

About some misconceptions of astrophysic

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The astrophysics drew a modern picture of the world, based on the signals of light and electromagnetic radiation from stars and other space objects and also from the imagination and fantasy of the researchers of these objects play a big role. However, in the laws of light propagation, there is a lack of knowledge about what happens to light and electromagnetic radiation over a long path from radiating objects to an observer on Earth. This can lead to a distorted view of the universe.

The gravitational red shift in the spectra of the stars

In the spectra of stars, a so-called gravitational redshift is observed. The term "gravitational redshift" is used in the literature as opposed to the term "Cosmological redshift". The latter is due to the expansion of space after the Big Bang. The term "gravitational redshift" is associated with a local expansion of the wave of light as it moves away from a massive body. These terms in the literature are associated with Einstein's theory of relativity. The formulas obtained in the theory of relativity are considered the achievement of this theory, since they made it possible to ensure that the calculations coincide with the data of experimental observations. These experimental data were known long before the advent of the theory of relativity. To determine the value of the "Gravitational redshift", Einstein proposed the following formula in the framework of the theory of relativity [1,2]:

$$\frac{\Delta\lambda}{\lambda} = \frac{fm}{r_0 C^2}. \quad (1)$$

This the formula supported by the observation of the solar spectrum and of the spectrum of the Sirius satellite having a large weight and a small size. It is one of four experimental the proof of the validity of the theory of the relativity

We show that this formula can be obtained by using the concept of the light waves, consisting of a chain of the photons. The photons subject to gravity. It can be shown that the cause of this the effect are well-studied the tidal forces. This the forces are causing tides of water of Earth's oceans

We assume that the light wave has a mass of uniformly distributed over its the length. In each point of the wave (Fig.1), the acceleration of gravity acts $j = fm/r^2$. As a result, the gravitational forces are stretched the wave. Here m - mass of the stars; r - the radial distance from the center of mass m to the point under consideration of the light wave. The speed of points of light wave without taking into account the forces of gravity $C = 3 \cdot 10^8$ m /s. Given the accelerating action of the gravity forces of the stars

formula can be written as

$$V = C + \int_0^t \frac{fm}{r^2} dt, \quad (2)$$

Where according to (Fig.1)

$$r = r_0 + C \cdot t, \quad dt = \frac{dr}{C}. \quad (3)$$

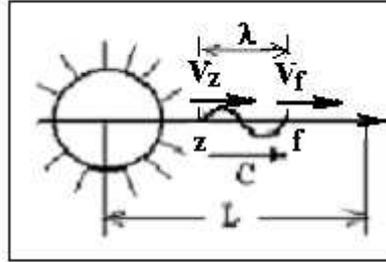


Fig.1

We substitute (3) into (2), and we will be integrate. The Integration constant is zero. Therefore

$$V = C - f \cdot m / C \cdot r \quad (4)$$

The tidal force gravity of acts on the light wave. In consequence this the light wave tend to stretch. The speed at which the leading edge will move

forward from rear, is

$$\Delta V = V_f - V_z = \left(C - \frac{f \cdot m}{C \cdot r} \right) - \left(C - \frac{f \cdot m}{C(r - \lambda)} \right) = \frac{\lambda \cdot f \cdot m}{C \cdot r^2}.$$

Here λ - the wavelength at the initial time in a quiet dark gas. The increment of the wavelength during the passage from the light source to the observer on the Earth, taking into account (3), can be written as

$$\Delta \lambda = \int_0^t \Delta V dt = \frac{fm\lambda}{C} \int_0^t \frac{dt}{r^2} = \frac{fm\lambda}{C^2} \int_{r_0}^L \frac{dr}{r^2} = \frac{fm\lambda}{C^2} \left(\frac{1}{r_0} - \frac{1}{L} \right). \quad (5)$$

Given that $L \gg r_0$, we obtain the formula

$$\frac{\Delta \lambda}{\lambda} = \frac{f \cdot m}{C^2 r_0}. \quad (6)$$

This formula is identical to the corresponding Einstein's formula (1) and therefore we can do not comment her, although more the rigorous view it has the formula (5). In passing, I would note that the explanation of “gravitational redshift” by gravity and tidal

forces well known in earthly practice leaves no room for the effects of the theory of relativity, whose reliability is proved by this effect itself. Otherwise would have both of these effects and increase the wavelength $\Delta\lambda$, obtained experimentally, would be 2 times more. This really is not.

The movement of the light wave about a massive body

About the curved space

In the astronomy, was found that a beam of light is bent passing by the massive bodies. In the theory of relativity, a formula was proposed to calculate the angle of deflection of the beam of light passing from the star to the observer about a body with mass M [1,2]:

$$\psi = \frac{4f \cdot M}{h \cdot C^2} \tag{7}$$

where h - the distance between the center of a massive body and of the a ray of light (Fig.2). f - is a constant of the gravitation C - the velocity of the light in the vacuum. We one can to check this the formula only for the Sun. Therefore, it usually is written for the mass and radius of the sun. If a ray of the light passes directly next to the surface of the sun ($h = r_o$, where r_o - the radius of the Sun), the maximum deflection of the a ray of the light beam $\psi_o = 1,75''$. For other a distances, this the value should be corrected by an amount h/r_o .

