Abstracts

A Novel Technique for the Analysis of Dielectric Height Variations in Microstrip Circuits

A.B. Kouki, A. Khebir, R.G. Bosisio and F.M. Ghannouchi. "A Novel Technique for the Analysis of Dielectric Height Variations in Microstrip Circuits." 1994 Transactions on Microwave Theory and Techniques 42.1 (Jan. 1994 [T-MTT]): 73-77.

This paper presents a technique based on the full-wave, two-dimensional spectral domain method and the distributed transmission line approach to analyze structures with a combination of conductor width and dielectric height variations. The technique is applied to a regular taper and the results are compared with existing models. A matched taper transition is then designed based on simultaneous variation of the conductor width and dielectric height such that their ratio is kept constant. The analysis of such tapers is carried out and compared to measured data. It is shown that significant reduction in the return loss can be achieved with such transitions over fairly wide, tunable frequency ranges.

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