

Biophysical testing of
effectivity of the product

«**Central Sun**»

against magnetic field distortions

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The scope of this report is exclusively the documentation and evaluation of effects that were assessed by objective physical measurement. Neither the investigation of composition, manufacturing and mode of operation of the product, nor disclosure of information on the product to third parties was contracted. It is up to the manufacturer to care for constant product quality and regular product testing.

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1. Subject of testing

IIREC International Institute for Research on Electromagnetic Compatibility was instructed by Lakosa Handels GmbH to investigate by objective measurements (with physical meters, independent of the individual sensitivity of persons) effects of the product «**Central Sun**».

The Central Sun (CS) is constructed as a LAKHOVSKY **antenna** consisting of concentric, circular, non-closed conductors with alternating opposite mouth (cf. title photograph). It is activated by the manufacturer thru transmission from a distance and is designed to improve compatibility to humans of otherwise biologically disturbing electromagnetic fields of technical origin (“E-Smog”) or of natural causation (“earth rays”, water veins).

The investigation was conducted by **magnetic field measurements** in the **DC (static field) and ELF (extremely low frequencies) range** for the application with **geological fields (geopathogenic zones)**, with **low-frequency (LF) technical fields** (i.e. “E-Smog” from electric mains supply) and with **LF-modulated radio frequency (RF) technologies** e.g. **cellular radio**. In any of the three fields of application the effect was tested with positive results that are documented in this report.

As a test sample, a “big” Central Sun (measuring 1,30 m including post) was applied.

2. Testing of magnetic field effects

The magnetic field has a peculiar biological relevance, because it permeates the human body, its shielding is not easily accomplished, and it has an impact on all phenomena of life. Particularly on ions, i.e. particles in our body carrying electric charge (e.g. sodium, potassium, calcium, magnesium, zinc and several others in our body cells, iron in hemoglobine etc), the magnetic field has an immediate impact. Signals imprinted to our cell water and body water are magnetic in nature.

Therefore, testing of magnetic field effects was the first option for an investigation of coherent effectiveness of the Central Sun.

2.1 Method of investigation

Test measurements were conducted according to the **grid measurement procedure** of IIREC in the static and low frequency magnetic field (up to 15 Hz), and for electric mains current, in the LF magnetic field of 50 Hz including harmonics up to 1 kHz. The magnitude measured was **vertical magnetic induction** in Microtesla (μT). – The measurement array of 0,5 m x 0,5 m comprised $11 \times 11 = 121$ measuring points at a distance of 5 cm. In the first run, measurements were conducted before activation of the Central Sun, and were repeated thereafter. The comparison of results indicates the effectiveness of the Central Sun.

2.2 Experimental procedure and assessment

The measured signal of magnetic field measurements consists of the static or DC field component and the alternating AC field component. Das Messsignal der Magnetfeldmessungen setzt sich aus dem statischen oder Gleichfeldanteil (DC) und dem Wechselfeldanteil (AC) zusammen. The AC component is characterized by north polar and south polar peaks (AC+ and AC- resp.) which are measured separately.

The **meter** applied for magnetic induction in the DC and ELF range (up to 15 Hz) was the digital precision Teslameter 05/40 by Projekt Elektronik (Berlin). For measurements of magnetic field of the electric mains supply (including harmonics up to approx. 1 kHz), a Teslameter FM-GEO X of the same manufacturer was applied. A VC-960 Multimeter by Volcraft served as a data logger. Some characteristic data of the meters are compiled in **table 1**.

Teslameter	05/40	FM GEO-X
intensity range	$\pm 100 \mu\text{T}$	DC: $\pm 200 \mu\text{T}$ AC+ and AC-: $\pm 2 \mu\text{T}$
digital resolution	$0,1 \mu\text{T}$ (adding data logger $0,01 \mu\text{T}$)	$0,1 \mu\text{T}$ (adding data logger for DC $0,1 \mu\text{T}$, for AC+/- $0,001 \mu\text{T} = 1 \text{nT}$)
deviation	$\pm 0,5 \%$ of measured value @ $40 \mu\text{T}$	$\pm 0,3 \%$ of meas. value $\pm 5 \text{nT} \pm 2 \text{Digits}$
frequency range (3 dB)	0 Hz to 18 Hz (max.)	0 Hz to 1 kHz
sensor system	fluxgate, sensitive to orientation	

Tab. 1: Characteristic technical data of the meters applied

The **measurement setting** is characterized in the sections to follow and each time depicted in the first place of illustrations. The measuring array is constructed as a wooden tablet with holes marking the position of measuring points. A probe holder is mounted on a cursor which glides on a carriage covering one row of measuring points. This construction guarantees a maximum of measuring precision, avoiding deviations both by torsion and inclination.

Graphs and mapping of measured data were performed with **data analysis software Surfer v. 7** by Golden Software. Values measured at single measuring points were interpolated by a SW routine and mapped representing the measurement area of 0,5 m by 0,5 m. Points of equal magnetic induction were interconnected by contour lines. Coordinate axes exhibit distances in meter (m).

In the standard maps, areas between contour lines are colored. The respective values of vertical magnetic induction in μT may be read from the color scale. A “rainbow” color spectrum was chosen for optimum resolution of the mapping.

Analogously, the effect of the product in the field, and differences between effects of separate samples as well, were mapped in *differential maps*. Those maps exhibit a tricolor spectrum where “blue” would mark a decline, and “yellow” a rise of measured values. (The colors “red” and “green” were avoided in this case, for to most spectators they would signal “alert” or “all clear”, resp.)

