Abstracts

Novel analytic gradient evaluation techniques for optimization of microwave structures

S. Amari, P. Harscher, R. Vahldieck and J. Bornemann. "Novel analytic gradient evaluation techniques for optimization of microwave structures." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. I [MWSYM]): 31-34 vol.1.

A novel technique to evaluate gradients for optimization of microwave structures and devices was presented. The approach only requires that the problem be formulated in terms of a general nonhomogeneous matrix equation such as encountered in the Moment Method (MM) or the Finite Element Method (FEM). All partial derivatives are determined from a single analysis of the structure. Numerical results show excellent agreement between the present approach and the finite difference method when small enough increments are used.

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