

# Magneto-electric Response Bundle For Bulk Ceramics and Thin Films

Radiant's Magneto-electric Bundle is a comprehensive package designed to help researchers efficiently characterize magnetic coupling in Multiferroic or Magneto-piezoelectric devices. The bundle comes in two options: Bulk Ceramic and Thin Film Testing Packages.



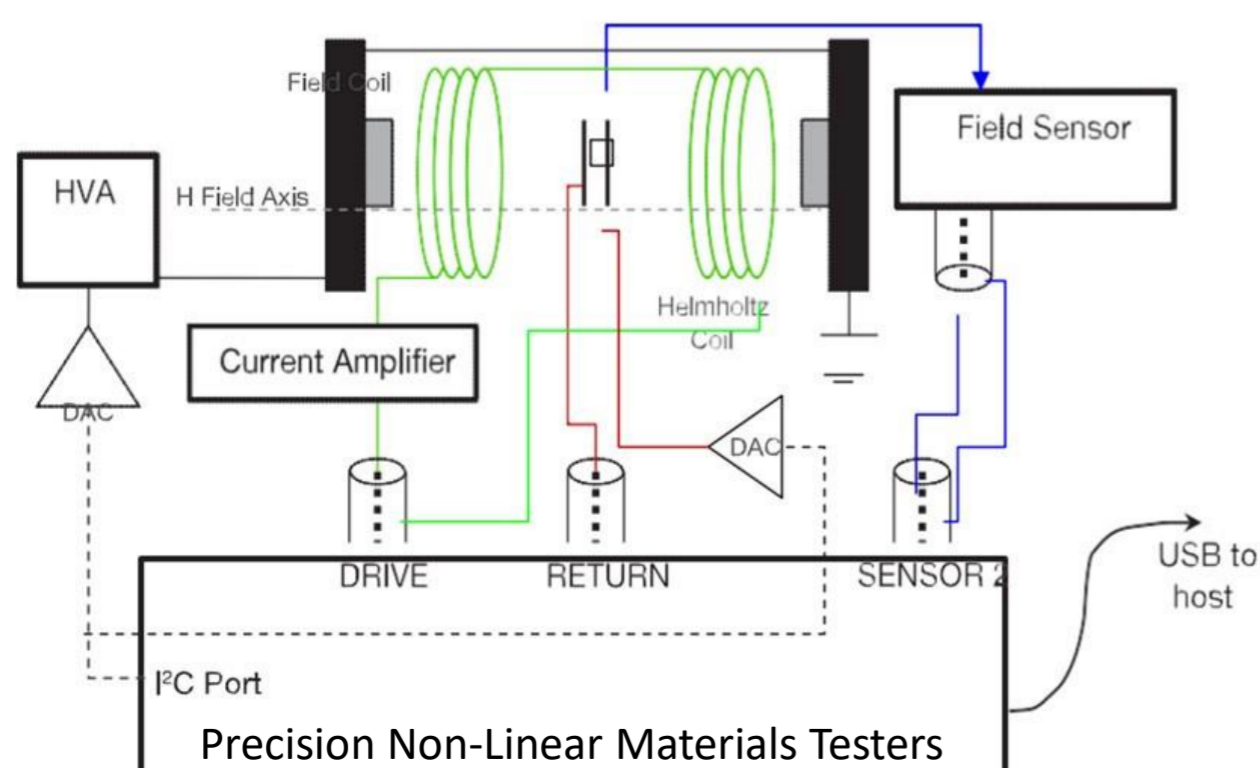
The bundle includes the following components

1. ME Shield Box: A sample holder that provides electrical shielding for the sample and enables magnetic field sensors to be mounted directly at the sample location.
2. Lakeshore MH-6 Helmholtz Coil: A device that applies small magnetic fields up to 50 Oersted.
3. Radiant 2.5 Ampere Current Source: A device that drives the magnetic coil.
4. Lakeshore Hall Effect Magnetic Field Sensor.

