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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Artificial Muscle Actuators using Electroactive Polymers; Committees; Preface; Table of Contents; CHAPTER 1: MATERIALS; EAP Actuators for Biomimetic Technologies with Humanlike Robots as one of the Ultimate Challenges; Synthesis and Characterization of IPNs for Electrochemical Actuators; Metal Ion Implanted Compliant Electrodes in Dielectric Electroactive Polymer (EAP) Membranes; Rate Limits in Conducting Polymers; New Composites Based on Liquid Crystalline Elastomers and Electroactive Nanomaterials; Tough Hydrogel - Learn from Nature Enhancing the Electro-Mechanical Response of Maxwell Stress ActuatorsConducting IPN Fibers: A New Design for Linear Actuation in

Open Air; Sprayed Sensor Using IPMC PAINT; Carbon Nanotube Yarns as High Load Actuators and Sensors; Electrode Reactions in Cu-Pt Coated Nafion® Actuators; A Co-Axial Dielectric Elastomer Actuator; A Closer Look at the Polyacrylamide Fibers for Natural-Like Artificial Muscle Fabrication; CHAPTER 2: ANALYSIS, PHYSICAL MECHANISMS AND CHARACTERIZATION; Finite-Strain Models of Actuation: Prestretch and Elasticity Parameters

Monte Carlo Simulation of Electroactive Polymer Actuators Dielectric Elastomer Actuators as Elements of Active Vibration Control Systems; Electro-Chemo-Mechanical Actuators Touching and Sensing Both, Physical and Chemical Ambient; Conducting Polymer Soft Actuators Based on Polypyrrole -Training Effect and Fatigue; Optimization of IPMC Actuator Conversion Efficiency; Tunable Membrane for Electromagnetic Devices Using Dielectric Elastomers; Synthesis and Application of Electro-Thermally Sensitive Gels; Distributed Impedance Model of Ionic Polymer-Metal Composite Actuators

Ionic Polymer-Metal Composite Actuator Behaviour in Two Novel Configurations CHAPTER 3: DEVICES AND APPLICATIONS; Multilayer Actuator and Sensor Sheets with Smart Compliant Electrodes; Bio-Inspired Distributed Electroactive Polymer Actuators for Possible Space Applications: Concept Design; Contractile and Buckling Actuators Based on Dielectric Elastomers: Devices and Applications; Variable-Stiffness-Mode Dielectric Elastomer Devices; Keywords Index; Authors Index

Sommario/riassunto

The 27 peer-reviewed papers collected here together offer a plenitude of up-to-date information on "Artificial Muscle Actuators using Electroactive Polymers". The papers are conveniently arranged into the chapters: 1: Materials; 2: Analysis, physical mechanisms and characterization; 3: Devices and applications. This special volume has also been published online in the series, "Advances in Science and Technology" Vol. 61.
