Abstracts

Analytical Evaluation of the MoM Matrix Elements

L. Alatan, M.I. Aksun, K. Mahadevan and M.T. Birand. "Analytical Evaluation of the MoM Matrix Elements." 1996 Transactions on Microwave Theory and Techniques 44.4 (Apr. 1996 [T-MTT]): 519-525.

Derivation of the closed-form Green's functions has eliminated the computationally expensive evaluation of the Sommerfeld integrals to obtain the Green's functions in the spatial domain. Therefore, using the closed-form Green's functions in conjunction with the method of moments (MoM) has improved the computational efficiency of the technique significantly. Further improvement can be achieved on the calculation of the matrix elements involved in the MoM, usually double integrals for planar geometries, by eliminating the numetical integration. The contribution of this paper is to present the analytical evaluation of the matrix elements when the closed-form Green's functions are used, and to demonstrate the amount of improvement in computation time.

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