

PROCEEDINGS OF SPIE

Polarization Science and Remote Sensing X

Meredith K. Kupinski
Joseph A. Shaw
Frans Snik
Editors

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

Sponsored and Published by
SPIE

Volume 11833

Proceedings of SPIE 0277-786X, V. 11833

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

Polarization Science and Remote Sensing X, edited by Meredith K. Kupinski, Joseph A. Shaw,
Frans Snik, Proceedings of SPIE Vol. 11833, 1183301 · © 2021 SPIE
CCC code: 0277-786X/21/\$21 · doi: 10.1117/12.2606658

Proc. of SPIE Vol. 11833 1183301-1

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 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 *Polarization Science and Remote Sensing X*, edited by Meredith K. Kupinski, Joseph A. Shaw, Frans Snik, Proc. of SPIE 11833, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510645042
ISBN: 9781510645059 (electronic)

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time)
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
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

ENVIRONMENTAL REMOTE SENSING

- 11833 02 **UV linear stokes imaging of optically thin clouds** [11833-2]
- 11833 03 **Cloud thermodynamic phase measured with a low-cost, ground-based, all-sky imaging polarimeter** [11833-3]
- 11833 04 **CloudCT 3D volumetric tomography: considerations for imager preference, comparing visible light, short-wave infrared, and polarized imagers** [11833-4]
- 11833 05 **3D cloud tomography and droplet size retrieval from multi-angle polarimetric imaging of scattered sunlight from above** [11833-1]
- 11833 06 **Pale polarized dots: spectropolarimetry of the Earth as an exoplanet with LOUPE** [11833-5]

NOVEL POLARIMETRIC INSTRUMENTATION

- 11833 09 **Snapshot spectral imaging using Solc-based multivariate optical filters and pixelated polarization cameras (Invited Paper)** [11833-6]
- 11833 0D **Structured and unstructured modulation and reconstruction of DoFP image data (Invited Paper)** [11833-11]
- 11833 0E **Fieldable Mueller matrix imaging spectropolarimeter using a hybrid spatial and temporal modulation scheme** [11833-13]
- 11833 0F **Single-shot omnidirectional Stokes polarimetry using radially polarized light** [11833-14]

POLARIMETRIC CALIBRATION & CHARACTERIZATION

- 11833 0G **Polarimetric characterization of a monochromator to measure the spectral response of a pixelated polarization imager** [11833-18]
- 11833 0H **Comparing the polarimetric response of hyperspectral imagers** [11833-21]
- 11833 0I **Stokes resolved differential temperature: an important metric of polarimetric precision in the long-wave infrared** [11833-23]
- 11833 0J **Performance limitations in optical retarders** [11833-31]

- 11833 OL **Calibration and demonstration of a snapshot Mueller matrix spectropolarimeter** [11833-19]
- 11833 OM **Spatial polarization modulators: distinguishing diffraction effects from spatial polarization modulation** [11833-20]
- 11833 OO **Full characterization of the instrumental polarization effects of the spectropolarimetric mode of SCEXAO/CHARIS** [11833-32]

POLARIZATION PHENOMENOLOGY

- 11833 OP **Near-monostatic angular Mueller matrix measurements using a simple laser polarimeter** [11833-28]
- 11833 OR **An empirically-driven model for reflective-band polarization phenomenology** [11833-30]