

DEPARTMENT OF MECHATRONICS AND ELECTRONICS

1 General Information

The Department of mechatronics and electronics has been established in January 2005 as a basic body for educational- scientific- and research operation during restructuring of the Faculty of Electrical Engineering of the University of Zilina. Mentioned process was invoked by social order in the qualification structure of university-graduate specialists as well as dynamic rise of new technologies in the field of electronic and mechatronic systems.

In the year 2005 the Department involves thirteen members of educational staff, six research workers, seven internal PhD students and nineteen external PhD students. From the point of view of internal structure it has been divided into two divisions. The first one is focused on power- and applied electronics. The second one is operating in the field of mechatronics and industry automation.

Within the frame of educational pedagogical operation the Department provides education of electronics, mechatronics, micro-computer systems involving industrial controllers and power electronics at the Faculty of Electrical Engineering, and also at further faculties of the University of Zilina. Such an education is dedicated for different study branches and specializations in the bachelor-, magisterial- and PhD doctoral studies, both in internal and external ones. Besides, the Department is providing and guarantying study branch of Electro-technical systems in mechatronics in bachelor- and magisterial stage of the study, and specialization of Power semiconductor systems on magisterial stage of the branch of energetic- and electrical engineering (ESI).

The Department also organises and provides research and development, expertizing and contracts, and develops publication activity in the field of electronics, control systems, mechatronics and power electronics mainly. Further education is provided by the Department in the field of power electronic systems, microcomputer control systems, industrial controllers and programmable logic systems.

Professional activities of the Department are applied and disseminated on creation and operation of quality- and reliable electronic devices and systems, application of programmable logic areas in design of electronic systems, reconfigurable circuits study as well as diagnostics and analysing of the failures using image analysis. As xxx technology of the Department belong topology optimising for power semiconductor converters, and their electro-magnetic compatibility.

In present time the Department operates with six laboratories dedicated for pedagogical operation, including final projects, final- and master thesis providing. Rather great attention has been devoted to improving of laboratory equipment and modern educational methods, which lead to higher effectiveness of pedagogical process, in the last year. Beside above mentioned labs the Department offers for utilizing three high-tech workplaces dedicated for research and development activities and to experimental part of PhD study providing. It deals with the laboratory of digital image processing and laboratories of digital signal processors and industrial programmable logic controllers.

2 Staff of the Department

Head of the Department	: Pavol Špánik
Vice-head of the Department	: Branislav Dobrucký
Secretary for Education	: Anna Kondelová
Administrative Support	: Andrea Prandová
Technical Support	: Ján Dávidík

2.1 Sections of the Department

2.1.1 Section of Electronics and Control Systems

Head of the Section	: Jozef Čuntala
Professors	: Branislav Dobrucký
Associate Professors	: Jozef Čuntala, Miroslav Hrianka, Pavol Špánik
Research Fellows	: Radovan Ovcaričik, Rastislav Pavlanin, Tibor Digaňa, Štefan Kuchar, Daniel Spáčil
Senior Lecturers (without PhD)	: Ivan Kožehuba, Jozef Lakatoš, Peter Šindler, Libor Hargaš, Anna Kondelová

2.1.2 Section of Mechatronic Systems and Industry Automation

Head of the Section	: Fedor Kállay
Associate Professors	: Fedor Kállay, Pavel Pavlásek, Juraj Príkopa
Research Fellows	: Györgyi Pavlókinová
Senior Lecturers (without PhD)	: Anna Príkopová

2.1.3 Postgraduate Students

Internal (full-time)	: Peter Izák, Róbert Šul, Zsolt Csépe (to 12 th September 2005), Juraj Vereš (from 1 st October 2005), Slavomír Drozdy, Branislav Zigmund, Viktor Bobek (from 1 st October 2005), Radoslav Ovcaričik (to 1 st March 2005)
External (part-time)	: Gabriel Kácsor, Libor Hargaš, Peter Šindler, Anna Kondelová, Jozef Maslík, Adrián Šoltés, Anna Príkopová, Ivan Lokšeninec, Igor Gerek, Peter Čerňan, Róbert Záhoranský, Radoslav Neuwirth, Stanislav Vereš, Stanislav Korec, Peter Števko, Marián Pčola, Roman Holček, Roman Filka, Peter Balažovič

