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Collana	Studies in Systems, Decision and Control, , 2198-4182 ; ; 152
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Soggetti	Automatic control Robotics Automation System theory Artificial intelligence Automotive engineering Control and Systems Theory Robotics and Automation Systems Theory, Control Artificial Intelligence Automotive Engineering
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Nota di contenuto	Rigid-Link Manipulators: Model-Based Control -- Rigid-Link Manipulators: Model-Free Control -- Underactuated Robotic Manipulators -- Closed-Chain Robotic Systems and Mechanisms -- Flexible-Link Manipulators -- Automatic Ground Vehicles -- Unmanned Aerial Vehicles -- Unmanned Surface Vessels -- Autonomous Underwater Vessels -- Cooperating Autonomous Vehicles.
Sommario/riassunto	This monograph addresses problems of: • nonlinear control, estimation and filtering for robotic manipulators (multi-degree-of freedom rigid-link robots, flexible-link robots, underactuated, redundant and cooperating manipulators and closed-chain robotic mechanisms); and • nonlinear control, estimation and filtering for autonomous robotic

vehicles operating on the ground, in the air, and on and under water, independently and in cooperating groups. The book is a thorough treatment of the entire range of applications of robotic manipulators and autonomous vehicles. The nonlinear control and estimation methods it develops can be used generically, being suitable for a wide range of robotic systems. Such methods can improve robustness, precision and fault-tolerance in robotic manipulators and vehicles at the same time as enabling the reliable functioning of these systems under variable conditions, model uncertainty and external perturbations. .