Polarimetry of Stars and Planetary Systems

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Summarising the striking advances of the last two decades, this reliable introduction to modern astronomical polarimetry provides a comprehensive review of state-of-the-art techniques, models and research methods. Focusing on optical and near-infrared wavelengths, each detailed, up-to-date chapter addresses a different facet of recent innovations, including new instrumentation, techniques and theories; new methods based on laboratory studies, enabling the modelling of polarimetric characteristics for a wide variety of astronomical objects; emerging fields of polarimetric exploration, including proto-planetary and debris discs, icy satellites, transneptunian objects, exoplanets, and the search for extraterrestrial life; and unique results produced by space telescopes, and polarimeters aboard exploratory spacecraft. With contributions from an international team of accomplished researchers, this is an ideal resource for astronomers and researchers working in astrophysics, earth sciences, and remote sensing keen to learn more about this valuable diagnostic tool. The book is dedicated to the memory of renowned polarimetrist Tom Gehrels.

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