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Finite temperature quantum critical transport near the Mott transition HANNA TERLETSKA, VLADIMIR DOBROSAVLJEVIC, Florida State University, National High Magnetic Field Laboratory — We use Dynamical Mean-Field Theory to study incoherent transport above the critical end-point temperature T_c of the single band Hubbard model at half-filling. By employing an eigenvalue analysis for the free energy functional, we are able to precisely identify the crossover temperature T*(U) separating the Fermi liquid and the Mott insulating regimes. Our calculations demonstrate that a broad parameter range exist around the crossover line, where the family of resistivity curves displays simple scaling behavior. This is interpreted as a manifestation of quantum criticality controlled by the T=0 Mott transition, which is "interrupted" by the emergence of the coexistence dome at $T < T_c$. We argue that in situations where the critical temperature T_c is significantly reduced, so that the coexistence region is reduced or even absent (as in two-band, particle-hole asymmetric models, where this is found even in the clean $d \to \infty$ limit [1, 2]), similar critical scaling properties should persist down to much lower temperatures, resembling quantum critical transport similar to that found in a number of experiments [2]. [1] A. Amaricci, G. Sordi, and M. J. Rosenberg, Phys. Rev. Lett. **101**, 146403 (2008) [2] A. Camjayi, K. Haule, V. Dobrosavljevic, and G. Kotliar, Nature Physics, **4**, 932 (2008)

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