Abstracts

Three-Dimensional Finite-Element Method with Edge Elements for Electromagnetic Waveguide Discontinuities

K. Ise, K. Inoue and M. Koshiba. "Three-Dimensional Finite-Element Method with Edge Elements for Electromagnetic Waveguide Discontinuities." 1991 Transactions on Microwave Theory and Techniques 39.8 (Aug. 1991 [T-MTT]): 1289-1295.

When three-dimensional electromagnetic problems are solved by the finite-element method based on a functional with three components of electric or magnetic field, spurious solutions appear if the traditional tetrahedral elements are used. This paper shows that the finite-element method using edge elements succeeds in suppressing spurious solutions and moreover that this method succeeds in the analysis of three-dimensional electromagnetic waveguide problems with metal wedges.

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