Contribution ID: **1** Type: **not specified**

Microscopics of de Sitter entropy from precision holography

Monday 17 April 2023 10:00 (1 hour)

I explain how quantum corrections to the entropy of four-dimensional de Sitter space can be computed using the AdS/CFT correspondence. Employing the intertwinement of Euclidean de Sitter and anti de Sitter saddles, I embed effective de Sitter gravity theories in M-theory and conjecture that the partition function of the ABJM CFT dual encodes all perturbative corrections to the de Sitter entropy in the static patch. This conjecture is checked for the first two subleading corrections to the area-law by studying four-derivative terms and one-loop effects in de Sitter gravity. Finally I comment on the extension of this framework to compute more tangible cosmological observables.

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