Abstracts

Full-Wave Analysis of Waveguides Involving Finite-Size Dielectric Regions

B.J. Rubin. "Full-Wave Analysis of Waveguides Involving Finite-Size Dielectric Regions." 1990 MTT-S International Microwave Symposium Digest 90.2 (1990 Vol. II [MWSYM]): 705-708.

A moment method is presented for handling arbitrarily shaped 2D and 3D waveguides that involve conductors, finite-size dielectric regions, or both. A novel procedure for modeling the dielectric allows 2D rooftop functions to represent both the 3D polarization current in the dielectric and the surface current on the conductors. Examples include microstrip and dielectric waveguides. Numerical convergence, consistency with physical principles, and agreement with the literature are demonstrated.

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