

Table of Contents

Committees

Preface

Laser Milling of Al₂O₃ Ceramic Based on Deteriorative Layer Controlled X.Y. Wang, W.J. Xu, M.K. Lei and D.M. Guo	1
Pressure and Microstructural Change with Web to Flange Ratio and Die Land Length in Cold Extrusion of I-Shaped Lead Alloy J.S. Ajiboye, S.A. Balogun, A.T. Agboola and G.J. Eke	7
Effect of Severe Plastic Deformation on Mechanical Properties of Fe-Ni-Mn High Strength Steel H. Shirazi, M. Nili-Ahmadabadi, A. Fatehi and S. Hossein Nedjad	16
Development of a Starch-Based Binder in Metal Injection Molding N. Muhamad and H. Abolhasani	24
An Investigation on Continuous Steel Slabs Casting Line and Mechanical Design of a 3R Robot for Sampling from Melting Arc Furnaces E. Soltani	31
Production of Nano Leaded Brass Alloy by Oxide Materials I. Farahbakhsh, S.H. Tabaian and J. Vahdati	36
Wear Behavior of White Layer in Plasma Nitrided H13 Steel at Ambient and Elevated Temperatures A. Mahmoudi and M. Esmailian	41
Milling of Carbon Fiber Reinforced Plastics L.N. López de Lacalle and A. Lamikiz	49
Preheating in End Milling of AISI D2 Hardened Steel with Coated Carbide Inserts M.A. Lajis, A.K.M. Nurul Amin, A.N.M. Karim and A.M.K. Hafiz	56
Investigation of the Formability of Flanged Parts of Magnesium Alloy under Hot Forging Process H.L. Ho, S.H. Hsiang and Z.Y. Huang	67
Molding Analysis of Multi-Cavity Aspheric Lens and Mold Designing J.C. Lin and K.S. Lee	77
Warm-Forming of Light-Weight Alloys under Multi-Stage Forming Process C.P. Lai, L.C. Chan, C.L. Chow and K.M. Yu	88
Incremental Forming of Multislope Shaped Components G. Ambrogio, A. Cossari, L. Filice and G.L. Manco	94
Friction and Bitten Condition in Cold Ring Rolling Z.J. Zuo, J.J. Yang and W.X. Yu	101
Optimization of Short Stroke Control Curve in Hot Strip Mill by FEM Modelling X.Z. Du, Q. Yang, C. Lu, H.T. Zhu and A.K. Tieu	106
A New Punch Profile Design for Orbital Forging of a Bevel Gear Part J.J. Sheu and M.S. He	113
Influence of Forming Residual Stresses on the Welding Distortions of Two Thick Plates S. Gallée, A. Martin, V. Robin and D. Nelias	125
Study of Forming Parameters in Hydroforming of a Thin-Walled ASTM C11000 Copper Tube S.M.H. Seyedkashi, G.H. Liaghat, H.M. Naeini and M. Hoseinpour Gollo	133
Near Net Shape Forging of CV Joint Outer Race M.M. Mohammadi and M.H. Sadeghi	143
Simulation and Physical Modeling of Forging Sequence of Bj Type Outer Race M.M. Mohammadi and M.H. Sadeghi	150
Numerical Simulation of Superalloy IN718 during Tube Hot Extrusion C.Y. Sun and Q.D. Zhang	157
Temperature Changes with Die Profile in Axisymmetric Forward Extrusion Process J.S. Ajiboye and M.B. Adeyemi	165
Effect of Mold Surface Topography on Uneven Shell Growth in Solidification F. Yigit	174

Nonlinear Finite Element Modeling of Charpy Impact Test F.A. Ghaith	182
Prediction of Tool Life and Experimental Investigation during Hot Milling of AISI H13 Tool Steel A.K.M. Nurul Amin, A.M.K. Hafiz, M.A. Lajis and A.U. Patwari	190
Inverse Method Based on Modal Vibration Testing for Characterizing the Elastic Properties Y.H. Lin and C.L. Chang	198
Dynamic Simulation and Test Verification of PCB with BGA Chipset K.C. Cheng, A.C. Wang and J.S. Huang	206
