# Abstracts

## Constrained EM-based modeling of passive components

*T. Dhaene, J. De Geest and D. De Zutter. "Constrained EM-based modeling of passive components." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 2113-2116 vol.3.*

An adaptive algorithm is developed for constrained modeling of general passive components. The algorithm builds compact, multidimensional, analytical circuit models and represents the scattering parameters of the passive components as a function of its geometrical parameters and as a function of the frequency. Multiple constraints, or relationships between the geometrical parameters, may exist. The model generation algorithm combines iterative sampling and modeling techniques. It groups a number of full-wave electromagnetic (EM) simulations in one multidimensional analytic model. The modeling accuracy level is user-defined. The analytical circuit models can easily be implemented and used in commercial circuit simulators. The models provide EM-accuracy and generality at traditional circuit simulation speed.

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