Considering the early universe as an open system and implementing the thermodynamics on the interacting cosmological fluid leads to modifying the standard formalism of the warm inflationary model, including the creation(decay) pressure, which is considered part of the energy-momentum tensor explicitly. Under slow-roll approximation, numerical solutions of the thermodynamical equations are obtained and represented graphically. By constraining the free model parameters, the theoretical predictions of the underlying model are compared with the Planck-2018 data.

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