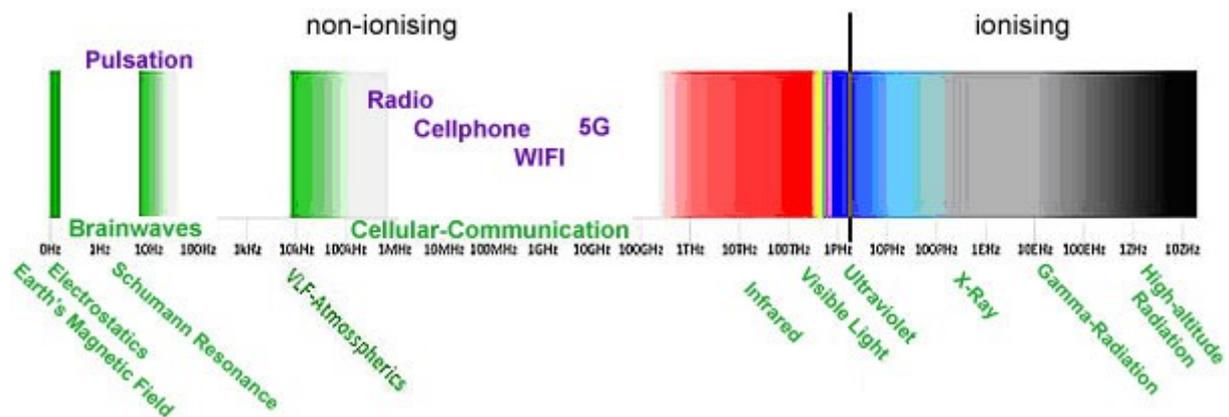


## And it ionises after all...

### *Latest findings prove ionisation by mobile phone radiation due to the pulsation of the signal*

As the official authorities never tire of proclaiming, microwaves and thus mobile phone radiation lie in the "non-ionising" part of the electromagnetic frequency spectrum.



It is therefore repeatedly said that this radiation has too little energy to tear electrons out of their original position, such as X-rays or UV radiation. It is therefore harmless and at best only a heat effect could occur...

The other mechanisms of action of electromagnetic fields on biological systems are all too often overlooked / ignored.

But how can the proven biological effects far below this thermal threshold and the resulting damage from which more and more people are suffering be explained?

### ***Physical factors with biological effects***

#### **1. Magnetic field**

However, what is always deliberately concealed here is that only the "electrical" part of the electromagnetic wave is taken into account.

The "magnetic" part, on the other hand, can induce currents in the body that do not necessarily belong there. Every generator works according to the principle of induction [1]!

In addition, unlike the electric field, the magnetic field penetrates all matter, e.g. including the human body. The often-mentioned skin effect [2] is therefore invalid.

The effect of magnetic fields on biological processes has been researched for some time and is also used for therapeutic purposes, e.g. to treat bone fractures.

This would already provide **one explanation** for biological effects...

## 2. Resonance

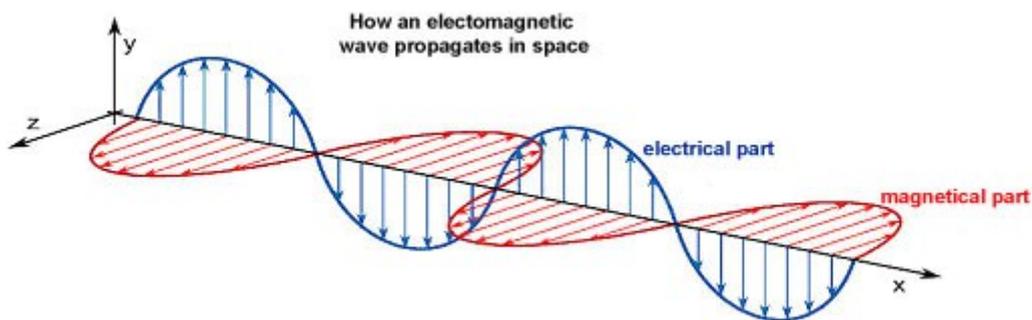
Particularly in the microwave range, many molecules in cell biology resonate [3] to certain frequencies [4] due to their size or structure, which are used as base frequencies in mobile communications.

This can very well lead to reactions of these molecules to the radiation by increasing or changing the natural vibration of these molecules. This leads to a disruption of internal cell communication.

