

High Energy States in Superconducting Cavity Quantum Electrodynamics

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Abstract

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1 Introduction

The superconducting circuit has many uses in modern physics. Its applications include SQUIDS to detect subtle magnetic fields and qubits which are the underlying basis of quantum computers. Quantum computing and the methods behind it could have a big impact on the future of physics. A common circuit made of two superconducting reservoirs with a thin insulating layer between them is called a Josephson Junction. This was predicted by Brian Josephson who won a Nobel Prize for his work. A Josephson Junction works by allowing cooper pairs to tunnel across the barrier without any electrical resistance. Cooper pairs are bound electrons that form at very low temperatures and are the mechanism behind superconductivity.

2 Theory

3 Method

4 Results

5 Discussion

6 Conclusion