ISPEMI 2012

8th International Symposium on

Precision Engineering Measurements and Instrumentation

August 8-11, 2012 Chengdu, China

Schedule-at-a-Glance

ISPEMI 2012						
August 8, 2012		August 9, 2012		August 10,2012		August 11-August 14
8:00-20:00	Receiption and Registration	8:30-8:50	Opening Ceremony	8:00-9:50	Session 1-4	1. Sightseeing tour to **Dujiangyan and Mount Qingcheng**: Departure time, morning August 11, 2012 and return to Chengdu at 6:00 pm, August 11, 2012
		8:50-9:45	Plenary Session I	9:50-10:35	Poster Session (Odd Poster ID)	
		9:45-10:00	Coffee Break			
		10:00-11:50	Plenary Session II	10:35-12:15	Session 5-8	2. sightseeing tour to **Jiuzhaigou Valley**: Departure time, morning August 11, 2012 and return to Chengdu at 6:00 pm, August 14, 2012
		11:50-12:15	Photography			
		12:15-14:00	Lunch	12:15-13:30	Lunch	
		14:00-15:50	Plenary Session III	13:30-15:10	Session 9-12	
		15:50-16:05	Coffee Break	15:10-15:55	Poster Session (Even Poster ID)	
		16:05-17:55	Plenary Session IV	15:55-17:45	Session 13-16	
		17:55-20:00	Dinner	18:00-20:00	Closing Ceremony	

Time for presentation
Inlcuding the question-and-answer period

Plenary speech	55 min
Invited talk	25 min
Ordinary presentaton	15 min

ISPEMI2012 Program on Aug. 9, 2012

Time		Title of plenary speaking	Speaker	Organization
8:30-8:50	**Opening Ceremony**			
8:50-9:45	**Plenary Session I (Chairman: Prof. Ahmed Abou-zeid)**			
	8:50-9:45	Quantum transport of single electrons driven by travelling electric field	Academician Jie Gao	Sichuan University, China
9:45-10:00	**Coffee Break**			
10:00-11:50	**Plenary Session II (Chairman: Prof. Kuang-Chao Fan and Prof. Wei Gao)**			
	10:00-10:55	Making Light work in microscopy	Prof. Tony Wilson	University of Oxford, UK
	10:55-11:50	Challenges in dimensional metrology resulting from possible further development of the International System of Units (SI)	Prof. Dr. Harald Bosse	Physikalisch-Technische Bundesanstalt (PTB), Germany
11:50-12:15	**Photography**			
12:15-14:00	**Lunch**			
14:00-15:50	**Plenary Session III (Chairman: Prof. Tony Wilson and Prof. Dr. Harald Bosse)**			
	14:00-14:55	Precision interferometric measurements in non-ideal environments	Prof. James Wyant	University of Arizona, USA
	14:55-15:50	Some critical factors easy to be overlooked in precision instrumentation and characterisation	Prof. Liangchi Zhang	The University of New South Wales, Australia
15:50-16:05	**Coffee Break**			
16:05-17:55	**Plenary Session IV (Chairman: Prof. Ahmed Abou-zeid and Prof. Kuang-Chao Fan)**			
	16:05-17:00	Calibration for surface topography measurement: How close are we?	Prof. Richard Leach	National Physical Laboratory (NPL), UK
	17:00-17:55	State of the art and challenges of tactile micro coordinate metrology	Dr. Rudolf Thalmann	Federal Office of Metrology METAS, Switzerland
17:55-20:00	**Dinner**			

Program on Aug. 10, 2012: Sub session and Chair

	Room 1	Room 2	Room 3	Room 4
	Session 1	**Session 2**	**Session 3**	**Session 4**
8:00-9:50	Instrumentation Theory and Methodology	Instrument and Measurement System Calibration	Laser Measurement Techniques and Instruments(1)	Laser Measurement Techniques and Instruments(2)
Chairman	**Dr. Otto Jusko**	**Prof. Dr. Harald Bosse**	**Prof. Kaoru Minoshima**	**Prof. Weihu Zhou**
	Dr. Jie Zhang	**Prof. Zhaoyao Shi**	**Prof. Kuang-Chao Fan**	**Prof. Ming Chang**
9:50-10:35	**Poster Session / Coffee Break (Odd Numbered Poster ID Will be Attended)**			
10:35-12:15	**Session 5**	**Session 6**	**Session 7**	**Session 8**
	Modern Optics and Instruments for Precision Measurement(1)	Measurement for Precision and Ultra-Precision Machining(1)	Optoelectronic System and Optical Instruments Design	Measurement for Advanced Optics Machining
Chairman	**Prof. Sitian Gao**	**Prof. Liangchi Zhang**	**Prof. Yan Zhang**	**Prof. Liying Wu**
	Dr. Rudolf Thalmann	**Prof. Konyakhin Igor**	**Prof. Ken-ichi Yamakoshi**	**Prof. Jian Zhang**
12:15-13:30	**Lunch**			
13:30-15:10	**Session 9**	**Session 10**	**Session 11**	**Session 12**
	Modern Optics and Instruments for Precision Measurement(2)	Measurement for Precision and Ultra-Precision Machining(2)	MEMS and Nanometer Measurement	Novel Instrument and Measurement System(1)
Chairman	**Dr. Martin Booth**	**Prof. Zhaoyao Shi**	**Prof. Alexander Poleshchuk**	**Prof. Liang-Chia Chen**
	Prof. Ming Chang	**Prof. Wenmei Hou**	**Prof. Lianxiang Yang**	**Prof. Ken-ichi Yamakoshi**
15:10-15:55	**Poster Session / Coffee Break (Even Numbered Poster ID Will be Attended)**			
15:55-17:45	**Session 13**	**Session 14**	**Session 15**	**Session 16**
	Sensors, Converters, and Control System	Measurement for Precision and Ultra-Precision Machining(3)	Laser Measurement Techniques and Instruments(3)	Novel Instrument and Measurement System(2)
Chairman	**Prof. Dr. Harald Bosse**	**Prof. Ahmed Abou-Zeid**	**Dr. Martin Booth**	**Prof. Kuang-Chao Fan**
	Prof. Sitian Gao	**Prof. Wenmei Hou**	**Prof. Liang-Chia Chen**	**Dr. Otto Jusko**
18:00- 20:00	**Closing Ceremony**			

Program on Aug. 11, 2012		
Sightseeing tour after conference		
	Depart from Chengdu Homeland Hotel	
	1 Sightseeing tour to Dujiangyan and Mount Qingcheng	2 sightseeing tour to Jiuzhaigou Valley
8:30 AM	Departure time: morning August 11, 2012	Departure time: morning August 11, 2012
	Return to Chengdu at 6:00 pm, August 11, 2012.	Return to Chengdu at 6:00 pm, August 14, 2012

Oral Presentation

Time	Abstract ID	Report ID	Authors	Author affiliation	Title
Session 1 Instrumentation Theory and Methodology					
8:00-8:25		**S1-1 (Invited talk)**	**Jie Zhang, Bruce W. Drinkwater, and Paul D. Wilcox**	**Department of Mechanical Engineering, University Walk, University of Bristol, Bristol BS8 1TR, UK**	**Ultrasonic Array Imaging in Nondestructive Evaluation – Total Focusing Method with Using Circular Coherence Factor**
8:25-8:50	1_341	**S1-2 (Invited Talk)**	**Feng Ping, Zhang Zhiyong,Wu Guichen, Ding Xiaofeng**	**National Time Service Center, Chinese Academy of Sciences**	**Low Frequency Time Code Timing Method Based on Frenquency Sharing**
8:50-9:05	1_197	S1-3	Wei. Li, Sitian Gao, Mingzhen. Lu, and Yushu. Shi	National Institute of Metrology,	Analysis of the Errors in Homodyne Multi-pass Interferometers with Jones Matrix
9:05-9:20	1_52	S1-4	Shih-Chieh Lin, Tse-Li Wang	National Tsing Hua University	Using neural network to improve CT images reconstructed with limited image frames
9:20-9:35	1_405	S1-5	Sun Nian1,2, HU Bing-liang1,Wang Shuang1,Sun Lang1,Wang Zheng-jie1	1. Chinese Academy of Sciences, 2. Graduate School of Chinese Academy of Sciences	Spectral Image Compression and Reconstruction for Coded Aperture System Based On DMD
9:35-9:50	1_425	S1-6	Tengfei Wu1*, Zhiguo Liang1, Jiahua Yan1, and Peng Ye2	1Beijing Changcheng Institute of Metrology & Measurement, 2Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences	Dispersion Comopensation for absolute distance measurement based on femtosecond optical frequency comb
Session 2 Instrument and Measurement System Calibration					
8:00-8:25	8_323	**S2-1 (Invited Talk)**	**Xi Hou, Fan Wu, Weihong Song, Liming Lu**	**Institute of Optics and Electronics, Chinese Academy of Sciences**	**Experiment study on the absolute measurement of spherical surface with high accuracy**
8:25-8:50	4_212	**S2-2 (Invited talk)**	**Qibo Feng and Sijin Wu**	**School of Science, Beijing Jiaotong University, Beijing, China**	**New technologies in Michelson-type digital shearography and its applications**

