

Abstract Submitted  
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**Silicon quantum dots with counted antimony donor implants**  
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Sandia National Laboratory — Antimony donor implants next to silicon quantum  
dots have been detected with integrated solid-state diode detectors with single ion  
precision. Devices with counted number of donors have been fabricated and low  
temperature transport measurements have been performed. Charge offsets, indica-  
tive of donor ionization and coupling to the quantum dot, have been detected in  
these devices. The number of offsets corresponds to 10-50% of the number of donors  
counted. We will report on tunneling time measurements and spin readout mea-  
surements on the donor offsets. This work was performed, in part, at the Center for  
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