New Methods in Vibration Control (1)

Robust Vibration Control of a Wire Changing Its Length
Masatsugu Otsuki (Keio University, Japan), Kazuo Yoshida

Active-Passive Switching Control on the Basis of the AMD's Kinematic Energy
Naoto Abe (Meiji University, Japan)

Saturation Compensating Input Shapers for Reducing Vibration
Raynald Eloundou (Georgia Institute of Technology, USA), William Singhose

Vibration Control of a Flexible Beam Using ABC Method
Takuro Ninomiya (Tokyo Metropolitan Institute of Technology, Japan), Nobuo Tanaka

Anti-Sway Control System of a Rotational Crane Using a Non-Linear Controller
Kenji Ichise (Tokai University, Japan), Shigeto Ouchi,
Kang-Zhi Liu (Chiba University, Japan)

New Methods in Vibration Control (2)

Autoresonant Control of Vibratory Systems
Vladimir I. Babitsky (Loughborough University, UK), Ilya J. Sokolov

Optimization of Lightly Damped Pick-and-Place Processes Using Optimal Dynamic-Vibration-Absorbers
Rory Thomas (John Hopkins University, USA),
Joel Fortgang (Georgia Institute of Technology, USA), William Singhose

Inertial Vibration Damping of a Flexible Base Manipulator
Lynnane E. George (Georgia Institute of Technology, USA), Wayne J. Book

New Methods in Vibration Control (3)

Variable Resistance Type Energy Regenerative Suspension
Sang-Soo Kim (Akita Research Institute of Advanced Technology, Japan),
Yohji Okada (Ibaraki University, Japan)

Semi-Active Damping Control of Suspension Systems for Specified Operational Response Mode
Jeong-Hoon Kim (KAIST, Korea), Chong-Won Lee

Active Vibration Isolation System Using an Active Dynamic Vibration Absorber as an Accelerometer
Takeshi Mizuno (Saitama University, Japan),
Masuo Hannuki (Casio Computer Co., Ltd., Japan),
Yuji Ishino (Saitama University, Japan), Toshiro Higuchi (The University of Tokyo, Japan),
Makoto Murayama (Meiritsu Seiki Co., Ltd., Japan)

Vibration Control with Linear Actuated Permanent Magnet
Koichi Oka (The Kochi University of Technology, Japan), Yoshio Inoue
New Methods in Vibration Control (4)

Adaptive Vibration Control in an Implantable Blood Pump on a Bearingless Slice Motor
Christian Huettner (ETH Zurich, Switzerland) 684

The Application of Input Shaping to Wire-Driven Mechanisms
John Huey (Georgia Institute of Technology, USA), William Singhose 690

Active Progressive Wave Control of a Simply Supported Plate
Akihide Sakano (Tokyo Metropolitan Institute of Technology, Japan), Nobuo Tanaka 696

Wave Control of Multi-Story Structures by Active Mass Dampers
Kenji Nagase (Nagoya University, Japan), Hirotaka Ojima, Yoshikazu Hayakawa 702

Active Wave Control of a Flexible Beam Using Distributed Parameter Sensors
Hiroyuki Iwamoto (Tokyo Metropolitan Institute of Technology, Japan), Nobuo Tanaka 710

Damping

Brief Survey of Works in JSME Research Committee of Damping Technology
Kohei Suzuki (Tokyo Metropolitan University, Japan) 716

Shock Vibration Control Using "Smart" Damping Devices
Guangqiang Yang (University of Illinois at Urbana-Champaign, USA),
Bill F. Spencer, Jr., Frank Leban (Naval Surface Warfare Center, USA) 722

Analysis of a Two-Dimensional Permanent-Magnetic Passive Damper
Satoru Fukata (Kyushu Institute of Design, Japan) 728

Damping Properties of ER Fluid on Pattern Electrodes
Consideration on Composition of Electrodes and Electric Field
Naoyuki Takesue (Osaka University, Japan), Junji Furusho,
Akio Inoue (Asahi Kasei Corporation, Japan) 734

