

## GENERAL LAWS OF NATURE WITH CORRECTIONS UPON THE QUANTUM AND RELATIVE PHYSICS

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**Abstract:** Natural laws are bifurcate into special (physical) and general (principles, grounds). The Principle of Opposites is a fundamental dependence. The same is appears a Principle of Dualism and a Principle of Determination, because opposites exist only in pairs and are determined one by the other. In obedience to this framework, the main physical quantities form pairs of opposites: energy-mass, length-time. From here, energy ( $E$ ) can be determined only by mass ( $m$ ), and length ( $L$ ) only by time ( $t$ ) (qualitative determination), namely:  $E=m.c^2$  and  $L=t.c$ , where the factors ( $c^2$ ) and ( $c$ ) are proportionality coefficients ( $c$  – speed of light). The quantitative determination is between two levels of the same quality, namely:  $E_1=n.E_2$  ;  $m_1=n.m_2$  . And for a stationary system  $K(x,t)$  and a system  $K'(x',t')$  moving inertially along the axis ( $X$ ) relative to it:  $x'=N.x$  ;  $t'=N.t$  , where ( $n$ ) and ( $N$ ) are numbers-coefficients of proportionality. According to these principled qualitative-quantitative relationships, the law of the electromagnetic wave energy  $E=h.f$  is incorrect. The same should be of the type:  $E_1=n.E_2$ , respectively,  $E=n.h$ , where  $h=E_0=m_0.c^2$ . According to them, the Special Theory of Relativity is also inadequate in general. Lorentz transformations must be of the form:  $x'=N.x$  ;  $t'=N.t$  . Through them it appears as a Special theory of Definiteness, but corrupted by relativity. It is precisely because of the conflicting interpretations that Planck's constant ( $h$ ) is obtained with an undetermined physical meaning, and Relativism is woven of paradoxes. Videlicet, these parts of physics are not scientifically supported.

**Keywords:** Principle of Opposites, Principle of Dualism, Principle of Definiteness, Planck's constant, Democritus atom, Principle of Relativity, Lorentz transformations

### 1. Introduction

Science in an undeniable way proves that the Process of development of matter proceeds from the simple to the complex, where Consciousness also appears. It, in turn, initiates a Cognitive Process in the opposite direction – from the complex to the simple to closing of the circle. Thus, the first process forms a section "going", which has material characteristics, and the second – a section "returning", which is immaterial, cognitive, ideal (Principle of Opposites, equivalent to Principle of Definiteness, respectively, to Principle of circularity). Naturally, both sections concern physics most directly.

In turn, the cognitive process moves oscillating – generally speaking, between truths and untruths, as a series of closed cognitive loops. Today, we already see it breaking through to

material structures of visible elementariness. And his entire path to here is strewn with opposites - the steps without which descending into the depths of matter is impossible. In this order, Knowledge also reveals the presence of a dualistic natural legality – a unity of mutually determining special and general laws.

## **2. The closed configuration of the Cognition**

Consciousness is obviously not some unique find in the Universe, but an irrevocable attribute in its development, accomplishing a return to the beginning. In order to know the realities, it takes a position against them, i.e. performs their filming in mirror symmetry (other possibility does not exist). These are reflections in which the truth is turned upside down. Therefore, the Cognitive process does not stop there, but continues with their straightening out – an implicit, intra-brain transition-return to reality, with which the cognitive circuit closes (the closure is always approximate). Before us is the cognitive mechanism "double mirroring reflection", the only possible way of reproducing the true images (mirror images of mirror images).

In this sense, Cognition is an impossible to metamorphosis closed three-step operation "start from an elevated thesis-going to its opposite to produce an antithesis-synthesis returning to the beginning, already as specified (determined) knowledge". We explain this cognitive procedure for information of Relativistic physics, where both real and mirror formulas are obtained. Their mixing leads to incorrect conclusions, respectively, to confusing situations.

