

JOINT TUFTS/MIT COSMOLOGY SEMINAR

de Sitter Vacua, Inflation and the Swampland

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Not all the effective field theories (EFTs) coupled to gravity admit a UV completion in String Theory. This suggests that quantum gravity constraints can affect the physics at lower, naively decoupled, energies. What can we then say about EFTs of dS vacua and inflation? Do they belong to the Swampland or to the Landscape?

In this talk, we focus on specific aspects of this question. First, we critically analyse recent arguments which propose that flattening effects prevent the formation of de Sitter vacua. We show that at the 4d level this is never the case, both in the KKLT and in the KL scenario, and that both structures remain fully compatible with the Weak Gravity Conjecture. Secondly, we discuss the significance for inflation of the Swampland Distance Conjecture, a proposal for a quantum gravity constraint acting at infinite distances.

Tuesday, April 23, 2019, 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