3 Teaching

3.1 Courses in Bachelor and Master Degree Programmes

Code	Title	Lessons-Seminars-Exercises		Teachers
		Semester	hours/week	

Courses of the Faculty of Electrical Engineering

32010	Electronics	2	2-0-2	Čuntala
32016	Practice of Digital Technics	2	0-0-2	Lakatoš
32208	Electrical Engineering	2	2-1-1	Pavlásek
32017	Logical Systems	3	3-0-2	Hrianka
32215	Electronics	3	2-0-3	Hrianka, Čuntala
32217	Automatic Control	3	2-0-1	Pavlásek
32219	Power Electronics	3	2-0-1	Špánik
32224	Measurement and Data Processing	4	2-0-2	Pavlókinová
32226	Logical Systems and Microprocessors	4	2-0-2	Hrianka
32227	Control Circuits of Mechatronic Systems	4	2-0-2	Dobrucký
32233	Mechatronics	5	2-0-2	Pavlásek
32237	Dynamic System Modelling and Simulation	5	2-0-2	Špánik
32245	Diploma Seminar	6	0- 4-0	Pavlásek
31067	Electronics I	3	2-0-3	Čuntala

31096 Electronics II	4	2-0-3	Hrianka
31607 Logical Circuits	5	3-0-2	Hrianka
31256 Power Electronics Devices	5	2-0-2	Špánik
31297 Electronic Logical Circuits	5	3-0-2	Čuntala
31618 Microelectronics	6	3-0-2	Čuntala
31020 Image Processing and Analysis	6	2-0-2	Hrianka
31260 Power Static Converters	6	4-1-2	Špánik
31261 Microcontroller Control Systems	6	2-0-2	Dobrucký
31298 Analysis and Synthesis of Power El. Circuits	6	2-0-2	Špánik
31035 Microcomputers Programming	8	0-2-2	Šindler
31272 Advanced Control Systems	7	2-0-2	Dobrucký
31106 Design of Customer IC	7	1-3-0	Čuntala
31282 Power Semiconductor Systems	8	2-1-1	Dobrucký
31304 Electric Drives for Robotic Systems	8	2-0-2	Dobrucký
31290 Discrete Control of Electric Drives	9	2-1-2	Dobrucký
31295 Real Time Computer Control	9	2-0-2	Dobrucký
31302 Power Electronics Applications in ET & EE	9	3-0-1	Dobrucký

External Study

32010 Electronics	2	18-8-4	Čuntala
31067 Electronics I	3	10-0-4	Čuntala

Courses of the Faculty of Mechanical Engineering

21416 Electronics	6	2-0-1	Čuntala
21927 Computers at Industry Automation	6	2-0-2	Kállay
21045 Measurement and Diagnostic	7	2-0-2	PríkopaPavlókinová
21046 Logical Circuits	7	2-0-2	Hrianka
21047 Theory of Automatic Control I	7	2-0-2	Príkopa
21496 Microelectronics	7	2-0-1	Čuntala
21455 Exploitation of Computer Network	7	2-0-2	Kállay
21072 Microcomputer Technics	8	2-0-2	Čuntala
21074 Sensors of Non-electrical Phenomena	8	2-0-2	Kállay
21075 Technologies of Process Control	8	2-0-2	Príkopa
21073 Information and Industry Networks	8	2-0-2	Kállay
21910 Electronic Control Elements	8	2-1-2	Špánik
21560 Theory of Automatic Control II	8	2-0-1	Príkopa
21217 Semester project	9	0-0-2	Kállay, Príkopa
21682 Mechatronic systems	9	2-0-2	Pavlásek
21218 Systems Theory	10	2-2-0	Príkopa
21287 Application of Automation Technics	10	2-0-2	Kállay
21289 Diploma seminar	10	0-0-6	Kállay, Príkopa

Courses for Foreign Students – Socrates/Erasmus Program

31096 Electronics II	[Čuntala, Hrianka, Kondelová]	student of the Catania University, IT
31106 Customer IC Design	[Čuntala, Kondelová]	student of the Lappeenranta University of Technology, FI
Assembly Language Programing	[Čuntala, Šindler]	student of the Lappeenranta University of Technology, FI

