

Letter to Physicist

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In this article I present a letter addressed to all physicists. The author refers to all physicists. The author provides them with a solution to the problem of natural units of mass, length and time. This problem was dealt with by many physicists of the past. This problem stirs the minds and consciousness of modern researchers of nature, natural scientists and physicists. I believe that my solution to the problem of natural units of mass, length and time is correct and the only correct, accurate and absolutely true, complete and final. As a dialectical materialist, I am firmly convinced of the correctness and truth of my "Theory of Nature". I present it to your court, dear readers.

In the present article and in the letter to physicists, I constantly remind you of the author's starting position. This is the scientific theory of dialectical materialism. It is a dialectical-materialistic view of nature, a dialectical-materialistic worldview. This is a scientific dialectical-materialistic method of investigating nature, discovered by K. Marx in the middle of the XIX century. F. Engels in his "Dialectics of Nature" stressed that in the minds of natural scientists, physicists sit philosophy. And what kind of philosophy lies in the minds of physicists such will be physics. Physics depends on philosophy. Modern physics is an idealistic physics. Physics is a party science. "Physical" idealism dominates in the minds of physicists of the last century. The party of idealism rules modern physics. But nature is also materialistic. And

physics, which studies nature also by its status, must be materialistic, and not idealistic, as it is at the present time. This is the main (base) contradiction in modern physics. And it can be eliminated only with the return of physics to the position of materialism, to the platform of dialectical materialism. The party of dialectical materialism must lead physics. Only in this case, physics can come out of a deep, protracted systemic crisis. Only in this case physics can achieve impressive successes in the knowledge of nature and its laws. This demonstrates to all of us the "Theory of Nature" of the author, which is materialistic physics and cosmology. In this letter to physicists, only one example of the solution of the fundamental problem of physics is cited. In the framework of the "Theory of Nature" more than 30 such fundamental problems of physics, cosmology, dialectical materialism, general natural science have been solved. "Theory of Nature" is a clear example of strength, power, truth and the triumph of the scientific theory of dialectical materialism.

The author of the letter is not a physicist and even more a professional physicist. But he managed to solve a number of (more than 30) fundamental problems of physics and cosmology, the foundations of the universe and nature, as well as dialectical materialism. The author adheres to the philosophy of dialectical materialism. This is part of the scientific Marxist-Leninist philosophy (MLF). MLF is the only scientific theory among all other philosophies (trends, doctrines, schools, theories, views). The author firmly stands on the platform of dialectical materialism and adheres to the dialectical-materialist worldview. In his studies of the foundations of the universe and nature, the author used the dialectical materialistic method of cognition developed by K. Marx and further developed in the writings of V.I. Lenin and in the writings of Soviet and Marxist philosophers. It was these starting points that determined the great success of the author of this letter in his scientific studies of the foundations of the world and nature and became the decisive factor in solving more than 30 fundamental problems of physics, cosmology and dialectical materialism.

The author of this letter to the physicists of the world is trying to reach the minds of physicists and bring them to their attention, to the mind and to the consciousness that the "Theory of Nature" of the author is a new materialistic physics and cosmology built on the actual recognition of matter by physics. It is not enough to state that matter is the basis, essence and substance of nature. It is necessary to introduce matter into the bosom of physics as the base (main) physical quantity. This is done in fact in the "Theory of Nature" by the author. Matter became the base (main) physical quantity. Matter became the center, the core, the axis of the whole building of physics. Matter became the backbone of a new materialistic physics, created by the "Theory of Nature".

Awareness of this fact is a necessary prerequisite for all further understanding of the "Theory of Nature". The creation of the "Theory of Nature" is a revolution in modern physics. "Theory of Nature" is a powerful leap forward in our knowledge of nature and its laws.

The author developed his "Theory of Nature" (the first version) in early 2013. And now for the sixth year, its discoveries concerning the foundations of the universe, nature, and those set forth in the "Theory of Nature", do not stop trying to bring to the attention of a wide audience, especially in the physical community itself. But this seemingly ordinary procedure for presenting scientific discoveries met strong opposition from the physical party of Russia, on the part of Russia's physical elite. The physical oligarchs who control budget revenues to science, the physical aristocracy and bureaucracy united front oppose the author's attempts to draw the attention of the scientific community to the greatest achievements of the "Theory of Nature".

