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**Strange metals and quantum phase transitions from gauge/gravity duality**

HONG LIU, MIT

Metallic materials whose thermodynamic and transport properties differ significantly from those predicted by Fermi liquid theory, so-called non-Fermi liquids, include the strange metal phase of cuprate superconductors, and heavy fermion systems near a quantum phase transition. We use gauge/gravity duality to identify a class of non-Fermi liquids. Their low-energy behavior is governed by a nontrivial infrared fixed point which exhibits non-analytic scaling behavior only in the temporal direction. Some representatives of this class have single-particle spectral functions and transport behavior similar to those of the strange metals, with conductivity inversely proportional to the temperature. Such holographic systems may also exhibit novel "magnetic instabilities", where the quantum critical behavior near the transition involves a nontrivial interplay between local and bulk physics, with the local physics again described by a similar infrared fixed point. The resulting quantum phase transitions do not obey the standard Landau-Ginsburg-Wilson paradigm and resemble those of the heavy fermion quantum critical points.