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OF THE REPUBLIC OF KAZAKHSTAN

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SOLUTION OF THE COSMOLOGICAL PROBLEM IN THE APPROXIMATIONS (PART-1)

Abstract. To determine the state of the Universe at any pre-specified time it is possible only to a cyclic model in which the entropy of a cycle is equal to zero, and the mechanism of evolution works exactly obeying the principles of Kant-Laplace determinism. The loop with extremely high probability can be established by boundaries quantitative applications of General relativity. As this area manifests itself for a huge period of time, it is impossible to determine it empirically. This article suggests the mediate path based on the determination of the structural transformations limits of dynamic variant of Minkowski geometry, which group of transformations is invariant. Taken as a basis instead of the Riemann geometry, it is possible to carry out the solution of the cosmological problem in six approximations with the definition of the most important quantitative indicators of the Universe evolution.

Keywords: cosmological problem, the scope of the general theory of relativity, n-dimensional version of the Minkowski geometry, cyclic model of the evolution of the Universe, the range of values of variables, speed of light, evolution of the periodic table of chemical elements, metaperiod, "arrow of time" of cycle of the Universe, Absolute Universe, the physical nature phenomena of life and intelligence.

This article is dedicated to the solution of the cosmological problem. This is the beginning of applied research in the field of mega universe based on author's model and Absolute Universe theory. Thus, a new stage of author's research of mega universe and its results required the necessary to write this article. To date, it has already been published in 2016 in the "International Journal of Experimental Education» №3 (part II). In this embodiment of the article, a model of evolving Universe is given in several approximations directly deducing the practice of its application.

... IN THE FIRST APPROXIMATION

The cosmological problem, formulated in the 20th century, states: to determine the state of the Universe at any time in advance [6] [A. Einstein 1966: 612]. This definition imposes a restriction on the choice of a model of the evolution of the Universe: the solution of the cosmological problem is possible only for the cyclic model of the Universe, in which the oscillation frequency and wavelength remain unchanged for all conceivable cycles.

What defines the limits which carry out oscillatory motion of the cyclic Universe? Obviously, they are defined by scope of General relativity. However, A. Einstein defined this area like the general laws of conservation of energy, mass, etc. qualitatively, as universal, which is not enough to solve the cosmological problems. Quantifying scope of General relativity is still not known. Thus, beginning in the solution of the cosmological problem must be enclosed in the quantitative determination of the General relativity scope.

Since the General relativity scope is also the area of movement of the Universe within its two limits, it is necessary first to determine not only the space (distance), but also of time (duration) using the

fundamental parameter. Thus the fundamental parameter is the speed of light, which is adopted for the classical theory of relativity equal infinitely large in comparison with the speed of any bodies, and for the special theory of relativity – the ultimate and constant in the absence or constancy of gravity. The speed of light in the SR is the upper limit of the movement of bodies. And because the General relativity includes classic and special theory of relativity as special cases, and the indicators of the scope for general relativity should be the speed of light. However, it must be specific just for the General relativity. Albert Einstein identified this specificity for GR as a variable in condition of variable gravity field [7] [Einstein A1965: 210, 219, 320, 385, 392].

Hereof it is clear that the scope indicator of GR is not the variable speed of light, and its range, which is implemented in the expansion (contraction) phase for the unimaginably long period of time. This eliminates any possibility of its experimental determination. Einstein did not attempt to define this range, probably realizing the impossibility of its experimental measuring and predicting impossibility for this.

This paper attempts to study the possible range of variables values of speed of light on the basis of changes in the structure of the dynamic version of the Minkowski geometry. Minkowski himself set an example of the dynamic approach to research, proving the invariance of transformation groups of SGR and classical mechanics by an assumption: "Let "s" tends to infinity". Then 1/ ***c*** tends to zero (Figure 1), and geometry of Minkowski turns into geometry of Galileo [4] [G. Minkowski 1973: 173].

