

Automatic Derivation of Equivalent Circuits for General Microstrip Interconnection Discontinuities

G. Coen, D. De Zutter and N. Fache. "Automatic Derivation of Equivalent Circuits for General Microstrip Interconnection Discontinuities." 1996 Transactions on Microwave Theory and Techniques 44.7 (Jul. 1996, Part I [T-MTT]): 1010-1016.

The techniques presented in this paper allow one to automatically derive equivalent LC-networks for general lossless microstrip interconnection discontinuities. The method is completely based on physical considerations and does not involve any fitting procedure. The technique is quite fast, and the resulting networks are closely related to the physical structure. Due to the fact that we only use lumped passive circuit elements, the structures under consideration are assumed to be small as compared to the electrical wavelength. The extension of our technique to multilayered planar structures with vias is possible. It is also possible to deal with lossy dielectrics, finite conductivity metallizations, and radiation. The main application area of our technique is the modeling of interconnection discontinuities in high speed digital circuits.

 [Return to main document.](#)