Abstracts

A Procedure for Solving the Electric Field Integral Equation for a Dielectric Scatterer with a Large Permittivity Using Face-Centered Node Points (Short Papers)

C.-C. Su. "A Procedure for Solving the Electric Field Integral Equation for a Dielectric Scatterer with a Large Permittivity Using Face-Centered Node Points (Short Papers)." 1991 Transactions on Microwave Theory and Techniques 39.6 (Jun. 1991 [T-MTT]): 1043-1048.

A numerical procedure for solving the electric field integral equation (EFIE) using the pulse-basis block model is proposed. The main features of the method are the use of face-centered node points and a unique way of choosing the unknown fields. Such a procedure keeps the resulting matrix relatively well conditioned, even when the magnitude of the permittivity is large. In addition, the proposed procedure can preserve the convolution property contained in the EFIE and, hence, the FFT can be incorporated into the algorithm.

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