

Short Communication

Explanation of the mass-energy equivalence formula

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Materials science studies the matter in her bodily form. New Cartesian physics stems from the identity of space and matter. She contends that the body particle it rotating space. A mathematician is not difficulty to represent rotation space as the rotation of Cartesian reference frame relative to another system. Physics separate matter from space and say only that matter moves in space. Thus, they do not currently recognize the identity of space and matter. This became an obstacle, for example, in understanding the mass-energy equivalence formula, since the disappearance of the object as a result of transforming mass into energy put them at an impasse.

This impasse can be quit, acknowledging that the real object is the space and mass is a quantitative characteristic of his rotation. Lack of understanding of what surrounds us, which seems empty, is a matter that does not allow think that this Wednesday, with pressure.

Let's deduce concept Universe pressure from the formula of mass-energy equivalence

$$E = mc^2$$

Obviously, this formula expresses the total energy corpuscles, which is the sum of potential and kinetic energy:

$$E = U + W = Fr + \frac{mv^2}{2}$$

Thus, the potential energy enclosed in mass of rest is equal to kinetic energy when it's full liberation

$$U_{m_0} = W_{max}$$

In new Cartesian physics corpuscle represents a stationary whirlwind of space in which he achieved the speed of light, i.e., $W_{max} = \frac{mc^2}{2}$ and the necessary energy accumulates as a result of compression space on the Compton wavelength, i.e., $U_{m_0} = Fr$, where Compton wavelength $r = \frac{h}{mc} = \frac{h}{2\pi mc}$. Therefore, we have

$$-Fr = \frac{mc^2}{2}$$

From here the force resulting compression of space

$$-F = \frac{mc^2}{2r}$$

Multiply numerator and a denominator of this expression by Compton wavelength, we shall receive

$$-F = \frac{mc^2 r}{2r^2} = \frac{ch}{4\pi r^2}$$

Having transformed this expression, we shall receive

$$-F * 4\pi r^2 = ch$$

At the left there is a stream of force through the closed surface, and on the right there is a constant

$$-\oint Fds = ch$$

Thus, pressure of the Universe is expressed in the form of the Law of a constancy of a stream of forces through the closed surface.

From this we can formulate a law that part of space attracted to each other with a force inversely proportional to the square of the distance between them:

$$-F = \frac{ch}{4\pi r^2}$$

In corpuscle, this force is compensated by the centrifugal force of the rotating space reaching the speed of light at a distance of Compton wavelength $F = \frac{mc^2}{r}$ from this we get equality

$$\frac{ch}{4\pi r^2} = \frac{mc^2}{r}$$

After the reduction will $\frac{ch}{4\pi r} = mc^2$

On the left there is potential energy, the resulting impact on the pressure corpuscle of the universe, and right twice the kinetic energy, i.e., obtain mass-energy equivalence formula

$$E = mc^2 = \frac{ch}{4\pi r}$$

Where $r = \frac{h}{2\pi mc}$ - Compton wavelength

Thus, the recognition of the concept of mass-energy equivalence requires the recognition of the existence of force of pressure of the universe and from the formula mass-energy equivalence the formula pressure of the universe follows and, conversely, from the formula of the universe pressure the formula mass-energy equivalence follows

$$E = mc^2 \Leftrightarrow \oint Fds = ch$$

Right here is the formula of the law of constancy of flow of forces through a closed surface, which presses on the corpuscle. To the left stands the formula of the law of mass-energy equivalence corpuscles, which counteracts the external flow of forces.

$$E = mc^2 = \frac{ch}{r}$$

From fundamentality of the law of mass-energy equivalence the uniqueness and versatility of the pressure of the universe follows, expressed as the law of constancy of flow of forces through a closed surface.

It is necessary to notice, that at formulas of the law of a constancy flux of a vector of forces through the closed surface around of a corpuscle connected with the concept of equivalence of mass and

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energy there is of Compton wavelength, characterizes compression (stretching) of physical space.

Pressure of the Universe influences on surface corpuscles from all sides so, that the multiplication of force on the area between surfaces of the closed spheres around corpuscle was constant and equal to ch . Force flow deviation from this value leads to the movement of particles in the direction of least pressure.

In corpuscle the flow of forces of the universe is balanced by centrifugal force flow internal rotation of space, reaching the speed of light at a distance of Compton wavelength $F = \frac{mc^2}{r}$. From this we get equality $\frac{ch}{4\pi r^2} = \frac{mc^2}{r}$, rewrite this expression $ch = \frac{mc^2}{r} 4\pi r^2$. Here the left stands the flow force of the universe, and on the right flow of centrifugal force. Make a mass m for the integral symbol, we obtain

$$ch = m \oint \frac{c^2}{r} ds$$

Hence the mass of the particles is equal to the flow of forces of the universe, divided on the flow of centrifugal acceleration:

$$m = \frac{ch}{\oint \frac{c^2}{r} ds}$$

This is Newton's second law for space of the corpuscles

Thus, the pressure of the universe is the cause of all the movements taking place in the real world. The greatest manifests itself within the corpuscle where under his influence shaped portion of energy that defines its mass. When this the surface integral, taken on a closed surface, does not depend on the distance to the Center, so and the pressure of the universe we can talk as attributes. Hence we receive the laws of conservation of mass and a constant pressure of the universe.