

PROCEEDINGS OF SPIE

Ultrafast Phenomena and Nanophotonics XXV

Markus Betz
Abdulkem Y. Elezzabi
Editors

6–11 March 2021
Online Only, United States

Cosponsored by
Class 5 Photonics GmbH (Germany)

Sponsored and Published by
SPIE

Volume 11684

Proceedings of SPIE 0277-786X, V. 11684

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 *Ultrafast Phenomena and Nanophotonics XXV*, edited by Markus Betz, Abdulkhem Y. Elezzabi, Proceedings of SPIE Vol. 11684 (SPIE, Bellingham, WA, 2021) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510642034

ISBN: 9781510642041 (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

Copyright © 2021, 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 \$21.00 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/21/\$21.00.

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.

SPIE. DIGITAL LIBRARY

SPIDigitalLibrary.org

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

PHOTOEMISSION AND ULTRAFAST ELECTRON DYNAMICS

- 11684 0A **Visualizing the melting of periodic lattice distortions in a complex 2D charge density wave material via MeV-scale ultrafast electron diffraction** [11684-8]

NONLINEAR OPTICAL EFFECTS: SPECTROSCOPY AND APPLICATIONS

- 11684 0J **Towards the observation of radiation torque shot noise** [11684-17]
- 11684 0K **Characterization of thermo-optical and third-order nonlinear optical properties by eclipse I-scan** [11684-18]

NANOPLASMONICS

- 11684 0R **Plasmonic electrochromic nanodevices for color and transmission modulation (Invited Paper)** [11684-25]

ULTRAFAST AND COHERENT DYNAMICS OF OPTICAL EXCITATIONS

- 11684 0X **Controlling the emission time of photon echoes by optical freezing of exciton dephasing and rephasing in quantum-dot ensembles (Invited Paper)** [11684-31]
- 11684 12 **Phase competition and light-induced ordering in charge density waves (Invited Paper)** [11684-36]
- 11684 14 **Theoretical analysis and simulations of two-dimensional Fourier transform spectroscopy performed on exciton-polaritons of a quantum-well microcavity system** [11684-38]

TERAHERTZ RADIATION AND SPECTROSCOPY

- 11684 17 **Variable metallic nanogaps for electromagnetic control in quantum regime (Invited Paper)** [11684-41]

ULTRAFAST PROCESSES IN DEVICES AND LASERS

11684 1D **Towards an engineering framework for ultrafast quantum nonlinear optics (Invited Paper)**
[11684-47]