

Abstract Submitted
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Spectroscopy and decoherence of plasmons and fluxons in superconducting fluxonium qubit. LONG NGUYEN, YEN-HSIANG LIN, NICHOLAS GRABON, NATALYA SOLOVYEVA, VLADIMIR MANUCHARYAN, Univ of Maryland-College Park, SUPERCONDUCTING CIRCUITS LAB TEAM — Transition spectrum of a fluxonium circuit changes drastically with respect to the $p=EJ/EC$ parameter of the small junction, remaining charge-insensitive at all values of p . At larger values of p , the spectrum consists of exponentially decoupled fluxon and plasmon transitions. At smaller values, fluxons no longer exist, and plasmons reside mostly in the array inductance. We present spectroscopy of tunable fluxoniums and discuss our findings from the decoherence measurements of various transitions.

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