Summary of articles «The special theory of relativity and the law of conservation momentum» and «the Special theory of relativity: the definition of momentum and kinetic energy of a closed system is constantly interacting bodies»

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In this articles attempts to examine the special theory of relativity in general view without the postulate of invariance of the speed of light and show a concrete example that the application of the special theory of relativity when considering the motion of a closed mechanical system of bodies in inertial reference systems can lead to the fact that the momentum of a closed system is function of time.

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The main idea behind the articles.

If we assume that the relationship between the coordinates and time in the inertial reference systems looks as follows:

$x = \alpha (x' + vt')$

$x' = \beta (x - vt)$

$y' = y$

$z' = z$

That spending purely mathematical calculations using only the principle of relativity can be obtained that the transition coefficient $\boldsymbol{\beta = \alpha}$ and can have three values :

$\beta_1 = (1 - v^2/c_1^2)^{-1/2}$

$\beta_2 = (1 + v^2/c_2^2)^{-1/2}$

$\beta_3 = 1$

where : $\mathbf{c_1}$ and $\mathbf{c_2}$ - real constants .

For different values **β** you can get three different forms of relations between coordinates and time, transformation of velocities and accelerations, dependences of mass, energy and the kinetic energy of the body from its speed.

In considering the motion of a closed mechanical system consisting of two interacting bodies are constantly rotating around a single center of mass, it was found that in the inertial frame for the cases $\boldsymbol{\beta_1}$ and $\boldsymbol{\beta_2}$ values of momentum and energy can be variables.

I.e. obligatory condition of fulfillment of the laws of conservation of momentum and energy for the closed mechanical system in the inertial reference systems is $\boldsymbol{\beta_3 = 1}$.