Abstracts

Propagation Effects in Optical Fibers

D. Gloge. "Propagation Effects in Optical Fibers." 1975 Transactions on Microwave Theory and Techniques 23.1 (Jan. 1975 [T-MTT] (Special Issue on Integrated Optics and Optical Waveguides)): 106-120.

The round dielectric waveguide exhibits a surprising variety of characteristics that are not accurately inferable from the slab model. The forceful effort of recent years has grately extended the knowledge of these structures and added new and exciting modifications. An attempt to unify these results in a simplified picture is made. Specific phenomena relevant to optical fiber design and fabrication are then brought into focus. Some of the problems discussed are cross sectional loss variations, various core index profiles and the tolerances required in their preparation, the necessary cladding thickness, directional changes, and sources of mode coupling affecting signal distortion and loss.

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