Abstracts

Generalized Perfectly Matched Layer--An Extension of Berenger's Perfectly Matched Layer Boundary Condition

J. Fang and Z. Wu. "Generalized Perfectly Matched Layer--An Extension of Berenger's Perfectly Matched Layer Boundary Condition." 1995 Microwave and Guided Wave Letters 5.12 (Dec. 1995 [MGWL]): 451-453.

Berenger's perfectly matched layer (PML) has been found very effective in absorbing propagating waves, but it is ineffective in absorbing evanescent waves. Also, since the impedance of PML does not match those of most of lossy media, the PML technique can generally not be applied to terminate lossy media. Derived from the modified Maxwell's equations in the stretched coordinates, the absorber, which we call the generalized perfectly matched layer (GPML), presented in this letter cannot only absorb propagating waves, but also accelerate the attenuation of evanescent waves and perfectly match arbitrary lossy media. Verifications of GPML are provided with numerical examples.

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