

5th Asian Conference on Multibody Dynamics 2010

(ACMD 2010)

**Kyoto, Japan
23-27 August 2010**

Volume 1 of 2

ISBN: 978-1-61839-088-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2010) by the International Federation for the Promotion of
Mechanism and Machine Science (IFTToMM)
All rights reserved.

Printed by Curran Associates, Inc. (2011)

For permission requests, please contact the International Federation for the Promotion of
Mechanism and Machine Science (IFTToMM)
at the address below.

International Federation for the Promotion of
Mechanism and Machine Science (IFTToMM)
Attn: Dr. Joseph Rooney
Faculty of Mathematics, Computing and Technology
The Open University
Walton Hall
Milton Keynes MK7 6AA
UNITED KINGDOM

Phone: (0) 1908 652979

Fax: (0) 1908 654052

j.rooney@open.ac.uk

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Volume 1

MULTIBODY SYSTEM ANALYSIS

A Discussion on the Eigenvalues of Multibody Systems with Baumgarte's Stabilizing Constraints	1
<i>Takeshi Fujikawa, Etsujiro Imanishi</i>	
Deployment Simulations of Complex Space Structures Using an Implicit Non-linear Finite Element Solver	10
<i>Frédéric Cugnon, Julian Santiago Prowald, Phil Howard, Maurizio Milano</i>	
Cross-talk Analysis of Two Axes Electro-dynamic Shake Table	19
<i>Hideyuki Tsukui, Nobuyuki Shimizu, Yoshiomi Hanawa</i>	
An Application of the Contensou Approximate Model to Friction Forces in Combination with the Hertz Contact Problem	28
<i>Ivan Kosenko, Evgeniy Aleksandrov</i>	
Dynamics Simulation of Offshore Wind Power System Subjected To Wave Excitation	37
<i>Jin-Seok Jang, Jeong-Hyun Sohn</i>	
Design of a Hydraulic Mount for a Drum-type Washing Machine	42
<i>Huaxia Li, Wansuk Yoo</i>	
The Effect of Preloads on Muscles in the Multibody Model for the Analysis of Whiplash by Rear End Impact	48
<i>Ji-Eun Jung, Hyung-Seop Han, Seok-Jo Yang</i>	
Stability and Performance Analysis of a Full Train Model with Inerters	56
<i>Fu-Cheng Wang, Min-Ruei Hsieh</i>	
Multi-body Dynamic Modeling and Analysis of Life-up Fire Engine	64
<i>Zengming Feng, Junlong Li, Yabing Cheng, Lei Zhang</i>	
Dynamic Simulation and Analysis of Automotive Engine's Timing Silent Chain System	69
<i>Chengguo Dong, Fanzhong Meng, Zengming Feng, Yabing Cheng, Lei Zhang</i>	
Dynamic Analysis and Design Method Study on the Combined-boom System of Portal Crane	76
<i>Yuanta Sun, Duan Li</i>	
Multibody Dynamic Analysis of Operating Mechanism in a Mobile Harbor Crane	81
<i>Yun-Su Jung, Wan-Suk Yoo, Min-Seok Kim</i>	

FLEXIBLE MULTIBODY DYNAMICS

Shear Correction of Thin Structural Beam and Plate Elements Using Absolute Nodal Coordinates	85
<i>Oleg Dmitrochenko, Marko Matikainen, Aki Mikkola</i>	
Constraint Formulation for Large Deformation Multibody Systems with Non-Generalized Coordinates	97
<i>Hiroyuki Sugiyama, Hiroki Yamashita</i>	
Geometric Nonlinear Formulation for Composite Flexible Multibody Systems Considering Thermal Effect	109
<i>Jinyang Liu, Keqi Pan</i>	
Analysis of Feed-Forward Control Designs for Flexible Multibody Systems	117
<i>Robert Seifried, Alexander Held, Fabian Dietmann</i>	
Dynamics of Railroad Vehicles on Deformable Curved Tracks Using the Moving Shape Functions Method	126
<i>Rosario Chamorro, José L. Escalona, Antonio M. Recuero</i>	
Using Nonlinear Recursive Method for the Dynamic Analysis of Open-loop Flexible Multibody Systems	138
<i>Yunn-Lin Hwang, Wei-Hsin Gau</i>	
Analysis of Contact Force Variation between Contact Wire and Pantograph Based on Multibody Dynamics	147
<i>Mohd Azman Abdullah, Yohei Michitsuji, Masao Nagai, Naoki Miyajima</i>	

