Abstracts

A New Frequency-Domain TLM Symmetrical Condensed Node Derived Directly from Maxwell's Equations

H. Jin and R. Vahldieck. "A New Frequency-Domain TLM Symmetrical Condensed Node Derived Directly from Maxwell's Equations." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 487-490.

This paper presents a new frequency-domain TLM symmetrical condensed node derived directly from Maxwell's equations by using centered differencing and averaging. Direct correspondence between the FDTLM and finite difference method is established. The node scattering matrices and field expressions are given for the general case with graded mesh and anisotropic materials including both electric and magnetic losses. It is demonstrated that this new FDTLM node always has 2nd-order accuracy regardless of a uniform or graded mesh discretization of the space.

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