# Abstracts

## A Modified Residue-Calculus Technique for Solving a Class of Boundary Value Problems Part I: Waveguide Discontinuities

The modified residue-calculus technique, which is a generalization of the conventional function theoretic procedure for solving certain infinite sets of equations, permits solution of waveguide discontinuity problems which include dielectric, diaphragm, and step modifications of a basic discontinuity problem exactly solvable by the Wiener-Hopf techniqne. Solutions in scattering matrix form, including both propagating and nonpropagating modes, are found by a rapidly convergent and very accurate numerical procedure which eliminates many of the computational difficulties associated with integral equation or matrix equation solutions of the same problems.

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