

Positivity without Boosts: UV/IR Relations for Cosmology

Monday, 31 May 2021 14:30 (40 minutes)

Positivity bounds are a powerful tool which can connect IR phenomenology with the underlying fundamental physics in the UV, but to date their implementation has required Lorentz invariance at all scales.

This talk describes recent progress in removing this assumption, deriving a set of bounds which can be applied to systems in which boosts are spontaneously broken, such as cosmology.

For example, these new bounds place UV constraints on the shapes of cosmological correlators in the CMB which can arise from the effective field theory of single-field inflation.

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