Abstracts

Accurate Simulation of GaAs MESFET's Intermodulation Distortion Using a New Drain-Source Current Model

J.C. Pedro and J. Perez. "Accurate Simulation of GaAs MESFET's Intermodulation Distortion Using a New Drain-Source Current Model." 1994 Transactions on Microwave Theory and Techniques 42.1 (Jan. 1994 [T-MTT]): 25-33.

An accurate characterization of the nonlinear distortion caused by the Ids(Vgs,Vds) current in a MESFET, does not allow the common approach of splitting this nonlinear equivalent circuit element in two voltage dependent nonlinear current sources, Gm(Vgs) and Gds(Vds). By an improved laboratory characterization procedure, it was possible to extract the cross terms of the Ids(Vgs,Vds) Taylor Series expansion. Measurements and Volterra Series simulations, made at 2GHz, have shown that they can give an important contribution to the prediction and understanding of MESFET's intermodulation load-pull behavior.

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