

ELITECH`09

11th Conference of Doctoral Students

Faculty of Electrical Engineering and Information Technology

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SLOVENSKÁ TECHNICKÁ UNIVERZITA V BRATISLAVE
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F E I .
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Fakulta elektrotechniky a informatiky

25 May, 2009

FINAL PROGRAM

8:00 – 8:10

Registration (B-Club)

8:15

Conference opening

Session I. Automation, Measurement (Room D-424)

Chairperson: D. Rosinová

8:30 – 8:45

CAMERA SELF-CALIBRATION

L. Noskovičová – R. Ravas

8:45 – 9:00

VECTORIZATION OF BINARY RASTER IMAGES

P. Čomaj – R. Ravas

9:00 – 9:15

CORRECTION AND QUALITY TESTING OF COLOUR IMAGES

M. Földi – R. Ravas

9:15 – 9:30

HEAT TRANSFER MODEL OF BUILDING CALIBRATED BY GENETIC ALGORITHM

S. Števo - A. Šlezárová

9:30 – 9:45

SPEED CONTROL OF BLDC MOTOR BASED ON HALL-EFFECT SENSORS

M. Suchánek

9:45 – 10:00 **Coffee Break**

10:00 – 10:15

NEURAL CONTROL OF NON-LINEAR PROCESSES DESIGNED BY GENETIC ALGORITHMS

Z. Dideková – S. Kajan (ÚRPI)

10:15 – 10:30

ROBUST DECENTRALIZED CONTROLLER DESIGN FOR STABLE PLANTS

J. Osuský - V. Veselý - A. Kozáková

10:30 – 10:45

**COMPARISON OF SOME FINE-GRAINED AND COARSE-GRAINED
PARALLEL GENETIC ALGORITHMS WITH POPULATION
REINITIALIZATION**

I. Sekaj – M. Oravec

Session II. Microelectronics, Radioelectronics (Dept. Library, E-block, 6th floor)

Chairperson: D. Ďuračková

8:30 – 8:45

**CURRENT STATUS AND PROGRESS IN THE NEW GENERATION'S
SILICON BASED SOLAR CELLS**

M. Mikolášek - L. Harmatha

8:45 – 9:00

MODERN TELECOMMUNICATION OPTICAL FIBERS

O. Kádár – F. Uherek - J. Chovan

9:00 – 9:15

**CURRENT SENSING COMPLETION DETECTION IN ASYNCHRONOUS
CIRCUITS**

L. Nagy – V. Stopjaková

9:15 – 9:30

**EFFECT OF ANNEALING ON THE STRUCTURAL AND ELECTRICAL
PROPERTIES OF DIAMOND THIN FILMS**

M. Varga - M. Vojs - M. Marton - M. Veselý

9:30 – 9:45

ERROR ANALYSIS OF THE RESULTS OF MULTIPLICATION BY AND GATE

E. Raschman – R. Záluský – D. Ďuračková

9:45 – 10:00 **Coffee Break**

10:00 – 10:15

**THE USE OF THE 5DT DATA GLOVE FOR DACTYL ALPHABET
RECOGNITION**

R. Záluský - E. Raschman - D. Ďuračková

10:15 – 10:30

DETECTION OF T-WAVE ALTERNANS IN ECG SIGNAL

A. Sultan – O. Ondráček

10:30 – 10:45

SYNCHRONOUS RECTIFIER IN DC/DC CONVERTERS

P. Šaštinský – M. Jendruch

Session III. Nuclear and Physical Engineering, Materials Engineering (Room A-616)

