Abstracts

Dyadic Green's function modifications for obtaining attenuation in microstrip transmission layered structures with complex media

C.M. Krowne. "Dyadic Green's function modifications for obtaining attenuation in microstrip transmission layered structures with complex media." 2002 Transactions on Microwave Theory and Techniques 50.1 (Jan. 2002, Part I [T-MTT] (Mini-Special Issue on 1999 International Microwave and Optoelectronics Conference (IMOC'99))): 112-122.

Rigorous derivation of the correction to the Green's function for a microstrip structure containing complex layered media is done for imperfect metallization. A hierarchy of formulas is found consistent with a full-wave electromagnetic code employing zero-thickness extent conductors for the guiding structure metal. At the top of the hierarchy are formulas that utilize new Green's functions of the structure, whereas at the bottom are formulas that are only dependent on the conductor geometry and material properties. Numerical examples are provided to show the sensitivity of the propagation constant attenuation to those elegantly simple formulas at the bottom of the hierarchy.

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