Abstracts

A Novel Analytical Approach for the Nonlinear Microwave Circuits and Experimental Characterisation of the Nonlinear Behaviour of a New MESFET Device Structure

V. Krozer, K. Fricke and H.L. Hartnagel. "A Novel Analytical Approach for the Nonlinear Microwave Circuits and Experimental Characterisation of the Nonlinear Behaviour of a New MESFET Device Structure." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 351-354.

A novel analytical technique is described based on generalised Volterra series to analyse non-linear microwave and millimeter-wave circuits and devices. In contrast to previous publications the new method is especially efficient for general-purpose CAD applications and can be easily incorporated into existing CAD programs. The capabilities of the technique has been demonstrated on especially fabricated new MESFET structures, designed to reduce the losses due to the high resistance of the gate electrode. Power and intermodulation distortion measurements has been carried out and good agreement with calculated values has been observed.

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