Abstracts

Investigation of static and quasi-static fields inherent to the pulsed FDTD method

R. Pontalti, J. Nadobny, P. Wust, A. Vaccari and D. Sullivan. "Investigation of static and quasi-static fields inherent to the pulsed FDTD method." 2002 Transactions on Microwave Theory and Techniques 50.8 (Aug. 2002 [T-MTT]): 2022-2025.

Demonstrates that trailing dc offsets, which can affect E- or H-fields in finite-difference time-domain simulations, are physically correct static solutions of Maxwell's equations instead of being numerically induced artifacts. It is shown that they are present on the grid when sources are used, which generates nondecaying charges. Static solutions are investigated by exciting electric and magnetic dipoles models with suitable waveforms.

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