Abstracts

Analysis of Coplanar Waveguide by the Time-Domain Finite-Difference Method

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An analysis of coplanar waveguides (CPW) by the Time-Domain Finite Difference (TD-FD) method is discussed. The propagating waveforms along a coplanar waveguide, which is excited by a Gaussian pulse, are found in the time-domain. After the time-domain computation is done, the frequency domain parameters, such as the effective dielectric constant and the complex characteristic impedance, are calculated by Fourier transformations. The results agree well with the available theoretical and experimental data over a wide frequency range.

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