



Macroscopic Quantum Effects in Superconducting Circuits

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Within the past twenty years there has been a growing realization that superconducting Josephson circuits, despite their macroscopic dimensions, can demonstrate macroscopic quantum effects (e.g., macroscopic quantum tunneling). The last decade witnessed an explosive growth of research the superconducting devices for quantum computation (superconducting qubits). I will overview this field, discuss decoherence as the main obstacle to the realization of quantum computing with solid-state elements, and outline our approach to building a more robust superconducting qubit.