

2010 3rd International Symposium on Electrical and Electronics Engineering

(ISEEE 2010)

**Galati, Romania
16 - 18 September 2010**



IEEE Catalog Number: CFP1093K-PRT
ISBN: 978-1-4244-8406-5

Table of Contents

Plenary Talk

Smart Grids – Challeneges and Solution	I
<i>Mihai Octavian Popescu, Claudia Popescu, Al. Stefanescu</i>	

Optimal Control using Energetic Criteria for Electric Drive Systems.....	IV
<i>Emil Rosu, Traian Munteanu, Marian Gaiceanu, Romeo Paduraru, Teodor Dumitriu, Cristinel Dache</i>	

Electrical circuits and systems

Circuit Models of Passive One-ports with Resistive and Capacitive Behavior.....	1
<i>Florin Constantinescu, Alexandru Gabriel Gheorghe, Miruna Nitescu</i>	

The Influence of Temperature and Electric Field Frequency on the Dielectric Properties of Electrical Machines Insulation Systems	5
<i>Stefan A. Busoi, Petru V. Notinger, Laurentiu M. Dumitran and Gabriel Tanasescu</i>	

Analysis and Modeling on the Induction Machine Faults.....	11
<i>L. Mariut , M. Filip, E. Helerea, I. Peter</i>	

Development of a marine current turbine simulator based on hils concept.....	17
<i>Caraiman George, Nichita Cristian, Mînzu Viorel, Dakyo Brayma, Jo Chul H.</i>	

Thermal Study of Induction Machine Using Motor-CAD.....	23
<i>Dragoș I. Deaconu, Constantin Ghiță, Aurel I. Chirilă, Valentin Năvrăpescu, Mircea Popescu</i>	

Computer Aided Design of the Earthing Installations for the Substations	34
<i>Marian I. Duță, Silvia-Maria M. Digă, Denisa Gh. Rușinaru, Maria D. Brojboiu, Daniela N. Popescu</i>	

New Considerations Regarding Frequency Influence on Soft Magnetic Materials Characteristics..	39
<i>Marius-Daniel Calin, Elena Helerea, Ioan-Danut Oltean</i>	

Communications

A Generalization of Raised Cosine Signals	45
<i>Nicolae Dumitru Alexandru</i>	

Secure IP Multicast over Satellite	49
<i>Daniel Caragata, Emil Sofron, Ion Tutanescu and Safwan El Assad</i>	

Performance of Asymmetric Turbo Codes on Rayleigh Fading Channels for Small Interleaver Length	54
<i>Elena Cojocariu, Daniela Tarniceriu, Lucian Trifina, Alexandru Georgian Lazar</i>	

Designing an Optimal Single Chip FPGA Video Interface for Embedded Systems	58
<i>Aleodor Daniel Ioan</i>	

A New Quantum Inspired Genetic Algorithm for Evolvable Hardware	64
<i>Rustem Popa, Viorel Nicolau, Silviu Epure</i>	

Signal processing

Parameter Selection in Periodic Nonuniform Sampling of Multiband Signals	79
<i>Moslem Rashidi, Sara Mansouri</i>	

About Classifying Sounds in Protected Environments	84
<i>Marius Vasile Ghiurcau, Corneliu Rusu</i>	

Using the Redundant Inverse Kinematics System for Collision Avoidance	88
<i>Aurel Fratu, Laurent Vermeiren, Antoine Dequidt</i>	

Power converters and applications

Structure of an Optimal Servo Drive System.....	94
<i>Corneliu Botan, Florin Ostafi</i>	

Evaluation of Power Quality Factors on the Boundaries between Networks	99
<i>Denisa Rusinaru, Silvia Diga, and Marian Duta</i>	

Optimal Control of Permanent Magnet Synchronous Machines for Cold Rolling Mills	105
<i>Marian Gaiceanu, Adrian Minzararu</i>	

Highly Efficient Variable-Step-Size Maximum Power Point Tracker for PV Systems	112
<i>Emad M. Ahmed, Masahito Shoyama</i>	

Energy Management in Hybrid Systems for Automotive.....	124
<i>Carmen Lungoci</i>	

Dialogue Session 1- Electrical Engineering

Experimental Results on the Nonlinear Effects in Power BAW Resonators.....	129
<i>Aurelian Florea, Olivier Llopis, Miruna Nițescu, Florin Constantinescu</i>	

Comparative analysis of sonar heads drive systems	137
<i>Ion Voncila, Răzvan Buhosu, Elena Voncila</i>	

