Abstracts

An efficient algorithm for the parameter extraction of 3-D interconnect structures in the VLSI circuits: domain-decomposition method

Zhenhai Zhu, Hao Ji and Wei Hong. "An efficient algorithm for the parameter extraction of 3-D interconnect structures in the VLSI circuits: domain-decomposition method." 1997 Transactions on Microwave Theory and Techniques 45.8 (Aug. 1997, Part I [T-MTT]): 1179-1184.

In this paper, the domain-decomposition method (DDM) has been used to extract the capacitance matrices of multilayered three-dimensional (3-D) interconnects in very-large-scale integration (VLSI) circuits. Different subdomains are analyzed separately, so the most efficient method can be chosen for every subdomain. Therefore, the DDM can greatly reduce the algorithm complexity and provide a good platform for the development of combining methods. Numerical results show that the computing time and memory size used by the DDM are more than ten times less than those used by Ansoft's Maxwell SpiceLink-and more importantly, they are unrelated to the thickness of the pure dielectric layers.

❑ Return to main document.