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Lattice Holographic Cosmology

Friday, 12 January 2018 10:00 (20 minutes)

A cornerstone of modern cosmology is that the Big Bang was followed by a period of rapid expansion, a time we have come to call: inflation. This mechanism has been very successful in explaining a number of cosmological observations; flatness, isotropy, and structure formation in the universe we observe today, as well as the cosmic microwave background (CMB). Inflation, whilst being widely popular and successful, is still not well understood, and we do not have any fundamental theory to describe the mechanism underlying it. It is expected that this mechanism may originate from an unknown particle physics theory.

In this 20 minute talk, we will introduce Holographic Cosmology, and the motivations behind the utilisation of lattice simulations to model this theory. We will then also look at the steps that the collaboration will take to achieve its goal: making falsifiable predictions against the power-spectrum and non-Gaussianities of the CMB (using data from the Planck satellite).

What would be the preferred length of your talk?

20 minutes + questions

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