# Abstracts

## Analytical description of metal loss in finite-difference transmission-line analysis

*M. Kunze and W. Heinrich. "Analytical description of metal loss in finite-difference transmission-line analysis." 2002 Transactions on Microwave Theory and Techniques 50.5 (May 2002 [T-MTT]): 1275-1279.*

A new approximate approach to include metallic loss of planar transmission lines in the finite-difference frequency-domain analysis is presented. From the two-dimensional field behavior in the vicinity and inside of nonideal metallic layers, analytical approximations are obtained and incorporated into the algorithm. This approach leads to considerable savings in computational efforts. The same mesh size as in the lossless case can be used at an acceptable accuracy level and skin depth does not need to be resolved. Furthermore, preprocessing can be automated. The benefits of the new method are demonstrated for typical monolithic microwave integrated circuit coplanar waveguides.

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