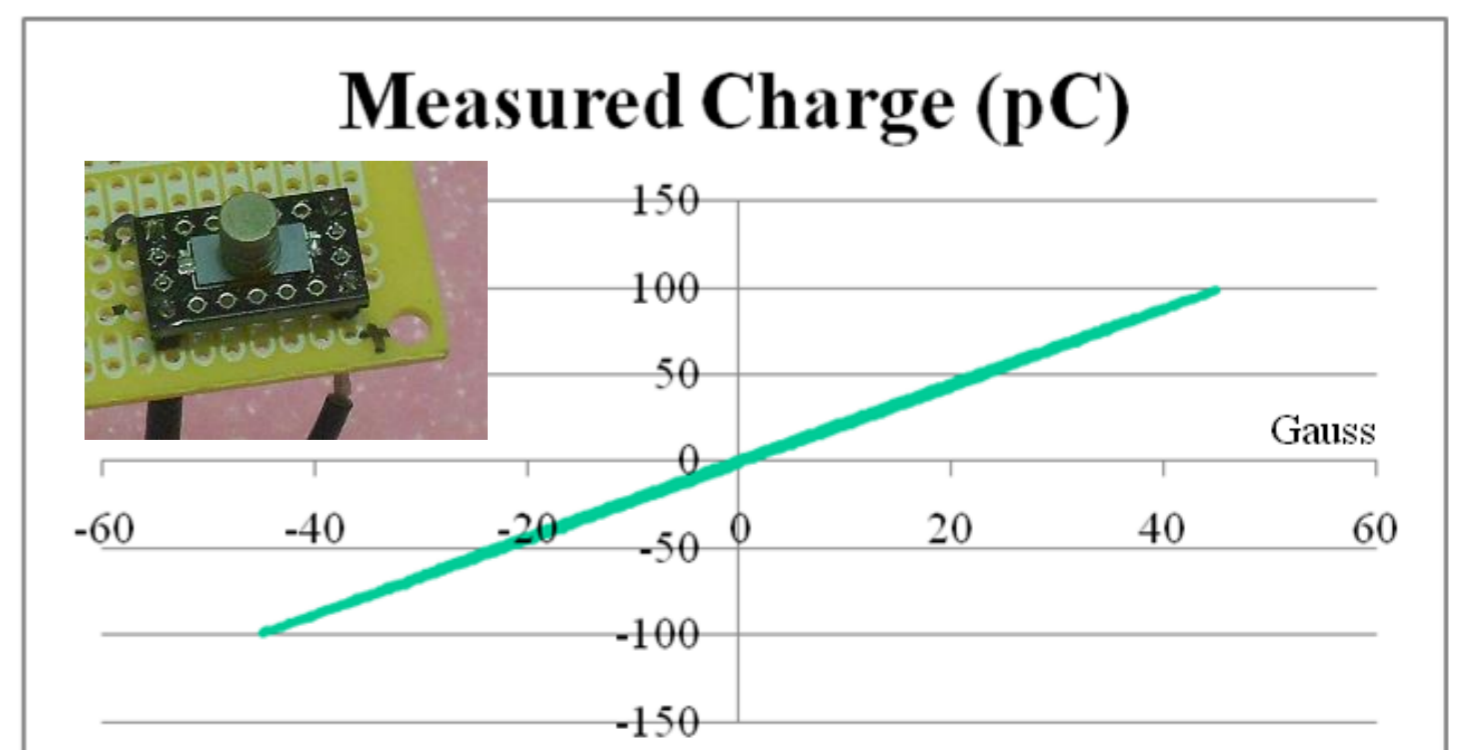
Radiant Technologies Precision Current Source CS 2.5 (bottom) and a Radiant Technologies Precision Magneto Electric Thin Film Test Fixture (top, inside the Shield Box)

## Measurable items

- 1 Polarization Hysteresis vs Magnetic Field
- 2 Remanent Polarization vs Magnetic Field
- 3 PUND vs Magnetic Field
- 4 Conduction vs Magnetic Field (the so-called magneto-resistive memory effect)
- 5 IV vs Magnetic Field
- 6 Small Signal Capacitance vs Magnetic Field
- 7 Voltage-to-Magnetic Field Task
- 8 A Calibration Task
- 9 The MER Task - measures magnetolectric response of a capacitor
- 10 The Single Point C/V MR Task



Measuring magneto-electric response with AC and DC magnetic fields.



The MR test configuration with DC field coil and sample voltage bias.