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Record 1 of 95**Title:** An Ultra Low Voltage Sigma Delta Modulator with Inverter Based Scalable Amplifier**Author(s):** Vieru, RG (Vieru, Razvan G.); Ghinea, R (Ghinea, Romeo)**Book Group Author(s):** IEEE**Source:** 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 3-6 **Published:** 2012**Abstract:** In this paper, a low voltage, second order, switched capacitor Sigma Delta modulator with a novel fully differential amplifier is presented. The immunity to variations with process corners and temperature can easily be achieved, thus maintaining the effective number of bits throughout the entire input signal band. In order to validate the principle, in the ultra low voltage environment, the modulator was designed and tested for the voice band input signals. The circuit was designed using a triple well standard CMOS process, with typical threshold values, without any internal voltage boosting circuits and it is intended for speech applications.**Accession Number:** WOS:000318702700001**Conference Title:** 10th International Symposium on Electronics and Telecommunications (ISETC)**Conference Date:** NOV 15-16, 2012**Conference Location:** Timisoara, ROMANIA**Conference Sponsors:** Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci**ISBN:** 978-1-4673-1176-2

Record 2 of 95**Title:** Intelligent Tele-Management of Street Lighting Equiped with HID Lamps**Author(s):** Tomoroga, M (Tomoroga, Mircea); Jivet, I (Jivet, Ioan); Nicoara, D (Nicoara, Dan)**Book Group Author(s):** IEEE**Source:** 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 7-10 **Published:** 2012**Abstract:** The paper presents an original solution for intelligent street lighting, power saving by tele-management. The focus is on lighting systems using luminaries equipped with high pressure sodium lamps. The paper details the results of measurements of a wireless controlled supplementary ballast for the dimming function for HID lamps. An efficiency analysis of the switched supplementary ballast for dimming function is presented. An innovative ISM band wireless network protocol for tele-management is also presented. The paper outlines the results of the preliminary tests of the novel protocol with minimal interference with ISM band wireless infrastructure. The basic operation protocol of the proposed wireless network is introduced with emphasis on minimal ISM band interference. An original node identification scheme is also proposed for geographical organization and visualization of the network. In conclusions the future further development of the proposed intelligent lighting solution are outlined.**Accession Number:** WOS:000318702700002**Conference Title:** 10th International Symposium on Electronics and Telecommunications (ISETC)**Conference Date:** NOV 15-16, 2012**Conference Location:** Timisoara, ROMANIA**Conference Sponsors:** Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci**ISBN:** 978-1-4673-1176-2

Record 3 of 95**Title:** OTA BASED PIECEWISE LINEAR CONDUCTANCE**Author(s):** Mocanu, M (Mocanu, Manuela); Cracan, A (Cracan, Arcadie); Goras, L (Goras, Liviu)**Book Group Author(s):** IEEE**Source:** 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 11-14 **Published:** 2012

Abstract: In this paper we present an operational transconductance amplifier based structure that simulates a piecewise linear conductance.

Accession Number: WOS:000318702700003

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 4 of 95

Title: Testing Reverse Polarity Energy Reserve Capacitor With The Automatic Crash Event Generator

Author(s): Gavrilă, S (Gavrilă, Silviu); Lie, I (Lie, Ioan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 15-18 **Published:** 2012

Abstract: The goal of this paper is to present how the Airbag Control Unit deployment capability is affected by the energy reserve electrolytic capacitor mounted in reverse polarity by performing multiple crash events with a simple solution developed for generating automatic crash events. The multiple crash events have the role of inducing the deployment of all the restraint functions connected to the energy reserve buffer and therefore causing the depletion of the energy stored at the end of the autonomous operating time of the unit.

Accession Number: WOS:000318702700004

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 5 of 95

Title: Study on the Effect of the Voltage Upon the Electrolytic Capacitors Mounted in Reverse Polarity

Author(s): Gavrilă, S (Gavrilă, Silviu); Gontean, A (Gontean, Aurel)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 19-22 **Published:** 2012

Abstract: This paper presents an experimental study on the effect of the voltage on the electrolytic capacitors mounted in reverse polarity. The experiments indicate that if the capacitors are charged with a constant current, the voltage across them tends to slowly oscillate due to the fact that the leakage current becomes very high instead of being closely to 0. The study is performed on 3 types of electrolytic capacitors from NCC: 4700 μ F, 3200 μ F and 2200 μ F. All of the 3 types of capacitors are indicating a similar behavior.

Accession Number: WOS:000318702700005

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 6 of 95

Title: Using PIC16F870 as a Control Unit for Electrodermal Centers Analyzer

Author(s): Babaita, M (Babaita, Mircea); Papazian, P (Papazian, Petru); Dehelean, L (Dehelean, Liana)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND

TELECOMMUNICATIONS **Pages:** 23-26 **Published:** 2012

Abstract: Targeting of the phenomena which arises when the electric current is passing through the human body leads to the definition of some equivalent electric circuits. The parameters of the passing segment of the current through the skin were studied. For this, an original measuring device was conceived and built using a digital control unit based on a PIC16F870 microcontroller.

Accession Number: WOS:000318702700006

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 7 of 95

Title: SPICE parameters extraction methods of MOS transistors under ionizing irradiation action

Author(s): Rusanovschi, VI (Rusanovschi, V. I.); Avram, AI (Avram, A. I.); Rusanovschi, M (Rusanovschi, M.)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 27-29 **Published:** 2012

Abstract: Effects occurring in the active elements of integrated circuits (IC), such MOSFETs, depend on dose accumulation summary, the absorption unit defects under the action of high energy particles. To modeled the MOSFETs parameters using SPICE simulation we must consider the degradation model of MOSFETs according with a relevant list of parameters for irradiation influence. That parameters must take into account also physics and topological characteristics of MOSTETs devices. Using this criteria, the simulation will involve a minimal set of parameters with relevant results in study of ionizing irradiation action.

Accession Number: WOS:000318702700007

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 8 of 95

Title: Residential Smart Gas Meters

Author(s): Gavra, L (Gavra, Laurentiu); Crainic, MS (Crainic, Monica Sabina); Pupsa, P (Pupsa, Petru); Popa, G (Popa, Gheorghe)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 37-40 **Published:** 2012

Abstract: Natural gas is a non-regenerable energy source. For this motive she must be managed properly to protect it for future generation. Proper management of natural gas reserves requires submetering. Submetering of natural gas consumption and revenue collection is traditionally accomplished using residential gas meter. To resolve some problem of revenue collection residential smart gas meters is implemented. In this context we at SC AEM SA from Timisoara, Romania produce smart gas meters such as diaphragm gas meters with an electronic index and ultrasonic gas meters.

Accession Number: WOS:000318702700008

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 9 of 95

Title: Thermoelectric Modules Thermal Conductance Measurement System

Author(s): Cernaianu, MO (Cernaianu, Mihail Octavian); Gontean, A (Gontean, Aurel)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 41-44 **Published:** 2012

Abstract: This paper presents an experimental method for determining the thermal conductance variation with temperature of a thermoelectric module (TEM). In general when building a Spice model for the TEM, the temperature variation of the internal parameters is not taken into account. This leads to errors when high accuracy is desired in designing and simulating TEM based applications. The authors propose a modular test stand that is primarily used for an energy harvesting application and can be modified to also measure the TEMs thermal conductance variations with temperature. A virtual instrumentation application is used to automate the process. The experimental results are presented and compared with the datasheet values. The obtained results will be used to build an improved thermoelectrical Spice model that takes into account the parameters variation with temperature.

Accession Number: WOS:000318702700009

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 10 of 95

Title: Semi-Automated Power Supply Efficiency Measuring System

Author(s): Prutianu, F (Prutianu, Florin); Ioana-Monica, PC (Ioana-Monica, Pop-Calimanu); Popescu, V (Popescu, Viorel)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 45-48 **Published:** 2012

Abstract: The paper presents a semi-automated method to measure the efficiency of the switching mode power supplies (SMPS). This method was implemented in the automotive industry and provided quick results used to validate the product design. The authors are presenting the following algorithms: for the operational software, for test case selection and for the test cases execution. These algorithms are implemented in the LABView programming language, product developed by National Instruments Co. This semi-automated system was implemented with success into a research and development laboratory. The main advantages of this semi-automated system are: ability to provide quick measurement results, low error introduced by the system, ability to generate the test report. The results obtained with this system are presented into graphical form and table form.

Accession Number: WOS:000318702700010

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 11 of 95

Title: Effect of Spectral Interference on the Normalized Sine-Wave Frequency Estimation by the Energy-Based Method

Author(s): Belega, D (Belega, Daniel); Petri, D (Petri, Dario); Dallet, D (Dallet, Dominique)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 49-52 **Published:** 2012

Abstract: In this paper an expression for the maximum error due to the spectral interference from the image component on the normalized sine-wave frequency estimates returned by the Energy-Based Method (EBM) is derived. The accuracy of the derived expression is verified through computer simulations for some commonly used

three- and four-term cosine windows. Some interesting considerations about the application of the derived results are also reported.

Accession Number: WOS:000318702700011

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 12 of 95

Title: Descriptive Statistical Transport Stream Analyzer

Author(s): Andrei, AR (Andrei, Alexe Radu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 53-56 **Published:** 2012

Abstract: This paper presents the design and implementation of a new type of transport stream analyzer based on metrics derived from the field of descriptive statistics. The method used ensures a detailed analysis of the input stream and presents the result of the analysis in a clear and clutter free manner. In addition it can be modified and tailored to different situation, by defining and using new custom metrics, yielding thus a flexibility not given by any other analyzing system.