## **3. Essence of the general natural laws**

The discovery of physical laws is undoubtedly a great achievement. Let's take for example the formulations involving the main physical quantities:  $L=t.c$  and  $E=m.c^2$ , where (L) is the length, (t) is the time, (E) is the energy, (m) is the mass and the factor (c) is the speed of light. But this high scientific level is not the last. It is only a ceiling of special knowledge. Above it stand still extremely important laws of nature, unknown or poorly known to modern science (perhaps, due to their high degree of commonality). It is they who form the higher natural legislation, explaining the structure and way of functioning of the Worlds.

The general laws of nature outline the framework of Objective Reality, outside of which mental deceptions wander. Or, the general laws dictate the rules by which the private are formed. Hence, the private natural laws are necessarily contained in the general ones, respectively, they cannot violate the general ones. This circumstance is a criterion of truth of the highest order, not subject to abrogation or variation.

In particular, the interaction between private and general laws of nature has the following causal character:

- Special natural laws provide a visual insight into How? specifically, as formulas, the relationships between natural quantities appear – in the above example, between the quantities "length (L) - time (t)" and "energy (E) - mass (m)".
- General natural laws reveal Why? the relationships between the natural quantities look just like that, and not in any other way – in the above example, why the quantities length (L) and

energy (E) are found in relation exactly to the quantities time (t) and mass (m) and not to some others.

#### **4. Principle of opposites and its incarnations**

Available scientific data and in-depth research on it allow us to judge that opposites are everywhere in our surrounding reality. We will support this with two pragmatic examples:

- The basic physical quantities, in fact, form pairs of opposites "mass-energy", "length-time". Here we pay attention to the global detail that in each such pair, one component is always of a material nature (in this case, mass and length), and the other – of an immaterial, ideal nature (in this case, energy and time). The "material-ideal" relation is the basis of the opposition.
- The essence of physical quantities is also dual – in the form (number). (concept-scale). Since physics has no view of these features, for clarification we will bifurcate the length and time as follows: Length represents "a certain number of spatial scale units", respectively, "number of meters" or the dualism (number).(meter). Accordingly, time represents "a certain number of time scale units", respectively "number of seconds" or the dualism (number).(second) (neither the meter and the second intertwine, nor the numbers in front of them; there is nothing else to intertwine).

Directly to the question, there can be no doubt that the development of the entire Objective Reality (Nature, Society, Knowledge) is subordinate to the supreme Principle of Oppositeness. The same actually appear a Principle of Dualism (of material-ideal dualism), because the opposites exist only in pairs. The dual structure brings out another aspect of it – the Principle of Determinism, since the two opposite sides are determined by each other (this way is non-alternative).

At the same time, there must be limit beyond which definiteness passes into the antipode indefiniteness. From definiteness derive the Principle of circularity, of the closed configuration (without spatial and temporal closure, things are indeterminate and therefore unknowable), the Principle of synonymy (only one determination, one truth is obtained from one opposition) and the Principle of cognizability (external reality is knowable, because it is fully defined).

#### **5. Material-ideal beginning**

As we have repeatedly mentioned, in its essence dualism is reduced to a single, strictly fixed regularity – to the unity "material manifestation-immaterial (ideal) manifestation". Before us is without alternative, impossible to transformation, natural pattern that comes from the depths of matter. This means that the process "development of matter" starts from two interacting opposite beginnings – "material nature-ideal nature". As the solely available creative material, the material-ideal starting structure (a cell of a material core, with an immaterial surrounding called a void) is carried over into the whole variety of the next derivative production, from which emanates a Principle of Similarity: The material gives rise to material forms, the ideal – ideality. And so until the appearance of a material body-ideal consciousness, material male sex-ideal female sex, etc. This duality opens up the possibility to determine the two manifestations by the method: One through the other, in comparison with

the other, in contrast to the other. Other way to determine does not exist. A very important element here is the bifurcation of the Principle of Determination itself – a bifurcation of quantitative (material) determination and qualitative (ideal) determination. Hence its full name is a Principle of quantitative-qualitative determination.[1]

Such is the legal framework with which physics must be aware and abide by. We say this because since the beginning of the 20th century, at her meet all kinds of free interpretations. And, unfortunately, for a long time it has been in striking deviations from the above objective limits of rational thinking (leaning more on subjective ideas, opinions and the like, instead of legal grounds).

