Abstracts

Nonlinear Optimization of the Shape Functions in the Finite Element Method When Determining Cutoff Frequencies of Waveguides of Arbitrary Cross Section (Short Papers)

J.C. Utjes, G.S. Sarmiento and P.A.A. Laura. "Nonlinear Optimization of the Shape Functions in the Finite Element Method When Determining Cutoff Frequencies of Waveguides of Arbitrary Cross Section (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.1 (Jan. 1988 [T-MTT]): 151-152.

The present paper deals with a review of the recently developed k optimization process of the finite element method when solving eigenvalue problems. The methodology is then applied to the determination of the fundamental cutoff frequency of a hollow-piped waveguide of cardioidal cross section. It is shown that a considerable reduction in computer memory and/or CPU time is achieved.

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