Accession Number: WOS:000318702700012

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 13 of 95

Title: Educational PV System at the "Politehnica" University of Timisoara

Author(s): Toader, D (Toader, Dumitru); Luminosu, I (Luminosu, Ioan); De Sabata, A (De Sabata, Aldo); Negrea, DM (Negrea, Dan Mihai)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 57-60 **Published:** 2012

Abstract: The photovoltaic system within the "Politehnica" of University of Timisoara, Romania has a surface of the PV cells of 16.06 m² and a total surface of the panels of 18.30 m². In the period April 2011 - February 2012 it worked with an average efficiency of 12.66% and with an annual energy efficiency of 1267.5 kWh/kW(p). The installations injects electrical energy in the public grid. The PV system is used for educational practical applications for Master degree students in Solar Energy, for realization of dissertation theses and for public dissemination of information on solar energy. An assessment of the performances of the system based on measured data is provided in this communication. The results are useful for solar energy users interested in installing PV systems in the region.

Accession Number: WOS:000318702700013

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 14 of 95

Title: On Using a Gyroscope to Measure the Angular Position

Author(s): Mischie, S (Mischie, Septimiu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 61-64 **Published:** 2012

Abstract: This paper presents the hardware and software structure of a gyroscope-based angular position measurement system. The proposed system contains a rotary platform which can be rotated manually. The gyroscope is attached to the centre of the platform and is connected to a MSP430 microcontroller via SPI interface. The current angular position of the platform is displayed in real time on the screen of a personal computer (PC). This facility is possible because the microcontroller sends the measurement data to the COM1 port of the PC using an UART peripheral module. The main sources of errors, namely the influence of the temperature and the gain error, are considered and then removed. Experimental results which prove the functionality of the system are also presented.

Accession Number: WOS:000318702700014

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 15 of 95

Title: Thermoelectrical Energy Harvesting System: Modelling, Simulation and Implementation

Author(s): Cernaianu, MO (Cernaianu, Mihail Octavian); Cirstea, C (Cirstea, Cosmin); Gontean, A (Gontean, Aurel)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 67-70 **Published:** 2012

Abstract: This paper presents a thermoelectrical energy harvesting system SPICE simulation that is using thermoelectrical generators (TEGs). The authors propose an improved TEG thermoelectrical model that takes into account the parameter variations. A specialized boost DC-DC converter is used to store the harvested energy into a Li-Ion rechargeable battery. An autonomous maximum power point tracking (MPPT) system that is able to harvest the maximum energy delivered by the TEG is proposed and simulated.

Accession Number: WOS:000318702700015

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 16 of 95

Title: A New Low-Stress High Efficiency Buck Converter

Author(s): Ciresan, A (Ciresan, Aurel); Lascu, D (Lascu, Dan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 71-74 **Published:** 2012

Abstract: A new step-down converter exhibiting low voltage stress across semiconductor devices, low inductor current stress and high efficiency is presented. Operation in continuous conduction mode (CCM) is analyzed in detail and main design equations are provided. The theoretical considerations were confirmed both by simulation and by experimental results.

Accession Number: WOS:000318702700016

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci
ISBN: 978-1-4673-1176-2

Record 17 of 95

Title: Validation System For Power Supply Module Part Of Automotive ECUs

Author(s): Prutianu, F (Prutianu, Florin); Popescu, V (Popescu, Viorel); Monica, PCI (Monica, Pop Calimanu Ioana)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 75-78 **Published:** 2012

Abstract: The paper presents a method to validate/ test the power module, part of an electronic control unit. In this paper the measurement system, types of measurements that can be done and the results are presented. This system is desired to be complete automated because validation/testing time is one critical factor into a development process of automotive industry. This system was implemented with success, used to validate several power modules from automotive industry. The system is remote controlled with LABView program, over GPIB communication protocol.

Accession Number: WOS:000318702700017

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 18 of 95

Title: Design and Simulation of DC/DC Boost Converter used for a Distributed Sensing System Based on a Multidrop Sensor Network with RS485 Interface

Author(s): Ioana-Monica, PC (Ioana-Monica, Pop-Calimanu); Florin, P (Florin, Prutianu); Viorel, P (Viorel, Popescu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 79-82 **Published:** 2012

Abstract: The solar energy has several advantages for instance, it is clean, unlimited, and has potential to provide sustainable electricity in area not served by the conventional grid power, and for this reason solar energy is the most suitable renewable energy source that will be used in entire world. This paper shortly presents the importance of solar energy. The main focus is to design and simulate a DC/DC converter used for supply a distributed sensing system based on a multidrop sensor network with RS485 interface. This system will be used to measure temperature, voltage and current in the automotive or navy application.

Accession Number: WOS:000318702700018

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 19 of 95

Title: Dynamic Power Management Through Adaptive Task Scheduling for Multi-Threaded SIMD Processors

Author(s): Petrica, L (Petrica, Lucian)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 83-86 **Published:** 2012

Abstract: Power management is one of the most important issues in computer architecture today. Devices often operate on the edge of their thermal envelope and system designers must balance the power consumption of various system components in order to ensure safe operation. This paper proposes an adaptive scheduler for a multi-threaded

SIMD processor which is able to trade performance for power consumption in order to stay within a given power budget. By moving threads between processor cores, the scheduler is able to create more opportunity for the use of aggressive power management techniques like clock gating. Evaluation shows the proposed algorithm enables more power savings than frequency scaling for various synthetic workloads.

Accession Number: WOS:000318702700019

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 20 of 95

Title: Mobile robot control based on principles of Electrostatics

Author(s): Kevac, L (Kevac, Ljubinko); Mitrovic, S (Mitrovic, Srdan); Durovic, Z (Durovic, Zeljko); Rodic, A (Rodic, Aleksandar)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 87-90 **Published:** 2012

Abstract: This paper presents the procedure of designing a control algorithm for differential driven mobile robot that is a typical example of a system with non-holonomic constraints. Mobile robot is controlled to reach an endpoint starting from random initial position in space. While moving to the endpoint robot is supposed to avoid any obstacle that is in its way. The designing procedure is based on Electrostatics theory. Robot and obstacles are supposed to be positively charged, while the endpoint is negatively charged. With this approach, mobile robot avoids detected obstacles and moves to the endpoint. Efficiency of proposed procedure is illustrated by detailed simulations.

Accession Number: WOS:000318702700020

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 21 of 95

Title: Future directions for implementation of aerial robot

Author(s): Filipovic, M (Filipovic, Mirjana); Kevac, L (Kevac, Ljubinko); Djuric, A (Djuric, Ana)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 91-94 **Published:** 2012

Abstract: The aim of this paper is to highlight the importance of forming a mathematical model of Cable-suspended Parallel Robot - CPR (aerial robot), since only that way CPR provides precise guidance in the area. Only highly intelligent control systems, based on high authentic system mathematical model, can provide the realization of very complex tasks. The established mathematical model provides an opportunity to modernize CPR significantly and to make its application become much wider.

Accession Number: WOS:000318702700021

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 22 of 95

Title: Automated Colored Object Sorting Application for Robotic Arms

Author(s): Szabo, R (Szabo, Roland); Lie, I (Lie, Ioan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 95-98 **Published:** 2012

Abstract: This paper presents an application to sort colored objects with a robotic arm. We have a robotic arm which picks different colored cubes and sorts them placing in different cups. The color recognition is made using image recognition with a webcam. The robotic arms are widely used in the industry, but most of them are used in a PTP (Point To Point) trajectory, the moves are learned previously by the robotic arm. Very few robots in the industry are programmed to be smart, or to make decisions. In the future to completely replace the humans with robots, we need robotic arms which can make decisions. One good example for a smart robotic arm can be a robotic arm which can sort objects by color. This can be used in many factories; one good example can be a pencil factory.

Accession Number: WOS:000318702700022

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 23 of 95

Title: Fast and robust point cloud matching based on EM-ICP prepositioning

Author(s): Herrmann, M (Herrmann, Markus); Ottesteanu, M (Ottesteanu, Marius); Otto, MA (Otto, Marc-Andre)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 99-103 **Published:** 2012

Abstract: In this paper a robust point cloud matching algorithm, which is applicable in time critical scenarios, is described. The presented algorithm was developed for 2D point cloud data, but can be extend to higher dimensions. The algorithm itself works in three stages: first the dataset is reduced to contain only significant point, then the reduced point set is prepositioned using a EM-ICP algorithm. This results in robust initial values for use with an ordinary ICP algorithm to fit the full dataset in the third stage. The algorithm is used for real time evaluation of 2D line scanner data, which work with a scan rate of 100 Hz. Therefore the execution time of the proposed algorithm is limited to 10ms at 450 points per scan.

Accession Number: WOS:000318702700023

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Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 24 of 95

Title: Proposed Method of Automatic IP Addresses Calculation and Allocation

Author(s): Marian, CV (Marian, Constantin Viorel); Croitoru, V (Croitoru, Victor); Oprea, D (Oprea, Dan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 107-110 **Published:** 2012

Abstract: In large communication networks, in order to minimize the possibility of error prone human configuration, it is useful to have unique identified network elements (nodes) that are as much as possible auto configurable.

This paper proposes one possible approach for nodes to generate their own addresses (for each interface) based on information relevant to the node (e.g. linked to the node's unique hardware).

