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	Quantum physics
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Nota di contenuto	Introduction -- Mathematical Modeling of Linear Dynamical Quantum Systems -- Realization Theory and Network Synthesis of Linear Dynamical Quantum Systems -- Estimation and Filtering for Linear Dynamical Quantum Systems -- Feedback Control of Linear Dynamical Quantum Systems -- Linear Systems and Control Theory for Quantum Information.
Sommario/riassunto	This monograph provides an in-depth treatment of the class of linear-dynamical quantum systems. The monograph presents a detailed account of the mathematical modeling of these systems using linear algebra and quantum stochastic calculus as the main tools for a treatment that emphasizes a system-theoretic point of view and the

control-theoretic formulations of quantum versions of familiar problems from the classical (non-quantum) setting, including estimation and filtering, realization theory, and feedback control. Both measurement-based feedback control (i.e., feedback control by a classical system involving a continuous-time measurement process) and coherent feedback control (i.e., feedback control by another quantum system without the intervention of any measurements in the feedback loop) are treated. Researchers and graduates studying systems and control theory, quantum probability and stochastics or stochastic control whether from backgrounds in mechanical or electrical engineering or applied mathematics will find this book to be a valuable treatment of the control of an important class of quantum systems. The material presented here will also interest physicists working in optics, quantum optics, quantum information theory and other quantum-physical disciplines.