

Abstracts

A Local Mesh Refinement Algorithm for the Time Domain Finite Difference Method Using Maxwell's Curl Equations (Short Papers)

I.S. Kim and W.J.R. Hoefer. "A Local Mesh Refinement Algorithm for the Time Domain Finite Difference Method Using Maxwell's Curl Equations (Short Papers)." 1990 Transactions on Microwave Theory and Techniques 38.6 (Jun. 1990 [T-MTT]): 812-815.

In this paper we consider an efficient local mesh refinement algorithm subdividing a computational domain to resolve fine dimensions in a TD-FD space-time grid structure. At a discontinuous coarse-fine mesh interface, the boundary conditions for the tangential and normal field components are enforced for a smooth transition of highly nonuniform field quantities.

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