

**Proceedings of the
XI International Conference
on Systems, Automatic Control and Measurements
- SAUM 2012 -**

Niš, Serbia, November 14-16, 2012

Contents

Conference Program

Program Committee

Impressum

Organization supported by



**Ministry of Education, Science and Technological Development
Republic of Serbia**

Organized by



SAUM – Association of Serbia for Systems, Automatic Control and Measurements

Co-organized by



**University of Niš
Faculty of Electronic Engineering
Faculty of Mechanical Engineering**

XI International Conference on Systems, Automatic Control and Measurements - SAUM 2012 -



Conference Chairman

Prof. Dr. Dragan Antić

International Program Committee

Vlastimir Nikolić, Serbia, President
Abdellah ELMoudni, France
Alex M. Stankovic, USA
Alexander Ignatyev, Ukraina
Annemarie Kökösy, France
Axel Gräser, Germany
Božidar Krstajić, Bosnia and Herzegovina
Branko Kovacević, Serbia
Bratislav Danković, Serbia
Danijela Ristić-Durant, Germany
Dejan Rancić, Serbia
Dimitri Lefebvre, France
Dragan Antić, Serbia
Dragan Denić, Serbia
Dragan Đurdanović, USA
Dragan Lazić, Serbia
Dragan Marinković, Germany
Dragan Nešić, Australia
Dragan Šešlija, Serbia
Dragiša Nikodijević, Serbia
Dragoljub Pokrajac, USA
Dragoljub Šurdilović, Germany
Dušan Petrovački, Serbia
Eberhard Kallenbach, Germany
Emil Nikolov, Bulgaria
Erik Noldus, Belgie
Georges Bitsoris, Greece
Georgi Dimirovski, Macedonia
Goran S. Đorđević, Serbia

Goran T. Đorđević, Serbia
Gradimir Ilić, Serbia
Ilija Nikolić, Serbia
Ivan Milentijević, Serbia
Jovan Bosković, USA
Leonid Stoimenov, Serbia
Ljiljana Petković, Serbia
Ludmila Kuzmina, Russia
Lyubomir T. Gruyitch, Serbia
Manfred Zehn, Germany
Mihajlo Stojčić, Bosnia and Herzegovina
Mihajlo Stefanović, Serbia
Milan Matijević, Serbia
Mile Stankovski, Macedonia
Milic Stojić, Serbia
Milorad Božić, Bosnia and Herzegovina
Miodrag Arsić, Serbia
Miodrag Stojiljković, Serbia
Miroljub Grozdanović, Serbia
Nenad Pavlović, Serbia
Novak Nedić, Serbia
Pavel Pakshin, Russia
Petar Marić, Bosnia and Herzegovina
Pierre Borne, France
Predrag Rajković, Serbia
Radu-Emil Precup, Romania
Ratko Pavlović, Serbia
Sophie Hennequin, France
Srdan Stanković, Serbia

Stefan Preitl, Romania
Stevan Stankovski, Serbia
Toshio Fukuda, Japan
Vesely Vojtech, Slovak Republic
Virginia Kiryakova, Bulgaria
Vlastimir Pavlović, Serbia
Vojislav Kalanović, USA
Xinghuo Yu, Australia
Žarko Čojbašić, Serbia

Organizing Committee

Darko Mitić, President
Biljana Đorđević
Dragan Jovanović
Emina Petrović
Ivan Ćirić
Ivan Pavlović
Marko Milojković

Žarko Čučej, Slovenia
Željko Đurović, Serbia
Zoran Bučevac, Serbia
Zoran Gajić, USA
Zoran Pandilov, Macedonia
Zoran Perić, Serbia
Zoran Ribar, Serbia
Zorica Nikolić, Serbia
Zvi Retchkiman Konigsberg, Denmark

Miodrag Spasić
Nebojša Jotović
Nikola Danković
Saša Nikolić
Staniša Perić
Vladislav Blagojević
Zoran Jovanović

