

Superconducting solar container model simulation platform design

SolarDesign (<https://solardesign.cn/>) is an online photovoltaic device simulation and design platform that provides engineering modeling analysis for crystalline silicon solar cells, as well as emerging high ...

With the increasing electricity power demand in major cities, the existing conventional power cables is difficult to meet the requirements of high-density and large-capacity power ...

[2] A. Arsenault, F. Sirois, and F. Grilli, "Implementation of the H-? Formulation in COMSOL Multiphysics for Simulating the Magnetization of Bulk Superconductors and Comparison With the H-Formulation," ...

The design problem in superconducting quantum de-vices can be stated succinctly: given some desired behavior, how can we create a physical device that will produce this behavior? In this short review ...

High-temperature superconducting (HTS) materials hold great promise for advancing large-scale high-field magnets. This article presents a comprehensive study on the design, ...

In this work, we evaluate different cross-platform verification protocols using our six-qubit modular superconducting device, consisting of two modules each containing three qubits on the same carrier ...

SuperGrad offers a user-friendly interface for constructing Hamiltonians and computing both static and dynamic properties of composite systems. This differentiable simulation is valuable for a range of ...

This paper proposes an adaptive-extended J-model to compute superconducting properties, further enhancing the efficiency of electromagnetic study and also serving to generate ...

In section 3, the design of the hybrid active-passive vibration isolation system based on the MFP levitation is presented, an equivalent dynamic model is developed for the superconducting ...

This paper designs and develops a virtual simulation teaching platform of SMES system based on Matlab graphical user interface, which realizes the virtual platform of SMES device design, test and ...

Lithographically fabricated micrometre-scale superconducting circuits exhibit behaviour analogues to natural quantum entities, such as atom, ions and photons. Large-scale arrays of such ...

In this work, we demonstrate the use of variational quantum computing on a transmon-based quantum processor to simulate a superconducting quantum electronic circuit and design a new ...



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Progress has been made in adapting microwave engineering tools to superconducting circuit modeling needs at the um or mm scale of the largest components, such as capacitances, resonators, and ...

Co-simulation, which involves parallel simulation of power and communication layers, is a powerful approach to IMS, enabling evaluation of controller performance, power system stability, ...

Quantum computers based on superconducting qubits have emerged as a leading candidate for a scalable quantum processor architecture. The core of a quantum processor consists ...

Superconducting Circuit Simulators Based on standard semiconductor circuit simulation tool "SPICE" with Josephson junction (JJ) added as standard element. Available on a variety of computer ...

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