

Research article

An Inherent Holistic Modeling of Human Meteorosensitivity

Florian M. König*

Florian König Enterprises GmbH (FKE), Gärtnerweg 48, Bad Wörishofen, Germany

*Corresponding author: Dr. Sc. Florian M. König, Florian König Enterprises (FKE) GmbH, D-86825 Bad Wörishofen, Gärtnerweg 48, Tel: +49(0)8247-9989210; Fax: +49-8247-9989211; E-mail: info2@fk-e.de

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Abstract

Since decades physical, meteorological, medical studies were made independently around the earth atmosphere's, weather. Additionally, at pre-scheduled living habitats for instance near mountains having a continental huge alternating climate it is well known, that living people are suffering around a given cognitive dissonance regarding meteorosensitivity disorders. Only the last new realized studies observing the relationships between weather-related factors plus accompanying atmospheric burst or discharging fields (sferics) have been extracted the significant cause of meteorosensitivity as biotrophy and human health disorders provocative weather situations. To get an immersive overview of all inherent influences or triggers of individualized meteorosensitivity bi-laterally relationship's and mainly characterizing weather conditions sferics spectrum situations it is presented a procedure by a system-theoretical equivalent circuit diagram of decided partly explored independent subfactors. It includes all sensorial, neuronal, physiological and psychological multi-laterally interconnected triggering influences by the living habitat and their individualized planet earths livings things or especially human subjects on an electrical equivalent modelling circuit.

Keywords: meteorosensitivity, atmospheric / sferics, biotrophy, equivalent circuit diagram, modeling

Introduction

In various fields of science, it has been found useful to break subjectively estimable phenomena of sensory perception into mathematical or physical equivalent equivalent circuit diagram representations. As for instance in psychoacoustics in the sense of the vivid understanding of the so-called "cocktail party effect" of humans in a group of speaking and each other listening people by means of involved, factorial signal processing steps of the inner and outer ear has been later developed from knowledgeable an optimized today's digital hearing aid offering a realistic spatial perception of sound. The same step has to be done herewith regarding meteorosensitivity: I should be presented a procedure of a decided explored or again explorable partly subfactors to realize individual weather-related disorders of people on a system-theoretical basis. This should include all sensorial, neuronal, physiological and psychological (mental) interconnected triggering influences by the living habitats and the individualized human subjects. All in all, it should be extracted via an electrical equivalent modelling equivalent circuit diagram with actuators, attenuation, multi-directional feedback elements and link areas of the human signal processing paths.

For this purpose, it is needed at first to get an overview of given biometeorological researches concerning specified impacts of synoptic constellations and their concrete weather effects onto comfort or discomfort of human beings. It had been started yet more than hundred years ago. Several European scientists can be listed important speaking institutes, especially the publication

about prevalence of meteorosensitivity in Germany [1]. The main part of similar researches is up to now concentrated at the Zentrum für Medizin-Meteorologische Forschung Freiburg as part of the German weather service so called in German "Deutscher Wetterdienst".

On the other hand, physical, meteorological, medical studies were made worldwide independently regarding the three majors weather-related parameters as air temperature, humidity and air pressure. Evidences for the existence and causes of human meteorosensitivity were able to be collected only epidemiologically. A recently completed investigation part I ([2] 2012 until 2014) in mood disorders via 73 weather-sensitive subjects contained medical history form surveys and approximately 16 months days of accountancy. As part II [2] furthermore times were made physical / traditional Chinese medicine (TCM) short-term reaction measurements over 46 separate organ health constitutions. This study part included a total of 90 volunteers with and without a synthetically nature copied electro-magnetic alternating field during a meteorological pleasant nice weather situation; the atmospheric a-periodic (stochastic) longwave pulse field type is named "sferics" [3], which was emitted additionally during locally given different bad meteorological weather condition moments at probands. The study results allow the following thesis: The three majors upper described meteorological are significantly not the only trigger factors for negative mood disorders by biotrophic weather conditions for

humans [4]. The named weather-related sferics existence are the fourth trigger for the meteorosensitivity impact. This was confirmed by bio-statistical data analyses having all volunteers sorted six groups each 15 proband's. Thus, the earth's atmospheric longwave pulse weather-related, a-periodic electro-magnetic field conditions (sferics) mainly at the audio kilo Hertz frequency range is something like an atmospheric (weather-related) reference background alternating field for all evolutionary adapted living things since millions of Years.

²²Hint: The cause of sferics can be found in the lightning discharges of thunderstorms worldwide as far field product; distance of origin > 100 kilometers [5]; (Figure 1).