8:50-9:05	9_87	S2-3	Hui-Juan Yu, Qiang-Xian Huang*, Zhi-Bo Li, Mao-Cui Wang, Jin-Peng Wei	Hefei University of Technology	Dynamic analysis of mechanical models for three-dimensional resonant trigger probe and
9:05-9:20	8_387	S2-4	Terry Yuan-Fang Chen, Ming-Hsuan Kuo	National Cheng Kung University	Converting the Infrared Thermal Image into Temperature Field for Detection the Defect inside
9:20-9:35	5_74	S2-5	Chen Hong-lei*a, Hao Li-chao a,b, Hhuang Ai-bo a, Lin Jia-mu a, Zhang Jun-ling a, Feng Qi a , Ding Rui-jun a	a Shanghai Institute of Technical Physics, Chinese Academy of Sciences, Shanghai b Graduate School of Chinese Academy of Sciences, Beijing	New -Radiation Screening Procedures of Infrared Focal Plane Arrays (IR FPA)
Session 3 Laser Measurement Techniques and Instruments(1)					
8:00-8:25	7_170	**S3-1 (Invited talk)**	**Ahmed Abou-Zeid**	**Physikalisch-Technische Bundesanstalt (PTB)**	**Diode Laser for Interferometric Length Measurements**
8:25-8:50	7_316	**S3-2 (Invited talk)**	**K. Minoshima*a, G. Wu a,b, K. Arai a,c, M. Takahashi a,c, H. Inaba a**	**a National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST),b State Key Laboratory of Precision Measurement Technology and Instruments, Department of Precision Instruments,Tsinghua University, Beijing cTokyo University of Science**	**High-accuracy self-correction of air refractive index variation using wavelength-stabilized combs**
8:50-9:05	7_122	S3-3	Qiang Xiwen 1,2, Zong Fei 1, LI Yan 1, Zhao Junwei 1, Liu Jingru 1, Song Jianping 2	1 Northwest Institute of Nuclear Technology 2 Electronics and Information Engineering School, Xi' an Jiaotong University	Simulation and Measurement of Atmospheric Turbulence in Laboratory
9:05-9:20	7_179	S3-4	Mingzhao He, Xiaoyou Ye, Jianshuang Li, Xiaochuan Gan	National Institute of Metrology	Evaluation of Spatial Straightness Error using LaserTRACER
9:20-9:35	7_321	S3-5	Jiao Mingxing, Xing Junhong, Zheng Yi, Zheng Lingling	Department of Precision Instruments, School of Mechanical and Instrumental Engineering, Xi'an University of Technology	Design of digital Pound-Drever-Hall frequency stabilizing system for two-cavity dual-frequency Nd:YAG laser
9:35-9:50	6_305	S3-6	Smekhov Andrey, Konyakhin Igor	Department of the Optic-electronic Devices and Systems, Saint-Petersburg State University of Information Technologies, Mechanics and Optics,	Survey of an illuminance distribution of a vignetted image at autocollimation systems by computer
Session 4 Laser Measurement Techniques and Instruments(2)					

8:00-8:25	7_9	**S4-1 (invited talk)**	**Jin Qian, Zhongyou Liu, Chunying Shi, Xiuying Liu, Jianbo Wang, Cong Yin, Shan Cai**	**National Institute of Metrology P. R. China**	**A method of frequency stabilization of internal-mirror He-Ne lasers**
8:25-8:50	7_310	**S4-2 (invited talk)**	**Zhang Zi-li 1，Zhou Wei-hu 1，Lao Da-Bao 1，Yuan Jiang1, Ddong Deng-Feng1，Ji Rong-Yi1**	**Academy of opto-electronics, Chinese academy of sciences**	**Research and development of the laser tracker measurement system**
8:50-9:05	7_326	S4-3	Qing Yan, Dengxin Hua*, Shichun Li, Zhirong zhou, Caixuan Liu, Shouqiang Zhang	School of Mechanical and Precision Instrument Engineering, Xi'an University of Technology	Observations of the Boundary Layer Structure, Cloud and Aerosol Properties with portable Mie scattering lidar
9:05-9:20	7_336	S4-4	G. Wu a,b, K. Arai a,c, M. Takahashi a,c, H. Inaba a, K. Minoshima *a	a National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST) b State Key Laboratory of Precision Measurement Technology and Instruments, Department of Precision Instruments,Tsinghua University c Tokyo University of Science	Two-color heterodyne interferometry of optical frequency combs for high-accuracy correction of refractive index of air
9:20-9:35	7_373	S4-5	Cip O, Cizek M, Buchta Z, Mikel B, Lazar J, and Smid R	Institute of Scientific Instruments of the Academy of Sciences of the Czech Republic	Testing of the scale linearity of the corrected homodyne inter-ferometer by the femtosecond comb and optical resonator
9:35-9:50	7_421	S4-6	Yun Wu, Yidong Tan and Shulian Zhang	The State Key Laboratory of Precision Measurement Technology and Instruments, Department of Precision Instruments, Tsinghua University, Beijing 100084,	Nanometer-resolution displacement sensor with folded birefringence feedback cavity scanned by PZT
Session 5 Modern Optics and Instruments for Precision Measurement(1)					
10:35-11:00	4_55	**S5-1 (Invited Talk)**	**Kuang-Chao Fan, Chou-Ming Huang, Bo-Liao**	**National Taiwan University**	**A contact probe using Michelson interferometers for CMM**
11:00-11:15	4_217	S5-2	Hsien-Chi Yeh, Yu-Rong Liang, Hui-Zong Duan, Chao Wan, Ying-Xin Luo, Xin-Long Xiao, Jing-Yuan Liang and Jun Luo	MOE Key Laboratory of Fundamental Quantities Measurement, School of Physics, Huazhong University of Science and Technology	Ultra-precision Inter-satellite laser interferometry for space science missions

11:15-11:30	4_100	S5-3	Rongsheng Lu, Jingtao Dong,	Hefei University of Technology	Polarization-sensitive white light interferometer with an autofocus
11:30-11:45	4_228	S5-4	Weichao Du a, Shiyuan Liu a, b, *, Chuanwei Zhang b, and Xiuguo Chen a	a Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology b State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology	Optimization of the configuration of dual rotating-compensator Mueller matrix ellipsometers
11:45-12:00	4_251	S5-5	Liu Zemin, Tao Wei	Shanghai Jiao Tong University	The phase detection method in the continuous monitoring of pH in the culture solution during the process of cell culture
12:00-12:15	4_365	S5-6	Yanfen Le, Wenmei Hou, Kai Hu, Aisong Ju	University Shanghai for Science and Technology	A high sensitivity roll angle interferometer
Session 6 Measurement for Precision and Ultra-Precision Machining(1)					
10:35-11:00	2_116,2-117	**S6-1 (Invited Talk)**	**O. Jusko 1, J. Huang 2, W. Gu 2, H.Reimann 1**	**1 Physikalisch-Technische Bundesanstalt; 2 Harbin Institute of Technology**	**A Comparison of Cylindricity and Parallelism Measurement Procedures between HIT UOI and PTB**
11:00-11:15	2_63	S6-2	Li Xiangdong, Luo Lin, Peng Jianping	Southwest Jiaotong University	TOFD Weld Defect Extraction Based on the Frequency Filtering Background Modeling
11:15-11:30	2_66	S6-3	Guo Jianqiang,Wang Pei, Gao Xiaorong,Wang Li,Wang Zeyong, Zhao Quanke	Southwest Jiaotong University	Research on wheel rim stress detecting using ultrasonic testing technology
11:30-11:45	2_94	S6-4	Lou Zhi-feng 1, He Hai-zhao 1,Ling Si-ying 1, Wang Li-ding 1, 2	1.Key Laboratory for Precision & Non-traditional Machining of Ministry of Education 2.Key Laboratory for Micro/Nano Technology and System of	Multi-step Method for Measuring Gear's Pitch Deviation
11:45-12:00	2_x02	S6-5	Gu Yong-qi, Yu Lian-dong	Hefei University of Technology	Research on Combined large-Scale Precision Measuring Techniques and its Application
12:00-12:15	3_134	S6-6	Lijun Zhou, Changcai Cui*, Chunqi Huang, Hui Huang, Ruifang Ye	College of Mechanical Engineering and Automation Huaqiao University	Grain edge detecting of diamond grinding wheel