Practical Robust Design Method for A-Few-TMD Systems
Fumitaka Yoshizumi (Mitsui Engineering & Shipbuilding, Co., Ltd., Japan),
Ken-ichi Sano, Hiroo Inoue 739

Response Analysis of a Simply Supported Piping System with Various Types of Damper
Shigeru Aoki (Tokyo Metropolitan College of Technology, Japan),
Takeshi Watanabe (Yamanashi University, Japan) 745

Control Devices, Sensors and Actuators (1)

Application of Cross-Axis Pendulous Galvano Mirror to Radar Sensor for Safety Monitoring
Toshihito Shirai (The Nippon Signal Co., Ltd., Japan), Koichi Futsuhara 751

The Development of a Displacement and Velocity Sensor for Vibration Control
Yasuhiro Miyata (Nihon University, Japan), Kazuto Seto, Muneharu Saigo 757

Active Tactile Sensing Using a Two-Finger System
Mami Tanaka (Tohoku University, Japan), Nan Li, Seiji Chonan 762

Sensitive Magnetic Sensor Using a New Fluxgate Mechanism
Koji Yamada (Saitama University, Japan), Bing Liu, Akiyoshi Shinagawa 768
High Resolution Capacitive Sensor for Active Magnetic Bearings
A.R. Boletis (Swiss Federal Institute of Technology, Lausanne, Switzerland),
J.J. Zoethout, Hannes Bleuler

Control Devices, Sensors and Actuators (2)
Application of Parallel Mechanism to Nanometer Cutting Machine
Katsushi Furutani (Toyota Technological Institute, Japan), Michio Suzuki,
Katsumi Kawagoe

Attitude Control of a Micro Satellite with Eventual Sliding Mode Controller
Satoshi Takezawa (Hokkaido Institute of Technology, Japan), Tomohiro Ishikawa,
Shin Satori

On a Variable Damper Using MR Fluid
Shin Morishita (Yokohama National University, Japan), Toshihiko Shiraishi,
Tomoya Sakuma

High-Powered Metal Bellows Type Gas-Liquid Phase-Change Actuator
Shinichi Matsuda (Nippon Institute of Technology, Japan), Shigeo Kato, Manabu Ono

On the Coupled Dynamics of Air Squeeze-Film Application for Levitation and
Reduction of Friction
Izhak Bucher (Technion, Israel), Adi Minikes

Control Devices, Sensors and Actuators (3)
Mass Measurement Using the Self-Excited Vibration of a Relay Control System
Takeshi Mizuno (Saitama University, Japan),
Junko Yaoita (Riso Kagaku Corporation, Japan),
Minoru Takeuchi (Saitama University, Japan), Masaya Takasaki

Superconducting Levitated Stepping Motor with New Driving Methods
Mochimitsu Komori (Kyushu Institute of Technology, Japan), Shin-ichiro Nomura

Design and Control of a VR Type Contact-Free Linear Actuator
Sang Heon Lee (Yonsei University, Korea),
Kwang Suk Jung (LG Production Engineering Research Center, Korea),
Yoon Su Baek

Evaluations of Charge Amplifier and Vibration Exciter for the Establishment of
Vibration Standards
Akihiro Ohta (AIST, Japan), Takashi Usuda, Tamio Ishigami, Hidetoshi Nakano

Dynamics and Control of Home Care and Rehabilitation Equipment
Rehabilitation Application of Force Display System Using ER Fluid
Ken'ichi Koyanagi (Osaka University, Japan), Takafumi Inoue, Junji Furusho

Velocity Control of Brake Using Particle-Type ER Fluid and Its Application to Isokinetic
Exercise System
Takshito Kikuchi (Osaka University, Japan), Junji Furusho
Development of Upper Extremity Prosthesis Which Uses Shape-Memory Alloy
– Mechanism of Upper Extremity Prosthesis –
Shigeki Hatae (Yokohama Habor Polytechnic College, Japan),
Kikushige Murakoshi (Auto Press CO., LTD, Japan),
Koichi Hiratuka (Kyushu Polytechnic University, Japan)