$$\psi_c = \psi_o / (h / r_o) \tag{8}$$

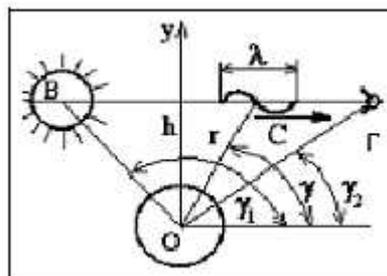


Fig.2

It is known that Zoldner [1,2] have given the solution of the problem of the bending of the light rays when it passes near a massive body, based on the Newton's law, in submitting that the wave of the light has a mass. He got the result is half the angle ψ_o predicted by Einstein

$$\psi_1 = 2fM / (hC^2), \quad (9)$$

$$\psi_{o1} = 0,5 \cdot \psi_o = 0,875'' \quad (10)$$

Indeed, in accordance with Fig.2 at any time interval dt the light wave passes the distance $dx = C \cdot dt$ and moves in the direction perpendicular to the distance $dy = -V_r \cdot dt$. There is the acceleration of the gravity of bodies towards the center of the sun $j_r = f \frac{M}{r^2}$. f - is a constant of the gravitation. The rate of the displacement of the light wave in the direction of the negative axis y is $dV_r = -j_r \sin \gamma \cdot dt$. Taking into account considered the relations, the increment of the angle of inclination of the tangent to the trajectory of the light beam $d\psi_1$ will be equal to the derivative of speed V_r by coordinate x multiplied on the elementary time dt

$$d\psi_1 = \frac{dV_r}{dx} \cdot dt = -\frac{j_r \sin \gamma \cdot dt}{C \cdot dt} \cdot dt = -\frac{f \cdot M \cdot \sin \gamma}{C \cdot r^2} dt \quad (11)$$

Referring to Fig.2

$$r = \frac{h}{\sin \gamma}, \quad \text{tg} \gamma = \frac{h}{L} = \frac{h}{C \cdot t}. \text{ from whence } t = \frac{h}{C \cdot \text{tg} \gamma}. \quad dt = -\frac{h \cdot d\gamma}{C \cdot \sin^2 \gamma}. \quad (12)$$

We substitute them into expression (12) for $d\psi_1$ and we shall integrate it within the range of $\gamma_1 = \pi$ to $\gamma_2 = 0$. We obtain the rotation angle of the light beam due to the gravity to center of the star.

$$\psi_1 = -\frac{fM}{hC^2} \int_{\pi}^0 \sin \gamma \cdot d\gamma = \frac{2fM}{hC^2}. \quad (13)$$

As a result, we obtained the expression for the rotation angle of the light beam similar the expression Zoldner, which also considered the light wave subjected to the force of gravity. He examined the movement of the waves of light as the motion of a material point in gravity field of the star. However, it was not considered that the weight of the light wave being continuously and evenly distributed along the length of the wave in the form of a chain of photons. When you change the angle of rotation of the wave it acquired the rotational inertia. During the transit time from the star to the Earth the wave of light in the addition to its the motion along the trajectory by the inertia revolved. Zoldner and the physicists - his the contemporaries did not realized it.

To understand this, we let us return to the Fig.2 and to the expression (11) for the elementary rotation angle $d\psi_1$ of the light wave in the time dt . These the values determine the angular velocity of the rotation of the wave at any point of the light beam

$$\omega = \frac{d\psi_1}{dt}$$

$$\omega = \frac{d\psi_1}{dt} = -\frac{f \cdot M \cdot \sin \gamma}{C \cdot r^2} = -\frac{f \cdot M \cdot \sin^3 \gamma}{C \cdot h^2} \quad (14)$$

From (15) we are getting an expression for the incremental angle at changing the angle, which occurs as a result of rotation of the light wave

$$d\psi_2 = \omega \cdot dt = -\frac{f \cdot M \cdot \sin^3 \gamma}{C \cdot h^2} dt \quad (15)$$

Substituting in (14) the value dt from (12) we finally obtain an expression to increase of the angle as a result of the rotation of the light wave

$$d\psi_2 = \omega \cdot dt = -\frac{f \cdot M \cdot \sin^3 \gamma}{C \cdot h^2} dt = -\frac{f \cdot M \cdot \sin \gamma}{C^2 \cdot h} d\gamma \quad (16)$$

We shall have Integrated this the expression between 0 and 180° . We get the value of the rotation angle of the waves of light for all the time of its motion from a stars near the Sun to the observer on Earth, caused by inertia of the rotation of the material wave of a light

$$\psi_2 = \frac{f \cdot M}{C^2 \cdot h} \int_{-180^\circ}^{180^\circ} \sin \gamma \cdot d\gamma = -\frac{2f \cdot M}{C^2 \cdot h} \quad (17)$$

Sign (-) on the right side shows that a light beam was passing over the Sun and deflected downward and is added to the corner ψ_1 . As a result, the total rotation angle of the beam is equal to the sum of the moduli of these the angles

$$\psi = \psi_1 + \psi_2 = \frac{4f \cdot M}{C^2 \cdot h} \quad (18)$$

The resulting formula (18) coincides with formula (7) of Einstein's theory of relativity and, therefore, does not need additional experimental verification and confirmation.

This the result was obtained on the basis of well-known in the human practice of Newton's the law of gravity and the concept of the rotational inertia of a massive bodies. He no leaves room for the effects of the relativity, whose the authenticity is proved by this the effect.

In conclusion, I note that relativists explain the curvature of space around massive cosmic bodies by the effect of the curvature of a light beam. They believe that the beam of light is twisted, because he moves in a curved space It is not entirely clear why the light cannot move in the forward direction, crossing the curved space? In modern science, the mechanism of interaction of light with space has not been developed at all, and there are no clear ideas about the physical nature of space. In other words, the relativists, instead of properly understanding the properties of light, went in a completely exotic way. In their conclusions, it turned out to be easier for them to make the space expand and to curvature the space.

But the effect of the curvature of a ray of light, as shown in this article, can be

obtained on the basis of Newton's law for gravity and the concept of inertia of rotation of massive bodies , well known in human practice. At the same time, they are not at all embarrassed that all this contradicts the earthly practice of man. It is as if some laws of nature operate on the Earth and in the solar system, but completely different laws related to the speeds of bodies operate in parts of the Universe far from us. This contradicts the common sense and experience of mankind. This the study shows that the beam of light is bent by gravity and force of inertia. The conclusion about the curvature of space is wrong.

