Abstracts

Numerical Electromagnetic Inverse-Scattering Solutions for Two-Dimensional Infinite Dielectric Cylinders Buried in a Lossy Half-Space (Short Papers)

S. Caorsi, G.L. Gragnani and M. Pastorino. "Numerical Electromagnetic Inverse-Scattering Solutions for Two-Dimensional Infinite Dielectric Cylinders Buried in a Lossy Half-Space (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.2 (Feb. 1993 [T-MTT]): 352-357.

An approach to microwave imaging in a half-space geometry and for infinite dielectric cylinders buried in a lossy medium is proposed. The two-dimensional integral-equation for the inverse-scattering problem is discretized by the moment method. The resulting ill-conditioned system is solved by pseudoinversion. A multi-incidence process based on the invariance of the Green matrix to the incident field is described. Results of some numerical simulations, assuming a noisy environments, are reported and discussed.

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