Dynamic Behavior and Stability of a Flexible Cable Structure with Large Sag Subjected to Periodic Excitation.....	156
<i>Keishi Matsuda, Masahiro Watanabe, Kensuke Hara</i>	
Motion of a Flexible Hose Attached to an Underwater Vehicle System.....	165
<i>Kunwoo Kim, Hyungryul Kim, Deukman An, Jaewook Lee, Wansuk Yoo</i>	
Study on Characteristics of the Numerical Integration of Dynamics Analyses for the Beam Element Formulated by ANC.....	169
<i>Yoshitaka Takahashi, Nobuyuki Shimizu</i>	
Static Equilibrium Analysis for Interacting System between MBD and FEA.....	177
<i>Joon Shik Yoon, Han-Sik Ryu, Jin Hwan Choi</i>	
Reliability Analysis of the Truck Frame FE Model Considering the Statistically Distributed Design Variables.....	184
<i>Sung Hun Kwon, Hong Hee Yoo</i>	
Flexible Multi-body Contact Analysis of Rounded-jointed Silent Chain and Sprocket.....	191
<i>Zengming Feng, Fanzhao Kong, Yabing Cheng, Chengguo Dong, Fanzhong Meng</i>	
Flexible Multi-body Contact Analysis of Hy-Vo Silent Chain and Sprocket.....	197
<i>Zengming Feng, Qiang Deng, Yabing Cheng, Chengguo Dong, Fanzhong Meng</i>	
Experimental Validation of Numerical Analysis Based on ANCF About Dynamic Stiffening Effect of a Two-dimensional Beam.....	203
<i>Yoshiki Sugawara, Ken Shinohara, Yutaro Takagi, Nobuyuki Kobayashi</i>	
Steady State and Free Vibration Analysis of a Rotating Inclined Euler Beam by Finite Element Method.....	212
<i>Kuo Mo Hsiao, Chih Ling Huang, Yu Chun Zhou</i>	
Rigid-flexible Coupling Effects of the Flexible Plate Undergoing Large Overall Motion.....	222
<i>Zhuyong Liu, Jiazhen Hong, Jinyang Liu, Guanghao Xu</i>	
Mechanical-Control Co-simulation Method for Two-Axis Fast Steering Mirror System.....	228
<i>Ya-Fei Lu, Da-Peng Fan, Zhi-Yong Zhang, Qing-Kun Zhou, Shi-Xun Fan</i>	

MODELING, FORMALISMS, AND DAE SOLUTION METHOD

Dynamic Simulation of Flexible Multibody System with Electric-hydraulic Drive System.....	234
<i>Takao Nanjo, Etsujiro Imanishi</i>	
A Graph-Theoretic Approach to Large Scale Multibody Systems.....	242
<i>Takashi Noguchi, Hiroaki Yoshimura</i>	
Analysis of Multibody Systems Based on the Modified Hamilton's Principle (Elimination of the Lagrange Multipliers based on the Null Space Method).....	251
<i>Keisuke Kamiya, Makoto Sawada, Yuji Furusawa</i>	
Efficient Implicit Integration of the Multibody Dynamic Equations Using Semi-recursive Formulations for Rigid and Flexible Bodies.....	260
<i>Francisco Javier Funes, Javier García De Jalón</i>	

