

KEYNOTE LECTURES

Fíla T., et al. (#50): <i>High-Speed X-Ray Imaging Facilities for Impact Dynamics at Intermediate and High Strain Rates</i>	1
Janata V., et al. (#1): <i>Pre-Stressed Steel Structures, Design and Construction</i>	5
Minarčík J. (#42): <i>Applications of Geometric Flows</i>	13

PAPERS

Adamec T., Kondepati S. K., Petruška J., Šebek F. (#41): <i>Prediction of Uniaxial and Biaxial Ratcheting by the Chaboche Model With Evolution for 304 Stainless Steel</i>	21
Aleksandrowicz P., Drożdziel P. (#36): <i>Selected Problems of Modelling of Vehicle Collision With a Pole</i>	25
Bartůšek P., Jandera M., Cábová K., Feber N. (#43): <i>Test of Eccentrically Connected Gusset Plates in Compression</i>	29
Bayer J., Urushadze S. (#16): <i>Results of a Comparative Damage Detection Case Study</i>	33
Benčat J., Lukáč M. (#37): <i>Hydrotechnical Structures Dynamic Response Due to Turbulent Water Waves</i>	37
Cábová K., et al. (#33): <i>Induction Heating System for Tensile Coupon Tests</i>	41
Čech V. (#27): <i>PID Controller Fast Tuning Method</i>	45
Čečrdle J., Malínek P., Vích O. (#6): <i>Experimental Investigation Into Whirl Flutter Using W-Wing Aeroelastic Demonstrator in 2024</i>	49
Chudý D., Jegla Z. (#28): <i>Computer-Aided Analysis of Innovative Thermal Enhancement Elements for Industrial Boilers</i>	53
Ciganas J., Cigane U. (#25): <i>Finite Element Analysis of a Modular Piezoelectric Micropump Design</i>	57
Cimrman R. (#31): <i>Implementation of Block Preconditioners for Piezoelasticity in SfePy</i>	61
Daxner J., et al. (#21): <i>Industrial Validation of Developed Equipment for Identifying the Fouling Capabilities of Gaseous Waste Heat-Usable Process Streams</i>	65
Duda D., et al. (#20): <i>Experimental Exploration of Quasi-2D Turbulence Clamped by Boundary Layers</i>	69
Fischer C., Náprstek J. (#58): <i>FEM-Based Modeling of Generalized Amplitudes in Stochastic Van Der Pol Systems</i>	73
Hálková B., Schmidt J., Šejnoha M. (#52): <i>Numerical Approach to Describe Fractional Viscoelasticity</i>	77
Isoz M., et al. (#32): <i>On Model Order Reduction in Simulations of Laser Shock Peening</i>	81
Kolář D. (#23): <i>Comparison of the Efficiency of Selected Hydraulic Sources</i>	85
Korczak A. (#17): <i>Application of the Finite Pointset Method in Solving Dual-Phase Lag Equation</i> ..	89
Krejsa J., Věchet S. (#49): <i>Robotic Sewer Pipe Mapping Concept – Simplified 2D Case Preliminary Study</i>	93
Kubíčková L., et al. (#30): <i>Effects of Obstacles on QCM Biosensor Efficiency: A Parametric Study</i> ..	97

