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Electron Transport in SiGe single-electron transistors[1] IAN GELFAND, Harvard University, JIAN LIU, YA-HONG XIE, University of California, Los Angeles, MARC KASTNER, Massachusetts Institute of Technology — It is expected that electron spins in two dimensional electron gasses (2DEGs) in SiGe heterostructures will have longer spin coherence times than GaAs 2DEGs. We have fabricated quantum point contacts and single electron transistors in this material system using palladium Schottky gates. We find that these gates can deplete the 2DEG with negligible leakage if the area of the gates is minimized, as shown by previous workers.[1] 1 K.A. Slinker et. al., New Journal of Physics 7 246 (2005)

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