Abstracts

Nonlinear transient simulation of embedded subnetworks characterized by S-parameters using complex frequency hopping

R. Achar, M. Nakhla and E. Ahmed. "Nonlinear transient simulation of embedded subnetworks characterized by S-parameters using complex frequency hopping." 1998 MTT-S International Microwave Symposium Digest 98.1 (1998 Vol. I [MWSYM]): 267-270.

This paper describes an efficient technique for simulation of linear subnetworks characterized by s-parameters using general purpose circuit simulators such as SPICE. The proposed method is based on the recently developed model-reduction technique, complex frequency hopping (CFH). A new algorithm for computing the moments of s-parameter based subnetworks is presented and it overcomes the instability problems associated with the previously published techniques which depend on numerical differentiation. The proposed method is suitable for simulating large number of s-parameter based subnetworks in a general circuit environment consisting of lumped/distributed elements and nonlinear devices.

❑ Return to main document.