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1.6. Appendix: detail of calculation in section 1.4.2Chapter 2. Single-Mode Optical Fibers; 2.1. Fiber optic field calculation; 2.1.1. Electromagnetic equations; 2.1.2. Solution for step-index fiber optics; 2.1.2.1. General form; 2.1.2.2. Transverse components; 2.1.3. Mode calculation method; 2.1.4. Nature of modes; 2.1.4.1. Transverse modes; 2.1.4.2. Hybrid modes; 2.1.5. Cut-off frequency; 2.1.6. Aspect of modes; 2.2. Single-mode fiber characteristics; 2.2.1. Single-mode propagation condition; 2.2.2. Gaussian single-mode fiber model; 2.2.3. Single-mode fiber parameters
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3.1.3. Plastic fibers

Sommario/riassunto

This book describes in a comprehensive manner the components and systems of fiber optic communications and networks.?The first?section explains the theory?of multimode and single-mode fibers, then the technological features, including manufacturing, cabling, and connecting.?The second?section describes the various components (passive and active optical components, integrated optics, opto-electronic transmitters and receivers, and optical amplifiers) used in fiber optic systems. Finally, the optical transmission system design is explained, and applications to optical networks and fiber optic se