Session 7 Optoelectronic System and Optical Instruments Design					
10:35-11:00	8_363	**S7-1 (Invited talk)**	**Liang-Chia Chen *a,b, Tsung-Yi Lin b, Yi-Wei Chang b, Shyh-Tsong Lin c**	**a National Taiwan University b National Taipei University of Technology c National Taipei University of Technology**	**Chromatic confocal surface profilometry employing signal recovering methodology for simultaneously resolving lateral and axial cross talk problems**
11:00-11:15	6_135	S7-2	V. Lazarenko,* S. Yarishev,**	Saint Petersburg National Research University of Information Technologies	Transformation of a Hemispherical FOV Images
11:15-11:30	6_142	S7-3	Ho-Chiao Chuang 1, Chang-Ray Chang 1, Chun-Chia Chen 2 and Ming-Shien Chang 2	1 Department of Mechanical Engineering, National Taipei University of Technology, Taipei 10608, Taiwan 2 Institute of Atomic and Molecular Sciences	Development of an External Cavity Laser System for Spectroscopy around 780 nm
11:30-11:45	1_241	S7-4	Sun Shuanghua, Ye Xiaoyou, Zou Lingding, Gao Hongtang, Gan Xiaochuan, Shen Xueping	National Institute of Metrology, Beijing, P.R.C. 100013	Contract Aiming System of 2m Laser Automatic Interferometric Comparator
11:45-12:00	6_307	S7-5	Yan Zhang and Dan Hu	Capital Normal University; Harbin Institute of Technology	Terahertz resonant transmission based on annular aperture arrays
Session 8 Measurement for Advanced Optics Machining					
10:35-11:00	4_301	**S8-1 (Invited talk)**	**A.G. Poleshchuk, R.K. Nasyrov**	**Institute of Automation and Electrometry (IA&E), Russian Academy of Sciences**	**High-precision aspherical wavefront shaping with combined computer generated hologram**
11:00-11:15	11_178	S8-2	Lingbao Kong	The Hong Kong Polytechnic University	Measurement and Characterization of 3D Aspherical Microlens Array for Advanced Optics
11:15-11:30	11_304	S8-3	V.P.Korolkov1,2, A.S.Konchenko2, A.G.Poleshchuk1	Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia Novosibirsk state university, Novosibirsk, Russia	Application of fiber spectrometers for etch depth measurement of binary computer-generated
11:30-11:45	11_92	S8-4	Tien-Tung Chung1, Chia-Ping Hung1, Chang-Li Tseng1, Chin-Te Lin1, Patrice L. Baldeck2	1 Department of Mechanical Engineering, National Taiwan University 2 Universite de Grenoble 1/CNRS	Measurement verification of line smoothness and surface roughness of micro products fabricated by Two-Photon Polymerization

11:45-12:00	9_146	S8-5	Zhi-Wei Wang a, Kuang-Chao Fan a,b, Rui-Jun Li a and Wei Gong a	a School of Instrument Science and Opto-electric Engineering, Hefei University of Technology， b Department of Mechanical Engineering, National Taiwan University	Experimental Study on Fabricating Micro Monolithic Tungsten Probing Ball for Micro-CMM
Session 9 Modern Optics and Instruments for Precision Measurement(2)					
13:30-13:55	4_201	**S9-1 (Invited talk)**	**Ming Chang, Wun-Mao Luo, and Po-Cheng Chen**	**Department of Mechanical Engineering, Chung Yuan Christian University**	**Deconvolution Inspection Technology for Optical Microscopy**
13:55-14:20		**S9-2 (Invited talk)**	**Jian Liu[1]*, Jiubin Tan[1] and Tony Wilson[2]**	**1Ultra-Precision Optoelectronic Instrument Engineering Center, Harbin Institute of Technology, No. 92, West Da-Zhi Street, Harbin 150001, Heilongjiang, China; 2Department of Engineering Science, University of Oxford, Parks Road, Oxford OX1 3PJ, UK; Corresponding author: liujian@hit.edu.cn**	**Vectorial theory on elliptical mirror based scanning microscopy**
14:20-14:35	4_199	S9-3	Qi Jiang, Meng Yang	School of Control Science and Engineering, Shandong University	A high sensitivity vector accelerometer based on three axial
14:35-14:50	4_364	S9-4	Liang-Chia Chen a,b*, Yi-Shiuan Chen b, Yi-Wei Chang b, Shyh-Tsong Lin c, Sheng Lih Yeh d	a National Taiwan University b National Taipei University of Technology c National Taipei University of Technology d Lunghwa University of Science and Technology	Spectrally-resolved chromatic confocal interferometry for one-shot nano-scale surface profilometry with several tens of micrometric depth
14:50-15:05	4_375	S9-5	Xianchang Zhu*, Fan Wu, Xuedong Cao, Shibin Wu, Peng Zhang and Hongwei Jing	the Chinese Academy of Science	Focal length measurement of microlens-array by longitudinal magnification testing
Session 10 Measurement for Precision and Ultra-Precision Machining(2)					
13:30-13:55	2_235	**S10-1 (Invited talk)**	**Changcai Cui 1,2, Liam Blunt 1, Xiangqian Jiang 1, Xipeng Xu 2, Hui Huang 2, RuiFang Ye 2, Bing Li 2, Chunqi Huang 2**	**1. Centre for Precision Technologies, University of Huddersfield, Huddersfield HD1 3DH, United Kingdom; 2.MOE Engineering Research Centre for Brittle Materials Machining, Huaqiao University, Xiamen**	**Three-dimensional measurement and characterization of grinding tool topography**
13:55-14:10	2_110	S10-2	Fan Shangchun 1,2, Cao Le 1,2,Guo Zhanshe 1,2 ,Li Yan 1,2	1 Beihng University 2 Key Laboratory of Inertial Science and Technology for National Defence	The development of micro-vibration for satellite

14:10-14:25	2_238	S10-3	Perepelkina S.Y.,Musalimov V.M.,Golubok A.O.,Kovalenko P.P.	* Saint-Petersburg National Research University of Information Technologies, Mechanics and Optics, Russia	The evaluation of mechanoemission characteristics on the metallic surfaces obtained by their nanoprobe
14:25-14:40	2_249	S10-4	Chen Xiaolong, Cao Yanlong*, Yang Jiangxin	Institute of Modern Manufacturing Engineering, Zhejiang University	Study on Influence of Electromagnetic Properties of Ferromagnetic Material on Coil Impedance of Eddy Current
14:40-14:55	2_345	S10-5	Haitao Xu, Xiaojun Liu and Wenlong Lu*, Juan Li	School of Mechanical Science & Engineering, Huazhong University of Science & Technology,	A new method to improve the vertical measurement range of white-light vertical scanning system
14:55-15:10	1_427	S10-6	Jianhuan Zhang1, Shan Lin1, Yanping Chen1, Chentao Zhang1, Linghua Kong2, Fengxin Chen1	1 Department of Mechanical and Electrical Engineering, Xiamen University, Xiamen, 2 Triplex International Biosciences (CHINA) CO., LTD, Xiamen	An evaluation method of a micro-arrayed multispectral filter mosaic
Session 11 MEMS and Nanometer Measurement					
13:30-13:55	7_80	**S11-1 (Invited talk)**	**Can Feng, Lijiang Zeng, Shiwei Wang**	**Tsinghua University**	**Heterodyne planar grating encoder with high alignment tolerance, especially insensitivity to grating tilt**
13:55-14:10	9_165	S11-2	Xinghui Li 1, Yuki Shimizu 1, So Ito 1, Wei Gao 1, Lijiang Zeng 2	1 Nano-Metrology and Control Lab, Department of Nanomechanics, Tohoku University 2 State key laboratory of Precision Measurement Technology and Instrument, Department of Precision Instruments, Tsinghua University, Beijing	Fabrication of scale gratings for a surface encoder by using a LIoyds-mirror interferometer with 405 nm laser diodes

14:10-14:25	9_274	S11-3	Chen-ying Wang1,2, Shu-ming Yang1,3, Wei-xuan Jing1,Qi-jing Lin1, Zhuang-de Jiang1	1.State Key Laboratory for Manufacturing Systems Engineering, Xi'an Jiaotong University, Xi'an, 710049, China 2. State key laboratory of precision measuring technology and instruments (Tianjin University and Tsinghua University), Tianjin, 300072, China 3.State Key Lab of Digital Manufacturing Equipment & Technology, Huazhong University of Science and Technology, Wuhan, 430074, China	Characterization of the Nanoline based on SEM images
14:25-14:40	10_71	S11-4	Zhang Wei 1,2, Zeng Zhige 1，Wu Fan 1	1.Institute of Optics and Electronics, Chinese Academy of Sciences 2 Graduate University of the Chinese Academy of Sciences	Study on Fitting Algorithm for Aspheric Surface Shape Based on Data Measured from Talysurf
14:40-14:55	9_64	S11-5	Leonid V. Sokolov	Scientific Research Institute of Aircraft Equipment (NIIAO)	High-Temperature SOI Pressure Sensors on the Base of the MEMS Micromachining Technology
14:55-15:10	9_70	S11-6	M. Liu, H.H. Ruan and L.C. Zhang	School of Mechanical and Manufacturing Engineering, The University of New South Wales	Methodology for measuring residual stress tensor and stress distribution in epitaxial thin films
Session 12 Novel Instrument and Measurement System(1)					
13:30-13:55	3_269	**S12-1 (Invited talk)**	**Shinobu Tanaka1, Thoshiyuki Suzuki1, Tadahiro Iida1, Naoto Tanaka1, Kenta Matsumura1, Takehiro Yamakoshi1, Masamichi Nogawa1, Hiroshi Ohtake2, Go Watanabe2 and Ken-ichi Yamakoshi1**	**1 Graduate School of Natural Science and Technology, Kanazawa University 2 Graduate School of Medical Science, Kanazawa University**	**Evaluation of a novel aortoscope for the use of endovascular intervention**
13:55-14:10	3_172	S12-2	Wu zongming1, 2，Yang Wei1，Fan Tianquan1	1. Institute of Optics and Electronics, Chinese Academy of Sciences ，Graduate University of Chinese Academy of Sciences	Detection of Glue Defects in Glass Using Photothermal Radiometry Imaging
14:10-14:25	3_211	S12-3	Zdeněk Buchta*, Šimon Řeřucha, Břetislav Mikel, Martin Čížek, Josef Lazar and Ondřej Číp	Academy of Sciences of the Czech Republic	System for contactless gauge blocks measurement

