Abstracts

Parallel Processing Application to Nonlinear Microwave Network Design (Dec. 1989 [T-MTT])

M.I. Sobhy and Y.A.R. El-Sawy. "Parallel Processing Application to Nonlinear Microwave Network Design (Dec. 1989 [T-MTT])." 1989 Transactions on Microwave Theory and Techniques 37.12 (Dec. 1989 [T-MTT] (1989 Symposium Issue)): 2067-2073.

One of the objectives of this paper is to introduce microwave network designers to an important new development in computer-aided design techniques. The paper describes how parallel processing is applied to the CAD of nonlinear microwave circuits. The advantage of parallel processing is the significant reduction in computational time it offers, such that optimization becomes feasible even on a desktop computer. The developed programs run on an AT desktop with one Transputer board capable of concurrent processing speeds of over 80 MIPS at a processor speed of 20 MHz. A new representation of microwave and nonlinear circuits has been developed to suit the required parallelism. Applications to the analysis of nonlinear amplifiers and frequency multipliers are described.

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