Abstracts

Electromagnetic model order reduction for system-level modeling

A.C. Cangellaris, M. Celik, S. Pasha and Li Zhao. "Electromagnetic model order reduction for system-level modeling." 1999 Transactions on Microwave Theory and Techniques 47.6 (Jun. 1999, Part II [T-MTT]): 840-850.

Reduced-order modeling of an electromagnetic system is understood as the approximation of a continuous or discrete model of the system by one of substantially lower order, yet capable of capturing the electromagnetic behavior of the original one with sufficient engineering accuracy. Specific methodologies for model order reduction of distributed electromagnetic systems are discussed in this paper. It is shown that electromagnetic model order reduction enhances computational efficiency and, thus, facilitates system-level modeling and computer simulation of multifunctional systems. The proposed methodologies are demonstrated through applications to the reduced-order modeling of high-speed interconnects, electromagnetic waveguides, and microstrip antennas.

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