**Another reason** for biological effects!

## 3. Polarisation

Natural electromagnetic fields are NOT polarised, whereas artificial fields are! In the case of technically generated EMFs, the wave-shaped electric field and the associated magnetic field are perpendicular to each other. Both fields oscillate in the direction of propagation.



Express Zeitung

Polarised EMF radiation causes interference [5], which can result in an increase in its intensity. This in turn increases the superposition stress for the bioelectricity of the cells.

**This**, too, is officially negated....

## 4. Pulsation

Prof Karl Hecht has shown, for example, that it is the pulsing at 10 Hz that is responsible for many problems with WLAN. The steeper the signal is pulsed, the greater the difference between zero and full signal strength, the stronger the effect of the pulsing! The signal is sent in shock waves:



<https://www.7sky.life>

This is where the fact that the frequency of the pulsation is often in the range of "biological" oscillations comes into play, as the alpha waves of the brain move in a frequency range of approx. 8 - 12 Hz. WLAN pulsing at 10 Hz is therefore highly "bioactive" and influences the brain waves with fatal consequences...

Every natural oscillation adapts to the current conditions and requirements; this process is called oscillation [6]. If the natural oscillations are superimposed with rigid, artificially pulsating machine frequencies, this adaptability is massively disrupted. The best known of these factors is heart rate variability.

In addition, WLAN (10 Hz) disrupts access to the Schumann resonance [7], which we use to "set" our internal clock

**This factor** is also often ignored in the "official" explanations...

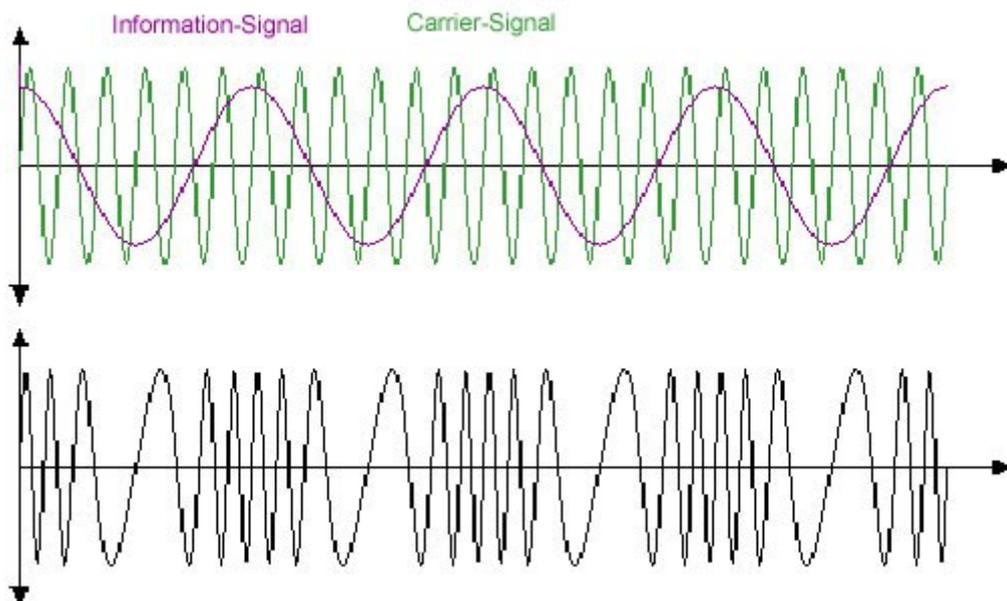
And pulsation is responsible for even more:

### Let's take a closer look at the mobile phone signal:

The user data is "packed" onto the carrier signal (e.g. WLAN at 2.45 GHz) by means of modulation [8] in order to be able to transmit it. At the receiver, these are "pulled out" again (demodulation):

#### 1. Frequency modulation

Here, the frequency of the **carrier signal** is changed analogue to the frequency of the user data (**information-signal**)

