Abstracts

A Unified Framework for Harmonic Balance Simulation and Sensitivity Analysis

J.W. Bandler, Q.J. Zhang and R.M. Biernacki. "A Unified Framework for Harmonic Balance Simulation and Sensitivity Analysis." 1988 MTT-S International Microwave Symposium Digest 88.2 (1988 Vol. II [MWSYM]): 1041-1044.

In this paper, a novel theory for exact sensitivity analysis of nonlinear circuits based on harmonic balance simulation is derived. A framework unifying many existing concepts of the frequency domain simulation and sensitivity analysis of linear/nonlinear circuits is established. The proposed sensitivity analysis is verified by a MESFET mixer example exhibiting 98% saving of CPU time over the prevailing perturbation method.

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