Abstracts

A 3-D integral equation-based approach to the analysis of real-life MMICs application to microelectromechanical systems

M. Farina and T. Rozzi. "A 3-D integral equation-based approach to the analysis of real-life MMICs application to microelectromechanical systems." 2001 Transactions on Microwave Theory and Techniques 49.12 (Dec. 2001 [T-MTT] (Special Issue on 2001 International Microwave Symposium)): 2235-2240.

In this paper, we introduce a three-dimensional method-of-moments approach, suitable for the analysis of real-life monolithic circuits for microwave/millimeter waves. It shares the flexibility and the efficiency of the currently available spectral-domain commercial simulators, while allowing all metallizations to have finite thickness and finite conductivity and the ability to handle dielectric discontinuities. The method is successfully applied to several structures, like metal-insulator-metal capacitor, spiral inductors, and microelectromechanical capacitive switches in the 1-50-GHz frequency range.

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