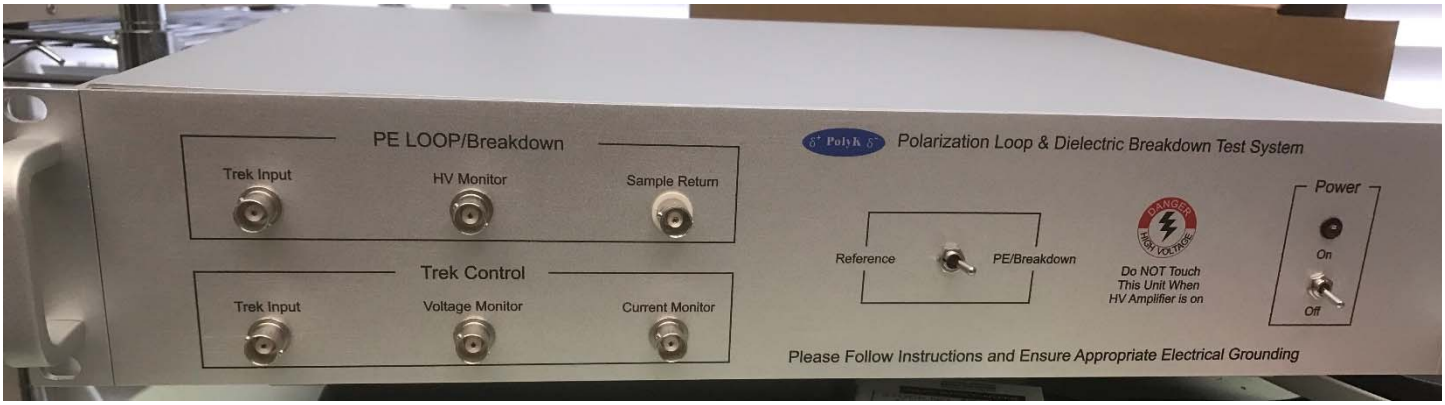
Polarization Loop & Dielectric Breakdown Test System



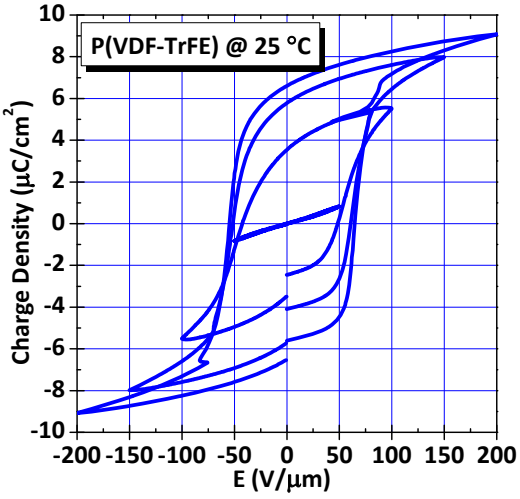
Functions

- This test system can measure the electrical charge density of dielectric and ferroelectric materials as a function of electrical field and frequency. The test is based on an improved active Sawyer-Tower Circuit.
- The system has integrated protection circuit to protect the system even when the test specimens experience dielectric breakdown under high voltage.
- Working with Trek® high voltage amplifier, test can be performed at voltage >10 kV and frequencies up to 200 Hz. No HV interface required.
- Dielectric breakdown test can also be performed with the same test system by simply changing the electrical and signal connection.
- Uniquely designed test fixture will not damage soft polymer dielectric materials.

- Communications with host computer by USB.
- Powerful LabView® program (included) allows the user to control voltage, drive waveform (triangular, sin, unipolar, bipolar, arbitrary), frequency, etc.
- Selection of reference capacitor is controlled through the software without changing hardware wiring.
- For the test of charge-discharge of capacitor dielectric materials, the software can automatically provide the charged energy density, discharged energy density, as well as charge-discharge efficiency.
- Lifetime cycle test (DC or AC) can be performed and a summary file will be generated automatically.

Capability

- Voltage: > 10 kV (No interface)
- Charges: <1 nC to >1 mC (depend on amplifier output)
- Test frequency: 0.01 ~ 200 Hz



