

DEPARTMENT OF MECHATRONICS AND ELECTRONICS

1 General Information

The Department of Mechatronics and Electronics has finished the fourth year of its existence in December, 2008. The year was very successful both in educational and research areas. Particularly, process of completion of laboratories has continued successfully, whose goal was improvement of level of apparatus- and audiovisual equipment of the laboratories. The firms FreeScale and Fairchild have contributed to laboratories equipment by digital signal processors and samples of semiconductor devices.

Works on national and international projects have continued in this year. The Department has become coordinator and contractor of European LLP Grundvig project oriented on support of innovative activities for Technologic Parks in Romania, Greece and Slovakia. Moreover, Department has obtained two new research projects of Slovak Grant Agency VEGA, and has submitted large project to Cultural and Educational Agency KEPA. Research staff of the Department has also shared works on large bilateral scientific and research project focused on thermal fields analysis in supercapacitors. Coordinator of this project is Japan firm Panasonic, actually its research centre in Lueneburg, Germany. It can be positively evaluated doctorate PhD study course in which two PhD students have handover their dissertation works and were successful in defense examinations.

In the year 2008 the Department involves twelve members of educational staff, five research workers, eight internal PhD students and seventeen 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 has been providing 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 Žilina. Such an education has been 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 has been organized and provided 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 have been 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. Topology optimising for power semiconductor converters and their electro-magnetic compatibility belongs to main activities of the Department.

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 power electronics, 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

2.1 Sections of the Department

2.1.1 Section of Electronics and Control Systems

Head of the Section : Jozef Čuntala
 Professors : Branislav Dobrucký
 Visiting Professors : Alfio Consoli
 Associate Professors : Pavol Špánik, Jozef Čuntala, Miroslav Hrianka
 Research Fellows : Rastislav Pavlanin, Roman Radvan,
 Róbert Šul, Michal Kabašta,
 Senior Lecturers (without PhD) : Ivan Kožehuba, Jozef Lakatoš, Peter Šindler,
 Libor Hargaš, Anna Kondelová, Rastislav Pavlanin

2.1.2 Section of Mechatronics Systems and Industry Automation

Head of the Section : Fedor Kállay
 Associate Professors : Fedor Kállay, Pavel Pavlásek,
 Research Fellows : Marek Paškala
 Senior Lecturers (with PhD) : Anna Príkopová

2.1.3 Postgraduate Students

Internal (full-time) : Dušan Koniar, Viktor Bobek, Peter Drgoňa,
 Michal Frivaldský, Peter Fibich
 External (part-time) : Peter Šindler, Anna Kondelová, Marek Paškala,
 Branislav Zigmund, Rastislav Pavlanin,
 Marián Pčola, Roman Filka, Ján Duda, Peter Čerňan,
 Vlastimil Baculák, Peter Jeck

3 Teaching

3.1 Courses in Bachelor and Master Degree Programmes

3.1.1 Bachelor Degree Programmes

Code	Title	Lessons-Seminars-Exercises	Semester hours/week	Teachers
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Courses at the Faculty of Electrical Engineering

3B303 Analogue Electronic Systems	3	2-0-3	Čuntala
3B309 Electronics I	3	2-0-3	Čuntala
3B327 Distributed Systems in Industry Automation	3	2-0-2	Kállay
3B401 Microprocessor Technology	4	3-0-2	Čuntala
3B402 Digital Electronic Systems	4	2-0-3	Hrianka
3B403 Measurement of Non-Electric Parameters	4	2-0-2	Kállay
3B409 Electronics II	4	2-0-3	Hrianka
3B415 Measurement and Data Processing	4	2-0-2	Kállay
3B416 Power Electronics	4	3-1-2	Špánik
3B421 Electric Light and Heat	4	2-1-1	Pavlásek
3B422 Logical Systems and Microprocessors	4	2-0-2	Hrianka
3B433 Logical Circuits	4	3-0-2	Hrianka
3B501 Design of Electrical Equipments	5	1-1-3	Čuntala
3B503 Electromagnetic Compatibility	5	2-2-0	Špánik
3B513 Logical Circuits	5	3-0-2	Hrianka
3B520 Mechatronics	5	2-0-2	Pavlásek
3B522 Automatic Regulation	5	2-2-0	Príkopová
3B530 Automatic Control	5	2-0-1	Pavlásek
3B531 Multimedia Technology	5	2-0-1	Pavlásek
3B532 Computer and Office Technique	5	2-0-1	Pavlásek
3B555 Image Processing and Analysis	5	2-0-2	Hrianka
3B602 Computing and Office Technology	6	2-0-1	Pavlásek
3B619 Bachelor Project	6	0-0-6	Špánik
3B625 Power Semiconductor Systems	6	3-1-1	Špánik

