PROCEEDINGS OF SPIE

Organic and Hybrid Light Emitting Materials and Devices XXVI

Chihaya Adachi Tae-Woo Lee Franky So Editors

21–23 August 2022 San Diego, California, United States

Sponsored and Published by SPIE

Volume 12208

Proceedings of SPIE 0277-786X, V. 12208

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 Organic and Hybrid Light Emitting Materials and Devices XXVI, edited by Chihaya Adachi, Tae-Woo Lee, Franky So, Proc. of SPIE 12208, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510654006

ISBN: 9781510654013 (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.



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

Conference Committee

	THERMALLY ACTIVATED DELAYED FLUORESCENT MATERIALS AND OLEDS
12208 03	High-efficiency and stable blue hyperfluorescence organic light-emitting diode (Invited Paper) [12208-4]
	FABRICATION OF FULL COLOR, PATTERNED, AND STRETCHABLE DISPLAYS
12208 04	Hybrid color conversion control using OLED and perovskite emitters (Invited Paper) [12208-25]
12208 05	Water-repellent highly stable host material for colour conversion layer with enhanced quantum efficiency for micro-led display applications [12208-28]
	QUANTUM DOT LIGHT EMITTING MATERIALS AND DEVICES
12208 07	Modulation in charge distribution via polyethylenimine-incorporation into ZnO electron transport layer and its impact on quantum-dots light emitting device stability [12208-31]
	ORGANIC AND PEROVSKITE LASERS II
12208 08	Parametric investigation of ideal metal-dielectric photonic crystals [12208-39]
12208 09	Low onset stimulated emission in OLEDS [12208-42]
	MOLECULAR LEVEL APPROACHES FOR ORGANIC LIGHT EMITTING MATERIALS
12208 0A	The role of OLED emissive layer polarization in sub-turn-on charge accumulation [12208-57]

POSTER SESSION

12208 0B Electronic and optical properties of double perovskites A₂BX₆ (A = Cs; B = Sn, and (X = Cl, Br, l.) using modified Becke Johonson potential study [12208-60]

iv

Conference Committee

Symposium Chairs

Zakya H. Kafafi, Lehigh University (United States) **Ifor D. W. Samuel**, University of St. Andrews (United Kingdom)

Conference Chairs

Chihaya Adachi, Kyushu University (Japan)
Tae-Woo Lee, Seoul National University (Korea, Republic of)
Franky So, North Carolina State University (United States)

Conference Program Committee

Wolfgang Brütting, University Augsburg (Germany) Lay Lay Chua, National University of Singapore (Singapore) Malte C. Gather, University of St. Andrews (United Kingdom) **Kenan Gundogdu**, North Carolina State University (United States) **Hironori Kaji**, Kyoto University (Japan) **Ji-Seon Kim**, Imperial College London (United Kingdom) **Anna Köhler**, University Bayreuth (Germany) **Jian Li**, Arizona State University (United States) **Dongge Ma**, South China University of Technology (China) **Andrew P. Monkman**, Durham University (United Kingdom) Jongwook Park, Kyung Hee University (Korea, Republic of) Yong-Jin Pu, RIKEN Center for Emergent Matter Science (Japan) **Barry P. Rand**, Princeton University (United States) **Sebastian Reineke**, TU Dresden (Germany) Ifor D. W. Samuel, University of St. Andrews (United Kingdom) Joseph Shinar, Iowa State University of Science and Technology (United States)

Ken-Tsung Wong, National Taiwan University (Taiwan) Chung-Chih Wu, National Taiwan University (Taiwan) Seunghyup Yoo, KAIST (Korea, Republic of)