Abstracts

Diaz-Fitzgerald Time Domain (D-FTD) Technique Applied to Electromagnetic Problems

F. De Flaviis, M. Noro and N.G. Alexopoulos. "Diaz-Fitzgerald Time Domain (D-FTD) Technique Applied to Electromagnetic Problems." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 1047-1050.

A new approach for the solution of electromagnetic problems is presented and tested. The method is based of the discretization of Maxwell's equations, but it differs from the FDTD implementation in that it exploits a different scheme to model wave propagation. Vector and Scalar potential are used instead of the magnetic field, to propagate the electric field. This implementation provides a condensed node representation for the electric field, offers a natural way to treat interfaces, and allows to model Debye relaxation media, avoiding convolution. Additionally a mechanical analog can be devised.

❑ Return to main document.