Abstracts

Dispersion Comparison for DSI- and Tensor-Based Nonorthogonal FDTD

H. Shi and J.L. Drewniak. "Dispersion Comparison for DSI- and Tensor-Based Nonorthogonal FDTD." 1996 Microwave and Guided Wave Letters 6.5 (May 1996 [MGWL]): 193-195.

An explicit formulation of the finite-difference time-domain discrete surface integral (FDTD-DSI) technique has allowed a rigorous study of numerical dispersion for the method. The study shows that the DSI- and tensor-based FDTD methods do not have tlhe same numerical dispersion relation. It also clarifies the recently reported discrepancies in the dispersion relation between the two approaches. This study also shows that the tensor-based FDTD algorithm exhibits better dispersion properties for a two-dimensional uniformly skewed mesh.

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