Abstracts

Efficient CAD of boxed microwave circuits based on arbitrary rectangular elements

A.A. Melcon, J.R. Mosig and M. Guglielmi. "Efficient CAD of boxed microwave circuits based on arbitrary rectangular elements." 1999 Transactions on Microwave Theory and Techniques 47.7 (Jul. 1999, Part I [T-MTT]): 1045-1058.

In this paper, we describe a very accurate and computationally efficient computer-aided design (CAD) tool for the analysis and design of a wide class of boxed microwave circuits composed of arbitrary rectangular elements printed on dielectric layers. The theoretical derivations are based on an integral equation formulation, and call for the evaluation of the boxed multilayer Green's functions, thus leading to a tool that is valid for an arbitrary number of circuits and dielectric layers. In addition to theory, comparisons with measured results are presented, and several practical filter structures are also investigated, thus clearly demonstrating that the CAD tool developed can indeed be used very effectively for the design of a large variety of microwave circuits.

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