Abstracts

Human organs dosimetry for transient electromagnetic fields

M. Mrozowski, M. Okoniewski, E. Okoniewska and M.A. Stuchly. "Human organs dosimetry for transient electromagnetic fields." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. I [MWSYM]): 95-97.

A fast, flexible and accurate technique for evaluation of the induced electric fields and SAR in various organs and tissues of the human body is presented for exposure to arbitrarily long transient fields. The technique reduces the simulation times by several orders of magnitude as compared with previously used techniques, such as the finite-difference time-domain technique (FDTD). The computational efficiency and speed are obtained by building a parametric digital filter model of the object-transient field interaction. Very small errors have been demonstrated for transients having vastly different spectral composition from the pulse used to obtain the model.

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