

The 7th ISPEMI 2011
FINAL PROGRAMME

**The 7th International Symposium on Precision
Engineering Measurement and Instrumentation**

August 7-11, 2011
Lijiang, Yunnan, China



Sponsored by

International Committee on Measurements and Instrumentation (ICMI)
National Natural Science Foundation of China (NSFC)

Organized by

Hefei University of Technology
Beijing Information Science and Technology University
National Taiwan University
Harbin Institute of Technology
SPIE - the International Society for Optics and Photonics



The 7th ISPEMI 2011 Committee

Symposium Chairman:

Prof. K.C. Fan National Taiwan Univ. /Hefei Univ. of Tech., China

Co-Chairmen :

Prof. W. Gao Tohoku University, Japan
Prof. J.B. Tan Harbin Institute of Technology, China

Honorary Committee

Prof. Y.T. Fei Hefei University of Technology (Chairman), China
Prof. G.F. Jin Member of CAE/Tsinghua Univ., China.
Prof. Z.H. Zhang Member of CAE/Nat. Inst. of Metro., China
Prof. S.H. Ye Member of CAE/Tianjin Univ., China
Prof. Z. Li Huazhong Univ.of Science and Technology, China
Prof. Q.S. Han Beijing Information Sci. and Tech. Univ., China
Prof. C.K. Chen National Cheng Kung Univ., Taiwan, China
Prof. Y. Chugui Russian Academy of Sciences, Russia
Prof. G.B. Wang National Natural Science Foundation, China
Prof. Z.D. Jiang Xi'an Jiaotong University, China

Program Committee

Prof. W.H. Huang Univ. of Sci. and Tech. of China (Chairman)
Prof. Y.S. Gao Hong Kong Univ. of Sci. & Tech., China (Co-Chairman)
Prof. D. Butler Nanyang Technological University, Singapore
Prof. M. Chang Chung Yuan Christian Univ., Taiwan, China
Prof. L.C. Chen National Taipei Univ. of Technology, Taiwan, China
Prof. S.T. Gao National Institute of Metrology, China
Prof. Q.X. Huang Hefei University of Tech., China
Dr. M. Krystek PTB, Germany
Prof. S. Kurokawa Kyushu University, Japan
Prof. S.J. Lee Yuan-Ze University, Taiwan, China
Prof. S.Y. Lee National Chen Kung Univ., Taiwan, China
Prof. Y.F. Li City University of Hong Kong, China
Prof. S.C. Lin National Tsing Hua Univ., Taiwan, China
Prof. H.J. Pahk Seoul National University, Korea
Dr. Y. Shimizu Tohoku University, Japan
Prof. G.Y. Tian University of Newcastle upon Tyne, UK
Prof. Z.G. Xu Huazhong Univ. of Science and Tech, China
Prof. L.X. Yang Oakland University, USA
Prof. W.M. Hou Univ. of Shanghai for Sci. &Tech., China
Prof. J.X. Yang Zhejiang University, China
Prof. J.Y. Yen National Taiwan University, Taiwan, China
Prof. H.T. Young National Taiwan University, Taiwan, China
Prof. W.H. Zhou Chinese Academy of Science, China

International Steering Committee

Prof. S.L. Zhang	Tsinghua University, China (Chairman)
Prof. H. Bosse	PTB, Germany
Dr. J.R. Duan	Centre for Measurement Standards, Taiwan, China
Dr. H.C. Fu	Metal Ind. Res. & Dev. Centre, Taiwan, China
Prof. H.P. Huang	National Taiwan Univ., Taiwan, China
Prof. G. Jaeger	Ilmenau Univ. of Technology, Germany
Prof. S.H. Lee	Pusan National Univ., Korea
Prof. R. Leach	National Physical Laboratory, UK
Prof. Y.J. Lin	University of Akron, USA
Prof. T.I. Liu	California State Univ. at Sacramento, USA
Prof. Z.Y. Shi	Beijing Univ. of Tech., China

Organizing Committee

Prof. R.S. Lu	Hefei Univ. of Technology, China (Chairman)
Prof. L.Q. Zhu	Beijing Info. Sci. & Tech. Univ. (Co-Chairman)
Prof. X.F. Yu	Hefei Univ. of Tech., China
Prof. X.H. Chen	Hefei University of Tech., China
Prof. X.H. Qu	Tianjin Univ., China
Prof. J.R. Chu	Univ. of Sci. & Tech. of China
Prof. N.G. Lv	Beijing Information Sci. and Tech. Univ., China
Prof. G.X. Liu	South China Univ. of Tech., China
Prof. A.G. Song	Southeast University, China
Prof. L. Qin,	Chongqing Univ., China
Prof. D.L. Peng	Chongqing Institute of Tech., China
Prof. P.H. Hu	Hefei University of Tech., China
Prof. L.D. Yu	Hefei University of Tech., China
Dr. H.J. Xia	Hefei University of Tech., China
Prof. E.M. Miao	Hefei University of Tech., China

Secretariat:

Prof. R.S. Lu	Hefei Univ. of Technology, China (Secretary-General)
Ms. M. Song	Hefei Univ. of Tech., China
Mrs. Q.Y. Liu,	Hefei Univ. of Tech., China
Mr. H.T. Wang	Hefei Univ. of Tech., China

ISPEMI2011 Conference Venue

Conference Hotel: Lijiang Dianjunwang Hotel (Old name is 'Xin Senlong Hotel')

Hotel address: Minzhu Road, Ancient Town Area, Lijiang, Yunnan, China 674100

Telephone: +86-888-5120666, Fax: +86-888-5181968

Web Site: <http://www.djw888.com/kfjs.asp>

How to arrive?

The Lijiang Dianjunwang Hotel is right on the city center and near the coach station.

From airport (about 28.5 Kilometers):

1. By taxi: fare around RMB 100, 40 minutes to the hotel.
2. By airport shuttle bus: fare RMB 15/person, one hour to the last stop, then Change to Bus No. 8 or No. 3 to the Hotel, or tTake taxi to the hotel (RMB 7 per car, 5 minutes)
3. From Lijiang Railway Station:
It is about 5 Kilometers to the hotel. Taxi fare is RMB 10, about 20 minutes.

ISPEMI2011 大會場所

地點: 麗江滇菌王大酒店 (原名“新森龙大酒店”)

地址: 中国. 云南. 丽江市古城区民主路

Telephone: +86-888-5120666, Fax: +86-888-5181968

网址: <http://www.djw888.com/kfjs.asp>

前往方式:

- a、**丽江三义机场:** 距酒店 28.5 公里，自机场乘机场大巴 (15 元/人，约 1 小时车程) 到终点站下车，再换乘 8 路或 3 路公交车至酒店，若乘出租车 (7 元/辆，约 5 分钟车程) 至酒店；若直接乘出租车到酒店 (100 元/辆，约 40 分钟车程)。
- b、**丽江火车站:** 距酒店 5 公里，乘出租车 10 元左右，约 20 分钟车程。

The 7th ISPEMI 2011

Schedule in Summary

7th Aug.		8th Aug.		9th Aug.		10-11th Aug.
08:30-12:00	Registration	08:00-08:30	Registration	08:00-10:30	Registration	Post-Symposium tour
		08:30-09:00	Opening Ceremony	08:30-09:15	Keynote Speech 5	
		09:00-10:30	Keynote Speeches 1&2	09:15-09:25	Coffee break	
		10:30-10:40	Photograph	09:25-11:05	Oral session II	
		10:40-10:50	Coffee break	11:05-11:15	Coffee break	
		10:50-12:20	Keynote Speeches 3&4	11:15-12:25	Oral session III	
12:00-13:30	Lunch	12:30-14:00	Lunch	12:30-14:00	Lunch	
13:30-18:20	Registration	14:00-15:00	Poster session	14:00-15:35	Oral session IV	
		15:00-16:40	Oral session I	15:35-15:55	Coffee break	
		16:40-17:00	Coffee break	15:55-16:55	Oral session V	
		17:00-18:00	Lifetime Speech (in Chinese)			
18:30-20:00	Welcome Reception	18:30-20:30	Dinner	18:30-20:30	Banquet	

Time for presentation (including the question-and-answer period)	Keynote Speech	45 min
	Invited Talk	25 min
	Ordinary Presentation	15 min

The 7th ISPEMI 2011

Keynote Speeches

Date & Time		No.	Title	Speaker	Chairman	Room
Aug. 8	09:00-09:45	Keynote Speech 1	Research Progresses of Micro-Nano Technology in Institute of Precision Engineering (IPE)	Prof. Zhuangde Jiang Xi'an Jiaotong Univ, China	Prof. Wenhao Huang Univ. of Sci. and Tech. of China	Room A
	09:45-10:30	Keynote Speech 2	Super resolution fibre-optical nonlinear optical endoscopy: toward in vivo cancer-cell treatment	Prof. Min Gu Swinburne University of Technology, Australia	Prof. Yongsheng Gao Hong Kong Univ. of Sci. & Tech.	
	10:50-11:35	Keynote Speech 3	Precision laser ranging using femtosecond light pulses	Prof. Seung-Woo Kim KAIST, South Korea	Prof. Heui-Jae Pakk Seoul National Univ.	
	11:35-12:20	Keynote Speech 4	Gear manufacturing and metrology for industry and science--- from large to tiny size with old and new techniques	Prof. Syuhei Kurokawa Kyushu University, Japan	Prof. Liang-Chia Chen National Taiwan Univ.	
	17:00-18:00	Lifetime Speech	Some stories in my life: Unshakable Spirit and Pursuit (in Chinese)	Prof. Zhu Li Huazhong University of Science and Technology, China	Prof. Kuang-Chao Fan NTU/HFUT	
Aug. 9	08:30-09:15	Keynote Speech 5	Micro- and nanoscale dimensional metrology at PTB	Dr. Hans U. Danzebrink PTB, Germany	Prof. Zhaoyao Shi Beijing Univ. of Tech.	

