

## Opinion 1. Transgeneratsiya.

False step more than once led to the discovery of new roads. (Leszek Cumorah)

### Transgeneratsiya electromagnetic field energy

*The essence of the research:*

The main area of research is the study of theoretical and technical possibility of creating devices generate electricity through an open process, the author of a physical transgeneratsii electromagnetic field energy. The essence of the effect lies in the fact that the addition of electromagnetic fields (constants and variables) are added no energy, and the field amplitude. The field energy is proportional to the square of the amplitude of the total electromagnetic field. As a result, the simple addition of the energy fields of the total field can be many times the energy of the initial fields separately. This property of the electromagnetic field is non-additivity of the energy field. For example, when added to a stack of three flat circular permanent magnet energy of the total magnetic field is increased to nine times! A similar process occurs with the addition of electromagnetic waves in the feeder lines and resonance systems. Total energy of a standing electromagnetic wave can be many times greater than the energy of waves and the electromagnetic field to add. As a result, the total energy of the system increases. The process is described by the simple formula of energy fields:

$$W_n = \frac{V_0 \cdot \omega_0}{2} = \frac{V_0 \cdot E^2 \cdot \epsilon_0}{2} = \frac{H^2 \cdot \mu_0 \cdot V_0}{2}, \text{ где}$$

$W_n$  - энергия электромагнитного поля;

$\omega_0$  - объемная плотность энергии поля,

$V_0$  - объем поля.

With the addition of three permanent magnet disc volume decreases in the field three times, and the volumetric energy density of the magnetic field increases to nine times. As a result, the energy of the total field along the three magnets is three times as much energy of the three separated magnets.

With the addition of one volume of electromagnetic waves (in the feeder lines, resonators, coils, and there is an increase of the electromagnetic field compared to the original).

Electromagnetic field theory demonstrates the possibility of generating energy from the transfer (trans-) and the addition of electromagnetic waves and fields. The author's theory of electromagnetic fields transgeneratsii energy does not contradict the classical electrodynamics. The notion of a physical continuum as a super-dense dielectric medium with a huge mass of latent energy leads to the fact that physical space has energy and transgeneratsiya not violate the full law of conservation of energy (including energy environment). Nonadditivity of the electromagnetic field energy shows that for the electromagnetic field a simple implementation of energy conservation is not happening. For example, in theory, the Poynting vector Umov Poynting vector addition leads to the fact that the sum electric and magnetic fields at the same time. So, for example, when adding three vectors Pointing, Pointing vector increases the total to nine times, not three, as it seems at first glance.

*Research results:*

The possibility of obtaining energy from the addition of electromagnetic waves were studied experimentally in studies of various types of feeder - waveguide, two-wire, strip, coaxial. Frequency range is from 300 MHz to 12.5 GHz. Power was measured both directly - power meter, or indirectly - detector diodes and voltmeters. As a result, when certain settings in the feeder lines of positive results. With the addition of field amplitudes (in load) dissipated power in the load exceeds the power fed to different channels (using power dividers). The most simple experiment to illustrate the principle of addition of the amplitudes, is an experiment in which three-phase antenna narrowly focused work on one reception room, to which the power meter. The result of this experience: power recorded by the receiving antenna to nine times greater than that given by each transmitting antenna at a time. On the receiving antenna, the amplitudes (three) of the three transmitting antennas and receiving power is proportional to the square of the amplitude. That is, if the addition of three-phase amplitudes of the power receiving increased nine times!

It should be noted that the interference in the air (vacuum) is a multi-phase, a number of features different from interference in the feeder lines, cavity resonators, standing waves in the coils, etc. The so-called classical interference pattern is observed as addition, subtraction and amplitude of the electromagnetic field. Therefore, in general, in a multiphase interference violation of the law of conservation of energy has a local character. In the cavity or in the presence of standing waves in the feeder lines, the imposition of electromagnetic waves are not accompanied by a redistribution of the electromagnetic field in space. In the half-wave resonators and quarter is only the addition of field

amplitudes. Energy composed of one volume of waves is the energy from the generator of the past into the resonator.

