

Abstract Submitted
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Temperature dependence of Hall-field induced resistance oscillations in 2D Electron Systems¹ ANTHONY HATKE, HUNG-SHENG CHIANG, MICHAEL ZUDOV, School of Physics and Astronomy, University of Minnesota, LOREN PFEIFFER, KEN WEST, Bell Labs, Alcatel-Lucent — A few years ago a new class of resistance oscillations was discovered in two-dimensional electron systems subject to weak magnetic fields and strong dc electric fields [1]. These oscillations, termed Hall field induced resistance oscillations (HIRO), are believed to originate from commensurability between the cyclotron diameter and real-space separation between Hall field tilted Landau levels. Here, we study temperature dependence of these oscillations in a very-high mobility two-dimensional electron system. Our results suggest that, in contrast to Shubnikov-de Haas effect, HIRO are sensitive to electron-electron interactions modifying the single particle lifetime. [1] C. L. Yang, J. Zhang, R. R. Du, J. A. Simmons, and J. L. Reno, Phys. Rev. Lett. **89**, 076801 (2002)

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Michael Zudov

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