**Research Paper**

# Great Law of Thermodynamic (Entropy S + Counter-Entropys *) = 0

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Annotation
Ludwig Boltzmann - the author of statistical Thermodynamics - discovered a simple law that postulates the high probability W of the real existence of Entropy S of the thermal energy of all bodies of the Universe $S = kLnW$
Analyzing the properties of the "New Ether" - cosmic microwave background radiation - [1], the author of this book discovered signs of the real existence of Counter-entropy

$$= -kLnW$$

which replenishes the loss of thermal energy
(Entropy S + Counter-entropy S *) = 0
and thereby eliminates the danger of thermal death of the Universe.
As a result, infinite ultraviolet divergences disapear in the quantum field theory and there is no need for a renormalization theory
In this case, the hypothesis is confirmed
Photon - gravity Structures of the material space of the Universe and all its bodies, both in macro - and micro - regions, whose nuclei of 99.97% consist of protons and neutrons, [2].
In this case, the atoms of the substance of the universe, all the elementary particles and the Space-Time in which they inhabit, receive a single basis from the pulsating cold dipoles of light and dark photons that are pulsating in antiphase, the rest mass parameters are described on the Internet,
Yvsevolod-29.narod.ru/, article number 34.
Here is the realization of Epicurus Theory of Knowledge:



(341-270 bc)
which wrote:
*" Are exist the Streams from the surface of the bodies, which are invisible due to the opposite filling."*

## Part 1

**1.1 What is The space of Universe?**
   In the twentieth century, it was considered that the more insanity in theory, the more valuable it is.On this wave of insanity, the theory of the explosion of a superdense point in the Void was born - the Big bang theoryThis theory gave birth to a new insane theory - M-theory and the theory of twelve-dimensional empty space. Here a big problem arose for theoretical physicists - how to combine all these theories with fundamental

interactions (gravitational interaction, electromagnetic, weak and strong) into a single theory - in the theory of Total There is an applicant for such a theory-Theory of superstrings.

The theory of superstrings includes the M-theory, which has eleven dimensions. And one more version of it - F-theory - all twelve dimensions.

It is generally accepted that only the Big Bang theory explains the fallacy of the paradox of the flaming fire of heaven - the Shezo-Olbers paradox.

All modern absurd torii and hypotheses owe their origin to Albert Einstein,

who in 1910, in [3], proclaimed the postulate Empty space.

Despite the fact that in 1920, Einstein abandoned this postulate, see [3], he gave a great service to the learned world:

On the basis of this postulate, a Standard Model of Physics was created and a model for the creation of the Universe was constructed by exploding asuperdensepoint in the empty-

Theory of Big bang.

Thousands of scientists theorists and experimenters are trying unsuccessfully to catch the main particle of the Standard Model - the Higgs boson on giant accelerators, for which they receive the Nobel Prizes.

In 1976, Hawking S.W., in [4], wrote:

"Indeed, in any quantum-gravitational situation, there is the possibility of the appearance of virtual black holes that arise from Nothing, and then disappear again."

In fact - everything is simple, if you follow the theory of "New Ether", [1].

At the level of motion of molecules and atoms of matter in the universe, the law of dissipation of thermal energy acts - the law of Ludwig Boltzmann:

$$S = kLnW$$

At the level of motion of the particles of the "New Ether", the previously unknown law of VsevolodYarosh, acting in the opposite direction, operates:

$$-S^* = -kLnW$$

As a result, the action of the previously unknown fourth Law of Thermodynamics takes place:

Entropy S + Counter-entropy S * = 0

Consequently, the universe has always been, is, and will always be in thermal equilibrium.

This is the essence of the previously unknown Fourth law of thermodynamics

The Earth, its atmosphere and its physical fields, as in a drop of water, reflect the Universe, the Space of which is Matter.

The space of the universe is a suitcase that can seem natural and empty to the naturalists. An empty suitcase in terrestrial conditions is in fact - Full, for it is filled with air.

This simple Truth was well understood by Descartes, who claimed «quantum in se est» -

"Space is the only form of matter, and all existing objects are only manifestations of the Cosmos"Space is the only form of matter, and all existing objects are only manifestations of the Cosmos»

But Clerk Maxwell did not understand, [5].

This book is devoted to proving the materiality of Descartes' Space, which in our time is usually called Vacuum physical.

