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Updates on the search for multicenter AdS black holes

Monday, 12 April 2021 15:00 (1 hour)

While multicenter black holes in asymptotically flat space have long been studied, the construction of multi black holes geometries in Anti-de Sitter spacetimes remains so far elusive. In this talk I will discuss recent progress on the search for these solutions. Working in the probe approximation, I will show that there exist stable and metastable black hole bound states in compactifications of M-theory on 7-dimensional Sasaki-Einstein manifolds with Betti multiplets and AdS4 vacua. I will map out their thermodynamic landscape and discuss the relevance of these setups for describing glassy systems via holography. I will finally discuss their supersymmetric limits, in light of recent developments regarding the entropy matching for stationary AdS4 black holes via localization in the dual 3d CFT.

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