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Quantum Machines: Measurement and Control of Engineered Quantum Systems: Lecture Notes of the Les Houches Summer School: Volume 96, July 2011

By Michel H. Devoret, Benjamin Huard, Robert Schoelkopf,
Leticia F. Cugliandolo

Oxford University Press. Hardback. Book Condition: new. BRAND NEW, Quantum Machines: Measurement and Control of Engineered Quantum Systems: Lecture Notes of the Les Houches Summer School: Volume 96, July 2011, Michel H. Devoret, Benjamin Huard, Robert Schoelkopf, Leticia F. Cugliandolo, This book gathers the lecture notes of courses given at the 2011 summer school in theoretical physics in Les Houches, France, Session XCVI. What is a quantum machine? Can we say that lasers and transistors are quantum machines? After all, physicists advertise these devices as the two main spin-offs of the understanding of quantum mechanical phenomena. However, while quantum mechanics must be used to predict the wavelength of a laser and the operation voltage of a transistor, it does not intervene at the level of the signals processed by these systems. Signals involve macroscopic collective variables like voltages and currents in a circuit or the amplitude of the oscillating electric field in an electromagnetic cavity resonator. In a true quantum machine, the signal collective variables, which both inform the outside on the state of the machine and receive controlling instructions, must themselves be treated as quantum operators, just as the position of the electron in a hydrogen atom. Quantum superconducting...

Reviews

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This publication is wonderful. it was actually writtern very completely and beneficial. You may like the way the writer compose this publication.

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