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**HARDWARE AND SOFTWARE TECHNOLOGIES IN THE
ASSESSMENT AND CONTROL OF ATHLETES' COGNITIVE
AND COORDINATION ABILITIES IN RHYTHMIC
GYMNASTICS**

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Rhythmic gymnastics is one of the Olympic sports and must meet all the requirements. The Olympic sport is always about records and high achievements. In rhythmic gymnastics, records are the maximum phenomenon of flexibility, coordination, jumping ability, balance, competitive training, virtuoso mastery of the subject. Well-developed coordination abilities are necessary for the formation of variable motor skills when interacting with the support. In rhythmic gymnastics, coordination is characterized by the ability to control movements with specified accuracy parameters.

Every year, the rules of FIG (The International Gymnastics Federation) complicate the programs, therefore, in order to achieve a high result, a competitive exercise should include the largest number of elements of the highest degree of complexity, and increase the level of fitness of athletes, paying special attention to the development of coordination components that reflect the cognitive function of the brain.

This makes it necessary to search, develop and introduce new training tools and methods into the training process, as well as hardware and software complexes for the development and improvement of cognitive and coordination abilities that determine the success of sports athletes' performances at competitions of various levels. With the development of information technologies, and as a consequence, information and measurement technology in the field of sports, software devices for recording, recording and processing sports exercises gradually began to appear, thanks to which it became possible to quickly and with high accuracy evaluate and provide information about dynamic, kinematic and biomechanical characteristics of athletes' movements in a fairly short time, and in some cases, to obtain the necessary information in real time.