Abstracts

Modeling of interaction of electromagnetic fields from a cellular telephone with hearing aids (1997 Vol. I [MWSYM])

M. Okoniewski, M.A. Stuchly and S.S. Stuchly. "Modeling of interaction of electromagnetic fields from a cellular telephone with hearing aids (1997 Vol. I [MWSYM])." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. I [MWSYM]): 99-101.

The use of digital modulation in the new generation of cellular telephones and other personal communication services (PCS) poses new problems and challenges in interactions with the human body. Among them is electromagnetic interference (EMI) with medical devices. We have evaluated the electric and magnetic fields in the ear canal at 900 MHz for a typical monopole antenna on a metallic handset, an equivalent dipole and a plane wave using the FDTD method. The results are of importance and used in developing performance standards and practical testing methods for various types of hearing aids.

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