Abstracts

Generalized material-independent PML absorbers for the FDTD simulation of electromagnetic waves in arbitrary anisotropic dielectric and magnetic media

A.P. Zhao, J. Juntunen and A.V. Raisanen. "Generalized material-independent PML absorbers for the FDTD simulation of electromagnetic waves in arbitrary anisotropic dielectric and magnetic media." 1998 Microwave and Guided Wave Letters 8.2 (Feb. 1998 [MGWL]): 52-54.

To simply and effectively absorb waves propagating in anisotropic materials consisting of both arbitrary permittivity and permeability tensors, generalized material-independent perfectly matched layer (GMIPML) absorbers are proposed. Within the GMIPML absorbers, electric displacement D and flux density B are directly absorbed, whereas electric field E and magnetic field H are simultaneously absorbed through the relations between E and D as well as H and B. The proposed GMIPML absorber is validated by analyzing two-dimensional (2-D) hybrid waves.

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