Abstracts

New matrix algorithm for calculating diagonally matched impedance of packaging interconnecting lines

Y. You, O.A. Palusinski and F. Szidarovszky. "New matrix algorithm for calculating diagonally matched impedance of packaging interconnecting lines." 1999 Transactions on Microwave Theory and Techniques 47.6 (Jun. 1999, Part I [T-MTT]): 798-801.

A novel numerical algorithm is developed for computation of diagonally matched impedance matrix of multiple coupled interconnecting lines in high-speed digital circuits. The algorithm is based on the properties of capacitance and inductance matrices of transmission lines and has unconditional monotonic convergence. The mathematical development is based on the theory of M matrices. The algorithm was applied to various metal lines with different dimensions, showing very good accuracy in comparison to other methods.

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