## 6. Energy-mass mutually determination.

According to the Principle of Definiteness, basic physical quantities cannot exist and manifest in any other way than in pairs of opposites. Looking in depth, mass (m) and length (L) should be the material components in these pairs, and energy (E) and time (t) – the ideal ones. Physics has already established the formal kind of these relations without knowing why they look just like that. In them, mass (m) corresponds to energy (E) and length (L) to time (t). Other combinations are impossible. To be continued a visual reading of the energy-mass relationship:

1. Qualitative determination: Opposing qualities individuate material-ideal pairs in which they are defined one by the other. This method of determination is the only one possible.

– The ideal quantity "energy (E)" is expressed (defined) by its opposite – the material quantity "mass (m)" in the natural law:  $E=mc^2$ , respectively,  $m=E/c^2$  and  $E/m=c^2$  (determinative action goes in a circle), where the factor ( $c^2$ ) is a coefficient of proportionality ( $c$  – the speed of light). Other variants of this mutual determination are excluded from the law: One pair of opposites – one determination. Or the ratio  $E=mc^2$  cannot be modified.

2. Quantification: The different quantities of a quality individuate pairs of opposites in which they are defined one by the other. This method of determination is the only one possible.

– The quantity "energy (E1)" is expressed (determined) by the quantity "energy (E2)" in the natural law:  $E1=n.E2$ , respectively,  $E2=E1/n$ , where the factor (n) is a coefficient of proportionality (number). Other variants of this mutual determination are excluded from the law: One pair of opposites – one determination.

In this line of thought, let's pay attention to M. Planck's formula for the energy of the electromagnetic wave: [2]

$$E=h.f \quad (1)$$

((h) is the Planck constant and (f) is the frequency of the wave ;  $f=1/t$  or number of oscillations (n) per unit time (t)). As can be clearly seen, here physics is in violation of the law "One opposition - one determination". At first glance, it seems as if she found a way to define energy without its opposite, mass (mass does exist, but it is hidden in the constant (h), evident from its dimension [J.s] or [kg.m<sup>2</sup>/s]). And since this simply cannot be done, the conclusion is

forced that there is something wrong with this formula. According to the given examples, the same must be either of the form  $E=m \cdot c^2$  or of the form  $E_1=n \cdot E_2$ .

## 7. Frequency as an attribute not of energy, but of power of the wave process

Even at its nascency, Quantum Physics falls into indefiniteness, arising mainly from the fundamental Planck constant  $h$ , which appears devoid of physical meaning. A similar jumble are and the stories with waves in absolutely empty space (vacuum). The logic based on the Principle of Determination is uncompromising. To receiving a wave, including electromagnetic, two prerequisites are necessary: First, a material oscillator for its occurrence. Second, a discontinuous material medium for its propagation (there can be no wave without displacement of one part relative to another part). And the Planck constant must have a physically clear status of a material phenomenon.

We have already made it clear that formula (1) for the electromagnetic wave energy cannot be true. The following situation is legal here: There is an equal sign between the energy of the wave and the energy of the oscillator that causes it. And the energy of the oscillator is obviously a result, is a sum of repeating the energy of one oscillation many times.

