Abstracts

Parameter Extraction of Microwave Transistors Using a Hybrid Gradient Descent and Tree Annealing Approach (Short Papers)

S.G. Skaggs, J. Gerber, G. Bilbro and M.B. Steer. "Parameter Extraction of Microwave Transistors Using a Hybrid Gradient Descent and Tree Annealing Approach (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.4 (Apr. 1993 [T-MTT]): 726-729.

Tree annealing is a robust optimization scheme which can be used to find the "valleys" of an error surface, The problem of entrapment in local minima is not a factor with this type of optimization, however, it is much slower than gradient-based techniques. The method presented here attempts to take advantage of the speed of gradient-based methods and of the efficient pseudo-random searching abilities of tree annealing. The result is a technique which behaves as a directed multi-start gradient method. All minima encountered during optimization are recorded, thus providing alternatives in case of a non-physical final solution. The technique is used in the extraction of a modified Materka-Kacprzak model of a GaAs MESFET.

❑ Return to main document.