



I. R. Kenyon, *The Light Fantastic*, 2nd Ed. (Oxford University, Oxford, 2011).

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Book Review

The Light Fantastic is a textbook designed to cover classical and quantum optics in a single 710 page volume. Chapters 1 to 11 are dedicated to classical optics whilst chapters 12 to 20 are devoted to quantum optics. The chapters are followed by a series of appendices where some specialized topics, such as the density matrix, are described and/or explained. Each chapter contains a list of exercises and solutions are provided. The classical section is rather orthodox in its approach where the usual exposition initiated by reflection and refraction builds up to grander topics such as interference and diffraction followed by Fourier optics, astronomical telescopes, electromagnetic theory, polarization, and scattering. Clear and neat figures are nicely used to illustrate the subjects. The book then focuses on quantum optics beginning with an exposition of the basics including Heisenberg's uncertainty principle and Schrödinger's equation. Lasers, detectors, and fibres provide a practical flavour to the second part of this book which then continues with various topics including the quantized electromagnetic field, optical microcavities, and quantum cryptography. *The Light Fantastic* is clearly written and provides a useful tool in guiding advanced undergraduates, and/or graduate students, in the wonderful adventure of optics.

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