Abstracts

Dispersion Characteristics of an Array of Parasitic Linear Elements

E.R. Nagelberg and J. Shefer. "Dispersion Characteristics of an Array of Parasitic Linear Elements." 1966 Transactions on Microwave Theory and Techniques 14.8 (Aug. 1966 [T-MTT]): 391-396.

In this paper we study the properties of a transmission line consisting of an infinite array of conducting cylinders, placing emphasis on the dispersion characteristics of the lowest order slow wave mode. We present experimental results for the variation of phase velocity with frequency, and then, using a method of parameter estimation, determine the element current (distribution which best explains these observations. Assuming this distribution to be of the form we find that, for a given size of element, there is a value of gamma which gives very good agreement for the variation of phase velocity over the frequency range of interest.

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