Experimental studies fully confirm the theory transgeneratsii. From the practice of microwave know that even with a conventional electric breakdown in a power feeder lines exceeds the power supplied from the generator. For example waveguide, designed for the microwave power of 100 MW, making its way by adding the two microwave power of 25 MW each - with the addition of two counterpropagating waves in the microwave waveguide. This can occur when the microwave power reflected from the end of the line.

Developed several original concepts for the generation of energy using different types of interference. The main frequency range - this meter and decimeter (MW), up to a centimeter. On the basis of transgeneratsii you can create a compact stand-alone energy sources.

## **Common-mode interference of electromagnetic waves and transgeneratsiya energies.**

The limits of science are like the horizon: the more suited to them, the more they recede.

Pierre BUAST

The essence of the research: obtain convincing theoretical, computational and experimental evidence for the possibility transgeneratsii electricity from non-additive (non-linear) properties of the energy of electromagnetic fields and waves. The experiments are quite simple and easily reproducible in any special laboratory. This work is the development of some interesting ideas about the physics of Tesla radio and the possibility of generating energy from non-linearity of the energy field. The work is not contrary to modern physics, electrodynamics, well grounded in theory.

### **Energy Technology.**

#### **Common-mode interference of electromagnetic waves and transgeneratsiya energies.**

According to classical electrodynamics of Maxwell and the theory of electromagnetic fields and waves, the interference of waves in space is not a simple summation of the wave energy, and a more complex process. At the interference maxima of the intensity of the resultant wave is greater than the intensity of the incident waves and the interference minima less than their sum. Under the intensity here refers to the energy of the electromagnetic field.

The interference of the amplitudes are added and subtracted the electromagnetic field. A field energy is proportional to the square of the amplitude of the resulting electromagnetic field.  $W \sim A^2$ . When we add two amplitudes of the oscillations increases the energy of four times, and not simply the sum. When you subtract two equal amplitude oscillations resulting energy becomes zero. The law of conservation of energy in the interference of locally disturbed, but generally over a large volume space addition and subtraction of electromagnetic waves mutually compensate each other arcs, and the total energy - the sum of the energies of all the interfering waves.

Locally, a violation of the law of conservation of energy is due to the fact that when electromagnetic waves are formed resignation not the energy of waves, and only the amplitude (intensity) of the electromagnetic field. The energy of the resultant wave is proportional to the square of the resulting amplitude (intensity  $E$ ,  $H$ ). Visual experience: if you take two or three narrowly focused (eg, horn) antennas and cophasally send them to the receiving antenna connected to the power meter, the power at the receiving antenna will increase not in 2 - 3 times as compared to one transmitting antenna and a 4 - 9 times, respectively. One of the conditions of the experiment - the antenna should not interfere with each other over the air or feeder line. Such experiments have repeatedly staged by the author. The question of why the power at the receiver antenna increases to 9, but not three times in three transmitting antennas? The fact that the receiving antenna is three times the induced emf increases, while the power is proportional to the square of the voltage.  $P = E^2 / R_H$ , where  $E$  - EDS,

RH - the load resistance. Therefore, the power at the receiver antenna increases to nine times, not three times, as you might think. The usual classical interference is a multi-phase - in different regions of space electromagnetic waves are formed in different phases, where some are added, subtracted somewhere. Overall, therefore, these two effects cancel each other and the energy increment is not happening. However, there is the so-called common-mode interference, in which occur only addition (in-phase) amplitudes of electromagnetic waves in the load. In this case the load generated by the additional energy in the form of heat or electricity.

Common-mode interference of electromagnetic fields and waves are for example, in a cavity, - volume, dielectric coaxial, as well as the formation of standing waves in the coils (aka Tesla transformers). In this radiomagnetic waves are formed strictly in phase (in phase) in the cavity. If we consider the transition process in the ideal (no loss of attenuation) of the cavity, you'll find a very interesting energy effect. The amplitudes of radio waves included in the cavity are summed arithmetically (loss), but the energy inside the cavity is proportional to the square of the amplitude (intensity) of the electromagnetic field. The energy absorbed by the cavity during the transition process increases linearly. Since the amplitude of the resonator increases linearly with the energy increases quadratically, ie energy in an ideal (without damping) of the resonator increases due to non-linearity is much faster than the energy consumed by the generator, through the feeder line. Since the feed line longer than the radio waves then the generator and the cavity is completely separated.

