

Workshop



Do sinusoidal versus non-sinusoidal waveforms make a difference?



Organized by

COST 281
FORSCHUNGSGEMEINSCHAFT FUNK E.V.
FORSCHUNGSSTIFTUNG MOBILKOMMUNIKATION
EMF-NET
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Agenda



8th MCM and Workshop “Do sinusoidal versus non-sinusoidal waveforms make a difference?”

Zurich, Switzerland, February 17-18, 2005

Agenda

Thursday, February 17, 2005

Room No.

08:15 – 10:00	STEERING COMMITTEE MEETING (SCM)	F 33.4
10:00	Welcome by Gregor Dürrenberger (Research Foundation Mobile Communication)	G 60
10:05 – 12:00	MANAGEMENT COMMITTEE MEETING (MCM)	G 60
<i>12:00 – 13:00</i>	<i>Lunch</i>	GEP

WORKSHOP “Do sinusoidal versus non-sinusoidal waveforms make a difference?”

Session 1: Modulation of RF-fields in mobile phones and other technologies. G 60

Welcome and Chair: Norbert Leitgeb

13:00 – 13:30	Werner Bächtold, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland – Mobile communication signals on the air	
13:30 – 13:45	Discussion	
13:45 – 14:15	Jørgen Bach Andersen, Aalborg University, Denmark – Signal forms in wireless applications	
14:15 – 14:30	Discussion	
14:30 – 14:45	<i>Coffee Break</i>	Foyer G60

Session 2: Biological effects of modulated versus nonmodulated fields. G 60

Chair: Maila Hietanen

14:45 – 15:05	Kenneth R. Foster, University of Pennsylvania, Philadelphia, USA – Biological Effects of Radiofrequency Fields: Does Modulation Matter?	
15:05 – 15:15	Discussion	
15:15 – 15:35	Vijayalaxmi, University of Texas, San Antonio, USA – An Overview of Genotoxic Potential of Electromagnetic Radiation with different modulations in Mammalian Somatic Cells	
15:35 – 15:45	Discussion	

- 15:45 – 16:05 Martin Röösl, University of Bern, Switzerland - Waveform specific effects: what can epidemiological studies contribute?
 16:05 – 16:15 Discussion
- 16:15 – 16:30 *Coffee Break* **Foyer G60**
- 16:30 – 16:50 Jiri Silny, Aachen University Hospital, Germany – Influence of pulse-modulated GHz microwaves on the excitation of human nerves and muscles compared with continuous wave exposure
 16:50 – 17:00 Discussion
- 17:00 – 17:20 Stanislaw Szmigielski, Military Institute of Hygiene and Epidemiology, Warsaw, Poland – Assessment of immunotropic effects of exposure to pulse-modulated microwave radiation in relation to continuous wave exposure
 17:20 – 17:30 Discussion
- 17:30 – 17:50 Igor Y. Belyaev, Stockholm University, Sweden - Non-thermal biological effects of microwaves: current knowledge, further perspective and urgent needs
 17:50 – 18:00 Discussion
- 19:00 – 23:00 COST Social Event**

Friday, February 18, 2005

Session 2 (continued):

G 60

Chair: Maila Hietanen

- 08:00 – 08:20 Peter Achermann, University of Zurich, Switzerland – Pulse modulation appears crucial for RF-EMF-induced alterations in brain physiology
 08:20 – 08:30 Discussion
- 08:30 – 09:00 Discussion on special modulation effects

09:00 – 09:15 *Coffee Break*

Foyer G60

Session 3: Biological effects of different kinds of high peak pulses.

G 60

Chair: Kenneth R. Foster

- 09:15 – 09:35 Vladimir Sukhorukov, University of Wuerzburg, Germany – Electro-permeabilization of cells by pulses of high field strength and ultra-short duration
 09:35 – 09:45 Discussion
- 09:45 – 10:05 Andrei G. Pakhomov, University of Texas, San Antonio, USA – Climbing the Megawatt-Per-Gram SAR Peak: The Research Into Bioeffects of Extremely High Power Microwave Pulses
 10:05 – 10:15 Discussion

- 10:15 – 10:35 Gian Piero Gallerano, ENEA, Frascati, Italy - Biological effects of high peak electric field picosecond pulses in the THz region: irradiation studies on human lymphocytes and model cell membranes
- 10:35 – 10:45 Discussion
- 10:45 – 11:15 Discussion on high peak pulses
- 11:15 – 11:30 *Coffee Break* **Foyer G60**

Session 4: Interaction mechanisms and safety standards.

G 60

Chair: Roland Glaser

- 11:30 – 11:50 James C. Weaver, Massachusetts Institute of Technology, Cambridge, USA – Screening of electromagnetic field exposures in silico
- 11:50 – 12:00 Discussion
- 12:00 – 12:10 Iftekhar Ahmed, University of Bradford, UK - Is a square-law junction essential for demodulation of modulated waveforms in tissue?
- 12:10 – 12:20 Discussion
- 12:20 – 12:40 Phillip Chadwick, MCL, Newbury, UK – Exposure standards for pulse-modulated fields
- 12:40 – 12:50 Discussion
- 12:50 – 13:30 Discussion on mechanisms and safety standards
- 13:30 – 14:30 *Lunch* **GEP**
- 14:30 – 16:30 **MCM** **G 60**

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Mobile Communication



Forschungsgemeinschaft Funk e.V.
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