

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Fabrication and measurement of an RF-QPC in an undoped Si/SiGe heterostructure ROBERT MOHR, DANIEL ENDERICH, JONATHAN PRANCE, LEON MAURER, DANIEL WARD, DONALD SAVAGE, MAX LAGALLY, ROBERT MCDERMOTT, SUSAN COPPERSMITH, MARK ERIKSSON, University of Wisconsin - Madison — We perform radio-frequency reflectometry measurements on a quantum point contact fabricated in an undoped accumulation-mode Si/SiGe heterostructure. This device is a promising candidate for high-bandwidth charge sensing in Si/SiGe, and it provides the capability for fast qubit readout in this material. We show operation of the device with a well-defined resonance that can be modulated by a nearby gate. We will discuss design challenges that are particular to accumulation-mode structures and how they can be resolved.

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Date submitted: 09 Nov 2012

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