

ЗДРУЖЕНИЕ ЗА
ЕЛЕКТРОНИКА
ТЕЛЕКОМУНИКАЦИИ
АВТОМАТИКА И
ИНФОРМАТИКА
НА РЕПУБЛИКА
МАКЕДОНИЈА



SOCIETY FOR
ELECTRONIC
TELECOMMUNICATIONS
AUTOMATICS AND
INFORMATICS
OF THE REPUBLIC
OF MACEDONIA

ЕЛЕКТРОНИКА - ELECTRONICS

ТЕЛЕКОМУНИКАЦИИ – TELECOMMUNICATIONS

АВТОМАТИКА – AUTOMATICS

ИНФОРМАТИКА – INFORMATICS

МЕШАНА СЕСИЈА ЕИ – MIXED SESSION EI

ПОСТЕР СЕСИЈА – POSTER SESSION



ЕЛЕКТРОНИКА - ELECTRONICS

E1 – Digital Image and Video Processing

E1-1 NEAREST NEIGHBOR BASED LABEL POST-PROCESSING IN IMAGE ANNOTATION

Ivana Shopovska, Zoran Ivanovski

E1-2 DEMO SOFTWARE FOR NO-REFERENCE VIDEO QUALITY ESTIMATION

Martin Dimitrievski, Zoran Ivanovski

E1-3 EFFICIENT SUPER-RESOLUTION ROBUST TO REGISTRATION ERRORS

Ana Stojkovic, Zoran Ivanovski

E1-4 ERROR RESILIENT GLOBAL MOTION REGISTRATION FOR IMAGE FUSION

Tomislav Kartalov, Zoran Ivanovski, Ljupcho Panovski

E1-5 APPLICATION OF THE MOORE-PENROSE INVERSE MATRIX IN IMAGE DEBLURRING

Igor Stojanovic, Zoran Zlatev, Predrag Stanimirović, Marko Miladinović

E1-6 REVERSIBLE DE-IDENTIFICATION METHOD USING 2D DWT

Aleksandar Milchevski, Dimitar Taskovski

E2 – Digital Speech and Audio Processing

E2-1 AIDS FOR THE DISABLED BASED ON SPEECH TECHNOLOGIES

Vlado Delić, Milan Sečujski, Milana Bojanić, Dragan Knežević, Nataša Vujnović Sedlar, Robert Mak

E2-2 AXON VOICE ASSISTANT

Darko Pekar, Dragiša Mišković, Siniša Suzić, Edvin Pakoci, Vlado Delić

E2-3 LINGUISTIC-ACOUSTIC ANALYSIS FOR SPEAKER DIALECT IDENTIFICATION

Lidija Naskovska, Mimoza Ristova, Branislav Gerazov, Vesna Pop-Dimitrioska, Toni Markovski

E2-4 INFLUENCE OF THE FILTER BANK ON AUTOMATIC SPEECH RECOGNITION SYSTEM PERFORMANCE IN NOISE

Branislav Gerazov, Zoran Ivanovski

E2-5 FRACTAL ANALYSIS OF MACEDONIAN FOLK INSTRUMENTS

Elena Hadzieva, Branislav Gerazov

E2-6 FORENSIC FIREARM IDENTIFICATION BASED ON GUNSHOT RECORDINGS

Branislav Gerazov, Ivica Kostadinovski, Zoran Ivanovski

E3 – Computer Aided Electronics Design

E3-1 SPICE MODEL FOR STATIC INDUCTION TRANSISTOR (SIT)

Goce L. Arsov

E3-2 COMPARISON OF PEEC AND MOM APPROACHES TO MODELING OF CURRENT DISTRIBUTION ALONG CONDUCTORS

Andrijana Kuhar, Radoslav Jankoski, Vesna Arnautovski-Toseva, Lidija Ololoska-Gagoska, Leonid Grcev

