



Recent scientific publications relevant to mobile telephony

December 2013

Details

Albania: An Efficient Algorithm for the Evaluate of the Electromagnetic Field near Several Radio Base Stations, [Lala et al., Journal of Communication and Computer](#), 10: 832-843, June 2013.

'...The results are interpreted in order to define the efficiency of the proposed method as well as to have an idea on the simplicity, accuracy and computing capacities.'

Finland: Testing of Common Electromagnetic Environments for Risk of Interference with Cardiac Pacemaker Function, [Tiikkaja et al., Safety and Health at Work](#), 4(3):156-159, September 2013.

'...None of the pacemakers experienced interference in any of these exposure situations. However, often it is not clear whether or not strong EMFs exist in various work environments, and hence an individual risk assessment is needed...'

France: Mobile phone infrastructure regulation in Europe: Scientific challenges and human rights protection, [Roda et al., Environmental Science & Policy](#), Available online 11 November 2013.

'...because scientific knowledge is incomplete, a precautionary approach is better suited to State obligations under international human rights law.'

Greece: Clustering of excess health concerns for electromagnetic fields among health personnel: A quantitative and qualitative approach, [Gerakopoulou et al., Journal of Health Psychology](#), Published online: November 11, 2013.

'...Over 75 percent of the participants had high perceived knowledge, whereas accuracy was limited to <20 percent and correctness to 8 percent. An "excessive concern" group was clearly distinguished from a "relaxed attitude" one. Clustering of excessive concerns may derive from personal beliefs, suggesting a risk governance issue for health education policies.'

Netherlands: Design, Characterization, and Application of Fast, Broadband, High-Dynamic Range, Three-Axis Field Strength Probes, [Serra et al., IEEE Transactions on Electromagnetic Compatibility](#), 55(6): 1007-1014, December 2013.

'...this paper describes the design, fabrication, and characterization of fast, broadband, three-axis, and high-dynamic range probes...'

Netherlands: Fast, Broadband, and High-Dynamic Range 3-D Field Strength Probe, [Leferink, IEEE Transactions on Electromagnetic Compatibility](#), 55(6): 1015-1021, December 2013.

'...Three orthogonal monopole antennas connected to three logarithmic amplifiers result in a fast, broadband, and high-dynamic range field strength probe...'

Nigeria: Locational Effect of GSM Mast on Neighbouring Residential Properties' Rental Values in Akure, Nigeria, [Olukolajo et al., Academic Journal of Interdisciplinary Studies](#), 2(3): 147-155, November 2013.

'...the location of GSM mast has no significant effect on rental values of residential properties in the high and medium density residential zones of Akure...there exists a positive effect on rental values of properties in the low density zone...'

Poland: Influence of Mobile Phones on the Quality of ECG Signal Acquired by Medical Devices, [Buczowski et al., *Measurement Science Review*](#), 13(5): 231-236, November 2013.

'...the electrocardiographic system was vulnerable to the interference generated by the GSM mobile phone working with maximum transmit power and in DTX mode when the device was placed in a distance shorter than 7.5 cm from the ECG electrode located on the surface of the chest. Negligible EMI was encountered at any longer distance.'

Russia: The In Vivo Effects of Low-Intensity Radiofrequency Fields on the Motor Activity of Protozoa, [Sarapultseva et al., *International Journal of Radiation Biology*](#), Posted online on November 25, 2013.

'...The results of our study show that low-dose exposure to RF-EMF can significantly affect the motility of irradiated ciliates and their non-exposed offspring...'

Spain: Improvement in the Accuracy of Dielectric Measurement of Open-Ended Coaxial Resonators by an Enhanced De-Embedding of the Coupling Network, [Canos Marin et al., *IEEE Transactions on Microwave Theory and Techniques*](#), 61(12): 4636-4645, December 2013.

'...the influence of the coupling structure on the resonance can be precisely eliminated independently of the coupling conditions, which guarantees a high accuracy in the permittivity determination of materials by open-ended coaxial resonators...'

Sweden: Using the Hill viewpoints from 1965 for evaluating strengths of evidence of the risk for brain tumors associated with use of mobile and cordless phones, [Hardell et al., *Reviews on Environmental Health*](#), 28(2-3): 97-106, November 2013.

'...Based on the Hill criteria, glioma and acoustic neuroma should be considered to be caused by RF-EMF emissions from wireless phones and regarded as carcinogenic to humans, classifying it as group 1 according to the IARC classification. Current guidelines for exposure need to be urgently revised.'

Switzerland: Experimental and numerical assessment of low-frequency current distributions from UMTS and GSM mobile phones, [Gosselin et al., *Physics in Medicine and Biology*](#), 58(23): 8339-8358, 7 December 2013.

'...the contribution from the audio signal at a normal speech level, i.e., -16 dBm0, is the same order of magnitude as the fields induced by the current bursts generated from the implementation of the GSM communication system at maximum RF output level. The B -field induced by currents in phones using the UMTS is two orders of magnitude lower than that induced by GSM...'

Turkey: No genotoxic effect in exfoliated bladder cells of rat under the exposure of 1800 and 2100MHz radio frequency radiation, [Gurbuz et al., *Electromagnetic Biology and Medicine*](#), Posted online on November 27, 2013.

'...1800 and 2100MHz RF exposures did not result in any significant MN frequencies in rat bladder cells with respect to the control groups ($p > 0.05$). There was no statistically significant difference between 2100MHz RF exposed groups, either...'

USA: Human disease resulting from exposure to electromagnetic fields, [Carpenter, *Reviews on Environmental Health*](#), Published online: 27 November 2013.

'...excessive exposure to RF radiation increases risk of cancer, male infertility, and neurobehavioral abnormalities. The relative impact of various sources of exposure, the great range of standards for EMF exposure, and the costs of doing nothing are also discussed.'

USA: Wi-Fi and Health: Review of Current Status of Research, [Foster et al., *Health Physics*](#), 105(6): 561-575, December 2013.

'...Unequivocally, the RF exposures from Wi-Fi and wireless networks are far below U.S. and international exposure limits for RF energy. While several studies report biological effects due to Wi-Fi-type exposures, technical limitations prevent drawing conclusions from them about possible health risks of the technology. The review concludes with suggestions for future research on the topic.'

The MMF is an international association of wireless communications manufacturers established to support scientific research in relation to mobile telephony and health www.mmfai.info

The GSM Association (GSMA) is the global trade association that exists to promote, protect and enhance the interests of GSM mobile operators throughout the world. www.gsma.com/mobile-and-health

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