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Titolo	Advances in Mechanical Engineering : Selected Contributions from the Conference "Modern Engineering: Science and Education", Saint Petersburg, Russia, June 2014 // edited by Alexander Evgrafov
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Descrizione fisica	1 online resource (193 p.)
Collana	Lecture Notes in Mechanical Engineering, , 2195-4364
Disciplina	620
Soggetti	Machinery Mechanics, Applied Solids Mathematics - Data processing Machinery and Machine Elements Solid Mechanics Computational Science and Engineering
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	Metal flow control at processes of cold axial rotary forging -- A novel design of an electrical transmission line inspection machine -- Mathematical Modeling of a Dynamic Biped Robot Interacting with the Ground -- New effective data structure for multidimensional optimization orthogonal packing problems -- Modern methods of contact forces between wheel set and rails determining -- One-dimensional models in turbine blades dynamics -- Drive selection of multidirectional mechanism with excess inputs -- The vibrations of reservoirs and cylindrical supports of hydro technical constructions partially submerged into the liquid -- ne stable scheme of centrifugal forces dynamic balance -- Frameworks not restorable from self-stresses -- Structural modifications synthesis of Bennett mechanism -- Use of the capabilities of acoustic-emission technique for diagnostics of separate heat exchanger elements -- Processing of Data from the Camera of Structured Light for Algorithms of Image Analysis in Control

Systems of Mobile Robots -- Structural and Phase Transformation in material of Steam Turbines Blades after High-Speed Mechanical Effect -- Engineering calculations of bolt connections -- Kinematic research of Bricard linkage modifications -- Stress Corrosion Cracking and Electrochemical Potential of Titanium Alloys -- Programmable Movement Synthesis for the Mobile Robot with the Orthogonal Walking Drivers -- Stationary Oscillation in Two-Mass Machine Aggregate with Universal-Joint Drive.

Sommario/riassunto

This book draws together the most interesting recent results to emerge in mechanical engineering in Russia, providing a fascinating overview of the state of the art in the field in that country which will be of interest to a wide readership. A broad range of topics and issues in modern engineering are discussed, including dynamics of machines, materials engineering, structural strength and tribological behavior, transport technologies, machinery quality and innovations. The book comprises selected papers presented at the conference "Modern Engineering: Science and Education", held at the Saint Petersburg State Polytechnic University in 2014 with the support of the Russian Engineering Union. The authors are experts in various fields of engineering, and all of the papers have been carefully reviewed. The book will be of interest to mechanical engineers, lecturers in engineering disciplines and engineering graduates.