Abstracts

The Introduction of Surface Resistance the Three-Dimensional Finite-Difference Method in Frequency Domain (Short Papers)

D. Hollmann, S. Haffa, F. Rostan and W. Wiesbeck. "The Introduction of Surface Resistance the Three-Dimensional Finite-Difference Method in Frequency Domain (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.5 (May 1993 [T-MTT]): 893-895.

A full-wave treatment of lossy three-dimensional structures using the finite-difference method in frequency domain is presented. This accounts for both, dielectric and conductor losses. By introduction of a surface resistance the effect of conductor losses and surface roughness can be modeled very efficiently. The modifications of the finite-difference frequency domain (FDFD) algorithm are presented. Comparisons between the conventional approach using elementary cells with finite, conductivity and this new discretization method with surface current cells are given, and the advantages and limitations of the surface current model are shown.

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