External Study

3B309 Electronics I	3	8-0-10	Čuntala
3B625 Power Semiconductor Systems	6	10-2-4	Špánik

3.1.2 Master Degree Programmes

Code Title	Semester	Lessons-Seminars-Exercises	
		hours/week	Teachers
<i>Courses at the Faculty of Electrical Engineering</i>			
3I102 Power Semiconductor Converters	1	3-0-3	Špánik
3I103 Theory of Automatic Control 1	1	2-1-1	Príkopová
3I110 Programmable Logic Controllers	1	2-0-2	Kállay
31035 Microcomputers Programming	8	0-2-2	Šindler
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
31316 Seminar Project	9	0-4-0	Špánik

Courses at the Faculty of Mechanical Engineering

2N125 Electronic Control Elements	1	2-2-0	Špánik
2N244 Exploitation of Computer Network	1	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	Príkopová
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	Príkopová
21217 Semester project	9	0-0-2	Kállay
21682 Mechatronic systems	9	2-0-2	Pavlásek
21735 Dispatching Systems	9	2-0-2	Kállay
21218 Systems Theory	10	2-2-0	Príkopová
21287 Application of Automation Technics	10	2-0-2	Kállay
21289 Diploma seminar	10	0-0-6	Kállay

Courses for Foreign Students – Socrates/Erasmus Program

3I141 Automatic Control 2	Pavlásek	student of Universidade do Porto, PT
3B416 Power Electronics	Dobrucký	student of Universidade do Porto, PT

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, Anna Príkopová, Daniel Korenčiak, Robert Šul, Slavomír Drozdy, Branislav Zigmund, Viktor Bobek, Michal Frivaldský, Peter Drgoňa, Rastislav Pavlanin, Marek Paškala, Roman Radvan, Jozef Čuntala, Anna Kondelová, Ivan Kožehuba, Peter Šindler, Jozef Lakatoš, Libor Hargaš, Peter Izák, Dušan Koniar

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

Title: Progressive Methods of Digital Processing of Nondeterministic Image Signals and Bio-signals (VEGA 1/3107/06)

Coordinator: Miroslav Hrianka

Co-operators: Libor Hargaš, Peter Izák, Dušan Koniar

Title: Research of the new methods of modeling-, control and simulation of mechatronic systems (VEGA 1/3086/06)

Coordinator: Branislav Dobrucký

Co-operators: Fedor Kállay, Pavel Pavlásek, Valéria Hrabovcová, Pavol Rafajdus, Pavol Špánik, Branislav Zigmund, Róbert Šul, Rastislav Pavlanin, Anna Kondelová, Anna Príkopová, Peter Šindler

Title: Research of commutation process in power transistor structures at soft switching techniques and control algorithm optimization (VEGA 1/3123/06)

Coordinator: Pavol Špánik

Co-operators: Peter Bury, Branislav Dobrucký, Fedor Kállay, Jozef Čuntala, Miroslav Hrianka, Pavel Pavlásek, Anna Príkopová, Ivan Turek, Peter Šindler, Anna Kondelová, Roman Radvan, Marek Paškala, Rastislav Pavlanin, Viktor Bobek, Róbert Šul, Michal Frivaldský, Slavomír Drozdy, Peter Drgoňa