CONTENTS

Session A: MEASUREMENTS I

Chairperson: D. Denić

Session A	A1 • Invited paper	Page 1
T. D. Neshkov, A. G. Stefanov, V. V. Ivanov		
<u>Application of PFMEA for Identification of Self Recovering Failures in Production Lines for Automatic Assembly of Capacitors</u>		
Session A	A2 • Regular paper	Page 5
B. R. Đorđević, A. D. Micić, B. R. Anđelković		
<u>Analysis of Type and Position of Defect in the Materials by Applying Thermography</u>		
Session A	A3 • Regular paper	Page 9
A. D. Vorgučić		
<u>Genesis the Electrical Bridge Circuits of Extreme Sensitivity– Singular Behavior –</u>		
Session A	A4 • Regular paper	Page 13
L. Z. Popović		
<u>Functional Testing of Electric Meter based on LabVIEW Program and PXI Platform</u>		
Session A	A5 • Regular paper	Page 17
B. Samardžić, B. Zlatković		
<u>The Probability of Stability Estimation of Nonlinear Systems with Randomly Chosen Parameters</u>		
Session A	A6 • Regular paper	Page 20
A. Šarevska, D. Parnardziev, V. Kacarski		
<u>Procedure for Verification of Compressed Natural Gas Measuring Systems for Vehicles</u>		
Session A	A7 • Regular paper	Page 24
D. Topisirović		
<u>The New Architectural Design of the Automatic Test Equipment for Testing VLSI at Gbps using Reduced Pin Count Test</u>		

Session B: INDUSTRIAL AND PROCESS CONTROL I

Chairperson: Z. Jovanović

Session B	B1 • Regular paper	Page 28
M. Vasković, M. Jurisević, M. Stefanović, M. Matijević		
<u>SCADA System for Experimental Results Sharing and Energy Monitoring via Internet</u>		
Session B	B2 • Regular paper	Page 32
B. D. Petrović, G. S. Nikolić, M. D. Jovanović		
<u>Dimensioning of a Motor Drive Inverter for Lift Systems</u>		
Session B	B3 • Regular paper	Page 36
Z. Jovanović, N. Danković, M. Spasić, M. Radić		
<u>Improved Control Algorithm of Rubber Compounds Forming Process</u>		

Session B	B4 • Regular paper	Page 40
S. Stankov, S. Arsić, M. Milovanović, M. Radić, Z. Ičić <u>Work Regulation of Plant for Preparation and Dosing Aluminum Sulphate in Water System</u>		
Session B	B5 • Regular paper	Page 44
V. S. Đorđević, V. S. Brašić <u>The Methods for Synthesis and Analysis Controlled Time Delay System with Required Damping Factor</u>		
Session B	B6 • Regular paper	Page 48
L. K. Lazov, N. A. Petrov <u>Numerical Experiments to Investigation of the Influence of the Wavelength for the Laser Marking on Products of Steel</u>		

Session C: SOFTWARE DESIGN I

Chairperson: L. Stoimenov

Session C	C1 • Regular paper	Page 52
N. Stojanović, D. Stojanović <u>Parallel Processing of Geospatial Data on Many-core GPU Processors</u>		
Session C	C2 • Regular paper	Page 56
V. Vučković, S. Spasić <u>Stereoscopic Modeling and Animation of the Tesla's Long Island Lab</u>		
Session C	C3 • Regular paper	Page 60
J. Angel, M. Randelović, L. Stoimenov, I. Milentijević <u>Hardware Solutions Regarding a System for Electronic Testing of Students</u>		
Session C	C4 • Regular paper	Page 64
B. Predić, I. Antolović, D. Rančić <u>GIS in Flexible Resource Planning for SMEs</u>		
Session C	C5 • Regular paper	Page 68
D. Mijić, O. Bjelica, J. Đurđić, D. Janković <u>RFID-based System for Automated Registration of Students' Attendance, Teachers' Work and Classroom Use</u>		