31260 Power Static Converters	Dobrucký	student of Catania University, IT
31260 Power Static Converters	Dobrucký, Šul	student of Universidade do Porto, PT
32217 Automatic Control	Pavlásek	2 students of Universidade do Porto
		student of Vilnius Gediminas
		Technical University, LT
32233 Mechatronics	Pavlásek	2 students of Universidade do Porto
		student of Vilnius Gediminas
		Technical University, LT

4 Educational, Research and Scientific Projects

4.1 Internal Research Projects

Title: Sophistic-, electronic and mechatronic systems (9/606)

Coordinator: Pavol ŠPÁNIK

Co-operators: Branislav Dobrucký, Pavel Pavlásek, Fedor Kállay, Juraj Príkopa, Anna Príkopová, Radovan Ovcaričik, Gabriel Kacsor, Robert Šul, Slavomír Drozdy, Zsolt Csépe, Branislav Zigmund, Rastislav Pavlanin, Györgyi Pavlókinová

Title: Simulation and analysis of HMI interfaces (10/606)

Coordinator: Miroslav HRIANKA

Co-operators: Jozef Čuntala, Anna Kondelová, Ivan Kožehuba, Peter Šindler, Jozef Lakatoš, Libor Hargaš, Tibor Digaňa, Peter Izák

4.2 National Projects

4.2.1 Research Projects Funded by the Scientific Grant Agency of the Slovak Republic (VEGA)

Title: Research of negative ecological influence caused by power converters elimination methods focused on soft switching technique and new main circuit topology solution applications (VEGA 1/0178/03)

Coordinator: Pavol ŠPÁNIK

Co-operators: Branislav Dobrucký, Radovan Ovcaričik, Gabriel Kácsor, Zsolt Csépe, Robert Šul, Rastislav Pavlanin, Slavomír Drozdy

Title: New Methods of Digital Processing of Deterministic and Nondeterministic signals (VEGA 1/0144/03)

Coordinator: Miroslav Hrianka

Co-operators: Libor Hargaš

Title: Theoretical apparatus for implementation of e-SAFETY principles to Intelligent Transport Systems (VEGA 1/1044/04)

Coordinator: Juraj Spalek

Co-operators: Fedor Kállay, Juraj Príkopa, Anna Príkopová

Title: Interdisciplinary solution of the unconventional combustion engines elements optimisation (VEGA 1/1078/04)
Coordinator: Pavol Kukuča
Co-operators: Anna Príkopová, Juraj Príkopa

4.2.2 State Programme of Research & Development

Title: Sophisticated processes and products supporting export capability of electrotechnical sector of industry in the Slovakia
Partial task: Converter cascade system analysis using state- variable model - in cooperation with EVPU a.s. Nová Dubnica
Coordinator: Rastislav HAVRILA
University sub-coordinator: Alena HRČEKOVÁ
Faculty sub-coordinator: Pavol ŠPÁNIK
Co-operators: Branislav Dobrucký, Miroslav Hrianka, Slavomír Drozdy, Róbert Šul, Libor Hargaš, Radovan Ovcaričik, Viktor Bobek, Štefan Kuchar, Andrea Prandová

Title: Sophisticated processes and products supporting export capability of electrotechnical sector of industry in the Slovakia (2003 SP 26 028 0A 04)
Partial task: Research and development of human-machine and human-technology interfaces (HMI) (04)
Coordinator: Rastislav HAVRILA
Faculty sub-coordinator: Jozef Čuntala
Co-operators: Miroslav Hrianka, Tibor Digaňa, Ivan Kožehuba, Libor Hargaš, Jozef Lakakoš, Peter Šindler, Anna Kondelová, Peter Izák

Title: Regional development, small and medium enterprises – Research of sophistic power modules for supply of traction vehicles
Partial task: Design and optimization of output filter of power semiconductor converter modules – in cooperation with EVPU a.s. Nová Dubnica
Coordinator: Ivan LOKŠENINEC
Faculty sub-coordinator: Pavol Špánik
Co-operators: Bernard Bednárík, Radovan Ovcaričik, Róbert Šul, Ján Dávidík, Andrea Prandová

