

JOINT TUFTS/MIT COSMOLOGY SEMINAR

Quantum Gravity and A Unification of the Dark Sector

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In this talk I apply consistency conditions of quantum gravity to the dark sector. Motivated by the smallness of the dark energy combined with other experimental data, one is naturally led to a corner of the quantum gravity landscape with one extra mesoscopic dimension in the micron range. Interestingly this also leads to graviton excitations in the 5th dimension as an unavoidable candidate for the dark matter. Moreover TCC conjecture applied to the late time cosmology motivates specific initial conditions in this scenario, leading to the right abundance of dark matter gravitons and an explanation of the cosmological coincidence problem.

Tuesday, April 18, 2023, 2:30 pm
Cosman Seminar Room
Center for Theoretical Physics
Building 6C, Room 6C-442
Massachusetts Institute of Technology