Session D: INFORMATION AND COMMUNICATION TECHNOLOGIES I

Chairperson: Z. Nikolić

Session D	D1 • Invited paper	Page 72
P. N. Ivaniš, V. M. Blagojević, M. M. Stojnić, S. S. Brkić <u>User Cooperation Diversity in Cognitive Radio Systems</u>		
Session D	D2 • Regular paper	Page 80
Z. Perić, L. Velimirović, A. Jocić, D. Denić		

<u>The Design of the First and the Second Order Linear Predictor for Delta Modulation with Adaptive Quantizer</u>		
Session D	D3 • Regular paper	Page 84
A. M. Cvetković, D. N. Milić, J. A. Anastasov, B. V. Vasić		
<u>Outage Analysis of Partial Relaying Selection System in Interference-Limited Environment</u>		
Session D	D4 • Regular paper	Page 88
D. Denić, A. Jocić, M. Dinčić, V. Milenković, G. Miljković		
<u>The Method for Fading Measurement in Outdoor Propagation Environments and its Improvement by applying Diversity Technique</u>		
Session D	D5 • Regular paper	Page 92
M. Petković, G. T. Đorđević, D. Denić		
<u>BER Performance of Subcarrier QAM Intensity Modulated FSO Communication System</u>		
Session D	D6 • Regular paper	Page 96
D. N. Milić, A. M. Cvetković, G. T. Đorđević		
<u>BER Performance of BPSK Relaying System Influenced by Interference over Nakagami-<i>m</i> Fading</u>		

Session E: ROBOTICS

Chairperson: V. Nikolić

Session E	E1 • Invited paper	Page 100
D. Ristić-Durrant, A. Gräser		
<u>Cognitive Robotics: Towards Symbiotic Human-robot Relationship</u>		
Session E	E2 • Regular paper	Page 109
D. Petković, N. D. Pavlović, N. T. Pavlović		
<u>Development and Design of a New Type of Passively Adaptive Compliant Gripper</u>		
Session E	E3 • Regular paper	Page 113
N. Sergeev, V. Pshihopov, A. Kulchenko, D. Kadishev		
<u>The Modification of Linguistic Variable Concept for 2D/3D Vision-based Robot Navigation</u>		
Session E	E4 • Regular paper	Page 117
V. Ivanova, I. Vuchkov		
<u>Novel Laparoscopic Device for Human-Robot Interaction</u>		
Session E	E5 • Regular paper	Page 121
V. Antoska, V. Potkonjak, M. Stankovski, N. Baščarević		
<u>Robustness of a Semi-Humanoid Robot Posture with Respect to External Disturbances</u>		
Session E	E6 • Regular paper	Page 128
E. Petrović, D. Ristić-Durrant, A. Leu, V. Nikolić		
<u>A Novel Approach to Human Tracking for Robotic Follower</u>		
Session E	E7 • Regular paper	Page 132
I. Ćirić, Ž. Čojbašić, M. Tomić, M. Pavlović, V. Pavlović		
<u>Computationally Intelligent Object Recognition for DaNI Robot Vision</u>		

Session F: HYDRAULIC AND PNEUMATIC SYSTEMS I

Chairperson: V. A. Blagojević

Session F	F1 • Regular paper	Page 136
D. Janošević, A. Micić, N. Petrović, V. Nikolić <u>Mechatronic Systems of Regulation and Management of Mobile Machines</u>		
Session F	F2 • Regular paper	Page 140
V. A. Blagojević, D. R. Milenković, M. M. Stojiljković <u>Guide Vane Position Control of the Mini Hydro Power Plant</u>		
Session F	F3 • Regular paper	Page 144
P. LJ. Janković, V. A. Blagojević <u>Estimation Method for Maximum Cutting Speed by Abrasive Water Jet Machining</u>		
Session F	F4 • Regular paper	Page 148
D. D. Nikodijević, Ž. M. Stamenković, J. D. Nikodijević <u>Parametric Method for Unsteady MHD Boundary Layer on the Body with Temperature Gradient along Surface</u>		
Session F	F5 • Regular paper	Page 152
D. Milenković, M. Jovanović, G. Petrović, M. Kocić, N. Petrović <u>Extreme Hydraulic Oscillations – Base of Dynamical Regulation of the Pelton Turbine</u>		