Atmosphere of the Earth,The Darkness and The Light - Physical Vacuum fluctuations. Inhaling and exhaling air, we inhale and exhale Vacuum physical, the energy of which nourishes our hearts.

The Vacuum of Physics - is a continuum of a common single
physical Space-Time structure of the Universe.

*The energy density of physical vacuum is very high:*

$$\omega^* = 3 \cdot \frac{\Delta E_A^*}{\Delta V_A} \cong 2.05 \cdot 10^{33} \, \frac{\text{erg}}{\text{cm}^3} \cong 2.289\,326 \cdot 10^{12} \, \text{g/cm}^3$$
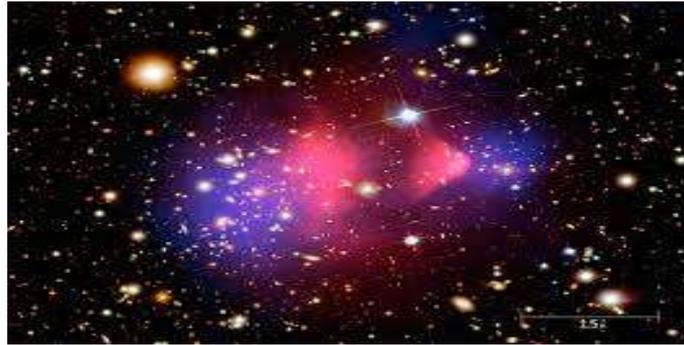
Density of ether Gravity

$$\omega_G = 1.3468529 \cdot \frac{10^{28}\,\mathrm{erg}}{\mathrm{cm}^3} = 1.498575955 \cdot 10^7\,\mathrm{g/cm^3}$$

as Density of ether Dark

$$\omega_D = 1.3468529 \cdot \frac{10^{28}\,\mathrm{erg}}{\mathrm{cm}^3} = 1.498575955 \cdot 10^7\,\mathrm{g/cm^3}$$

are components The physical energy density of physical vacuum.
These density of continuum of Space-Time emit cosmic
microwave
background radiation, the density of which:

$$\omega_{br} = 4.0015 \cdot \frac{10^{-13}\,\mathrm{erg}}{\mathrm{cm}^3} = 4.4522692 \cdot 10^{-34}\,\mathrm{g/cm^3}$$

Fourth law Thermodynamics (The second law of thermodynamics plus Against Entropy) - is the foundation of nonequilibrium thermodynamics and symmetry hidden mass of the Universe. Our Universe - open thermodynamic system. The thermodynamic open systems actively interact with the environment, and the observer traces this interaction is not fully,it is characterized by high uncertainty. However, any of the open thermodynamic system is disclosed, if known digital basis photonic - gravity of the global structure space of Universe.The role of such a basis system performs three units of physical quantities VsevolodYarosh ,[6]:

Unit of mass-energy

$$\mu_{оя} = 2.6136368 \ldots \times 10^{-48}\,\mathrm{g}$$

Unit of length

$$r_{оя} = 1.6409300 \ldots \times 10^{-21}\,\mathrm{cm}$$

Unit of time

$$\tau_{оя} = 5.4735533 \ldots \times 10^{-32}\,\mathrm{s}$$

through which it expresses the speed of light

$$c = \frac{r_{оя}}{\tau_{оя}} = \frac{L^*}{T^*} \ ,$$

physical units of the Max Planck$(M^*, L^*, T^*)$ , all fundamental constant , all the parameters of the standard atmosphere and the parameters the structure DNA diploid cell human genome .

We are people and the whole fauna and flora of the planet Earth, as well as all the bodies of the Universe, are dissipative structures that are created from pulsating dipole photons of Light and Darkness:
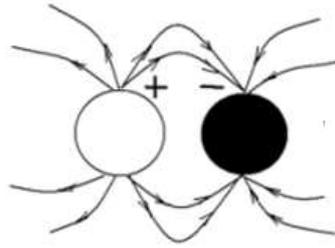
**Fig**.1

To turn into Ashes and Chaos from particles of Darkness, from which new the ордер is born in the world of new dissipative structures.

All the dissipative structures of the Universe are Fuel for the Fire of the Stars, the photospheres of which emit Light.

