

EQUATIONS OF MATERIAL POINT MOTION IN RELATIVE TIME

A. P. Volchenko

V. N. Karazin Kharkiv National University
(4, Svobody Sq., Kharkiv 61077, Ukraine)

S u m m a r y

We compare the equations of motion of a material point, which correspond to the use of the reference time unit in the first case and other distinct unit in the second one. The differences between kinematic and dynamic values, which define this motion and are measured with the use of such units, are given. The result obtained is applied to the analysis of the motion of a point-like body with electrical charge in an electromagnetic field. We reveal the definition of time unit, whose use implies that the equations of motion of this body acquire the form characteristic of relativistic mechanics. Moreover, the relativistic equations of motion of a point-like body are defined as those, which correspond to the use of the time unit depending on the speed of this body.