

# How much electro pollution can the human tolerate ?

An interview of Dr. von Klitzing

From a SZ-Bericht

from Hanne Fassmann

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Over 11 000 citizens already joined together nation-wide in order to fight against the rapid extending of the cellular phone network installations in Germany. So far Germany totals over 100 million minutes cellphone conversation already. However how serious are really the dangers? **Dr. Günter Baumgart** spoke for BIO with the medical physicist **Dr. L. von Klitzing**.

A spooky fog is in the air. Nobody can see or smell it, but it becomes rapidly denser and it could be that one day it completely "takes the breath": Electro pollution from industries, households, communication networks - without electricity our modern life became unthinkable. We live in a mix of these fields.

Everywhere transmitters shoot from the ground, roofs are planted with cellular phone network installations. There are 50.000 already in our country. In the next 10 years, it will be almost 100.000. An electromagnetic drumfire which is dismissed as harmless for some and which others warn as an urgent issue. Danger or hysteria ? Here the conversation with the expert.

**BIO:** Mr. Dr. von Klitzing, can we still withdraw ourselves from all this electro-stress?

**Dr. von Klitzing:** To tell the truth barely, and certainly not as far as the mobile radio network is concerned. Here, we almost became all to involuntary test persons of a area-wide field trial.

**BIO:** Before introduction of the mobile radio network were there not enough safety researches ?

**Dr. von Klitzing:** Just not, herein lies the scandal. And it goes on today with the super-rapid UMTS (Universal Mobile Telecommunication system). The industry had promised before the license auction to run basic researches in terms of biological compatibility. This would have been responsible. But nothing happened. In the pharmaceuticals industry each medication must go through many steps of testing before it comes in the market. Over the last years with cell phones, it was believed that one could do it to be able to do it without. The users have been allowed to immediately jump in the "cold waters" of potential damages.

**BIO:** The mobile phone information centre, IZMF, however calms concerned callers: according to the "present condition of the science" neither transmitters nor cell phones represent a risk issue.

**Dr. von Klitzing:** This statement simply is not correct. I even mean that it is knowingly wrong. On the one hand, there are no long term studies in terms of the biological effects of mobile radio. On the other hand, one ignores or withholds these scientific data - the biological effects of mobile radio waves - which already provide proves on problems of short time expositions in the minute area below the present-day limit values. This happens even on EU-level where realisations of a Swedish researcher group have been left under the table for already two years. They showed that even short-term cell-phone emissions increase the

permeability of the blood brain barrier, which may lead to major problems.

**BIO:** However, according to IZMF, the majority of scientific examinations relating to this field provide clear evidence. What are they then based on ?

**Dr. von Klitzing:** Essentially on studies, that are sponsored by the industry. However, interests always take influence on the research concepts and with it also on the results. Furthermore, these examinations, on which one refers, have a general weakness. Their objects are cells or cell agglomerations, and not complete organisms. We people however simply are no cell accumulations, but high-complicated bio systems. Our body internal communication network, beginning from the communications between brain and organs down to the endocellular processes, is realised by means of electric fields or electromagnetic waves not only through the relatively slow chemistry, but above all through super-fast contacts. And very often, and today even on a permanent basis, these connection lines meet the many different interfering electromagnetic fields.

**BIO:** One reads occasionally, the inner communication system of our body is amazingly stable.

**Dr. von Klitzing:** Maybe is it this of the coherence characteristics of his electromagnetic waves. Maybe however it is not this either! Although we explored this in no way, we impose excessively much to this system. As is generally known with magnetic 50 hertz fields of more than 1 micro teslas, screens begins to "dance", one drew just the border at this mark for electromagnetic disturbing sources in office rooms. Concerning the human being, however, a 100-fold limit is held officially for compliant. Nothing new also is that cell phones must be turned off in intensive care units of clinics and in airplanes during start and landing because the electronics could be brought out of the step. Our biological information routes, that are however far more sensitive than every modern technology, should be disturbing steady across from foreign signals ?!