A Study on Distributions of Electromagnetic Force of the Dissimilar Metal Joining in MPW Using a FEM J.Y. Shim, B.Y. Kang, I.S. Kim, M.J. Kang, D.H. Park and I.J. Kim	214
Numerical Simulation and Experimental Study on Corrugated Waist Rail with Universal Rolling J.H. Ma and W.Z. Zhang	222
Modelling of Residual Stresses Induced by Turning of 316L F. Valiorgue, J. Rech, H. Hamdi, P. Gilles and J.M. Bergheau	230
Post Welding Heat Treatment Simulation in Welded Stainless Steel Pipe and Comparison with Experiment M. Sedighi and B. Davoodi	237
Heuristics for Direct Slicing of Point Clouds for Layered Manufacturing G. Percoco	244
Validation of the Method for Generation of Rheological Model to Characterize Non-Conventional Injection Molding by Means of Spiral Mold C. Javierre, L. Ponz, I. Clavería and A. Fernández	250
A Methodology for Control of the Robotic Welding Process Using Infrared Sensors H.H. Kim, I.S. Kim, K.S. Chon, J.Y. Shim, B.Y. Kang and I.J. Kim	261
Development of Scaffold Building Units and Assembly for Tissue Engineering Using Fused Deposition Modelling S.H. Masood and K. Alamara	269
Evaluation and Validation of the Shape Accuracy of FDM Fabricated Medical Models I.E. Katatny, S.H. Masood and Y.S. Morsi	275
Magnetostrictive Actuator Modeling and Placement M. Sunar and O. Keles	281
Anisotropic Elastic Distortions of a Buried Dissociated Hexagonal Network of Dislocations in a Nickel Based Super Alloys A. Derardja	289
Aspects of Wear Mechanisms of Carbide Tools when Machine Hastelloy C-22HS K. Kadirgama, M.M. Noor, K.A. Abou-El-Hossein, B. Mohammad and H.H. Habeeb	295
Statistical Analysis of Hard Turning of AISI 4340 Steel on Surface Finish and Cutting Region Temperature A. Mohammadi and H. Zarepour	303
Modeling the Force, Surface Roughness and Cutting Temperature in Ultrasonic Vibration-Assisted Turning of Al7075 M.J. Nategh, S. Amini and H. Soleimanimehr	315
Prediction of Machining Force and Surface Roughness in Ultrasonic Vibration-Assisted Turning Using Neural Networks H. Soleimanimehr, M.J. Nategh and S. Amini	326
Machinability of Bulk Metallic Glass Materials on Milling and Drilling M. Bakkal, V. Nakşiler and B. Derin	335
Three Dimensional Printing for Casting Applications: A State of Art Review and Future Perspectives R. Singh	342
Analysis of Elliptical Cup Drawing Process of SUS304 Stainless Metal Y.M. Huang and Y.W. Tsai	350
ECAP Processing of High Si Bainitic Steel, Microstructure and Mechanical Properties M. Nili-Ahmadabadi, F. Haji-Akbari, F. Rad, M. Iranpour, M. Shahirnia, B. Poorganji and T. Furuvara	358

Rice Husk/High Density Polyethylene Bio-Composite: Effect of Rice Husk Filler Size and Composition on Injection Molding Processability with Respect to Impact Property W.A.W.A. Rahman, N.M. Isa, A.R. Rahmat, N. Adenan and R.R. Ali	367
Evaluation of the AZ31 Formability According to Temperature Using a Constant Strain Rate Test G. Palumbo, D. Sorgente and L. Tricarico	375
Experimental Investigations of Nd:YAG Laser Welding of 630 and 321 Stainless Steel and their Effects on Process Parameters S.A.A. Akbari Mousavi and A.R. Sufizadeh	384