2.3 Results

2.3.1 Effect on geopathogenic zones

This measurement was conducted above a distortion zone of the geomagnetic field that can be detected by sensitive persons thru the subjective method of dowsing. The results of the measurement document the objective presence of a distorted magnetic field. The Central Sun was placed at the edge of the measuring field. This field was measured once before activation of the device from a distance, and once more afterwards. For details cf. figures 1 to 4.

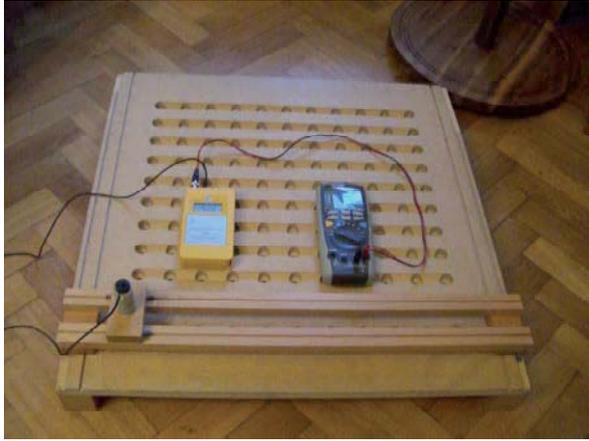


Fig. 1: Measuring site with Teslameter (yellow) and data logger (grey) above geopathic zone, in the RHS background the foot of the Central Sun.

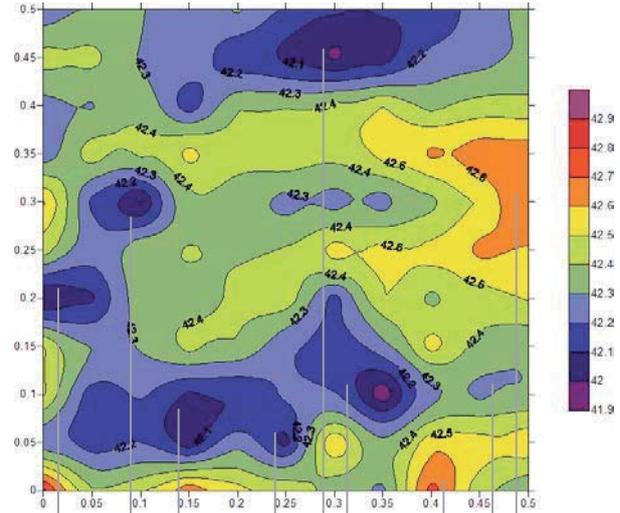


Fig. 2: Measurement result exhibiting magnetic field distortions (in μT , cf. RHS color scale). Axes labelled with distances in m.

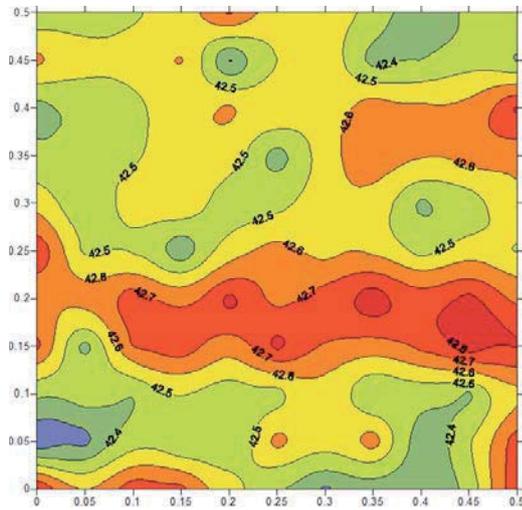


Fig. 3: After 1 day impact of Central Sun, the distortions showing up in blue color in fig. 2 shifted into the range of normal values (approx. $42.5 \mu\text{T}$).

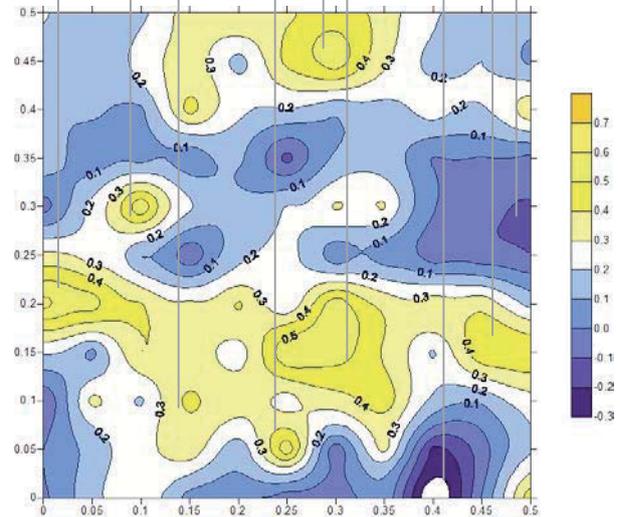


Fig. 4: The difference of values of fig. 3 minus fig. 2 exposes in blue color a decline or minimal rise, in yellow color a marked rise of field values.

This result gives proof that a person e.g. on a sleeping place with a geopathic distortion (with the magnetic stress measured here and documented in fig. 2 invading in the body field) will experience a considerable stress relief.

2.3.2 Effect on electric mains magnetic field

This test was conducted on the magnetic field emanating from wire currents and, in particular, main adapters. (Adapters include transformers and are widely used as power supply to various electric and electronic devices. In many devices, adapters are integrated invisibly.)

