Abstracts

Characterization of Picosecond Pulse Crosstalk Between Coupled Microstrip Lines with Arbitrary Conductor Width

Y. Qian and E. Yamashita. "Characterization of Picosecond Pulse Crosstalk Between Coupled Microstrip Lines with Arbitrary Conductor Width." 1993 Transactions on Microwave Theory and Techniques 41.6 (Jun./Jul. 1993 [T-MTT]): 1011-1016.

The propagation and crosstalk properties of picosecond electrical pulses along coupled microstrip lines with arbitrary strip widths are investigated. The current distributions and propagation constants of the dominant c- and n-modes in these asymmetric coupled striplines are calculated by using the spectral domain approach; and the full-wave analysis results obtained are incorporated into an FFT algorithm to simulate pulse distortion and crosstalk in the coupled transmission lines. Several samples of asymmetric coupled microstrip lines are fabricated and their characteristics are measured, The results of experiments are found to be in good agreement with those of computer simulations. This paper provides, for the first time, rigorous results of picosecond pulse distortion and crosstalk in asymmetric coupled transmission lines.

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