Abstracts

Computation of capacitance matrix for integrated circuit interconnects using on-surface MEI method

Y.W. Liu, K. Lan and K.K. Mei. "Computation of capacitance matrix for integrated circuit interconnects using on-surface MEI method." 1999 Microwave and Guided Wave Letters 9.8 (Aug. 1999 [MGWL]): 303-304.

In this letter the capacitance matrix of integrated circuit interconnects has been successfully calculated by using the on-surface MEI (OSMEI) method. The OSMEI method uses the same mesh as the method of moments (MoM), but generates highly sparse matrixes. Thus, computation memory can be greatly reduced. The reason the sparse matrixes can be generated is that the local relationship between the potentials and charge densities on the mesh nodes can be numerically found by the MEI method. This approach is verified by two-dimensional (2-D) and three-dimensional (3-D) examples of the integrated circuit interconnects with errors within 2%-4%.

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