

Program of the Measurement 2009 Conference

20-23 May 2009, Smolenice Castle, Slovakia

Wednesday 20.5.2009 8:30

Opening ceremony

Wednesday 20.5.2009

Session: Measurement of Physical Quantities I

Chairmen: P.P.L. Regtien (The Netherlands)
I. Frollo (Slovakia)

Time	Authors	Title	Ref.No
9:00	R. Schödel, K. Meiners-Hagen, F. Pollinger, A. Abou-Zeid	Precision Length Measurements by Multi-Wavelength Interferometry	3 (invited)
9:30	Z. Jankauskas, V. Kvedaras, R. Gaivenis	The Magnetoplasmic Measurements of the Carrier Density and Mobility in Semiconductors	54
9:45	I. Frollo, P. Andris, J. Přibil, L. Vojtíšek, Z. Holúbeková, T. Dernek	Magnetic Field Measurement of a Planar Coil Using Magnetic Resonance Imaging Methods	10
10:00	P. Andris, J. Weis, I. Frollo	Magnetic Field of Spiral-Shaped Coil	60

10:15 – 10:45 coffee break

10:45	J. Polovková, A. Čigáň, T. Eslanloo Pereira, J. Maňka, P. Jurdák, M. Kopčok	Structural and Magnetization Properties of Ce Doped YBa ₂ Cu ₃ O _{7-d}	47
11:00	E. Kawate	Diffuse Reflectance and Transmittance Measurements Using a STAR GEM® Optical Accessory	104
11:15	S. Malinarič	Dynamic Calibration of the Transient Plane Source-Sensor	22 (for award)
11:30	V. Boháč, P. Dieška, E. Kubičár	Development of a New Model for the Pulse Transient Technique	63
11:45	L. Kubičár, V. Štofanič, V. Boháč, M. Brček, J. Vlčko, C.C. Anibarro	Monitoring System of the Temperature-Moisture Regime Placed at Spis Castle	64

12:00 – 13:00 lunch break

Wednesday 20.5.2009

Session: Measurement in Biomedicine I

Chairmen: A. van Oosterom (Switzerland)
I. Bajla (Austria)

Time	Authors	Title	Ref.No
13:30	M.T. Tarata	The Electromyogram and Mechanomyogram in Monitoring Neuromuscular Fatigue: Techniques, Results, Potential Use within the Dynamic Effort	42 (invited)
14:00	S. Ďaďo	Selected Biosensors for Neurotoxicity Testing	74
14:15	D. Šimšík, A. Galajdová, J. Majerník, Z. Dolná	Experimental Analysis of Gait Parameters Variability using Videocamera Records	4
14:30	A. Krakovská	Two Decades of Search for Chaos in Brain	57
14:45	K. Šušmáková, A. Krakovská	Selection of Measures for Sleep Stages Classification	68
15:00	M.T. Tarata	Advantages of the Area/Amplitude Ratio over Wavelet-Derived Parameters in Monitoring Neuromuscular Fatigue	2

15:15 – 15:45 coffee break

Wednesday 20.5.2009

Session: Theoretical Problems of Measurement I

Chairmen: R. Collay (France)
V. Smieško (Slovakia)

Time	Authors	Title	Ref.No
15:45	E.G. Woschni	Errors with Direct Process-Coupled Digital Sensors	1

16:00	<i>M. Kamenský, K. Kováč</i>	Self-Correction of ADC Error Using Additive Iterative Method and Averaging of Dithered Samples	43
16:15	<i>M. Sakmár, J. Buša, J. Šaliga, L. Michaeli</i>	Estimation of Exponential ADC Test Signal Using Histogram	24
16:30	<i>P. Benkó, R. Palenčár</i>	Evaluation of Calibration of a Thermocouple	6
16:45	<i>P. Otomaňski, A. Odon</i>	The Evaluation of Accuracy of Measurement Results in Medical Analytical Laboratory	25

