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Equilibrium States and Near-Equilibrium Transport of Holographic Fermions GARRETT VANACORE, PHILIP PHILLIPS, University of Illinois at Urbana-Champaign — Holographic duality enables non-perturbative study of strongly-interacting fermions, and has produced approximate models of non-Fermi liquid, pseudogapped, and Mott-gapped states. Using methods of numerical relativity, we construct fully-backreacted holographic models of charged and strongly-interacting fermions at finite density and at equilibrium, testing both the robustness of prior results as well as proposals relating the Mott transition to momentum-space deconfinement of charge. We further compute the near-equilibrium charge transport coefficients of these states and compare with optical conductivity measurements of the strange metal phase in cuprate superconductors.

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