Abstracts

A super absorbing boundary condition for the analysis of waveguide discontinuities with the finite-difference method (Authors' Reply)

Jian Yi Zhou and Wei Hong. "A super absorbing boundary condition for the analysis of waveguide discontinuities with the finite-difference method (Authors' Reply)." 1998 Microwave and Guided Wave Letters 8.5 (May 1998 [MGWL]): 208-209.

For the original paper see ibid., vol. 7, p. 147-149 (June 1997). In the aforementioned work, it is pointed out that the authors may have overlooked the paper by Ramahi et al. (see IEEE Trans. Antennas and Propag., vol. 39, p. 350-353, Mar. 1991), which introduced a numerically derived Absorbing Boundary Condition (ABC) for the solution of open region scattering problems. In this paper, the idea was to present the unknown field or its derivative at a terminal node in terms of a weighted summation of neighboring nodes that lie in the interior. The weighting coefficients are solved for by representing the field at the terminal node in terms of a finite number of its spatial harmonics (three or five dominant harmonics). The concept was demonstrated by applying it to cylindrical harmonics in the context of the finite-element method, whereas the authors of the above paper considered planar waveguide harmonics in the context of the finite-difference method. The authors reply to this comment.

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