Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Tunable tunnel barriers in carbon nanotubes as a probe of electron-electron interactions in one-dimensional systems JOSEPH SULPIZIO, CHARIS QUAY, Department of Physics, Stanford University, ZVONIMIR BANDIC, Hitachi Global Storage Technologies, DAVID GOLDHABER-GORDON, Department of Physics, Stanford University — We fabricate carbon nanotube devices with single tunable tunnel barriers using lithographically defined narrow metal gate electrodes. By measuring the end-to-end transport across the tunnel barriers in these one-dimensional structures, we aim to probe electron-electron interactions and test the predictions of Luttinger liquid theory.

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Date submitted: 06 Dec 2004 Electronic form version 1.4