PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 6621

, "Front Matter: Volume 6621," Proc. SPIE 6621, International Symposium on Photoelectronic Detection and Imaging 2007: Photoelectronic Imaging and Detection, 662101 (5 March 2008); doi: 10.1117/12.792802

SPIE.

Event: International Symposium on Photoelectronic Detection and Imaging: Technology and Applications 2007, 2007, Beijing, China

PROCEEDINGS OF SPIE

*International Symposium on Photoelectronic
Detection and Imaging 2007*

Photoelectronic Imaging and Detection

Liwei Zhou

Chair/Editor

9–12 September 2007

Beijing, China

Organized by

Topical Committee of Optics, China Ordnance Society (China)

School of Information and Technology, Beijing Institute of Technology (China)

The Editorial Office of *Optical Technique* (China)

Sponsored by

China Ordnance Society (China)

Beijing Institute of Technology (China)

Cooperating Organization

SPIE

Supported by

North Night Vision Technology Company, Ltd. (China) • Kunming Institute of Physics (China) • Beijing Weisidun

Asia Pacific Technology Company, Ltd. (China) • The 8358th Institute of 3rd Research Academy, CASIC (China)

Chinese Society of Astronautics (China) • Hamamatsu Photonics K.K. (Japan) • Topical Committee of Opto-

Electronic Technology, Chinese Optical Society (China) • Beijing Optical Society (China) • The 205th Institute

of China Ordnance Industry Corporation Group (China)

Published by

SPIE

Volume 6621

Proceedings of SPIE, 0277-786X, v. 6621

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *International Symposium on Photoelectronic Detection and Imaging 2007: Photoelectronic Imaging and Detection*, edited by Liwei Zhou, Proceedings of SPIE Vol. 6621 (SPIE, Bellingham, WA, 2008) Article CID Number.

ISSN 0277-786X

ISBN 9780819467638

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

Copyright © 2008, Society of Photo-Optical Instrumentation Engineers

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/08/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc.

The CID number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID number.

Contents

xi	<i>Symposium Committees</i>
xv	<i>Introduction</i>
6621 02	On theory of paraxial lateral aberrations in imaging electrostatic electron optics based on asymptotic solutions [6621-01] L. Zhou, Beijing Institute of Technology (China)
6621 04	Research on theoretical limit performances of the double-proximity-focusing image intensifiers [6621-03] S. Xiang, F. Shi, H. Guo, Xi'an Institute of Applied Optics (China)
6621 05	Low noise and high resolution microchannel plate [6621-04] S. Liu, J. Pan, G. Deng, D. Su, Z. Xu, Y. Zhang, North Night Vision Technology Co., Ltd. (China)
6621 06	Design of polarization imaging system based on CIS and FPGA [6621-05] Y. Zeng, L. Liu, K. Yang, D. Chang, Huazhong Univ. of Science and Technology (China)
6621 07	Analyses and simulation of sensor structure parameters for electrical capacitance tomography system [6621-06] D. Chen, L. Wang, Y. Chen, Harbin Univ. of Science and Technology (China)
6621 08	Design and realization of CMOS image sensor [6621-07] J. Xu, Z. Xiao, Guilin Univ. of Electronic Technology (China)
6621 09	Formation of electron multiplier by utilizing the MEMS bulk-silicon-micro-machining technology [6621-08] Y. Gao, Changchun Univ. of Science and Technology (China) and Jilin Univ. (China); Q. Duanmu, G. Wang, Y. Li, J. Tian, Changchun Univ. of Science and Technology (China)
6621 0A	Camera characterization using back-propagation artificial neural network based on Munsell system [6621-09] Y. Liu, H. Yu, J. Shi, Yunnan Normal Univ. (China)
6621 0B	Influence of high-temperature vacuum baking on the performance of microchannel plates with an ion barrier film [6621-10] D. Jiang, Y. Li, K. Wu, G. Wang, S. Fu, X. Wang, Q. Duanmu, J. Tian, Changchun Univ. of Science and Technology (China)
6621 0C	Investigations on ion transmission characteristics of the ion barrier films in Generation III image tubes [6621-11] Y. Li, G. Wang, R. Xiang, K. Wu, S. Fu, X. Wang, D. Jiang, Q. Duanmu, J. Tian, Changchun Univ. of Science and Technology (China)

