

1. Record Nr.	UNINA9910437919103321
Titolo	New Trends in Mechanism and Machine Science : Theory and Applications in Engineering / / edited by Fernando Viadero-Rueda, Marco Ceccarelli
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2013
ISBN	1-283-63424-4 9786613946690 94-007-4902-3
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (758 p.)
Collana	Mechanisms and Machine Science, , 2211-0992 ; ; 7
Altri autori (Persone)	ViaderoFernando CeccarelliMarco
Disciplina	621.811
Soggetti	Mechanical engineering Multibody systems Vibration Mechanics, Applied Automatic control Robotics Automation Mechanical Engineering Multibody Systems and Mechanical Vibrations Control, Robotics, Automation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- Theoretical kinematics: Kinematical Capabilities of an Inversion of the Double Linked Fourbar for UAV Morphing Wing Actuation, by J. Aguirrebeitia, R. Avilés, I. Fernandez de Bustos and M. Abasolo -- Kinematic waves in linear statically determinate adjustable structures, by V. Bujakas -- Perturbation of symmetric 3-RPR manipulators and asymptotic singularities, by M. Coste, D. Chablat and P. Wenger -- Workspace and Singularities Analysis of a 6- DOF Parallel Mechanism with two Kinematic Chains for Platform Guidance, by R. Dadarlat, N. Plitea, B. Konya, C. Vaida and D. Pisla -- The kinematics of

a new reconfigurable parallel robot with six degrees of freedom, by B. Konya, N. Plitea, R. Dadarlat, C. Vaida and D. Pisla -- A restoring stress doesn't always exist, by M. Kovalev -- Mobility Analysis of Non Series-Parallel Mechanisms, by P. Lambert and J. Herder -- Multiple-Mode Closed 7-Link Chains Based on Overconstrained 4-Link Mechanisms, by M. Pfurner -- Computational kinematics: Confirmation of Hypothesis on Cable Properties for Cable-driven Robots, by J. Alexandre dit Sandretto, G. Trombettoni and D. Daney -- Analytical Determination of the Instantaneous Motion Capabilities of Robotic Manipulators, by O. Altuzarra, O. Salgado, A. Hernández and C. Pinto -- Computation of the Protein Molecular Mechanism Using Adaptive Dihedral Angle Increments, by M. Diez, V. Petuya, M. Urizar, E. Macho and O. Altuzarra -- Handling with inequality constraints in a general method of optimal kinematic synthesis, by P. García, A. de-Juan, R. Sancibrián, A. Fernández, M. Iglesias and F. Viadero -- Self-Motions of 3-RPS Manipulators, by M. Husty, J. Schadlbauer, S. Caro and P. Wenger -- Scenario-based dimensioning of the actuator of parallel cable-driven robots, by W. Kraus and A. Pott -- Position problem in Assur's groups with revolute pairs, by A. Noriega, M. Cadenas and R. Fernández -- Workspace and Singularity Analysis for a parallel robot used in surgical applications, by A. Stoica, D. Pisla, A. Szilaghyi, B. Gherman and N. Plitea -- Workspace Identification using Neural Network for an Optimal Designed 2-DOF Orientation Parallel Device, by I. Tanase, T. Itul, E. Campean and A. Pisla -- Mechanism design: Design Methodology for a Compliant Binary Actuated Parallel Mechanism with Flexure Hinges, by G. Borchert, C. Löchte, S. Brumme, G. Carbone, M. Ceccarelli and A. Raatz -- Optimal design of motorcycle rear suspension systems using genetic algorithms, by J. J. Castillo, P. Giner, A. Simón and J. A. Cabrera -- Influence of the contact stiffness between the cam and the roller in the dynamic behaviour of the train follower applied in a conjugate cam mechanism, by P. Català, S. Cardona, M. A. De los Santos and J. M. Veciana -- 3-DOF Translational and Rotational Parallel Manipulators, by V. Glazunov, P. Laryushkin and S. Kheylo -- Engineering aspects in solving guidance tasks with geared linkages, by U. Hanke, K. Modler, A. Schmidtpott and S. Lin -- Motor positioning and drive train design for a 3-DOF robotic structure, by S. Kurtenbach, T. Detert, M. Riedel, M. Hüsing and B. Corves -- Interactive design of opening and closing mechanisms for skylight domes, by G. Lonij, S. Kurtenbach, M. Hüsing and B. Corves -- Numerical Iterative Method for Computing the Base Circle Radius of Cam Mechanisms with Translating Flat-Face Follower, by E. Lovasz, D. Perju, K. Modler, C. Gruescu, I. Maniu and E. Zabava -- Comparison of actuation schemes for wire-driven parallel robots, by J. P. Merlet -- Identification of a Usable Six-bar Linkage for Dimensional Synthesis, by B. Parrish and J. M. McCarthy -- Reducing Rotational Crankshaft Oscillations by Means of a Kinetically Driven Flywheel, by M. Pfabe and C. Woernle -- Dimensional Synthesis of Six-bar Linkage as a Constrained RPR Chain, by M. Plecnik and J. M. McCarthy -- Study of Contact Pressure through Analytic Solution, Finite Element Method and Experimental Validation in Tapered Roller Bearings, by M. C. Ramírez, R. Lostado, C. Zurrón and R. Olarte -- The issues of the dynamics of cam mechanisms, by M. Václavík, P. Jirásko and P. Dostrašil -- Validation of a Brake Caliper FEM model using Genetic Algorithms for optimization, by C. Zurrón, R. Lostado, M. C. Ramírez and R. Fernández -- Mechanical transmissions: Dynamic Analysis of planetary gear transmission under time varying loading conditions, by M. S. Feki, F. Chaari, M. S. Abbes, F. Viadero, A. Fdez. del Rincon and M. Haddar -- Load sharing in planetary transmission with pin hole position errors, by M. Iglesias, A. Fernández,