14:25-14:40	3_219	S12-4	Chu-Yun Lo *a, C.W. Liao a, Geo-Ry Tang a, Fang-Jung Shiou a	a Department of Mechanical Engineering, National Taiwan University of Science and Technology	Development of a Portable Optical Measurement System for the Surface Roughness and Surface Profile
14:40-14:55	3_252	S12-5	Fengyu Zhu, Zhengguang Shen, Qi Wang	Harbin Institute of Technology	Intelligent Transient Transitions Detection of LRE Test Bed
14:55-15:10	3_270	S12-6	Zhang Yu-de, Hou De-xin, Qiu Jian, Ye Shu-liang	China Jiliang University	Wireless Communication in the Airflow Verification System of Biological Safety Cabinet
Session 13 Sensors, Converters, and Control System					
15:55-16:20	24_x03	**S13-1 (Invited talk)**	**Yun-Jiang Rao* Zeng-Ling Ran#**	**Key Lab of Optical Fiber Sensing & Communications (Ministry of Education), University of Electronic Science & Technology of China, Chengdu**	**Novel Micro Fiber-Optic F-P Sensors Fabricated by 157nm Laser Micromachining for High Temperature Applications**
16:20-16:45	C-01	**S13-2 (Invited talk)**	**Jiwen Cui**	**Ultra-precision Optical & Electronic Instrument Engineering Center, Harbin Institute of Technology, Harbin 150001, China**	**Research of micro-dimensional measurement based on optical fiber technique**
16:45-17:00	5_13	S13-3	Chao-Ching Ho 1,* and Chih-Hao Lien 1	1 Department of Mechanical Engineering, National Yunlin University of Science and Technology 2 Industrial Technology Research Institute	In Situ Chatter Suppression in Milling Machines using Microphone
17:00-17:15	5_266	S13-4	Liu shuai 1,2,Xue zi 2,Ye shuliang 1,Hou Dexin 1	1China Jiliang University 2National Institute of Metrology	Characteristic evaluation and experimental analysis of the ultra-high precision three-dimensional scanning probe
17:15-17:30		S13-5	Junning cui	Ultra-precision Optical & Electronic Instrument Engineering Center, Harbin Institute of Technology, Harbin 150001, China	Ultra-precision measurement of small holes with large aspect ratio based on spherical capacitive
17:30-17:45	5_329	S13-6	Hao Liu, Weimin Chen, Peng Zhang, Li Liu, Yuejie Shu, Jun Wu	Opto-Electronic Technology and System laboratory of education ministry of China, Chongqing University	Influence of metal bonding layer on strain transfer performance of FBG
Session 14 Measurement for Precision and Ultra-Precision Machining(3)					
15:55-16:20	8_180	**S14-1 (Invited talk)**	**N. Ferreira 1,2, T. Krah1, K. Kniel 1, S. Büttgenbach 2, F. Härtig**	**1 Physikalisch-Technische Bundesanstalt (PTB), Coordinate Metrology**	**Universal characterization method for 3D tactile probing systems**

16:20-16:45		**S14-2 (Invited talk)**	**Hu Pengcheng, Tan Jiubin, Yang Hongxing, Fu Haijin**	**Ultra-precision Optical & Electronic Instrument Engineering Center, Harbin Institute of Technology**	**Development of Heterodyne laser interferometry at HIT**
16:45-17:00	3_338	S14-3	Tang Jie1, a, Shi Zhaoyao1,b , Fang Zhiqiang1,c	1College of Mech. Eng. And Applied Electronics Tech., Beijing Univ. of Tech.	Novel measuring principle of profile deviation evaluated through double-flank gear rolling test with rack
17:00-17:15	3_389	S14-4	Y.S. Zhang, D. Li and X.Y. Zhang	Shanghai Jiao Tong University	Disbond inspection of adhesive bond discrepancies using infrared thermography method in auto-body manufacture
17:15-17:30	3_97	S14-5	Lin Zhu 1,2,3 , Huijun Zhang 1,2 , Xiaohui LI 1,2 Longxia Xu 1,2,3	1. National Time Service Center, the Chinese Academy of Sciences 2. Key Laboratory of Precision Navigation Positioning and Timing 3. Graduate School of Chinese Academy of Sciences	Research on Measurement and Correction Method of the System Time Offset of Multi-mode Satellite Navigation
17:30-17:45		S14-6	Guo Lei1, Liang Ya-jun1, Song Jin-cheng, Sun Zeng-yu 1, Zhu Ji-gui 2	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	Compensation for Positioning Error of Industrial Robot for Flexible Vision Measuring System
Session 15 Laser Measurement Techniques and Instruments(3)					
15:55-16:20	7_6	**S15-1 (Invited talk)**	**Andreas Brunn*, Nicolas Aspert#, Etienne Cuche#, Yves Emery#, <u>Andreas Ettemeyer</u>**	*** NTB - Interstate University of Applied Sciences of Technology ,# Lyncée Tec SA**	**High Speed 3D Surface Inspection with Digital Holography**
16:20-16:45	6_33	**S15-2 (Invited talk)**	**Konyakhin Igor, Kopylova Tatyana, Smekhov Andrey, Konyakhin Alexsey**	**Saint Petersburg National Research University of Information Technologies, Mechanics and Optics**	**Optic-electronic systems for measuring the three-dimension angle deformations of the axles at the millimeter wave range radiotelescope**
16:45-17:00	10_168	S15-3	Wang Zhongyu a, Wang Yanqing a, Sun Jianyong b, Zhang Jianjun b	a School of Instrumentation Science & Opto-Electronics Engineering, Beihang University b The Comprehensive Technology research institute of	Airborne platform vibration environmental spectrum data processing via bootstrap method
17:00-17:15	5_420	S15-4	Liu Chuan, Liu Yang, LI Xin, Chen Xin-lin	Harbin Institute of Technology	Nonlinear Feedback Control of a Dual-Stage Actuator System

17:15-17:30	5_424	S15-5	Gao Yinhan1, Cui Jing2, Yang Kaiyu1, Ke Hui2, Song Bing2	1. College of Automotive Engineering, Jilin University, Changchun, China 2. College of Instrumentation& Electrical Engineering, Jilin University, Changchun, China	Application of Kingview and PLC in Friction Durability Test System
17:30:17:45	4_391	S15-6	Boxia He1, Yong He, Guozhu Niu, Fulong Ren	Nanjing University of Science & Technology	Automatic Measurement Method of Two-dimensional Complex Geometric Features
Session 16 Novel Instrument and Measurement System(2)					
15:55-16:20	7_44	**S16-1 (Invited talk)**	**Lianxiang Yang1,2,3, Lianqing Zhu2, Yonghong Wang3, Sijin Wu2, Jianfei Sun3, Xin Xie 1**	**Oakland University**	**Recent Development of Spatial Phase Shift Technique in Laser Speckle Interferometry**
16:20-16:45	3_356	**S16-2 (Invited talk)**	Hong Zhang1, Gui Yun Tian1, 2 Anthony Simm1,	**1, School of Electrical and Electronic Engineering, Newcastle University 2 School of automation Engineering, University of Electronic Science and Technology of China**	**Electromagnetic Methods for Paint Coating Characterisation and Thickness Measurement**
16:45-17:00	3_300	S16-3	Yu Hua Cheng1, Gui Yun Tian2, Li Bing Bai3	1School of Automation Engineering, University of Electronic Science and Technology of China	Visual detection of subsurface defects using enhanced magneto-optic imaging system
17:00-17:15	3_312	S16-4	Zhigang Jia*, Shigeaki Goto, Keiichiro Hosobuchi, So Ito, Yuki Shimizu, Wei Gao	Department of Nanomechanics, Tohoku University	Modeling and analysis of a scanning electrostatic force microscope for surface profile measurement
17:15-17:30	3_32	S16-5	Zheng Peng *, Zhang Linna, Zhao Fengxia	Zhengzhou University	Multiaperture connection method for three-dimensional mesasurement based on quaternion
17:30-17:45		S16-6	J. Zhang, C. Courtney, C.-K. Ong, B. Drinkwater, P.Wilcox	Department of Mechanical Engineering, University Walk, University of Bristol, Bristol BS8 1TR, UK	Microparticles Trapping and Manipulation Using Phase-Controllable Ultrasonic Standing Waves

