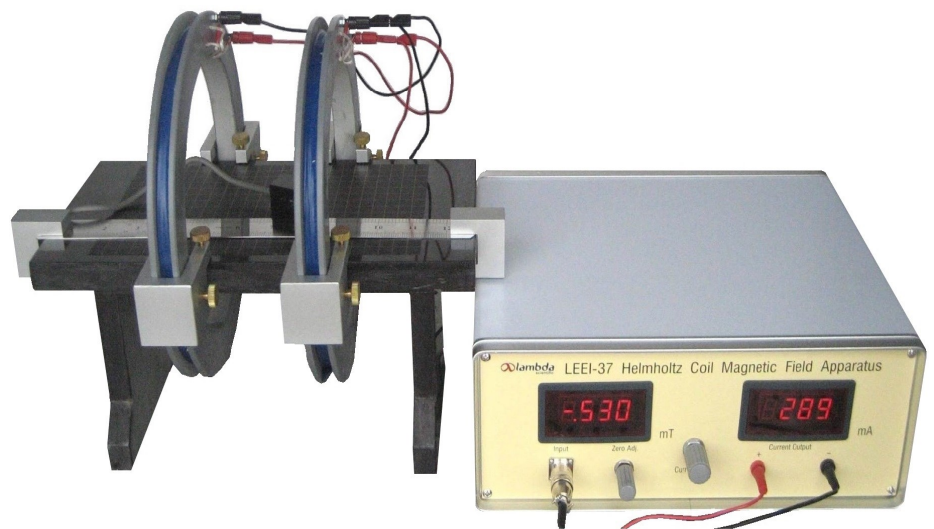


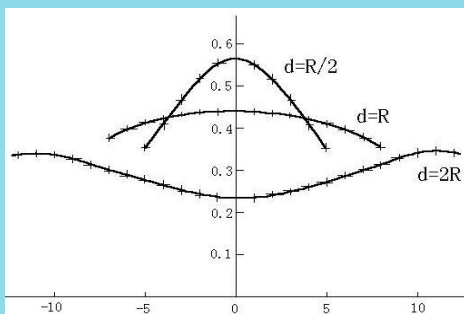
LEEI-37 Helmholtz Coil Magnetic Field Apparatus - Using Hall Sensor

- Compact, sensitive, & flexible
- Adjustable coil spacing
- Easy to use, stable and reliable
- Affordable



Helmholtz coil magnetic field measurement is one of the important experiments in general physics teaching, as it teaches students how to measure weak magnetic fields, verify magnetic field superposition principle, and plot magnetic field distribution. Traditionally, Helmholtz coil magnetic field measurement yields relatively large errors with the use of an indicator-type AC voltmeter.

This apparatus adopts an integrated Hall sensor as the detector to detect Helmholtz coil magnetic field. Hall sensors are compact, sensitive, accurate, and flexible to deploy. The output voltage is measured with a DC voltmeter with higher measurement accuracy.



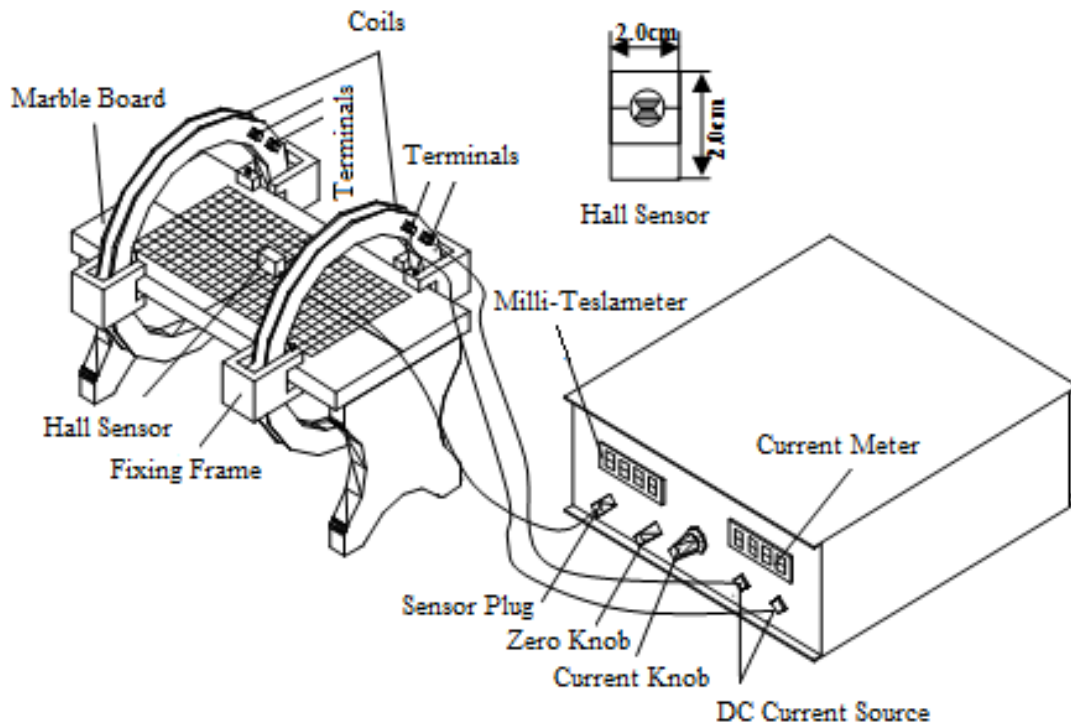
Magnetic field distribution vs coil spacing

Experimental Contents

1. Measure magnetic field intensities at the points along the axis of a single current-carrying coil
2. Measure magnetic field distribution along the axis of Helmholtz coils with different coil spacings
3. Verify the magnetic field superposition principle
4. Plot magnetic field distributions of a single current-carrying coil & the Helmholtz coils, respectively

Specifications

Milli-Teslameter	range: 0 - 2 mT, resolution: 0.001 mT
DC current-stabilized power	range: 50 - 400 mA, stability: 1%
Helmholtz coil	500 turns, outer diameter: 21 cm, inner diameter: 19 cm
Measurement error	< 5%



Schematic of experimental configuration

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