Wednesday 20.5.2009 17:00 Session: Posters I - Measurement of Physical Quantities

	Authors	Title	Ref.No.
P1	<i>P. Mozola, M. Polák</i>	Calorimetric Measurements of AC Losses in BSCCO and YBCO Tapes	56
P2	<i>M. Kollár, K. Kováč</i>	Continuous vs. Discrete Height Scan Method in Normalized Site Attenuation Measurement for EMC Test Site Evaluation	66
P3	<i>M. Petřík, J. Kováč, P. Kaňuch, L. Bednarčíková, R. Huddák, J. Živčák</i>	Roundness: Determining the Reference Circle for MCCI and MICI System	71 (for award)
P4	<i>J. Dřínovský</i>	Measurement of Electromagnetic Shielding Efficiency of Composite Material	65
P5	<i>M. Kučera, M. Gutten, S. Kučera, J. Kúdelčík</i>	Analysis of Transformer Humidity by Capacitance Measurement	53
P6	<i>L. Ondriš, E. Juhásová, D. Krušínský, V. Rusina, J. Buzási, M. Trutz</i>	Slow Rotations in Earthquake Motions Detected in Nuclear Power Plants	51
P7	<i>M. Gutten, M. Brandt, R. Polanský, P. Prosr</i>	SFRA Method - Frequency Analysis of Transformers	38
P8	<i>M. Rückwardt, A. Göpfert, S. Lerm, M. Rosenberger, M. Schellhorn, G. Linß</i>	A Novel Proceeding for Optical Coordinate Measuring Machines to Locate Deviations behind an Undercut	28
P9	<i>J. Přibíl, B. Zaťko, I. Frollo, F. Dubecký</i>	Two Solutions of the Quantum Imaging X-ray CT System Based on GaAs Radiation Detector	27
P10	<i>A. Cigáň, J. Polovková, I. Krupa, A. Koňakovský, J. Maňka</i>	Preparation and Properties of YBCO-PE Composites	23
P11	<i>R. Malarić, M. Čundeva-Blajer, Lj. Arsov, H. Hegeduš, P. Mostarac</i>	Development of Precise Measurement Methods of Electrical Quantities in Macedonia and Croatia	21 (for award)
P12	<i>J. Foit, J. Novák</i>	Electronic Thermometer	9
P13	<i>J. Kúdelčík, M. Gutten</i>	Measurement of Electrical Parameters of Breakdown in Transformer Oil	39 (for award)
P14	<i>L. Laurinavičius</i>	Non-Contact Measurements of Carrier Density and Mobility of Magnetized Materials	73
P15	<i>D. Faktorová</i>	Microwave Characterization of Frequency and Temperature Dependences of Beef Bone Dielectric Properties using Waveguide Measurement System	82
P16	<i>J. Barglik, I. Dolezel, R. Przulucki, B. Ulrych</i>	Modeling of Radiation Heat Transfer in Induction Heating Process	86
P17	<i>J. Grman, R. Ravas, L. Syrová</i>	Classification of Mixed Indications in the Defectoscopy by Eddy-Current	84
P18	<i>V. Stofanik, M. Minarik, V. Bohac</i>	Utilization of Miniature Multilayer Ceramic Inductors in the Dual-Mode Crystal Oscillator	88
P19	<i>A. Prnová, R. Karell, D. Galusek, I. Vávra</i>	Preparation and Characterisation of Al ₂ O ₃ -Y ₂ O ₃ Glass Microspheres	91
P20	<i>M. Vogel, M. Rosenberger, G. Linß, S.C.N. Töpfer</i>	Investigation on Comparability of Surface- and Material Dependent Measurements in Multi-Sensor Coordinate Measuring Machines	93
P21	<i>M.G. Sowa, J.R. Friesen, M. Hain</i>	Evaluating the Potential of Infrared Thermography in the Study of Peripheral Arterial Occlusive Disease	103
P22	<i>E. Kawate, M. Hain</i>	Regular Reflectance and Transmittance Measurements of Transmissive Materials using a STAR GEM® Optical Accessory	105
P23	<i>P. Andris, J. Weis, I. Frollo</i>	Magnetic Field of Saddle-Shaped Coil	59

