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Thermodynamics of near-extreme rotating black holes

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In this talk I will review recent results concerning the microscopics and the thermodynamics of fast spinning black holes in asymptotically flat and Anti-de Sitter space. I will first describe how recently developed techniques allow to compute the quantum corrections to the entropy of near-extremal Kerr black holes. I will show that the quantum-corrected near-extremal entropy exhibits 3/2logT behavior characteristic of the Schwarzian model, and predicts a lifting of the ground state degeneracy for the extremal Kerr black hole. In addition, I will show the computation for the density of states for fast spinning black holes in AdS4, which admit a supersymmetric limit, and comment on the spectrum of near-BPS states and on the interpretation in terms of the dual 3d field theory.

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