PROCEEDINGS OF SPIE

2017 International Conference on Optical Instruments and Technology

Advanced Optical Sensors and Applications

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Francisco Javier Arregui
Editors

28–30 October 2017
Beijing, China

Sponsored by
CIS — China Instrument and Control Society (China)
SPIE

Published by
SPIE

Volume 10618

Proceedings of SPIE 0277-786X, V. 10618

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

2017 International Conference on Optical Instruments and Technology: Advanced Optical Sensors and Applications, edited by Xuping Zhang, Hai Xiao, Francisco Javier Arregui, Proc. of SPIE Vol. 10618, 1061801 · © 2018 SPIE · CCC code: 0277-786X/18/$18 · doi: 10.1117/12.2316723

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Author(s), "Title of Paper," in *2017 International Conference on Optical Instruments and Technology: Advanced Optical Sensors and Applications*, edited by Xuping Zhang, Hai Xiao, Francisco Javier Arregui, Proceedings of SPIE Vol. 10618 (SPIE, Bellingham, WA, 2018) Seven-digit Article CID Number.

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

ISBN: 9781510617476
ISBN: 9781510617483 (electronic)

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

Printed in the United States of America.

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

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Introduction

With distinct advantages such as high precision, fast response, immunity to electromagnetic interference and remote operation capability, optical sensors have traditionally been viewed as a high-end solution to many scientific and engineering problems that demand great performance. Fortunately, over the past decades, the rapid advancements in optical communications have brought to the market low cost semiconductor lasers, photo detectors, optical fibers, and integrated optical components, which pave the way for optical sensors to enter our daily lives and land on factory floors. Optical sensors are now being used for measurement of various physical, chemical and biological parameters, providing great solutions for a wide variety of sensing needs that are difficult to handle by other types of sensors. As new optical sensing devices, configurations and systems are being proposed, developed, tested and deployed at an unprecedented pace, scientists, researchers and engineers around the world gathered in Beijing, China to present their latest research work in the Advanced Optical Sensors and Applications Conference, as a part of the OIT 2017 Symposium. The 41 papers accepted and presented (oral and poster) at the conference covered many research fields including micro-structured fiber sensors, physical and mechanical sensors, interferometric and polarimetric sensors, distributed and quasi-distributed optical sensors, and other optical sensors. During the conference, we shared the latest accomplishments, sparked ideas, envisioned next-generation technologies, challenged ourselves, and cherished friendships. The chairs of the OIT 2017 Advanced Optical Sensors and Applications Conference would like to thank our committee members, reviewers, authors and participants for their contributions and support that made the conference a great success. We are also grateful to the staff of SPIE for their support in publishing the volume in the Proceedings of SPIE.

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