Abstracts

A Stretched Coordinate Technique for Numerical Absorption of Evanescent and Propagating Waves in Planar Waveguiding Structures (Dec. 1995, Part II [T-MTT])

M.A. Gribbons, W.P. Pinello and A.C. Cangellaris. "A Stretched Coordinate Technique for Numerical Absorption of Evanescent and Propagating Waves in Planar Waveguiding Structures (Dec. 1995, Part II [T-MTT])." 1995 Transactions on Microwave Theory and Techniques 43.12 (Dec. 1995, Part II [T-MTT] (1995 Symposium Issue)): 2882-2888.

Berenger's PML technique is modified to allow for the absorption of evanescent and propagating waves in FDTD modeling of wave propagation in planar waveguiding structures. Analytic results illustrate the validity and capability of the proposed modification. Numerical studies explain the numerical implementation of the modified PML in the FDTD and in the compact 2D-FDTD algorithms. Guidelines for the proper selection of the various parameters that govern the performance of the modified PML are presented. The results from simulations indicate that the proposed modified PML grid truncation can be used efficiently for highly accurate numerical analysis of planar waveguiding structures.

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