Session G: FUZZY AND NEURAL NETWORKS SYSTEMS

Chairperson: D. S. Antić

Session G	G1 • Regular paper	Page 156
V. Stojanović, V. Filipović <u>Adaptive Input Design for Identification of Output Error Model with Constrained Output</u>		
Session G	G2 • Regular paper	Page 160
D. S. Antić, S. B. Stojanović, D. LJ. Debeljković <u>Finite-Time Stability and Stabilization of Singular Discrete Time-Delay Systems</u>		
Session G	G3 • Regular paper	Page 164
Ž. Čojbašić, V. Nikolić, D. Ristić-Durant, I. Ćirić, E. Petrović, S. Matić <u>Neural Networks Based Human Tracking for Robot Vision</u>		
Session G	G4 • Regular paper	Page 168
O. L. Iliev, P. Sazdov, A. Zakeri <u>A Fuzzy Logic Based Controller for Integrated Control of Protected Cultivation</u>		
Session G	G5 • Regular paper	Page 172
M. Pavlović, M. Milošević, V. Pavlović, M. Tomić, Ž. Čojbašić <u>Fuzzy Control of Modeled Inverted Pendulum</u>		

Session H: RENEWABLE ENERGY

Chairperson: V. Miltenović

Session H	H1 • Invited paper	Page 176
V. Nikolić, D. Antić, Ž. Čojbašić, I. Ćirić, S. Nikolić, S. Perić <u>Evolutionary Computation in Hybrid Aeroturbine Fuzzy Control</u>		
Session H	H2 • Regular paper	Page 185
B. R. Andelković, J. Stefanović Marinović, M. Milovančević, B. Đorđević <u>Dynamic Modeling and the Control of the Wind Turbine Gearbox using Fuzzy Logic Controller</u>		
Session H	H3 • Regular paper	Page 189
M. Radić, Z. Stajić, M. Spasić, N. Danković <u>Introducing the Concept of Controlled Self-Excitation and Synchronization of a Cage-rotor Induction Generator Driven by CVT-Based Wind Turbine</u>		
Session H	H4 • Regular paper	Page 193
A. Miltenović, M. Banić, V. Miltenović <u>Transmission System of Wind Turbines - State of the Art and Solution Proposal-</u>		
Session H	H5 • Regular paper	Page 197
N. Jovanović, M. Banić, M. Milošević, V. Pavlović, M. Pavlović <u>Modern Approach in Design of Power Transmission System for Wind Turbine - Model and Simulation</u>		
Session H	H6 • Regular paper	Page 201
V. P. Stefanović, S. R. Pavlović, N. Apostolović, S. Perić, S. Nikolić <u>Numerical and Experimental Determination of Thermal Efficiency of the P2CC Solar Collector for Medium Temperature Conversion of Solar Radiation to Heat</u>		

Session I: OPTIMAL AND MODEL PREDICTIVE CONTROL

Chairperson: D. Mitić

Session I	I1 • Regular paper	Page 205
V. Kvrgić, N. A. Kablar, D. Lj. Debeljković <u>Robust Control of Singular Systems. Part I: Continuous Time Case</u>		
Session I	I2 • Regular paper	Page 212
D. Lj. Debeljković, V. Kvrgić, N. A. Kablar <u>Optimal Control of Singular Systems with Time Delay. Part II: Discrete Time Case</u>		
Session I	I3 • Regular paper	Page 216
L. Bina, M. J. Stankovski, G. S. Stojanovski <u>Model Predictive Control of a Water Treatment Plant</u>		
Session I	I4 • Regular paper	Page 220
G. Nadžinski, P. Malenko, K. Meckarowski, I. Matic, S. Belevski, R. A. Mirceska, M. Stankovski <u>Advanced Design and Control Approach for Laboratory Heater</u>		

