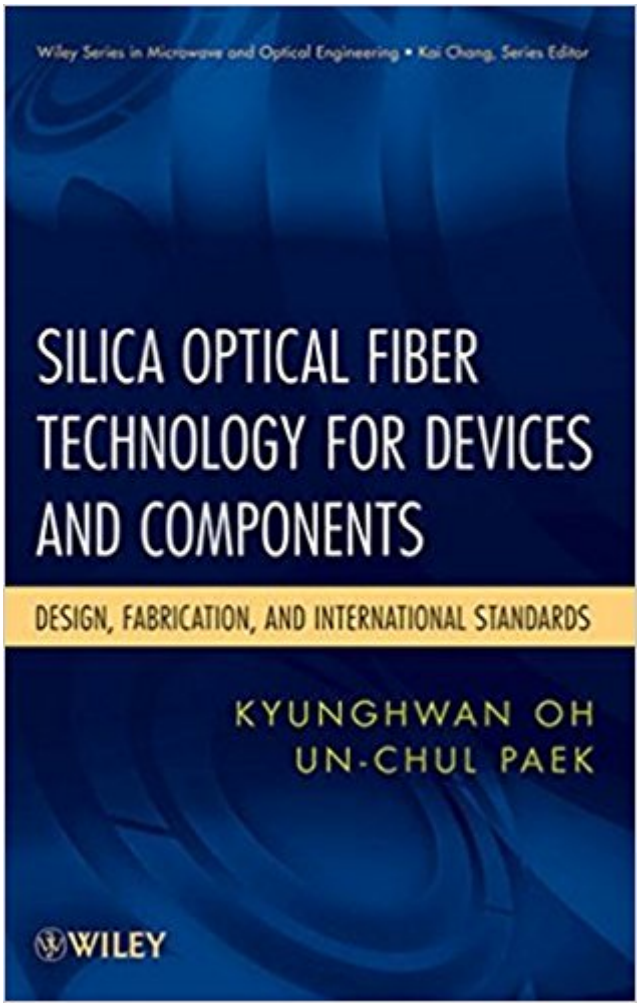
Silica Optical Fiber Technology For Devices And Components: Design, Fabrication, And International Standards



Synopsis

From basic physics to new products, Silica Optical Fiber Technology for Device and Components examines all aspects of specialty optical fibers. Moreover, the inclusion of the latest international standards governing optical fibers enables you to move from research to fabrication to commercialization. Ã¢â ¬Â¢ Reviews all the latest specialty optical fiber technologies, including those developed for high capacity WDM applications; broadband fiber amplifiers; fiber filleters based on periodic coupling; fiber branching devices; and fiber terminations Ã¢â ¬Â¢ Discusses key differences among single mode fibers, multimode fibers for high speed Ethernet LAN, and dispersion compensating fibers for long-haul applications Ã¢â ¬Â¢ Compares the most recently developed conventional optical fibers with the latest photonic crystal fibers still in development A self-contained, menu-driven software program is included for optical fiber design, simulating waveguide structures for most of the fibers discussed in the book.

Book Information

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Customer Reviews

Ã¢â ¬Å“The technical level is suitable for students of science and engineering in their first or second year of graduate school.Ã¢â ¬Â•Ã Â (Book News, 1 April 2012) Ã Â

Supports the design and fabrication of specialty optical fibers for today’s communications systems Optical fiber research has expanded well beyond transmission media to encompass a broad range of silica optical fibers with functions that permit the development of a multitude of applications

underlying today’s communications systems. From basic physics to new products, this book examines all aspects of silica optical fibers. Moreover, the inclusion of the latest international standards governing optical fibers enables readers to move from research to fabrication to commercialization. Silica Optical Fiber Technology for Devices and Components reviews all the latest specialty optical fiber technologies, including technologies developed for: High-capacity WDM applications Gigabit Ethernet transmission Optical nonlinearity control Light polarization management Photonic crystal fiber design for novel optical properties As readers progress through the book, they’ll learn about key differences among standard single-mode fibers, multimode fibers for high-speed Ethernet LAN, and dispersion-managed fibers for long-haul applications as well as the design concept in photonic crystal fibers. In addition, it compares the most recently developed conventional solid core/clad optical fibers with the latest air-hole silica fibers still in development. Silica Optical Fiber Technology for Devices and Components also offers a self-contained, menu-driven software program for optical fiber design that simulates waveguide structures for most of the fibers discussed in the book. This software not only enables readers to explore the optical properties of the fibers discussed in the book, it allows them to design and specify their own optical characteristics. With its comprehensive coverage of current optical fiber technology, this book is ideal for researchers in optical communications, sensors, and related fields who would like to further develop their understanding in design and fabrication of advanced optical fibers.

In addition to the usual waveguide analysis section, etc. - this book has a very nice discussion of fiber manufacturing technology. I have not seen this anywhere else. There’s also a nice section on the applicable standards. Although there are other books on this topic, this one is unique for the combination of useful topics in a single volume. Very nice - only one complaint - give us a Kindle edition so I can take it with me more easily!Added comments: I was unable to run the included OFACad software from the publishers website because the zip file was corrupt. Wiley was no help at all, but fortunately the author responded to me directly and was able to provide a working version. 5 stars for both the book and its author!!

This book contains the latest standards on optical fibers to provide readers techincal and market oriented knowldge at the same time, which has not been attempted in prior book to my best knowledge. This book also provides a fiber design software to allow readers to design their own optical fibers, which has never been tried in general optical fiber books. This book compares the

most updated conventional optical fibers with the recent photonic crystal fibers to let readers understand underlying physics of two types fibers. So, this book is an excellent reference book for all the engineers and scientists working in the field of photonics including optical fiber fabrication engineers, subsystem disigners and network disigners and also for the graduate students.

I am a professor with 20 years of experience making a wide variety of optical fibers. I have thoroughly enjoyed this book, which I use in class and frequently in my own research. It is thorough and well-written by two globally pre-eminant scholars. I highly recommend it for anyone working in optical fibers.

Scanning, Second Edition (Optical Science and Engineering) Electro-Optical Displays (Optical Science and Engineering) optical communication and splicing: optical networks