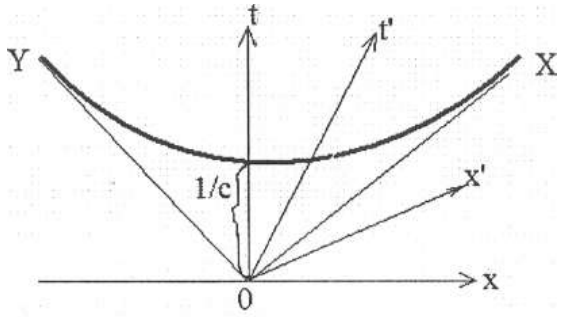

Figure 1 - Four-dimensional geometry of Minkowski

Considering Minkowski, it can be determined the other limit by examining the maximum conversion of dynamic geometry structure by an assumption: "Let "***c***" tends to zero". Then 1/***c*** tends to infinity, the angle of the "light cone" AOB (Figure 2) tends to 180 degrees, and the figure similar to the two-sheeted hyperboloid of revolution, degenerates into two parallel planes.

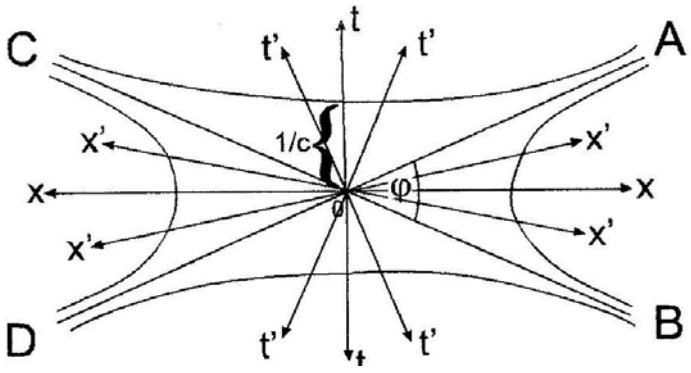

Figure 2 - Planar-section of symmetrical version of Minkowski geometry (AOB – angle "light cone")

Thus, a dynamic version of Minkowski geometry has two limits of transformations: at "***c***" of equal infinity its metric degenerates into a line of one-dimensional space, at "***c***" equal to zero – its metric degenerates into a cylindrical space. The range of values of variables of speed of light is the indicator of quantitative scope of GR.

Dynamic version of Minkowski geometry does not reject the Riemann geometry, and from the standpoint of the principle of correspondence it transforms the latest and Galileo geometry and into its particular cases, engaging in the main role and the leading geometry of the natural science.

However, in GR, built for the condition of variable gravitational field, 4-dimensional version of Minkowski geometry, designed to support the special theory of relativity (STR) cannot be used. After all, the last is correct for the conditions of the lack or constancy of gravity. GR requires such version of Minkowski geometry, which in its structure diverts place for gravitating masses. In this respect, the symmetry of the original pieces of this geometry, like one and two-sheet hyperboloid rotations, as well as the metric of space-like quadrants allow determining the area of two symmetric gravitating masses in the form of lenticular lenses in the structure of Minkowski geometry.

Also there is a need for an infinite amount of frame of reference conjugated between each other, as the geometric description of the motion of bodies brings the body of any size to the point, and geometric consideration of movement of the solid body leads to the necessity of considering the simultaneous movement of the infinite number of points. An infinite number of conjugated frames of reference for the symmetric geometry of Minkowski can be obtained through the procedure of infinite planar section passing through the axis of symmetry. As the result, we obtain an n-dimensional version of Minkowski geometry, which is a model of snapshot of one of the many stages of evolution of the Universe.

Such geometry is shown in Figure 3. In addition to the basic elements of symmetry, it has the substance symmetry and spin rotation of body due to non-holonomicity space. Such model can apply the law of symmetry of Dirac matter $E=2mc^2+T$ [5] [Dirac R.1928: 118] and Feynman theory of antiparticles, according to it the bodies, described as the model can be called the Universe and anti Universe.

