

PROGRAM ELEKTRO 2008

20. May / room NR1		Invited presentations
9:00	Opening	
	Plenary Session - morning 1	Chairman: P. Bury
9:15	J. Michalík	55. rokov Elektrotechnickej fakulty Žilinskej univerzity v Žiline
9:55	D. Mayer	Future of electrotechnics: ferrofluids
Coffee-Break 10:35 - 10:55		
	Plenary Session - morning 2	Chairman: M. Dado
10:55	D. Krokavec, A. Filasová	Diagnostics and reconfiguration of control systems
11:35	B. Šimák	Výuka a výskum v oblasti ICT
Lunch 12:15 - 13:30		

20. May / room NR1		Session A - afternoon 1	Chairman: J. Mullerová
13:30	M. Filka, M. Bernkopf	WDM in Courses of Communication Technologies	
13:45	M. Markovič, J. Dubovan, M. Dado	Full-optical logical gates for optical signal processing	
14:00	E. Gemzický, J. Mullerová	Analysis of simulated reflection characteristics of uniform and apodized fiber bragg gratings	
14:15	D. Pajdušáková, B. Adamec	Triple play service and IPTV services offered within it	
14:30	B. Adamec, D. Pajdušáková	In-home networking technologies that reuse existing home wiring	
14:45	J. Hlubík	Algorithm design for assignment frequency channels for services in catv network	
15:00	R. Róka	The parametric model for PLC reference channels and its verification in the real PLC environment	
Coffee-Break 15:15 - 15:25			

		Session A - afternoon 2	Chairman: R. Hudec
15:25	M. Ďulík	Load balancing on heavily loaded servers	
15:40	I. Asenova	graph	
15:55	A. Lukáč	Semantic analysis of multimedial information using both audio and visual clues	
16:10	R. Hudec, M. Benčo	SD LMS L-filters for filtration of gray level images in time-spatial domain based on GLCM features	
16:25	M. Chrzan, Z. Lukasik	Definition of the network parameters of 3G systems	
16:40	M. Stork	New mixer used in direct frequency synthesizer	
16:55	Z. Němec, R. Doleček, Z. Šilar	The model of communication channel in the 802.11b standard wireless network	
17:10	M. Matula, J. Dúha	Optimalitation of beacon selection for localization in wireless ad-hoc networks	
17:25	P. Poloha, V. Wieser, J. Haring, N. Majer	Mathematical models of MIMO channel	
17:40	N. Majer, J. Haring, P. Poloha, V. Wieser	Pulse response measurement and processing by six-port reflectometer	
17:55	M. Mada, J. Dúha	RPS – Simulátor šírenia rádiových vln	

20. May / room NR3	Session B - afternoon 1	Chairman: B. Dobrucký
13:30	M. Luft, E. Szychta	Mathematical model of thyristor inverter including a series-parallel resonant circuit
13:45	M. Luft, E. Szychta	Commutation processes in multiresonant ZVS bridge converter
14:00	V. Blahník, Z. Peroutka, J. Molnár, J. Michalík	New configuration of traction converter with medium-frequency transformer: primary part
14:15	P. Drabek, M. Pittermann, M. Cedl, M. Los	The simulation of the traction drive with middle-frequency transformer
14:30	J. Dudrik, V. Ruščin	ZVZCS PWM DC-DC converter with energy recovery clamp
14:45	R. Křáček, M. Franko, J. Kuchta	The results evaluation of measurements of selected sinusoidal filter
15:00	R. Šul, P. Fibich, M. Frivaldský	Analysis of PMMT operation for renewable (PV/FC) energy source

Coffee-Break 15:15 - 15:35

	Session B - afternoon 2	Chairman: B. Dobrucký
15:35	P. Drabek	Using of the modern semiconductor devices based on the SiC
15:50	J. Švarný	Design and realisation of laser diode power supply
16:05	D. Ďuračková, K. Kováč, V. Smieško	Comparison of an analog behavioral and transistoral level model of operational amplifier
16:20	J. Dudek	minimization of power consumption
16:35	M. Porubský, J. Šuriansky, J. Adamec	Analýza údajov magnetickej stopy získanej senzorom HMR2300
16:50	M. Cédli, J. Řeháček, J. Talla	Equipment for education with mechatronics system

20. May / room NS15	Session C - afternoon 1A	Chairman: J. Altus
13:30	Z. Hradílek, J. Lindovský	Power quality aspect in grid connected wind power plants
13:45	S. Mišák, V. Mach	Optimizing wind power plants running with using program EMTP-ATP
14:00	Z. Hradílek, R. Šebesta	Accumulation systems of electric energy solved by multicriteria analysis methods IPA and TOPSIS
14:15	Z. Hradílek, M. Vysloužil	Economy of renewable resources of energy operation
14:30	M. Pípa, J. Kubica	Laboratory of renewable energy sources at STU FEI
14:45	D. Minařík	Connection fuel cells type PEM to the electrical power network
15:00	M. Bůžek	Human factor in risk analysis

