Abstracts

Numerical Solution of Waveguide Scattering Problems by Finite-Difference Green's Functions

J.I. Glaser. "Numerical Solution of Waveguide Scattering Problems by Finite-Difference Green's Functions." 1970 Transactions on Microwave Theory and Techniques 18.8 (Aug. 1970 [T-MTT]): 436-443.

A finite-difference Green's function method for solving time-harmonic wave guide scattering problems involving metallic obstacles of finite size by computer is described. The method is applied to the two-dimensional problem of a TE/sub 10/ mode impinging on cylindrical metallic posts of arbitrary shape in a rectangular waveguide. The equivalent susceptance of a transverse semidiaphragm computed using a 50 point approximation for the induced current distribution is found to be 1.5 percent less than the exact value. The S matrix of a thin bent window versus wavelength is also presented.

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