Abstract Submitted
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All-resonant control of superconducting resonator qudits[1] FREDERICK STRAUCH, Williams College — Quantum information processing with using superpositions of Fock states in superconducting resonators holds great promise for multi-level (i.e. qudit) quantum logic. Previous theoretical work has shown that a combination of dispersive and resonant interactions allow for general qudit logic operations. Here I introduce an all-resonant approach to control resonator qudits. This scheme allows for faster logic operations and will be compared to previous methods for Fock state generation and entangled state synthesis.

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