

Abstract for an Invited Paper
for the MAR09 Meeting of
The American Physical Society

A Novel Approach to Opening Quantum Mechanical Limitations of Semiconductor Electronics¹

JOCHEN MANNHART, University of Augsburg

At interfaces between insulating oxides, robust electron gases have been generated that feature unique electronic properties, such as electric-field tunable metal-insulator transitions. Inspired by the properties of such systems we propose a novel device architecture that may resolve fundamental limitations of standard, semiconductor electronics.

¹Work performed in collaboration with Thilo Kopp