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I N V I T A T I O N

as part of the Mathematical Physics Theory Seminar

to the talk by

Alessandro MANTA
(University of Vienna)

on

"Quantum Spacetimes and Gravity in IKKT matrix model"

Abstract:

In this talk I will explain how gravity can be extracted from the IKKT matrix model.
IKKT is a non-perturbatively defined model of quantum gravity, which studies quantum dynamics of quantized (fuzzy) spacetimes, represented as matrix configurations.
I will explain how the weakly coupled regime of a 4d spacetime with fuzzy extra dimensions contains Einstein-Hilbert gravity at one-loop. In particular we can estimate the Newton constant from the geometry of the extra dimensions.
Furthermore, for a specific class of solutions of classical IKKT (and mass deformations), Covariant Cosmological Quantum Spacetimes, we study different mechanisms for dynamical stabilization of the extra dimensions.

Time: Tuesday, 3 June 2025, 2:00 p.m.

Location: Erwin-Schrödinger Lecture Hall, 1090 Vienna, Boltzmanngasse 5, 5th floor

sgd. S. Fredenhagen, M. Sperling