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Effects of Disorder in the Heavy Fermion Antiferromagnet $\mathbf{CeCu_{6-x}Au_x}$[1] D.J. BURNETTE, J.S. KIM, G.R. STEWART, University of Florida — Using a quick quenching technique that also produces bars of known geometry for absolute resistivity measurements, we have measured the effects of this fairly rapid ($\sim 10^4$ K/s) solidification on the high angle x-ray line width, resistivity, magnetic susceptibility, and specific heat of $CeCu_{6-x}Au_x$ for several compositions. Gradual variations of the disorder and its effect on the properties were investigated by annealing the quenched samples at 700 °C over periods of days to weeks. The discussion of the effects of the quenched-in disorder on the measured properties will focus on T_{Neel}, the low temperature specific heat γ, and the non-Fermi liquid behavior.

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