Research Articles in Volume 23 No. 1 2019 of Mechanics and Mechanica Engineering

Sensitivity Analysis of Internally Reinforced Thin-Walled Hollow-Box Beams Subjected to Uncoupled Bending and Torsion By: Hugo Miguel Silva and Jerzy Wojewoda Pages: 1-8 Effect of Inerter in Traditional and Variant Dynamic Vibration Absorbers for One Degree-of-Freedom Systems Subjected to Base Excitations By: Dheepakram Laxmimala Barathwaaj, Sujay Yegateela, Vivek Vardhan, Vignesh Suresh and Devarajan Kaliyannan Pages: 9-16 Experimental and Numerical Investigations of Pipeline with Resonator By: Tomasz Pałczyński and K. Kantyka Pages: 17-22 Theoretical Investigation on Growth Kinetics and Thermodynamic Properties of Pyridine-2-Carboxylic Acid Crystals By: N. Manopradha, S. Rama, S. Gowri, K. Kirubavathi and K. Selvaraju Pages: 23-27 An Analysis and Modeling of the Dynamic Stability of the Cutting Process Against Self-Excited Vibration By: A. Motallebia, A. Doniavi and Y. Sahebi Pages: 28-35 Resonance of Nanoscale Beam due to Various Sources in Modified Couple Stress Thermoelastic Diffusion with Phase Lags By: Rajneesh Kumar, Shaloo Devi and Veena Sharma Pages: 36-49 Modeling the inspection robot with magnetic pressure pad By: Krzysztof Kurc, Andrzej Burghardt, Dariusz Szybicki and Józef Giergiel Pages: 50-58 Investigation of mechanical behavior of friction stir welded joints of AA6063 with AA5083 aluminum alloys By: S. Dharani Kumar and S. Sendhil Kumar Pages: 59-63 Optimization of the Process Parameters of Resistance Spot Welding of AISI 316I Sheets Using Taguchi Method By: P. Muthu Pages: 64-69 Case study on the effectiveness of condition monitoring techniques for fault diagnosis of pumps in thermal power plant By: Caneon Kurien and Ajay Kumar Srivastava Pages: 70-75 Response of thermoelastic microbeam with double porosity structure due to pulsed laser heating By: Rajneesh Kumar and Richa Vohra Pages: 76-85 Mathematical study of Rayleigh waves in piezoelectric microstretch thermoelastic medium By: Arvind Kumar, S. M. Abo-Dahab and Praveen Ailawalia Pages: 86-93 Studying of movement kinematics of dynamically active sieve By: Dmitry Popolov, Sergey Shved, Igor Zaselskiy and Igor Pelykh Pages: 94-97 Experimental Investigation of Drilling Small Hole on Duplex Stainless Steel (SS 2205) Using EDM

By: S. Rajaram, G. Rajkumar, R. Balasundaram and D. Srinivasan Pages: 98–102

Elastodynamical disturbances due to laser irradiation in a microstretch thermoelastic medium with microtemperatures

By: Arvind Kumar and Devinder Singh Pages: 103–112

- A Comparative Analysis of Artificial Intelligence-Based Methods for Fault Diagnosis of Mechanical Systems By: Reihaneh Kardehi Moghaddam and Navid Moshtaghi Yazdan Pages: 113–124
- Numerical study of cracking a medium elastic viscoplastique of polyacetal By: Sid Ahmed Reffas, Mohamed Benguidiab, Ondrej Sikula, Houari Adjlout and Habib Lebbal Pages: 125–129
- Enhancing the fuel economy of a plug-in series hybrid vehicle system By: Hussein Awad Kurdi Saad Pages: 130–137
- Electrohydrodynamic Instability of a Rotating Walters' (model B') Fluid in a Porous Medium: Brinkman model By: G. C. Rana, R. Chand and Veena Sharma Pages: 138–143
- Numerical analysis of the thermal behavior of building integrated hybrid solar wall

