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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Development of a Silicon Based MEMS6-DoF-Force/Torque-Sensor -- Piezoelectrically Actuated Robotic End-effector with Strain Amplification Mechanisms -- Autocalibration of MEMS Accelerometers -- Miniaturization of Micromanipulation Tools -- Digital Microrobotics Using MEMS Technology -- Flexure-based Parallel-Kinematics Stages for Passive Assembly of MEMS Optical Switches -- Micro-Tactile Sensors for Measurement of In-Vivo Young's Modulus and Shear Modulus of Elasticity -- Devices and techniques for micro-gripping -- A Wall-climbing Robot with Biomimetic Adhesive Pedrail -- Development of Bio-inspired Artificial Sensory Cilia -- Jumping Like an Insect: from Bio-mimetic Inspiration to a Jumping Mini Robot Design -- Modeling and H PID Plus Feedforward Controller Design for an Electrohydraulic Actuator (EHA) System. .
Sommario/riassunto	Advanced Mechatronics and MEMS Devicesdescribes state-of-the-art MEMS devices and introduces the latest technology in electrical and mechanical microsystems. The evolution of design in microfabrication, as well as emerging issues in nanomaterials, micromachining, micromanufacturing and microassembly are all discussed at length in this volume. Advanced Mechatronics also provides a reader with knowledge of MEMS sensors array, MEMS multidimensional accelerometer, artificial skin with imbedded tactile components, as well

as other topics in MEMS sensors and transducers. The book also presents a number of topics in advanced robotics and an abundance of applications of MEMS in robotics, like reconfigurable modular snake robots, magnetic MEMS robots for drug delivery and flying robots with adjustable wings, to name a few. This book also: Covers the fundamentals of advanced mechatronics and MEMS devices while also presenting new state-of-the-art methodology and technology used in the application of these devices Presents numerous applications of MEMS technology in robotics, using novel applications of micro-robots based on MEMS design and implementation Uses an extensive number of case studies Advanced Mechatronics and MEMS Devices is an ideal book for engineers,researchers, and graduate students who are interested in mechatronics and MEMS technology.