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Front Matter: Volume 8873

, "Front Matter: Volume 8873," Proc. SPIE 8873, Polarization Science and Remote Sensing VI, 887301 (22 October 2013); doi: 10.1117/12.2048634

SPIE.

Event: SPIE Optical Engineering + Applications, 2013, San Diego, California, United States

PROCEEDINGS OF SPIE

Polarization Science and Remote Sensing VI

**Joseph A. Shaw
Daniel A. LeMaster**
Editors

**26 and 28–29 August 2013
San Diego, California, United States**

Sponsored and Published by
SPIE

Volume 8873

Proceedings of SPIE 0277-786X, V. 8873

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

Polarization Science and Remote Sensing VI, edited by Joseph A. Shaw, Daniel A. LeMaster, Proc. of SPIE
Vol. 8873, 887301 · © 2013 SPIE · CCC code: 0277-786X/13/\$18 · doi: 10.1117/12.2048634

Proc. of SPIE Vol. 8873 887301-1

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Author(s), "Title of Paper," in *Polarization Science and Remote Sensing VI*, edited by Joseph A. Shaw, Daniel A. LeMaster, Proceedings of SPIE Vol. 8873 (SPIE, Bellingham, WA, 2013) Article CID Number.

ISSN: 0277-786X

ISBN: 9780819497239

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

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Introduction

The broad appeal of polarization science was highlighted once again in the sixth meeting of our conference, *Polarization Science and Remote Sensing VI*. This year, authors hailed from ten countries and the presentations included a mix of contributions from academia, industry, and government laboratories. These enthusiastic researchers presented on applications of polarimetry that included the characterization of materials, the atmosphere, the ocean, and biological systems; the calibration, optimization, and metrology of polarimeters and related components; and the diverse considerations that go into the collection, processing, and display of polarimetric imagery. Contributing technologies spanned the ultraviolet, optical, and infrared wavelengths and, for the first time this year, extended to the millimeter-wave regime. The organizers of this conference and our sister conference, *Polarization: Measurement, Analysis, and Remote Sensing*, which will be meeting for the eleventh time in the spring of 2014 in Baltimore, are delighted to be the venue of choice for so many talented and prolific research professionals.

We are especially pleased to present in this volume, an invited paper by the 2013 recipient of the SPIE G.G. Stokes Award, José Jorge Gil from the University of Zaragoza, Spain. His presentation entitled, "Mathematical tools for the analysis and exploitation of polarimetric measurements," reviews how Mueller matrices may be decomposed into physically significant invariant quantities. We are grateful to Professor Gil for both his contributions to our conference and to the study of optical polarization. With the intent of establishing a new tradition, a similar invitation will be extended to future Stokes award winners when this conference convenes again in 2015.

Joseph A. Shaw
Daniel A. LeMaster