HIGH PERFORMANCE FORMALISMS AND COMPUTATION

Fast Simulation of Flexible Multibody Dynamics Using Improved Domain Decomposition Technique.....	272
<i>Takao Nanjo, Naoki Sugano, Etsujiro Imanishi</i>	
Efficient Augmented Lagrangian Formulation for the Combined Simulation of Multibody and Hydraulic Dynamics.....	280
<i>Javier Cuadrado, Miguel A. Naya, Daniel Dopico, Urbano Lugris</i>	
Tracked Vehicle Simulation on Granular Terrain Leveraging Parallel Computing on GPUs.....	291
<i>Toby Heyn, Dan Negrut, Alessandro Tasora</i>	
Thermodynamically Consistent Dynamic Formulation of Discrete Thermoviscoelastic Elements.....	301
<i>Juan C. García Orden, Ignacio Romero</i>	
Efficiency Evaluation of the Real-time Multibody Analysis with Matrix Libraries.....	310
<i>Taichi Shiiba, Naoya Machida</i>	
Subsystem Synthesis Method based on Cartesian Coordinates for Unmanned Military Robot Multibody Dynamics Model.....	317
<i>Jong Boo Han, Wan Hee Jeong, Sung-Soo Kim</i>	
A Soil Model for a Hydraulic Simulator Excavator Based on Real-time Multibody Dynamics.....	325
<i>Daniel Dopico, Alberto Luaces, Manuel González</i>	

VEHICLE DYNAMICS & CONTROL INCLUDING TIRE DYNAMICS

Ride Comfort Evaluation Using Revised ISO Standard 2631	334
<i>Werner Schiehlen, Pascal Ziegler, Andre Taenzler</i>	
Utilization of Global Damper Characteristics in Road Vehicle Simulations	345
<i>Michal Hajžman, Pavel Polach</i>	
A New Tire Model Development for Vehicle Dynamic Simulation in Sudden Braking and Low Velocity Condition Using NSS (Non Singular Slip) and Magic Formula	351
<i>Jeong-Han Lee, Wan-Suk Yoo</i>	
Numerical Simulation of Tire Behavior on Soft Ground	356
<i>Futoshi Wakui, Yoshiaki Terumichi</i>	
Simulation of Grouser-soil Interaction Using 3-Dimensional DEM	366
<i>Takayuki Koizumi, Nobutaka Tsujiuchi, Ryota Akatsuka</i>	
Mathematics-Based Modeling of a Series-Hybrid Electric Vehicle	374
<i>Thanh-Son Dao, Aden Seaman, John McPhee</i>	
Performance Evaluation of Intelligent Chassis Controller Using ECU-in-the-Loop-Simulator Based on Real-time Multibody Vehicle Dynamics	385
<i>Sung-Soo Kim, Wan-Hee Jeong, Sang Jin Lee, Moon Cheol Won</i>	
Coupling Analysis of Dynamics and Oil Film Lubrication on Rotor - Floating Bush Bearing System	395
<i>Mizuho Inagaki, Atsushi Kawamoto, Takanori Abekura, Atsushi Suzuki, Jan Ruebel, Jens Starke</i>	
Effect Analysis of Vehicle Handling Performance due to Camber Angle Change of Front and Rear Suspension	404
<i>Seong-Jun Park, Jin-Seok Jang, Jeong-Hyun Sohn</i>	
Improvement of a Truck Steering System Based on Virtual Model	410
<i>Liang-Mo Wang, Kai-Ping Sun, Dong-Ming Huang, Xiao-Ping Su, Liu-Kai Yuan</i>	
Controllability of a Bicycle	415
<i>A. L. Schwab, J. D. G. Kooijman</i>	
Stability of the Two-wheeled Inverted Pendulum Vehicle Moved by Human Pedaling	422
<i>Chihiro Nakagawa, Kimihiko Nakano, Yoshihiro Suda, Yuki Hirayama</i>	
Study on the Characteristics of Vehicle Full Frontal Impact Based on the Integrated Primary and Secondary Impact Model (IPSIM)	431
<i>Yun Sheng, Guangqiang Wu</i>	

CONTACT, IMPACT, AND FRICTION

A Study on the Stick and Slip Algorithm in Contact Problems of Multibody System Dynamics	440
<i>Ho-Young Cha, Han Sik Ryu, Juhwan Choi, Jin Hwan Choi</i>	
Modeling and Analysis of Contact Phenomena in Multibody Systems Using a Linear Complementarity Formulation	448
<i>Paulo Flores</i>	
Motion Analysis of a Planar Rimless Wheel with Unilateral Constraints	457
<i>Terumasa Narukawa, Hidekazu Nishimura</i>	
An Experimental Study on Motions of a Planar Rimless Wheel	465
<i>Terumasa Narukawa, Tatsuhiko Ikeda, Masaki Takahashi</i>	
Experimental Study on Penetration of Corer for Asteroid Sampling	472
<i>Kazuhiro Iijima, Keita Satoh, Ryotarou Ohkawa, Hironori A. Fujii, Kenji Uchiyama</i>	
Sensitivity Analysis of Railway Vehicle Interiors for Passive Safety in Inline Seating Scenarios	479
<i>Marta Carvalho, Jorge Ambrosio, João Milho</i>	

