Abstracts

Accurate Analysis of Losses in Waveguide Structures by Compact Two-Dimensional FDTD Method Combined with Autoregressive Signal Analysis (Short Papers)

M. Fujii and S. Kobayashi. "Accurate Analysis of Losses in Waveguide Structures by Compact Two-Dimensional FDTD Method Combined with Autoregressive Signal Analysis (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.6 (Jun. 1996 [T-MTT]): 970-975.

An efficient two-dimensional finite-difference time-domain (2-D FDTD) method combined with an autoregressive (AR) signal analysis bas been proposed for analyzing the propagation properties of microwave guiding structures. The method is especially suitable for analyzing lossy transmission lines; and in contrast with previons approaches. It is based on an algorithm of a real domain only. The algorithm is verified by comparing the numerical results with exact solutions for dielectric Ioaded rectangular waveguides. The conductor losses in a variety of microstrip lines and coplanar waveguides have been accurately estimated by solving the electromagnetic fields in the conductors directly.

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