Coffee-Break 15:15 - 15:35

	Session C - afternoon 2A	Chairman: J. Altus
15:35	M. Höger, P. Hečko, M. Rapšík	Využitie jazyka UML pre model elektrickej stanice a jeho využitie pri lokalizácii porúch v sieťach 22 kV
15:50	B. Stacho, F. Střída, S. Rusek	Calculation of steady-state operation of distribution network in programs Kasian and Bizon projektant
16:05	M. Golasowski, S. Rusek, R. Goňo	Disasters in distribution system
16:20	Z. Hradílek, P. Moldřík	Systems of remote-controlled elements within distribution networks in the North-Moravian region
16:35	L. Beranová, K. Zálíš	Partial discharge measurement in operation: problems with disturbances and their removing
16:50	I. Doležel, M. Donátová, P. Karban, B. Ulrych	A study of appropriate arrangement of thermoelastic actuator
17:05	M. Gutten, M. Brandt, R. Polanský, P. Prosr	High-frequency analysis of three-winding autotransformers 400/121/34 kV
17:20	M. Gutten, M. Brandt	Analýza stavu olejových transformátorov 22/0,4 kV metódou SFRA

21. May / room NS15	Session C - morning 1A	Chairman: M. Roch
8:30	S. Kocman, V. Stýskala	Reduction of Harmonics by 18-pulse rectifier
8:45	J. Wojciechowski, Z. Lukasik	The assessment of working conditions of traction substation for power and reactive energy
9:00	L. Prokop, Z. Hradílek	Quality of power supply in European view
9:15	Z. Medvec, L. Prokop	Estimation of energy not supply
9:30	P. Moldřík, J. Gurecký, L. Paszek	PROMETHEE method and sensitivity analysis in the software application for the support of decision-making
9:45	L. Paszek, J. Gurecký, P. Moldřík	Determination of criteria weights in terms of computer software
10:00	T. Sikora, V. Král	Reliability calculation by simulation means
Coffee-Break 10:15 - 10:35		
	Session C - morning 2A	Chairman: M. Roch
10:35	J. Gala	The basic preconditions for model of high voltage substation
10:50	R. Briš, J. Gala	Maintanance optimization of high voltage substation model
11:05	J. Altus, M. Rapšík	Vplyv rezervovaného výkonu na prevádzku prenosovej sústavy Slovenska
11:20	M. Rapšík	Možnosti uplatnenia kritéria N-1 v pronosovej sústave Slovenska
20. May / room NS16	Session C - afternoon 1B	Chairman: P. Rafajdus
13:30	K. Hruška	Calculation of forces acting on bars of induction machines
13:45	L. Vicol, A. Banyai, I.-A. Viorel, J.-J. Simond	On the damper cage bars' currents calculation for salient pole large synchronous machines
14:00	J. Foldyna, K. Chmelík, S. Mišák	Influence of electric discharges on bearings of electric machines
14:15	B. Skala, V. Kindl	Relaxing oscillation of the machine-unit
14:30	J. Nevřala, S. Mišák	Operating of small wind power plants with induction generators
14:45	D. Kováč, I. Kováčová	The magnetic fields of electric motors and their EMC
15:00	P. Záskalický, M. Záskalická	Analytical method of calculation of the current and torque a reluctance stepper motor via Fourier series
Coffee-Break 15:15 - 15:35		
	Session C - afternoon 2B	Chairman: P. Rafajdus
15:35	M. Krasl, R. Pechánek, R. Vlk	Traction transformer 1 MV.A, superconducting, oil-immersed and medium frequency
15:50	J. Kuchta, M. Franko, M. Fulier	Transformers losses determination of the middle frequency power transformers for switching mode power supply
16:05	K. Záliš, L. Beranová	Význam měření výbojové činnosti v diagnostice izolačních systémů elektrických strojů a zařízení
21. May	Session C - morning 1B	Chairman: J. Vittek
8:30	Z. Sutnar, M. Rodič, Z. Peroutka	Sliding mode flux observer of induction motor
8:45	P. Briš, J. Vittek, P. Makyš	Position control of PMSM in sliding mode
9:00	M. Hraško, P. Makyš, M. Franko, J. Kuchta	Improved control structure for linear high precise positioning system
9:15	M. Malek, J. Vittek, V. Vavruš, M. Štulrajter	Application of space vector modulation in direct torque control of PMSM
9:30	A. Rusek, A. Popena	via frequency converter
9:45	M. Pittermann, P. Drabek, J. Fort, M. Cedl	The study of several variants of the traction drive with middle-frequency transformer
10:00	J. Danzer	Analýza vstupních obvodů střídavých lokomotiv
Coffee-Break 10:15 - 10:35		
	Session C - morning 2B	Chairman: J. Vittek
10:35	M. Pácha, J. Karták	Rekonstrukce dielelektrických lokomotiv v podmínkách ČR
10:50	J. Škubal	Měření rušivých proudů lokomotivy řady 90E
	Lunch 13:05 - 14:30	

