Abstracts

Frequency-domain PML layer based on the complex mapping of space boundary condition treatment

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Mapping of real space into a complex one is done in order to absorb the radiative field. The boundary condition which ensures reflectionless incidence at the vacuum/PML interface is established. The application of this boundary condition results in a modified finite-difference approximation of the second derivative of the field. This approach, which is valid only for frequency-domain methods is applied using the method of lines. Comparison of theory and numerical simulation establishes the validity of the approach.

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