Abstracts

Subpicosecond Pulse Propagation on Coplanar Waveguides: Experiment and Simulation

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Experimental results are presented for subpicosecond pulse propagation on normal-metal, coplanar-transmissionline structures. The pulse distortion that occurs is modelled using a semiempirical curve fit to the fullwave analysis for the modal dispersion and quasi-static approximations for the conductor and radiation loss. Without using any adjustable parameters, very good agreement is obtained for the delay, rise time and amplitude of the pulse for various propagation distances. For terahertz-bandwidth pulses on lines similar to the one studied, the modal dispersion and radiation losses are the dominant pulse-shaping mechanisms.

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