

Cornell University Library We gratefully acknowledge support from the Simons Foundation and member institutions

Search or Article-id (Help | Advanced search) arXiv.org > cond-mat > arXiv:1202.5445 All papers Go! Ŧ Condensed Matter > Mesoscale and Nanoscale Physics Download: PDF **Tailoring population inversion in** PostScript Other formats Landau-Zener-Stückelberg Current browse context: interferometry of flux qubits cond-mat.mes-hall < prev | next > new | recent | 1202 Alejandro Ferron, Daniel Dominguez, Maria Jose Sanchez Change to browse by: (Submitted on 24 Feb 2012 (v1), last revised 12 Nov 2012 (this version, v2)) cond-mat cond-mat.supr-con We distinguish different mechanisms for population inversion in flux qubits driven by dc+ac magnetic fields. We show that for driving amplitudes such that **References & Citations** there are Landau-Zener-St\"uckelberg intereferences, it is possible to have NASA ADS population inversion solely mediated by the environmental bath at long driving times. We study the effect of the resonant frequency \$\Omega_p\$ of the Bookmark(what is this?) measuring circuit, finding different regimes for the asymptotic population of 📃 🛈 🗶 🔂 🖬 🖬 🚽 🔛 🥸 the state of the flux qubit. By tailoring \Omega p\$ the degree of population Science inversion can be controlled. Our studies are based on realistic simulations of the device for the Josephson flux qubit using the Floquet-Born-Markov formalism. Comments: New data added and changes in the text. Final version, to appear in PhysRevLett Mesoscale and Nanoscale Physics (cond-mat.mes-hall); Subjects: Superconductivity (cond-mat.supr-con)

Which authors of this paper are endorsers?

arXiv:1202.5445 [cond-mat.mes-hall]

(or arXiv:1202.5445v2 [cond-mat.mes-hall] for this version)

Link back to: arXiv, form interface, contact.

From: Daniel Dominguez [view email]

[v1] Fri, 24 Feb 2012 13:20:22 GMT (660kb)
[v2] Mon, 12 Nov 2012 13:31:48 GMT (665kb)

Cite as:

Submission history