



Dynamic set of rotations, gyroscopes and turntable

EQ281B

Function

Intended for experimental study, physics laboratory and carrying out physics experiments on: Mechanics of rigid bodies. Centripetal force and the centrifugal effect. Conservation of angular momentum, with platform and dumbbells. The conservation of angular momentum, with platform and rim gyroscope. The conservation of angular momentum with a hoop gyroscope. The helicopter and the gyroscope effect. Moment of inertia of three-axis gyroscope. What is meant by gyroscope. Some technological applications of the gyroscope. Determining the moment of inertia of the gyroscope. Calculating the percentage relative error. The precession movement of the three-axis gyroscope. The gyroscope always maintains the same direction in the absence of forces that disturb it. The gyroscope and gyrocompass, gyrocompass. The precession movement of the gyroscope. The influence of torque on the precession movement of the gyroscope. The influence of the direction of rotation of the flywheel on the precession movement. The nutation movement of the three-axis gyroscope. The influence of torque on the gyroscope nutation movement. Identifying the simultaneous movement of precession and nutation of the gyroscope, etc.

Knowledge areas

Physics

Key Experiments

The centripetal force and the spin effect

The conservation of angular momentum, with platform and dumbbells
The conservation of angular momentum, with platform and gyro ring
The conservation of angular momentum with gyroscope

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