In order to ensure that generated addresses are unique, an identifier specific to the node and recognized by the node is used as the basis for generating the node's addresses.

Accession Number: WOS:000318702700024

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 25 of 95

Title: Performance of Trellis Termination Methods for RSC Component Encoders of Turbo Codes

Author(s): Kovaci, M (Kovaci, Maria); Balta, H (Balta, Horia)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 111-114 **Published:** 2012

Abstract: This paper investigates different methods of trellis termination of the recursive systematic convolutional (RSC) encoders used in turbo codes (TCs). The performance of these termination methods in terms of the bit error rate (BER) and frame error rate (FER) obtained by computer simulations are compared and shown. Therefore, the best four well-known termination methods were investigated: tail-biting (circular), single-termination, interleaved dual termination (IDT) and uninterleaved dual termination (UDT). Such an investigation for the case of TCs with one input is important for the design of RSC encoders which are used in many applications.

Accession Number: WOS:000318702700025

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 26 of 95

Title: Data mining based wireless network traffic forecasting

Author(s): Stolojescu-Crisan, C (Stolojescu-Crisan, Cristina)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 115-118 **Published:** 2012

Abstract: In this paper, we propose an approach for predicting time series. This approach is based on the Stationary Wavelet Transform (SWT) and two types of forecasting models, such as based on Auto-Regressive Integrated Moving Average (ARIMA) and based on Artificial Neural Networks (ANNs). The forecasting performance of these models was evaluated using three well-known evaluation criteria: Mean Absolute Error (MAE), Mean Absolute Percentage Error (MAPE) and Symmetric Mean Absolute Percentage Error (SMAPE). Results show that ANN performs better than ARIMA based forecasting technique for small future time intervals. However, ARIMA models can capture the behavior of the time series and is suitable for long term prediction. We present two applications for wireless networks traffic forecasting, the prediction of the moment when a specified Base Station (BS) will saturate (long term prediction) and the prediction of traffic anomalies (short term prediction).

Accession Number: WOS:000318702700026

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 27 of 95

Title: Computing Packets Priority In Diffserv Networks Using Cuda Technology

Author(s): Zoican, S (Zoican, Sorin)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 119-122 **Published:** 2012

Abstract: the purpose of this paper is to evaluate the performance of GPU using in a router for a DiffServ-based network for video conferences using G729 and H264 standards for voice codec and video codec, respectively. The speech and video quality is improved by assigning a priority to each voice and video packet to the edge router of the network. The importance of a packet is determined differently for voice and video. A priority is assigned to the packet according to its importance, which ensures that important packets are more robust during transmission. The priority is computed using graphic processing units (GPU), in a parallel manner, using Compute Unified Device Architecture (CUDA) and therefore the performance is increased.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 28 of 95

Title: Implementation and Evaluation of a Multilevel-Clustering Routing Algorithm for MANETs

Author(s): Zoican, R (Zoican, Roxana)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 123-126 **Published:** 2012

Abstract: Mobile ad hoc networks (MANETs) are autonomously self-organized networks without infrastructure support. In a mobile ad hoc network, nodes move arbitrarily; therefore the network may experience rapid and unpredictable topology changes. Because nodes in a MANET normally have limited transmission ranges, some nodes cannot communicate directly with each other. Hence, routing paths in mobile ad hoc networks potentially contain multiple hops, and every node in mobile ad hoc networks has the responsibility to act as a router. In this article it is examined the importance of wireless ad-hoc networks and the Multilevel-Clustering Routing Algorithm (MCRA). The MCRA algorithm was simulated with our MANSIM simulator and then it was fully implemented in a real-world environment (the campus of the University Politehnica of Bucharest (UPB)). The results demonstrate that, among other MANET routing protocols, the performances of the MCRA protocol are highly improved.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 29 of 95

Title: Towards Securing Client-Server Connections against Man-in-the-Middle Attacks

Author(s): Ordean, M (Ordean, Mihai); Giurgiu, M (Giurgiu, Mircea)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 127-130 **Published:** 2012

Abstract: This paper presents the design concept for an authentication string that makes use of the server's public key and provides client's authenticity through its password without the need of a client side certificate or a second channel. Successful strategies for preventing man-in-the middle attacks are currently relying either on two channel/two factor authentication or two-way encryption. Both these strategies have their downsides, the first one requires users to carry a physical device for authentication and the second requires all the devices that connect to the server have encryption certificates.

Accession Number: WOS:000318702700029

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 30 of 95

Title: Mobile networks planning strategy and development solutions

Author(s): Popa, S (Popa, Sorin)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 131-134 **Published:** 2012

Abstract: In this paper I propose a few solutions to improve the planning strategy in different type of mobile networks using special software and network analyzing tools. Frequently maps are used as information sources in different departments of mobile network operators, GSM, 3G service provider companies, or future LTE networks implementation. Using digital databases and professional analysis tools drastically increases efficiency of develop and planning activities. Such type of application as RTM (Radio Telecommunications Modeling) was developed in cooperation with "RDS-RCS" 3G network planners in order to automate their daily tasks and improve the Network Planning Department work. Paper also present overview of an mobile network operator tasks, witch can be simplified using Gis (Geographical information system), and analyze the option to use co-siting conditions to reuse existing GSM site and extend 3G network or implement new one as LTE. Benefits of using professional analyzing tool for specified network parameter measurement and network planning operations are also mentioned, presenting tables with different network parameters and drawings.

Accession Number: WOS:000318702700030

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 31 of 95

Title: Design of irregular LDPC codes for nonparametric channels

Author(s): Pross, W (Pross, W.); Ottesteanu, M (Ottesteanu, M.); Quint, F (Quint, F.)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 135-138 **Published:** 2012

Abstract: In this paper we propose a design-method for irregular LDPC codes in the context of channels, that can not sufficiently be described with the known parametric channel-models. We introduce a very flexible histogram-based channel-model. Furthermore a design-method based on the downhill simplex optimization is explained for the design of irregular LDPC codes in the context of histogram-based channel-models. We also propose an extension for soft-decision based LDPC decoders and explain the simulation of LDPC codes considering histogram-based channels-models. Following results based on a 2-state Markov-model prove the effectiveness of our design-method, the description of the channel and the decoding based on histograms.

Accession Number: WOS:000318702700031

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 32 of 95

Title: HCCA Support in IEEE 802.11 Networks QoS and QoE Performance Evaluation

Author(s): Pastrav, AEI (Pastrav, Andra Elena Iulia); Puschita, E (Puschita, Emanuel); Palade, T (Palade, Tudor)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 139-142 **Published:** 2012

Abstract: The profile of the service users in telecommunication networks shows a continuous growth in the interest towards real-time applications (streaming and interactive video, web conferences, voice over IP). In order to assure the optimal parameters for this kind of transmissions, the implementation of mechanisms that provide service quality support is mandatory. One way of assuring the QoS support in IEEE 802.11 networks is to enable the HCCA mechanism. This paper provides an objective analysis of the performances of the HCCA mechanism regarding voice and video applications by means of the evaluation of specific QoS/QoE parameters: delay, jitter and MOS.

Accession Number: WOS:000318702700032

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 33 of 95

Title: A New ML Detector for Trellis-Coded Spatial Modulation Using Hard and Soft Estimates

Author(s): Vladeanu, C (Vladeanu, Calin); Martian, A (Martian, Alexandru); Paun, AF (Paun, Adrian Florin); El Assad, S (El Assad, Safwan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 143-146 **Published:** 2012

Abstract: In this paper we propose a new detector for the spatial modulation (SM) receiver. In trellis coded spatial modulation (TCSM) schemes, the joint detection is used for identifying both the antenna index and the transmitted symbol. We define a hybrid maximum-likelihood (ML) SM detector, which determines the transmit antenna index soft estimate and the transmitted symbol hard estimate. The antenna indexes soft estimates are decoded using the logarithmic maximum a posteriori probability (log-MAP) algorithm. It is shown that for at least four receive antennas, the hybrid ML-SM detector offers a coding gain of at least 2 dB over the hard-output solutions in spatially correlated (SC) channels. The proposed detector is less complex than soft-output one, with a negligible bit error rate (BER) performance decrease. The BER is estimated by simulation for QPSK-TCSM transmissions over stationary Rayleigh and SC fading channels with additive white Gaussian noise (AWGN).

Accession Number: WOS:000318702700033

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 34 of 95

Title: Huffman Coding Inspired Peer-to-Peer Multicasting

Author(s): Polaczyk, B (Polaczyk, Bartosz); Cholda, P (Cholda, Piotr); Jajszczyk, A (Jajszczyk, Andrzej)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 147-150 **Published:** 2012

Abstract: An adaptive algorithm, inspired by the Huffman code generation, for constructing a network-aware Peer-to-Peer (P2P) video multicast is proposed. The centralized and distributed variants of the algorithm are presented. The shown simulation-based experiments prove the usefulness of the proposal.

Accession Number: WOS:000318702700034

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 35 of 95

Title: TLS Protocol: Improvement Using Proxies

Author(s): David, R (David, Raluca); Borda, M (Borda, Monica)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 151-154 **Published:** 2012

Abstract: TLS is a cryptographic protocol used to secure the communication over the Internet. We pursued the following objectives: analyze the TLS handshake, introduce the certificate compressed as an extension of the protocol, create dual proxies with cache management and integrate the prediction algorithm in order to obtain efficient memory access time. The experimental results show a server bandwidth improvement of almost 50%.