Session I	I5 • Regular paper	Page 224
M. Hovd		
<u>A Note on the Smoothing Formulation of Moving Horizon Estimation</u>		
Session I	I6 • Regular paper	Page 228
S. B. Stojanović, D. LJ. Debeljković, D. Antić		
<u>Finite-Time Stability and Stabilization of Singular Time Delay Systems</u>		

Session J: SOFTWARE DESIGN II

Chairperson: D. Janković

Session J	J1 • Regular paper	Page 232
S. Milinković, Lj. Lazić		
<u>Some Facts about Industrial Software Security</u>		
Session J	J2 • Regular paper	Page 236
B. Vasić		
<u>Effects of 3-D Surface Smoothing to Watermark Data Stability</u>		
Session J	J3 • Regular paper	Page 240
P. J. Rajković, D. S. Janković, A. M. Milenković		
<u>Knowledge Database and E-Learning Extensions for Medical Information Systems</u>		
Session J	J4 • Regular paper	Page 244
V. V. Stanković		
<u>Computer Application that Implements the Swish Pattern</u>		
Session J	J5 • Regular paper	Page 248
M. Ćirić, A. Stanimirović, N. Petrović, L. Stoimenov		
<u>Naïve Bayes Twitter Classification</u>		

Session K: SYSTEM IDENTIFICATION AND MODELING

Chairperson: B. Danković

Session K	K1 • Invited paper	Page 252
D. Marinković, M. Zehn		
<u>An Overview of Highly Efficient Interactive FEM Models of Deformable Structures with Geometrical Nonlinearities Included</u>		
Session K	K2 • Regular paper	Page 260
V. Filipović, V. Stojanović, N. Nedić, D. Pršić		
<u>TARX Model for Pneumatic Cylinder and Identification</u>		
Session K	K3 • Regular paper	Page 264
G. S. Stojanovski, M. J. Stankovski		
<u>Hybrid Modeling of Industrial Furnace Using HYSDEL</u>		
Session K	K4 • Regular paper	Page 270

M. Jovanović, G. Radoičić, D. Marinković		
<u>Post-Fracture Dynamic Simulation of Responsible Supporting Structure</u>		
Session K	K5 • Regular paper	Page 274
V. Kh. Pshikhopov, M. Yu. Medvedev, R. A. Neydorf, V. A. Krukhmalev		
<u>Estimation of Energy Potential for Control of Feeder of Novel Cruiser/Feeder Maat System</u>		
Session K	K6 • Regular paper	Page 278
D. S. Stajić, M. M. Milošević, A. Lj. Gošić		
<u>The Identification of Water Supply Systems and the Validation of Results</u>		
Session K	K7 • Regular paper	Page 282
D. Marinković, P. Milić, Z. Marinković		
<u>The Idea of Combined Linear - Geometrically Nonlinear Fem Modeling with Application on a Tower Crane</u>		
Session K	K8 • Regular paper	Page 286
D. Nedeva, L. Lazov, H. Deneva		
<u>Mathematical Simulation of Laser Welding Process of Lamella Packages</u>		

Session L: MEASUREMENTS II

Chairperson: M. Arsić

Session L	L1 • Regular paper	Page 290
B. Rančić, P. Janković, D. Živanović, M. Arsić		
<u>Force Transducer Model based on Virtual Instrument Strain Gage Amplifier for Engineering Education</u>		
Session L	L2 • Regular paper	Page 294
S. Randelović, D. Tanikić, D. Denadić		
<u>Measurement of Mechanical Loads in Experimental Tool for Cold Extrusion</u>		
Session L	L3 • Regular paper	Page 298
B. Koprivica, A. Milovanović, M. Plazinić		
<u>Standard Methods of Measurement of the Magnetic Properties of Electrical Steel Strip and Sheet</u>		
Session L	L4 • Regular paper	Page 302
D. Denić, G. Miljković, M. Simić, M. Dinčić		
<u>Improved Serial Pseudorandom/Natural Code Converter Applied to Position Encoders</u>		
Session L	L5 • Regular paper	Page 306
D. Denić, J. Lukić, G. Miljković, A. Jocić		
<u>Virtual Absolute Encoders with Built in Algorithm for Reliable Direct Zero Position Determination</u>		
Session L	L6 • Regular paper	Page 310
S. K. Radišić, N. T. Pavlović		
<u>Application of Optical Strain Gages with Bragg Grating in the Experimental Stress Analysis</u>		