Title: The quality improvement and electrical energy utilization in industry-, traction and general applications (New topologies and development strategies)(2003-SP-51/028-09-00/028-09-05-2003)
Coordinator: Róbert ŠUL
Co-operators: Pavol Špánik, Radovan Ovcaričik, Roman Holček, Gabriel Kacsor, Andrej Tereň, Róbert Šul, Viktor Bobek, Štefan Kuchar, Andrea Prandová

Title: Analysis of accommodation conditions of internal research and development postgraduate students up to 35 years age
Coordinator: Dušan Polonský – FPV ŽU
Co-operators: Branislav Dobrucký

4.3 International Projects

4.3.1 DAAD Projects

Title: Reference current determination for single-phase active filter (3/2003)

Coordinator: Juraj ALTUS

Co-operators: Branislav Dobrucký, Slavomír Drozdy, Róbert Šul, Radovan Ovcaričik, Rastislav Pavlanin, Viktor Bobek

Title: Research and development of sensorless AC drives with rotary- and linear PM synchronous motor (4/2003)

Coordinator: Ján Vittek

Co-operators: Branislav Dobrucký, Branislav Zigmund

4.3.2 Socrates/Erasmus Projects

Title: Teachers and students mobilities within the frame of Socrates/Erasmus programmes

Coordinator: Marián DZIMKO

Co-operators: Branislav Dobrucký (UP Porto, PT), Pavol Špánik (UNICT Catania, IT), Miroslav Hrianka (UCD Dublin, IR), Rosario Cassaniti (from UNICT Catania, IT), Danielle Baptista (UP Porto, PT), Maciel Barbosa (from UP Porto, PT), Petteri Kalenius (from Lappeenranta University of Technology, FIN), Mario Machado (from Universidade do Porto, PT), Mindaugas Mineikis (from Vilnius Gediminas Technical University)

4.3.3 International Scientific and Technological Co-operation Projects (MVTs)

Title: Electric Conversion and Conditioning ECON2 – 6FP of EU (MEST-CT-2004-504243)

Coordinator: Greg ASHER – University of Nottingham

University sub-coordinator: Branislav Dobrucký

Co-operators: Pavol Špánik, Branislav Zigmund, Rastislav Pavlanin, Filippo Chimento, Daniel Spáčil.

4.3.4 Other International Projects

Title: NSS eTwinning – National support services for electronic school cooperation (2004-4009/001-ELE ELEB 13)

Coordinator: Ľubica Sokolíková

Co-operators: Branislav Dobrucký (50%)

5 Co-operation

5.1 Co-operation Partners in Slovakia

Department of el. engineering, mechatronics and industrial engineering, FEI TU Košice

Department of mechatronic systems, FM TUAD, Trenčín

Department of automation and regulation, FEI STU, Bratislava

Department of electric machines and apparatus, FEI STU, Bratislava

EVPÚ a.s Nová Dubnica

ABB Slovakia, Bratislava

DataTherm, s.r.o. Žilina

Power-One, Dubnica nad Váhom

Robotec s.r.o. Sučany

CONTINENTAL MATADOR s.r.o. Púchov
 HAGARD:HALL a.s. Nitra, Žilina
 IPESOFT s.r.o. Žilina
 Považská cementáreň a.s., Ladce
 Energo controls s.r.o. Žilina
 ControlTech, s.r.o. Trnava
 Schneider Electric Slovakia, s.r.o., Bratislava, Žilina
 VA TECH ELIN EBG SR, s.r.o., Žilina, Bratislava
 ELTECO, a.s. Žilina
 VUVT Engineering, a.s. Žilina
 ELBATEX Slovakia, s.r.o.
 MACRO, s.r.o., Žilina
 LJF Martin, UK Bratislava

