

Abstract Submitted  
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**Thermal and magnetic properties of a low-temperature antiferromagnet  $\text{Ce}_4\text{Pt}_{12}\text{Sn}_{25}$**  R. MOVSHOVICH, N. KURITA, H.-O. LEE, Y. TOKIWA, C.F. MICLEA, E.D. BAUER, F. RONNING, J.D. THOMPSON, Los Alamos National Laboratory, Los Alamos, New Mexico 87545, USA, P. HO, Department of Physics, California State University, Fresno, Fresno, California 93740, M.B. MAPLE, Department of Physics, University of California, San Diego, La Jolla, California 92093, USA, P. SENGUPTA, Los Alamos National Laboratory, Los Alamos, New Mexico 87545, USA, I. VEKHTER, Department of Physics & Astronomy, Louisiana State University, Baton Rouge, LA 70803, Z. FISK, University of California, Irvine, California 92697, USA — We report specific heat ( $C$ ) and magnetization ( $M$ ) of single crystalline  $\text{Ce}_4\text{Pt}_{12}\text{Sn}_{25}$  at temperature down to  $\sim 50$  mK and in fields up to 3 T.  $C/T$  exhibits a sharp anomaly at 180 mK, with a large  $\Delta C/T \sim 30$  J/mol K<sup>2</sup>-Ce, which, together with corresponding the cusp-like magnetization anomaly, indicate antiferromagnetic (AFM) ground state with Néel temperature  $T_N = 0.18$  K. Numerical calculations based on Heisenberg model reproduce both specific heat and magnetization data, and point to a very small Kondo scale  $T_K$ , clearly placing  $\text{Ce}_4\text{Pt}_{12}\text{Sn}_{25}$  in the weak exchange coupling  $J < J_c$  limit of the Doniach diagram. Magnetic field suppresses AFM state at  $H^* \approx 0.7$  T. Anomalous behavior observed in  $M(H)$  vs.  $T$  for fields in the vicinity of  $H^*$  points to a likely field-induced quantum critical point (QCP) at  $H^*$ .

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