Session M: HYDRAULIC AND PNEUMATIC SYSTEMS II

Chairperson: N. Nedić

Session M	M1 • Regular paper	Page 314
D. Pršić, N. Nedić, Lj. Dubonjić <u>A Comparative Study of Discrete and Modal Approximation of Hydraulic Transmission Lines</u>		
Session M	M2 • Regular paper	Page 318
M. M. Jovanović, J. D. Nikodijević <u>Rayleigh-Bénard Convection in an Inclined Fluid Layer with Spatial Temperature Modulation</u>		
Session M	M3 • Regular paper	Page 322
M. M. Jovanović, D. S. Živković, J. D. Nikodijević <u>Rayleigh-Bénard Convective Instability with Spatial Modulation on both Plates</u>		
Session M	M4 • Regular paper	Page 326
Ž. Stamenković, J. Bogdanović-Jovanović, M. Kocić <u>Experimental Measurements of Turbulent Intensity and Reynolds Stresses around Sphere with Dimples</u>		
Session M	M5 • Regular paper	Page 330
D. Šešlija, S. Čajetinac, V. Blagojević, M. Todorović, V. Jevremović <u>PWM Control of Pneumatic Rodless Cylinder with By-pass Valve</u>		

Session N: INFORMATION AND COMMUNICATION TECHNOLOGIES II

Chairperson: Z. Perić

Session N	N1 • Invited paper	Page 335
G. Ostojić, S. Stankovski <u>Radio Frequency Identification vs. Near Field Communication</u>		
Session N	N2 • Regular paper	Page 339
P. Spalević, B. Jakšić, A. Marković, M. Petrović, M. Nešić <u>Influence of Signal Power and Thermal Noise of PIN Photodetectors on the Transmission WDM Network</u>		
Session N	N3 • Regular paper	Page 343
S. S. Brkić, P. Ivaniš <u>Joint Optimization of Adaptive Modulation and Eigenchannel Power Allocation in Dual-Branch SVD-MIMO Systems</u>		
Session N	N4 • Regular paper	Page 347
D. M. Radović, P. Ivaniš <u>Trapping Sets in Structured LDPC Codes Decoded Using Two-Bit Bit Flipping and Belief Propagation Algorithm</u>		
Session N	N5 • Regular paper	Page 351

B. Dimitrijević, S. Stošović, N. Milošević, Z. Nikolić <u>OFDM/MDPSK Reconfigurable MSDD Receiver Performance in the Presence of Frequency Offset</u>		
---	--	--

Session O: NONLINEAR SYSTEMS

Chairperson: M. K. Stojčev

Session O	O1 • Invited paper	Page 355
G. S Jovanović, D. B. Mitić, M. K. Stojčev <u>On Stability Analysis of Phase Control Loops with Voltage Controlled Active Filters</u>		
Session O	O2 • Regular paper	Page 363
N. A. Kablar, V. Kvrđić, D. Lj. Debeljković <u>Dissipativity Theory of Singular Time-Delay Systems. Part I: Continuous Time Case</u>		
Session O	O3 • Regular paper	Page 370
A. Gaiduk <u>Astatic Control System Design for Nonlinear Plants with use of JCF</u>		
Session O	O4 • Regular paper	Page 374
B. M. Zlatković, B. Samardžić <u>A New Approach to Determining Failure Time of Discrete Systems with Variable Parameters</u>		
Session O	O5 • Regular paper	Page 378
B. Danković, P. M. Rajković, M. S. Stanković, S. D. Marinković <u>The Almost Orthogonal Polynomial Sequences of Laguerre Type and Applications</u>		

