

# The LAW of The Hubble – COSMOGONIC ERROR

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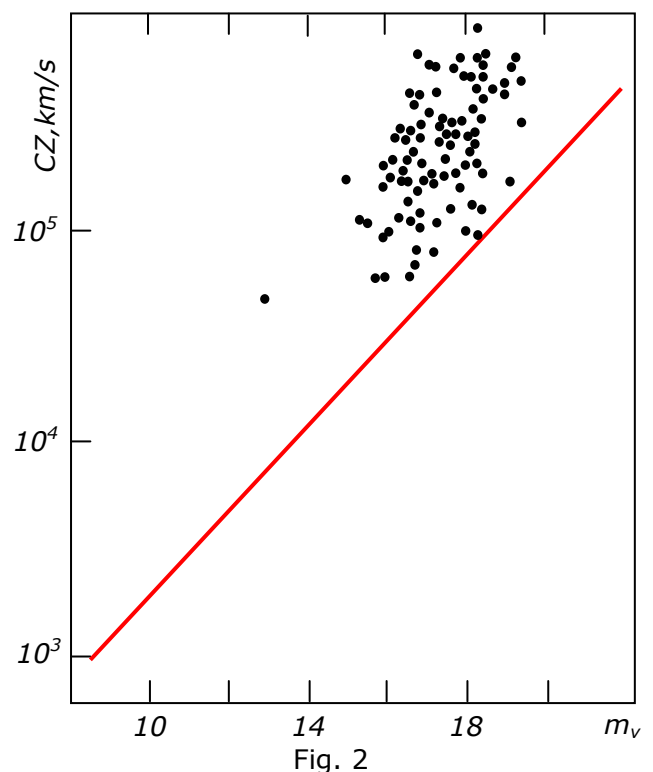
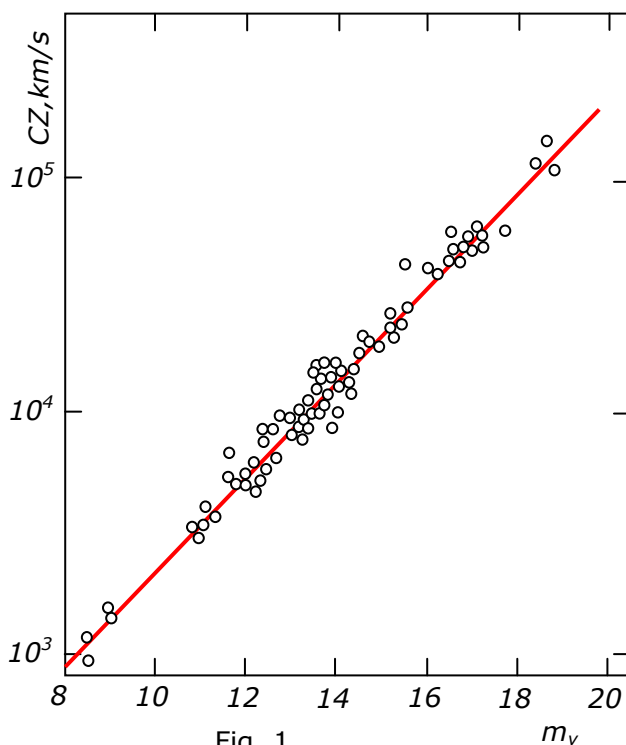
## Abstract

In the article the problems, bound with the law Hubble are reviewed

At first we shall consider two paradoxes, bound with the law Hubble.

1. The Universe after Big Bang should be expand with negative acceleration because of a gravitational interaction all of its parts. But the observations demonstrate, that the further objects of the Universe are arranged from us, the the greater red displacement of spectral lines they demonstrate. If to explain this displacement by Doppler effect, is received, the further objects of the Universe are arranged, the they leave from more fast us, that contradicts common sense, since these objects after Big Bang moving on inertia, i.e. in a slowed-up way.

