Abstracts

A conformal finite difference time domain technique for modeling curved dielectric surfaces

Wenhua Yu and R. Mittra. "A conformal finite difference time domain technique for modeling curved dielectric surfaces." 2001 Microwave and Wireless Components Letters 11.1 (Jan. 2001 [MWCL]): 25-27.

In this paper, we present a simple yet accurate conformal Finite Difference Time Domain (FDTD) technique, which can be used to analyze curved dielectric surfaces. Unlike the existing conformal techniques for handling dielectrics, the present approach utilizes the individual electric field component along the edges of the cell, rather than requiring the calculation of its area or volume, which is partially filled with a dielectric material. The new technique shows good agreement with the results derived by mode matching and analytical methods.

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