Abstracts

Order Recursive Method of Moments: A Powerful Computational Tool for Microwave CAD and Optimization

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The method of moments (MoM) continues to be the most frequently used electromagnetic simulation technique for application to CAD and optimization of microwave circuits. In this paper, we present an order-recursive variant of standard LU decomposition for the efficient solution of large linear systems arising in the application of MoM to iterative design problems. In comparison with the existing matrix methods, which solve the linear sytem from scratch at each design iteration, the proposed order-recursive MoM allows a very large portion of recomputation to be avoided, leading to extremely efficient design iterations. Therefore, this contribution is a major advance toward EM simulation-based (or full-wave) CAD and optimization of microwave circuits.

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