

The Method of Lines for the Analysis of Lossy Planar Waveguides

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An extension of the efficient method of lines for the full-wave analysis of the electrical characteristics of lossy waveguides is presented. Ohmic losses in metallizations (with frequency-dependent, extremely high dielectric constants) and dielectric losses are simultaneously considered. Despite the high ratios of the dielectric constants of the metallizations and the dielectrics, the analysis and numerical treatment are done accurately, whereas in most other investigations only dielectric losses are exactly investigated and ohmic losses are calculated with approximate solutions. The results for a single microstrip line are shown and compared with those of other authors.

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