2. The miscellaneous values of a constant in the law Hubble, obtained in miscellaneous time and miscellaneous researchers indirectly indicate an inaccuracy of this law. After discovery of quasars this error has become apparent if to compare a figure 1, demonstrating a validity law Hubble on relation of red displacement to visible stellar magnitude (proportional spacing interval) for brightest of galaxies of agglomerations and same relation for quasars on a figure 2, where the straight line is copied from a figure 1. The data are borrowed from the book: I.D. Novikov, Evolution of the Universe, M., 1983, page 27 and 63.



To be advanced further, here it is necessary more in detail to consider notions of new physics about motion of supernucleus splints from center of the Universe to peripherals after Big Bang. As at the subsequent decay of a debris the energy release is significant less, than at the previous decay, that is well shown in chapter 29.7.1 [1], it is represented apparent, that in process of supernuclei decay and advance from center of Big Bang any

debris can not return back. Besides it can not even completely be stopped. At the same time, in a direction from center of the Universe the debris of a supernucleus at decays receive padding impulses and similarly to a rocket on a reactive thrust support high speed of motion, which one for the extremest debris all time is close to speed of light, while the process of supernuclei decay was not completed. Thus, on any spacing interval from center of the Universe there are objects with the most miscellaneous speeds from near-zero up to almost equal speed of light. But on the average speed of objects with increase of spacing interval from center of Big Bang will be augmented, as a consequent of «jet propulsion». On the other hand, with increase of spacing interval the gravitation of the greater volume of the Universe is augmented.

Naturally, that some time the space objects born from debris of a supernucleus will prolong an inertial motion in spite of the fact that the force of world-wide attraction effectively brakes their motion. As a whole, the described picture as if confirms the Hubble law if not to allow of some oppositions set up below. Fast driving peripheral of a supernucleus debris are metastable, but under operating of negative acceleration there comes the moment, when they lose repeatability and are disintegrated. On this spacing interval from center of the Universe we is observed quasars and quasars. The rotated debris at first will forms the intercepted galaxy with numerous satellites from more small-sized splash of a supernucleus, and is weakly rotated - elliptic galaxies. Behind a zone of quasars we nothing shall see, since here objects beam forward on motion, and to us the radiation misses (chapter 24.8 [1]). Besides these objects are effectively braked not only at the expense of a gravitation to center of the Universe, but also at the expense of braking recoil at radiation of more vigorous photons in a current of traffic (chapter 29.5.1 [1]). Thus, the zone of quasars was radially diffused from center of the Universe, in due time has give birth to also us, and now is on outskirts by the observed Universe. This zone always marks purlieus by the Universe in process of its extension. In back of a zone of quasars the activity of galaxies rather fast die to dictum away, in a weakly degree being supported only in cores of galaxies. Here space objects can some time move only on inertia since the effect of jet propulsion disappears together with the termination of supernuclei decay. Therefore for galaxies having the red displacement  $Z = 0.003 \div 0.3$ , the figure 1 formally confirms a validity of the Hubble law.

In chapter 25 [1] the neoclassic theory of gravitational red displacement as the approximated formula (25.4 [1]) for deleting a photon on indefinitely large spacing interval from a source and precise formula (25.9 [1]) for deleting a photon on any spacing interval is given. In view of the data for the Universe as a whole, obtained in chapter 29.1 [1] the formula (25.4 [1]) starts a kind (24.8.2 [1]) of chapter 24.8 [1], which one should be played back again:

$$z = \frac{1}{1.00295 \left( \frac{r_0}{r} \right)^2 - 1} \quad (1),$$

where  $r_0$  - radius of the Universe,  $r$  - current radius,  $z$  - red displacement.

Correctly to use the formula (1) it is necessary to understand, that the maximum gravitation of the Universe is watched on it outskirts similarly, how the maximum gravitation of ground is watched on its surface. In process of deepening in ground the gravitation decreases and receives zero value in center of the Earth. Therefore at motion of a photon to a surface of the Earth it will be «show blue» since is diffused from area of a weakly gravitational field in area strong. At intersection of a surface of the Earth and further advance to its center (in deep mine) the photon will be «to blush» pursuant to the formula (1). Precisely same its behavior in the Universe with that only by difference, that a photon can not move from the outside, but only from boundary of the Universe inside to center, where, approximately, we are, therefore always «blushes» at such motion. Under the data of the book: P. Hodge, *Galaxies, M.*, 1992, page 148 of most of all observed quasars have red displacement  $Z = 2 \div 3$ , with  $Z > 3.5$  it is few of them, and with  $Z < 2$  too very little. Let's plot the chart  $z=f(r_0/r)$  for the indicated data under the formula (1) (figure 3).

