Abstracts

Efficient FD formulation for lossy waveguide analysis based on quasi-static field characteristics

M. Kunze and W. Heinrich. "Efficient FD formulation for lossy waveguide analysis based on quasi-static field characteristics." 1999 Microwave and Guided Wave Letters 9.12 (Dec. 1999 [MGWL]): 499-501.

This letter treats the finite-difference (FD) analysis of transmission lines including metallic loss. Computational costs are reduced drastically by incorporating correction factors into the FD equations in frequency domain. These factors are obtained from the quasistatic field behavior in the vicinity and within the metallic conductors. Thus, FD analysis can be performed using a coarse grid without loss of accuracy. The new method is verified for a typical monolithic microwave integrated circuit (MMIC) coplanar waveguide.

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