The 7th ISPEMI 2011

Invited Talks

Time		Ses.	Topics	Speakers	Organizations	Room
Aug. 8	15:00-15:25	Session I	Measurement uncertainty, risk analysis and conformity assessment	Dr. M Krystek	Physikalisch-Technische Bundesanstalt, Germany	Room A
			3d fiber probe for multi sensor coordinate measurement	Prof. A Ettemeyer	NTB Interstate University of Applied Science of Technology Buchs, Switzerland	Room B
			A Systematic and Comprehensive Approach to the Topographic Characterisation of the Grinding Process	Prof. D Butler	Nanyang Technological University, Singapore	Room C
Aug. 9	09:25-09:50	Session II	In-process and post-process measurements of drill wear for control of the drilling process	Prof. T.I .Liu	California State Univ. at Sacramento, USA	Room A
			Full-field chromatic confocal surface profilometry employing DMD correspondence for minimizing lateral cross talks	Prof. L.C. Chen	National Taipei Univ. of Technology, Taiwan, China	Room B
			Nanoimprint for MOE in HIT	Prof. Jiubin Tan	Harbin Institute of Technology (HIT), China	Room C
	11:15-11:40	Session III	Real Time Measurement and Evaluation of Displacement by Digital Holography	Prof. Lianxiang Yang	Oakland University, USA	Room A
			Human Tracking with Thermal Omnidirectional Vision	Prof. Y.F. Li	City University of Hong Kong	Room B
			Fractal Analysis of Motor Imagery Recognition in the BCI Research	Prof. Hanpang Huang	National Taiwan University	Room C
	14:00-14:50	Session IV	Pulsed eddy current systems for defect and geometrical profile measurement	Prof. Gui Yun Tian	University of Newcastle, UK	Room A
			Review of the state of the art of whole field optical measurement techniques for strain analysis	Dr. Thorsten Siebert	Dantec Dynamics GmbH, Germany	
			Future of phased array radar systems	Prof. Ahmed Bassyouni	US-Radars Consulting, USA	Room C
An overview of precision measurement technology in head-disk interface in hard disk drives			Prof. Yuki SHIMIZU	Tohoku University, Japan		

Post-Symposium Tour

August 10: Jade Dragon Snow Mountain		
	TIME	ITEM
Aug. 10	6:00	Wake up
	6:30	Breakfast
	7:00	Bus Leave Hotel
	7:20	Arrive at Jade Dragon Snow Mountain
	11:00	Lunch
	12:00	Bus Leave for Tiger Leaping Gorge
	18:00	Arrive at Shangri-La
August 11: Shangri-La		
Aug. 11	6:00	Wake up
	6:30	Breakfast
	7:00	Bus Leave Hotel
	8:00	Arrive at PuDaCuo Forest Park
	12:30	Lunch
	1:00	Bus Leave for SongZanLin temple
	5:00	Return to LiJiang DianJunWang Hotel

Oral Session Topics and Chairmen

Date & Time		Session No.	Topic	Chairman	Room No.	
Aug. 8	15:00-16:40	Session I	A	Precision Theory & Uncertainty Evaluation	Prof. Tien-I Liu	Room A
			B	Micro/Nano Coordinate Measurement	Prof. Liang-Chia Chen	Room B
			C	Surface Measurement and Characterization	Prof. Tan Jiubin	Room C
Aug. 9	09:25-11:05	Session II	A	Pre-, In- and Post-Process Measurement	Dr. M Krystek	Room A
			B	Optical Precision Measurement	Prof. A Ettemeyer	Room B
			C	Measurement theory and methodology	Prof. D Butler	Room C
	11:15-12:25	Session III	A	NDT and instrumentation I	Prof. Gui Yun Tian	Room A
			B	Machine vision and Application	Dr. Thorsten Siebert	Room B
			C	Laser and Optical Measurement	Prof. Yuki SHIMIZU	Room C
	14:00-15:35	Session IV	A	NDT and instrumentation II	Prof. Lianxiang Yang	Room A
			B	Semiconductor and Optoelectronic Process Inspection Technology I	Prof. Ming Chang	Room B
			C	Sensors and Measurement	Prof. Hanpang Huang	Room C
	15:55-16:55	Session V	A	Optoelectronic System and Instruments	Prof. Seung-Woo Kim	Room A
B			Semiconductor and Optoelectronic Process Inspection Technology II	Prof. Heui Jae Pahk	Room B	

Keynote Speakers



Prof. JIANG was born on August 4, 1955. In 1988, he obtained his master degree of machinery manufacturing in Xi'an Jiaotong University. At present he is the vice president of Xi'an Jiaotong University and the director of Institute of Precision Engineering (IPE). Also, he is a professor of two departments of mechanical engineering and instrument science & technology. His scientific interests include Micro Electro-Mechanical System (MEMS) and Micro-Nano fabrication technology, precision instrument & sensing technology, precision and ultra-precision machining technology, etc.

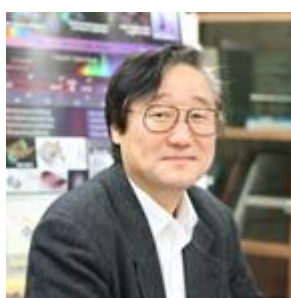
He is a member of an expert team for advanced manufacturing of the Hi-Tech Research and Development Program of China, the vice director-general of Chinese Society of Micro-Nano Technology, and the director of Chinese Mechanical Engineering Society (CMES), and so on. He was financially funded by two key projects of National Natural Science Foundation of China, three key projects of the Hi-Tech Research and Development Program of China, three subprojects of the National Basic Research Program, and three projects for international academic cooperation projects, etc. He has authored and co-authored more than 210 papers in high-level journals, and obtained academic awards as follows. 1) In 2009, the second prize of State Science and Technology Progress Awards of PRC. 2) In 2006, the second prize of State Technical Invention Awards of PRC. 3) In 2005, the excellent prize of Chinese Patent Award.



Min Gu, Pro Vice-Chancellor (International Research Collaboration) and a University Distinguished Professor in optoelectronics, is Director of the Centre of Micro-Photonics at Swinburne University of Technology and Node Director of the Australian Research Council Centre of Excellence for Ultrahigh-bandwidth Devices for Optical Systems. His research interests span nanophotonics and biophotonics with internationally renowned expertise in three-dimensional optical imaging theory.

Professor Gu is an elected Fellow of both the Australian Academy of Technological Sciences and Engineering and the Australian Academy of Science. He is also an elected Fellow of the Institute of Physics (UK), the Australian Institute of Physics, the Optical Society of America and the International Society for Optical Engineering. Professor Gu is a sole author of two standard reference books, *Principles of Three-Dimensional Imaging in Confocal Microscopes* (World Scientific) and *Advanced Optical Imaging Theory* (Springer-Verlag), published in 1996 and 2000 respectively. He is the first author of the book published by Cambridge University Press (*Femtosecond Biophotonics: Core Techniques and Applications*, 2010). He has published over 700 publications (including over 330 papers in internationally refereed journals such as *Nature*). He is a member of the 15 Editorial Boards of top international journals. He has been a member of the Advisory/Steering/Organizing committees of many international conferences (more than 120). He was/is a plenary/invited/keynote speaker on many international conferences (more than 120 conferences). He was/is President (2002-2004) and Vice President (2004-2012) of the International Society of Optics within Life Sciences. He is Vice President of the International Commission for Optics (2005-2012).

He was awarded the *Chang Jiang Chair Professorship* (Ministry for Education, China, 2007), the *World Class University Professorship* (Ministry for Education, Korea, 2009), the *Thousand Talents Award* (Ministry for Education, China, 2009), the *Einstein Professorship* (Chinese Academy of Science, 2010), and the *Laureate Fellowship* (Australian Research Council, 2010).