Kylar J., Dvořák R., Kolman R., Kober J. (#34): <i>Experimental Study of Elastic Wave Propagation in Metallic Multimaterial Specimens Made by Additive Manufacturing</i>	101
Ledvinková B., Hračov S., Macháček M. (#48): <i>Influence of Blockage Effect and of Turbulence Intensity on the Flow Around U-Profile</i>	105
Liss M., Kałaczyński T., Łukasiewicz M. (#11): <i>Noise Characteristics of the Inogen One G2 Oxygen Concentrator in Different Operating Modes</i>	109
Lu Q., Novák D. (#13): <i>Stochastic Sensitivity Analysis of Nonlinear Crack Detection Using Quadratic Teager-Kaiser Energy</i>	113
Macháček M., Hračov S., Dejmál K. (#61): <i>Aerodynamic Coefficients and Pressure Distribution on U-Beams With Porous Flanges</i>	117
Menshikh M., Bartuli E., Kalivoda J., Kučerík J. (#38): <i>Design of Hollow Fiber Membrane Module for Membrane Distillation</i>	121
Michálek P., Hračov S., Macháček M. (#57): <i>Application of Blockage Corrections to U-Beams With Porous Railings</i>	125
Michálková A., et al. (#26): <i>Development of a System Approach for Adaptation of Current and Design of New Combustion Equipment for Low-Carbon and Sustainable Energy</i>	129
Mucha W., Kuś W., Jiregna I.T. (#15): <i>Numerical Optimization of Strain Sensor Placement for Load Monitoring in 2D Structures</i>	133
Náprstek J., Fischer C. (#59): <i>Numerical Simulation of Transient Aeroelastic Phenomena Influenced by Stochastic Resonance in Cross Flow Conditions</i>	137
Němeček J., Němečková J., Němeček J. (#40): <i>Viscoelasticity of PMMA Studied by Nanoindentation</i>	141
Ondrášek J., Bílkovský A. (#39): <i>Influence of Conjugate Cam Pair Reliefs on Indexing Gearbox Operation</i>	145
Pařez J., Kovář P., Valášek M. (#8): <i>Hybrid Propulsion System Performance Modeling for Regional Turboprop Aircraft</i>	149
Pavlas J., Kovářík O., Slavík S., Růžička M. (#51): <i>Progressive Fatigue Testing Methods of Aircraft Turbine Engine Blade Materials</i>	153
Pavlenko M. V. (#9): <i>Features of Vibration Technology in the Preparation of a Low-Permeability Gas-Bearing Coal Seam for Its Safe Preparation</i>	157
Polach P., Bělohoubek M., Lazar J. (#18): <i>Mobile Hydrogen Refueling Station and Calculation Support for Determining Optimal Refueling Parameters</i>	161
Radolf V., Košina J., Horáček J. (#24): <i>Experimental Modelling of the Influence of Vocal Folds Stiffness on Acoustic Response Spectra of the Human Vocal Tract</i>	165
Raisinger J., Novák L., Eliáš J. (#29): <i>Data-Driven Prediction of Stress Response for Inelastic Discrete RVE</i>	169
Rušarová S., Šejna J., Cábová K. (#56): <i>Charring Rate of Wood and Development of Cracks in the Charred Layer</i>	173
Sann S., Tomeh E. (#7): <i>Bearing Fault Detection of Automotive Gearbox Using Order Analysis</i>	177
Shehadeh M. A. (#54): <i>Simulation-In-The-Loop Optimization of Obstacle-Aided Locomotion in Snake-Like Robots</i>	181
Sláma P., Prokop P., Jančík P. (#35): <i>Heat Accumulator, Using PCM Materials, in a Smaller Central Heating System</i>	185
Słomion M., Koczorowski W., Mazurkiewicz A., Wawroń W. (#60): <i>Surface Morphology of Orthodontic Bracket Slots and Its Clinical Significance: A Review of SEM and EDS Results</i>	189
Sokol M., Mazáček K., Venglar M., Crespo-Sanchez S. (#53): <i>Digital Twin of Industrial Building for Tuned Mass Damper Appropriate Design</i>	193
Štorkán J., Vampola T. (#44): <i>Influence of Steady Flow on the Position of Resonant Frequencies of Human Voice</i>	197
Studeník O., Kotouč Šourek M., Kočí P., Isoz M. (#46): <i>On DEM Contact Model for Non-Spherical Solids but Consistent With Hertz Model for Spheres</i>	201

Sudhakar A., Čepica D., Trefil A. (#45): <i>Comparison of Analytical and Experimental Approaches for Modified Von Mises Truss Behaviour</i>	205
Věchet S., Krejsa J., Chen K. S. (#3): <i>Stable Walking for Bipedal Robots Using PPO</i>	209
Zabloudil J., Jegla Z. (#22): <i>Fly Ash Fouling Influence on Grate Combustion Chamber Thermal Calculation</i>	213
Zanganeh B., et al. (#47): <i>Modal Analysis of Cranium via Experimental and Numerical Approaches</i>	217
Zbončák R. (#10): <i>Modal Analysis of Hybrid 'Steel–Composite' Disc of the Indexing Gearbox Turret Follower</i>	221