The wall, erected by the Russian physical oligarchs, invaders, aristocracy, bureaucracy around usurped in essence physics and science, proved impenetrable both for criticism and for the normal development of science, and first of all for the progress of physics itself. Physics

became a privatized property, a physics for its own, elected, a clan patrimony for businessmen from science, well-subsidized from the budget of Russia. Progress has stopped. Modern physics is in a state of deep systemic crisis. Idealism rules in physics, the school of "physical" idealism usurped physics. The cancerous tumor of "physical" idealism let deep metastases into the consciousness of physicists. Physics is degrading. Physics is under the complete control of reaction forces and obscurantism, entrenched in physics itself. And in these conditions there appears the "Theory of Nature", which solves numerous accumulated problems of physics and cosmology. "Theory of Nature" shows the ways of the physics withdrawal from a protracted deep crisis. "Theory of Nature", as a ray of light in the dark realm, illuminates vices in modern physics, reveals the shortcomings and reveals the contagion that hit physics, and makes the correct diagnosis to the modern crisis in physics and natural science. The diagnosis is: "an idealistic anti-materialistic world view," sitting in the brains and consciousness of the modern party of physicists throughout the last century. Anti-materialism is the core of all idealism. Materialism is the core of nature. This is the main contradiction in modern physics. Nature is material, and the main fact does not seem to notice the theory of physics. Talk about matter is present in modern physics. But matter is not the basis of modern physics. For this contradicts the dogma of idealism about the secondary nature of matter. On the matter of matter, its role and place in nature, its primacy in our world, there is a confrontation between materialism and idealism. This is a fundamental confrontation. This is an ideological confrontation. This is a political confrontation. Matter can become the basis of physics in only one case, in the case of the recognition of matter as the main physical quantity. And this admission of idealism will never go. This recognition is tantamount to the self-liquidation of idealism, as a political, ideological line.

Dialectical materialism, with the help of the "Theory of Nature", inflicts a crushing defeat to idealism in yet another important sector of the front on the territory of physics and all

natural science. Truth triumphs. The truth is on the side of dialectical materialism and the "Theory of Nature". Progress can not be stopped by any forces of reaction and obscurantism.

Letter to Physicist

Really, this letter was sent on May 7, 2018 to the addresses of the leading (in the author's opinion) physicists, here is a list of these physicists:

Roger Penrose, Roger.Penrose@maths.ox.ac.uk,

Edward Witten, witten@ias.edu,

Lisa Randall, randall@physics.harvard.edu,

Lee Smolin, lsmolin@perimeterinstitute.ca,

Neil Turok, nturok@perimeterinstitute.ca,

Brian Greene, [greene@phys.columbia.edu](mailto:greeneg@phys.columbia.edu),

Juan M. Maldacena, malda@ias.edu,

A. D. Linde, alinde@stanford.edu.

Dear Physicist!

I'm Robert Yusupov from Vladivostok.

I solved the problem of natural units. I found the true values of natural mass, natural length and natural time in nature. His decision of natural units was provided by G. J. Stoney in 1874 and M. Planck in 1899.

I offer you my solution to the problem of natural units of mass, length and time.

Hypothesis: In nature there are natural units of mass, length and time.

Suppose that in nature there are natural units of mass, length and time m, l, t .

Let x, y, z be numerical coefficients, such that:

$$\begin{cases} 1 m = x \text{ kg} \\ 1 l = y \text{ m} \\ 1 t = z \text{ s} \end{cases} \quad (1)$$

or

$$\begin{cases} 1 \text{ kg} = x^{-1} m \\ 1 \text{ m} = y^{-1} l \\ 1 \text{ s} = z^{-1} t \end{cases} \quad (1')$$

We form the defining identities for fundamental physical quantities of the speed of light in a vacuum, Newton's gravitational constant and a physical quantity of elementary impulse.

$$\begin{cases} c \equiv \frac{l}{t} \equiv \frac{1 l}{1 t} \equiv 1 \frac{l}{t} \equiv 1 \frac{[l]}{[t]} \equiv 1 \frac{1}{t} \\ G \equiv \frac{l^3}{m * t^2} \equiv \frac{1 l^3}{1 m * 1 t^2} \equiv 1 \frac{l^3}{m * t^2} \equiv 1 \frac{[l]^3}{[m] * [t]^2} \equiv 1 \frac{l^3}{m * t^2} \\ M \equiv \frac{l * m}{t} \equiv \frac{1 l * 1 m}{1 t} \equiv 1 \frac{l * m}{t} \equiv 1 \frac{[l] * [m]}{[t]} \equiv 1 \frac{l * m}{t} \end{cases} \quad (2)$$