Accession Number: WOS:000318702700035

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 36 of 95

Title: A Data Fusion Technique Designed For Multimodal Biometric Systems

Author(s): David, MD (David, Marius Daniel); Borda, M (Borda, Monica)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 155-158 **Published:** 2012

Abstract: In this paper data obtained from the two recognizers (fingerprint, iris) are fused at the feature extraction level. A new method of data fusion is proposed. Decision about the person's identity is made for the proposed multimodal system and for each unimodal biometric system analyzed. Also the performance obtained by each system was compared and presented.

Accession Number: WOS:000318702700036

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 37 of 95

Title: LTE Network Time Synchronization

Author(s): Iordache, AV (Iordache, Andrei Vasile); Marghescu, I (Marghescu, Ion)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 159-162 **Published:** 2012

Abstract: In this article the effect of LTE network time synchronization in local area network has been investigated. We considered an indoor office scenario. The investigation is conducted by means of a LTE system-level simulator. The simulator is offered for free under an academic, noncommercial use license. Long Term Evolution (LTE) is a cellular technology developed to support diversity of data traffic at potentially high rates. It is foreseen to extend the capacity and improve the performance of current 3G cellular networks. By means of a simulation process the performance obtained with different synchronization types is compared. We aimed to find out the benefit that synchronization can offer. We want to justify the need for network synchronization, if any.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 38 of 95

Title: Denoising Based Blind Estimation For Single carrier Frequency Division Multiplexing (SCFDM)

Author(s): Mountassir, J (Mountassir, Jamal); Bosneagu, D (Bosneagu, Daniel); Isar, A (Isar, Alexandru)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 163-166 **Published:** 2012

Abstract: Taking into account the ad-hoc and time variant nature of orthogonal modulation communications systems, the blind estimation techniques are preferred for messages estimation. In this paper we prove that the denoising, one of the most important application of wavelets theory, can be used as blind estimation method in Single Carrier Frequency Division Multiplexing (SCFDM) systems, which are used for the uplink multiple access in 3GPP Long Term Evolution (LTE) technology. The architecture of a blind estimation system is proposed, and its performances are highlighted by simulations.

Accession Number: WOS:000318702700038

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 39 of 95

Title: An OpenNetInf-Based Cloud Computing Solution for Cross-Layer QoS: Monitoring Part Using iOS Terminals

Author(s): Stoicuta, F (Stoicuta, Flavius); Ivanciu, I (Ivanciu, Iustin); Minzat, E (Minzat, Emil); Rus, AB (Rus, Andrei Bogdan); Dobrota, V (Dobrota, Virgil)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 167-170 **Published:** 2012

Abstract: This paper presents a monitoring application for quality of service parameters, called iQoSStats, dealing with Available Transfer Rate and One-Way Delay. The tool is running on iOS5-based iPad terminal. Due to the lack of Java support, a proxy server is needed to allow the connection to the cloud computing solution based on OpenNetInf. It relies on an information-centric communication paradigm and provides large-scale information dissemination. The intention was to use this infrastructure to support cross-layer QoS for the Future Internet.

Accession Number: WOS:000318702700039

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 40 of 95

Title: Transition from Analog to Digital Broadcasting

Author(s): Zainea, E (Zainea, Emilia); Martian, A (Martian, Alexandru); Marcu, I (Marcu, Ioana); Fratu, O (Fratu, Octavian)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 171-174 **Published:** 2012

Abstract: Conforming to european standards, starting with the 1st of January 2012 analog TV broadcasting should be completely replaced by digital broadcasting in Romania. In this paper we present a series of measurements done in the 470-790 MHz band, which for the moment still contains both old analog TV stations and new digital ones. An analysis is being made regarding spectral efficiency improvements brought by the new digital technologies, using sets of data collected from two different measurement locations.

Accession Number: WOS:000318702700040

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Record 41 of 95

Title: LTE Downlink Performance

Author(s): Iordache, AV (Iordache, Andrei Vasile); Marghescu, I (Marghescu, Ion)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 179-182 **Published:** 2012

Abstract: This paper investigates the effect of SINR in LTE downlink transmission. 3GPP Long Term Evolution (LTE) is the evolution of the Universal Mobile Telecommunications System (UMTS) which will make possible to deliver next generation high quality multimedia services according to the users' expectations. The results of this simulation serves to evaluate the OFDM-MIMO LTE performance in different environments. Finally an average BER and throughput vs. average SINR are analyzed. An LTE system-level simulator was used. The simulator is offered for free under an academic, noncommercial use license.

Accession Number: WOS:000318702700041

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 42 of 95

Title: Optical Spatial Modulation for Indoor Wireless Communications in Presence of Inter-Symbol Interference

Author(s): Vladeanu, C (Vladeanu, Calin); Lucaciu, R (Lucaciu, Radu); Mihaescu, A (Mihaescu, Adrian)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 183-186 **Published:** 2012

Abstract: In this paper, we analyze an indoor wireless communications system using optical spatial modulation (OSM) when is subject to inter-symbol interference (ISI). An array of light emitting diodes (LEDs) is used in transmitter and an array of photo diodes (PDs) is used in receiver. Each group of k information bits selects a unique transmitting LED from the $2(k)$ total number of available LEDs. In the receiver, an optimal maximum likelihood (ML) detector is used to identify the transmitting LED. A channel model with ISI is introduced and the OSM system performances are tested in presence of additive white Gaussian noise (AWGN). The signal-to-interference-and-noise ratio (SINR) is estimated as function of channel path gains. The bit error rate (BER) is analyzed by simulation as function of SINR for different distances between transmitter and receiver. The simulation results reveal that for SINR values closer to the upper limit, SM receiver performs better than in the only presence of AWGN.

Accession Number: WOS:000318702700042

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci
ISBN: 978-1-4673-1176-2

Record 43 of 95

Title: Study on inter- and intra-symbol interleaving succession in multi-binary turbo codes

Author(s): Balta, H (Balta, Horia); Nafornta, M (Nafornta, Miranda); Balta, M (Balta, Maria)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 187-190 **Published:** 2012

Abstract: Data blocks for multi-binary turbo codes are structured in the form of data arrays with $R \times N$ size, where R is the inputs number of convolutional component code and N is the block length. To achieve interleaving for these blocks are independently performed two interleavings, along the two dimensions of the block. This paper presents a practical study that answers the question: "which is the better ordering of the two interleavings that provides better performance in turbo-codes?". The results of investigations have shown a correlation between the two interleaving, and the better ordering is: first - interleaving along the R dimension and second - interleaving along the N dimension.

Accession Number: WOS:000318702700043

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 44 of 95

Title: Wireless Sensor Network Node Localization via Second Order Cone Programming

Author(s): Rusnac, RI (Rusnac, Ruxandra Ioana); Jivulescu, MA (Jivulescu, Maria Anastasia)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 191-194 **Published:** 2012

Abstract: the localization of nodes in wireless sensor networks is crucial information for using and processing the data provided by the network. There are many approaches to localization, among which second order cone programming. The current paper focuses on solving the problem of localization using second order cone programming (SOCP).

Accession Number: WOS:000318702700044

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 45 of 95

Title: Hybrid PAPR Reduction Scheme using Walsh Hadamard Precoding and Signal Companding

Author(s): Cuteanu, EV (Cuteanu, Eugen Victor); Isar, D (Isar, Dorina)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 195-198 **Published:** 2012

Abstract: The Orthogonal Frequency Division Multiplex technology is used in many communication systems. One of the important problems of these systems is the high peak-to-average power ratio of the transmitted signal. This paper presents a new hybrid technique for reduction of the peak-to-average power, which combines an variable Walsh Hadamad precoding technique with a signal companding technique. The paper presents the performance and advantages of the new proposed technique and compares it with other existing methods.

Accession Number: WOS:000318702700045

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 46 of 95

Title: Channel Quality Prediction Using Neural Networks

Author(s): Botoca, C (Botoca, Corina); Patrascu, A (Patrascu, Alexandru)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 199-202 **Published:** 2012

Abstract: Complex problems of wireless communications require a new, intelligent infrastructure having the capability of learning from measured traffic, adaptability and real time reaction. The properties of neural networks (NN) recommend them as an appropriate tool for telecommunications industry. This paper presents a channel quality prediction in a Long Term Evolution environment by using NN. Different NN architectures were tested and the best performance experiments results are presented. The results are promising, opening new possibilities to NN applications.

Accession Number: WOS:000318702700046

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 47 of 95

Title: Kalman Filter Carrier Synchronization Algorithm

Author(s): Campeanu, A (Campeanu, Andrei); Gal, J (Gal, Janos)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 203-208 **Published:** 2012

Abstract: A new Kalman carrier synchronization algorithm was developed for high-order QAM modulated signals which showed fast acquisition times and good frequency tracking performances. The proposed solution relies on a Decision Directed Kalman filter combined with a lock detector which determines the status of the synchronization process, modifying consequently the filter parameters. Simulation results show that, compared to the performance of a basic Kalman synchronization system, a tenfold improvement or better is achieved in terms of acquisition speed, while keeping a low residual phase noise.