The Microstructural Study of Nd:YAG Pulsed Laser Beam Weld of Copper Beryllium Alloy S.A.A. Akbari Mousavi and S.T. Niknejad	392
Strain Rate Sensitivity and Cavitation in Superplastic Deformation of a Commercial AL-5083 Alloy S.J. Hosseinipour	400
Effect of Heat Treatment Conditions on the High Temperature Deformation of 6082-Al Alloy M.S. Soliman, E. El-Danaf and A.A. Almajid	407
Effect of Magnesium and Artificial Aging on the Microstructure and Mechanical Properties of Al-Si-Mn-Mg Alloys S.G. Shabestari, M.M. Hejazi and M. Bahramifar	415
Different Stress States Deformation of AA6082 Subjected to Different Artificially Aged Conditions E. El-Danaf and T.M. El-Hossainy	421
Characterization of the Corrosion Behavior of Hot Pressed Nanocomposites Al-SiC Powder T. Rostamzadeh, H. Shahverdi, A. Shanaghi and T. Shahrabi	429
The Influence of Welding Parameters on Tensile Behavior of Friction Stir Welded Al 2024-T4 Joints E. Mahmudi and H. Farhangi	439
Microstructure and Mechanical Properties of Dissimilar Ferritic and Austenitic Steel Joints with an Intermediate Inconel-182 Buttering Layer A.M. Shariatpanahi and H. Farhangi	449
Crude Oil and Outdoor Temperature Effects on the Tensile and Creep Properties of Glass Fiber Reinforced Vinylester Composite Pipes S. Nizamuddin, N. Merah, Z. Khan, F. Al-Sulaiman and M.S. Mehdi	457
Optimization for Secondary Cooling Parameters in Continuous Casting of High Carbon Chromium Bearing Steel W. Chen, Y.Z. Zhang, L.G. Zhu, C.J. Zhang and B.X. Wang	465
Effect of Fiber Diameter Waviness and Wavelength Ratio on the Effective Tensile Elastic Modulus of Carbon Nanotube-Based Polymer Composites A.A. Khaled, A.K.M. Masud, S.C. Chowdhury, S. Jannat and M. Obayedullah	473
Evaluation of the Role of Alloying Elements in Austemperability of Heavy Section Ductile Iron M. Heydarzadeh Sohi, M. Nili-Ahmadabadi, A. Bahrami Vahdat and A. Amirsadeghi	481
Low Temperature Thermochemical Surface Treatment of Austenitic Stainless Steel for Improved Mechanical and Tribological A. Triwiyanto, S. Mridha and E. Haruman	489
Effect of Residual Gradient Stress of Cantilever Plate Structure Deposited Metal Layers with Different Constraints on Deformation M.J. Lin, C.L. Hwan and Y.J. Chou	497
Microstructural Investigation of Gamma-Irradiated Ultra High Molecular Weight Polyethylene in Nitrogen Atmosphere M. Al-Ma'adeed, N.J. Al-Thani and M. Bader	505
Effect of Gamma Irradiation on the Microstructure and Morphology of Polyethylene Oxide and Polyvinyl Alcohol Blends M. Al-Ma'adeed and N.J. Al-Thani	524
Characteristics of CFRP Structure of Bending Strength and Rigidity According to Stacking Orientation Angle J.H. Kim, J.Y. Jeong, J.M. Bang, J.H. Kim and I.Y. Yang	530

Effects of Simulated Pit Distribution Parameters on Tensile Properties of a Structural Steel Plate S. Alipour and H. Farhangi	537
Tribological Studies of Steels Using the Abrasive Wheel M. Abbasi, S. Kheirandish, Y. Kharrazi and J. Hejazi	545
Removal of Toxic Arsenic and Antimony from Groundwater Spiro Tunnel Bulkhead in Park City Utah Using Colloidal Iron Hydroxide: Comparison with Reverse Osmosis Z. Pawlak, P.S. Cartwright, A. Oloyede and E. Bayraktar	553
