Abstract Submitted
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Region of Quantum Critical Behavior in Ce($Ru_{1-x}Rh_x$)$_2Si_2$[1] G.R. STEWART, J.S. KIM, D.J. MIXSON, D. BURNETTE, Dept. of Physics, Univ. of Florida — The magnetic phase diagram of Ce($Ru_{1-x}Rh_x$)$_2Si_2$ is quite rich, with a spin density ordering temperature approaching T=0 around x_{QCP}= 0.4 and with - from the Rh rich side where T_N of $CeRh_2Si_2$ is 36 K - a long range, local moment ordering temperature approaching T=0 at approximately x_{QCP} = 0.6. Specific heat data down to 0.04 K for a number of compositions indicate a *region* of non-Fermi liquid behavior between x=0.4 and 0.6 associated with the two quantum critical points. The nature of the nFl temperature dependence in the specific heat changes from Moriya-like weak spin fluctuation behavior at the Ru rich side to strong fluctuation, C/T $\propto$logT behavior at the Rh rich end. How this smooth progression of behavior with increasing x provides insights into our understanding of non-Fermi liquid behavior in general will be discussed. The disagreement in the literature over whether C/T is Moriya-like or follows logT at x=0.5 is resolved in favor of the former temperature dependence.

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