Seung-Woo Kim is a full-professor and Dean of the School of Mechanical, Aerospace and System Engineering at KAIST. He received PhD in precision engineering from Cranfield University (UK) in 1984. He is currently in charge of the graduate research group of Precision Engineering & Metrology. His research interest includes ultrafast optics for ultraprecision machine design, dimensional metrology, and opto-mechatronics systems synthesis. During last two decades of research work, he has published about one hundred technical papers in

international journals and conferences. He has been working as principal investigator for numerous national and industrial research projects and currently involved in an important national creative research initiative project for the development of next generation precision engineering key technologies. He has also actively been involved in international academic societies for organizing on-time conferences for leading-edge precision engineering technologies. He is a member of SPIE, OSA, euspen and ASPE.



Syuhei Kurokawa received his PhD Degree in Production Engineering from Kyushu University, Japan in 1992. He was appointed as Associate Professor in Department of Intelligent Machinery and Systems, Kyushu University in 1994. He is currently Associate Professor in Department of Mechanical Engineering at Kyushu University. He acted as a Visiting Professor of Laboratory for Machine Tools and Production Engineering (WZL) of the RWTH Aachen in Germany in 1998. He is a member of the JSME, JSPE, JSPS, and JSAT. He also serves as an Editorial Board member for Japan Opto-Mechatronics Association. His research fields include measurement and evaluation of gear accuracy for industrial application, characterization of engineered surface roughness and topography, nano-machining of micro machine elements and micro measuring devices, scanning measurement of freeform surfaces by CMM, analytical evaluation of

micro-scratches and nano-particles on Silicon wafers, and planarization CMP (Chemical Mechanical Polishing/planarization) technology of device wafers.



Dr. Hans U. Danzebrink is head of the working group for "Scanning Probe Metrology" at the Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany. He is involved in dimensional nanometrology since more than 15 years. His fields of work span from the development of compact scanning probe heads, metrological scanning probe systems to novel interferometric position sensors.

Dr. Danzebrink received his Dipl.-Ing. degree for electrical engineering from the Technical University of Braunschweig. In 1996 he received the Dr.-Ing. degree on a development of new high-resolution microscopy methods.

Currently he is leading European research projects as well as national and international industry funded projects. Furthermore, he is head of the European Action Group "Critical Dimensions and Scanning Probe Techniques" of the international Co-Nanomet project.

Lifetime Speaker

(This speech is in Chinese)



Zhu LI, graduated from Chongqing University in 1953, started his academic career in Huazhong Institute of Technology (later renamed as Huazhong University of Science and Technology) until now. He was the founding Chairman of International Committee on Measurement and Instrumentation (ICMI) in 1993. His research interests include: precision engineering and scientific instrumentation, standardization, tolerance and statistical analyses. He has supervised 43 MSc students and 26 PhD students, received numerous academic awards, and published many papers and one influential textbook "Fundamentals of Interchangeability and Measurement Technology".

His famous idiom is "Unshakable Spirit and Pursuit" to encourage students in treating people, doing things and learning knowledge. He believes that a teacher should inherit four features: Sustainable life, Young mood, Lifetime learning, and Academic independence. He advocates that an engineering student should know literature, history and philosophy. In 2000, he organized a cross-strait seminar on Education Innovation so as to embed this concept into the governance of university policy makers.

Oral Sessions I, Aug. 8, 15:00-16:40

Oral Sessions I, Aug. 8, 15:00-16:40			
Oral Session I-A Room A	Topic	Precision Theory & Uncertainty Evaluation	
	Chairman	<i>Prof. TI Liu, California State Univ.at Sacramento, USA</i>	
	Oral ID	Presentation	Abs. ID
	IA-1	<i>Measurement uncertainty, risk analysis and conformity assessment (invited talk)</i> Dr. M Krystek, Physikalisch-Technische Bundesanstalt, Germany	F-PTU-001
	IA-2	<i>Contouring error compensation on a micro coordinate measuring machine</i> Kuang-Chao Fan, Hung-Yu Wang, Jyun-Kuan Ye, National Taiwan University	T-PTU-001
	IA-3	<i>An Interference Signal Processing Method for Displacement Measurement by Dual Wavelength and Single Grating</i> Guochao Wang, Shuhua Yan, Chunlei Zhou, Xuedong Xie, National University of Defense Technology	C-MSA-008
	IA-4	<i>Research on Forecast Method of dynamic angle measurement</i> Ziran Chen, DonglinPeng, FangyanZheng, Yong Zheng, Xihou Chen, Hefei University of Technology	C-PTU-015
	IA-5	<i>Application of Autoregressive Distributed Lag Model to Thermal Error Compensation of Machine Tools</i> Miao Enming, Yan Yan, Fei Yetai, Niu Pengcheng, Hefei University of Technology	C-MSA-033
IA-6	<i>A Study of the Tool Change Timing in Turning Micro V-grooves Roller</i> Yunn-Shiuan Liao, Zhi-Zhong Lin, Yung-An Hung Department of Mechanical Engineering, National Taiwan University No.1, Sec. 4, Roosevelt Road, Taipei, 106, Taiwan	T-MCM-004	
Oral Session I-B Room B	Topic	Micro/Nano Coordinate Measurement	
	Chairman	<i>Prof. LC Chen, National Taipei Univ. of Technology, Taiwan, China</i>	
	Oral ID	Presentation	Abs. ID
	IB-1	<i>3d fiber probe for multi sensor coordinate measurement (invited talk)</i> Prof. A Ettemeyer, NTB Interstate University of Applied Science of TechnologyBuchs,Switzerland	C-OSO-033
IB-2	<i>Measurement of microchannels inside transparent substrate based on confocal microscopy</i> Fang Cheng, David Lee Butler, Kuang-Chao Fan, Nanyang Technological University, Singapore	C-MCM-009	
IB-3	<i>Design of an Analog Contact Probe for Nano-Coordinate Measurement Machines (CMM)</i> Rui-Jun Li, Kuang-Chao Fan, Sheng Tao, Jian-Zhao Qian, Qiang-Xian Huang, Fang Cheng, Hefei University of Technology	C-MCM-003	

	IB-4	<i>Design for H Type Co-planar Precision Stage Based on Closed Air Bearing Guideway with Vacuum Attraction Force</i> <u>Zhang Bin</u> , Shi Zhaoyao, Lin Jiachun, Zhang Hua, Beijing University of Technology	C-OTH-003
	IB-5	<i>Design of a linear-rotary micro-stage</i> <u>Yuxin Peng</u> , Yasuamsa Sakurai, Yoshikazu Arai, Yuki Shimizu, Wei Gao, Tohoku University, Japan	F-MCM-002
	IB-6	<i>High Precision Measurement System Based on Coplanar XY-stage of Nano-CMM</i> Kuang-Chao Fan, <u>Jin-Wei Miao</u> , Wei Gong, You-Liang Zhang, Fang cheng, Hefei University of Technology	C-MCM-007
Oral Session I-C Room C	Topic	Surface Measurement and Characterization	
	Chairman	<i>Tan Jiubin, Harbin Institute of Technology, China</i>	
	Oral ID	Presentation	Abs. ID
	IC-1	<i>A Systematic and Comprehensive Approach to the Topographic Characterisation of the Grinding Process (invited talk)</i> <u>Prof. D. Butler</u> , Nanyang Technological University, Singapore	F-SMC-003
	IC-2	<i>The rockwell hardness primary national machine according to new international definition</i> HeLi, <u>Zhang Feng</u> , National institute of metrology	C-SMC-004
	IC-3	<i>Development of an optical calibration system for five-axis machine tools</i> Wen-YuhJywe, <u>Tung-Hui Hsu</u> , Chien-Hung Liu, Hsueh-Liang Huang, Tung-Hsien Hsieh, Chia-Ming Hsu, Mu-Cheng Ji National Formosa University, Taiwan	T-OSO-009
	IC-4	<i>Non-uniform interpolation and re-sampling for tactile scanning measurement</i> <u>Liu Xiaojun</u> , Wang Jianjun, HeiYanghui, Huazhong University of Science and Technology	C-SMC-007
	IC-5	<i>Surface Warpage Measurement of Diamond Grid Disk by Shadow Moiré Method</i> <u>T. Y. Chen</u> , G S. Chen, National Cheng Kung University	T-SMC-001
	IC-6	<i>A glass tube micro-stylus probe for surface form metrology</i> <u>Bin Xu</u> , Atsushi Shibuya, Yoshikazu Arai, Yuki Shimizu, Wei Gao, Tohoku University, Japan	F-SMC-001

