ELEMENTS OF KINEMATIC ANALYSIS SPECIFIC TO THE HIT AND FLIGHT PHASES IN MALE TRIPLE JUMP EVENT

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Introduction
The utilization of the information offered by the kinematics’ specific parameters in order to make the training more efficient on the technique component is a condition in the promotion of the quality and efficiency of the sportive training.

The methods that are used to obtain this information must fulfill the scientific tasks concerning the trust and accuracy of the application methodology according to the followed aims and athletes’ features [SCHWAMEDER, H., 2008, p. 57].

Aim. The determination of the kinematic parameters in the hit and flight phases of the triple jump event in order to optimize the sportive performance by technique training improvement.

Methods, instruments & subjects. The research was realized in 2009, at the National Institute for Sport Research, Bucharest, the data being obtained by processing the images with Dartfish? movement kinematic analysis software. The study concerned three triple jumpers, components of the National and Olympic Team of the Romanian Athletics Federation.

Discussions. The images processing and analysis emphasized the values of the following kinematic parameters specific to the hit and flight phases of the triples jump event: time, trajectory of the body mass center (B.M.C.), contact, hit and take-off angles.

The recorded hit phase’s time is between 120 and 160 ms, respectively 320 and 560 ms for the flight phases.

The BMS trajectory measured for the hit phases registers vertical oscillations between 0.12 and 0.19 m for the hop and jump and 0.04 and 0.08 m for the step.

The maximum height of the BMC trajectory specific to the flight phases presents the following vertical oscillations: 0.10 m during the first flight, 0.04 m during the second and 0.05 m for the third flight.

By this kinematic analysis we determined the values of the contact, hit and take-off angles, having the next averages: 720 (contact angle), 70.10 (hit angle) and 18.960 (take-off angle).

Conclusions. The emphasizing of the kinematic indicators mentioned in this research can be an efficient informational support to monitor the triple jump event, the Dartfish? software being an useful instrument for the maximization of the sportive training quality process.

Bibliography.

Keywords:
kinematics, track and field, triple jump