About the Big Bang

At present, the astrophysics claims that our universe was formed as a result of the "Big Bang". This belief arose from the astronomical observations of distant galaxies, in the spectra of which a large redshift was observed, which meant an increase in the wavelength of light coming from these galaxies to the observer on Earth. The Hubble's law related the increase in wavelength with the distance to these galaxies. On the basis of the Doppler law, physics linked the cosmological redshift in the spectra of distant galaxies with their Active removal from each other , including from the observer on Earth. In addition, the belief that in the distant past there was a Big Bang is confirmed by the detected relic radiation and gravitational waves that have survived to our time after the explosion [2,3].

There are two points of view on what constituted the Big Bang. According to the first of these, known as the Gamow Big Bang theory (1946), about 15 billion years ago an ultra-dense elementary particle exploded. From the products of the explosion, our universe was formed. Since then, it has been continuously expanding and as a result of this, the galaxies run away from each other and signal it with a red shift in their spectra in accordance with the Doppler law. Over time, as the distance from the observer on Earth increases, the expansion rate increases. As galaxies approach the edge of the visible universe, the wavelength of light increases much faster than predicted by Hubble's law. After the discovery of the accelerated expansion of the universe, to the authors of this discovery in 2011 were awarded the Nobel Prize.

The question remained in which condition the matter and energy were in this superdense elementary particle? It is considered incorrect to ask, what was around this particle before the explosion and where the universe does expand? Because space and time in the universe also arose as a result of the Big Bang. It is assumed that the protons, the neutrons, the positrons, the electrons and other long-lived elementary particles formed 15 billion years ago and have reached our days unchanged.

The second point of view arose from the insolvency of ideas about the explosion of a kind of "cosmic egg", which was the explosion of the largest nuclear bomb. This point of view boils down to the assertion that "space" exploded, and not a material

object. At the same time, the authors of this idea do not bother explaining what they think is a "space" and what can explode in an empty space? The authors of these ideas need to reckon with the fact that astrophysics today views space as empty, at best filled with electromagnetic radiation. Within the space available to observations, astronomers observe the explosions of stars, but do not observe explosions of space between the stars. According to the second point of view, the expanding space entrains the galaxies. Because of this, galaxies disperse and, in accordance with the Doppler law, signal this by extending of the length of the light wave. At the same time the mechanism of interaction of material objects with space is not developed. Sometimes authors and supporters of space expansion was agreed with fantastic ideas that space expands, and galaxies remain in their places and do not scatter, as if they are cemented into their places. The authors of this view claim that the cosmological redshift is in no way connected with the Doppler effect and does not explain what in this case causes a redshift in the spectra of distant galaxies? Therefore, the second point of view is not better than the first.

The exact edition of the Hubble redshift law in the spectra of the distant galaxies

The work proposed by us has a different point of view on this phenomenon of nature. We believe that the whole space is filled with gaseous dark matter [4,5,6]. Light interacts with dark matter. We believe that the reason for the appearance of ideas about the expansion of the universe lies in the insufficient knowledge of the properties of light. The astrophysics does not know what happens to a quantum of light during its long movement, measured in billions of light years, from a distant star to an observer on Earth through a space filled with gaseous dark matter. The gap in knowledge allows various interpretations of this phenomenon, including those considered earlier in this article. Now in physics and cosmology it is believed that the atoms of baryonic matter formed as a result of the Big Bang. Since then, and to our days, these atoms have come down unchanged in its original form. In contrast to these ideas, we have a different view of this phenomenon of nature. **Our representations are based on the idea that baryon bodies, up to the smallest ones, constantly absorb dark matter from the surrounding space and, as a result, increase their mass, in accordance with the law previously obtained by us in [5,6,7]:**

$$\underline{m = m_o \cdot e^{\frac{\alpha \cdot t}{k}}} \tag{1}$$

The value m_o is the mass of the body at the time $t = 0$, i.e. at the beginning of time.

According to [5,6,7], the quantity is $\frac{\alpha}{k} = 2,97 \cdot 10^{-18} [c^{-1}]$. It was obtained by us from the analysis of changes in the movement of the Moon that have taken place over the centuries and has nothing to do with the ideas of expanding the universe [9]. **The expression (1) defines the law of increasing the masses of all bodies of the universe with increasing time, including photons of light.**

Those, we believe that the universe is not as static as the astrophysicists currently think about it. Over time, not only the living beings, plants, bacteria, viruses are changing. The inanimate matter, for example, stars, planets, moons, meteorites, up to atoms and elementary particles also change with time. The reason for these changes lies in the interaction of all these bodies with dark matter. The knowing this opens up additional opportunities for understanding the dynamics of the world around us.

We believe that leaving the radiating atom at a speed of $C = 3 \cdot 10^8$ m/s, the photons of the light wave carry with them the amount of motion J . This amount of motion is equal to the product of the photon mass m_o by the speed of light C and it persists until the meeting with the observer

$$J = m_o C = m \cdot C' = Const \quad (20)$$

During the motion of a light wave from a radiation source to an observer on Earth, the mass of photons, like all other baryonic bodies, increases with time due to the absorption of dark matter from the surrounding space according to the revealed law (1). As the mass grows, the speed of light decreases; as the amount of the movement remains constant

$$C' = \frac{m_o C}{m} = \frac{m_o C}{m_o e^{\frac{\alpha_t}{k}}} = \frac{C}{e^{\frac{\alpha_t}{k}}} \quad (21)$$

Here $C = 3 \cdot 10^8 [m/s]$. This speed is the speed of light in a moment $t = 0$. This speed is the same as that of light in terrestrial conditions. The value $\frac{\alpha}{k} = 2,97 \cdot 10^{-18} s^{-1}$ is very small [5,6,7]. It was obtained by us from an analysis of the changes in the motion of the moon occurring during a long time of observations of this cosmic object [9]. The number of waves passing by the observer's device in one second will be determined by the expression

$$\nu' = \frac{C'}{\lambda} = \frac{C}{e^{\frac{\alpha_t}{k}} \cdot \lambda} = \frac{C}{\lambda'} \quad (22)$$