Oral Sessions II, Aug. 9, 09:25-11:05

Oral Sessions II, Aug. 9, 09:25-11:05			
Oral Session II-A Room A	Topic	Pre-, In- and Post-Process Measurement	
	Chairman	<i>Dr. M Krystek, Physikalisch-Technische Bundesanstalt, Germany</i>	
	Oral ID	Presentation	Abs. ID
	IIA-1	<i>In-process and post-process measurements of drill wear for control of the drilling process (invited talk)</i> Prof. <u>TI Liu</u> , California State Univ. at Sacramento, USA	F-PIP-001
	IIA-2	<i>Precise Thermal Control of CCD Assembly of Space Optical Remote Sensor</i> <u>Yang Wen-gang</u> , Li Yi-fan, Wang Ying-hao, He Tian-bing, Fu Wei-chun, Li Ying-cai Xi'an, Chinese Academy of Sciences, Xi'an, China	C-OSO-013
	IIA-3	<i>Polarized multi-color in-line digital holographic microscope for high-speed 3D surface profiling</i> <u>Jenq-Shyong Chen</u> , Zi Sheng Lin, National Chung Hsing University	T-PIP-002
	IIA-4	<i>Integrated gray-level gradient method for 3D velocity field extraction of spray droplets in in-line digital particle holography</i> <u>Yan Yang</u> , <u>Guangyong Li</u> , Lili Tang, Liang Huang, Chongqing University of Technology	C-PIP-003
	IIA-5	<i>DSP Based Lunar Sampling Control System for Coiling-type Sampler</i> <u>Ling Yun</u> , Song Aiguo, Lu Wei, Southeast University	C-PIP-005
IIA-6	<i>CAIP System for Vision-based On-machine Measurement</i> <u>Rui-xue Xia</u> , Rong-sheng Lu, Yan-qiong Shi, Qi Li, Ning Liu, Jing-tao Dong, Hefei University of Technology	C-MVI-028	
Oral Session II-B Room B	Topic	Optical Precision Measurement	
	Chairman	<i>Prof. A Ettemeyer, NTB Interstate University of Applied Science of Technology Buchs, Switzerland</i>	
	Oral ID	Presentation	Abs. ID
	IIB-1	<i>Full-field chromatic confocal surface profilometry employing DMD correspondence for minimizing lateral cross talks (invited talk)</i> <u>Prof. LC Chen</u> , National Taipei Univ. of Technology, Taiwan, China	T-SMC-002
IIB-2	<i>A tunable external cavity laser using a micromachined silicon flexure for atomic spectroscopy</i> <u>Ho-Chiao Chuang</u> , Kuo-Yuan Huang, National Taipei University of Technology	T-OSO-003	

	IIB-3	<i>Improvement of the suppression of air refractive index fluctuation to 10-10-order using Fabry-Perot cavity and Iodine frequency-stabilized He-Ne laser</i> Tuan Banh Quoc, Yoshinosuke Murai, Masato Aketagawa, Nagaoka University of Technology, Japan	F-OSO-002
	IIB-4	<i>Fast Parallel 3D Profilometer with DMD Technology</i> Zhang Yunbo, Hou Wenmei, University Shanghai for Science and Technology	C-SMC-005
	IIB-5	<i>A New and Effective 3D Measurement System for Micro Solder Bump</i> Heui Jae Pakk, Zhu Cheng Li, Jeong -Il Mun, Seoul National University, Korea	F-OSO-001
	IIB-6	<i>Development of a Dual-axis Optoelectronic Precision Level</i> Kuang-Chao Fan, Sheng-Yi Lin, <u>Tsung-Han Wang</u> , Yen-Chih Liu, National Taiwan University	T-OSO-005
Oral Session II-C Room C	Topic	Measurement theory and methodology	
	Chairman	<i>Prof. D. Butler, Nanyang Technological University, Singapore</i>	
	Oral ID	Presentation	Abs. ID
	IIC-1	<i>Nanoimprint for MOE in HIT</i> (invited talk) Jiubin Tan and Peng Jin, Harbin Institute of Technology, China	
	IIC-2	<i>Numerical analyses for thinned fiber Bragg grating under uneven surrounding refractive index environment</i> Bin-bin Luo, Ming-fu Zhao, Xiao-jun Zhou, De-yi Huang, Shao-fei Wang, Xue-mei Cao Department of Electronic Engineering, Chongqing University of technology, Chongqing, China	C-OSO-020
	IIC-3	<i>Research for 2-D Temperature Field Measurement in a High-speed Diesel Engine Using LIF Technology</i> LIU Yongfeng, Tian Hongsen, Qiu Tao Beijing University of Civil Engineering and Architecture, Beijing, China	C-QET-004
	IIC-4	<i>Kinematic Model and Calibration of Articulated Arm Coordinate Measuring Machine with Seven Axes</i> Cheng Wentao, Yu Liandong, Fei Yetai, Hefei University of Technology	C-MTM-026
	IIC-5	<i>Low velocity intense rubidium beam source from a 3D magneto-optical trap</i> Xiaojia Wang, Yanying Feng, Hongbo Xue, Zhaoying Zhou, Key Laboratory of Instrumentation Science & Dynamic Measurement, Ministry of Education	C-MTM-018
IIC-6	<i>Research of A Novel CMM with 3-PSS Parallel Mechanism</i> Hu Peng-hao, Yaoling, Hefei University of Technology	C-MTM-021	

Oral Sessions III, Aug. 9, 11:15-12:25

Oral Sessions III, Aug. 9, 11:15-12:25			
Oral Session III-A Room A	Topic	NDT and Instrumentation I	
	Chairman	<i>Prof. Gui Yun Tian, University of Newcastle, UK</i>	
	Oral ID	Presentation	Abs. ID
	IIIA-1	<i>Real Time Measurement and Evaluation of Displacement by Digital Holography (invited talk)</i> <u>Prof. Lianxiang Yang</u> , Oakland University, USA	
	IIIA-2	<i>A novel implementation of homodyne time interval analysis method for primary vibration calibration</i> <u>Qiao SUN</u> , Ling ZHOU, Chenguang CAI and Hongbo HU National Institute of Metrology, Beijing, China	C-PTU-020
	IIIA-3	<i>The Non-contact Precision Measurement and Noise Reduction Method for Liquid Volume Metrology</i> <u>Wang Jintao</u> , Liu Ziyong, Zhang Long, Guo Ligong, Bao Xuesong, Tong Lin National Institute of Metrology, Beijing, China	C-OSO-006
IIIA-4	<i>X-Ray Diffraction (XRD) Residual Stress Measurement Theory and Application on Field</i> P. Marconia, <u>L.G. Bocheseb</u> , D. Maestrinic, EFFE Engineering, Italy	F-PTU-002	
Oral Session III-B Room B	Topic	Machine vision and application	
	Chairman	<i>Dr. Thorsten Siebert, Dantec Dynamics GmbH, Germany</i>	
	Oral ID	Presentation	Abs. ID
	IIIB-1	<i>Human Tracking with Thermal Omnidirectional Vision (invited talk)</i> <u>Prof. Y.F.Li</u> , City University of Hong Kong, China	C-MVI-004
	IIIB-2	<i>Development of a Lightweight Portable Optical Measurement System for the Print-Through Phenomenon of Fiber-Reinforced Plastics</i> <u>Fang-Jung Shiou</u> , Y.Z. Liao, M.R. Tsai National Taiwan University of Science and Technology, Taipei, Taiwan; United Ship Design & Development Center (USDDC), Taiwan	T-OSO-002
	IIIB-3	<i>Three Dimension Reconstruction of Wheel set Based on Laser Triangulation</i> <u>Jiang Lirong</u> , Wang Li, Luo lin, Yang kai, Southwest Jiaotong University	C-MVI-019
IIIB-4	<i>Accurate and efficient identification of cable natural frequencies for cable tension monitoring by vibration frequency method</i> <u>LIN LIU</u> , Weimin Chen, Peng Zhang, Shunren Hu, Wei Luo, Chongqing Univ., Chongqing, China	C-MSA-002	

Oral Session III-C Room C	Topic	Laser and Optical Measurement	
	Chairman	<i>Professor Yuki Shimizu, Tohoku University, Japan</i>	
	Oral ID	Presentation	Abs. ID
	IIC-1	<i>Fractal Analysis of Motor Imagery Recognition in the BCI Research (invited talk)</i> <u>Prof. Hanpang Huang</u> , National Taiwan University	
	IIC-2	<i>Study on the Properties of the Normalized reflectivity of Fiber Bragg Grating Based on Evanescent Wave</i> <u>Ming-fu Zhao</u> , Xue-mei Cao, Bin-bin Luo, Jian-gan Hu, Jie-hui Liu Chongqing University of technology, Chongqing, China	C-OSO-017
	IIC-3	<i>Dynamic force calibration by laser interferometer</i> <u>Meng Feng</u> , Zhang Zhi min, Zhang Yue, Zhangwei, National institute of metrology	C-MOI-002
IIC-4	<i>Intensity error correction for 3D shape measurement based on phase-shifting method</i> <u>Tien-Tung Chung</u> , Meng-Hung Shih, National Taiwan University	T-PTU-002	