5.2 International Co-operation Partners

Università degli studi di Catania -IT, DIEES, prof. Alfio Consoli
 Politecnico di Bari – IT, DEE, prof. Francesco Cupertino
 Technische Universität Graz - AT, FE, IEL, Dr. Manfred Sakulin
 University of Nottingham - UK, prof. Greg ASHER, prof. Pat Wheeler
 University of Picardie – Jules Verne, Amiens - FR, prof. Gérard-André Capolino
 National University of Ireland, Dublin – IRL, prof. Annroi de Paoru
 Freescale (Motorola) – CZ, Ing. Ivan Skalka
 University of Porto – PT, prof. Maciel Barbosa
 Technische universität Dresden – DE, Dr. Peter Büchner
 Technikum Wien – AT, prof. Felix Himmelstoss
 Technische universität Bochum – DE, prof. Andreas Steimel
 National Instruments Czech Republic, s.r.o. – Ing. Roman Vala
 Technical Univesity RWTH Aachen - DE
 XILINX USA, University program

5.3 Visitors to the Department

<i>Name</i>	<i>Institution</i>	<i>Length of stay</i>
Wolfgang MICHALIK	TU Dresden, Germany	1 week
Alfio CONSOLI	Unict Catania, Italy	4 days
Maciel BARBOSA,	UP Porto, Portugal	1 week

5.4 Visits to Foreign Institutions

<i>Name</i>	<i>Institution</i>	<i>Length of stay</i>
Miroslav Hrianka	National University of Ireland, Dublin	7 days
Miroslav Hrianka	VŠB-TU Ostrava, CZ	2 days
Ivan Kožehuba	VŠB-TU Ostrava, CZ	2 days
Anna Kondelová	VŠB-TU Ostrava, CZ	2 days
Peter Izák	VŠB-TU Ostrava, CZ	2 days
Pavol Špánik	UNICT Catania, IT	7 days
Branislav Dobrucký	UP Porto, Portugal	7 days
Branislav Dobrucký	EC Office DG 12, Brussels, Belgium	3 days
Branislav Dobrucký	EC Office CSS, Brussels, Belgium	3 days
Branislav Zigmund	Politecnico di Bari, IT	1 year
Rastislav Pavlanin	Politecnico di Bari, IT	6 months

6 Other Activities

6.1 Membership in International Institutions/Committees

- Branislav Dobrucký -European Committee DG 12 – Energy Committee – programme committee
 -An independent expert for the programme committee 6th FP of EC, programme “Integrating and Strengthening the European Research Area”, priority 6: Permanent maintainable development, global changes and ecosystems
- Pavel Pavlásek -member of the Editorial Board of the Journal Strojárstvo (Machinery)

6.2 Membership in National Institutions/Committees

- Branislav Dobrucký -Member of the National Program Council, Guarantee of the complex young workers up to 35 alter personality development in R&D
 -Member of the Common Committee for Electrical Engineering
- Pavel Pavlásek -Member of the Commission for Regulation of Finances of Public Benefits (The Žilina Selfgoverning region)
 -Head of the Commission of Transport and Road Administration port (The Žilina Selfgoverning region)
 -Member of the Grant Commission for Education and Culture No.2 of the Ministry of Education of Slovak Republic
 -Member of the Commission of the Ministry of Education of Slovak Republic for Selection of the Aith of Candidates from Developing Countries and Compatriots
 -Member of the State Committee in Mechatronics, Faculty of Electrical Engineering, University of Žilina
- Pavol Špánik -Member of the Common Committee for Mechatronics

6.3 Membership in University Boards

- Branislav Dobrucký -Member of the Editorial Board of ZU Scientific Journal – Communication – Scientific Letters
 -Editorial Board of Publication Committee of ZU
 -Member of the Scientific Boards of FEE ZU
 -Member of the Electrical Engineering Committee, FEE ZU
 -Member of the Automation and Control Committee – Process Control, FEE ZU
- Pavol Špánik -Member of the Senate ZU
 -Member of the Electrical Engineering Committee, FEI STU Bratislava
 -Member of the Automation and Control Committee – Process Control, FEE ZU
- Miroslav Hrianka -Member of the Scientific Boards of FEE ZU
 -Member of the Academic Senate of FEE ZU

7 Publications

Lecture Notes

- [1] PAVLÁSEK, P.: Didactics of Technical Subjects. Supplemented Syllabus Edition for Extended Pedagogical Education. EDIS – Publisher of the University of Žilina, 2005 (scriptum)