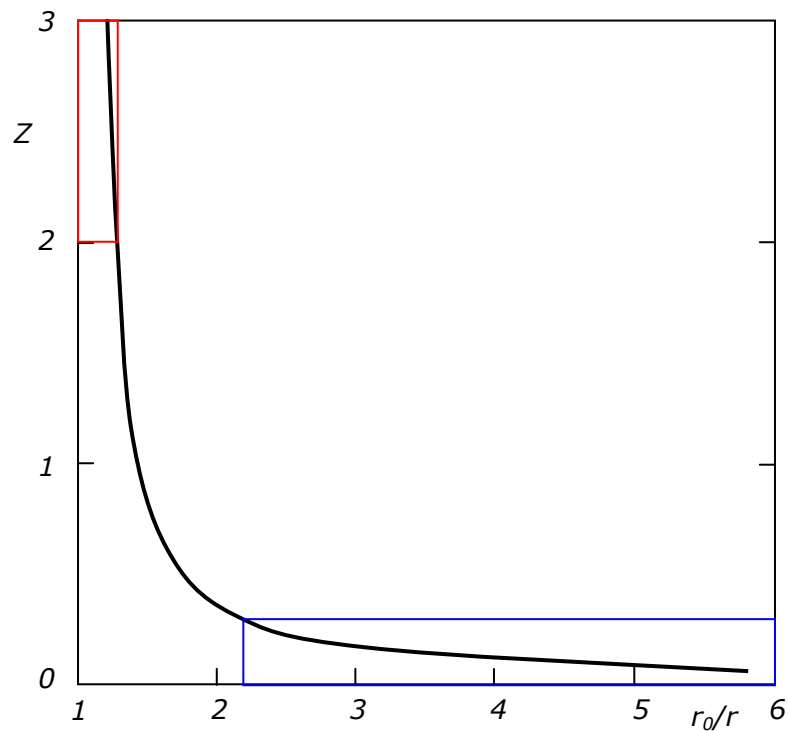


Fig. 3

On a figure 3 cyan orthogon shown area of red displacement of galaxies applicable to a figure 1, and red orthogon area of red displacement of quasars applicable to a figure 2. We see, that both in the field of galaxies, and in the field of quasars the red displacement practically is directly proportional to spacing interval from the spectator since in these areas the branches of a curve practically are rectilinear. The deviations upward can be detected only for distant galaxies. In the field of quasars the red displacement considerably exceeds anticipated on the Hubble law for galaxies, that is confirmed by a figure 2. In an interspace between distant galaxies and near quasars we anything to see we can not, since because of distance of a galaxy are already unapproachable to observation, and the quasars are not visible yet, since the zone of their activity places much further. From a figure 3 it is possible to draw a conclusion, that almost half of Universe (on radius) is unapproachable to observations. On a volume we is observed a insignificant part.