Thursday 21.5.2009 Session: Specific Measuring SystemsChairmen: R. Dindorf (Poland)
V. Witkovský (Slovakia)

Time	Authors	Title	Ref.No
8:30	<i>P.H. Osanna, M.N. Durakbasa, K. Yaghmaei, L. Kräuter</i>	Quality Control and Nanometrology for Micro/Nano Surface Modification of Orthopaedic/Dental Implants	40 (introductory)
9:00	<i>L. Krauter, M.N. Durakbasa, P.H. Osanna</i>	Metrology and Nanotechnology in Interrelation with Intellectual Property Rights	107
9:15	<i>P. Eredics</i>	Measurement for Intelligent Control in Greenhouses	58 (for award)
9:30	<i>J. Pacheco de Carvalho, P. Gomes, H. Veiga, C. Pacheco, N. Marques, A. Reis</i>	Measurements of Performance in Laboratory IEEE 802.11 b, g Point-to-Point Links	48
9:45	<i>J. Janík, O. Čičáková, J. Špakovský, V. Csiba, M. Čaplovičová</i>	Workstation for Automated Measurement of Electron Emission Characteristic of Samples Covered by Carbon Nanotubes	62
10:00	<i>F. Lackner, W. Riegler, H. Kopetz, P.H. Osanna, M.N. Durakbasa</i>	Monitoring of Detector Structures at the CERN ALICE Experiment	106

10:15 – 10:45 coffee break

Thursday 21.5.2009 Session: Theoretical Problems of Measurement IIChairmen: H. P. Osanna (Austria)
L. Michaeli (Slovakia)

Time	Authors	Title	Ref.No
10:45	<i>S. Štolc, I. Bajla</i>	Image Object Recognition Based on Biologically Inspired Hierarchical Temporal Memory Model and Its Application to the USPS Database	31
11:00	<i>V. Witkovský, M. Chvosteková</i>	Simultaneous Tolerance Intervals for the Linear Regression Model	45
11:15	<i>F. Rublík</i>	A Table of Critical Values of a Rank Statistic Intended for Testing a Location-Scale Hypothesis	36
11:30	<i>G. Wimmer</i>	Confidence Region in Linear Mixed Model for Longitudinal Data	52 (for award)
11:45	<i>K. Cimermanová</i>	The ROC Analysis for Classification of Smokers and Non-Smokers Based on Various Prior Probabilities of Groups	50

12:00 – 13:00 lunch break

Friday 22.5.2009 Session: Measurement in Biomedicine IIChairmen: R. Maniewski (Poland)
M. Tyšler (Slovakia)

Time	Authors	Title	Ref.No
8:30	A. van Oosterom	Measuring the T Wave of the Electrocardiogram; Why and How	108 (invited)
9:00	E. A. I. Aidu, V. G. Trunov, L. I. Titimir	Biophysical Model for Beat-to-Beat Variations of Vectorcardiogram	69
9:15	B. Gaál, A. Endrődi, K. Fülöp, A. Király, I. Vassanyi, G. Kozmann	Evolutionary Algorithms for Cardiovascular Decision Support	83
9:30	J. Švehlíková, M. Kania, M. Turzová, E. Hebláková, M. Tyšler, R. Maniewski	Comparison of Several ECG Intervals Used for Identification of Ischemic Lesions Based on Difference Integral Maps	98
9:45	I. Rocha, M. T. Tarata, L. Silva-Carvalho	On Measuring the Absolute Ventricular Volumes for the Estimation of End Systolic Pressure-Volume Relation in Rabbits	80
10:00	M.G. Sowa, L.B. Mostaco-Guidolin, M.S.D. Smith, E.K. Kohlenberg, M. Shiomi, A. Ridsdale, A. Stolow, A.C.T. Ko	Atherosclerosis: Nonlinear Optical Measurements Related to Disease Progression	81

