

# Contents

<b>Multi-criteria Robot Selection Problem for an Automated Single-Sided Lapping System</b> . . . . .	1
Norbert Piotrowski and Adam Barylski	
<b>Mechatronic Design Towards Investigation of the Temporo-Mandibular Joint Behaviour</b> . . . . .	15
Victor Creuillot, Cynthia Dreistadt, Krzysztof J. Kaliński and Paul Lipinski	
<b>Requirements for Tire Models of the Lightweight Wheeled Mobile Robots</b> . . . . .	33
Przemysław Dąbek and Maciej Trojnacki	
<b>Simulations of Accelerations and Velocities of the Robot's Arm</b> . . . . .	53
Krzysztof Dąbrowski	
<b>The Numerical Analysis of Burnishing Process of Hollow Steel Tubes</b> . . . . .	65
Tomasz Dyl	
<b>Piecewise Control Method of Oxygen Flow in PEM Fuel Cell</b> . . . . .	77
Jerzy Garus and Adam Polak	
<b>Testing the Piezoelectric Energy Harvester's Deflection on the Amount of Generated Energy</b> . . . . .	95
Dariusz Jasiulek	
<b>Analysis of Crash Computation on a Basis of the Principle of Linear Momentum and Kinetic Energy</b> . . . . .	113
Krzysztof J. Kaliński, Marek Chodnicki, Barbara Kowalska and Piotr Kmita	

<b>Modeling and Simulation of the Solar Collector Using Different Approaches . . . . .</b>	<b>131</b>
Kazimierz Kamiński and Tomasz Krzyżyński	
<b>Uncertainty Analysis of Innovative Method for Wheel Load Measurements. . . . .</b>	<b>153</b>
Michał Kluziewicz and Michał Maniowski	
<b>Designing the 40 kHz Piezoelectric Sandwich Type Ultrasonic Transducer. . . . .</b>	<b>173</b>
Paweł Kogut, Andrzej Milewski, Piotr Kluk and Witold Kardys	
<b>Development of an Electronic Stethoscope . . . . .</b>	<b>189</b>
Olga Szymanowska, Bartłomiej Zagrodny, Michał Ludwicki and Jan Awrejcewicz	
<b>Determination of Forces and Moments of Force Transmitted by the Wheel of a Mobile Robot During Motion. . . . .</b>	<b>205</b>
Maciej Trojnacki	
<b>Comparative Study of Maintenance Vehicles Using Vibration Analysis . . . . .</b>	<b>219</b>
Ovidiu Ioan Vulcu and Mariana Arghir	
<b>Correction of the Influence of not Ideal Geometric Profile on the Constant of Primary Cell . . . . .</b>	<b>239</b>
Aleksander A. Mikhal, Zygmunt L. Warsza and Vladimir G. Gavrylkin	
<b>Modeling and Analysis of the Hydraulic Servo Drive System . . . . .</b>	<b>253</b>
Piotr Woś and Ryszard Dindorf	
<b>Stereoscopic Technique for a Motion Parameter Determination of Remotely Operated Vehicles . . . . .</b>	<b>263</b>
Bogdan Żak and Stanisław Hożyń	
<b>Author Index . . . . .</b>	<b>285</b>

Mechatronics: Ideas, Challenges, Solutions and  
Applications

Awrejcewicz, J.; Kaliński, K.J.; Szewczyk, R.; Kaliczyńska, M.  
(Eds.)

2016, X, 285 p. 191 illus., 75 illus. in color., Softcover

ISBN: 978-3-319-26885-9