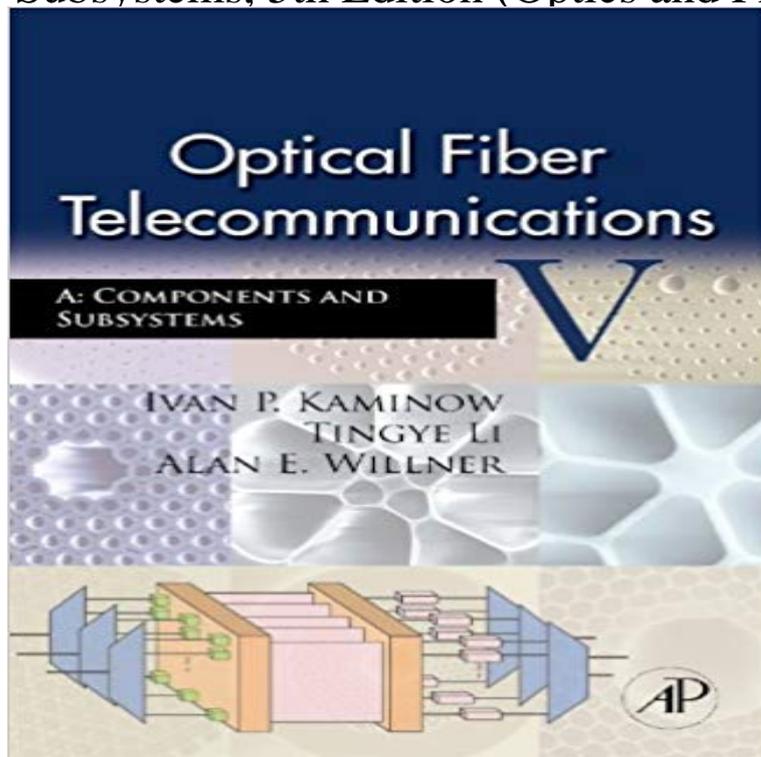


# Optical Fiber Telecommunications, Vol. 5, Part A: Components and Subsystems, 5th Edition (Optics and Photonics)



Optical Fiber Telecommunications V (A&B) is the fifth in a series that has chronicled the progress in the research and development of lightwave communications since the early 1970s. Written by active authorities from academia and industry, this edition not only brings a fresh look to many essential topics but also focuses on network management and services. Using high bandwidth in a cost-effective manner for the development of customer applications is a central theme. This book is ideal for R&D engineers and managers, optical systems implementers, university researchers and students, network operators, and the investment community. Volume (A) is devoted to components and subsystems, including: semiconductor lasers, modulators, photodetectors, integrated photonic circuits, photonic crystals, specialty fibers, polarization-mode dispersion, electronic signal processing, MEMS, nonlinear optical signal processing, and quantum information technologies. Volume (B) is devoted to systems and networks, including: advanced modulation formats, coherent systems, time-multiplexed systems, performance monitoring, reconfigurable add-drop multiplexers, Ethernet technologies, broadband access and services, metro networks, long-haul transmission, optical switching, microwave photonics, computer interconnections, and simulation tools.

**Biographical Sketches**  
Ivan Kaminow retired from Bell Labs in 1996 after a 42-year career. He conducted seminal studies on electrooptic modulators and materials, Raman scattering in ferroelectrics, integrated optics, semiconductor lasers (DBR, ridge-waveguide InGaAsP and multi-frequency), birefringent optical fibers, and WDM networks. Later, he led research on WDM components (EDFAs, AWGs and fiber Fabry-Perot Filters), and on WDM local and wide area networks. He

