



SUPERCONDUCTING QUBITS PROTECTED AGAINST PHOTON-ASSISTED QUASIPARTICLE POISONING

WARF: P210327US02

Inventors: Robert McDermott

The Invention

UW Madison researchers have devised an optimization method to minimize quasi-particle (QP) induced errors in superconducting qubits. Their recent findings show that QPs are produced by resonant absorption of high-frequency radiation that can break Cooper pairs. The qubit island structure acts as an antenna with a resonant frequency above the superconducting gap, providing an efficient means for pairbreaking photons to interconvert to QPs at the location of the junction, where the impact on qubit performance is greatest.

Additional Information

For More Information About the Inventors

- [Robert McDermott](#)

Tech Fields

- [Information Technology: Hardware](#)

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842