Abstracts

Comparison between FDTD graded grids

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The traditional FDTD discretization of the Maxwell equations in which all cells are equal has been proved not to be efficient in many cases. These cases include the structures in which the field intensities are not uniformly distributed in the computation domain. However, the direct use of graded discretization grids inserts a first order error in the conventional difference equations. Many authors have proposed solutions for this problem. In the present work, some of these solutions are reviewed, implemented and evaluated. The solution proposed by the authors in a previous paper has proved to give better results in terms of accuracy and stability for greater length ratio between neighbouring cells.

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