Journals (SK)

- [2] DOBRUCKÝ, B. - ALTUS, J. - ŠUL, R. – DROZDY, S. - NOVOTNÝ, M.: Uninterruptible Supply for Automotive Industry Using DVR a UPFC. In: EE - Journal for Electrical and Energetic Engineering – Special Edition, 2005, pp. 85-88 (in Slovak)
- [3] DOBRUCKÝ, B. – ŠUL, R. – ŠPÁNIK, P.: Power Supply Security of Continual Processes Using FACTS devices. In: AT&P Journal (SK), Vol. 11, 2005, pp.79-81 (in Slovak)
- [4] DOBRUCKÝ, B. – ŠPÁNIK, P. – ŠUL, R.: Improvement of Power Electronic Structure Characteristics Using SiC Technology – Overview. In: Communication – scientific letters ZU, Žilina, Vol. 3-4, 2005, (in press)
- [5] PALKOVÁ, Z. - LUKÁČ, O. - PRÍKOPOVÁ, A.: Application of Simulating Models for More Effective Exploitation of Artificial Irrigation. In: Acta technologica agriculturae, Scientific journal for agriculture mechanization, ISSN 1335-2555 (in press) (in Slovak)
- [6] HARGAŠ, L. - HRIANKA, M. - ŠPÁNIK, P.: Application of Communication Systems in Biomedical Engineering. In: COMMUNICATIONS – Scientific letters of the University of Žilina, (in press)

Foreign Journals

- [7] ALTUS, J. - MICHALÍK, J. - DOBRUCKÝ, B. - VIET, L.H.: Single-Phase Power Active Filter Using Instantaneous Reactive Power Theory – Theoretical Approach. In: Zeszyty Naukowe, Series Elektrotechnika Zb. 55, Politechnika Opolska (PL), Nr. 299/2005, pp.8-16
- [8] ALTUS, J. – MICHALÍK, J. – DOBRUCKÝ, B. – VIET, H. L.: Single-Phase Power Active Filter Using Instantaneous Reactive Power Theory. In: Journal of Electrical Power Quality and Utilisation (PL), 2005, Zb. XI, č. 1, pp. 35-40
- [9] DOBRUCKÝ, B. – POKORNÝ, M. - ALTUS, J.: Active Symmetrization of Energy Supply for Electric Traction. In: Energetika, Journal for power station-, heating plant and energy exploitation experts, Praha (CZ), Zb. 2005, pp. 92-97 (in Slovak)

Conference Proceedings (SK)

- [10] DIGAŇA, T. - ČUNTALA, J. - ŠOLC, R.: A Practical Concept of Hardware and Software Design Using Voice-Extreme Ics in the Field of Speaker's Phrases Recognition Technologies. In: Proc. 5th Electronic Circuits and Systems Conference, Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and Information Technology, Bratislava, Slovakia, September 8-9, 2005, pp.31-34
- [11] HARGAŠ, L. - ČUNTALA, J.: Display Viewing Angle Assessment. In: Proc. Transcom 2005, 6-th European conference of young research and science workers in transport and telecommunications, Zilina June 2005, Slovak Republic, ISBN 80-8070-415-5, pp. 111-114
- [12] DIGAŇA, T. - ČUNTALA, J.: A Practical Concept of Hardware and Software Design Using Voice-Extreme Ics. In: Proc. Transcom 2005, 6-th European Conference of young research and science workers in transport and telecommunications, Zilina June 2005, Slovak Republic, ISBN 80-8070-412-0, pp. 47-50
- [13] HARGAŠ, L. - HRIANKA, M.: Picture Archiving and Communication Systems Implementation. In: Proc. TRANSCOM 2005, Žilina, June 2005, ISBN 80-8070-415-5, pp. 115-118
- [14] HARGAŠ, L. - HRIANKA, M.: Picture Archiving and Communication Systems in Medicine. In: Proc. Trends in biomedical engineering, Žilina, September 2005, ISBN 80-8070-443-0, pp. 79-82
- [15] HARGAŠ, L. - HRIANKA, M.: Picture Archiving and Communication Systems in Medicine, In: Book of abstract, Trends in biomedical engineering, Žilina, September 2005, ISBN 80-8070-444-9, p. 20

