Abstracts

A bioelectromagnetic overview of the Universal Mobile Telecommunication System (UMTS)

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The large-scale introduction of the Universal Mobile Telecommunication System (UMTS) must be forwarded by a suitable evaluation of possible effects of its radiowave signals on end-users. For this purpose, a rigorous characterization of its radio-signals must be performed from a radioprotection point of view, spectral and power behaviour being among the most important issues. In this paper UMTS radiowave signals are accurately investigated. An algorithm is proposed for the numerical generation of such signals, so that real operating conditions can be accurately simulated, and bioelectromagnetic interactions studied. Results demonstrate the accuracy of the proposed algorithm, as well as the amenability of the attained signals to model the bioelectromagnetic interaction up to cellular scales.

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