Abstracts

MoM/BI-RME analysis of boxed microwave circuits based on arbitrarily shaped elements

In this paper, we propose a novel approach for the analysis of shielded microstrip circuits, composed of a number of thin metallic areas with arbitrary shapes and finite conductivity, embedded in a multilayered lossy medium. The analysis is based on the solution of an Integral Equation (IE) obtained by enforcing the proper boundary condition to the electric field on the metallic areas. The solution of the IE is obtained by the Method of Moments (MoM) with entire domain basis functions, which are numerically determined by the Boundary Integral-Resonant Mode Expansion (BI-RME) method. The use of the BI-RME method allows for the efficient calculation of entire domain basis functions in the case of metallic areas with arbitrary shapes, thus permitting the analysis of a wide class of circuits. Two examples demonstrate the accuracy, rapidity, and flexibility of the proposed method.

❑ Return to main document.

Click on title for a complete paper.