

Abstract Submitted
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Si/SiGe Quantum Dot with SET Charge Sensor¹ MINGYUN YUAN, ZHEN YANG, A. J. RIMBERG, Department of Physics and Astronomy, Dartmouth College, M. A. ERIKSSON, Department of Physics, University of Wisconsin-Madison, D. E. SAVAGE, Material Science Center, University of Wisconsin-Madison — Si/SiGe quantum dots promise a long spin coherence time due to reduced electron-nuclear spin interaction. Based on robust fabrication process we have developed, reliable ohmic contacts and non-leaky Schottky gates are repeatedly produced. As a result, stable quantum dots have been successfully formed, with sufficiently high yield to allow subsequent fabrication steps. Representative Coulomb blockade data will be shown. Efforts to couple a single electron transistor (SET) to a Si/SiGe dot in order to monitor its charge state are in progress. Recent experimental results will be discussed.

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