Abstracts

Propagation Characteristics of Single Mode Optical Fibers with Arbitrary Index Profiles: A Simple Numerical Approach

E.K. Sharma, A. Sharma and I.C. Goyal. "Propagation Characteristics of Single Mode Optical Fibers with Arbitrary Index Profiles: A Simple Numerical Approach." 1982 Transactions on Microwave Theory and Techniques 30.10 (Oct. 1982 [T-MTT] (Special Issue on Optical Guided Wave Technology)): 1472-1477.

We present here a rapidly converging numerical procedure for the direct evaluation of the propagation constant and its first and second derivatives in single mode optical fibers with arbitrary refractive index profiles. To illustrate the procedure we have also used it to evaluate the propagation constant and its derivatives in single mode optical fibers with power law profiles in the presence of a Gaussian axial index dip, and hence, studied the effect of a dip on the dispersion characteristics of the fibers.

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