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Banks Zaks Cosmology

Thursday 9 September 2021 14:00 (20 minutes)

We study the thermodynamical behavior of Banks-Zaks theory close to its infrared fixed point in a cosmological setting. Due to the anomalous dimension, the resulting pressure and energy density deviate from radiation and result in various cosmological scenarios. For the specific range of parameters, unparticles alone results in an exponentially contracting universe followed by a non-singular bounce and an exponentially expanding universe. Simultaneously, the consideration of unparticles on the top of the perfect fluid gives different interesting cosmological solutions such as cyclic solutions, single bounce, and De-Sitter(dS) bounce. We also argue about the possibility of late-time cosmic acceleration caused by unparticles.

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