E3-3 MODEL OF INTELLIGENT ROBOT FOR INACCESSIBLE TERRAIN RESEARCH

Igor Simevski, Lazo Dimitrievski, Martin Cvetkovski, Stojan Mateski

E3-4 EDUCATIONAL ASPECTS OF CADENCE IC

Danijela Jakimovska, Josif Kjosev, Katerina Raleva

E3-5 ASSESSMENT OF MOST APPROPRIATE METHOD FOR CALIBRATION OF CONSTANT CLIMATIC CHAMBERS IN FUNCTION OF TEMPERATURE, VOLUME AND LOAD

Natasha Ivanovska, Vladimir Bundalevski, Margarita Ginovska, Milkica Gligorova

E3-6 FPGA BASED HARDWARE-IN-THE-LOOP LOAD EMULATION FOR POWER ELECTRONICS CONVERTERS

Zoran Anastasovski, Manuel Harrant, Josif Kosev



ТЕЛЕКОМУНИКАЦИИ – TELECOMMUNICATIONS

T1 – SS-ORCA

T1-1 DIGITAL SWITCHOVER (DSO) IN MACEDONIA: BACKGROUND, CASE STUDY AND FUTURE POTENTIALS

L. Paunovska, P. Ivanoski, D. Vucikevik, P. Latkoski, V. Atanasovski, L. Gavrilovska

T1-2 LTE NETWORK INTERFERENCE ANALYSIS IN AN URBAN AREA

Georgiana Mihai, Alexandru Vulpe, Razvan Craciunescu, Octavian Fratu

T1-3 SERVICE DELAY ANALYSIS UNDER LEARNING-ENABLED SPECTRUM SENSING AND SPECTRUM MOBILITY

Marko Angjelichinoski, Vladimir Atanasovski, Liljana Gavrilovska

T1-4 EVALUATION OF PREDICTION ACCURACY FOR THE LONGLEY-RICE MODEL IN THE FM AND TV BANDS

Pavlos Lazaridis, Aristotelis Bizopoulos, Stylianos Kasampalis, John Cosmas, Zaharias Zaharis

