

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Zero-Temperature Magnetic Transition in an Easy-Axis Kondo Lattice Model — An NRG Study JIAN-XIN ZHU, Los Alamos National Laboratory, STEFAN KIRCHNER, Rice University, RALF BULLA, Universitat Augsburg, QIMIAO SI, Rice University — Antiferromagnetic heavy fermion metals close to their quantum critical points display a richness in their physical properties unanticipated by the traditional approach to quantum criticality. Here we address the quantum transition of a spin- $\frac{1}{2}$ antiferromagnetic Kondo lattice model with an easy-axis anisotropy within the extended dynamical mean field theory. We derive results [1] in real frequency using the bosonic numerical renormalization group (bNRG) method and compare them with Quantum Monte Carlo results in Matsubara frequency. The bNRG results show a logarithmic divergence in the critical local spin susceptibility, signaling a destruction of Kondo screening. The $T = 0$ transition is nearly second order, with any jump in the magnetic order parameter *not* exceeding a few percents of the full moment. The bNRG results also display some subtle features; we discuss their possible origins and suggest means for further microscopic studies. [1] J.-X. Zhu, S. Kirchner, R. Bulla, and Q. Si, cond-mat/0607567.

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Date submitted: 06 Dec 2006

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