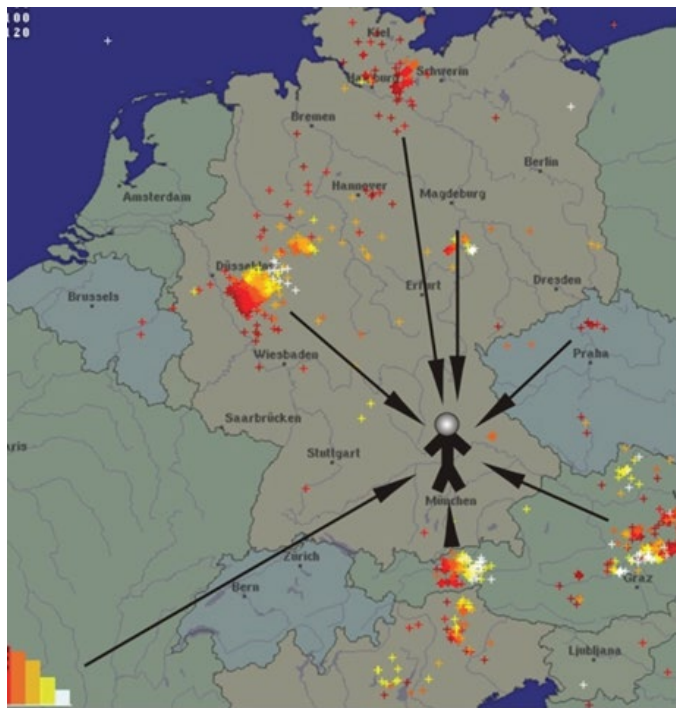


Figure 1. Two-dimensional illustration of near / center / far field sferics causing by moving thunderstorms discharges related to a meteorosensitive receiver as living human. There are affecting a-periodic stochastic signal dynamics plus sum of all diffracted / filtered sferics waveforms as total weather pulse / burst / discharges to the receiver body; see sferics sum = S SUM (f [α, Ω, ω]) depending on the angle of incidence α by 7 thunderstorm locations vectors directions. It is a lightning location screening in August 2012 of a typical, unstable afternoon summer storm situation with surrounding, several thunderstorm cells distributed in Europe.

Figure 1 specifically, the display arrow of sferics pulses from bottom left to the symbolized human shows that here "space" for other meteorological scenarios, so there may be clouds / fair weather as resonators / reflectors, such as. Thunderstorms farther away, for example in the Canary Islands, India, Turkey, South Africa, Brazil, etc.; see "meteorological sum / transmission distance fingerprint" in individual pulses (compare to Gaussian pulse decay over time).

**Immersive interconnected factors
The bio-system-relevant influences of natural and artificial fields in the earth's atmosphere**

In the following context, the said phenomenon "weather sensitivity" or meteorosensitivity [4] will be considered in a

more holistic way, because it is needed an overview and how much each possible individual human weather-related mood disorders can be captured by a for instance ambulance visit. Many doctors in practice worldwide imply weather sensitivity as a psychosomatic or ordinary daily stress cause [1, 2, 6]. For example, a diffuse headache could have a very large trigger field seeing neuronal head disruptions [7], head circulation (cause by a defect of the vertebra named Atlas), mental triggers or as well at typical anamneses an added weather-related aspect. The herewith presented result is a system-theoretical based thesis extracted by a functional equation of mathematics, which will be introduced step by step now.

As mentioned before the electromagnetic a-periodic (stochastic) pulse signals at the earth's atmosphere named as sferics [3, 5] are at least one main and further part of a so given formula and model. The model goes

- In dependence {see function = f} of all sferics {see quantity $m = \sum (1 \text{ to } n) = \sum (1-n)$ },
- at the measuring location "X" or the location of a test person; moreover
- from in the near- to far-field (discharge origin place "a") emerging and thus by
- the cumulative weather conditions [filter function = attenuations / resonances = Ω] in the natural pulse signal behavior / structure over a period of time [Δt1] or simplified here in [t] in terms of signal shape-technically diffracted.
- Additionally, it includes predominate radial reception or localization of sferics (see angle of incidence = α according to 360 degrees cardinal directions West-East-North-South); however, the time moment isn't incorporated in detail herewith.
- At least herewith the simplified model related to all arriving natural sferics [abbreviation = S SUM] from all cardinal point at a human receiver location "X" as it is illustrated at the following formula:

$$S \text{ SUM } (f [\alpha, \Omega, \omega, t]) = S_{m(f[\alpha]+f[\Omega a-x]+f[\text{riff}(\omega 1-z)])} = \sum \{S_{1(f[\omega/t]+f[\Omega a-x]+f[\text{riff}(\omega 1)])} \text{ to } S_{n(f[\omega/t]+f[\Omega a-x]+f[\text{riff}(\omega z)])}\}$$

The sferics S sum ~ m, that goes from 1 to n. This includes sferics bomb filter structures = rips / rippling in the spectrogram according to figure 1 with the modulation frequencies ω for each single sferics from ω1 to ωz. As well are specified some factors by practical relevance correlation's seeing sferics waveform properties compiled ensuing:

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- There are relative sferics momentums and maxima frequencies, which occur in different amounts, are linked via the path of origin dependent on reception to reception location / influence variables earth atmosphere attenuations and resonances Ω and modulation frequencies ω.
- In addition to the above mentioned sferics variables, another not only theoretically postulated effect is possible seeing an increase of meteorosensitivity moods: In the context of industrialization having increased manmade technical

alternating-field transmitters (called technics) for instance around alternating field (signal) frequencies 12 to 13 kHz (causes effect tendencies to have an aggressive behavior [3]) and regarding 14 to 16 kHz (trends to a “depressive feeling” effects [3]) at the relevant natural sferics frequency range. These technics are more immersively explained in chapter 2.4 regarding density in frequency, dynamics plus their products of digital modulation radiation forms. They are existing in superposition to sferics (including the earth's permanent magnetic field) for living things as bio-neuronal receivers [3, 4]. On the other hand, in the context of this model part thesis, this man-made electro-magnetic field penetration (see "loopholes number") increases, but the bandwidth at which sferics as natural signal information transmitters can still transmit weather-related information's to living beings again by the mechanisms at [2, 3]: The technical transmitters are given as (local fixed not moving) permanently periodically and level-modulated alternating fields. In contrast to this sferics claim stochastically field fluctuations at all parameters like time ratio, frequency, modulated levels and at least the movements of thunderstorms (see origin of bursts).

