Abstracts

Simulation of Nonlinear Microwave Circuits - An Historical Perspective and Comparisons

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The nonlinear analysis of microwave circuits has seen considerable development over the last decade. By assuming that only a finite number sinusoids are present in a nonlinear circuit, the computational burden of computing the transient response of the circuit is avoided and only the steady state response, given by the amplitudes and phases of the sinusoids, is required. This paper focuses on methods for computing this response. An historical perspective is presented. Quantitative comparisons of limitations, errors and dynamic ranges of the various methods are made for the simulation of single-tone and two-tone excitation of microwave amplifiers.

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