



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,
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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.
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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...

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Reviews

A really awesome ebook with perfect and lucid reasons. Indeed, it is engage in, still an amazing and interesting literature. I am just very easily could possibly get a satisfaction of reading a composed publication.

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

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