**BIO:** Anyhow in the cell cultures trials it was determined that the energy of our commercial portable phones is by far not sufficient in order to damage for example the DNA, in which the genetic information is stored.

**Dr. von Klitzing:** Yes, that is correct. However, it does not mean much. These trials merely consider the quasi mechanical effect onto the chromosomes and not however the impairment of other biological processes, which include for example : the new synthesis of genetic material, the entire cell division, the repair courses and the metabolism processes in the cells. Similarly, this judgement only lies on the thermal effect and everything is only spinning around the heat effect of the energy entry of the radio radiation. However, it is quite low and therefore really unproblematic. The biological effects however remains in the darkness. I hold this for very dangerous. There is even until now not any plausible action model for electromagnetic influences on bio systems. And attempts with bacteria's or viruses bring us hardly closer to this model.

**BIO:** Is it possible to prove - as often claimed - a direct causal connection between cancer and electrosmog ?

**Dr. von Klitzing:** No, at least not yet in every individual case. We however get signalled more and more frequently of higher cancer occurrences from the environment of mobile radio stations.

**BIO:** In view of the strong spread of the mobile radio and the technical fields, have there globally not many more medical cases occurred ?

**Dr. von Klitzing:** This actually is the case! We collected a great deal of material. The increase from "illnesses of unclear genesis", that very much probably have to do with field emissions, because they are related to the beginning of operation of GSM-Stations, is not to be overlooked anymore. There are more and more reports over insomnia, headaches, tinnitus, heart rhythm disturbances and concentration disturbances until to aggressions - above all by children. Often, the blood picture changed. Unripe erythrocytes cause a lack of oxygen supply to the tissues. According to me, that is however only the top of the iceberg, because the biological system is unhinged in most cases only after a longer effect time. The outbreak of a defect can last years and additionally still depends on the individual constitution, the previous injuries and the sum of other environmental burdens. Dangers, one doesn't want to see.

**BIO:** How do the physicians react on it ?

**Dr. von Klitzing:** Very differently. More and more responsible physicians beat alarm. They also increasingly contact us and support our work with in depth documentation. In many cases, however, one ignores the supposition of patients, that their medical condition could have to do with a mobile radio station. The worries of the people are considered as crank. If no clinical results are available, the symptoms are regarded as conditionally psychosomatic and one orders sleep or sedative pills and other psychotropic drugs. A connection with mobile radio radiation cannot at all exist, since the legal limits are everywhere and specifically kept at the relevant place according to official information.

**BIO:** This also is actually then the case ?

**Dr. von Klitzing:** Not any question! The limits even almost always become under-run. But as I already mentioned the problems are completely elsewhere. *First* this limits are much too high. There are considerable differences across countries. In Switzerland and Italy for example, the limits are not only considerably lower, but also the safe distances between transmitters and residential areas must be essentially bigger. *Secondly* the pulse pause relationship partially goes into the calculation at the pulsed fields of the GSM-Standards, D-Netz and E-Netz. Calculation size is consequently an averaged value. And *thirdly*, as became known from the construction biology, the human being already responds far below the limits. Often even already with less than a ten thousandth of the limit - and this usually after relatively short duration.

**BIO:** Can you prove this empirically? This "all-clearer" very much cast doubts on such statements.

**Dr. von Klitzing:** We tested electrosensitive test persons here in Lübeck on it in our absorber hall here. Into the shielded cabin, in which they were, specific electromagnetic fields were controlled brought in. Then, the changes in the EEG were read off, thus in the course of the modifications of the brain electricity, in the ECG, that is in the variability of

the heart rate, as well as in the regulation of the peripheral circulation. Negative reactions almost always appeared.

