THE INFLUENCE OF INERTIAL LOAD APPLICATION ON KINEMATIC AND DYNAMIC PERFORMANCES OF RUNNING AT MAXIMUM SPEED PHASE

Abstract
The objective of this research was to produce changes in kinematic and dynamic performances of maximum running speed in training with additional inertial loads application, as well as to determine the adaptive processes that were supposed to significantly influence the maximum running speed in the observed variables. The change of kinematic variables recorded by non-contact telemetry measurement (two-dimensional system) of a cycle of strides during sprint step in the phase of maximum running speed was analyzed, as a consequence of programmed training procedures application with an additional load at two different positions. The obtained results indicate that the applied experimental factor within the specific six week period caused statistically significant changes in experimental (EA) and (EL) groups. It is obvious that the different location of inertial load in experimental groups affected the changes in the observed variables differently, as well as that the applied additional load selectively affected the change in the observed variables.

Key words: running speed, stride frequency, stride length