

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Lattice waveguide QED: many-body interactions by dissipation
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Canada J1K 2R1 — In waveguide QED, superconducting qubits acting as artificial
atoms are coupled to a 1D superconducting transmission line playing the role of
common bath for the qubits. By controlling their effective separation, it is possible
to engineer various types of dissipation-induced interactions between the qubits.
In this talk, we consider the situation where multiple superconducting qubits are
coupled to a lattice of superconducting transmission lines. Depending on the choice
of lattice, the qubits exhibit a rich variety of interactions. We present a Markovian
master equation framework to describe these systems, and discuss results obtained
for simple lattices.

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Date submitted: 13 Nov 2014

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