

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Sorting Category: 17.1.1 (E)

Transmon qubit coupled to a quasi-lumped element resonator B. SURI, S. NOVIKOV, V. ZARETSKEY, Dept. of Physics, University of Maryland, College Park, B.S. PALMER, Lab for Physical Sciences, College Park, Maryland, F.C. WELLSTOOD, JQI, CNAM, Dept. of Phys, Univ of MD, College Park — We report on the design, fabrication and measurement of an Al/AlO_x/Al transmon qubit coupled to a quasi-lumped element superconducting resonator. Our resonator, which has a resonant frequency of ≈ 5.4 GHz, and a loaded quality factor $Q_l \approx 30,000$ is, in turn, coupled to a transmission line. The qubit is designed to have $E_J/E_c > 30$ to significantly decrease the sensitivity to low-frequency charge noise. The coupling of the qubit to the resonator is designed to be $g/2\pi > 100$ MHz. We report and discuss preliminary spectroscopic measurements and coherence measurements of the qubit.

Prefer Oral Session
 Prefer Poster Session

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Date submitted: 19 Dec 2011

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