

Dynamics of Black Holes in a Confining Background

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In this talk, I will describe the first simulations of finite-sized black holes that settle down at IR bottom of the AdS soliton background. In terms of the field theory dual, these black holes describe deconfined balls of plasma surrounded by a confining vacuum, held together by surface tension. These solutions are obtained by solving the Einstein field equations with a negative cosmological constant in four spatial dimensions, where one of the spatial coordinates is compactified to form a circle whose size shrinks to zero at the IR bottom. This introduces an IR length scale that is distinct from the black hole mass, both of which can be measured in terms of the AdS length scale. I will present preliminary results that indicate the much richer dynamics that arise from the presence of these disparate length scales.