Table of Contents

Preface

Chapter 1: Research and Development of Manufacturing Processes and Systems

Investigation of Efficiency of Use of High-Temperature Greases in Steel Rolling - Part 1 A.P. Avdeenko, M. Lutovac, S.A. Konovalova and M.V. Fedorynov	3
Investigation of Efficiency of Use of High-Temperature Greases in Steel Rolling - Part 2 A.P. Avdeenko, M. Lutovac, S.A. Konovalova and M.V. Fedorynov	10
Substantiation of the Operational Parameters of the Sandwich Belt High Angle Conveyors with due Regard for Strain Deformed State of Belts	1.6
V.I. Galkin and E.E. Sheshko	16
Research on the Influence of Dynamic Load on Suspended Monorail V. Gutarevych, N. Vodolaskaya, E. Jakupović and D. Mirjanić	23
Pipes Life Prolonging Possibility in Boilers Fired up by Municipal Waste V. Marušić, S. Kovalevskyy, I. Samardžić, I. Opačak and L. Marušić	30
Experimental Research on Technological Parameters Optimization of Natural Gases M.A. îu, C. Purcar and V. Făgărăan	40
Designing Technological Procedure of Cylinder Assembly Mounting Using IDEF Standard Z. Nikolić, D. Savić, M. Nikolić and M. Nikolić	48
One Approach to the Development of Plant Voždovac Database Z. Nikolić, P. Dašić, D. Jocić and M. Nikolić	56
Application of Intelligent Technological Systems in Order to Increase Efficiency of the Lock Chamber System in Hydro Power Plants	<i>C</i> A
A. Vujović, Z. Krivokapić and J. Jovanović	64
Energy Use Thermal Mixture for Engineering Product Lifecycle S. Kovalevskyy, I. Starodubcev, M. Tarić and Ž. Džubur	74
Charles 2. Table For the Make the address Table date.	
Chapter 2: Tools, Equipments, Materials and Processing Technologies in Mechanical Engineering	
in Mechanical Engineering Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser	0.2
in Mechanical Engineering Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova	83
In Mechanical Engineering Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with	83
in Mechanical Engineering Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova	83 88
In Mechanical Engineering Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics	
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevskyy, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄	88 94
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevskyy, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄ V.V. Kuzin, M. Fedorov, P. Dašić and M. Portnoy	88
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevskyy, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄ V.V. Kuzin, M. Fedorov, P. Dašić and M. Portnoy Numerical Investigation of Thermal Stresses in Surface Layer of Si ₃ N ₄ Ceramics in Laser Processing	88 94 99
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevskyy, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄ V.V. Kuzin, M. Fedorov, P. Dašić and M. Portnoy Numerical Investigation of Thermal Stresses in Surface Layer of Si ₃ N ₄ Ceramics in Laser Processing V.V. Kuzin, S. Fedorov, P. Dašić and M. Portnoy	88 94
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevskyy, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄ V.V. Kuzin, M. Fedorov, P. Dašić and M. Portnoy Numerical Investigation of Thermal Stresses in Surface Layer of Si ₃ N ₄ Ceramics in Laser Processing	88 94 99
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevsky, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄ V.V. Kuzin, M. Fedorov, P. Dašić and M. Portnoy Numerical Investigation of Thermal Stresses in Surface Layer of Si ₃ N ₄ Ceramics in Laser Processing V.V. Kuzin, S. Fedorov, P. Dašić and M. Portnoy Antifriction Plastic Greases Based on Intermediate Products of Oil Refining and Liquid Crystalline Compounds	88 94 99 104
Particularity of the Forming Barcode Image on the Surface of Machine Parts when Marking with a Pulsed Laser O. Ganzulenko and A. Petkova Applications of Neural Networks for Exactness of Treatment on Machine-Tools with Parallel Kinematics S. Kovalevskyy, O. Kovalevska, M. Lutovac, R. Cvejić and V. Šerifi Effectiveness Rising of Wheel-Pairs Renewal by Cup-Tip Cassette Tool V. Kovalov, V. Guzenko, P. Dašić and I. Polupan Modelling of Influence of Intensive Heat Flow on Stress Inhomogeneity in Ceramic System TiC-Y ₂ O ₃ -Si ₃ N ₄ V.V. Kuzin, M. Fedorov, P. Dašić and M. Portnoy Numerical Investigation of Thermal Stresses in Surface Layer of Si ₃ N ₄ Ceramics in Laser Processing V.V. Kuzin, S. Fedorov, P. Dašić and M. Portnoy Antifriction Plastic Greases Based on Intermediate Products of Oil Refining and Liquid Crystalline Compounds S. Ermakov, A. Bogdanov, V. Mulyarchik, V. Konstantinov and V. Danishevskii Overview of Sustainable Cementitious Composites Properties with Added Recycled Rubber	88 94 99 104 109

