Abstracts

Analytical Nonlinear HEMT Model for Large Signal Circuit Simulation (Short Papers)

T. Tanimoto. "Analytical Nonlinear HEMT Model for Large Signal Circuit Simulation (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.9 (Sep. 1996 [T-MTT]): 1584-1586.

A new nonlinear high electron mobility transistor (HEMT) model based on Curtice model is described. This model introduces term for leakage current for subthreshold bias, drain voltage dependencies of knee voltage, drain conductance and threshold voltage, transconductance enhancement at high frequencies caused by DX centers, and the bias dependence of capacitance. Applying this model to pseudomorphic double-recessed gate HEMT's, average error of 2.6% for dc current and 10% for S-parameters yields.

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