The Applicability of GRP and NRP Composites in Rehabilitation of Unpressurized Pipes A. Akinici, A. Güleç and F. Yilmaz	563
Aluminum Recycling - Challenges and Opportunities M. Mahfoud and D. Emadi	571
Failures of Chemical Injection Points in Upstream Facilities A.S. Al-Omari, K.M. Al-Nabulsi and A.F. Al-Mari	579
A High Corrosion and Wear Resistant Interior Surface Coating for Use in Oilfield Applications D. Lusk, M. Gore, B. Boardman, D. Upadhyaya, T. Casserly and M. Oppus	592
Metallurgical and Numerical Correlation of Mold Vibration with the Refinement of Al-Si Alloy N. Abu-Dheir	601
Quality Assessment and Metallurgical Examination of Laser Welded Sheets N. Abu-Dheir and B.S. Yilbas	611
Mixing of Multiphase Silicone for the Production of Breast Prostheses S. Naher and G. Vickery	616
ITO Thin-Film Removal Process Using Design of Rolling Tool P.S. Pa	622
Determination of the Optimal Ball Grinding Parameters for the Bio-Ceramics ZrO₂ on a PC-Based Multi-Axis CNC Engraving Machine F.J. Shiou and J.C. Fang	630
Investigations of Formation of Chatter in a Non-Wavy Surface during Thread Cutting and Turning Operations M.A.U. Patwari, A.K.M. Nurul Amin, W.F. Faris and M.H. Ishtiyag	637
Cutting Performance and Predictive Models for End Milling Aluminum Alloy C.C. Tsao	646
Predictive Modeling and Investigation on the Formation of Stiff Air-Layer around the Grinding Wheel B. Mandal, S. Majumdar, S. Das and S. Banerjee	654
Constitutive Modelling of Mechanical Behaviour of a Ti-Alloy, Applicable in Metal Cutting A. Habibzadeh, M.H. Sadeghi, B. Davoodi and B. Jabbaripoor	661
Reducing Electrode Wear Using Cryogenic Cooling during Electrical Discharge Machining S. Abdulkareem, A.A. Khan and M. Konneh	672
A New Cutting Force Model for Micro-Milling and Determination of Optimal Cutting Parameters S.M. Wang, Z.S. Chiang, D.F. Chen and Y.Y. Tsai	680
Characteristics of Surface Damage in Micro Electric Discharge Machining of Micro Holes B. Ekmekci, A. Sayar, T. Tecelli Öpöz and A. Erden	688
The CAM System for Scroll Profile with Three CNC Interpolations J.N. Lee and C.N. Li	696
An Investigation on Machining Power of EN-AC 48000 Aluminum Alloy Used in Automotive and Aerospace Industries H. Shahali, H. Zarepour and E. Soltani	704
Evaluation of Thrust Forces in Dry Drilling of UNS A97050 Alloy R. Domingo, J.M.A. Reina, M. Marcos Bárcena and M.A. Sebastián	711
Surface Integrity and Residual Stresses Analysis by Strain Gages after Hard Turning Process of Case Hardened Steel AISI 8620 A. Farias, S. Delijaicov, J.D.B. de Mello, M. Stipkovic Filho and G.F. Batalha	718
Parametric Approach Model for Determining Electrical Discharge Machining (EDM) Conditions: Effect of Cutting Parameters on the Surface Integrity W. Tebni, M. Boujelbene and E. Bayraktar	725

Prediction by Genetic Algorithm and Measurement by Center Hole Drilling of Residual Stresses of MAG Weldment G.H. Farrahi, G.H. Majzoobi and A. Fadaee	738
Performance Investigation for Precision Mold Turning by PCBN Tool S.Y. Lin, C.C. Tang, J.C. Shih and S.S. Chi	746
A Study of Machining Parameters during Electrical Discharge Machining of Steel by a Rotary Copper Electrode P.S. Satsangi and K.D. Chattopadhyay	756