From a theoretical view, the mains supply and its surrounding magnetic field should contain no other frequencies but 50 Hertz (Hz) and the corresponding harmonics (i.e. multiples of 50 Hz: 100 Hz, 150 Hz, 200 Hz and so on). AC oscillations should be harmonic, which means that positive and negative current peaks (and in the magnetic field: north polar and south polar peaks) should be balanced. – In real measurements, a share of unharmonic oscillations is found in the mains supply, for the most part due to devices with phase section control, e.g. for dimming. Experiments shows that in the corresponding magnetic fields north polar and south polar peak values are not at all balanced in any case, but sometimes are distinctly different. The difference from north polar and south polar peak values indicates in how far fields are unharmonic.

This effect may be used to find out by measurement if a device such as the Central Sun would “harmonize“ the field, i.e. balance north polar and south polar field values. To this end, the low frequency magnetic field was measured on a realistic model, namely a row of power outlets, with usual cords connected, and an adapter supplying an energy saving bulb (ESB).

The measurement was conducted without (“off“) and with (“on“) the activated Central Sun. Special care was taken to keep all other circumstances constant. For results cf. fig. 5 to 10.

These results indicate **a considerable improvement on a location with a relatively high magnetic stress** (in reality, this might be e.g. a **working place**). This is true of the ambient magnetic field as well as the body field of affected persons.



Fig. 5: Working place with cords and adapters as sources of magnetic stress; in the foreground measuring grid with the meter, data logger and Thermo-Hygrometer for temperature and humidity measurement.

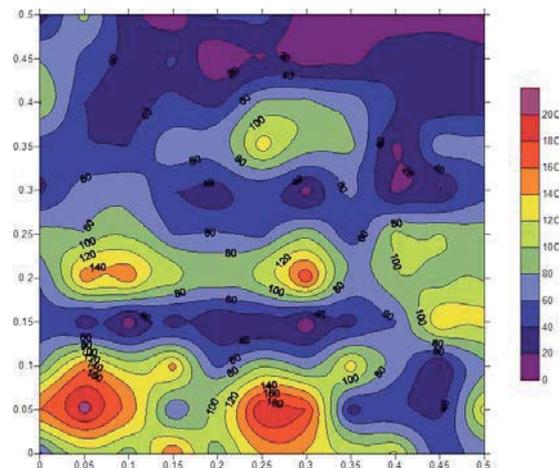


Fig. 6: Anharmonic components of the magnetic field displayed as differences between north polar and south polar AC peaks (values in nT = Nanotesla, distances in m).

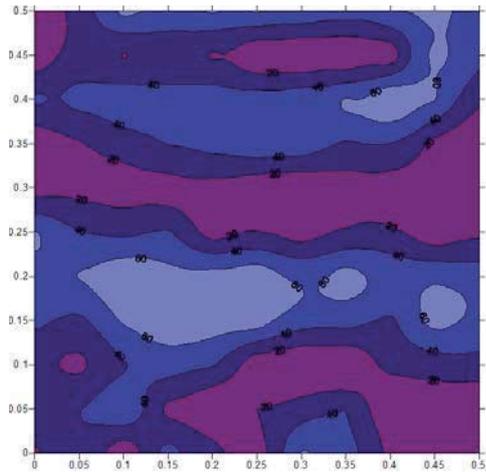


Fig. 7: After 1 day impact of the Central Sun, the anharmonic disturbances in the magnetic field of the mains supply have calmed down (cf. fig. 6; the color scale is the same!).

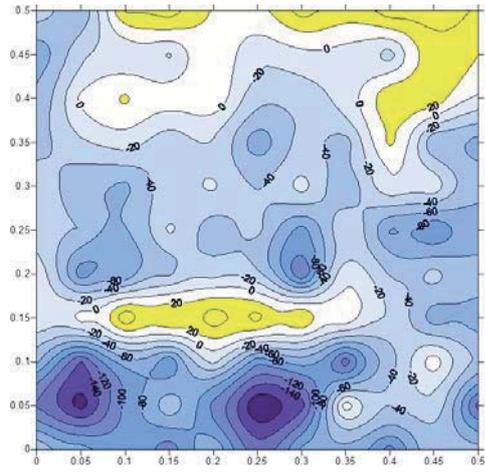


Fig. 8: The difference of values from fig. 7 minus fig. 6 displays, in blue color, the effect of the Central Sun: the decline of anharmonic (i.e. unbalanced) AC peaks.

2.3.3 Effect on magnetic field distortions in the ambience of a transmitting cellular phone

As established by IIREC research (in dozens of measurement series), in the ambience of a cell phone with an open line (which transmits radio frequency carrier waves with low frequency modulation) a magnetic field distortion is brought about in the DC and ELF field (cf. red circle in fig. 11). This distortion has a high biological relevance, because it falls into sensitive regions of the head (inner ear, brain, eyes, mouth hole etc.) when a person is phoning with the cellular

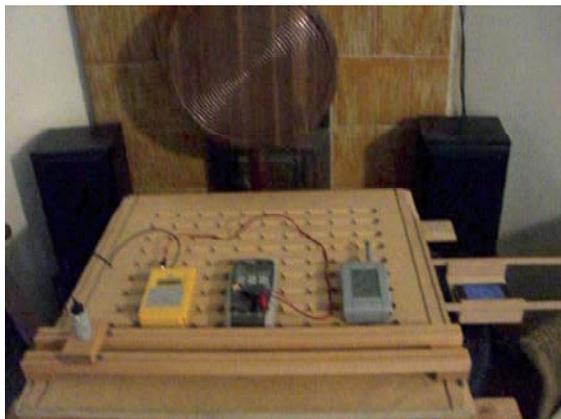


Fig. 9: Measuring site for cell phones. On the RHS an iPhone is placed in the drawer, that will be pushed beneath the measuring field. In the background the Central Sun was erected.

