

MAR12-2011-020020

Abstract for an Invited Paper
for the MAR12 Meeting of
the American Physical Society

Embedding Fermi liquids in string theory

STEVEN GUBSER, Princeton University

Evidence of Fermi surfaces in strongly coupled gauge theories comes from calculations in the gauge-string duality based on the propagation of fermion fields in charged black hole backgrounds. Most of these calculations have been done without reference to explicitly known string theory constructions. When calculations based on the most universal sector of string theory constructions were at last done, no Fermi surface was found. In addition to reviewing the work just described, I will present new work showing that Fermi surfaces do exist in the next-to-simplest string theory constructions.