

Abstract Submitted
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Bistability in Josephson Junction array resonator PHANI RAJA MUPPALLA, Institute for quantum optics and quantum information, ALEXANDRE BLAIS COLLABORATION, CHRISTIAN KRAGLUND ANDERSEN COLLABORATION, IOAN POP, LUKAS GRUENHAUPT COLLABORATION, MICHEL DEVORET COLLABORATION, OSCAR GARGUILO, GERHARD KIRCHMAIR TEAM — “We present an experimental analysis of the Kerr effect of extended plasma resonances in a 1000 Josephson junction (JJ) chain resonator inside a rectangular waveguide. The Kerr effect manifests itself as a frequency shift that depends linearly on the number of photons in a resonant mode. We study the bistable behavior, using a pump probe scheme on two modes of the JJ array, exploiting the Cross-Kerr effect in our system. In order to understand the behavior of the bi-stability we perform continuous time measurements to observe the switching between the two metastable states. We observe a strong dependence of the switching rates on the photon number and the drive frequency.”

Phani Raja Muppalla
Institute for quantum optics and quantum information

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