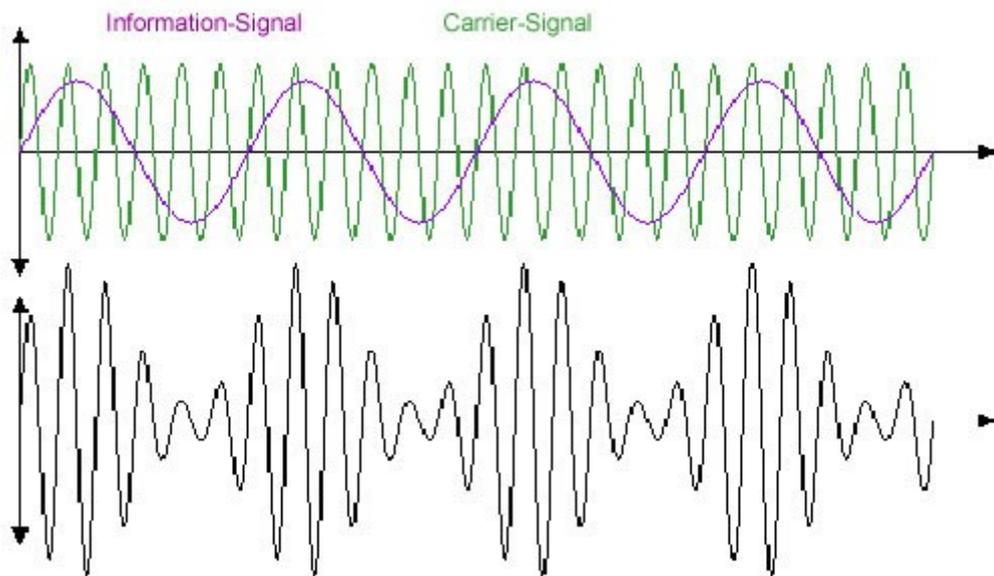


<http://asti.vistecprivat.de>

#### 2. Amplitude modulation / Pulsation

Here, the amplitude [9] of the carrier signal is changed analogue to the data signal.

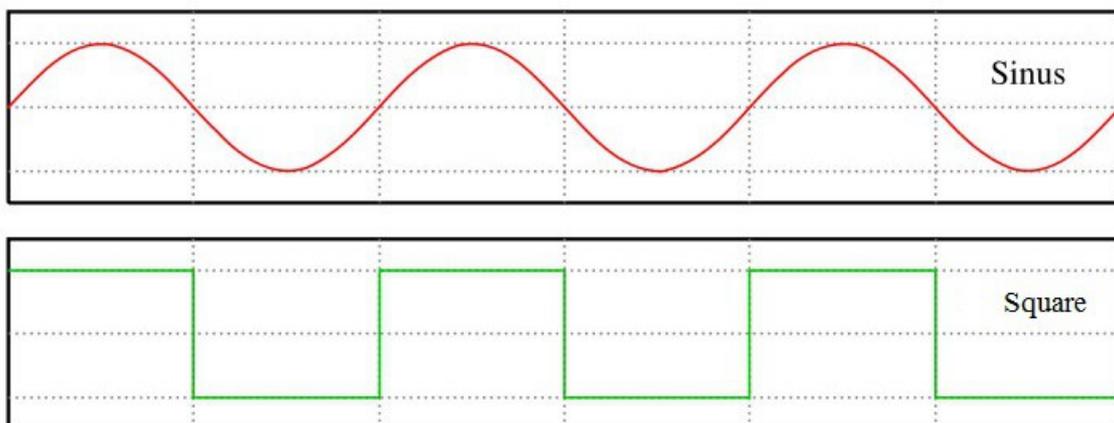
With this method, the signal is "pulsed" in order to be able to "supply" a different receiver with each pulse. This means that the frequency-modulated signal, as seen above, is additionally amplitude-modulated with the pulse frequency:



<http://asti.vistecprivat.de>

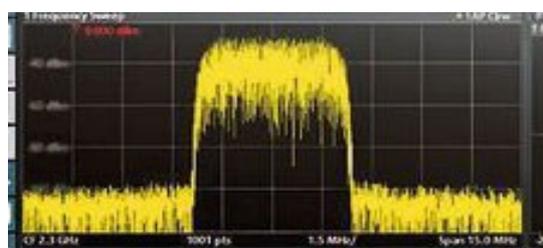
**Signal curve**

And if you take an even closer look, you can see that the digital[10] pulsing, at 10 Hz for WLAN and 217 Hz for GSM, does not produce a "harmonic" sine wave, but a "disharmonic" square wave:



This is also not an vibration that changes direction, but rather a digital = radical on/off of the signal

When measuring a mobile radio signal with a spectrum analyser, the following picture therefore emerges:



Rohde & Schwarz

### And it ionises after all...

And the problem lies precisely in the interplay of all these frequencies and modulations:

Researchers have subjected the signal of mobile phone radiation to a mathematical analysis according to Fourier [11] and came to the conclusion from the mathematical decomposition of the signal that this leads to both a non-ionising component in the microwave frequency range and an ionising component in the frequency range of UV radiation and higher.