- 6621 OD **Fabrication of microsphere plate electron multiplier device** [6621-12]
X. Wang, Y. Li, G. Wang, Y. Gao, D. Jiang, K. Wu, S. Fu, Q. Duanmu, J. Tian, Changchun Univ. of Science and Technology (China)
- 6621 OE **Multi-frame digital hologram based on azimuth encoding method** [6621-13]
S. Wang, J. Li, X. Lu, Shenzhen Univ. (China)
- 6621 OF **Technological improvements on the image quality in the low-intensity x-ray real-time imaging system** [6621-14]
Y. Li, G. Wang, Changchun Univ. of Science and Technology (China); Z. Sun, Institute of Laser Technology (China); K. Wu, Changchun Univ. of Science and Technology (China); L. Chen, Changchun Univ. (China); X. Wang, Q. Duanmu, J. Tian, Changchun Univ. of Science and Technology (China)
- 6621 OG **Performance measurement of phosphor screens used in optoelectronic image devices** [6621-15]
Y. Qian, Y. Qiu, H. Li, B. Chang, Nanjing Univ. of Science & Technology (China)
- 6621 OH **Area source electron gun uniformity analysis** [6621-16]
Y. Qiu, B. Chang, L. Sun, J. Zhang, Y. Gao, R. Fu, Nanjing Univ. of Science & Technology (China)
- 6621 OI **Statistical analysis of dark noise in photon imaging system** [6621-17]
L. Zhao, X. Yu, Y. Chen, Beijing Institute of Technology (China)
- 6621 OJ **Research of the influence to the stability factor of third generation experimental tube under illumination** [6621-18]
Y. Du, Y. Ji, Binzhou Institute (China)
- 6621 OK **Comparative study of GaN and GaAs photocathodes** [6621-19]
J. Qiao, Nanjing Univ. of Science & Technology (China) and Nanyang Institute of Technology (China); B. Chang, Z. Yang, Nanjing Univ. of Science & Technology (China); S. Tian, Y. Gao, Nanjing Univ. of Science & Technology (China) and Nanyang Institute of Technology (China)
- 6621 OL **Range-gated underwater laser imaging system based on intensified gate imaging technology** [6621-20]
W. Jin, F. Cao, X. Wang, G. Liu, Y. Huang, H. Qi, F. Shen, Beijing Institute of Technology (China)
- 6621 OM **Research of TV system's view range evaluation based on human eyes' contrast threshold** [6621-21]
F. Cao, W. Jin, S. Qiu, Beijing Institute of Technology (China)
- 6621 ON **A laser ranging method based on APD arrays** [6621-22]
S. Kou, Q. Chen, W. He, Nanjing Univ. of Science & Technology (China)
- 6621 OO **Correction of charge packet transfer rate in CCD** [6621-23]
Y. Tang, M. Liu, Xi'an Univ. of Technology (China); H. Liu, Xi'an Polytechnic Univ. (China); Y. Du, K. Liu, H. Gao, Xi'an Univ. of Technology (China)