Oral Sessions IV, Aug. 9, 14:00-15:35

Oral Session IV-A Room A	Topic	NDT and instrumentation II	
	Chairman	<i>Prof. Lianxiang Yang, Oakland University, USA</i>	
	Oral ID	Presentation	Abs. ID
	IVA-1	<i>Pulsed eddy current systems for defect and geometrical profile measurement (invited talk)</i> <u>Gui Yun Tian</u> , Yunze He, Anthony Simm, University of Newcastle, Merz Court, UK,	
	IVA-2	<i>Review of the state of the art of whole field optical measurement techniques for strain analysis (invited talk)</i> <u>Dr. Thorsten Siebert</u> , Dantec Dynamics GmbH, Germany	
	IVA-3	<i>Displacement Measurements of Highway Bridges Using Digital Image Correlation Methods</i> <u>Chih-Hung Chiang</u> , Ming-Hsiang Shih, Welltin Chen, Chaoyang University of Technology	T-NDT-002
IVA-4	<i>Vibro-acoustic modulation technique for crack detection in pipeline</i> <u>Jiao Jingpin</u> , Zheng Lei, Song Gruorong, He Cunfu, Wu Bin, Beijing University of Technology	C-NDT-001	
Oral Session IV-B Room B	Topic	Semiconductor and Optoelectronic Process Inspection Technology I	
	Chairman	<i>Prof. Ming Chang, Chung Yuan Christian University, Taiwan, China</i>	
	Oral ID	Presentation	Abs. ID
	IVB-1	<i>Estimation of the convergence order of rigorous coupled-wave analysis for OCD metrology</i> Yuan MA, <u>Shiyuan LIU</u> , Xiuguo CHEN, and Chuanwei ZHANG, Huazhong University of Science and Technology, Wuhan, China	SP-03
	IVB-2	<i>Optical Visualization of Acoustic Wave Propagating along the Wedge Tip</i> <u>Che-Hua Yang</u> , I-Hung Liu, National Taipei University of Technology, Taiwan	SP-05

	IVB-3	<i>Algorithm of White-Light Interferometry for Reconstruction of Profile</i> Cheng-Yu Pai, <u>Jiunn-Woei Liaw</u> , Ming Chang Chang Gung University, Taiwan	SP-06
	IVB-4	<i>Design and characterization of a chip defect inspection system during bonding process based on linear CCD imager</i> <u>Ming-Fu Chen</u> , Po-Hsuan Huang, Chun-Chao Chang, Ting-Ming Huang, Ming Chang Instrument Technology Research Center, National Applied Research Lab., Taiwan	SP-13
Oral Session IV-C Room C	Topic	Sensors and Measurement	
	Chairman	<i>Prof. Hanpang Huang, National Taiwan University</i>	
	Oral ID	Presentation	Abs. ID
	IVC-1	<i>Future of phased array radar systems (invited talk)</i> <u>Prof. Ahmed Bassyouni</u>	F-MVI-001
	IVC-2	<i>An overview of precision measurement technology inhead-disk interface in hard disk drives (invited talk)</i> <u>Yuki SHIMIZU</u> , Tohoku University, JAPAN	
	IVC-3	<i>Development and assessment of a fiber-optic liquid level sensor with long-period fiber grating and Shewhart control charts</i> <u>Jian-Neng Wang</u> , Jaw-Luen Tang, Wei-Te Wu, Der-Cheng Chen Chien-Hsing Chen, Jial-Yan Syu, and Ching-Ying Luo, National Yunlin University of Science and Technology	T-OSO-004
	IVC-4	<i>Measurement and Deposition of Nanometer-scale Cu dot Using an Atomic Force Microscope with a Nanopipette Probe in Liquid Condition</i> <u>So Ito</u> , Koji Yamazaki, Futoshi Iwata, Shizuoka University, Japan	F-MCM-001
	IVC-5	<i>Localization / Mapping and Independent Motion Control System for a Mobile Robot</i> Jr-Syu Yang, Chan-Yun Yang, Chiun-Shiang Su, Tamkang University	T-QET-005

Oral Sessions V, Aug. 9, 15:55-16:55

Oral Session V-A Room A	Topic	Optoelectronic System and Instruments	
	Chairman	<i>Prof. Seung-Woo Kim, KAIST, Korea</i>	
	Oral ID	Presentation	Abs. ID
	VA-1	<i>Investigation of the thermally structural denaturation of bovine serum albumin by a home-made optical heterodyne polarimeter</i> <u>Chien-ming Wu</u> , National TsingHua University	T-OSO-010
	VA-2	<i>Optimization of parameters of photonic nanojet generated by dielectric microsphere for “laser nanojet” SNOM</i> <u>Jing Jing Wang</u> , David McCloskey, John F. Donegan, Trinity College Dublin, Ireland	F-PTU-003
VA-3	<i>The investigation of mold life for glass thermal imprint</i> <u>L. K. Chen</u> , Y. M. Hung, C. K. Sung, National Tsing Hua University	T-MCM-002	
VA-4	<i>Wedge Angle Measurement of Transparent Objects by Adopting the Transmitted Differential Interference Contrast Technique</i> <u>Sheng-Kang Yu</u> , Wei-Lun Chen, Ting-Kun Liu, Shih-Chieh Lin, National Tsing Hua University, Taiwan	T-OSO-008	

Oral Session V-B Room B	Topic	Semiconductor and Optoelectronic Process Inspection Technology II	
	Chairman	<i>Prof. Heui Jae Park, Seoul National University, Korea</i>	
	Oral ID	Presentation	Abs. ID
	VB-1	<i>In-line Monitoring of Thermal Deformation and Surface Topography of Flip Chip Substrates (invited)</i> <u>Ming Chang</u> , Wei-En Tsai, Jun-Yi Lin, Kai-Yong Jiang Chung Yuan Christian University, Chung-Li, Taiwan	SP-09
	VB-2	<i>ESPI Solution for Defect Detection in Crystalline Photovoltaic Cells</i> <u>Ching-Chung Yin</u> , Tzu-Kuei Wen National Chiao Tung University Hsinchu, Taiwan	SP-10
VB-3	<i>Imaging Spectrograph for Fast LED Optical Properties Measurement</i> <u>Kai-Ping Chuang</u> , Fu-Cheng Yang, Yu-Shan Chang, etc. Industrial Technology Research Institute, Center for Measurement Standards CMS/ITRI, Taiwan	SP-11	
VB-4	<i>An Embedded Image Processing and Feedback Compensation for the Vibration-Resistance System Using White Light Interferometer</i> Stephen P. Tseng, Liang-Chia Chen, Calvin Ho, etc. National Taipei University of Technology, Taiwan	SP-12	

Poster Session: 8th Aug. 14:00-15:00

Poster ID	Poster	Abs. ID
	<i>Design of the system of three-point target automatic orientation</i> Tan Li-gang, Dai Ming, Liu Jing-hong, Song Yue-ming, Changchun Institute of Optics, Chinese Academy of Sciences	C-MTM-002
	<i>The measurements of water flow rate in the straight microchannels based on the scanning micro-PIV technique</i> Han We, Haoli Wang Institute of Fluid Measurement and Simulation, China Jiliang University, Hangzhou, Zhejiang, China	C-MTM-003
	<i>A Novel Linear Displacement Sensor</i> Yang Ji-sen, Chen Xi-hou, Zheng Fang-yan, Zhang Tian-heng, Chongqing University of Technology	C-MTM-005
	<i>Compatibility Design for Time Grating Interface based on Forecasting Method</i> Fangyan Zheng, Ziran Chen, Xihou Chen, Chun Dong Engineering Research Center of Mechanical Testing Technology and Equipment (Ministry of Education), Chongqing University of Technology, 69 Hongguang Road, Ba Nan District, Chongqing, China	C-MTM-006
	<i>Measuring technology for runout of high-precision master gear</i> Ma Yong, Jin Jingli, Li Kehong, Wang Liding Key Laboratory for Micro/Nano Technology and System of Liaoning Province, DaLian, China	C-MTM-011
	<i>Research on Dynamic Error Correction Method for NC Rotary Table based on Time Grating Sensor</i> Ziran Chen, Donglin Peng, Yong Zheng, Fangyan Zheng, Zhonghua Gao, Hefei University of Technology	C-MTM-016
	<i>The application of micro-stepping for step-motor in the automatic blood viscosity measurement</i> Qu wen, Zhu lianqing, Dong mingli, Na yunxiao, Guo yangkuan School of Photoelectric Information & Communication Engineering, Beijing Information Science & Technology University, Beijing, China	C-MTM-017
	<i>Absolute distance measurement applying spectrally-resolved interferometry</i> ZHOU Wei-hu, XU Yan, DING Lei, Academy of Opto-electronics, Chinese Academy of Sciences	C-MTM-019
	<i>Displacement measurement based on the Moiré Stripe</i> Li Xiaoying, Beijing Information Science & Technology University	C-MTM-023
	<i>Measurement system of tiny angle based on LED</i> Lang Xiaoping, Lv Yong, Liu Lishuang, Niu Yue School of Photoelectric Information & Communication Engineering, Beijing Information Science & Technology University, Beijing, China	C-MTM-024
	<i>A Contact-Flatted Measurement of Eye Stiffness Based on Force-Displacement Relationship</i> Zhang Jin Ma Jianguo Zhang Xueyong Department of Physics, Huainan Normal University, Huainan, China	C-MTM-025
	<i>The study of double flank micro gear roll testing</i> Yen-Chih Liu, Shu-Han Yang, Sheng-Zhan Yan 1001 Kaonan Highway, Kaohsiung, Taiwan Metal Industries Research & Development Centre (MIRDC), Test Technology Development Section	T-MTM-001