20. May / room NS13	Session D - afternoon 1	Chairman: J. Spalek, A. Janota
13:30	P. Příbyl, J. Spalek	The possibility to constitute an interoperability of EFC in the central and eastern Europe
13:45	J. Mikulski, P. Dziula	Security of information flows in transport, as an important item of crisis management within transport systems
14:00	M. Kornaszewski, Z. Łukasik	Analysis of setups of the control of rail microprocessor systems
14:15	K. Rástočný	Risk analysis of safety-critical control systems
14:30	P. Peniak, F. Kallay	Common protocol for distributed network file system
14:45	M. Vaculík, M. Franeková, P. Vestenický, M. Vestenický	On-board unit and its possibilities of communications on safety and security principles
15:00	J. Ždánky, J. Hrbček, J. Zelenka	Trends in control area of PLC reliability and safety parameters
Coffee-Break 15:15 - 15:35		
	Session D - afternoon 2	Chairman: Zahradník, Vestenický
15:35	J. Rofár, M. Franeková	Modelling of safety fieldbus system via SW tool SHARPE
15:50	M. Hrnčár, J. Krajčovič	Principles of audio watermarking
16:05	J. Krajčovič, M. Hrnčár, L. Muzikářová	Hidden Markov models in speech recognition
16:20	J. Alušík	Zvyšovanie energetickej efektívnosti v železničnej doprave
16:35	P. Holečko	Overview of distributed control systems formalism
16:50	J. Štefaňák, P. Příbyl Pavel, J. Spalek	Methods of risk analysis of telematic objects
21. May	Session D - morning 1	Chairman: Rástočný, Muzikářová
8:30	T. Michulek	Development of mobile robot control system in virtual reality
8:45	B. Krnáč	Aspects of RFID technology utilization in traffic applications
9:00	J. Šebeňová	Knowledge-based approach to diagnosis of fail-safe system
9:15	V. Kmeť	Reducing of train approach warning time at level crossings
9:30	P. Chrtiansky	Kryptoanalýza blokových šifier používaných v bezpečnostne-relevantnom komunikačnom protokole
Coffee-Break 9:45 - 10:05		
Lunch 13:05 - 14:30		

