Abstracts

Dispersion characteristics of microstrip with periodic perturbations

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Dispersion characteristics of a periodical planar microstrip line are presented in the form of Brillouin diagram together with plot of attenuation constant versus frequency. The dispersion characteristics are the results of the space harmonics deduced from the excited surface currents of the periodical structure. Rigorous theoretical methods and procedure for deembedding the space harmonics are reported and validated. The dispersion characteristics show that, in addition to the familiar forward traveling waves and backward traveling waves, a pair of complex modes is present in the stopband and the space harmonics become leaky waves when operating frequency is sufficiently high.

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