Abstracts

Analysis and Intrinsic Properties of the General Nonuniform Transmission Line

A new formulation for the analysis of the general nonuniform transmission line is presented. A characterization of the line in terms of its ABCD parameters is given. Explicit formulas for these parameters are obtained from which any network function can be calculated to any degree of accuracy. The new formulation leads to a description of the line in terms of a Sturm-Liouville equation from which all of the natural frequencies of the line can be found and their distribution bounds and asymptotic behavior specified. The ABCD parameters are shown to be entire functions of order 1 and genus 1.

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