Abstracts

Choices of Expansion and Testing Functions for the Method of Moments Applied to a Class of Electromagnetic Problems

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It is well known that the choice of expansion and testing functions plays an important role in determining the rate of convergence of the integrals associated with the moment method matrix, and that an improper choice can lead to erroneous results. The main objective of this paper is to critically examine this convergence issue and to provide criteria for the choice of these expansion and testing functions. The question of whether these functions need to satisfy the Holder condition is also investigated and the convergence behavior of the integrals involved in the spatial and spectral domain moment method is discussed for some representative expansion and testing functions.

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