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Dynamic paradox of the special theory of relativity

In article it is shown that except already known paradoxes of the special theory of relativity there is one more - the dynamic paradox consisting in not compulsions of performance of laws of preservation of an impulse, the moment of an impulse and energy of the closed mechanical system in inertial system of readout.

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As it is known [1], laws of preservation of an impulse, the impulse of an impulse and energy, connected with symmetry the spaces and time (uniformity and isotropy spaces and uniformity of time), assert that the impulse, the moment of an impulse and energy of the closed mechanical system (on which external forces do not operate) are constants, i.e. in any inertial system of readout for any moment of time the sizes of an impulse, the moment of an impulse and energy of the closed mechanical system are constants (since there is no external influence).

To start the description of dynamic paradox of the special theory of

relativity (STR), we will accept to begin with the following initial data:

- there is a symmetry of space and time;

- there are two inertial systems of readout motionless $O_1x_1y_1z_1$ and mobile $O_2x_2y_2z_2$ at which similar axes are in pairs parallel and equally directed, and the mobile inertial system of readout $O_2x_2y_2z_2$ moves concerning motionless inertial system of readout $O_1x_1y_1z_1$ with constant speed V along axis O_1x_1 , and as time reference mark in both systems is chosen that moment when the beginnings of co-ordinates O_1 and O_2 these systems coincided.

For consideration it is offered to use the closed mechanical system consisting of constantly co-operating two bodies 1 and 2, connected among themselves thread 3.

Let's admit that in motionless inertial systems of readout $O_1x_1y_1z_1$ bodies 1 and 2, having equal weights at rest, and a thread 3, rotate with angular speed ω round the general centre of weights - point O , which is motionless in motionless inertial systems of readout $O_1x_1y_1z_1$, i.e. bodies 1 both 2 and a thread 3 are in constant interaction among themselves.

In mobile inertial system of readout $O_2x_2y_2z_2$ of a body 1 both 2 and a thread 3 make difficult cyclic movements.

And for any moment of time t_2 in mobile inertial system of readout $O_2x_2y_2z_2$ will not make the big work to define sizes of speeds of bodies 1 and 2 and points of a thread 3, knowing communications between time moment t_1 and co-ordinates of position and speeds of bodies 1 and 2 and points of a thread 3 in motionless inertial systems of readout $O_1x_1y_1z_1$, and also using Lorentz's transformations and transformation of speeds of STR for transition from motionless inertial system of readout $O_1x_1y_1z_1$ to mobile inertial system of readout $O_2x_2y_2z_2$.

And having values of speeds of bodies 1 and 2 and points of a thread 3 for the concrete moment of time t_2 in mobile inertial system of readout $O_2x_2y_2z_2$, it is possible to define sizes of impulses, the moments of an impulses and energy of bodies 1 and 2 and points of a thread 3 for the concrete moment of time t_2 in

mobile inertial system of readout $O_2x_2y_2z_2$, using dependence of weight of a body on speed of his movement of STR.

As a result of the theoretical and numerical calculations spent in [2], [3], [4], [5], [6], [7], [8], [9], [10], [11], [12], it has been received that in the example offered to consideration impulse size (together with sizes of energy and the impulse moment) of the closed mechanical system consisting of bodies 1 and 2 and thread 3, in any way chosen mobile inertial system of readout $O_2x_2y_2z_2$ will not be a constant, and will be the function depending on size of the moment of time t_2 that contradicts the law of preservation of an impulse (and laws of preservation of the moment of an impulse and energy).

In a word the dynamic paradox consisting, that application of STR leads to that in inertial systems of readout laws of preservation of an impulse, the moment of an impulse and energy of the closed mechanical system can not be carried out, has been received.

The occurrence reasons in STR dynamic paradox:

- unlike the classical mechanics in STR weight of a body depends on speed of his movement;
- unlike the classical mechanics in STR non-simultaneity of the events, consisting that two events which have occurred in one inertial system of readout simultaneously in different points, not lying in a plane perpendicular to a direction of movement of inertial system of readout, in other inertial system of readout will occur not simultaneously (at various times), takes place.

So in the considered example if the body 1 at some instant time t_2 is in mobile inertial system of readout $O_2x_2y_2z_2$ on axis O_2x_2 that the body 2 during the same moment of time t_2 cannot be in mobile inertial system of readout $O_2x_2y_2z_2$ on axis O_2x_2 .

And during the same moment of time t_2 bodies 1 и 2 and a point O cannot be in mobile inertial system of readout $O_2x_2y_2z_2$ on one straight line, except a case when the line connecting bodies 1 and 2, will be parallel to axis O_2y_2 .

The more visually dynamic paradox of STR can be shown on other

example in which bodies 1 and 2 are connected not by a thread, and a spring (an elastic thread), and make back and forth motions under the influence of a spring round the motionless centre of weights in motionless inertial systems of readout $O_1x_1y_1z_1$, then in mobile inertial system of readout $O_2x_2y_2z_2$ during the same moment of time t_2 bodies 1 и 2 will have speeds different in absolute size.

Presence at STR dynamic paradox can call into question STR or can lead to change of laws of preservation of an impulse, the moment of an impulse and energy of the closed mechanical system.

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