- [16] SLANINA, S. - HRIANKA, M.: EGPRS Radio Interface Optimization for Images Data Transmission. In: Proc. TRANSCOM 2005, Žilina, June 2005, ISBN 80-8070-415-5, pp. 207-210
- [17] IZÁK, P.: Enhancement of Ultrasound Image Filtering. In: Proc. TRANSCOM 2005, Žilina, June 2005, ISBN 80-8070-415-5
- [18] PERAŠÍN, J. - HRIANKA, M.: 4D Applications in the Ultrasound. In: Proc. Trends in biomedical engineering, Žilina, September 2005, ISBN 80-8070-443-0, pp. 114-117
- [19] SLANINA, S. - HRIANKA, M.: EGPRS System Optimization for Emergency Telemedicine. In: Proc. Trends in biomedical engineering, Žilina, September 2005, ISBN 80-8070-443-0, pp. 131-133
- [20] DOJČINOVIČ, I. - HRIANKA, M.: 2D Compare Evaluation of Image Compression. In: Proc. TRANSCOM 2005, Žilina, June 2005, ISBN 80-8070-415-5, pp. 55-58
- [21] ISTENÍK, R. - PRÍKOPOVÁ, A.: Testing of Thermoelectric and Resistive Temperature Sensor Properties. In: NEKOMOT 2005, GÚ č. 1/1078/04 Interdisciplinary solution of the unconventional combustion engines elements optimization, EDIS ŽU, Žilina, 2005 (in press) (in Slovak)
- [22] OVCARČÍK, R. - ŠPÁNIK, P. - PAVLANIN, R.: DC/DC Converters Used for a High Input Voltage Based on a Half-Bridge Topology. In: Proc. TRANSCOM 2005, 6-th European conference of young research and science workers in transport and telecommunications, 27 – 29 June 2005, Zilina. Section 5, ISBN 80-8070-417-1, pp. 57 – 62.
- [23] PAVLANIN, R. - OVCARČÍK, R. - ŠPÁNIK, P.: Control Algorithm for DC Electronic Load. In: Proc. TRANSCOM 2005, 6-th European conference of young research and science workers in transport and telecommunications, 27 – 29 June 2005, Zilina. Section 5, ISBN 80-8070-417-1, pp. 63 – 67.
- [24] DOBRUCKÝ B. - ALTUS, J. - ŠUL, R. - DROZDY, S. - NOVOTNÝ M.: Uninterruptible Supply for Automotive Industry Using DVR a UPFC. In: Proc. ELO SYS'05, Trenčín (SK), Oct. 2005, (CDROM) (in Slovak)
- [25] PAVLÁSEK, P. - KORENČIAK, D. - PAVLÁSEK, M.P.: Virtual Instrumentation Based Development of Sophisticated Control System. In: Proc. TRANSCOM 2005 6- th European Conference of Youth Research and Science Workers in Transport and Telecommunications, June 2005 Zilina University, Zilina, ISBN 80-8070-417-1, pp. 117- 124
- [26] PAVLÁSEK, P. - PAVLÁSEK, M.P.: Sophisticated Biometrical System Development for Prompt Refugee Personal Identification. In: Proc. Trends in biomedical engineering, Žilina, September 2005, ISBN 80-8070-44, pp. 143-148
- [27] PAVLÁSEK, P. - MEDVECKÝ, Š. - MAČUŠ, P.: Sophisticated Biomedical Systems: Product Technology, Design and Performance in Dental Medicine. In: Proc. Trends in biomedical engineering, Žilina, September 2005, ISBN 80-8070-443-0, pp. 149-154
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8 Contact Address

Department of Mechatronics and Electronics
Faculty of Electrical Engineering
University of Žilina

Katedra mechatroniky a elektroniky
Elektrotechnická fakulta
Žilinská univerzita

Univerzitná 1, 010 26 Žilina
Slovak Republic
Phone: ++421-41-513 1600
Fax: ++421-41-513 1515
E-mail: kme@fel.utc.sk
www: <http://fel.utc.sk/katedra.htm>

Univerzitná 1, 010 26 Žilina
Slovenská republika