**BIO:** Are there over these results conversations with your colleagues and the mobile radio operators ?

**Dr. von Klitzing:** Unfortunately close to not at all. I invite again and again competent people. Come and look at our studies! But everyone prefers to protect himself from unpleasant realisation. From all German operators solely the Telekom made expertise with us. On the other hand, it is also difficult to get under from our side a corresponding publication in the technical press, that doesn't fit into the broadly radio-friendly scheme.

**BIO:** What could be done about quite practically in the vexatious question of evidence to move forward ?

**Dr. von Klitzing:** Surely the statistical proof of the damaging effects of mobile radio radiation is not to be produced easily. People don't react all similar, partly also, because they show an individual history and presence of the burdens of environmental poisons and other effects. Nevertheless, I for example proposed to the National Bureau for Radiation Protection to put together the data existing in sufficient quantity about the people who live near mobile radio transmitters, and which are in medical treatment because of trouble of unclear genesis. One should do corresponding field measurements on the spot and should check the entire material for significant correlation. One could pull conclusions out of it on causal relationships. These connections already so clearly appear in view of the great deal of the available material that one would certainly very soon be more intelligent with a more exact examination. Such recent reports as the one from the Saxon city of Döbeln that showed an accumulation of malignant tumors around an emitting tower should not remain unnoticed. Surely, this is not the single place. Here, many information are not passed on under the pressure of the operators on the part of the politics. One puts the head into the sand. Apparently it needs first a middle health catastrophe before the state perceives his precaution duty and minimises the risks in legal way. Up to now, however, the profit interests of the industry have priority.

**BIO:** Mobile communication seems to have become a fundamental condition simply like mobility for economic competitiveness as well...

**Dr. von Klitzing:** I am no enemy of mobile communication, but its health risk must be down-driven decidedly. If one includes the cost explosion in the health care, a better precaution is very much well of big economic benefit.

**BIO:** The possibility, to reach others with information anytime and to be personally reachable, is also however a question of quality of life.

**Dr. von Klitzing:** Certain, above all under the aspect of the comfort. From most technical developments agreeable utilisation possibilities can be derived. It is also a fact for example that an unhesitating emergency call per cell phone can rescue lives at an accident on the highway. However the actually anticipated outdoor supply is sufficient and with it a much weaker transmitting power as we must let go out over us presently!

**BIO:** If the trend is not already to be detained, could the technology itself not contribute more strongly then to minimise the risks through corresponding developments ?

**Dr. von Klitzing:** Absolutely. An example for it are the possibilities of the modern DECT-Standards with cordless telephones. DECT has in difference to the older, analogous

cordless phones CT1plus or CT2 beneath some advantages the crucial disadvantage, that the base station of the mainline is emitting day and night - independently from it, whether someone is calling or not. Therefore, in the ambit of the reception possibility, all creatures are continuously exposed to a high frequency field pulsed with 100 hertz, whether in the own apartment or next door with the neighbour. Whoever is here has not even during the night sleep the possibility to recover from this stress. Unless, he pulls the power-supply plug of the station and shuts down with it his mainline for this time. Towards construction biologist, it was willingly admitted by manufacturers, that modern DECT telephone offhand could be built so, that they only are transmitting - if this is really required - namely during the calls. The consumer meanwhile doesn't demand this.

**BIO:** Normally he knows nothing over it. But for the most part there is also too little interest simple to make itself expertly...

**Dr. von Klitzing:** Thereby over the pressure of consumers it could certainly be something to be reached. Even a so crucially necessary step like the general parting of the pulsating of electromagnetic signals could be advanced with corresponding clarification over the market and the public. Because already for a long time, modern mobile transmitting is regarded as realizable also without pulsating. Pulsed signals especially are problematic.

**BIO:** Are pulsed signals biologically more critical than non-pulsed?

**Dr. von Klitzing:** Much more critical - and this with all frequencies. Therefore already with the 50 hertz of our usual energy supply, that corresponds to 50 periodic field alterations a second. The D and E-mobile networks now exposes us additionally to a periodicity of 217 hertz. And it is exactly the strict regularity to which the biological systems responds. Because our organism is programmed on flexible reactions. The heart must beat irregularly, the blood pressure constantly fluctuates. Each stiff system could regulate nothing more. If now, from outside rigidly periodic technical fields presses on these flexible control circuits themselves, it is only a question of time and the individual condition whether and when we become sick through them.

