

JOINT TUFTS/MIT COSMOLOGY SEMINAR

On Accelerated Cosmological Expansion in String Theory

Arthur Hebecker
Heidelberg

I will begin by recalling swampland conjectures against and efforts to construct examples of metastable de Sitter vacua in string theory. It turns out that realistic models of quintessence face similar or even greater difficulties. As a result, recent work has focused on the ostensibly simpler task of realizing accelerated expansion at the theoretically well-controlled asymptotic boundaries of moduli space. However, I will argue that in this regime the volume modulus is always dynamical and its potential is always too steep to allow for acceleration. I will formulate a corresponding conjecture against asymptotic acceleration and argue that proving or breaking it may be an important next step to achieve progress in this field.

Tuesday, December 12, 2023, 2:30 pm

Zoom link will be distributed to joint cosmology seminar mailing list. See <https://cosmos.phy.tufts.edu/mailman/listinfo/cosmology-seminar> to join.

Tufts University