Abstracts

Partial Inverse Scattering Method for Three-Dimensional Heterogeneous Biological Bodies by Using a Matrix Perturbation Theory (Short Papers)

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A partial inverse scattering method for three-dimensional, arbitrarily shaped heterogeneous dielectrics or biological bodies is presented by using a matrix perturbation (MPT). When small perturbations in the dielectric characteristics of an a priori known biological body occur, a relation between the varied scattering fields and the dielectric characteristics is derived in matrix form. Furthermore, the perturbation solutions for inverse scattering problem are investigated. A reconstruction example is given to show the validity of the method.

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