

## IV-E396 Biot Savart Experimental Setup

The following studies can be carried out with the set-up:

- Study of magnetic field due to one coil and calculation of its diameter.
- Study of principal of super-imposition of magnetic field due to 1 coil at a, greater than a and less than a, where a is the radius of the coil.

**Experiment:**

- Biot Savart is an instrument to find out Magnetic Field between 1 Coil.



**Apparatus Supply:**

### 1.DIGITAL GAUSS METER:

- Range: 0-200Gauss
- Resolution: 0.1G Accuracy: 0.5%
- Display: Display: 3 digit 7 segment LED with auto polarity.

### 2.TWO COIL:

- Diameter: 200mm
- Number of turn: 300
- The 1 coils are mounted on platform one coil is fixed and other coil move smoothly on a rail along with the axis of the coils.

### 3.CONSTANT CURRENT POWER SUPPLY:

- Current: 0-2A smoothly adjustable
- Line Regulator: 0.2% for 10% mains variation.
- Load Regulator: 0.2 % for 0 to full load.
- Display: digits 7 Segment LED Display. Protection: Against overload short current.

### 4.OPTICAL BENCH:

- Optical Bench is made of aluminum alloy and given black anodized finish.
- Linear scale with 1mm graduation is providing on bench for quick measurement.
- Setup contains two leveling feet and five carriers (2 sliding carrier and 3 carriers).