Development of Power Assisting Suit
– Miniaturization of Supply System to Realize Wearable Suit –
Keijiro Yamamoto (Kanagawa Institute of Technology, Japan),
Mineo Ishii, Kazuhito Hyodo, Toshihiro Yoshimitsu, Takashi Matsuo

Development of a Micro Vehicle for Severely Disabled People
Yoshito Terashima (The University of Tokyo, Japan), Takashi Hosokawa,
Minoru Kamata, Motoki Shino

Vehicle Dynamics and Control (1)

Sliding Mode Control of a Full Vehicle with Non-Linearity
Ismail Yuksek (Yildiz Technical University, Turkey),
Nurkan Yagiz (University of Istanbul, Turkey), Yoshihiro Kikushima (AIST, Japan),
Nobuo Tanaka (Tokyo Metropolitan Institute of Technology, Japan)

A Sliding Mode Controller to Eliminate Chattering in Semi-Active Suspensions with MR Dampers
Shigehiro Toyama (Toba National College of Maritime Technology, Japan),
Makoto Yokoyama (Niigata University, Japan), Masahide Nakamura

Robust Control of Engine Test Bed Considering Variation of Transmission Dynamics
Yusuke Fujitsu (Chiba University, Japan), Hidekazu Nishimura

Control Optimization for Automatic Transmission
Friedrich Pfeiffer (TU Munchen, Germany), Ali Haj-Fraj (Siemens AG, Germany)

Traction Control for Automobiles by Model-Following Sliding Mode Control
Sadahito Kawasaki (Tokai University, Japan), Shigeto Ouchi

Control of the Omni-Directional Power-Assisted Cart
Hiroshi Maeda (Matsushita Electric Works, Ltd., Japan), Shigeki Fujiwara,
Hitoshi Kitano, Hideki Yamashita, Hideo Fukunaga

Vehicle Dynamics and Control (2)

Active Control of the Mechatronic Vehicle
Yohei Michitsui (The University of Tokyo, Japan), Yoshihiro Suda

Dynamics Control of Tilting Bogie for Passenger Railway Vehicle
Won-Hee You (Korea Railroad Research Institute, Korea),
Nam-Po Kim, Hyung-Suk Mun
A Study of the Vibration Control System for a Superconducting Maglev Vehicle
Ken Watanabe (Railway Technical Research Institute, Japan), Hiroshi Yoshioka, Eiji Watanabe, Takayuki Tohtake (Tokyo University of Agriculture and Technology, Japan), Masao Nagai

Study toward a Fully Automated, Intelligent Marine Transportation System
Minh Duc Le (Hiroshima University, Japan), Si Hiep Nguyen (Shipbuilding Science and Technology Institute, Vietnam), Dai Son Nghiem (Chuong Duong Trade and Investment Company, Vietnam), Thuy Dung Nguyen, Thi Can Nguyen (FITTO BAC GIANG J.S.C., Vietnam), Quang Trinh Ha

Vehicle Dynamics and Control (3)
Motion and Vibration Analysis and the Control of an Elastic Vehicle Using an Extended Reduced Order Physical Model
Kazuhito Adachi (Nihon University, Japan), Takao Kinoshita, Takahito Sagane, Takashi Shono, Hiroshi Tajima (Komatsu Ltd., Japan), Kazuto Seto

Simulation of Vehicles Moving in Soft Soil
Oliver Hanke (University of Duisburg, Germany), Carsten Hass, Torsten Bertram (Ilmenau Technical University, Germany), Manfred Hiller (University of Duisburg, Germany)

Optimum Running System of Crawler-Type Construction Machine
(Modeling of Running Equipment with a Bogie Mechanism and the Traveling Simulation)
Masajiro Abe (Nagaoka University of Technology, Japan), Shinya Nakamura, Chikara Nakagawa (Maizuru National College of Technology, Japan)