The new wavelength λ' after time elapses t will

$$\lambda' = e^{\frac{\alpha_t}{k}} \cdot \lambda \quad (23)$$

The wavelength in the path from the radiation source to the observer on Earth will

increase by an amount

$$\Delta\lambda = \lambda' - \lambda = e^{\frac{\alpha}{k}t} \cdot \lambda - \lambda = \lambda(e^{\frac{\alpha}{k}t} - 1) \quad (24)$$

The refined Hubble law for Increments of the length of the light wave in this case is written in the shape of

$$\frac{\Delta\lambda}{\lambda} = e^{\frac{\alpha}{k}t} - 1 = e^{H^* \cdot L} - 1 \quad (25)$$

This new version of Hubble's law more correctly reflects the realities of the world around us than the well-known original version of this law.

Returning further to the more accurate form of the Hubble law (25), we note that, in contrast to the Hubble law, the wavelength increases nonlinearly with time. Закон Хаббла записывается в виде

$$\Delta\lambda / \lambda = H^* \cdot L = H \cdot t, \quad (26)$$

here $H \approx 3 \times 10^{-18} [1/s]$ is the Hubble constant, $H^* = H / C \approx 10^{-26} [m^{-1}]$, $L[m]$ is the distance from the galaxy to the Earth, $t = \frac{L}{C} [s]$ – is the time for travel of light from the galaxy to the Earth.

If in the expression (25) the quantities $e^{H \cdot t}$ and $e^{H^* L}$ are expanded in a series and only the first linear terms are retained in these expansions, then we obtain the well-known linear Hubble law (26). From which it follows that **the Hubble law is only the first approximation to the law (25), which describes the real relationship between the redshift in the spectra and the time or distance of the spread of light.**

As can be seen from formula (25), the red shift in the spectra of galaxies increases exponentially with increasing distance. The value $\frac{\Delta\lambda}{\lambda}$ is determined from the lines of the Balmer series in the spectra of the observed objects. Already objects have already been found [10,11], for which the red shift $\frac{\Delta\lambda}{\lambda}$ tend to 5 and whose the radial velocities from the earth approach or even exceed the speed of light. In accordance with formulas (25) and (26), these distance are different. Calculation by the Hubble formula, without any tweaks, contradicts the modern estimate of the size of the investigated part of the universe, approximately equal to 15 15 billion light years. For example, we let's calculate these distance on these formulas (8) for $\frac{\Delta\lambda}{\lambda} = 3$. We get

$$L_{habbl} = \frac{\Delta\lambda / \lambda}{H^*} = \frac{3}{10^{-26}} = 3 \cdot 10^{26} [M] = 32 \text{ billion light years.} \quad (27)$$

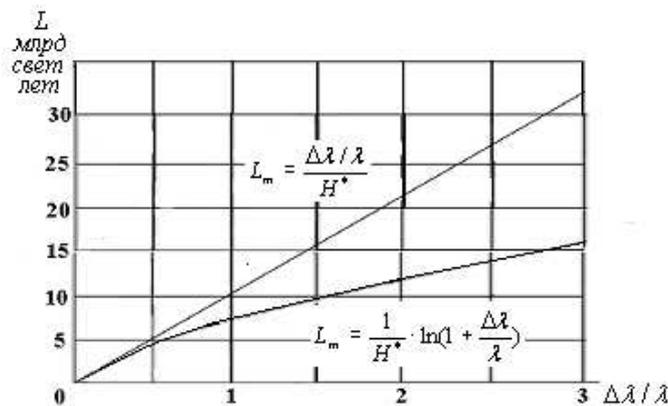
Calculation by the formula of the theory of dark matter (25) gives a more correct result.

For example, for $\frac{\Delta\lambda}{\lambda} = 3$

$$L = \frac{\ln\left(\frac{\Delta\lambda}{\lambda} + 1\right)}{H^*} = \frac{1,38}{10^{-26}} = 1,38 \cdot 10^{26} [M] = 14,6 \text{ billion light years}, \quad (28)$$

where 1 billion years is $3,15 \cdot 10^{16}$ seconds, 1 billion light years is $9,45 \cdot 10^{24}$ m.

Figure 1 illustrates the difference between the distances from the Earth to the radiating object, determined without taking into account the influence of dark matter on



the propagation of light and taking into account the real influence of dark matter.

Fig. 1

Than more of time a wave of light is moves in transit, then she more intense increases its length This is explained by a growth of a mass of a photons that make up a light waves. It is this property of light that leads to a more intense growth of the wavelength with increasing distance between the observer on Earth and the source of radiation near the visible edge of the universe. And this does not mean that the universe is expanding, and does not mean that this expansion happens more intense as it approaches its outer boundary.

We let us emphasize once again that Hubble's law itself did not claim that the universe is expanding. He only established a connection between the distance from the Earth to distant galaxies and the red shift in the spectra of light coming from these galaxies. The belief that the universe is expanding has already emerged in the course of the interpretation of this law on the basis of the Doppler law [12]. An analogy was made between the change in the length of the light wave and the intrinsic rate of removal of the light source from the observer in accordance with the Doppler law obtained for propagation of a sound wave in the air atmosphere of the Earth.

$$\frac{\Delta\lambda}{\lambda} = \frac{V}{a}. \quad (29)$$

Here a - is the speed of sound in the calm air. It was a tribute to the past delusion that light is spreading in space (even empty) in the form of a wave, and not due to the motion of photons. With reference to the propagation of light, this law was rewritten to the form

$$\frac{\Delta\lambda}{\lambda} = \frac{V}{C}, \quad (30)$$

where the speed of sound in the air was replaced by the speed of light. Such an analogy suited astrophysics until the decoding of spectra from distant galaxies began to give values $\frac{\Delta\lambda}{\lambda}$ much greater than unity. This meant the exceeding of the speed of removal of the source of the light “ V ” above the speed of light in the void “ C ”, what the theory of relativity A. Einstein. categorically forbids

