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Low-temperature thermal and transport properties of single-crystalline $Ce_4Pt_{12}Sn_{25}$ NOBUYUKI KURITA, HAN-OH LEE, YOSHIFUMI TOKIWA, ERIC BAUER, JOE THOMPSON, Los Alamos National Laboratory, ZACHARY FISK, Department of Physics, University of California Davis, PEI-CHUN HO, M. BRIAN MAPLE, Department of Physics and Institute for Pure and Applied Physical Sciences, University of California-San Diego, ROMAN MOVSHOVICH, Los Alamos National Laboratory — Low-temperature specific heat $C(T)$ and electrical resistivity $\rho(T)$ measurements have been performed on a flux-grown single-crystalline $Ce_4Pt_{12}Sn_{25}$which has a body-centered cubic structure. As temperature decreased, $C(T)$ increased and showed a huge jump ($\Delta C/T \sim$43J/mole-K^2-Ce) at $T \sim 0.2$ K, probably due to a magnetic ordering. The entropy gain connected with the ordering reaches a half of Rln2 at the peak position and almost full Rln2 at 3 K, corresponding to the degeneracy of the fundamental crystal-field doublet. On the other hand, $\rho(T)$ showed metallic behavior and decreased rapidly around the ordering temperature with a clear kink. We will also discuss the results of external-field effect on this compound.

Nobuyuki Kurita
Los Alamos National Laboratory

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