Abstracts

A Surface Integral Equation Method for the Finite Element Solution of Waveguide Discontinuity Problems (Short Papers)

O.M. Ramahi and R. Mittra. "A Surface Integral Equation Method for the Finite Element Solution of Waveguide Discontinuity Problems (Short Papers)." 1991 Transactions on Microwave Theory and Techniques 39.3 (Mar. 1991 [T-MTT]): 604-608.

The surface integral equation method, which is typically employed in the finite element solution of open-region scattering problems, has been applied in this paper to the solution of waveguide discontinuity problems. The major advantage offered by the surface integral equation approach over other available methods is that it allows the mesh-truncating boundaries to be brought as close to the discontinuity as possible, thus helping to reduce the size of the system matrix. In addition, unlike the mode matching technique, the surface integral equation formulation does not require the solution of any auxiliary matrix system. Numerical results are presented to illustrate the validity of the formulation.

❑ Return to main document.