Abstracts

The generalized scattering matrix of closely spaced strip and slot layers in waveguide

A.B. Yakovlev, A.I. Khalil, C.W. Hicks, A. Mortazawi and M.B. Steer. "The generalized scattering matrix of closely spaced strip and slot layers in waveguide." 2000 Transactions on Microwave Theory and Techniques 48.1 (Jan. 2000 [T-MTT]): 126-137.

In this paper, a method-of-moments integral-equation formulation of a generalized scattering matrix (GSM) is presented for the full-wave analysis of interactive planar electric and magnetic discontinuities in waveguide. This was developed to efficiently handle a variety of waveguide-based strip-to-slot transitions, especially on thin substrates. This single matrix formulation replaces the problematic procedure of cascading individual GSM's of an electric (strip) layer, a thin substrate, and a magnetic (slot) layer.

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