

Abstracts

Evaluation and enhancement of supraconvergence effects on nonuniform and conformal FDTD meshes

M. Celuch-Marcysiak. "Evaluation and enhancement of supraconvergence effects on nonuniform and conformal FDTD meshes." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 745-748 vol.2.

Numerical errors arising on nonuniform FDTD meshes have been revealed and classified. Formulae for evaluating those errors have been analytically derived and verified in simulations. Simple recipes for suppressing the errors and enhancing their order of supraconvergence with refined discretisation have been proposed. Conformal modelling based on directional and linearised cell merging is introduced and recommended for practical microwave circuit simulations.

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