Abstracts

Efficient evaluation of reaction integrals in the EFIE analysis of planar layered structures with uniaxial anisotropy

F. Mesa, G. Plaza and F. Medina. "Efficient evaluation of reaction integrals in the EFIE analysis of planar layered structures with uniaxial anisotropy." 2002 Transactions on Microwave Theory and Techniques 50.9 (Sep. 2002 [T-MTT]): 2142-2146.

This paper presents an efficient implementation of the electric-field integral-equation (EFIE) method to deal with planar anisotropic layered printed structures. A convenient treatment of the kernel of the integral equation gives rise to reaction integrals that only involve quasi-singularities and R/sup -1/-type singularities. When the well-known Rao-Wilton-Glisson triangular basis functions are used in conjunction with the Galerkin's method, closed-form expressions are found for the singular parts of the self-reaction integrals, as well as for the inner convolution integrals of the remaining singular/quasi-singular reaction integrals. Thus, the present procedure sets the EFIE method as a competitive alternative to other formulations.

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