	<p><i>Strain Measurement Aided Assembly for a CFRP Hexapod</i> Ren Guorui, Li Chuang, Wang Wei, Fan Xuewu, Lin Liming, Xi'an Institute of Optics and Precision Mechanics</p>	C-DSM-003
	<p><i>A System for the Measurement of Thermal Deformation of Mechanical Parts</i> LuoZai , Liu Ninxia , Fei Yetai , LuYi School of metrological technology and engineering, China JiLiang University, Hangzhou , China</p>	C-DSM-005
	<p><i>Improved wavelet de-noising method of rail vibration signal for wheel tread detection</i> Zhao Quan-ke, Liu Chen-guang, Gao Xiao-rong, Luo Lin, Southwest Jiaotong University</p>	C-MSA-001
	<p><i>Rapid Measurement of Micro Discharging Gap</i> Zhang Yong-bin, Liu Guang-min, Ji Fang, Zhang Lian-xin, He Jian-guo Institute of Machinery Manufacturing Technology</p>	C-MSA-005
	<p><i>Design and realization of measuring system for pneumatic solenoid valve based on high speed data acquisition</i> Lu Yi, Fan Wei-jun, Luo Zai, Guo Bin College of Metrology & Measurement Engineering, China Jiliang University, Hangzhou, China</p>	C-MSA-007
	<p><i>Singular Spectrum and Singular Entropy Used in Signal Processing of NC Table</i> Wang Linhong , Nanyang Institute of Technology</p>	C-MSA-010
	<p><i>Separation and reconstruction of high pressure water-jet reflective sound signal based on ICA</i> Yang Hongtao, Sun Yuling, Li meng School of Mechanical Engineering of Anhui University Of Science & Technology, Huainan, Anhui, China</p>	C-MSA-012
	<p><i>Study on the dynamic performance of a novel Buck-Boost matrix converter based on double-loop control strategy</i> LI Qing, ZHANG Xiao-ping, CHEN Qi Engineering Research Center of Advanced Mining Equipment, Ministry of Education, Hunan University of Science and Technology, Xiangtan, China</p>	C-MSA-015
	<p><i>Underwater Sediments Echoes Recognition Based on KECCA + PLS</i> LUO Bo-wen, XIA Yi-min, YANG Bo, XIE Ji-dong, Hunan University of Science and Technology</p>	C-MSA-016
	<p><i>Gravity Anomaly Interpolation Based on Genetic Algorithm Improved Back-Propagation Neural Network</i> Zhao Dong-ming, Bao Huan, Wang Qingbin, Gao Zhan Zhengzhou Institute of Surveying and Mapping Zhengzhou, China</p>	C-MSA-023
	<p><i>Calibration of the Constants of High Precision Range-Finder Using Unequal-Weight Separation Method</i> Bao Huan, Zhao Dong-ming, Fu Zi-ao, Zhu Jiang, Gao Zhan Zhengzhou Institute of Surveying and Mapping Zhengzhou, China</p>	C-MSA-024

	<i>The capillary blood rheological measurement system</i> Zhou Mu, ¹ Zhu Lianqing ² , Dong Mingli ² 1.Chongqing jiao tong university 2.Beijing Information Science & Technology University	C-MSA-031
	<i>Analysis of microfluidic flow driven by electrokinetic and pressure forces</i> Chien-Hsin Chen, National Formosa University	T-MSA-002
	<i>A Comparison of Signal Denoising by the Fourier and the Haar Transformations</i> Chang-Hsin Kuo, Jhy-Cherng Tsai, National Chung-Hsing University	T-MSA-003
	<i>A component based software framework for vision measurement</i> Bei Lei, He Lingsong School of mechanical engineering, Huazhong University of Science and Technology, Wuhan, China	C-MVI-001
	<i>Self-calibration Method of Two-dimensional Grid Plate</i> Guoqing Ding, Xin Chen, Lihua Wang and Yuan Li Department of Instrument Science and Engineering, Shanghai Jiao Tong University, 800 Dongchuan, Road, Shanghai, China	C-MVI-003
	<i>An Improved SIFT Descriptor</i> ZHAI You, ZENG Luan, The Academy of Equipment Command & Technology	C-MVI-005
	<i>On-line Detection for LED Module Based on Machine Vision</i> Yang Yongyue, Pang Weiwei Hefei University of Technology, School of Instrument Science and Opto-electronics Engineering, No. 193, Tunxi Road, Anhui, Hefei, China	C-MVI-007
	<i>Semi-automatic Inspecting Instrument for Watch Escape Wheel Based on Machine Vision</i> WANG Zhong, WANG Zhen-wei, ZHANG Jin, CAI Zhen-xing, LIU Xin-bo, Tianjin University	C-MVI-009
	<i>Image feature extraction method of planar target based on Homography</i> Wu Bin, Xiao Xin-tong, Xue Ting Tianjin University, China	C-MVI-010
	<i>Effect of plane height and incident angle of structure laser on measurement of step-style work piece based on computer-vision</i> Yan Bixi, Liu Lishuang, Deng Wenyi, Lü Naiguang, Zong Min School of Photoelectric Information and Telecommunication Engineering Beijing Information Science and Technology University, Beijing, China	C-MVI-013
	<i>Zernike Moments Features for Shape-Based Gait Recognition</i> Huafeng Qin, Lan. Qin, Jun Liu and Chao Jiang College of Opto-Electronic Engineering, Chongqing University, Chongqing, 400030, PR, China	C-MVI-018
	<i>Real-time Specified Object Tracking System under Complex Background</i> Li Xing-Hua, Wang Wei-Chao, Zhang Yan-Jie, Chen Hai-yang, Tianjin University	C-MVI-020
	<i>Underwater Photogrammetric Theoretical Equations and Technique</i> Fan Ya-bing Huang Gui-ping Qin Gui-qin Chen Zheng Institute of Surveying and Mapping, Zhengzhou, China,	C-MVI-024

	<i>A New Model and Improvement on Test Methods of the Readout Noise in the CCD Camera</i> Zuoting Yang, Ping Ruan, Wei Ge, Hong Wang, Hongwei Wang, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences	C-MVI-027
	<i>Autonomous Navigation Vehicle System Based on Robot Vision and Multi-sensor Fusion</i> Wu Lihong, Chen Yingsong, Cui Zhouping Electromechanical Department, Chengdu Electromechanical College, Chengdu, Sichuan	C-MVI-029
	<i>The simulation and experimental analysis of the MFL for cracks inspection in pipelines under mechanics-magnetic coupling</i> Song Xiaochun, Xue Li, Li Donglin, Hubei University of Technology	C-NDT-003
	<i>Non-invasive measurement of micro-area skin impedance in vivo</i> Dachao Li, Wenshuai Liang, Tongkun Liu, Haixia Yu, Kexin Xu State Key Laboratory of Precision Measuring Technology and Instruments, Tianjin University, Tianjin, China	C-NDT-006
	<i>Application of Wavelet Transform in Laser-generated Ultrasonic Nondestructive Testing</i> Xianglin Tan, Mengchun Pan, Shitu Luo, Chengguang Fan, Junzhe Gao, Yunze He Department of Instrument Science and Technology, College of Mechatronics and Automation, National University of Defense Technology, Changsha, Hunan, China	C-NDT-007
	<i>Research on the Pattern Analysis and Evaluation in the Digital Speckle Pattern Interferometry</i> Yonghong Wang, Lianxiang Yang, Chen Fang, Jianfei Sun, Hefei University of Technology	C-NDT-008
	<i>Automatic Railway Wheelset Inspection System by Using Ultrasonic Technique</i> Chaoyong Peng, Xiaorong Gao, Li Wang, Zeyong Wang, Quanke Zhao, Yu Zhang, Jianping Peng, Kai Yang, Southwest Jiaotong University, China	C-NDT-009
	<i>Reconstruction of the hologram generated by spherical wave</i> Yan Yang, Lili Tang, Guangyong Li, Liang Huang, Chongqing University of Technology	C-OSO-004
	<i>A Free-form Total Internal Reflection (TIR) Lens for Illumination</i> Ding Shushu, Yu Guiying, Jin Ji, Guo Tiantai, China Jiliang University	C-OSO-005
	<i>Principle of the Automatic Laser Navigation System of the Tunnel Boring Machine</i> Liu Yake, Li Yueqiang, Beijing Information Science & Technology University	C-OSO-007
	<i>Novel liquid sensor based on LPFG coated with metal films</i> Zhengtian Gu, Yanjun Shi, Jiangtao Zhang Laboratory of Photo-electric Functional Films, College of Science, University of Shanghai for Science and Technology, Shanghai, China	C-OSO-008
	<i>Design of a cryogenic absolute prism refractometer for infrared optical materials</i> NI Lei1, REN Qi-feng, LIAO Sheng Institute of Optics and Electronics, Chinese Academic of Science, Chengdu, China	C-OSO-011

