Abstracts

Modeling of conductor loss in coplanar circuit elements by the method of lines

L. Vietzorreck and W. Pascher. "Modeling of conductor loss in coplanar circuit elements by the method of lines." 1997 Transactions on Microwave Theory and Techniques 45.12 (Dec. 1997, Part II [T-MTT] (1997 Symposium Issue)): 2474-2478.

The small dimensions of coplanar waveguides (CPW's) require due consideration of finite conductivity and metallization thickness. For this purpose, an efficient method of lines (MoL) approach for full-wave analysis of microstrip discontinuities is considerably extended. Two alternative models for the conductor loss are employed depending on the skin depth. Their respective region of validity is investigated and the current distribution in the center conductor of a CPW is given. Several cascaded discontinuities including a coplanar quarter-wave transformer and a short-end series stub in a microshield line are characterized.

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