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Non-Fermi vs. Inhomogeneous-Fermi Liquid behaviour in UCu_4Ni in the context of the Kondo Disorder Model[1] ARIANA VALDEZ[2], OSCAR BERNAL, Department of Physics and Astronomy, California State University, Los Angeles, CA 90032, G.R. STEWART, J.S. KIM, Department of Physics, University of Florida, Gainsville FL 32611 — UCu_4Ni is a site-disordered material with diverging thermodynamic and anomalous transport properties. Local nuclear magnetic resonance (NMR) experiments in combination with bulk magnetic susceptibility χ measurements performed on the same samples indicate that the low-temperature divergence of χ might be due in part to the presence of paramagnetic impurities. In this contribution, we describe the magnetization in terms of a Kondo disorder model and extract a set of parameters of the distribution of Kondo temperatures, which indicate that the low temperature side of the distribution does not have sufficient area to accommodate a non-Fermi liquid divergence. We use the same parameters to subsequently calculate the specific heat C and to extrapolate to low temperatures, which allows us to compare with the known divergence of the magnetic contribution to C/T below 10 K. We discuss to what extent the physics of this material is that of a non-Fermi liquid as opposed to an inhomogeneous Fermi fluid.

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