Abstracts

Optimization of the PML efficiency in 3-D TLM method

J.-L. Dubard and D. Pompei. "Optimization of the PML efficiency in 3-D TLM method." 2000 Transactions on Microwave Theory and Techniques 48.7 (Jul. 2000, Part I [T-MTT]): 1081-1088.

In this paper, the complete derivation of the new perfectly matched layer symmetrical condensed node (PML SCN) recently proposed for the implementation of the Berenger's PML's in the three-dimensional transmission-line matrix (TLM) method is given. Several comparisons between TLM and finite-difference time-domain experiments are performed in order to better understand the behavior of PML's in TLM simulations. In particular, the way to implement the numerical conductivity values with the PML SCN is considered. TLM simulations of waveguide and microstrip antennas are finally presented to prove that the use of this new PML SCN improves the absorbing boundary conditions in the TLM.

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