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## The Small Black Hole Illusion

*Wednesday, 23 January 2019 17:00 (30 minutes)*

Small black holes in string theory are characterized by a classically singular horizon with vanishing Bekenstein-Hawking entropy. For decades, it was thought that higher-curvature corrections resolve the horizon and that the associated Wald entropy is in agreement with the microscopic degeneracy. In this talk I will argue that such resolution is an illusion, which involves a misidentification of the fundamental constituents of the system studied when higher-curvature interactions are introduced. In particular, I will describe how the resolution of the heterotic small black hole reported in the literature involves the introduction of Kaluza-Klein monopoles and solitonic 5-branes. The asymptotic charge of the latter vanishes due to a screening effect induced by the higher-derivative interactions.

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