





Special Issue Reprint

# **Advanced Polarimetry and Polarimetric Imaging**

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As a fundamental property of the light wave, polarization information can be used to reveal the light and target's physical properties, such as the material, thickness, surface features, refractive index, etc. Thanks to the unique advantages of polarization information, polarimetry and polarimetric imager techniques have promising applications in several fields, including object detection, biomedical imaging, remote sensing, astronomical observation, the characterization of surfaces and thin films, optical communication, etc. The theories, instruments, and interpretation methods for polarimetry and polarimetric imaging are constantly developing; therefore, improving the performance of polarimetry and polarimetric imagers and exploring related applications are still necessary to address existing challenges and expand the potential of polarimetric imaging, "Advanced Polarimetry and Polarimetric Imaging" highlights new theories in and applications of advanced polarimeters and polarimetric imaging. Seventeen manuscripts were submitted to this reprint. This reprint on polarization technology illustrates the field's notable progress and potential. It features research articles that introduce innovative solutions and tackle key challenges in polarimetric image restoration, 3D reconstruction, high-speed Mueller ellipsometry, and P-lidar. These promising applications and novel approaches in polarimetry and imaging technology herald a promising future.





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