Abstracts

Sub-cellular technique for finite-difference time-domain method

S. Kapoor. "Sub-cellular technique for finite-difference time-domain method." 1997 Transactions on Microwave Theory and Techniques 45.5 (May 1997, Part I [T-MTT]): 673-677.

The most frequently encountered problem with the finite-difference time-domain (FDTD) method, for the analysis of microstrip line and many other structures, is that the structure generally has important structural features that are very small as compared to the main body in at least one dimension. Thus, to accurately analyze such structures, very small mesh is considered which makes the analysis very expensive, time consuming, and sometimes even impossible due to the computer limitations. In this paper, a new sub-cellular technique has been proposed which takes care of such problems as well as many other problems, such as curved surfaces (in which interfaces are not parallel to one of the coordinate planes and stair-step approximation is considered).

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