Abstracts

Arbitrarily Shaped Microstrip Structures and Their Analysis with a Mixed Potential Integral Equation

This paper gives a comprehensive description of the mixed potential integral equation (MPIE) as applied to microstrip structures. This technique uses Green's functions associated with the scalar and vector potential which are calculated by using stratified media theory and are expressed as Sommerfeld integrals. Several methods of moments allowing the study of irregular shapes are described. It is shown that the MPIE includes previously published static and quasi-static integral equations. Hence, it can be used at any frequency ranging from dc to higher order resonances. Several practical examples including an L-shaped patch have been numerically analyzed and the results are found to be in good agreement with measurements.

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