Accession Number: WOS:000318702700047

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 48 of 95

Title: MMSE detector using space-time diversity coding over Rayleigh fading channels

Author(s): Voicu, C (Voicu, Carmen); Halunga, S (Halunga, Simona)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 209-212 **Published:** 2012

Abstract: The present paper investigates the impact of space-time diversity coding over Rayleigh fading channels when the Minimum Mean Square Error (MMSE) multiuser detector structure is used. The Bit Error Rate (BER) is used to evaluate and compare the system performances in several situations. In the final part, several conclusions are highlighted, with respect to the level of performance achieved.

Accession Number: WOS:000318702700048

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 49 of 95

Title: An Optimize Particle Swarm Optimization Routing Algorithm for Data Transmission in Cognitive Radio Networks

Author(s): Simion, D (Simion, Daniel); Graur, A (Graur, Adrian); Alexandru, L (Alexandru, Lavric); Stefan, S (Stefan, Sfichi); Mahdi, AH (Mahdi, Ali Haider)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 213-216 **Published:** 2012

Abstract: In this paper it is propose a routing algorithm using PSO (Particle Swarm Optimization). The PSO outperforms the classical Dijkstra algorithm in that PSO could handle multi-objective routing problems while the Dijkstra cannot. A simulation model was build where PSO is distributed implemented and the optimum route is calculated on each node until destination is reached. This distributed approach gives the proposed algorithm extra avails in that no centralized arbiter is needed. The optimization also considers supporting Quality-of-Service (QoS) to routing in CRNs. It has been shown that algorithm would adapt multi-hop routing according to different QoS requirements, which makes it achievable in future CRNs.

Accession Number: WOS:000318702700049

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 50 of 95

Title: A Flexible Switch-Router with Reconfigurable Forwarding and Linux-based Control Element

Author(s): Moldovan, I (Moldovan, Istvan); Varga, P (Varga, Pal)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 217-220 **Published:** 2012

Abstract: The practical validation of investigating new router architectures and control algorithms is troublesome. It is partially due to the lack of programmable architectures that are fast enough for current networking, widely programmable, and equipped with the great variety of protocols that routers and switches has to handle. The idea of open, software-based routers running on commodity hardware have spread in recent years, resulting several practical implementations of so called soft-routers. Beside the economic advantages of having the Forwarding Element functions tackled by commodity Network Interface Cards (NICs), this approach suffers from issues of sub-optimal performance. This is partly due to the fact that all forwarding decisions are made by the main CPU instead of involving local processors at the NICs. Separating the functions into Forwarding Element and Control Element by the ForCES framework enabled the development of new control algorithms and protocol implementations for routers, however there are no widely available implementations. This paper describes a solution that is utilizing programmable hardware accelerators at the Forwarding Element, while keeping the advantages of open, Linux-based software-based router implementations. The hardware accelerators are implemented in the C-board, a reconfigurable, FPGA-based networking platform. The interoperability with existing Control Elements are described together with an analysis of features and capabilities of this combined solution.

Accession Number: WOS:000318702700050

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

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◀ [1] ▶

Record 1 of 45**Title:** Hybrid-cladding Photonic Crystal Fiber with Novel Dispersion Properties**Author(s):** Monfared, YE (Monfared, Yashar Esfahani)**Book Group Author(s):** IEEE**Source:** 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 221-223 **Published:** 2012**Abstract:** We Proposed a new method to design hybrid cladding photonic crystal fiber with flattened dispersion characteristics by changing the diameter of circular air-holes of the second and forth central rings. Finite Difference Time Domain (FDTD) method is used to analyze the dispersion property in a high-index core PCF. This method produced ultra flattened and low dispersion characteristics over 1000nm wavelength range that has better performance than conventional photonic crystal fibers.**Accession Number:** WOS:000318702700051**Conference Title:** 10th International Symposium on Electronics and Telecommunications (ISETC)**Conference Date:** NOV 15-16, 2012**Conference Location:** Timisoara, ROMANIA**Conference Sponsors:** Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci**ISBN:** 978-1-4673-1176-2

Record 2 of 45**Title:** A Complete Second Order Statistical Analysis of the Hyperanalytic Wavelet Transform**Author(s):** Naformita, C (Naformita, Corina); Isar, A (Isar, Alexandru)**Book Group Author(s):** IEEE**Source:** 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 227-230 **Published:** 2012**Abstract:** This paper represents a continuation of a research previously presented concerning the second order statistical analysis of the Hyperanalytic Wavelet Transform. We add a fourth scenario to the correlation analysis already reported concerning the intra-scale and inter-band dependence of wavelet coefficients and we validate the theoretical results obtained by simulations.**Accession Number:** WOS:000318702700052**Conference Title:** 10th International Symposium on Electronics and Telecommunications (ISETC)**Conference Date:** NOV 15-16, 2012**Conference Location:** Timisoara, ROMANIA**Conference Sponsors:** Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci**ISBN:** 978-1-4673-1176-2

Record 3 of 45**Title:** The Hyperanalytic Wavelet Packets - A Solution to Increase the Directional Selectivity in Image Analysis**Author(s):** Naformita, C (Naformita, Corina); Isar, A (Isar, Alexandru); Naformita, I (Naformita, Ioan)**Book Group Author(s):** IEEE**Source:** 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 231-234 **Published:** 2012**Abstract:** We propose a solution to increase the directional selectivity in image analysis based on wavelets theory. The classical two dimensional (2d) Discrete Wavelet Transform (2d-DWT) has a poor directional selectivity, separating only three directions. The directional selectivity can be improved by using 2d Discrete Wavelet Packets Transform (2d-DWPT). Neither one is able to separate directions with opposite orientations. This separation can be done by using a complex wavelet or wavelet packets transform, such as Hyperanalytic Wavelet Packets Transform (HWPT). We analyze the directional selectivity of the HWPT and we propose an algorithm for the detection of the

principal directions in a given image.

Accession Number: WOS:000318702700053

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 4 of 45

Title: Analysis of dynamic textures using a 3D approach for the Co-occurrence Matrix Features

Author(s): Mocofan, M (Mocofan, Muguras); Alexa, F (Alexa, Florin)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 235-238 **Published:** 2012

Abstract: We focus on the study and characterization of dynamic textures using the co-occurrence matrix features in a 3D approach. More directions and translations are used to compute the co-occurrence matrix features. A relevant characterization will also lead to other applications, such as spatial-temporal segmentation or removal of dynamic backgrounds. The area of applications of dynamic texture is very wide: video surveillance, transaction systems, medical application and video synthesis.

Accession Number: WOS:000318702700054

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 5 of 45

Title: Contrast Enhancement in Video Sequences Using Variable Block Shape Adaptive Histogram Equalization

Author(s): Hillers, B (Hillers, Bernd); Gui, V (Gui, Vasile); Graeser, A (Graeser, Axel)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 239-242 **Published:** 2012

Abstract: This paper describes a new method for enhancing the local contrast of high dynamical range images on conventional low dynamical range displays. We use the mean shift clustering algorithm to segment the image and enhance segments using contrast limited adaptive histogram equalization (CLAHE) in combination with a new kernel based interpolation technique. Our main application is the enhancement of welding image sequences, but we tested our method on a larger image database. Experiments demonstrate improvements over the traditional CLAHE based image enhancement.

Accession Number: WOS:000318702700055

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 6 of 45

Title: Passive Time Delay Estimation for Complex Noncircular Signals

Author(s): Wen, F (Wen, Fei); Wan, Q (Wan, Qun); Liu, YP (Liu, Yipeng)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND

TELECOMMUNICATIONS **Pages:** 243-246 **Published:** 2012

Abstract: This paper addresses the passive time delay estimation (TDE) issue for complex signals. First, we derive the maximum likelihood (ML) estimator for the white Gaussian complex signal model with uncorrelated circular noise whereas the source signal is not restricted to be circular. Then, we present another TDE method using only the conjugate cross-correlation (CCC) measure to deal better with correlated noise for noncircular signals. Moreover, the Cramer-Rao lower bound (CRLB) of passive TDE is generalized to circular complex signals.

Accession Number: WOS:000318702700056

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 7 of 45

Title: Compression of Magnetocardiograms Using the Discrete Wavelet Transform

Author(s): Arvinti, B (Arvinti, Beatrice); Costache, M (Costache, Marius); Stolz, R (Stolz, Ronny)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 247-250 **Published:** 2012

Abstract: The paper presents a compression algorithm based on wavelets applied to magnetocardiograms (MCG). MCGs are a newly developed tool for diagnosis of heart diseases, which enable recording of data using sensitive contactless transducers based on Superconductive Interference Devices (SQUID). The acquisition system presented has been developed at the Institute of Photonic Technology (IPHT) in Jena, Germany and several processing techniques based on wavelets have been tested. Wireless technology allows nowadays a remote monitoring of data, and compression techniques have to be developed to enable the storage and handling of a significant quantity of data. A compression technique based on the Discrete Wavelet Transform has been proposed, optimized and its performance evaluated. The method takes into consideration parameters of the input MCG, being thus adaptive. The influence of several features of the algorithm, like mother wavelets, number of vanishing moments, number of decomposition levels, are tested so as to optimize the performances. Results are provided for comparison with other results reported in literature.

Accession Number: WOS:000318702700057

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 8 of 45

Title: B-Spline Digital Audio Equalizers with Arbitrary Magnitude Specifications

Author(s): Stanciu, L (Stanciu, Lucian); Stanciu, C (Stanciu, Cristian)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 251-254 **Published:** 2012

Abstract: In this paper a design method of the optimum digital audio equalizers with small ringing impulse responses, by using symmetric B-spline functions is presented. It is important to have a flat frequency response for the audio equalizer. The solution is to approximate the response of each frequency band by using spline functions, that insures continuous superior order derivatives. These small ringings give a natural audition. B-splines can be used to improve the interband independence and, at the same time, to have small ringings of the impulse response and desired frequency response.

