

Mechanical conservation of energy / Maxwell's wheel 1.3.18-00

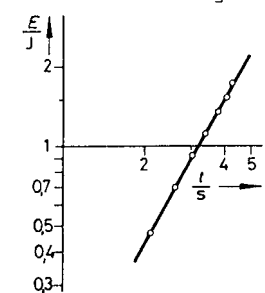
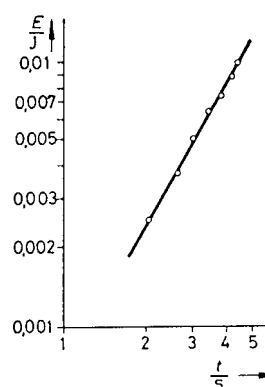
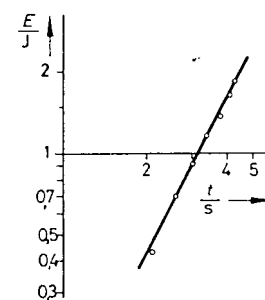


What you can learn about ...

- Maxwell disk
- Energy of translation
- Energy of rotation
- Potential energy
- Moment of inertia
- Angular velocity
- Angular acceleration
- Instantaneous velocity
- Gyroscope

Principle:

A disk, which can unroll with its axis on two cords, moves in the gravitational field. Potential energy, energy of translation and energy of rotation are converted into one another and are determined as a function of time.



Energy of the Maxwell disk as a function of time.

1. Negative potential energy
2. Energy of translation
3. Energy of rotation

What you need:

Support base -PASS-	02005.55	1
Support rod-PASS-, square, $l = 1000$ mm	02028.55	3
Right angle clamp -PASS-	02040.55	4
Meter scale, demo, $l = 1000$ mm	03001.00	1
Cursors, 1 pair	02201.00	1
Maxwell wheel	02425.00	1
Connecting cord, $l = 1000$ mm, red	07363.01	1
Connecting cord, $l = 1000$ mm, blue	07363.04	1
Light barrier with Counter	11207.30	1
Holding device w. cable release	02417.04	1
Plate holder	02062.00	1
Adapter, BNC-plug/socket 4 mm	07542.26	1
PEK capacitor, 100 nF/250 V	39105.18	1
Power supply 5 V DC/0.3 A	11076.99	1
Connecting cord, $l = 1500$ mm, red	07364.01	1
Connecting cord, $l = 1500$ mm, blue	07364.04	1

Tasks:

The moment of inertia of the Maxwell disk is determined.

- Using the Maxwell disk,
1. the potential energy,
 2. the energy of translation,
 3. the energy of rotation,
- are determined as a function of time.

Complete Equipment Set, Manual on CD-ROM included
Mechanical conservation of energy /
Maxwell's wheel **P2131800**