Abstracts

A genetic algorithm for the evaluation of material parameters of compound multilayered structures

T. Zwick, J. Haala and W. Wiesbeck. "A genetic algorithm for the evaluation of material parameters of compound multilayered structures." 2002 Transactions on Microwave Theory and Techniques 50.4 (Apr. 2002 [T-MTT]): 1180-1187.

Presents a new method to obtain the material parameters of each single layer in a multilayered structure. The compound structure has to be measured over frequency or for different incidence angles in the microwave frequency range. The genetic algorithm for parameter extraction from the reflection or transmission measurement data is based on a simplified evolution strategy. In this paper, the evolution optimization is described briefly and is verified by measurements performed in the frequency range from 115 to 145 GHz. The parameters obtained by the algorithm show good agreement with reference values gained by other researchers.

❑ Return to main document.