the "law of the crown of tree", return to the Present is possible only if when being in the Past the traveler does not interfere in the course of events and does not change the course of the past History. Otherwise the chronotraveler will return to the parallel Present from the Past by another branch of History. Penetration to the Future from the Present is hampered by the choice of the branch for transference. However return from any variant of the Future into the Present is possible at any scenario if there are no fusions of different variants of History...

In other words, we have a circumstantial evidence of the assumption that Time has more than one dimension. Thus there is an affirmation of the theoretical inferences of R. Bartini who believed that Time has 3 dimensions. Hence we can consider our terrestrial globe as 6-dimensional where the dimensions are: length; width; height; age or date of Time; variant of History or blur of Time; density or speed of Time. Thus the notion of "Arrows of Time" is completely absent in the fourth dimension (date of Time) but it is a special case of the notion of the sixth dimension i.e. speed of Time. At the same time the notion of speed of Time also relates to the physical notions of gravitation and energy. Thus the notion of "Einstein-Rosen bridge", which was introduced in 1916, or notion of "worm course", which was introduced by John Willer in the end of the fifties, are connected with transference in the 5th and 6th dimensions.

Method and Device to Control Temporal Parameters of Physical Processes by Means of Changing of Energy Density of Space

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This invention belongs to the methods and devices to provide control on rate of physical processes (that includes the process of the existence of matter in space-time) by means of increasing or decreasing of energy density of space (i.e. energy density of physical vacuum or density of the aether).

Let us consider the history of the invention:

Earlier there were proposed some methods and devices to influence the rate of physical and chemical reactions, biological processes or period of oscillation of the system. In the works by N.A. Kozyrev [1] there is a description of the experiments on the influence of some process (for example, process of evaporation or crystallization of matter) upon the period of another process, which serves as a detector and can be compared with reference oscillation process. In one case, the rate of oscillations of the detector decreases in the surrounding area near the process of matter evaporation. In another case, the rate of detector oscillations increases in the surrounding area near the process of matter crystallization. If we use a term of "entropy" then it is possible to say that the processes which are accompanied with entropy increasing (for example, conversion of matter from solid state into liquid one) influence on the matter (surrounding processes) in such a way that entropy of systems decreases. In another case, for example, near the process of crystallization, entropy of systems increases in the surrounding area near this process. Kozyrev used the term "wave of density of time" and he made a conclusion that in addition to "directivity" of time (time course) there are active properties of time, for example, "density of time".

To develop this approach for applied purposes it is necessary to use in-depth analysis of the physical sense

of the "time density" notion. Connection of notions about "time directivity" and "entropy of the system" was demonstrated in the work "Introduction into thermodynamic of irreversible processes", 1964 by Ilya Prigozhin [2]. In the work "Quantum fluctuations of vacuum in curved space and theory of gravitation" by A.D. Sakharov [3] the conception of vacuum structure was suggested. In the USA the work "Can the vacuum be engineered for space flight applications?" by H.E. Puthoff [4] is well-known. The author considered the applied aspects for study of vacuum structure and described the method and device to obtain propulsive force by means of changes in vacuum properties.

A substantive conception of time and methods for creation of waves of energy density were also considered by Prof. K.P. Butusov in the work "Time is a physical substance", 1991 [5]. In the book "What is The Time?" by Yu. G. Belostotsky [6] the connection between the notions of time and aether was demonstrated. This connection was considered from the point of view of astrophysics there.

We can also say that the modern conception of aether is successfully developed by V.A. Atsukovsky in his works [7].

In my articles, for example, "Physical principles of the Time Machine" [8], it was demonstrated that to develop experimental works on the topic it is useful to clarify the terminology and to consider **"waves of time density" as longitudinal waves of energy density in space.** In this case the notion of "time density" has a physical sense of energy density (aether density).

This approach can be realized practically by means of classical electro-technical and radio engineering methods and it is a development of aether-dynamical conception on the nature of electricity and magnetism by M. Faraday, "Experimental researches on electricity", volume 3, [9].

Let us consider a usual bipolar magnet from the point of view of aether-dynamics. Then it is possible to say that it is inflow and outflow of aether, i.e. it is a balanced energy system which does not change energy density in space. In this case it is evident that creation of magnetic monopole or modeling of quazi-monopole by means of electro-dynamical methods is a technical basis to create some local change of energy density in space.

Electric processes could also be used alongside with the magnetic phenomena. For example, in another book "Symmetrization of Maxwell-Lorenz equation" by Prof. Butusov [10] the creation of longitudinal wave was also

considered. It was demonstrated that an electrically charged sphere can radiate longitudinal wave when the sphere radius is changing, i.e. when its surface is changing while the value of electric charge is constant.

