Abstracts

A New and Efficient Approach to the Analysis and Design of GaAs MESFET Microwave Oscillators

K.K.M. Cheng and J.K.A. Everard. "A New and Efficient Approach to the Analysis and Design of GaAs MESFET Microwave Oscillators." 1990 MTT-S International Microwave Symposium Digest 90.3 (1990 Vol. III [MWSYM]): 1283-1286.

A new technique for the analysis and design of oscillators is presented. The solution is based on Volterra series and the resulting nonlinear system is solved by an efficient algorithm. The novel feature here is the way in which the oscillator circuit is decomposed so that the determination of the nonlinear kernels can be evaluated much more easily. This method is fast, requires no initial guess, has good convergence properties and can be implemented on a computer in a straightforward manner. Measurements performed on a microwave GaAs oscillator show close agreement with the predicted results.

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