Abstracts

A Multifilament Method-of-Moments Solution for the Input Impedance of a Probe-Excited Semi-Infinite Waveguide

J.M. Jarem. "A Multifilament Method-of-Moments Solution for the Input Impedance of a Probe-Excited Semi-Infinite Waveguide." 1987 Transactions on Microwave Theory and Techniques 35.1 (Jan. 1987 [T-MTT]): 14-19.

The input impedance and surface currents of a probe-excited, short-circuited semi-infinite waveguide are determined by the method of moments. Expressions are given for the impressed electric field used to excite the probe from the coaxial source input using a semi-infinite-waveguide Green's function, and expressions are given for a free-space approximate impressed electric field which arises from the coaxial source input. The method-of-moments formulation used is based on a multifilament current approximation and solves for the surface currents of the probe as a function of probe angle around the probe. Comparison of theory and experiment is made.

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