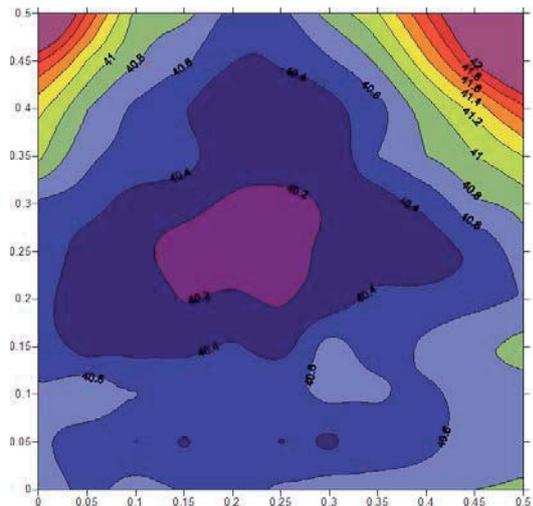


Fig. 10: Before placing the cellular in the measuring field, the background was measured. In the largest part of the area, the vertical magnetic induction ranges from 40,2 to 40,8 μT (i.e. $40,5 \pm 0,3 \mu\text{T}$).

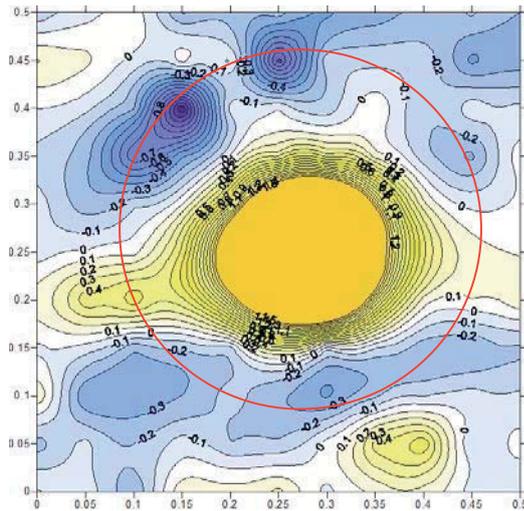


Fig. 11: This map indicates the deviation from the DC and ELF magnetic background field brought about by a transmitting cellular phone (induction values in μT , distances in m).

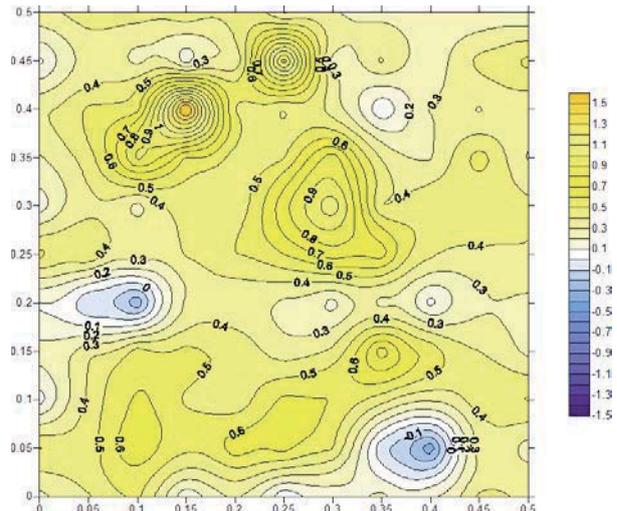


Fig. 12: Impact of the activated Central Sun on the field with transmitting cell phone. Where there was a decline of field values without protection (blue color in fig. 11) there is now a rise (yellow color in fig. 12) and vice versa.

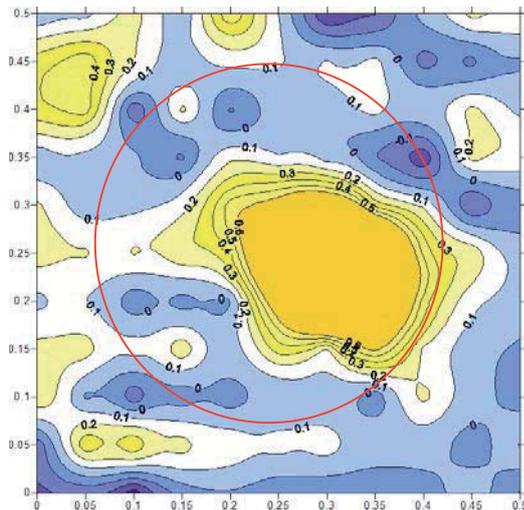


Fig. 13: The same map as in fig. 11, this time for a transmitting iPhone. Distortions are of similar structure, but less pronounced than with the Nokia phone.

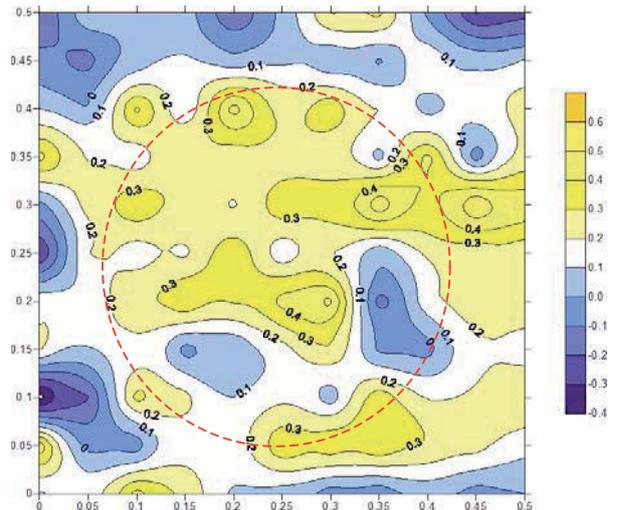


Fig. 14: Impact of the activated Central Sun on the field distorted by a transmitting iPhone (cf. fig. 13; the complementary distribution of blue and yellow colors documents, once more, the balancing effect).

