

## The principle of dynamics of self-movement

The principle of dynamics of self-movement (DSR principle) can be compared to the principle (or rather, principles) of Newton's dynamics. The basic essence of both principles is as follows.

1. In a world where Newton's principle of dynamics applies, if the center of gravity of a system of bodies remains motionless at the beginning of the process, then without an external impact on the system its center of gravity will always be motionless. Such a system is said to behave in accordance with the principle of conservation of energy - the total amount of energy of bodies in the system does not increase or decrease.
2. In a world where the principle of self-movement applies, if the center of gravity of a system of bodies remains motionless at the beginning of the process, then without an external impact on the system its center of gravity will always move. Such a system can be said to not behave in accordance with the principle of conservation of energy. Such a system receives energy by itself, on its own - it is a source of energy. This source is inexhaustible in terms of the amount of energy, but has a limited power, which depends on the parameters of the system of bodies.

The essence of both principles presented here, or more precisely, the basis of each of them, results in the form of two seemingly different, but in fact complementary conclusions from the same research, which lead the development of science in a new direction. Research developed around the idea of Galileo's gravitational principle, that is, around the law of the free fall of bodies in a gravitational field - this principle became the main pillar for research. Research showed that Newton's laws of dynamics follow logically from Galileo's gravitational principle.\*) However, the most significant and important, extraordinary and surprising, is that from Galileo's gravitational principle, in addition to Newton's laws of dynamics, other principles (laws) also follow - namely, the principles of a completely different, new dynamics follow. I call this new dynamics here the dynamics of self-movement (SR dynamics).

Comparing Newtonian and SR dynamics, one can see the similarity between them - it is the result of their common origin from Galileo's gravitational principle. The similarity lies in the fact that in both Newtonian and SR dynamics, the motion of each object comes from the interaction of all other objects, and does not depend in any way directly on the properties of the object itself. The reason for this state of affairs is that, according to Galileo's gravitational principle, the acceleration in a given gravitational field is the same for all objects, regardless of their mass.

There is one fundamental difference between Newtonian and SR dynamics. The difference results from the fact that each of these dynamics is based on a postulate with a different content. SR dynamics is a novelty in science, so talking about this postulate is also, in a sense, a novelty. Because so far, no one has paid attention to the postulate, and in Newtonian dynamics it was accepted as an obvious and unquestionable thing.

Taking the example of the motion of celestial bodies in a planetary system as an example, it is considered obvious that in such a system the mutual influence of bodies on each other occurs according to one and the same mathematical formula, which contains the same structural coefficients on which the nature of the acceleration of bodies depends. For this reason, in theoretical considerations this problem is lost sight of - it is not taken into account as a postulate and is not discussed. And precisely because of the identical way of mutual influence of all bodies in the planetary system on each other (because such an assumption is made) - and consequently the identical way of mutual acceleration of bodies (!) - the system as a whole behaves in accordance with Newton's laws of dynamics and the center of gravity remains motionless.

A system behaves differently in which the component objects accelerate each other in different ways, i.e. according to different formulas describing acceleration. In such a case, it is this difference in the accelerations of the components of the system that is the cause of the accelerated motion of the entire system and, of course, its center of gravity.\*\*\*) Such a system behaves in accordance with the DSR principle.

Until now, there have been no theoretical considerations and solutions in science that would indicate that there is an automatic movement of objects in nature that could be the cause of the creation of an unlimited amount of energy. This situation existed despite the fact that physical phenomena are known (and were known before) that potentially indicate the existence of such possibilities. An example would be the contact phenomenon, which consists in the fact that an electric potential is created at the contact of various metals (or at the boundary between an electrode and an electrolyte) - this phenomenon is the cause of the movement of electrons. Another example is microstructures in the form of atoms of various chemical elements. They differ in structure, which contributes to the fact that different atoms give their neighbors different accelerations, changing according to different mathematical formulas. Another example would be the accumulation of energy and the explosions of supernova stars in the universe. The spread of energy and matter after the explosion of such a star proceeds in accordance with the laws of Newtonian dynamics, but the creation and accumulation of energy until the moment of the explosion can be explained by phenomena that proceed in accordance with the DSR principle.

The most significant example may be the existence of spiral galaxies. Their rotational motion, indicated by spiral sleeves, and linear motion relative to each other, can be logically explained using the idea of self-generated motion, that is, by explaining the operation of the DSR principle.

Let me remind you here that the DSR principle is the result of uneven accelerations of bodies interacting with each other in the system - that is, it results from accelerations that change according to different mathematical formulas. The accelerations of bodies could change in the same way only in one case - such a thing could only happen in an ideal case. And the ideal case would exist if all the bodies in the system were perfectly round, and it would be even better if they were point bodies. Then the accelerations of all bodies would change according to one and the same formula, then the movement of bodies would proceed according to Newton's laws of dynamics and then the center of gravity of the system would be motionless. Existing celestial bodies are neither spherical nor point-shaped. And for this reason, most often the accelerations of bodies, obtained from their neighbors (during the movement of bodies in the system), are distributed among the bodies not according to Newton's law of dynamics, but according to the DSR principle - and because of this, the acceleration (and movement) of the center of gravity of the system arises.

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\*) A brief discussion of the origin of Newton's laws of dynamics from Galileo's gravitational principle is presented in the footnotes to the article "The First Physical Paradigm"...

\*\*) To illustrate the similarities and differences that exist between Newtonian dynamics and SR dynamics, the computer modeling program "DynamicStand" and files with the extension .two should be used (<http://pinopa.narod.ru/DynamicStand.rar>). These files contain simple structural systems that consist of two, three, or four centrally symmetric physical fields. The initial velocities of the components of these systems are zero, and after the process is switched on, the components move only due to mutual interactions.

The movement of centrally symmetrical fields, used to illustrate the operation of the physical principles of both dynamics (Newtonian dynamics and SR dynamics), is controlled by one and the same function. Only the relations between the values of the structural coefficient B are different. The difference in the values of the structural coefficient B results in the function changing in a different way when the distance "x" changes.

In the case of the illustration of Newtonian dynamics principles, the structural coefficient B (which exists in the accelerating function) for all centrally symmetrical fields existing in the system has one and the same value, which means that the accelerations change according to the same function. And in the case of the illustration of the DSR principle, the structural coefficient B (which exists in the accelerating function) for the c.s. fields of the system has different values. More information about SR dynamics can be found in the article "Lifter - its field thruster"...