PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 11799

, "Front Matter: Volume 11799," Proc. SPIE 11799, Physical Chemistry of Semiconductor Materials and Interfaces XX, 1179901 (16 September 2021); doi: 10.1117/12.2606426

Event: SPIE Nanoscience + Engineering, 2021, San Diego, California, United States

PROCEEDINGS OF SPIE

Physical Chemistry of Semiconductor Materials and Interfaces XX

**Andrew J. Musser
Derya Baran
Christian Nielsen
Daniel Congreve**
Editors

**1–5 August 2021
San Diego, California, United States**

Sponsored and Published by
SPIE

Volume 11799

Proceedings of SPIE 0277-786X, V. 11799

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

Physical Chemistry of Semiconductor Materials and Interfaces XX, edited by Andrew J. Musser,
Derya Baran, Daniel Congreve, Christian Nielsen, Proc. of SPIE Vol. 11799, 1179901
© 2021 SPIE · CCC code: 0277-786X/21/\$21 · doi: 10.1117/12.2606426

Proc. of SPIE Vol. 11799 1179901-1

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](https://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 *Physical Chemistry of Semiconductor Materials and Interfaces XX*, edited by Andrew J. Musser, Derya Baran, Christian Nielsen, Daniel Congreve, Proc. of SPIE 11799, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X
ISSN: 1996-756X (electronic)

ISBN: 9781510644366
ISBN: 9781510644373 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time)

[SPIE.org](https://spie.org)

Copyright © 2021 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**
[SPIEDigitalLibrary.org](https://spiedigitallibrary.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

FROM WEAK TO STRONG LIGHT-MATTER COUPLING

- 11799 06 **Bi-ferrocene based molecular rectifier for nano-patch rectenna device** [11799-5]

MECHANISM OF EXCITON FISSION AND FUSION

- 11799 0B **Characterization of triplet separation and diffusion in amorphous pentacene films via ultrafast infrared spectroscopy** [11799-12]
- 11799 0E **Singlet fission in acene blends (Invited Paper)** [11799-11]

LOW-DIMENSIONAL MATERIALS AND INTERFACES I

- 11799 0V **Carrier dynamics and optical gain in InP-based quantum dots** [11799-17]

ORGANIC SEMICONDUCTOR PHYSICS AND DEVICES I

- 11799 12 **Investigating polaron dynamics in PM6:Y6 films for use in organic photovoltaics using time-resolved infrared spectroscopy** [11799-28]

ORGANIC SEMICONDUCTOR PHYSICS AND DEVICES II

- 11799 17 **Birefringence, dimensionality, and surface influences on organic hybrid electro-optic performance** [11799-34]
- 11799 1A **On the electronic structure of alternant conjugated organic radicals for light-emitting diode applications (Invited Paper)** [11799-35]