# Abstracts

## Some Improvements to the FDTD Algorithm for the Analysis of Passive Circuits

*R.C. Tupynamba and A.S. Omar. "Some Improvements to the FDTD Algorithm for the Analysis of Passive Circuits." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1657-1660.*

A new graded lattice mesh scheme for the FDTD is presented, in which the location of the different materials in the structure is taken into account. This makes it possible to maintain the efficiency of other graded lattice schemes without the big increasing of memory requirements they imply. A new compensated non-matched source is also presented which uses the results of a 2D-FDTD analysis to distinguish between the incident and the reflected parts of the signal on the excitation plane. This solution is time-saving as compared to the traditional method of using a long line at the input or with the 3D analysis for the matched source. The 2D-FDTD analysis is the same as from other authors, but at the first time with a rigorous description, without using complex numbers for real time-domain field components.

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