Abstracts

Performance Study of One-Way Absorbing Boundary Equations in 3-D TLM for Dispersive Guiding Structures

C. Eswarappa and W.J.R. Hoefer. "Performance Study of One-Way Absorbing Boundary Equations in 3-D TLM for Dispersive Guiding Structures." 1993 MTT-S International Microwave Symposium Digest 93.3 (1993 Vol. III [MWSYM]): 1439-1442.

Several absorbing boundary conditions based on one-way wave equations (mostly applied to the FD-TD method) have been studied and adapted for the 3-D Symmetrical Condensed Node analysis of guiding structures. The Absorbing Boundary Condition based on perfect absorption of waves at two incident angles has given superior results when compared to that of other absorbing boundaries. Reflections less than 2% over a large frequency spectrum have been obtained for dispersive structures like rnicrostrip and finlines. These excellent absorbing boundary conditions can considerably reduce the computational domain, thus making possible the 3-D TLM analysis of planar and quasi-planar structures with moderate computer resources.

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