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Quantum Criticality of the Pseudogapped Kondo Problem: Finite Temperature Scaling and Conformal Invariance MATTHEW T. GLOSSOP, STEFAN KIRCHNER, QIMIAO SI, Department of Physics and Astronomy, Rice University — The critical destruction of the Kondo effect is of interest as a potential mechanism for quantum-critical heavy-fermion metals. Here, we study the pseudogapped Kondo model [1], with a conduction-electron density of states proportional to $|\epsilon|^r$, which provides a paradigm for understanding critical local-moment fluctuations. In general, an interacting quantum critical point (QCP), at a finite critical Kondo coupling J_c, separates Kondo-screened and free local-moment phases [2]. We focus on finite-T scaling properties in the vicinity of the QCP, obtained using a dynamical large-N method for an SU(N) generalization of the model. Though the bulk lacks conformal invariance for $r > 0$, we show that correlation functions assume the form expected of a boundary conformal field theory, implying an enhanced symmetry at the QCP. We also address these and related issues in the N=2 model using a continuous-time quantum Monte Carlo impurity solver [3], which involves a stochastic evaluation of an expansion in the host-impurity hybridization. [1] D. Withoff and E. Fradkin, Phys. Rev. Lett. 64, 1835 (1990) [2] K. Ingersent and Q. Si., Phys. Rev. Lett. 89, 076403 (2002). [3] P. Werner et al., Phys. Rev. Lett. 97, 076405 (2006)

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