This investigation included the test of the ability of the activated Central Sun to counterbalance the magnetic field distortion brought about by a transmitting cellular phone nearby. After measuring the background field, a cellular phone was put into operation (i.e. an active number was dialled) and the cellular pushed under the center of the field. The field resulting from the impact of the cellular was measured, and the measurement repeated after bringing the activated Central Sun into the vicinity of the field. Regarding the progress of “smart phones“, this series of measurements was conducted with a conventional Nokia phone and an iPhone, as well. The results are mapped in figures 10 to 14.

When comparing fig. 11 or 13 to fig. 12 or 14, respectively, one recognizes the balancing out of the distorting impact of the transmitting phone by the activated Central Sun. **To the person phoning, this means an effective protection against biologically relevant distortions in the static (DC) and extremely low frequency (ELF) range of the magnetic field.**

3. Opinion

The results documented in section 2 have shown, **in any case under investigation, a counterbalance by the Central Sun of distortion effects previously found.** The mapping of results gave clear **qualitative** evidence of this effect by the color switch in the maps. Moreover, from the contour lines of equal vertical induction (or equal difference of induction values, resp.) indicated in the maps **quantitative** effects may be read.

The opinion proper, now gives an evaluation of **quantitative** results regarding a. their **metrological significance** and b. their **biological relevance**.

3.1 Metrological significance of results

3.1.1 Significance criteria

The **effects found in the measurements**, i.e. the distortions by deliberately chosen sources of disturbance and the impact of the activated Central Sun, as well, amount to orders of magnitude distinctly exceeding the uncertainty of measurement. Therefore, they are classified as **significant**.

The reading of DC values from Precision Teslameter 05/40 (including ELF components) and from Teslameter FM GEO-X displays variations of measured values of $0,05 \mu\text{T}$. Therefore, measurement values have a precision of $0,1 \mu\text{T}$. The distortion and counterbalance effects on which the evaluation is based were assessed as differences (between a "disturbed" and a „balanced“ field), so their uncertainty is, according to laws of metrology, $0,14 \mu\text{T}$ (i.e. $0,1 \mu\text{T}$ times square root of 2). DC effects from $0,15 \mu\text{T}$ upward are thus significant.

The reading of AC values from the data logger has a precision of $0,001 \mu\text{T} = 1 \text{ nT}$. The last digit displayed a considerable variation, so the precision of measurement results was assessed as 10 nT . The data logger does not record peak values, but time-averaged “root of mean square” (tRMS) values, so peak values AC+ and AC- were assessed thru multiplication by the so-called “peak to mean” ratio. This was determined in calibration measurements amounting to 1,7. From measured values assessed in this manner, differences of peak values were calculated with a threshold of uncertainty amounting to 14 nT . For assessing the balancing effect of the Central Sun, from those values, again differences were computed, their threshold of significance amounting to 20 nT .

For compliance with the significance criteria in the AC and DC range, evidence is given here for all the three measurement series that were run:

Geopathogenic distortion: As shown in fig. 2, values are depressed by distortion at an amount down to $-0,5 \mu\text{T}$ against the undisturbed background (of approx. $41,5 \mu\text{T}$). The balancing effect mapped in fig. 4 after activation of the Central Sun amount to $+0,5 \mu\text{T}$ as a maximum value.

Distortions in the magnetic field of electric mains: The measure of distortion, in this case, is the unharmonic difference of AC field peak values (AC+ und AC-). Fig. 6 displays those distortions at an amount of 200 nT . From fig. 8 effects by the Central Sun with an extreme amount of -180 nT can be read.

Distortions in the ambience of transmitting cellular phones: These distortions measured in the DC range (including ELF) amount, with the Nokia phone, to $-1,5 \mu\text{T}$ as an extreme value (fig. 11), with the iPhone at $-0,4 \mu\text{T}$ (fig. 13). (Distortions measured immediately above the cellular phone are not evaluated here, because they stem from the DC field of the device itself, not from cellular radio, and can not be avoided but by a modification of the construction or operation mode of the phone, or by magnetic shielding.) The balancing effects of the Central Sun amount to maximum values of $+1,5 \mu\text{T}$ (fig. 12) or $+0,5 \mu\text{T}$ (fig. 14), respectively.

3.1.2 Statistical data analysis

In any measurement series, there are some measurement points with effects remaining below the threshold of significance. Therefore, an additional **statistical analysis** is necessary as a sound foundation for a **comprehensive evaluation** of the significance of effects found.

Some basic statistic figures of the measuring field of 121 measuring points each are compiled in the following tables for the three measurement series.