- 6621 OP **A study on solar blind UV ICCD detection performance** [6621-24]
Y. Lou, Beijing HuaBei Optical Instrument Co., Ltd. (China); T. Bai, Beijing Institute of Technology (China)
- 6621 OQ **The effect of super Gen.II photocathode glass plasma pretreatment on sensitivity** [6621-25]
G. Zeng, North Night Vision Technology Co., Ltd. (China); L. Zhou, Beijing Institute of Technology (China); X. Li, North Night Vision Technology Co., Ltd. (China)
- 6621 OR **The relationship of image quality of image intensifier and the luminance of its background** [6621-26]
Y. Qiu, B. Chang, L. Sun, Y. Gao, S. Tiang, Y. Qian, Nanjing Univ. of Science & Technology (China)
- 6621 OS **Ambient light effect on the uniformity of image intensifier fluorescence screen brightness** [6621-27]
Y. Qiu, B. Chang, L. Sun, J. Zhang, Y. Gao, R. Fu, Nanjing Univ. of Science & Technology (China)
- 6621 OU **Below 2.0 μ m CMOS imager technology shrinks** [6621-29]
H. W. Lee, C. H. Wu, VisEra Technologies, Inc. (Taiwan, China)
- 6621 OV **Performance evaluation of CCD imaging systems with the square integral method based on MRC** [6621-30]
J. Wang, W. Jin, Y. He, L. Wang, Beijing Institute of Technology (China)
- 6621 OW **Multi-object detection and tracking technology based on hexagonal opto-electronic detector** [6621-31]
Y. Song, Q. Hao, X. Li, Beijing Institute of Technology (China)
- 6621 OX **Experimental study on infrared radiation of bolt and rock in condition of loading** [6621-32]
Y. Ji, Qingdao Univ. of Science & Technology (China)
- 6621 OY **Research on relation between cortical functional section and acupuncture point** [6621-33]
S. Chen, C. Li, G. Liang, S. Wang, Hebei Univ. of Science & Technology (China)
- 6621 OZ **A new scene-based nonuniformity correction applied in boundary backward recursive reconstruction for arbitrary subpixel microscan** [6621-34]
Y. Chen, W. Jin, L. Zhao, L. Zhao, Beijing Institute of Technology (China); T. Wang, Beijing Institute of Technology (China) and Stevens Institute of Technology (USA)
- 6621 IO **A high performance CMOS readout integrated circuit for IRFPA** [6621-35]
X. Xia, L. Xie, W. Sun, Southeast Univ. (China)
- 6621 II **Measurement of spatio-temporal dynamics of the square superlattice pattern in dielectric barrier discharge by using photoelectric method** [6621-36]
W. Fan, L. Dong, Y. He, R. Gao, Hebei Univ. (China)
- 6621 I2 **Exploration of semiconductor color sensor** [6621-37]
B. Chen, Hebei Univ. of Engineering (China); S. Chen, Changchun Univ. of Science and Technology (China)

- 6621 13 **An algorithm for improving precision of fiber grating's reflective spectrum** [6621-38]
S. Cheng, Z. Li, Yanshan Univ. (China)
- 6621 14 **An ultra-wide field staring infrared detection system** [6621-39]
Y.-B. Chen, Y.-Z. Wang, L.-H. Sun, Ordnance Engineering College (China)
- 6621 15 **Digital heart rate measurement based on Atmega16L** [6621-40]
X. Zhang, Beijing Institute of Machinery (China) and Beijing Univ. of Aeronautics and Astronautics (China); L. Feng, J. Wang, Beijing Univ. of Aeronautics and Astronautics (China)
- 6621 16 **Characteristics of ZnMgO-based metal-semiconductor-metal photodetectors** [6621-41]
K. Liu, Changchun Institute of Optics, Fine Mechanics and Physics (China) and Graduate School of the Chinese Academy of Sciences (China); D. Shen, J. Zhang, Y. Lu, Changchun Institute of Optics, Fine Mechanics and Physics (China); D. Jiang, Y. Zhao, Changchun Institute of Optics, Fine Mechanics and Physics (China) and Graduate School of the Chinese Academy of Sciences (China); B. Li, D. Zhao, Z. Zhang, B. Yao, Changchun Institute of Optics, Fine Mechanics and Physics (China)
- 6621 17 **Thermal microscope imaging system for semiconductor device and IC invalidation analysis** [6621-42]
M. Gao, Beijing Institute of Technology (China) and Yanshan Univ. (China); W. Jin, Y. Chen, X. Wang, Beijing Institute of Technology (China)
- 6621 18 **Improved Au/Zn/Au ohmic contacts for p-type InP** [6621-43]
K. Zhang, H. Tang, X. Wu, J. Xu, Shanghai Institute of Technical Physics (China) and Graduate School of the Chinese Academy of Sciences (China); X. Li, H. Gong, Shanghai Institute of Technical Physics (China)
- 6621 19 **Analysis of the photoelectric characteristic of patterns in dielectric barrier discharge** [6621-44]
Y. Yang, L. Dong, W. Fan, Y. He, Hebei Univ. (China)
- 6621 1A **Inductively coupled plasma etching of AlGaIn using Cl₂/Ar/BCl₃ gases** [6621-45]
L. Chen, Y. Huang, J. Chen, Y. Sun, T. Li, Shanghai Institute of Technical Physics (China); D. Zhao, Institute of Semiconductors (China); H. Gong, Shanghai Institute of Technical Physics (China)
- 6621 1B **Absolute spectral radiance responsivity calibration of the radiance transfer standard detector** [6621-46]
P. Zou, H. Wu, Q. Xu, P. Xie, J. Li, L. Zhou, X. Li, X. Zheng, Anhui Institute of Optics and Fine Mechanics (China)
- 6621 1C **Recombination lifetime characterization and mapping of p-i-n InP/Ln_{0.53}Ga_{0.47}As/InP mesa structure using the microwave photoconductivity decay (μ -PCD) technique** [6621-47]
X. Wu, K. Zhang, Y. Huang, H. Tang, B. Han, Shanghai Institute of Technical Physics (China) and Graduate School of the Chinese Academy of Sciences (China); X. Li, H. Gong, Shanghai Institute of Technical Physics (China)