- In addition to these facts it is important to note the done electro-physical basics research [5] with artificial sferics extractions that show an ionospheric reaction to lightning couplings at the near-/far-field, which induces a modulation or better said bump filtering in the respective sferics analysis see figure 3 by own measurements.

- Furthermore, for reasons of clarity, it should be supplementary relevant to implement own actual spectral analysis observation results [2, 6] seeing so called ripple or bump filtering structures. Biotrophy or weather-related or in other words meteorosensitivity correlations are at the moment unknown effects; not given decidedly labor studies what kind of human reactions cause different sferics bump forms. So, this modulation frequency variances can vary from a few 10 Hz to well over 1 kHz, which form in intensity bumps, per sferics. A sorted compilation of sferics bump filter effects is shown in the figure 2 and 3.

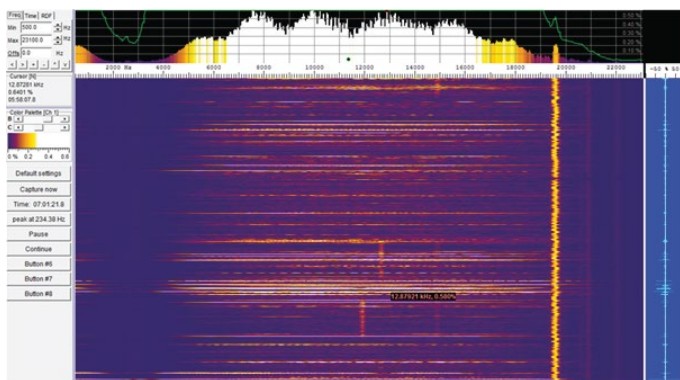


Figure 2. Combined sferics spectrum analysis (by an upper spectrum part illustration of one sferics burst analysis) with even finer bump filter structuring and at least one modulation frequency at about 100 Hz; the maximum energy is 10 kHz. Noticeable are also three comb peaks at 7.4, 10.4, 14.8 and 16 kHz, which correspond to technics and are now visible at the lower sferics overall water fall time spectrum analysis. Moreover, are visible man made technical (periodical) fields at the spectrogram at around 18 kHz. The graphics part above shows

one sferics burst (abscissa = frequency [Hz], the ordinate = intensity range in [dB]) as well the colored time-intensity below and the time oscillogram right side.

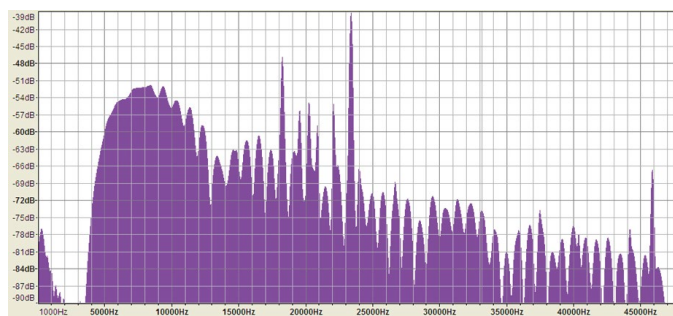


Figure 3. An additional spectrum analysis (other software) to an imminent snow cold front; Site 5.2.2013, 4.30 pm, Ammersee / Bavaria. Outstanding is the narrow-band, very uniform filter quality of the individual modulation oscillation around 1 kHz resonance frequency (see ribs) in the present single sferics analysis case. At approximately 18/24/46 kHz are unmasked man-made technical field emissions (called Omega's [3]) signal components of the spectrogram as well as a train and 50 Hz power supply networking system in Europe with harmonics below 2 kHz. The graph's abscissa = frequency [Hz], the ordinate = intensity range in [dB].

Interestingly, an online sferics portal has been available on the WEB for years [6]. By the way, the question should be allowed, what kind of sense or effect has something like a ripple or bump filter structure (related to [5]) at the surrounding electro-magnetic environment on biological living things evolutionarily? The relationship to the ripple effect windowing in terms of a well-known medical used magnetic field therapy frequencies can be postulated perhaps in the future as additional individual therapy fine (therapy) bump filter adjustments to cause special healing or “wellness effects”. However, in the said context therefore bump filter structures have to be considered for the model of the weather sensitivity as well as for the field of electro-sensitivity (see [3] and later some more context).

Chapter summarizing the sferics structures content including something like a "field masking impact", which has been discussed several times [2-4, 6], can now be explained by the expansion of natural and artificial forms of radiation, but it should also be considered in a much more biochemically and physically stress content for earth's biological life systems. In any case it is a main influencing factor regarding the meteorosensitivity model content.

