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**Bose-Fermi Kondo model with a local transverse field and its implications for the global phase diagram of heavy fermions** EMILIAN NICA, QIMIAO SI, Rice University, KEVIN INGERSENT, University of Florida — Recent studies of the global phase diagram of quantum critical heavy fermion metals [1] have motivated us to consider the interplay between the quantum fluctuations within the local-moment system and those associated with the Kondo interaction. Towards this goal, we studied a Bose-Fermi Kondo model with Ising anisotropy in the presence of a local transverse field. Using the numerical renormalization group method for co-existing fermionic and bosonic baths [2], we found that tuning the transverse field gives rise to a continuous phase transition between a local moment phase and a Kondo screened phase. We determine the critical fixed point structure by studying the transitions accessed by varying the transverse field for different initial values of the coupling to the dissipative boson bath. Finally, we discuss the implications of these results for the global phase diagram of the Kondo lattice.

[1] Q. Si and F. Steglich, *Science* 329, 1161 (2010).

[2] M. T. Glossop and K. Ingersent, *Phys. Rev. B* 75, 104410 (2007)

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