

Abstract Submitted  
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**Characterization of accumulation-mode Si/SiGe triple quantum dots**<sup>1</sup> T. M. HAZARD, D. M. ZAJAC, X. MI, S. S. ZHANG, J. R. PETTA, Department of Physics, Princeton University — The transition from quantum dots fabricated from doped Si/SiGe quantum wells to undoped accumulation-mode structures has greatly improved the performance of few-electron quantum dots. Our accumulation-mode devices<sup>2</sup> are reconfigurable and allow for operation as single, double, or triple quantum dots. In these devices, we measure typical charging energies  $E_c = 5.7$  meV, orbital excited state energies as large as  $E_o = 2.9$  meV, and valley splittings of up to  $E_v = 80$   $\mu$ eV. With the device configured as a triple quantum dot, we easily reach the (1,1,1) charge configuration. The gate architecture allows the interdot tunnel coupling to be tuned over a wide range, which is important for operation as an exchange-only spin qubit.<sup>3</sup>

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<sup>2</sup>D. M. Zajac *et al.*, Appl. Phys. Lett. **106**, 223507 (2015).

<sup>3</sup>J. Medford *et al.*, Phys. Rev. Lett. **111**, 050501 (2013).

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