

The 15th International Conference on Motion and Vibration Control (MoViC2020) 8th - 11th December 2020 - Final Program –

The “On-demand MoViC2020 Conference Site” will be available from 8th to 23rd December. In addition to the MoViC2020 period (8th to 11th December), the on-demand conference site has an extension period until 23rd December. For the explanation of the on-demand conference site, please check the document (How to use MoViC2020 On-demand Site.pdf).

The “Notice board” function which is for discussion on the on-demand conference site can be used only during the MoViC2020 period (8th to 11th December). Please note that “Notice board” function cannot be used during the additional period (12th to 23rd December).

Technical Papers

A. Civil and Infrastructure Systems (3 Papers)

A simple approach to estimate physical parameters of single-degree-of-freedom structures under earthquake excitations

Ryuta ENOKIDA (International Research Institute of Disaster Science, Tohoku University), Koichi KAJIWARA (E-Defense, National Research Institute for Earth Science and Disaster Resilience)
Paper ID:10045

Application of mixed reality technology in hammering inspection work

Shuntaro HATORI (National Institute of Technology, Nagaoka College), Fujio IKEDA (National Institute of Technology, Nagaoka College), Yuki MURAKAMI (National Institute of Technology, Nagaoka College), Shigehiro TOYAMA (National Institute of Technology, Nagaoka College)
Paper ID:10049

An automatic detection method for concrete defects based on self-organizing map for rotary hammering test

Naoki MATSUI (Department of Mechanical Engineering, Graduate School of Engineering, University of Fukui), Fumiyasu KURATANI (Department of Mechanical Engineering, Faculty of Engineering, University of Fukui), Tatsuya YOSHIDA (Department of Mechanical Engineering, Faculty of Engineering, University of Fukui), Yuya HASEBE (Department of Mechanical Engineering, Graduate School of Engineering, University of Fukui)
Paper ID:10054

B. Vehicle and Transportation Systems (15 Papers)

Propose of Active Suspension under Reference-input Modification Using Vibration Manipulation Function

Taro NAKAJIMA (Mie University), Shigeo KOTAKE (Mie University)

Paper ID:10041

Reference-input modification for finite-time settling control of rotational pendulum along vibration manipulation function

Shota HIRAI (Mie University), Daichi OKAMURA (Mie University), Yuki FUJITA (Mie University), Shigeo KOTAKE (Mie University)

Paper ID:10051

The current collection performance of multi-segment pantograph head

Takayuki USUDA (Railway Technical Research Institute), Takeshi MITSUMOJI (Railway Technical Research Institute), Kyohei NAGAO (Railway Technical Research Institute), Tatsushi ISONO (Railway Technical Research Institute), Hiromasa HIRAKAWA (Railway Technical Research Institute), Masaki TAKAHASHI (Keio University), Yusuke WAKABAYASHI (East Japan Railway Company)

Paper ID:10061

Displacement and acceleration feedback controller design for automated driving tram

Keisuke SHIMONO (Institute of Industrial Science, the University of Tokyo), Kritditorn CHAMNIPRASART (Institute of Industrial Science, the University of Tokyo), Bo YANG (Institute of Industrial Science, the University of Tokyo), Kimihiko NAKANO (Institute of Industrial Science, the University of Tokyo), Yoshihiro SUDA (Institute of Industrial Science, the University of Tokyo)

Paper ID:10073

Research on Rotational Vibration against Elevator Suspension Sheave

Ayaka FUJII (Advanced Technology R and D Center, Mitsubishi Electric Corp.), Seiji WATANABE (Advanced Technology R and D Center, Mitsubishi Electric Corp.), Kazuhiro KYUE (Inazawa Works, Mitsubishi Electric Corp.)

Paper ID:10075

Vibration control system for comfortable drive - fundamental consideration on masking method

Keigo IKEDA (Course of Science and Technology, Tokai University), Takahiro OHTA (Course of Mechanical Engineering, Tokai University), Hideaki KATO (Department of Prime Mover Engineering, Tokai University), Takayoshi NARITA (Department of Prime Mover Engineering,

Tokai University)

Paper ID:10076

Lane changing and merging support system with adaptive cruise control

Kazuhiro NISHIWAKI (Mitsubishi Electric Corporation), Masahiro IEZAWA (Mitsubishi Electric Corporation), Masaki TAKAHASHI (Keio University)

Paper ID:10083

Avoiding Resonance between Building Sway and Elevator Rope Based on Negative Stiffness

Eiichi SAITO (Mitsubishi Electric Corp.), Seiji WATANABE (Mitsubishi Electric Corp.), Daiki FUKUI (Mitsubishi Electric Corp.)