Poster Presentation

9:50-10:35, Aug. 10, 2012, Poster Presentation (Odd Numbered Poster ID Will be Attended)				
15:10-15:55, Aug. 10, 2012, Poster Presentation (Even Numbered Poster ID Will be Attended)				
Abstract ID	**POSTER ID**	**Author**	**Affiliation**	**Title**
1_158	P1-1	Kong Zhongke 1, Tao Jizhong 2	1 Institute of Mechanical Manufacturing Technology，2 China Academy of Engineering physics	A Study on the Pneumatic Hammer in Aerostatic Thrust Bearings with Single Orifice Compensation
1_20	P1-2	Sun Yanhua and Wang Ping	a：Coal Geological Bureau of Shandong b：Shandong	Based on high resolution of remote sensing data mining houses information extraction methods research
1_216	P1-3	Wang Liu 1, Jinsong Liu 2, Liyan Qiao 1	1. Harbin Institute of Technology 2.Harbin Jiancheng Group Co., LTD, Harbin 150001	The Use of Polynomial Approximation for Reconstructing Periodic Nonuniformly Sampled Signals
1_242	P1-4	Tao He 1,2,3 , Huijun Zhang 1,2, Zhixiong Zhao 1,2 , Xiaohui Li 1,2	1. National Time Service Center, the Chinese Academy of Sciences, Lintong, Shaanxi 710600, China;2. Key Laboratory of Precision Navigation Positioning and Timing, Chinese Academy of Sciences, Lintong, Shaanxi 710600, China; 3. Graduate School of Chinese Academy of Sciences, Beijing 100039, China	Research on the Technology of Time-interval Measurement in Time and Frequency Remote Calibrate System
1_262	P1-5	Xu Hao，Hou De-xing，Qiu Jian, Ye Shu-liang	China Jiliang University	Study on Extracting The Crack Signal of Magnetic Ring Based on MAX262
1_263	P1-6	Z. Yin 1, 2, G.D. Liu 1, T. Hu 1, L. Zhang 1	1 Harbin Institute of Technology	A Method To Auto-estimate Edge Detection Direction
1_265	P1-7	L. Zhang 1,2, J.M. Dai 1, Y.F. Zhang 1, W.D. Pan 1, Z. Yin 1	Harbin Institute of Technology	A Method to Identify Material Based on Spectrum Analyses
1_284	P1-8	Yang Zhang 1, Jinwei Sun 1, YiChuan Wang 1, Chunling Yang1, Fabio Scopesi 3, Giovanni Serra 3, Peter Rolfe 123	1 Harbin Institute of Technology, 2 Oxford BioHorizons Ltd, Maidstone, United Kingdom 3 University of Genova	Recovering fNIRS Brain Signals: Physiological Interference Suppression with Independent Component Analysis

1_368	P1-9	Bai Yan*, Lu Xiao-chun, Hong Hao	the Chinese Academy of Sciences/* Graduate School of the Chinese Academy of Sciences	Analysis and Simulation of Multipath Error for Satellite Navigation Signals
1_81	P1-10	Jie Hu, Changcai Cui, Hui Huang, Ruifang Ye	Huaqiao University	Data processing of vertical scanning white-light interferometry based on the particle swarm
1_93	P1-11	Ruoyu Zhang a,b, Yuanqin Wang b, Jing Sun c	a Beijing Institute of Tracking and Telecommunications Technology b Academy of Equipment c Beijing Aerospace Control Center	Method of Projectile Spinning Rate Processing Based on Acceleration Compensation
1_98	P1-12	Chuanpei Xu 1 , Malgorzata Chrzanowska-Jeske 2 , Fen Yao 1	1: Guilin University of Electronic Technology, 2: Portland State University, Portland, USA	Cloud-based Evolutionary Algorithm for Network on Chip Test Scheduling using NoC as TAMs
2_132	P2-1	Yang Yafei，Zhang Xiang	Control and SimulationCenter, Harbin Institute of Technology	Mechanism Analysis of Instantaneous Angular-rate Measurement of Gyro-test Turntable with Inertial
2_175	P2-2	Xianli Lang 1 Enming Miao 1 Yayun Gong 1 Pengcheng Niu 1 and Zhishang Xu 1	HeFei University of Technology	Research on the robustness of thermal error compensation model of CNC machine tool
2_202	P2-3	Li Min, Zhang Yubing, Li Dongsheng	College of Metrological Technology & Engineering， China Jiliang University	Research on the Influence of Atmospheric Pressure Supplied on Permittivity of the Air-film of Aerostatic Bearing
2_204	P2-4	HaiHui.Zha, Ling.Tong, Yu.Tian and Bo.Gao	University of Electronic Science and Technology of China	Two Improved Methods for Determining Complex Permittivity in Coaxial Line of Powder Materials
2_237	P2-5	Wang Heyan1, Xue Zi1, Piao Chenghao2, Yang Guoliang1	1. Length division of National institute of metrology 2. college of Electric and mechanic Engineering of Changchun university of science and technology	New principle of processing optical aspherical components with locus compensation method
2_327	P2-6	Zhao Qiancheng 1, Yang Tianlong 2, Yin Xiyun 3	1 2 Key Laboratory of Health Maintenance for Mechanical Equipment，Hunan University of Science and Technology 3 College of Electromechanical Engineering，Hunan University of Science and Technology	Research on CMM Probe Compensation Methods of Complex Screw Surfaces

2_369	P2-7	Gu Wei	Ultra-precision Optical & Electronic Instrument Engineering Center, Harbin Institute of Technology	An improved method of roundness error separation
2_407	P2-8	Jiangbo Xi 1, 2 Zongxi Song1 Wei Gao1	1Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences 2Graduate School of the Chinese	Sub-pixel Location with Phase Transfer Function for Star Tracker
2_49	P2-9	Rui-Jun Li *a, c, Kuang-Chao Fan a, b, Sheng Tao a, Qiang-Xian	Hefei University of Technology	Analysis of an elastic mechanism for contact scanning probe
2_62	P2-10	Gao Xiaorong, Mei Tian, Guo Jianqiang, Peng Chaoyong, Peng Jianping, Zhang Yu	Southwest Jiaotong University	Design of the Ultrasound Transceiver Circuit
2_x01	P2-11	Wang Xiaodong, Zhang Wei	Dalian University of Technology	Collaborated measurement of three-dimensional position & orientation errors of assembled miniature devices with two vision systems
23_x02(4_452)	P2-12	Bengong Hao1, Ming Diao1, Zhi Zhong, Mingguang Shan1*, Yabin Zhang1,Shulei Lang2*	1. College of Information and Communication Engineering, Harbin Engineering University 2. Department of Math, College of Arts and Science, Harbin Normal University	Radius measurement using two-windows common-path interferometry with phase grating
2_454	P2-13	Liyi Li, Member, IEEE, Qiming Chen, Guangjun Tan and He Zhu	School of Electrical Engineering, Harbin Institude of Technology, Harbin 150001, China	High Precision Position Control of Voice Coil Motor Based on Single Neuron PID
3_190	P3-1	withdrawal		
3_215	P3-2	Gao Hongtang, Ye Xiaoyou, Li Jianshuang	National Institute of Metrlogy	A new line sensing method by laser line scanning for Line Scale measurement
3_22	P3-3	Luan Zeng*, Wei Xiong, You Zhai	Academy of Equipment	Gun Bore Flaw Image Matching Based on Improved SIFT Descriptor
3_225	P3-4	Liu Bing-guo, Liu Guo-dong, Gong Na, Chen Feng-dong,Zhuang Zhi-tao	Department of Automatic Measurement and Control, Harbin Institute of Technology	Research of Automatic Positioning Method Based on Feature Points Matching for ICF Target
3_230	P3-5	Cizek M, Smid R, Buchta Z, Mikel B, Lazar J, and Cip O	Department of coherence optics, Institute of Scientific Instruments of the Academy of Sciences of the Czech	Digital processing of RF signals from optical frequency combs