- 6621 1D **Low-damage wet chemical etching for GaN-based visible-blind p-i-n detector** [6621-48]
J. Chen, J. Xu, L. Wang, X. Li, Y. Zhang, Shanghai Institute of Technical Physics (China)
- 6621 1E **A novel spice model of photodetector for OEIC design** [6621-49]
J. Bian, Jiangsu Polytechnic Univ. (China) and Xiamen Univ. (China); X. Cheng, C. Chen, Xiamen Univ. (China)
- 6621 1F **The ghosting artifact reduction in high-order statistics based nonuniformity correction** [6621-50]
W. Sun, Y. Zhao, H. Zhu, B. Song, Xidian Univ. (China)
- 6621 1G **Single photon detector module based on avalanche photodiodes** [6621-51]
Q.-L. Wu, Y. Liu, Z.-F. Han, W. Chen, Y.-M. Dai, G. Wei, G.-C. Guo, Univ. of Science and Technology of China (China)
- 6621 1H **Shape distortions of infrared focal plane array and optical readout** [6621-52]
M. Liu, Y. Zhao, X. Liu, Beijing Institute of Technology (China); X. Yu, X. Wang, T. Li, Peking Univ. (China)
- 6621 1I **Characteristic of HgCdTe photoconductive detector in energy distribution measurement system of laser spot in far field** [6621-53]
J. Zhang, G. Feng, J. Zhao, Northwest Institute of Nuclear Technology (China)
- 6621 1J **Using the re-writable diarylethene films for detecting and transmitting the power spectra of the joint transform correlator** [6621-54]
J. Zhang, J. Yang, National Univ. of Defense Technology (China); S. Pu, Nanchang Univ. of Science & Technology (China); W. Hu, H. Jia, X. Li, National Univ. of Defense Technology (China)
- 6621 1K **Endoscopic spectral-domain polarization-sensitive optical coherence tomography system** [6621-55]
Y. Wang, X. Chen, Z. Hu, Q. Li, D. Yu, Tianjin Univ. (China)
- 6621 1L **Monte Carlo simulation of polarized light propagating through biological tissue in polarization-sensitive OCT system** [6621-56]
X. Chen, Z. Hu, Y. Wang, Q. Li, D. Yu, Tianjin Univ. (China)
- 6621 1M **Analysis for MRTD and DMRTD based on contrast simulation** [6621-57]
L. Chen, X. Zhang, T. Zhou, J. Lin, Beijing Institute of Technology (China)
- 6621 1N **Performance analysis and improvement of microbolometer imaging system** [6621-58]
L. Sun, J. Zhang, B. Chang, Y. Qiu, Y. Qian, S. Tian, Nanjing Univ. of Science & Technology (China)
- 6621 1O **The test of response sensitivity of infrared detector in the laser fuze** [6621-59]
Z. Tan, J. Kang, W. Gong, H. Chen, Huazhong Univ. of Science and Technology (China)

