Abstracts

Time-domain analysis of periodic structures at oblique incidence: orthogonal and nonorthogonal FDTD implementations

J.A. Roden, S.D. Gedney, M.P. Kesler, J.G. Maloney and P.H. Harms. "Time-domain analysis of periodic structures at oblique incidence: orthogonal and nonorthogonal FDTD implementations." 1998 Transactions on Microwave Theory and Techniques 46.4 (Apr. 1998 [T-MTT]): 420-427.

A novel implementation of periodic boundary conditions incorporated into the finite-difference time-domain (FDTD) technique in both orthogonal and nonorthogonal grids is presented in this paper. The method applied is a field-splitting approach to the discretization of the Floquet-transformed Maxwell equations. As a result, the computational burden is reduced and the stability criterion is relaxed. The results of the two methods are compared to experimental data.

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