Abstracts

PML absorbing boundary condition for noncubic cell time-domain method

Conventional absorbing boundary conditions (ABC's) are used for cubic-cell finite-difference time-domain (FDTD) grids, but not in noncubic cell time-domain grids. We propose an algorithm to apply perfectly matched layer (PML) ABC to the noncubic cell time-domain method. The numerical experiments are conducted on the accuracy of the PML in a regular triangle cell grid versus standard second-order Mur and PML ABC's in a square-cell FDTD grid. The PML global error is about 10/sup -3/ of the former and about three times of the latter. According to the convergent characteristics this algorithm is equivalent to that of applying PML ABC to the FDTD method.

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