

Abstract Submitted
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Ballistic Quantum Hole Wires JOSEPH SULPIZIO, CHARIS QUAY, Department of Physics, Stanford University, RAFI DE PICCIOTTO, B-Nano Ltd., Rehovot, Israel, DAVID GOLDHABER-GORDON, Department of Physics, Stanford University, K.W. WEST, L.N. PFEIFFER, Department of Electrical Engineering, Princeton University — We present measurements of hole transport in ballistic quantum wires fabricated by GaAs/AlGaAs cleaved-edge overgrowth. We have developed a new, broadly applicable approach to analyzing the transport measurements of a ballistic one-dimensional system. Applying this analysis to our nonlinear conductance data, we find evidence for the importance of charge interactions for transport in the wires. Additionally, we extract the g-factor from measurements in magnetic field, and find strong g-factor anisotropy, which we associate with spin-orbit coupling.

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