Abstracts

A Signal Averaging Technique for a Wide Bandwidth Absorbing Boundary Condition in the TLM Method

A. Dhouib, M.G. Stubbs, N.R.S. Simons and M. Lecours. "A Signal Averaging Technique for a Wide Bandwidth Absorbing Boundary Condition in the TLM Method." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 451-454.

This paper reports a new and simple technique for obtaining an accurate wide bandwidth absorbing boundary condition (ABC). The technique is based on signal averaging of the scattering parameters calculated from current and voltage waves propagating in planar structures. Although the ABC has been modelled by a match-termination for normal incident waves, the errors due to imperfect ABCs can be significantly reduced from the computed scattering parameter data using a signal averaging technique. The computed reflection coefficients in highly dispersive microstrip lines have been improved from -30 dB to better than -58 dB for the entire frequency range 1-150 GHz.

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