Abstracts

Rapid FDTD simulation without time stepping

A.C. Cangellaris and Li Zhao. "Rapid FDTD simulation without time stepping." 1999 Microwave and Guided Wave Letters 9.1 (Jan. 1999 [MGWL]): 4-6.

A numerical methodology is presented for fast broad-band extraction of the electromagnetic properties of passive waveguiding structures. The methodology combines the standard finite-difference time-domain (FDTD) method with a nonsymmetric Lanczos eigenvalue algorithm to extract a reduced-order model of the electromagnetic response over the frequency range of interest. The implementation of the algorithm is such that each iteration is computationally equivalent to the update of the electromagnetic fields in the FDTD algorithm. However, no time stepping is required.

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