Then what kind of phenomenon is the Planck constant ( $h$ )? There can be no doubt about its quantitative determinacy (its fixed value). But we are not talking about an ordinary number here. According to the dimension  $[J \cdot s]$  or  $[kg \cdot m^2/s]$ , it also has quality indicators. Why don't they satisfy the Principle of Determination? Let's present the dimension provocatively, in the form:  $[(kg \cdot m^2/s^2) \cdot s]$ . The mass ( $kg$ ). is obviously there. The speed of light squared ( $m^2/s^2=c^2$ ) also appeared, which means that in this part the constant ( $h$ ) has the defined meaning of energy ( $E$ ). But the prominent additional temporal dimension ( $s$ ) discredits this qualitative determinism. Looks like incorrectly included in the dimension in question. Why does this happen? Are the ratios (energy).(time), respectively, (impulse).(coordinate), called an indeterminate, quantum state, correct?

The thorough analysis leads to the conclusion that the frequency ( $f$ ) is not an attribute of the energy, but of the power ( $P$ ) of the wave process:

$$P=dE/dt=h \cdot dn/dt \text{ [watt]} \quad (2)$$

Videlicet, the correct formula for the energy is:

$$E=n \cdot E_0=n \cdot h=n \cdot (m_0 \cdot c^2) \quad (3)$$

Thus, the constant ( $h$ ) acquires the meaning of a boundary discrete portion of energy:  $E_0=h=m_0 \cdot c^2$  – the energy of one period. To her corresponds a boundary discrete portion of mass ( $m_0$ ) – the indivisible atom of Democritus (460 BC) (the ultimate small particle of field matter). [3] Below these limits, uncertainty reigns. The very concepts for energy and mass lose meaning.

From (3), the inviolable organic relation will be in effect:

$$h/m_0=c^2 \quad (4)$$

We summarize: The energy  $E$  of any periodic (cyclic) movement is equal to the energy  $h^* - \text{const.}$  of one period multiplied by the number ( $n$ ) of periods. There are no reasons for exceptions to this rule, introducing determinism into Quantum Physics. And interpretations of energy are subject to reconsideration (for example, statements about particles with energy but without mass or vice versa are untenable, and the energy of a body can change solely by adding/deprivation mass).

### **8. Macroequivalents of the constant ( $h$ )**

According to the Principle of Similarity, we can use macro-cyclic processes to confirm the above generalization. To illustrate the essence of the constant ( $h$ ), we will give an example with the AK-47. We perform several trials with different firing frequency (different frequency of the process sine wave). Result: Regardless of the firing frequency, the energy released is always equal to the energy ( $h^*$ ) – const. of one charge, multiplied by the number ( $n$ ) of used charges ( $E=h^*.n$ ).

And the electricity meter is based on the same dependence. It works by the formula:  $(dE/dt).dt=dh^*.n$  [watt.sec]. One revolution of the disc realizes the constant energy ( $h^*$ ) (depends only on the invariable dimensions of the disc and the material from which it is made). That is why the device is not interested in the frequency of the "rotation" process, but only counts the number ( $n$ ) of rotations. That is, the energy expended is always equal to the energy ( $h^*$ ) – const. of one rotation of the disc, multiplied by the number ( $n$ ) of rotations ( $E=h^*.n$ ).

We have a categorical conformity and at the internal combustion engine. Here ( $h^*$ ) is the energy from one rotation of the crankshaft. Its constant value is due to the invariable volume of the cylinders. Thus, the converted energy is always equal to the energy ( $h^*$ ) – const. of one revolution of the shaft, multiplied by the number ( $n$ ) of the revolutions made ( $E=h^*.n$ ). While engine power depends on frequency –  $P=h^*.(\text{number of revolutions/per minute})$ .

