Abstracts

Analysis of CMOS interconnections combining LE-FDTD method and SOC procedure

F. Alimenti, V. Palazzari, P. Placidi, G. Stopponi, A. Scorzoni and L. Roselli. "Analysis of CMOS interconnections combining LE-FDTD method and SOC procedure." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 879-881 vol.2.

This work describes the application of the Lumped Element-Finite Difference Time Domain (LE-FDTD) method to the rigorous analysis of CMOS interconnections. In particular the frequency-dependent line parameters are evaluated in a wide (DC to 100 GHz) bandwidth. To obtain very accurate results the Short-Open Calibration (SOC) procedure has been adopted. With such an approach, simple lumped generators and loads can be used to excite and terminate the structure under analysis, in substitution of more complex boundary conditions. The technique has been validated against experimental results from the literature showing a good agreement.

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