A system-theoretical, equivalent circuit block diagram modeling

In the previous chapter, observations of the alternating fields that can be detected around humans, with all time-frequency patterns, were shown. Noticeable were in particular the said ribs / ripple or bump filtering in stochastic given impulse discharge processes, which were to be seen in the frequency range of spectrum analyzes (Figure 2, 3). At the same time man-made, synthetic field formations can be found, which are "less" distinguished by their periodicity in the time domain [3]. Exactly these field existences are now to be considered too. Therefore, back to a first, extended modeling attempts a term I to that topic weather sensitivity as term W (see also prevalence's in [2-5]) as well as the previous chapter 2.1.

Now, in the extended modeling, the said weather conditions which envelop the individual or individual long-wave and low frequency range sferics pulses or bursts as term S {from (1-n)} with their speed of light propagation from the formation "a" (including thunderstorm cells) to the human receiver location "x" (see figure 1), significantly influenced by atmospheric layer attenuation / reflection properties (see day / night, ionosphere, etc.) in individual stochastic pulse signal forms. This is done in superposition (that is summed up) characterized by the well-known telecommunications processing's [2, 3, 4], in each case associated single-effect as above-named atmospheric weather conditions as well as air layers (including transmission impedance / reflectance) on the sferics or thunderstorm discharges signal propagations. Here, for example, cloud / air layers of different height & size of rain showers, inversion weather conditions, fair weather areas (high pressure) etc. in sferics are imprinted in these individual impulses as a kind of origin "meteorological sum information" or a "burst electro-physical fingerprint" due to its transmission path (see distances and directions).

Besides, it is known as well that with increasing sferics formation, the Gaussian ripple or decay behavior of the pulse increases (at the point of origin), is a so-called single / multi-DIRAC burst impact, depending on the blaze characteristic or discharge in the thunderstorm (compare dark field discharges = term DFE [5]). These lightnings or DFEs of thunderstorms should not be discussed additionally just as extraordinary influencing wave form element. It should be allowed to simplify all sferics content into the outstanding total model descriptions by the abbreviation or term SSUM.

Now for the overall function of the weather sensitivity model: In order to consider altogether the temporally fluctuating (* note below) existing perceptible condition of the weather sensitivity = W and all the following involved factors in this "holistic model" offers the attached mathematical function and its related illustrations by figure 4:

- The content W [t] is broken down to the term ΔW as a function of "abode + moment of time + individual factors of the human subject". Implemented in index spelling is extracted
$$\Delta W (f [\alpha] + f [\Omega a-x] + f [t] + f [IW [y]]) =$$

$$= (\Delta L [t] * IL [y]) + (\Delta F [t] * IF [y]) + (\Delta T [t] * IT [y]) + (\Delta S$$

$$SUM (f [\alpha, \Omega, \varphi, t]) * IS [y]) + (\Delta_{TEC(t[\alpha, \Omega, \varphi, t])} * ITEC[y]) + (\Delta M [t]$$

$$* IM [y]).$$

* Note: As above with S SUM, t or [t] is the actual / present time

moment or range [Δt1] of the meteorosensitivity event. The term I correlates to the human individual varying factor. The term Y reflects a negative mood reacting and weather-sensitive individual body area like an organ or extremities (see broken bone or else). Mainly weather-sensitive people react if they have physical problems (more at the following chapter 2.3). Although here for alternating or variant W [t] there may be a time domain [Δt2] differing from [Δt1], which may be also present via a longer / shorter effecting delay; see subjects reaction time to the stimulus.

Now essential sub elements of the mentioned above model formula be explained discussing. It puts

- The term ΔL represents the air pressure or air pressure fluctuations (here also the subject infrasound [2, 4] could be incorporated: $\Delta L = \Delta L_d + \Delta L_s$; ΔL_d = decides only the air pressure and ΔL_s = air infrasound Influence). As example: In [2] is also reported and shown in figures there that on stormy days air pressure fluctuations of +/- 0.2 hPa compared to calm weather (1 / 20th of this hPa value) can occur. At Föhn weather days about 0.2 hPa variations are common. On the other hand, with regard to a sole influence generator by air pressure fluctuations validating noted that such differences in air pressure in a gondola ride on a mountain or elevator ride on a TV tower are also uncritical (see without noticeable effects, except on the ears < air pressure compensation via swallowing, etc. necessary).

- The term ΔF represents the humidity or humidity fluctuations. Here is also reminiscent of a sauna visit, which usually runs without any problems for visitors (no sudden migraine attack [7] or the like. According to known meteorosensitivity- / - mental disorders).

- The term ΔT represents the temperature or temperature fluctuations, and finally the inconsistent, individually oriented and physically-psychologically fluctuating human = ΔM as a variable health / receiving object (see also neuronal / nervous meridian coupling) external electro-magnetic sources and possibly bi-directionally coupling feedback resonance relationships on a variety of electro-magnetic signals. It is allowed to emphasize the stable living indoor climate in the colder earths winter period, which, for example leaves at work on the way to work; also known without so called meteorotropic problems.