**BIO:** Do the non-pulsed UMTS-Frequencies in this sense represent an advance ?

**Dr. von Klitzing:** Only partially. Firstly, only one variation of UMTS gives up the pulsating. A second, that is introduced simultaneously, is still pulsed. Secondly, the previous GSM-system doesn't vanish with the entering of the new frequencies. It exists parallel for longer time to UMTS and will furthermore even be connected with this network. It therefore would be demagogic, with the outlook to the non-pulsed variation to awake ones hopes and to let the total problem of the mobile radio effects appear in more favourable light. Which precautions are there ?

**BIO:** Can we as users do something for themselves, to protect us from the effects of the electrosmog?

**Dr. von Klitzing:** I recommend the principle: reduce and minimise wherever possible. And use of this modern technology only if it is absolutely necessary. One should not forget so fast the alternative to the use of the good old solid network, even if the cell phones offers itself to us as a so comfortable solution. Whoever from us then must or wants to be actually continually attainable, therefore has his cell phone incessantly switched on and moreover still carries it at the body ? What prevents us from moving a few meters

at a telephone call instead of having a cordless listener handy at the price of electro-stress throughout the apartment ? And if it should be already a cordless, then however only one that also allows us rest periods, as already mentioned! Not at least we should protect above all our children, because they are particularly endangered, since they stand in a biological maturity process and their immune system has not yet finished training.

**BIO:** We can however do little against the fields of transmitters and also those of a normal electro installation in a residential area. Are there effective shielding methods ?

**Dr. von Klitzing:** Under consideration of the domestic electro installation this is no longer a problem nowadays. Corresponding wires including sockets are standard offers in the meantime. The cables has twisted-pair, shielded in order to reduce the magnetic component and against the electric component. Such an equipment also is payable. One must expect a maximum three percent cost increase for example for the new building plus five hundred (Euro) for measurement and advice. Whoever would like to do it for his own, can easily get himself problems - also at the installation of a network free switch. It goes similarly with attempts to shield the apartment against the fields of mobile phone antennas. With aluminium wallpapers for example you can easily get reflections and therefore reinforcement. Absorbent plaster is already better there. If possible an expert should always be consulted.

**BIO:** You seem to be one of the lonesome "callers in the desert." Do you have enough allies for your position ?

**Dr. von Klitzing:** At university institutions hardly. You can count easily one hand the few that cut into the same critical "notch". It also is heavy to get a foot on the earth in the established science with one as anti-progressive heretical opinion. Yet however in the society we stand absolutely not alone, which is testified also in the multiplicity of the citizen initiatives against the construction of mobile radio antennas. That not always needs to be sensation exhilarating movements. If parents of a day-care centre for example join together and do not want to tolerate an antenna construction not enough far away, then this is sufficiently respectable and often not unsuccessful. This is no less applicable to concerned tenants who move in front of court. There are incidentally very sensible judgements there. Because it is simply fact that one must not construct the emitting stations under the aspect of workingness in the immediate vicinity of residential areas. The technical problems brought up by operators are not comprehensible in the most cases. It is actually always only about an advantageous integration in the existing infrastructure. One must uncover this, then something can absolutely be reached. In this respect I am not at all pessimistic, if this may also look occasionally so.

**BIO:** Mr. Dr. von Klitzing, we thank you for the interesting conversation.

**Book tip:** Silvio Hellemann: "Constantly under stream. Handbook for electronic sensible persons", Publishing House interna aktuell. EUR 20,90.

