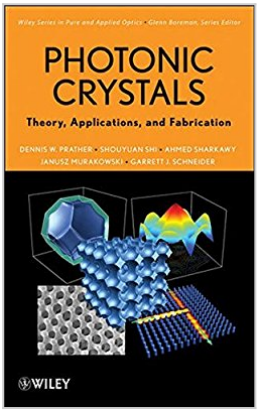

Photonic Crystals, Theory, Applications and Fabrication (Wiley Series in Pure and Applied Optics)

By Dennis W Prather, Ahmed Sharkawy, Shouyuan Shi, Janusz Murakowski, Garrett Schneider

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The Only Source You Need for Understanding the Design and Applications of Photonic Crystal-Based Devices

This book presents in detail the fundamental theoretical background necessary to understand the unique optical phenomena arising from the crystalline nature of photonic-crystal structures and their application across a range of disciplines. Organized to take readers from basic concepts to more advanced topics, the book covers:

- Preliminary concepts of electromagnetic waves and periodic media
- Numerical methods for analyzing photonic-crystal structures
- Devices and applications based on photonic bandgaps
- Engineering photonic-crystal dispersion properties
- Fabrication of two- and three-dimensional photonic crystals

The authors assume an elementary knowledge of electromagnetism, vector calculus, Fourier analysis, and complex number analysis. Therefore, the book is appropriate for advanced undergraduate students in physics, applied physics, optics, electronics, and chemical and electrical engineering, as well as graduate students and researchers in these fields.

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About the Author

Dennis W. Prather, PhD, is a Professor in the Department of Electrical and Computer Engineering at the University of Delaware, where he leads the Laboratory for Nanoscale and Integrated Photonic Systems. Professor Prather is a Fellow of SPIE and OSA.

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