One more well-known method is described in the book "Experimental gravitonics" by Polyakov [11]. There is a consideration of the generation of gravitational waves at the high-frequency magnetization and demagnetization of ferromagnetic material, i.e. at the powerful volume magnetostriction. Since at this phenomenon there are changes of matter density (i.e. changes of energy density in space, which is occupied by matter), then volume magnetostriction is a special case of changes of energy density.

Earlier Vadim A. Chernobrov had described a method and device to control temporal characteristics of physical and chemical processes by means of creation of the magnetic monopole (quasi-monopole). In this magnetic mono-pole there is a convergent wave, which is created by several sources situated in the spherical frame. According to this method in the multilayer spherical structure where every layer (the so called "electromagnetic work surface") is an assembly of electromagnets, by means of series connection of the layers the wave is created, which converges to the center of the device. The device has the same outside magnetic poles of the electromagnets (and the same inner poles) and thus a model of macroscopic magnetic monopole is created.

We assume that at in-phase operation of all sources of waves, interference of longitudinal waves provides some change of value of energy density of space in the focus of the system.

Experimental facts prove that detectors installed in the center of the device (for example, mechanical or electromagnetic oscillators) show change of period in their own oscillations. We have protected them by shielding them from heat radiation as well as from other kinds of electromagnetic influence. Thus it is possible to assert that the detectors decelerate or accelerate their oscillation period depending on the energy density, which is generated in the center of the device.

However for the experiments made by means of such a device, accurate adjustments of all wave sources are required to provide their in-phase operation. At the same time, operational stability of the system depends on the operational stability of each of the wave sources. Increase of the impulse frequency causes increase of

the effect; however, it is limited by the parameters of electromagnets and generator of impulses. Besides, to increase the effect it is necessary to use more powerful energy sources since the current in the windings of electromagnets determines the value of the magnetic field of the created quasi-monopole.

Since the efficiency of such systems directly depends on the frequency and the value of changes of energy density in space, then in the next version of realization of this technology we suggest using of plasma shells instead of electromagnetic working surfaces. This will allow significant improvment in the specific parameters of the device.

Thus let us consider general engineering principles of operation and outline the ways to develop this method. Fig. 1 represents a three-layered electromagnetic emitter. This electromagnetic emitter is designed according to the invention in which the directed radiation of wave of energy density is created along the axis of the device.
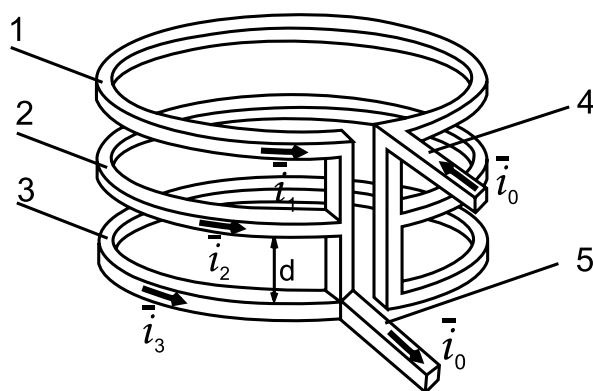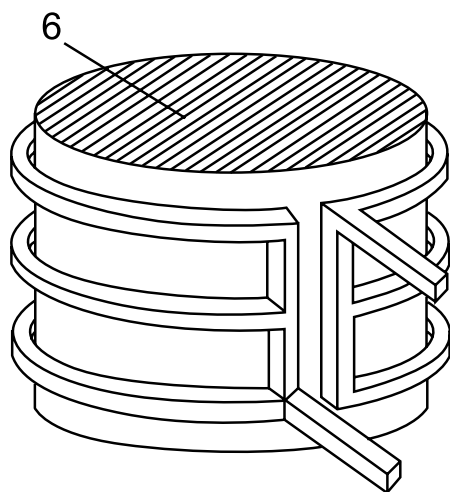

Fig. 1
Three-layered electromagnet

Fig. 2
Three-layered electromagnet with ferrite core

The device is designed according to the idea by Vadim A. Chernobrov for creation of the directed wave of energy density by means of phase shift in propagation of impulse front in three current branches, namely i_1, i_2, i_3. These branches are displaced along the electromagnet axis at some distance d.

The device works in the following way. When the pulsed generator is activated, front of current pulse i_0 appears at the output 4. Impulse front at branch 1 advances impulse front at branch 2 that is caused by spatial shift of current branches 1, 2, 3 relatively to each other along the electromagnet axis at the distance d. Impulse front at branch 2 in its turn advances impulse front at branch 3 for a certain time T. The second output of the electromagnet 5 is placed in such a way that impulse front at branch 1 will phase lag behind the impulse front at branch 2 (which in its turn will phase lag behind the impulse front at branch 3) for the same period of time T. Therefore at branch 5 the united impulse front is generated again.