Paper ID:10093

Measurement of dynamic behavior of a driver on stand-up type PMV (Steering with intention and without intention)

Sampei SUZUKI (Osaka Prefecture University), Chihiro NAKAGAWA (Osaka Prefecture University), Atsuhiko SHINTANI (Osaka Prefecture University)

Paper ID:10096

Ride comfort control system considering driver's psychological state, Fundamental consideration on estimating method using biological measurement

Takahiro OHTA (Course of Mechanical Engineering, Tokai University), Keigo IKEDA (Course of Science and Technology, Tokai University), Hideaki KATO (Department of Prime Mover Engineering, Tokai University), Takayoshi NARITA (Department of Prime Mover Engineering, Tokai University)

Paper ID:10097

Steer-by-wire system of ultra-compact EV considering driver - basic consideration on reaction force

Shugo ARAI (Course of Mechanical Engineering, Tokai university), Daigo UCHINO (Course of Mechanical Engineering, Tokai university), Xiaojun LIU (Course of Science and Technology, Tokai university), Hideaki KATO (Department of Prime Mover Engineering, Tokai University), Takayoshi NARITA (Department of Prime Mover Engineering, Tokai University)

Paper ID:10100

Vibration Control of Air Spring Type Tilting Train

Taichi WATANABE (College of Science and Technology, Nihon University), Masahiko AKI (College of Science and Technology, Nihon University)

Paper ID:10105

Measurement of dynamic motion of a standing human on a PMV during braking

Chihiro NAKAGAWA (Osaka Prefecture University), Kohei NISHIMORI (Osaka Prefecture University), Akihiko MURAI (National Institute of Advanced Industrial Science and Technology)
Paper ID:10107

Effect of variable resistance and capacitance on return loss of monitoring side antenna

Yusuke MATSUSHITA (Kyoto Institute of Technology), Tung Thanh MAC (Kyoto Institute of Technology), Daisuke IBA (Kyoto Institute of Technology), Seiya MUKAI (Kyoto Institute of Technology), Nanako MIURA (Kyoto Institute of Technology), Masashi YAMAKAWA (Kyoto Institute of Technology), Takashi IIZUKA (Kyoto Institute of Technology), Arata MASUDA (Kyoto Institute of Technology), Akira SONE (Kyoto Institute of Technology), Ichiro MORIWAKI (Kyoto Institute of Technology)
Paper ID: 10108

Influence of Delay Time on Driving Assistance System during Tire Burst

Ryotaro YAJIMA (College of Science and Technology, Nihon University), Masahiko AKI (College of Science and Technology, Nihon University), Shinichiro HORIUCHI (College of Science and Technology, Nihon University)
Paper ID:10115

C. Robotics and Mechatronics (8 Papers)

Theoretical and Experimental Evaluation on Specific Stiffness of a Integrally-Shaped Lightweight Honeycomb Robotic Arm

Masanori MASUDA (Graduate School of Science and Technology, Nihon University), Yuya CHIKUI (Graduate School of Science and Technology, Nihon University), Toru WATANABE (Nihon University)
Paper ID:10037

The transformation of the Multistage Tensegric Arm that the tension gives to the unit

Yuto KISHIKAWA (Nihon University), Shuntaro SASAKI (Nihon University), Toru WATANABE (Nihon University)
Paper ID:10040

Development of automatic tomato-harvesting system using universal vacuum gripper and RGB-D camera

Kazuya OGUMA (National Institute of Technology, Nagaoka College), Shota HIGUCHI (University of Tsukuba), Fujio IKEDA (National Institute of Technology, Nagaoka College), Yuki MURAKAMI (National Institute of Technology, Nagaoka College), Shigehiro TOYAMA (National

Institute of Technology, Nagaoka College)

Paper ID:10050

Reference Input Design for Dual-mode Vibration Suppression Control in 2DOF Horizontal Robot Arm

Kazuma MIURA (The University of Mie), Shigeo KOTAKE (The University of Mie)

