Abstracts

On the Dyadic Green's Function for a Planar Multilayered Dielectric/Magnetic Media

S. Barkeshli and P.H. Pathak. "On the Dyadic Green's Function for a Planar Multilayered Dielectric/Magnetic Media." 1992 Transactions on Microwave Theory and Techniques 40.1 (Jan. 1992 [T-MTT]): 128-142.

A complete plane wave spectral eigenfunction expansion of the electric dyadic Green's function for a planar multilayered dielectric/magnetic media is given in terms of a pair of the (^over z)-propagating solenoidal eigenfunctions, where (^over z) is normal to the interface, and it is developed via a utilization of the Lorentz reciprocity theorem. This expansion also contains an explicit dyadic delta function term which is required for completeness at the source point. Some useful concepts such as the effective plane wave reflection and transmission coefficients are employed in the present spectral domain eigenfunction expansion. The salient features of this Green's function are also described along with a physical interpretation.

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