Time T can be calculated in the following way:

$$T = d/c \text{ (seconds)} \qquad (1)$$

where c is a constant of propagation of impulse front. This constant is known as velocity of light.

At each impulse the T (i.e. the value of relative lag of impulse front) is a constant value. Thus high-frequency consequent excitation of layers of the electromagnet appears at each impulse. The frequency of the excitation is calculated in the following way:

$$f = 1/T \qquad (2)$$

where T is relative lag of impulse front in seconds.

There is an example of frequency calculation: for the shift distance d=7 mm we can calculate a lag $T = (7/2.997924) \times 10^{-11} = 2.335 \times 10^{-11}$ (seconds) and frequency f=1/T approximately comes to 4.28×10^{10} (Hertz).

Thus this design of three-layered electromagnetic emitter allows creating the waves of super-high-frequency band (for example of millimeter range) without the use of a semiconductor or other radio components.

It is very expedient to use the electromagnets designed with magnetostrictive material cores, that will significantly increase energy density of the longitudinal

wave, which is generated by the multilayer electromagnet. In Fig. 2 there is an emitter with the core. In the case of high-frequency ferromagnetic magnetostrictive materials 6 the efficiency of emitter operation significantly increases.
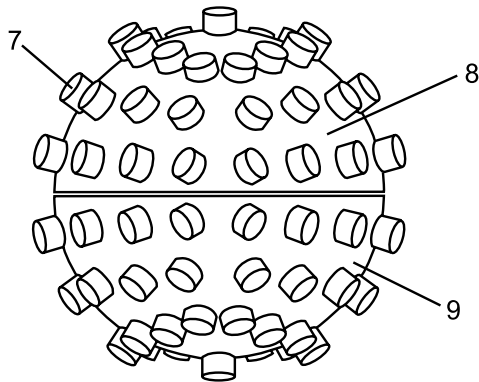

Fig. 3
Spherical design

Fig. 3 represents the spherical distribution of emitters 7 at the upper 8 and lower 9 hemisphere of the frame which could be opened in order to place detectors and different objects inside. It can also allow to establish in what way the changes of density of space energy influence the properties of different materials, velocity of physical and biological processes as well as chemical reactions. The installation of detectors 10 inside the device is shown on Fig. 4.
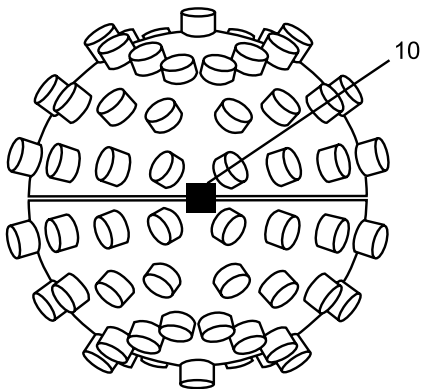
Fig. 4
Detectors inside the system

Another version of design is represented in Fig. 5, where the suggested method is realized by means of a spherical electric capacitor with three coats 11, 12, 13. Each capacitor coat is connected to the outlet of three-phase pulsed generator 14.
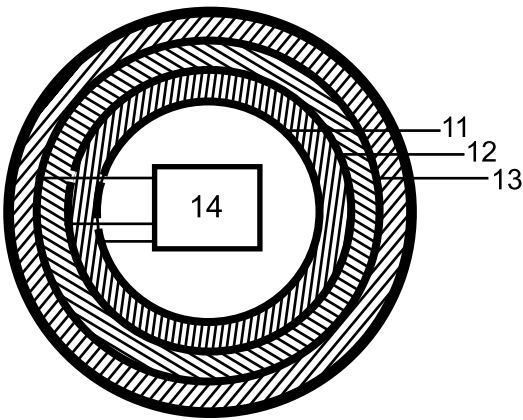
Fig. 5
Three-layered spherical capacitor

In this case the wave of energy density is created without electromagnetic emitters and this principle is not related to the modelling of magnetic quasi-monopole. The device operates due to the control unit, which provides the high-frequency changes of electric potential at each coat in such a way that the mode of high-frequency converging or diverging wave of energy density is created. In fact it is a standard three-phase generator but it produces not the rotation of the rotor of some electromotor but **"compression" or "decompression" of aether.** Aether is "pumped" in the center of the device or "pumped out" of the center.

In this case there is no need to tune separate sources of waves to make the device work in in-phased mode. It ensures reliability of the device operation if to be compared to the quasi-monopole. Besides, much less energy is necessary for the processes of charging and discharging of multi-layer spherical electric capacitor than for creation of magnetic field by means of conductivity currents.