The Effect of Reinforcement Phase on the Microstructure of Al-SiC Nanocomposite Powder Prepared via Mechanical Alloying T. Rostamzadeh, H. Shahverdi, R. Sarraf-Mamoory and A. Shanaghi	764
Applications of Nanocomposite Materials in the Oil and Gas Industry V. Savino, G.M. Fallatah and M.S. Mehdi	771
Glass Ceramic Laser Machining for Cooktop Appliances D. Sola, J.I. Peña and M.A. Buñuel	777
Design of Synchronous Processes of Rolling-Leveling and Ultrasonic Electrochemical Finishing of Holes P.S. Pa	785
Prediction Modelling of Surface Roughness for Laser Beam Cutting on Acrylic Sheets M.M. Noor, K. Kadirgama, M.M. Rahman, N.M. Zuki N.M., M.R. Mat Rejab, K.F. Muhamad and J.M. Julie	793
The Interaction between Particles and a Plasma Beam in the Thermal Projection Process I. Kriba and A. Djebaili	801
Gradation Process by Imbibition in WC-Co for Mining Tools Application E. Lefort-Sorlier, C. Colin and A. Dourfaye	810
Laser Polishing Operation for Die and Moulds Finishing E. Ukar, A. Lamikiz, L.N. López de Lacalle, F. Liebana, J.M. Etayo and D. del Pozo	818
Numerical Material Flow Optimization of a Multi-Hole Extrusion Process T. Kloppenborg, A. Brosius and A.E. Tekkaya	826
Engineering Materials and Manufacturing Processes from Qur'anic Perspective M.M. Haque and A.F. Ismail	834
Characterization of Colmonoy 227-F Samples Obtained by Direct Laser Metal Deposition A. Angelastro, S.L. Campanelli and A.D. Ludovico	842
Manufacturing of 18 Ni Marage 300 Steel Samples by Selective Laser Melting S.L. Campanelli, N. Contuzzi and A.D. Ludovico	850
On the Modeling of Laser as a Moving Distributed Volumetric Heat Source for Laser Cutting Simulation A.F.M. Arif	858
Influence of Billet Quality on Hot Extrusion Die Life and its Relationship with Process Parameters S.S. Akhtar, A.F.M. Arif and A.K. Sheikh	866
Experiments on Olive Husk-Addition to Masonry Clay Bricks on their Mechanical Properties, and their Application and Manufacturability as an Insulating Material A.H. Alami	874
Joining of Polycarbonate Ring/Disk to Metal Sheet/Shaft and its Easy Disassembly Y. Kasuga, T. Okai and S. Kawamori	881
Structure Features of Martensite and Residual Austenite during Treatment with Concentrated Energy Fluxes D. Stavrev and T.D. Dikova	889
Structure and Properties of High-Chromium-Alloyed Upper-Eutectoid Steels after Hardening with Concentrated Energy Fluxes D. Stavrev and T.D. Dikova	896
Capacity Analysis for Fixed-Time Signalized Intersection for Non-Lane Based Traffic Condition M. Hadiuzzaman and M. Mizanur Rahman	904
Design of Bone Scaffolds Structures for Rapid Prototyping with Increased Strength and Osteoconductivity M. Lipowiecki and D. Brabazon	914

Evaluating PVC Degradation Using UV and Raman Spectroscopies A.K. Al-Dossary, M. Gilbert and D. Hitt	923
An Overview of Microfluidic Mixing Application S. Naher, D. Orpen, D. Brabazon and M.M. Morshed	931
Effect of Milling Time on Crystallite Size and Morphology of Nickel Aluminate Based Composite Powder Prepared by Mechanical Assisted SHS Route A. Jabbarnia and S. Heshmati-Manesh	940