Session P: INDUSTRIAL AND PROCESS CONTROL II

Chairperson: D. Tasić

Session P	P1 • Regular paper	Page 382
N. N. Nedić, S. Lj. Prodanović <u>Some Modifications in the Process Identification and Tuning of Controller of Level in Condenser in Thermal Power Plant</u>		
Session P	P2 • Regular paper	Page 386
Lj. M. Dubonjić, V. S. Brašić <u>Control in Transport and Dosing Devices with Time Delay-Method for Extracting Region of Absolute Stability</u>		
Session P	P3 • Regular paper	Page 390
V. S. Brašić, Lj. M. Dubonjić <u>Simulation the Transport and Dosing Device Behavior Like Object in Automatic Control System with Pre - Defined Relative Stability</u>		
Session P	P4 • Regular paper	Page 394
B. Nikolić, B. Dimitrijević, N. Milošević, G. T. Đorđević <u>Influence of Phase Loop Order on the Performance of Modified Diversity Receiver</u>		

Session P	P5 • Regular paper	Page 398
H. Deneva, L. Lazov, D. Nedeva <u>Engineering Prognostication and Optimization of Laser Cutting Process an Application of Software Product Temperaturfeld3D</u>		
Session P	P6 • Regular paper	Page 402
T. R. Nikolić, M. K. Stojčev <u>A Fault-Tolerant Interconnections Using LCDMA and Duplication with Comparison Techniques</u>		
Session P	P7 • Regular paper	Page 406
M. Stojčić <u>Linear Speed Control of Stepper Motor in Real Time</u>		

Session R: ELECTRICAL POWER SYSTEMS

Chairperson: N. Mitrović

Session R	R1 • Regular paper	Page 410
L. M. Korunović, M. B. Vučković <u>The Analysis of Averaged Chronological Daily Load Curves for Different Months of Shops</u>		
Session R	R2 • Regular paper	Page 414
B. Banković, N. Mitrović, M. Petronijević, V. Kostić <u>Practical Implementation of Field Oriented and Direct Torque Control Schemes for Teaching Induction Motor Drive</u>		
Session R	R3 • Regular paper	Page 418
M. N. Dubyago, N. K. Poluyanovich <u>The Method of Nondestructive Testing and Prediction of Evolving Insulation Defect of Power Line Cable</u>		
Session R	R4 • Regular paper	Page 423
V. A. Shevchenko, M. Y. Medvedev, V. Kh. Pshikhopov <u>Assessment of Disturbance in the Process of Regulatory Control of Synchronous Generator</u>		

Session S: WIRELESS SENSOR NETWORKS AND WEB

Chairperson: K. Benkič

Session S	S1 • Regular paper	Page 427
S. Arsić, S. Stankov, N. Danković, M. Milovanović, Z. Ičić <u>The Usage of Mobile Communications for SCADA Systems Data Transmission</u>		
Session S	S2 • Regular paper	Page 431
S. Aleksandrov, Z. Jovanović, D. Antić, S. Perić, S. Nikolić, D. Mitić <u>Web Access to the Real Mechatronics Laboratory</u>		
Session S	S3 • Regular paper	Page 435

M. D. Jovanović, G. S. Nikolić, B. D. Petrović, G. Lj. Đorđević <u>TDMA Protocols with Reduced Frame for Wireless Sensor Networks</u>		
Session S	S4 • Regular paper	Page 439
K. Benkić, M. Malajner, U. Pešović <u>A Simple Localization System Based on IEEE 802.15.4. Radio-modules</u>		

