Abstracts

Convergence behavior and acceleration of the Berenger and leaky modes series composing the 2-D Green's function for the microstrip substrate

H. Rogier and D. De Zutter. "Convergence behavior and acceleration of the Berenger and leaky modes series composing the 2-D Green's function for the microstrip substrate." 2002 Transactions on Microwave Theory and Techniques 50.7 (Jul. 2002 [T-MTT]): 1696-1704.

The Green's functions G/sub A/ and G/sub V/ are calculated for a two-dimensional microstrip substrate by placing the substrate into a closed perfectly-matched-layer waveguide and by performing a modal expansion in Berenger and leaky modes. It is shown that each series composing G/sub A/ and G/sub V/ has a particular convergence behavior when considering small lateral distances between the excitation and the observation points. It is then demonstrated that, by applying the Shanks transform to accelerate each series separately, a more efficient calculation for the Green's functions can be obtained than by direct computation of the series. The theory is illustrated by means of a representative example.

❑ Return to main document.