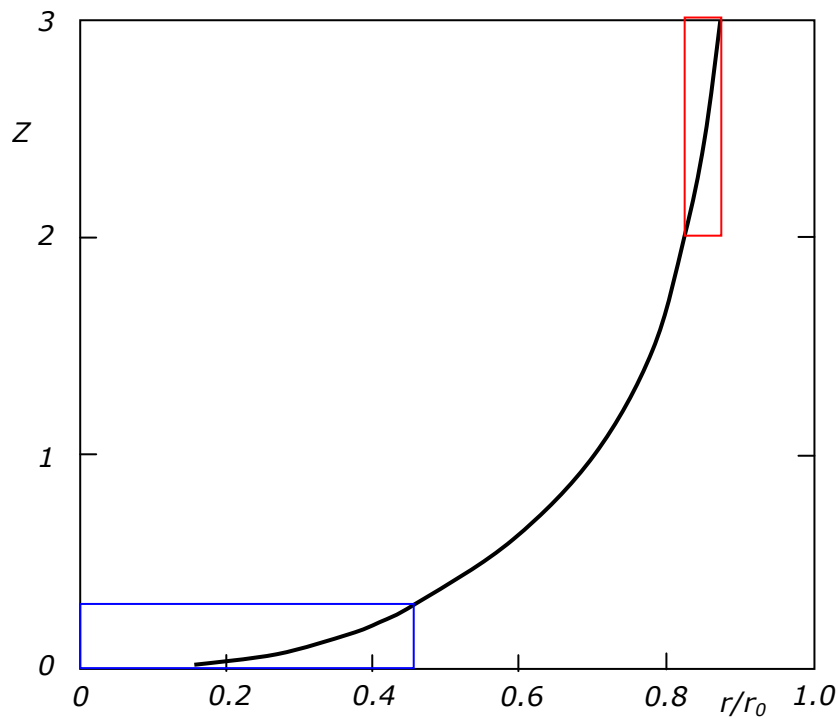


Fig. 4

The figure 4 is similar to a figure 3 with that difference, that on an abscissa axis it is possible directly to read out spacing interval from the spectator up to any point of the Universe, the edge corresponds to which one  $r/r_0 = 1$ . We see, that the quasars are as a lamina and are arranged approximately on one spacing interval from us.

The Hubble law is stated as follows (Physics of space, M., 1976, page 118):

$$z = \frac{v_0 - v}{v} = \frac{1}{c} H \cdot r \quad (2),$$

where  $H$  – Hubble constant.

Equating (1) and (2), we shall discover as «constant» of Hubble varies depending on spacing interval. On a figure 5 this relation is shown. The broken lines limit area of galaxies and quasars. We see, that for quasars «constant» of Hubble more twice exceeds its value for galaxies, and in the field of galaxies «constant» of Hubble linearly grows with spacing interval up to  $H/c \sim 0.5$  at  $r/r_0 \sim 0.45$ , whence  $H \sim 109$  kms/s on a megaparsec, if radius of the Universe to accept equal 10 billions of light years. As in the field of galaxies «constant» of Hubble grows practically linearly, on the average it will be peer  $109:2 = 54.5$  kms/s on a megaparsec, that almost coincides modern value of this value obtained after of long excruciating.