T1-5 SPECTRUM ON DEMAND FOR COMMERCIAL SERVICES

Purnendu S M Tripathi, Ramjee Prasad

T1-6 THE PLANNING OF A LARGE SCALE SENSOR NETWORK USING ICS-TELECOM

Cosmin-Alexandru Cojocaru, Alexandru Vulpe, Razvan Craciunescu, Octavian Fratu

T2 – Wireless Networking

T2-1 PERFORMANCE ANALYSIS OF HETEROGENEOUS WIRELESS NETWORKS USING MULTIDIMENSIONAL MARKOV MODEL

Marko Porjazoski, Borislav Popovski

T2-2 ADVANCED MOBILE TERMINALS WITH RADIO NETWORK AGREGATION FOR HETEROGENEOUSE WIRELESS NETWORKS

Tomislav Shuminoski, Toni Janevski

T2-3 QOS ANALYSIS OF IEEE 802.11E

Vasil Maljanovski, Toni Janevski

T2-4 DATA TIMED SENDING (DTS) - ENERGY EFFICIENT WSN PROTOCOL FOR SMART ENVIRONMENTAL MONITORING

Konstantin Chomu, Liljana Gavrilovska

T2-5 PERFORMANCE EVALUATION OF SCHEDULING STRATEGIES FOR LTE NETWORKS IN DOWNLINK DIRECTION

Stojan Kitanov, Toni Janevski

T2-6 VERTICAL HANDOVER DECISION ALGORITHM FROM WMAN TO WWAN OR WLAN NETWORKS

Kire Jakimoski, Toni Janevski

T3 – Security and Applications

T3-1 INCREASING INFORMATION SECRECY WITH POISSON DISTRIBUTED JAMMERS

Aneta Velkoska, Toni Draganov Stojanovski, Ninoslav Marina

T3-2 PERFORMANCE EVALUATION OF IEEE 802.15.4 UNDER JAMMING DOS ATTACK

Boris Mihajlov, Mitko Bogdanoski

T3-3 COMPUTER INCIDENTS ANALYSIS BASED ON LIVE RESPONSE SCRIPT

Marjan Stoilkovski, Mitko Bogdanoski

T3-4 THE SYSTEM FOR REMOTE MONITORING AND CONTROL AND ITS IMPROVEMENT IN THE SEGMENT OF COLLISION AVOIDANCE

Dragan Denic, Vladeta Milenkovic, Aleksandar Jovic, Goran Miljkovic, Milan Dincic, Dragan Radenkovic

T3-5 MOBILE BANKING: LEGISLATIVE AND SECURITY ASPECTS

Valentin Rakovic, Valentina Angelkoska, Aleksandar Risteski

T3-6 MOBILE COMMERCE: OVERVIEW OF DIFFERENT SERVICES AND BUSINESS MODELS

Sanja Stojanova, Valentina Angelkoska



T4 – Wired networking

- T4-1** MODELING OF ELECTRICAL FIELD IN MULTIMODE POLYMER OPTICAL FIBERS
Stanislava Kroneva, Aleksandar Risteski
- T4-2** THEORETICAL ANALYSIS AND EXPERIMENTAL VERIFICATION ON PROPAGATION OF LONGITUDINAL WAVES IN HOLLOW CYLINDER
Sonja Gegovska-Zajkova, Oliver Zajkov
- T4-3** OPTICAL COMMUNICATION SYSTEMS AND PROBABILITY OF ERRORS
Sulejman D. Sulejmani
- T4-4** ADVANCED SLOW START TCP ALGORITHM
Ivan Petrov, Toni Janevski
- T4-5** IP MULTIMEDIA SUBSYSTEM (IMS): FULFILLING CUSTOMER DEMANDS IN COMPETITIVE TELECOMMUNICATION ENVIRONMENT
Aleksandar Osmanli, Atanas Iliev
- T4-6** DEFINITION AND ELEMENTS OF BEST PRACTICE, USED IN CAMPUS BEST PRACTICE EXAMPLE
Radoslav Dakov Yoshinov, Rumens Trifonov

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- T5-1** APPROXIMATE PERFORMANCE ANALYSIS OF DUAL-HOP DECOUPLE-AND-FORWARD MIMO RELAYING
Jovan Stosic, Zoran Hadzi-Velkov
- T5-2** TESTBEDS AND EXPERIMENTS IN SIGNAL PROCESSING FOR WIRELESS COMMUNICATIONS FOR EDUCATIONAL PURPOSES
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- T5-3** REGULATORY ANALYSIS OF COGNITIVE RADIO
Jane Jakimovski, Toni Janevski
- T5-4** LINEARIZATION OF THE RESTRICTED POLAR QUANTIZER COMPATIBLE WITH G.711 STANDARD FOR A/D CONVERSION OF MEASUREMENT SIGNALS
Milan Dincic, Zoran Peric, Dragan Denic, Dragan Radenkovic, Aleksandar Jovic, Goran Miljkovic
- T5-5** ROLE OF DATA MINING TECHNIQUES IN WIRELESS SENSOR NETWORKS
Marijana Cosovic, Mirjana Maksimovic, Slobodan Obradovi
- T5-6** DYNAMIC PACKET SCHEDULING ALGORITHM FOR QOS PROVISIONING
Ilija Efnusev, Toni Janevski
- T5-7** ИСО СТАНДАРДИТЕ И НОВИТЕ „РАБОТА ВО ОБЛАК“ УСЛУГИ
Ф. Гечева Кочова



