

The 16th International Symposium on Measurement Technology and Intelligent Instruments The 3rd International Conference of Optical Imaging and Measurement (ISMTH & ICOIM 2025)				
NO.	Paper ID	Title	Author	Institution
01. Micro and Nano Metrology				
P1-01	10229	Error compensation for non-cooperative phase-shift laser ranging	Jinxuan Wu	Key Lab of Ultra-Precision Intelligent Instrumentation, China
P1-02	10207	Microstructure parameter measurement method based on unet network	Li Wang	Harbin Institute of Technology, China
P1-03	10157	A miniature optical probe for measuring high aspect ratio structures based on spectral dispersion interference	Yuming Chen	Harbin Institute of Technology, China
P1-04	10155	Thin film interferometry method for large wafer surface morphology	Ruifang Ye	Huaqiao University, China
P1-05	10154	Detection of electrospinning jet assisted by coaxial laser	Ruifang Ye	Huaqiao University, China
P1-06	10098	Design and optimization of two-dimensional overlay targets	Jiahao Lu	Nanjing University Of Aeronautics And Astronautics, China
P1-07	10086	A comprehensive physical model for reflection second-harmonic spectroscopy in high-dose ion implantation	Haomai Zhao	Huazhong University of Science and Technology, China
P1-08	10085	Deep learning-based characterization of ion implantation parameters for photo modulated optical reflectance	Xuesong Wang	Huazhong University of Science and Technology, China
P1-09	10074	Accelerated ellipsometry for nanostructure metrology using adaptive meta-modeling based online optimization	Yihang Xu	Nanjing University of Aeronautics and Astronautics, China
02. Quantum Sensing and Instruments				
P2-01	20140	Highly accurate measurement of multi-microwave signal frequency based on diamond NV centers	Bo Wang	North University of China, China
P2-02	20077	Measurements of non-hermitian dressing quantization in atom-like systems	Muhammad Imran	Shenzhen University, China
03. Metrology and Instruments for Integrated Circuits				
P3-01	30176	Calibration of angle-resolved polarization scatterometer for IC metrology	Wei Wang	Huazhong University of Science and Technology, China
P3-02	30168	Model-based coherence scanning interferometry for thin film metrology	Cheng Chen	Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
P3-03	30119	Fast small angle X-ray scattering modeling for high aspect ratio nanostructures	Dingxuan Deng	Huazhong University of Science and Technology, China
P3-04	30113	Research on calibration equation of NTC thermistor thermometer in ocean temperature range	Jiahao Li	China University of Petroleum-Beijing, China
P3-05	30101	Influence of diffraction on measuring depth of periodic high-aspect-ratio microstructures	Xiaofan Li	Institute of Microelectronics of the Chinese Academy of Sciences, China
P3-06	30072	Multiplexing coherent diffraction imaging based on multi-vortex beams	Yingming Xu	Zhejiang Lab, China
P3-07	30049	Low-resource consumption laser heterodyne interferometry signal processing method and embedded implementation	Yao Wang	Beijing Jiaotong University, China
P3-08	30022	Development of laboratory-scale X-ray critical dimension metrology	Jiahao Zhang	Huazhong University of Science and Technology, China
04. In-process and Inline Metrology				
P4-01	40241	Research on the influencing factors of rotating accuracy measurement for nanometer-level aerostatic spindle	Yunda Teng	Shanghai Jiaotong University, China
P4-02	40107	Laser acoustic based defect inspection for through-silicon vias	Jiale Chen	Huazhong University of Science and Technology, China

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05. Optical Metrology and Inspection				
P5-01	50174	Noise compensation algorithm assisted high-precision dual-comb ranging system	Yuetang Yang	Tsinghua University, China
P5-02	50199	Tracking-based 3D surface profile measurement technology using crossed multi-line lasers	Rui Qiao	Harbin Institute of Technology, China
P5-03	50166	Simultaneous six-degree-of-freedom measurement using low-coherence spatial interferograms	Runkun Zhao	Tsinghua University, China
P5-04	50120	Silicon photothermal for wafer defect inspection	Jinsong Zhang	Huazhong University of Science and Technology, China
P5-05	50129	Evaluation of absolute pitch of a diffraction grating using femtosecond laser autocollimation units	Mingyu Lee	Hokkaido University, Japan
P5-06	50116	Fast characterization of multilayer thin films powered by parallel operations	Shuo Liu	Huazhong University of Science and Technology, China
P5-07	50015	High-precision measurement of absolute grating pitch using laser autocollimation and diffraction	Hangyu Zhuo	Hokkaido University, Japan
P5-08	50059	Research on the measurement of wheel geometric parameters based on machine vision under uneven reflectivity condition	Saisai Liu	Beijing Jiaotong University, China
