Abstracts

Slab Line Impedances Revisited (Short Papers)

E. Costamagna, A. Fanni and M. Usai. "Slab Line Impedances Revisited (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.1 (Jan. 1993 [T-MTT]): 156-159.

Accurate solutions for impedances and charge distributions in slab lines and rectangularly shielded lines are obtained by numerical inversion of the Schwar=Christoffel (SC) conformal transformation. Circular inner conductors are considered, putting to the test the relatively simple numerical methods we have utilized, and results are successfully compared to the best data available from the literature. The method, besides supplying accurate global parameters, such as capacitances and impedances, is also shown to provide good evaluations for local charge densities. Equipotential and field lines can be easily derived, and accurate calculation of local field maps is shown possible, even from approximate geometries, when boundary conditions are not completely known.

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