Advancing gravitational wave predictions from cosmological first-order phase transitions



Contribution ID: 7

Type: not specified

Limits of EFTs at finite temperature for strong phase transitions

Phase transitions are violent and interesting phenomena that could have occurred in the early universe. Possible techniques to study these phenomena can be used in the presence of a hierarchy of scales, leading to the construction of finite temperature Effective Field Theories by integrating out heavier scales. These EFTs are reliable when the dynamics are mainly encoded in the most relevant operators. I will discuss the limits of such EFTs, showing how higher-dimensional operators affect the prediction of stronger transitions, including those detectable by LISA. These considerations impact the applicability of effective theory techniques, including their use in lattice studies.

Authors: BERNARDO, Fabio; Dr KLOSE, Philipp; Dr SCHICHO, Philipp; Dr TENKANEN, Tuomas Presenter: BERNARDO, Fabio