

Finite temperature study of a 4+6 flavor mass-split system

Tuesday, 4 August 2020 14:20 (20 minutes)

Near-conformal systems are favored candidates to describe composite Higgs or composite dark matter particles. Their finite temperature phase structure may provide new insights into the dynamics. It is particularly important to determine the order of the phase transition. Many-flavor near-conformal systems might exhibit a first-order phase transition with a possibly large latent heat. This could have important phenomenological implications, e.g. the existence of primordial gravitational waves. In our study, we focus on a mass-split system with four light and six heavy flavors.

Starting with the phase structure of the mass-degenerate system, we continue to explore the mass-split system for different ratios of light flavor over heavy flavor masses.

Primary author: PETERSON (*), Curtis (University of Colorado at Boulder)

Co-authors: WITZEL, Oliver; HASENFRATZ, Anna

Presenter: PETERSON (*), Curtis (University of Colorado at Boulder)

Session Classification: Physics Beyond the Standard Model

Track Classification: Physics Beyond the Standard Model