## PROCEEDINGS OF SPIE

## Real-time Measurements, Rogue Phenomena, and Single-Shot Applications IV

Daniel R. Solli Georg Herink Serge Bielawski Editors

5–6 February 2019 San Francisco, California, United States

Sponsored and Published by SPIE

Volume 10903

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 Real-time Measurements, Rogue Phenomena, and Single-Shot Applications IV, edited by Daniel R. Solli, Georg Herink, Serge Bielawski, Proceedings of SPIE Vol. 10903 (SPIE, Bellingham, WA, 2019) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510624481

ISBN: 9781510624498 (electronic)

Published by

SPIF

P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIF ora

Copyright © 2019, 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/19/\$18.00.

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:** Proceedings of SPIE follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article 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

∨ ∨ii	Conference Committee Introduction	
	REAL-TIME DIAGNOSTICS OF TERAHERTZ AND ELECTRON PULSES	
10903 06	Ultra-fast detector for wide range spectral measurements (Invited Paper) [10903-5]	
10903 07	Single-shot photon and electric field diagnostics using the linear array detector KALYPSO with MHz-range readout (Invited Paper) [10903-6]	
10903 0A	Following the plasma dynamics in a seeded soft x-ray laser with lensless imaging [10903-9]	
	REAL-TIME INSTRUMENTS AND LASER DYNAMICS I	
10903 0D	Ultrafast rogue waves in a vector field [10903-12]	
10903 OE	Pulse-by-pulse single-shot optical spectrum analyzer developed on a single platform [10903-13]	
	REAL-TIME INSTRUMENTS AND LASER DYNAMICS II	
10903 0G	Multi-timescale pump-probe spectroscopy using time-encoding and time-stretching methods (Invited Paper) [10903-15]	
10903 OJ	Femtosecond XFROG in the middle infrared: a novel approach to standoff detection [10903-18]	
10903 OK	Observation of visible light flashes in high power, near infrared, narrow-linewidth fiber lasers and its potential use as a visual monitor for stimulated Brillouin scattering [10903-19]	
	POSTER SESSION	
10903 OL	Temporal imaging of the intensity, phase and state of polarization [10903-20]	
10903 0M	Solvent effect in extra-cavity pulses by thermo-cavitation in natural dyes [10903-21]	
10903 ON	100% robust and fast algorithm for second-harmonic-generation frequency-resolved optical gating [10903-22]	

10903 00	Real-time strain measurement using slope-assisted Brillouin optical correlation-domain analysis with polarization maintaining fiber and its human interactive sound effecter application [10903-23]
10903 OP	Spatial Hermite-Gaussian solitons in optical lattices [10903-24]
10903 OQ	Cost-effective solution for phase-OTDR distributed acoustic/vibration sensing [10903-25]