Abstracts

A Novel Wide Band Absorbing Boundary Condition for FDTD Method Simulations

A.S. Rong, Z.L. Sun, V.K. Tripathi, H.X. Wang and W.B. Dou. "A Novel Wide Band Absorbing Boundary Condition for FDTD Method Simulations." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 645-648.

A wide band absorbing boundary condition that utilizes the basic relations between transverse fields of a guided traveling wave in the frequency domain is presented for FDTD method simulations. The resultant ABC operator ensures that the outgoing waves on the boundaries can be absorbed over the total frequency band of interest. The exponential approximation is used to recursively implement our ABC in the FDTD simulation, avoiding the need for the complete time history of field components. The numerical experiments are used to demonstrate that the present ABC consistently has a superior absorbing performance over a wide frequency band.

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