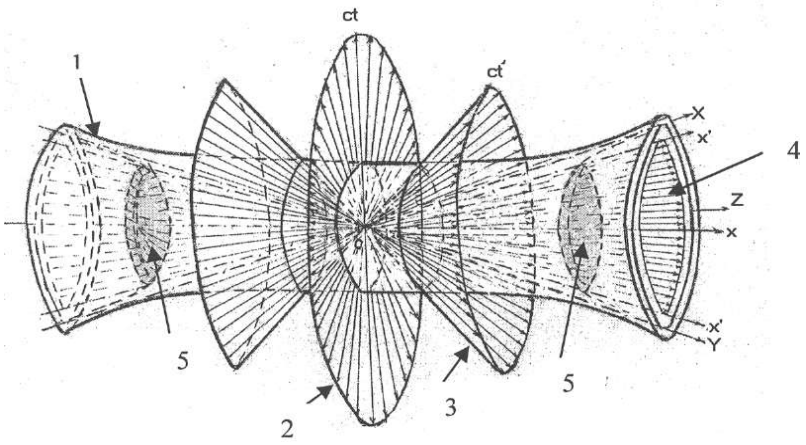

Figure 3 - N-dimensional version of Minkowski geometry
1. figure similar to one sheet hyperboloid of rotation; 2. plane of axes of resting time in reference frames;
3. surface of the cone of time coordinates of moving reference frames; 4. cone of ways coordinates of moving reference frames;
5. area of a system of two bodies responsible to the law of symmetry of Dirac matter.

Dirac law having the components of the gravitational and kinetic energy, provides the basis for the construction of the mechanics of an isolated system in a loop consisting of two phases – the expansion and contraction – two singular states of matter, on the one hand, pure electromagnetical, and on the other – pure real (neutron). In the expansion phase, the light of cone angle AOB (Figure 2) varies from 0 to 180 degrees. Form of force interaction of two worlds (gravitational wave) is determined by their surface and will give a single sphere of the Universe, undergoing ***evolution*** (Figure 4) from an elongated ellipsoid of revolution across the sphere to an oblate ellipsoid of revolution.

Last degenerates into the cylinder. At spherical stage, alignment of longitudinal and transverse deformation of the body, resulting in a temporary space isotropy is observed.

In the compression phase, at change of the angle of the "light cones" from 180 to 360 degrees the same configuration of the Universe is changed in the opposite direction. Factors of the motion of bodies in the Universe in expansion phase are the kinetic energy and entropy, and in the compression phase – gravity and negentropy, respectively.

From the point of view of the conception, there is no longer necessary to research the sign of the curvature of space at the present stage of evolution of the Universe advanced by Einstein [6] [Eistein A. 1966: 612]. Positive curvature is inherent in the spheres of two bodies; the negative curvature is inherent in pseudo-sphere, which is described by the process of the evolution of each of the worlds. Pseudo-sphere is the special case which is presented as Riemann geometry in the total geometry (Minkowski geometry).

