JOINT TUFTS/MIT COSMOLOGY SEMINAR

Inflation in random Gaussian landscapes

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String theory combined with inflationary cosmology has led to the picture of inflationary multiverse, populated by a multitude of vacua with diverse properties. Our Universe begins with a quantum tunneling from an eternally-inflating parent vacuum, followed by a period of slow-roll inflation. The details of the high-energy vacuum landscape are not well understood, and its effective field theory is often modeled as random Gaussian fields. In this talk, I will focus on small-field inflation in the landscape of the random Gaussian fields and explain that inflation is not multi-field and the distribution for the magnitude of density fluctuations has a unique shape. I will also mention our result of the semi-analytic calculation for the number density of minima, which is consistent with the numerical result in the literature.

Tuesday, February 27, 2018, 2:30 pm
Cosman Seminar Room
Center for Theoretical Physics
Building 6C, Room 6C-442
Massachusetts Institute of Technology

Refreshments at 2:00 in the same room