

Moment of inertia and angular acceleration with Cobra3 1.3.13-11



What you can learn about ...

- Angular velocity
- Rotation
- Moment
- Torque
- Moment of inertia
- Rotational energy

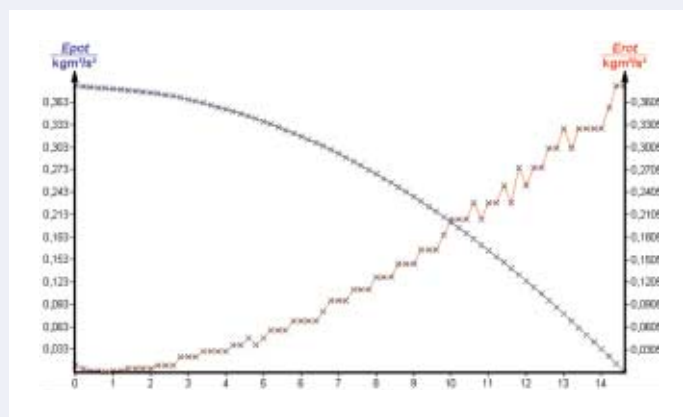
Principle:

If a constant torque is applied to a body that rotates without friction around a fixed axis, the changing angle of rotation increases proportionally to the square of the time and the angular velocity proportional to the time.

What you need:

Cobra3 Basic Unit	12150.00	1
Power supply, 12 V-	12151.99	1
RS232 cable	14602.00	1
Translation/Rotation Software	14512.61	1
Light barrier, compact	11207.20	1
Blower	13770.97	1
Pressure tube, $l = 1,5$ m	11205.01	1
Air bearing	02417.01	1
Turntable with angle scale	02417.02	2
Holding device with cable release	02417.04	1
Aperture plate for turntable	02417.05	1
Slotted weight, 1 g, polished	03916.00	9
Slotted weight, 10 g, black	02205.01	3
Slotted weight, 50 g, silver bronze	02206.02	2
Silk thread, $l = 200$ m	02412.00	1
Weight holder, 1 g	02204.00	1
Bench clamp -PASS-	02010.00	2
Tripod -PASS-	02002.55	1
Stand tube	02060.00	1
Support rod, $l = 250$ mm	02031.00	1
Measuring tape, $l = 2$ m	09936.00	1
Circular level	02122.00	1
Right-angle clamp	02043.00	1
Connecting cord, $l = 100$ cm, red	07363.01	1
Connecting cord, $l = 100$ cm, blue	07363.04	1
Connecting cord, $l = 100$ cm, yellow	07363.02	1
PC, Windows® 95 or higher		

Complete Equipment Set, Manual on CD-ROM included
Moment of inertia and angular acceleration
with Cobra3 P2131311



Potential energy and additionally the rotational energy.

Tasks:

1. Measurement of the laws of angle and angular velocity according to time for a uniform rotation movement.
2. Measurement of the laws of angle and angular velocity according to time for a uniformly accelerated rotational movement.
3. Rotation angle φ is proportional to the time t required for the rotation:
4. Measurement of the laws of angle and angular velocity according to time for a uniformly accelerated rotational movement.