Abstracts

Lateral Electromagnetic Waves and Pulses on Open Microstrip

R.W.P. King. "Lateral Electromagnetic Waves and Pulses on Open Microstrip." 1990 Transactions on Microwave Theory and Techniques 38.1 (Jan. 1990 [T-MTT]): 38-47.

The propagation of lateral electromagnetic waves and pulses on microstrip is investigated further. Interference patterns generated by the superposition of the lateral and direct waves along the air-substrate surface are shown. The field generated by the pulse excitation of a horizontal dipole on the air-substrate boundary is shown to consist of a lateral-wave pulse and a slower direct-wave pulse. Their differences in shape and decay rate are clarified. It is shown that the shape of a Gaussian pulse propagating along an open microstrip transmission line is closely related to the shape of the lateral electric-field pulse generated by a Gaussian current pulse in a dipole the air-substrate boundary.

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