### **9. The absolutely stationary system $K_0$ called field matter**

Material particles ( $m_0$ ) cannot exist as a single ubiquitous quality. For their distinct delineation and possibility of movement, such as reality is, around each of them must be the opposite quality – some immaterial, ideal emptiness. And since the immaterial, the empty, cannot be spatial, it should be stretches by the very presence of the material particle as a core. This is how the idea of a dualistic, force-stressed, primary cell of the initial material medium arises (material core-empty surroundings, self-charged with energy, representing final spatial unit – a distance that can no longer be divided into parts, but is traversed all at once). The same forms a space (Metagalaxy, Hypersphere) of material-ideal lines of force. This is the one and only, absolutely motionless system  $K_0$ , with the ability of self-motion within itself, expressed in a transverse oscillation of the mass ( $m_0$ ) relative to the void. Or, in its deepest essence, any motion in a  $K_0$  system represents the propagation of a wave. Light is such a wave.

System  $K_0$  is unavailable. All other inertial systems move relative to it. In this sense, the contemporary definition of the speed of light contradicts the Principle of Opposites. Since the clock is in a moving system, the measurement of the light signal always takes place in the closed "going-return" loop. So the speed ( $c$ ) is the average speed of the signal along the loop. Clocks cannot be synchronized with it (such absolute truth is achievable only in the  $K_0$  system).

### **10. Principle of Definiteness at the inertial systems.**

As the most general laws, the same Principles are valid in the Relativism. Difference (oppositeness) leads to cognoscibility due to the possibility of mutual determination – determination of one side through the other. In the case of identity, such an opportunity is absent. It is impenetrable, it means indeterminacy, relativity. There are no proportions in it, no mathematics. Here the legitimate question arises: How then does Special Relativity enter the identity of its inertial systems and extract their relations? Answer: Through total manipulation of thinking...by self-delusion of course.

The sensory-brain apparatus gives us understand minutely that the World around us is built on the Principle of qualitative-quantitative determination. Therefore it is knowable and measurable. This principle is everywhere, including in our senses and consciousness – It conditions common sense. Whereas relativity means indeterminacy, something unknowable, unfathomable to study. Realistically speaking, upon the Principle of Relativity cannot step no logical beginning, let alone to build an entire physical theory. Errors have been allowed here that liable to removal.

### **10. Staging of the Principle of Relativity**

Let's trace things from the beginning. From paragraph (2) of the Special Theory we quote [4]: "The laws by which the states of physical systems undergo change are not affected, whether these changes of state be referred to the one or the other of two systems of co-ordinates in uniform translatory motion."

Before us is the visible side of the staging – "...the one or the other of two systems of co-ordinates in uniform translatory motion...". There is, however, one more system that remains hidden, but without which this staging cannot be realized, namely: In order to present his first postulate - the moving relative to each other inertial systems  $K'$  and  $K''$  – the Author has taken a position in a third system  $K$ , which is stationary, opposite to the two. There is no other way of presenting (determining) the movement of systems  $K'$  and  $K''$ .

In reality, the staging is as follows: A system  $K'(x', t')$  moves inertially with velocity ( $v$ ) to the right along the ( $X$ ) axis of a stationary system  $K(x, t)$ . System  $K''(x'', t'')$  moves inertially with velocity ( $v$ ) to the left along the axis ( $X$ ) of system  $K(x, t)$ .

## 11. Relativity and definiteness in the formulation of the Principle of Relativity

Due to the "rest-motion" distinction, the situation between the moving systems ( $K'$ ,  $K''$ ) on the one hand, and the stationary system ( $K$ ) on the other is completely defined. The mathematical solution between the two sides giving the difference is called Lorentz transformations. The same determine the characteristics of ( $K'$ ,  $K''$ ), relative to those of ( $K$ ). This is the "definiteness" part of the staging.

The relation-definiteness ( $K'/K$ )=the relation-definiteness ( $K''/K$ ) - systems ( $K'$  ;  $K''$ ) relate equally to system ( $K$ ) because they move with the same speed ( $v$ ) relative to it (the different directions of ( $v$ ) are not relevant). From the equality of the relations  $K'/K=K''/K$ , the identity  $K'=K''$  will be valid – the systems are identical, precisely in the sense of the Principle of Relativity (which is evident when their velocities are in the same direction). That is, between systems ( $K'$ ) and ( $K''$ ) there is no mathematics, there are no transformations –  $K'/K''=K''/K'=1$ , respectively,  $x'=x''$  and  $t'=t''$ . No other result can be obtained with them. This is the "relativity" part of the staging. With the equalities shown, the Theory ends.

