Charge trapping in fluoropolymer (FP) is an important phenomenon in electrowetting (EW), which affects the contact angle saturation and the reliability of the EW systems. Here, we utilize contact angle and electrowetting as probes to investigate the charge formation and trapping at fluoropolymer/water interface under the influence of electric fields.

**Testing methods**

Charge with 0 V

Charge with voltage

**Set-up & possible mechanism**

**Influence of voltage and time**

**Conclusion**

1. Charges were spontaneously trapped at FP/water Interfaces.
2. Electric field significantly accelerated the charge trapping speed and enhanced the charge trapping amount.
3. Trapped charges accumulated at the three phase contact line region.
4. Trapped charges increased with the charging voltage and charging time.
5. Negative charges were long-lasing trapped in the films. Positive trapping charges were less than the negative ones, and dissipated after several hour’s testing by low voltage.

**Reference:**