

PROCEEDINGS OF SPIE

***UV and Higher Energy Photonics:
From Materials to Applications
2019***

**Gilles Lérondel
Yong-Hoon Cho
Atsushi Taguchi
Satoshi Kawata**
Editors

**11–13 August 2019
San Diego, California, United States**

Sponsored and Published by
SPIE

Volume 11086

Proceedings of SPIE 0277-786X, V. 11086

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 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 *UV and Higher Energy Photonics: From Materials to Applications 2019*, edited by Gilles Léronde, Yong-Hoon Cho, Atsushi Taguchi, Satoshi Kawata, Proceedings of SPIE Vol. 11086 (SPIE, Bellingham, WA, 2019) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510628656

ISBN: 9781510628663 (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 © 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 \$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/19/\$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

SPIEDigitalLibrary.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

v	<i>Authors</i>
vii	<i>Conference Committee</i>

RAMAN AND ATR SPECTROSCOPY I

11086 04	Far- and deep-ultraviolet spectroscopy applied for ionic liquids (Invited Paper) [11086-3]
11086 05	Tunable deep-UV Raman spectroscopy reveals nitrate photolysis [11086-4]

MATERIALS AND DEVICES

11086 0C	III-nitride emitters and detectors for UV optoelectronic applications grown by metalorganic chemical vapor deposition (Invited Paper) [11086-41]
----------	---

RAMAN AND ATR SPECTROSCOPY II

11086 0N	Frontiers of UV resonant Raman spectroscopy by using synchrotron radiation: the case of aqueous solvation of model peptides (Invited Paper) [11086-21]
11086 0Q	Conformational stability of DNA in hydrated ionic liquid by synchrotron-based UV resonance Raman [11086-24]

DUV MICROSCOPY AND NANOSCOPY

11086 0U	UV illumination for electron and ion beam microscopy and nanofabrication [11086-28]
----------	--

DUV PLASMONICS II

11086 0X	UV-LED activated semiconductor sensors with tailored structure (Invited Paper) [11086-40]
11086 0Z	Large available volume particles for enhanced deep UV local Raman sensing [11086-32]