

CONTENTS

Special Section

- e139792 Dynamics of rotating machinery**
Horst Ecker and Rainer Nordmann, Tadeusz Burczyński and Tomasz Szolc
- e139791 Rotor dynamics — four open questions**
Jan Kiciński
- e139001 Analysis of dynamical behaviour of full-floating disk thrust bearings**
Steffen Nitzschke, Christian Ziese, Elmar Woschke
- e137988 Vibration control of rotors mounted in hydrodynamic bearings lubricated with magnetically sensitive oil by changing their load capacity**
Jaroslav Zapoměl, Petr Ferfecki
- e138998 Control system with a non-parametric predictive algorithm for a high-speed rotating machine with magnetic bearings**
Paulina Kurnyta-Mazurek, Tomasz Szolc, Maciej Henzel, Krzysztof Falkowski
- e138090 Active vibration control of a gyroscopic rotor using experimental modal analysis**
Jens Jungblut, Christian Fischer, Stephan Rinderknecht
- e139201 Transient simulation of a squeeze film damped turbocharger rotor under consideration of fluid inertia and cavitation**
Thomas Drapatow, Oliver Alber, Elmar Woschke
- e139615 Simulative investigation of rubber damper elements for planetary touch-down bearings**
Benedikt Schüßler, Timo Hopf, Stephan Rinderknecht
- e138237 Balancing of a linear elastic rotor-bearing system with arbitrarily distributed unbalance using the Numerical Assembly Technique**
Georg Quinz, Marcel S. Prem, Michael Klanner, Katrin Ellermann
- e138999 Quasi-analytical solutions for the whirling motion of multi-stepped rotors with arbitrarily distributed mass unbalance running in anisotropic linear bearings**
Michael Klanner, Marcel S. Prem, Katrin Ellermann
- e139790 Model-based initial residual unbalance identification for rotating machines in one and two planes using an iterative inverse approach**
Satish Bastakoti, Tuhin Choudhury, Risto Viitala, Emil Kurvinen, Jussi Sopenen
- e137987 Research on stability and sensitivity of the rotating machines with overhung rotors to lateral vibrations**
Tomasz Szolc, Robert Konowrocki
- e139000 A meshless method for subsonic stall flutter analysis of turbomachinery 3D blade cascade**
Chandra Shekhar Prasad, Pavel Šnábl, Luděk Pešek
- e139316 State-of-the-art rotordynamic analyses of pumps**
Frédéric Gaulard, Joachim Schmied, Andreas Fuchs

Control and Informatics

- e139390 Experimental verification of H_∞ control with examples of the movement of a wheeled robot**
Zenon Hendzel, Paweł Penar

Artificial and Computational Intelligence

- e138819 Multi-model hybrid ensemble weighted adaptive approach with decision level fusion for personalized affect recognition based on visual cues**
Nagesh Jadhav, Rekha Sugandhi
- e138820 Deep Learning based Tamil Parts of Speech (POS) Tagger**
S. Anbukkarasi, S. Varadhaganapathy
- e139391 Physics-guided neural networks (PGNNs) to solve differential equations for spatial analysis**
Bartłomiej Borzyszkowski, Karol Damaszkę, Jakub Romankiewicz, Marcin Świniarski, Marek Moszyński

Thermodynamics, Mechanical, Aeronautical Engineering and Robotics

- e139317 Numerical benchmarks for topology optimization of structures with stress constraints**
Grzegorz Fiuk, Mirosław W. Mrzygłód
- e138091 On elastic contact problems of micro-periodic slant layered composite pressed by a rigid punch with a parabolic or rectangular shape**
Piotr Sebastianiuk, Dariusz M. Perkowski, Roman Kulchytsky-Zhyhailo
- e138240 The implicit numerical method for the one-dimensional anomalous subdiffusion equation with a nonlinear source term**
Marek Błasik
- e139007 FLHex: a flapped-paddle hexapod for all-terrain amphibious locomotion**
Piotr Burzynski, Ashutosh Simha, Ülke Kotta, Ewa Pawluszewicz, Shivakumar Sastry
- e139205 Experimental studies and modeling of four-wheeled mobile robot motion taking into account wheel slippage**
Anna Jaskot, Bogdan Posiadała
- e138821 Wind tunnel tests of hovering propellers in the transition state of Quad-Plane**
Katarzyna Pobikrowska, Tomasz Goetzendorf-Grabowski
- e139004 New model of the sedimentation process of polydisperse post-coagulation suspension**
Mariusz Rząsa, Ewelina Łukasiewicz
- e139392 Integrated analytical-field design method of multi-disc magnetorheological clutches for automotive applications**
Krzysztof Kluszczyński, Zbigniew Pilch

Material Science and Nanotechnology

- e139203 Analysis of the OCHN3MFA steel in terms of cutting forces and cutting material flank wear mechanisms in hard turning processes**
Jozef Majerik, Igor Barényi, Zdenek Pokorný, Josef Sedlák, Vlastimil Neumann, David Dobrocký, Aleš Jaroš, Michal Krbaťa, Jaroslav Jambor, Roman Kusenda, Miroslav Sagan, Jiri Procházka
- e139389 Application of acoustic emission to the analysis of phase transformations in 27MnCrB5-2 steel tests during continuous cooling**
Andrzej Trafarski, Małgorzata Łazarska, Zbigniew Ranachowski
- e139319 Use of natural dyes for the fabrication of dye-sensitized solar cell: a review**
Cherry Bhargava, Pardeep Kumar Sharma
- e139005 Optimised magnetron sputtering method for the deposition of indium tin oxide layers**
Małgorzata Musztyfaga-Staszuk, Dušan Pudiš, Robert Socha, Katarzyna Gawlińska-Nęcek, Piotr Panek

Electronics, Telecommunication and Optoelectronics

- e139202 Operation of Fabry-Perot laser with nonlinear PT-symmetric mirror**
Agnieszka Mossakowska-Wyszyńska, Piotr Witoński, Paweł Szczepański

Civil Engineering

- e139204 Determining horizontal curvature of railway track axis in mobile satellite measurements**
Władysław Koc, Andrzej Wilk, Cezary Specht, Krzysztof Karwowski, Jacek Skibicki, Krzysztof Czaplewski, Sławomir Judek, Piotr Chrostowski, Jacek Szmagliński, Paweł Dąbrowski, Mariusz Specht, Sławomir Grulkowski, Roksana Licow

Power Systems and Power Electronics

- e139793 Selected aspects of wind and photovoltaic power plant operation and their cooperation**
Andrzej Lange, Marian Pasko, Dariusz Grabowski