Abstracts

Variation of the Electrical Characteristics of an Inhomogeneous Microstrip Line with the Dielectric Constant of the Substrate and with the Geometrical Dimensions (Short Papers)

A. Ros, R. Daumas, D. Pompei and E. Rivier. "Variation of the Electrical Characteristics of an Inhomogeneous Microstrip Line with the Dielectric Constant of the Substrate and with the Geometrical Dimensions (Short Papers)." 1975 Transactions on Microwave Theory and Techniques 23.8 (Aug. 1975 [T-MTT]): 703-706.

Studying systematically the variations of electrical characteristics of microstrip lines with the width w of the line, the thickness h, and the dielectric constant epsilon/sub r/ of the substrate, we have obtained a perfect linear variation with epsilon/sub r/. Then using a least squares method, we have been able to give an analytical expression of capacitances usable for 1 <= epsilon/sub r/ <= 100 and 0.04 <= w/h <= 10. The importance of this result is that we can give impedances and phase velocities without any computation.

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