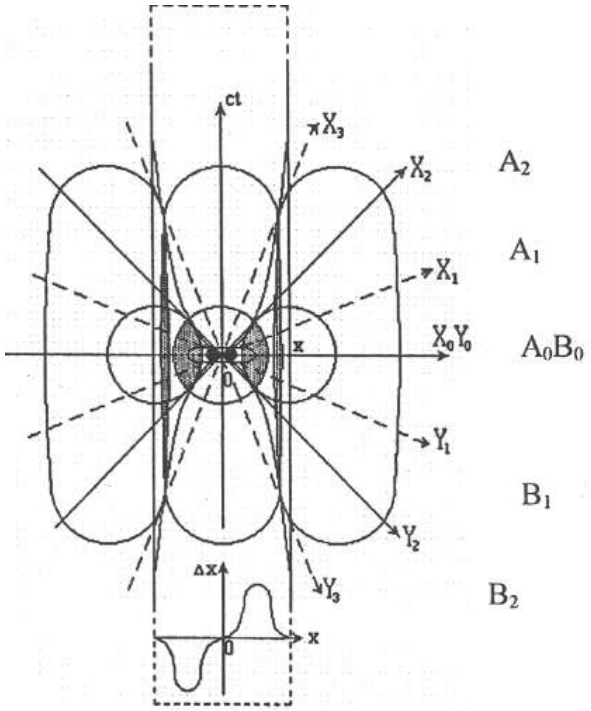

Figure 4 - Absolute Universe movement geometry. In the lower part of the figure there is a graph of the oscillatory motion which describes the PHASE EXPANSION OF THE UNIVERSE

The general scheme of the movement of the Universe at each cycle is the same, but the content by their individual systems is different. Therefore, each cycle presents the Universe and an endless number presents the Absolute Universe (a term, extended by Minkowski) consists of an unbounded number of universes.

All the foregoing enables to formulate ***the periodic law of evolution of the Universe***:

Variable configurations of bodies of universe and anti universe, as well as the configuration of the gravitational wave are in periodic dependence on the acceleration of their relative movement; acceleration of these bodies is a function of the variable speed of light connected with the angle of the "light cone" of the Minkowski geometry.

Thus, we solve the cosmological problems in the first approximation.

EXPLANATION OF THE FIRST APPROXIMATION

The solution of the cosmological problem was possible on the basis of a new theory of relativity as the highest branch of relativism – Absolute Universe theory [1] [Drozdov A.M., Zhokhov A.M., Drozdov E.A. 2011: 107-115] [2] [Drozdov A.M., Zhokhov A.L. 2014: 8-17]. Like the well-known theories of relativity, the theory of the Absolute Universe has its own geometry, the specifics of the speed of light and

quantitative scope, as well as the invariance of group of space-time transformations with the same group of transformations of the three known theories of relativity. In particular, the invariance of groups of Absolute Universe and GR is shown that n-dimensional version of Minkowski geometry describes pseudosphere – space of Riemann geometry of SR, when it is deformed by variable range speed of light values. In addition, the formulation of the periodic law of evolution of the Universe is the geometric shape of invariance of the volume of the various stages of the cyclic movement. To complete the theory of Absolute Universe we need to find an analytical expression of this invariant.

What does this theory claim essentially new? It claims the cyclical nature of the motion of bodies at the highest level of organization of matter. The periodic process of the motion of bodies is described by two terms: "pulse" and "cycle". From these two terms in modern cosmology, preference is given to the first, underlying the so-called "pulsing" model of the Universe. What is the reason that the cyclic model is not interesting for cosmology as a pressing and urgent problem? Motion cycle is established between two limits; in contrast, the pulse is characterized by vibrations within certain potentially possible, but never reachable limits. Choice of a pulsating model is due to the fact that cosmology does not know limits of the vibrational motion of the Universe, and the community of scientists today refuses to recognize such statement of the cosmological problem as lawful. Even the beginning of the expansion of the Universe in the form of so-called " zero-time point" is not the limit, although it was given the scale of the order of -33 centimeters, which is smaller than chemical element atom for 24. From the point of view of the scientific fantasy, all matter in the Universe is compressed to a tiny particle size, which has a volume that is different from zero, in order to save nature from the absurdity of infinite density of matter. For an unbiased view of the state of the Universe it is almost obvious that here we have the quality limit state not only of space and time, but also for matter. The Universe has two characters: the substance and the electromagnetic field. If at the limit of compression there is no matter due to the annihilation and the Universe is in the electromagnetic state, the density of matter becomes zero. The Universe in its full energy equivalent is placed in one-dimensional space.

