

Medical/biological Study (experimental study)

Short-term effects of GSM mobiles phones on spectral components of the human electroencephalogram.

By: Faucon G, Le Bouquin Jeannes R, Maby E

Published in: Conf Proc IEEE Eng Med Biol Soc 2006; 1 (1): 3751 - 3754 (**journal not peer reviewed**)

Aim of study (according to author)

This *in vivo* study was performed to investigate whether GSM signals affect the electrical activity of the human brain.

Background/further details:

Nine healthy subjects and six epileptic patients participated. Each participant was exposed and sham-exposed.

Endpoint

- effects on the neurological system: brain activity

Exposure

GSM

Exposed system:
human

Methods

Endpoint/Measurement parameters/Methodology

- effects on the neurological system: brain activity (EEG, power spectral density)

investigation on living organism

investigated organ system: brain/CNS

Main outcome of study (according to author)

Under radiofrequency irradiation the spectral arrangement of the EEG activity was altered for healthy subjects as well as epileptic patients. For the healthy subjects, a significant decrease of the EEG signal was observed for all frequency bands and more precisely on occipital electrodes for the alpha wave. For the epileptic patients, it was the opposite since the GSM exposure produced an increase of EEG signal energy in all frequency bands and without any local difference.

These results suggest that GSM mobile phones may have a biological effect on EEG signals.

(Study character: medical/biological study, experimental study, full/main study)

Study funded by

- Ministère délégué à l'Enseignement supérieur et à la Recherche (Ministry of National Education and Research), France

Related articles 

- [Vecchio F et al. \(2007\)](#): Mobile phone emission modulates interhemispheric functional coupling of EEG...
- [Inomata-Terada S et al. \(2007\)](#): Effects of high frequency electromagnetic field (EMF) emitted by mobile phones...

- [Croft RJ et al. \(2007\)](#): The effect of mobile phone electromagnetic fields on the alpha rhythm of human...
- [Ferreri F et al. \(2006\)](#): Mobile phone emissions and human brain excitability.
- [Maby E et al. \(2006\)](#): Scalp localization of human auditory cortical activity modified by GSM...
- [Maby E et al. \(2005\)](#): Effects of GSM signals on auditory evoked responses.
- [Bachmann M et al. \(2005\)](#): Effect of 450 MHz Microwave Modulated with 217 Hz on Human EEG in Rest
- [Maby E et al. \(2004\)](#): Analysis of auditory evoked potential parameters in the presence of...
- [Krause CM et al. \(2000\)](#): Effects of electromagnetic field emitted by cellular phones on the EEG during a...
- [Borbely AA et al. \(1999\)](#): Pulsed high-frequency electromagnetic field affects human sleep and sleep...
- [Roschke J et al. \(1997\)](#): No short-term effects of digital mobile radio telephone on the awake human...
- [Reiser H et al. \(1995\)](#): The influence of electromagnetic fields on human brain activity.

© 1997 - 2007, Research Center for Bioelectromagnetic Interaction (femu - RWTH Aachen University, Germany).

All Rights Reserved. You may retrieve, read or print, but not reproduce or publish any information found here, for personal and strictly non-commercial purposes, provided that you (i) do not modify such information, and (ii) include any copyright notice originally included with such information.

Unless otherwise noted, the information provided in these documents does not represent the official view or statement of femu - Aachen University. By retrieving, reading or printing these documents you expressly state your agreement with all conditions in the [fine print](#).



[Screen view](#)