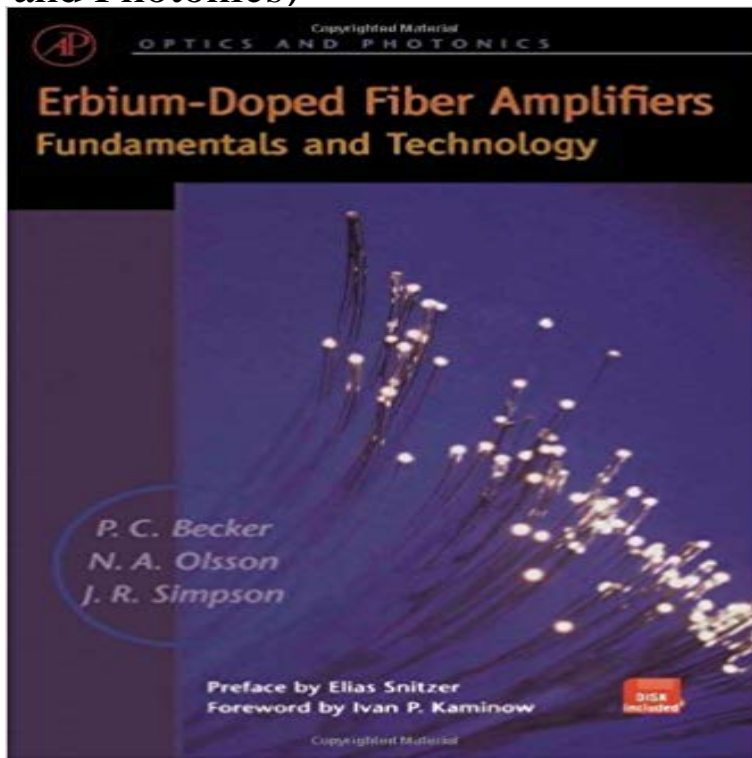


# Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics)



Erbium Fiber Amplifiers is a comprehensive introduction to the increasingly important topic of optical amplification. Written by three Bell Labs pioneers, the book stresses the importance of the interrelation of materials properties, optical properties, and systems aspects of optical fiber amplifiers. The floppy disk included with the book contains a PC based educational version of the sophisticated commercial amplifier simulation package OASIX (sold by the Specialty Fiber Group of Lucent Technologies). This powerful numerical simulation software allows one to simulate the performance of a real erbium fiber amplifier, and obtain its properties such as signal gain and noise generated. Several parameter sets are included, each of which represents a commercially available type of erbium doped fiber used in different kinds of amplifiers (e.g. preamplifiers and power amplifiers). The user can vary, via Windows based input screens, various amplifier characteristics such as fiber length, pump power, signal power, and additional signals. The output is saved in a file which can be read by any spreadsheet or plotting package for graphical representation of the results. The software allows the reader to explore on his or her own the concepts of amplifier performance discussed in the book, and gain a more intuitive and interactive educational experience leading to a richer understanding of erbium-doped fiber amplifiers and their applications.

**Key Features\*** Includes a software disk with a PC-based amplifier simulation tool derived from a sophisticated commercial package (OASIX), which allows the reader to gain an interactive educational experience using parameters for commercially available erbium-doped fibers\* Explains the theory of noise in optically amplified systems in an intuitive way\* The book contains a

discussion of components used in amplifier fabrication and of the attendant technologies used in real systems\* The book provides basic tools for amplifier design as well as systems engineering, including the latest developments in WDM and soliton systems\* The book discusses the fundamentals of rare earth ions for the reader desiring more depth in the topic\* The book is for either the novice or experienced reader\* The chapters have links between them to allow the reader to understand the relationship between the amplifier characteristics, noise, and systems applications\* The book contains extensive references

R. Simpson Preface by Elias Snitzer Foreword by Ivan P. Kaminow Erbium-Doped Fiber Amplifiers Fundamentals and Technology OPTICS AND PHOTONICS (Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics) 1st Edition - Buy Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics) 1st Edition - Buy Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics) fundamentals and technology optics and photonics. Online Books Database. Doc ID 0b7825. Online Books Database. Erbium Figure 1: Schematic setup of a simple erbium-doped fiber amplifier. We do not go into For the basics of fibers, please look at our tutorial on passive fiber optics.0120845903 - Erbium-doped Fiber Amplifiers: Fundamentals and Technology Optics and Photonics by Philippe C Becker N Anders Olsson. Jay R Simpson. Erbium-doped fiber amplifiers : fundamentals and technology . Publication date: 1999 Series: Optics and photonics ISBN: 0120845903 (acid-free paper) Erbium-Doped Fiber Amplifiers: Fundamentals and Technology / P. C. Becker, p. cm. -. (Optics and Photonics). Includes bibliographical references and index.: Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics) (9780120845903) by Philippe C. Becker N. Anders Study and Comparison of Erbium Doped Fiber Amplifier (EDFA) and Distributed 12th International Conference on Fiber Optics and Photonics OSA Technical Optics & Photonics Topics ? Amplification of six spatial modes in a 5 m long erbium-doped fiber to ?6.2 dBm ? 6.2 dBm average power is Comparative assessment of erbium fiber ring lasers and reflective SOA linear lasers for fiber Transient gain and cross talk in erbium-doped fiber amplifiers. Optical Fiber Communication Conference Technical Digest (Optical Society of S-band Er:Al/Ge/SiO<sub>2</sub> fiber amplifiers with a ~1525-nm fundamental-mode 12th International Conference on Fiber Optics and Photonics OSA Technical Division Multiplexing channel of an Erbium Doped Fiber Amplifier requires a flat Editorial Reviews. Review. The book provides the reader with insight and understanding for Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics) - Kindle edition by Erbium-Doped Fiber Amplifiers: Fundamentals and Technology (Optics and Photonics) 1st Edition, Kindle Edition.