Relativists wanted at all costs to remain within of the postulate (dogma) of the theory of relativity that the speed of bodies can not exceed the limit value of the speed of light in a vacuum $C = 3 \cdot 10^8$ m / s. For this they changed the Doppler law [3]. They came up with another formula for this law, according to which for any values $\Delta\lambda/\lambda > 1$ the speed can not exceed this limit of value the speed $C = 3 \cdot 10^8$.

$$\frac{V}{C} = \frac{\left(\frac{\Delta\lambda}{\lambda} + 1\right)^2 - 1}{\left(\frac{\Delta\lambda}{\lambda} + 1\right)^2 + 1} \quad (31)$$

At the same time relativists did not take care that this formula contained the Lorentz amendment. Maybe they just could not do it. But without it, it absolutely does not follow from anywhere that this formula is not a simple fit to justify the inviolability of the postulate of the theory relativity about the constancy of the speed of light. Relativists are ready to escape from the real (earthly) understanding of the nature of the material world and to reconcile with the incredibly huge density of an incomprehensible object whose explosion qualifies as a Big Bang. In their opinion, this formula should save the Big Bang theory from collapse.

It means that the modern astrophysics, linking the law of Hubble with the phenomenon of Doppler, came to a paradoxical conclusion about the large explosion. According to the theory of the Big Bang, this explosion generated, despite the laws of physics, a material universe, space and time from an incomprehensible substance of unthinkable density many times greater than the density of atomic nuclei. There is no clear answer to the questions about what this substance was, why there was an explosion, what was around this incomprehensible exploded object.

All this contradicts the earthly practice of mankind, as if there are two physicists- one for the present time and for the Earth, and the other for a distant past and a fictitious object with fantastic properties. According to the ideologists of the Big Bang the space of the Universe is continuously expanding. According to Hubble's law (5.1), the

distance should grow linearly depending on the growth of the redshift. Consequently, the speed of the radial runaway of galaxies (the expansion velocity of the universe) on the basis of this law should also grow linearly with distance from the Earth. However, there is a convergence of neighboring galaxies, and not a runaway, and hence no expansion of space. Near the outer boundaries, space expands much faster than predicted by Hubble's law. Thus, the base on which the theory of the Big Bang is built is destroyed.

Hence the conclusion follows that the extensions of the space of the Universe no takes place. Everything is explained by the properties of light. The main question that remains is whether the “Big Bang” occurred 15 billion years ago, signaled by relic radiation and gravitational waves. In this regard, we will describe our hypothesis about the "Big Bang".

The new representation about the Big Bang

Summarizing what has been said, it can be argued that none of the points of these view on the phenomenon, called the "Big Bang", can convincingly to explain what exploded 15 billion years ago and Spawned the universe in accordance with the earthly practice of man and of the accumulated by physics and astronomy of the knowledges? Both of these points of view converged on only one thing, that the universe expands after the explosion. And the expansion of the universe was strange. Galaxy "Milky Way" and the nearest galaxy "Andromeda" is getting close, but do not disperse and, therefore, it contradict to the law of Hubble. Far from the Earth, the galaxies. move away from each other according to the Hubble law, and at a very large distance from the Earth, near the visible edge of the universe, the galaxies cease to obey the Hubble law and begin to scatter itself off at an increased speed. There is no explanation for this.

The content of the previous sections of this article could create the impression that this work completely excludes the possibility of the Big Bang. This is not true. The astronomers discover relict radiation in space and believe that it originated from the Big Bang and has reached our days. There are other arguments in favor of the claim that such an event could have occurred 15 billion years ago. Let's try to draw another picture of the Big Bang, alternative to the modern picture of this event, pinned in cosmology. We present our hypothesis about the “Big Bang”.

It is based on the idea that baryonic bodies, including the elementary particles are surrounded by an ocean of dark matter and they constantly absorb gaseous dark matter from the surrounding space. In this process, the their mass and dimensions increase with the passage of time [5,6,7]. The radial flow to the centers baryon bodies are unstable and therefore the vortices was formed around the these bodies. These vortices is forced atomic nuclei to rotate with high angular speed [13].

The nuclei of atoms baryonic matter is rotated very quickly [13]., because dark gas is supplied to them with great tangential speed. Apparently, the transition of a dark gas from gaseous to liquid state (solid) is occurs at the outer boundary of the atoms ($r_0 = 10^{-10}[m]$). Here the velocity of jet of a dark gas reaches the speed of light $C = 3 \cdot 10^8 m/s$ (in a vacuum). The Angular velocity of rotation is $\omega = \frac{C}{r_0} = \frac{3 \cdot 10^8}{10^{-10}} = 3 \cdot 10^{18} [rad/s]$. The nuclei of atoms have the same speed as the atoms themselves.