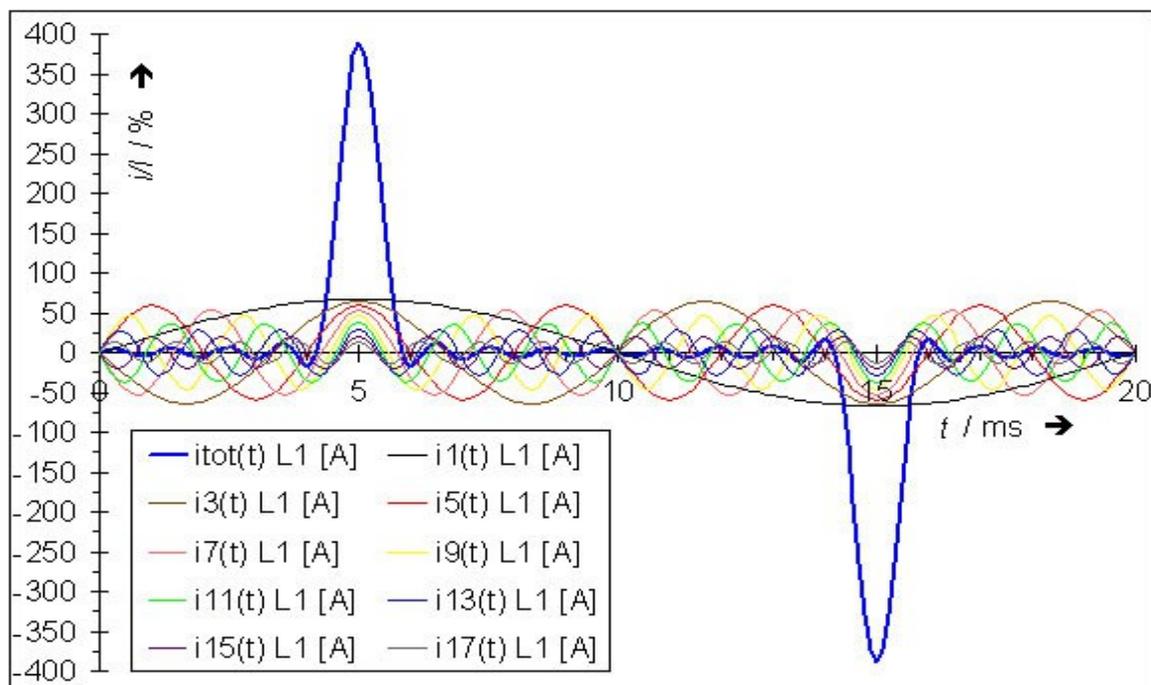
$$1) \quad f(t) = \int_0^{\infty} [a(\nu)\cos(2\pi\nu t) + b(\nu)\sin(2\pi\nu t)] d\nu$$

$$2) \quad \begin{cases} a(\nu) = 2 \int_{-\infty}^{+\infty} f(t)\cos(2\pi\nu t) dt \\ b(\nu) = 2 \int_{-\infty}^{+\infty} f(t)\sin(2\pi\nu t) dt \end{cases}$$

<https://matrixhacker.de/ionisierender-mobilfunk/>

And the steeper the edges of the pulsation, the higher the ionising component!

And it is precisely this ionising component that can move electrons and, like X-rays or UV radiation, causes DNA damage, tumours, oxidative stress, etc.



<https://matrixhacker.de/ionisierender-mobilfunk/>

...A signal with a pulse shape theoretically requires an infinite number of decompositions. This means that the pulse-shaped signal can only be described approximately even with very many summands (because the highest frequencies are still missing). In the simplest case in the graphical decomposition...

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*...This means nothing other than that by pulsing a non-ionising carrier frequency, ionising maximum frequencies [12], like stowaways, are passed on unnoticed...*

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### **This phenomenon can be understood very practically in "Little":**

You take a broadband measuring device for high frequency and try to measure the radiation of the normal power grid - as a rule, nothing happens (unless a radio signal from outside is in the line) - precisely because this measuring device is NOT designed for the domestic power frequency of 50 Hz.

However, if you switch the light on and off, this briefly generates a high-frequency field in the microwave range with each switching operation, which is then displayed by the measuring device.

This is the same principle as with digital pulsing, the signal (in this case our current flow to the lamp) is switched on or off. And with each switching operation, a much higher frequency field is generated here than would be assumed with the 50 Hz power supply...

