

Time Dependent Holography

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We construct the gravity background which describes the dual field theory with aging invariance. We choose the decay modes of the bulk scalar field in the internal spectator direction to obtain the dissipative behavior of the boundary correlation functions of the dual scalar fields. In particular, the two-time correlation function at zero temperature has the characteristic features of the aging system: power law decay, broken time translation and dynamical scaling. We also construct the black hole backgrounds with asymptotic aging invariance. We extensively study characteristic properties of the finite temperature two-point correlation function via analytic and numerical methods. We also obtain the analytic form of the shear viscosity at the low temperature limit.

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