Volume 2

A Scalable Parallel Method for Large Scale Collision Detection Problems	488
<i>Hammad Mazhar, Dan Negrut, Arman Pazouki, Alessandro Tasora</i>	
New Models of the Combined Dry Friction and Connected with Them Mechanical Effects	500
<i>Alexey Kireenkov</i>	
Simultaneous Vibration Control in Two Directions Using an Impact Damper System	506
<i>Takaaki Nagashima, Taichi Sato, Kihachiro Tanaka</i>	

RAILROAD SYSTEM DYNAMICS

A Combined Multibody and Finite Element Approach for Railway Dynamics during an Earthquake	515
<i>M. Tanabe, H. Wakui, N. Matsumoto, M. Sogabe, Y. Tanabe</i>	
Numerical Study on the Derailment of Rail Vehicle due to Large Earthquakes and the Effect of Anti-derailing Guard Rails	524
<i>Tsutomu Morimura, Yoshiaki Terumichi, Kazuhiko Nishimura, Kiyoshi Sogabe</i>	
Railway Vehicle Derailment Simulation for Derailment Detection System in Early Signs	532
<i>Masahiko Aki, Takashi Tsuji, Chiehjen Hung, Yoshihiro Suda, Takayoshi Yamashita, Junichi Hioki, Takashi Kunimi, Tetsuya Kawanabe</i>	
Parameter Updating of Three-dimensional Vibration Model for Railway Vehicle Carbodies Using Measured Data	540
<i>Yuki Akiyama, Takahiro Tomioka, Yasufumi Suzuki, Tadao Takigami</i>	
Influence of Cross Wind on Derailment of Railway Vehicle Running on Curved Track	549
<i>Takahiro Hosoi, Katsuya Tanifuji</i>	
Development of Wear Model for Railway Wheel	556
<i>Yoshiaki Suzuki, Katsuya Tanifuji</i>	
Dynamic Analysis on the Next Generation High-speed Railway Vehicle	562
<i>J. I. Cho, J. Y. Kim, T. W. Park</i>	
On the Use of Multiple Contact Tables in the Analysis of Vehicle/Turnout Interactions of Railroad Vehicles	568
<i>Ryosuke Matsumura, Hiroyuki Sugiyama, Yoshihiro Suda</i>	
Running Safety of an EMS-type Urban Maglev Vehicle Traveling over a Segmented Switch	577
<i>Ki-Jung Kim, Seok-Jo Yang, Hyung-Suk Han, Jong-Min Lee</i>	

CONTROL OF MULTIBODY SYSTEMS

Basic Research on Inverted Pendulum Style Active Child Bed	585
<i>Takeshi Kawashima</i>	
The Development of a Real-time Simulator for Unmanned Ground Vehicle	594
<i>Jong Seok Lee, Jae Yi Oh, Yeo Giel Yoon, Ju Yong Kang, Won Gun Kim, Kyong Su Yi</i>	
Vibration Control of Truck Crane by Variable Constrained Control with Neural Network	602
<i>Junichi Hino, Masao Kurimoto, Motomichi Sonobe</i>	
Quantitative Feedback Theory Control of a Hexaglide Type Parallel Manipulator	610
<i>Javier Ros, Alberto Casas, Jasiel Nájera, Isidro Zabalza</i>	
Dynamic Characteristics of Large Gap Magetic Driving Blood Pump During Start-up Period	620
<i>Jianping Tan, Zhijian Liu, Yan Xu, Yunlong Liu, Zhongyan Zhu, Tingting Jiang</i>	