Impact of CS on magnetic field of a geologic fault

Statistical characteristics of measurement results

	Values in μT (DC+ELF up to approx. 15 Hz)			
<i>Characteristics:</i>	Measured without CS	Measured with CS	Shift of characteristics	Characteristic of shifts
Minimum	41,92	42,22	0,30	-0,43
Mean	42,35	42,55	0,20	0,20
Maximum	42,83	42,87	0,04	0,64
<i>Summation frequencies:</i>				
5-%	42,05	42,33	0,28	-0,10
10-%	42,12	42,36	0,24	-0,05
15-%	42,15	42,40	0,25	-0,01
20-%	42,21	42,42	0,21	0,01
25-%	42,23	42,44	0,21	0,07
30-%	42,26	42,46	0,20	0,11
35-%	42,27	42,48	0,21	0,13
40-%	42,31	42,49	0,18	0,16
45-%	42,32	42,54	0,22	0,18
50-% (Median)	42,35	42,55	0,20	0,19
55-%	42,38	42,56	0,18	0,21
60-%	42,40	42,58	0,18	0,23
65-%	42,42	42,60	0,18	0,26
70-%	42,44	42,63	0,19	0,32
75-%	42,47	42,64	0,17	0,35
80-%	42,50	42,66	0,16	0,37
85-%	42,54	42,73	0,19	0,40
90-%	42,58	42,77	0,19	0,46
95-%	42,63	42,81	0,18	0,55
100-%	42,83	42,87	0,04	0,64

Table 2 to 4 (pages 12 to 14): Statistical characteristics of measurement series regarding effectivity of the activated Central Sun (CS)

Table 2 (above): Geopathogenic zone

Table 3 (following page): Magnetic field distortions of electric mains

Tab. 4 (Seite 14): Magnetic field distortions in the ambience of a transmitting cell phone

Impact of Central Sun on the magnetic field of electric mains

Statistical characteristics of measurement results

Characteristics:	DC values (μT)				AC values (nT)			
	Meas. without CS	Meas. with CS	Shift of characteristics	Characteristics of shifts	Peak diff. without CS	Peak diff. with CS	Shift of characteristics	Characteristics of shifts
Minimum	47,63	47,39	-0,24	-1,05	0,3	0,5	0,2	-181,9
Mean	53,62	53,51	-0,11	-0,11	70,3	34,7	-35,6	-35,6
Maximum	64,56	64,77	0,21	0,35	209,4	80,6	-128,9	58,1
<i>Summation frequencies:</i>								
5-%	48,12	47,91	-0,21	-0,65	10,0	1,5	-8,5	-128,9
10-%	48,50	48,43	-0,07	-0,54	14,8	2,9	-11,9	-99,3
15-%	49,38	48,82	-0,56	-0,38	23,6	5,3	-18,4	-86,0
20-%	49,71	49,48	-0,23	-0,34	27,2	10,2	-17,0	-74,8
25-%	50,17	50,16	-0,01	-0,31	32,3	12,9	-19,4	-68,0
30-%	50,79	50,60	-0,19	-0,24	39,8	15,8	-24,0	-58,8
35-%	51,62	51,37	-0,25	-0,14	42,8	19,2	-23,6	-53,7
40-%	52,20	51,93	-0,27	-0,11	47,8	22,9	-24,8	-44,7
45-%	52,86	52,51	-0,35	-0,09	55,4	30,3	-25,2	-40,3
50-% (Median)	53,59	53,52	-0,07	-0,06	62,2	37,1	-25,2	-33,5
55-%	54,22	54,16	-0,06	-0,03	70,9	40,1	-30,8	-27,4
60-%	54,54	54,51	-0,03	0,00	75,8	44,4	-31,5	-23,6
65-%	55,19	55,35	0,16	0,06	86,0	49,1	-36,9	-16,8
70-%	55,77	55,79	0,02	0,08	88,1	51,5	-36,6	-9,5
75-%	56,02	56,24	0,22	0,12	97,8	55,6	-42,2	-2,4
80-%	56,49	56,62	0,13	0,16	108,0	59,2	-48,8	12,6
85-%	57,62	57,59	-0,03	0,20	125,3	62,1	-63,2	20,2
90-%	58,60	58,55	-0,05	0,21	140,6	64,9	-75,7	36,4
95-%	60,81	61,02	0,21	0,24	156,7	69,9	-86,9	47,4
100-%	64,56	64,77	0,21	0,35	209,4	80,6	-128,9	58,1

Impact of Central Sun on magnetic field distortions in the ambience of transmitting cellular phones