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A1 – Robotics

- A1-1** DOĞUŞ-USV UNMANNED SEA VEHICLE OBSTACLE LOCALIZATION WITH STEREO VISION AND PATH PLANNING
Ebru Dağlı, Dilek Tükel, Caner Civan
- A1-2** THE REPETITIVE ROUTING PROBLEM REVISITED A NEW CONSTANT FACTOR APPROXIMATION ALGORITHM FOR AN ASYMMETRIC COST FUNCTION CASE
Aleksandar Shurbevski, Hiroshi Nagamochi, Yoshiyuki Karuno
- A1-3** DESIGN AND CONSTRUCTION OF 6 DOF INDUSTRIAL MANIPULATOR
Mihail Cvetkov, Goran Vladev, Gorjan Nadzinski, Mile Stankovski
- A1-4** PRACTICAL IMPLEMENTATION OF ANFIS BASED CONTROL OF SIX DOF INDUSTRIAL MANIPULATOR
Goran Vladev, Vesna Ojleska, Gorjan Nadzinski, Tatjana Kolemishvska - Gugulovksa
- A1-5** A CONCEPT AND KINEMATIC MODEL DESIGN FOR AN INTELLIGENT 4-DOF ROBOTIC ARM
Tatjana Chavdarova, Nikica Srezoski, Darko Cvetkovski, Aristotel Tentov

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- A2-1** MODELING AND CONTROL ALGORITHM FOR PLATOON OF INTELLIGENT VEHICLES
Stojche Deskovski, Zoran Gacovski
- A2-2** MIXED MODEL FOR MORTALITY IDENTIFICATION
Cvetko Andreeski
- A2-3** NUMERICAL SIMULATION OF VEHICLE PASSAGE OVER OBSTACLES ON THE ROAD
Elenior Nikolov, Mitko Bogdanoski, Dame Dimitrovski, Sasho Gelev
- A2-4** MODELING OF THE PROCESS FOR KEEPING RECORDS OF SHOOTING, AMMUNITION EXPENDITURE AND READINESS OF THE UNITS IN THE ARMY OF THE R. MACEDONIA
Elenior Nikolov, Ivica Cvetkovski, Sasho Gelev

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- A3-1** DESIGN AND INVESTIGATION OF HALL EFFECT SENSORS WITH DIFFERENT CONTACT SIZES
Slavka Tzanova, Tihomir Takov, Ivelina Cholakova
- A3-2** THERMAL ANALYSIS OF HIGH POWER LED BULB WITH VARIETY OF PACKAGE-ON-SUBSTRATES COMPARISON BETWEEN ALUMINIUM, CERAMIC AND STAINLESS STEEL PACKAGE-ON-SUBSTRATES
Slavka Tzanova, Tihomir Takov, Nikolay Kurtev
- A3-3** DEPOSITION AND CHARACTERIZATION OF TITANIUM DIOXIDE COMPACT PHOTOELECTRODES FOR NANOSTRUCTURED SOLAR CELLS
Tanja Ivanovska, Giampiero Ruani, Hristina Spasevska
- A3-4** REAL-SPACE TREATMENT OF INTERFACE ROUGHNESS IN SHORT-CHANNEL MOSFET DEVICES ALONG DIFFERENT CRYSTALLOGRAPHIC DIRECTIONS
Katerina Raleva, Dragica Vasileska
- A3-5** MECHATRONIC SYSTEM FOR ACTIVE VIBRATION CONTROL WITH PIEZOELECTRIC ELEMENTS
Jovana Jovanova, Viktor Gavriloski
- A3-6** DESIGNING OF THE FIRST MACEDONIAN LABORATORY FOR CHARACTERIZATION OF MEMS DEVICES
Gorjan Nadzinski, Goran S. Stojanovski, Mile J. Stankovski, Silvia Schintke, Slavka Tzanova
- A3-7** SUPERCONDUCTING RESONATORS FOR ELECTRIC CONTROL OF MOLECULAR SPINS
Dejan Davidovikj