10:15 – 10:45 coffee break

Friday 22.5.2009 Session: Measurement of Physical Quantities IIChairmen: E.G. Woschni (Germany)
M. Hain (Slovakia)

Time	Authors	Title	Ref.No
10:45	J.C. Lee, Y.J. Noh, Y. Arai, W. Gao, C.H. Park	Precision Measurement of Cylinder Surface Profile on an Ultra-Precision Machine Tool	19
11:00	J. Bartl, R. Ševčík, R. Fíra	Device for Ring Gauges Calibration	5
11:15	J.H. Yang, Y. Arai, W. Gao	Rapid Measurement of Involute Profiles for Scroll Compressors	33
11:30	G. J. Stein, R. Chmúrny, V. Rosík	Compact Vibration Measuring System for In-Vehicle Applications	30

12:00 – 13:00 lunch break

Friday 22.5.2009 Session: Measurement of Physical Quantities IIIChairmen: V. Havlíček (Czech Republic)
J. Maňka (Slovakia)

Time	Authors	Title	Ref.No
13:30	M. Butta, J. Urdahl	Device for Precise Measurement of Magnetic Microwire BH Loop at Low Frequency	100 (for award)
13:45	T. Mikolanda, M. Košek, A. Richter	3D Magnetic Field Measurement, Visualisation and Modelling	85
14:00	E.V. Kalneus, D.V. Stass, A.F. Pavlov, A.V. Ivannikov	Magnetic Field Measuring Devices for Low Field MARY Spectrometer	72
14:15	C. Yu. Zenkova	Switching Effects of the Optical Bistability Phenomenon in Metrology Systems	35
14:30	C. Yu. Zenkova, O. V. Angelsky, N. V. Gorodyn's'ka	About the Use of Polarization Methods in Measuring the Intrinsic Coherence	34

14:45 – 15:15 coffee break

Friday 22.5.2009 Session: Measurement of Physical Quantities IIIChairmen: A. Abou-Zeid (Germany)
M. Košek (Czech Republic)

Time	Authors	Title	Ref.No
15:15	M. Bittera, V. Smieško	Effect of Cable Termination on EMI Measurement Results	37
15:30	L. Laurinavičius	Non-Reciprocal Passive Protection of HF Transmitters from Reflection Failure by the Help of Semiconductor Isolators	78
15:45	K. Watanabe, Y. Taka and O. Fujiwara	Measurement of Cole-Cole Plot for Quality Evaluation of Red Wine	32

Friday 22.5.2009 16:00 Session: Posters II - Theoretical Problems of Measurement

	Authors	Title	Ref.No
P31	G. Wimmer, K. Karovič	Determining the Confidence Interval in Fitting Measured Data by the Regression Line	17
P32	P. Mostarac, R. Malarić, H. Hegedušić	Comparison of Outliers Elimination Algorithms	75 (for award)
P33	M. Chvosteková, V. Witkovský	Exact Likelihood Ratio Test for the Parameters of the Linear Regression Model with Normal Errors	44 (for award)
P34	I. Janiga, I. Garaj	On Two-Sided Statistical Tolerance Intervals for Normal Distributions with Unknown Parameters	15
P35	I. Janiga, J. Mocák, P. Cisko	Minimum Detectable Value and Limit of Detection in Linear Calibration with Standard Deviation Linearly Dependent on Net State Variable	16