Space Structure and Control
Motion Control of Three-Link Space Robot
Zhiqiang Weng (Chiba University, Japan), Hidekazu Nishimura

Autonomous Flight Control of Radio-Controlled Helicopter Sky Surveyor
Daigo Fujiwara (Chiba University, Japan), Jinok Shin, Kensaku Hazawa, Kenzo Nonami

Gain-Scheduling Control for Extending Space Structures
Kouen Li (University of Electro-Communications, Japan), Tomoyuki Nagasio, Takashi Kida
Optimal Reorientation Maneuver of Satellites by Two Reaction Wheels with Attitude Constraints
Tatsuya Endo (Yokohama National University, Japan), Seiya Ueno 961

Vibration Control of Parallel Flexible Structures with Identical Vibration Property Using Interactive Force
Katsuhiko Yoshida (Nihon University, Japan), Muneharu Saigo, Kazuto Seto 967

Detection of Component Failures for Smart Structure Control Systems
Hiroshi Okubo (Osaka Prefecture University, Japan) 973

Rotor Dynamics and Control (1)
Effects of Characteristics of Floating Bush Bearings on the Stability of Turbochargers
Makoto Hemmi (Hitachi, Ltd., Japan), Tomoaki Inoue 979

The Dynamic Behavior of Gas-Lubricated Journal Bearing with Herringbone-Groove
Katsuhisa Fujita (Osaka Prefectural University, Japan), Atsuhiko Shintani, Kohei Okuno, Yasuhiro Asaida (Matsushita Electric Industrial Co., Ltd., Japan) 985

Countermeasures for Polygonal Deformation of Work Rolls of a Hot Leveler
Kenichiro Matsuzaki (Kyushu University, Japan), Atsuo Sueoka, Takahiro Ryu (Oita University, Japan), Hidetoshi Morita (Sasebo National College of Technology, Japan) 991

Pattern Formation Phenomena in Contact Rotating Systems (Simplified Method for Stability Analysis and Prevention Measure by Using Energy Factor)
Nobuyuki Sowa (Kyushu University, Japan), Takahiro Kondou 997

Application of Wavelet Map to Detection of Cracked Rotor
Jian Zou (Shanghai Jiao Tong University, China), Jin Chen, Zun Min Geng (Shandong University, China) 1003

Rotor Dynamics and Control (2)
Robust Control of Multiple Discrete Frequency Vibration Components in Rotor/Magnetic Bearing Systems
Matthew O.T. Cole (University of Bath, UK), Patrick S. Keogh, Clifford R. Burrows 1009

Neuro-Fuzzy Active Control of Rotor Supported by Active Magnetic Bearings
Pierre-Yves Couzon (Institut National des Sciences Appliquées de Lyon, France), Johan Der Hagopian, Luc Gaudiller 1015

Vibration Behavior of Rotating Shaft due to Contact with Casing
Kazuhiro Tamura (Kansai University, Japan), Kazuhiro Shiraki, Keizo Awa, Yusuke Watanabe 1021

