Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Hydrostatic pressure effects on T_N for single-crystal $\mathbf{U(Pt_{0.98}Pd_{0.02})_3}$[1] DIANA CUFF, MICHAEL GRAF, Boston College — Substitution of Pd for Pt in the heavy-fermion superconductor UPt_3 is known to suppress superconductivity and induce conventional antiferromagnetic order for x $\geq$ 0.006. It has been postulated that the primary effect of Pd is to exert a negative pressure, and that there is an antiferromagnetic quantum critical point (QCP) at x = 0.006. We are testing this through application of hydrostatic pressure on a single crystal sample of $U(Pt_{0.98}Pd_{0.02})_3$ with ordering temperature $T_N = 3.30$ K by crossing the QCP from the ordered state. Our first measurements for temperatures above 2 K indicate that the pressure required to suppress the T_N to 0 K is approximately 6 +/- 1 kbar. We are now extending our measurements to lower temperatures (a) to refine this estimate, and (b) to look for signatures of quantum critical behavior in the low-temperature transport when $T_N = 0$ K.

[1]Supported by the Petroleum Research Fund of the American Chemical Society

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Date submitted: 20 Nov 2006 Electronic form version 1.4