Paper ID:10056

Experimental Static Stability Analysis of a Tensegric Robot Arm by using Scaled Model

Wataru IINO (Graduate School of Science and Technology, Nihon University), Mitsuhiro YASUDA (Graduate School of Science and Technology, Nihon University), Toru WATANABE (Nihon University)

Paper ID:10071

Theoretical study on mechanical stability of tensegric manipulator

Shuntaro SASAKI (Graduate School of Science and Technology, Nihon University), Toru WATANABE (Nihon University)

Paper ID:10106

Vibration suppression effect in an electromagnetic levitation system for flexible steel plate: experimental consideration on levitation performance using sliding mode control

Kazuki OGAWA (Course of Science and Technology, Tokai University), Kohmei FUNADA (Department of Prime Mover Engineering, Tokai University), Takayoshi NARITA (Department of Prime Mover Engineering, Tokai University), Hideaki KATO (Department of Prime Mover Engineering, Tokai University)

Paper ID:10112

Development of an automatic lettuce harvester

Yuichi CHIDA (Shinshu University), Yutaka OKAMIYA (Shinshu University), Masayoshi TAMURA (Shinshu University), Yoshimasa TAKAHASHI (Shinshu University), Takumi USUI (Shinshu University), Tatsuya YOSHIMURA (Shinshu University), Tadao FUSHIKI (Shinshu University), Takayuki NAKAI (Shinshu University), Yoshinori NARISAWA (Shinshu University), Tomoyuki USAMI (Shinshu University), Takeshi NISHIZAWA (Shinshu University), Eiji NETSU (Shinshu University), Kazuhiko UEHARA (Shinshu University)

Paper ID: 10120

D. Human, Sports and Biological Systems (4 Papers)

Motion analysis for prevention of falling during human Sit-to-Stand Motion

Hayata SHIMIZU (Osaka Institute of Technology), Naoto IKEDA (Osaka Institute of Technology), Katsuyoshi TSUJITA (Osaka Institute of Technology)

Paper ID:10023

Personal balance modeling during standing on a moving board from force plate data

Motomichi SONOBE (Kochi University of Technology), Kazuki NARUTA (Kochi University of Technology)

Paper ID:10026

Finite element investigation of using cartilage plate with varying thickness in cartilage myringoplasty

Zhiqiang WU (The University of Shiga Prefecture), Kazuki KAMITANI (The University of Shiga Prefecture), Takashi TANAKA (The University of Shiga Prefecture), Yasunori OURA (The University of Shiga Prefecture)

Paper ID:10094

Mitigation of hand tremor using an active mass damper driven by an adaptive notch-filter based controller

Toshihiko KOMATSUZAKI (Institute of Science and Engineering, Kanazawa University), Satoshi HATANAKA (Institute of Science and Engineering, Kanazawa University), Masashi MATSUDA (Institute of Medical, Pharmaceutical and Health Sciences, Kanazawa University), Kaoru TADA (Institute of Medical, Pharmaceutical and Health Sciences, Kanazawa University)

Paper ID:10119

E. Aeronautical and Astronautical Systems (4 Papers)

An analysis of the mobility of a space exploration rover against variance of the gravity and movement speed

Ayana NAKAYAMA (Osaka Institute of Technology), Asumi NISHIMURA (Osaka Institute of Technology), Katsuyoshi TSUJITA (Osaka Institute of Technology)

Paper ID:10059

A study on estimation of spin motion of the decommissioned spacecraft using visual tracking

Kanta MIYAZAKI (Osaka Institute of Technology), Katsuyoshi TSUJITA (Osaka Institute of Technology)

Paper ID:10060

Vibration Suppression Control with Frequency Shaping for Mechanical Cooler of High Precision Observation Satellite

Shuhei SHIGETO (Japan Aerospace Exploration Agency, Tsukuba Space Center), Shinji MITANI (Japan Aerospace Exploration Agency, Tsukuba Space Center), Nobutaka BANDO (Japan Aerospace Exploration Agency, Institute of Space and Astronomical Science), Hiroshi FUJIMOTO (Department of Electronics and Electrical Engineering, The University of Tokyo), Tatsuaki HASHIMOTO (Japan Aerospace Exploration Agency, Institute of Space and Astronomical Science)
Paper ID:10084