Accession Number: WOS:000318702700058

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci
ISBN: 978-1-4673-1176-2

Record 9 of 45

Title: An Improved Algorithm for Dynamic Face Detection

Author(s): Goras, BT (Goras, Bogdan T.); Vieriu, RL (Vieriu, Radu L.)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 255-258 **Published:** 2012

Abstract: The purpose of this paper is to present an improved version of Viola & Jones [1] face detection algorithm, characterized by the fact that the weak classifier generation uses two threshold levels, depending on the positive examples distributions only. The algorithm was implemented in Matlab, and is able to dynamically detect faces in 240x320 webcam frames within 100ms.

Accession Number: WOS:000318702700059

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 10 of 45

Title: Spatiotemporal Interpolation of Body Surface Potential Maps Methods and Errors

Author(s): Calin, S (Calin, Simu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 259-262 **Published:** 2012

Abstract: This paper presents one-dimensional and two-dimensional linear and cubic interpolation methods used to increase both spatial and temporal visual information contained in a set of body surface potential maps. In the second part, an error study and a method classification are accomplished, using a set of maps found in the literature.

Accession Number: WOS:000318702700060

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 11 of 45

Title: A Variable Step Size Modified Decorrelated NLMS Algorithm for Adaptive Feedback Cancellation in Hearing Aids

Author(s): Rotaru, M (Rotaru, Marius); Albu, F (Albu, Felix); Coanda, H (Coanda, Henri)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 263-266 **Published:** 2012

Abstract: This paper presents a new algorithm for adaptive feedback cancellation (AFC) suitable for hearing aids. A variable step size scheme is added to a step size decorrelated NLMS algorithm. It is shown that the proposed algorithm has increased robustness and stability for both fixed and variable gain cases.

Accession Number: WOS:000318702700061

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci
ISBN: 978-1-4673-1176-2

Record 12 of 45

Title: Variable Step Size Adaptive Nonlinear Echo Canceller

Author(s): Contan, C (Contan, Cristian); Topa, M (Topa, Marina)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 267-270 **Published:** 2012

Abstract: The paper proposes a novel nonlinear acoustic echo cancellation approach based on adaptive second-order Volterra structures designed to increase the convergence rate of the conventional Volterra filter. Depending on the envelope of the resulting error's absolute value or, if available, on the local noise levels from the enclosure, the variable step sizes are weighted according to the decrease of the residual error. The efficiency of the proposed method is tested in a loudspeaker-enclosure-microphone setup modeled using measured linear and quadratic kernels. The effectiveness of the proposed algorithm based on normalized least-mean-square updates is then compared to the Normalized Least-Mean-Square adaptive second-order Volterra filter. The comparison is carried out for different input signals in terms of Echo Return Loss Enhancement. The conducted simulations show that the proposed method offers an increased convergence rate for the same steady-state error.

Accession Number: WOS:000318702700062

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci
ISBN: 978-1-4673-1176-2

Record 13 of 45

Title: A Robust Mathematical Model for Simulating Wrinkle Activity in 3D Facial Animations

Author(s): Ilie, MD (Ilie, Mihai Daniel); Negrescu, C (Negrescu, Cristian); Stanomir, D (Stanomir, Dumitru)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 271-274 **Published:** 2012

Abstract: In this paper we present a novel mathematical model for simulating wrinkle activity in 3D facial animations. We use a series of linked muscle segments that we call cordon muscles in order to model facial contractions. The affected vertices are interpolated towards their contraction targets across the object surface using a Hermite spline interpolation approach, while the interpolation weights are computed using trigonometrical functions. Skin bulges and wrinkles induced by contractions are simulated using a proposed modified form of the Rayleigh distribution function. The efficiency of the model proposed in this paper was proved by testes on various 3D surfaces with different curvature features. Our model helps enhancing facial expression realism while performing 3D facial animations.

Accession Number: WOS:000318702700063

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci
ISBN: 978-1-4673-1176-2

Record 14 of 45

Title: Salient Object Detection in Video Streams

Author(s): Tapu, R (Tapu, Ruxandra); Mocanu, B (Mocanu, Bogdan); Tapu, E (Tapu, Ermina)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND

TELECOMMUNICATIONS **Pages:** 275-278 **Published:** 2012

Abstract: In this paper we propose a complete framework for automatic detection and tracking of salient objects in video streams. The video flow is firstly segmented into shots based on scale space filtering graph partition method. For each detected shot the associated static summary is developed using a leap keyframe extraction method. Based on the representative images we introduce next a combined spatial and temporal video attention model that is able to recognize both interesting objects and actions in image sequences. The approach extends the state-of-the-art image region based contrast saliency with a temporal attention model. Different types of motion presented in the current shot are determined using a set of homographic transforms, estimated by recursively applying the RANSAC algorithm on the interest point correspondence. Finally, a decision is taken based on the combined information from both saliency maps. The experimental results validate the proposed framework and demonstrate that our approach is suitable for various types of videos and is robust to noise and low resolution.

Accession Number: WOS:000318702700064

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 15 of 45

Title: The effectiveness of change detection methods in floater pollutant evaluation for flowing waters

Author(s): Dohi-Trepszker, GG (Dohi-Trepszker, G. G.); Gui, V (Gui, V.); Toma, CI (Toma, C. I.)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 279-282 **Published:** 2012

Abstract: This paper presents a study on the effectiveness of currently used change detection methods in floater pollutant detection for flowing waters. Experiments with a large database, including comparisons with manual segmentation show that currently used background subtraction methods, like GMM, produce results which correlate well with human assessment.

Accession Number: WOS:000318702700065

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 16 of 45

Title: The Variable Step Size Regularized Block Exact Affine Projection Algorithm

Author(s): Albu, F (Albu, Felix); Coltuc, D (Coltuc, Dinu); Communiello, D (Communiello, Danilo); Scarpiniti, M (Scarpiniti, Michele)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 283-286 **Published:** 2012

Abstract: This paper presents several block exact affine projection algorithms (BEAPA) with a variable regularization factor and/or variable step size. The performance of the algorithms is investigated for the acoustic echo cancellation (AEC) and noise reduction applications. It is shown that the variable step size regularized BEAPA whose regularization factor and variable step size are adjusted according to the square of a time-averaging estimate of the autocorrelation of a priori and a posteriori errors is a possible choice for AEC and noise reduction systems.

Accession Number: WOS:000318702700066

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 17 of 45

Title: Signal Strength Prediction Using Digital Maps Interpolation

Author(s): Calin, S (Calin, Simu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 287-290 **Published:** 2012

Abstract: This paper presents some methods to verify line-of-sight path, Fresnel zone clearance and to calculate propagation loss, starting from a digital topographic map and using different interpolation methods.

Accession Number: WOS:000318702700067

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 18 of 45

Title: Some Aspects of Implementing a Cubic Spline Interpolation Algorithm on a DSP

Author(s): Matiu-Iovan, L (Matiu-Iovan, Liliana)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 291-294 **Published:** 2012

Abstract: An algorithm of B-spline interpolation is presented and developed to be implemented on a system with digital signal processor. There is presented how the interpolation errors vary with the sampling frequency for a sinusoidal signal. Some problems and limitations that appear when using a digital signal processor are discussed.

Accession Number: WOS:000318702700068

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 19 of 45

Title: A Study on Cascaded Adaptive Notch Filter Utilizing Allpass Filter and Adaptive Line Enhancer

Author(s): Shioyai, K (Shioyai, Kazuki); Sasaoka, N (Sasaoka, Naoto); Itoh, Y (Itoh, Yoshio); Kinugasa, Y (Kinugasa, Yasutomo); Ohe, T (Ohe, Takahiro); Kobayashi, M (Kobayashi, Masaki)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 295-298 **Published:** 2012

Abstract: A cascaded second order adaptive notch filter using an allpass filter has been proposed. A gradient based algorithm for the adaptive notch filters are used. However, the performance of the adaptive notch filter is decreased due to disturbance which inputs into a tap input signal. In this paper, in order to solve the problem, an adaptive line enhancer which reduces the disturbance in a reference signal is introduced to the adaptive notch filter. Finally, computer simulation results are presented to confirm the convergence characteristics.

Accession Number: WOS:000318702700069

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 20 of 45

Title: Into the ultrasound deconvolution using CLEAN algorithm - statistical analysis of scatters detection

Author(s): Chira, LT (Chira, Liviu-Teodor); Girault, JM (Girault, Jean-Marc); Rusu, C (Rusu, Corneliu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 299-302 **Published:** 2012

Abstract: The quality of the reproduced tissues in the ultrasound medical imaging is reduced by the imperfections in tissues and the finite frequency bandwidth and pulse width of the ultrasound transducer. Constrained by these constructive limitations, for improvement of details in the final image, the post processing methods are usually applied. In this paper we present a two step 1D blind deconvolution method based on the well known time domain CLEAN algorithm. In the first step the Point Spread Function is estimated and secondly, we use this estimation to extract the reflectivity function of the tissues. The simulations was oriented to evaluate statistically the method according to the percentage of real detection of scatters, the number of false alarms - which represent the quantity of the artefacts in the final result and the means square error. Also, the algorithm is compared with the classical Tikhonov regularization in term of above presented criteria and mean square error (MSE) - a global estimator between reflectors position and their amplitude.