### **Summary**

In order to minimise the risks of exposure to electromagnetic fields (EMF), commonly known as electrosmog, official bodies only talk about the electrical part of the radiation and firmly claim that mobile radio is non-ionising radiation and therefore harmless and that only the heat effect needs to be taken into account.

The official limit values are based on this thermal dogma.

Everything else, such as the magnetic component, the polarisation, the rigid pulsation of the signal and the resulting proportion of ionising radiation are consistently concealed and denied.

Every higher organism - including humans - functions with bioelectricity [13]. Every transmission of information via a nervous system, every muscle contraction runs via electrical impulses. This is a scientifically and medically proven standard and can be visualised using methods such as ECG & EEG.

And as a simple experiment from physics lessons in school shows, there is a mutual influence when electromagnetic fields are brought together, whereby the weaker field is superimposed by the stronger field.

Therefore, every living being - including humans - is electrosensitive, whether we like it or not!

A healthy organism can initially compensate for this, but then over time the stress limits are exceeded and illnesses develop because the body can no longer compensate for the overload caused by the rigid machine frequencies and loses its natural ability to adapt and regulate.

The limit values are therefore far too high and urgently need to be adapted to the current state of science, if only to take account of the precautionary principle!!

## Glossary:

### [1] Induction:

A magnet is moved on the conductor or a conductor is moved on the magnet - as a result: Current flows in the conductor! - This is how electricity is generated with generators...

<https://de.wikipedia.org/wiki/Induktion>

<https://www.spektrum.de/lexikon/physik/induktion/7190>

### [2] Skin-Effect:

It is often claimed here that the radiation does not penetrate the body, it "runs off" the skin, so to speak, but nevertheless the body would become a conductor...

<https://de.wikipedia.org/wiki/Skin-Effekt>

<https://www.spektrum.de/lexikon/physik/skineffekt/13356>

<http://www.elektronik-kompodium.de/sites/grd/1102141.htm>

### [3] Resonance:

If 2 objects have the same basic vibration, one object vibrates automatically when the other vibrates, it goes into resonance.

<https://de.wikipedia.org/wiki/Resonanz>

<https://www.spektrum.de/lexikon/physik/resonanz/12359>

### [4] Frequency:

Number of signal vibrations per second,  
the unit is 1 Hertz (Hz) = 1 vibration / second

<https://de.wikipedia.org/wiki/Frequenz>

<https://www.ingenieurkurse.de/physik/schwingungen/ungedaempfte-harmonische-schwingungen/amplitude-schwingungsdauer-frequenz.html>

### [5] Interference:

Change in amplitude [9] when two or more waves are superimposed

[https://de.wikipedia.org/wiki/Interferenz\\_\(Physik\)](https://de.wikipedia.org/wiki/Interferenz_(Physik))

<https://www.leifiphysik.de/mechanik/mechanische-wellen/grundwissen/interferenz>

### [6] Oscillation:

The vibration changes its frequency and amplitude (within a certain range)

<https://www.spektrum.de/lexikon/neurowissenschaft/oszillation/9343>

<https://de.wikipedia.org/wiki/Schwingung>

### [7] Schumann-Resonance

Named after its discoverer, Prof Winfried Otto Schumann, Professor of Electrophysics at the Technical University of Munich (1952, 1954). He discovered that a standing electromagnetic wave with a frequency of 7 -12 Hz exists around our planet.

<https://de.wikipedia.org/wiki/Schumann-Resonanz>

<https://sonnen-sturm.info/schumann-resonanz-phaenomen-der-erdatmosferaere-6494>

<https://spirit-online.de/die-schumann-resonanz-verstaendlich-erklaert-samt-aktuellen-entwicklungen-von-anfang-september-2020.html>

**[8] Modulation:**

The user data is "packed" onto the carrier signal (e.g. WLAN at 2.45 GHz) using various modulation processes in order to be able to transmit it. This means that the carrier signal is modified according to the user data. At the receiver, these are "pulled out" again, i.e. the change in the carrier signal is read (demodulation)

[https://de.wikipedia.org/wiki/Modulation\\_\(Technik\)](https://de.wikipedia.org/wiki/Modulation_(Technik))

<https://www.elektronik-kompodium.de/sites/kom/0211195.htm>

**[9] Amplitude:**

Signal strength, deflection of the vibration

<https://de.wikipedia.org/wiki/Amplitude>

**[10] Digital:**

0 or 1, all or nothing, this is the digital principle.

