

Preliminary Program

Keynote Lectures

Tuesday 31st July 2018, 9 a.m.

Dynamic Model for Free Standing Fuel Racks under Seismic Excitation Considering Planar and Non-slide Rocking Motion

Shigehiko Kaneko

Wednesday 1st August 2018, 9 a.m.

Contact mechanics and friction processes in ultrasonic wire bonding - Basic theories and experimental investigations

Jörg Wallaschek

Thursday 2nd August 2018, 9 a.m.

Transient phenomena in vibro-impact and other strongly nonlinear systems

O.V. Gendelman

Friday 3rd August 2018, 9 a.m.

Self-excited oscillations in some mechanical systems Analysis, Control and Application

Hiroshi Yabuno

Monday 30th July 2018 – Afternoon Session

On Non-Smooth Multibody Systems

Friedrich Pfeiffer

Validation of unilateral impact models using numerical simulations, perturbation methods and experiments

Geraldo Francisco de Souza Rebouças, Jon Juel Thomsen, Ilmar Ferreira Santos

Suppression of the impact oscillations between a pantograph and an overhead rigid conductor line in a railway current collection system

K. Yamashita and N. Nishiyama

Functionally Graded Materials in Biological Systems with Impact Loading

Emanuel Willert

Elastic Multibody Simulations of Gear Drives with Contact using Higher Order Ansatz Functions

Lorin Kazaz, Pascal Ziegler, Christian Pfister, Peter Eberhard

Tuesday 31st July 2018 – Morning Session

Response Regimes and Vibration Mitigation in Equivalent Mechanical Model of Strongly Nonlinear Liquid Sloshing
Maor Farid, Oleg Gendelman

Dynamics of string lattices, vibrating near obstacles
Vladimir Astashev, Vitaly Krupenin

Autoresonant control of a parametrically excited vibro-impact screen machine
S. Abolfazl Zahedi, Vladimir Babitsky

Study on friction and wear in three-body systems with a limited number of abrasive particles
Kristin M. de Payrebrune, Driss Fares

Tuesday 31st July 2018 – Afternoon Session

Analytical analysis of the bifurcation behavior of creep groan
Xingwei Zhao; Nils Gräbner; Utz von Wagner; Hartmut Hetzler

On the effect of superimposed vibrations on systems with dry friction
Simon Kapelke, Wolfgang Seemann

On the Rectilinear Motion of a Two-body Limbless Crawler along an Inclined Plane
N. Bolotnik, P. Schorr, I. Zeidis, K. Zimmermann

Experimental investigation on friction vibration in toner fixing device
Yutaka Nakano, Takamasa Hase, Hiroki Takahara, Yuki Matsumura

Interaction between Vibration and Friction
Tadeusz Majewski, Dariusz Szwedowicz, Maciej Majewski

Rotor Vibrations when touching the Fixed and Floating System Elements
L.Ya. Banakh, L.I. Tyves

Periodic Limit Cycle of a Blade Forced against a Rigid Casing of a Turbomachine
Alessandra Vizzaccaro, Loic Salles, Caetano Peng

Wednesday 1st August 2018 – Morning Session

Auto-Resonant Excitation of Oscillations in Ultrasonic Technological Systems

V.K. Astashev, K.A.Pichugin, X.Li, A.Meadows, V.I.Babitsky

Ultrasonically assisted drilling of fine-grained marble

N.V. Mikhailova, P.Y. Onawumi, A. Roy, V.V. Silberschmidt

Ultrasonically assisted drilling of CFRP/Ti stacks

Peace Y Onawumi, Anish Roy, Vadim V Silberschmidt

Cutting ultra-thin bio-tissue sections in a hybrid microtome

D Wang, A Roy, VV Silberschmidt

Thursday 2nd August 2018 – Morning Session

Nonstationary resonant dynamics: new results and application

Leonid I. Manevitch

Internal resonances in vibration of microstructured solids: influence of dispersion and dissipation

Igor V. Andrianov, Bernd Markert, Vladyslav V. Danishevskyy

Analysis and control of localized excitations in coupled essentially nonlinear chains

Kovaleva M., Kislovsky V., Yacobi G., Starosvetsky Y.

Analysis of localized excitations of the ‘mass-in-mass’ chain in the state of acoustic vacuum

Rayzan N., Koroleva I., Kovaleva M., Starosvetsky Y.

Thursday 2nd August 2018 – Afternoon Session

Localised vibrations in non-smooth systems

Filipe Fontanela, Aurelien Grolet, Loic Salles, Norbert Hoffmann

Front propagation and localization phenomena in friction-excited nonlinear oscillators

Antonio Papangelo, Michele Ciavarella, Norbert Hoffmann

Stability and Bifurcation under the Influence of Joint Damping

Hartmut Hetzler

An Amplitude Adaptive Sequential Friction-Spring Add-On Damper

J. Aramendiz, A. Fidlin, K. Lei

On the Numerical Simulations of Amplitude Adaptive Impact-Dampers

T. Yuzbasioglu, J. Aramendiz, A. Fidlin

A Note on Switchable Vibration Absorber Concepts based on Magneto- or
Electrorheological Fluid Dampers

Aditya Suryadi Tan, Thomas Sattel, Jimmy Aramendiz, Alexander Fidlin

Synthesis of algorithms for optimal digital control of an active vibration protection platform

Rybak Larisa, Gaponenko Elena

Friday 3rd August 2018 – Morning Session

Experimental Modelling of Structural Dynamics by Spatial Matrix Identification with
Additional Constraints of Test Structure's Uniformity and Symmetry

Masaaki Okuma

A basic study toward the establishment of Weigh in Motion

Pham Xuan Tung, Masaaki Okuma, Mulyadi Bur, Zainal Abidin

A zero-thickness finite element approach to model contact interfaces for nonlinear
vibrations

L. Pesaresi, C. Wong, L. Salles

The Method of Dimensionality Reduction, a universal tool for simulation of dynamic
systems with contact and friction

Markus Heß, Valentin L. Popov