Accession Number: WOS:000318702700070

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 21 of 45

Title: Evaluation of Signal Distortion Methods for Stereophonic Acoustic Echo Cancellation

Author(s): Rotaru, M (Rotaru, Marius); Ciochina, S (Ciochina, Silviu); Paleologu, C (Paleologu, Constantin); Benesty, J (Benesty, Jacob)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 303-306 **Published:** 2012

Abstract: In this paper, we evaluate two distortion methods used to preprocess the signals in stereophonic acoustic echo cancellation, i.e., the classical "half-wave rectifiers" and the recently proposed "phase half-wave rectifiers." The comparison is based on the perceptual degradation of sound quality, which is evaluated using the ITU-T P.862 Recommendation. The experimental results indicate the superiority of the recently proposed distortion method.

Accession Number: WOS:000318702700071

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 22 of 45

Title: A Robust Method for S1/S2 Heart Sounds Detection Without ECG Reference Based on Music Beat Tracking

Author(s): Barabasa, C (Barabasa, Constantin); Jafari, M (Jafari, Maria); Plumbley, MD (Plumbley, Mark D.)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 307-310 **Published:** 2012

Abstract: We present a robust method for the detection of the first and second heart sounds (s1 and s2), without ECG reference, based on a music beat tracking algorithm. An intermediate representation of the input signal is first calculated by using an onset detection function based on complex spectral difference. A music beat tracking

algorithm is then used to determine the location of the first heart sound. The beat tracker works in two steps, it first calculates the beat period and then finds the temporal beat alignment. Once the first sound is detected, inverse Gaussian weights are applied to the onset function on the detected positions and the algorithm is run again to find the second heart sound. At the last step s1 and s2 labels are attributed to the detected sounds. The algorithm was evaluated in terms of location accuracy as well as sensitivity and specificity and the results showed good results even in the presence of murmurs or noisy signals.

Accession Number: WOS:000318702700072

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 23 of 45

Title: Automatic evaluation of steatosis by ultrasound image analysis

Author(s): Mihailescu, DM (Mihailescu, Dan Mihai); Gui, V (Gui, Vasile); Toma, CI (Toma, Corneliu Ioan); Popescu, A (Popescu, Alina); Sporea, I (Sporea, Ioan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 311-314 **Published:** 2012

Abstract: This paper presents a new method for computer based diagnosis in liver steatosis diagnosis. The effectiveness of several image features extracted by robust estimation in conjunction with a random forests classifier for steatosis stage assessment is proved. We found that a successive dichotomy approach using random forests leads to better diagnosis than simultaneous classification with random forests.

Accession Number: WOS:000318702700073

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 24 of 45

Title: Algorithm for the Calculus of Virtual Time Instants Used in Prosodic Modifications

Author(s): Ciobanu, A (Ciobanu, Amelia); Negrescu, C (Negrescu, Cristian); Stanomir, D (Stanomir, Dumitru)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 315-318 **Published:** 2012

Abstract: The topic addressed by this paper is related to a very specific operation in prosodic modifications, the calculus of the virtual time instants, for speech models based on a pitch synchronous analysis/synthesis. We propose and describe in detail a straightforward algorithm for the calculus of these moments. Also we present the results we obtained with the proposed algorithm, which show that the pitch synchronism is kept, without altering the quality of the time/pitch scaled signal.

Accession Number: WOS:000318702700074

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 25 of 45

Title: Non-iterative Deblurring for Image Restoration

Author(s): Mire, I (Mire, Ionut)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 319-322 **Published:** 2012

Abstract: The described algorithm is aiming on restoring the weekly blurred images by accelerating a Regularized Lucy-Richardson Deconvolution (LR) [1] with priors. The Point-Spread function (PSF) estimation is based on a multi-band approach. Analytically it is demonstrated that the proposed accelerated algorithm does not require iterations for restoring weakly blurred image and has super-resolution properties. An expression of the super-resolution characteristics of the algorithm is provided.

Accession Number: WOS:000318702700075

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 26 of 45

Title: Isotropic Edge Enhancement with Halo Control

Author(s): Mirel, I (Mirel, Ionut)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 323-326 **Published:** 2012

Abstract: The described algorithm is aiming on enhancing image transitions with an improved isotropic approach while providing separable control over the halo width and height.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 27 of 45

Title: New Automatic SPI Decoding Algorithm

Author(s): Szabo, R (Szabo, Roland); Lie, I (Lie, Ioan)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 327-330 **Published:** 2012

Abstract: In this paper is presented a new method how to decode SPI signals. The signals are viewed and acquisitioned with an oscilloscope, after that the signals is transferred to the PC through Ethernet interface and decoded with the application using this algorithm. SPI interface is quite commonly used for communication between microchips, because it has a simple protocol. Testing this communication can be done by decoding the SPI signals, which it's quite an elaborate task to do it manually, this way a simple application which can do this can reduce a lot of time and effort.

Accession Number: WOS:000318702700077

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 28 of 45

Title: A Comparison Between Instantaneous Frequency Estimation Methods of Frequency Modulated Signals Covered with Gaussian Noise

Author(s): Romulus, R (Romulus, Reiz)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 331-334 **Published:** 2012

Abstract: This paper presents a comparison between several instantaneous frequency estimation methods. Some practical instantaneous frequency estimation examples are presented, using as test signals nonstationary frequency modulated signals covered with zero mean gaussian noise.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 29 of 45

Title: Statistical Modeling of Texture Wavelet Coefficients

Author(s): Cristea, DE (Cristea, Daniela-Ecaterina)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 335-338 **Published:** 2012

Abstract: This paper focuses on texture analysis using the wavelet transform. The statistical modeling of the wavelet coefficients with the Generalized Gaussian Distribution (GGD) raises the problem of estimating its parameters. Our aim is to examine the estimated values which enable the fitting of the wavelet coefficients histograms to a probability density function (PDF) of the GGD. The experimental results show that in most situations the fitted PDF does not approach the special cases of this family of distributions. However, results obtained in some cases lead us to think to the Laplacian distribution as a suitable one.

Accession Number: WOS:000318702700079

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 30 of 45

Title: Discrete spectra frequency resolution improvement

Author(s): Macaveiu, A (Macaveiu, Adrian)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 339-342 **Published:** 2012

Abstract: This paper addresses the topic of frequency resolution improvement which appears when computing discrete signal spectra. Existing methods are presented and their drawbacks are pointed out. The proposed algorithm combines signal downsampling and zero-padding and overcomes the disadvantages of the classical methods. The simulations show that resolution enhancement is possible with the proposed method, and that it can be used in frequency estimation.

Accession Number: WOS:000318702700080

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 31 of 45

Title: Barycentric Distribution Estimation For Texture Clustering Based On Information-Geometry Tools

Author(s): Schutz, A (Schutz, Aurelien); Berthoumieu, Y (Berthoumieu, Yannick); Turcu, F (Turcu, Flavius); Naornita, C (Naornita, Corina); Isar, A (Isar, Alexandru)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 343-346 **Published:** 2012

Abstract: The goal of the paper(1) is to propose a new method for texture clustering based on the information-geometry tools. Considering textured images as a collection of heavy-tailed prior probability distributions related to some space/scale decomposition, an average of distributions, i.e. a barycentric distribution, is proposed for characterizing each cluster. We suggest the use of the Jeffrey divergence as a dissimilarity measure for the clustering of textured images. Taking into account the geometry of the probabilistic manifold associated to the prior family, we provide the steepest descent method used to estimate the barycentric distribution. The descent exploits the Fisher information matrix, which is the expected value of the Hessian matrix and the local metric to the manifold. The results of experimental evaluation conducted on well-known texture databases show that the Fisher information matrix approach provides a convergence speed significantly higher than the convergence speed of conventional methods of steepest descent.

Accession Number: WOS:000318702700081

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 32 of 45

Title: Emotion Recognition of the SROL Romanian Database using Fuzzy KNN Algorithm

Author(s): Zbancioc, M (Zbancioc, Marius); Feraru, SM (Feraru, Silvia Monica)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 347-350 **Published:** 2012

Abstract: This study is focus on the supervised algorithm in order to classify the emotions from speech. The fuzzy-KNN classifier algorithm comparing with the classical KNN has the advantage to quantify the "strength" of the membership to a class. In the classical KNN algorithm, the decision regarding the assigning of an instance to a class was taken only based on the majority number of neighbors in a particular class; each neighbor has the same importance in the classification process. Therefore the results obtained with fuzzy KNN algorithm are improved compared to those obtained in our previous studies. This paper aims to analyze the percentages of the emotion classification using statistical parameters extracted from the SROL emotional database. The features vectors contain 17 parameters; in the future we intend to extend the number of parameters used for classification of the emotions.

Accession Number: WOS:000318702700082

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 33 of 45

Title: A Multiple Choice Greedy Algorithm for Resolution Improvement of Spectral Lines Identification

Author(s): Florescu, A (Florescu, Anisia); Ciochina, S (Ciochina, Silviu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 351-354 **Published:** 2012

Abstract: The paper analyses the possibility to improve the resolution of spectral lines identification based on zero-padding Discrete Fourier Transform (DFT), by using a sparse vector estimation technique. A variant of the Orthogonal Matching Pursuit (OMP) algorithm called 'Multiple Choice OMP (MCOMP)' is proposed. This algorithm considers the difficulty arisen by the errors generated by the maximum coherence criterion in atoms selection, because of the high degree of dictionary coherence. It can be applied for a limited number of frequencies, with total guarantees or probabilistic guarantees.

