PROCEEDINGS OF SPIE

ODS 2022: Industrial Optical Devices and Systems

Ryuichi Katayama Yuzuru Takashima *Editors*

21 August 2022 San Diego, California, United States

Sponsored and Published by SPIE

Volume 12231

Proceedings of SPIE 0277-786X, V. 12231

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

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 ODS 2022: Industrial Optical Devices and Systems, edited by Ryuichi Katayama, Yuzuru Takashima, Proc. of SPIE 12231, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510654464 ISBN: 9781510654471 (electronic)

Published by **SPIE** P.O. Box 10, Bellingham, Washington 98227-0010 USA Telephone +1 360 676 3290 (Pacific Time) SPIE.org Copyright © 2022 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.



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

KEYNOTE SESSION

12231 01 High dimensional optical meta-devices: classical to quantum (Keynote Paper) [12231-11]

MATERIALS AND FABRICATION

- 12231 02Flying spot scanner: high-speed OCT imaging for thickness and topography in industry
[12231-3]12231 03Effect of thermal polymerization temperature and time of PQ/PMMA on the holographic data
storage [12231-4]
- 12231 04 Dual-channel recording of polarization holography using PQ/PMMA material [12231-5]
- 12231 06 Photopolymerization assisted by up-conversion nanoparticles for three-dimensional low-power photonics applications [12231-2]

OPTICAL DESIGN

Simulation on metal-dielectric hybrid nano-antenna attached to semiconductor ring resonator for heat-assisted magnetic recording [12231-7]
Holographic curved waveguide combiner for AR/HUD with 2D pupil expansion [12231-8]
Camera feedback optimization of computer-generated holograms displayed by the Texas Instruments phase light modulator for AR/HUD applications [12231-9]
Imaging through curved glass: windshield optical impact on automotive cameras [12231-10]

IMAGING AND SENSING

12231 OCApplication and experimental verification of phase-shift approach with rectangular-wave
illumination for defect-inspection apparatus (Invited Paper) [12231-12]12231 ODComputational method for optical diffraction tomography using a series of point sources
[12231-13]

12231 OE	Large etendue laser beam steering by 2D MEMS resonant mirror and digital micromirror device
	for time-of-flight lidar and AR display [12231-15]

12231 OF DMD-based diffractive FOV expansion for real-time flash lidar with 2D multi-pixel photon counter [12231-16]

POSTER SESSION

- 12231 01 Development of sealing glass and fiber type sealant for laser sealing [12231-22]
- 12231 0J Benchtop ¹²⁹Xe optical polarizer for NMR applications [12231-23]