Abstracts

A new global time-domain electromagnetic simulator of microwave circuits including lumped elements based on finite-element method

K. Guillouard, M.F. Wong, V. Fouad Hanna and J. Citerne. "A new global time-domain electromagnetic simulator of microwave circuits including lumped elements based on finite-element method." 1999 Transactions on Microwave Theory and Techniques 47.10 (Oct. 1999 [T-MTT]): 2045-2049.

This paper proposes an extension of the finite-element time-domain method for the global electromagnetic analysis of complex inhomogeneous microwave distributed circuits, containing linear or nonlinear lumped elements. This technique combines Maxwell's equations and circuit equations, directly using SPICE software for the lumped part. Its validation is performed through the study of a strongly coupled two-element active antenna.

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