Using (1) and (1'), we pass in equalities (2) to SI:

$$\begin{cases} c \equiv \frac{l}{t} \equiv \frac{y m}{z s} \equiv \frac{y}{z} \frac{m}{s} \equiv \{c\} \frac{m}{s} \\ G \equiv \frac{l^3}{m * t^2} \equiv \frac{(y m)^3}{(x \text{ kg}) * (z s)^2} \equiv \frac{y^3}{x z^2} \frac{m^3}{\text{kg} * s^2} \equiv \{G\} \frac{m^3}{\text{kg} * s^2} \\ M \equiv \frac{l * m}{t} \equiv \frac{(y m) * (x \text{ kg})}{(z s)} \equiv \frac{y x}{z} \frac{m * \text{kg}}{s} \equiv \{M\} \frac{m * \text{kg}}{s} \end{cases} \quad (2')$$

It is clear that

$$\begin{cases} \{c\} = 299\,792\,458 \\ \{G\} = 6,67408 * 10^{-11} \end{cases}$$

Hypothesis: $\{M\} = \alpha = 7,297\,352\,5664 * 10^{-3}$.

We rewrite these (2') equations for numerical coefficients:

$$\begin{cases} \frac{y}{z} = \{c\} \\ \frac{y^3}{x z^2} = \{G\} \\ \frac{y x}{z} = \alpha \end{cases} \quad (2'')$$

The solution of this system is:

$$\begin{cases} x = \alpha * \{c\}^{-1} \\ y = \alpha * \{G\} * \{c\}^{-3} \\ z = \alpha * \{G\} * \{c\}^{-4} \end{cases} \text{ or } \begin{cases} x = 2,434\,134\,8062 * 10^{-11} \\ y = 1,807\,567\,9352 * 10^{-38} \\ z = 6,029\,397\,6282 * 10^{-47} \end{cases} \quad (3)$$

For inverse magnitudes:

$$\begin{cases} x^{-1} = \alpha^{-1} * \{c\} \\ y^{-1} = \alpha^{-1} * \{G\}^{-1} * \{c\}^3 \\ z^{-1} = \alpha^{-1} * \{G\}^{-1} * \{c\}^4 \end{cases} \text{ or } \begin{cases} x^{-1} = 4,108\,235\,9016 * 10^{10} \\ y^{-1} = 5,532\,295\,5254 * 10^{37} \\ z^{-1} = 1,658\,540\,4740 * 10^{46} \end{cases} \quad (3')$$

So, we have defined the natural units of mass, length and time (m , l , t) in SI units:

$$\begin{cases} m = 2,434\,134\,8062 * 10^{-11} \text{ kg} \\ l = 1,807\,567\,9352 * 10^{-38} \text{ m} \\ t = 6,029\,397\,6282 * 10^{-47} \text{ s} \end{cases} \quad (4)$$

The SI units of mass (1 kg), length (1 m) and time (1 s) in terms of natural units of mass, length and time (m, l, t) will be expressed as follows:

$$\begin{cases} 1 \text{ kg} = 4,108\,235\,9016 * 10^{10} m \\ 1 \text{ m} = 5,532\,295\,5254 * 10^{37} l . \\ 1 \text{ s} = 1,658\,540\,4740 * 10^{46} t \end{cases} \quad (4')$$

In conclusion, I present a generalized table of natural units of mass, length and time, where the units of G. J. Stoney, M. Planck and R. Yusupov are given.

Name	G. J. Stoney (1874)	M. Planck (1899)	R. Yusupov (2013)
mass (kg)	$m_S = 1,859 * 10^{-9}$	$m_P = 2,176 * 10^{-8}$	$m_Y = 2,434 * 10^{-11}$
length (m)	$l_S = 1,381 * 10^{-36}$	$l_P = 1,616 * 10^{-35}$	$l_Y = 1,808 * 10^{-38}$
time (s)	$t_S = 4,605 * 10^{-45}$	$t_P = 5,391 * 10^{-44}$	$t_Y = 6,029 * 10^{-47}$

We note that the following equalities hold:

$$\frac{m_P}{m_S} = \frac{l_P}{l_S} = \frac{t_P}{t_S} = \alpha^{-0,5} = 11,7,$$

$$\frac{m_Y}{m_S} = \frac{l_Y}{l_S} = \frac{t_Y}{t_S} = M_P^{-1} * \alpha^{0,5} = (6,525)^{-1} * \alpha^{0,5} = 1,309 * 10^{-2},$$

$$M_P = \frac{l_P * m_P}{t_P} = 6,525 \frac{\text{m kg}}{\text{s}}.$$

Dear Physicist, I developed the "Theory of Nature" (TN) - materialistic physics and cosmology.