Statistical characteristics of measurement results

Values in μT	Background without cell phone	Nokia					iPhone				
		Meas. without CS	Distortion without CS	Meas. with CS	Impact by CS	% counter- balance	Meas. without CS	Distortion without CS	Meas. with CS	Impact by CS	% counter- balance
<i>Characteristics:</i>											
Minimum	40,10	38,99	-1,42	40,44	-0,37		40,1	-0,36	40,48	-0,64	
Mean	40,69	40,89	0,20	41,30	0,40	101,8	40,9	0,18	41,03	-0,04	53,9
Maximum	43,81	46,43	6,18	47,18	1,68		44,0	2,55	43,76	0,40	
<i>Summation frequencies:</i>											
5-%	40,19	40,15	-0,41	40,63	0,05	-250,6	40,4	-0,18	40,53	-0,39	-144,6
10-%	40,25	40,23	-0,32	40,67	0,14	-200,8	40,4	-0,12	40,57	-0,26	-107,6
15-%	40,29	40,28	-0,28	40,69	0,23	-120,1	40,5	-0,08	40,60	-0,24	-95,8
20-%	40,31	40,30	-0,25	40,75	0,26	-76,4	40,5	-0,05	40,63	-0,20	-43,6
25-%	40,35	40,39	-0,20	40,80	0,28	-36,4	40,5	-0,02	40,70	-0,17	-22,4
30-%	40,43	40,41	-0,16	40,84	0,29	59,8	40,5	0,02	40,72	-0,13	30,7
35-%	40,46	40,48	-0,13	40,85	0,32	78,2	40,6	0,04	40,76	-0,11	41,9
40-%	40,50	40,58	-0,08	40,88	0,35	109,7	40,6	0,05	40,78	-0,08	61,9
45-%	40,54	40,62	-0,06	40,91	0,39	121,2	40,6	0,07	40,81	-0,06	66,7
50-% (Median)	40,56	40,66	-0,04	40,97	0,39	142,9	40,7	0,10	40,86	-0,02	73,3
55-%	40,59	40,69	-0,03	41,02	0,42	154,0	40,7	0,13	40,91	-0,01	77,2
60-%	40,64	40,74	0,01	41,06	0,42	165,3	40,8	0,15	40,94	0,01	82,1
65-%	40,67	40,77	0,06	41,13	0,45	181,1	40,8	0,18	40,95	0,03	91,4
70-%	40,71	40,82	0,10	41,17	0,48	193,0	40,9	0,22	41,02	0,06	109,1
75-%	40,80	40,90	0,15	41,24	0,50	202,0	41,0	0,24	41,16	0,09	130,0
80-%	40,84	41,22	0,21	41,51	0,52	218,3	41,1	0,28	41,26	0,11	163,6
85-%	40,90	41,52	0,44	41,81	0,56	228,7	41,3	0,37	41,51	0,17	169,4
90-%	41,20	42,04	0,59	42,20	0,62	304,9	41,8	0,47	41,73	0,19	197,2
95-%	41,80	42,89	2,14	43,18	0,77	341,5	42,0	0,79	42,12	0,24	213,1
100-%	43,81	46,43	6,18	47,18	1,68	860,0	44,0	2,55	43,76	0,40	291,7

What can be learnt from the statistical data of tables 2 to 4? In the first place, the minimum, the maximum and the arithmetic mean are given for each of the data series. For a detailed insight in the data series, the summation frequencies (p-fractiles) of the data are offered additionally. The 25 %-value (0,25-fractile) of summation frequency, e.g., is the value not exceeded by 25% of values of the corresponding data series. Vice versa: 75% of data exceed this value. Of particular interest is the median, or 50% value of summation frequency. In case of a symmetrical data distribution, the median matches the mean. Is there a difference between both, the distribution renders unsymmetric.

Geopathogenic distortion (Table 2): The span of the data (between minimum and maximum) amounts to ca. $0,9 \mu\text{T}$ without , or $0,65 \mu\text{T}$ with impact of the CS, the distribution thus growing narrower, i.e. more homogeneous – **which gives one more proof of a smoother field!** Shifts of the mean and the median amount to $0,2 \mu\text{T}$ each, the distribution being symmetrical with respect to the mean, or the median, before and afterwards. Beginning from the 40-% value of summation frequency, shifts are in a significant order of magnitude, meaning that for 60% of all measuring points there is evidence of a significant effect. The median of shifts amounts to $0,2 \mu\text{T}$. If $0,1 \mu\text{T}$ are chosen as a measure of non-significant deviation from the mean, or median, so „with“ CS 55% of values fall in this range, „without“ only 40%. The summation frequency curves for the two test situations are generally shifted against each other by approx. $0,2 \mu\text{T}$; this lies within the order of magnitude of natural magnetic field variations. But it should be noted that for the lowest 20% of values there is an augmented difference. This indicates that the lowest field values (which are characteristic for strongest distortions!), under impact of the CS, experience a greater rise – this is the precise **characteristic of a selective counterbalance!**

Distortion in the magnetic field of electric mains: The DC field with its means and medians from $53,5$ to $53,6 \mu\text{T}$ exhibits no significant shift from activation of the Central Sun. This means that the magnetic background DC field is substantially unaltered between the two measurement situations. The difference of peaks AC+ and AC- characteristic for the unharmonic share (i.e. the biologically relevant distortion) of the AC field amounts on average to 70 nT (range of values from 0 to approx. 200 nT). This average, by activation of the CS, is cut by half! In 75% of measuring points (minimum), the unharmonic share of the AC field is reduced, and the bio-compatibility thus improved. The rest of <25% of measuring points are very close to the source of distortion, rendering it metrologically very difficult to give clear evidence of an improvement against high background values. But it can be explicitly said that unharmonic distortions will be restricted to the vicinity of the source, whereas in areas typical for exposition of persons, distortions will be reduced in any case (cf. fig. 8).

Distortions in the ambience of transmitting cellular phones: The distribution of the values mapped in figures 11 to 14 make three different regions in the measuring fields recognizable: a. such without a considerable impact of the cellular phone or the Central Sun (meaning that there are only minimal shifts to the reference condition measured before), b. such exhibiting an excess effect (being found in the center of the measuring field in case of cellular phone operation) and c. regions exhibiting effects relevant for this evaluation, indicating significant field distortions in the *ambience* of the cellular phone and the corresponding effects of the Central Sun.

The evaluation, in this case, is based on a **percentage of counterbalance**, being measured as a ratio from the effect E by the activated Central Sun at a particular measurement point, to the distortion by the transmitting cellular phone (i.e. the difference D from the undisturbed background) measured at the same point without activation of the Central Sun. This ratio E/D can be seriously assessed for no other values but E and D values both falling in the region c. denoted above. The statistical figures given in table 4 for the impact of the Central Sun, consequently, refer to measuring points meeting this condition, exclusively. As criteria for D (and equally for E), the interval $0,1 \mu T < D < 1 \mu T$ was chosen. In case of the iPhone, an additional correction had to be introduced for a shift of the DC background by $0,2 \mu T$.

