Abstracts

Method of Moments as Applied to Electromagnetic Problems

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This paper reviews one of the most important general methods for solving electromagnetic-field problems, namely, the moment method. It begins with a brief mathematical foundation of the general method. Then, the various specializations are described, accompanied with relevant references to illustrate the pitfalls and shortcomings, as well as the advantages, as compared to other methods. Deterministic and eigenvalue problems are both discussed separately. Finally, two advanced techniques which have been found to be among the most efficient ones for solving matrix equations resulting from the moment method, namely, the coujugate gradient and the pseudo-inverse, are described. A version of their algorithm which is easily programmable on computer is also presented.

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