Below I present a graphic picture of the rotation of the material events of micro and macrocosmos, which are subject to the universal law of Symmetry to motion real the bodys, which have mass m, impuls and quantitys of motion:

$$I = (F \cdot t = mv)$$
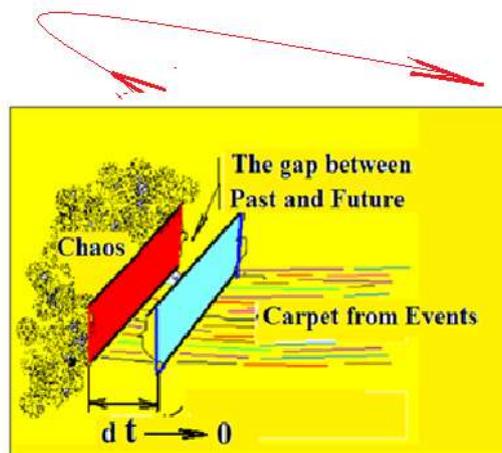


Here there is a movement and localization of kinetic, electromagnetic and thermal energy, which were discovered by Moskov Professor

N.A. Umovin 1873, [7]. In 1874, Professor N.A.Umov, in his doctoral dissertation, discovered and described the law of conservation and transformation of energy-mass:

$$E = k \cdot m \cdot c^2$$

In which the coefficient of proportionality k has the meaning of the variety of forms of existence of all kinds of energy.

In is analog for kIn Boltzmann's law:

S = k Ln W

in which the change in the energy flux is indicated with the temperature of world space changing by one degree Kelvin.

This quantity was called the Boltzmann constant:

$$k = \pm \sqrt[4]{\frac{\sigma \cdot 15c^2h^3}{2\pi^5}} = \pm 1.38054 \cdot 10^{-16} \text{erg/K}$$

as the main characteristic of an absolutely black body.

The discovery of this law:

$$E = k \cdot m \cdot c^2$$

is attributed either to Hazenairl or to Einstein, who at that time was not in the world. The physico-mathematical model of this statement is extremely simple and tragic. It is constructed from a superposition of two physico-mathematical models:

$$S = kLnW$$

1) From the mathematical model of Ludwig Boltzmann's law:

$$S = kLnW$$

In which S is the entropy at the level of motion of atoms and molecules of matter in the universe, k Boltzmann's constant and W is the probability of the state of the thermodynamic system.

2) From the mathematical model of the law of VsevolodYarosh:

$$-S^* = -kLnW$$

In which S * counter-entropy at the level of motion of particles emitting cosmic microwave background radiation, [2],


# I.   RESULT

$$(S) + (-S^*) = 0$$

This is the essence of the previously unknown fourth Law of Thermodynamics, which I formulate as follows: For The second law of thermodynamics nature puts in opposition Counter-entropy, which closes the circle of transformations of energy-mass in the world space.

The second law is connected with the concept of entropy, which is a measure of chaos (or measure of order). The second law of thermodynamics says that for the universe as a whole, entropy increases. Both definitions of the second law of thermodynamics rely on the first law of thermodynamics, which states that the energy decreases.

The fourth law of thermodynamics is based on the law of conservation of matter of Mikhail Lomonosov:
*"Where there is something that can be lost, in another place as much will be replenished"*

Comment to:
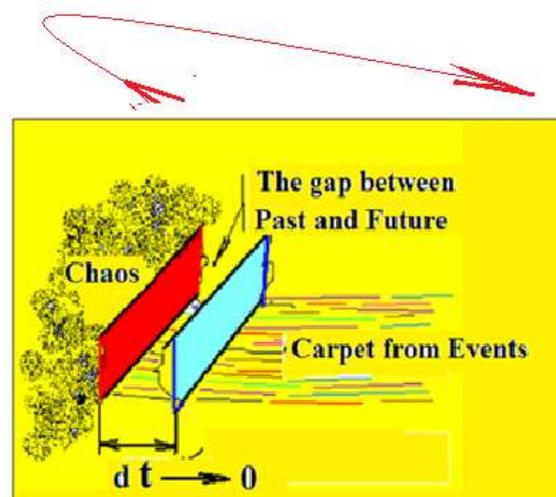


**Fig.2**

The first stage of the rotation of the matter of the Universe is the birth of Order in the depths of Chaos particles of the Ashes of a past life. The ashes of the particles of the past life are built of atoms and elementary particles of matter, the internal ordering in which remains unchanged. This is the stage in the beginning of the creation of dissipative structures,[8] . The dust particles of the past life are built of cold, pulsating in antiphase,
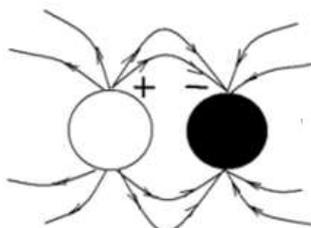


