

Abstracts

Extensions to the FDTD Method for the Analysis of Infinitely Periodic Arrays

D.T. Prescott and N.V. Shuley. "Extensions to the FDTD Method for the Analysis of Infinitely Periodic Arrays." 1994 Microwave and Guided Wave Letters 4.10 (Oct. 1994 [MGWL]): 352-353.

A number of methods are presented that improve the efficiency of Finite-Difference Time-Domain analyses of infinitely periodic structures. A procedure that provides a more effective implementation of absorbing boundary conditions, which enables the mesh to be drastically reduced in size, is presented. A method for data extraction involving the direct use of Floquet's theorem is demonstrated along with a technique for exciting the mesh, which helps to reduce the total computation time. These techniques are described and results are given that clearly show the improved performance of the absorbing boundaries.

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