Title: Theoretical apparatus for analysis and evaluation of hazards of telematic systems at transport (VEGA 1/0023/08)

Coordinator: Juraj Spalek

Co-operators: Fedor Kállay, Anna Príkopová

4.2.2 Research Projects Funded by the Slovak Research and Development Agency (APVV)

Title: Device with internal intelligence for gigacycle fatigue test of construction materials working ultrasonic frequency area (APVV-20-051705)

Coordinator: Pavol Špánik

Co-operators: Branislav Dobrucký, Peter Palček, Fedor Kállay, Jozef Čuntala, Miroslav Hrianka, Pavel Pavlásek, Rastislav Pavlanin, Róbert Šul, Branislav Zigmund, Slavomír Drozdy, Peter Izák, Libor Hargaš, Jozef Lakatoš, Ivan Kožehuba, Peter Šindler, Anna Príkopová, Otakar Bokúvka, Eva Tillová, František Nový, Marián Činčala, Jozef Kúdelčík, Helena Šamajová, Michal Frivaldský, Marek Paškala, Peter Drgoňa, Viktor Bobek, Ján Davidík

Title: Popularisation of university study in electronics, mechatronics and IT on secondary schools (APVV LPP -0237-06)

Coordinator: Pavol Špánik

Co-operators: Branislav Dobrucký, Róbert Šul, Marek Paškala, Miroslav Hrianka, Fedor Kállay, Pavel Pavlásek, Anna Heglasová, Marián Prievozník, Pavol Bagin, Jozef Čuntala

4.2.3 European Social Foundation Projects

Title: Image processing and analysis (SOP LZ – 2005/NP1-007)

Coordinator: Ivo Čáp, Department of Electromagnetic and Biomedical Engineering

Co-operators: Libor Hargaš, Miroslav Hrianka, Dušan Koniar

Title: TOP – eL (11230100314)

Coordinator: Matilda Drozdová, Faculty of Management Science and Informatics, ŽU

Co-operator: Miroslav Hrianka

4.3 International Projects

4.3.1 Socrates/Erasmus Projects

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

Coordinator: Marián DZIMKO University of Žilina

Co-operators: Branislav Dobrucký (TU Lublin, PL), Pavol Špánik (UNICT Catania, IT), Miroslav Hrianka (RWTH Aachen, DE), João Archer (Universidade do Porto, PT)

4.3.2 6th Frame Programme

Title: Marie Curie Early Stage Training: Electric Energy Conversion and Conditioning ECON2 – 6FP of EU (MEST-CT-2004-504243)

Coordinator: Greg ASHER – University of Nottingham

University sub-coordinator: Branislav Dobrucký

Co-operators: Ivan Giannelli, Ján Vittek, Michal Kabašta, Viktor Bobek, Naveen K. Boggarpu

4.3.3 LLP Grundvig Projects

Title: Technological Parks for Innovation and Trans-European Cooperation (TPI-TEC), (135741-2007-RO-KA3-KA3MP)

Coordinator: Branislav Dobrucký, Pavel Pavlásek

5 Co-operation

5.1 Co-operation Partners in Slovakia

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

ELTECO, a.s. Žilina

VUVT Engineering, a.s. Žilina

ELBATEX Slovakia, s.r.o.