Kite-Flying in High Altitude

Koju HIRAKI (Kyushu Institute of Technology), Ryosuke TAKEI (Kyushu Institute of Technology), Reo MURAHASHI (Kyushu Institute of Technology)
Paper ID:10109

F. Smart Structures and Smart Materials (10 Papers)

Robustness evaluation of structural vibration estimation by self-sensing harvester

Yushin HARA (Tohoku University), Kensuke SAITO (Tohoku University), Ikuya TAKAMOTO (Tohoku University), Li AN (Tohoku University), Kanjuro MAKIHARA (Tohoku University)
Paper ID:10001

Intellectual power generation by stand-alone active harvester with digital control unit

Yushin HARA (Tohoku university), Erina MORI (Tohoku university), Li AN (Tohoku university), Kanjuro MAKIHARA (Tohoku university)
Paper ID:10010

How to increase the diamagnetic magnetic force of HOPG

Tsunamasa FUNATSU (Techno System CO., LTD), Mochimitsu KOMORI (Kyushu Institute of Technology)
Paper ID:10015

Vibration suppression integrating semi-active control and model predictive control based on harmonic input

Ikuya TAKAMOTO (Department of Aerospace Engineering, Tohoku University), Mizuki ABE (Department of Aerospace Engineering, Tohoku University), Yushin HARA (Department of Aerospace Engineering, Tohoku University), Takeshi NAKAHARA (Department of Mechanical Engineering, Kyushu Sangyo University), Kanjuro MAKIHARA (Department of Aerospace Engineering, Tohoku University)
Paper ID:10019

Semi-active vibration suppression using skyhook-based control by a shear-type MR grease

damper

Shuto NAGAMATSU (Yokohama National University), Toshihiko SHIRAISHI (Yokohama National University)

Paper ID:10030

Detection of Contact-type Failure by Measurement of Structural Intensity of Low-frequency Vibration Caused by Frequency Down-conversion of Elastic Vibrations

Takashi TANAKA (University of Shiga Prefecture), Junnosuke ASANO (University of Shiga Prefecture), Yasunori OURA (University of Shiga Prefecture), Zhiqiang WU (University of Shiga Prefecture)

Paper ID:10036

Control of plantar height by an MR fluid brake for fall prevention of patients with walking disabilities

Kohei MORIMURA (Graduate School of Environment and Information Sciences, Yokohama National University), Rieko YAMAMOTO (Graduate School of Environment and Information Sciences, Yokohama National University), Toshihiko SHIRAISHI (Graduate School of Environment and Information Sciences, Yokohama National University)

Paper ID:10067

Frequency matching of the centrifugal distance for optimizing the rotating-frequency-range by stabilizing nonlinear oscillations

Yunshun ZHANG (The University of Tokyo), Xiaoqing SHI (Jiangsu University)

Paper ID:10087

Energy and Phase Space Analyses of Response Stabilization Control for Nonlinear Wideband Vibration Energy Harvesting

Natsuki ZAYASU (Division of Mechanodesign, Kyoto Institute of Technology), Arata MASUDA (Faculty of Mechanical Engineering, Kyoto Institute of Technology), Nanako MIURA (Faculty of Mechanical Engineering, Kyoto Institute of Technology)

Paper ID:10131

Structure optimization of an asymmetrically conical pendulum for energy harvesting

Yunshun ZHANG (Automobile Engineering Research Institute, Jiangsu University), Wanshu WANG (Automobile Engineering Research Institute, Jiangsu University)

Paper ID:10132

G. Control Devices, Sensors and Actuators (6 Papers)

Active seismic sensor using digital control system and optimal feedback controller

Tomohiro NARUSE (Graduate school of Science and Technology, Nihon University), Toru WATANABE (Department of Mechanical Engineering, College of Science and Technology, Nihon University), Kazuto SETO (Seto Chartered Engineer Office)

Paper ID:10008

Proposal of Accelerometer Using Zero-compliance Mechanism

Takeshi MIZUNO (Saitama University), Hiroki KAWADA (Saitama University), Yuji ISHINO (Saitama University), Masaya TAKASAKI (Saitama University)

Paper ID:10053

Improvement of Durability of Micro Tactile Sensor by Protection of Bonding-Wire with UV Curable Resin

Yuji TAKAHASHI (Niigata University), Takumi TAKAHASHI (Niigata University), Takashi ABE (Niigata University), Haruo NOMA (Ritsumeikan University), Masayuki SOHGAWA (Niigata University)