The Table indicates for the **Nokia phone** an **average** counterbalance of 101,8%, which means, within the boundaries of measurement precision, a **counterbalance of 100% precisely!** At 50% of measuring points assessed, the balance effect would even amount to approx. 150% of the respective distortion. Thus, there is a certain over-compensation, and, on the contrary, a balance less than 100% at some points.

For the **iPhone**, an **average of 54% counterbalance** of distortions is read from the table. **At 50% of measured points, the balance factor is approx. 75%** (meaning that it is even higher at 25% of measuring points!).

On the whole, these results indicate (in particular compared to earlier measurements conducted by IIREC with an identical task of testing the effectiveness of products) an **outstanding balancing power** of the field of **the activated central sun**.

3.2 Biological relevance of effects

The distortion effects measured in the DC range amounted to $0,5 \mu T$ (as a maximum) in the geopathogenic zone, and to maximum values of $1,5 \mu T$ (Nokia) or $0,4 \mu T$ (iPhone), resp., in the ambience of the transmitting cellular phones at the measuring points with relevant effects. Considering the maximum amount of natural temporal variations of the strength of magnetic field at a fixed location being approx. 0,2 Mikrottesla in an interval of 0,5 to 2 hours, the distortions measured as effects from natural anomalies or from technical sources turn out to be a multiple (at least the double) of the standard of natural variations.

The human body as a “receiving antenna“ is biologically particularly sensitive in the very range of intensity or variations exhibited by natural electromagnetic fields. Therefore, the measured **distortions are biologically highly relevant. Any reduction of such distortions (ideally a counterbalance of 100%) would, in turn, extremely imponder biologically by approximating the amount of distortion to the standard of natural variations.** An impact of this kind was **unambiguously evidenced for the Central Sun**; it will in particular imponder biologically in case of a long-term stay in geopathogenic zones (from water veins, geological faults etc.) – particularly in working or sleeping places –, and in case of frequent or prolonged use of cellular phones.

The AC peak values AC+ und AC- measured in the **magnetic field of electric mains** (including critical elements such as power supply transformers) amount to more than 1000 nT = 1 mT. From a biological point of view, long-term exposition of > 200 nT signals a serious risk of blood picture alterations. So, in this case, too, **biologically relevant distortions were found in the measuring field**. The **unharmonic differences** between north polar and south polar peaks amounted on average to approx. 70 nT and in extreme cases to 200 nT. This factor **increases the biological sensitivity considerably!**

Under impact of the activated Central Sun the peak values were reduced and equalized, whence resulted a **cut by half of the average peak difference**, with the maximum value reduced from 200 nT to 80 nT (i.e. by 60%). Supposing that the unharmonic share of AC peaks is likely to provoke harmful biological responses, the results found here manifest a **relevant qualification of the activated Central Sun to improve the bio-compatibility of the omnipresent "E-Smog"**.

Authorized Summary

Test measurements conducted by IIREC upon instruction of Lakosa Handels GmbH regarding the physical effectiveness of the product «**Central Sun**» in its activated condition manifested **beyond doubt the qualification of the device to reduce biologically relevant magnetic field distortions.**

In the test field of a **geopathogenic distortion zone** (denoting the popular phenomena of “earth rays“ und “water veins“), **at 60% of measuring points an improment was evidenced, particularly at all points with massive distortions.**

The **unharmonic difference** between north polar and south polar peaks of the **magnetic AC field of electric mains** under investigation (including a power supply transformer as a source of distortion) was **decreased at 75% of the measuring points**, with a 60% reduction of the maximal difference from 200 Nanotesla to 80 Nanotesla.

Regarding **magnetic distortions in the DC and ELF range brought about in the vicinity of transmitting cellular phones** the effect by the activated Central Sun was found to be a **100% counterbalance with a Nokia phone**. With an iPhone, the balance rate was 54%, with a significant improvement **at 75% of the relevant measuring points.**

Thus, **by objective physical measurements** with meters monitoring the **magnetic induction** evidence was given for improvements by **impact of the activated Central Sun** that increase the **biological compatibility in case of**

- ◇ **distorting earth fields** from “water veins“ and “geological faults“,
- ◇ the magnetic AC field of **power lines, transformers, energy saving bulbs etc.**
and
- ◇ magnetic field distortions from **cellular phones in transmission mode.**

The evidence given for the effectivity of the Central Sun, a sound basis was laid for a biophysical certification of the product.

Prospects

For certification by IIREC test label of a reliable product effectivity without unwanted side effects, the following tests regarding the impact of the Central Sun should be conducted next:

1. a stress to make sure that the effect persists even after exposure to most critical magnetic field conditions;
2. overlapping tests in order to exclude unwanted effects from accumulated impact of several devices such as the Central Sun;
3. a test series regarding the temporal development and persistence of the effect;
4. a test series to find out the spatial effect radius.

With those additional tests passed, the conditions for awarding the test seal of IIREC would be met.

If desired, IIREC may elaborate proposals for extended testing to prove biological effects of the product and for product certification.

Keeping up the product quality found in the tests falls within the liability of the manufacturer.



Mag. Dr. Walter Hannes Medinger

Generally Sworn and Certified Expert at Court
Scientific Head of IIREC

International Institute for Research on *ElectroMagnetic*
Compatibility - EMC on biophysical foundation

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