MACRO, s.r.o., Žilina

SSE, a.s. Žilina

EMERSON a.s. Nové Mesto n. Váhom

Súkromná zväračská škola, Žilina

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

LJF Martin, UK Bratislava

INA Kysuce, a.s. Kysucké Nové Mesto
 KIA Motors, s.r.o. Žilina
 GRANIT, s.r.o. Žilina
 AAUTO, s.r.o. Žilina
 VIP AUTO, s.r.o. Žilina
 Siemens s.r.o., Bratislava, Žilina
 TEAM DC, 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 Paor
 Freescale (Motorola) – CZ, Ing. Ivan Skalka
 University of Porto – PT, prof. Maciel Barbosa
 Technische universität Dresden – DE, Dr. Peter Büchner
 Technische universität Darmstadt – DE, prof. Andreas Binder
 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
 Politechnika Radomska – PL, prof. Miroslav Luft, doc. Elzbieta Szychta
 XILINX USA, University program
 Laboratory Imaging, s.r.o. Praha
 Humusoft s.r.o. Praha – CZ, Karel Bittner
 TU – VŠB Ostrava – CZ, prof. Pavel Brandstetter, prof. Petr Chlebiš
 FAIRCHILD Semiconductor - Power Franchise – EU
 FreeScale s.r.o., Rožňov pod Radhoštěm – CZ
 B&R Automatizace, Brno – CZ
 Rockwell Automotion s.r.o., Praha - CZ

5.3 Visitors to the Department

<i>Name</i>	<i>Institution</i>	<i>Length of stay</i>
Annraoi de Paor	UCD – NUI Dublin, IRL	3 days
Elzbieta Szychta	Univerzity of Radom, Poland	3 days
Miroslav Luft	Univerzity of Radom, Poland	3 days
Zbygniew Lukasik	Univerzity of Radom, Poland	3 days
Mahmud Rzig Abdalmoula	Ministry of Education, Libya	1 week
Toshiaki KOBAYASHI	head of Panasonic Devices, Kobe, Japan	1 day
Miho NISHIGUCHI	Panasonic, Japan	1 day
Nobuharu KATSUKI	Panasonic, Japan	1 day
Yoshikazu SUEHIRO	Panasonic, Japan	1 day
Norbert GLAPA	Panasonic, Germany	1 day
Miroslav MIKOLÁŠIK	European Parliament, EU	1 days
Naveen Kumar Boggharpu	University College, Cork, IRL	6 months

5.4 Visits to Foreign Institutions

<i>Name</i>	<i>Institution</i>	<i>Length of stay</i>
Miroslav Hrianka	RWTH – Aachen, DE	7 days

Pavel Pavlásek	STP–TIM, Timisoara, RO	5 days
	Technology Park, Lavrion, GR	2 days
	Romanian Ministry of Education, Research and Youth, Bucuresti, RO	6 days
Pavol Špánik	UNICT Catania, IT	7 days
Branislav Dobrucký	Technology Park, Lavrion, GR	4 days
Branislav Dobrucký	Lublin University of Technology, PL	5 days
<i>Participation in Foreign conferences:</i>		
Róbert Šul	MIC IASTED, Innsbruck, AT, February 2008	3 days
Drgoňa Peter	MIC IASTED, Innsbruck, AT, February 2008	3 days
Branislav Dobrucký	PES IASTED, KORFU, GR, May 2008	5 days
Rastislav Pavlanin	PES IASTED, KORFU, GR, May 2008	5 days
Michal Frivaldský	IEEE, IE CON, Orlando, USA, Nov. 2008	5 days
Róbert Šul	IEEE, IE CON, Orlando, USA, Nov. 2008	5 days
Branislav Dobrucký	IASTED AIC, Palma de Malorca, ES, Sept.2008	5 days
Branislav Dobrucký	TRANSCOMP, Politechnika Radomska, Zakopané PL, December 2008	1 day
Pavol Špánik	TRANSCOMP, Politechnika Radomska, Zakopané PL, December 2008	1 day
Libor Hargaš	Applied Electronics, ZČU, Plzeň	2 days
Peter Šindler	IWKM 2008, Hochschule Mittweida, DE	5 days

6 Other Activities

6.1 Specialized Lectures, Courses Organized by the Department

Title of Lecture/Course: University Studies and Industry Needs Interactions

Customer: Secondary school teachers

Lecturer: Pavol Špánik, Branislav Dobrucký, Róbert Šul

Date: 16th December 2008

Title of Lecture/Course: Identification and Identifiers

Customer: GS1 SLOVAKIA, Department of Mechatronics and Electronics, University of Žilina