Living dipoles of photons of Light and Darkness: The rest mass of which has the meaning of units of physical quantities, see [9]:

Unit of mass-energy

$$\mu_{оя} = 2.6136368 \ldots \times 10^{-48} \mathrm{g}$$

Unit of length

$$r_{оя} = 1.6409300 \ldots \times 10^{-21} \mathrm{cm}$$

Unit of time

$$\tau_{оя} = 5.4735533 \ldots \times 10^{-32} \mathrm{s}$$

are the parameters of the rest mass of a photon of light:

$$\mu_{оя} = 2.6136368 \ldots \times 10^{-48} \mathrm{g}$$

which has a complex of microwave ethereal structure.
 Photon can radiating  to ethereal structure into space, and at the same time can absorb it.

The photon can pulses in counter phase and breathe to ethe



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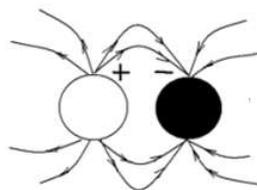
The parameters of rest mass of a photon of light were published in [17] and indicated in Formula scientific discovery:

Discovery Has Been registered under number
№ OT-11681

The statement was designated Essence of Discovery:
        *"The essence of discovery is theoretical justification and experimental confirmation of the experimental data and the phenomenon of formation of energy-mass photons produced in the region of maximum spectral density at:*

$$\left( T_{\odot} \approx 6000K \right) > (3.1 \pm 1)K$$

*in the rest mass-energy of relative calm:*
$\mu_o \approx 3 \cdot \mu_{оя} \approx 7.84 \cdot 10^{-48} g$  »

Pay strong attention to fundamental fact !!!
*The whole human civilization exists on Earth through the use of electrical energy.*
*The basis of all theories of electricity are quantum field theories.*
*All quantum field theories study the behavior of quantum systems with an infinitely large number of degrees of freedom.*
*In this case, no one remembers that the concept of "electric field" comes from*

*Real idea of the wheat field:*

The wave on the heat field consists
of stems on which are fixet spikelets,
with wheat grains

which are built of molekulers ,
atoms and elementary particles
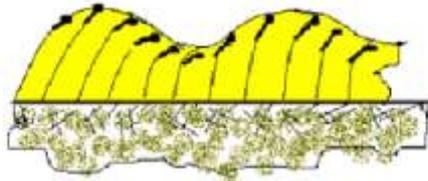
**Fig.3**

Symbolic waves of gravitational and electromagnetic fields are adequate to a real wave in a wheat field.Under the breeze of the wind the waves are running along the wheat field, but the stalks of wheat remain in place.

Wheat field waves make only the movement of spikelets Up-Down-Up-Down ... Which are built of molecules, atoms and elementary particles. From the stems of wheat, you can tie a sheaf

:

**Fig.4**

By the number of grains of wheat in which one can judge the abundance of the crop of the entire wheat field.
These properties of a real wheat field were accepted by the theory of quantum fields.

The sheaf of wheat is called the Vector A
The process of extracting a sheaf of wheat from their wheat field was called the "Flow of the Vector A through a closed surface S".
It is said that there are Sources of vectors A inside the closed surface S.

The quantity "Flow of a vector A through a closed surface S" was taken as a measure of their abundance of recoil:

$$Q_A = \oint A_n \, dS$$

Where A_n is the projection of the vector A onto the direction of the outer normal The grain of wheat spikes, like particles of waves, can lie motionless on the Earth (analog - cold photons of Light).
But they can move, independently of the waves, at different speeds, much higher than the speed of wave propagation.
The fundamental analogy described here has its roots, which lead the researcher to the problem that Descartes formulated:

Space is the only form of matter, and all The existing objects are only manifestations of space. "

