Abstracts

Higher Order Asymptotic Boundary Condition for the Finite Element Modeling of Two-Dimensional Transmission Line Structures

In this work the general form of the solution to Laplace's equation is used to derive a higher order asymptotic boundary condition. The boundary condition is then implemented in the finite element scheme to model two-dimensional transmission line structures operating in the quasi-TEM mode. The numerical results of two- and six-conductor configurations show that the higher order asymptotic boundary condition not only yields more accurate results than those obtainable with a perfectly conducting shield but also compares more favorably with the published work than the simple asymptotic condition.

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