

"EXPANSION" of the UNIVERSE
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In this paper we show that the Fridman model of Universe expansion do not lead to physical consequences for inner objects of Universe. We offer another ways for explanation of Universe evolution, red shift and asymmetry of elementary particles composition.

Key words: evolution, scale factor, red shift, neutrino, condensation, chaos, conservation laws, charges.

Strange position is observed in cosmology regarding an explanation of red shift. For a basis the model of Fridman-Einstein or its modifications is taken. In such models changes a scale factor for time and spatial coordinates (further « system of coordinates »), covering all Universe. This factor at one average density of substance on a present instant monotonically increases from 0, at another – at first increases, then decreases up to 0. Of such factor behaviour the conclusion is done, that the Universe has arisen from a condition with infinite density, and then it extends and density falls. In the second case after a while the Universe starts to be compressed up to infinite density [1], [3].

But all of physicist know that variation of scale of system of coordinates does not influence the physical processes proceeding in it. It is possible to pass simply from one system to another; thus the numerical description of physical process will be another, but its essence will not change. Together with a scale factor synchronously change all the sizes, down to elementary particles, so the result is zero. In another way it is possible to tell, that units of measurements of space and time have changed, but in other units process have the same character.

How then red shift is explained? In an instant of emission of light in a distant galaxy the system of coordinates with a scale factor and appropriating frequency of light is fixed. Arrival of light to the observer consider in system of coordinates with the increased scale factor because of its evolution and, accordingly, with the decreased frequency. Required red shift turns out. But in fact in new system of coordinates the measuring equipment, substance of which it consists, atoms on which the arrived radiation operates, all has other sizes and works in other pace. So not any shift will be fixed.

From the logic point of view such "expansion" is fictitious: physics are invariant to variation of scale factor for the whole of system of coordinates. Supporters of the concept of "expansion" know this difficulty, and they have invented a subterfuge: they say that extends only space between galaxies, but inside of galaxies all is defined by interaction between their components, therefore inside the scale factor does not operate. If to accept this sight the physics are really change: in ones sites there is one scale, in others another. But in my opinion such sight carries specially fitting character: force logic to receive the necessary result [2].

Here except for a mathematical reason about emptiness of the standard approach there is still a sensation of absurd from the philosophical point of view: the Universe, all the world cannot to be described by a certain system of the equations. For this purpose it is necessary to leave the Universe and to look at it as on the limited experimental object.

But red shift exists, and it is necessary to explain it somehow. I consider that the explanation should lay in the physics, instead in superficial mathematics [4]. By present time I see two versions. The first – “tiredness” of light because of small space non-ideality. The basic objection against this hypothesis – erosion of galaxies images - can be overcome by a certain model of a structure of space.

The second - the Universe extends, incorporating surrounding chaos. Similar as the dewdrop grows at night cooling air.

At this version I see two subversions: flat space with borders and the curve closed boundless space.

“Tiredness” of light is detailed thus: the space will consist of the associated pairs ' neutrino - antineutrino ' with a spin 0. Such space should be very ' smooth '. These pairs, being bosons, form boze-einstein condensate. Light, cooperating with this pairs, translates them in overcondensate condition, losing thus energy. As the space is homogeneous and isotropic the lateral component, by virtue of symmetry, do not exist and the image of distant galaxies is not eroded. This is effect similar to friction in the macroscopic world, when the force retarding the motion is directed against the velocity vector.

The possibility of this pairs «looseness» is not exclude similar that as under influence of light electrons of atoms pass to higher orbits. Such approach reminds the theory of superconductivity BCS.

The given interaction concerns to family electroweak.

Interaction with chaos most natural to consider as occur in stars where nuclear reactions, greater temperatures and intensive thermal movement take place. The last is in the big degree chaos. But the chaos should be understood in more general sense: it is something that does not give in to laws. Therefore in nuclear reactions and thermal movement should be more chaos, than simple modification and movement of particles, there should be something breaking this picture, leaving from its frameworks. It is communication with external (to Universe) absolute chaos.

What is such, more chaotic, than thermal movement? This is violation of the laws of conservation, in particular, energy, but not only.

The capital question takes place: why our Universe is asymmetrical concerning particles and antiparticles? Why there is a lot of protons in it, but there are no antiprotons, there is a lot of electrons, but there are no positrons? If it was symmetric, substance would annihilate and all disappeared (except for neutrinos and antineutrinos to which is no where to annihilate). In reactions with elementary particles the laws of conservation of lepton and barion charges take place: if the lepton is born also the antilepton is born; if the barion is born also antibarion is born. It turns out: on one hand symmetry take place, on other – it is not present. Here the

idea of the chaos breaking laws of conservation of charges should work: in rare cases at reactions with elementary particles in our world remain protons and electrons, and antiprotons and positrons are absorbed by external chaos. Why protons and electrons, instead of their antiparticles? Probably an existing substance here influences: the born protons and electrons enter systems of identical particles with existing (these systems have special property of symmetry), and this rescues them from annihilation or from absorption by chaos.

Such state of affairs has very the general character. The life follows about on the same way. Living beings absorb necessary substances from an environment and throw out unnecessary. But in living beings the given processes well work only certain time; further they are upset, and the being dies. Maybe the same fate waits for Universe.

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