ROBOTICS AND MECHATRONICS

Multibody Simulation of Optical Lens Systems to Analyze Image Aberrations	629
<i>Peter Eberhard, Nicolai Wengert, Aymen Touihri</i>	
The Inter-disciplinary Simulation Environment Including the Firmware and the Mechanical System	638
<i>S. T. Kim, D. J. Yun, K. H. Cho, J. H. Choi</i>	
Numerical Simulations of a Simple Planar Passive Walker with Ankle Springs	644
<i>Terumasa Narukawa, Hidekazu Nishimura</i>	
A Unified Approach to Dynamics of a Biped	650
<i>S. V. Shah, S. K. Saha, J. K. Dutt</i>	
Vision Based Self Learning Mobile Robot Using Machine Learning Algorithms	659
<i>Jeong-Min Choi, Moon-Cheol Won, Sang-Jin Lee</i>	
SSM for Lateral Guided Vehicle with Articulated Body Bending at the Center	668
<i>Yoshihiro Takita, Hisashi Date</i>	
Development and Testing of Mobile Surveillance Robot Using Vehicle Motion Simulator	676
<i>Dong-Youm Lee, Jeong-Joo Kwon, Sung-Soo Kim, Sung-Ho Park</i>	
Synthesis of Parallel Robots for Medical Applications	685
<i>A. Srinath, G. Yedukondalu, K. V. Ramana</i>	
Forward Dynamics of the 6-PUS Parallel Manipulator Based on the Force Coupling and Geometry Constraint of the Passive Joints	696
<i>Genliang Chen, Hao Wang, Yong Zhao, Shunzhou Huang</i>	

Dynamics Simulation of a Hemming Robot Considering Time-varying External Forces	706
<i>Shunzhou Huang, Hao Wang, Yong Zhao, Genliang Chen</i>	

BIOMECHANICS

Ambulatory Estimation of 3D Lower Limb Gait Posture in Anatomical Coordinate Frame Using Wearable Sensor System	714
<i>Kun Liu, Yoshio Inoue, Kyoko Shibata</i>	
Modeling of Seated Vehicle Passenger for Ride Comfort Prediction	722
<i>Gen Tamaoki, Takuya Yoshimura, Kazuhito Katou, Satoshi Kitazaki</i>	
Biomechanical Analysis of Steering Motion Using Motion Analysis Technique	729
<i>Mujin Oh, Taehok Tak</i>	
Research on Wheelchair Structure Design Reducing the Load on Human Body in Railway Car	736
<i>Yuko Kameoka, Kazuhiko Adachi</i>	
Development and Estimation of Multi-body Child Human Model	744
<i>Takayuki Koizumi, Nobutaka Tsujiuchi, Azusa Nakai</i>	
Some Aspects of Heel Strike Impact Dynamics in the Stability of Bipedal Locomotion	752
<i>Javier Ros, Josep M. Font Llagunes, József Kövecses</i>	
Estimation of Dynamic Muscular Moment Arm Length of Lower Limb	759
<i>Rencheng Zheng, Kimihiko Nakano, Yoshio Inoue</i>	
Computational Time Reduction for Neurosurgical Training System Based on Finite Element Method	767
<i>Osuke Kobayashi, Kazuhiko Adachi, Yohei Azuma, Atsushi Fujita, Eiji Kohmura</i>	

OPTIMIZATION AND SENSITIVITY ANALYSIS IN MBS

Minimum Control Energy in Multibody Systems Using Gravity and Springs	774
<i>Makoto Iwamura, Werner Schiehlen</i>	
Optimal Design of Railway Vehicles Crash Behavior Using Multibody Models and Analytical Sensitivities	783
<i>João Milho, Jorge Ambrosio, Manuel Pereira</i>	
Unified Synthesis of Planar Linkages for Function Generation Using the Spring Connected Size-variable 3-Blocks Model	794
<i>Bum Suk Kim, Hong Hee Yoo</i>	
Kinematic Optimization of Planar Linkages Using Samcef Boss-Quattro Software	800
<i>Martín Pucheta, Alberto Cardona, Frederic Cugnon</i>	
Robust Design Optimization for the Convertible Roof Module Mechanism	808
<i>Dae-Oh Kang, Seung-Jin Heo, Min-Soo Kim, Ilwhan Kim</i>	
Automated and Error Controlled Model Reduction for Durability Based Shape Optimization of Mechanical System	817
<i>Jörg Fehr, Christoph Tobias, Peter Eberhard</i>	
Advances in Optimisation of Flexible Components in Multibody Systems: Application to Robot-Arms Design	827
<i>Pierre Duysinx, Jonathan Emonds-Alt, Geoffrey Virley, Olivier Bruls, Michaël Bruyneel</i>	