- The term ΔS represents the ordinary model sferics fluctuations factor [2, 3, 4, 6]. It offers differing natural weath-

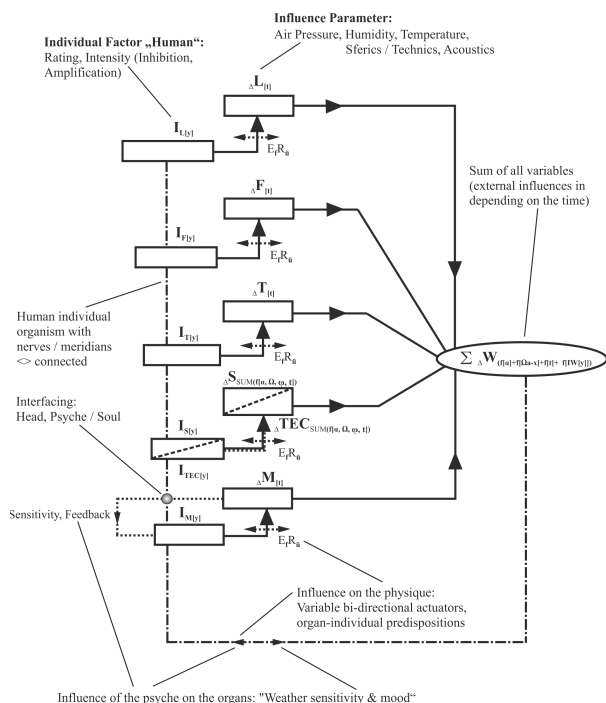


Figure 4. A system-theoretical simulation meteorosensitivity model by an equivalent circuit diagram of the functional relationships due to all coupled and counteracted influences on the time-variable weather sensitivity W [t] of humans; this in particular according to individual physical-psychological changes characterized by "DELTA = Δ" and the associated variation factor (like sferics, technics, acoustics) dependencies

er-related a-periodic burst spectral signal elements (mainly at the audio frequency range; see figure 2) which related to effects regarding weather-sensitivity.

- The term ΔTEC represents an extraordinary model fluctuations factor related to differing man-made alternating fields; more at the following chapter 2.3 and 2.4.

- The term ΔM represents an extraordinary model fluctuations factor related to the human individual physiology (DNA, living conditions et cetera) and individual psyche of subjects; more at the following chapter 2.3 and 2.4.

Practice related bi-directionally coupling factors regarding weather-sensitivity

Using the formula of chapter 2.2 are to extract human individual sum-effects, in which several factors alone and together trigger meteorosensitivity regarding biotropic influences. What are these individual varying factors and how therefore may meteorologists could use them not as unknown meteorosensitivity magnitudes parallelly to a usual weather forecasting as weather-sensitivity forecasting by a believable trigger discomfort? In this complete model content, regional / supra-regional long-term climate effects, to which the individual human being in his shorter evolutionary phase first has to adapt, must not be overlooked, for example in recent years or decades due to climate change (as earth's warm period or industry cause atmosphere up-heating) the local temperatures have risen and consequently the overall climate has changed jet [2, 4]. For example, warmer southern climatic zones of the Mediterranean are currently heading north; see. Rhine area with approaches for future Spanish climate conditions. This is indicated by the increased weather sensitivity statistics with a good 54% of the population in Germany [1, 2]. Certain populations, such as Asians, Africans or Northern Europeans mix in all global longitude and latitude regions of the world. Irish and Scandinavians are less likely to cope with sunny or warmer areas with their gene pool, and the like. On the other hand, long mountain lifts (like the Rocky Mountains, European Alps) generate local weather effects such as in some the cold / warm hair dryer (see Föhn in Europe), which intercontinental very often create e.g. temperature fluctuations of over 20 degrees Celsius within a few hours. To further all pursues or extraordinary (urban / industry-related) correlations now the theoretical modeling formula of the weather sensitivity will now be transferred (and added factorially) to the epidemiological sciences having the following terms:

- The term ΔTEC ($f[\alpha, \Omega, \varphi, t]$) is an addition model factor because of dailies existence of many dominant synthetic / technical atmospheric periodic spectral elements (see figure 3). They are related to a so-called electro-sensitivity seeing man made alternating fields named technics (see modulated wireless communication technologies; frequency range like ULF / VLF / ELF and so on [3, 6]). Such an alternating field influence by these technics or ΔTEC should be considered as well, because at the moment it is discussed very ambivalently discussed.

- The model is extended to the human general physiological / psychic basics = ΔM depending on the age, gender (man / woman), food intake behavior, GEN-bases, general preloads (see environmental toxins, allergies, psychosis correlated on the

(see environmental toxins, allergies, psychosis correlated on the topic "weather sensitivity") or for instance stress. All in all, the physical and psychological / mental health status should be evaluated in terms of its intensity. This is hereby simplified as an additive individual factor = \mathbf{I} . In other words, it means intensity / sensitivity / coupling factor of information or subtle body (or mental) energy forms that influences the total or system-theoretically reflections on all components of the weather sensitivity = term \mathbf{W} . It is called individualized personal control variable as some elements could be important or less important (less dominant) in the modeling for \mathbf{W} . Summarizing it exists \mathbf{ID} = the individual factor rating intensity equal to the human dominance factor. In other words, it is based on individualized human subjects and their experience or combinations on physiological, psychical or mental factors included of the individual components of \mathbf{I} . That's why the mentioned formula for \mathbf{W} integrates all weather factors depending on the subject / human occupied by $\mathbf{ID}[y] = \Sigma \{\mathbf{IL}[y], \mathbf{IF}[y], \mathbf{IT}[y], \mathbf{IS}[y], \mathbf{ITEC}[y], \mathbf{IM}[y]\}$.

