Abstracts

Estimation of Complex Permittivities of Three-Dimensional Inhomogeneous Biological Bodies

Complex permittivities are estimated for a 36-cell model which represents the chest portion of the block model of man by using moment-method formulation of the electric field integral equation. The errors in the calculated complex permittivities are lower with saline/water the surrounding medium, as compared to air, presumably on account of better matching of energy to the biological body. It has been shown that the rest of the human body has little effect on the estimation of complex permittivities because of the near-field natore of the illuminating sonrces. small number of buried cells can be handled for solving the inverse problem, but the problem becomes ill-posed and unsolvable for a larger number of buried cells.

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