Matsyuk, R. Ya.:

The variational principle for the uniformly accelerated motion.

In this work, the uniformly accelerated motion of sample particles in the special theory of relativity is analyzed. A vector equation of third order is derived, the solution of which represents the geodesic line surrounding a particle in parametrized form. It is shown that this equation can be understood as an equation of the extremal values of a variational problem in parametrized form with a Lagrangian containing high-order derivatives. It is shown that the Lagrangian is invariant to the isometry of the space. The symmetry properties of the equation are investigated.

A. Fischer.