Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Specific Heat Characterization of UPt_3 with Varied Anisotropic Quasiparticle Scattering[1] JAN KYCIA, DAVID POMARANSKI, CHRISTOPHER MITCHELITIS, University of Waterloo, WILLIAM HALPERIN, Northwestern University — UPt_3 is an unconventional superconductor with multiple superconducting phases. It is believed to be a chiral triplet f-wave superconductor. Previous work, through UHV float zone refining and annealing at a range of temperatures, created a set of high quality UPt_3 crystals. Through electrical transport measurements, the upper transition temperature was found to be related to the level of structural defects and that the scattering was anisotropic.[2] In this work, we will present specific heat characterization of a set of these samples (with RRR of 420, 720, and 1460). Through this we can identify the sensitivity of the A and B superconducting phases to anisotropic scattering.

[1]JBK, DP, and CM acknowledge support from NSERC and WPH acknowledges support from the DOE BES Division of Materials Sciences and Engineering, DE-FG02-05ER46248.
[2]J.B. Kycia, J.I. Hong, M.J. Graf, J.A. Sauls, D.N. Seidman, W.P. Halperin, Phy. Rev. B **58**, R603 (1998).

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Date submitted: 11 Nov 2016 Electronic form version 1.4