As for the second limit of considering cycle, it is a neutron state of matter in the absence of the electromagnetic field with the location of the particles in the two planes – at the basis of the cylinder – with the thickness of plane equal to the diameter of the neutron.

Thus, a state of maximum entropy of a cyclic Universe is presented in one structural unit of matter, because the product of natural aging and atoms and anti-atoms is neutrons. Consequently, each of the two singular states of matter in the Universe is the result of certain annihilation: "beginning" of expansion – the result of annihilation of matter with its symmetry, the "end" of expansion – the result of annihilation of only matter symmetry. In this case the symmetry of the substance does not strictly define the matter of each of the bodies of the Universe by one of the worlds: the body, the former "universe" in the expansion phase, becomes the "anti-universe" in the compression phase with a corresponding set of antimatter particles.

The cyclic model allows us to explain the absence of the antimatters in the observable part of the Universe by space division of matter and antimatter in the first moment of the birth of the substance in the electromagnetic field.

Our proposed model of the Universe requires the experimental justification of the existence of anti-universe. It is obvious that there is no data of direct observation of anti universe, as 100 years ago there were no experimental facts, pointing directly to the planetary model of the atom. Rutherford took advantage of already known data about the electrical nature of the atom, and added resulting in an independent experiment to them. The planetary model of the atom was the result of a generalization of all these indirect data. The same indirect data of modern cosmology are known. Since they cannot be explained by the conventional (standard) model of the Universe, they are called "dark energy" and "dark matter". The symmetric model of the Universe explains these effects by long-range gravity and kinetic energy of the invisible anti universe on our universe.

Finally, the specificity of quantitative scope of the Absolute Universe theory, unlike GR is the twice

interval of variable values of speed of light, implementing at equal in both phases of the Universe, but only in the opposite sequence (from infinity to zero in the expansion phase, and from zero to infinity in the compression phase). The physical meaning of the infinite speed of light in the absence of matter has indefinitely large value, and zero speed – the value which can be taken for purely real phase of the Universe.

The resulting model of the Absolute Universe, built on a dynamic version of the geometry of Minkowski and Einstein's presentation of variables of speed of light, is an ideal model. Its development in the second, third, etc. approximations taking into account additional factors, turns it into a real model, embarking on the path of perfection, which has no end.

... IN THE SECOND APPROXIMATION

Specification of obtained solution can be achieved by establishing a quantitative relationship between the speed of light and the angle of the "light cone" of Minkowski geometry, as well as between the age of each of the stages of evolution of the Universe and the angle of the "light cone".

In order to do this, we use the Hubble law, alleging that the Universe is currently in the isotropic state, because the rate of expansion is the same in all directions. In the isotropic state of angles "light cone", represented by us as the model of the Universe are equal, respectively, for 90 and 270 degrees. And as the speed of the light in the Minkowski geometry is at the linear function of the angle of the "light cone", it becomes possible to establish the graphical relationship between these values.

However, according to the SR, the speed of light does not depend on the direction of the light source that is not a vector quantity. And that is why it does not vary by plus and minus signs in the phases of expansion and contraction. In this case how oppositely directed implementation process of implementation of speeds variable interval of light in the phases of expansion and contraction of the universe can be reflected?

This contradiction can be solved by reducing the variable of speed of light and the speed of the relative motion of two bodies of the Universe to the values practically equal, when the speed of these bodies at each stage is less than the speed of light only to small amount so that the kinetic energy of motion of the Universe at every stage fulfills the conditions necessary to meet maximum performance. Thus, it is postulated an important feature of the Absolute Universe: all bodies of the Universe, being a part of the universe and anti universe, involved in the movement, are almost equal to the speed of light. The speed of the relative motion of bodies built on the basis of this graph and the universe and anti universe is shown in Figure 5, and obtained data are summarized in Table 1. The absolute values of these variables are variables of the speed of light. We built this graph on two points with coordinates "90 degrees – (- 300,000 km/s)" and "270 degrees – (300000km/s)".