Since the efficiency of such systems directly depends on the frequency and value of changes of energy density in space, we suggest the use of plasma shells instead of electromagnetic work surfaces for the next version of the device. It will allow significantly improvment in the specific parameters of the device. For that it is enough to place the electrodes of the multi-layers capacitor in a low-pressure gas area and these electrodes should be made as gauze electrodes. At that the wave is created in plasma, which is excited layerwise by several gauze electrodes placed in a spherical space between the inner and outer spherical bodies of the device. Therefore this version of design of the device can be considered as **the manipulation of the plasma method.**

Fig. 6 is a plan of one more design version. It is made as an inner frame 15 and outer frame 16, the space between them is filled with some gas 17. Three electrodes 18, 19 and 20 are connected to the three-phase pulsed generator 21. **Consequent excitation of plasma layers by electrodes 18, 19 and 20 creates the wave of energy density.** Propagation of this wave can be directed both to center of the device and from the center of the device.
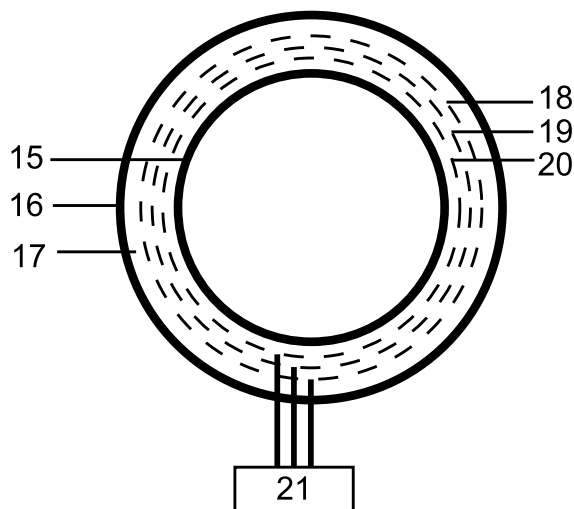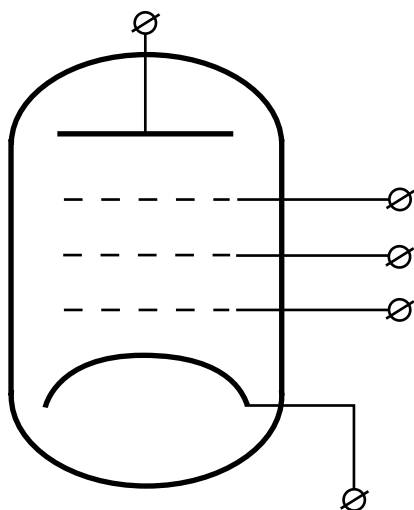

Fig. 6
Wave in plasma

Fig. 7
Schematic electric circuit

In Fig. 7 there is a schematic electric diagram of the design.

To conclude. The work on time control has just started. We have clearly determined the main physical principles of operation of such devices, which can change the aether density in some given volume of space and thus influence temporal parameters of any physical process. The small experimental results today allow us to make real positive condusion on availability of this method and on the possibility of its practical application in applied aspects. The first aspect is antigravitation propulsion technology and we are developing the methods to detect mass (weight) changes in the time control experiments to prove this applied possibility. Another area is medical applications of the changes in the aether density.

Russian Federation patent claim #2003110067 was filled April 9, 2003. At present time we are interested in marketing for this technology as well as in search of additional investment and partners.

References

1. N.A. Kozyrev, Selected works, Leningrad State University, 1991
2. I. Prigozhin, Introduction in thermodynamics of irreversible processes. M., 1964
3. A.D. Sakharov, Quantum fluctuations of vacuum in curved space and theory of gravitation, Reports of USSR Academy of Sciences, vol. 12, 1968, p. 1040
4. "Can the vacuum be engineered for space flight applications & Overview of theory and experiments", Dr. H.E. Puthoff, Infinity Energy, July-November, 1997
5. K.P. Butusov, Time as physical substance. Collection of articles "Problems of space and time in modern natural science", Issue 14, L. 1990, pp. 301-311
6. Yu.G. Belostotsky "What is The Time?" Saint-Petersburg, 1991
7. V.A. Atsukovsky "General etherodynamics", M., 1990
8. A.V. Frolov, Physical Principles of The Time Machine, New Energy Technologies #3(6), pp. 8-10, Saint-Petersburg, 2002
9. M. Faraday, Experimental researches on electricity, vol. 3, M. 1959
10. K.P. Butusov, Symmetrization of Maxwell-Lorenz equation. Problems of Space and Time in modern natural sciences, vol. 15, L. 1991
11. S.M. Polyakov, O.M. Polyakov "Introduction in experimental gravitonics", pp. 58-59, M. 1991
12. V.A. Chernobrov "Mysteries of Time", M. 1999