

Abstracts

Analysis of a Class of Cylindrical Multiconductor Transmission Lines Using an Iterative Approach

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A class of cylindrical multiconductor transmission lines is theoretically analyzed, and useful parameters, e.g., characteristic impedance and effective dielectric constant, are derived. Discretization of the continuous functions and exploitation of the periodicity of the cylindrical structure lead to a discrete convolution which can be carried out numerically rigorously and efficiently using the FFT algorithm. An iterative technique is employed in the spectral domain to derive the solution of integral equations for the charge distribution. Numerical results are presented and compared with available data.

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