Paper ID:10072

Prototype of Cryogenic Pump Working in Liquid Nitrogen

Mochimitsu KOMORI (Kyushu Institute of Technology), Hirohisa KATO (Kyushu Institute of Technology), Ken-ichi ASAMI (Kyushu Institute of Technology), Nobuo SAKAI (Kyushu Institute of Technology)

Paper ID:10089

Development of Magnetic Bearing Considering Temperature Drift on Displacement Sensor at Low Temperature

Hirohisa KATO (Kyushu Institute of Technology), Mochimitsu KOMORI (Kyushu Institute of Technology), Ken-ichi ASAMI (Kyushu Institute of Technology), Nobuo SAKAI (Kyushu Institute of Technology)

Paper ID:10095

Analysis of Deflection Behavior of Microcantilevers Embedded in Elastomer for Miniature Tactile Sensor

Jun KIDO (Niigata University), Takashi ABE (Niigata University), Masayuki SOHGAWA (Niigata University)

Paper ID:10102

H. Sound and Acoustics (4 Papers)

Noise reduction performance of active noise control with barrier using theoretical control filter

Sanghyeon LEE (Department of Mechanical Engineering, KAIST), Youngjin PARK (Department of Mechanical Engineering, KAIST)

Paper ID:10022

Coupled vibration analysis of acoustic field including flexible structures

Keisuke YAMADA (Kansai University)

Paper ID:10062

Internal sound control for ultra-compact EV by using cowl, fundamental consideration on vibration characteristics of plate shaped part

Taro KATO (Course of Science and Technology, Tokai University), Hiroya NAKAYAMA (Course of Science and Technology, Tokai University), Hideaki KATO (Course of Science and Technology, Tokai University), Takayoshi NARITA (Tokai University)

Paper ID:10079

A study on interior sound design for ultra-compact EVs - fundamental consideration on quantitative evaluation by multi biological information for inside acoustic environment

Hiroya NAKAYAMA (Tokai University), Taro KATO (Tokai University), Hideaki KATO (Tokai University), Takayoshi NARITA (Tokai University)

Paper ID:10091

I. Energy Management and Eco Systems (2 Papers)

Maglev vertical axis wind turbine using attractive type passive magnetic bearings and its position control

Satoshi UENO (Ritsumeikan University), Yuki MIYARA (Ritsumeikan University), Kosuke OKAMURA (Ritsumeikan University), Changan JIANG (Ritsumeikan University)

Paper ID:10066

Development of an electrostatic induction energy harvester embedded in a mouthguard

Kenta ICHIKAWA (Tokyo Institute of Technology), Akira MATSUMOTO (Tokyo Institute of Technology), Wataru HIJIKATA (Tokyo Institute of Technology)

Paper ID:10082

J. Multibody Systems (4 Papers)

Flexible Multibody Dynamics Using Absolute Nodal Coordinate Formulation with Internal

Constraint Equation

Keisuke OTSUKA (Tohoku University), Shuonan DONG (Tohoku University), Shunsuke HIROTANI (Tohoku University), Ryo KUZUNO (Tohoku University), Kanjuro MAKIHARA (Tohoku University)

Paper ID:10003

Development of an efficient flexible dynamics model of a mobile crane with adaptive modal integration

Kolawach CHALERMPOONG (Department of Mechanical Engineering, Tokyo Institute of Technology), Kensuke HARA (Faculty of Engineering, Division of Systems Research, Yokohama National University), Hiroshi YAMAURA (Department of Mechanical Engineering, Tokyo Institute of Technology)

Paper ID:10039

Multibody Modeling Using Absolute Nodal Coordinate Plate Element for Deployable Aerospace Structures

Keisuke OTSUKA (Tohoku University), Shuonan DONG (Tohoku University), Shunsuke HIROTANI (Tohoku University), Ryo KUZUNO (Tohoku University), Kanjuro MAKIHARA (Tohoku University)

Paper ID:10052

Vibration Control of Stacker Cranes utilizing Dynamic Interaction between Motion and Vibration

Makoto IWAMURA (Fukuoka University), Toru ENDO (Fukuoka University), Yuta AKAHOSHI (Fukuoka University), Kosuke TABATA (Fukuoka University)

