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Thermal Bootstrap of Matrix Quantum Mechanics

Friday 7 February 2025 09:00 (1 hour)

I will explain the implementation of a bootstrap method that combines Schwinger-Dyson equations, thermal inequalities, and semidefinite relaxations of matrix logarithm in the ungauged one-matrix quantum mechanics, at finite rank N as well as in the large N limit, to determine finite temperature observables. I will show plots of these observables (determined using the bootstrap) that interpolate between available analytic results in the low and high temperature limits respectively as well as bounds on thermal phase transitions. Finally, I will show preliminary results in the ungauged two-matrix quantum mechanics.

Presenter: GABAI, Barak (EPFL - Ecole Polytechnique Federale Lausanne (CH))