Chairperson: J. Sitek

8:30 – 8:45

ELECTROMAGNETISM IN FINITE ELEMENT METHOD

R. Belák – G. Gach – T. Paprčka

8:45 – 9:00

SURFACE PLASMON POLARITONS ON INTERFACE BETWEEN TWO DIELECTRIC MEDIA

T. Váry

9:00 – 9:15

APPLICATION OF ENHANCED DYNAMIC WEDGES IN RADIOTHERAPY

A. Bajusová - G. Králik – M. Miglierini

9:15 – 9:30

MAPPING OF THE NEUTRON FLUX DENSITY DISTRIBUTION IN THE VVER-440 REACTOR PRESSURE VESSEL

M. Stacho – G. Farkas – V. Slugeň – S. Sojak

9:30 – 9:45

METHODS OF DELAYED NEUTRON FRACTION (β_{eff}) DETERMINATION IN TRAINING REACTOR VR-1

S. Michálek - S. Števo - G. Farkas - J. Haščík

9:45 – 10:00 **Coffee Break**

10:00 – 10:15

METAL MELTING APPLICATION IN MATERIALS CLEARANCE PROCESS DURING THE NUCLEAR INSTALLATION DECOMMISSIONING

M. Zachar – V. Nečas

10:15 – 10:30

TESTING AND APPLICATION OF NEW PHENOMENOLOGICAL MATERIAL MODEL FOR FOAM MATERIALS

V. Goga

10:30 – 10:45

MEASUREMENT OF THE ENERGY ANSORPTION CAPABILITY OF POLYURETHANE FOAM

V. Goga

10:45 – 11:00

BRAZING OF SOLAR COLLECTORS

K. Demianová – K. Pocisková Dimová

Session IV. Electrical Power Engineering, Mechanics (Room C-417)

Chairman: L. Klug

8:30 - 8:45

POWER QUALITY IN PUBLIC LIGHTING NETWORKS

P. Janiga

8:45 – 9:00

POSSIBILITY OF CALCULATING THE ILLUMINANCE UNDER THE TUBULAR LIGHT

M. Krasňan

9:00 – 9:15

HYDROGEN AS A BY-PRODUCT OF BIOBUTANOL PRODUCTION

J. Kubica – M. Pípa

9:15 – 9:30

RENEWABLE ENERGY SOURCES AND THEIR IMPACT ON THE ELECTRIC POWER SYSTEM IN THE REPUBLIC OF MACEDONIA

D. Minovski – I. Šulc

9:30 – 9:45

LOCAL POWER DISTRIBUTION SYSTEM AND SLOVAK ENERGY LEGISLATION

M. Kubala – J. Šedivý – I. Šulc – M. Špok

9:45 – 10:00

Coffee Break

10:00 – 10:15

IMPACT FROM TWO NEW WIND FARMS ON THE ELECTRIC POWER SYSTEM IN THE REPUBLIC OF MACEDONIA

I. Šulc – D. Minovski

10:15 – 10:30

POWERFLOW CONTROL APPLICATION IN PARALLEL HYBRID VEHICLE

J. Matej

10:30 – 10:45

FUEL CONSUMPTION OPTIMALIZATION IN PARALLEL HYBRID VEHICLE

J. Matej

10:45 – 11:00

A NONLINEAR THERMO-ELASTO-PLASTIC ANALYSIS OF BAR STRUCTURE

R. Ďuriš

10:45 – 11:00

DISCUSSION FOR OIL TEMPERATURE IMPACT ON GEAR WHEEL WEARING OUT MEASUREMENTS

R. Daruľa – S. Žiaran

Session V. Applied Informatics, Telecommunications (Room B-602)

Chairman: M. Medvecký

8:30 - 8:45

HUMAN FACE RECOGNITION CAPABILITIES – PSYCHOLOGICAL EXPERIMENT

J. Mazanec

8:45 – 9:00

TIME DELAYED NEURAL NETWORKS FOR VIDEO PREDICTION

F. Pilka – M. Oravec

9:00 – 9:15

CLASSIFIED TEXTURE IMAGE RESTORATION TECHNIQUES

S. Ondrušová– J. Polec – Ž. Floreková

9:15 – 9:30

TEXTURE SEGMENTATION USING GABOR FILTERS

M. Osadský

9:30 – 9:45

ADAPTIVE ALGORITHM FOR SWITCHING ARQ/HARQ SCHEMES

J. Poctavek – P. Fidler – K. Kotuliaková – J. Polec

9:45 – 10:00

Coffee Break

10:00 – 10:15

OVERVIEW OF FOUNTAIN CODES

A. Yassine

10:15 – 10:30

PRIORITY BASED MEDIUM CONTROL IN CSMA NETWORKS

M. Bachratý

10:30 – 10:45

METHOD FOR UNEQUAL ERROR CONTROL OF TELEMETRIC DATA

T. Hirner

14:00

Refreshments (B-Club)

14:30

Awarding and Conference Closing (B-Club)