

Abstract Submitted
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Modeling of a Flying Microwave Qubit KYLE KEANE,
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Department of Electrical Engineering — We investigate the transfer
efficiency of sending a flying microwave qubit through a transmission line
from one resonator to another resonator. Our model is based on the current
technology of coupling superconducting phase qubits to microwave
resonators and transmission lines. Analytical as well as numerical results
are presented. Procedural imperfections have been modeled, including
weak detuning, imperfect timing, and deviations from the ideal time
dependence of the coupling modulation. The effects of multiple reflections
within the transmission line and energy dissipation in the system are
also considered.

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