By: Djelaili Abdelbaki and Korti Abdel Ilah Nabil Pages: 144–149

- Numerical study of the thermal and hydraulic performances of heat sink made of wavy fins By: R. Bouchenafa and H. A. Mohammed
 - Pages: 150-161
- Mode frequency analysis of antisymmetric angle-ply laminated composite stiffened hypar shell with cutout By: Puja Basu Chaudhuri, Anirban Mitra and Sarmila Sahoo Pages: 162–171
- Turning operation of AISI 4340 steel in flooded, near-dry and dry conditions: a comparative study on tool-work interface temperature

By: Milon Selvam Dennison, Sivaram N M, Debabrata Barik and Senthil Ponnusamy Pages: 172–182

- Experimental and Numerical Study of Bead Welding Behavior of HDPE Pipe Under Uniaxial Loading By: Azzeddine Belaziz and Mohamed Mazari Pages: 183–191
- Shear buckling of steel foam sandwich panel resting on Pasternak foundation By: Ebrahim Nazarimofrad and Mehdi Barang
- Pages: 192–197 **Tribological Behavior of AA7050-ZrSiO4 Composites Synthesized by Stir Casting Technique** By: S. Sakthivelu, M. Meignanamoorthy, M. Ravichandran and P. P. Sethusundaram Pages: 198–201
- Stress and Deformation Analysis of Clamped Functionally graded Rotating Disks with Variable Thickness By: Amit K. Thawait, Lakshman Sondhi, Shubhashis Sanyal and Shubhankar Bhowmick Pages: 202–211
- Experimental Evaluation of Al-Zn-Al2O3 Composite on Piston Analysis by CAE Tools By: B. Radha Krishnan and M. Ramesh Pages: 212–217
- Experimental study on mechanical behavior of natural hybrid composites filled with ground nut shell ash By: V. Jagadeesh, K. Venkatasubbaiah and A. Lakshumu Naidu Pages: 218–227
- Finite element model updating using Lagrange interpolation

By: F. Asma Pages: 228–232 A thermoelastic microelongated layer immersed in an infinite fluid and subjected to laser pulse heating By: Praveen Ailawalia and Amit Singla Pages: 233–240

Vibration analysis of functionally graded tapered rotor shaft system

By: Abdelhak Elhannani, Kaddour Refassi, Abbes Elmeiche and Mohamed Bouamama Pages: 241–245

- A Detailed Study of Row-Trenched Holes at the Combustor Exit on Film-Cooling Effectiveness By: Ehsan Kianpour and Nor Azwadi Che Sidik Pages: 246–252
- Investigation of the effect of thermal stress on the interface damage of hybrid biocomposite materials By: Salima Sadat, Allel Mokaddem, Bendouma Doumi, Mohamed Berber and Ahmed Boutaous Pages: 253–258
- Experimental Investigation of a Centrifugal Pump Hydraulic Performance in Hydraulic Transmission of Solids By: Reza Barmaki and Mir Biyouk Ehghaghi Pages: 259–270

Application of Genetic Algorithm Technique for Machining Parameters Optimization in Drilling of Stainless Steel

By: T. Deepan Bharathi Kannan, B. Suresh Kumar, G. Rajesh Kannan, M. Umar and Mohammad Chand Khan Pages: 271–276

Load-carrying capacity of the GFRP and CFRP composite beams subjected to three-point bending test – numerical investigations

By: Dominik Banat Pages: 277–286

Numerical Validation of Drilling of Al6061-T6 with Experimental Data

By: Prashant Elango and K. Prakash Marimuthu Pages: 287–290

Development of a cryogenic condenser and computation of its heat transfer efficiency based on liquefaction of nitrogen gas

By: Debajyoti R. Chowdhury, Nathuram Chakraborty and Swapan C. Sarkar Pages: 291–296

Finite element simulation and experimental validation of the effect of tool wear on cutting forces in turning operation

By: S. Sai Venkatesh, T. A. Ram Kumar, A. P. Blalakumhren, M. Saimurugan and K. Prakash Marimuthu Pages: 297–302