

Equilibration rates in a strongly coupled non-conformal quark-gluon plasma

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We study equilibration rates of strongly coupled quark-gluon plasmas in the absence of conformal symmetry. Focusing on $N = 2^*$ plasma, we use holography to compute quasinormal modes of a variety of scalar operators, as well as the energy-momentum tensor. In each case, the lowest quasinormal frequency, which provides an approximate upper bound on the thermalization time, is proportional to temperature, up to a pre-factor with only a mild temperature dependence. We find similar behaviour in other holographic plasmas, where the model contains an additional scale beyond the temperature. Hence, our study suggests that the thermalization time is generically set by the temperature, irrespective of any other scales, in strongly coupled gauge theories.

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