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Altri autori (Persone)	RakotondrabeMicky
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Soggetti	Actuators - Materials
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction: Smart Materials as Essential Base for Actuators in Micro/Nanopositioning -- Characterization and Dynamics of Polymer Microactuators -- Design of Piezoelectric Actuators with Guaranteed Performances using the Performances Inclusion Theorem and Interval Tools -- Modeling and Robust H Control of a Nonlinear and Oscillating 2-dof multimorph cantilevered piezoelectric actuator -- A Hybrid Control Approach to nanopositioning -- Interval modeling and robust feedback control of Piezoelectric-Based Microactuators -- Kalman Filtering and State-Feedback Control of a Nonlinear Piezoelectric Cantilevered Actuator -- Intelligent Hysteresis Modeling and Control of Piezoelectric Actuators -- Compensation of Rate-Dependent Hysteresis in a Piezomicropositioning Actuator -- Feedforward Control of Flexible and Nonlinear Piezoelectric Actuators -- Micro/Nanorobotic Manufacturing Thin-film NEMS Force Sensor -- Human Sperm Tracking, Analysis, and Manipulation.
Sommario/riassunto	Smart Materials-Based Actuators at the Micro/Nano-Scale: Characterization, Control, and Applications gives a state of the art of emerging techniques to the characterization and control of actuators based on smart materials working at the micro/nano scale. The book

aims to characterize some commonly used structures based on piezoelectric and electroactive polymeric actuators and also focuses on various and emerging techniques employed to control them. This book also includes two of the most emerging topics and applications: nanorobotics and cells micro/nano-manipulation. This book: Provides both theoretical and experimental results Contains complete information from characterization, modeling, identification, control to final applications for researchers and engineers that would like to model, characterize, control and apply their own micro/nano-systems Discusses applications such as microrobotics and their control, design and fabrication of microsystems, microassembly and its automation, nanorobotics and their characterization Smart Materials-Based Actuators at the Micro/Nano-Scale: Characterization, Control, and Applications is ideal for industry professionals, researchers, and undergraduate, Master's or Ph.D. students interested in the characterization and control of actuators at the micro/nano scale.

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