# Abstracts

## A Rigorous Analysis of a Coaxial to Shielded Microstrip Line Transition

*C.N. Capsalis, C.P. Chronopoulos and N.K. Uzunoglu. "A Rigorous Analysis of a Coaxial to Shielded Microstrip Line Transition." 1989 Transactions on Microwave Theory and Techniques 37.7 (Jul. 1989 [T-MTT]): 1091-1098.*

The transition from a coaxial to a shielded microstrip line is analyzed by applying a rigorous mode-matching technique. The symmetry axes of the two transmission lines are assumed to be parallel while the relative position of the coaxial line center conductor with respect to the microstrip line is taken to be arbitrary. The fields inside the shielded microstrip line are expanded in terms of the normal hybrid modes, while in describing the fields inside the coaxial line the transverse electric and magnetic modes are utilized. Both propagating and evanescent modes are taken into account in each transmission line. A modified mode-matching procedure is employed on the junction plane of the two transmission lines to formulate the corresponding discontinuity problem. The mode-matching equations are solved by applying projection techniques. Numerical stability and computational efficiency are achieved in determining the scattering parameters of the coaxial to microstrip line transitions. Numerical results are computed and presented for several coaxial to microstrip line transition geometries.

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