



System And Method For Controlling Superconducting Qubits Using Single Flux Quantum Logic

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The Invention

A system and method for controlling superconducting qubits is provided. In some aspects the method includes assembling, using a controller of a quantum computing system, a pulse subsequence that comprises pairs of voltage pulses timed symmetrically with respect to a period corresponding to a qubit frequency of a superconducting qubit in the quantum computing system. The method also includes generating, using the controller, a pulse sequence using a repetition of a pulse subsequence. The method further includes controlling the superconducting qubit by applying the pulse sequence to the superconducting qubit using a single flux quantum ("SFQ") driver coupled thereto.

Additional Information

For More Information About the Inventors

- [Robert McDermott](#)
- [Maxim Vavilov](#)

Publications

- ["Scalable Hardware-Efficient Qubit Control with Single Flux Quantum Pulse Sequences"](#)

Tech Fields

- [Information Technology : Computing methods, software & machine learning](#)

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