P5-09	50043	Improved slanted-edge method for high-precision MTF measurement	Rongjing Tong	Nanjing University of Science and Technology, China
P5-10	50020	Frequency-comb-referenced multiwavelength interferometry for high-precision and high-speed 3D measurement in semiconductor packaging	Jun Hyung Park	Korea Advanced Institute of Science and Technology, Korea
06. Surface Metrology				
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P6-02	60204	Spatially polarization modulated snapshot fourier plane ellipsometry via conoscopic interference for thin-film metrology	Lihua Peng	Huazhong University of Science and Technology, China
P6-03	60196	Single-shot simultaneous measurement of thin-film surface and thickness profiles via hybrid reflectance-interferometric spectroscopy	Fengyao Liu	Huazhong University of Science and Technology, China
P6-04	60170	In-situ calibration for fourier plane ellipsometry based on alternating optimization	Qi Xu	Huazhong University of Science and Technology, China
07. Material Characterization				
P7-01	70239	Doping engineering study of znxmg1-xO via first principles and ellipsometry	Jun Yao	Huazhong University of Science and Technology, China
P7-02	70231	Temperature-dependent optical properties of the transition metal dichalcogenide HfS2	Qihang Zhang	Huazhong University of Science and Technology, China
08. Machine Learning and Signal Processing				
P8-01	80102	Low-velocity impact localization on laminated composite structures using WT-CeiT	Siyuan Zhang	China Jiliang University, China
P8-02	80244	A two-stage sensor error calibration method based on conditional generative adversarial networks (CGAN)	Honging Zhu	Chongqing University of Technology, China
P8-03	80224	Spiking neural network for online detection of large aperture optical component damage based on illumination modulation	Gaojie He	Harbin Institute of Technology, China
P8-04	80191	Denoising computational diffractive imaging via wavelet-enhanced noise-to-noise framework	Yadong Wang	Hefei University of Technology, China

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P8-05	80216	Physics-informed U-Net: High-precision denoising for spectral interferograms in measurement applications	Yichang Zhou	University of Huddersfield, The United Kingdom
P8-06	80195	Real-time slag-glass detection algorithm based on EI-YOLO11s	Liutong Yang	Harbin Institute of Technology, China
P8-07	80190	YOLOv8-DAM: Pavement disease study based on improved YOLOv8	Qiqi Zhou	Hubei University of Automotive Technology, China
P8-08	80187	Fourier modal analysis for EUV 3D mask diffraction effects	Kaixuan Su	Huazhong University of Science and Technology, China
P8-09	80180	Deep unfolding warping network for image rectangling	Linwei Qiu	Beihang University, China
P8-10	80159	Multi layer perceptron integrated network driven automotive door impact load reconstruction method	Siqi Feng	China Jiliang University, China
P8-11	80126	Circular spots separation based deflectometry measurement of transparent components	Peide Yang	Jianghuai Advance Technology Center, China
P8-12	80115	Neural network-based denoising method for small-angle X-ray scattering measurement data	Haishuo Zhong	Huazhong University of Science and Technology, China
P8-13	80110	Robust measurement of objects in 3-D motion with pixel-wise motion compensated phase-shifting profilometry	Pengkai Dou	Henan University of Technology, China
P8-14	80067	Rethinking multi-scale feature learning for lightweight super-resolution	Chao Zhang	Hefei University of Technology, China
09. Intelligent Instrument for Automation				
P9-01	90172	Vibration compensation for 3D deformation reconstruction of gaps by combining kalman filtering with coded mark	Yajing Bai	Hebei University of Technology, China
P9-02	90202	Sensitivity analysis of optical scatterometry for nanoscale gratings: RCWA modeling and global sensitivity evaluation	Shuai Qiu	Xi'an Jiaotong University, China
P9-03	90189	Optical interferometric phase imaging method for defect inspection of patterned wafers	Boyu Zhan	Xi'an Jiaotong University, China
P9-04	90182	In-motion 3-D shape measurement with cross-scale constraint construction based on 1-D and 2-D joint imaging	Luyao Ma	Tianjin University, China
P9-05	90177	A multi-channel femtosecond laser absolute ranging system based on spherical constraints	Qiong Niu	Tianjin University, China
P9-06	90153	Deep learning-based fringe projection profilometry with virtual-real integration	Shuai Fu	Hebei University of Technology, China
P9-07	90152	A novel calibration framework for relationship between multibeam LiDAR and external rotating axis	Shiqiang Wang	Hebei University of Technology, China
P9-08	90091	Non-singular fast-terminal sliding-mode control system based on improved reaching law	Zixu Zhu	Hefei University of Technology, China
