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Fermi-surface reconstruction in the cuprate superconductor YBCO via the thermal Hall effect GAEL GRISSONNANCHE, SOPHIE DUFOUR-BEAUSEJOUR, FRANCIS LALIBERTE, ALEXIS RIOPEL, OLIVIER CYR-CHOINIERE, NICOLAS DOIRON-LEYRAUD, LOUIS TAILLEFER, University of Sherbrooke, JAMES DAY, BRAD RAMSHAW, RUIXING LIANG, DOUG BONN, WALTER HARDY, University of British Columbia, DAVID GRAF, NHMFL Tallahassee, STEFFEN KRAMER, LNCMI Grenoble — We recently showed that the thermal conductivity κ_{xx} can be used to directly measure the upper critical field H_{c2} in cuprate superconductors [1]. Here we show that the thermal Hall conductivity κ_{xy} can be used to probe the nature of the carriers in these materials. We present a study of κ_{xy} in YBCO at a doping p = 0.11, as a function of magnetic field up to 35 T down to low temperature. The fact that κ_{xy} is negative above H_{c2} = 24 T confirms the presence of an electron-like pocket in the normal-state Fermi surface [2], the result of a reconstruction caused by the emergence of charge order at low temperature [3]. We show how the Fermi-surface reconstruction evolves as a function of field and temperature. [1] G. Grissonnanche *et al.*, arXiv:1303.3856 (2013). [2] D. LeBoeuf *et al.*, Nature 450, 533 (2007). [3] F. Laliberté *et al.*, Nature Communications 2, 432 (2011).

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