- The individual factor on the subject of weather sensitivity \mathbf{IW} of the respective subject or person is mathematical $\mathbf{IW}[y] \sim y$ with the body or organ correlation area number by $yf[Z] = Z * \{0 - 1\}$. Exemplary for the mentioned formula exists the function term $\Delta\mathbf{W}$ based on ($f[\alpha] + f[\Omega\alpha-x] + f[t] + f[\mathbf{IW}[y]]$) which results in the individual factor components \mathbf{IF} , \mathbf{IS} , \mathbf{ITEC} , \mathbf{IM} as a function of the sferics burst / impulse entrance angle α (in degree) and there correlations between "0" as without influence until given full influence with the value "1".

In summary for this chapter content and according to its individual (human) constitution, the variant subject (see person = $\Delta\mathbf{M}[t]$) is individually sensitive by the individual factor evaluation intensity = \mathbf{ID} different weather-sensitive or differently sensitive to meteorological influence (manipulated variables by a given controlled indoor room climate regarding like hot summer / cold winter weather situations), such as atmospheric pressure $\Delta\mathbf{L}$, air humidity $\Delta\mathbf{F}$, temperature $\Delta\mathbf{T}$ and the associated sferics as \mathbf{SSUM} ($f[\alpha, \Omega, \varphi, t]$) arises. Now, the individual factor $\mathbf{IS}[y]$, that accompanies the influencer or trigger sferics, which should be discussed as an outstanding and directly correlated relationship seeing \mathbf{SSUM} and the following conditions:

- Thus, a term $\mathbf{Yf}[Z]$ describes the organs, which are not defined in this model decidedly as numerable organs or body areas; see human bodies organ number $Z = \{1 \text{ to } z\}$. For example, a given \mathbf{Y} content could be a one injured sensitive big toe or a vacant wisdom tooth operation scar of tooth number 8 on the lower right side, extremities (see broken bone or else) or a behind-the-head migraine feeling [7]. Not only in the already mentioned and known magnetic field therapy [3] and so on but even more in detail directly already organs are "shot at" with "frequencies": For many decades it is clearly described that experimental investigations had a suggestibility of for example organ functions with certain locally projected into the body alternating signals, whether they are now inverted as the body's own signals or synthetically generated, lead to the relief of malignant organ disorders (see more details in [2]). These apparently could react "in resonance" to body external alternating field signals like sferics and technics!

• Moreover, the above-named model assignment context of an individual weather-sensitive leads to reacting or effecting body area numbers (see $Z = \{1 \text{ to } z\}$) as given by an assignment $Yf[Z]$ as body areas like head, organs as pancreas, fingers et cetera and in particular the psyche. The psyche seems to be electro-technically reinforced as a kind of filter or passage element "things of life", to raise or lower their relevance. This is emphasized by many recent studies, which give the psyche (soul) and explicitly the mood as a relevant correlation factor a higher priority [2, 3]. For this purpose, it is permissible to take up the reference to psychosomatic effects, which may lead to mental problems as an element of weather sensitivity. It is important to consider how far $YSUM f[Z] = Y1 + Y2 = \text{"Y Body Areas"} + \text{"Y-Psyche"}$ interacts as an adding function or $Y \sim YSUM f[Z] = Y1 * Y2 = \text{"Y Body Regions"} * \text{"Y-Psyche"}$ are to be seen as directly influencing elements (IM[y] as in the case of the correlation factors IL[y], IF[y], IT[y]; see multiplication this correlation content). Consider perturbing symbiotic influence modes for instance by stress in the work on the stomach, which affect the teeth neuronally as well as the nighttime sleep. E.g. in turn can correlate with partnership problems or else and can affect the sensitivity to certain weather conditions (or physical-psychological vulnerabilities in the human body) like a feedback reaction system. It is simulated by function connections as a feedback circuit (see elements IM, $\Delta M[t]$, see figure 4) between the organs to view the psyche of weather (plus sferics in the run of weather events $\langle \rangle$ reference to meridians from electrical nerve current injection regions) as individually differently designed circuitry. This can be interpreted here that the individual factors IM as function on the individual weather-influencing factors L, F, T, S, M (see $\Delta M[t]$) as coupling-in actuators too. Thus, it was integrated into the model by a feedback loop connection (see looping feedback and influences of the psyche or in practice as a mental memory recording content [3]) on the organs and vice versa by adjustable "Influence Feedback Elements" = term EfRu based on knowledge by [2- 4].