Accession Number: WOS:000318702700083

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 34 of 45

Title: A High Performance Fault Tolerant System for On-board Signal Processing

Author(s): Shen, A (Shen, Ao); Xia, K (Xia, Kang); Fu, YZ (Fu, Yuzhuo); Liu, T (Liu, Ting); Jiang, J (Jiang, Jiang)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 355-358 **Published:** 2012

Abstract: The conventional techniques in space mission design put great emphasis on system reliability while the performance is usually quite limited, which can barely meet the highly increasing computation demand from nowadays real-time applications. To solve this problem, a High Performance Fault Tolerant System (HPFSTS) architecture for on-board signal processing is presented in this paper. This DSP-based system, with specially designed efficient compare-point mechanism and parallel processing scheme, can dynamically adapt its redundancy level according to varying radiation conditions to archive the best overall performance. The evaluation results show that under a correlation function based benchmark test, the proposed HPFSTS prototype can provide a potential of high processing capacity with the promise of required reliability.

Accession Number: WOS:000318702700084

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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Record 35 of 45

Title: Embedded Solution for Universal Acoustic Source Distance Localization Using Three Microphones

Author(s): Bob, FI (Bob, Flaviu Ilie)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 359-362 **Published:** 2012

Abstract: Science, military, industry and multimedia are using acoustic sound localization in different applications. They are looking for robust, universal and low cost systems. This paper presents an embedded method of determining the distance towards an unknown sound emission source, using a digital signal processor and three microphones. An acoustic emission is detected if it crosses a certain level, and using cross correlation and further math it determines the distance from the detection device to the sound source. The obtained information is visible on a display. The system is light, cheap and portable. It can be used for remote determination of the sound intensity at the source, for locating an intruder or an event, or for determining fabrication flaws.

Accession Number: WOS:000318702700085

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 36 of 45

Title: A ToF 3D Database for Hand Gesture Recognition

Author(s): Simion, G (Simion, Georgiana); Căleanu, CD (Căleanu, Catalin-Daniel)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 363-366 **Published:** 2012

Abstract: Although 3D information presents, in the context of hand gesture recognition (and not only), multiple advantages in comparison with the 2D counterpart, up-to-date there are very few 3D hand gesture databases. Recently, the Time-of-Flight (ToF) principle - employed in certain range imaging 3D cameras - became more and more attractive. According to it, the measurement distance is derived from the propagation time of the light pulse between the camera and the subject for each point of the image. In this paper, we describe the development of UPT ToF 3D Hand Gesture Database (UPT-ToF3D-HGDB). It represents, according to the best of our knowledge, the single database of this type which is publicly available.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

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ISBN: 978-1-4673-1176-2

Record 37 of 45

Title: On the possibility of using Difference of Gaussians for texture clasification

Author(s): Mihai, PP (Mihai, Puscasu Paul); Paul, U (Paul, Ungureanu)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 367-370 **Published:** 2012

Abstract: This paper presents a possibility of using difference of Gaussians and CNN diffusion filters, for texture classification. The classification results are compared with the ideal circular filters.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 38 of 45

Title: Multiple Metallic Dipole Scattering Study Using the Wave Iterative Process

Author(s): Lucanu, N (Lucanu, Nicolae); Bogdan, I (Bogdan, Ion); Baudrand, H (Baudrand, Henri)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 373-376 **Published:** 2012

Abstract: An application of the Wave Iterative Process (WIP) is presented in the case of the study of the scattering of an electromagnetic plane wave by a system of 5 arbitrarily placed metallic dipoles.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 39 of 45

Title: The Synthesis of Some NLFM Laws Using the Stationary Phase Principle

Author(s): Vizitiu, I (Vizitiu, Iulian); Anton, L (Anton, Lucian); Popescu, F (Popescu, Florin); Iubu, G (Iubu, Gheorghe)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 377-380 **Published:** 2012

Abstract: In radar literature, the sidelobes reduction techniques using synthesis of some proper nonlinear FM (NLFM) laws represents a major scientific research direction. Accordingly, in order to assure the sidelobes suppression, the main objective of this paper is to present an adequate synthesis algorithm of some NLFM laws based on stationary phase principle. The achieved experimental results confirm a significant sidelobes reduction (i.e., more than -40 dB) without necessity to apply some weighting techniques. Finally, the analysis of the synthesized NLFM laws by ambiguity function tool was also discussed.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 40 of 45

Title: Sidelobes Reduction Using Frequency Predistorting Techniques on LFM Signals

Author(s): Vizitiu, I (Vizitiu, Iulian); Anton, L (Anton, Lucian); Popescu, F (Popescu, Florin); Iubu, G (Iubu, Gheorghe)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 381-384 **Published:** 2012

Abstract: In the high resolution radar theory, a lot of powerful sidelobes reduction techniques are indicated. Belonging to this major research direction, the goal of this paper is to present some theoretical and experimental results achieved by applying on a LFM radio pulse with the low values of the basis, of the temporal frequency predistorting techniques at the pulse ends using two proper nonlinear laws. Finally, some aspects concerning the optimization of the parameters assigned to the proposed frequency predistorting laws are also discussed.

Accession Number: WOS:000318702700090

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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ISBN: 978-1-4673-1176-2

Record 41 of 45

Title: A Matlab Implementation of FDTD Algorithm for Bidimensional Layers

Author(s): Iftode, C (Iftode, Cora)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 385-388 **Published:** 2012

Abstract: The paper presents an implementation in Matlab of waves' propagation in bidimensional media. For this purpose, Maxwell's equations are solved numerically, using the Finite Difference Time Domain (FDTD) method. Different boundary conditions are implemented and verified. Due to its high capabilities in handling matrices

manipulations, Matlab proves an efficient tool for implementing the FDTD method.

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Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

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Record 42 of 45

Title: Application of a Planar EBG Structure to Parallel-Plate Noise Suppression in High Speed Circuits

Author(s): De Sabata, A (De Sabata, Aldo); Matekovits, L (Matekovits, Ladislau)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 389-392 **Published:** 2012

Abstract: The problem of parallel-plate noise mitigation pertaining to signal integrity in high speed digital and mixed-signal circuits is tackled. A parametric study of a proposed planar, periodic, metal structure embedded in an inhomogeneous parallel-plate waveguide is performed by full-wave electromagnetic simulation. Results demonstrate that the proposed solution meets the requirements of the problem. Detailed results obtained through simulation are provided in order to support design of such structures.

Accession Number: WOS:000318702700092

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

Conference Sponsors: Politehnica Univ Timisoara, IEEE, ASTR, Fac Elect & Telecommunicat, Assoc Elect Engineers Timisoara (AIET), IEEE Romanian Sect, IEEE ComSoc Germany Chapter, Romanian Acad Tech Sci

ISBN: 978-1-4673-1176-2

Record 43 of 45

Title: A new method for interpolation of 3D antenna pattern from 2D plane patterns

Author(s): Petrita, T (Petrita, Teodor); Ignea, A (Ignea, Alimpie)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 393-396 **Published:** 2012

Abstract: This paper deals with the problem of antenna pattern, proposing a novel method. Method keeps into account the rear part of the antenna and it is without error for omnidirectional patterns. Starting with vertical and horizontal plane cuts from manufacturer's datasheet, it can be generated a reliable pattern with a simple formula.

Accession Number: WOS:000318702700093

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 44 of 45

Title: Adaptive Beamforming applied for signals estimated with Direction-of-arrival algorithms from the ESPRIT family

Author(s): Iozsa, A (Iozsa, Arpad)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 397-400 **Published:** 2012

Abstract: Adaptive beamforming is a versatile approach to detect and estimate the signal-of interest at the output of

a sensor array by means of data-adaptive spatial filtering and interference rejection.

The object of this article is to link the adaptive beamforming capabilities to estimating algorithms from the ESPRIT family. To note that the simulated adaptive beamforming uses the estimation data received from the ESPRIT algorithms.

Accession Number: WOS:000318702700094

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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ISBN: 978-1-4673-1176-2

Record 45 of 45

Title: Derived Mixture Law for the Ferrite - Ferroelectric Nanocomposites with Controllable Properties

Author(s): Ionescu, D (Ionescu, Daniela); Kovaci, M (Kovaci, Maria)

Book Group Author(s): IEEE

Source: 2012 10TH INTERNATIONAL SYMPOSIUM ON ELECTRONICS AND TELECOMMUNICATIONS **Pages:** 401-404 **Published:** 2012

Abstract: A structural simulation strategy was developed for characterizing the ferromagnetic - ferroelectric systems (Z hexagonal ferrite - ferroelectric perovskite) which are developed like nanocomposites with high effective permittivity and permeability. These quantities were determined in the NATO K band (20 to 40 GHz) and their evolutions with different parameters were linked on the intrinsic properties of constituent phases. A derived mixture law with coefficients depending on different internal and external parameters (substitution degree, substitution ion properties, polarizing fields) was synthesized. A ferromagnetic - ferroelectric system tunability ranging from 4 to 22% was achieved, depending on the structure characteristics.

Accession Number: WOS:000318702700095

Conference Title: 10th International Symposium on Electronics and Telecommunications (ISETC)

Conference Date: NOV 15-16, 2012

Conference Location: Timisoara, ROMANIA

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