## 12. Manipulation of the rest-motion antipodes.

However, the author begins to improvise. Contrary to logic, he wants to distinguish the same moving systems ( $K'$ ) and ( $K''$ ) (equal but different). For this purpose, he assumes that, at the inertial systems, motion and rest are the same state, i.e. that "rest" is a conditional name. Thus, one of the systems can be called resting in quotation marks, which means resting seemingly, fictitiously, allegedly, just for convenience.

This is exactly what we read in paragraph (1) of the Theory (quote) [5]:

„Let us take a system of co-ordinates in which the equations of Newtonian mechanics hold good. In order to render our presentation more precise and to distinguish this system of co-ordinates verbally from others which will be introduced hereafter, we call it the “stationary system”.“

In this way, the Author directs thinking and actions in the direction: What is between systems ( $K'$  ;  $K''$ ) is the same between systems ( $K'$  ;  $K$ ) from the staging of the Principle of Relativity. So that farther starts working with this "more precise representation". According to him, the two systems stand in opposition "only verbally". He is in complete nescience that this is already a terminology describing the situation of difference, of definiteness.

## 13. Lorentz transformations as a product of rest-motion definiteness

Mathematics, as an objective science, does not understand by the stated conventions. In relativity between systems, it does not work. With the definiteness created by the two different systems, however, immediately begins to look for what the difference consists of. As a result, it arrives at the solution called Lorentz transformations. In this situation, it is reasonable to express the standpoint: As soon as the definiteness between the systems is fictitious, then the Lorentz transformations are also fictitious. Everything else is beyond the scope of normal thinking.



However, the Author takes the illogical position that the difference-definiteness between the systems is conditional, unreal, but the Lorentz transformations are completely regular. Normality then requires that we reverse the reasoning: As soon as the Lorentz transformations are a real achievement, then the definiteness between the systems is also real. This fact makes it clear that the Author literally follows the Principle of Definiteness. In a word, he starts with the Principle of Relativity, but then, without suspecting it, abandons it and builds his Theory on the Principle of Definiteness.

#### **14. Emergence of the paradoxes in the Special Relativity**

The Author uses the Principle of Definiteness only until obtaining the Lorentz transformations. The latter are the face of the difference between a stationary system K and a system K' moving relative to it. In this determination, the symmetry is mirror (observations from K' to K are reverse, mirror images of observations from K to K'). When observed from the stationary system K, the meter, second and kilogram of the moving system K' actually decrease, due to the movement. And when observed from the moving system K', the meter, second, and kilogram of the stationary system K mirror increase (there is no reason for their change, but, measured by the reduced parameters of K', those of K appear increased). This opposite comes to light when we move the Michelson-Morley experiment into the stationary Ether (system K) and observe it from the moving Earth (system K').[6]

However, the Author's reasoning goes in a different direction – against the really fixed difference-determination between a stationary system (K) and a system moving relative to it (K'), against the fact that the mentioned systems represent two opposite points of view. He holds the thesis that the pair of rest-motion systems (K ; K') is in fact that one pair of motion-motion systems (K' ; K'') from the definition of the Principle of Relativity, since rest is a fictitious state. That is why his next step is again strikingly illogical – a return to the Principle of Relativity by unifying viewpoints (the phenomenon of "both difference and identity"). So it comes to an a priori introduction of real symmetry (the observations from K' to K are identical to the observations from K to K') in place of the mirror (the observations from K' to K are the opposite of the observations from K to K'). This unnatural operation gives life to the famous paradoxes. This unnatural operation gives life to the famous paradoxes. Their unsoundness can be demonstrated with a series of thought experiments.[7]

