JOINT TUFTS/MIT COSMOLOGY SEMINAR

Inflation, Quantum Gravity, and the Weak Gravity Conjecture

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Perimeter

Lack of fine tuning in effective field theory does not ensure that a particular scenario is natural or even realizable in a UV complete theory of quantum gravity. Large field axion inflation appears natural from the effective field theory perspective, but I argue that it is tuned from a quantum gravity perspective. The argument is based on the Weak Gravity Conjecture (WGC), a conjectural universal feature of quantum gravity that is present in all known string theory examples. In the process, I highlight recent progress in understanding the WGC and related conjectures about the charged spectrum of quantum gravity and discuss other potential applications, both formal and phenomenological.

Tuesday, October 18, 2016, 2:30 pm

574 Boston Ave, Room 316

Tufts University

Refreshments at 2:00 outside room 304