- 6621 1P **NUC correction of IR FPA and error analysis with FPGA** [6621-60]
C. Ge, Univ. of Electronic and Scientific Technology of China (China) and Institute of Applied Electronics, China Academy of Engineering Physics (China); Z. Liu, J. Wu, Z. Li, Z. Huang, M. Wan, X. Hu, G. Fan, Institute of Applied Electronics, China Academy of Engineering Physics (China); Z. Liang, Univ. of Electronic and Scientific Technology of China (China)
- 6621 1Q **Effects of impurities with deep energy level in high biased field on delay time of semi-insulating GaAs photoconductive switches** [6621-61]
H. Dai, Xi'an Univ. of Technology (China) and Air Force Engineering Univ. (China); W. Shi, Xi'an Univ. of Technology (China); J. Hou, Ordnance Engineering College (China)
- 6621 1R **Study of uncooled thermal imaging system with multiple working temperatures** [6621-62]
J. Zhang, L. Sun, Y. Qian, B. Chang, S. Tian, Y. Qiu, Nanjing Univ. of Science & Technology (China)
- 6621 1S **Infrared target tracking in real-time video and its implementation** [6621-63]
J. Zhang, S. Tian, B. Chang, Y. Qian, L. Sun, Y. Qiu, Nanjing Univ. of Science & Technology (China)
- 6621 1T **The study of Fizeau fiber interferometer in ultrasonic measure** [6621-64]
X. Feng, C. Chang, Z. Wang, Wuhan Institute of Technology (China)
- 6621 1U **Theoretical research of the interference on photodetectors caused by sunlight scattered by the ground** [6621-65]
P. Li, W. Guo, H. Chen, X. Yan, R. Jia, Beijing Institute of Technology (China)
- 6621 1V **Preliminary performance test and comparison of several photodetectors as start detector in SLR system** [6621-66]
Y. Zhao, C. Fan, X. Han, National Astronomical Observatories/Changchun Observatory (China)
- 6621 1W **Optical dominated high power sub-nanosecond pulse system** [6621-67]
W. Shi, Z. Liu, X. Liao, Xi'an Univ. of Technology (China)
- 6621 1X **Study on the photoconductive semiconductor switch of different materials** [6621-68]
H. Liu, Z. Liu, X. Liao, Xi'an Univ. of Technology (China)
- 6621 1Y **Spectrum matching on the test of luminance gain of image intensifier** [6621-69]
X. Wang, W. Jin, Z. Gao, Beijing Institute of Technology (China); Z. Wang, North China Night Vision Technology Ltd. (China)
- 6621 1Z **Prediction of pH of cola beverage using Vis/NIR spectroscopy and least squares-support vector machine** [6621-70]
F. Liu, Y. He, Zhejiang Univ. (China)
- 6621 20 **Feasibility study on variety identification of rice vinegars using visible and near infrared spectroscopy and multivariate calibration** [6621-71]
F. Liu, Y. He, L. Wang, Zhejiang Univ. (China)

- 6621 21 **Prediction of soluble solids content and ph in red wine by visible and near infrared spectroscopy** [6621-72]
L. Wang, Y. He, Y. Wang, Zhejiang Univ. (China)
- 6621 22 **The electron's velocity direction through the magnetic mirror field for the low-light imaging system** [6621-73]
Y. Tang, H. Gao, Y. Du, Xi'an Univ. of Technology (China); H. Liu, Xi'an Polytechnic Univ. (China); K. Liu, M. Liu, Xi'an Univ. of Technology (China)
- 6621 23 **Phase demodulation scheme for long-distance distributed Mach-Zehnder interferometer** [6621-74]
C. Zhan, J. Wang, Y. Zhan, Jiangxi Science and Technology Normal Univ. (China); J. Yuan, Huazhong Univ. of Science and Technology (China)
- 6621 24 **Optimum principles and its modeling of integrated relation for FPA thermal imagers** [6621-75]
L. Mai, W. Jin, Beijing Institute of Technology (China)
- 6621 25 **Design and test of an improved direct-injection readout circuit for IRFPA** [6621-76]
L. Xie, X. Xia, F. Sun, Southeast Univ. (China)
- 6621 26 **Design and implementation of photon correlator based on C8051F** [6621-77]
J. Shen, Y. Li, W. Liu, Y. Yang, Y. Cheng, Shandong Univ. of Technology (China)
- 6621 27 **Theoretical model of infrared radiation of dressed human body indoors** [6621-78]
Z. Xiong, Huazhong Univ. of Science and Technology (China) and Institute of Seismology, China Earthquake Administration (China); K. Yang, Huazhong Univ. of Science and Technology (China)
- 6621 28 **Effective method to improve the lens F# of un-cooled IR detector systems** [6621-79]
L. Dong, W. Jin, J. Sui, X. Zhou, Beijing Institute of Technology (China)
- 6621 29 **The development status of the micro-cantilever array based un-cooled IR detectors** [6621-80]
L. Dong, X. Liu, Y. Zhao, X. Zhou, Beijing Institute of Technology (China)
- 6621 2A **The study on chemical vapor passive infrared standoff remote sensing** [6621-81]
W. Zheng, Kunming Institute of Physics (China) and Beijing Institute of Technology (China); W. Jin, Beijing Institute of Technology (China); J. Su, Kunming Institute of Physics (China) and Beijing Institute of Technology (China)
- 6621 2B **Test and verification of the theory of paraxial lateral aberrations by a two-electrode electrostatic concentric spherical system model** [6621-82]
L. Zhou, H. Gong, Beijing Institute of Technology (China)

