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Introduction

A variety of current work in polarization research is contained within this volume, with an emphasis on defense and commercial sensing applications. The applications of polarimetry presented in this conference range from biometrics to navigation using polarization that originates in the sky. The field continues to mature through advances in instrumentation, modeling, and processing.

These proceedings are made up of papers from seven conference sessions. An invited paper on polarimetric thermal imaging for biometrics led the first session, Measurements and Applications. This was followed on the first day of the conference by sessions on Polarization System Design and Instruments, Active Sensing, and Analysis and Simulation. The second day started with a session on Atmospheric Effect followed by a second Analysis and Simulation session. A poster session included such wide-ranging topics as polarization characterization of zebras and description of a dual wave infrared imaging polarimeter.

This conference marks the twentieth year in a row that an SPIE polarization conference has been held. Polarization continues to be a subject of high interest in the optical community. Over the last fourteen years, the polarization conferences have alternated from the Optics + Photonics meeting in odd years, to the Defense, Security + Commercial Sensing meeting in even years. The nineteen prior conferences from 2017 through 1999 were documented in *Proceedings of SPIE,* Volumes 10407, 9853, 9613, 9099, 8873, 8364, 8160, 7672, 7461, 6972, 6682, 6240, 5888, 5432, 5158, 4819, 4481, 4133, and 3754. Previous conferences in this series included 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 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,* Vols. 1317, 1990), 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 chairpersons for their efforts in making this conference a success, and to the contributing authors for the high quality of the papers in this volume.

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Dennis H. Goldstein