Abstracts

Implementation of Radiation Boundary Conditions in the Finite Element Analysis of Electromagnetic Wave Propagation

E. Sumbar, F.E. Vermeulen and F.S. Chute. "Implementation of Radiation Boundary Conditions in the Finite Element Analysis of Electromagnetic Wave Propagation." 1991 Transactions on Microwave Theory and Techniques 39.2 (Feb. 1991 [T-MTT]): 267-273.

"Radiation boundary conditions" are formulated which permit the simulation of two-dimensional electromagnetic wave phenomena with the finite element method using conventional elements over a bounded domain. Implementation of such boundary conditions preserves the symmetry of the global stiffness matrix with all the advantages that this implies, including economy of storage and solution, A number of wire-antenna systems have been modeled with this technique in a finite element computer program called FEAST. The results demonstrate good agreement with published reference data.

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