Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Straddling Regime of a Transmon Qubit SRIKANTH SRINIVASAN, ANTHONY HOFFMAN, ANDREW HOUCK, Princeton University — We investigate the straddling regime of a superconducting transmon qubit coupled to a microwave resonator in a circuit QED architecture. In this regime, effects of higher levels of the transmon qubit add constructively to improve single shot measurement. This regime requires significantly lower coupling between qubit and cavity than has previously been reported, but paradoxically, this reduced coupling leads to an increased measurement signal. We report on a qubit designed to substantially reduce coupling and access this straddling regime.

Srikanth Srinivasan
Princeton University

Date submitted: 08 Dec 2009 Electronic form version 1.4