

Abstracts

A Moment Method Solution of a Volume-Surface Integral Equation Using Isoparametric Elements and Point Matching (Short Papers)

J.-M. Jin, J.L. Volakis and V.V. Liepa. "A Moment Method Solution of a Volume-Surface Integral Equation Using Isoparametric Elements and Point Matching (Short Papers)." 1989 Transactions on Microwave Theory and Techniques 37.10 (Oct. 1989 [T-MTT]): 1641-1645.

It is shown that traditional subdomain elements such as rectangles and triangles with a pulse expansion basis could lead to inaccuracies when simulating biological scatterers having high permittivities. In this paper, isoparametric elements are used in a moment method implementation to remove modeling inaccuracies of fields and boundaries associated with traditional elements. Numerical results are also given that show the improvement achieved in the scattering solution for high-contrast circular cylinders.

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