

On the mechanism of manifestation of the therapeutic effect low-intensity optical radiation

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A mechanism for the effect of optical radiation on the state biological objects , including the generation of a flux of optical radiation superweak magnetic field due to the inverse Faraday effect . Subsequent the action of such a field on a living object is similar to the action of geo - and heliopathogenic fields , hypnotist , and psychic . d . Experimental results obtained by the method of " statistical biolocation " . Considered mechanism interaction of light and biological objects is additional to commonly known to include chlorophyll . Lit . - 8 items .

Lasers and medicine is a well - established phrase , behind which it was formed solid scientific , industrial and commercial base . Substantial part laser medicine is associated with the concepts of " laser scalpel " or " laser compress " , implemented according to the clear in their principles photophysical mechanism . This mechanism is based on the local release of thermal energy . on the target . Another possible option - photochemical , has not yet received sufficient practical justification . Meanwhile : biologists and the doctors , trying to to identify the mechanism of action of low-intensity laser radiation , met with difficult to explain by the phenomenon of its high therapeutic activity at levels from cellular , to the organism as a whole . This result is in no way consistent with either photophysical , nor with photochemical mechanisms , for the manifestation of which it is not many orders of energy and (or) power are enough . Interest in such techniques grew even more after discovering the same effectiveness of the more affordable (versus laser) LED light . It became obvious , that the the active principle in these techniques are not the features of the laser radiation as such - monochromaticity , coherence , polarization , small angles of divergence , but simply the flux of optical radiation . Today in medicine a new direction is developing , which can be defined as " light therapy " . However , in all cases, user enthusiasm is constrained by the lack of how much - any intelligible hypothesis about the mechanism of the effect of optical radiation on homeostasis , and inexplicably low reproducibility of results .

We want to examine the hypothesis , which , in our opinion , opens additional opportunities for studying the mechanism of action of light , including including laser , on the vital processes [1]. In accordance with by this hypothesis , optical radiation generates an ultra-weak magnetic field , which , for random (or maybe not !) reasons , turned out to be similar for their manifestations of the human biofield . The source of such a field is the reverse Faraday effect . Recall , that this effect is the phenomenon of magnetization Materials of the international scientific conference . Hosta , Sochi , 25-29 on August 2009 g .

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transparent medium when an unpolarized electromagnetic , including , optical radiation .

In turn , the mechanism of action of the emerging magnetic field on

biological objects are similar to that which is realized in the actions of psychics , healers , hypnotists , radiophysical equipment , geopathogenic zones , heliopathogenic activity and others . The sensitivity of the human body to weak electrical and magnetic fields have long attracted the attention of researchers [2, 3 , etc.]. Fact such sensitivity can be seen as a manifestation of the existence of human specific system of perception of energy field signals from external environment , extra hearing , vision , sensation of temperature and so on . etc. , but characterized in , that these signals are not recorded consciousness [4]. Experimental materials , underlying hypothesis about the mechanism the effect of optical radiation on homeostasis through the magnetic field , obtained by the method of “ statistical biolocation ” and control measurements using the IGA- 1 device [5, 8]. By the term statistical dowsing we denote the results of statistical processing of the readings of dowsing operators (dowsers), which determine the presence or absence of excess relative to the background of the field at a given point in space , give a numerical estimate of its energy intensity and determine the sign according to the criterion of comfort - discomfort .

Since the field signals do not pass through the consciousness of the operator , their registration carried out by unconscious muscle acts that cause movement frame , a plumb , and rings . d . For this reason, the readings of any operator dowsing always have a subjective component . This is especially true for those cases , when the operator tries to " artistically " to interpret it receives results . These circumstances force specialists to be critical of information , received from the operator of dowsing . In the methodology of statistical dowsing the consequences of subjectivity are minimized and can be expressed in numerical form through the value of the reproducibility of measurements . According to this technique in

attended by up to 10 or more operators , trained by unified program . In our experiments, most of them were junior high school students , who did not understand the physical meaning and content the events taking place , did not know the results of each other . Before each operator the task was to determine the presence or absence of a field at a given point space , revealing its intensity in an agreed coordinate system and sign . First, the difference in intensity sensations when placing each operator at the Curri grid point and outside it were equated to 100%. So formed the scale of the field intensity for each operator . To form a unified coordinate systems in intensity and direction were also used said indicator of geomagnetic anomalies . The sign , that is, the direction of the vector field lines of force were determined by the criterion of perception in terms of “ comfort - discomfort ”. The feeling of comfort for the operator was identified with the "+" sign , when the action of the field was considered curative . And vice versa .