The principle of relativity as the basis of this work requires consideration of equally probable to obtain positive values of speeds of the bodies for the expansion phase and the same graph with negative – for the compression phase of the Universe in the form of a downward linear relationship. But as the simultaneous presentation of such mutually exclusive processes is not possible, a continuous process of movement of the Absolute Universe can be logically represented by reciprocating wave with the change of the ascending graph lines on downward. The periodicity of the evolution of the Absolute Universe unlike one of the cyclic movement of the Universe assumes the character of double cycling. In other words, the evolution of the Absolute Universe is not a simple sum of the evolutions of countless Universes, and already in the first stage of the study has supra-universal features. In order to calculate the travel time of all stages of evolution of the Universe we will use a similar linear dependence on the angle of the time of "the light cone" of Minkowski geometry. In the image coordinates' “time is the angle of the "light cone" we make point corresponding to the argument.

90 degrees and 15 billion years meet the modern age of the Universe. We connect this point a straight line from the beginning of the system of reference and extend it to the point that corresponds to the

argument of 180 degrees. Infinite time responds to this stage of phase of the expansion phase of the Universe. Infinite time in the absence of the electromagnetic field has the value of an indefinitely large magnitude. The graph (Figure 5) displays such value as a vertical dashed straight line. From this graph, we can find time of any stage of the evolution of the Universe.

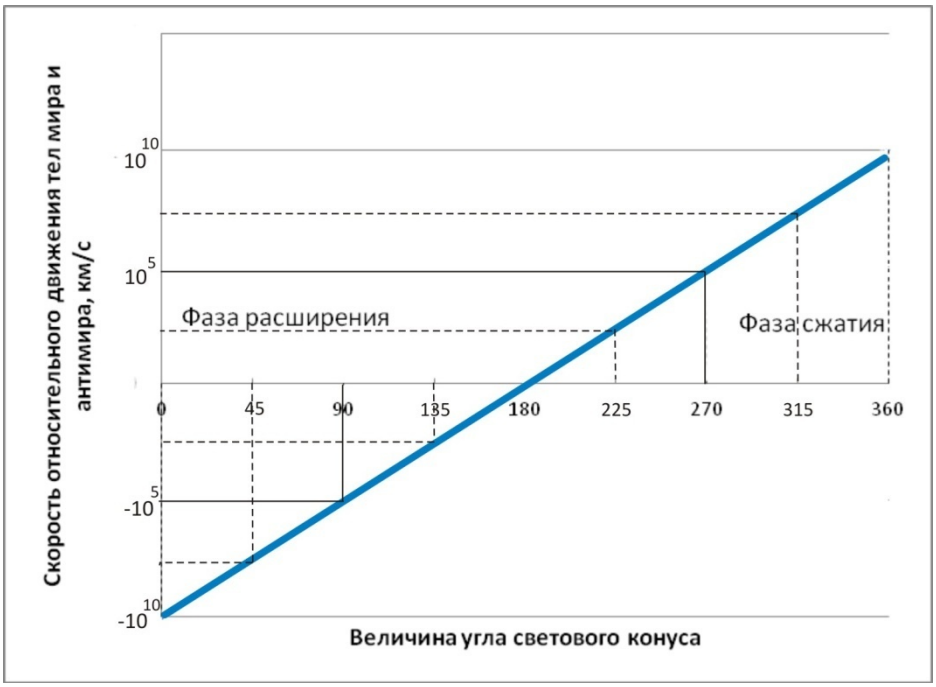

Figure 5 - Changes variance of speeds of the relative movement of bodies in the cycle of the Universe

Table 1 - The speeds of the relative movement of bodies of the Universe, in accordance with the stages of their movement

