



# Introduction to Optics and Lasers in Engineering

*By Gabriel Laufer*

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## **Introduction to Optics and Lasers in Engineering** By Gabriel Laufer

In a very short period of time, lasers have advanced from a mere research interest to an increasingly useful, commercially available tool for material processing, precision measurements, surgery, communication, and entertainment. This book provides the background in theoretical physics necessary to understand the engineering applications of lasers. It summarizes relevant theories of geometrical optics, physical optics, quantum optics, and laser physics while tying them to applications in such areas as fluid mechanics, combustion, surface analysis, material processing, and laser machining. The author clearly and thoroughly explains advanced topics such as laser Doppler velocimetry, laser-induced fluorescence, and holography. The book includes numerous examples and advanced problems that simulate real-world research and encourage independent reading and analysis. The book will benefit researchers and students across all branches of engineering.

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"This book provides the background in theoretical physics necessary to understand engineering applications of lasers and optics....Discussions of advanced optics such as laser Doppler velocimetry, laser-induced fluorescence, and holography are simplified yet are sufficiently detailed to enable the reader to evaluate existing systems and design new ones." International Aerospace Abstracts

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