Abstract Submitted
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Conductance asymmetry of a slot gate Si-MOSFET in a strong parallel magnetic field[1] ISSAI SHLIMAK, Bar-Ilan University, Israel, D. I. GOLOSOV, A. BUTENKO, Bar-Ilan University, K.-J. FRIEDLAND, Paul Drude Institute, Berlin, Germany, S. V. KRAVCHENKO, Northeastern University, Boston, MA — We report measurements on a Si-MOSFET sample with a slot in the upper gate, allowing for different electron densities $n_{1,2}$ across the slot. The dynamic longitudinal resistance was measured by the standard lock-in technique, while maintaining a large DC current through the source-drain channel. We find that the conductance of the sample in a strong parallel magnetic field is asymmetric with respect to the DC current direction. This asymmetry increases with magnetic field. The results are interpreted in terms of electron spin accumulation or depletion near the slot. Preprint arXiv:0909.1491

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