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Polarization: Measurement, Analysis, and Remote Sensing VIII

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Introduction

Current work in polarization research is contained within this volume, with an emphasis on remote sensing for defense and security applications. A record number of papers on applications of polarization were submitted. The applications of polarimetry presented in this conference range from monitoring effects of electrostatic discharge on electric circuits to detection of biological warfare agents to astrophysics, and from characterization of reflection from painted metal samples in the lab to monitoring of painted metal, wetlands, and water surfaces in the field. The field continues to mature through advances in instrumentation, modeling, and processing.

These proceedings are made up of papers from eight conference sessions. The first session consisted of an invited paper on biological polarizers in creatures of the sea. This was followed on the first day of the conference by sessions on Devices, Polarization Instrumentation, and Remote Sensing. The second day started with a second session on Instrumentation. This was followed by two sessions on Polarization Mathematics, Algorithms, and Processing. A final session focused on Measurements.

This conference marks the tenth year in a row that a polarization conference has been held, due in part to high interest and to the establishment of the Polarization Technical Group. Over the last four years, the polarization conferences have alternated from the Annual Meeting in odd years to the DSS meeting in even years. The nine prior conferences of 2007, 2006, 2005, 2004, 2003, 2002, 2001, 2000, and 1999 are documented in Proceedings of SPIE Vols. 6682, 6240, 5888, 5432, 4819, 4481, 3754, and 3121, respectively. Previous conferences in this series include *Polarization: Measurement, Analysis, and Remote Sensing* held in San Diego in 1997 (Proceedings of SPIE Vol. 3121) and *Polarization and Remote Sensing* held in San Diego in 1992 (Proceedings of SPIE Vol. 1747). Conferences on polarization, without the specific emphasis and inclusion of the remote sensing application and entitled *Polarization Analysis and Measurement* and *Polarization Analysis and Measurement I* and *II* (Proceedings of SPIE Vols. 1746 and 2265), were held in San Diego in 1992 and 1994. Earlier conferences include *Polarimetry: Radar, Infrared, Visible, Ultraviolet, and X-Ray* (Proceedings of SPIE Vol. 1317, 1990), and *Polarization Considerations in Optical Systems* and *Polarization Considerations in Optical Systems I* and *II* (Proceedings of SPIE Vol. 891 in 1988 and Vol. 1166 in 1989).

Our appreciation is given to our program committee members and session chairs for their efforts in making this conference a success, and to the contributing authors for the high quality of the papers in this volume.

David B. Chenault
Dennis H. Goldstein