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Low Temperature Specific heat of U_2PtC_2 ROMAN MOVSHOVICH, FRANZISKA WEICKERT, ERIC D. BAUER, JOE D. THOMPSON, NI NI, FILIP RONNING, Los Alamos National Laboratory — We present specific heat data of the moderately heavy superconductor U_2PtC_2 with $T_c = 1.34$ K, and normal state Sommerfeld coefficient $\gamma = C/T \approx 150$ mJ/mol K^2, at temperatures down to below 100 mK and in fields up to 9 T, exceeding the superconducting critical field. Zero-field data show systematic deviation from the weak-coupling BCS fit, with excess contribution at low temperature. The field evolution of the residual $\gamma_0(T=0)$ shows $\sqrt{H}$ dependence for H <1 T. Together, these results suggest an unconventional nature of superconductivity in this compound.

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