A. de-Juan, P. García, R. Sancibrián and F. Viadero -- Toothed continuously variable transmission (CVT) – industrial realization, by K. Ivanov and B. Tultaeu -- Dynamic response of single stage bevel gear transmission in presence of local damage, by M. Karray, F. Chaari, F. Viadero, A. Fdez. del Rincon and M. Haddar -- Load sharing model for non-standard involute spur gears, by J. I. Pedrero, M. B. Sánchez and M. Pleguezuelos -- Magnetic-Superconductor Cryogenic Non-contact Harmonic Drive: performance and dynamical behavior, by J. L. Perez-Diaz, J. C. Garcia-Prada, I. Valiente-Blanco and E. Diez-Jimenez -- Linkages and manipulators: Determining the design specifications for mechanical polyarticulated system compatible with minimally invasive surgery, by V. Dumitru, C. Copilusi, I. Geonea, I. Dumitrache and G. Marinescu -- Simplified kinetostatic model of the 3-PRS manipulator, by S. Herrero, Ch. Pinto, J. Corral, J. Aginaga and F. J. Campa -- Homohedral and Tangential Polyhedral Linkages, by G. Kiper and E. Söylemez -- Analysis of the clamping mechanisms of collet-chucks holders for turning, by E. Soriano, H. Rubio and J. C. García-Prada -- The method of principle vectors for the synthesis of shaking moment balanced linkages, by V. van der Wijk and J. L. Herder -- A Cable-Driven Parallel Mechanism for the Interaction with Hemispherical Surfaces, by K. H. J. Voss, V. van der Wijk and J. L. Herder -- Mechanisms for biomechanics: On motion and force transmission in the human wrist: Approximating carpal bone surfaces with envelopes, by F. Allmendinger, J. Eschweiler, K. Rademacher and B. Corves -- Modular Knee Orthosis FEM Analysis from Kinematic Considerations, by C. Copilusi, N. Dumitru and A. Margine -- Structural Design and Kinematics Study of a Mechanism for Quadruped Walking, by I. Geonea, A. Margine, N. Dumitru and M. Marin -- Robot for Wrist Rehabilitation, by J. F. Ribeiro, J. C. M. Carvalho, L. P. Oliveira, L. A. O. Rodrigues and R. S. Gonçalves -- Optimization-Based Prediction of a Soldier's Motion: Stand-Prone-Aim Task, by M. Hariri, J. Arora and K. Abdel-Malek -- A Characterization of Human Locomotion by CATRASYS (Cassino Tracking System), by T. Li and M. Ceccarelli -- A new approach to estimate a subject-specific set of muscle parameters, by J. Ojeda and J. Mayo -- A Procedure for Experimental Evaluation of the Sit-to-Stand for the Design of Assisting Devices, by E. Ottaviano and G. Castelli -- Mechanics of robots: Role of Link Flexibility and Variable Stiffness Actuator on Collision Safety for Service Robots, by J. López-Martínez, D. García-Vallejo, J. L. Torres, A. Giménez and J. A. López -- The Analysis of Part Positioning and Orientation in Robotic Assembly by Insertion, by I. Tabr and I. Dugeescu -- Industry-oriented Performance Measures for Design of Robot Calibration Experiment, by Y. Wu, A. Klimchik, A. Pashkevich, S. Caro and B. Furet -- Dynamics of multi-body systems: Using the center of percussion to simplify a biped to four point masses, by M. Alba, J. C. Garcia Prada and C. Castejon -- Study of the contact force model on the dynamic response of a four-bar mechanism with clearance joints, by M. Baiceanu, P. Flores, C. Oprisan and D. Olaru -- Comparison of different contact force models for low and moderate impact velocities: numerical and experimental analysis, by P. Flores -- Proposal of a method to determine shock absorber conditions on a motor vehicle, by A. Navarro, S. Sánchez, E. Velasco, M. Paricio and M. Sánchez -- Input shaping for multibody oscillatory systems described by DAEs, by G. Pelaez, A. Mandado, I. J. Román and J. C. García-Prada -- Torsional receptances and variable inertia of a two-inertia model of a universal joint, by C. Peressini, A. L. Guzzomi and D. C. Hesterman -- Real-Time Hardware-in-the-Loop simulation of a Hexaglide type Parallel manipulator on a real Machine Controller, by J. Ros, R. Yoldi, A. Plaza and X. Iriarte -- Analysis of the