Author Index

Symposium Committees

Honorary Chair

Wang Daheng, Chinese Academy of Sciences (China)

General Chairs

Zhou Liwei, Beijing Institute of Technology (China)

Jin Guofan, Tsinghua University (China)

Wang Dechen, China Ordnance Society (China)

Kuang Jingming, Beijing Institute of Technology (China)

Jiao Wenjun, Beijing Institute of Technology (China)

Advisory Committee

Zhou Bingkun, Tsinghua University (China)

Mu Guoguang, Nankai University (China)

Qin Yuwen, National Natural Science Foundation Committee (China)

Yin Xingliang, General Manager of CASIC (China)

Hou Xun, Xi'an Institute of Optics and Fine Mechanics (China)

Francis T.S.Yu, University of Pennsylvania (USA)

Teruo Hiruma, Hamamatsu Photonics K.K. (Japan)

M. Ya. Schelev, Physics Institute, Russia Academy of Sciences (Russia)

V. Soifer, Samara State Aerospace University (Russia)

Feng Changgen, China Association for Science and Technology (China)

Huang Shanglian, Chongqing University (China)

Horst Weber, Berlin Technical University (Germany)

Igor D. Burlakov, Federal State Unitary Enterprise ORION (Russia)

Organizing Committee

Chairs

Yu Xin, Beijing Institute of Technology (China)

Qi Kangnan, Beijing Optical Society (China)

Xu Yida, China Ordnance Society (China)

Members

Zhang Yimo, Tianjin University (China)

Deng Shushen, Beijing Optical Society (China)

Cui Yuping, The 8358th Institute of CASIC (China)

Yoshui Suzuki, Hamamatsu Photonics K.K. (Japan)

Zhao Yuejin, Topical Committee of Optics, China Ordnance Society (China)
Gu Ying, Beijing 301 Hospital (China)
Wang Xiaopeng, The 205th Institute of China Ordnance Industry Corporation Group (China)
Zeng Guilin, North Night Vision Technology Company, Ltd. (China)
Liu Xiaohua, Beijing Weisidun Asia Pacific Technology Company, Ltd. (China)

Program Committee

Chairs

Zhao Dazun, Beijing Institute of Technology (China)
Ni Guoqiang, Chinese Optical Society (China)
Zhao Yuejin, Topical Committee of Optics, China Ordnance Society (China)

Members

Jin Weiqi, Beijing Institute of Technology (China)
Song Feijun, China Daheng Corporation (China)
Zhang Cunlin, Capital Normal University (China)
Theo Tschudi, Darmstadt University (Germany)
Kimio Tatsuno, Hitachi (Japan)
Wang Yongtian, Beijing Institute of Technology (China)
Bert Van Geest, Lambert Instruments (Netherlands)
Shi Yanyu, Kunming Institute of Physics (China)
Jun Ohta, Nara Institute of Science and Technology (Japan)
Gao Chunqing, Beijing Institute of Technology (China)
Bai Tingzhu, Beijing Institute of Technology (China)
D.E. Greenfield, RD&P Center ORION (Russia)
S.V. Andreev, Prokhorov General Physics Institute (Russia)

Conference Chairs

Conference 6621: Photoelectronic Imaging and Detection

Zhou Liwei, Beijing Institute of Technology (China)
Yoshui Suzuki, Hamamatsu Photonics K. K. (Japan)
D.E. Greenfield, RD&P Center ORION (Russia)
Bai Tingzhu, Beijing Institute of Technology (China)

Conference 6622: Laser, Ultraviolet and Terahertz Technology

Horst Weber, Berlin Technical University (Germany)
Gao Chunqing, Beijing Institute of Technology (China)
Zhang Cunlin, Capital Normal University (China)

