Abstracts

An Improved 2D-FDTD Algorithm for Hybrid Mode Analysis of Quasi-Planar Transmission Lines

A significantly improved two-dimensional finite difference time domain (FDTD) method is proposed for the full-wave analysis of guided wave structures. By using a phase shift BetaDeltaz along the z-direction (propagation direction), and assuming the limiting case of Deltaz, the propagation constant of hybrid modes can be calculated by using a two-dimensional mesh with a truly two-dimensional grid size. Secondly, by appropriately arranging variables, only a real impulse response is involved. Furthermore, a new grading scheme is introduced allowing a gradually non-equidistant mesh in three dimension.

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