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All operators detect a field close to the path of the laser radiation , which they perceive to be similar to the human biofield . That is , they cannot distinguish these fields or qualitatively , not quantitatively . They register such a field at a distance of up to 5 - 7 m from the radiation flux (for helium - neon laser), at points , remote from the location of the laser radiation generator at distances not less than 150 m . The nature of the dependence of the parameters of perception of this field on

power , spectral composition , degree of polarization , radiation mode - continuous or frequency - pulse . However, the main feature is is , that the registered field is alternating and has alternating comfort zones - discomfort , which can be interpreted as the alternation of zones therapeutic and pathogenic effects . Distance between zones , as the distance from the axis of the radiation flux increases from several centimeters to fractions of a meter with a simultaneous decrease in intensity . Alternating fields were found in laser light fluxes at wavelengths 0.638, 1.06, 1.15, 3.39, 10.6 microns and t . d . Similar effects are recorded for luminous fluxes , the source of which is the sun , incandescent bulbs , LEDs are provided , that the radiation has the predominant direction in space , that is , is not scattered . These circumstances confirm the hypothesis about the reasons for high activity and low reproducibility in methods of light therapy , treatment of plants , microorganisms and so on . g ., based on the assumption , that the mechanism of action is implemented through the magnetic field . The electrical parameters of signals , implemented human nervous system still in 1931 year have been summarized in E . D . Adriana [6]:

- Voltage < 15 mV .
- Speed of propagation of a signal ~ 100 m / s .
- The rate of rise of the nerve impulse is ~ 1 ms . Outside this range, the signal is not is registered .
- For the time of pulse generation (~ 1 ms) the detector is “ turned off ”.
- Continuous signal use , ie , coding rate , impossible .

Irritation , that is , the signal strength of the receiving device , registering nerve impulse , depends on the rate of voltage change and on its amplitude , however, the parameters of a single nerve impulse do not depend on the strength of stimulation . Change in the signal-to - noise ratio due to the effect of an external field on the nervous the system changes the content of the command , transmitted by nerve impulses , and hence the mode of functioning of the organism and its constituent parts . Small the distance between the zones of positive and negative impacts leave little chance of creating reproducible therapeutic conditions for such a large object , like , for example , man . Especially in those cases , when the operator is unaware of the existence of such zones . Additional research have shown , that in those cases , when the laser beam with optical elements are directed along a certain trajectory that simulates the work Materials of the international scientific conference . Hosta , Sochi , 25-29 on August 2009 g .

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solenoid , it is possible to separate and localize in space the zones of positive and negative impact . For this, a construction was used , including a system of optical mirrors or , which is more convenient , optical fiber . The use of such devices allows you to stabilize and intensify the results in methods light - and laser therapy [7].

Such devices , under certain conditions , fully compensate for the negative human exposure to geophysical and solar activity , as well as fields radio-physical equipment - computer monitors , televisions , mobile phones, and so on . d . These devices have a mass of 2 to 15 g , power supply from batteries . In healing techniques, it was possible to replace the energy of a psychic with

energy " from the socket ". At the same time it should be noted , that all such impacts are individual in nature and their result depends on the state bioobject . So , for example , is sometimes detected a situation , when, in the same point in space, the field existing there was perceived by one operator as pathogenic , and the other - as a therapeutic . For this reason, the operator , sensing malaise should not take part in testing according to methods statistical dowsing , as its readings may be distorted .

Affect parts of clothing in those cases , when it contains electrically conductive materials , some other circumstances .

The table shows the test results of the above mentioned protective devices , obtained by statistical processing of data from 11 operators who determined the magnitude and sign of the field at different distances from the computer monitor screen , TV , mobile phone . Average deviations of comfort values -

discomfort , given by a particular operator , does not exceed ± 25 units , of those , which are given in the table . The sequence of actions was as follows .

The IGA- 1 device was used to measure the background value at different points in space and the results were correlated with the testimony of the operators . Background values were set to 0.

Then the measurements were repeated with the radiophysical equipment turned on .

Statistically , the field in the direction of the operator always had a negative value and was pathogenic . This is mode 1. Then the measurements were repeated already at switched on protection device , which was located near the source - mode

2. The operator has always registered an increase in comfort relative to mode 1.

The pathogenic effect of the equipment is compensated . Moreover , the mode the formation of a protective field turned out to be " health-improving " for all operators .

