Abstracts

Comparative study of the PML and C-COM mesh-truncation techniques

The recently developed concurrent complementary operators method (C-COM) for mesh truncation of finite-difference time-domain (FDTD) problems has been shown to produce a substantial improvement in differential equation-based absorbing boundary conditions (ABCs). In this letter, the C-COM and the perfectly matched layer (PML) approaches are compared using two-dimensional problems. Two representative geometries are considered that address the absorption of evanescent waves and waves traveling at near-grazing incidence. It is found that the C-COM yields significant improvements over the PML solution for these geometries.

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