3_268	P3-6	Lei Du, Qiao Sun, Changqing Cai, Yue Zhang, Hongbo Hu	Division of Mechanics and Acoustics, National Institute of Metrology	Standard Equipment for Pattern Approval Field Test of Vehicle Speed-Measuring Devices for Traffic Law Enforcement in China
3_291	P3-7	Liu Bing-guo, Liu Guo-dong, Gong Na, Chen Feng-dong, Zhuang Zhi-tao	Harbin Institute of Technology	Research for a long working distance autocollimating and microscope Monitoring instrument
3_315	P3-8	Ning Fu 1,2, Member, IEEE, Wei Yu 1, Jingchao Zhang1, Gang Wang2	1Dept. of Automatic Test and Control, Harbin Institute of Technology 2Dept. of Communication and Information Systems, Harbin Institute of Technology	Analysis of the Non-idealities of Low-Pass Filter in Random Demodulator
3_324	P3-9	Chen Xiao-lu1，Chen Biao 1，Xu Tao2，Xu Su-qin 1	1. Institute of Remote Sensing，Navy Submarine Academy 2. Institute of Communications，Navy Submarine Academy	Echo Power Analyzing and Measuring of Low Altitude Radio Fuze
3_362	P3-10	Hongjuan He, Dixiang Chen, Mengchun Pan, Ying Tang, Jianqiang Zhao	National University of Defense Technology	Criterion of selecting database parameters of planar eddy current sensors
3_371	P3-11	Bao-guo Yao1, *, Li-xia Yan 1, Yi Li 2	1 China Jiliang University 2 The Hong Kong Polytechnic University	Measurement System and Precision Analysis for Thermal Regulating Properties Evaluation of Textile
3_38	P3-12	Chen Liangzhou，Xu Yongjie，Xiao Dan	Huazhong University of Science and Technology	3D Measurement Based on Phase-shift and Self-calibration
3_382，3-383	P3-13	Yu Xiaoyang, Chen Deyun	Harbin University of Science and Technology	Porcelain 3D Shape Reconstruction and Its Color Reconstruction
3_392	P3-14	Yu Liang	Harbin institute of technology	Passive Ultrasonic Apparatus for 3D Position
3_397	P3-15	Hui Liu 1,2 YueHong Qiu1	1Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences 2 Graduate School of the Chinese Academy of Sciences	The Design of RF Source based on DDS
3_43	P3-16	Shuang Wang, Changcai Cui	Huaqiao University	A study of the stitching method of a large range 3D surface topography of the diamond grinding wheel based on the white light interferometry (WLI)

3_440	P3-17	Hu Qing-qing, Yang Jun, Liu Guo-fu, Luo Xiao-liang	Department of Instrument Science and Technology, National University of Defense Technology, Changsha 410073, China	The novel Silicon Carbide neutron sensor
3_443	P3-18	Wang Zijun, Zhu Zhaoxuan, Ma Yuhong,Yang Fuhe	School of Aeronautics and Astronautics, University of Electronic Science and Technology of China, Chengdu 611731, China	Rapid test apparatus of solid-state lithium-ion batteries
3_76	P3-19	Xiong Xianming，Mo Rongjun	Guilin University of Electronic Technology	Current Sensing System Based on Giant Magnetostrictive Materials
3_89	P3-20	Xia Guisuo a, Yu Yongshu b	a. School of Measuring and Optical Engineering, Nanchang HangKong University, b. Jiujiang Precision Measuring Technology Research	Development of a Double Parallel-joints Coordinate Measuring Machine
4_105	P4-1	Peiji Guo 1, Qinghua Yu 2, Gufeng Qiu 1, Qian Yu 1, Chen Xi 1	1 Suzhou University 2 Shanghai Institute of technical physics of the Chinese Academy of Science	Testing of an off-axis high order aspheric mirror in manufacturing
4_174	P4-2	Liu Jinbo1 and Zhu Zhaokun2	1 College of Aerospace and Material Engineering, National University of Defense Technology, 2 Hunan Key Laboratory of Videometrics and Vision Navigation, Changsha 410073	The High-Precision Videometrics Methods to Determining Absolute Vertical Benchmark
4_244	P4-3	Zhile Wang, Yin Zhang, Yiming Cao, Mingyu Cong, Wenzhuo Bao	Harbin Institute of Technology	Scattering near specular direction for horizontally oriented ice discs
4_245	P4-4	Yu-Rong Liang , Chao Wan, Jing-Yuan Liang, Hui-Zong Duan, Hsien-Chi Yeh	School of Physics, Huazhong University of Science and Technology	Preliminary results on homodyne optical phase-locked loop for inter-satellite laser ranging
4_258，4-260	P4-5	Man Zhang, Zhiwei Li*, Xiaochun Dong, Lifang Shi, Qiling Deng, and Chunlei Du	Institute of Optics and Electronics, Chinese Academy of Sciences	Fabrication of Optical Elements Using a Rapid UV-curable and Low-viscosity Polymer Material
4_267	P4-6	Yingtao Zhanga,b, Xuedong Caoa, Long Kuanga, Wei Yanga	a Institute of Optics and Electronics, Chinese Academy of Sciences, b Graduate University of Chinese Academy of Sciences,	Research on the Support Structure of Circular Motion Light-weight Mirror

4_282	P4-7	Tao Liu, Jiubin Tan*, Yuhang Wang, Chao Wang, and Jian Liu	Harbin Institute of Technology	Focusing by an arbitrary opening paraboloid mirror and its application in confocal scanning microscopy
4_299	P4-8	Yonghong Wang*, Weihua Pu, Jianfei Sun	School of Instrument Science and Opto-electronic Engineering, Hefei University of Technology	Research on Filtering Method for Phase Fringe Patterns in the Digital Speckle Pattern Interferometry
4_325	P4-9	Gong Xin, Hua Dengxin, Zhang Pengbo, Hu Liaolin, Wang yufeng	School of Mechanical and Precision Instrument Engineering, Xi'an University of Technology	Alternate dual pulses technique for fiber Bragg grating Ultra-multi-point strain measurement
4_399	P4-10	Hong Juan Wang 1,2; Wei Wang 1	1 Chinese Academy of Sciences 2 Graduate School of Chinese Academy sciences	Research on Image Degradation of Large-aperture R-C Optical System Induced by Micro-vibration
4_x01	P4-11	Wu You, Lu Wenlong, Xiaojun Liu *	Huazhong University of Science and technology	Three-dimensional surface measurement by amplified off-axis digital holography
5_136	P5-1	Zhang Jiayan, Feng Xugang, Wu Zhiwei	Anhui University of Technology	Research on Pressure intelligent control strategy of Waste heat recovery system of converter vapors
5_149	P5-2	Li-Feng Ge	School of Electrical Engineering and Automation, Anhui University, Hefei	Capacitive micromachined ultrasonic resonator for ultra-sensitive trace gas detection
5_157	P5-3	Xu Tao and Jiang Bo	Department of Navigation and Communication, Navy Submarine Academy, Qingdao	Design of two non-contact photoelectric angular position sensors for motion control applications
5_173	P5-4	Sheng-Chan Yen 1、Kai-Hsiung Chang 2、Yen-Chih Liu 1、Nai-Chun An 1、Hsiu-An Tsai 1	1 Metal Industries Research & Development Centre (MIRDC), Test Technology Development Section 2 National Formosa University Department of Electronical Engineering	Design of the Automatic Motor Ke Measurement System using the System on Programming Chip
5_220	P5-5	Meng Yang and Qi Jiang	School of Control Science and Engineering, Shandong University	An accelerometer sensor finite element analysis and design based on fiber Bragg grating
5_243	P5-6	Zhengguang Shen, Zhu Fengyu, Qi Wang	Harbin Institute of Technology	Data-driven health level evaluation of multifunctional self-validating sensor

5_277	P5-7	Xia Zhang1,2, Jie Fu1,2 Miao Yu1,2, Weipeng Mei1,2, Qingnan Zhang1,2	1The Key Lab of Optoelectronic Technology and Systems, Ministry of Education, Chongqing University 2College of Optoelectronic Engineering, Chongqing University Chongqing, China	The design of real-time state monitoring system based on the 485-bus for hazmat transportation
5_335	P5-8	Yun-Hui Liu , Wei-Hao Wu	Southern Taiwan University	Active vibration isolation by adaptive proportional
5_346	P5-9	Tai-Ping Suna, Yi-Chuan Lua, Hsiu-Li Shieha, Ming-Sheng Yang a, Tse-Hsin Chen a, Shiang-Feng Tangb, Wen-Jen Linb	a Department of Electrical Engineering, National Chi Nan University b Chung-Shan Institute of Science & Technology,	Research of Capacitor Transimpedance Amplifier for Infrared Readout Integrated Circuit Design with Variable Integration Time
5_359	P5-10	Tianxin Yan, Qinghua Yang , Siyu Wu, Ying Huang	Hefei University of Technology	The Measure of Flexible Temperature-pressure distribution for Robot Sensing Skin
5_377	P5-11	Wentao Zhang*, Fang Li	Institute of Semiconductors, Chinese Academy of Sciences	Fiber optic accelerometer based on clamped beam
5_418	P5-12	Jiang Xiao-Ming, Li Xin, Liu Yang, Chen Xing-Lin	Harbin Institute of Technology	An ILC control strategy for a dual stroke actuator system
5_419	P5-13	Hao Zhongyang1, Peng Guiyong2, Li Xin1, Chen Xinglin1	1.Harbin Institute of Technology2.school of control and computer engineering North China	Design of a synchronous control system for lithography based on repetitive control method
5_422	P5-14	Du Wei 1, Li Cong 1, Chen Xinglin 1	Harbin Institute of Technology	A VME64x bus Slave module design based on the 2eVME protocol
5_423	P5-15	Yang Kaiyu1, Song Bing2, Gao Yinhan1, Gu Junjie2, Zhou Ruimin2	1.College of Automotive Engineering, Jilin University, Changchun, China 2.College of Instrumentation& Electrical Engineering, Jilin University,	Vehicle Switch Detection System Based on Visual C++
5_5,5-4	P5-16	Wang pan*a,b, Ding rui-jun a, Chen guo-qiang a,b, Chen hong-lei	a Shanghai Institute of Technical Physics b Chinese Academy of Sciences	A new design of readout IC for photoelectron detector of short-wave hyperspectral IRFPA
5_57	P5-17	Jinhao Sun[1,2] Shangchun Fan[1] Guohong Li[2]	1.School of Instrumentation Science & Optoelectronics Engineering, Beihang University ,Beijing, China 2. Electronic Engineering Department,North China Institute of Aerospace Engineering,Langfang, China	Designing a warning system of pipeline net based on detecting vibration

