Abstracts

A pseudospectral technique for the discrete reconstruction of the three-dimensional equivalent-current density

In this paper, a new technique is developed to reconstruct the three dimensional equivalent-current density associated with a dielectric scatterer with an arbitrary shape. This technique is based on the solution of an integral equation using a pseudospectral method where part of the integrand represents the unknown. The other part of the integrand is the known dyadic Green's function. This technique generates accurate results, which makes it attractive for electromagnetic inversion of scatters from inhomogeneous dielectric bodies. An example is given to demonstrate the accuracy of the developed technique.

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