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Thermal phase structure of a supersymmetric matrix model

Tuesday 18 June 2019 18:50 (20 minutes)

I will present lattice investigations of the Berenstein–Maldacena–Nastase deformation of maximally supersymmetric Yang–Mills quantum mechanics, focusing on its phase diagram in the plane of the temperature T and deformation parameter μ. By considering values of the dimensionless coupling $g = \lambda/\mu^3$ spanning more than two orders of magnitude, we find results for the deconfinement T/μ that interpolate between the $g \to 0$ perturbative prediction and recent large-N dual supergravity calculations in the limit $g \to \infty$. We analyze multiple lattice sizes up to $N_\tau = 24$ and numbers of colors up to $N = 16$, allowing initial checks of the large-N continuum limit.

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