

Abstract Submitted
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Engineered circuit QED with dense resonant modes¹ FRANK WILHELM², DANIEL EGGER, Saarland University — In circuit quantum electrodynamics even in the ultrastrong coupling regime, strong quasi-resonant interaction typically involves only one mode of the resonator as the mode spacing is comparable to the frequency of the mode. We are going to present an engineered hybrid transmission line consisting of a left-handed and a right-handed portion that has a low-frequency van-Hove singularity hence showing a dense mode spectrum at an experimentally accessible point. This gives rise to strong multi-mode coupling and can be utilized in multiple ways to create strongly correlated microwave photons.

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