Abstracts

A Time Domain Finite Difference Method and its Application

D.-H. Choi and W.J.R. Hoefer. "A Time Domain Finite Difference Method and its Application." 1986 MTT-S International Microwave Symposium Digest 86.1 (1986 [MWSYM]): 793-796.

This paper describes for the first time the application of the Finite Difference in the time-domain to the solution of three-dimensional eigenvalue problems. Maxwell's equations are discretized in space and time, and steady state solutions are obtained through a time-averaging process. Eigenfrequencies are then obtained via Fourier transform. While achieving the same accuracy and versatility as the TLM method, it requires less than half the CPU time and memory under identical simulation conditions.

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