A4 – Advanced Nonlinear Control

- A4-1** ONE-BLOCK H_∞ OPTIMAL CONTROL PROBLEM WITH INVARIANT ZEROS ON THE IMAGINARY AXIS AND INFINITY: OPTIMAL BOUNDARY INTERPOLATION APPROACH
Jovan D. Stefanovski
- A4-2** DYNAMIC COMPENSATION SYNTHESIS FOR NONLINEARLY INTERCONNECTED SIMILARITY GENERALIZED LINEAR SYSTEMS
Georgi M. Dimirovski, Dilek Tukul
- A4-3** AGGREGATED REGULATOR'S INDUCTIVE SYNERGETIC SYNTHESIS FOR ONE CLASS OF NONLINEAR SYSTEMS
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- A4-4** ON A VARIATIONS PROBLEM IN ELECTRICAL AND CORRESPONDING BOUNDARY VALUE PROBLEMS
Boro Piperevski
- A4-5** H-INFINITY CONTROL OF ZIGBEE NETWORKED CONTROL SYSTEMS FOR DEALING WITH THE EFFECTS OF RANDOM DELAYS AND DATA-DROPOUT
Gorjan Nadzinski, Mile Stankovski, Goran Vladev



ИНФОРМАТИКА – INFORMATICS

I1 – Mathematical methods for information analysis

- I1-1** A DETERMINISTIC CONSTRUCTION OF LARGE NETWORKS USING THE KOCH'S SNOWFLAKE
Vesna Andova, Sonja Gegovska-Zajkova
- I1-2** SOME ASYMPTOTIC RESULTS FOR THE WAVELET TRANSFORM
Katerina Hadzi-Velkova Saneva, Sanja Kostadinova
- I1-3** WAVELET-GALERKIN SOLUTION OF SOME ORDINARY DIFFERENTIAL EQUATIONS
Sanja Kostadinova, Jasmina Veta Buralieva, Katerina Hadzi-Velkova Saneva
- I1-4** ADJUSTMENT OF THE INPUT FILES FOR THE OPTIMIZATION OF ARC SUPPRESSION COILS DESIGN BASED ON DIFFERENTIAL EVOLUTION ALGORITHMS
Rasim Salkoski , Ivan Chorbev

I2 – Social aspects of informatics

- I2-1** SOFTWARE IMPLEMENTATION OF PROGRAMMABLE NMR VOTERS
Aleksandar Simevski, Elena Hadzieva
- I2-2** MOBILE MARKETING IN REPUBLIC OF MACEDONIA: ANALYSIS, OPPORTUNITIES AND CHALLENGES
Sanja Bozik , Dimitar Trajanov
- I2-3** THE E-FACILITATOR AS KEY PLAYER FOR E-INCLUSION
Radoslav Dakov Yoshinov, Monka Dobрева Kotseva
- I2-4** EVALUATION OF E-SERVICES AT THE LOCAL GOVERNMENT LEVEL (CITY OF SKOPJE)
Filip Siljanovski, Sime Arsenovski and Zoran Gacovski
- I2-5** IMPLEMENTATION OF GREEN IT CONCEPTS IN R. MACEDONIA
Daniela Gavrilovska, Vladimir Zdraveski, Dimitar Trajanov

I3 – Information systems and security

- I3-1** OVERVIEW OF LINUX SCHEDULING AND PROPOSAL OF A NEW LINUX GA SCHEDULER
Goran Jakimovski, Aristotel Tentov, Marija Kalendar
- I3-2** CASE STUDY FOR IDENTIFICATION OF NETWORK ATTACK SIGNATURES
Dejan Georgiev
- I3-3** LOGICAL CIRCUITS FOR PARALLEL PROCESSING OF BASIC REGULAR EXPRESSIONS
Dejan Georgiev, Aristotel Tentov
- I3-4** GAME-THEORETIC MODELS FOR ASSESSING SECURITY OF A SOA BASED INTELLIGENCE INFORMATION SYSTEM
Slavko Angelevski, Jugoslav Achkoski, Dimitar Bogatinov, Nevena Serafimova
- I3-5** VIRTUAL ENVIRONMENT FOR MILITARY TRAINING BASED ON COMPUTER GAMMING TECHNOLOGY
Slavko Angelevski, Dimitar Bogatinov, Jugoslav Ackovski, Nevena Serafimova



