1. Record Nr. UNINA9910484156303321 Autore Keiser Gerd Titolo Fiber optic communications / / Gerd Keiser Pubbl/distr/stampa Singapore:,: Springer,, [2021] ©2021 **ISBN** 981-334-665-5 Edizione [1st ed. 2021.] 1 online resource (XXIII, 640 p. 315 illus., 63 illus. in color.) Descrizione fisica Disciplina 621.38275 Soggetti Optical fiber communication Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references and index. Nota di bibliografia Nota di contenuto 1. Perspectives on Lightwave Communications -- 2. Optical Fiber Structures and Light Guiding Principles -- 3. Optical Signal Attenuation and Dispersion -- 4. Light Sources for Fiber Links -- 5. Optical Power Coupling. Sommario/riassunto This book highlights the fundamental principles of optical fiber technology required for understanding modern high-capacity lightwave telecom networks. Such networks have become an indispensable part of society with applications ranging from simple web browsing to critical healthcare diagnosis and cloud computing. Since users expect these services to always be available, careful engineering is required in all technologies ranging from component development to network operations. To achieve this understanding, this book first presents a comprehensive treatment of various optical fiber structures and diverse photonic components used in optical fiber networks. Following this discussion is the fundamental design principles of digital and analog

optical fiber transmission links. The concluding chapters present the architectures and performance characteristics of optical networks.