Abstracts

Singularity expansion of mode voltages and currents in a layered anisotropic dispersive medium included between two ground planes

G. Conciauro and N. Bressan. "Singularity expansion of mode voltages and currents in a layered anisotropic dispersive medium included between two ground planes." 1999 Transactions on Microwave Theory and Techniques 47.9 (Sep. 1999, Part I [T-MTT]): 1617-1626.

This paper describes how the modal voltages and currents in stratified cylindrical regions containing lossy, dispersive, and uniaxially anisotropic media can be represented by a pole expansion in the frequency domain. This possibility is demonstrated by studying the expansions of the related Green's functions. The pole expansions of other Green's functions involved in the Green's dyadic of the stratified region are derived as by-products of the theory. The results are very general and can be useful in different contexts, such as the wide-band analysis of integrated components for the microwave, millimeter-wave, and optical range.

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