20. May / room NR2	Session E - afternoon 1	Chairman: D. Mayer
13:30	A. de Paor	Estimates of quantities in a Hall effect geodynamo theory
13:45	P. Fiala, T. Jirku, T. Kříž	Numerical modelling of electromagnetic field in a tornado
14:00	P. Fiala, E. Kroutilova, T. Kříž	Numerical modelling of the special light source with novel R-FEM method
14:15	P. Fiala, E. Kroutilova, M. Steinbauer, P. Dohnal, M. Hadinec, K. Bartušek	Experiments with the effect of non-homogenous parts into materials
14:30	P. Fiala, M. Steinbauer, K. Bartušek, Z. Szabó	Experiments with accuracy of the air ion field measurement
14:45	P. Fiala, T. Jirku, R. Kubasek, Z. Szabo, P. Konas	A passive optical location with limited range
15:00	J. Sobotka	Numerical solution of magnetostatic field of Maglev system
Coffee-Break 15:15 - 15:35		
	Session E - afternoon 2	Chairman: J. Sláma
15:35	P. Karban, M. Donátová	Integral solution of 3D electric field of a disconnecter
15:50	K. Maceika	Analysis of pulsed electromagnetic fields radiated by powerful sources (GIL)
16:05	Z. Piatek	
16:20	J. Dedková	Effective defect identifications in honeycombs
16:35	J. Dedková	Combination of deterministic and stochastic approaches to the image reconstruction
16:50	J. Sláma, V. Olah, A. Grusková, V. Jančárik, I. Hudec, R. Dosoudil, P. Široký, M. Šoka	Magnetic spectra analysis of dielectrics
17:05	R. Dosoudil, J. Franek, M. Ušák, V. Olah, J. Sláma	High-frequency EMI noise suppression by polymer-based composite magnetic materials
17:20	V. Jančárik, M. Šoka	Electromagnetic properties of selected hexaferrites
17:35	J. Franek, M. Kollár, D. Búc	To the control of surface layer thickness in electrochemical bath processing
17:50	E. Ušák, P. Švec, J. Kuchta, J. Bydžovský	New nanocrystalline materials for power electronics applications
21. May / room NR2	Session E - morning 1A	Chairman: K. Maceika
8:30	J. Paľa, J. Bydžovský	Effect of measurement conditions on barkhausen noise parameters
8:45	T. Ciszewski, Z. Lukasik	problems
9:00	D. Faktorová	Investigation of inhomogenities in dielectric sample by microwaves
9:15	L. Janoušek, D. Gombárska, K. Čáková	Advances in eddy-current non-destructive evaluation
9:30	K. Čáková, I. Čáp, L. Janoušek, M. Smetana	Recent trends in electromagnetic non-destructive sensing
9:45	M. Smetana, T. Strapáčová, L. Janoušek	Pulsed excitation in eddy current non-destructive testing of conductive materials
10:00	T. Strapáčová, M. Smetana, K. Čáková	Inspection of conductive prosthetic replacements using electromagnetic methods of non-destructive testing
Coffee-Break 10:15 - 10:35		
	Session E - morning 2	Chairman: A. de Paor
10:35	A. N. Hearn, M. M. Lowery, A. de Paor	Some thoughts on electrical interventions for the control of tremor in parkinson's disease
10:50	Z. Lukasik, Z. Olczykowski, K. Kiraga	Changes of parameters of voltage supplying biomedical facilities
11:05	I. Čáp, B. Czipelová	Electromechanical model of blood flow in vessels
11:20	B. Babušiak, J. Mohylová	The ECG signal prediction by using neural networks
11:35	M. Gála, J. Mohylová, V. Krajča	Application of neural network by EEG signal classification
11:50	Z. Pšenaková, M. Beňová	Measurement evaluation of EMF effect by mobile phone on human head phantom
12:05	D. Faktorová	Temperature dependence of biological tissues complex permittivity at microwave frequencies
12:20	V. Darmová	Contribution to the problems of electromagnetic field impact on biological objects
Lunch 13:05 - 14:30		

21. May / room NS14	Session E - morning 1B	Chairman: J. Kijonka
8:30	P. Orság, J. Kijonka	A new identification method of both magnetization characteristic and parameters of an unloaded transformer
8:45	J. Sedláček, Z. Szabó	Optimization method of EMI power filters and its measurement
9:00	M. Kamenský, K. Kováč	Iterative correction of measurement with averaging of dithered samples
9:15	F. Kovač, P. Semančík	Diagnostic of insulation systems by isothermal relaxation current analysis (IRC analysis)
9:30	M. Šebök, S. Kučera, M. Kučera	Problematic of diagnostic electrical equipment using radiance sensors
Coffee-Break 10:15 - 10:35		
Lunch 13:05 - 14:30		

20. May / room NS14	Session F - afternoon 1	Chairman: P. Bury
13:30	<u>P. Hockicko</u> , P. Sidor, P. Bury, J. Kúdelčík, I. Jamnický	Modeling of A-DLTS spectra of MOS structures
13:45	<u>S. Jurečka</u> , M. Jurečková, H. Kobayashi, M. Takahashi, M. Madani, E. Pinčík	Ofstatistical and fractal properties of semiconductor surface roughness
14:00	<u>S. Flickyngerova</u> , A. Rehakova, V. Tvarozek, I. Novotny	Sputtered of ZnO:Al thin films for application in photovoltaic solar cells
14:15	J. Racko, <u>L. Harmatha</u> , J. Breza, P. Benko, D. Donoval	Simulation of electrical parameters for Ru/Ta ₂ O ₅ /SiO ₂ /Si(p) high-k MOS structure
14:30	<u>J. Kúdelčík</u>	The resistance of breakdown in transformer oil
Coffee-Break 15:15 - 15:35		
	Session F - afternoon 2	Chairman: L. Harmatha
15:35	<u>J. Müllerová</u> , V. Vavruňková, P. Šutta	On nanometer ordering in thin amorphous hydrogenated silicon
15:50	<u>J. Adamec</u> , M. Porubský	Optimalizácia IR senzora plynu metódou simulácie
16:05	L. Stuchlíková, L. Harmatha, O. Csabay, <u>J. Pecháček</u> , R. Šramatý, M. Nemeč, J. Šebok, M. Vallo, M. Hanáček	Interactive course "Semiconductor materials and devices electrical characterization"
16:20	<u>M. Koščová</u> , Z. Exnar	Simulation of absorber of a solar motor in COMSOL environment