Abstracts

Perfectly matched layer absorbing boundary condition for dispersive medium

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Berenger's perfectly matched layer (PML) absorbing boundary condition (ABC) has been found very effective for truncating the unbounded spatial domain in the finite-difference time-domain (FDTD) computation. The PML ABC was originally introduced for a free-space spatial domain and later extended to a lossy medium using the stretched coordinates. In this paper, we propose a novel PML ABC for a dispersive medium in an ordinary Cartesian coordinate. It is also shown that the PML for the lossy medium can be easily derived from our formulation.

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