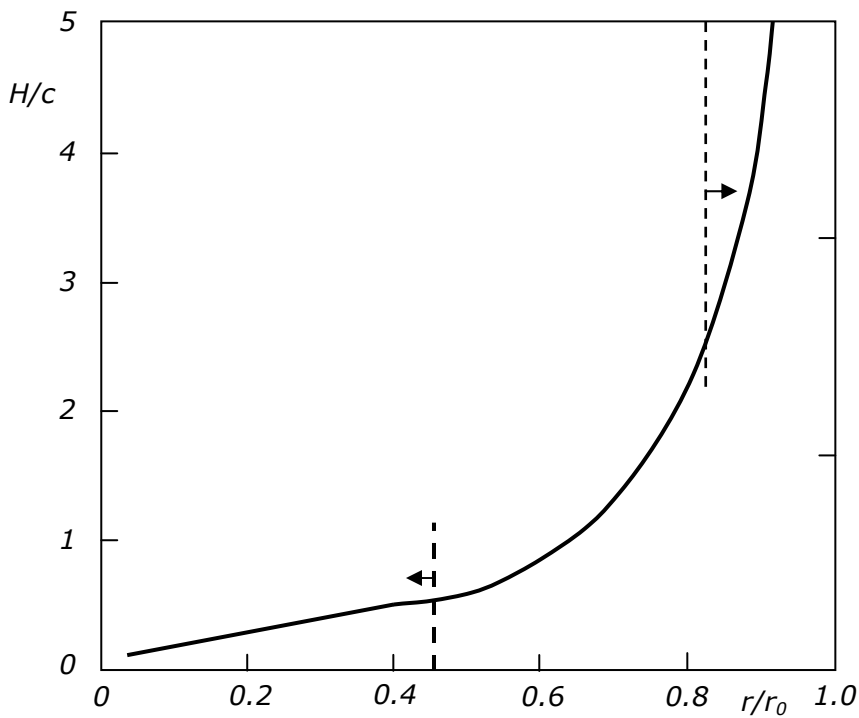


Fig. 5

Here it is necessary to mark following relevant circumstance. As main argument of red displacement at the expense of Doppler effect consider experimentally demonstrated persistence of relation  $\Delta\lambda/\lambda$  on all an extent of an electromagnetic spectrum (O. Struve etc., Elementary astronomy, M., 1967, page 421). Any other explanations of red displacement contradict this fact. However gravitational reason of the red displacement which has been set up in this chapter also has an independence property of relative change of a wavelength of radiation at the expense of red displacement from energy of this radiation. Besides the gravitational red displacement gives the same value «to a constant» of Hubble, which one is obtained officially. Therefore gravitational red displacement is almost ideally masked off under the Hubble law.

Thus, it is possible to make a main conclusion: the red displacement of remote objects is conditioned not by that they move the faster, than further are (it is nonsense from the point of view of common sense), and that they beam on definite spacing interval from the spectator. Thus their proper motion can not demonstrate so considerable red displacement because of general negative acceleration of the extension of the Universe, i.e. the effect of gravitational displacement considerably overlaps Doppler effect (if those is), specially on large spacing intervals from center of the Universe. An indirect proof of this conclusion is that fact, that the local group of galaxies does not obey to the Hubble law of linear dependence: red displacement - spacing interval (O. Struve etc., Elementary astronomy, M., 1967, page 419). The gravitational red displacement as against the Hubble law establishes almost monosemantic connection between relative red displacement of a source of spectral lines and position of this source in the Universe.

Prima facie it seems that to separate gravitational red displacement from Doppler effect it is impossible. However it not so. On observed red displacement under the formula (1) we shall discover  $r$  in fractions of radius of the Universe, if  $r_0$  to accept for unit. Further it is necessary to know precise spacing interval up to interesting space object, then it is easy to define radius of the Universe. If the Doppler effect has not essential value, all values of radius of the Universe obtained by a similar way should coincide, i.e. it is possible to define «standard» radius of the Universe. Then all deviations from «standard» radius are connected to Doppler effect, it is possible to distinguish which one in the pure state. Thus, the independent definition of spacing interval up to space objects again becomes actual.

One more independent evidence of an inaccuracy of the Hubble law consists in following. The relative red displacement of spectral lines on wavelength observed  $\lambda$  and laboratory  $\lambda_0$  is determined so:

$$z = \frac{\lambda - \lambda_0}{\lambda_0} = \frac{\lambda}{\lambda_0} - 1 \quad (3),$$

if a wavelength of radiation to express through frequency  $\nu$ , we shall receive:

$$z = \frac{\nu_0 - \nu}{\nu} = \frac{\nu_0}{\nu} - 1 \quad (4).$$

The effect of the Doppler on official physics (see chapter 24.8 [1]) is determined by the formula:

$$\nu = \nu_0 \frac{\sqrt{1 - \left(\frac{V}{C}\right)^2}}{1 + \frac{V}{C} \cos(\pi - \alpha)} \quad (5),$$

and new physics gives for it expression:

$$\nu = \nu_0 \left( \frac{V}{C} \cos \alpha + \sqrt{1 - \left(\frac{V}{C}\right)^2 \sin^2 \alpha} \right) \quad (6).$$

In chapter 24.8 [1] is shown, that the official formula results in absurd outcome at radiation in a current of traffic of a source ( $\alpha = 0$ ). Backwards ( $\alpha = \pi$ ) in this formula the common sense is saved (at  $V \rightarrow C$ ,  $\nu \rightarrow 0$ ; at  $V \rightarrow 0$ ,  $\nu \rightarrow \nu_0$ ).