Paper ID:10117

K. Engineering Mechanics and Dynamics of Machinery (7 Papers)

Motion and Vibration Control for Suspended Stacker Crane Using Model Reference 2DOF

Takeshi MURAKAMI (MURATA MACHINERY, LTD), Koichi OSUKA (Osaka University)

Paper ID:10011

Design of single axis pedal vibration simulators for development of equivalent comfort contours

Junsun YOO (Department of Mechanical Engineering, Yonsei University), No-cheol PARK (Department of Mechanical Engineering, Yonsei University)

Paper ID:10044

Application of force reconstruction based on an improved Tikhonov regularization scheme

Yuqing QIU (Nanjing University of Aeronautics and Astronautics), Jinhao QIU (Nanjing University of Aeronautics and Astronautics), Hongli JI (Nanjing University of Aeronautics and Astronautics)

Paper ID:10047

The methodology of drop analysis for KORAD-21 spent fuel dry cask storage

Eunho LEE (Department of Mechanical Engineering, Yonsei university), Sang-jeong LEE (Department of Mechanical Engineering, Yonsei university), Changkyun LEE (Department of Mechanical Engineering, Yonsei university), No-cheol PARK (Department of Mechanical Engineering, Yonsei university)

Paper ID:10064

Response analysis of a system with a nonlinear spring under random excitation via complex fractional moment

Daizoh ITOH (Department of Systems and Control Engineering, Tokyo Institute of Technology), Takahiro TSUCHIDA (Department of Systems and Control Engineering, Tokyo Institute of Technology)

Paper ID:10080

Basic study on collision motion control of falling weight object by using carbon fiber reinforced plastic - fundamental consideration on energy absorption performance

Kohei NARIKAWA (Tokai University), Kento NISHIYAMA (Tokai University), Hideaki KATO (Tokai University), Takayoshi NARITA (Tokai University)

Paper ID:10090

A study on collision energy absorption control of fast moving object - experimental consideration on deformation characteristics of energy absorption member

Kento NISHIYAMA (Tokai University), Kohei NARIKAWA (Tokai University), Hideaki KATO (Tokai University), Takayoshi NARITA (Tokai University)

Paper ID:10092

L. Rotor Dynamics and Control (2 Papers)

The basic control model of an active foil bearing

Lukasz BRENKACZ (Institute of Fluid Flow Machinery, Polish Academy of Sciences), Natalia SZEWCZUK-KRYPA (Department of Ocean Engineering and Ship Technology, Gdansk University of Technology), Lukasz WITANOWSKI (Institute of Fluid Flow Machinery, Polish Academy of Sciences), Marta DROSINSKA-KOMOR (Department of Ocean Engineering and Ship Technology,

Gdansk University of Technology)

Paper ID:10033

On the effect of oil film characteristics in the starved bearing to subsynchronous vibration

Shojiro SUGIMURA (Graduate School of Mechanical Engineering, Nagoya University), Tsuyoshi INOUE (Graduate School of Mechanical Engineering, Nagoya University), Shota YABUI (Graduate School of Mechanical Engineering, Nagoya University)

Paper ID:10104

M. Electromagnetic Systems (7 Papers)

Control of magnetic suspension with elastic ferromagnetic substance for vibration isolation system

Yuji ISHINO (Saitama university), Takeshi MIZUNO (Saitama university), Masaya TAKASAKI (Saitama university)

Paper ID:10043

Nonlinear resonance-type electromagnetic vibration energy harvester excited by an impact ball

Naohiro SUGITA (Tokyo Institute of Technology), Makoto KINE (Tokyo Institute of Technology), Dong HAN (Tokyo Institute of Technology), Tadahiko SHINSHI (Tokyo Institute of Technology), Shogo KADOTA (TDK Corporation)

Paper ID:10065

Anti-Tilt and Zero-Power Control of A 3-DOF Magnetic Levitation System with HEMs

Chuan ZHAO (School of Mechanical Engineering, Shenyang University of Technology), Koichi OKA (Department of Intelligent Mechanics and Aerospace Control, Kochi University of Technology), Akinori HARADA (Department of Intelligent Mechanics and Aerospace Control, Kochi University of Technology), James LIN (Department of Intelligent Mechanics and Aerospace Control, Kochi University of Technology), Feng SUN (School of Mechanical Engineering, Shenyang University of Technology)

