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Outstanding Topics in Ocean Optics

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Ocean optics is a branch of oceanography which is firmly embedded in studies of a great variety of ocean science and engineering questions. The interactive nature between radiative transfer of light and various dissolved and particulate constituents of seawater is at the core of ocean optics science and applications. The transfer of radiant solar energy has vital implications to life and climate on Earth, and the large variety of subjects of ocean optics ranges from the subtle problems of physical optics to optical remote sensing towards a better understanding of ocean biology, biogeochemistry and ecosystems and their roles in the Earth's system processes. The intention of this book is to present a collection of papers that generally share a common denominator of frontier topics in ocean optics which are unique, uncommon or outstanding in the literature, and to provide a balanced view of the extraordinary breadth of research in this field. Topics as diverse as measurements and modeling of radiative transfer, light fields, light scattering and polarization, ocean color, benthic optical properties, and the use of optics for characterizing seawater constituents are addressed in this book. The book is expected to be of interest and useful to a broad audience of professional ocean scientists, engineers and advanced students with an interest in ocean optics and applications of optical methods in oceanography.

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