Recent advances in the development of low-loss optical fibers have revolutionized the field of telecommunications, and fiber-based networks form a key part of international communications systems. This book introduces the physical principles of optical fibers, and details their use in sensor technology and modern optical communication systems. The authors begin by setting out the basic propagation characteristics of single mode and multimode optical fibers. In later chapters they cover optical sources, optical detectors, and fiber-optic communication system design. They also treat a wide variety of related topics such as doped fiber amplifiers, dispersion compensation, fiber sensors, and measurement techniques for the characterization of optical fibers. The book emphasizes physical and engineering aspects of the subject. It will be an ideal textbook for undergraduate or graduate students taking courses in optical fiber communications, photonics, or optoelectronics.

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"This is a truly comprehensive, timely text for in-depth studies of communication via fiber optics...The text clearly elucidates all the intricate topics with step-by-step, easy-to-follow mathematical analysis. The authors make it surprisingly easy for the reader to grasp the underlying physical concepts together with the mathematical model." Science Books & Films"...an excellent book that provides a comprehensive account of the fundamentals of fiber optics...Overall, this is a well thought out and well balanced book that, in the reviewer's opinion, proves to be a valuable
reference on fiber optics. Its thoroughness, breadth, and clarity of presentation will attract a large audience." Optics and Photonics News

This book introduces the physical principles of optical fibers, and details their use in sensor technology and modern optical communications. The authors set out the basic propagation characteristics of single mode and multimode optical fibers. In later chapters they cover optical sources, optical detectors, and fiber-optic communication system design. Throughout the book, physical and engineering aspects of the subject are interwoven, and many worked examples and exercises are included. It will be an ideal textbook for undergraduate or graduate students taking courses in optical fiber communications, photonics, or optoelectronics.

This book serves as a relatively good introduction to fiber optics. The book has a rather thorough derivation of the theoretical modes in waveguides and fibers for different index profiles, but is more weak on the experimental side e.g. scattering mechanisms for light is only discussed briefly. On the whole, the book can be recommended as an introduction, but probably not as a stand-alone reference. The by far largest drawback of the book is the index or rather lack of index. Considering the large amount of information presented in the book, the index is almost non-existent. This seriously impairs using the book as a reference handbook.

It is a good introductory and a reference book in fiber optics. Detailed derivations of different aspects of Multimode and Single mode fiber are given. Chapter on Erbium doped fiber emplifier is also good. It can be used as a good reference book except for its index.

Full of examples and comprehensive

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