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Proposal for spin-vortex-induced loop current quantum computer

We propose a quantum computer that utilizes spin-vortex-induced loop current (SVILCs) as qubits. SVILCs are nano-sized loop currents predicted to exist in the cuprate high temperature superconductors. Although their existence is not experimentally confirmed, they have a number of properties that are suitable for qubits. We propose methods to detect the predicted SVILCs and also explain how they are used in quantum computers.