Robust Unbalance Control for Active Magnetic Bearings at Low Rotational Speeds
Vincent Tamisier (S2M/Supélec, France), Stéphane Font (Supélec, France), François Carrère (S2M, France) 1027
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squeal Noise Suppression in Floating and Rigid Type Car Disk Brakes by Partial Cutting of Pad Surfaces</td>
<td>Takahiro Ryu (Oita University, Japan), Atsuo Sueoka (Kyushu University, Japan), Kenji Shirozu, Yutaka Nakano</td>
<td>1033</td>
</tr>
<tr>
<td>Dynamics and Control of Grinding Machines</td>
<td>Inessa Kirpitchenko (University of Technology, Sydney, Australia), Nong Zhang, Serguei Tchernykh, Dikai Liu</td>
<td>1039</td>
</tr>
<tr>
<td>Control of Micro and Nano Structures</td>
<td>Shoji Takeuchi (The University of Tokyo, Japan), Isao Shimoyama</td>
<td>1045</td>
</tr>
<tr>
<td>Destructive Construction of Nanostructures with Carbon Nanotubes</td>
<td>Lixin Dong (Nagoya University, Japan), Fumihito Arai, Toshio Fukuda</td>
<td>1050</td>
</tr>
<tr>
<td>Profile and Surface Measurement Tool for High Aspect-Ratio Microstructures</td>
<td>Jean-Bernard Pourciel (The University of Tokyo, Japan), Laurent Jalabert, Takahisa Masuzawa</td>
<td>1056</td>
</tr>
<tr>
<td>A Remote Inductive Powering System for Driving Microactuators</td>
<td>Tetsuji Dohi (The University of Tokyo, Japan), Isao Shimoyama</td>
<td>1062</td>
</tr>
<tr>
<td>Impact Microactuator Driven by Electrostatic Force</td>
<td>Makoto Mita (The University of Tokyo, Japan), Dai Kobayashi, Hiyoyuki Fujita</td>
<td>1067</td>
</tr>
<tr>
<td>Control Using Magnetic and Electric Forces (1)</td>
<td>Toshiki Niino (The University of Tokyo/RIKEN, Japan), Hidetaka Tsukamoto (The University of Tokyo, Japan)</td>
<td>1071</td>
</tr>
<tr>
<td>Electrostatic Levitation System in Vacuum Condition Aiming at Linear Bearings</td>
<td>Roland Moser (EPFL, Switzerland), Laurent Sache, Toshiro Higuchi (The University of Tokyo, Japan), Hannes Bleuler (EPFL, Switzerland)</td>
<td>1077</td>
</tr>
<tr>
<td>Self-Sensing Magnetic Force Control by Composite Element of Giant Magnetostrictive and Piezoelectric Materials</td>
<td>Toshiyuki Ueno (Tohoku University, Japan), Jinhao Qiu, Junji Tani</td>
<td>1081</td>
</tr>
<tr>
<td>Design and Modeling of a Small-Scale Rotary Magnetorheological Damper</td>
<td>Chih-Chen Chang (Hong Kong University of Science and Technology, Hong Kong, China), Tim Tse</td>
<td>1086</td>
</tr>
<tr>
<td>Development of Electromagnetic Valve Actuator for Automobile Engine</td>
<td>Tadanori Nilbori (Ibaraki University, Japan), Seinosuke Hara (Unisia-Jecs Co., Ltd, Japan), Ken-ichi Matsuda (Ibaraki University, Japan), Yohji Okada</td>
<td>1092</td>
</tr>
</tbody>
</table>
Control Using Magnetic and Electric Forces (2)

Enhanced Steady State Stiffness of a Magnetic Guide Using Smart Disturbance Compensation

Martin Ruskowski (University of Hannover, Germany), Lars Reicke, Karl Popp

Simple and Practical Control for Magnetic Levitation System

Tadahiko Shinshi (Tokyo Institute of Technology, Japan), Masashi Ueno, Lichuan Li, Akira Shimokohbe

Robust Controller Design of Rotary Actuator of Contact-Free Clean Robot Using Magnetic Bearings

Yoichi Kanemitsu (Kyushu University, Japan), Kazunari Fuji, Shinya Kijimoto, Koichi Matsuda, Katsuhide Watanabe (EBARA, Japan)

Proposal of Electro-Magnetic-Suspension System with Tilting Control

Chih-chung Chuang (Ching-Yu Institute of Technology, Taiwan, China), Yoshihiro Suda (The University of Tokyo, Japan), Hisanao Komine, Takashi Iwasa

Control of a Magnetic Levitation System Using a Digital Signal Processor as a Digital Phase-Lead Controller

Jianxin Tang (Alfred University, USA)

