Fourier Series and Optical Transform Techniques in Contemporary Optics: An Introduction

Raymond G. Wilson

DESCRIPTION

Fourier Series and Optical Transform Techniques in Contemporary Optics

An Introduction

For anyone new to Fourier methods, this remarkable book will illuminate the subject like no other currently available. With over 280 illustrations generated by computer graphics, it depicts in 3-space (rather than the usual 2-space) the many basic functions of optical diffraction and imaging. These mind-stretching visualizations give the reader an enhanced understanding of both Fourier transform techniques and key principles in optics. At the same time, the author provides a lucid text that covers wavenotation, the Fourier analysis of signals, the processing of light in diffraction phenomena and imaging, Zernicke polynomials, Fourier transforms for Fresnel diffraction, laser beacon adaptive optics, and related topics.

Ideal for self-teaching, this book is highly recommended for working engineers, technical staff, students of physical optics and signal analysis, and Fourier novices in all fields.
ABOUT THE AUTHOR

RAYMOND G. WILSON is Associate Professor of Physics at Illinois Wesleyan University. He received his PhD from the Optical Sciences Center of the University of Arizona where his research involved the ionic polishing of fused silica.

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