Abstracts

A study of uncertainties in modeling the handset antenna and human head interaction using the FDTD method

K. Nikita, N.K. Uzunoglu, P. Bernardi, M. Cavagnaro, S. Pisa, E. Piuzzi, G.I. Krikellas and N. Sahalos. "A study of uncertainties in modeling the handset antenna and human head interaction using the FDTD method." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 1025-1028.

A set of FDTD numerical experiments is presented for a homogeneous spherical head and a simple dipole, in order to quantitatively assess the effect of antenna numerical representation and absorbing boundary conditions on simulated parameters of interest, referring to both dosimetric and antenna performance studies. A semi-analytical technique based on the theory of dyadic Green's function in conjunction with the method of auxiliary sources is used for further validation and comparison of the FDTD results.

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