Abstracts

Nonlinear Integral Modeling of Dual-Gate GaAs MESFET's (Short Papers)

G. Vannini. "Nonlinear Integral Modeling of Dual-Gate GaAs MESFET's (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.6 (Jun. 1994 [T-MTT]): 1088-1091.

A nonlinear integral approach is adopted for the modeling of Dual-Gate GaAs MESFET's (DGFET's) in the framework of Harmonic-Balance circuit analysis. In particular, the model enables the computation of the large-signal performance of DGFET's directly on the basis of DC characteristics and small-signal bias-dependent admittance parameters without requiring complex procedures for parameter extraction. The validity of the approach is confirmed by accurate physics-based numerical simulations of a DGFET mixer.

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