Paper ID:10070

Noncontact guide system for traveling continuous thin steel plate - fundamental consideration on control performance by positioning control in edge direction

Ryo NAKASUGA (Course of Science and Technology, Tokai University), Yasuhiro NARAWA (Course of Science and Technology, Tokai University), Sora ISHIHARA (Course of Science and Technology, Tokai University), Ryo YAMAGUCHI (Course of Science and Technology, Tokai University), Takayosi NARITA (Department of Prime Mover Engineering, Tokai University),

Hideaki KATO (Department of Prime Mover Engineering, Tokai University)

Paper ID:10098

Electromagnetic levitation transportation system using flexibility of thin steel plate, fundamental consideration on levitation performance

Atsuki SHIINA (Course of Mechanical Engineering, Tokai University), Muhammad Nur Hakimi Bin MOHAMAD KAMAL (Course of Mechanical Engineering, Tokai University), Kazuki OGAWA (Course of Mechanical Engineering, Tokai University), Takayoshi NARITA (Department of Prime Mover Engineering, Tokai University), Hideaki KATO (Department of Prime Mover Engineering, Tokai University)

Paper ID:10099

A study on dynamic performance of electromagnetically driven valve - basic consideration on thrust characteristics using electromagnetic field analysis

Ryo SUZUKI (Course of Mechanical Engineering, Tokai University), Yukinao SATO (Course of Mechanical Engineering, Tokai University), Kyosuke SUGAI (Course of Mechanical Engineering, Tokai University), Takayoshi NARITA (Department of Prime Mover Engineering, Tokai University), Hideaki KATO (Department of Prime Mover Engineering, Tokai University)

Paper ID:10101

Proposal of electrical energy harvester using Ring-shape magnets and FeCo magnetic core

Tomoo NAKAI (Industrial Technology Institute, Miyagi Prefectural Government)

Paper ID:10111

N. Control Theories and Control System Design (8 Papers)

Updating final-state control methods taking input constraints at final time into account

Shota TAKEUCHI (Nagoya University), Shun NAKAMURA (Nagoya University), Susumu HARA (Nagoya University), Kikuko MIYATA (Meijo University)

Paper ID:10032

Development of periodic error suppression control in six-degrees-freedom parallel link shaking table

Kento MATSUMOTO (Tokyo University of Agriculture and Technology), Hiroki MATSUDA (Tokyo University of Agriculture and Technology), Mineki OKAMOTO (National Institute of Technology, Kisarazu College), Ryo HOSODA (Solution Inc.), Tsuyoshi OMURA (Solution Inc.), Tetsuji OKADA (Central Research Institute of Electric Power Industry), Yasutaka TAGAWA (Tokyo University of Agriculture and Technology)

Paper ID:10048

Semi-active vibration control of structural systems based on linear approximation of switched linear system

Kaoru SATO (Graduate School of Niigata University), Kazuhiko HIRAMOTO (Niigata University)
Paper ID:10068

Semi-active vibration control for structural systems with a variable inertia damper

Issei YAMAZAKI (Sanwa Tekki Corporation), Kazuhiko HIRAMOTO (Niigata University)
Paper ID:10074

Active vibration control based on evaluation of response spectrum for adjusting to time variation of earthquake characteristic

Ryutaro UEDA (Kyoto Institute of Technology), Ukyo FUJIWARA (Kyoto Institute of Technology), Nanako MIURA (Kyoto Institute of Technology), Akira SONE (Kyoto Institute of Technology)
Paper ID:10078

Reinforcement learning based on backstepping approach for a wheeled mobile robot

Ikuya FUSE (Graduate School of Science and Technology, Niigata University), Ibuki MARUYAMA (Graduate School of Science and Technology, Niigata University), Makoto YOKOYAMA (Faculty of Engineering, Niigata University)
Paper ID:10113

Active seat suspension for ultra-compact vehicles - experimental consideration on vibration control system using feedback of acceleration

Ayato ENDO (Tokai University), Keigo IKEDA (Tokai University), Takahiro OHTA (Tokai University), Hideaki KATO (Tokai University), Takayoshi NARITA (Tokai University)
Paper ID:10116

An active steering system for motorcycles

Akari KUIDA (Graduate School of Science and Technology, Niigata University), Makoto YOKOYAMA (Faculty of Engineering, Niigata University),
Paper ID:10121