Analysis of the Stability of Synchronous Motor - Generator Unit Used in Propulsion Systems of Autonomous Electric Vehicles.....	143
<i>Ion Voncila, Elena Voncila, Grigore Fetecău</i>	
Motion Control of a Single-Beam Gantry Crane Trolley	149
<i>Marian Gaiceanu, Florin Stan</i>	
Linear Control of DC Motor Drive with Field Weakening	153
<i>Romeo Paduraru, Emil Rosu, Marian Gaiceanu, Traian Munteanu, Teodor Dumitriu, Cristinel Dache</i>	
Finite Element Analysis, Experimental Validation and Optimization of an Electromagnetic Linear Displacement Transducer.....	159
<i>Felicia Gheorghe, Virgilii Fireteanu</i>	
Mathematical Modelling of Color Mixing Process and PLC Control Implementation by Using Human Machine Interface.....	165
<i>Laurentiu Schiop, Marian Gaiceanu</i>	
Advantages of common DC busses on ships	177
<i>N. Remijn MSc, B. Krijgsman MSc</i>	
Control of 4-leg active power filter for reactive power and unbalance compensation	183
<i>Bălănuță C., Gurguiatu G., Munteanu Toader, Fetecău G</i>	
Stability analysis for an improved power optimization method applied to a wind energy conversion system.....	187
<i>Adriana Scarlat, Iulian Munteanu, Antoneta. I. Bratcu and Emil Ceangă</i>	
Educational Software for the Numerical Correction of Experimental Magnetization Curves	193
<i>Valentin Ionita, Emil Cazacu</i>	
Dialogue Session 2- Electronics and Telecommunications Engineering.	
Mass Detection and Classification in Breast Ultrasound Image Using K-means Clustering Algorithm.....	197
<i>Simona Moldovanu, Luminita Moraru</i>	
A Study Regarding Spatial Impulse Response of Concave Transducers with Applications on Bats	201
<i>Ana-Maria Chiselev, Luminita Moraru</i>	
Passcode Based Authentication Protocol (Part I – Solution Evaluation and Software Design)....	204
<i>Adrian-Viorel Diaconu</i>	
Improved environmental monitor and control using a wireless intelligent sensor network	211
<i>Dragoș Mihai OFRIM, Bogdan Alexandru Ofrim, Dragoș Ioan Săcăleanu</i>	
Supporting Environmental Surveillance by Using Wireless Sensor Networks	216
<i>Darie Angela, Mihai Ghenghea, Ion Bogdan</i>	

Bandwidth Management Methods for QoS Assurance in Wireless Communication Networks 220
Felix Diaconu, Luminița Scripcariu

Performance Analysis on T-MAC Protocol over a Body Area Network 224
Mihai Ghenghea, Angela Alina Darie, Ion Bogdan

Wave ICA: a Hybrid Tool for Image Processing..... 234
Daniela Coltuc, Iulian Udriști, Nicoleta Angelescu

FPGA Implementation of a Matrix Structure for Integer Division..... 238
Bogdan Claudiu Alecsa, Aleodor Daniel Ioan

A two agent based structure for hard handover analysis using dynamic channel allocation..... 244
Gabriel Sîrbu, Ion Bogdan

Optimization of the Number of Iterations in the Iterative Weighted Neighborhood Filtering 250
J. S. Armand Eyebe Fouoda, Anisia Gogu, Mihai Culea, Martin Kom

Color Stereo Embedding by Reversible Watermarking..... 256
Dinu Coltuc, Ion Caciula, Henri Coanda

Special Sessions

Advances in Sonar Systems. New Approaches and Ideas

Analysis of the Code Masking Efficiency of Chaotic Clocks in Microcontroller Applications.... 261
Horia-Nicolai L. Teodorescu, Emanuel-Florin Iftene

Data Processing for Posturography and Gait Analysis 267
Marius Hagan, Horia-Nicolai Teodorescu, Adriana Sîrbu

An Efficient Sound Propagation Software Simulator Based on Cellular Automata..... 273
Radu Dogaru, Ioana Dogaru

Algebraic Normal Form for Rapid Prototyping of Elementary Hybrid Cellular Automata in FPGA 277
Ioana Dogaru, Radu Dogaru

On Time Delay Estimation by Evaluation of Three Time Domain Functions 281
Dorel Aiordachioae and Viorel Nicolau

On Modeling of the Air Transmission Channel for Sonar Systems 287
Dorel Aiordachioae, Gabriel Sîrbu, Anisia Gogu

Energy Efficiency of Electric Drive Systems

Analysis of Energy Efficiency by Replacing the Throttle Valve with Variable Speed Drive Condensate Pump from E.C. Turceni 293
Marian Ciontu, Daniela Popescu, Marian Motocu

Program for efficiency analizing for variable speed drive of pumps..... 298

Marian Ciontu, Cristian Bratu

Energy efficiency of stand alone photovoltaic systems used in electrical drive for positioning ramps of anti hail missile 303

Laurentiu Alboteanu

The power factor analysis from the driving systems of the centrifugal fans 308
Gheorghe Manolea

Local Monitoring System of the Permissible Temperature for the Medium Voltage Metal-Enclosed Switchgear and Control Gear 311

Serghei Vlase, Marian Duta, Sebastian Popescu, Cristian Salceanu, Catalin Dobrea, Laurentiu Stefan

Integrated Micro CCHP based on Renewable Energy Sources

Analysis by Indicators Performance of the Conceptual Structures mCCHP-SE using Renewable Energy Sources 315

Nicolae Badea, Ion Voncila, Marcel Oanca, Ion Paraschiv

Comparative Study of Energy Performance for two mCCHP Systems Used in Domestic Residence 321

Nicolae Badea, Ciprian Vlad, Anders Stolan

Design Considerations of Permanent Magnet Brushless Generators 327

Paul Minciunescu, Mihaela Scortescu, Stelian Marinescu

Energy storage systems for buildings equipped with photovoltaic cells 332

Paula ANGHELIȚĂ, Mihaela CHEFNEUX, Relu BALABAN, Loren TROCAN

Design Criteria for mCCHP Electric System 336

Viorel Stanciu, Mihaela Chefneux, Maricica Pesteri, Alexandra Valentina Toma

A predictive model for the energetic management of a mCHP-Stirling heating unit 341

A. Radaschin, V. Apostol, F. Udrescu, G. Vladut

Behavior analysis of the electrical system from CHP plants in case of changes in mechanical and electrical quantities and topological structures 347

Răzvan Buhosu, Ion Voncila, Ion Paraschiv, Marcel Oanca

Advanced Technology in Electronic Assembly

VPS Technology and Applications 351

I. Plotog, G. Varzaru, I. Svasta

Mechanical Test Assessment for Electronic Modules Able to Function in Harsh Conditions 355

I. Plotog, G. Varzaru, I. Svasta

Author Index 359