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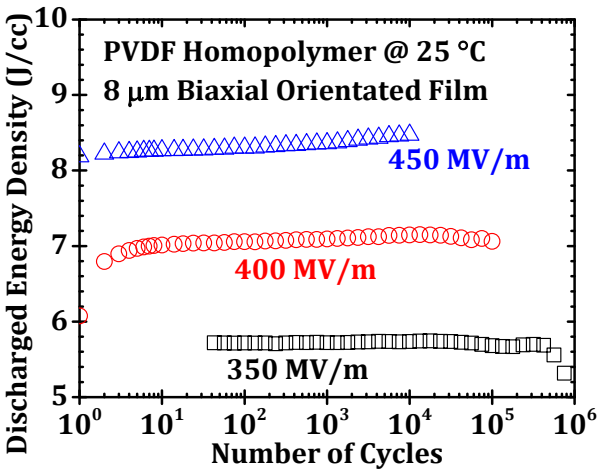
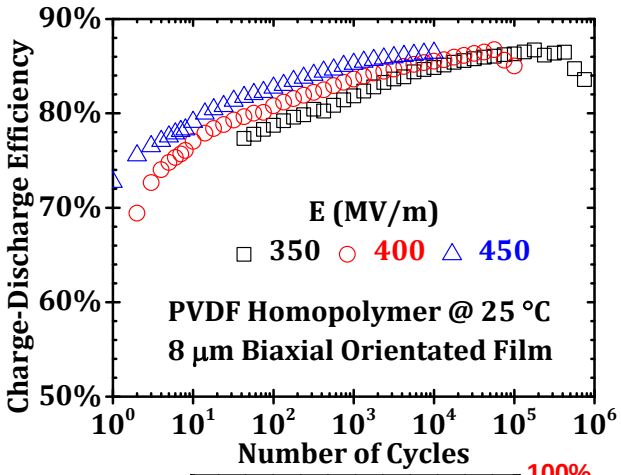
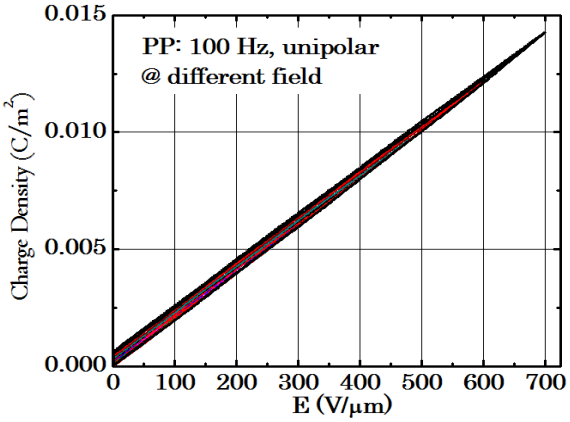
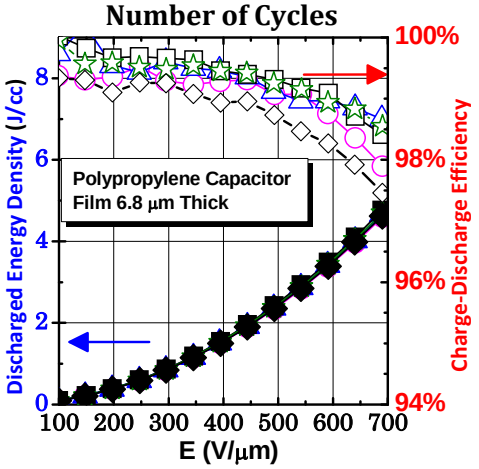
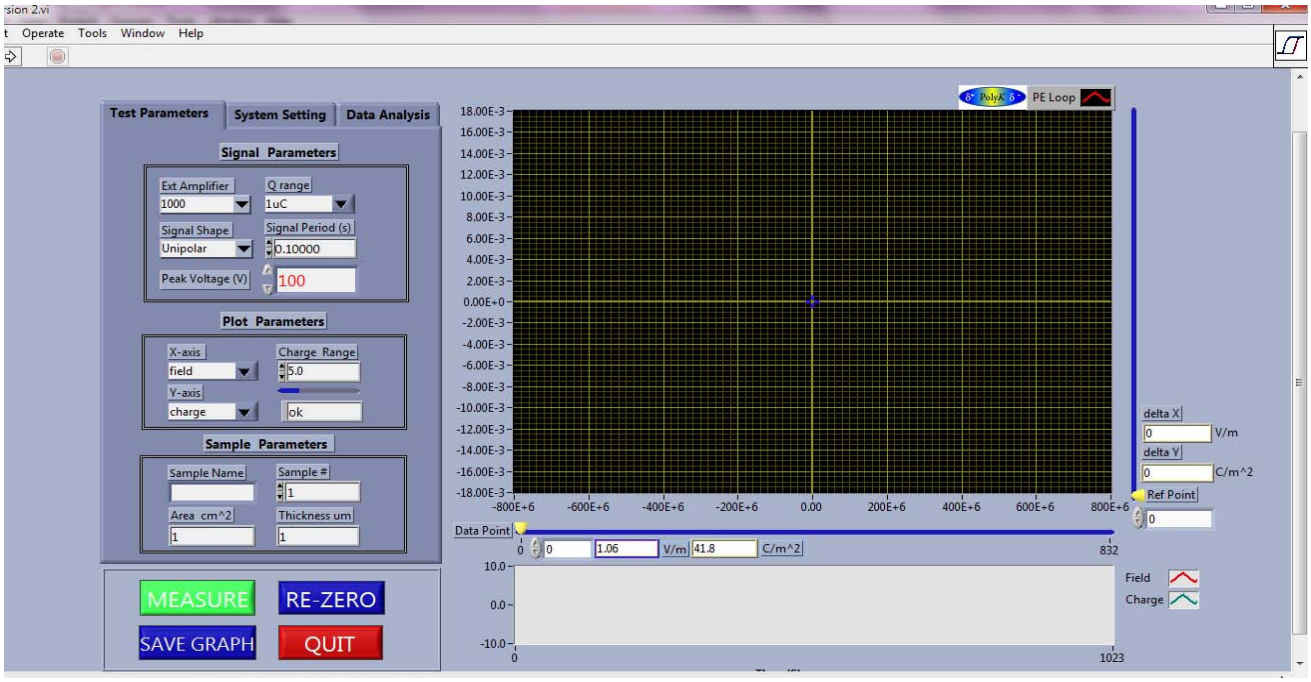
CPE1701 Test Examples











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