This feature energy resonators can be used in special devices with high-frequency discharge of energy from the resonator to the load.

A number of schemes, they are patent applications R.S.T. The principle of operation is well demonstrated and proved mathematically.

Consider the experience. In a rectangular waveguide is dielectric loading. The load may be water. At this dielectric loading on both sides fell two microwave - the wave. Load parameters are chosen so that the two electromagnetic waves is almost completely absorbed in the load. This load is called consistent. Dimensions of the load as well podobranny so that the amplitude of the electromagnetic waves overlap each other and add up to a load. Since the amplitudes are added, and the power is proportional to the square of the amplitude  $W(P) = E^2 / R = T^2 R$ ,  $P_m \sim E^2$  then load power is greater than the sum of two electromagnetic waves incident on the load on both sides. For example, when applying to two channels of power in  $W_1, 2 = 100$  W, a total of  $100 + 100 = 200$  watts. In part overlapped with the load amplitude was measured power in the range from 200 to 400 W "300 watts average, at frequencies from 2-104 Hz in different waveguides  $f_n = 2 \cdot 10^4$  Hz power in the load exceeded the capacity of the load from falling on 2 sides by 1.5-2 times. This result is a consequence of the common-mode interference of microwaves (SHF) in the feed line. As a feeder line may be a waveguide: a strip or coaxial line, and even two-wire line.

In each of these feeder lines the physical processes taking place under the same laws. For example, two eternally traveling electromagnetic waves form a standing electromagnetic wave. In a standing electromagnetic wave, the amplitude of the direct and counter electromagnetic waves add up, if they are equal, then the electric and magnetic field is doubled.  $E_1, 2 = E_1 + E_2$  and  $H_1, 2 = H_1 + H_2$  H0 electromagnetic power running and standing electromagnetic wave is proportional to the square of the electric field:  $P = E^2$ , in a rectangular waveguide for microwave waves H10 power of the electromagnetic wave is given by:  $p_{cp} = E_0^2 \cdot a \cdot b / 4 \cdot Z_c \cdot (1 - [L/2a]^2)^{1/2}$ , where a and b dimensions of the waveguide, Z - impedance feeder, L is the wavelength of the microwave, where  $E_0$  - peak value of the electric field - power. So we see that for the addition of two opposite-traveling electromagnetic waves resulting electromagnetic wave power increases by four times. This leads to the fact that electrical breakdown in the feeder lines are for non-additive energy law. For example, at a wavelength of  $l = 30$  cm in a rectangular waveguide (air-filled) electrical breakdown should occur at maximum power:  $R_{pred} = 112$  MVt. But the breakdown occurs when the power  $P = 28$  MVt reflected from the end of the feed line. In sum, the power of the direct wave  $R_{PR} = 28$  MVt and reflected  $R_{otrou} = 28$  MVt, for a total of all  $R_{PR} + R_{otrou} = 56$  MVt, which is clearly insufficient for electrical breakdown. But due to the fact that the energy of electromagnetic fields and waves, non-additive, power forward and backward waves do not add up arithmetically, and quadruples, then there is an increase of power of the resulting electromagnetic wave to  $P = 112$  MVt. This proves that the energy of the electromagnetic field and waves simply do not add up arithmetically, by the law of conservation of energy.

Is this the theory of electromagnetic fields? Consider the possibility that a simple physical model. There are three volumes of the electromagnetic field.