Noise Control and Sound Field Control

Comparison of Adaptive Controllers for Multichannel Feedforward Control and Their Application to the Active Control of Ship Interior Noise

Shunsuke Ishimitsu (Oshima National College of Maritime Technology, Japan), Stephen J. Elliott (University of Southampton, UK)

Sound-Radiation Analysis for Design of a Low-Noise Gearbox with a Multi-Stage Helical Gear System

Eiichiro Tanaka (Hitachi, Ltd., Japan), Haruo Houjoh (Tokyo Institute of Technology, Japan), Daisuke Mutoh (Hitachi, Ltd., Japan), Kousaku Ohno, Naoyuki Tanaka

Minimization of the Acoustic Power Radiated from a Vibrating Panel Using Both Active Noise Control and Active Vibration Control

Kozue Kobayashi (Tokyo Metropolitan Institute of Technology, Japan), Nobuo Tanaka

Active Cluster Control of Structure-Borne Sound Radiated from a Planar Structure Using Acoustic Cluster Filtering

Ryoji Fukuda (Tokyo Metropolitan Institute of Technology, Japan), Nobuo Tanaka

System Identification and Modeling (1)

A Critical Comparison of Time Domain Load Identification Methods

Lars J.L. Nordström (Chalmers University of Technology, Sweden), T. Patrik Nordberg
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Modal Control System Design Method via Modal Matrix Estimation Based on Subspace Method</td>
<td>Hiroyuki Takanashi (Utsunomiya University, Japan), Shuichi Adachi, Shinji Wakui (Tokyo University of Agriculture and Technology, Japan)</td>
<td>1157</td>
</tr>
<tr>
<td>Diagnosis for Rotary Machinery Based on Locally Stationary AR Model</td>
<td>Hiromitsu Ohta (National Fisheries University, Japan), Kunisato Seto, (Saga University, Japan)</td>
<td>1163</td>
</tr>
<tr>
<td>Frequency Domain Identification of the Head-Neck Complex</td>
<td>Mohammad Atapourfard (Tohoku University, Japan), Tadashi Ishihara, Hikaru Inooka</td>
<td>1168</td>
</tr>
<tr>
<td>Effects of Slipping Motions of Carrying Objects on Traveling Mobile Manipulator</td>
<td>Takeshi Ikeda (Fukui University, Japan), Mamoru Minami, Tomohide Naniwa</td>
<td>1175</td>
</tr>
<tr>
<td>System Identification and Modeling (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defect Identification Using Learning Vector Quantization Neural Network</td>
<td>Wakae Kozukue (Kanagawa Institute of Technology, Japan), Hideyuki Miyaji</td>
<td>1181</td>
</tr>
<tr>
<td>System Identification for Flexible Structures by Fractional Differential Equations</td>
<td>Fujio Ikeda (Kochi National College of Technology, Japan), Seiichi Kawata (Tokyo Metropolitan University, Japan), Toshiki Oguchi</td>
<td>1185</td>
</tr>
<tr>
<td>Structural Health Monitoring System for Seismic Isolated Structures Using Subspace Identification and Substructure Approach</td>
<td>Reiki Yoshimoto (Keio University, Japan), Akira Mita</td>
<td>1191</td>
</tr>
<tr>
<td>Modelling and Identification of MR Damper for Semi-Active Stiffness Damper</td>
<td>S.L. Djajakesukma (University of Technology, Sydney, Australia), Bijan Samali, Jianchun Li, Hung Nguyen</td>
<td>1197</td>
</tr>
<tr>
<td>Analysis of Impact Models Considering Sensor Dynamics</td>
<td>Kil-Young Ahn (LGIS Co., Ltd., Korea), Gyu-Seop Lee (Tongil Heavy Industry Co., Ltd., Korea), Bong-Jo Ryu (Hanbat National University, Korea), Byung-Hee Kwon (LGIS Co., Ltd., Korea), Il-Sung Oh, Jong-Woong Choe</td>
<td>1203</td>
</tr>
</tbody>
</table>