	<p><i>Turbine blade tip clearance measurements using skewed dual optical beams of tip timing</i></p> <p>YE De-chao, DUAN Fa-jie, GUO Hao-tian, WANG Kai State Key Lab of Precision Measuring Technology & Instruments, Tianjin University ,Tianjin, China</p>	C-OSO-014
	<p><i>Suppression Research of arrival angle on free space optical communication</i></p> <p>Cao Yang, Zhao Ming-fu School of Electronic Information & Automation, Chongqing University of Technology, Chongqing ,China</p>	C-OSO-018
	<p><i>Deployment precision measurement of a deployable space telescope based on tape springs</i></p> <p>Feng Xuegui, Li Chuang, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences</p>	C-OSO-019
	<p><i>Rigorous electromagnetic analysis of metallic cylindrical focusing micromirrors designed by a modified focal-length function</i></p> <p>Guo-Ai Mei, Jia-Sheng Ye, and Yan Zhang Department of Physics, Capital Normal University, Beijing 100048, P. R. China</p>	C-OSO-022
	<p><i>The design and comparison of transmission turbidity detection and scattering turbidimetry detection</i></p> <p>Hedong , zhulianqing , Guo yangkuan, Na yunxiao, Dong mingli School of Photoelectronic Information & Communication Engineering, Beijing Information Science & Technology University, Beijing, China</p>	C-OSO-023
	<p><i>INFLUENCE OF THE CONCENTRATION MEASUREMENT OF CARBON MONOXIDE WITH TEMPERATURE</i> GUO</p> <p>Guo Jian-qiang , GAO Xiao-rong, WANG Li, WANG Ze-yong Optical Engineering Research Institute, Southwest Jiaotong University, Chengdu, Sichuan,China</p>	C-OSO-024
	<p><i>Investigation of active bromide's spectra by high resolution UV-laser</i></p> <p>Jin zhang Department of Physics, Huainan Normal University, Huainan, China</p>	C-OSO-026
	<p><i>A 3D Numerical Study of Pinhole Diffraction in visible-light Point Diffraction Interferometry</i></p> <p>Jiajun Xu, Tingwen Xing, Fuchao Xu Lab of applied optics, Institute of Optics and Electronics, Chinese Academy of Sciences, Chengdu, China</p>	C-OSO-027
	<p><i>A Refraction Doppler Measurement Method</i></p> <p>Tingyu Wang, Jingbin Hu, Jiabi Chen,Songlin Zhuang, Jiangsu Maritime Institute</p>	C-OSO-032
	<p><i>Applying Kalman Filter on Optical Measurement of Atmospheric Compositions</i></p> <p>Wenjun Li Bio-Incubator, Bessemer Building, Imperial College London,Prince Consort Road, South Kensington, London, UK, SW7 2BP</p>	F-OSO-003
	<p><i>Evaluation Method for One-dimensional Assembly Yield Based on Taguchi Orthogonal Experiment</i></p> <p>Z. J. Wen, Z. Q. Zhu, Z. J. Zhou Hunan University of Science and Technology, Xiangtan,China</p>	C-OTH-001

	<p><i>Design and Implementation of Early Warning System in Vehicle for Road Speed Control Hump Based on DSP and CCD</i> YANG Shuyi, ZHU Pingyu, HE Yanfang, WANG Le School of Mechanical & Electrical Engineering, HuNan University of Science and Technology, Xiangtan, China</p>	C-OTH-002
	<p><i>Air compressor Multi-pattern smart monitor</i> Qin Yejun, Zhao Qiancheng, Dai Juchuan, Huang Geng Key Laboratory of Health Maintenance for Mechanical Equipment, Engineering Research Center of Advanced Mining Equipment, Ministry of Education, Hunan University of Science and Technology, Xiangtan, Hunan, China</p>	C-OTH-004
	<p><i>Design full closed loop NC system of linear cutting machine for high accuracy internal gear machining</i> Zheng Yong, Peng Donglin, Chen Ziran, Zheng Fangyan, Chen Xihou, Chongqing University of Technology</p>	C-PIP-001
	<p><i>Research on a Novel Method of Real-time Detection and Dynamic Calibration for Angular Displacement Sensor</i> Zhonghua Gao, Donglin Peng, Xihou Chen, Ziran Chen, Chongqing University of Technology</p>	C-PIP-002
	<p><i>PZT local linearity and image sampling strategy for white-light vertical scanning measurement</i> J. Li, X. Liu School of Mechanical Science and Engineering, Huazhong University of Science and Technology, Wuhan, China</p>	C-PIP-004
	<p><i>Repeatability test of In-line Gear Measuring Machine</i> Tang Jie, Shi Zhao-yao College of Mech. Eng. and Applied Electronics Tech., Beijing Univ. of Tech., No.100 Ping Le Yuan Chaoyang District, Beijing, China</p>	C-PIP-007
	<p><i>Uncertainty evaluation of the minimum zone flatness error based on new generation geometrical product specification</i> Xiu-lan Wen, Feng-lin Wang, Xiao-chun Zhu, Dong-xia Wang, Wei-feng Cao Automation Department, Nanjing Institute of Technology, Nanjing, China</p>	C-PTU-002
	<p><i>Nonlinearity Error Correction of Constant Voltage Power Supply</i> Y.B Zhang, F Ji, G.M Liu, Z.Q Wu, J.G He Institute of Machinery Manufacturing Technology, CAEP, Mianyang, China</p>	C-PTU-003
	<p><i>The Research on Error Characteristics and Error Spatial Distribution of Articulated Arm Coordinate Measuring Machine</i> Lin Shenwang, Yang Ruichang, Chen Chaoguang, Taiwan Far East University</p>	C-PTU-005
	<p><i>Measurement Error Analysis of Taxi Meter</i> Hong He, Dan Li, Hang Li, Da-Jian Zhang, Ming-Feng Hou, Shi-pu Zhang Tianjin Key Laboratory for Control Theory and Application in Complicated Systems, Tianjin University of Technology, China</p>	C-PTU-007
	<p><i>Weight Function Theory of Dynamic Accuracy Loss</i> JIANG Minlan, WANG Xiaodong Zhejiang Normal Univ., Jinhua, China</p>	C-PTU-008

	<i>The machining precision analysis of the ion beam figuring system</i> Yun Li., Tingwen Xing, Xin Jia, Jiajun Xu, Institute of Optics and Electronics, Chinese Academy of Sciences	C-PTU-010
	<i>The Modeling of Hemispherical Resonator Gyro and Its Space Applications</i> Wang Xu, Wu Wenqi, Luo Bing, Li Yun Department of Automatic Control, College of Mechatronics and Automation, National University of Defense Technology, Changsha, Hunan, China	C-PTU-011
	<i>Vibration Errors in Phase-shifting Interferometer with Absolute Testing</i> Jia Xin, Xing Tingwen, Wei haoming, Institute of Optics and Electronics, Chinese Academy of Sciences	C-PTU-012
	<i>Nonlinear analysis and dynamic compensation of stylus scanning measurement with wide range</i> Hui Heiyang, Xiaojun Liu, Huazhong University of Science and Technology	C-PTU-016
	<i>Error compensation for universal tool microscope's scale linear error</i> Xiaofei Wang, Zurong Qiu, Jiaying Guo, Zhengyu Qian Tianjing University, Tianjing, China	C-PTU-017
	<i>A new measuring method for motion accuracy of 3-axis NC equipments based on composite trajectory of circle and non-circle</i> YANG Fan DU Zhengchun* YANG Jianguo HONG Maisheng School of Mechanical Engineering, Shanghai Jiaotong University, Shanghai, China	C-PTU-019
	<i>Research on automatic defect localization for ultrasonic phased arrays detection on railway wheel</i> WANG Zhen, GAO Xiao-rong, PENG Jian-ping, Photoelectric Engineering Institute and Nondestructive Testing Research Center	C-NDT-010
	<i>Suppression of Radiated Emission in Fiscal Taxi Meter</i> Hong He, Xing Sua, Hang Li, Da-jian Zhang, Ming-feng Hou, Wei Li Tianjin Key Laboratory for Control Theory and Application in Complicated Systems, Tianjin University of Technology, China	C-QET-001
	<i>The Electromagnetic Inhibition of High Frequency Thermal Bonding Machine</i> Hong He, Qing-qing Zhang, Hang Li, Da-jian Zhang, Ming-feng Hou, Xian-wei Zhu Tianjin Key Laboratory for Control Theory and Application in Complicated Systems, Tianjin University of Technology, China	C-QET-006
	<i>Use Evolutionary Strategies to Design the Structure of Network-on-Chip</i> Pan Zhongliang, Chen Ling, Zhang Guangzhao, South China Normal University	C-QET-008
	<i>Hardware-Software Partitioning for the Design of System on Chip by Neural Network Optimization Method</i> Pan Zhongliang, Chen Ling, Zhang Guangzhao School of Physics and Telecommunications Engineering, South China Normal University, Guangzhou, China	C-QET-010
	<i>Design of life testboard of manual slack adjuster</i> Qiu Guofeng, Luo Zai, Lin Min, Guo Bin, China Jiliang University	C-QET-011