Expansion phase		Compression phase	
«Light cone» angle	Time of stages of the evolution in the Earth year	«Light cone» angle	Time of stages of the evolution in the Earth year
0	-10^{10}	210	$7 \cdot 10$
30	$-7 \cdot 10^{8}$	240	$5 \cdot 10^{3}$
60	$-9 \cdot 10^{6}$	270	$3 \cdot 10^{5}$
90	$-3 \cdot 10^{5}$	300	10^{7}
120	$-4 \cdot 10^{3}$	330	$7 \cdot 10^{8}$
150	$-7 \cdot 10$	360	10^{10}
180	0		

Time of the compression phase of the Universe we define on the principle of reversibility of time in comparison with the expansion phase when the angle of the "light cones" of Minkowski geometry varies from 180 to 360 degrees (Figure 6) Table 2.

Thus, we solve the cosmological problems in *the second approximation* with the establishment of the basic indicators of the evolution of the Universe: a variable of speed of light, the speed of the bodies of

the universe and anti universe, and the time of each of an infinite number of stages in the evolution of the Universe.

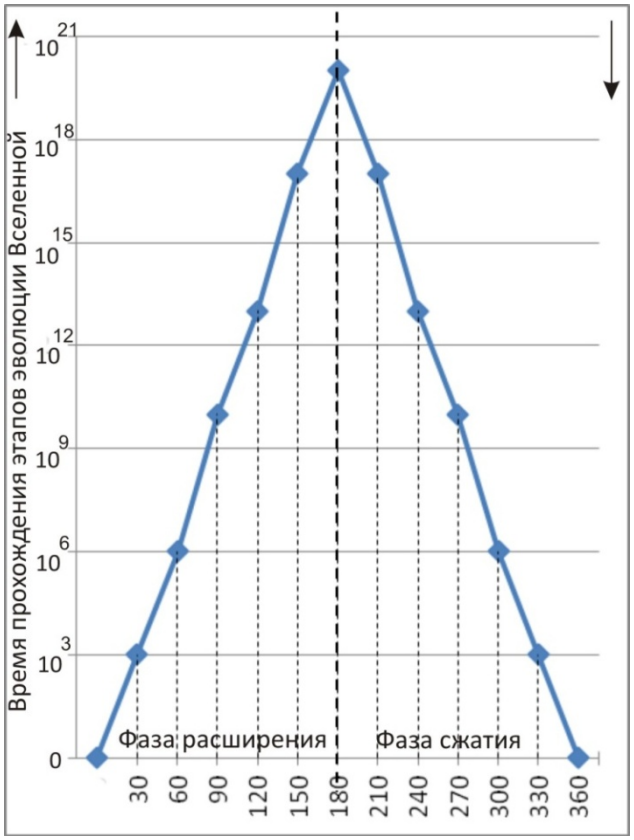

Figure 6 - Graph of age stages of evolution of the Universe, forming two “arrows of time”

Table 2 - Time of each of the stages of evolution of the Universe, corresponding to the value of the angle of the "light cone"

Expansion phase		Compression phase	
«Light cone» angle	Time of stages of the evolution in the Earth year	«Light cone» angle	Time of stages of the evolution in the Earth year
0	0	195	$5\cdot10^{18}$
15	$3\cdot10$	210	$8\cdot10^{16}$
30	10^3	225	$2\cdot10^{15}$
45	$8\cdot10^4$	240	$5\cdot10^{13}$
60	$5\cdot10^6$	255	$7\cdot10^{11}$
75	$2\cdot10^8$	270	10^{10}
90	10^{10}	285	$2\cdot10^8$
105	$7\cdot10^{11}$	300	$5\cdot10^6$
120	$5\cdot10^{13}$	315	$8\cdot10^4$
135	$2\cdot10^{15}$	330	10^3
150	$8\cdot10^{16}$	345	30
165	$5\cdot10^{18}$	360	0
180	∞		

REFERENCES

[1] Drozdov A.M., Zhokhov A.L., Drozdov E.A. Possible model of the universe (the Minkowski geometry and its application) // Proceedings of the XI International Kolmogorov readings. YAGPU, Moscow State University. **2011**. p.107-112.

