

Abstract Submitted
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Adiabatic Quantum Computing in systems with constant inter-qubit couplings VADIM SMELYANSKIY, NASA Ames Research Center, SERGEI KNYSH, Mission Critical Technologies — We propose an approach suitable for solving NP-complete problems via adiabatic quantum computation with an architecture based on a lattice of interacting spins (qubits) driven by locally adjustable magnetic fields. Interactions between qubits are assumed constant and instance-independent, programming is done only by changing local magnetic fields. Implementations using qubits coupled by magnetic-dipole, electric-dipole and exchange interactions are discussed.

Vadim Smelyanskiy
NASA Ames Research Center

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