Development of Coatings Based on Modified Epoxide Binder for Metal Surface Protection E.F. Kudina, N.S. Vinidiktova, V. Jevremović and R. Nikolić	135
Improvement of Plate's Shape for Ingots Upsetting O.E. Markov, N.A. Rudenko, I.A. Grachov, A. Ristovski and V. Radojičić	141
Applying of the Functional Approach to Obtaining Blind and through Cuts in the Workpieces of Hard and Superhard Sintered Materials by Jet Methods O. Salenko, O. Mana, S. Shkel, V. Nikitin and Y. Myronov	151
Sound-Absorbing Composites Based on Flax and Polymer Fibers N.V. Yakimovich, S.N. Bukharov, V.V. Kozhushko, A.S. Khmara and V.P. Sergienko	161
Chapter 3: Engineering Practice of Research and Design in Mechanical Engineering	
3D Computer Systems Supporting Modeling of Lower Limb Orthoses G. Bogusławski	169
Reliability Analysis of the Hydro-System of Excavator SchRs 800 Using Weibull Distribution	1.72
P. Dašić, M. Živković and M. Karić The Calculation of Force Effects of a Conveyor Belt of the Pipe Conveyor to Forming Rollers by FEM	173
G. Fedorko, V. Molnár, P. Michalik, N. Husáková, I. Ristović and P. Kačmáry Behavior Diagnostics of Bucket Wheel Support Structure Using Finite Elements Method:	181
Optimization of Structures P. Jovančić, D. Medenica, V. Milisavljević and I. Ristović	187
Small Wind Turbine Rotor Design B. Kegl and S. Pehan	197
Optimal Design of HFC Solar Plant by Using Phase Change Material for Heat Storage T. Kegl	203
Modal Analysis of a Small Savonius Aerogenerator by Using SolidWorks Simulation C. Khelifi, M. Ouali, F. Ferroudji and L. Adjlout	214
Bionics - Natural but Innovative Methods Improve the Aeroacoustic Engineering J.M. Kopania	222
Efficient Velomobile Design S. Pehan and B. Kegl	232
Frictional Torque Behavior in Actively-Closed Actuated Dry Clutch: The Temperature Influence	240
A. Senatore, M. Pisaturo and P. Dašić A Comprehensive Bibliometric Analysis for Category "Thermodynamics" within SCI-E - Part 5: Analysis of II, CHL and CngHL	240
P. Dašić and M. Karić A Comprehensive Bibliometric Analysis for Category "Thermodynamics" within SCI-E -	249
Part 6: Analysis of EF and AI P. Dašić and M. Karić	258
Chapter 4: Management in Mechanical Engineering	
The Analysis of Foreign Trade of Metal-Processing Industry in Serbia R. Cvejić, R. Lojaničić, N. Ivannikov, K. Radoman and N. Lutovac	273
The Role of the Noise Maps for the Noise Management in the Cities M. Kazimierska-Grębosz and R. Grądzki	280
Time Series Analysis of New Cars Sale in Bosnia and Herzegovina E. Jakupović, V. Stojanović, S. Jakupović and D. Trnavac	287
New Organizational Structures in Machine Industry Companies D. Riznić, R. Nikolić, A. Fedajev and G. Stojanović	294
Importance and Role of Internal Communication in Organizations M.I. Stevanović and A.M. Gmitrović	302