

PROCEEDINGS OF SPIE

Ultra-High-Definition Imaging Systems VI

**Seizo Miyata
Toyohiko Yatagai
Yasuhiro Koike**
Editors

**1–2 February 2023
San Francisco, California, United States**

Sponsored and Published by
SPIE

Volume 12444

Proceedings of SPIE 0277-786X, V. 12444

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 SPIDigitalLibrary.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 *Ultra-High-Definition Imaging Systems VI*, edited by Seizo Miyata, Toyohiko Yatagai, Yasuhiro Koike, Proc. of SPIE 12444, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510659933

ISBN: 9781510659940 (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**

SPIDigitalLibrary.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*

DATA STORAGE

- 12444 02 **Bifocal-polarization holographic lens made from volume hologram (Invited Paper)** [12444-3]
- 12444 03 **Deep learning image segmentation method based on coding characteristics (Invited Paper)** [12444-4]
- 12444 04 **Phase reconstruction based on deep learning with high pass filtering for holographic data storage** [12444-5]

UHD DISPLAY AND IMAGES I

- 12444 05 **High bandwidth holographic imaging (Invited Paper)** [12444-8]
- 12444 06 **Brightness and vividness lead to better viewing for UHD, HDR programming (Invited Paper)** [12444-9]
- 12444 07 **Silicon photonic chip-based biosensor for COVID-19 and flu detection with high sensitivity and specificity (Invited Paper)** [12444-10]

UHD DISPLAY AND IMAGES II

- 12444 08 **High-definition imaging by super-resolution holographic optical microscopy** [12444-11]
- 12444 09 **The effect of PQ concentration on holographic data storage in PQ/PMMA material** [12444-13]

ULTRA-HIGH-DEFINITION SYSTEMS

- 12444 0A **8K-UHD medical image remote transmission with low latency encoding and decoding (Invited Paper)** [12444-22]

POSTER SESSION

- 12444 0B **Three-dimensional projection from multi-layered light field** [12444-23]

DIGITAL POSTER SESSION

12444 0C **Gi-POF optical fiber connecting technologies and all-optical network with glass optical fiber
(Invited Paper) [12444-17]**