Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Scaling Behavior of Angular Magnetoresistivity of CeCoIn5 Single Crystals[1] T. HU, H. XIAO, C.C. ALMASAN, Kent State University, T.A. SAYLES, M.B. MAPLE, University of California, San Diego — The angular dependence of in-plane magnetoresistivity of single crystals of $CeCoIn_5$ was measured above the zero-field critical temperature T_{c0} over a temperature T range from T_{c0} to 10 K and applied magnetic fields H up to 14 T. We constructed an H - T phase diagram above T_{c0} for this compound and identified a boundary, which separates regions of positive and negative magnetoresistance in the non-Fermi liquid regime. A critical angle θ_c (θ is the angle between the direction of the magnetic field and the c axis of the single crystal) is found in the positive magnetoresistance region, which may be correlated with the anisotropy of this material. The in-plane angular magnetoresistivity scales both above and below θ_c with different scaling functions. The temperature and magnetic field dependence of the critical angle θ_c will also be discussed. Our results show that one of the scalings could be the result of flux flow dissipation.

[1]This research was supported by the NSF Grant No. DMR-0406471 at KSU and by the DOE Grant No. DE-FG03-86ER-45230 at UCSD.

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Date submitted: 22 Dec 2004 Electronic form version 1.4