#### **15. Length-time mutual determination**

According to the staging, before us are a stationary system K(x,t) and a system K'(x',t') moving inertially along the axis (X) with speed (v) (the coordinate (x) is the length (L)). The output quantities (x, t) are fully defined. The speed (c) of light is also determined. And the Lorentz transformations proposed by the Special Theory of Relativity are of the form [8]:

$$x'=(x-v.t)/b \text{ and } t'=(t-v.x/c^2)/b \quad \text{where } b=\sqrt{1 - c^2/v^2} \quad (6)$$

Expressions (6) represent the reverse point of view system K' (coordinate (x) and time (t) measured with the scales of system K'). In systems K(x,t) and K'(x',t'), the following relationships are in force: respectively,  $x=c.t$  and  $x'=c.t'$ . It should a demonstrative reading of

the qualitative coordinate-time mutual determination and the quantitative coordinate K'-coordinate K , time K'-time K (we simply duplicate the reasoning from the quantum section):

1. Qualitative determination: As we have noted, opposite qualities individuate material-ideal pairs in which one is determined by the other. This method of determination is the only one possible.

– The material quantity "coordinate (x)" is expressed (defined) by its opposite – the ideal quantity "time (t)" in the natural law:  $x=t.c$  , respectively,  $t=x/c$  and  $x/t=c$  (the determining action rotates in a circle), where the factor (c) is a proportionality coefficient. Other variants of this mutual determination are excluded from the law: One pair of opposites – one determination. That is, the relation  $x=t.c$  cannot be modified.

2. Quantitative determination: The different quantities of a quality individuate pairs of opposites in which one is determined by the other. This method of determination is the only one possible. In this case, such quantification represent the Lorentz transformations, resolved to the end by the qualitative determination of length and time:  $x=t.c$  , respectively,  $t=x/c$  . Besides, the synonymous ratios are obtained:

$$x'=N.x \text{ and } t'=N.t \text{ where } N=\sqrt{(1 - v/c)/(1 + v/c)} \quad (7)$$

(respectively:  $x=x'/N$  and  $t=t'/N$  – a point of view system K).

Or in text form:

– The quantities of length (x') and time (t') are expressed (determined) by the quantities of length (x) and time (t) in the natural law Lorentz transformations:  $x'=N.x$  ;  $t'=N.t$  . The factor (N) is a proportionality coefficient (number). Other variants of this mutual determination are excluded from the law: One pair of opposites – one determination.

## 16. Conclusion

Contemporary Physics is in deep conflict with the general laws of nature in the face of the Principle of opposites, respectively, of quantitative-qualitative determination. This speaks of a heavy deficit of truthfulness. By comparison, the most accurate and objective science, Mathematics, is in full sync with the stated general laws (it derives from them, is their reflection). Let us repeat: The universe is subject to a Principle of Oppositeness, which is a Principle of quantitative-qualitative determination. According to this reality, Special Relativity is flawed in its very conception. And Planck's constant (h) gets the meaning of a boundary portion of energy ( $h=E_0$ ), corresponding to a boundary portion of mass ( $m_0$ ) – the indivisible atom of Democritus. Mass ( $m_0$ ) and energy ( $h=E_0$ ) are uncreateable and indestructible. They only pass from a potential state to a kinetic state and vice versa - a process outlining the infinite reversibility of the stationary  $K_0$  system (a material process "centrifugal expansion" is followed by an ideal process "centripetal contraction" and vice versa). The energy/mass ratio ( $E_0/m_0=E/m=c^2$  – const.), respectively, ideal/material factor, is inviolable. We strongly emphasize all this, given the unprincipled handling of these quantities. Neither energy nor mass has an independent existence. The mass ( $m_0$ ) with the energy ( $E_0=h$ ) are in every point of space, forming a system  $K_0$  – a force field, a simple binary

substance. Primary cells of material cores, with immaterial surroundings and force between them (nuclear model) are the prototype of all subsequent formations.

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