Abstracts

Partial-Boundary Element Method for Analysis of Striplines with Arbitrary Cross-Sectional Dielectric in Multi-Layered Media

K. Atsuki and K. Li. "Partial-Boundary Element Method for Analysis of Striplines with Arbitrary Cross-Sectional Dielectric in Multi-Layered Media." 1995 Transactions on Microwave Theory and Techniques 43.5 (May 1995 [T-MTT]): 1153-1161.

A new method of analysis called the partial-boundary element method (p-BEM) is proposed for the analysis of striplines with arbitrary cross-sectional dielectric in multi-layered media. By using a Green's function that satisfies the boundary conditions of a relevant structure with multi-layered media and introducing a concept of the equivalent charge density, the p-BEM formulates a potential integral and boundary integral equations only on partial-boundaries such as the surface of the arbitrary cross-sectional dielectric. The number of the equations needed to be formulated is much less than in the conventional BEM. Numerical results of analysis are presented for two kinds of striplines: 1) with a rectangular dielectric ridge and 2) with an embedded rectangular dielectric in three-layered media.

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