Within the framework of the "Theory of Nature" many problems of physics and cosmology have been solved. An incomplete list of resolved problems is presented below:

1. The problem of matter has been solved. Matter is introduced into the bosom of physics as the base physical quantity.

- a) The natural unit of matter in nature (NUM) has been determined (declared, postulated).
- b) It is established that all elementary particles consist of matter.
- c) It is established that the content of all elementary particles is matter.
- d) It is established and calculated that the total amount of matter in nature has been determined by **UCN NUM**.
- e) It is established and calculated that the minimum amount of matter in nature has been determined by **EUM** \equiv **UCN**⁻¹.
- f) It is established and calculated that each elementary particle consists of the minimum amount of matter in nature **EUM** \equiv **UCN**⁻¹.

2. The problem of time has been solved. Time and matter are declared (postulated) as identical, homogeneous physical quantities: **time** \equiv **matter**.

3. The mass problem has been solved. The mass (m) of an elementary particle is equal to the ratio of the matter forming the elementary particle (EUM) to its diameter (d): **$m \equiv \frac{\text{EUM}}{d}$** .

4. The problems of the universal absolute time and the absolute age of the Universe have been solved. The modern age of the Universe is **51.913** billion years.

5. The problem of the dependence in aggregate of the basic physical quantities of mass, length and time has been solved: **$\frac{l*m}{t} \equiv \mathbf{1\ 1}$** – dimensionless unit (hypothesis).

6. The problem of the fine structure constant (FSC) is solved. It is established that the fine structure constant is equal to **$\alpha \equiv \frac{1\ \text{s}}{1\ \text{m} * 1\ \text{kg}}$** . It follows that **$\alpha^{-1} \equiv \frac{1\ \text{m} * 1\ \text{kg}}{1\ \text{s}}$** .

7. The problem of the axiomatic construction of the foundations of the theory of physics (Hilbert's sixth problem) has been solved.

I believe that my solution to the problem of natural units of mass, length and time is correct and the only correct, accurate and absolutely true, complete and final.

References

1. My articles on "Theory of Nature" (in Russian): http://vixra.org/author/robert_yusupov.
2. Main (base) article, "Theory of Nature (Materialistic physics)" (in Russian):
<http://vixra.org/abs/1509.0038> (abstract), <http://vixra.org/pdf/1509.0038v1.pdf> (text).
3. List of solved problems (in Russian): <http://vixra.org/pdf/1509.0278v1.pdf>.
4. My articles from site Proza.ru (in Russian): <http://www.proza.ru/avtor/yusrob>.
List of my articles on "Theory of Nature" (in English):
5. Announcement of the Scientific Discovery (14 p.)
<http://vixra.org/abs/1510.0128> (abstract), <http://vixra.org/pdf/1510.0128v1.pdf> (text).
6. About the Physical Quantity the Planck's Momentum (13 p.)
<http://vixra.org/abs/1509.0146> (abstract), <http://vixra.org/pdf/1509.0146v1.pdf> (text).
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<http://vixra.org/abs/1602.0266> (abstract), <http://vixra.org/pdf/1602.0266v1.pdf> (text).
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<http://vixra.org/abs/1509.0074> (abstract), <http://vixra.org/pdf/1509.0074v1.pdf> (text).

10. What is a time? (5 p.)

<http://vixra.org/abs/1509.0103> (abstract), <http://vixra.org/pdf/1509.0103v1.pdf> (text).

11. Matter, Singularity, Universe and Time (5 p.)

<http://vixra.org/abs/1509.0110> (abstract), <http://vixra.org/pdf/1509.0110v1.pdf> (text).

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May 8, 2018

Yours faithfully

Robert Yusupov from Vladivostok, Russia.

Robert Yusupov