Rheological Investigation of Water Atomized Metal Injection Molding (MIM) Feedstock for Processability Prediction K.R. Jamaludin, N. Muhamad, M.N.A. Rahman, Murtadhahadi, S. Ahmad, M.H.I. Ibrahim and N.H.M. Nor	945
Experimental Study on the Heat Transfer in the Al Powder C.Y. Ho, Y.H. Tsai and M.Y. Wen	953
Explosive Compaction of Metal Powder K. Mohammadi and A. Dravizheh	959
Study the Re-Sticky Phenomenon of Powder Metallurgy Debris in the Electrical Discharge Machining A.C. Wang, K.C. Cheng, Y.C. Lin and J.S. Huang	968
Improving the Deposition Rate of Multicomponent Coating by Controlling Substrate Table Rotation in a Magnetron Sputtering Process J. Haider and M.S.J. Hashmi	977
Coating Performance in High Speed Micro Machining of H13 Tool Steel B.T.H.T. Baharudin, S. Sulaiman, M.K.A. Arifin, A.A. Faieza and S.M. Sapuan	985
Experimental Determination of Cutting Temperature and Force when Turning Assab Steel with Coated Carbide Inserts I.A. Choudhury, S.W. Gan and N. bin Yusoff	993
Study of Ultrasonically Assisted Internal Grinding of Small Holes: Effect of Grain Size of cBN Grinding Wheel M. Nomura, Y.B. Wu, T. Kuriyagawa, T. Kawashima and T. Shibata	1002
Prediction and Investigation of Surface Response in High Speed End Milling of Ti-6Al-4V and Optimization by Genetic Algorithm S. Alam, A.K.M. Nurul Amin, A.U. Patwari and M. Konneh	1009
Measuring out of Flatness of a Rough Quartz Surface and Correction by Mist-Abrasion Machining M. Shakeri, H. Amirabadi and O. Horiuchi	1016
Development of Nitrided Layer during Nitriding of Steel J. Ratajski and R. Olik	1025
Microstructure and Wear Properties of Fe-Cr-C and Fe-Cr-Si-C Clads on Carbon Steel by TIG Surfacing Process G. Azimi and M. Shamanian	1035
Development of Advanced Surface Engineering Technologies for the Benefit of Multipoint Cutting Tools M. Sarwar and J. Haider	1043
Investigation of Dry Plasma Etching of Silicon M.M. Morshed and S.M. Daniels	1051
A Study of Surface Integrity when Machining Refractory Titanium Alloys A. Ginting, M. Nouari and N. Lebaal	1059
Anisotropic Effect and the Crystals Nature on the Elastic Fields Dispersal Generated in a Three Layers Material M. Brioua, R. Benbouda and K. Zidani	1069
A Numerical and Experimental Study of Sheet Metal Bending by Pulsed Nd:Yag Laser with DOE Method M. Hosseinpour Gollo, H.M. Naeini, G.H. Liaghat, S. Jelvani and M.J. Torkamany	1076
A New Die Design for Sheet Hydroforming of Complex Industrial Parts M. Bakhshi, A. Gorji, M. Hosseinzade, M. Jamshidi and G. Mohammad-Alinejad	1084
Effects of Grain Size on Micro Backward Extrusion of Copper C.C. Chang and T.C. Wang	1092
Investigation on the Increasing Material Hardness on Fineblanked Sprocket S. Thipprakmas, C. Chanchay, N. Hanwach, W. Wongjan and K. Vichitjarusgul	1099

Theoretical, Numerical and Experimental Investigation of the Effects of Manufacturing Process Parameters on Thin-Walled Tube Bending Defects J. Taheri Kahnamouei and M. Sedighi	1107
An Analytical Model to Reduce Spring-Back in Incremental Sheet Metal Forming (ISMF) Process M. Vahdati, M. Sedighi and H. Khoshkish	1113
Effects of Welding Positions on Mechanical Properties and Microstructure in Weld Metal of High Strength Steel F. Masoumi and D. Shahriari	1121