dynamic behavior of an electric vehicle using an equivalent roll stiffness model, by J. L. Torres, A. Gimenez, J. Lopez-Martinez, G. Carbone and M. Ceccarelli -- Multibody Modeling of High-Lift Mechanisms of Modern Transport Aircraft, by E. Winter and C. Woernle -- Control issues of mechanical systems: Centralized Non-linear Model Predictive Control of a redundantly actuated Parallel Manipulator, by T. Hufnagel, C. Reichert and D. Schramm -- Optimal Control for a Wire-Based Storage Retrieval Machine, by W. Lalo, T. Bruckmann and D. Schramm -- Predictive Sensory Templates as the Model of Predictable Control Realization for Mechanical Systems, by A. Vukolov -- Novel designs: Design of an Innovative Bike Brake Integrated into the Wheel Hub, by M. Crescenti and J. A. Ortiz -- Structural synthesis of innovative gripping mechanisms for wood harvesting, by D. Goubet, J. C. Fauroux and G. Gogu -- Non-contact linear mechanism based on superconducting levitation for cryogenic environment, by J. L. Perez-Diaz, J. C. Garcia-Prada, I. Valiente-Blanco, E. Diez-Jimenez, J. Sanchez-Garcia-Casarrubios, J. Serrano, F. Romera, D. Gonzalez-de-Maria and H. Argelaguet-Vilaseca -- Magnetic manipulation with several mobile coils towards gastrointestinal capsular endoscopy, by B. Véron, J. Abadie, A. Hubert and N. Andreff -- Design Issues and Robots Autonomy, by T. Zielinska.-Teaching methods: Te.

Sommario/riassunto

This book contains the papers of the European Conference on Mechanisms Science (EUCOMES 2012 Conference). The book presents the most recent research developments in the mechanism and machine science field and their applications. Topics addressed are theoretical kinematics, computational kinematics, mechanism design, experimental mechanics, mechanics of robots, dynamics of machinery, dynamics of multi-body systems, control issues of mechanical systems, mechanisms for biomechanics, novel designs, mechanical transmissions, linkages and manipulators, micro-mechanisms, teaching methods, history of mechanism science and industrial and non-industrial applications. This volume will also serve as an interesting reference for European activity in the fields of Mechanism and Machine Science as well as a source of inspiration for future works and developments.
