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Non-Fermi liquid behavior in the filled skutterudite compound $CeRu_4As_{12}$[1] RYAN BAUMBACH, Physics and IPAPS, UCSD, P.-C. HO, CSU Fresno, T. SAYLES, M.B. MAPLE, Physics and IPAPS, UCSD, R. WAWRYK, T. CICHOREK, A. PIETRASZKO, Z. HENKIE, Low T and Struct., Polish Acad. of Sci. — The filled skutterudite compounds of the form MT_4X_{12} (M = alkali metal, alkaline earth, lanthanide, actinide, T = Fe, Ru, Os and X = P, As, Sb) exhibit a wealth of strongly correlated electron phenomena. The CeT_4X_{12} subclass is interesting since it includes the only filled skutterudite known to show non - Fermi liquid (NFL) behavior, $CeRu_4AS_{12}$, in addition to various semiconductors where the gap size is correlated with the lattice constant. We present electrical resistivity ρ, specific heat C, and magnetic susceptibility χ measurements for the new compound, $CeRu_4As_{12}$, which reveal NFL T - dependences at low T, i.e., $\rho(T) \sim T^{1.4}$ and weak power law or logarithmic divergences in C(T)/T and $\chi(T)$. Measurements also show that the T - dependence of the thermoelectric power S(T) deviates from that in other Ce systems. The NFL behavior appears to be associated with a nonmagnetic or weakly magnetic ground state, as revealed by magnetization M(H,T) measurements.

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Ryan Baumbach
Physics and IPAPS, UCSD

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