Lecturer: Pavel Pavlásek

Date: 26th November to 1st December 2008

Title of Lecture/Course: Identification of Goods and Services

Customer: GS1 SLOVAKIA, Department of Mechatronics and Electronics, University of Žilina

Lecturer: Miroslav Štaffen, Pavel Pavlásek

Date: 2nd December 2008

6.2 Membership in International Institutions/Committees

Branislav Dobrucký	-Member of International Association for Science and Technological Development (IASTED), CA -Reviewer for Publishing Company Elsevier, NL -Steering Programme Committee of International MIC 2007-2008 Conf. -Steering Programme Committee of International EuroPES 2008 Conf. -Session Chairman at the EuroPES 2008 Conf. Korfu, GR -Session Chairman at the AIC Int. Conf. Palma de Malorca, ES,
Pavel Pavlásek	-Member of the Editorial Board of the Strojárstvo (Machinery) Journal -Member of Brandon Hall Excellence in Learning Awards -Expert of FP7 Programme NMP – 2007 – 3.4 – 1 -Expert of Romanian Ministry of Education, Research and Youth, Romania, (Program SOPIEC-A2-O2.2.1-2007-1+Capacities-I-2007-2)
Pavol Špánik	-Member of IEEE Society
Branislav Dobrucký	-Member of IEEE Society
Michal Frivaldský	-Student member of IEEE Society
Peter Drgoňa	-Student member of IEEE Society
Peter Fibich	-Student member of IEEE Society
Dušan Koniar	-Student member of IEEE Society

6.3 Membership in National Institutions/Committees

Branislav Dobrucký	-Member of Working Group No. 1 for Technical Science of Slovak Research and Development Agency -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 -Steering Programme Committee of ALER 2007 Conf.
Pavel Pavlásek	-Head of the Commission of Transport and Road Administration port (The Žilina Self-governing 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 Aid of Candidates from Developing Countries and Compatriots -Representative of Regional Assembly of Žilina Self-governing Region
Pavol Špánik	-Member of the Common Committee for Mechatronics

6.4 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 Board 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 Academic Senate of FEE ZU -Member of the Scientific Board of FEE 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 Measurement Technique Committee, FEI TU Košice
Libor Hargaš	-Member of the Scientific Board of FEE ZU -Member of the Academic Senate of FEE ZU

6.5 Awards

The Department obtained the diploma:

Laboratory of Microcontrollers and Digital Signal Processors, Freescale Semiconductor – Excellence in Educational Partnership

Winner of Freescale Technology Day 2008 competition: Student of the second year of the Department of Mechatronics and Electronics Ivan Lovás: CNC milling machine controlled by DSC Freescale.

