Abstract Submitted for the MAR16 Meeting of The American Physical Society

Spin fluctuations in the anisotropic Kondo insulator CeRu4Sn6¹ WESLEY T. FUHRMAN, Institute for Quantum Matter and Johns Hopkins University, J. HAENEL, Vienna University of Technology, J. RODRIGUEZ, NIST NCNR, S. PASCHEN, Vienna University of Technology, C. L. BROHOLM, Institute for Quantum Matter, Johns Hopkins University, NIST — We report and model anisotropic quasi-elastic magnetic neutron scattering from single crystalline CeRu₄Sn₆. For $T \approx 2$ K the magnetic neutron scattering is broad in momentum (**Q**) with a persistent $1/\hbar\omega$ spectrum throughout the Brillouin zone. This indicates a lack of spatial coherence and no characteristic energy scale beyond the 0.2 meV resolution of the measurement. We find the Q-dependence of the scattering can be modeled by a Kondo-Heisenberg Hamiltonian that describes residual carriers and incompletely compensated localized electrons. These findings support the interpretation of tetragonal CeRu4Sn6 as an anisotropic or nodal Kondo insulator, markedly different from typical cubic Kondo insulators. We further discuss potential topological implications.

¹Work at IQM was supported by the U.S. Department of Energy, office of Basic Energy Sciences, Division of Materials Sciences and Engineering under Award DE-FG02-08ER4654. W.T.F. thanks the ARCS foundation and Lockheed Martin for additional support.

Wesley T. Fuhrman Institute for Quantum Matter and Johns Hopkins University

Date submitted: 06 Nov 2015

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