FLUID-STRUCTURE INTERACTION IN MBS

Numerical Simulation of a Traveling-Wave Generated on a Thin Film in a Narrow Gap	839
<i>Gaku Kudou, Masahiro Watanabe, Kensuke Hara</i>	
Analysis of the Piston/Cylinder Pair of Axial Piston Pump Based on Virtual Prototype	848
<i>Zhang Junhui, Xu Bing</i>	
Numerical Modeling and Analysis of Journal Bearing with Coupled Elastohydrodynamic Lubrication and Flexible Multibody Dynamics	857
<i>Juhwan Choi, Seong Su Kim, Jin Hwan Choi</i>	
Dynamics of Two-wheels Modeling Roller Coaster Running on a Complicated 3 Dimensional (3D) Trajectory Considering Air Resistance	865
<i>Katsuhisa Fujita, Koichi Katsuoka</i>	
Parameter Identification of the Multibody Model of a Nuclear Reactor Control Assembly for Breakdown States Simulations	874
<i>Pavel Polach, Michal Hajžman</i>	

Numerical Simulation of an Active Feedback Control of Web Flutter by Using Flow Control Devices	883
<i>Yusuke Hayashi, Masahiro Watanabe, Kensuke Hara</i>	
Multiphysics Simulation of Stabilized Remote Controlled Weapon System on Coast Guard Naval Ships	892
<i>Dong Hwan Choi, Sang Sik Lee</i>	
Experimental Validation of a Ball-Balancer Model for Washing Machines Using FSI Analysis Methods	899
<i>Seung-Kyu Kang, Jae-Wook Lee, Hyun-Woo Kim, Wan-Suk Yoo, Gyung-Hun Nho</i>	

AEROSPACE DYNAMICS

Empirical Model Reduction of Geometrical Constrained Gossamer Structures	904
<i>Masahiko Yamazaki, Yasuyuki Miyazaki</i>	
Study on Fundamental Dynamics of Very Long Tether System	910
<i>Keita Satoh, Ryotarou Ohkawa, Hironori A. Fujii, Kenji Uchiyama, Kazuhiro Iijima</i>	
Modeling of Tethered Mobility Device	917
<i>Shoichiro Takehara, Yuichi Kondo, Yoshiaki Terumichi, Takuya Yoshimura</i>	

DYNAMICS OF MACHINE COMPONENTS

Numerical and Experimental High Speed Machining Spindle-Tool Modal Characterization	924
<i>Vincent Gagnol, Thien-Phu Le, Pascal Ray</i>	
Dynamics Modeling and Analysis of the new Hy-Vo Silent Chain and Involute Sprocket	935
<i>Zengming Feng, Yabing Cheng, Chengguo Dong, Fanzhong Meng, Qihai Li</i>	
Meshing Mechanism and Dynamic Analysis of New Silent Chain	941
<i>Zengming Feng, Fuliang Suo, Yabing Cheng</i>	

EDUCATION AND SOFTWARE DEVELOPMENTS

Development of Multibody Dynamics Analysis Education Tools by Excel	946
<i>Yasushi Ono, Kiyoshi Sogabe</i>	
Incorporating Multibody Dynamics Into Undergraduate Subjects	954
<i>Javier García De Jalón, Alfonso Callejo</i>	
The Using of Virtual Prototyping Technology in Education	964
<i>Yabing Cheng, Zengming Feng, Lei Zhang</i>	

MISCELLANEOUS APPLICATIONS

Mitigation of Bolted Single Mass Secondary Projectiles Induced by Direct Surface Impact	970
<i>Cal A. Smith</i>	
Finite Element Modeling of Spot Welds for Vibration Analysis	981
<i>Fumiyasu Kuratani, Misaki Okuyama, Takashi Yamauchi, Saiji Washior</i>	
Chaos of Nonlinear Fractional-Calculus Oscillator	989
<i>Wei Zhang, Fan Huang</i>	
Application of the Recurrence Plots Algorithm to Analysis of Chaotic Vibrations of Rotor Systems with Hydrostatodynamic Bearings	995
<i>Savin Leonid, Morozov Andrey, Mayorov Sergey</i>	
Author Index	