МЕШАНА СЕСИЈА ЕИ – MIXED SESSION EI

EI – Embedded Systems

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Blagoj Kjupev, Zoran Ivanovski

EI-2 VIRTUAL MEASURING SYSTEM FOR TESTING AND DIAGNOSING OF THE QUALITY OF MOVING STEEL ROPES36

Vladimir Bliznakovski, Zivko Kokolanski, Cvetan Gavrovski

EI-3 SYSTEMS CONSOLIDATION USING VIRTUALIZATION TECHNOLOGIES

Igor Kalendar, Aristotel Tentov, Marija Kalendar

EI-4 HARDWARE IMPLEMENTATION OF 64 POINT FFT MODULE IN FPGA

Danijela Jakimovska, Aristotel Tentov

EI-5 CRYPTOGRAPHIC CORE IMPLEMENTATION IN LEON3 PROCESSOR SYSTEM

Maja Malenko, Aristotel Tentov

EI-6 PRACTICAL APPROACH TO 8086 BASED MULTIPROCESSOR SYSTEM DESIGN

Riste Oreshkovski, Ilija Dzopkovski, Aristotel Tentov, Danijela Efnusheva

EI-7 TRUSTED EXECUTION ENVIRONMENT

Aleksandar Krsteski



ПОСТЕР СЕСИЈА – POSTER SESSION

P – Poster Session

P-1 FULL-DUPLEX ZIGBEE AUDIO TRANSFER

Aleksandar Cvetkoski, Stojan Mateski, Josif Kjosev

P-2 LOW-COST WIRELESS MEASUREMENT SYSTEM IN PRECISION AGRICULTURE

Mare Srbinovska, Vladimir Dimcev, Cvetan Gavrovski, Aleksandar Cvetkoski

P-3 DEMO SOFTWARE FOR NO-REFERENCE VIDEO QUALITY ESTIMATION

Martin Dimitrievski and Zoran Ivanovski

P-4 COMPARISON OF PREDICTIVE CONTROL METHODS FOR HIGH CONSUMPTION INDUSTRIAL FURNACE

Goran Stojanovski, Mile Stankovski

P-5 MODERN SCADA SYSTEM IN POWER PLANT

Goce Delov, Spase Stojanovski, Goran Stojanovski, Mile Stankovski

P-6 DESIGN AND IMPLEMENTATION OF THE SCADA FOR THE HYDRO-SYSTEM STUDENCICA

Александар Арсовски, Драган Станковски, Игор Марковски, Горан Стојановски, Миле Станковски

P-7 A SIMPLE AND FLEXIBLE 64/32-BIT RISC CORE FOR EMBEDDED MULTIPROCESSORS

Aleksandar Simevski

P-8 A WSN DEMO PLATFORM FOR SMART CITY APPLICATIONS

Melanija Trajanovska, Marija Bubinska, Elena Boshkovska, Biljana Stanishkovska, Hristijan Risteovski, Filip Dimkovski, Dejan Simik, Darko Dimitrievski, Stefan Pesic, Miki Arsovski, Hristijan Cuculoski, Filip Petrusevski, Vaska Rizova, Elena Trajkovska, Martin Kolev, Zorica Janeva, Maja Janevska, Konstantin Chomu, Valentin Rakovic, Liljana Gavrilovska

P-9 WOLFRAM MATHEMATICA IN ENGINEERING EDUCATION - ADVANTAGES AND PERSONAL EXPERIENCE

Biljana Nacevska, Sonja Gegovska-Zajkova