Abstracts

A Surface Integral Equations Method for Homogeneous Optical Fibers and Coupled Image Lines of Arbitrary Cross Sections

C.-C. Su. "A Surface Integral Equations Method for Homogeneous Optical Fibers and Coupled Image Lines of Arbitrary Cross Sections." 1985 Transactions on Microwave Theory and Techniques 33.11 (Nov. 1985 [T-MTT]): 1114-1119.

Based on the surface integral equations, a novel method is developed to treat the propagation characteristics of homogeneous optical fibers of arbitrary cross sections in both the rigorous vectorial and the approximate scalar formulations. This method is ready to be generalized to the cases of multiple dielectric waveguides, such as the coupled dielectric image lines used in microwave integrated circuits. Further, Green's function at cutoff is presented so that the corresponding cutoff frequencies can be treated. Numerical results of propagation characteristics of single and double waveguides are presented in both the vector and solar forms.

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