Abstracts

Full-Wave Space-Domain Analysis of Open Microstrip Discontinuities Including the Singular Current-Edge Behavior

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A full-wave space-domain analysis is presented for the high-frequency characterization of microstrip discontinuities. This approach solves the electric field integral equation (EFIE) for the surface current density on the microstrip using the method of moments. The current expansion functions incorporate the singular edge behavior of the surface current, yielding a very accurate current modeling. Special attention is devoted to the analytical treatment of the singular terms in the electric field Green's dyadic. The numerical results focus on the S-parameters of some simple microstrip discontinuities and the comparison with results obtained with other techniques and from measurements.

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