## Abstract Submitted for the MAR13 Meeting of The American Physical Society

Hall and Nernst Coefficients of Underdoped HgBa<sub>2</sub>CuO<sub>4+ $\delta$ </sub>: Fermi-Surface Reconstruction in an Archetypal Cuprate Superconductor NICOLAS DOIRON-LEYRAUD, Universite de Sherbrooke, S. LEPAULT, LNCMI Toulouse, O. CYR-CHOINIÈRE, Universite de Sherbrooke, B. VIGNOLLE, LNCMI Toulouse, F. LALIBERTÉ, J. CHANG, Universite de Sherbrooke, N. BARIŠIĆ, M.K. CHAN, L. JI, X. ZHAO, University of Minnesota, Y. LI, Peking University, M. GREVEN, University of Minnesota, C. PROUST, LNCMI Toulouse, LOUIS TAILLEFER, Universite de Sherbrooke — The Hall coefficient  $R_{\rm H}$  of underdoped  $HgBa_2CuO_{4+\delta}$  (Hg1201) was measured at low temperature in magnetic fields large enough to suppress superconductivity. The normal-state  $R_{\rm H}(T)$  is found to drop with decreasing temperature and become negative below 10 K, as also observed in the orthorhombic bi-layer cuprate  $YBa_2Cu_3O_y$  (YBCO) at comparable doping. In YBCO, the negative  $R_{\rm H}$  is the signature of a Fermi-surface reconstruction that produces a small electron pocket, attributed to the onset of charge-density wave order at low temperature. We infer that a similar Fermi-surface reconstruction occurs in the tetragonal single-layer material Hg1201. A striking similarity is also found in the normal-state Nernst coefficient  $\nu(T)$ , which drops below the pseudogap temperature  $T^{\star}$ , to reach a large negative value at low temperature, in both Hg1201 and YBCO. Our results are compelling evidence that the mechanisms responsible for Fermi-surface reconstruction and pseudogap formation in hole-doped cuprates are universal. Preprint reference: arXiv:1210.8411.

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Date submitted: 08 Nov 2012

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