Abstracts

Combining Modal Analysis and the Finite-Difference Time-Domain Method in the Study of Dielectric Waveguide Problems (Short Papers)

S.T. Chu and S.K. Chaudhuri. "Combining Modal Analysis and the Finite-Difference Time-Domain Method in the Study of Dielectric Waveguide Problems (Short Papers)." 1990 Transactions on Microwave Theory and Techniques 38.11 (Nov. 1990 [T-MTT]): 1755-1760.

A technique is presented to extract the modal parameters from the FDTD results in the analysis of dielectric waveguide problems. In this approach, the dielectric waveguide problem is first solved by the FDTD method, and then the guided mode amplitudes in the waveguides are extracted in a least squares sense. The method exploits the flexibility of the FDTD method, which can analyze arbitrarily shaped or profiled geometries, while expressing the results in the simple modal solution form.

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