***According to Descartes, planet Earth:***
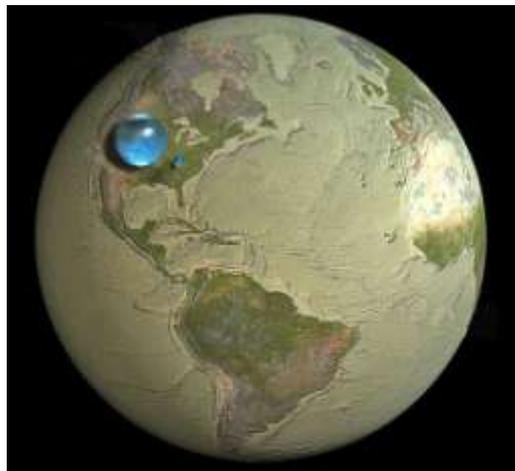


**Fig.5**

*Is manifestation of the material Space*
In Fig. 5, we see the ratio between the mass of an unlimited world space (black background), the mass of a solid spheroid of the Earth, the mass of the ocean of water (a large blue ball), and the mass of the earth's atmosphere (a small blue ball).
According to my theory of the Inexhaustible Multidimensional Quantum World Space, look on the Internet yvsevolod-29, narod.ru, all the mentioned bodies are built of pulsating dipoles of Light and Darkness, see Fig.1, which emit into the world space of the photosphere of all the stars of the Universe.
My theory eliminates a number of dead ends in modern science:
1. Heat death of the universe.
2. Ultraviolet divergences.
3. The uselessness of renormalization theory.
4. Errors of the famous Einstein equation:

$$R_i^k - \frac{1}{2} \cdot \delta_i^k \cdot R = \frac{8 \cdot \pi \cdot G}{c^4} \cdot T_i^k$$

5. *Copied by Dirac in drawing up an equation for his quantum field theory*:

$$\left( mc^2 \alpha_0 + c \sum_{j=1}^{3} \alpha_j p_j \right) \psi(x,t) = i\hbar \frac{\partial \psi}{\partial t}(x,t)$$

In this equation Dirac used his own constant

$$\hbar = \frac{h}{2 \cdot \pi}$$

which he constructed from the Planck constant:

$$h = 6.626070040 \cdot 10^{-27} \, erg \cdot s$$

by dividing it by the proportionality coefficient:

$$z = \frac{K \cdot c^4}{4 \cdot G} = 2\pi$$

inwhich:

$$K = \frac{8 \cdot \pi \cdot G}{c^4}$$

The Einstein constant from its famous equation:

$$R_i^k - \frac{1}{2} \cdot \delta_i^k \cdot R = \frac{8 \cdot \pi \cdot G}{c^4} \cdot T_i^k$$

In this way Dirac tried to build an organic connection between his theory and Einstein's theory.
The famous Einstein equation is Asymmetric with respect to the real field of the universe, which consists of two fields - gravitational and electromagnetic.
This Asymmetry somehow migrated to Thermodynamics.
Let us consider this problem in more detail.

This statement holds true if the perfect crystal has only one with minimum energy.
Entropy is related to the number of possible microstates according to:

$$S = k_B \cdot \ln \Omega$$

Where $S$ is the entropy of the system, $k_B$ Boltzmann's constant, and $\Omega$ the number of microstates (e.g. possible configurations of atoms). At absolute zero there is only 1 microstate possible ($\Omega=1$ as all the atoms are identical for a pure substance and as a result all orders are identical as there is only one combination) and $\ln(1) = 0$
This conclusion is universal. In conclusion, we turn our attention to the Lorentz-Maxwell equations, in which also the main property of light is the speed $c = Const$ of propagation in the world space:

$$rot \, h = \frac{4\pi}{c} \cdot \boldsymbol{\rho}v + \frac{1}{c} \cdot \frac{\partial e}{\partial t} \quad (14)$$

$$rot \, e = -\frac{1}{c} \cdot \frac{\partial h}{\partial t} \quad\quad\quad (15)$$

$$div \, h = 0 \quad (16)$$

$$div \, e = 4\pi\boldsymbol{\rho} \quad (17)$$

According to the electronic theory, these equations accurately describe the field at any point in space (including interatomic and interaatomic and even fields within elementary particles) at any time t. The essence of the discovery found its expression in the pioneer- patent, the implementation of a method and apparat which will allow to pump clean energy-mass from the vacuum space of the physical world  Inaccorda nce with the Patten:

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