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**Andreev reflection at the normal-metal / heavy-fermion superconductor (HFS) interface: Point-contact spectroscopy (PCS) studies of CeCoIn<sub>5</sub>** L.H. GREENE, Department of Physics and Frederick Seitz Materials Research Laboratory, University of Illinois at Urbana-Champaign, W.K. PARK, Department of Physics and Frederick Seitz Materials Research Laboratory, University of Illinois at Urbana-Champaign, J.L. SARRAO, Los Alamos National Laboratory, J.D. THOMPSON, Los Alamos National Laboratory — Andreev reflection between a normal metal and superconductor with highly disparate fermi surface parameters is investigated with PCS using a gold tip and the HFS, single crystal CeCoIn<sub>5</sub>. Data are taken from 60 K down to 400 mK [W. K. Park et al, cond- mat/0409090] and applied fields up to 9 T. The contact is shown to be in the Sharvin limit with the enhanced sub-gap conductance arising from Andreev reflection. The temperature dependence of the zero-bias conductance data are best fit using the extended Blonder-Tinkham-Klapwijk model with a d-wave order parameter [S. Kashiwaya et al. PRB 53, 2667 (1996)]. The highly-suppressed Andreev signal, a signature of normal-metal/HFS junctions, is quantified and theoretical models to account for this are presented. We acknowledge A.J. Leggett, D. Pines, V. Lukic, J. Elenewski, B.F. Wilkin, A.N. Thaler, P.J. Hentges, K. Parkinson, W.L. Feldmann and support by the DoE DEFG02- 91ER45439, through the FSMRL and the Center for Microanalysis of Materials.

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