Abstracts

Electromagnetic Dyadic Green's Function in Spherically Multilayered Media

L.-W. Li, P.-S. Kooi, M.-S. Leong and T.-S. Yeo. "Electromagnetic Dyadic Green's Function in Spherically Multilayered Media." 1994 Transactions on Microwave Theory and Techniques 42.12 (Dec. 1994, Part I [T-MTT]): 2302-2310.

A spectral-domain dyadic Green's function constructed for defining the electromagnetic fields in spherically multilayered media is considered by assuming that distribution and location of current sources are arbitrary. The scattering dyadic Green's function in each layer is constructed in terms of the spherical vector wave functions by applying the method of scattering superposition. The coefficients of the scattering dyadic Green's functions, based on the coupling recurrence equations satisfied by the coefficient matrix, are derived and expressed in terms of the equivalent reflection and transmission coefficients. The general solution has been applied to specific geometries, e.g., two-, three- and four-layered media that are frequently employed to model the practical problems, and the coefficients of the scattering dyadic Green's functions are presented.

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