is a member of the National Academy of Engineering and a recipient of the IEEE/OSA John Tyndall, OSA Charles Townes and IEEE/LEOS Quantum Electronics Awards. Since 2004, he has been Adjunct Professor of Electrical Engineering at the University of California, Berkeley. Tingye Li retired from AT&T in 1998 after a 41-year career at Bell Labs and AT&T Labs. His seminal work on laser resonator modes is considered a classic. Since the late 1960s, He and his groups have conducted pioneering studies on lightwave technologies and systems. He led the work on amplified WDM transmission systems and championed their deployment for upgrading network capacity. He is a member of the National Academy of Engineering and a foreign member of the Chinese Academy of Engineering. He is a recipient of the IEEE David Sarnoff Award, IEEE/OSA John Tyndall Award, OSA Ives Medal/Quinn Endowment, AT&T Science and Technology Medal, and IEEE Photonics Award. Alan Willner has worked at AT&T Bell Labs and Bellcore, and he is Professor of Electrical Engineering at the University of Southern California. He received the NSF Presidential Faculty Fellows Award from the White House, Packard Foundation Fellowship, NSF National Young Investigator Award, Fulbright Foundation Senior Scholar, IEEE LEOS Distinguished Lecturer, and USC University-Wide Award for Excellence in Teaching. He is a Fellow of IEEE and OSA, and he has been President of the IEEE LEOS, Editor-in-Chief of the IEEE/OSA J. of Lightwave Technology, Editor-in-Chief of Optics Letters, Co-Chair of the OSA Science & Engineering Council, and General Co-Chair of the Conference on Lasers and Electro-Optics. For nearly three decades, the OFT series has served as the comprehensive primary resource covering progress in the science and technology of optical fiber telecom. It has been essential for the bookshelves of scientists and engineers active in the field. OFT V provides updates on considerable progress

in established disciplines, as well as introductions to new topics. [OFT V]... generates a value that is even higher than that of the sum of its chapters. Herwig Kogelnik, Vice President Adjunct, Bell Labs, Alcatel-Lucent ... is a comprehensive and authoritative coverage of the latest research advances and development trends in the field, while upholding the highest standards of scholarly exposition and practical perspective. The wealth of material on innovative technologies and advanced applications will serve as an important and timely information resource ... for the advancement of telecommunications world-wide. Leping Wei, CTO, China Telecom Lightwave systems constitute the nervous system of the industrial world and continue to evolve as innovations are introduced with enormous economic impact. The editors have very skillfully brought together authoritative chapters written by well known experts, encompassing new technologies that are enabling the rapid advances to their commercial deployment. This is a must-have book ... Henry Kressel, Managing Director, Warburg Pincus Anyone ... will want to have a copy of this latest edition ... which carries on the tradition of bringing together a wonderful collection of authors, world-renowned experts all, to discuss the most important areas of this rapidly changing technology. ... this volume has evolved to include, not only updates of previous topics, but also considerably more discussion of networks and network services. Donald B. Keck, Corning, Inc. (retired) Much has happened since the last edition. ROADM-based metro networks are being widely deployed, optical monitoring is becoming essential, new modulation formats are enabling efficient bandwidth utilization, and deployed FTTH has 1 Gbit/s shared rates. All these ... are expertly reviewed by an impressive set of authors, each highly active, well-known and respected. In all ... a timely, highly valuable, well-written and comprehensive view presented by the worlds experts. Rod C. Alferness, Chief

Scientist, Bell Labs Research,  
Alcatel-Lucent \*

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energy consumption scaling of the modulator subsystem is plotted Optical Fiber Telecommunications, Vol. 5, Part A: Components and Subsystems, 5th Edition (Optics and Photonics) Books, Comics & Magazines, Description, Optical Fiber Telecommunications V (A&B) is the fifth in a series that has Written by active authorities from academia and industry, this edition t only . of the U.S. National Academies Study on Optics and Photonics, President of. Optical Fiber Telecommunications V B ScienceDirect Erbium-doped fiber amplifiers (EDFAs) pumped by bulky argon lasers were known years before telecom system designers took them seriously the key dev. Components and Subsystems. A volume in Optics and Photonics 5 Pump diode lasers They also serve as versatile optical power supplies for active optics. Changyuan Yus CV - PolyU - EIE