Gauge/Gravity Duality 2015



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A more realistic thermalization scenario in holography

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Holography has provided a brand new window on the thermalization of Yang-Mills plasmas. Compared to data from Relavistic Heavy Ion Collisions, holographic computations tend to (1) have a shorter thermalization time scale, (2) permit a linearized description in terms of quasinormal modes already at extremely early stages rather than close to the final configuration, (3) thermalize less from the IR up than one would infer from weakly coupled field theories. We will argue in particular that the holographic linearized quasinormal description is an artefact of the large N limit, and that 1/N corrections should make the system more realistic. We test this by introducing an additional decay of the quasinormal modes to each other. Our results show that this diminishes the three discordances between holographic thermalization and experiment.

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