Abstracts

Equivalent Capacitances for Microstrip Gaps and Steps

P. Benedek and P. Silvester. "Equivalent Capacitances for Microstrip Gaps and Steps." 1972 Transactions on Microwave Theory and Techniques 20.11 (Nov. 1972 [T-MTT]): 729-733.

The excess charge density distribution near gaps and steps in microstrip transmission lines is calculated by the solution of singular integral equations. Data are presented for gaps in microstrips of width-to-substrate-thickness ratios of 0.5, 1.0, and 2.0 and relative dielectric constants ranging from 1.0 to 15.0. For steps in a microstrip line results are given for width-to-thickness ratio of unity, relative dielectric constants of 1.0 and 9.6, while the change of width-to-height ratio is from 0.1 to 10.0. The excess charges are calculated explicitly in relatively short computing times, and the results are believed to be accurate to within a few percent.

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