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## Book review

**Light Scattering Reviews 4: Single Light Scattering and Radiative Transfer, A.A. Kokhanovsky (Editor). Praxis, Chichester, UK (2009). xxvii+515 pp., US\$ 269, Hardbound, ISBN 978-3-540-74275-3**

This collective monograph was published as volume 4 of the well-established Praxis/Springer series “Light Scattering Reviews” edited by A.A. Kokhanovsky. Volumes 2 and 3 of this series have been reviewed in JQSRT previously [1,2].

This volume includes nine in-depth review chapters unified topically by the subtitle “Single Light Scattering and Radiative Transfer”. In Chapter 1, B. Gustafson provides a valuable update on the microwave analogue measurement technique in electromagnetic scattering by arbitrarily shaped bodies. The second chapter contributed by E. Hadamcik et al. describes applications of the imaging technique in laboratory measurements of light scattering by micro-clouds of solid particles. Chapter 3 by S. Savenkov is a thorough and instructive review of general symmetry properties of Jones and Mueller matrices and their information content. In Chapter 4, T. Rother summarizes the use of the Green function formalism in the mathematical description of the scattering of a plane wave by a nonspherical particle. The first four chapters form Part I of the book titled “Single Light Scattering”.

Part II of the book is titled “Radiative Transfer” and includes three chapters. The first of them is by A. Davis et al. and is a mini-monograph on the use of space-time Green functions in the description of the diffusive radiation transport in active and passive remote sensing of clouds. Chapter 6 by A. Klose is a very useful review of

radiative transfer of luminescence light in biological tissues. In Chapter 7, N. Rogovtsev and F. Borovik analyze the characteristic equation of the radiative transfer theory in the classical style of the “Soviet” school of radiative transfer.

Part III of the book is devoted to applications of dynamic and static light scattering. The chapter by P. Zakharov and F. Scheffold summarizes recent advances in dynamic light scattering techniques and discusses such important subjects as the problem of non-ergodicity and time- and space-resolved methods. Chapter 9 by R. Singh concludes the book by reviewing static and dynamic light scattering by aerosols in controlled environments.

Like the previous three volumes of *Light Scattering Reviews*, this one is a must for any research or university library as well as for individual professionals working in the fields related to light scattering. This volume is a convincing demonstration of an advanced maturation stage of this useful series of monographs which have contributed quite significantly to thorough, systematic, and accessible exposition of the discipline of electromagnetic scattering by particles and its various applications.

## References

- [1] Mishchenko M.I. *J Quant Spectrosc Radiat Transfer* 2008;109:703.
- [2] Khlebtsov N. *J Quant Spectrosc Radiat Transfer* 2010;111:260.

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