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Transport Properties near Quantum Critical Point in 2D Hubbard Model[1] KUANG-SHING CHEN, SANDEEP PATHAK, SHUXIANG YANG, Louisiana State University, SHI-QUAN SU, Oak Ridge National Laboratory, DIMITRIS GALANAKIS, Nanyang Technological University, Singapore, KARLIS MIKELSONS, Georgetown University, JUANA MORENO, MARK JARRELL, Louisiana State University — We obtain high quality estimates of the self energy $\Sigma(K,\omega)$ by *direct* analytic continuation of $\Sigma(K,i\omega_n)$ obtained from Continuous-Time Quantum Monte Carlo. We use these results to investigate the transport properties near the quantum critical point found in the 2D Hubbard model at finite doping. Resistivity, thermal conductivity, Wiedemann-Franz Law, and thermopower are examined in the Fermi liquid, Marginal Fermi liquid (MFL), and pseudo-gap regions. $\Sigma''(k,\omega)$ with k along the nodal direction displays temperature-dependent scaling similar to that seen in the experiment. A next-nearest neighbor hopping $t' < 0$ increases the doping region where MFL character is found.

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