POSTER SESSION

Chairpersons: Z. Ž. Cvetković, D. Rančić

Poster Session	PS1 • Regular paper	Page 443
A. Dimov <u>Service Oriented Framework for Embedded Software Systems</u>		
Poster Session	PS2 • Regular paper	Page 447
D. Lj. Petković, G. M. Radenković <u>An Electrochemical Method for Evaluation Corrosion Resistance of Austenitic Stainless Steel Used in Orthopedic Implants</u>		
Poster Session	PS3 • Regular paper	Page 451
T. Titova, V. Nachev, Ch. Damyanov <u>Non-Destructive Egg Quality Determination with Intelligent Classifiers</u>		
Poster Session	PS4 • Regular paper	Page 455
D. Trajković, V. Nikolić, S. Nikolić, S. Perić, M. Milojković <u>Modeling and Simulation of Pump Station using Bond Graphs</u>		
Poster Session	PS5 • Regular paper	Page 459
D. Pogosov <u>Estimation in Control Systems of Highly Maneuverable Tracked Robots</u>		
Poster Session	PS6 • Regular paper	Page 463
Z. Ž. Cvetković, M. J. Bajić <u>Exponential Transmission Line with Losses in the Dielectric</u>		
Poster Session	PS7 • Regular paper	Page 467
D. Antić, D. Rančić, B. Stoiljković, P. Stoiljković, Ž. Janković, D. Zirojević, M. Gačnik, B. Magoutas, Lj. Antić, E. Petrović, M. Milojković, D. Mitić, I. Antolović, B. Predić <u>Reinforcing Flexibility of Small and Medium Sized Enterprises by Dynamic Business Process Management</u>		
Poster Session	PS8 • Regular paper	Page 471
A. Golubović, Č. Stefanović, I. Temelkovski <u>Outage Probability of Triple-Branch Selection Diversity Based on Desired Signal Algorithm over Correlated Weibull Fading Channels</u>		
Poster Session	PS9 • Regular paper	Page 475
D. D. Šešlija, S. P. Dudić, I. M. Milenković <u>Impact of Pressure Regulation of Pneumatic Actuators on Cost Effectiveness</u>		
Poster Session	PS10 • Regular paper	Page 479
V. Nachev, T. Titova, Ch. Damyanov <u>Increasing the Accuracy of Neural Classifiers in Collective Classification Schemes</u>		

Proceedings of the XI International Conference on Systems, Automatic Control and Measurements - SAUM 2012 -

Publishers: Faculty of Electronic Engineering Niš
Faculty of Mechanical Engineering Niš
SAUM - Association of Serbia for Systems, Automatic Control and Measurements

Editors: Prof. Dr. Vlastimir Nikolić
Prof. Dr. Dragan Antić
Assistant Prof. Dr. Darko Mitić

Technical Assistance: Dr. Marko Milojković
Saša S. Nikolić
Staniša Perić
Miodrag Spasić
Nebojša Jotović
Nikola Danković
Miroslav Milovanović

ISBN 978-86-6125-072-9

CIP - Каталогизacija у публикацији
Народна библиотека Србије, Београд

681.5(082)
62-52(082)
621.317(082)
53.08(082)
007:004(082)
007.52(082)

INTERNATIONAL Conference on Systems,
Automatic Control and Measurements (11 ; 2012
; Niš)

Proceedings / XI International Conference
on Systems, Automatic Control and
Measurements, SAUM 2012, Niš, November 14-16,
2012 ; [editors Vlastimir Nikolić, Dragan
Antić, Darko Mitić]. - Niš : Faculty of
Electronic Engineering : Faculty of
Mechanical Engineering ; Belgrade : SAUM,
2012 (Niš : Unigraf). - 482 str. : ilustr. ;
28 cm

Tekst štampan dvostubačno. - Tiraž 150. -
Bibliografija uz svaki rad.

ISBN 978-86-6125-072-9 (FEE)

a) Системи аутоматског управљања –
Зборници b) Мерна техника - Зборници c)
Мерни инструменти - Зборници d)
Информациона технологија - Зборници e)
Роботика - Зборници
COBISS.SR-ID 194625292

No. of copies: 150

Printed by: Unigraf, Niš