Abstracts

A Convolution-Based Approach to the Steady-State Analysis of Nonlinear Microwave Circuits Using Spice (Short Paper)

P. Halloran and T.J. Brazil. "A Convolution-Based Approach to the Steady-State Analysis of Nonlinear Microwave Circuits Using Spice (Short Paper)." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part I [T-MTT]): 2157-2160.

A convolution-based, black-box approach is proposed to incorporate linear circuit blocks into a nonlinear time-domain analysis program (SPICE) for the purposes of obtaining steady-state results. The technique used is straightforward and offers an effective method for incorporating linear circuits described in the frequency domain into a nonlinear simulation. The technique allows SPICE-users to couple the flexibility and accuracy of general-purpose linear microwave simulators together with SPICE nonlinear device models, and thereby obtain steady-state results which are comparable in accuracy to popular alternative methods such as harmonic balance.

❑ Return to main document.