

Real-Time Dynamics of Plasma Balls in a Confining Background

Thursday, 16 January 2020 10:00 (30 minutes)

Plasma balls are droplets of deconfined plasma surrounded by a confining vacuum. We present the first holographic simulation of their real-time dynamics via the dynamics of localised, finite-energy black holes in the AdS soliton background. We consider horizonless initial data sourced by a massless scalar field. Upon time evolution, prompt scalar field collapse produces an excited black hole that eventually settles down to equilibrium at the bottom of the AdS soliton. The radiation emitted in the process can be described as a superposition of the gapped and discrete set of asymptotic states of the confining phase. We discuss the applicability of hydrodynamics to describe the evolution of the system.

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Session Classification: Talk