

PROCEEDINGS OF SPIE

Ultrafast Nonlinear Imaging and Spectroscopy X

Zhiwen Liu
Demetri Psaltis
Kebin Shi
Editors

21-22 August 2022
San Diego, California, United States

Sponsored and Published by
SPIE

Volume 12228

Proceedings of SPIE 0277-786X, V. 12228

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 Nonlinear Imaging and Spectroscopy X*, edited by Zhiwen Liu, Demetri Psaltis, Kebin Shi, Proc. of SPIE 12228, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510654402

ISBN: 9781510654419 (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.

**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*

NANOSCALE PHENOMENA

12228 02 **Room temperature single nanocrystal anti-stokes shifted superfluorescence (Invited Paper)**
[12228-3]

NOVEL RAMAN SPECTROSCOPY

12228 03 **Properties of correlated Stokes-anti-Stokes Raman scattering from diamond** [12228-11]

BIOLOGICAL APPLICATIONS

12228 04 **Integrated laser-induced fluorescence spectroscopy of donor-linker-acceptor constructs for bioenvironmental sensing (Invited Paper)** [12228-15]

12228 05 **Ultrafast nonlinear multimodal metabolic imaging platform for studying aging and diseases (Invited Paper)** [12228-16]

POSTER SESSION

12228 06 **Ultrafast transient absorption spectroscopy based on supercontinuum generation with non-linear photonic crystal fiber** [12228-30]

12228 07 **Characterization of a supercontinuum source for high-repetition-rate nonlinear spectroscopies**
[12228-31]