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Multi-Transmon circuit QED using local and fast flux biasing
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STEVEN GIRVIN, ROBERT SCHOELKOPF, Yale University — We report lo- 
cal and fast flux tuning of Transmon qubits in circuit QED by means of proximal 
short-circuited coplanar waveguides. We characterize the effect of these additional 
microwave channels on qubit lifetime. We demonstrate one-qubit Z-gates and time-
domain control of two-qubit interaction via virtual photon exchange. Gate perfor-
ance is characterized by process tomography and compared to gating by AC Stark 
shift as previously investigated by the Yale cQED team [1]. Research supported by 

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