At  $\alpha = \pi$  (we receive radiation from a source, escaping from us) (5) and (6) with the registration (4) will give under the official theory

$$z = \frac{1 + \frac{V}{C}}{\sqrt{1 - \left(\frac{V}{C}\right)^2}} - 1 \quad (7),$$

under the theory of new physics

$$z = \frac{1}{1 - \frac{V}{C}} - 1 \quad (8).$$

Further, to receive the Hubble law, the orthodoxes will use following fraud in act. At  $V \ll C$  the expression (7) will be converted to a kind:

$$z = \frac{V}{C} \quad (9),$$

whence is received, that the red displacement is directly proportional to escape velocity of a stimulus source, it is necessary only speed to express through the Hubble constant and spacing interval up to object to receive (2). By the way, at  $V \ll C$  (8) gives too (9). As at  $z \geq 1$  fraud in act at once finds out, the orthodoxes refer to a special relativity theory. We shall not hide trumps in a sleeve, and we shall lay out them at once on table. On a figure 6 curves 1 are demonstrated by the graph of the formula (7), and curve 2 - graph of the formula (8).

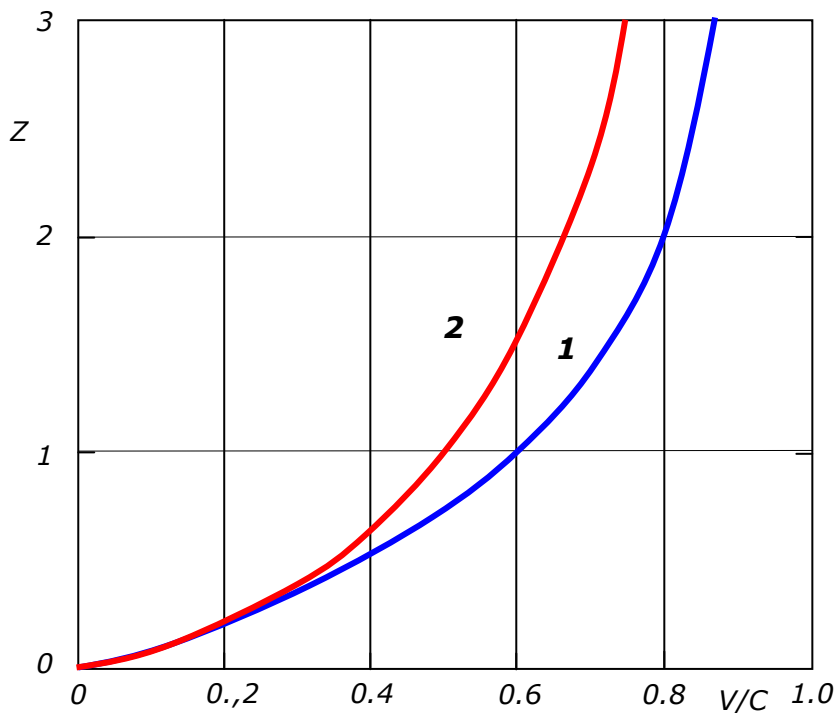


Fig. 6

From a figure it is visible, that the connection of red displacement from a running speed of a source is not much linear, therefore Hubble law is not valid neither from the official point of view, nor from the point of view of new physics. Besides at  $z \geq 0.3$  substantial speeds of a stimulus source are significant less, than counted up on the official formula of Doppler effect, therefore it is necessary to introduce the essential corrections to the adherents of the «dilative» Universe.

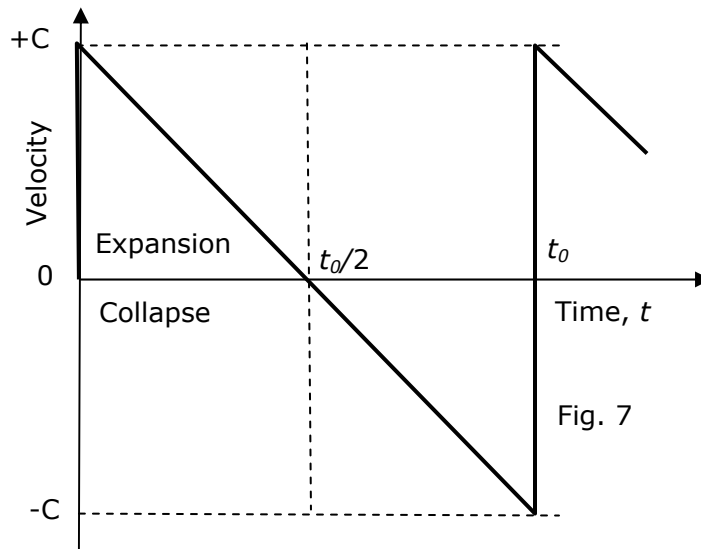
Here opportunely again explicitly to consider the mechanism of decay of supernuclei after Big Bang. The first debris of a supernucleus moving almost with speed of light, at small reduction of a running speed their metastability fades and there is a repeated decay. Again formed debris appear metastable only in a radial direction from center of Big Bang at the expense of jet effect. Remaining practically stop (in matching with speed of light). Therefore without a large error it is possible to consider, that the radiation, received by us, outgoes from «fixed» sources, and the red displacement is conditioned by gravitational effect. The high luminosity of quasars confirms that fact, that we receive radiation from the at one time stopped debris of supernuclei, which one were intensively disintegrated in that moment.

