PROCEEDINGS OF SPIE

Second International Conference on Optoelectronic Information and Computer Engineering (OICE 2023)

Yang Yue
Editor

10–12 June 2023
ONLINE, China

Organized by
Association for Science and Engineering (China)

Sponsored and Published by
SPIE

Volume 12752

Proceedings of SPIE 0277-786X, V. 12752

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

Second International Conference on Optoelectronic Information and Computer Engineering (OICE 2023),
edited by Yang Yue, Proc. of SPIE Vol. 12752, 1275201
© 2023 SPIE · 0277-786X · doi: 10.1117/12.2692071

The papers 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. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

The papers 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 these proceedings:
Author(s), "Title of Paper," in *Second International Conference on Optoelectronic Information and Computer Engineering (OICE 2023)*, edited by Yang Yue, Proc. of SPIE 12752, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X
ISSN: 1996-756X (electronic)

ISBN: 9781510667525
ISBN: 9781510667532 (electronic)

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time)
SPIE.org
Copyright © 2023 Society of Photo-Optical Instrumentation Engineers (SPIE).

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 fees. To obtain permission to use and share articles in this volume, visit Copyright Clearance Center 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.

Printed in the United States of America by Curran Associates, Inc., under license from SPIE.

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

SPIE. DIGITAL LIBRARY
SPIEDigitalLibrary.org

Paper Numbering: A unique citation identifier (CID) number is assigned to each article in the Proceedings of SPIE at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five 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.

Contents

v *Conference Committee*

SECOND INTERNATIONAL CONFERENCE ON OPTOELECTRONIC INFORMATION AND COMPUTER ENGINEERING (OICE 2023)

12752 02 **An active mmWave antenna based on tunable zero-mode resonances** [12752-2]

12752 03 **Optical fiber distributed acoustic sensing based on NUFDM-NLFM** [12752-3]

12752 04 **Parameter adaptive analysis of rolling bearing fault based on QGA optimization** [12752-4]

12752 05 **Research status of clothing pressure detection technology** [12752-5]

12752 06 **Design of MEMS gyroscope mounting error calibration platform based on optical traceability** [12752-6]

12752 07 **Dual-branch visible and infrared image fusion transformer** [12752-7]

12752 08 **CotNet target tracking algorithm based on attention mechanism and context-awareness** [12752-8]

12752 09 **Design of inductance parameter measurement instrument based on steady-state circuit sinusoidal analysis of phasors** [12752-9]

12752 0A **Binary array beam forming with simulated annealing method** [12752-10]

12752 0B **101.8 MHz and FWHM 62.5 nm spectrum in a NALM mode-locked polarization-maintaining fiber laser** [12752-11]

12752 0C **Illumination analysis and optimization for a fast detection device of lube oil wear debris** [12752-12]

12752 0D **Signal analysis of bistatic arc array SAR data with an accelerated moving transmitter** [12752-13]

12752 0E **A new spaceborne wide swath sliding spotlight mode with a high squint angle** [12752-14]

12752 0F **Design and FPGA implementation of JPEG-LS image decompression** [12752-15]

12752 0G **Using differential transmission to solve the problem of signal leakage in capacitive coupling communication in metal cabinet** [12752-16]

12752 0H **Development of new ultra-large aperture optical remote sensing imaging technology** [12752-19]

12752 0I **1.7μm modulated digital signal transmission through water fog using a pump-modulated fiber laser** [12752-20]

12752 0J **Design of monitoring thickness and speed of cylindrical part based on laser self-mixing interference in a single-channel system during external grinding** [12752-21]

12752 0K **Sidelobe suppression in frequency diversity arc array with logarithmic frequency offset** [12752-22]

12752 0L **Collaborative multi-UAV sensing in integrated sensing and communication networks** [12752-23]

12752 0M **Study on complex ground echo characteristics of IR-UWB fuze** [12752-24]

12752 0N **Study on influence of component parameter deviation on output signal of IR-UWB fuze receiver** [12752-25]

12752 0O **High-resolution spectral response measurement based on single sideband modulation** [12752-26]

12752 0P **A method for generating reconfigurable photonic arbitrary phase-coded microwave signals with fundamental/double/triple carrier frequencies** [12752-27]

Conference Committee

Conference Chairs

Alice Peng, Wuhan University (China)
Yang Yue, Xi'an Jiaotong University (China)

Conference Program Committee

Vladimir Falko, The University of Manchester (United Kingdom)

Conference Review Committee

Zoran Bojkovic, University of Belgrade (Serbia)
Zhongjun Ding, National Deep Sea Center of China (China)
Vijayakumar Varadarajan, The University of New South Wales (Australia)
Kamel Hussein Rahouma, Minia University (Egypt)
Zhiyong Luo, Sun Yat-Sen University (China)
Tianye Huang, China University of Geosciences (China)
Zhao Zhang, Chinese Academy of Sciences (China)
R. Asokan, Kongunadu College of Engineering and Technology (India)
Archana S. Nanoty, S. S. Agrawal Institute of Engineering and Technology (India)
Anand Nayyar, Duy Tan University (Vietnam)
Xizhong Shen, Shanghai Institute of Technology (China)
V. Gokula Krishnan, Saveetha School of Engineering (India)
Liridon Hoti, University of Gjilan Kadri Zeka (Republic of Kosovo)
Huifu Xiao, Lanzhou University (China)
Ramapati Mishra, IET Dr RML Avadh University (India)
Shou Feng, Harbin Engineering University (China)
Manoj Kumar, University of Petroleum and Energy Studies (India)
Jupeng Ding, Xinjiang University (China)
Mahmoud Badee Mahmoud Rokaya, Taif University (Saudi Arabia)
Jichuan Xiong, Nanjing University of Science and Technology (China)
Ahed Abugabah, Zayed University (United Arab Emirates)
Jianwei Liu, China University of Petroleum (China)
Warwick Powell, Queensland University of Technology (Australia)