Abstracts

Addressing transient errors in passive macromodels of distributed transmission-line networks

A. Dounavis, R. Achar and M.S. Nakhla. "Addressing transient errors in passive macromodels of distributed transmission-line networks." 2002 Transactions on Microwave Theory and Techniques 50.12 (Dec. 2002 [T-MTT] (Special Issue on 2002 International Microwave Symposium)): 2759-2768.

Recently, several time-domain passive macromodeling algorithms were proposed for distributed transmission-line networks. most or them employ some kind of approximation in the frequency domain to match the response up to a maximum frequency of interest and the behavior after the highest frequency is generally not considered. This can cause significant errors in transient responses (especially in the early-time period). In order to address this difficulty, we will present a new algorithm to reduce high-frequency errors in time-domain macromodels, while preserving passivity. The proposed algorithm is very useful in eliminating spurious ripples in the flat delay portion of transient responses of distributed transmission-line networks without needing to increase the order of approximation.

❑ Return to main document.