10.Sensors and Actuators				
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P10-02	100212	A spherical space multi-dimensional rotation angular displacement sensor	Jilin Zhou	Chongqing University of Technology, China
P10-03	100223	Virtual measurement of wind farm sensors based on hybrid drive	Anfeng Zhu	Hunan University of Science and Technology, China
P10-04	100133	Research on the surge of secondary voltage harmonics in three-phase three-element combined transformer based on excitation curve	Gang Liu	State Grid Sichuan Electric Power Company Metering Center, China

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P10-05	100131	Multi-degree-of-freedom active vibration isolation method based on composite feedforward and feedback control strategy	Lei Jia	Harbin Institute of Technology, China
P10-06	100104	High sensitivity detection of guided-mode resonance sensor based on interference fringe shifting	Wen-Kai Kuo	National Formosa University, Taipei, China
P10-07	100035	The equivalent circuit modeling and optimization of square PMUTs arrays for improved transmission and reception performance	Zixuan Li	State Key Laboratory for Manufacturing Systems Engineering, International Joint Laboratory for Micro/Nano Manufacturing and Measurement Technologies, China
11. Uncertainty, Traceability and Calibration				
P11-01	110217	Research on the application of temperature dependence of microcantilever beam resonance characteristics in trace liquid concentration calibration	Zeke Huang	University of Shanghai for Science and Technology, China
P11-02	110179	Measurement of nano-film adhesion by traceable scratch method	Qiang Li	Changcheng Institute of Metrology & Measurement, China
P11-03	110167	Edge detection algorithm for grating images in scanning electron microscopy and its application in uniformity evaluation	Shuobin Qi	National Institute of Metrology, China
P11-04	110158	Research on across-scale precision manufacturing of wafer-level reference materials based on electron beam lithography	Yuying Xie	Tongji University, China
P11-05	110150	Metrological comparison and uncertainty analysis of first-class standard platinum-rhodium 30-platinum-rhodium 6 thermocouples	Yuting Zhang	Hubei Provincial Institute of Metrology and Testing Technology, China
P11-06	110112	Metrological research and analysis of oxygen transmission rate testers	Jiyan Zhang	National Institute of Metrology, China
P11-07	110108	Pixel-precision two-flat absolute testing using iterative method for fizeau interferometer	Guoqing Sheng	Shanghai Jiaotong University, China
P11-08	110046	Development of a compact differential angle sensor for on-machine calibration of linear encoders	Jiucheng Wu	Tohoku University, Japan
P11-09	110057	Fast self-calibration of linear displacement sensors	Zhiyang Zhang	Tohoku University, Japan
P11-10	110040	A deep learning method for modeling and uncertainty evaluation of nonlinear dynamic systems	Yinye Ding	Hefei University of Technology, China
12. Optical Imaging				
P12-01	120175	Generalized quantitative evaluation in broadband diffractive imaging evolution	Chuangchuang Chen	Hefei University of Technology, China
P12-02	120186	Research on video super resolution reconstruction method based on sparse array	Mingchao Fang	Beihang University, China
P12-03	120076	Image reconstruction with embedded side window and guided filtering for fourier ptychographic microscopy	Zewei Li	Shenzhen University, China
13. Optical Technology, Application and Precision Measurement				
P13-01	130227	Research on dynamic transmission error measurement of heavy-duty gearbox based on optical measurement method	Gou Li	Chongqing Innovation Center of industrial Big-Data Co.Ltd, China
P13-02	130225	Research on 0.1 mHz~1 Hz ultra-low frequency noise testing method of reference resistance of temperaure measurement circuit	Zihao Xu	Harbin Institute of Technology, China
P13-03	130218	Compact digital holographic microscope system based on wedge prism	JianKun Wang	Shenzhen Technology University, China
P13-04	130211	Phase noise suppression algorithm based on bidirectional lipschitz conditions	Mingyang Li	Harbin Institute of Technology, China
P13-05	130165	An axial strain sensitivity enhancement method based on novel fusion-spliced microbubble resonator	Leyao Dai	Nanchang Hangkong university, China

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P13-06	130163	Optical frequency combs	Zhongyuan Lai	Nanchang Hangkong University, China
P13-07	130160	A WGMs-FP hybrid droplet-like microbubble resonator and application to all-optical tuning	Gan Lv	Nanchang Hangkong University, China
P13-08	130161	Thermally tuned brillouin gain bandwidth study based on hybrid microsphere cavities	Chengfeng Xi	Nanchang Aviation University, China
