Abstracts

An aggressive approach to parameter extraction (Dec. 1999 [T-MTT])

M.H. Bakr, J.W. Bandler and N. Georgieva. "An aggressive approach to parameter extraction (Dec. 1999 [T-MTT])." 1999 Transactions on Microwave Theory and Techniques 47.12 (Dec. 1999 [T-MTT] (Special Issue on 1999 International Microwave Symposium)): 2428-2439.

A novel aggressive parameter-extraction (APE) algorithm is presented. Our APE algorithm addresses the optimal selection of parameter perturbations used to increase trust in parameter-extraction uniqueness. The uniqueness of the parameter-extraction problem is crucial especially in the space-mapping approach to circuit design. We establish an appropriate criterion for the generation of these perturbations. The APE algorithm classifies possible solutions for the parameter extraction problem. Two different approaches for obtaining subsequent perturbations are utilized based on a classification of the extracted parameters. The examples include the parameter extraction of a decomposed electromagnetic model of a high-temperature superconducting filter. The parameter extraction of an empirical model of a double-folded stub filter is also carried out.

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