Proposal of a New Ultrasonic Welding Technique for Thermoplastic Polymer Y.B. Wu, T. Sato, J.H. Qiu and W.M. Lin	1129
Hydraulic Bulge Tests of Magnesium Tubes at Elevated Temperatures Y.M. Hwang, H.C. Chuang and B.J. Chen	1135
Effect of Dwell Time on Friction Stir Spot Welded Dual Phase Steel A. Al-Shahrani and B.P. Wynne	1143
High Power Density Laser Build-Up Welding with CNC Precision F. Cheaitany and T. Peters	1151
Investigation on the Formability of Tailor Welded Blanks with Curved Seams H.B. Tian, X.H. Liu, J.P. Lin and L.M. Smith	1160
Grain Refinement in Ferritic Stainless Steel Welds: The Journey so Far M.O.H. Amuda and S. Mridha	1165
Microstructural and Mechanical Characterization of Friction Stir Welded- 1050 Aluminium Alloy M.M. El Rayes, E. El-Danaf and M.S. Soliman	1173
Effects of Isothermal Aging on Tensile Properties and Fracture Behavior of 316L Austenitic Stainless Steel Weld Metal A. Karimian, H. Farhangi and A. Amari Allahyari	1182
Plasma from Electron Beam Evaporation of a Metal Target C.Y. Ho, M.Y. Wen and C. Ma	1190
The Influence of Welding Parameters on Tensile Behavior of Friction Stir Welded Al 2024-T4 Joints E. Mahmudi and H. Farhangi	1197
Resistance Spot Welding of Unequal Thickness Low Carbon Steel Sheets M. Pouranvari and P. Marashi	1205
Effect of Temperature Field on Flexural Wave Characteristics of a Bar Resembling Welding to Rigid Body I.T. Alzaharnah, S. Al-Kaabi and B.S. Yilbas	1212
Towards Tool Path Numerical Simulation in Modified Friction Stir Spot Welding Processes G. Buffa and L. Fratini	1220
Experimental Models for Assessment of Interfacial Heat Transfer in Dip Soldering S. Nyamannavar and K.N. Prabhu	1228
Interfacial Phenomena in Brazing of a Stainless Steel Face Sheet to a Honeycomb Core S. Mehrizi, A.M. Hadian, A. Hadian and A. Vosughi	1236
Multiaxial Mechanical Strength of AA-2024-T3 Aluminium Alloy Sheets Joined by Friction Stir Welding Processes R.L.L.P. Cerveira and G.F. Batalha	1243
Electric Current Pulse Welding of Titanium with 18-10 Stainless Steel E.G. Grigoryev and V.N. Bazanov	1251
Residual Stress Correlation in Two Different Mitigation Techniques Using FEA F. Soul, M. Ateeg, S. Beshay and M. Senfier	1254
Characterization of Surface Defects Associated with Flash Butt-Welded Pearlitic Rails and their Contribution to Overload and Fatigue Failures M. Mousavizade and H. Farhangi	1262
The Structure and Properties of Carburized and Hardened Vanadium Microalloyed Steels M. Mohar Ali Bepari, M. Nizamul Haque and K.M. Shorowordi	1270
Intensity of Diffraction of Laser Irradiating a Microparticle in Nanostructure Processing C.Y. Ho, M.Y. Wen and C. Ma	1282

Elevated Temperature Wear of Submicron Al₂O₃ Reinforced 6061 Aluminum Composite A.M. Al-Qutub, I. Allam, A. Al Hamed and A. Elaiche	1288
EIS Study of Bulk Al-SiC Nanocomposite Prepared by Mechanical Alloying and the Hot Press Method T. Rostamzadeh, H. Shahverdi, A. Shanaghi and T. Shahrabi	1297
Development of an Expert Engineering Module for Determination of Ultrasonic Probe Position on the Weld Joint of Plate D. Shahriari, J. Jodaki, V. Jandaghi Shahi and J. Darban Falak	1306