Abstracts

Finite element time domain based diakoptic method for microwave circuit analysis

S.-H. Chang, R. Coccioli, Y. Qian, B. Houshmand and T. Itoh. "Finite element time domain based diakoptic method for microwave circuit analysis." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 235-238.

In this paper we present a diakoptics technique based on the finite element time domain (FDTD) method which has the unique advantage of offering efficient broadband simulation and keeping the mesh flexibility of the conventional finite element method (FEM). The new diakoptics approach enables the analysis of large microwave structures by modular computation of subdomains as well as the incorporation of nonlinear active devices. The proposed algorithm is validated by two test cases: an aperture-coupled microstrip coupler and a microwave amplifier.

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