A hydrogen atom has an axis of rotation and has poles respectively. We select the segment of the core of the atom wide Δr near the equator, as shown in Fig.1. The mass of this segment $dm = \rho_o r_o^2 \Delta r \cdot d\theta / 2$. This segment has angular velocity. He has a centrifugal force. (mass center located at a distance $r_m = \frac{2}{3} r_o$ from the axis of rotation)

$$dF_z = \frac{3u_o^2 dm}{2r_o} = \frac{3}{4} \omega^2 r_o^3 \rho_o \Delta r \cdot d\theta \quad (32)$$

This force is balanced by the external pressure. It is acting upon the surface segments

$$dF_p = p_{e-v} \cdot r_o \cdot \Delta r \cdot d\theta, \quad (33)$$

where the pressure of the dark gas p_{e-v} in the jet at a speed $V = C$ becomes smaller compared with the pressure p_e in the dark gas at a rate $V = 0$. These pressures are equal

[13] $p_{e-v} = p_e \left(1 - \frac{C^2}{V_{\max}^2}\right)^{\frac{\kappa}{\kappa-1}} = 2,64 \times 10^{25} [Pa]$; The pressure in the **calm gaseous** dark matter

of the surrounding space was determined by us in [5,6,7] as $p_e = 6,426 \times 10^{25} [Pa]$. The circumferential velocity at the outer edge of the atom is $u_o = \omega \cdot r_o = C = 3 \cdot 10^8 [m/s]$. The density of the nucleus of an atom of matter can be expressed by the ratio of its mass m to the volume $\rho_o = 3m / 4\pi \cdot r_o^3 \approx 10^{18} [kg/m^3]$. Segment of nucleus of an atom will be broken by centrifugal force when it exceeds the pressure force (Fig.2)

$$dF_{u,\sigma} / dF_p \geq 1 \quad (34)$$

We substitute (32) and (33) into (34), We will be obtained the condition of destruction of atomic nucleus by centrifugal force

$$\frac{dF_z}{dF_p} = \frac{9\omega^2 m}{16\pi \cdot r_o p_{to} \left(1 - \frac{C^2}{V_{\max}^2}\right)^{\frac{\kappa}{\kappa-1}}} \geq 1 \quad (35)$$

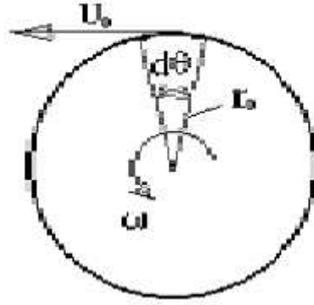


Fig.2

The hydrogen atom (Nucleon) and pressure in a dark gas characterized by the following parameters: mass is $m = 1,673 \times 10^{-27} [kg]$, angular velocity is $\omega = 3 \times 10^{18} [s^{-1}]$, the core radius is $r_o = 10^{-15} [m]$, the radius of the atom is $r_A = 10^{-10} m$, the pressure in the dark gas [6,13] $p_{eo} = 6,426 \times 10^{-25} [H/m^2]$. For a nucleus of a **hydrogen** atom we have (35) $dF_{u,\delta} / dF_p = 0,0187 < 1$. Consequently, the nucleus of an atom can not be broken by centrifugal forces.

The transition process gaseous dark matter into the liquid phase at the boundary of the atoms increases their weight and dimensions. Next we estimate how long it took to fill the nucleus of atom by liquid dark matter to its present size. From expression (19) the growth rate is determined

$$\frac{dm}{dt} = \frac{\alpha}{k} m. \quad (36)$$

The mass of atom in accordance with the law (19) increases in time not uniform. As the average value of this increase will take the value of $(\frac{dm}{dt})_{mdl} = 0,7 \frac{\alpha}{k} m$. The mass of atom considering this value will be increased in the time interval in accordance with the expression is $m = (\frac{dm}{dt})_{mdl} \Delta t$. The present value of the mass of atom of hydrogen

$$m = 1,67 \cdot 10^{-27} [kg]. \text{ This mass accumulates over time } \Delta t = \frac{m}{(\frac{dm}{dt})_{mdl}} = 0,48 \cdot 10^{18} [s] = 15,3 [Gyr].$$

This time is of the order of the life of the universe from birth to the present day.

Liquid dark matter fills the nuclei of atoms for a long time. The mass of an atomic nucleus will increase in accordance with the law (1). The process of filling of atomic core with liquid dark matter will increase the weight and volume to the limit value. As a result, the condition for the destruction of the atomic nucleus by centrifugal forces will come (12).

A further increase in mass will lead to the destruction of atoms in the entire universe. For all matter in the universe annihilation of a substance can occur at the same time (by astronomical standards). It is likely that this will be accompanied by

a simultaneous explosion. This will be the Big Bang. At the same time, of course, there is no need for the explosion of a single “super-dense elementary particle,” the structure of which even the most violent imagination could not imagine. Do not also need an explosion of empty space with its subsequent expansion?

In this case, the Big Bang will start everywhere, as if on a signal from the clock mechanism installed in each atom. Matter as a result of this explosion will decay into free atoms of a dark gas. The entire field of dark gas will be agitated by the explosion and the vortex begin formation will immediately, that is, the transformation of the dark gas into matter. The process can be repeated an infinite number of times.

You can try to estimate how much time is left until the next “Big Bang”. To do this, we use the condition of the destruction of the nucleus of an atom (35). In this case, we take into account that with increasing time, the mass of the nucleus of an atom will increase in accordance with the law $m = m_o e^{\frac{\alpha}{k}t}$. With increasing mass, the core radius will grow in accordance with the expression

$$r = \sqrt[3]{\frac{3m_o e^{\frac{\alpha}{k}t}}{4\pi \cdot \rho_o}}. \quad (37)$$

Angular velocity is not changed, as it has been defined for the circumferential speed at the far edge of the atom, but not to its nucleus. With these remarks, the destruction of the state of the nucleus of an atom (hydrogen) takes the form

$$\frac{dF_z}{dF_p} = \frac{9m_o \omega^2 e^{\frac{\alpha}{k}t}}{16\pi \cdot \sqrt[3]{\frac{3m_o e^{\frac{\alpha}{k}t}}{4\pi \cdot \rho_o}} \cdot p_{eo} \left(1 - \frac{C^2}{V_{\max}^2}\right)^{\frac{\kappa}{\kappa-1}}} \geq 1 \quad (38)$$

where $\kappa = 5/3$, $p_e = 6,426 \times 10^{25} [Pa]$, $u_o = C = 3 \times 10^8 [m/s]$, $m_o = 1,673 \times 10^{-27} [kg]$, $\omega = 3 \cdot 10^{18} [s^{-1}]$, $\alpha/k = 2,97 \cdot 10^{-18} [s^{-1}]$. Calculations was been shown that this condition is satisfied when the size of the nucleus of the atom was increased 2.02 times. By that time has passed $t = 32 [Gyr]$..

