Abstracts

A Quasi-Dynamic Method of Solution of a Class of Waveguide Discontinuity Problems (Short Papers)

L. Lewin and J.P. Montgomery. "A Quasi-Dynamic Method of Solution of a Class of Waveguide Discontinuity Problems (Short Papers)." 1972 Transactions on Microwave Theory and Techniques 20.12 (Dec. 1972 [T-MTT] (1972 Symposium Issue)): 849-852.

It is shown that, if expansion terms of all the modes appearing in the Green's function for the problem are retained, the singular integral equation method can be made to apply by generating a differential equation for this integral. The solution of the differential equation is straightforward, and the inversion of the resulting integral equation then follows standard methods. The process is applied in detail to the case of the capacitive diaphragm, and the results compared to the quasi-static method with correction terms. The results are close for small guide widths, but the present method should give superior results if the guide width permits some overmoding.

❑ Return to main document.