

Abstract Submitted
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**Creating and Detecting a One Photon Fock State in Two Cavity
CircuitQED** BLAKE JOHNSON, MATT REED, DAVID SCHUSTER, Yale University, ANDREW HOUCK, Princeton University, JAY GAMBETTA, IQC, University of Waterloo, ERAN GINOSSAR, LEV BISHOP, LEONARDO DICARLO, LUIGI FRUNZIO, STEVE GIRVIN, ROBERT SCHOELKOPF, Yale University — CircuitQED is an architecture which allows for strong interactions between single microwave photons and superconducting artificial atoms. This makes it an attractive testbed for the investigation of non-classical states of light. Previous work at Yale and elsewhere has shown the ability to detect the quantized field inside a superconducting coplanar waveguide cavity. In this talk I will show how this can be extended into a fast, QND detection scheme using an additional cavity and a quasi-dispersive interaction. This method is then used to monitor the decay of a single photon by repeated QND measurements.

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