PRINCIPLES OF SCATTERING AND TRANSPORT OF LIGHT

Light scattering is one of the most well-studied phenomena in nature. It occupies a central place in optical physics and plays a key role in multiple fields of science and engineering. This volume presents a comprehensive introduction to the subject. For the first time, the authors bring together in a self-contained and systematic manner the physical concepts and mathematical tools that are used in the modern theory of light scattering and transport, presenting them in a clear, accessible way. The power of these tools is demonstrated by a framework that links various aspects of the subject: scattering theory to radiative transport, radiative transport to diffusion, and field correlations to the statistics of speckle patterns. For graduate students and researchers in optical physics and optical engineering, this book is an invaluable resource on the interaction of light with complex media and the theory of light scattering in disordered and complex systems.

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To our families

*Emmanuelle, Lena and Thibaut*

*Helena, Sam, Marilyn and Nina*

and our parents

*Monique and René*

*Marilyn and Donald*