[2] Drozdov A.M., A.L. Zhokhov .The model of the evolution of the universe based on the geometry of variant.

[3] Drozdov A.M., Makarenya A, A, A.L. Zhokhov. Periodic system to be completed as a whole to the prediction of physical properties elements.7-11 periods // Chemistry School **2014**, №8, p.4.

[4] Minkowski // European social science journal. M.: MII, 3 (42), Volume 1, **2014**. S.8-17.

[5] Dirak P.A. Proc. Soc. A. 117. 610 (1928) 118. 356.
[6] Einstein A. Collection of scientific works in 4 volumes. V.1. **1965**. pp 201, 219, 320, 383, 392.
[7] Einstein A. On the "cosmological problem". Collection of scientific works in 4 volumes. V. 2. **1966**. p.612.

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КОСМОЛОГИЯЛЫҚ МӘСЕЛЕЛЕРДІ ШЕШУДІҢ ЖУЫҚТАУ САЛДАРЫ. (1-бөлім)

Аннотация: Бұл мақалада кез-келген алдын-ала берілген уақыт кезеңіндегі кеңістіктің қалпын анықтау тек қана циклдік моделдеу үшін ғана емес, аралық энтропия циклі нольге тең болған кезде, Кант-Лаплас детерменизм қағидасына сүйене отырып, эволюция механизмімен абсолютті тең жұмыс істейді. Сондықтан бұл уақыт аралығын неліктен өзін үлкен етіп көрсететіндігін анықтау мүмкін емес. Бұл осы авторлардың бірінің көтерген эволюциялық кеңістік құрылымы мен проблемаларының моделі туралы идеясы, бұрын біршама толықтырылып алынған. Риман геометриясын негізге ала отырып дайындалған бұл мақалада, космологиялық мәселелерді шешудің алты жуықтау салдарын пайдаланып әлем эволюциясының көрінісін анықтау.

Тірек сөз: космологиялық мәселелер, қолданыс облысы ортақ салыстырмалы қағидалар, Минковский геометриясының n-өлшеуіш нұсқасы, әлемнің эволюциялық топтамасының моделі, жарық қозғалысының айнымалы мағнасы, химиялық элементтер жүйесінің мерзімді эволюциясы, метапериод, «уақыт жүйріктігі» әлемінің топтамасы, абсолютті әлем, өмір мен ақылдың физикалық табиғатының феномені.

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РЕШЕНИЕ КОСМОЛОГИЧЕСКОЙ ПРОБЛЕМЫ В ПРИБЛИЖЕНИЯХ. (Часть-1)

Аннотация: Определить состояние Вселенной в любой наперед заданный момент времени можно лишь для ее циклической модели, в которой энтропия цикла равна нулю, а механизм эволюции работает абсолютно точно, подчиняясь принципам детерминизма Канта-Лапласа. Границы цикла с предельно высокой вероятностью могут быть установлены границами количественной области применения ОТО. Поскольку эта область проявляет себя за огромный отрезок времени, то определить ее опытным путем невозможно. В статье предложен опосредственный путь на основе определения пределов структурных превращений динамического варианта геометрии Минковского, группа преобразований которой выступает инвариантной группе преобразований ОТО. Взятая за основу вместо геометрии Римана, она позволила осуществить решение космологической проблемы в шести приближениях с определением важнейших количественных показателей эволюции Вселенной.

Ключевые слова: космологическая проблема, область применения общей теории относительности, n-мерный вариант геометрии Минковского, циклическая модель эволюции Вселенной, интервал переменных значений скорости света, эволюция периодической системы химических элементов, метапериод, «стрелы времени» цикла Вселенной, Абсолютный мир, физическая природа феноменов жизни и разума.

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