	<i>Frictional properties of greases with the addition of nickel nanoparticles in pneumatic cylinder</i> Ho Chang, Chou-Wei Lan, Jia-Bin Guo, National Taipei University of Technology	T-QET-001
	<i>The dynamic characteristic analysis of the constrained beams</i> Yunn-Lin Hwang, Wei-Hsin Gau, National Formosa University, Huafan University	T-QET-004
	<i>Measurement and Investigation into Air Source Heat Pump Exergy</i> Ching-Song Jwoa, Ching-Wei Hsua, Meng-Ying Tsaia, Yong-Chiang Changa, Chung-Gang Lina, National Taipei University of Technology	T-QET-006
	<i>A controlled-force laser interference profilometer</i> YANG Bo, CHANG Su-ping, PAN Wen School of Mech. Sci. & Eng., Huazhong Univ. of Sci. & Tech., China	C-SMC-012
	<i>Measurement and Research on the Appearance of Tongue Board is Based on Modification in Order to Discuss the Centrifugal Fan Air Performance</i> Ching-Song Jwo, Tseng-Tang Cheng, Hung-Pin Cho, Wei-Tang Chiang, Sih-Li Chen, Chien-Wei Chen, Ling-You Jian Taipei University of Technology	T-SMC-004
	<i>A novel nano displacement magnetostrictive actuator with self-sensing function</i> Zhongming Pan, Guoqing Zhang, National University of Defense Technology	C-MCM-001
	<i>A 3D Nano Driving System with large-stroke</i> WANG Shuzhen, XIE Tiebang, Luoyang Institute of Science and Technology	C-MCM-004
	<i>Micro-displacement Measurement with high accuracy for Micro-motion Stage</i> Qinghua Lu, Xianmin Zhang, Yanbin Fan, Foshan University	C-MCM-006
	<i>Development and Calibration of a Compact Self-sensing Atomic Force Microscope Head for Micro-Nano Characterization</i> GUO Tong, WANG Siming, ZHAO Jian, CHEN Jinping, XING Fu, HU Xiao-tang, Tianjin University, Tianjin, China	C-MCM-010
	<i>Piezoelectronic inchworm-type probe approaching stepper</i> Xiao Wenlan, Fu Xing, Xu Linyan, Tianjin University	C-MCM-011
	<i>Development of a 3D touch trigger probe using micro spherical stylus machining by micro-EDM for micro-CMM</i> Chih-Liang Chu, Yi-Lin Chen, Tzu-Yao Tai, Yun-Hui Liu, Cheng-Hsin Chuang, Chin-Tu Lu, Southern Taiwan University	T-MCM-001
	<i>Design of 3-D translational motion measurement system based on twin area array CCDs</i> Wang Kai Lv Yong, Yi Qingrui Beijing Information Science & Technology University, Beijing, China	C-MOI-004
	<i>Development of a precision XYθ alignment stage with a multi-axes optical measurement system</i> Chorng-Tyan Lin, Chih-chin Wen, Hau-Wei Lee, Chien-Hung Liu, Wen-Hsiang Hsieh Metal Industries Research and Development Centre, Kaohsiung, Taiwan	T-MOI-002
	<i>High-numerical-aperture focused field measurement system based on a confocal microscopy</i> Zhejiang Zhou, Qiaofeng Tan, Beijing Information Science and Technology University	C-OSR-001

LSXP T

连胜新平台

结构稳固

选材重优

注重高精

美观靓丽

BILZ主动隔振系统



ZDT型平台



VLT-B型平台



POT型平台



激光拉曼光谱仪



平移台旋转台组合件



江西连胜实验装备有限公司成立于2000年，至今已有了十年的发展历程。由成立初期的单一产品隔振光学平台，到现在拥有主动隔振平台、电动位移台、光具座、光电仪器应用系统六大系列产品。产品广泛应用于国内外光电企业、科研院所及国内各高校国家重点实验。

公司主导产品分为四大系列

- 一、精密隔振平台系列
- 二、位移台系列
- 三、光具座系列
- 四、光学仪器

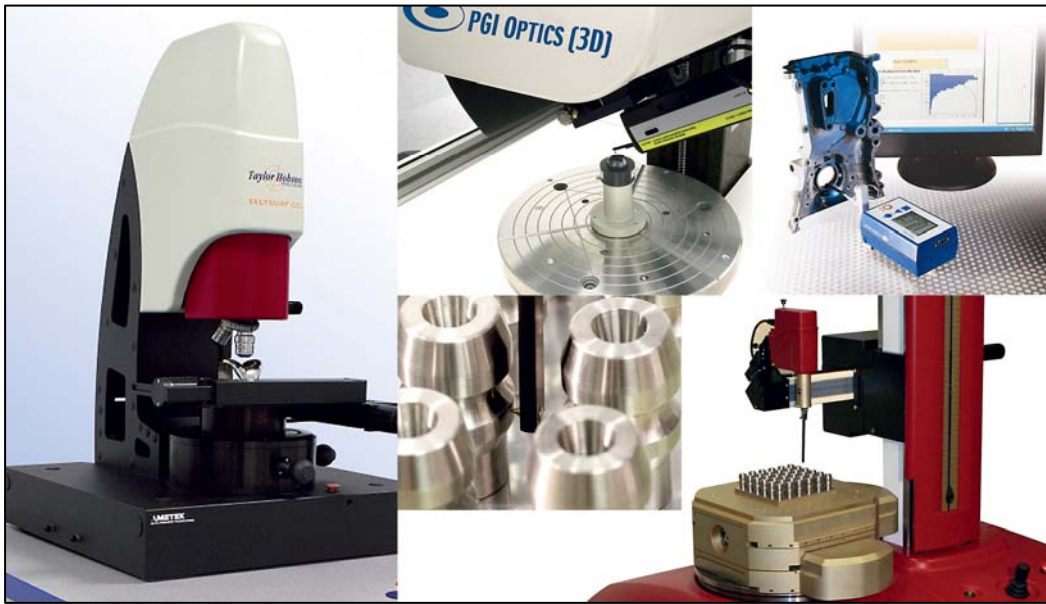
在线订购平台享有最优折扣 购买网址：<http://qhlszb.cn.alibaba.com> 编辑信息名址“光学平台”发送至12114，接收免费



江西连胜实验装备有限公司
EXPERIMENT TECHNIC ASSEMBLY CO., LTD

地址：江西省弋阳县连胜工业园
邮编：334409
电话：0793-5872077/79/80
传真：0793-5872078
网址：www.jxlszb.com
E-mail：qhlszb@vip.163.com

英国泰勒霍普森有限公司



泰勒霍普森有限公司隶属于美国阿美特克集团，是不断创新的精密计量领域的世界领导者，她发明了世界上第一台圆度仪和粗糙度仪，并且不断地致力于技术进步和产品创新。公司成立一百多年来，以向用户提供创新技术地高质产品和完善周到的服务为公司宗旨，赢得了用户的信赖和认可。

产品范围：

(1) 表面粗糙度和轮廓测量：

a) Surtronic 系列：便携式的表面粗糙度测量，包括 Duo 和 3+两种型号

b) Form Talysurf Intra：用于车间现场的表面粗糙度、波纹度和轮廓测量

c) Form Talysurf 系列：高精度的表面粗糙度轮廓测量仪（使用于精密机械加工，光学非球面面型和粗糙度测量，汽车零部件，电子仪表，量值传递，教学科研等行业）

d) Talysurf CCI Lite/HD：极高分辨率(0.1 埃)的非接触三维粗糙度和面型测量

(2) 圆度/圆柱度测量：

a) Talyrond 130 及系列：简单的圆度测量，包括 Talyrond 130 和 131 两种型号

b) Talyrond 365/385/395 系列：高精度圆柱度等形状公差测量仪

c) Talyrond 450：大型圆柱度测量仪（适用于汽车发动机，液压件，缝纫机等行业）

d) Talymaster：多功能全自动圆柱度测量仪（适用于电喷行业及压缩机批量测量）

e) Talyrond 440XL：大型长轴形状测量（适用于长轴类重载零件测量）

(3) 光电测量：

a) 光电自准直仪：角度、直线度、平面度、垂直度和平行度的测量

b) 微测望远镜：解决光学零件装校中的问题及船舶等长距离的瞄准测量

c) 电子水平仪/测斜仪：快速、准确和多样性

联系方式：

销售经理：蔡利浩

手机：13301726281/13916206271

邮箱：13301726281@133sh.com 或 li.hao.cai@ametec.com.cn

泰勒霍普森有限公司