Abstracts

A Technique for Efficient Analysis of Planar Integrated Microwave Circuits Including Segmented Layers and Miniature Topologies

K. Wu, Y. Xu and R.G. Bosisio. "A Technique for Efficient Analysis of Planar Integrated Microwave Circuits Including Segmented Layers and Miniature Topologies." 1994 Transactions on Microwave Theory and Techniques 42.5 (May 1994 [T-MTT]): 826-833.

A method-of-lines based technique is presented for efficiently analyzing propagation problems of planar integrated circuits. A scheme of vertical multi-subregion space discretization is used to enhance numerical accuracy by improving most of the edge singularity on metallic conductors. On the other hand, this proposed approach is able to not only handle very narrow strips/very large slots topology or vice-versa, but also simulate exactly bilaterally unbounded structures with possible segmented multilayers. Numerical results including convergence characteristics are demonstrated for both quasi-static and hybrid-mode analysis. Comparison with other publications validates this novel algorithm.

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