P. Other Topics related to Motion, Vibration and/or Control (12 Papers)

An Experimental Study of Stochastic Resonance Performance of Horizontal Large-Scale Bistable Model

Wei ZHAO (Weichai Global Axis Technology Co., Ltd), Rencheng ZHENG (Tianjin University), Xilu ZHAO (Saitama Institute of Technology), Kimihiko NAKANO (The University of Tokyo)
Paper ID:10012

Vibration control of seismically excited structures using an inerter system device

John BLANDON-VALENCIA (Department of Civil Engineering, Universidad Nacional de Colombia (Medellin)), Daniel CAICEDO (Department of Civil Engineering, Universidad Nacional de Colombia (Medellin)), Luis LARA-VALENCIA (Department of Civil Engineering, Universidad Nacional de Colombia (Medellin)), Yosef FARBIARZ-FARBIARZ (Department of Civil Engineering, Universidad Nacional de Colombia (Medellin))

Paper ID:10017

Vibration characteristics of carbon fiber reinforced composites fabricated by electrodeposition molding method

Hiraku TAKISAWA (Hokkaido University), Naoki HASHIMOTO (Hokkaido University), Shinya HONDA (Hokkaido University), Kazuaki KATAGIRI (Osaka Research Institute of Industrial Science and Technology), Katsuhiko SASAKI (Hokkaido University), Ryo TAKEDA (Hokkaido University)

Paper ID:10018

Effect of phase fluctuation and distance of smart gear on return loss of receiver antenna

Tung Thanh MAC (Kyoto Institute of Technology), Daisuke IBA (Kyoto Institute of Technology), Yusuke MATSUSHITA (Kyoto Institute of Technology), Seiya MUKAI (Kyoto Institute of Technology), Nanako MIURA (Kyoto Institute of Technology), Takashi IIZUKA (Kyoto Institute of Technology), Arata MASUDA (Kyoto Institute of Technology), Akira SONE (Kyoto Institute of Technology), Ichiro MORIWAKI (Kyoto Institute of Technology)

Paper ID:10020

Study on the Self-excited Vibration in Cylindrical Grinding Process

Yushi YAMAGUCHI (Yamagata University), Takimi ONODERA (Yamagata University), Mikael A. LANGTHJEM (Yamagata University), Tadashi KOSAWADA (Yamagata University)

Paper ID:10021

Vibration-based early detection of plastic gear faults using Fourier decomposition and deep learning

Kien Huy BUI (Kyoto Institute of Technology), Daisuke IBA (Kyoto Institute of Technology), Yusuke TSUTSUI (Kyoto Institute of Technology), Aoto KAJIHATA (Kyoto Institute of Technology), Yue LEI (Kyoto Institute of Technology), Nanako MIURA (Kyoto Institute of Technology), Takashi IIZUKA (Kyoto Institute of Technology), Arata MASUDA (Kyoto Institute of Technology), Akira SONE (Kyoto Institute of Technology), Ichiro MORIWAKI (Kyoto Institute of Technology)

Paper ID:10027

Vibration attenuation band transition in plate with different placements of 2D acoustic black

holes

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Paper ID:10029

Modification of Vibration Power Generation System utilizing Lever Mechanism

Masato ICHINOSE (Nihon University), Yoichiro UBE (Nihon University), Takumi NUMANO (Nihon University), Toru WATANABE (Nihon University)

Paper ID:10046

Parameter Estimation via Fokker-Planck Type Residual: Application to Linear Stationary Random Vibration

Katsutoshi YOSHIDA (Department of Mechanical Systems Engineering, Utsunomiya University), Yoshikazu YAMANAKA (Department of Mechanical Systems Engineering, Utsunomiya University)

Paper ID:10055

Acceleration and Spin Control System for In-Car Crib with Joint Application of Regular and Inverted Pendulum Mechanisms

Takeshi KAWASHIMA (Department of Mechanical Engineering, Kanagawa Institute of Technology), Hiroyuki MATSUI (Department of Mechanical Engineering, Graduate School of Engineering, Kanagawa Institute of Technology)

Paper ID:10077

Deep neural network can give contributions of input: a feasibility study of transfer path analysis

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Paper ID:10088

Design of an active mass damper to simultaneously mitigate seismic acceleration in superstructures and substructures of a mid-story isolation building

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