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Sommario/riassunto	This book investigates in detail cutting-edge technologies of underactuated manipulator control, which is a frontier topic in robotics that possesses great significance in energy conservation as well as fault tolerance for industrial applications. It is also the crucial technology associated with systems in special environments, including underwater or aerospace environments. So far, the topic of underactuated manipulator control has attracted engineers and scientists from various disciplines, such as applied physics, material, automation and robotics. Pursuing a holistic approach, the book establishes a fundamental framework for this topic, while emphasizing the importance of design

and optimization in the control of underactuated manipulators. Chapters of the book cover a wide variety of manipulator systems, including vertical underactuated manipulator, planar underactuated manipulator with first-order nonholonomic constraint, planar underactuated manipulator with second-order nonholonomic constraint and flexible underactuated manipulator. The book is intended for undergraduate and graduate students that are interested in underactuated manipulators, researchers that investigate the design and optimization for controllers of underactuated manipulators and engineers working with underactuated systems.