

The proposed torsional pendulum contains a casing with an inertial disk suspended by a torsion and coupled with a start device so that by the said start device it is possible to generate a pulse force for rotating the inertial disk at a specified angle. At the lower part of the inertial disk, over the end surface of a cylindrical permanent magnet, a magnetic core is arranged. Additionally, the proposed torsional pendulum contains an optical angle displacement transducer designed for measuring the rotation angle of the inertial disk. In the inertial disk, a sector window is made, in which a polarization element is positioned. Over the polarization element, a laser radiation source is installed. Under the disk window, at the pendulum casing, a laser radiation intensity meter is installed, the output of which is connected to a signal input/output unit via elements for electric circuit isolation. The output of the signal input/output unit is connected to a personal computer via an analog-to-digital converter and a timer. The personal computer is designed for processing data and generating control signals. The digital control signals are transmitted via the computer input/output port and switching amplifiers to the input of a step motor that is used as the said start device. The magnetic core on the inertial disk has cylindrical shape, with end surface shaped as a cone with the vertex facing the end surface of the cylindrical permanent magnet. The axes of symmetry of the magnetic core and the permanent magnet coincide.