Abstracts

A Simple Way to Model Curved Metal Boundaries in FDTD Algorithm Avoiding Staircase Approximation

P. Mezzanotte, L. Roselli and R. Sorrentino. "A Simple Way to Model Curved Metal Boundaries in FDTD Algorithm Avoiding Staircase Approximation." 1995 Microwave and Guided Wave Letters 5.8 (Aug. 1995 [MGWL]): 267-269.

The conventional FDTD algorithm in Cartesian coordinates uses staircase approximation to treat curvilinear surfaces. This approximation causes loss of accuracy often unacceptable. An extremely simple and more accurate polygonal approximation of curved surfaces is proposed in this paper. The method improves significantly the accuracy of the original FDTD algorithm, without increasing its complexity.

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