Abstracts

Systematic derivation of anisotropic PML absorbing media in cylindrical and spherical coordinates

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A simple and systematic derivation of anisotropic perfectly matched layers (PMLs) in cylindrical and spherical coordinates is presented. The derivation is based on the analytic continuation of Maxwell's equations to complex space. Through field transformations, results for Cartesian anisotropic PML media are recovered and, more importantly, a generalization of the anisotropic PML to cylindrical and spherical systems is obtained, providing further clarification on the PML concept. As expected, these new PML media are cylindrically and spherically layered, respectively.

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