Conventionally considered to be the energy of each volume (cube)  $W = 1$  J. There are three level of 1 J. Total has  $W = 1 + 1 + 1 = 3$  Dz. Thus, the initial energy  $W = 3$  Dz. Now add all three volumes of the electromagnetic field in a volume so that the vector of the electromagnetic field formed in a volume in phase. In this case, the electromagnetic field strength will increase by three times, and the volume of the field is reduced by 3 times. Direct or alternating electromagnetic field has no value. The electromagnetic field strength increased with the addition of the fields three times. The field energy is given by:  $W = V_0 \cdot w = (V_0 \cdot E^2) \cdot e_0 / 2 = V_0 \cdot (N^2) \cdot p / 2$ , where W - electromagnetic energy  $V_0$  - volume of the field, w - volumetric energy density of the electromagnetic field.  $w_0 = (E^2) \cdot e_0 / 2 = (H^2) \cdot m_0 / 2$ .

As already mentioned, the volume of the field has decreased by three times, and volume energy density has increased by 9 times. The

result is that the total energy of the resulting electromagnetic field has increased three times and is 9 J, and not 3 G. This is three times the original amount of energy. As can be seen, the addition of electromagnetic fields leads to additional energy field. It logically follows from the fact that the energy of the electromagnetic field - non-additive quantity. Therefore, in addition electromagnetic fields and waves consist of electromagnetic field, rather than energy fields. This is true for waves, and for constant fields. For example, if you take three flat circular magnet, everyone - the magnetic field energy to 1 J, and put them in a flat stack, then the magnetic fields of the magnets will form, and the magnetic field will increase by three times, and the energy of a magnetic field - nine times. If a stack demagnetize, the magnetic energy can go into a contour surrounding the magnet, and the energy will be released three times more than was spent on the magnetization of the three magnets individually before joining. This result does not contradict the theory of the field as the energy fields do not add up arithmetically, and the energy conservation law in the arithmetic (additive) form of the electromagnetic waves and can not be applied in principle.

Experimental evidence of the possibility of obtaining energy from the addition of electromagnetic fields and waves at the load. Created more than thirty circuits devices. The invention has applications for patents, including the PCT. Possible development of devices for more energy, such as water heaters and other heat transfer fluids, as well as to convert the microwave energy waves into DC power, etc.

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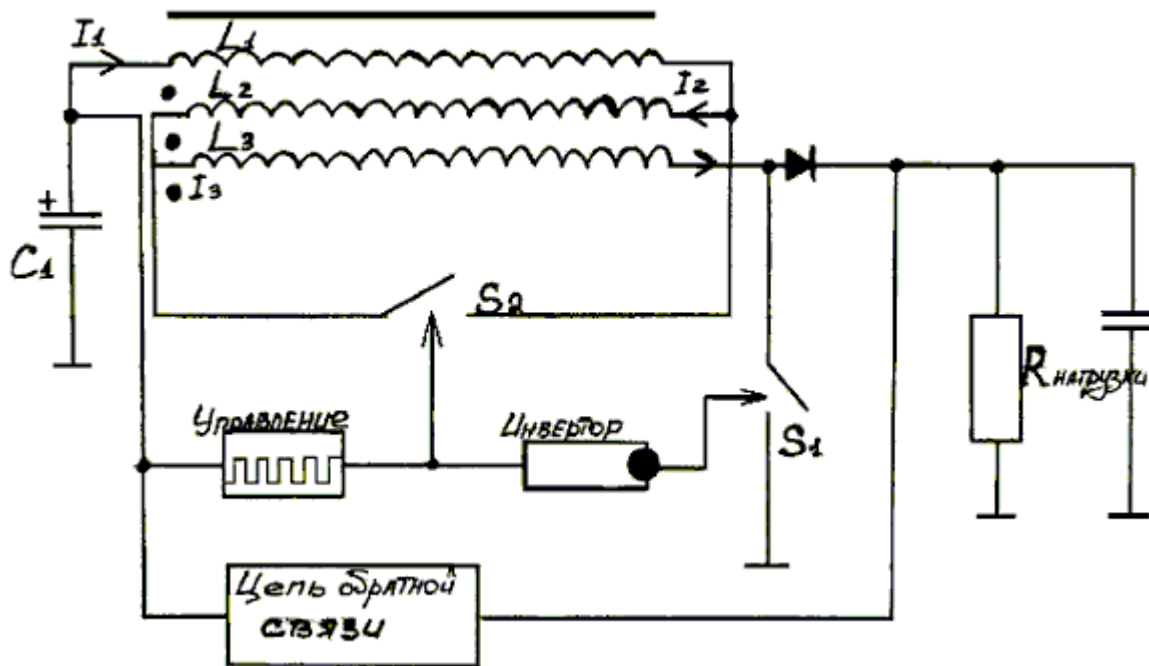
## A working model by Valery, free-energy@list.ru.

