Abstracts

The Solution of Inhomogeneous Waveguide Problems Using a Transmission-Line Matrix

P.B. Johns. "The Solution of Inhomogeneous Waveguide Problems Using a Transmission-Line Matrix." 1974 Transactions on Microwave Theory and Techniques 22.3 (Mar. 1974 [T-MTT] (Special Issue on Computer-Oriented Microwave Practices)): 209-215.

A method of applying the transmission-line matrix method to inhomogeneous waveguide structures is described. The technique uses open-circuit stubs of variable characteristic impedance at each node in the matrix, thereby providing an analog for a dielectric. LSE and LSM modes in rectangular waveguides, and problems involving a step of dielectric are solved. Results are given in terms of the cutoff frequency and field pattern for continuous waveguides, and the waveguide input impedance for scattering problems.

❑ Return to main document.