



Using mobile phones in the car

Following an intense debate the amendment to the Road Traffic Act (Straßenverkehrsordnung, StVO) has been passed. Because of the increased use of mobile phones in cars being the cause of accidents since February 1st 2001 mobile phoning while being at the wheel is forbidden, if the vehicle lacks a hands free device. Without such a device mobile phoning is only allowed when the motor is switched off and the vehicle stands still.

Traffic experts from politics, insurance business and transport agreed that new regulations were necessary. Relevant studies pointed out that the use of mobile phones during driving distracts from road traffic thus increasing the accident risk.

The Federal Ministry of Traffic commented on the topic yet before the revision of the StVO. The new Federal Minister Kurt Bodewig on May 28th 2000 during the 6th Automobile Forum in Eisenach

announced the ban on mobile phoning in vehicles using hand-held sets. His predecessor Reinhard Klimmt supported him. Only the motto 'open your eyes, put your hands on the wheel' would guarantee safety. In other European countries hands free devices already are compulsory in road traffic. Certain countries, such as Slovakia, are even more adamant. 'Phone OR drive' – that is the choice given to drivers. To do both simultaneously is strictly forbidden.

Portability workshop in Bad Münstereifel

On December 4th and 5th 2000 the international scientific workshop 'Biological and Biophysical Research at Extremely Low- and Radiofrequencies' was held in Bad Münstereifel, organised by the Forschungsgemeinschaft Funk e.V. (FGF; Association for Radio Applications) in cooperation with the Berufsgenossenschaft der Feinwerktechnik und Elektrotechnik (professional association for precision and electrical engineering) as well as the European scientific association 'COST244bis'.

The rapid development and increased use of radio technologies steadily enlarge the already wide spectrum of signal forms and modulation types. Extensive scientific studies are necessary to gain scientifically valid knowledge on possible interaction between these technologies and humans/environment. Usually, radio signals have a low-frequency component. But low-frequency signals are also found in biological systems, for example during stimulus conduction or muscular activity. The hypothesis was that biological systems demodulate low-frequency signals and thus may have an impact on biological processes.

The workshop focused on following questions:

1. Can results of low-frequency studies be transferred to the radiofrequency range?
2. Are results obtained from certain modulation type relevant for other modulation schemes?

A definite portability of results across different frequency ranges and modulation types would provide a better use of existing knowledge hugely enhancing our understanding of the mechanisms of field effects on biological systems. As a consequence, future assessment of potential health risks would be more reliable and predictable.

Eleven lectures of renowned scientists from France, Italy, Great Britain, the USA and Germany presented the newest developments in science. The scientific results as well as the results of the meeting's discussions will soon be presented at FGF's web site, summarised by rapporteurs.

17th work session of the Forschungsinitiative NRW (Research Initiative North-Rhine Westphalia)

On November 10th 2000 around 40 researchers and experts from different organisations participated in a work session of the Forschungsinitiative promoted by the Ministry for Education, Science and Research of Nordrhein-Westfalen (MSWF NRW) on biological effects of electromagnetic radiation. The session held at the quarters of the Institute for Industrial Physiology at the University Dortmund (IfADO) this time focused on tak-

Research Initiative NRW

ing a scientific inventory aimed to show which aspects until now have not been sufficiently explored or could not satisfactorily be answered. Further, provisional results of a study promoted by the Forschungsinitiative on the effects of low-frequency magnetic fields on the melatonin production in humans were presented.

This study carried out at the IfADo with 12 male participants showed a slight postponement of the nocturnal minimum heart rate frequency at an exposure to 16,7 Hz fields (0,2 mT, in the evening for 8 h in a 15-s-rhythm, alternately switched on and off). This effect was even stronger at bright nocturnal light (without field exposure) compared to control measurements at twilight. Concerning body core temperature there was no statistically significant change. The most interesting part of the study, namely the analysis of the melatonin level in sputum samples is not yet complete. During discussion following the lecture it was criticised that in the relatively small subject group obviously three different chronotypes were examined (i.e. morning, evening or neutral type) with corresponding, partly considerable effects on the measured parameters.

Michael Karus of Nova Institute in Hürth presented his assessment of as yet not or not sufficiently explored areas regarding biological effects of electromagnetic radiation. In this respect, he mentioned six topics/projects still to be dealt with:

- a not sufficiently explored „grey area“ at 50 Hz in the field strength range between 0,2 μ T and 100 μ T
- a population study on base stations (case-control-study dealing with temporarily switched-off stations)

- studies on the DECT standard of cordless phones using similar methods as studies already carried out on mobile phones
- studies on the autonomic nerve system and the circulatory system
- a study on the effects on the blood-brain-barrier as well as
- a study on the possible connection between electromagnetic fields and Alzheimer's disease.

The list in part matched near-future reasearch foci planned by the FGF.

Alexander Lerchl of the Institute for Reproductive Medicine at the University Münster in his lecture addressed the areas of conflict of producers/net operators, users and researchers in connection with the exploration of possible dangers resulting from electromagnetic radiation. In his view, the Deutsche Forschungsgemeinschaft (DFG; German Research Association) and the European Community would not or only partially qualify as research partners for the area in question because of their selection and admission criteria. Following the lecture there was an animated discussion.

Concluding, Magdala Gronau, „Topics of the future“, Essen, as founding member of the Forschungsinitiative NRW summarised the contributions of the annual meeting of the 'Bioelectromagnetics Society', held in June 2000 in Munich. The evaluation of submitted lecture and poster abstracts found the following proportion of studies establishing effects versus studies not establishing effects:

4 : 1 in studies applying low-frequency fields (ELF) and

1 : 1 in studies applying high-frequency fields (HF).

As usual during such meetings, these results were provisional and not yet published in scientific journals.

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