P13-09	130148	Continuous vertical scanning structured illumination microscopy based on dynamic exposure integration sampling	Qu Tong	Huazhong University of Science and Technology, China
P13-10	130141	Microstrip line structure characterization based on quantum wide-field microscopy	Yaozhong Tian	North University of China, China
P13-11	130111	Rotational doppler effect of vortex beam with frequency-shifted laser feedback	Ziyu Hua	Tsinghua University, China
P13-12	130008	One-shot three-wavelength digital holography by using a reference arm for thickness and ri decoupling	Kaiping Li	Shanghai Jiaotong University, China
P13-13	130100	A simultaneous frequency and angle-of-arrival measurement system based on stimulated brillouin scattering	Pengyuan Huang	Dalian University of Technology, China
P13-14	130099	Adaptive wavefront interferometry by optimizing the spot size on the fourier plane (SSFP) of the imaging system	Peng Gao	Precision Optical Manufacturing and Testing Center, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science, China
P13-15	130093	Multi-camera system calibration and uncertainty budget to assist industrial robots in large-scale production line	Mingda Harvey Yang	University of Nottingham Jubilee Campus, The United Kingdom
P13-16	130084	Enhancing image resolution with pixel-shift and precision motion control	Qiang Wu	Hefei university of technology, China
P13-17	130083	3D measurement method for small-module gears based on visual projection and line laser scanning	Yanshun Lu	Beijing Institute of Technology, China
P13-18	130081	Moiré fringes-based wafer-to-mask gap measurement in lithography	Feifan Xu	Hefei university of technology, China
P13-19	130030	Crosstalk error correction in high-precision phase measurement	Jinxuan Wu	Harbin Institute of Technology, China
P13-20	130024	Self-calibration of a large-scale planar variable-line-spacing grating and a fizeau interferometer	Yuliang Ye	Chongqing University of Technology, China
P13-21	130023	Research on optical encoder with in-situ self-compensation of the scale grating pitch deviation	Yikai Zhang	Chongqing University of Technology, China
14. Optical Measurement				
P14-01	140237	BRDF-based light scattering analysis of silicon wafer with anisotropic rough surfaces using the FDTD method	Jiarui Li	Fudan University, China
P14-02	140232	In-situ calibration of heliostat tracking attitudes in tower concentrated solar power using geometric vanishing point	Fen Xu	North China University of Technology, China
P14-03	140220	Measurement of topological charge of power-exponent-phase vortex using a elliptical swallowtail phase	Keli Chen	Nanjing Normal University, China
P14-04	140213	Joint calibration method of shadow photography station based on lithography standard target	Zhiyuan Yu	Nanjing University of Science and Technology, China
P14-05	140117	High-precision roll angle measurement by using a polarization modulated optical frequency comb	Yuhan Li	Tsinghua University, China

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P14-06	140147	Parasitic interference elimination in low-depth pseudo-random phase modulation LiDAR	Jiahui Guo	Huazhong University of Science and Technology, China
P14-07	140137	Dual-control-loop design for frequency tracking systems based on pound-drever-hall technology	Wenya Liu	Harbin Institute of Technology, China
P14-08	140136	High-precision laser frequency stabilization method in fiber-optic sinusoidal frequency modulation interferometer	Dongguang Li	Huazhong University of Science and Technology, China
P14-09	140118	Interferometry of the cylindrical inner surface	Haotian Chen	Shanghai University, China
P14-10	140053	Quasi-common polarization difference small angle measuring device based on CCD	Xing Xia	Beijing Jiaotong University, China
P14-11	140065	Study on confocal probe signal processing method for centre of rotation and optical axis alignment	Chen Li	Tohoku University, Japan
P14-12	140064	Method to improve straightness measurement accuracy based on kalman filter	Fei Long	Beijing jiaotong university, China
P14-13	140055	Sub-pixel edge detection algorithm based on omnidirectional gradient	Xuwei Du	Shandong University, China
P14-14	140048	Online measurement of wheel-rail force based on laser collimation sensors	Wenjie Fu	Beijing Jiaotong University, China
P14-15	140047	Modeling and compensation for measuring geometric errors of rotary axis based on circular grating	Shuai Han	Beijing Jiaotong University, China
P14-16	140029	Phase demodulation method immune to phase shift distortion	Weihao Zhang	Nanjing University of Aeronautics and Astronautics, China
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16. Optoelectronics and Communication				
P16-01	160037	Phase noise compensation in long-distance atmospheric free-space channels for high-speed coherent communication	Taewon Kim	Korea Advanced Institute of Science and Technology, Korea