Thus from the previous "Big Bang" the time was passed 15,3[Gyr]. The next "Big Bang" you have to wait more 32[Gyr]. Thus it is necessary to reckon with the fact that we had not a exact calculation, but we have a estimate. The values obtained can be refined.

This hypothesis of the nature of the Big Bang partly coincides with one of the two previously considered theories of the Big Bang in that the explosion occurs simultaneously and everywhere in the entire Universe. **The fundamental difference is that not empty space explodes, but all atoms of the baryonic matter of the Universe or most of it explode as if by a clock signal. But this does not lead to an expansion of the space of the Universe.**

"Heat Death" of the Universe

Together with the erroneous theory of the Big Bang in academic science there is an idea of the "thermal death" of the Universe. In accordance with these ideas, the universe was born as a result of the Big Bang and after some time must die. What will happen next? Unknown.

The account of energy accumulation inside baryonic matter due to absorption of the dark matter may change representation about the "Heat Death" of the Universe. The ideas about the "Heat Death" were first grounded by W. Thomson in the work "On a Universal Tendency in Nature to the Dissipation of Mechanical Energy" (Proceedings of the Royal Society of Edinburgh for April 19, 1852). The idea of heat death stems from the second law of thermodynamics, which states that entropy tends to increase in an isolated system because of the dissipation of mechanical energy, which is converted to heat. Energy recovery is impossible because the dissipation is an irreversible process. As a result of strong compression by force of gravity in any star at some instant the nuclear reactions begin to act and then nuclear processes permanently take place for billions of years. When the nuclear fuel ends stars fade out of sight, turning into a lifeless mass. The energy is permanently radiated during the lifetime of stars and irreversibly dissipates in the surrounding space. So a "Heat Death" of the Universe permanently comes close (hypothesis of Clausius).

Such a pessimistic view of the nature of the Universe arises if we consider only one type of matter i.e. the usual (baryonic) matter ignoring another form of matter - dark matter and interaction between these two kinds of matter. In nature there is a continuum of dark matter that surrounds the baryons and there are pressure forces, which generate the radial flows of gas dark matter towards the centers of baryons, replenishing within them the amount of mass and energy. This permanent creation process is not taken into account in the analysis of the processes taking place in the stars, planets and other baryons of the Universe. This leads to a distorted picture of the world and to conception of the "Heat Death." In reality, the baryonic bodies from the smallest to the biggest are in permanent change, absorbing the dark matter and energy from the continuum of dark matter.

In connection with this, I note that the law of mass growth of all baryonic bodies, including photons of light, $m = m_0 \cdot e^{\frac{\alpha t}{k}}$ is universal for the entire Universe. According to [5,6,7] the quantity $\frac{\alpha}{k} = 2,97 \cdot 10^{-18} c^{-1}$. This value turned out to be equal to the Hubble constant. During the absorption by a star of dark matter from the surrounding space, the radial velocity of the gaseous dark matter on the spherical surface of the stars is determined by the formula [5,6,7]

$$V_r = \alpha m_0 / 4\pi\rho_e r_0^2, \quad (39)$$

where r_0 is the distance from the center of the star and is the mass of the star m_0 , according to [5,6] [$\alpha=1c-1$], the density of dark matter $\rho_e = 1,19 \cdot 10^9 [kg / m^3]$ (in the parameters of baryonic matter, the density of a gaseous dark matter $\rho_e^* = 3.54 \times 10^{-9} [kg / m^3]$).

A dark matter, possessing mass and speed, gets inside cosmic bodies and introduces in the also a kinetic energy. In this case, the power due to the kinetic energy of the dark matter introduced into the body will be written for baryonic matter in SI units in the following form

$$N_{nozi} = \frac{dm}{dt} \cdot \frac{V^{*2}}{2} = \frac{\alpha^2 \cdot \frac{\alpha}{k} \cdot m_o^3}{(4\pi \cdot \rho_e \cdot r_o^2)^2} \quad (40)$$

where N_{nozi} is the power of a gravitational absorption. The rate of a transformation of a dark matter into a baryonic matter is determined by the formula [5,6,7]

$$\frac{dm}{dt} = \frac{\alpha}{k} m_o \cdot \quad (41)$$

It follows from the formula that, the global Hubble constant $H = \frac{\alpha}{k} = 2,97 \cdot 10^{-18} s^{-1}$

longer is no simply a proportionality coefficient in Hubble's law, but it acquires the meaning of the speed of transformation of a dark matter into a baryonic matter when it is absorbed by bodies from the surrounding space. The coefficient of mass conversion rate [5,6,7] $k = 3,36 \cdot 10^{17}$

It is interesting to note that the luminosity of stars, that is, the radiation power in space, depends on the mass and radius of the star. Analysis of the known mass-luminosity and radius-luminosity diagrams [2,3] showed that for large stars with a mass of three or more times greater than the mass of the sun, the luminosity is proportional to the cube of mass and inversely proportional to the fourth power of the radius of the stars. In accordance with formula (40), the gravitational absorption power is also proportional to the cube of mass and inversely proportional to the fourth power of the star radius. Consequently, we can expect that the luminosity of stars with large masses is proportional to the absorption capacity, ie is proportional to the gravitational power of the absorption of the kinetic energy of the jets of the dark gas absorbed by the stars.

We believe that with the phenomenon of energy accumulation considered, the stars are associated with grandiose explosions in galaxies [2,3,10,11], which astronomers observe. With these explosions, a huge energy of the order of 10^{51} J is released, equivalent to a simultaneous nuclear explosion of 10 million supernovae. (the

energy of the explosion in the galaxy M82). The energy of explosions occurring in radio galaxies is estimated at 10^{57} Joules.

