Abstracts

Propagation Constants for TE and TM Surface Waves on an Anisotropic Dielectric Cylinder

P.R. Longaker and C.S. Roberts. "Propagation Constants for TE and TM Surface Waves on an Anisotropic Dielectric Cylinder." 1963 Transactions on Microwave Theory and Techniques 11.6 (Nov. 1963 [T-MTT]): 543-546.

Maxwell's equations for wave propagation in a cylindrical anisotropic dielectric rod have been solved for various values of the longitudinal and transverse dielectric constants with the help of an IBM 7090 computer. The solutions are limited to modes having no rotational dependence about the direction of propagation. Families of curves for various ratios of longitudinal to transverse dielectric constants are given, showing the relationship between the guided wavelength and the diameter of the rod. Equations for the cutoff and asymptotic behavior are also given.

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