7 Publications

Other Reviewed Foreign Journals

- [1] ŠPÁNIK, P.- ČUNTALA, J.- LAKATOŠ, J.- KONDELOVÁ, A.- FRÍVALDSKÝ, M: Analysis of Field of Temperature of Power Electronic Systems in COMSOL MULTIPHYSICS Environment, In: ElectroScope – On Line Magazine, ISSN 1802-4564.
- [2] KÁCSOR, G. - ŠPÁNIK, P – DUDRÍK, J. – LUFT, M. - SZYCHTA E: Principles of Operation of Three – Level Shift Controlled Converter, In: Magazine of Electronics & Electrical Engineering, LITVA, Kaunas, No. 2 (82), 2008, ISSN: 1392-1215, pp. 69-74.
- [3] ŠPÁNIK, P - DOBRUCKÝ, B. - FRÍVALDSKÝ, M. - DRGOŇA, P: Measurement of Switching Loses in Power Transistor Structure, In: Magazine of Electronics & Electrical Engineering, LITVA, Kaunas, No. 2 (82), 2008, ISSN: 1392-1215, pp. 75-78.
- [4] DOBRUCKY, B. – SPANIK, P. – POKORNY, M: Dynamic Single-Phase DVR System with Instantaneous Power Factor Estimator, In: International review of electrical engineering (IREE), Naples, Italy, January 2008, Vol.1, No. 1, ISSN: 1827-6660, pp. 9 -16.
- [5] PAVLÁSEK, P. – ĎURAJOVÁ, M. – MAČUŠ, P: Innovation in Biomedical Engineering Prototyping Technologies Application of Sophisticated Technologies in biomedical Engineering, In: Productivity & Innovation, Poland, Bielsko, No.3 (6), 2007, ISSN: 1734-9834, pp. 10 -14.
- [6] KONIAR, D. – HARGAŠ, L. – HRIANKA, M. – ŠPÁNIK, P: Application of DICOM Standard in LabVIEW Environment, In: Sensor & Transducers Journal, IFSA, Vol. 87, Issue 1, January 2008, ISSN: 1726-5749, pp. 19-23.
- [7] HARGAŠ, L. - KONIAR, D. — HRIANKA, M. – PRÍKOPOVÁ, A: Kinetics Analysis of Respiratory Pithelium by Virtual Instrumentation, In: Sensor & Transducers Journal, IFSA, Vol. 87, Issue 1, January 2008, ISSN: 1726-5749, pp. 11-18.
- [8] KALLAY, F: Safety in the Road and Railroad Tunnels, In: Silniční Obzor, No. 47, Vol. 320, January 2008, ISSN: 0322-7154, pp. 21-23, (in Slovak).
- [9] FRANEKOVÁ, M. – KALLAY, F. – KURYTNIK, P.: Safety Analyse of Cryptography Protocol Used Within Safety - Related Control Systems in Industry, In. Vimirjuval'naja tehnika ta metrologia, Vol. 68, 2008, ISSN: 0368-6418, pp. 60-65.

- [10] HOSNY, W. - DOBRUCKÝ, B: Harmonic Distortion and Reactive Power Compensation in Single Phase Power System Using Orthogonal Transformation Strategy, In: WSEAS Transaction on Power Systems, January 2008, Issue 1, Volume 3, ISSN: 1790-5060, pp. 237-246.
- [11] POPPEOVÁ, V.- URÍČEK, J.- ŠINDLER, P. -ZAHORANSKÝ, R.-ĎURICA, J. - MÜLLER, K. – RÖMER, D. – SCHMEISSER, S. – ROLOF, J: Solution Results of DAAD PPP Project "Inverse Kinematic Analyse, Computer Simulation and Control of Hexapod Kinematic Structure" In: Scientific reports /Journal of the University of Applied Sciences Mittweida/ Vol.6, 2008. ISSN: 1437 – 7624, pp. 65-68.
- [12] URÍČEK, J.-ZAHORANSKÝ, R. – POPPEOVÁ, V. - ŠINDLER, P. - BULEJ, V.-KUCIAK, J: Design of mobile robot simulation software, In: Scientific reports /Journal of the University of Applied Sciences Mittweida/ Vol.6, 2008. ISSN: 1437 – 7624, pp. 65-68.
- [13] ŠTEFAŇÁK, J. - SPALEK, J. – KÁLLAY, F.: Road tunnels safety according to European legislation, In: Transport problems, Vol. 3 Issue 4 Part 1, Gliwice 2008, ISSN: 1896-0596, pp. 65-70.
- [14] DOBRUCKÝ, B. – PAVLANIN, R. – ŠPÁNIK, P: H-I-L Simulation of Single – Phase Active Power Line Conditioner with Instantaneous Power Flow Estimation, In: Computer systems aided science and engineering work in transport, mechanics and electrical engineering, / Kazimierz Pulaski Technical University of Radom / No122, Radom 2008, ISSN : 1642 – 5278. pp. 89 – 100.

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