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Nota di contenuto	Preface -- List of Authors -- A Compliant Mechanism as Rocker Arm with Spring Capability for Precision Engineering Applications, by L. Hartmann and L. Zentner -- Steering and non-steering crawling tetrahedral micro-mechanisms, by D. Mrgineanu, E.-C. Lovasz, K -- H. Modler and C. M. Gruescu -- New Kinematic Designs of Flexure Hinge based 3 DoF Translational Micromanipulators, by I. Prause, D. Schoenen and B. Corves -- Development of adaptive compliant gripper finger with embedded actuators, by A. Milojevi and N. D. Pavlovi -- Overview and Classification of Flexure Hinge based Micromanipulators, by D. Schoenen, I. Prause, S. Palacios and B. Corves -- Axis cross-coupling reduction on a high bandwidth XY flexure stage, by A. Ruiz, F.

J. Campa, O. Altuzarra, V. Petuya, C. Pinto and A. Hernández -- Some Structural and Kinematic Characteristics of Micro Walking Robots, by Adr. Comanescu, I. Dugaesescu and D. Comanescu -- Development of a 3-DOF compliant robotic local structure with large twist angle, by S. Kurtenbach, J. Siebrecht, D. Schoenen, M. Hüsing and B. Corves -- A Hexapod Walking Micro-Robot with Artificial Muscles, by I. Doroftei -- Side chain kinematics simulation on protein conformational changes, by Mikel Diez, Víctor Petuya, Mónica Urizar, Oscar Altuzarra and Alfonso Hernández -- Design and Fabrication of Millimeter-scale Crossed-cylinder Wrist Mechanism with Two Degrees of Freedom, by Brian D. Jensen, Jordan Tanner, Bryce Edmondson, Clayton Grames, Spencer P. Magleby and Larry L. Howell -- Conception of a mechanical System for Rehabilitation of Hand Function for use in medical Training Therapy, by M. Feierabend and L. Zentner -- Modeling, Parametric Synthesis and Characterization of Bellow-type Pneumatic Micro-Actuator, by J. Prateek and G. Prasanna -- Stability Analysis of Semi-Kinematic Mountings used in Modular Reconfigurable Micro Factory Testbed, by Mounika Katragadda, Aneissha Chebolu and Nagahanumaiah -- Multibody system simulation of hysteresis effect by micro textile-reinforced compliant mechanisms with piezo-electric actuators, by D. Mrgineanu1, E.-C. Lovasz and N. Modler -- Electrical Performance of Electrically Conductive Silicone Rubber in Dependence on Tensile Load According to Various Parameters, by M. Issa and L. Zentner.

Sommario/riassunto

This book contains applications of micromechanisms and microactuators in several very modern technical fields such as mechatronics, biomechanics, machines, micromachines, robotics and apparatuses. In connection with its topic, the work combines the theoretical results with experimental tests on micromechanisms and microactuators. The book presents the most recent research advances in Machine and Mechanisms Science. It includes the accepted reviewed papers of researchers specialized in the topics of the conference: microactuators and micro-assembly, micro sensors involving movable solids, micro-opto-mechanical devices, mechanical tools for cell and tissue studies, micromanipulation and micro-stages, micro-scale flight and swimming, micro-robotics and surgical tools, micron-scale power generation, miniature manufacturing machines, micromechatronics and micro-mechanisms, biomechanics micro and nano scales and control issues in microsystems. The presented applications of micromechanisms and microactuators in many technical fields will interest industrial companies and encourage scientifical knowledge and cooperation between academia and industry.