

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Non-resonant interactions between superconducting circuits coupled through a dc-SQUID X. Y. JIN, F. LECOCQ, K. CICAŁ, S. S. KOTLER, G. A. PETERSON, J. D. TEUFEL, J. AUMENTADO, R. W. SIMMONDS, National Institute of Standards and Technology, 325 Broadway St, Boulder, CO 80305 — We use a flux-biased direct current superconducting quantum interference device (dc-SQUID) to generate non-resonant tunable interactions between transmon qubits and resonators modes. By modulating the flux to the dc-SQUID, we can create an interaction with variable coupling rates from zero to greater than 100 MHz. We explore this system experimentally and describe its operation. Parametric coupling is important for constructing larger coupled systems, useful for both quantum information architectures and quantum simulators.

X. Y. Jin
NIST - Boulder

Date submitted: 27 Dec 2016

Electronic form version 1.4