Extraordinary coupling factors regarding weather-sensitivity

Basically talking the system-theoretical meteorosensitivity model, the cause why or planet's bios or humans organically determine alternating fields is given by an infinite number of earth's atmospheric spectrum clusters variances; see figure 2, 3. A single or sum of sferics analyzes statistically (stochastically) differ in time, frequencies and level in the range of milli second until hours or years existence. The sferics have existed since the Earth's atmosphere, so that on our planet life has emerged, significantly as quasi-permanent reference radiation present and penetrate almost all materials due to their (magnetic) radiation wavelength. A legally upcoming question is: What happens if this nature-related field impact doesn't exist as during a fare space trip to for instance the planet mars (considered research project [3, 6])?

Additionally, it should now be worked out in the present meteorosensitivity model, how it comes to the fact that weather conditions, which come from different locations points on

humans (animals and plants) can trigger equally different reactions as a variation factor; see angle factor α as orientation to 360 degrees cardinal directions West / East / North / South (see figure 1) in the presented model formula. Possibly (as thesis), living beings like birds have a magnesite-based orientation aid that works like a kind of compass. Probably it is connected as a meteorosensitivity receiver unit too including a 360 degrees alignment? United this is considered as a kind of sensory perception for a directional detection of fronts or biotrophic weather events that approach the recipient as humans, animals, plants from a certain point of a survival strategy compass. For example, ants crawl into the building because of bad weather; reindeer run away from stormy weather; spruce trees switch to thunderstorms before thunderstorms and so on [3, 6]. Rhetorically asked: How did they know that?

Cumulations or temporal consequences (see also factor element [t]), interdisciplinary connections between the multiplicity of above explained factors, etc. should not be taken into account "simplifying" in the above-mentioned, just simplified model formula view; rather, IW [y] could also be regarded as a time-dependent element or else. Eventually, the factor M (human) and I (intensity) is a repetition in the model context, however, so that a maximum variation of the influence quality can be individualized per factor proportion of ID.

In addition to all, inconspicuous but not to be underestimated are impulse discharging processes (not sferics) in barefoot going or jogging on the sandy beach ground near the sea [2], which realized certainly an electromagnetic field context on all man-influencing impulse discharge processes. The [2] unpublished spectrogram (frequency range until some kHz) of the 0,5 second rhythmic burst discharging's by the jogger could have positive influences too in comparison to the urban dailies normal movement forms using plastic shoe insulators related to the ground. These not given statically (electric) field summation situation could cause body electro-stress enhancements (if not electrically discharged) and they have to be considered as a phenomenon for the model's background (more at patent application no. DE102014009525.8).

Observation model-related discussion

The shown model relates additionally to sferics based effects on humans [2-4] as well as it could be usable for all living things at the planet earth. The earlier not stabile working meteorosensitivity models were based mainly on certain weather conditions (see air pressure, humidity, temperature [8]). A parallel malign healthy triggering co-influence by immobility, daily stress, Asthma, bleeding, depression, hypertension, inflammation, colic, headache, migraine [7], spasms, accident readiness etc. are supposed to be investigated as inter-disciplinary research too. Seeing [2, 3] compared to [8] raises the theoretical question of how the human should react on something like an upcoming weather upheaval at constant temperature / humidity habitats ([8], so not constant air pressure) which is identic to the dailies typical closed air-conditioned urban / city (indoor) living rooms instead of outdoors principally: No weather-related disorders? The opposite to this is practically known [1-4, 6, 7]. In addition, if the announced weather-related sferics add-on factor for meteorosensitivity wouldn't exist the

following virtual well-known realizable air pressure variation test for weather-sensitive persons: It is to imagine that real weather-sensitive humans would try to use a mountains cable railway or using the elevator of a huge TV transmission tower at startup. This would cause for instance a migraine attack at once [7]; such relating effects are unknown!

It is also doubted by [2-4, 6, 7] that only infrasound effects should be influencer for weather-related disorders. In logical consequences all given meteorosensitivity triggers should have been evolutionarily imprinted on all earth living things and mainly the human beings. In practice to extend this model by persistent infrasound as co-factor must be allowed seeing recent long-term experiences in infra-sound acoustics [9]. Possibly just before the entry of for instance a windy cold front, which can then go along with gust rollers, infrasound components, e.g. <1 Hz a special relevance! Epidemiologically, this frequency range is new territory for psychoacoustics [3, 6, 9] and thus for medical meteorologists due to a lack of scientific knowledge. It should be mentioned here that parallel investigations between infrasound phenomena with meteorological "coordinates" as well as weather sensitivity clusters belong statistically correlated! Besides, windy Föhn weather conditions [2, 3, 6, 7] could belong acoustically too, because allegedly sliding effects were observed in the electro-magnetic 10 to 13 kHz frequency range; see the (rocky) mountains or especially well known the Alps as having a sum-frequency broadband electro-magnetic fields and acoustic sound effects with impacts on the human well-being.

