电子与信息学报 2000 22 (6): 1016-1021 ISSN: 1009-5896 CN: 11-4494/TN

论文

一种时间序列预测方法在二维时域有限差分法中的应用

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收稿日期 1998-11-23 修回日期 1999-9-4 网络版发布日期 2009-1-12 接受日期

摘要
本文将一种时间序列预测方法与二维时域有限差分(FDTD)法相结合，并应用于均匀微波平面传输线的特性参数计算。该混合方法特别适用于尺寸很细微的MMIC传输线，而且可以精确地计算非理想导体的损耗。与传统的FDTD法相比，大大节约了计算时间，提高了效率。计算结果与测量非常一致。

关键词 时域有限差分(FDTD)法 时间序列预测 微波传输线

分类号 TN811

THE APPLICATION OF A TIME SERIES PREDICTION METHOD TO TWO-DIMENSIONAL FDTD METHOD

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Abstract
An efficient time signals prediction method combined with two-dimensional finite difference time domain (2D-FDTD) method has been proposed for the performance parameters computation of uniform microwave transmission lines. This hybrid method is especially suitable for the micron structures, and can account for the conductor loss efficiently. So it leads to a significant reduction in CPU time as compared with the conventional three-dimensional FDTD, which improves the efficiency. The simulation results are in good agreement with the results obtained by measurements.

Key words Finite-difference time-domain (FDTD) method Time series prediction method Microwave transmission line

DOI:

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