



Coupling a Single Electron Spin to a Microwave Cavity

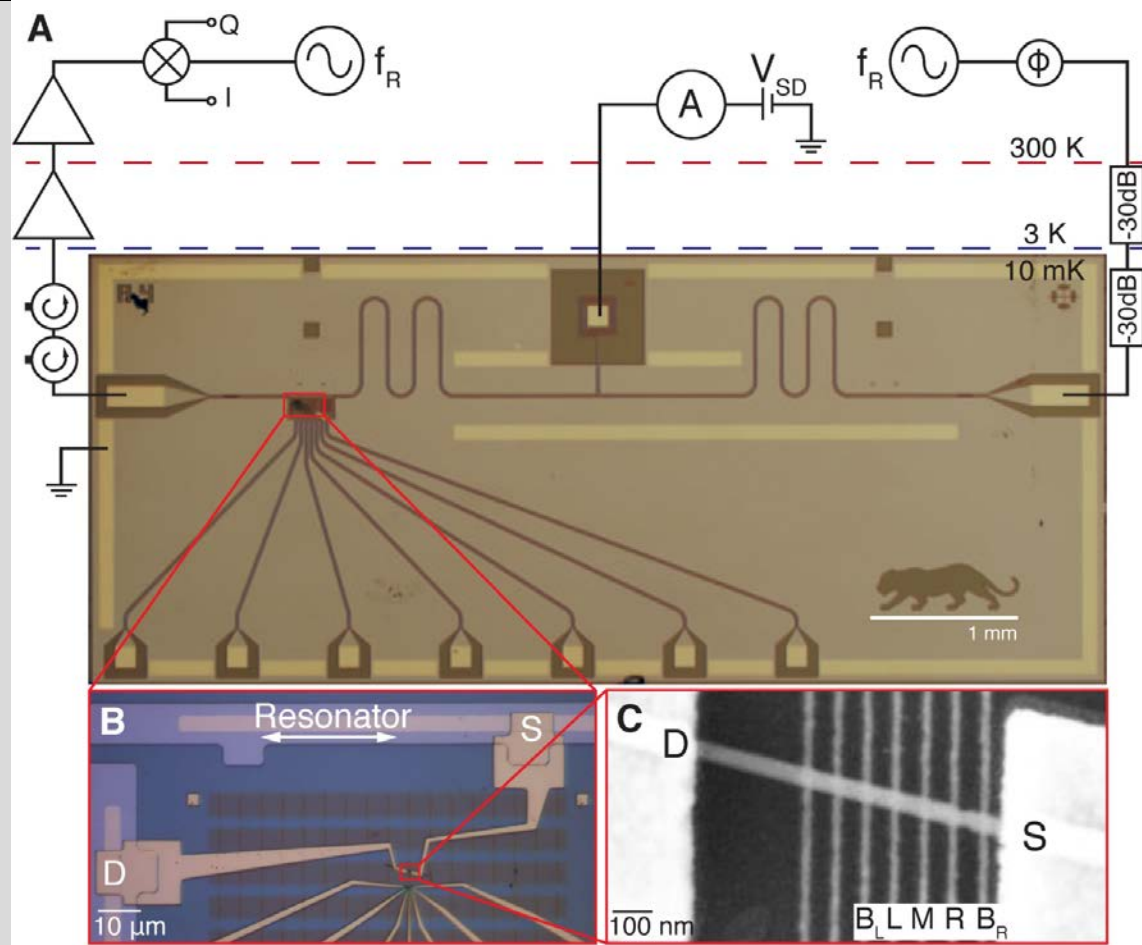
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IRG-D: K. D. Petersson¹, L. W. McFaul¹, M. D. Schroer¹, J. M. Taylor², A. A. Houck¹, J. R. Petta¹,
¹Princeton University, ²Joint Quantum Institute

IRG-D researchers at Princeton University have combined superconducting qubit technology with single spin devices, demonstrating that the microwave field of a superconducting resonator is sensitive to the spin of a single electron. The device may allow two spatially separated electron spins to be coupled, resulting in quantum entanglement.

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Fig. 1 **A** Optical image of the device used to couple a single spin qubit to a photonic cavity. **B** A nanowire is electrically connected to the resonator. **C** Two electrons are trapped in the nanowire and they respond to the electric field in a spin-dependent manner.



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