

Abstract Submitted
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Measurement of ac Stark shift in a superconducting qubit under strong Rabi drive YONUK CHONG, DONG-GWANG HA, JUNG HWAN PARK, WOON SONG, Korea Research Institute of Standards and Science, GWAN YEOL PARK, SOON GUL LEE, Korea University — We present a measurement of ac Stark shift in a superconducting 3D transmon qubit. The qubit is strongly coupled to a superconducting aluminum cavity in circuit QED architecture. We observed the ac Stark shift under strong Rabi drive and measured it from detuning behavior of the Rabi oscillations as a function of the Rabi frequency. We also confirmed the shift by the Autler-Townes splitting measurement as a function of the qubit drive power.

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