Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Experimental investigation of a steady-state dynamical phase transition in a Jaynes-Cummings dimer JAMES RAFTERY, DARIUS SADRI, STEPHAN MANDT, HAKAN TÜRECI, ANDREW HOUCK, Princeton University — Experimental progress in circuit-QED has made it possible to study non-equilibrium many-body physics using strongly correlated photons. Such open and driven systems can display new types of dynamical phase transitions [1]. Recently, a novel steady state transition has been predicted for a Jaynes-Cummings dimer where the photon current between the two cavities acts as an order parameter [2]. Here, we discuss the theory and report measurements of the steady-state behavior of a circuit-QED dimer with in situ tunable inter-cavity coupling and on-site photon-photon interaction. [1] J. Raftery, D. Sadri, S. Schmidt, H. E. Türeci, and A. A. Houck, Phys. Rev. X 4, 031043 (2014). [2] S. Mandt, D. Sadri, A. A. Houck, and H. E. Türeci, arXiv:1410.3142 (2014).

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Date submitted: 14 Nov 2014 Electronic form version 1.4