

17th Symposium on Photonic Measurements 2008

**18th IMEKO TC 2 Symposium on Photonics
in Measurements 2008**

**Prague, Czech Republic
25 – 26 August 2008**

ISBN: 978-1-61567-041-3

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2008) by Zeithamlova Milena, ING – Agentura Action M
All rights reserved.

Printed by Curran Associates, Inc. (2009)

For permission requests, please contact Zeithamlova Milena, ING – Agentura Action M
at the address below.

Zeithamlova Milena, ING – Agentura Action M
Action M Agency
Vrsovicka 68
101 00 Praha 10
The Czech Republic

Phone +420 267 312 333
+420 267 312 334
Fax +420 267 310 503

actionm@action-m.com

TABLE OF CONTENTS

Investigation on Performance Verification of Coordinate Measuring Systems with Optical Distance Sensors.....	1
<i>S. Carmignato, E. Savio</i>	
Measurement of the Refractive Index Profile of Polymer Planar Optical Waveguides Using Optical Coherence Tomography.....	7
<i>D. J. Ives</i>	
Interferometer Based Methods for Research of Piezoelectric Materials.....	13
<i>M. Sulec</i>	
Dynamic Digital Holography Based on Temporal Domain Hilbert Transform Phase Analysis	19
<i>V. D. Madjarova, M. Kataoka, H. Kadono</i>	
Euromet #610: Comparison of Reference Laser Interferometer Systems	23
<i>P. Balling, P. Kren</i>	
Phase Measurement of Optical Wavefront by Using an SLM Knife-edge Filter	28
<i>H. Furuhashi, J. V. Mayorga, Y. Uchida, A. Kono</i>	
Dynamic Null Screens for Testing Fast Aspheric Convex Surfaces with LCD's.....	33
<i>V. I. M. Oliva, M. C. García, M. A. Alejo, R. D. Uribe</i>	
Null Hartmann Screen for Measuring the Spherical Aberration in a Plane-convex Lens	39
<i>M. Avendaño-Alejo, D. M. González-Utrera, V. I. Moreno-Oliva, R. Díaz-Uribe</i>	
Optical Testing of a Hyperbolic Concave Surface by a Cylindrical Null Screen.....	45
<i>M. Campos-García, V. I. Moreno-Oliva, M. Avendaño-Alejo, R. Díaz-Uribe</i>	
Analyses of the Dependence of PMD with Temperature in Optical Fibers.....	51
<i>G. Borghia, A. Bessa dos Santosa, J. P. Von der Weid</i>	
Development of a Fully Automated Fibre Interferometer.....	55
<i>G. Lakshminarayanan, C. A. Khansa, A. Prabhakar, S. Bhattacharya</i>	
Absolute Frequency Shifts of Iodine-stabilized Laser Etalons in Relation to Iodine Purity in Absorption Cells.....	61
<i>J. Hrabina, P. Jedlicka, O. Cíp, J. Lazar</i>	
Non-contact Optical Measurement Systems for Inspection and Monitoring of Geometrical Parameters in Industrial Applications	65
<i>Y. V. Chugui, A. G. Verkhogliad, V. S. Bazin, S. V. Kalichkin, V. E. Kalikin, S. N. Makarov, S. G. Savkov</i>	
A High-sensitivity Heterodyne Interferometer for Industrial Metrology	73
<i>T. Schuld, M. Gohlke, D. Weise, A. Peters, U. Johann, C. Braxmaier</i>	
Measurement of Sheet-metal Planar Anisotropy at Medium Strain-rates by Digital Image Correlation.....	78
<i>M. Fischer, G. B. Broggato, D. Ferrari, R. Tutsch, V. Veglianti</i>	
Development of an Innovative Laser Scanner for Geometrical Verification of Metallic and Plastic Parts	84
<i>S. Carmignato, L. De Chiffre, R. Fisker, K. Hollenbeck, E. Savio</i>	
Experimental Set-up for Characterization of Devices for Integrated Photonics.....	90
<i>J. Chovan, F. Uhrek</i>	

Cryogenic Radiometer: Performance and Characterization as a Primary Standard at Inmetro.....	96
<i>M. S. Lima, A. P. Cunha, H. P. Grieneisen, I. B. Couceiro</i>	
Collision Avoidance in Machine Tools Using a Scalable Image Processing System.....	101
<i>R. Schmitt, T. Pfeifer, B. Dietrich</i>	
Edge Extraction in Polarised Images.....	108
<i>A. Walczak, P. Garbat, E. Nowinowski-Kruszelnicki, L. Puzio, M. Sutkowski</i>	
Machine-vision-based Automated Tool Wear Inspection System.....	114
<i>R. Schmitt, B. Damm, P. Hafner</i>	
Metrological Performance of Sem 3D Techniques	120
<i>F. Marinello, S. Carmignato, E. Savio, P. Bariani, L. Carli, A. Horsewell, L. De Chiffre</i>	
Scanning Raster Method as Perspective Technology of Precision Angle Measuring Structure Production	126
<i>V. P. Kiryanov, A. V. Kiryanov, I. F. Klistorin</i>	
Si Broadband (3-12μm) Emiting Diodes Operating at T \geq 300K	130
<i>V. Malyutenko, O. Malyutenko, V. Bogatyrenko, A. Tykhonov, R. Grodecki, T. Piotrowski, J. Pultorak, M. Wegerzecki</i>	
All Fibre Continuous Wave Supercontinuum Sources for Fibre Sensing Purposes.....	134
<i>S. Martín-López, P. Corredera, L. Abrardi, A. Carrasco-Sanz, F. Rodríguez-Barrios, M. L. Hernanz, M. González-Herráez</i>	
LED Illuminating System Using Photonic Crystal Fiber Light Pipe	140
<i>S. Changyu, J. Shangzhong</i>	
On-line Measurement of Refractive Index Variations in Optical Foils	146
<i>D. Hofer, B. G. Zagar</i>	
Acoustic Detection of Partial Discharges with an Optical Fiber Interferometric Sensor	153
<i>J. A. Garcia-Souto, H. Lamela, C. Macia, J. Rubio, D. Gallego, J. Posada</i>	
Principles and Application Research of Distributed Optical Fiber Sensor System.....	160
<i>J. Wang, Z. Zhang, X. Yu, H. Liu</i>	
Use and Errors in Diode Array Spectrometry.....	166
<i>J. Schanda</i>	
Advanced Optical Characterization of RCE Optoelectronic Devices.....	171
<i>J. Kováč, V. Gottschalch, J. Kováč, B. Rheinländer, J. Škriniarová, J. Jakabovic, D. Haško, J. Chovan</i>	
Measurement of Diffused Light Polarization Due to Multiple Scattering in Body Cells	175
<i>P. Tománek, L. Grmela, J. Brüstlová, P. Dobis</i>	
Compact LED-based Device for Luminescence Measurements of Porphyrin Metal-complexes	179
<i>I. Shilov, K. Shamkhalov, B. Zubov, A. Pashinin, G. Danielian, V. Pozhar</i>	
Author Index	