5_8	P5-18	Hao Li-chao*a, b, Ding Rui-jun a	a Shanghai Institute of Technical Physics, Chinese Academy of Sciences b Graduate School of Chinese Academy of Sciences, Beijing	A High Performance Readout Circuit (ROIC) for VLWIR FPAs With Current Mode Background Suppression
5_X01	P5-19	Li jing1,Mei Hong-wei1,Song ke2,Shang Qiu-fang1, Du Guang-yu 1, Wang Geng 1,and Wang Xiao-san1	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	The Micro-Thrust Automatic Measurement System of Stationary Plasma Thruster
5_X02	P5-20	Huang Xiangdong[1], ,Zhou Tong[2], Jia Jingguo[1]	Center of Ultra-precision Optoelectronic Instrument, Harbin Institute of Technology, Harbin, 150080, China, 2 Heilongjiang Institute of Metrology,	An approach to remove defocused aberration on array confocal microscope
5_431	P5-21	Lai Xin-huan, Zhao Jun, Kong Ming , Guo Tian-tai	College of Metrology & Measurement Engineering, China Jiliang University, Hangzhou310018, China	Weak feature extraction of gear fault based on stochastic resonance denoising
5_X5 (5_453)	P5-22	Jiaxi Liu*, liyi Li, and Pengcheng Du	Department of Electrical Engineering, Harbin Institute of Technology, Harbin 150001, CHINA	A Novel Sliding Mode Speed Control Based on the Interior Permanent Magnet Synchronous Motor
6_104,6-103	P6-1	Hua Liu, Qingkun. Zhou, Yafei Lu, Dapeng Fan	National University of Defense Technology	Stiffness Analysis and Verification of Novel Parallel-guidied Compliant Mechanism
6_128，6-130	P6-2	Furong Du, Zhehai Zhou*, Xiaoqing Zhang, Lianqing Zhu	Beijing Engineering Research Center of Optoelectronic Information and Instruments, Beijing Information Science and Technology University	Micro-hole Fabrication Based on Focus-shaped Radially Polarized Beams
6_141	P6-3	Tingyu Liu1,2*, Jingxu Zhang1, Yapeng Li1,2	1. Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences 2. Graduate School of Chinese Academy of	Design and Adjustment of a Near-IR Camera System
6_154	P6-4	Zhile Wang +, Haosu Xiao, Zhigang Fan, Chunxin Qian, Chengtao Liu, Cuiping Yu, Weifeng Du, and Aotuo Dong	Harbin Institute of Technology	Radiation effect of aerodynamically heated optical dome on airborne infrared system
6_224	P6-5	B. Mikel*, Z. Buchta, and O. Cip	Institute of Scientific Instruments, ASCR v.v.i., Brno, Czech republic	Frequency stability of the 760 nm DFB laser diodes for laser metrology

6_227	P6-6	Honggang Gu a, Shiyuan Liu a, b, *, Xiuguo Chen a, and Chuanwei Zhang b	a Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology b State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology	Analysis of oscillations in the equivalent fast axis azimuth of composite wave-plates
6_248	P6-7	Konstantin G. Arakantsev, Igor A. Konyakhin	University of Information Technologies, Mechanics and Optics, Department of Optic-electronic systems and devices, Saint-Petersburg, Russia	The approximation of adaptive surface of large radio telescope with optic-electronic stereoscopic system
6_280,6-281	P6-8	Wenrui Guo, Zhiwei Li *, Hongtao Gao, Liangping Xia, Lifang Shi, Qiling Deng and Chunlei Du	State Key Laboratory of Optical Technologies for Microfabrication, Institute of Optics and Electronics, Chinese Academy of Sciences, P. O. Box 350, Chengdu 610209, China	Design of Infrared Polarizer Based on Sub-wavelength Metal Wire Grid
6_298	P6-9	Chih-Liang Chu*, Jhih-Sian Ke, Hung-Chi Chen	Dept. of Mechanical Engineering, Southern Taiwan University	Development of a three dimensional scanning touch probe with high precision and low contact force
6_394	P6-10	Wang Dong *, Zhang Jian, Wu Li-ying	Harbin Institute of Technology	Annular flat-top laser beam generated by an adaptive weight FFT-based iterative algorithm
6_417	P6-11	withdrawal		
6_54	P6-12	Luo Lin a*, Wang Li	School of Physical Science and Technology, Southwest Jiaotong University, Chengdu 610031, China	Edge effects in blind deconvolution of solar image
6_J01(22_x01)	P6-13	Hui Jin, Hong Tao Ma, Huilin Jiang, Yu Quan Zheng, XiaoHui Zhang	1) Changchun University of Science and Technology 2)Changchun Institute of Optics, Fine Mechanics and Physics	Wide Spectrum, A Large Field of View Telescope System Design Small Distortion
6_XL01	P6-14	Yongmeng Liu1, 2, Peng Jin2, Yu Han2 and Jing Ma1	1 Postdoctoral Research Station of Electronic Science and Technology, Harbin Institute of Technology, Harbin, 150001, P. R. China 2 Ultra-precision Optoelectronic Instrument Engineering Center, Harbin Institute of Technology, Harbin, 150001, P. R. China	Structure design and fabrication of high transparency band-pass FSS filter of wireless communication instrument windows using UV-LIGA lithography

6_XX	P6-15	Song Jin-cheng	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	Calibration of transition matrix in Aerocraft body coordinate and star sensor coordinate
7_106	P7-1	Chao Liu a, LiRong Qiu a, * , Qin Jiang b, WeiQian Zhao a	a Beijing Institution of Technology b Changcheng Institute of Metrology & Measurement	Dual-axes tri-differential confocal sensing technique with higher axial resolution and SNR
7_127	P7-2	Qing-yuan Meng，Liang Chen，Yan-lei Dong	School of Mechatronics Engineering，University of Electronic Science and Technology of China	Steel Plate Flaw NDT Using Laser Ultrasonic
7_150,7_153	P7-3	Xiao Baoling1, Hu Zhaohui2, Zhou Zhehai1,*, Zhang Shulian3, Yang Jie2, Zhu Lianqing1	1、Beijing Information Science and Technology University 2. Science and Technology on Inertial Laboratory, School of Instrumentation Science and Optoelectronic Engineering, Beihang University 3. State Key Laboratory of Precision Measurement Technology & Instruments, Department of Precision Instruments, Tsinghua University	Generation of cylindrical vector Beams with a cat-eye cavity Laser and a Mach-Zehnder interferometric arrangement
7_21	P7-4	Yu Qing *, Ye Ruifang, Fan Wei	Huaqiao University	Reduce Impact of the Talbot Effect in Laser Parallel Confocal Measurement within LED
7_278	P7-5	W. D. Pan 1,*, J. M. Dai 1, Y. F. Zhang 1, L. Zhang 1	Harbin Institute of Technology	Near infrared tunable diode laser absorption spectroscopy for ethylene concentration analysis
7_28(7_27) extended	P7-6	Qinghua Wu.a,b,c , Tao He b,c , Tielin Shi a	a、Huazhong University b、Hubei University c、The Key Lab. of Advanced Manufacture and Quality Engineering of Hubei Province	High-precious gasket thickness measuring and classifying system based on line-structured light
7_352	P7-7	Tan Linqiu, Hua Dengxin, Wang Li, Wang Yufeng	Xi'an University of Technology	Comparison of fringe imaging techniques using Mach-Zehnder and Fabry-Perot interferometer for Doppler wind lidar
7_384	P7-8	Jia Junwei1, Zhang Shufeng1, Yang Li2, Wang Huan1, Song Ruihai1, Tian Hulin1, Li Tong1	1.Beijing Orient Institute for Measurement 2. China Academy of Space Technology	Gas concentration measurement in vacuum by means of tuneable diode laser absorption spectroscopy
7_413，7-414	P7-9	Qi Pan, Zijia Zhang	Nanjing University of information science & technology	Experimental validation of nonsphericity effect on monochromatic rainbow measurement

