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Global phase diagram of the Ising-anisotropic Kondo lattice EMILIAN M NICA, Rice University, KEVIN INGERSENT, University of Florida, QIMIAO SI, Rice University — In recent years, a significant amount of work has been dedicated to understanding heavy-fermion quantum criticality. What has emerged is a proposed global phase diagram [1] meant to capture the interplay between Kondo singlet formation, magnetic ordering and intrinsic fluctuations associated with the quantum-mechanical nature of the local moments. Using an Extended Dynamical Mean-Field Theory (EDMFT) approach, we study a prototypical Ising-anisotropic Kondo lattice model in the presence of a transverse field that provides a way of controlling the quantum fluctuations of the local moments. We show that the transverse field opens up a line of continuous transitions directly from an antiferromagnetic phase with Kondo destruction (and, hence, a small Fermi surface) to a paramagnetic heavy-fermion state (with a large Fermi surface). We show that the critical scaling characteristics along this line are the same as for the previously studied zero-transverse field case, indicating the robustness of the Kondo-destruction scenario with respect to enhanced quantum fluctuations. General implications of our results for the global phase diagram and heavy-fermion quantum criticality will be discussed. [1] "Kondo Destruction and Quantum Criticality in Kondo Lattice Systems," Q. Si, J. H. Pixley, E. Nica, S. J. Yamamoto, P. Goswami, R. Yu, and S. Kirchner, J. Phys. Soc. Jpn. **83,** 061005 (2014).

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