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Title : "Circuit quantum electrodynamics using a semiconductor quantum dot coupled to a superconducting resonator"

Abstract :

Cavity quantum electrodynamics (QED) in solid state device have been a focus of research in physics of quantum information processing. We will report our attempt to realize cavity QED on chip (circuit QED) in a double quantum dot-resonator system. We estimate coupling strength and system loss rate from experimental results and numerical calculations. Decoherence sources of the system will also be discussed.