7_99	P7-10	Shang Ping, Xia Haojie, Fei Yetai	Hefei University of Technology	High-resolution Diffraction Grating Interferometric Transducer of Linear Displacements
7_191	P7-11	Yukun Luo, Shitu Luo, Feilu Luo, Mengchun Pan, Xianglin Tan	National University of Defense Technology	Design of an optical ultrasonic signal testing system using LabVIEW
	P7-12	Zhao Bo and Wang Lei*	Ultra-precision Optical & Electronic Instrument Engineering Center, Harbin Institute of Technology, Harbin 150001, China	Circular trajectory motion control of an inspection spherical robot
8_139	P8-1	Zhonghua Gao*a,b, Xihou Chen a, Ziran Chen a, Donglin Peng a	a Engineering Research Center of Mechanical Testing Technology and Equipment (Ministry of Education), Chongqing University of Technology b School of Instrumentation Science and Opto-electronics Engineering, Hefei University of Technology	Error Analysis and Method of Calibration for Linear Time Grating Displacement Sensor
8_162	P8-2	Y.F. Zhang 1,2 J.M. Dai 1 L. Zhang 1 W.D. Pan 1	1 Harbin Institute of Technology, Harbin 150001, China 2 To whom correspondence should be addressed. E-mail: zyf81@yahoo.cn	Multi-wavelength Emissivity Measurement of Stainless Steel Substrate
8_164	P8-3	Yen-Chih Liu 1，Kai-Hsiung Chang 2，Nai-Chun An 1，Sheng-Zhang Yan 1	1 Metal Industries Research & Development Centre 2 National Formosa University	The research of measurement of micro gears with a touch-trigger probe
8_185	P8-4	Yushu Shi*, Sitian Gao, Mingzhen Lu, Wei Li	National Institute of Metrology	Segmental Calibration for Commercial AFM in Vertical Direction
8_193	P8-5	Jinfei Chen, Qi Zhang, Mengchun Pan, Feibing Weng, Dixiang Chen, Hongfeng Pang	College of Mechatronics and Automation, National University of Defense Technology, Changsha 410073, China	Calibration of magnetic gradient tensor measurement array in magnetic anomaly detection
8_222	P8-6	Li Dong-sheng，Jin Liang-bing，Chen Ai-jun	China Liliang University	Research on a portable calibration instrument of hemodialysis unit
8_286	P8-7	Li Yang	Changcheng Institute of Metrology & Measurement	Evaluation Method of Indoor GPS measurement network
8_31	P8-8	LI Zhi a,b and LI Xiang b	a. Guilin University of Electronic Technology; b. Xidian University	Research on self-calibration method for tri-axial magnetic compass

8_317	P8-9	Dongmei Ren, Yu Wan, Zhenyu Zhu, Qiang Li	Changcheng Institute of Metrology & Measurement	A Method for Calibrating Micro-force of Nanoindentation Instrument Using Laser Interferometer
8_353	P8-10	Chenguang Cai1, Jiaping Xu2, Jingsheng Li1	1 National Institute of Metrology 2 Beijing Institute of Architecture Design	Evaluation of Vibration Transducer Resolution by Using Intrinsic Microseism in Precision Metrology
8_393	P8-11	Chan-Yun Yang	Taipei Chengshih University of Science and Technology	Robust Lens Calibration by Support Vector Regression
8_40	P8-12	Yang Yafei and Li Jianguo	Harbin Institute of Technology/ Unit 61345 of PLA Xi'an	Particle Filtering for Sensor-to-Sensor Self-Calibration and Motion Estimation
8_409	P8-13	Mao-tao Xiong1,2 Jie-bin Yang1 Pu-jun Zhao1 Bo Yu2 Wan-quan Deng2	National Institute of Measurement and Testing Technology,Xihua University	Research on Liquefied Natural Gas (LNG) dispenser verification device
8_60	P8-14	Zhong Yingjie, Chang Suping*, Xie Tiebang	huazhong university of science and technology	A new method about compensating non-liner errors of lever-type stylus profilometer
8_x01	P8-15	Jingzhi Huang 1,2,#, Wei Gu1, Tao Sun2 and Jiubin Tan1	Harbin Institute of Technology	Calibration of Nonlinear Error of Sensor System used in
8_X02	P8-16	Song Jin-cheng	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	Dynamic measurement technology in aerocraft unlock separate experiment
9_349	P9-1	Mingzhen Lu*, Sitian Gao, Wei Li, Yushu Shi, Xingfu Tao	National Institute of Metrology (NIM)	Long range metrological atomic force microscope with versatile measuring head
9_35	P9-2	Chen Jinping, Guo Tong*, Li Feng, Wang Longlong, Fu Xing, Hu Xiao-tang	Tianjin University	Microscopic Fringe Projection System and Measuring Method
9_36	P9-3	Guo Tong, Zhang Ying, Li Feng, Chen Jin-ping, Fu Xing, Hu Xiao-tang	State Key Laboratory of Precision Measuring Technology and Instruments, Tianjin University, Tianjin 300072,	Large step structure measurement by using white light interferometry based on adaptive scanning
9_381	P9-4	Jiang Minlan, Lu Xinchao, Wang Xiaodong, Xu Xiuling	Zhejiang Normal Univ.	Error Analysis and Correction of Grating Interference Displacement Measurement System
9_X01	P9-5	Liu Ke, Chen Xiu-zheng , Song Jin-cheng, Liang Ya-jun	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	Error of Archimedes spiral When Applied in Linearity Compensation

9_X02	P9-6	Liu Nan, Jin Peng, Tan Jiubin	School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, P.R.China, 150001	Character Measurement and Analyzing of Micro Optical Lenses Array Fabricated by UV-imprint
9_455	P9-7	Liyi Li*, Yongbin Tang*, Jiaxi Liu*, and Qiming Chen*.	Electrical Engineering Department, Harbin Institute of Technology, Harbin, Heilongjiang province, China	Analysis and Design optimization of Ironless Linear Permanent Magnet Synchronous Motors with Non-overlapping Concentrated Windings for ultra-precision positioning system
10_107	P10-1	Yong Zhang, Ye-tai Fei, En-ming Miao, Xiao-rou Zhang	Hefei University of Technology	Research on Thermal Influence on Precise Gear Transmission
10_144,10_143	P10-2	Hu Penghao,Wang Jing, Li Songyuan	Hefei University of Technology	Measurement and calibration of a 3-PSS parallel mechanism
10_189	P10-3	Guoqiang Yan1,*, Yudong Jia 2,*, Yanxiong Niu 1,	1 Beihang University 2 School of Instrument Science and Opto-electronics Engineering, Beijing Information Science and Technology University	Influence of Background Radiation Noise on the Measuring Accuracy of Satellite laser altimeter
10_226	P10-4	Weiqi Li a, Shiyuan Liu a, b, *, Chuanwei Zhang a, and Xiuguo Chen b	a Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology b State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology	Reduction of measurement errors with two-channel configuration in the Mueller Matrix Ellipsometer
10_279	P10-5	Yudong Jia 1,*, Xiaoqing Zhang 1, Yiong Lv 1, Xiaoping Lang 1	1 School of Instrument Science and Opto-electronics Engineering, Beijing Information Science and Technology University, Beijing, China, 100192	Lidar Echo Characteristics Analysis for the Stepped Terrain
10_295	P10-6	Zhu Ping Yu 1, Hou Guoqing 2, Yao Jia 2, He Kuanfang 2, YuYidao 2	1. Guangzhou University, Guangzhou, 51006; 2. Hunan scientific and technical university， Xiangtan， 411201	Study on the dynamic characteristics for melamine plate thickness measurement system’s test frame
10_303	P10-7	Mingyu Cong, Wenzhuo Bao, Yin Zhang	Harbin Institute of Technology	A modeling and analysis method for positioning of optical sensor based on finite difference

10_X02	P10-8	Dong-Xia Wang1,2, Ai-Guo Song1 ,Xiu-Lan Wen2	1School of Instrument Science & Engineering, Southeast University 2 Automation Department, Nanjing Institute of Technology	Uncertainty Evaluation Study on Chang'E-1 Laser Altimeter On-orbit Detection Error
10_X03	P10-9	Sun Zeng-yu	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	Study on measuring spatial pose of aircraft in Ground Simulation Test based on binocular vision model
11_X02	P11-1	Lang Ya-Jun	Beijing Aerospace Institute for Metrology and Measurement Technology,9200-24 Beijing，China	Research on measurement of object surface profile under wind tunnel