

Abstract Submitted
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Characteristic energy scales for field-tuned quantum criticality of CeCoIn₅ M.A. TANATAR, Departement de Physique, Universite de Sherbrooke, Sherbrooke, Canada J1K 2R1, J. PAGLIONE, Department of Physics, University of California, San Diego, California, USA, LOUIS TAILLEFER, Departement de Physique & RQMP, Universite de Sherbrooke, C. PETROVIC, Department of Physics, Brookhaven National Laboratory, Upton, New York 11973, USA — The Phase diagram of field-tuned quantum criticality in CeCoIn₅ was characterized by comparative electrical and thermal conductivity measurements. Main two findings for $J \parallel a$ are: (1) finite characteristic temperature of spin fluctuations, T_{SF} , terminates linear in T resistivity observed at high temperatures; (2) the Wiedemann-Franz law is obeyed in $T \rightarrow 0$ limit, so that the integrity of quasiparticles is preserved, even though the standard T^2 Fermi-liquid temperature dependence of resistivity fails. A comparison with inter-plane transport revealed pronounced anisotropy of the phenomenology. 1. J. Paglione, et al. PRL 97, 106606 (2006).

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