According to this technique, for the screens of various television receivers, the efficiency protection $\cong 1$ is obtained for distances from 1 to 1.4 m .

Table .

Distance →

Monitor type →

20 CM .

SVGA

40 CM .

SVGA

60 CM .

SVGA

20 CM .

WTC 401

40 CM .

WTC 401

60 CM .

WTC 401

Mode 1 - 100 - 90 - 30 - 75 - 90 - 60

Mode 2 + 140 + 75 + 40 + 85 + 90 + 65

Efficiency $140/100 \ 75/90 = 40/30 = 85/75 = 90/90 \ 65/60$

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protection $\forall Z = 1.4 \ 0.8 \ 1.3 \ 1.1 = 1.0 = 1.1$

For a mobile phone , it was determined that when positioned " near the ear " , mode 1 corresponds to the value " -180 " , mode 2 " +190 " . Effectiveness of protection $\forall 1$.

The physical meaning of the concept " efficiency " can be determined from the data

the last row of the table . It should be noted , that the regime with the sign "+" does not mean , that it is " wellness " for everyone and everyone .

The hypothesis of the generation of a superweak magnetic field by light and the concept of the mechanism of interaction of this field with a biological object allows to bring into a single system some concepts and methods of " nontraditional " and official systems health care , eliminate their opposition . It turns out to be possible to suggest physical hypothesis , based on the concept of a magnetic field , for explaining many , so called , paranormal phenomena .

Superweak fields have energy characteristics , corresponding changes in the values of the natural background of the natural environment over time , the order of several minutes , the registered device IGA -1. Ie , $< 10^{-12}$ watts . Also energy characteristics , fields , such fields of biological objects , should differ in frequencies in the range of 0.01 - 1000 Hz , characteristic of the processes vital activity , as well as the direction of the vectors of the lines of force , that is, the sign , determining the mode of action " therapeutic - pathogenic ". Specificity of parameters and the increased level of required sensitivity only partially explains lack of instrumental base for registering such fields , which can be identified as " biofields ". Other reasons include the lack of up to the present social order for the manufacture of such devices . At the heart of such absence lies in the assessment of the biofield topic as " pseudoscience " by some scientific institutions , in particular , the Russian Academy of Sciences . Recently, technical means for registering ultra-weak fields are beginning to emerge .

The development of this area of scientific research should lead to the identification new , additional photochemical (for example , chlorophyll), mechanisms in the process of interaction of living organisms with light . It should be noted , that the person is constantly surrounded by a complex cacophony of superpowers , in relation to to super weak , natural and artificial fields . Survive and ok only an organism that has an effective system of protection against overexposure . But any defense has the applicability of the border , which , undoubtedly , are different for the young and healthy organism and for the old and sick . The zone is located in this range. maximum efficiency of light therapy techniques and other methods of exposure with using a magnetic field .

The superweak magnetic field methodology offers new horizons for science and technology , especially important in the life sciences .

Bibliography

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1. Sabinin In . E . , Golenetskii In . With . , Utkov about . II . " About a possible mechanism laser therapy " . " Lasers for medicine , biology and ecology . " // Abstracts reports of the sixth school - seminar - exhibition , St. Petersburg , December 7 - 8 , 1998, p . 35.
2. Kholodov Yu . A . Reactions of the nervous system to electromagnetic fields . / M. , Science . 1975.207 pp .
3. Bengt Knave. Electric and magnetic fields and their effects on health . <http://base.safework.ru/iloenc?doc&nd=857100214&nh=0&ssect=0>
4. Sabinin In . E . , Kravchenko Yu . N . , Lescovar P . " On the question of physical nature the interaction of a weak energy field and a person " . // Sat . works 2 international conference Research , development and application of high

technologies in industry . SPb , ed . Polytechnic . University ,2006, Volume 5 , p . 238 - 242./.

5. Sabinin In . E . Life and light . // LASER - INFORM , M . issue number 6 (189), March 2000, pp . 10 - 12.

6. Adrian E . D . The basics of sensation . / M . Medgiz , 1931.84 p .

7. Golenetskii In . With ., Sabinin In . E . ' A method of producing the field , such for its manifestations of the human biofield and a device for its implementation. " / Pioneer patent of the Russian Federation No. 2187346 Prior . 22.12.1999.

8. Kravchenko Yu . N ., Savel'ev . In . The electromagnetic component of the biofield , its measurement , evaluation and use in medical technology // Reports 5 th International Congress of Bioinformatics . Bioinformation and bioenergy technology (" BEIT -2002"), g . Barnaul 2002 g .