Improving the coach, you can create the perfect coach, but first-class car - barely. (Edward de Bono)

### Energy generator in the nonlinear inductance

Developed and assembled the unit with an efficiency of greater than 1. Working in self-maintaining, with the releasing enormous amounts of energy it takes to glow lamps. Valery. free-energy@list.ru

#### Блок схема преобразователя энергии



At time t1: current from the charged capacitor C1 in advance is flowing through the L1 - L2 - L3, with the switch S1 is closed. In this case S2 open: For since the L1 and L2 are included counterphase (the accumulation of energy in the L1 and L2 is not happening, since their magnetic fields cancel each other), the accumulation of energy takes place in the coil L3

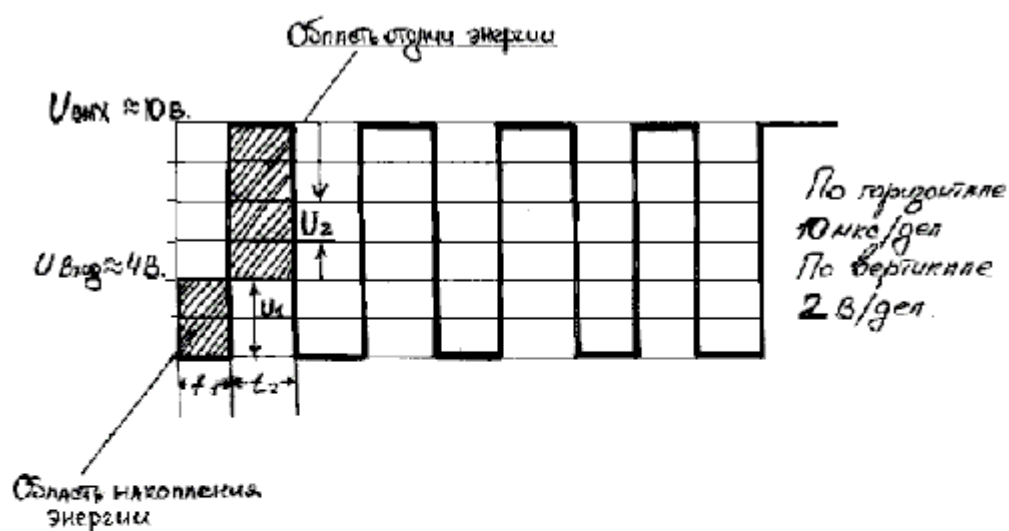
At time t2: opens and closes switch S1 switch S2. This raises the voltage in the coils L1 and L3 (S2 on how much is closed) coils L1 and L3 are included on in-phase (antiphase inclusion in the EMF is subtracted, and the in-phase sum)

Since the current in the coils of the same, we believe the resulting voltage in the time t2 is twice bolsheypo to the accumulation of energy expended at the time t1.

As used herein, includes one one cycle of the coil. The control circuit provides the repetition of the process described above.

The feedback circuit returns a portion of the received power at the input of the circuit for the next cycles. The resulting increase in power consumed R - load.





Параметры импульсов подобраны так, чтобы  $t_1 = t_2$   
(это определяется схемой управления)

$$W_1 = P_1 t_1 \quad W_2 = P_1 t_2 \quad \text{поскольку } t_1 = t_2, \text{ то } \frac{W_1}{W_2} = \frac{P_1}{P_2} = \frac{U_1}{U_2}$$

$$\text{если } I_1 = I_2, \text{ то } \frac{W_1}{W_2} = \frac{U_1}{U_2}$$