Conference 6623: Image Processing

Zhao Dazun, Beijing Institute of Technology (China)

Francis T.S.Yu, University of Pennsylvania (USA)

Jun Ohta, Nara Institute of Science and Technology (Japan)

*Conference 6624: Optoelectronic System Design, Manufacturing,
and Testing*

Wang Yongtian, Beijing Institute of Technology (China)

Theo Tschudi, Darmstadt University (Germany)

Kimio Tatsuno, Hitachi (Japan)

Conference 6625: Related Technology and Applications

Shi Yanyu, Kunming Institute of Physics (China)

Bert Van Geest, Lambert Instruments (Netherlands)

Jin Weiqi, Beijing Institute of Technology (China)

Secretariat

Secretaries General

An Liansheng, Beijing Institute of Technology (China)

Jie Deer, The Editorial Office of *Optical Technique* (China)

Liu Xunliang, Topical Committee of Opto-Electronic Technology,
Chinese Optical Society (China)

Zhao Xueyan, The 8358th Institute of 3rd Research Academy,
CASIC (China)

Liu Baosheng, Beijing Optical Society (China)

Secretaries

Xia Yang, The Editorial Office of *Optical Technique* (China)

Gan Quan, Beijing Institute of Technology (China)

Zhao Baozhang, The Editorial Office of *Optical Technique* (China)

Wu Hong, Beijing Institute of Technology (China)

Board of Editing Management

Chair

Jie Deer, The Editorial Office of *Optical Technique* (China)

Cochairs

Liu Xunliang, Topical Committee of Opto-Electronic Technology,
Chinese Optical Society (China)

Xia Yang, The Editorial Office of *Optical Technique* (China)

An Liansheng, Beijing Institute of Technology (China)

Gan Quan, Beijing Institute of Technology (China)

Members

Zhao Baozhang, The Editorial Office of *Optical Technique* (China)

Xie Haiying, The Editorial Office of *Optical Technique* (China)

Introduction

About 14 years ago, when I organized the first International Symposium on Photoelectronic Detection and Imaging (ISPDI) in 1993 at the Friendship Hotel in Beijing, the symposium was going successfully. At the closing ceremony, I expressed my hope and desire to organize the symposium in China again. This year the day came, as we had a great honor to organize the International Symposium on Photoelectronic Detection and Imaging meeting in Beijing once again. It is truly a great pleasure for us to be able to greet our fellow scientists and experts from a number of countries; and I firmly believe this meeting will be a successful international event in the field of photoelectronic detection and imaging.

The purpose of ISPDI'07 is to provide a forum for the participants to disseminate and exchange ideas and to present up-to-date comprehensive assessments of progress and developments in the field of photoelectronic imaging and detection. To this end it is very gratifying to me that we have been assembled here for an informative exchange of opinions.

Collected in these five volumes are close to 400 papers accepted for presentation at the symposium, contributed by over 1000 authors from more than 10 countries, including China, Japan, Russia, Germany, Netherland, India, United Kingdom, United States, Italy, and South Korea. These papers cover topics such as photoelectronic imaging, photoelectronic detection, opto-electronic system design, manufacturing and testing, image processing, related technology and applications, as well as many other aspects. These proceedings will no doubt benefit not only the participants of this meeting but also our colleagues engaged in research and development. It is sincerely hoped that as a consequence of this meeting, research and development in photoelectronic detection and imaging will be promoted, and international cooperation between scientists and engineers who share this common interest will be enhanced.

Finally, on behalf of Prof. Wang Daheng, Prof. Jin Guofan and Prof. Yu Xin, China Ordnance Society, and Beijing Institute of Technology, I would like to heartily thank our sponsors and supporters for all they have done for this meeting. Thanks also to all the authors for their contributions to these proceedings; to all of the participants and friends for their interest and efforts in helping us to make this symposium possible, especially those who have traveled great distances and taken their valuable time from their very busy schedules to attend the meeting; to the advisory and organizing committees for their effective work and valuable advice; and to all the organizations and individuals concerned for their active support and assistance, especially the Editorial Office of *Optical Technique* for

their tireless effort and outstanding service in the administration and preparation of the manuscripts for the proceedings. I am also grateful to the SPIE staff for their support and collaboration in publishing these volumes.

Liwei Zhou

Topical Committee of Optics, China Ordnance Society