**Lebrecht von Klitzing** was born 1939 in Neuweitzitz/Schlesien. After the study of physics, chemistry and biology, he graduated 1966 to the Dr. rer. nat. As a scientific assistant, he worked at the TU Brunswick, at the Max-Planck-Institut Wilhelmshaven, at the University of Bonn, as well as at the Medical University of Lübeck. Since 1977 Dr. von Klitzing directed the clinical-experimental research equipment for the Medical University Lübeck. Since 1983, he occupies himself with the effects of electrosmog. Among other things, main focuses of his researches are the influence of static magnetic fields on the brain streams as well as the effect of pulsed electromagnetic fields on physiological parameters of the human being. Since March of this year Dr. von Klitzing works as a free scientist among other things at the International Institutes of Biophysics with seat in Neuss near Düsseldorf.

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*Dr. Lebrecht von Klitzing. A caller in the desert. Wants not to create panic, however he thinks: One must uncover nuisances, then something can absolutely be reached.*

### **So, to reduce the Burdens of electrosmog**

- Switch on your cell phone only if you call or want to be attainable !
- Don't constantly carry your switched on cell phone on your body, above all in case you are on the way and the unit therefore often must produce contact with the next emitting station.
- If possible speak on the cell phone only where there is good reception : outside, at the window or close to the outside wall. At unfavourable places it powers up the own transmitting power.
- Always use a free intercom with external in the car, also on the parking place. The so-called head set, can work as antenna and with it still reinforces the entry of the field emissions to the brain.
- Interrogate the mailbox of your mobile connection, whenever this is possible, over the conventional telephone network.
- If you want to use a cordless telephone absolutely, but not let your family, your neighbours and yourself be "bombarded" electromagnetically around the clock, buy yourself a analogous one of CT1plus standard, that sends only during the conversations !
- Keep an eye that the seal lamellae of your microwave are not soiled and no radiation is placed by it freely. Consider moreover that food changes through this type of the heating in its structure, that means especially denatured strongly.
- Set up your network-run radio alarm clock at least one meter off your body, not at all however at the head of your sleep place ! Battery-powered alarm clocks usually even incriminate only those people that react in the vicinity of three meters to the second pulser. Also a quartz watch can cause such problems.
- Halogen lamps dispense not only light but have, since they are driven with low tension and therefore high amperage, an intensive magnetic field. Whoever reacts strongly to it neither should place them on the night table nor on the desk. For electrosensible persons, it

seems advisable to avoid also the quite economic energy savings lamps since they possess a high frequency generator, that emits strong fields.

- The market is flooded with baby phones, with new technologies at present, that are biologically little amicable. Use for your child only those baby phones that activate when a baby begins to scream or call. If your unit sends in short time distances pilot signals to the base station, this can turn into a burden.
- Spend your spare time not only at the computer! Also with radiation-poor and LCD-Monitors you get a considerable energy entry about the keyboard, that is directly before your body. Computer games therefore endanger your children also because of the electromagnetic radiation.
- Banish metal beds and spring core mattresses from your bedroom, if possible. They work for your surrounding technical fields as powerful antennas.

### **Deformed creatures through mobile radio ?**

Not only people, also animals are effected by the damaging effects of the up-to-date technology. In Bernried at the Starnberger lake for example a malformed calf came to the world at the yearly beginning. His heart was outside the body. A phenomenon, that could be led back, according to the treating veterinarian Dr. Werner Kahn, to the influence of six mobile radio antennas on the pasture. Meanwhile, two calves died further on the same yard... The veterinarian doctor generally has the impression that piled up illnesses appears in cow barns with corresponding antennas on the roof. This observation goes hand in hand with one by the Bavarian department of the environment ordered beef study, with which deformities, lavatories and genotype changes in general had been asserted.

This report emanates from the magazine "BIO - Health for Bodies, Spirit and Soul", Edition 3/2002. You can order a sample you simply contact the BIO Ritter Publishing House, Monathauser St. 8 82327 Tutzing phone 04908158-8021, fax: -7142, e-mail: [bioritter@aol.com](mailto:bioritter@aol.com)!