Friday 22.5.2009 16:00 Session: Posters II - Measurement in Biomedicine

	Authors	Title	Ref.No
P36	V. Křemen, L. Lhotská	Robust Classification of Endocardial Electrograms Fractionation in Human using Nearest Mean Classifier	18 (for award)
P37	Z. Szabó, K. Bartušek	Effect of Air-Ion Concentration on Microflora in Living Spaces	55
P38	V. Juráš, P. Szomolányi, S. Gäbler, I. Frollo, S. Trattnig	In-Situ Response Measurement of Degenerated Articular Cartilage to the Loading in 3-T MRI	70 (for award)
P39	Z. Holúbeková, N. Walder, E. Sezemsky, P. Szomolányi, M. Brejnikow, R. Schmidhammer, I. Frollo, S. Trattnig, H. Redl	MRI Depiction of Blood-Spinal-Cord-Barrier Permeability after Spinal Cord Contusion Injury in Animal Model – in Vitro Study	95
P40	S. Karas, M. Teplan, M. Tyšler	Detection of Variations in Biomedical Signals Based on Continuous Wavelet Transform Modulus Maxima	97
P41	M. Turzová, M. Tyšler, E. Hebláková, J. Švehlíková, M. Kania	Compensation of Heart Rate Variation during Noninvasive Identification of Local Repolarization Changes	99
P42	M. Teplan, A. Krakovská, S. Štolc	EEG Characterization of Psycho-Physiological Rest and Relaxation	109

Friday 22.5.2009 16:00 Session: Posters II - Specific Measuring Systems

	Authors	Title	Ref.No
P43	<i>A. Göpfert, S. Lerm, M. Rosenberger, M. Rückwardt, M. Schellhorn, G. Linß</i>	A Novell Setup of Electronic Techniques for Solving Asynchronous High Speed Illumination in High Speed Measuring	11
P44	<i>V. Hubík</i>	Test Bench for Electrical Drives	14
P45	<i>R. Dindorf</i>	Distributed Measurements and Control Systems for Rapid Prototyping of Artificial Intelligence Controller	8
P46	<i>P. Fexa, J. Svatoš, J. Vedral</i>	High Resolution Audio Codec Test	102
P47	<i>J. Dvořák</i>	Lower Layer Design of Narrowband PLC Node for AMR and AMM Applications and Network Layer Protocol Verification	101
P48	<i>T. Surmacz</i>	Remote Measurement of NNTP Internet Traffic	89
P49	<i>M. Svátek, P. Križan, L. Šooš, E. Kureková</i>	Evaluation of Parameter Impact on Final Briquettes Quality	46
P50	<i>J. Pacheco de Carvalho, H. Veiga, R. Costa, P. Gomes, C. Pacheco, A. Reis</i>	Laboratory Performance Measurements of WiMAX and Wi-Fi Point-to-Point Links	26
P51	<i>I. Bacic, K. Malaric</i>	A Bit Error Rate Model of M-ary PSK OFDM Satellite Communication Systems for Educational Purpose	77
P52	<i>A. Odon, P. Otomaňski</i>	Investigating of Digital to Analog Converter Using Program Designed in LabVIEW Environment	76
P53	<i>J. Židek, O. Šubrt, P. Martinek</i>	A/D Converter Design Evaluation Engine in MGC Environment	90

Saturday 23.5.2009 Session: Measurement of Physical Quantities IV

Chairmen: D. Hofmann (Germany)
D. Šimšík (Slovakia)

Time	Authors	Title	Ref.No
9:00	<i>D. Hofmann, G. Linss, M. Rosenberger</i>	Innovative Digital Eyes for Objective Color Inspections and Measurements	12
9:15	<i>R. Ravas, L. Syrová, J. Grman</i>	The Use Properties of Colour Image in the Classification of Transparent Polymeric Foils	87
9:30	<i>S.Takayama, T.Iwata, H.Nishikado, K.Kariya</i>	Dynamic Evaluation of Pedestrian Flows by Traffic Line Distributions	49
9:45	<i>M. Hain, J. Bartl, V. Jacko</i>	Active Infrared Thermography in Non-Destructive Testing	96

Saturday 23.5.2009 10:30 Announcement of Young Investigator Award winners**Saturday 23.5.2009 10:45 Closing ceremony**