From where this monstrous energy comes, astrophysics can not explain, since the nuclear energy source is completely inadequate for this (the energy and mass of bodies are identical and interrelated by the formula $E=mc^2$). The transition in helium of matter of the whole galaxy ($m_{gal}=10^{40}-10^{41}$ kg), consisting entirely of hydrogen, would give, according to the corresponding Einstein formula, only energy $E_{zai} = m_{gal} \cdot C^2 \approx 10^{56}-10^{57}$ J. (Only part of the mass, the so-called mass defect equal to 1/130 of this mass, passes into the energy during thermonuclear transformations. Consequently, this energy will be even smaller $E^* = E_{zai} / 130 = 0,77 \cdot (10^{54} \dots 10^{55}) J$. But such a transition can not be a one-time process, because this must be realized for billions of years, since the stars in galaxies are spaced apart from each other at distances of billions of kilometers, and the rate of transmission of perturbations in the universe from one object to another does not exceed the speed of light. This simple analysis shows that the **source of this energy released during these mysterious explosions should be a compact cosmic body**. But without the realization that the cosmic bodies interact with the gaseous dark matter surrounding them and they absorb the energy from the space it is impossible to understand and explain this phenomenon.

The theory of gaseous dark matter answers on this question. In the "black hole" gaseous dark matter is converted into a neutron liquid of high density and this occupies small volume. At the same time, within the "black hole" in the center the galaxy, energy is accumulated, absorbed from space along with dark matter, as "Black hole" does not emit energy. Because of the small intrinsic size of the atoms of the dark gas, the process of absorption of a dark gas and matter is stretched for billions of years, but invariably ends with the creation of a new substance and its ejection into the expanses of the Universe. The astronomers on the basis of their observations argue, that It is from the nuclei of galaxies that there are expirations of the huge masses of the neutral gases. The calculation by formula (17) allows us to determine the power introduced into the "supermassive neutron black hole"

$$N_{u.o.} = \frac{2,97 \cdot 10^{-18} \cdot (10^{39})^3}{32 \cdot 9,86 \cdot (1,19 \cdot 10^9)^2 \cdot (1,135 \cdot 10^{10})^4} = 0,4 \cdot 10^{39} Bm \quad (42)$$

As parameters of the "black hole" the following values are accepted: Black Hole Mass $m_{uo} = 10^{39} kg$, Black Hole Radius $r_{uo} = 1,135 \cdot 10^{10} m$. For 15 billion years inside a massive "black hole" will accumulate energy.

$$E_{u.o.} = N_{u.o.} \cdot 15 \cdot 3,15 \cdot 10^{16} = 1,9 \cdot 10^{56} Дж \quad (43)$$

By this energy is enough to explain the grandiose explosions in the galaxies [2,3,10,11], which are observed by astronomers. As already noted, during these explosions, a huge energy of the order of 10^{51} J, equivalent to a simultaneous nuclear explosion of 10 million supernovae, is released. (the energy of the explosion in the

galaxy M82). The energy of explosions occurring in radio galaxies is estimated at about 10^{57} Joules. Despite the fact that stars-"black holes" can not be seen, it can be confidently asserted that they are not lifeless holes or mythical corridors to other worlds. They continuously accumulate mass and energy. Within them, the substance is compressed to densities close to the densities of the stars of pulsars and white dwarf stars ($0.4 \cdot 10^8 [\text{kg}/\text{m}^3]$ - $0.9 \cdot 10^{12} [\text{kg}/\text{m}^3]$).

Thus, supermassive neutron black holes in the centers of galaxies are huge boilers in which new matter is brewed from dark matter and from absorbed stars for its further circulation on the expanses of the Universe.

On the problem of warming the Earth's climate

Formula (40) allows us to calculate the power of the heat flux absorbed by the Earth from space $N=1,7 \cdot 10^9$ [W]. Here: the mass of the Earth $m_o = 6 \cdot 10^{24}$ kg, the radius of the Earth $r_o = 6,4 \cdot 10^6$ m. The earth practically does not radiate energy from itself. This energy flow increases the internal energy of the Earth's interior. For 1 billion years, energy is supplied to the interior of the Earth $E_{nozt.} = 5,35 \cdot 10^{25}$ [J]. Those. for each kilogram of matter of the Earth, on average, about 10 J.

Apparently, this flow of thermal energy affects the observed increase in volcanic activity, the movement of lithospheric plates, earthquakes and the warming of the Earth's climate. However, the increase in subsoil temperature can not be identified with the everyday notion of climate change and weather on its surface. But the general trend is that the Earth is warming up. This certainly leaves its imprint on the climate. This factor is not taken into account among the numerous causes that influence the current warming of the Earth's climate.

The cycle of matter and energy in the universe

The constant cycle of matter and energy in the universe is explained by the fact that all baryons exist not in the empty space, but in the continuum of gaseous dark matter that regulates this cycle. The tremendous energy that stars radiate throughout their lives and are released during their explosions. does not dissipate irreversibly in the surrounding space, but passes into the surrounding dark gaseous matter, increasing its internal energy of chaotic motion of atoms of dark matter. The continuum of dark matter, as noted earlier in [5,6,7], contains a huge internal energy. The yach cubic meter of gaseous dark matter contains energy $E_c=9.64 \times 10^{25}$ [J].

Although the dark gas is invisible, he has no smell, no the taste, we sense it through a gravity, a inertia, a electromagnetic influences. We, following Einstein, believe that all fundamental interactions (fundamental interactions is including

gravitational forces, inertial forces, nuclear forces, electromagnetism and electroweak forces) are derived from a Unified field. We believe that it is the dark matter of the cosmos that is the **material Unified field** that unites all of the listed fundamental interactions, and also is includes a cycle exchange of energy between baryon and dark matter and influences the laws of light propagation in the space between distant stars .

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