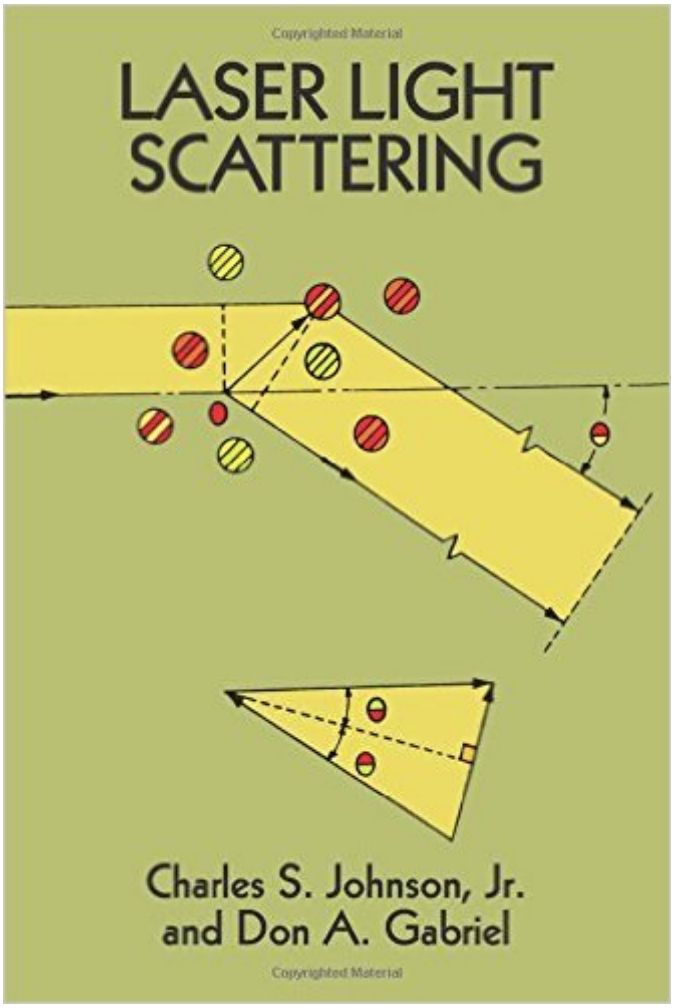
Laser Light Scattering (Dover Books On Physics)



Synopsis

Light scattering has provided an important method for characterizing macro-molecules for at least three decades. Now, through the use of intense, coherent laser light and efficient spectrum analyzers and autocorrelators, experiments in the frequency and time domains can be used to study molecular motion, e.g. diffusion and flow and other dynamic processes, as well as the equilibrium properties of solutions. As a result, laser light scattering has become a powerful form of spectroscopy with applications in physics, biochemistry, and other fields.This volume, which employs a relatively simple approach in order to reach the widest audience, focuses on two main topics: classical light scattering (scattering intensity, concentration dependence, size dependence, and polydispersity) and dynamic light scattering (time and frequency dependence, translational diffusion, directed flow, rotational motion, and more). A series of useful appendixes and a list of references complete this concise, accessible work, a valuable resource for physicists, chemists, and anyone interested in the increasingly important field of laser light scattering.

Book Information

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Customer Reviews

The material in this book is from 1981. It is not the cutting edge of laser physics. But the treatments are still valid. The derivations of light scattering are from introductory quantum mechanics. The Schrodinger equation and Maxwell’s equations are perfectly adequate to describe the phenomena.The property of the incoming laser light is, of course, its coherence. Plus, typically, it is collimated as plane waves.Various applications in spectroscopy and atomic and nuclear physics are

studied. Turns out that the spectroscopy lends itself well to various diagnostic and industrial uses.As with all Dover books, the price is very economical. When typical texts from other publishers might be in the $100 range.

this is a good book on the theory of laser light scattering. the experimental details are all outdated (this is a dover book, after all...)this book arrived in the condition specified.

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