### About what the constant Hubble speaks?

On a figure 7 the approximate saw-edged curve of evolution of the Universe is figured. In a conditional point  $O$  there was a Big Bang and debris of the Universe begin to scatter with almost light velocity  $C$ . Law an energy conservation requires, that the total of general energy of the Universe  $E$  (should be possible to express which one in a mass equivalent:  $m=E/c^2$ ) and gravitational mass  $M$  (can be expressed which one in an energy equivalent:  $W=Mc^2$ ) remained a stationary value:

$$E+Mc^2=U \quad (10),$$

where  $U=const.$



The formula (10) displays, that at expansion of the Universe its gravitational mass is incremented at the expense of transmutation of energy into matter, and at a collapse decreases at the expense of transmutation of matter into energy. Naturally, that the full interconversion is impossible. For example, for a neutrino the ratio of energy to mass is maximum, and for a proton this ratio is minimum.

In accessible to observations of a part of the Universe (Metagalaxy) the velocity of removal of extragalactic objects is approximately proportional to distance up to them:

$$V=HS \quad (11),$$

where  $H$  – constant of Hubble ( $\sim 55$  kms/sec.Mps),  $H^{-1} \sim 5.5 \cdot 10^{17}$  sec  $\sim 18$  billions years;  $S$  – distance up to object. In (11) under  $V$  it is necessary as a matter of fact to understand  $\Delta V$ , since we measure not absolute, and relative (beam) velocity.

From a figure 7 it is visible that to ensure fulfilment of the law Hubble (11) it is possible by an alone way: if after Big Bang the Universe will become to be dilated **with stationary values by negative acceleration** down to full stop of process of expansion in a point  $t_0/2$ , where  $t_0$  – time of one cycle of evolution of the Universe. Watching the remote object in an instant  $t$ , we are automatically dislodged back on a time axis on value:

$$\Delta t=S/c \quad (12),$$

where  $c$  – speed of light.

By dividing (11) on (12), we shall discover negative acceleration at expansion of the Universe:

$$a=H \cdot c=5.45 \cdot 10^{-8} \text{ cm/sec}^2 \quad (13).$$

Equating the second Newton's laws and law of gravitation, we shall discover expression for acceleration of a body, which one is on an edge of the Universe:

$$a=GM/R^2 \quad (14),$$

where  $G$  – gravitational constant,  $M$  – mass of the Universe,  $R$  – radius of the Universe.

From the formula (14) it is visible, that at a stationary value to mass of the Universe the acceleration can not remain to stationary values and decreases on an absolute value in inverse proportion to a square of distance up to a centre of gravity. This case concerns to single-pass Big Bang with an after expansion of the Universe on inertia. If mass of the Universe after Big Bang will grow proportionally to cube of distance up to center (that corresponds invariable in time of mean density of the Universe), the negative acceleration will grow proportionally to radius of the Universe. That the negative acceleration at expansion of the Universe remained to stationary values and corresponded to the law Hubble, mass of the Universe at expansion should grow proportionally to square of radius of the Universe. Thus, the law Hubble as a matter of fact asserts, that together with expansion of the Universe on inertia after Big Bang mass of the Universe so simultaneously grows, that its mean density gradually decreases.

References:

1 <http://www.new-physics.narod.ru>