Many model valid questions are open as meteorosensitivity stimulus to investigate again like:

- The formula around SSUM ($f[\alpha, \Omega, \varphi]$) is certainly not complete according to the angle of incidence α (see orientation am locking at West / East / North / South), if the spatial movement of the human being as a function of time (for example in seconds) should also be relevant; simplified here in the model according to chapters 2.1 to 2.4.
- Walking or traveling provokes man moving's at a 2/3-dimensional way having perceivable temporal changes of sferics impulse / thunderstorm discharge receiving directions; see figure 1. Probably this man's orientation could be transferred partially from 3D audio perception mechanisms or spatial audio hearing [9] into the meteorosensitivity model. unknown is: Are there correlations to neuronal weather-related sferics signal analyses processing's and meteorosensitivity mood disorders?
- What or where is the difference between an individual summer and winter cold front meteorosensitivity or others indoor / outdoor coming from the north, north-west or west? Besides the addable natural sun day light influences could have an add-on role in the background of meteorosensitivity.
- Regarding the above-mentioned electro-sensitivity based on man-made low and high frequency alternating fields (see for instance wireless communication technology) are similarities to nature / weather-related perceptions. Exactly because of this physical-psychic-related, functional relationship of sferics / technics influences on humans, only one summation path has been inserted and marked in Figure 4. Having an incidentally probable view content to this, there are results of how cells react to man-made technical [10,11] or synthetic sferics alternating field exposure, with currently no scientifically significant to be

known results. This requires further experiments in collaboration with [2, 3].

- In superposition to all above mentioned, the probable feedback influence of the psyche on the organs is to be evaluated differently respectively in the model. Not insignificant are factors, such as stress (also by technics = technical-artificial alternating fields of man-made origin, see technics or man-made electromagnetic field emissions) or light or light radiation (see winter depression due to lack of light, etc.) into account, which influences the body impact or mood or even psyche.

- On the other hand, in media exists for example in Germany a bio weather forecasting [12] related poll flight especially in spring. Although this has something to do with meteorosensitivity, but it isn't a directly element seeing weather conditions. Herewith it is proposed to integrate this poll flight into the section ΔM , which varies at humans individually; see allergic etc.

Conclusions and Outlook

It is offered a new holistic system-theoretically meteorosensitivity model by a biological-medical-physical human reaction hypothesis via electrical engineering typical equivalent circuit diagram symbols in the dedicated sequel chapters, which mainly integrates sferics at meteorological basics factors (see temperature, air pressure, humidity) for the phenomena descriptions around weather-sensitivity. For example, one main element could be the sferics receiving angle factor α (see positioning and orientation) via cardinal points and/or sferics influence directions West-East-North-South for the biosensor human (and animals, plants related to all given earth's life evolution). This for instance as one suggested meteorosensitivity element has to be investigated again profoundly having an important or negligible factor as directional sferics correlation to meteorosensitivity effects including an all in all neuronal feedback content.

Specially exposed: As there are given no 100 % proofs of a non-existence seeing probable defined influences of for instance acoustics, man-made alternating fields, mental and other probable meteorosensitivity triggering elements for the presented inherent holistic model it is not permitted to ignore one or some of them as a possible (multi-laterally connected) influence factor. This could be a stimulation for new and following interdisciplinary labor studies to see the huge field of differing human-individual factor content in weather- or electro-sensitivity. Hence for this purpose should include for instance in the past overlooked air pollution as a back ground influence on psychological disorders [13] in cities. In contrast to this as well, during dailies doctors practice regulation cases was collected that even patients with hypertension and a regular use of portable fair-weather emitters [2, 3, 4] demonstrably showed the decline in hypertension [14]. Consequently, thought is meteorosensitivity probably significant triggering hypertension.

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References

1. HÖPPE, P.: Prävalenz der Wetterfühligkeit. 2002; DWD, 127. Jg., I. 1/2.
2. KÖNIG, C., F. KÖNIG: Sferics bio-effects on humans – new subject-related statistical investigations in meteorosensitivity. 2014; ISBN 978-3-00-045904-7.
3. KÖNIG, F.: "Die Natur braucht Chaos". – ISBN 978-3-89539-712-7. 2005; German re-edited Dissertation USA 2004; www.fk-e.de.
4. KÖNIG, F., KÖNIG, C.: Investigations in Meteorosensitivity - Human Statistics and Parallel Impact Tests by Emitted Atmospheric Weather-Related Electromagnetic Fields. Jpn J Med 2019,2:4, 382 – 388.
5. CUMMER, S., A.: Lightning and ionospheric remote sensing using VLF/ELF radio atmospherics. 1997; Dissertation Stanford University USA.
6. www.fk-e.de; www.meteorosensitivity.com
7. www.migraine.com: https://www.dwd.de/DE/wetter/thema_des_tag-es/2019/8/25.html
8. <http://www.prof-kleinschmidt.de/>
9. www.dega-akustik.de
10. Dartsch PC, König FM. Neutralization of wireless DECT base radiation by novel resonance devices. Integr Mol Med. 2017; 4: 1-5.
11. Dartsch PC, König FM. Comparative Investigations on the Inhibition of Mobile Phone Radiation. Jpn J Med 2019,2:3, 270-274.
12. <https://www.wetteronline.de/pollenflug-vorhersage>
13. https://www.proplanta.de/Agrar-Nachrichten/Wissenschaft/Luftverschmutzung-hat-Einfluss-auf-psychische-Erkrankungen_article1566351277.htmlhttps://www.proplanta.de/Agrar-Nachrichten/Wissenschaft/Luftverschmutzung-hat-Einfluss-auf-psychische-Erkrankungen_article1566351277.html
14. <http://wellcans.com/prominent.php>

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