Construct, Conduct & Comprehend Physics Experiments

LEMI-37 Comprehensive Experiments on Rotating Liquid

- Resonable in structure design
- Stable and reliable experimental data
- Rich experiment contents

The LEMI-37, apparatus of comprehensive experiments on rotating liquid, uses experimental methods such as detecting the inclination of the liquid surface using a semiconductor laser and measuring the rotational period using a Hall sensor. It reproduces the classic rotating liquid experiment based on modern teaching techniques.

LEMI-37 apparatus of rotating liquid experiments is mainly consists of main electric unit, cylinder container, rotary stage, beam support, Hall sensor, semiconductor laser, observation screen, bubble level, and so on. The apparatus has features of rich in experimental contents, reasonable in structure design, stable and reliable experimental data. It is a high-quality teaching apparatus for physics labs of mechanics and optics subjects in colleges and universities.

Using this apparatus, the following experiments can be conducted:

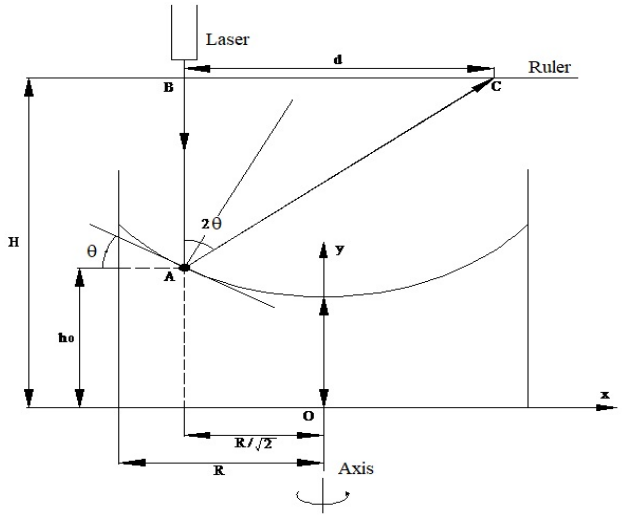
1. Measure gravity acceleration g using two methods:
   (1) measure the height difference between the highest and the lowest points of the surface of rotating liquid, then calculate gravity acceleration g;
   (2) laser beam incident parallel to the rotation axis to measure surface slope, then calculate gravity acceleration g;
2. Verify the relationship between focal length f and rotational period T according to the parabolic equation;
3. Study concave mirror imaging of rotating liquid surface.

Specifications

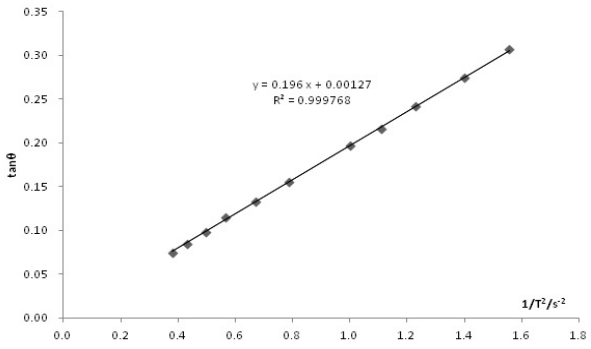
Description	Specifications
Semiconductor laser	2 pcs, power 2 mW one spot beam with diameter < 1 mm (adjustable) one divergent beam 2-D adjustable mount
Cylinder container	colorless transparant plexiglass height 90 mm inner diameter 140 ± 2 mm
Motor	speed adjustable, max speed < 0.45 sec/turn speed measuremnt range 0 ~ 9.999 sec, accuracy 0.001 sec
Scale rulers	vertical ruler: length 490 mm, min div 1 mm horizontal ruler: length 220 mm, min div 1 mm

Parts

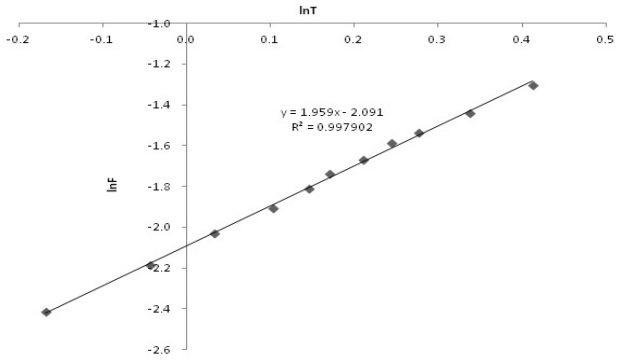
Description	Qty
Main electric unit	1
Rotation stage	1
Beam	1
Semiconductor laser	2
2-D adjustable support	1
Observation screen	1
Cylinder container	1
Bubble level	1
Power cord	1
Instruction manual	1



Schematic of measuring gravity acceleration



Plot of slope and reciprocal of period square



Plot of log of focal length and log of period

Lambda Scientific Systems, Inc.
16300 SW 137th Ave, Unit 132
Miami, FL 33177, USA
Phone: 305.252.3838 Fax: 305.517.3739
E-mail: sales@lambdasys.com
Web: www.lambdasys.com

Note: above product information is subject to change without notice.