Mathematical Physics
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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

Sean HARTNOLL

(Cambridge University)

on

“The polarised IKKT model“

Abstract:

The IKKT model is a large N matrix integral that arises in string theory as the worldvolume theory of N D-instantons. It holds the promise of being a uniquely tractable model of holographic duality, but has some important differences with other better-understood cases, notably the absence of a time and the related absence of a "decoupling limit” in which the theory is obtained as an isolated sub-sector of string theory. I will discuss a supersymmetric deformation of the IKKT model that may improve the situation by introducing a dimensionless coupling constant.
Supersymmetric localisation allows the model to be greatly simplified. I will discuss the phase diagram of the model, which exhibits a phase transition between two limits, and the sense in which the model leads to an emergent spacetime.

Time: Tuesday, 24 June 2025, 2:00 p.m.

Location: Kurt-Gödel Lecture Hall, 1090 Vienna, Boltzmanngasse 5, ground floor

sgd. S. Fredenhagen, M. Sperling