Abstracts

Frequency-Domain Nonlinear Microwave Circuit Simulation Using the Arithmetic Operator Method (Short Papers)

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A frequency domain spectral balance technique for the analysis of microwave circuits with analytically modeled nonlinear devices is developed. The technique uses linear matrix transformation of spectra to perform basic arithmetic operations--multiplication and division--in the frequency domain, and is termed the arithmetic operator method. A single MESFET amplifier described by the Curtice model is simulated with one- and two-tone excitations using this novel technique. Excellent agreement is obtained when compared to the results simulated using the conventional harmonic balance method.

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