[https://praxistipps.chip.de/was-ist-digital-einfach-erklaert\\_41596](https://praxistipps.chip.de/was-ist-digital-einfach-erklaert_41596)

**[11] Joseph Fourier;**

French mathematician, developed a method for modelling arbitrary functions as a sum of sine and cosine functions, the "Fourier analysis".

<https://de.wikipedia.org/wiki/Fourier-Analysis>

**[12] Ionisation**

One or more electrons are forcibly removed from or added to an atom (or molecule). As a result, the atom (molecule) is no longer electrically neutral, but charged accordingly

<https://www.spektrum.de/lexikon/physik/ionisation/7486>

Video shock ionisation: <https://www.youtube.com/watch?v=vhzQjI0sNDY>

**[13] Bioelectricity:**

Interaction of electrical charges in a living organism. The surest sign of life, the extinction of bioelectricity, indicates death. A weakening is a sure sign of illness. The human system works with 60 - 70 mV (60-70 thousandths of a volt) & 4 pA (4 trillionths of an ampere)

<https://www.spektrum.de/lexikon/biologie/bioelektrizitaet/8601>

<https://de.wikipedia.org/wiki/Bioelektromagnetismus>

**Sources:**

<https://matrixhacker.de/ionisierender-mobilfunk/> - Page is unfortunately offline,

article saved: [http://www.elektro-sensibel.de/downl\\_count.php?ID=170](http://www.elektro-sensibel.de/downl_count.php?ID=170)

<https://kompetenzinitiative.com/forschungsberichte/ist-die-unterteilung-in-ionisierende-und-nichtionisierende-strahlung-noch-aktuell/>

Klein-Heubacher reports:

[http://www.elektro-sensibel.de/downl\\_count.php?ID=148](http://www.elektro-sensibel.de/downl_count.php?ID=148)

Prof. Karl Hecht: The effect of the 10 Hz pulsation of electromagnetic radiation from WLAN on humans

<https://www.diagnose-funk.org/download.php?field=filename&id=415&class=DownloadItem>

Molecular vibration;

<https://www.mpg.de/543755/pressemitteilung20071025>

<https://de.wikipedia.org/wiki/Molek%C3%BClschwingung>

Water and microwaves

<http://www.elektro-sensibel.de/artikel.php?ID=66>

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Hyperactive due to WLAN:

<https://www.noz.de/deutschland-welt/gut-zu-wissen/artikel/1188231/umweltmediziner-warnen-hyperaktiv-durch-wlan>

WLAN as a medicine would be banned:

<http://www.paracelsus.de/magazin/ausgabe/201804/waere-wlan-ein-medikament-wuerde-es-sofort-verboden>

Deutsche Telekom warns of its own WLAN

<http://www.elektro-sensibel.de/artikel.php?ID=42>

Modern cars get drivers and passengers drunk

<http://www.elektro-sensibel.de/artikel.php?ID=44>

Mobile phone radiation can affect the brain

<http://www.elektro-sensibel.de/artikel.php?ID=62>

Clear evidence of cancer risk from mobile phone radiation

<http://www.elektro-sensibel.de/artikel.php?ID=67>

<http://www.elektro-sensibel.de/artikel.php?ID=76>

The felt and the limit values

<http://www.elektro-sensibel.de/artikel.php?ID=104>

<http://www.elektro-sensibel.de/artikel.php?ID=156>

Damage to fertility

<https://www.ndr.de/ratgeber/gesundheit/Studie-Handy-Strahlung-schaedigt-Spermien,handystrahlung122.html>

<https://www.diagnose-funk.org/publikationen/artikel/detail?newsid=1025>

Influence on the calcium channels in the cell membranes

[http://www.elektro-sensibel.de/docs/Martin\\_Pall\\_EMFs.pdf](http://www.elektro-sensibel.de/docs/Martin_Pall_EMFs.pdf)

<https://onlinelibrary.wiley.com/doi/pdf/10.1111/jcmm.12088>

<https://www.br.de/telekolleg/faecher/biologie/tk-biologie-2-nervenzelle100.html>

<https://www.diagnose-funk.org/publikationen/artikel/detail&newsid=1393>

## Summary for the english edition

I translated the text from german to english with the help from deepl

(<https://www.deepl.com/de/translator> )

All links in the glossary and the sources aim to sites in german language. If you got problemes by understanding the language of the german sources, please use also a translator tool from the web. I think that the articles in wikipedia are also existing in an english version.

Should someone take the trouble to compile a list of corresponding English sources, I would be grateful and would then use them to update this document.